UNIVERSITY OF TORONTO

LAS CAMPANAS OBSERVATORY (24-INCH)

GARRISON CLASSIFICATION SPECTOGRAPH

NUMBER LC	OBJECT	R A	DEC.	1983 DATE U.T.	U.T. EXP. BEGIN	U.T. EXP. END	TOTAL / CORR	H.A END (overlapped)	SEE./TRANS. w 151346	CAM. FOCUS	SLIT	GRATING / TILT	MAG B	SP.	COMP KIND	COMP EXP	CALIB.	EMUL	DEV.	OBS	REMARKS
contd 2598	HD 147009	16 18.8	-20° 00	4/5 MAY	0628	0743	75m / 0X	130 W	1" / photom	2.75	50μ / 1.2	67 / 5.11	8.4	B9	NeA	30s	-	IIa-O6	M-S	Kai	
	150514	16 41.0	-20° 09		0749	0939	110 / ✓ focus	305W					8.7	B8							hut tilt
	167838	18 16.6	-15° 26		09 42	1010	28 / ✓	200 W	cirrus				7.2	B5 Ia							13° 38% 20 MPH
	α Del	20 38.5	+15° 50		10 18	1020	1.1 / ✓	11E					3.7	B9							
f.p #1				14/15 JULIO	01 48	02 09				2.55 3.00 +.05	50μ / 1.2	67 / 5.11			NeA	60s	2min B / 22AC	IIa-O	MS	RWS	3° 48% STEPS OF +.05 TOO COARSE
25#99	~~HD~~ 206653	~~21h 45.0 …~~			05 10 ~~06 43~~		~~[illegible]~~		1½" / CLEAR	2.70 2.86 +.02	50μ / 1.2	67 / 5.11			"	"		"	"	"	3° 45%
	HD 206653	21h 45.0	-67° 40'		06 43	07 14	30M / ✓	15W	1½→1" / CLEAR	2.75	"	"	7.6	Ap Si				"	"	"	No Hβ!
198[illegible]	HD 218994	23 12.1	-60° 42		07 36	08 07	30M / --	25E	≤1" / clear	"	"	"	8.1	Ap Sr				"	"	"	
	HD 2883	0 30.7	-61° ~~27~~		08 40	09 15	35M / ----	27W	≤1" / CLEAR	"			9.6	Ap Sr							COLD/TIRED & KEEP LOOSING IMAGE IN [illegible] GUIDESCOPE TOO FAINT.
f.plate				15/16 JULIO						3.15 → 3.35 +.02	100μ / 0.8mm	120 / 7.00			NeA	20s		IIa-O	MWP-2	R.W.S	T=8°C R.H = 33%
2599½	~~CPD -45°9862~~	20 03 539 ~~[illegible]~~	~~-44° 47~~		~~04 54~~	~~05 22~~	~~28M~~	006W	<2" / CLEAR	3.27	"	"	11.1	?				~~oriented lost original star~~ got on someone else			
	CPD -45°9862	20h 03 53.9	-44° 47		05 32	06 10	38M	056W	<2" / CLEAR	3.27	"	"	11.1	UK				IIa-D	M-S	"	T=11° R.H.=27% used image tube.
	CPD -45°9856	20h 02 58.1	-45° 02		07 25	08 28	63M	315W	<2" / CLEAR	"	"	"	11.6	UK				"		"	
	CPD -45° 155	01h 23 19.8	-44° 33		09 02	09 55	53M	039 E	<2" / clear	"	"	"	11.5	UK				"		"	
focus	plate	(1983 6)		20 JULY						2.65 2.89 +.02	50M / 1.2	67 / 5.05			NeA	60s		IIa-O	M-S	R.W.S.	FAINTER THAN USUAL ?
#2600	HD 186117	19h 47.4	-73° 34	"	05 15	06 00	45M / ~60	1 19W	<1"! / CIRRUS	2.75	"	"	7.8	Ap	NeA	60s		"	"	" (BLUE)	
	HD 197417	20h 47.1	-72° 17	"	06 11	06 44	33M / ~60	1 05W	1" / CIRRUS	"	"	"	7.5	Ap				"	"	" (BLUE)	HAVE A SNEAKY SUSPICION THE BLUE FILTER FOR THE I.T. IS STILL ON!
	HD 206653	21h 45.3	-67° 40	"	07 32	08 11	39M / ~45	1 34W	1"-2" / CIRRUS	"	"	"	7.6	Ap				"	"	"	YEP! REMOVED BLUE FLTR! REFOCUS TOMMORROW!
	HD 221006	23h 28.1	-63° 42	"	08 22	08 30	8M / ✓	0°10W	1½"	"	"	"	~5.8	Ap				"	"	"	
	HD 6783	01h 03.2	-77° 40	"	08 52	09 30	38M / –	0°27E	1"	"	"	"	7.4	Ap				"	"	"	Dekker fully out wrong star?
	HD 8783	01h 23.6	-72° 25	"	09 40	10 15	35M / –	0°03E	<1"	"	"	"	7.5	Ap	"	"		"	"	"	No Hβ
#2601	γ TrA	15h 17.6 (1983.6)	-68° 39	21/22 JULY	00 35	00 41	½,1,2m / 2-3	38'W	1¼" / LT. OVERCAST	2.73	50μ / 1.2	67 / 5.28	2.90	Ap Eu	NeA	60s		IIa-O	M-S	RWS	LIGHT OVERCAST MAKES FOR DIFFICULT EXPOSURES ~~REFRACTION OF STAR~~ IN ATMOSPHERE.
	HD 150549	16h 45.0	-67° 04		00 58	01 34	5,10,15m / 20-25	05'W	1½" / THIN CLOUD	"	"	"	5.3	Ap							
	HD 165040	18h 06.9	-63° 40		01 43	02 15	4,8,12m / 12	36'E	1½-2"	"	"	"	4.85v	Ap							Left dark slide in?
	HD 165040	18h 06.9	-63° 40		02 20	02 45	4,8,12m / 9-10m	5'E	1½-2"	"	"	"	"	"							wind rising moonlight cont.?
#2602	HD 181018	19h 21.8	-65° 36	21/22 JULIO	03 35	05 02	30m,55m / =	58'W	1½-2½" / CIRRUS	2.73	50μ / 1.2mm	67 / 5.28	7.1	"	NeA	60s		IIa-O	M-S	R.W.S.	
	HD 206653	21h 45.3	-67° 40		05 37	07 27	45,65m / 65+	58'W	1"-2" / CIRRUS	"	"	"	7.6	"	"	"		"	"	"	

UNIVERSITY OF TORONTO
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NUMBER	OBJECT	R.A. 1983.6	DEC. 1983.6	DATE U.T.	U.T. EXP. BEGIN	U.T. EXP. END	TOTAL / CORR.	H.A. END	SEE / TRANS.	CAM. FOCUS	SLIT	GRATING / TILT	MAG	SP.	COMP KIND	COMP EXP.	CALIB.	EMUL	DEV.	OBS	REMARKS
2602	HD 221006	23h 28.1	−63° 12	21/22 Julio	08h 08	08h 34	10M, 15M / 15M	22W	1½″ / Cirrus	2.73	50μ / 2mm	67 / 5.28	~5.8	Ap				IIa-O	M-S	RWS	
	HD 24188	03h 45.8	−71° 42	"	08h 51	09 55	13, 18, 30 / 3	2h 34E	1½″ / CLEAR	"	"	"	6.0	Ap				"	"	"	STILL NO Hβ
[illegible]	HD 137509	15h 23.8	−71° 00	22/23 Julio	01h 16	01h 47	31M	1h 30W	1½″–2″ / CLEAR	2.73	50μ / 1.2mm	67 / 5.30	6.7	Ap	NeA	60s		IIa-O	M-S	RWS.	TOO CLOSE TO PIER FOR SECOND EXPOSURE!
	HD 150549	16h 45.0	−67° 04	"	02h 00	02h 19	6, 12M	49W	1½–2″ / CLEAR	"	"	"	5.3	"							EXPOSURE DIFF SINCE ONLY RECORD IS FAR CLOUDY
	HD 152564	16h 57.9	−69° 15	"	02h 35	03h 08	12, 21M	1h 28W	1½–2″ / CLEAR	"	"	"	6.0	"							VERY WINDY, slit dusty
	HD 165040	18h 06.9	−63° 39	"	03h 21	03h 31	10M	45W	2″–3″ / CLEAR	"	"	"	4.9	"							GALE FORCE + WIND SEEING 3″→4″!
	HD 172690	18h 52.2	−83° 59	"	04h 40	05h 00	20M	1h 32W	3″ / CLEAR	"	"	"	7.4	"			Accidentally light struck plate! FORGOT THE DARKSLIDE! moonlight?				CLOSED UP DUE TO WIND!
#2603	HD 165040	18h 06.9	−63° 39	25 July 1983	03h 10	03h 30	6M, 12M / 6M	51W	2″+(VAR) / CLEAR	2.76	50M / 1.2mm	67 / 5.32	4.9	Ap	NeA	60s		IIa-O	M-S	RWS	SEEING VARIES RAPIDLY! DUSTY SLIT/OPTICS?
	HD 172690	18h 52.2	−83° 59	"	03h 51	05h 07	76M	1h 39W	2″ / CLEAR	"	"	"	7.4	Ap				DARK SLIDE "IN"?	"	"	T=4° SKY ~10mm RH=75% FINDING?
	HD 206653	21h 45.3	−67° 40	"	06h 08	07h 14	66M / 60M	58W	2″–1½″ / CLEAR	"	"	"	7.6	Ap				"	"	"	FULL MOON; No Hβ!
	HD 221006	23h 28.1	−63° 12	"	07h 41	[illegible]	8, 12M / 10M	7W	2″–1½″ / CLEAR	"	"	"	5.8	Ap				"	"	"	RH=70%
	HD 6783	1h 05.7	−77° 40	"	08h 30	09h 38	68M / –	0W	2″ / CLEAR	"	"	"	7.4	Ap				"	"	"	RH=65%
	HD 8783	1h 23.6	−72° 25	"	09h 49	10h 49	60M / –	51W	1½″ / CLEAR	"	"	"	7.5	Ap	NeA	60s		"	" daylight	"	RH=62%
#2604	HD 150549	16h 45.0	−67° 04	25/26 July	00h 13	00h 24	11M / ✓	50E	1½″ / patchy cloud	2.76	50M / 1.2mm	67 / 5.34	5.3	Ap	NeA	60s		IIa-O	M-S	RWS	T=5° RH=68%
	HD 152564	16h 57.8	−69° 15	"	00h 34	00h 50	16M / ✓	35E	1½″ / patchy cloud	"	"	"	6.0	Ap				"	"	"	
	HD 165040	18h 06.9	−63° 39	"	01h 03	01h 09	6M / ✓	1h 29E	1½–2″ / mod.	"	"	"	4.9	Ap				"	"	"	
	HD 172690	(18h 59.7) 18h 52.2	−83° 59	"	01h 55	03h 02	67M / 90M	20E	2″+	"	"	"	7.4	Ap				"	"	"	DIFFICULT TO FIND R.A. INACCURATE AT +δ
	HD 176196	19h 04.8	−74° 47	"	03h 16	03h 27	11M	5E	3″ / FOG	"	"	"	7.9	Ap				"	"	"	FOCUS OR TERRIBLE SEEING? FOGGED O.T.!
	HD 181018	19h 21.8	−65° 36	"	04h 20	05h 15	55M / 75	1h 24W	3″–4″	"	"	"	7.1	Ap				"	"	"	SEEING TERRIBLE IMPROVING
	HD 197414	20h 47.1	−72° 17	"	05h 30	06h 40	70 / 90+	1h 25W	3″–1″ VAR / good	"	"	"	7.5	Ap				"	"	"	SEEING VARIABLE
	HD 206653	21h 45.3	−67° 40	"	06h 51	07h 40	49M / ✓(60)	1h 28W	1″ / excellent	"	"	"	7.6	Ap				"	"	"	SEEING EXC PHOTOMETRIC
	HD 221006	23h 28.1	−63° 12	"	08h 12	08h 21	9M / ✓(10)	25W	1½″ / "	"	"	"	5.8	Ap				"	"	"	REFRACTED IMAGE (DISPERSION)
	HD 6783	1h 05.7	−77° 40	"	08h 33	09h 54	81M / 120(!) WATCH SEEING	20W	3″–1″ / mod-exc	"	"	"	7.4	Ap				"	"	"	
	HD 24188	3h 45.5	−71° 43	"	10h [illegible]	10h 18	15M / 20	1h 55E	1½″ / "	"	"	"	6.0	Ap	NeA	60s		"	"	"	OBSERVER IS COLD! T=4° RH=57%
#2605	HD 150549	16h 45.0	−67° 04	26/27 Julio	01h 03	01h 11	8M	0	1″ / exc	2.71	50M / 1.2mm	67 / 5.35	5.3	Ap	NeA	60s		IIa-O	M-S	RWS	T=5° RH=58%
	HD 152564	16h 57.8	−69° 15	"	01h 24	01h 37	12M	15W	1″ / exc.	"	"	"	6.0	"				"	"	"	DIFF. REFRACTION SEEING BETTER THAN
	HD 165040	18h 06.9	−63° 39	"	01h 46	01h 52	6M / ✓	40E	1″–1½″ / exc.	"	"	"	4.9	Ap				"	"	"	PREVIOUS NIGHTS DARKER SKY TOO!
	HD 172690	18h 52.2	−83° 59	"	02h 01	03h 36	95M	13W	1″–5″ VAR / VAR	"	"	"	7.4	Ap				"	"	"	SEEING WENT TO 5″! LOW ANGLE *
	HD 181018	19h 21.8	−65° 36	"	03h 47	04h 37	50M	55W	1–2″ / good	"	"	"	7.1	Ap				"	"	"	
	HD 186117	19h 47.4	−73° 31	"	05h 27	06h 31	64M	2 19W	1″! / exc.	"	"	"	7.8	Ap				"	"	"	exquisite seeing for most of exposure! & 50°+ zenith ∠.

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2605	HD 221006	23h 28.1	−63° 12	26/27 July			✓			2.76	50μ / 1.2mm	67 / 5.35	5.8	Ap				IIa-O	M-S	R.W.S.	DEC PRE-LOAD BURNT OUT !
2606	HD 216596	22h 56.7	−29° 43	10/11 Aug	06 19	06 22	6s, 12s, 18s / 18s	0	2" / FAIR	2.76	50μ / 1.2mm	67 / 5.35	1.3	†A3V	NeA	60s		IIa-O	M-S	RWS	ROTATE GRATING CCW ONE MARK FROM N.M. (OUT OF FOCUS)
	HD 221006	23h 28.1	−63° 12	"	06 42	06 52	10m / –	04 E	2"-1½" / FAIR	"	"	"	5.7	Ap				"	"	"	TRANS VAR. CLOUD-PAPER CLOUD BANDS T=? RH=38%
	HD 6783	01h 05.2	−77° 10	"	07 05	07 31	25m / –	1h 00 E	2-1½" / FAIR	"	"	"	7.4	Ap				"	"	"	WRONG STAR! TOO RED!!!
	HD 6783	01h 05.2	−77° 10	"	07 52	09 19	87m / 120	45 W	2" / FAIR-GOOD	"	"	"	"	"				"	"	"	
	HD 8783	01h 23.6	72° 25	"	09 33	10 −1	61 / 75+	1h 43 W	1½" / GOOD	"	"	"	7.5	Ap	NeA	60s		"	"	"	daylight! OUT OF FOCUS TILT/ROT OK!
2607	HD 197417	20h 38.4 (1900)	−72° 35	12/13 Aug	03 45	05 21	96m / –	1h 24 W	3" / FAIR	2.80	50μ / 1.2mm	67 / 5.35	7.5	Ap	NeA	60s		IIa-O	M-S	R.W.S.	RIGHT STAR? DO NOT PROCESS
	HD 216596	22h 56.7 (1983.6)	−29° 43	"	06 18	06 18	15s / ✓	0	2" / GOOD	"	"	"	1.3	†A3V				"	"	"	T=7° RH=37%
	HD 221006	23h 28.1	−63° 12		06 44	06 54	10m / 15m	04 W	1½ / GOOD?	"	"	"	5.7	Ap							OBSERVER TIRED AND MAKING MISTAKES!
2608	HD 186117	17h 47.4	−73° 34	13/14 Aug 83	03 17	04 17	60m / 75m	1 15 W	1"! / EXC	2.83	50μ / 1.2mm	67 / 5.35	7.8	Ap	NeA	60s		IIa-O	M-S	RWS	TILT GOOD ROT GOOD REFOCUSED
	HD 197417	20h 47.1	−72° 17	"	04 45	05 34	49m / 90m	1 35 W	1" / EXC	"	"	"	7.5	Ap				"	"	"	T=7° RH=34% BEAUTIFUL NIGHT
	HD 206653	21h 45.3	−67° 40	"	05 49	06 41	52m / ✓	1 42 W	1" / EXC	"	"	"	7.6	Ap				"	"	"	!
	HD 216596	22h 56.7	−29° 42	"	06 52	06 52	15s / 10s	42 W	1" / EXC	"	"	"	1.3	†A3V				"	"	"	!
	HD 221006	23h 28.1	−63° 12	"	07 02	07 12	10m / ✓	28 W	1" / EXC.	"	"	"	5.7	Ap				"	"	"	!
	HD 6783	01h 05.2	−77° 10	"	07 57	09 10	72m / 90+	50 W	1½"-1" / GOOD	"	"	"	7.4	Ap				"	"	"	LOW ANGLE MORE DIFFICULT !
	HD 8783	01h 23 6	−72° 25	"	09 17	10 07	50m / 75	1 29 W	1" / EXC.	"	"	"	7.5	Ap	NeA	60s		"	"	"	FOCUS IS IDEAL!
2609	HD 147084	16h 19.6	−24° 08	14/15 Aug 83	00 32	00 38	6m / ✓	1 05 W	1" / EXC	2.83	50μ / 1.2mm	67 / 5.35	5.4	†A5II	NeA	60s		IIa-O	M-S	RWS	T=8 RH=55
	HD 150549	16h 45.0	−67° 04	"	00 50	00 58	8m / 10	1 02 W	1" / EXC.	"	"	"	5.3	Ap				"	"	"	
	HD 152564	16h 57.8	−69° 15	"	01 04	01 15	11m / ✓	1 05 W	1" / EXC.	"	"	"	6.0	Ap				"	"	"	
	HD 157678	17h 27.5	−63° 25	"	01 22	02 08	46m / 75+	1 29 W	1" / EXC.	"	"	"	7.4	Ap				"	"	"	
	HD 160468	17h 43.9	−68° 39	"	02 18	03 18	60m / 75	2 23 W	1" / EXC.	"	"	"	7.6	Ap				"	"	"	VERY CLOSE TO PIER!
	HD 165040	18h 06.9	−63° 39	"	03 25	03 30	5m / ✓(7)	2 14 W	1" / EXC	"	"	"	4.9	Ap				"	"	"	"
	HD 181018	19h 21.8	−65° 36	"	03 38	03 43	5m / --		1" / EXC	"	"	"	7.1	Ap							VFO ACTING-UP! QUIT
	HD 216596	22h 56.7	−29° 43	"	05 39	05 39	15s / 10s	27 E	1" / ✓	"	"	"	1.3	†A3V	NeA	60s		"	"	"	PRISTINE NIGHT BUT...
2610	HD 216596	22h 56.7	−29° 43	15/16 Aug	06 39	06 39	15s / ✓(20)	36 W	1½" / GOOD	2.83	50μ / 1.2mm	67 / 5.35	1.3	†A3V	NeA	60s		IIa-O	M-S	RWS	(FOGGY PLATE!)
	HD 221006	23h 28.1	−63° 12	"	06 56	07 05	9m / 12	30 W	1½" / F→GOOD	"	"	"	5.7	Ap				"	"	"	SEEING POORER THAN YESTERDAY.
	HD 6783	1h 05.2	−77° 10	"	07 15	08 33	78m / 90+	13 W	1½"-1 / F→GOOD	"	"	"	7.4	Ap				"	"	"	T=8 RH=34%
	HD 20880	3h 16.3	−73° 36	"	09 11	09 50	39m / 75	32 E	1" / GOOD	"	"	"	7.7	Ap	NeA	60s		"	"	"	ELECTRICAL SHORT IN CONSOLE! QUIT
2611	HD 221006	23h 28.1	−63° 12	7/8 SEPT	05 30	05 40	10m /	38 W	1½" / GOOD	2.83	50μ / 1.2	67 / 5.36	5.7	Ap	NeA	60s		IIa-O	MS	RWS	BACK IN BUSINESS! REFRACTION ~¾" OFF V
	HD 6783	01h 05.2	−77° 40	"	05 57	06 44	47m /	05 W	1-2" / GOOD	"	"	"	7.4	Ap							~¾" REFRACT CORRECTED

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					BEGIN	END									KIND	EXP.					
2611	HD8783	1h 23.6	−72° 25	8 SEPT 1983	0657	07 47	50M /	48W	1-2" / GOOD	2.83	50μ / 1.2MM	67 / 5.36	7.5	Ap				IIa-O	MS	RWS	½-¾" OFF OF V IMAGE
2612	HD 196867	20h 38.9	+15° 52	9 SEPT	01 52	01 54	100 SEC /	17E	1½" / EXC.	2.83	50μ / 1.2MM	67 / 5.36	3.7	+ B9 IV	NeA	60s		IIa-O	MS	RWS	T=9° RH = 40% REFRACTION ~¼"
	HD 197417	20h 47.1	−72° 17	"	0208	03 08	60M /	49W	1½" / EXC	"	60μ / 1.2mm	67 / 5.36	7.5	Ap				"	"	"	½"-¼" REFRACT
	HD 206653	21h 45.3	−67° 40	"	03 37	04 29	52M / 45	1 11W	1½-1" / EXC	"	"	"	7.6	Ap				"	"	"	< ¼" REFRACT T=9° RH = 37%
	HD 216596	22h 56.7	−29° 42	"	04 13	04 44	10s, 15s / 10s.	16W	1½" / EXC	"	"	"	1.3	+ A3 V				"	"	"	NO REFRACTION
	HD 221006	23h 28.1	−63° 12	"	04 53	05 01	8M /	01W	1½" / EXC	"	"	"	5.7	Ap				"	"	"	½" off V image
	HD 6783	1h 05.2	−77° 40	"	05 51	06 51	60M /	14W	1½" / GOOD	"	"	"	7.4	Ap				"	"	"	½" off V image T=10° RH = 34%
	HD 8783	1h 23.6	−72° 25	"	06 58	07 58	60M /	1 02W	1½"-1 / EXC	"	"	"	7.5	Ap	NeA	60s		"	"	"	½"-¼" off V
2613	HD 172167	18h 36.6	+38° 45	10 SEPT.	00 46	00 46	4 sec / V. STREAK	41W	1" / GOOD	2.84	"	"	0.0	+ A0 V	NeA	60s		IIa-O	MS	RWS	T=10° RH = 42% ~1" REFRACT. (Z = 65°)
	HD 181018	19h 21.8	−65° 36	"	0058	01 42	44M / ✓	53W	1" / GOOD	"	"	"	7.1	Ap				"	"	"	¼" off V T=10° RH=41% CALM
	HD 196867	20h 38.9	+15° 52	"	0211	0213	100 sec / ✓	04W	1½" / GOOD	"	"	"	3.7	+ B9 IV				"	"	"	¼"-½"
	HD 197417	20h 47.1	−72° 17	"	02 21	03 23	62M / CLOUD	107W	≤1" / FAIR GOOD	"	"	"	7.5	Ap				"	"	"	T= 10° RH = 38% ½" off V image
	HD 206653	21h 45.3	−67° 40	"	03 28	04 27	59M / CLOUD	114W	~1" / POOR GOOD	"	"	"	7.6	Ap				"	"	"	½" off V image CLOUDS! RH = 35% EVERYwhere
	HD 216596	22h 56.7	−29° 42	"	05 15	05 16	12s, 24s /	51W	1" / POOR	"	"	"	1.3	+ A3 V				"	"	"	CLOUDS about 2 mag extinction
	HD 221006	23h 28.1	−63.12	"	05 35	06 27	52M /	1 31W	1" / POOR	"	"	"	5.7	Ap	NeA	60s		"	"	"	2-3 mag [illegible] much cloud T=10° RH = 34% [illegible]!
2614	HD 172167	18h 36.6	+38° 45	11 SEPT.	00 43	00 44	4s, 8s /	43W	1½" / GOOD	"	"	"	0.0	+ A0 V	"	~60s		"	"	"	½" off V T=10°
	HD 181018	19h 21.8	−65° 36	"	0055	01 39	44M /	54W	1" / GOOD?	"	"	"	7.1	Ap				"	"	"	¼" off V RH=42% MODERATE
	HD 196867	20h 38.9	+15° 52	"	01 50	01 53	150 sec /	10E	1" / GOOD	"	"	"	3.7	+ B9 IV				"	"		BUMPED FINDER SCOPE TWICE.
	HD 197417	20h 47.1	−72° 17	"	02 01	02 58	57M /	46W	1"-2" / GOOD	"	"	"	7.5	Ap				"	"	"	NO DEC PRE-LOAD, IS A NUISANCE! LOST SLIT ONCE.
	HD 206653	21h 45.3	−67° 40	"	03 06	04 04	58M / ✓	55W	1"-2" / GOOD+	"	"	"	7.6	Ap				"	"	"	½" off V
	HD 216956	22h 56.7	−29° 42	"	04 10	04 11	10s, 15s /	9E	2" / GOOD	"	"	"	1.3	+ A3 V				"	"	"	
	HD 221006	23h 28.1	−63° 12	"	0449	0458	9M /	6W	1½" / GOOD	"	"	"	5.7	Ap	NeA	60s		"	"	"	¼" off V
2615	HD 6783	1h 05.2	−77° 40	"	05 20	06 20	60M /	9E	1½-1" / LIGHTNING	"	"	"	7.4	Ap Si	NeA	60s		"	"	"	T=9° RH=45% LIGHTNING TO THE EAST
	HD 8783	1h 23.6	−72° 25	"	06 27	06 54	27M /	7W	1½-? / →0	"	"	"	7.5	Ap SrEuCr				"	"	"	½" off V CLOUDED OUT.
2616	HD 197417	20h 47.1	−72° 17	12 SEPT	02 16	03 15	59M /	107W	1" / GOOD	"	(+1-2μ) "	"	7.5	Ap	NeA	60s		"	"	"	¼-½" OFF V
	HD 206653	21h 45.3	−67° 40	"	03 20	04 20	60M /	114W	1"-1½" / EXC	"	"	"	7.6	Ap				"	"	"	T=9° RH 53% CALM ¼" off V.
	HD 216956	22h 56.7	−29° 42	"	05 05	05 06	20, 10 SEC /	50W	1½" / EXC	"	"	"	1.3	+ A3 V				"	"	"	RA SET POOR AT LOW SPEED!
	HD 221006	23h 28.1	−63° 12	"	05 13	05 21	8M /	33W	1½" / EXC.	"	"	"	5.7	Ap				"	"	"	¼" off V.
	HD 6783	1h 05.2	−77° 40	"	05 29	06 34	65M /	08W	~1" / EXC.	"	"	"	7.4	Ap				"	"	"	¾"-½" off V T=9° RH=50%
	HD 8783	1h 23.7	−72° 25	"	06 38	0743	60M /	100W	1" / EXC.	"	"	"	7.5	Ap				"	"	"	SEEING VERY UNSTABLE

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NUMBER	OBJECT	R.A.	DEC.	DATE U.T.	U.T. EXP.		TOTAL / CORR.	H.A. END	SEE. / TRANS.	CAM. FOCUS	SLIT	GRATING / TILT	MAG	SP.	COMP.		CALIB.	EMUL.	DEV.	OBS	REMARKS
					BEGIN	END									KIND	EXP.					
2616	HD 20880	3h16.3	-73°36	12 SEPT 1983	0750	0851	61M	15W	1" / EXC.	2.84	~~67Å~~ 50μ / 1.2mm	67Å / 5.36	7.7	Ap				IIa-O	M-S	RWS	½" ff
	HD 23324	3h44.2	+24°48	"	0910	0920	10M	16W	1½" / GOOD	"	50μ / 1.2mm	67 / 5.36	5.6	† B8V				"	"	"	¾" ff
	HD 23850	3h48.2	+24°00	"	0929	0931	110SEC	23W	1½" / GOOD	"	"	"	3.6	† B8III				"	"	"	PLEIADES MEMBER.
	HD 27397	4h19.0	+14°00	"	0940	0950	10M	11W	1" / GOOD	"	"	"	5.9	† F0IV				"	"	"	
	HD 24188	3h45.5	-71°43	"	0958	1007	9M	105W	1" / LT.	"	"	"	6.0	Ap				"	"	"	SKY GETTING BRIGHT!
2617	HD 197417	20h47.1	-72°17	14 SEPT 1983	0156	0343	110min	144W	1½-3" / POOR-GOOD	"	"	"		Ap	NeA	~~[illegible]~~ 60s		"	"	"	CIRRUS & MOONLIGHT! VFO PROBLEMS
	HD 8783	1h23.6	-72°25	"	0612	0722	70min	48W	1½-3" / FAIR	"	"	"	7.5	Ap				"	"	"	T=7° RH=42% LT-MOD WIND
	HD 20880	3h16.3	-73°36	"	739	0756	17M	33E	->5"+ / FOG	"	"	"									T=6° RH=46% T=5° RH=60% FOGG!
[illegible]	HD 197417	20h47.1	-72°17	16/17 SEPT	0127	0207	50M	19W	3"+ / FOG	2.85	"	"			NeA	60s		IIa-O	M-S	RWO	T=2° RH=19% 83%↑
	HD 221006	23h28.2	-63°12	"	0402	0413	11M	16E	2" / IMPROVING	"	"	"	5.7	Ap Si	A			IIa-O	"	RWO	
	6783	01h05.2	-77°40	"	0422	0547	85M	18E	2"-1" / GOOD-BAD	"	"	"	7.4	Ap Si				"	"	RWO	T=1° RH=75% T=0° RH=78%
	20880	3h16.3	-73°36	"	0708	0837	89M	17W	3"-1" / GOOD-BAD	"	"	"	7.7	Ap Sr	NeA	60s		FOG " COMES AND " GOES		RWO	CLOSED FOR 1 HOUR DUE TO CLOUD T=0° RH=81%
2619	SKY	ZENITH	———	"	0900	0905	POSITION	#7		"	"	"	?	SKY	#5 NeA	60s		IIa-O FOG COMES AND GOES	M-S		T=0° RH=92%
					0910	0915	5min	#9													T=0° RH=92%
					0920	0925	3 exposures	#11			ASTRONOMICAL	TWILIGHT		BEGINS	0920						T=0° RH=92%
					0930	0935	every	#13													
					0940	0945	10 minutes	#15													T=-1° RH=92%
					0950	0955		#17													T=-1° RH=92%
					1000	1005		#19			ORION STILL	VISIBLE									
		THIS IS THE ONLY SPECTRA VISIBLE ABOVE	BACKGROUND FOG!		(D=?) 1010	1015		#21			SKY QUITE	BRIGHT			THIS ENTRY	MADE	WITHOUT	ARTIFICIAL	LIGHT		
2620	HD 6783	01h05.2	-77°40	19/20 SEPT 1983	0427	0531	63M	23E	1½-2" / GOOD	2.85	50μ / 1.2mm	67 / 5.36	7.4		NeA	60s		IIa-O	M-S	RWS	T=7° RH=29% FULL MOON ALMOST (60°)
	HD 8783	01h23.6	-72°25	"	0542	0648	66M	36W	1"-2" / GOOD	"	"	"	7.5					"	"	"	T=6° RH=30%
	HD 20880	03h16.3	-73°36	"	0724	0828	64M	24W	1½" / GOOD	"	"	"	7.7					"	"	"	
	HD 24188	03h45.5	-71°43	"	0837	0855	12M	22W	2" / FAIR GOOD	"	"	"	6.0					"	"	"	WHY AM I SITTING ON THIS MOUNTAIN?
	HD 27397	04h19.0	+14°00	"	0909	0920	11½M	13W	1½"-2" / GOOD	"	"	"	5.9	† F0IV				"	"	"	
	HD 28319	04h27.8	+15°50		0939	0941	95sec	23W	1½" / GOOD	"	"	"	3.6	† A7III				"	"	"	RIGHT STAR?
	HD 40535	05h58.3	-9°23												where is it	??					
2621	HD 197417	20h47.1	-72°17	24/25 SEPT 1983	0122 0216	0212 0318	50M, 62M	201W	1-1½" / EXC.	2.86	"	"	7.5		NeA	60s		IIa-O	M-S	RWS.	TRY AND GET A GOOD EXPOSURE T=12°
	HD 6783	1h05.2	-77°40	"	0420	0537	77M	03W	2" VAR. / GOOD	"	"	"	7.4					"	"	"	T=10° RH=32%
	HD 8783	1h23.6	-72°25	"	0552	0648	56M	56W	1-2" VAR. / EXC.	"	"	"	7.5					"	"	"	T=9° RH=35%

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NUMBER	OBJECT	R.A. (1983.8)	DEC.	DATE U.T.	U.T. EXP. BEGIN	U.T. EXP. END	TOTAL / CORR	H.A. END	SEE. / TRANS.	CAM. FOCUS	SLIT	GRATING / TILT	MAG "13" or "pg"	SP.	COMP KIND	COMP EXP.	CALIB.	EMUL.	DEV.	OBS	REMARKS
2622	HD 197417	20h 47.1	-72°17	25/26 SEPT	00 31	02 26	115M / ~3/4	1 13W	3-5" / Exc	2.86	50μ / 1.2mm	67Å / 5.37	7.5		NeA	60s		IIa-O (N)	M-S	RWS	HORRID SEEING IMPROVING TOWARDS END
2623	HD 197417	20h 47.1	-72°17	26/27 SEPT	01 03	02 24	81M / ~1/2	1 15W	3" / GOOD	"	"	"	"		"	"		"	"	"	T=4° RH=82% [illegible]
2624	HD 197417	20h 47.1	-72°17	27/28 SEPT	02 24	03 52	88M / ~1/2	2 40W	3" / FAIR GOOD	"	"	"	"		"	"		"	"	"	T=1° RH=84% VERY CLOSE TO PIER
2625	SKY	ZENITH -29.00		OCT 04/05	23 06	23 53		0		2.89	"	5.37			NeA	60s		" (P)	"	"	SEE WRITE UP FOR DETAILS
2626	SKY	ZENITH -29.00		OCT 04/05	09 09	10 13		0		2.92	"	5.37						" (P)	"	"	
2627	HD 196867	20h 38.9	+15°52	05/06 OCT.	01 56	01 58	100sec / ✓	1 33W	1"-1½" / GOOD	2.92	"	5.37	3.7	† B9 IV	NeA	60s		IIa-O (N)	M-S	RWS	T=17° RH=34% POSSIBLY WRONG STAR!
	HD 197417	20h 47.2	-72°17	"	02 22	02 38	ABORTED		1"	"	"	"	7.6(?+)	Ap							RESET COORDS VFO PROBLEMS
	HD 8783	1h 23.6	-72°25	"	04 50	06 06	76M / 3/4	1 00W	1" / Exc	"	"	"	7.5(?+)	Ap							WENT FOR GOOD SOLID EXPOSURE
	HD 20880	3h 16.2	-73°36	"	06 18	07 31	73M / 3/4	39W	≤1"!	"	"	"	7.7	Ap							VERY EXCELLENT SEEING LOST SLIT ONCE.
	HD 24188	3h 45.4	-71°43	"	07 57	08 16	19M / ✓	48W	1" / Exc	"	"	"	6.0(?+)	Ap							
	HD 28319	4h 27.8	+15°50	"	08 35	08 37	85sec / 1¼	28W	1" / Exc	"	"	"	3.58	† A7 III					θ² TAU A		DIFFICULT TO FIND DUE TO ENCODER ERROR /FLEXURE.
	HD 40535	5h 58.3	-9°23	"	09 04	09 22	18M / 1½-1¾	17E	1" / EXC	"	"	"	6.4	† F2 IV	NeA	60s					MORE VFO PROBLEMS
2628	HD 20880	3h 16.2	-73°36	10/11 OCT.	05 57	07 10	73M / GOOD (80m)	26W	1¼" / EXC.	2.93	"	"	7.7(7.8)	Ap	NeA	60s		IIa-O (M)	M-S	R.W.S	T=14 RH=38
	HD 24188	3h 45.4	-71°43	"	08 00	08 18	18M / EXC!	1 05W	1¼" / Exc.	"	"	"	6.0(6.5)	Ap	"	"		"	"	"	NEED: BETTER MAGNITUDES AND BETTER EXTINCTION COEFFS.
	HD 65836	7h 48.8	-81°33	"	08 30	09 12	42M / ✓	204E	1¼" / Exc.	"	"	"	6.5(6.9)	Ap	"			"	"	"	A NEW STAR!
	HD 40535	5h 58.3	-9°23	"	09 20	09 32	12M / GOOD (15m) (STD)	7W	1¼" / Exc.	"	"	"	6.4	† F2 IV	NeA	60s		"	"	"	POSSIBLE SKYLIGHT CONTAMINATION
2629	HD 20880	3h 16.2	-73°36	12/13 OCT	05 57	07 28	91M / 110m	52W	2½"-1½" / GOOD	2.93	"	67Å / 5.36	7.7(7.8)	Ap	NeA	60s		"	"	"	T=11° RH=39%
	HD 24188	3h 45.4	-71°43	"	07 54	08 12	18M / Exc.	1 07W	1½" / Exc.	"	"	"	6.5	Ap				"	"	"	
	HD 65836	7h 48.8	-81°33	"	08 26	09 06	40M / 45m	202E	1½"-2" / Exc.	"	"	"	6.9	Ap	NeA	60s		"	"	"	
2630 (1984.0 COORDS)	HD 20880	3h 16.3	-73°36	22/23 OCT	04 47	06 04	77M / 3/4	07W	1-1½" / GOOD	2.93	50μ 1.2mm	67 / 5.35	7.8	Ap	NeA	60s		IIa-O (M)	M-S	RWS	T=13° RH=42%
	HD 23324	3h 44.2	+24°48	"	06 17	06 30	13M	05W	1½" / GOOD	"	"	"	5.6	† B8 V				"	" WRONG STAR	"	LOTS OF MOONLIGHT CORRECT STAR?
	HD 23850	3h 48.2	+24°01	"	06 38	06 41	140sec	12W	1" / GOOD	"	"	"	3.6	† B8 III				"	" WRONG STAR	"	MOONLIGHT POINTING ERROR?
	HD 24188	3h 45.4	-71°42	"	06 54	07 12	18M / OK	46W	1"-1½" / GOOD	"	"	"	6.5	Ap				"	"	"	
	HD 27397	4h 19.0	+14°00	"	07 25	07 37	12M	37W	1½" / GOOD	"	"	"	5.4	† F0 IV				"	" WRONG ?	"	POINTING ERRORS?
	HD 28319	4h 27.8	+15°50	"	07 50	07 52	110sec	42W	2" / GOOD	"	"	"	3.6	† A7 III				"	"	"	
	HD 40535	5h 58.3	-9°23	"	08 08	08 23	13M / ✓	15E	1½" / GOOD	"	"	"	6.4	† F2 IV				"	"	"	TOO BRIGHT!
	HD 65836	7h 48.8	-81°33	"	08 36	09 24	POOR			"	"	"	6.5	Ap(?)				"	"	"	RATHER LIGHT, BIRDS OUT!
2631	HD 20880	3h 16.3	-73°36	23/24 OCT	04 45	04 52	7M		1½" / GOOD	2.93	50μ / 1.2mm	67 / 5.35	7.8	Ap	NeA	35s.		IIa-O (M) baked	M-S	RWS	BAKED ½hr FG [illegible] + 1½hr. VACUO @ 65°C.
	"	"	"	"	04 54	05 57	62M	4W	1½" / GOOD	"	"	"	"	"				"	"	"	RESET GRATING TO 5.35
	HD 23324	3h 44.2	+24°48	"	06 54	07 02	8M	41W	1½" / GOOD	"	"	"	5.6	† B8 V				"	"	"	VERY CLOSE TO MOON RIGHT STAR?

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NUMBER	OBJECT	R.A. 1984.0	DEC. 1984.0	DATE U.T.	U.T. EXP. BEGIN	U.T. EXP. END	TOTAL / CORR.	H.A. END	SEE. / TRANS.	CAM. FOCUS	SLIT	GRATING / TILT	MAG	SP.	COMP KIND	COMP EXP	CALIB.	EMUL	DEV.	OBS	REMARKS
2631	HD 23850	3h 48.2	+24°01	23/24 OCT	7 09	7 10	85sec	45W	1½" / GOOD	2.93	50μ / 1.2mm	67 / 5.35	3.8	+ B8 III				IIa-O(m) (baked)	M-S	RWS	MOONLIGHT !
	HD 27397	4h 19.0	+14°00	"	07 19	07 29	10½m	33W	1½" / GOOD	"	"	"	5.9	+ F0 V				"	"	"	MOONLIGHT
	HD 28319	4h 27 8	+15°50	"	07 36	07 37	85sec	32W	2" / GOOD	"	"	"	3.6	+ A7 III				"	"	"	
	HD 40535	5h 58.3	−9°22	"	07 44	07 59	15m	25E	1½" / GOOD	"	"	"	6.4	+ F2 IV				"	"	"	
	HD 65836	7h 48.8	−81°33	"	08 13	08 43	30m	1 42E	2" / FAIR-GOOD	"	"	"	6.9	Ap				"	"	"	
	HD 72634	8h 29.6	−67°05	"	08 48	09 09	21m	1 55E	1½"	"	"	"	7.9	Ap				"	"	"	UNDEREXPOSED BUT BIRDS ARE SINGING !
2632	HD 206653	21h 45.3	−67°40	24/25 OCT	00 30	01 12	42m	53W	2" / GOOD	"	"	"	7.2	Ap	NeA	35s		IIa-O(m) baked	"	"	LEFT DARK SLIDE IN ! USED FOR TWILIGHT EXPOSURE
2633	HD 206653	21h 45.3	−67°40	25/26 OCT	00 42	01 04	22m 30	51W	1" ! / GOOD	2.93	"	"	7.2	Ap	NeA	40s		IIa-O(m) (baked)	M-S	RWS	SOMEWHAT FOGGY PLATE
	HD 216956	22h 56.7	−29°42	"	01 13	01 13	6sec	12E	1½" / GOOD	"	"	"	1.25	+ A3 V				"	"	"	MUCH SCATTERED LIGHT !
	HD 221006	23h 28.2	−63°12	"	01 22	01 28	6m	27E	1"-1½" / GOOD	"	"	"	5.7	Ap				"	"	"	ONLY 2 TRAILS ↳ NEED ND FILTER (0.20)
	HD 6783	01h 05.2	−77°40	"	01 37	02 46	69m	49E	1½" / GOOD	"	"	"	8.2	Ap				"	"	"	
	HD 8783	01h 23.6	−72°25	"	02 53	03 47	54m	06E	1"-1½" / GOOD	"	"	"	7.9	Ap				"	"	"	LUNCH BREAK
	HD 20880	03h 16.2	−73°36	"	05 05	05 55	50m	10W	1" / GOOD	"	"	"	7.8	Ap				"	"	"	
	HD 23324	03h 44.2	+24°48	"	06 11	06 17	6m	04W	1½" NOTE→ / GOOD	"	"	"	5.6	+ B8 V				"	"	"	SET WORDS ON 10 TA... DOME SEEING?
	HD 23850	03h 48.2	+24°01	"	06 25	06 28	60s 80s	11W	1½" / GOOD	"	"	"	3.5	+ B8 III	NeA	40s.		"	"	"	FIRST EXPOSURE STREAKED
2634	HD 24188	03h 45.3	−71°42	25/26 OCT	06 51	07 12	21m	58W	1½" / GOOD	2.93	50μ " / 1.2mm	67Å / 5.35	6.5	Ap	NeA	40s		IIa-O(m) baked	M-S	RWS	
	HD 27397	04h 19.0	+14°00	"	07 19	07 27	8m	39W	1½" / GOOD + CLOUDS	"	"	"	5.87	+ F0 IV	"	"		"	"	"	
	HD 28319	04h 27.8	+15°50	"	07 33	07 34	60s	37W	1½" / GOOD	"	"	"	3.58	+ A7 III				"	"	"	
	HD 40535	05h 58 3	−9°23	"	07 43	07 55	12m	30E	1½" / GOOD	"	"	"	6.4	+ F2 IV				"	"	"	MORE DOME SEEING? OR IS FOCUS CHANGING?
	HD 65836	07h 48.8	−81°33	"	08 11	08 35	24m	1 42E	1½" / GOOD	"	"	"	6.9	Ap				"	"	"	
	HD 68561	08h 07.8	−69°51	"	08 41	08 50	9m —	1 44E	1½" / CLOUD	"	"	"	7.6	Ap	NeA	40s		"	"	"	CLOUDED OUT
2635	SKYLIGHT	ZENITH		26/27 OCT	23 07	23 40	2½min each	—	CLEAR	2.93	50μ " / 1.2mm	67 " / 5.35			NeA	40s		IIa-O(m) baked	"	"	TRY AGAIN.
2636	HD 206653	21h 45.3	−67°40	26/27 OCT	00 36	01 05	27m	54W	1"-1½" / GOOD	2.93	50μ / 1.2mm	67 / 5.35	7.2	Ap	NeA	40s		IIa-O(m) baked	M-S	RWS	
	HD 221006	23h 28.2	−63°12	"	01 22	01 30	8m	26E	1½" / GOOD	"	"	"	5.7	Ap				"	"	"	T=12° RH=40%
	HD 6783	01h 05.2	−77°40	"	01 39	03 00	81m	31E	1"-5" / GOOD	"	"	"	8.2	Ap				"	"	"	SNOW BALL'S! - DOME EFFECTS
	HD 8783	01h 23.6	−72°25	"	03 32	04 29	57m	40W	1"-3" / GOOD	"	"	"	7.9	Ap				"	"	"	MORE SNOWBALLS
	HD 20880	03h 16.2	−73°36	"	04 35	05 37	62m	4E	1½" / GOOD	"	"	"	7.8	Ap				"	"	"	
	HD 24188	03h 45.2	−71°42	"	05 42	06 00	18m	10E	1-2" / GOOD	"	"	"	6.5	Ap				"	"	"	
	HD 65836	07h 48.8	−81°33	"	07 01	07 41	40m	2 32E	1½" / CLOUDS	"	"	"	6.9	Ap				"	"	"	LOST IN CLOUDS. COMING FROM S...
	HD 72881	08h 38.2	−65°28	"	07 51	07 56	5m —	3 00E	CLOUDS	"	"	"	7.5	Ap	NeA	40s		"	"	"	TRY FARTHER NORTH. NO LUCK

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					BEGIN	END									KIND	EXP.					
[illegible]7	HR 8605	22 36	11 [illegible]7	27/28 Oct	02 26	02 30	3m 30s	1h35	Good	3.33	[illegible]μ/1.2	120/7.0	[illegible]40	A1 III				IIa-O	MWP-2 7min 67°F	Gry	G
	HR 8826	23 11	[illegible] 38	"	02 46	02 49	75s, 75s	1h19	2" Good				5.16	A5 Vn							G
	HR 9062	23 56	-64 23	"	03 02	03 04	1.5m, 50s	48m	2" Good				5.00	A1 V.							[illegible]
	HR 114	0 21	21 39	"	03 1[illegible]	03 1[illegible]	1.5m	2[illegible]	2" Good				[illegible]23	A7 III							[illegible]
	HR 310	1 5	21 23		03 2[illegible]	03 27	75s	5m	2" Good				[illegible]34	A1 V							[illegible]
	HR 311	1 5	21 23	"	03 30	03 33	[illegible]	7m	2 Good				[illegible]6	A0 V							G
	HR 136	[illegible] 32	[illegible] 7	"	03 50	03 [illegible]	[illegible], x3	1	2" Good				5.07	A0 V.							G
	HR 433	1h 27m	-21° 43'	"	04 [illegible]	04 07	[illegible]s	20m	2" Good				[illegible].12	A1 V							G
	HR 606	2h 1m	-29° 44'	"	04 18	04 22	3.5m	0	2 Good				[illegible]42	A3 III							SU
2638	Comparison															60s.					
	HR [illegible]52	2 12	-30 48	"	05 13	05 15	[illegible]	42m	2" Good	3.33	100μ/1.2	120/7.0	5.28	[illegible]9 V				IIa-O	MWP-2 7min 67°F	Gry	[illegible]
	HR 883	2 56	-29 55	"	05 24	05 26	[illegible]	8m	2" Good				5.45	A5 V							
	HR 980	3 14	-26 10	"	05 32	05 35	3min	0m	2" Good				[illegible]25	A5 V							
	HR 1062	3 27	-12 44	"	05 44	05 47	2.40s	2m	2" Good				5.59	A5 IV							
	HR 1302	4 10	-42 2	"	05 56	06 00	1.5m, 1m	30m	2.5" Good				4.73	A7 V							
	HR 1483	4 38	-12 9	"	06 12	06 13	1m	46m	2" Good				5.01	A2 IV							
	HR 1503	4 41	-37 10		06 25	06 31	[illegible]s x 3	51m	2" Good				5.[illegible]5	F1 V							
	HR 1530	4 44	-59 46		06 40	06 50	2' 0"x2, 2' 15s	14m	2" Good				5.27	A9 III-IV							
	HR 1525	4 46	-28 7		06 59	07 02	[illegible]	4	Good				6.17	A3 IV							
2639	HR 1525			"	07 22	07 25	3min	20m	2" Good	3.33	100μ/1.2	120/7.0	6.17	A3 IV		-		IIa-O	MWP-2 7min 67°F	Gry	-
	HR 1649	5 2	-49 10		07 32	07 34	2m	12m	2" Good				5.38	F2 V							-
	HR 1701	5 35	-4 52		07 43	07 45	1.5m	10m	2" Good				5.26	F0 III							-
	HR 2010	5 49	12 37		07 53	07 54	1m	15m	2 Good				4.71	B7 IV							-
	HR 1673	5 8	-4 29		08 04	08 06	1m 45s	38m	2-3" Good				5.12	F2 V							G
	HR 2559	6 41	-80 48		08 22	08 24	2.2s	40m	2-3" Good				5.64	A5 III							Streaky
	HR 2489	6 45	12 43		08 33	08 33	4m 30s	30m	2-3" Good				6.46	A1 III							G
	HR 3113	7 57	-30 17		08 50	08 51	[illegible]	1h27m	3" Good				4.11	A2 Vv.							G

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2640	HR 6942	18 31 14	-39 43	2/21 Oct	00 42	00 43	10s	3h 56m	3" Good	3.33	10μ/12	[illegible]	5.16	A3Vn				IIa-O	MWP-2 7min 67°F	Gry	
	HR 7021	18 43	-38 20		00 51	00 52	10s	3h 4m	3 Good				5.13	A2Vn							
	HR 7649	20 1	-13 41		01 00	01 02	2m	2h 44m	2 3 Good				5.71	A3V							
	HR 7764A	20 17	-29 15		01 17	01 21	3m 45s	2h 45m	2 3 Good				6.30	A2III							
	HR 7764C				01 27	01 37	10.5	3h					7.4								
	HR 8048	21 2	-30 42		01 44	01 46	[illegible]	2h 27m	2 Good				[illegible]	A3V							
	HR 8067	21 6	[illegible] 16		01 52	01 55	2.5	2h 31m	2 Good				[illegible]	A0V							
	HR 8351	21 52	-13 38		02 02	02 04	1.5	1h 55m	2 Good				[illegible]	F1 III							
	HR 8444	22 9	-34 6		02 13	02 15	1m 45s	1h 49m	2 Good				5.37	A5V							
	HR 8576	22 31	-32 26		02 20	02 21	30s	1h 34m	2 Good				4.29	A0V							
	HR 9103	23 41	7 10		02 43	02 46	[illegible]	41m	2 Good				[illegible]	A3V							
	HR 364	1 13	16 3		02 51	[illegible] 56	[illegible]	3m					[illegible] 18	G5III							
2641	HR 606	2 2	29 44	"	03 35	03 39	4m [illegible]	3	2	"	"	"	6.42	A3III				"	"	Gry	
	HR 708	2 25	-12 22		04 [illegible]	[illegible]		3	2				4.[illegible]	B9.5Vn							
	HR 845	2 47	[illegible] 0		04 17	04 18	30s	19m	2 Good				5.39	A0V							
	HR [illegible]	2 [illegible]7	-21 5		04 25	04 27	2m	15					5.45	A[illegible] V							
	HR 667	2 2	0 3		04: 38	04 40	1.5m	21m	2 Good				5.43	A5III							
	HR 732	2 30	0 11		04: 47	04 50	2m 45s	5m	2" Good				6.00	A7III-IV							
	HR 859	2 52	-9 30		04: 59	05:03	3m 45s	5m	2' Good				6.32	A7IV							
	HR 925	3 3	-7 40		05 10	05 12	1.5m	[illegible]	2				5.26	A3V							
	SAO 217082	4 57	-43° 3'		06:05	06: 26	21min	47m	2" Good				8.26	A							HB Cand date
	HR 1414	4 28	13 1		06. 37	06 40	70 sec	3	2' Good				5.03	A7V							
	HR 1547	4 50	18 49		06: 49	06: 51	1.5min	15m	2" Good				5.10	A7IV-V							
	HR 1807	5 26	15 15		06:59	07:02	3min	10m	2" 3 Good				6.16	A1IV							
2642	HR 2478	6 45	-14 47	"	07:21	07:22	80s	1h 33m	2" Good	"	"	"	5.32	A2V				"	"	Gry	
	HR 2758	7 15	-15 33		07:33	07:35	1m 35s	1h 56m	2" Good				5.46	A3V							
	HR 2234	6 15	-4 55		07. 47	07 50	2m 40s	40m	2 Good				5.77	A5IV							[illegible]
	HR 2572	6 54	-1 6		08:00	08:02	1m 50s	1h 6m	2" Good				5.45	A4IV							
	HR 3420	8 37	-26 12		08 11	08: 12	1m 15s	2h 40m	2" Good				5.27	A0V							

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2642 reset	HR 3556	3 55	-27 37	23/24 Oct	08 26	08 27	80s	2h 42	3" Good	3.33	100μ/1.2	120/7.0	4.37	A3 IV						G	
	HR 4172	10 38	-12 22		08 44	08 47	2m 30s	4h 8m	3" Good				6.04	A0 V						U	
2643	HR 7327	19 21	-54 27	23/24 Oct	00 34	00 35	40s	3h	3" Good	3.33	100μ/1.2	120/7.0	5.05	A0 Vn				IIa-0	MWP-2 7m. 67°F	Grey	
	HR 7557	11 56	-5 57		00 41	00 42	3s	2h 36m	3" Good				~6.26	B7 > IV							
	HR 7211	17 2	-31 4		00:55	00 57	1m	3h 40m	3" Good				~6.30	A0 IV							
	HR 7475	20 5	-12 43		01:05	01 09	4m	2h 52m	3" Good				6.55	A1V							
	HR 7719	20 21	-4 2 6		01 18	01 20	2m	2h 45m	3" Good				5.57	A0V							
	HR 7522	20 28	-17 52		01:32	01 33	1m 10s	1h 3m	3" Good				4.78	F2IV							
	HR 7530	20 27	-13 38		01: 39	01 41	2m 40s	3h	3" Good				5.74	A3V							
	HR 7527		"		01: 45	01 51	6m	3h 10m	3" Good				6.74	A7V							
	HR 7565	20 35	-5 55		01 57	02 01	3m 40s	3h 13m	3" Good				6.19	A7V							
	HR 7743	20 47	-44 3		02:09	02:11	1m 40s	3h 10m	3" Good				5.11	F1IV							
	HR 8319	21 46	-11 26		02:18	02 20	1m 50s	2h 37m	3" Good				5.58	A1V							
	HR 8366	21 55	-37 20		02:27	02 29	1m 50s	2h 21m	3" Good				5.46	A2V							
	HR 8425	22 7	-47 2		02:35	02:35	~3s	2h 15m	3" Good				1.74	B7 IV							
2644	HR 8[illegible]5 A	23 23	-53 54		03:14	03 18	3m 45s	1h 43m	2 3 Good	3.33	100μ/1.2	120/7.0	6.15	A4 III				"	"	Grey	
	HR 8815B	"	"		03:26	03 35	30s	2h	2" Good				~7.0	A							
	HR 131	0 33	-71 21		03:46	03 57	2m 30s	1h 7m	2" Good				6.13	A7 IV							
	HR 520	1 46	-53 36		03 59	04 00	30s	2m	2" Good				5.04	A1V							
	HR 708	2 25	-12 22		04:09	04 10	30s	27m	3 Good				4.87	B9.5Vn							
	HR 778	2 37	-52 37		04 24	4 26	1m 50s	23m	2 3 Good				5.31	A6V							
	HR 837	2 45	-67 41		04 33	04 34	34s	24m	2-3" Good				4.84	A2 III-V							
	HR 729	2 30	19 47		04: 53	04: 57	3m 30s	16m	2" Good				6.15	A9V							
	HR 812	2 44	12 22		05 06	05 07	66s	11m	2" Good				5.18	A7 III-IV							
	HR 972	3 14	20 59		05:18	05 20	50s	6m	2-3" Good				4.89	A1V							
	HR 2020	5 47	-51 4		06:11	06 12	40s	1h 46m	2 3 Good				3.95	A5V							Defocused image on slit
	HR 1658	5 7	20 24		06 26	06 31	5m x 2	43m	3" Good				5.29	A5V							

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2645	HR 1832	5 30	5 21	7/30 1983	6 52	06 55	2-30s	4m	2" Good	3.33	100µ/1.2	120/7.0	5.94	A3V				IIa-O	Hyf-2 7-in 68°F	Gry	G
	HR 1889	5 46	14 29		07 03	07 05	2m	53m	2" Good				5.72	A3Va							G
	HR 2075	5 56	1 30		07:13	07:15	2-15s	42m	2" Good				5.99	A0 IV							G
	HR 2559	6 41	-80 48		07:26	07 28	2-10s	1h25m	2" Good				5.64	A5 III							G
	HR 2780	6 48	-1 55		07 38	07 38	10s	1.2m	Good				5.27	A7 IV							G
	HR 2794A	6 8	2 30		07:53	07 55	2-15s	25m	2" Good				5.73	A3V							G
	HR 2794B				07 59	08 05		15m	Good				6.14	A0V							G
	HR 324	6 26	1 30		08 17	08 19	2-15s	18m	2" Good				5.87	A3V							G
	HR 3235	6 46	7 30		08 31	08 34	3-20s	3m	Good				6.27	A0V							G
	HR 2672	7 3	-49 34		08 43	08 44	2m1m1m	32m	2-3 Good				4.93	A4IV							G
	HR 2725	7 34	-51 26		08 53	09 56	3m 30s	50m	2" Good				6.28	A1 III-IV							G
2646	HR 7141	1 55	4 11	1/31 1983	00 41	00 42	2m	4h32m	2" Good	3.33	100µ/1.2	120/7.0	4.62	A5 V				"	"	Gry	
	HR 7142				00 46	00:47	30s	4h43m	3" Good					A5 V							
	HR 7460	17 37	-3 41		00 53	00 57	2m 45s	5h12m	3" Good				5.46	F3 IV							
	HR 7450	17 40	-2 9		01 03	01 07	2	3h19m	Good				5.17	A2 IV							
	HR 7519	17 45	7 34		01 14	01 17	1	5h25m	Good				5.11	A2 IV							
	HR 7776	17 54	0 14		01 24	01 26	1	5h23m	3 Good				5.61	A0 III							
	HR 8006	20 54	-1 26		01 32	01 37	4m 20s	2h34m	2" Good				6.55	A9V							
	HR 8098	21 10	1 57		01 44	01 47	4m	2h24m	Good				6.07	A2V							
	HR 8203	21 25	0 28		01 53	01:57	4m 20s	2h13m	2" Good				6.46	A1 IV							
	HR 8270	21 30	5 42		02 04	02 06	1m	2h20m	2 Good				5.67	A9 IV-V							
	HR 8332	21 47	-5 57		02 14	02 17	3m 25s	2h22m	2 Good				6.17	A7V							
	HR 8451	22 9	-3 38		02 24	02 27	3m 10s	2h9m	2 Good				6.27	A1V							
	HR 8471	22 15	8 28		02 33	02 36	2m	2h12m	Good				6.21	A1 V							
2647	HR 8634	22 41	10 45		03:14	03:14	~15s?	2h25m	2" Good	3.33	100µ/1.2	120/7.0	3.90	B8V				"	"	Gry	
	HR 432	1 21	19 16		03:26	03:29	2m 50s	9m	2" Good				6.02	A4 IV							
	HR 455	1 35	14 35		03:42	03:45	3m 5s	2m	2" Good				6.22	B9.5 III							
	HR 515	1 46	17 20		03 53	03 55	3m 30s	4m	2 Good				6.55	A9 III							

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1647 cont	HR 718	2 25	-12 22		04:21	04 22	46s	12m	2-3 Good	3.33	100μ/1.2	120/7.0	4.89	B9.5 Vn						G	
	HR 727	2 30	17 47		04 30	04 34	4m 10s	4m	2 Good				6.15	A9V						G(SU)	
	HR 812	2 44	12 23		04 44	04 46	110s	7m	2 Good				5.16	A9III-IV						G	
	HR 2555	3 41	23 37		05 07	05 37	30m	16m	2 Good				6.37	F0V						[illegible]	
	HD [illegible]	3 48	24 12		[illegible] 13	07 [illegible]		1 [illegible]	2 Good				7.17	A5V						G(SU)	[illegible]
	HR [illegible]	[illegible] 17	[illegible] 4		[illegible] 12	07 22	[illegible]	32	2 Good				3.05	[illegible]5V						U	
	HR [illegible]B	[illegible] 26	-7 30		[illegible] 33	[illegible] 03		27m	Good				[illegible]6							U	
	HR 2550	6 48	-61 55		08 14	08 14	~14s	42m	Good				3.27	A7 IV						G	
	HR 3320	[illegible] 41	-45 15		[illegible] 27	[illegible] 28	7s	2h 29m	2 Good				4.93	A2 III						G	
2648	HR 7266	19 8	6 3	31/1 Oct-Nov	00 18	00 20	2m 17s	3h 7m	2-3 Good	3.33	/1.2	/7.0	5.22	F0III-IV				IIa-O	MVP-2 7min 67°F	Gry	
	HR 7313	19 17	2 0		00 28	00 31	[illegible]	3 9	2 Good				6.19	A1V.							
	HR 7366	19 24	-4 55		00 40	00 45	30s	3 16m	2 Good				6.52	A9V							
	HR 7377	19 25	3 5		00 55	00:55	~21s	3h 25m	2-3 Good				3.36	F3IV							21 [illegible] [illegible] [illegible] head paddle.
	HR 7460	19 37	-4 41		[illegible]	01 06	3m	3h 24m	2-3 Good				5.46	F3IV							
	HR 7519	19 45	7 34		[illegible] 15	01 18	[illegible]	3 29m	2 Good				5.71	A3IV							
	HR [illegible]495	22 16	-1 41		[illegible] 45	01 48	[illegible] 30s	1h 28m	Good				6.15	A5V							
	HR 515	1 46	17 20		02 01	02:07	[illegible] 15s	1h 43m	2 Good				6.55	A9III							
	HR 779	23 7	21 03		02 42	02.46	2m 23s	1h 35m	2 Good				5.99	A5V							
	HR 7062	23 57	-64 23		[illegible] 02	03.06	46s, 53s	2h 5m	2 Good				5.00	A1V							
	HR 729	2 30	17 47		[illegible] 24	03 21	4m [illegible]	1h 5m	2 Good				6.15	A9V							
2649	HD [illegible]	3 48	24 12		04 28	04.51	23m	1h	Good	3.33	100μ/1.2	[illegible]/7.0	7.97	A5V				"	"	Gry	
	HD 12213	1 59.5	-16 26		05:18	06:08	50m	25m	2 Good				~7.1	A							
	HR 2020	5 47	-51 4		06 28	06 29	24s	1h 22m	2 Good				3.85	A5V							[illegible] head paddle.
	HR 2351	6 2[illegible]	11 2		06 46	06.51	3m 51s	1h 40m	2 Good				6.59	A9IV							
	HR [illegible]20	7 24	11 42		07.04	07 06	1m 3[illegible]s	2h 20m	2 Good				5.30	A5IV							
	HR 2[illegible]36	7 26	10 38		[illegible] 20	07 24	[illegible]	2h 5	2 Good				6.37	A2IV							
	HR [illegible]	7 45	10 48		07:34	07 36	1m [illegible]s	2h 13m	2 Good				5.30	A1V							
	HR 3214	8 11	14 3		08 [illegible]0	08 [illegible]6	6m [illegible]	2h 7m	2 Good				6.54	A7III							
	HR 3205	8 22	-6 8		08:18	08:22	3m 45s	2h 3m	2 Good				6.15	A8IV							

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					BEGIN	END									KIND	EXP					
[illegible]	HR [illegible]7	[illegible] 24	-3 12	1/1 [illegible]-Nov	[illegible] 34	08·37	2m 45s	1h 50m	2" Good				5.61	F 3V						Gry	G
	HR [illegible]321	8 26	-3 56		[illegible] 45	08·47	2m 15s	1h 13m	[illegible] Good				5.59	A5III-IV							G
	HR [illegible]61	[illegible] 56	15 23		[illegible] 55	08 57	1m 35s	2	2" Good				5.20 ~~5.[illegible]~~	A5III							G
	HR 3565	3 57	15 3[illegible]		[illegible] 03	09:06	2m [illegible]s	1h 53m	2" brt sky				5.67	F[illegible]IV							G
2650	HR 7614	19 57	-15 32	1/2 Nov	00·13	00·14	1m 10s	2h 16m	2" Good	3 33	100μ/1.2	120/7.0	5.02	A3IV				IIa-O	MWP-2 7min 67°F	Gry	G
	HR [illegible]22	[illegible] 27	-17 52		[illegible] 22	[illegible] 23	[illegible]	1h [illegible]	2" Good				4.78	F2IV							G
	HR [illegible]	[illegible]	[illegible]		[illegible] 34	00·36	1m 50s	1h	[illegible] Good				5.38	A3IV							G
	HR 7103	[illegible]	21 46		00 45	[illegible] 53	3m 4-10s, 3-20s	2h 14m	2-3" Good				6.08	A0III							G, SU
	HR [illegible]	21 [illegible]	-21 15		[illegible]	01 05	[illegible]	1 56	[illegible] Good				6.02	A0V							G(SU)
	HR 8373	21 56	12 0		01.17	01:19	[illegible]	1h 22m	2" Good				5.54	A2V							G
	HR [illegible]24	[illegible] 37	17 36		01.30	01·34	3m 40s	53m	2" Good				6 21	A2V							G
	HR [illegible]	23 7	21 3		01 44	01 48	4m	41m	2" Good				5.99	A5V							G
2651	HD 214539	22 40	-67° 46'	1/2 Nov	[illegible]	02 40	[illegible]	2h	2" Good	.33	100μ/.8	120/7.6	7.22	U7V				IIa-O Baked [illegible] [illegible]	MWP-2 7min 67°F	Gry	SU [illegible]
	HD 1[illegible]273	1 59.5	-16° 26'		03 00	03 15	[illegible]	45m	2" Good				7.1=mg	A							U
	"	"			03 20	03 43	[illegible]	17m	[illegible] Good					"							U
	"	"	"		[illegible] 17	05 [illegible]	[illegible]	[illegible]	[illegible] Good					"							U
	HD [illegible]	[illegible]	23 57		[illegible] 43	[illegible]	[illegible]	[illegible]	2" [illegible]				[illegible] 57	[illegible]V							SU
	"	"	"		[illegible]	[illegible]	[illegible]	14m	[illegible] Good				"	"							U
	HD [illegible]	[illegible] 48	24 12		[illegible] 11	06:53	[illegible]	1h 4m	[illegible] Good				7.17	A5V							U
	BD [illegible]740	[illegible]	4° 5'		[illegible]	[illegible]	[illegible]	1h [illegible]	[illegible] Good				mv: 7.5	A							SU
2652	HR 7546	19 48	19 6	2/3 Nov	00·06	00:08	[illegible] 40s	2h 20m	2" Good	3 33	100μ/1.2	120/7.0	5.00	A3V				IIa-O	MWP-2 7min 67°F	Gry	
	HR 7601	19 54	24 17		00 17	00 20	[illegible] 10s	2h 30m	2-3" Good				5.52	A0III							
	HR 8190	21 23	24 12		00:32	00 35	3m 20s	1h 15m	2-3" Good				5.71	F1IV							
	HR 8216	21 38	20 12		00 47	00:51	4m	1h 15m	2-3" Good				5.85	F2V							
	HR 71	0 18	31 26		01·08	01:11	[illegible] 10s	1h 4m	2-3" Good				5.87	A0IV							
	HR 114	0 29	29 40		01 20	01:22	1m 45s	1h 4m	2-3" Good				5.23	A7III							Done [illegible] - [illegible]?
	"	"	"		01:29	01 31	1m 45s	56m	2-3" Good				"	"							

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2652 cont	HR 262	0 55	27 7	2/3 Nov	1 38	01 42	4m 45s	30m	2" Good				6.00	A5 V							
"	HR 63	0 16	39 46		12 12	12.13	1m 10s	0m	2" Good				4.61	A2 V							
	HR 115	0 29	-14 57		02:46	02.50	4m 15s	24m	2" Good				6.14	F2 III							
	HR 220	0 52	-21 41		02:46	02.58	4m 40s	13m	2" Good				5.57	F0 V							
	HR 401	1 23.2	-3 5		03.08	03:12	4m	9m	2" Good				6.21	F0 V							
	HR 421	1 26.1	-13 8		03 21	03.24	2m 40s	0m	2" Good				5.66	F0 III + Dwf							
	HR 447	1 52.1	-17 0		03 31	03.34	2m 50s	16m	2" Good				5.80	F0 III n							
2653	HR 672	2 21.2	-15 51	2/3 Nov	04 46	04:49	1m 05s	31m	2-3 Good	3.33	100μ/1.2	120/90	5.46	F0 V				IIa-O	MWP-2 7m 67°F	Grig	
	HR 747	2 33.1	-28 18		04 57	04:58	2m 20s	28m	2" Good				4.76	B9 V							
	HR 876	2 46.0	-21 42		05 04	05:10	6m 10s	27m	2" Good				5.47	F3 V							
	HR 938	3 15.8	-7 13		05 18	05:23	4m 25s	11m	2" Good				6.14	F1 V							
	HR 1146	3 43.7	-1 13		06 07	06 09	1m 45s	29m	2" Good				5.25	B7 V							
	HR 1202	3 51.9	-5 24		06:16	06 18	1m 30s	30m	2" Good				5.43	B8 V							
	HR 1275	3 55.9	-7 48		06 26	06 30	4m 10s	33m	2" Good				6.17	F1 V							
	HR 1421	5 07	-20 4		06 37	06 38	1m 10s	18m	2" Good				4.11	B9.5 Vn							
	HR 1710	5 13.3	-14 37		06 46	06 51	2m 05s	19m	2" Good				6.21	A2 II							
	HR 1350	8 27.2	-53 2		07 29	07 31	1m 45s	2m 53s	2" Good				5.09	A1 III-IV							
	HR 3514	8 49.0	-40 16		07 42	07 44	2m	3m	2" Good				5.45	A2							
	HR 3485	8 44	-54 59		07 54	07 54	45s	2m 41s	2" Good				1.95	A1 V							
	HR 3598	6 59	-59 1		08:08	08 10	2m	2m 45s	2" Good				5.16	F3 V							
	HR 3732	1 21	-55 27		08:23	08:26	2m 30s	2m 52s	2" Good				5.63	A3 V							
2654	HR 7480	19 39.7	-0 39	3/4 Nov	00 33	00:46	13m	3m 13s	2" Good	2.94	50μ/1.2	67/5.55	5.67	A3 IV			2m 22V	IIa-O	M-S 15m 67°F	Grig	
	HR 7614	19 57	-15 32		00 54	01.01	7m	3m 10s	2" Good				5.02	A3 IV							
	HR 7649	20 1	-13 41		01:07	01 22	13m 45s	3m 27s	2" Good				5.71	A3 V							
	HR 8332	21 47	-5 59		01 31	01 54	22m 30s	2m 14s	2" Good				6.17	A7 V							
	HR 8351	21 52	-13 38		01:35	02:14	1m 30s	2m 29s	2" Good				5.08	F1 III							
	HR 8451	22 10	-3 58		02 28	02 49	21m	2m 47s	2" Good				6.27	A1 V							
"	HR 421	1 26.1	-13 8		02:18	03.33	15m	15m	2" Good				5.66	F0 III (d)							

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2	HR 547	1 52.1	-17 0	3/4 Nov	03.43	04:01	16m	16m	2" Good				5.86	F0 III n							
4	HR [illegible]7	[illegible]	0 [illegible]		04:14	04:25	0.5m	30m	2" [illegible]				[illegible]43	A5 III							c
	HR 738	2 25.2	-12 27		04:36	04:41	5m 15s	23m	2½" Good				4.87	B9.5 V n							c
5	HR 782	2 [illegible].7	0 11		04 55	05:13	[illegible]	50m	[illegible] Good				6.00	A7 III-IV							c
	HR 1493	4 38.1	-12 9		06 32	06:36	1.5m	8m	2" Good				5.01	A2 IV							c
	HR 1673	5 7.7	-4 21		[illegible]47	06 57	0 [illegible]	2m	2" Good				5.12	F2V							c
	HR 1801	5 34.9	-4 52		07 06	07:16	1m 40s	11m	2" Good				5.26	F0 III							c
2655	HR 2234	6 14.7	-4 55		07 53	08:10	1m 40s	4m	2" Good	294	50µ/12	67/535	5.97	A5 IV			2min 22V	IIa-0	N-S (5min 67°F	Grey	
	HR 2324	6 25.8	-1 30		[illegible]18	08 33	40s	16m	2" Good				5.87	A3V.							c
	HR 2478	[illegible] 45	-14 47		[illegible]42	08:50	30s	14	2" Good				5.32	A2V.							c
2656	Comparison	60 sec.		4/5 Nov																	
	HR 7366	17 24.2	-4 55		00 27	01 07	40m	3h 53m	2" Good	294	50µ/12	67/535	6.52	A7V			"	"	"	Grey	c
	HR [illegible]39	21 45.7	-11 26		01 17	01:27	10m 20s	1h 53m	2" Good				5.58	A1V							c
	HR 8495	22 15.7	-1 40		01 58	02:00	21m 30s	1h 56m	2" Good				6.15	A5V							c
	HR 115	[illegible] 490	-14 57		02 28	02 52	24	34m	3 Good				6.14	F2 III							c
	HR 220	[illegible] 172	21 49		3.01	03:11	9.5m	35m	2-3" Good				5.57	B7V.							c
	HR 401	1h 23.2	-8 5		03 27	03 50	22m 40s	39m	2" Good				6.21	F0V							c
	HR 433	1 28.8	21 43		04 00	04 07	7m	50m	2" Good				5.12	A1V							c
	HR 692	2 21.1	-10 51		04 20	04:33	2m 40s	24m	2" Good				5.46	F0V							c
	HR 749	2 33.1	-28 18		04 47	04 52	5m 10s	30m	2" Good				4.90	B9.5V							c
	HR 925	3 3.5	-7 40		5 04	05 13	1 10s	22m	2 Good				5.26	A8V							c
	HR [illegible]2	3 26.8	-12 44		[illegible]17	[illegible]27	[illegible]3	[illegible]4m	[illegible] Good				5 59	A5 IV							c
	HR 1146	3 43.7	-1 13		[illegible]:33	06 45	7m	1 14m	2 Good				5 25	F7V							c
	HR 1302	4 10.3	-42 2		[illegible]1	[illegible]09	7m 40s	1 10m	2 Good				4.73	A9V							c
2657	HR 2325	6 26.0	-7 30		08 47	08 13	13m 40s	0m	2" Good	294	50µ/12	7/541	6.27	A0V			"	"	"	Grey	c
~~2657~~	HR [illegible]12	6 [illegible]56	-1		08 25	08 36	11m	5m	2 Good				5.45	A4 IV							c
	HR 2758	7 15.5	-15 33		08 46	08 56	[illegible]	5m	2-3" Good				5.46	A3V							c

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2658	HR 7141	19 35.5	4 10 56	5/6 Nov	[illegible]	00:[illegible]	[illegible] 15s	3 28	3 / [illegible]	2 94	50μ/1.2	17/5.35	4.62	A5V			2min 22V	IIa-0	M-S 15min 67°F	G	G
	HR 7142	"	"		[illegible]	00 26	[illegible]	3 45	3 / Good				5.01	A5V							G
	HR 7576	19 53.9	0 14		00 50	00 53	[illegible]	3 10	2 / Good				5.61	A0III							G
	HR 8444	22 1.0	54 6		[illegible]	01 17	[illegible]	1 22	2 / Good				5 37	A5V							G
	HR [illegible]76	22 3[illegible]	-52 26		[illegible] 25	01 28	3m10s	1 12	2 / Good				4 29	A0V							G
	HR [illegible]5A	23 230	-53 54		[illegible] 44	02 [illegible]	[illegible]	56	[illegible]-3 / Good				6 15	A4III							G
	HR [illegible]		"		[illegible]2 [illegible]6	[illegible] 16	50m	28	[illegible] / Good				7 0	A3III							SV
	HR 136	[illegible]	-[illegible] 7		03 27	03·34	7 [illegible]	1 17	2 [illegible] / Good				5.09	A0V							G
	HR [illegible]37	[illegible] 32.7	[illegible]71 21		[illegible] 44	04 07	[illegible]	1 50	[illegible] / Good				6.13	A7IV							G
	HR 606	2 1 7	-29 44		04 22	04 47	[illegible]	1 1	[illegible] / Good				6 42	A3III							G(S[illegible])
	HR 130	[illegible] [illegible] 3	-26 10		[illegible]:[illegible]8	06·08	[illegible]	1 10	[illegible]-3 / Good				[illegible]25	A5V							G
	HR [illegible]	[illegible] 51.9	-5 24		[illegible]	[illegible]	[illegible]	52	[illegible] / Good				5.4[illegible]	B8V							G
	HR 1503	4 [illegible]1.5	-37 10		[illegible]	06:52	[illegible]	27	2-3 / Good				5.05	[illegible]V							G
2659	[illegible]	[illegible]	[illegible]s.																		
	HR 1525	4 [illegible]	[illegible] 7	5/6 Nov	[illegible]	[illegible] 00	[illegible]	[illegible]0	[illegible] / Good	"	"	"	[illegible]	A3V			"	"	"	Gry	G
	HR 2328	6 26.0	-7 30		08:1[illegible]	08:31	1m40s	22	2 / Good				6.27	A0V							G
	HR 2672	7 3.5	-47 34		[illegible]	[illegible] 4[illegible]	[illegible]m40s	0	[illegible] / Good				4.93	A4V							G
2660	HR 7460	19 36.7	-4 41	6/7 Nov	00 07	00:22	15m	3 4	2 / Good	2 94	50μ/1.2	17/5.35	5.46	F3IV			"	"	"	Gry	
	HR 7675	20 4.5	-12 43		00 31	00:59	28m	3 13	2 / Good				6.55	A1V							
	HR 7822	20 27.9	-17 52		01 07	01:15	7.5m	3 6	2 / Good				4.78	F2IV							
	HR 7830	20 28.9	-18 38		01 22	[illegible] 39	17m	3 30	2 / Good				5.94	A3V							
	HR 7829		"		01 44	02 25	41m	4 15	2 / Good				6.96	A7V							
	HR 9062	23 56.7	-64 23		02 37	02 44	[illegible]m40s	1 6	2 / Good				5.00	A1V							
	HR 520	1 45.5	-53 36		03 17	03 24	[illegible]30s	3	2 / Good				5.04	A1V							
	HR 606	2 1.7	-29 44		[illegible]35	04 [illegible]4	29m	22	2 / Good				6.42	A3III							
	HR 652	2 12.2	-30 48		04:11	04:19	7.5m	26	2 / Good				5.25	B9V							
	HR 778	2 36.9	-52 37		04:34	04:45	10m 20s	28	2 / Good				5.31	A6V							
					04:55	05:02	6m 30s	36	2-3 / Good				4.89	A2IV-V							

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2660 cont.	HR 845	2 49.2	-28 [illegible]		[illegible]5:14	05:23	[illegible] 40s	54m	2-3" / Good				5.39	A0V						[illegible]	
	HR [illegible]3	[illegible] 5[illegible]7	-23° 55'		[illegible] 36	05:47	11m	[illegible] 10m	2-3" / Good				5.45	A5V							
2661	HR 1530	4 44.1	-57 46		07 [illegible]	07 15	12m	51m	3" / Good				[illegible] 27	A9 III-IV			2min 22V	IIa-O	M-S 15min 67°F		
	HR 1649	5 2.4	-[illegible] 10		07 17	07 40	12.5m	57m	2" / Good				5.33	F2V							
	HR [illegible]25	7 [illegible]4.2	-[illegible] 26		[illegible]7 51	08:12	[illegible]	1 2m	2 / Good				[illegible] 25	A1 III-IV							
	HR 3113	7 [illegible]7.0	-30 17		08 41	08 47	[illegible] 40s	50m	3 / Good				4.77	A2Vn							
	Comparison	10s.																			
2662	HR 8425	22 7.2	-47 2	7/8 Nov	23:58	23:58	4.5s	13m	2" / Cirrus	2.74	3"/1.2	~~5.34~~ 67/5.34	1.74	B7IV			"	"	"	Gy.	[illegible]
	HR 6942	1[illegible] 31.2	-37 43		[illegible] 17	00 25	[illegible]	[illegible] 16m	2" / [illegible]				5.16	A3V[illegible]							
	HR 7021	1[illegible] 42.7	-3[illegible] 20		[illegible] 32	[illegible] 40	[illegible]	[illegible] 20	[illegible]				5.13	[illegible]2Vn							
	HR 7211	19 3.4	-31 4		[illegible] 47	01-04	[illegible]	4 22m	[illegible] / Clouds				5.50	A0V							
	HR [illegible]48	21 1.7	-38 42		01 30	01 42	12m	[illegible] 3m	2" / [illegible]				5.30	F3V							
	HR 8605	22 35.8	11 37		[illegible] 56	02:21	[illegible]	2 3m	1" / Good				6.40	A1 III							
	HR [illegible]26	23 10.9	[illegible] 38		[illegible] 29	[illegible] 37	[illegible]	1 50m	2" / Good				5.16	A5Vn							
	HR 8983	23 41.1	7 10		02 45	03 01	16m	1 44	2" / Good				5.89	A3V							
	HR 364	1 13.3	16 3		[illegible] 13	[illegible] 28	[illegible]	35m	2 / Good				[illegible] 15	G8III							
	HR 432	1 [illegible]0	[illegible] 16		[illegible]	[illegible] 37	[illegible]	[illegible]1m	[illegible] / Good				[illegible]	A4 V							
	HR 455	1 34.9	14 35		4[illegible]	[illegible]4[illegible]		[illegible] 17m	2 / Good				6.22	B9.5III							
	HR 859	2 52.1	-9 30		[illegible]	05 55	[illegible]	1h27m	1½-2" / Good				6.32	A7IV							
	HR 1414	4 27.9	13 1		06 06	06 14	[illegible]	10m	2-3" / Good				5.03	A7V							
2663	HR 2010	5 48.6	12 39		06 42	06 48	5m 50s	36m	3" / Good	"	"	"	4.91	B9IV			"	"	"	Gry	Windy
	HR 2075	5 55.6	9 30		07 00	[illegible] 15	[illegible]	[illegible]7m	[illegible] / Good				5.79	A0IV							
	HR 1621	5 0.7	-20 4		[illegible]7 26	07:31	5.5m	54m	2" / Good				4.91	B9.5Vn							[illegible]
	HR 2174A	6 8.1	2 30		07 40	[illegible] 53	13m	8m	2" / Good				5.73	A3V							
	HR 2174B				08 10	08.50	40m	1h6m	2" / Good				6.74	A0V.							
	Comparison	60s.																			

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2664	HR 1710	5 13.3	[illegible]	17 Nov	07 03	07 33	[illegible]	47m	[illegible]	2.14	[illegible]/1.2	67/5.35	[illegible]	F2III			2 min 22V	IIa-O	4-5 15 [illegible] 67°F.		U [illegible] clouds, + variable seeing.
	HR 1757	5 [illegible].3	14 27		07 49	08 04	15m	45m	1-4" [illegible] clouds				5.42	A3Vn							U Cloudy, variable seeing, windy.
	HR 3008	7 45.4	[illegible]		08 15	08 27	14m	49m	2-4" light clouds				5.30	A1V							G "
	HR 2920	7 24.1	11 42		[illegible] 36	08 46	[illegible]	10m	2-4" light clouds				5.30	A5IV							U "
2665	HR [illegible]29	19 [illegible]1.5	54 27	10/11 Nov	00 01	[illegible] 11	[illegible]	3h 24m	3-4 Good	2.94	50μ/1.2	67/5.35	5.05	A1Vn			"	IIa-O	"	Gry	G
	HR 75[illegible]7	19 55.8	-58 [illegible]7		[illegible]	00.30	12.5m	3h 10m	3 Good				5.26	B9.5IV							
	HR 7779	20 [illegible]14	-42 6		00 40	00 56	15.5m	3h 10m	3" Good				5.57	A0V							G
	HR [illegible]5	21 [illegible]46	-16 35		01 04	00 38	3[illegible]	3h 38m	3 New Moon				6.19	A7V							GU
	HR [illegible]	21 55.4	-37 20		01 47	02 02	[illegible]	[illegible] 42m	3-4 [illegible]				5.46	A2V							G
	HR 114	0 [illegible]7.3	29 40		02·28	02·49	21m	55m	3-5" Good				5.23	A7III							G
	HR 262	0 55.1	27 7		02·58	03:29	31m	1h 7m	3-5 Good				6.06	A5IV							G
	HR [illegible]26	2 46.0	-21 42		[illegible] 44	05·18	34m	2h [illegible]	2 Good				6.47	F3IV							G Windy
	HR 198	5 15.8	-9 13		05 32	05.57	25m	1h 15m	2 Good				[illegible].14	F1V							G
	HR 225	[illegible] 55.9	-9 48		06 08	06:32	24m	1h 13m	[illegible] Good				6.19	[illegible]V							G
	HR 1710	5 13.3	-14 37		06 55	07·25	30m	48m	[illegible] Good				6.21	F2III							G
	HR [illegible]350	8 27.2	-53 2		07·47	07:57	12.5m	1h 53m	3 Good				5.09	A9III-IV							G
	HR [illegible]514	[illegible] 49.0	-40 16		08 13	08 28	[illegible]5m	1h 45m	3 Good				5.45	A2							G
	HR [illegible]520	[illegible] 17.2	-45 15		08 39	08 48	[illegible]	1h 26m	3" Good				4.73	A2III							G
2666	HR 7266	19 8.2	6 3	11/12 Nov	00·16	00:35	19m	4h 5m	3" Good	"	"	"	5.22	F0III-IV			"	"	"	Gry	
	HR 7943	20 47.4	-44 3		00 47	01 01	14m	2h 52m	3" Good				5.11	F1IV							
	HR 8203	21 25.0	0 28		01·15	01 50	35m	3h 2m	2-3 Good				6.46	A1IV							
	HR [illegible]	22 15.2	[illegible]		01·56	02·18	22m	2h 41m	2-3" Good				6.21	A1V							
	HR 310	1 4.9	21 23		02:30	02:39	9m	13m	2-3" Good				5.34	A1V							
	HR 311	1 4.9	21 23		02·43	02 55	11.5m	29m	2-3" Good				5.56	A0V							
	HR 516	1 45.7	17 20		03:03	03:37	34m	30m	1½-2" Good				6.55	A9III							
	HR 729	2 29.7	19 47		03:49	04:14	25m	24m	2 Good				6.15	A1V							
	HR 812	2 44.1	12 23		04:22	04:32	10m	26m	2" Good				5.18	A7III-IV							
	HR 972	3 14.0	20 59		04:41	04:47	6m	13m	2" Good				4.89	A1V							

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2666 cont	HR 1547	4 50.4	13 47		05:46	05:55	9m	15m	2 / Good				5.10	A7 IV-V							
	HR 1658	5 6.8	20 24		06:05	06:16	11m	11m	2" / Good				5.27	A5 V							
	HR 1309	5 26.3	15 15		06:27	06:48	21m	1m	2½-3 / Good				6.16	A1 IV							
2667	HR 1332	5 27.5	15 21	11/12 Nov	07:21	07:39	18m	50m	2" / Good	2.94	50μ/1.2	7/5.35	5.74	A3 V				IIa-O		Gray	
	HR 1789	5 40.3	14 29		07:47	08:01	14m	54m	2" / Good				5.72	A3 V							
	HR 2520	7 24.1	1 42		08:14	08:24	10m	21m	2" / Good				5.30	A5 IV							
	HR 3420				08:33	08:41	8m	1h17m	2" / Good				5.27	A0 V							
	HR 3556	8 54.8	-27 37		08:47	08:53	6m	1h24m	2" / Good				4.89	A3 IV							Bright Sky.
2668	HR [illegible]	20 17.5	[illegible] 15	13/14 Nov	00 21	01 01	[illegible]	[illegible]	2-4 / Good	"	"	"	6.47	[illegible]				"			Moon.
	HR [illegible]	20 34.6	-16 35		01 09	01:35	[illegible]	3h47m	2 / Good				6.19	A7 V							
	HR [illegible]57	21 7.6	21 16		01 46	02 05	17	[illegible]	2-3 / Good				6.[illegible]2	[illegible] V							
	HR [illegible]270	21 37.6	5 42		02:13	02 33	20m	3h42m	2-3 / Good				5.67	A7 IV-V							
	HR [illegible]624	22 37.0	17 36		02 48	03 23		3 50	3" / Good				6.21	A2 V							
	HR 2351	6 28.1	11 2		04 36	05 26	51m	2h14m	2-3 / Good				[illegible]	A7 IV							
	HR 2459	6 45.0	12 43		05 36	06:22	46m	1h36m	2 / Good				6.46	A9 III							
	HR 2559	6 41.4	-30 48		[illegible] 55	07:09	15m	44m	2" / Good				[illegible]4	[illegible] III							
	HR 3285	8 21.7	-6 8		07 23	07:47	24m	1h47m	2 / Good				6.15	A8 IV							
	HR 3277	8 23.7	3 42		07 55	08:12	17m	1h24m	2" / Good				5.61	F3 V							
	HR 3321	8 25.6	-3 56		08 18	08 31	13m	1h6m	2" / Good				5.59	A5 II-IV							
	HR [illegible]598	8 59.0	-59 1		08:41	08:54	13m	1h19m	2-3 / Good				5.16	F3 V							Bright Sky.
2669	HR 7377	17 24.7	3 5	14/15 Nov	00 05	00 07	2m	3h32m	3 / [illegible] Sky	"	"	"	3.36	F3 IV				IIa-O Baked 90m forming Gas		Gray	
	HR 7519	19 44.9	7 34		00:13	[illegible] 31	[illegible]	[illegible]	3" / Good				5.91	A3 IV							
	HR 7764B	20 17.5	-29 15		00 40	01 30	50m	4h	1½ / Good		50μ/.8		.74	A2 IV							
	HR 7858	20 33.2	12 58		01 35	01 53	15m	4h10m	3 / [illegible] Sky		50μ/1.2		5.38	A3 IV							
	HR 8006	20 54.5	-1 26		01 59	02 39	40m	[illegible]h36	2 / [illegible]		"		6.55	A1 V							
	HR 8273	21 56.1	12 0		02.47	03 02	15m	3h56m	[illegible] / Low Sky				5.54	A2 V							
	HR 8624	22 37.0	17 36		03:10	03:38	28m	3h47m	2 / [illegible] Sky				6.21	A2 V							

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669	HR [illegible]	23 23.0	-53 54		03 51	04 22	31	3h 50m	1- Good		1/.8		6.75	A3III							
670	Comparison									2.74	50µ/1.8	67/5.35						IIa-O Baked 90 min forming gas		Grey	
	HD 23[illegible]	3 [illegible].5	[illegible]	15/16 Nov	05 41	07 33	8.1	2h 11m	1- Good				7.17	A5V							
	HR 2[illegible]36	7 23	[illegible]		07 21	07 41	20	52m	1- Good				6.47	A2IV							
	HR 3732	9 21.3	-55 27		07 56	08 06	10m	2h 24m	2 Good				5.63	A3III							
	HR 3825	9 43.1	-53 47		08 13	08 21	15m	2h 31m	2- Good				5.56	A7III							
	HR 3706	9 51.4	2 32		08 32	08 45	13m	2h 15m	2- Good				6.02	A0Vs							
671	HD 202759	21 18.0	-33° 59'	15/16 Nov	00 34	00 45	11.5m	2h 20m	2- Good	3.30	100µ/1.2	120 IT / 5.0	7.3	B9				II-D		Grey	IT
	HD 213466	22 31.6	-47 41'		00 57	01 31	34m	1h 54m	2- B-S' line		/.8		10.83	A0V							
	Europe #15	1 48.3	13° 28'		01 46	02 14	28m	40m	2- Mean		/.8		10.6	?							
	Sky (N Europe)				02:17	02 47	30m				/.8										
	HD [illegible]733	1 59.5	-16° 26'		02.58	03 08	10m	4m	2- Good		/1.2		9.1	A							
	HD 2[illegible]5	3 46.1	23 37		03 19	03.27	8m	1h 22m	2- Good		/1.2		7.37	F0V							
672	HD 23[illegible]6	3 [illegible]3.5	24 12	15/16 Nov	04 47	04 52	5m	0m	2- Good		1/2		7.17	A5V				II-D		Grey	IT
	BD+24°[illegible]	5 [illegible]5	4 5'		05 11	05 20	15m	38m	2 Good		/1.2		9.5	A							
	Sky (N Europe) #1				05 45	05 55	10m	22m	2- Good		/1.2		9.1	A4							
	#4				06 01	06 13	12m	3m	2 Good		/1.2		9.3	A3							
	#7				06 21	06 34	13m	17m	"		/1.2		9.3	A4							
	#11				06:41	06 57	16m	39m	"		/1.2		9.5	A2							
673	Sky (N Europe) #6			15/16 Nov	07 28	07 47	21m	1h 3m			/1.2		9.7	A5				II-D		Grey	IT
	#10				08:00	08:17	17m	23m			/.8		10.2	A2							
674	NGC 752 #29	1 56.8	37 35'	16/17 Nov	02.57	03:30	23m	23m	3- Good	3.30	100µ/.8	120 IT / 5.0	7.75	A0III				IIa-D		Grey	IT
	Sky (N Europe) #85				06.13	06 37	24m	25m	2 Good				B 10.5	A5							
	#14				06:45	07 11	26m	58m	2 Good				10.5	A3							
	#11				07:19	07:45	26m	1h 32m	2 Good				10.5	A5							

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	A.(Sol) 12				07:53	05:20	27 [illegible]	[illegible] 7	2 / [illegible]		/.7		10.6	A5							
	A.([illegible]) [illegible]				03 28	0[illegible]:30	22m	2h 3[illegible]m	2 / [illegible]		/.6		11.7	A7							[illegible]
2675	HD 202[illegible]	21 [illegible]	-33 57	[illegible] Nov	00 54	01 36	[illegible]	[illegible]	[illegible]	3.41	[illegible]/.8	120/70	13	B[illegible]				II-0 [illegible] 105 [illegible]		Gry	M[illegible]
	HD 122[illegible]3	1 57.5	-16 26		02 07	02 38	31m	17m	2 / [illegible] Sky				7.1	A							
	HD 249[illegible]	2 33.1	[illegible] 18		02 50	03 11	[illegible]	11m	2 / [illegible]				7	A							[illegible] Fo-A?
	HD 23[illegible]	3 46.1	[illegible]3 37		03:21	03 47	[illegible]	1h	2-3 / [illegible] Sky				5.37	F0V							
	HD [illegible]	3 [illegible]3	[illegible]4 1[illegible]		03 57	04:20	23m	26m	2-3 / [illegible] Sky		/12		[illegible]	[illegible]V							
	A.(Sol) 41	[illegible]3	[illegible] 7'		05:20	05 53	33m	21m	2 / Good		/.8		B 7.1	A4							
	44				06:03	06:44	41m	30m	2 / Good		"		7.3	A3							
	47				06 30	07 30	40m	1h 21m	2 / Good		"		9.3	A4							
	411				07:37	08:27	50m	2h 14m	2 / Good		"		15	A2							
2676	HD 3980	00h 41.0	-56 35	831123	02:45	03:50	12,20,30M / 20	2h 31	1"-2" / Good+	2.94	50μ / 1.2μ	67Å / 535	6.5	Ap SrEuCr	NeA	60s		IIa-O	M-S	RWS	T=15° RH=50%
	HD 24825	03h 54.7	-38 48	"	04:42	06:00	16,24,36M / 36	1h 28	~1½" / Good	2.94	"	"	6.8	Ap CrEu(Sr)				"	"	"	RH=45% T=15°
	HD 55719	07h 11.8	-40 28	"	06 40	07:24	7,12,18M / 7	24E	1-1½" / Good	"	"	"	5.9	Ap SrEuCr	NeA	60s		"	"	"	RH=42%
2677	HD 56455	07h 14.3	-46 49	"	07:43	08:20	7,12,17M / 10	31W	1-1½" / Good	"	"	"	5.9	Ap Si	NeA	60s		"	"	"	
	HD 66624	08h 02.2	-41 16	"	08:28	08 48	4,6,10M / 5	08W	1-1½" / Good	"	"	"	5.5	Ap Si	NeA	60s		"	"	"	SKY BRIGHTENING.
2678	HD 3980	00h 41.0	-56 35	831124	00 47	01 21	12M,20M / 12	06W	1½" / Good	2.94	50μm / 1.2μm	67Å / 5.35	6.5	Ap SrEuCr	NeA	60s		IIa-O (baked)	M-S	RWS	T=16° RH=40% BETTER COLLIMATION [illegible]!
	HD 10840	01h 43.9	-61 06	"	01 30	02 12	9,12,22M / 12+	06E	1-1½" / Good	"	"	"	6.6	Ap Si				"	"	"	
	HD 23324	03h 44.2	+24°48	"	02 38	02 54	6,9M / 9	1 22E	1½" / Good	"	"	"	5.6	+B8 V				"	"	"	REFRACTION -
	HD 24825	03h 54.7	-38 48	"	03 06	03 52	18,25M / 20	36E	1" / Good	"	"	"	6.8	Ap CrEu(Sr)	NeA	60s		"	"	"	WIND RISING
2679	HD 23850	03h 48.2	+24°01	"	05 28	05 32	85sec,100s / 90s	1 00W	1½" / Good	"	"	"	3.5	† B8 III	NeA	60s		IIa-O (baked)	M-S	RWS	REFRACTION
	HD 27463	04h 16.2	-60°59	"	04 43	06 10	5,8,12 / 12	1 20W	1¼" / Good	"	"	"	6.1	Ap EuCr(Sr)				"	"	"	
	HD 29435	04h 36.2	-30°45	"	06 30	07 17	4,6,9M / 9	207	1½" / Good	"	"	"	5.8	Ap Si				"	"	"	LEFT DARKSLIDE IN FOR FIRST 3 EXPOSURES
	HD 55719	07h 11.8	-40° 28	"	07 27	07 35	3,5M / 5	09E	1½" / Good	"	"	"	5.9	Ap SrEuCr	NeA	60s		"	"	"	
2680	HD 56455	07h 14.3	-46 49	"	08 02	08 16	5,8M / 8	32W	1½"-2" / Good	"	"	"	5.9	Ap Si	NeA	60s		IIa-O (baked)	M-S	RWS	
	HD 66624	08h 02.2	-41 16	"	08 24	08 33	3,5M / 5	02E	1½-2" / Good	"	"	"	5.5	Ap Si				"	"	"	SPECTRA STRANGE BUMP GRATING ?
	HD 54188	07h 04.5	-50 44	"	08 38	08 49	3,5,[illegible]M / 4	1 14W	2" / Good	"	"	"	5.3	Ap Si	NeA	60s		"	"	"	SKY BRIGHTENING
2681	HD 10840	01h 43.9	-61 06	831125	00 55	01 44	16M,30M / 30	29E	1½" / Fair	2.94	50μm / 1.2mm	67Å / 535	6.6	Ap Si	NeA	60s	'	IIa-O (baked) (O)	M-S	RWS	T=16°C RH=41%
	HD 23324	03h 44.2	+24 42	"	01 55	02 20	9,15M / 20+	1 54E	1½" / FAIR	"	"	"	5.6	+B8 V	cirrus clouds			"	"	"	BAKED FILM @65°C in 4% F.G

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2681	HD 27463	04h 16.2	-60° 59	831125	02 36	03 08	12m, 20m / 30	1 39E	1" / FAIR	2.94	50μm / 1.2mm	67Å / 5.35	6.1	Ap EuCr(Sr)				baked IIa-O (o)	M-S	RWS	CIRRUS CLOUDS
	HD 29435	04h 36.2	-30° 45	"	03 19	03 48	9m, 18m / 9	1 18E	1½" / GOOD	"	"	"	5.8	Ap Si				"	"	"	
	HD 23850	03h 48.2	+24° 01	"	03 57	03 59	105sec. / ✓	19E	2" / GOOD	"	"	"	3.5	+B8III	NeA	60s		"	"	"	T=16° RH=42%
2682	HD 27397	04h 19.0	+14° 00	"	04 59	05 30	10m, 20m / 10	46W	1½" / FAIR	"	"	"	5.9	+F0IV	NeA	60s		"	"	"	CIRRUS CLOUDS DRIFTING THROUGH
	HD 44979	06h 22.6	-34 59	"	05 54	06 58	12m, 20m, 32m / 20	06W	1½"-2" / FAIR GOOD	"	"	"	6.9	Ap Si				"	"	"	
	HD 54188	07h 04.1	-56 44	"	07 07	07 20	4m, 7m / 5m	13E	1½"-2" / GOOD	"	"	"	5.3	Ap Si				"	"	"	
	HD 56907	07h 15.9	-50 01	"	07 41	08 45	12, 20, 32m	101W	1" / FAIR	"	"	"	6.8	Ap Si	NeA	60s		"	"	"	
2683	HD 3980	00h 41.0	-56 35	831126	00 49	01 19	11, 18m / 10	11W	1½" / GOOD	2.94	50μm / 1.2mm	67Å / 5.35	6.5	Ap SrEuCr	NeA	60s		IIa-D baked (o)	M-S	RWS	BAKED 90min @ 65° in 4% FG.
	HD 8783	01h 23.6	-72° 25	"	01 52	03 02	70m / ✓	12W	1" / GOOD	"	"	"	7.5	Ap Sr EuCr				"	"	"	THIS HAS BEEN A TOUGHY TO GET!
	HD 24825	03h 54.7	-38 48	"	04 08	04 53	18m, 25m / 20	33W	1" / Exc.	"	"	"	6.8	Ap CrEu(Sr)				"	"	"	
	HD 28319	04h 27.8	+15° 50	"	05 09	05 12	75, 100sec. / 75s	19W	2" / Exc.	"	"	"	3.6	+A7III				"	"	"	LOTS OF REFRACTION! GUIDE ~½" off centre.
	HD 44979	06h 22.6	-34 59	"	05 24	06 09	18m, 27m / 18	39E	2" / Exc	"	"	"	6.9	Ap Si	NeA	60s		"	"	"	OVER INSTRUMENTAL DOME SEEING?
2684	HD 40535	05h 58.3	-9° 23	"	06 50	07 21	12m, 18m / 6	57W	2" / Exc.	"	"	"	6.4(?)	+F2IV	NeA	60s		"	"	"	IS THIS MAG CORRECT? STAR LOOKED 5.6!
	HD 55719	07h 11.8	-40° 28	"	07 28	07 39	4, 7m / 5	4W	2" / Exc.	"	"	"	5.9	Ap SrEuCr				"	"	"	
	HD 56455	07h 14.3	-46° 49	"	07 44	07 58	4½, 9m / 7	18W	2" / Exc.	"	"	"	5.9	Ap Si				"	"	"	
	HD 66624	08h 02.2	-41° 16	"	08 04	08 12	3, 5m / 4	15E	2" / Exc.	"	"	"	5.5	Ap Si				"	"	"	
	HD 56907	07h 15.9	-50° 01	"	08 18	08 40	22m / 27	100W	1½" / Exc.	"	"	"	6.8	Ap Si	NeA	60s.		"	"	"	STAR SEEMED RATHER FAINT
2685	HD 6783	01h 05.2	-77° 40	831127	01 00	02 20	80m / 80	53W	2" / GOOD	2.94	50μm / 1.2mm	67Å / 5.35	7.4	Ap Si λ4200	NeA	60s		IIa-O baked	M-S	RWS	BAKED 70 min. @65°C in 4% F.G. ~~Smother toughy.~~
	HD 10840	01h 43.9	-61 06	"	02 31	03 18	15m, 31m / 25	112W	2"+ / GOOD	"	"	"	6.6	Ap Si	seeing erratic - unstable.			"	"	"	T=14°C RH=48%
	HD 24188	03h 45.3	-71 42	"	04 40	04 48	10m / 15	51W	2" / Exc.	"	"	"	6.0	Ap Si λ4200				"	"	"	SEEING & TRANS. IMPROVING
	HD 27463	04h 16.2	-60 59	"	05 06	05 18	12m / 15	40W	2" / Exc	"	"	"	6.1	Ap EuCr(Sr)	FORGOT TO PUT IN DARKSLIDE. "CONTAMINATED!"					"	I HOPE THIS ONE EXPOSURE IS GOOD
	HD 29435	04h 36.2	-30 45	"	05 29	05 48	9, 9m / 10	50W	1½" / Exc.	"	"	"	5.8	Ap Si				"	"	"	BUMPED GRATING FIRST EXPOSURE
	HD 27463	04h 16.2	-60 59	"	05 57	06 18	9, 12m / 15	1 41W	1½" / Exc.	"	"	"	6.1	Ap EuCr(Sr)	NeA	60s.		"	"	"	LETS GET IT RIGHT.
2686	HD 54188	07h 04.1	-56 44	"	06 57	07 02	5m / 5	24E	2" / FAIR	"	"	"	5.3	Ap Si	NeA	60s		"	"	"	CIRRUS
	HD 66624	08h 02.2	-41 16	"	07 08	07 12	4m / 5	1 12E	1½" / FAIR	"	"	"	5.5	Ap Si				"	"	"	
	HD 73340	08h 35.4	-50 55	"	07 23	07 28	5m / 6	1 29E	2" / GOOD	"	"	"	5.5	Ap Si				"	"	"	~~LOOKS TOO FAINT~~ FOUND IT.
	HD 66624	08h 02.2	-41 16	"	07 35	07 39	4m / 5	41E	2" / GOOD	"	"	"	5.5	Ap Si				"	"	"	
	HD 74067	08h 39.7	-40 12	"	07 45	07 54	3, 5m / 4	1 05E	2"+ / GOOD	"	"	"	5.2	Ap Si				"	"	"	FAINT RED COMPANION JUST OFF EDGE OF SLIT.
	HD 66624	08h 02.2	-41 16	"	08 03	08 17	4, 4, 4m / 5	7E	2"-1" / FAIR	"	"	"	5.5	Ap Si				"	"	"	SHORT TERM VARIATIONS ?? NATURALLY.
	HD 77653	09h 01.3	-52 08	"	08 27	08 44	4, 5, 8m / 5	38E	2" / FAIR	"	"	"	5.4	Ap Si				"	"	"	CIRRUS ENCROACHING

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2687	HD 3980	00 41.0	-56 35	831128	03 03	03 15	12M / 12	2 15W	2" / FAIR POOR	2.94	1.2MM / 50μm	67Å / 535	6.5	ApSrEuCr	NeA	60s		(unbaked) IIa-O(o)	M-S	RWS	90min @ 65°F in 4% F.G.
	HD 44979	06h 22.6	-34 59	"	04 03	04 35	32M / –	2 05E	2" / POOR	"	"	"	6.9	Ap Si				"	"	"	DIFFICULT TO FIND A HOLE IN CLOUDS!
	HD 24825	03h 54.7	-38 48	"	04 43	05 12	29M		1½" / BETTER	"	"	"	6.8	ApCrEu(Sr)				"	"	"	UFO PROBLEMS
	HD 55719	07h 11.8	-40 28	"	05 57	06 11	5m, 8m	1 18E	2" / FAIR	"	"	"	5.9	ApSrEuCr				"	"	"	SCATTERED
	HD 56455	07h 14.3	-46 49	"	06 17	06 24	7m	1 08E	2" / FAIR	"	"	"	5.9	Ap Si				"	"	"	CLOUDS.
	HD 56907	07h 15.9	-50 01	"	06 30	07 06	36M	28E	1½" / POOR	"	"	"	6.8	Ap Si				"	"	"	CIRRUS MOVED IN SOLIDLY
	HD 74067	08h 39.7	-40 12	"	07 24	07 40	5, 10M / 7	1 15E	1½" / POOR	"	"	"	5.15	Ap(SiCr)	NeA	60s		"	"	"	"
2688	HD 66624	08h 02.2	-41 16	"	07 57	08 41	9x4½M	21 W	2" / POOR	"	"	"	5.5	Ap Si	NeA	60s		(baked) IIa-O(o)	"	"	9 EXPOSURES SHORT-TERM VAR ?
2689	α PsA	22h 56m.8	-29° 47'	28/29	0040	0041	1s, 2s, 2s / 2s	1h 33m W	1" / CIRRUS	3.33	0.8mm / 100μ	120 / 7.0	1.2	A3V	NeA	10s		IIa-O	MWP-2	[illegible]	
	6 CET	0 10.2	-15 35	Nov 1983	0052	0057	½, 1, 2m ✓	47m W	"	3.34	"	"	5.4	F6	"	"			7m 67°F		
	η SCL	0 26.9	-33 07		0103	0133	2, 4, 8, 16m ✓	1h 5m W					6.6	M4							
	37 CET	01 13.3	-08 02		0140	0146	½, 1, 2m ✓	33m W					5.5	F2							
	HR370	01 14.2	-45 39		0150	0155	40, 80, 160s ✓	42m W					5.5	F8							
2690	46 CET	01 24.5	-14 42	"	0254	0300	1, 2, 4m / 2m	1h 35m W	"	"	"	"	6.1	K3	"	"		"	"	"	BS 412
	ρ CET	02 25.0	-12 22		0326	0329	15, 30, 60s ✓	1h 5m W					4.8	B9							BS 708
	HR749	02 32.9	-28 23		0333	0336	" ✓	1h 3m W					4.8	B9							ω FOR (ft comp ~10")
	ε CET	02 38.5	-11 58		0338	0343	½, 1, 2m ✓	1h 5m W					5.3	F5							HR781
	ζ HYA	02 45.9	-67 44		0346	0351	½, 1, 2m / ½m	1h 6m W					4.9	A3							HR837
	τ² ERI	02 50.1	-21 09		0355	0402	3/4, 1.5, 3 ✓	1h 13m W					5.7	K0							HR 850
2691	ζ ERI	03 14.8	-08 56	"	0436	0440	30, 45, 1.5 ✓	1h 26m W	"	"	"	"	5.0	Am	"	"		"	"	"	HR984
	15 ERI	03 17.4	-22 39		0444	0451	1, 1.5, 3m / 2m	1h 34m W					5.8	G6							HR994
	δ FOR	03 41.4	-32 02		0454	0456	15, 30, 60 ✓	1h 15m W					4.8	B5							HR 1134
	ι RET	04 01.4	-61 09		0501	0515	3, 4, 8m ✓s	1h 14m W					6.4	K4							HR1266
	δ HOR	04 10.4	-42 04		0528	0534	30, 45, 90 / 30s	1h 25m W					5.2	F0							HR1302
	39 ERI A	04 13.5	-10 18		0537	0549	75, 150 ✓	1h 37m W					6.0	K3							HR1318 ft Comp
2692	39 ERI B	04 13.5	-10 20	"	0614	0645	31m / 40	2h 30m W	"	"	"	"	9	G2	"	"		"	"	"	B ✓
	η² DOR	06 11.8	-65 36		0650	0714	2.5, 5, 10 ✓	50m W					6.5	M3							HR2245
	HR2275	06 18.9	-03 01		0718	0739	2.5, 5, 10 ✓	1h 7m W					6.5	M1							
	μ CMa A	06 55.1	-14 03		0742	0758	1.75, 3.5, 7 ✓	49m W					6.2	M							HR2593A

moonlight dim?

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																					1̶5̶ ̶4̶3̶ 2.5
2692	HR2593B	06h 55.1m	−14° 03′	28/29	0806	0817	1, 2.5, 5m / 7m 10m	1h 21m W	1″/clear	3.34	0.8 mm / 100μ	120 / 7.0	6.5	A2	NeA	10s	22V. 2mm	IIaO	MWP-2	[illegible]	
(CONT)	HR2608	06 55.9	−48 46	Nov 1983	0823	0837	2.5, 5, 10 / 4m	1h 28m W					6.6	M1					7m 67°F		(only 2 spectra)
	HR2764	07 15.8	−23 23		0843	0902	" / ✓	1h 33m W					6.6	M0							
	Sky	"	"		0902	0904	2m / v.v.wx	1h 35m W					?	G2							
	"	"	"		0904	0906	2m / v.wx	1h 37m W					?	G2.							15°C 45% 0 wind
2693	HR7652	20 02.4	−37 58	29/30	0023	0043	2.5, 5, 10 / ✓	4h 30m W	2″/clear	"	"	"	6.2	K5	"	"		"	"	[illegible]	
	ξ TEL	20 06.3	−52 56	Nov 1983	0048	0115	3, 6, 12m / ✓	4h 58m W	3″/"				6.5	M2							HR 7673
	ζ IND	20 48.5	−46 18		0117	0137	10, 5, 2.5m / ✓	4 39 W					6.4	K4							
	α Mic	20 49.0	−33 48		0140	0152	1.5, 3, 6m / ✓ 2m	4 51 W					5.9	G7							companion A m5m
	θ′ Mic	21 19.7	−40 52		0154	0200	30s, 1, 2m / ✓ 30s	4 29 W					4.8	Ap.							16° 45% 5 mph
	υ PsA	22 07.4	−34 05		0204	0227	12, 6, 3m / ✓	3 08 W					6.5	M1							HR 8433
	HR 8582	22 32.5	−62 02		0230	0250	3, 5, 10m / 3m	3 09 W					6.5	M4							ν Tuc
2694	η Tuc	23 57.5	−64 21	"	0331	0337	1/2, 1, 2 / ✓ 1/2	3 29 W	2″/clear	"	"	"	5.0	A2	"	"	22V 2mm	"	"	[illegible]	HR 9062
	20 CET	00 52.1	−01 15		0349	0405	2, 4, 8 / ✓	3h 3m W					6.3	M0						"	
	46 CET	01 24.7	−14 39		0408	0414	6m / ✓ 2m	2h 40m W					6.1	K3							
	β Hor	02 59.2	−64 07		0418	0423	1/2, 1, 2m / ✓ 3/4	2h 14m W					5.1	A5							
	15 ERI	03 17.6	−22 35		0512	0517	1, 1.5, 2 / ✓	1h 49m W					5.8	G6							
	39 ERI B	04 13.5	−10 16		0521	0600	40m / ✓	1h 37m W					9.0+	G2							HR 1318B
	45 ERI	04 30.8	−00 06		0604	0617	1.5, 3, 6m / ✓ 2m	1h 37m W					6.2	K3							
	64 ERI	04 59.0	−12 34		0620	0622	15, 30, 60s / ✓	1h 10m W					5.0	F0							
2695	ψ ERI	05 00.5	−7 12	"	0641	0644	" / ✓	1h 34m W	"	"	"	"	4.6	B2	"	"		"	"	"	
	HR 1621	05 00.7	−20 06		0646	0648	" / ✓	1h 38m W					4.8	B9							
	η² Pic	05 04.8	−49 37		0651	0711	2.5, 5, 9 / 4	1h 56m W					6.5	M2							
	θ Dor	05 14.6	−67 12		0714	0725	2.5, 4, 6 / 3	2h 2m W					6.1	K2							
	HR 2812	07 21.5	−18 59		0729	0731	15, 30, 60s / ✓ 25m	0h					4.9	B7							
	ε CMi	07 24.6	+09 19		0737	0744	1, 1.8, 3.5 / ✓	10m W					6.0	G8							
2696	HR 3113	07 57.0	−30 17	"	0754	0757	15, 30, 60s / ✓ 25	10m E	"	"	"	"	4.9	A2	"	"	22V 2 min	"	"	"	
	27 MON	07 58.7	−03 39		0800	0810	1, 2.5, 5 / ✓	1m W					6.1	K2							
	HR 3282	08 20.7	−32 58		0813	0822	1, 2, 2.5, 5 / ✓	9m E					6.2	K1							
	6 HYA	08 39.0	−12 23		0824	0837	1, 7, 3, 5, 7m / ✓	12m E					6.4	K4							
	9 HYA				0839	0847	1, 2, 4 / ✓ 1.5	2m E					5.9	K1							

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2697	ρ CAP	20h 27m.8	−17° 52′	30 Nov / 1 Dec 1983	0022	0024	30, 60, 2m / 5m ✓	3h 50m W	2″ / clear	334	0.8mm / 100μ	120 / 7.0	5.1	F2	NeA	10s		IIaO	MWP-2 7m 67°F	[illegible]	
	η CAP	21 03.5	−19 56		0029	0031	15, 30, 60 ✓	3h 20m W	"				5.0	Am							
	θ′ MIC	21 19.9	−40 53		0035	0037	" ✓	3h 11m W					4.8	Ap							
	τ PsA	22 09.2	−32 36		0040	0045	½, 1, 2m ✓	2h 30m W					5.4	F5.							
	μ′ GRU	22 14.6	−41 26		0050	0055	.6, 1.2, 2.4m ✓	2 33 W					5.6	G4							
	μ² GRU	22 15.6	−41 43		0100	0106	.9, 1.5, 3m ✓	2 43 W					6.0	G5							15°C 49% calm
	HD224618	23 58.4	−17 02		0114	0144	30m / 45m	1 39 W					9.8	K0							
2698	σ AQR	22 29.8	−10 44	"	0154	0157	15, 30, 60 ✓	3 20 W	"	"	"	"	4.8	A0	"	"	2 min 22V	"	"	"	
	ρ GRU	22 42.6	−41 30		0200	0208	.9, 1.5, 3 ✓	3h 18 W					5.9	G8							
	η GRU	22 44.9	−53 35		0210	0219	1, 2, 4m ✓	3 28 W					6.0	K2							
	ψ³ AQR	23 18.1	−9 40		0222	0225	15, 30, 60s ✓	3h W					5.0	A0.							
	104 AQR	23 40.8	−17 55		0228	0234	½, 1, 2m ✓	2 46 W					5.6	G0 Ib							
	η TUC	23 56.5	−64 24		0236	0240	30, 60, (55) [illegible] ✓	2 35 W					5.0	A2							
	27 PSC	23 57.7	−03 40		0244	0251	1, 2, 4m ✓	2 46 W					5.9	G9							
2699	o COL	05 16.8	−34 53	"	0438	0441	3/4, 1.5, 3 ✓	42m E	"	"	"	"	5.8	K0	"	"		"	"	"	
	49 ORI	05 38.0	−07 13		0446	0448	15, 30, 60s ✓	56m E					4.9	A4							
	HR1952	05 39.9	−01 09		0451	0453	" ✓	53m E					4.7	B3							
	λ COL	05 52.5	−33 47		0455	0457	" ✓	1h 1m E					4.7	B5							
	ξ COL	05 54.9	−37 06		0503	0510	.7, 1.5, 3m ✓	52m E					6.1	G8							HR 2087
	3 MON	06 01.0	−10 35		0513	0515	15, 30, 60s ✓	51m E					4.8	B5							ft Comp 2″ Am4
	17 LEP	06 04.2	−16 29		0518	0520	" ✓	50m E					5.1	Ap.							[illegible]
	HR2275	06 18.9	−02 58		0524	0527	1m, 2m ✓	58m E					6.5	M1							
~~2700~~	δ PIC	06 10.3	−54 57	"	0532	0535	20, 40, 80 ✓	41m E	"	"	"	"	4.6	B1	"	"	2m 12V	"	"	"	
2700	HR2462A	06 38.3	−48 13		0544	0550	.7, 1.4, 2.8m ✓	54m E					5.8	G6							
	" B	"	"		0554	0612	2, 4, 8m ✓	32m E					7.2	A0							
	HR2450	06 38.3	−14 07		0614	0624	1.2, 2.5, 5m ✓	20m E					6.3	K3							
	HR2549	06 50.3	−34 19		0627	0635	" ✓	20m E					6.4	K0							
	μ CMa B	06 55.2	−14 00		0639	0648	8m / 7m	13m E					7.0	A.							HR2593 B
	19 MON	07 01.9	−04 14		0650	0652	15, 30, 60 ✓	16m E					4.7	B1							
	HR 2702	7 08.2	−39 37		0655	0658	" / 30s	15m E					4.6	B3							

Radio Canada 00-01h   9.757

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2700 (Cont)	HR2746	7 12.9	−45 09	30/1 Nov/Dec 1983	0700	0703	15,30,60s / 20s	15m E	2"/clear	3.34	100μ/0.8	120/7.0	4.8	Am	NeA	10s		IIa-0	MWP-2	[illegible]	
	20 MON	7 09.4	−4 14		0708	0714	3/4,1.5,3 / 5 ✓	0m E					5.9	K0					7m 67°F		
	HR2764	7 18.0	−23 19		0719	0721	2m / 3m	0m E					6.6	M0							
2701	HR2874	07 29.3	−23 01	"	0735	0737	15,30,60s / ✓	2m W	"	"	"	"	5.1	A5	"	"		"	"	"	
	HR2902	07 33.0	−14 28		0741	0757	1,2,4,8m / ✓	18m W					6.4	M2p+B Symbiotic!							
	HR2934	07 35.6	−52 31		0800	0810	1,2,2.5,5 / ✓	30m W					6.3	K2							
	HR2949	07 38.1	−26 47		0814	0816	15,30,60s / 20s	~~39m~~					4.5	B5							SE
	HR2948	"	−26 46		0817	0820	" / 20s	37m W					4.4	B6							NW
	HR2961	07 39.1	−38 15		0826	0828	" / 20s	43m W					4.6	B3							
	HR3159	08 00.0	−63 30		0832	0835	" / 20s	30m W					4.7	B3							14°C 38% 10
	HR3414	0835.3	−57 55		0840	0848	1/2,1,1.5,3 / ✓s	7m W					5.8	G9							
2702	η Tuc	23 57.7	−64 23	1/2 Dec 1983	0021	0026	10,20,40s / 30s	25m W	1"/clear	"	"	"	5.0	A2	"	"	"	"	"	[illegible]	trailed w/ set 15°C 53% calm.
	195521	2032.5	−41 34		0031	0050	2,5,10m / ✓	4 15W					7.4	G5							Harlow
	197214	20 42.3	−29 30		0053	0115	3,6,12m / ✓	4 30W					7.6	G							
	HR7931	20 44.3	−27 19		0116	0133	3,4,8 / 8	4h46m W					7.1	G5							
	205905	21 38.2	−27 24		0136	0155	2,5,5,10 / ✓	4 14W					7.4	G4							
	HR8658	22 45.6	−49 05		0157	0213	2,4,8 / ✓	3 25W					7.4	G0							
	HR8700	22 53.0	−48 42		0216	0222	1/2,1,2 / ✓	3 16W					6.6	G3							
	HR72	00 17.8	−8 07		0227	0239	1.5,3,6 / ✓	2 20W					7.1	G0							14°C 55% calm
2703	ζ Tuc	00 19.9	−64 57	"	0256	0259	1,2,4,40s / ✓s	2 37W	"	"	"		4.8	G2	"	"	"	"	"	"	
	HD 4308	00 44.9	−65 43		0303	0315	100,200,400 / ✓	2 28W					7.2	G3						[illegible]	
	HR512	01 42.1	−82 59		0321	0329	1,2,4m / 3	1h45m W					6.4	G2							
	HR448	01 33.0	−07 04		0335	0342	0.7,1.5,3 / ✓	2h06m W					6.4	G2							
	HD20439	03 16.6	+07 41		0440	0518	5,10,20m / 15	2h W					8.4	G2?							
	κ CET	03 18.6	+03 19		0520	0525	15,30,60s / ✓	2h 5m W	(maybe 4 exp −45s also)				5.4	G5							
	HD20619	03 18.2	−02 54		0527	0550	3,6,12 / 8	2 30W					7.7	G							
	58 ERI	04 46.9	−16 56		0553	0557	.5,1.2,2.5 / ✓	1h 9m W					6.1	G1							
2704	HR1608	04 59.0	−10 14	"	0610	0616	.7,1.5,3m / ✓	1 15W	"	"	"	"	6.3	G4	"	"	"	"	"	"	
	HR2208	06 12.3	+10 40		0622	0634	1.5,3,6 / 5	20m W					7.1	G8V							
	HR2290	06 20.0	−48 44		0644	0656	" / 4	35m W					7.2	G0							

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2704	HR2667	07 03.9	−43 35	1/2	0703	0708	7,15,3 / ✓	2m W	1"/clear	3.34	100μ/.8	120/7.0	6.4	G3	NeA	10s	2m	IIa-0	MWP-2	[initials]	
(CONT)	HR2668	07 03.8	−43 35	Dec 1983	0712	0717	5m / ✓	11m W					7.6	K0V			22V				
	δ Pic	06 10.2	−54 58		0720	0723	10,20,40 / ✓	1h10m W					4.6	B1							
	HR2702	07 08.1	−39 36		0733	0736	" / ✓	26m W					4.6	B3							
	HR2949	07 38.4	−26 47		0739	0742	" / ✓	4m W					4.5	B5							
	HR2948	"	"		0743	0747	" / ✓	9m W					4.4	B6							
2705	HR2961	07 38.7	−38 14	"	0802	0805	" / ✓	23m W	"	"	"	"	4.6	B3	"	"	"	"	"	[initials]	
	HR3159	08 00.0	−63 28		0810	0812	" / ✓	9m W					4.7	B3							
	HR3237	08 13.2	−35 48		0815	0817	10,20,15,30 / ✓	3m W					4.7	B3ne							
	HR3294	08 22.3	−48 27		0820	0823	10,20,15,30 / ✓	0h W					4.7	B1							
	HR3452	08 40.9	−47 16		0825	0828	20,15,30 / ✓	14m E					4.9	A5							
	HR3467	08 42.4	−53 02		0830	0833	" / ✓	11m E					4.7	B4							
	HR3466	08 42.4	−53 02		0835	0839	20,40,80 / 30	4m E					5.4	B9 Si							
	δ Pyx	08 55.0	−27 38		0844	0848	15,30,60 / 20	8m E					5.0	A3							12°C 55% 5 kph.
2706	HR7994	20 52.3	−11 36	2/3	0026	0040	1,8,36,7 / ✓	3 49 W	1"/clear	3.34	100μ/.8	120/7.0	7.0	G1	NeA	10s		IIa 0	MWP.2	[initials]	15°C 48% 5 mph
	HR8041	20 59.7	−04 48	Dec	0043	0057	2,4,8 / ✓	4h W.					6.8	G1					7m 27°F		=11 Agn A.
	51 PEG	22 56.7	+20 40	1983	0101	0108	1,2,4 / ✓	2h10m W					6.2	G4							
	HD223238	23 47.1	+04 04		0111	0124	12m / ✓	1h38m W					8.3	G							
	85 PEG	00 01.3	+26 58		0127	0135	1,2,4 / ✓	1 35 W					6.4	G3							
	HR9107	00 04.1	+34 34		0139	0156	2,4,8 / ✓	1 52 W					6.7	G2							
	42 CAP	21 40.7	−14 05		0159	0206	1,2,4 / ✓	4 26 W					5.8	G2							
	HR512	01 42.9	−83 00		0213	0219	2,3m / 2m ✓	37m W					6.4	G2							
	HD12293	01 59.7	−16 25		0224	0246	21m / 35m	47m W					9.1	A (HB?) MacConnell et al PASP 1971 83, 98.							
	HR513	01 45.2	−05 49		0253	0312	2,5,5,10 / ✓	1 29 W					6.86	K4 III std							
2707	HR753	02 35.3	+06 49	"	0404	0418	2,4,8m / ✓	1 44 W.	"	"	"	"	6.8	K3V std	"			"	"	"	
	HR977	03 12.7	−57 21		0422	0444	21m / ✓ HPR	1 32 W					8.0	C 6.,2.5 Ba2 Y4							13°C 30% 5 mph
	28 TAU	03 48.2	+24 03		0449	0453	15,30,60 / ✓	17m W					5.0	B8pne							Pleione.
	HD26767	04 13.6	+12 25		0534	0559	25m / ✓	1 48 W					8.7	G1							
	HD30455	04 47.7	+18 40		0602	0611	8m / ✓	1h25m W					7.6	G2							
	104 TAU	05 06.4	+18 36		0613	0618	1/2,1,1,2 / ✓	1h15m W					5.6	G4							

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2707	13 ORI	05 06 7	+09 28	2/3	0621	0636	1,5,3,6 ✓	1h29m W	2" / clear	3.34	100μ / .8	120 / 7.0	6.8	G2	NeA	10s	2m	IIa-O	MWP-2	[illegible]	
(cont)	HR1988	05 45.7	+01 08	Dec 1983	0638	0647	1,2,2.5,5 ✓	1h2m W					6.7	G4			22V.		7m 69°F		
	HD73350N	08 37.2	−6 45		0654 40	0713	2,5,5,10 ✓	1h22 E					7.4	G							Northern & brighter of 2.
	HD73351	08 37 2	−6 46		07 47 (0724)	0810	23m (0744) 10 or 20?	25m E	(slide closed for 1st 20 min?)				9.2	A0							also v. faint comp. to SW.
	HD83041	09 34.6	−28 49		0814	0831	16m / 25						8.9	A0	(HB? MacConnell et al)						
	HR3750	09 27.0	−06 00		0835	0838	2m / 1.5	47m E					6.0	G2							
	HR3466	08 42.3	−53 02		0842	0844	20,40s / 30	5m W					5.4	B8 Si?							
2708	HR8545	22 25.5	−16 49	3/4	0044	0102	1,5,3,6 ✓		"	"	"	"	6.9	G2?	"	"		"	"	[illegible]	53 AQR A
	HR8544	22 25.3	−16 49	DEC 1983	0103	0111	1.8,4.5,7 / 3.6	2 52 W					7.1	G1?							53 AQR B.
	HR159AB	00 36.3	−24 53		0116	0124	1,2,4 ✓	53 W					6.3	G5							
	HR 235	00 49.1	−10 42		0127	0131	1/2,1,2 ✓	47 W					5.7	F8							φ² CET
	HD12293	01 59.3	−16 25		0134	0241	26,40 / 40	47 W					9.80	A	HB?						15°C 40% 10 S
	JUNO:	01 56.8	−07 20		0300	0321	21m / 30	1h29m W					9.0	G2:							
	39 TAU	04 04.2	+21 56		0349	0356	1,2,4m ✓	2m E					6.5	G1							
	HD26736	04 13.3	+23 29		0401	0419	18m ✓	12m W					8.75	G3							vB 15 ✓
	27149	04 16.9	+18 12		0443	0456	12m ✓	44m W					8.2	G5.							vB 23
	27685	04 21.6	+16 45		0458	0512	13m ✓	56m W					8.4	G4							vB 37
	28068	04 25.2	+16 49		0515	0531	16m ✓	1h11m W					8.7	G1							vB 63 ✓
	28099	04 25.5	+16 43		0534	0550	16m / 20m ✓	1h31m W					8.7	G6:	(this is the one poorly classified by Mgr)						vB 64 ✓
	28344	04 27.7	+17 05		0554	0607	13m ✓	1 45 W					8.4	G2							vB 73 ✓
	29461	04 37.9	+14 05		0610	0626	16m	1 54 W					8.6	G5.							vB 106
	29621	04 39.7	+23 45		0629	0714	45m / 60m	2 32 W					9.55	G5							vB 110
2709	30246	04 45.3	+15 27	"	0729	0754	25m / 35	3 16 W	"	"	"	"	9.0	G5	"	"		"	"	[illegible]	vB 142
	32963	05 06 8	+26 16		0757	0821	24m / 30	3 21 W					8.4	G5							
	μ CNC	08 06.7	+21 36		0824	0826	1.7m / 1.2	27m W					6.0	G2							
	75974	08 52.7	+20 00		0828	0833	5m ✓	13 E					7.4	G							
	75 CNC	09 07.5	+26 39		0835	0838	2.5 ✓						6.6	G5.							
	HR4328	11 07.0	−30 05		0842	0846	3.5 ✓	2h15m E					7.1	G2							
	HR3466	08 42.3	−53 02		0849	0851	20,40 ✓	1m W					5.4	B8 Si:							

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2710	HR1157A	03 43.5	−40 42	4/5	0253	0314	20m / ✓		1½″/clear	3,34	50μ/1,2	120/7.0	7.6	K1	NeA	12s		IIa-0	M5	[illegible]	15°C 40% 20 mph from SW
	" B	"	"	Dec 1983	0314	0520	124m / 200	1h46mW	1″ / "				10.2	G3:					15 min 67°F		(Bumped telescope in middle of exp → steady)
	HR1372A	04 18.1	−63 13		0532	0535	3m / ✓		1½″				5.97	B9							
	" B	"	"		0538	0559	20m / 30	1h52mW	" / "				7.9	Am							
	HR1771A	0521.1	−24 45		0616	0622	4m / 6						6.23	G8.							
	B				0626	0634	6m / 9	1h23mW					6.8	A3							
	HR1157AB	0343.6	−40 40		0712	0733	15m+ / 50	3h59mW	1½″				7.5	comb K1III/G3IV							
	HR1372AB	04 18.1	−63 13		0739	0743	3m− / 6m	3 35W	"				5.8	comb B9IV/Am							
	HR1771AB	0521.2	−24 46		0750	0756	4m+ / 3.5	247W	"				5.7	comb G6III/A3							
	HR2468AB	0638.6	−61 26		0802	0812	10m / ✓	1 42W	"				6.8	comb G0V/G0V FeI							
	HR2482AB	641.6	−38 23		0815	0823	8m / 9✓						6.6	comb Am/F3V							
	HR3079AB	0751.7	−34 36		0826	0829	3m / 2.5	50mW					5.5	comb F5V/K3V							
	HR3466	0842 2	−52 59		0838	0842	50,100s / 75s	11mW					5.4	B8p Si?							
2711	HR7845	2031.3	−09 54	5/6	0030	0045	15m / ✓	4 27W	3″/Clear	"	"	"	6.3	G2.5	"	"	"	"	"	[illegible]	
	HR7644	2005.0	−67 22	Dec 1983	0049	0105	15m	5h12mW					6.7	G2							
	ζ Tuc	0019.8	−64 58		0111	0113	2m / ✓	1 07W					4.8	G2							
	β Hyi	0026.4	−77 21		0116	0118	30s / ✓	1 07W					3.4	G2							
	HD16141	02 34.4	−03 39		0122	0142	20m / 25	39 E					7.5	G							79 Cet
	κ Cet	0318.5	+03 17		0156	0204	1,2,4m / 3	1h E					5.4	G5V Std							
	JUNO	0157.2	−07 16		0219	0420	2h / ✓	2h37mW					9.	G2V Sun							
	HR1008	0319.4	−43 09		0424	0426	2m / ✓	1h20mW					5.0	G5							
2712	HR1157AB	0343.9	−40 49	"	0500	0645	50m / ✓	3 14 W (slide closed but 50 min!)					7.5	K1/G3							
	HR1372AB	04 18.3	−63 14		0648	0654	6m	2 50W					5.8	B9/Am							
	HR1771AB	0521.3	−24 49		704	0712	2,3,5 / 2	205W					5.7	G/A							
	HR2468AB	0638.6	−61 29		718	0725	6m / ✓	1h1mW					6.8	G/G.							
	HR2482AB	0641.8	−38 21		734	0744	10m	1h17W.					6.6	A/F							
	HR3079AB	0752.0	−34 38		748	754	1,2,2.4 / 2	16 W					5.5	F/K							
	HD41628AB	0604.8	−25 03		0800	0824	2.4m / 48	2 33W					7.8	A/A.							alternated trails on each star
	HR3205AB	0809.4	−42 35		0828	0835	7m / 6	41mW					6.2	B/B							alternate trails
	HR2674AB	0703.9	−59 07		0838	0841	2m / ✓	1h51mW					5.4	B/B							
	HR3466	0842.2	−53 03		0843	0845	75s / 100	19mW					5.4	Bp Si?							

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2713	HR7652	20 02.5	−37 56	6/7	0030	0107	36m/✓+	5h24mW	2"/clear	2.94	50μ/1.2	67/4.40	6.2	K5	NeA	60s		IIa-O	M-S	[illegible]	
	HR8060	21 03.3	−19 55	DEC 1983	0113	0122	8m/6	436W					5.0	A3m!					15 min 67°F		η CAP.
	θ¹ Mic	21 19.7	−40 52		0126	0132	6m/4	429W					4.8	Ap.							~~υ PsA~~
	HR8433	22 07.6	−34 05		0135	0229	53m/✓+	439W					6.5	M1							υ PsA
	ψ³ AQR	23 18.1	−09 40		0232	0240	7m/5	339W					5.0	A0							
	104 AQR	23 41.0	−17 54		0242	0257	15m/12	334W					5.6	G0Ib							
	27 Psc	23 57.8	−03 38		0300	0321	21m/15	340W	1½"/clear				5.9	G9							
	6 CET	00 12.4	−15 31		0343	0355	12m/10	4hW.					5.4	F6							
	37 CET	01 13.4	−07 59		0358	0409	10m/8	313W.					5.5	F2							
	46 CET	01 24.8	−14 39		0411	0440	29m/24	332W.					6.1	K3							
	39 ERI A	04 13.5	−10 15		0516	0538	22m/18	143W					6.0	K3							
	45 ERI	04 31.0	−00 06		0541	0615	32m/27	2h	2"/				6.2	K3							
	64 ERI	04 59.1	−12 31		0618	0625	6m/4+	1h44mW					5.0	F0							
2714	ψ ERI	05 00.6	−07 11	"	0635	0639	3m/2+	156W.	1.5"/clear	"	"	"	4.6	B2	"	"	"	"	"	[illegible]	
	HR1621	05 00.8	−20 05		0641	0645	4m/3	203W					4.8	B9							
	η² Pic	05 04.8	−49 36		0648	0725	36m/30	240W					6.5	M2							
	3 Mon	06 01.0	−10 33		0730	0733	3m/2.5	150W	1"/clear				4.8	B5							
	17 LEP	06 04.3	−16 28		0735	0741	5.5m/4	155W					5.1	Ap							
	19 Mon	07 01.9	−04 13		0743	0746	3m/2.5	102W					4.7	B1							
	20 Mon	07 09.2	−04 13		0748	0802	14m/10	111W.					5.9	K0							
	HR2702	07 08.3	−39 36		0805	0808	3m/2.5	118W					4.6	B3							
	HR2746	07 12.8	−45 08		0810	0814	4m/3	120W.					4.8	Am							
	HR2764	07 15.8	−23 18		0817	0850	33m/27	152W	cirrus at end				6.6	M0							
2715	HR7845	20 31.3	−09 53	7/8	0030	0046	16m/24	436W	1½"/clear				6.34	G2.5IV Keenan 1980							
	ρ CAP	20 27.9	−17 53	Dec 1983	0049	0055	6m/✓	449W					5.1	F2							
	σ AQR	22 29.6	−10 44		0059	0102	3m/✓	253W					4.8	A0							
	α Mic	20 49.0	−33 49		0106	0118	12m/✓	450W					5.9	G7							
	τ PsA	22 09.3	−32 37		0119	0123	4m/5	3h35mW					5.4	F5							12°C 70% 20 kph from S
	η Scl	00 26.9	−33 07		0126	0148	22m/✓	142W	1"/clear				6.6	M4							
	20 CET	00 52.1	−01 15		0152	0212	20m/✓	138W					6.3	M0							

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2715	ρ CET	02 25.1	-12 20	7/8	0214	0218	3m ✓	10m W	1.5/clear	2.94	50μ/1.2	67/4.40	4.8	B9	Neon	60s		IIa-O	M-5	[illegible]	
(Cont)	ω FOR	02 33.1	-28 19	Dec 1983	0222	0226	3m ✓	14m W					4.8	B9 !					67°F 15 min		HR 749
	ε CET	02 38.8	-11 55		0228	0233	5m ✓	15m W					5.3	F5							
	τ² ERI	02 50.3	-21 05		0237	0246	9m ✓	17 W					5.7	K0							
	ξ ERI	03 15.0	-08 52		0248	0251	3m 3.5	3m E					5.0	Am							
	15 ERI	03 17.7	-22 36		0252	0300	8m ✓	3m W					5.8	G6							
2716	δ FOR	03 41.7	-32 00	"	0342	0346	3m ✓	26m W	"	"	"	"	4.8	B5	"	"	"	"	"	"	
	28 TAU	03 48.1	+24 00		0351	0356	4m 5m	28m W					5.0	B8pe							
	39 ERI A	04 13.6	-10 17		0401	0417	16m ✓	25m W					6.0	K3							
	45 ERI	04 31.1	-00 07		0419	0436	17m ✓	27m W					6.2	K3							
	64 ERI	04 59.3	-12 32		0438	0442	3m ✓	3m W					5.0	F0							
	o COL	05 17.1	-34 53		0521	0528	7m 8	32m W					5.8	K0							
	49 ORI	05 38.1	-07 13		0531	0534	2m ✓2.5	17 W					4.9	A4							
	HR1952	05 40.1	-01 10		0536	0538	2m ✓2.5	20m W					4.7	B3							
	λ COL	05 52.8	-33 48		0541	0543	2m ~~5~~ ✓	12m W					4.7	B5							
	ξ Col	05 55.1	-37 06		0545	0555	9 ✓	21m W					6.1	~~G8~~	?K	?✓	KI III CN II.				
	HR2275	06 19.2	-02 58		0558	0620	22m ✓	23m W					6.5	M1	? ✓						
	ψ ERI	05 00.7	-07 12		0623	0625	2m ✓2.5	1h 46m W					4.6	B2							
	HR 1621	05 00.9	-20 05		0628	0630	2m ✓2.5	1 52 W					4.8	B9							
2717	3 MON	06 09.9	-10 35	"	0641	0643	2m ✓2.5	1h 5m W					4.8	B5			2 min				
	17 LEP	06 04.2	-16 29		0646	0649	3m (str.) ✓	1h 7m W					5.1	Ap.			22V.				
	HR2450	06 38.5	-14 07		0652	0705	12m ✓	48m W					6.3	K3							
	HR2549	06 50.4	-34 20		0708	0725	17m ✓	57m W					6.4	K0							
	μ CMa A	06 55.3	-14 01		0728	0743	13m 18	1h 10m W					6.2	~~Am~~ M?	~~[illegible]~~	G5					
	μ CMa B	06 55.3	-14 00		0746	0814	28m 36	1h 40m W					7.1	A?		A2					
	20 MON	07 09.4	-04 13		0816	0826	10m ✓	1 39 W.					5.9	K0							
	HR 2764	07 16.0	-23 19		0828	0852	24m ✓	1 56 W					6.6	M0							
2718	ξ TEL	20 06.5	-52 56	8/9	0028	0101	32m ✓	5 19 W	1.5/clear	"	"	"	6.5	M2	"	"		"	"	"	
	μ¹ GRU	22 14.8	-41 26	Dec 1983	0103	0110	7m ✓						5.6	G4							HR 8486
	8477 ~~μ² GRU~~	22 14.0	-41 27		0111	0133	21m 27	3 44 W					6.0	G5							not μ² Gru HR 8477

22 13.9
-41 27

22 14.9
-41 26

22 15.7
-41 42

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NUMBER	OBJECT	R.A.	DEC.	DATE U.T.	U.T. EXP. BEGIN	U.T. EXP. END	TOTAL / CORR.	H.A. END	SEE. / TRANS.	CAM. FOCUS	SLIT	GRATING / TILT	MAG.	SP.	COMP KIND	COMP EXP.	CALIB	EMUL	DEV	OBS	REMARKS
2718	μ^2 GRu	22 15.7	-41 42	8/9	0139	0150	11m / 14m	4h W	1.5"/clear	2.94	50μ/1.2	67/440	6.0	G8	NeA	20s		IIa-O	M-5	RG	HR8488.
Cont	ν Tuc	22 32.4	-62 02	Dec 1983	0152	0228	34m / ✓	4 20W					6.5	M4					15m 67°F		HR8582
	ν Phe	01 14.9	-45 39		0232	0839	6m / 8	1h 50W					5.5	F8.							HR 370
	ζ Hyi	02 45.8	-67 42		0843	0847	4m / ✓-						4.9	A3							
	β Hor	02 58.9	-64 07		0850	0855	5m / ✓-	22m W					5.1	A5							
	ε RET	04 01.6	-61 05		0258	0332	34m / ✓						6.4	K4							
	η Tuc	23 56.5	-64 24		0356	0400	4m / ✓	4h 30m W					5.0	A2							
	δ Hor	04 10.6	-42 03		0405	0408	3m / ✓	24m W					5.2	F0							
	θ Dor	05 14.4	-67 12		0411	0424	13m / ✓	25m E					6.1	K2							
	δ Pic	05 04.8	-54 58		0426	0428	2m / ✓	1h 16m E					4.6	B1							
2719	η^2 Dor	06 11.9	-65 35		0502	0522	20m / 25	24m E	1"/clear				6.5	M3			2mm 22V.				
	HR2462A	06 38.4	-48 14		0525	0531	6m / 9	42m E					5.8	G6							
	HR2462B	06 38.4	-48 14		0532	0552	20m / 40	21m E					7.2	A2							
	HR2608	06 56.0	-48 43		0553	0614	20m / +30	17m E					6.6	M1							
	HR 2812	07 21.5	-19 00		0617	0619	2m / ✓	36m E					4.9	B7							
	ε CMi	07 24.5	+09 19		0622	0630	8m / 12	28m E					6.0	G8							HR 2828
	64 Gem	07 28.1	+28 07		0633	0638	4m / 5	25m E					5.1	A6							
	HR2874	07 29.1	-23 01		0640	0644	3m / ✓	20m E					5.1	A5							
	HR2902	07 33.0	-14 28		0647	0706	19m / ✓	1m E					6.4	M2p+B (VVCep Type pec)							
	HD73350	08 37.1	-06 46		0709	0735	26m / 30	35m E					7.4	G.							
	HR2513	06 45.4	-52 12		0739	0826	47m / 55	2h 7m W					7.6	G6 Iab							
	HR2934	07 35.5	-52 30		0830	0849	19m / ✓	1 38 W					6.3	K2							
	HR 3466	08 42.2	-53 02		0851	0556	5m / ✓	39m W					5.4	B8 Si ?							
2720	ζ IND	20 48.4	-46 19	9/10	0032	0057	25m / ✓	4 38W	1"/clear	"	"	"	6.4	K5	"	"	"	"	"	"	14°C 50% calm
	ρ GRu	22 42.6	-41 31	Dec 1983	0100	0109	9m / ✓	2 56W					5.9	G8							
	η GRu	22 44.9	-53 35		0117	0124	12m / 15	3h 9m W					6.0	K2							
	JUNO	01 57.7	-07 01		0132	0431	3h / ✓4	3h 2m W					9+	G2V ~~Std~~							
	κ CET	03 18.4	+03 17		0513	0534	~~4.7~~ 6+ / 8	2h 46m W	1.5"/clear				5.4	G5V ~~Std~~							13° 50% 30 mph NE
	58 ERI	04 46.9	-16 58		0552	0603	10 / ✓	2 46W	"				6.15	G1							very windy!
	HR1608	04 59.1	-10 16		0607	0627	20m / 17	1h 58W.					6.3	G4.							

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2720	HR2318	0624.1	−28 47	9/10	0631	0648	17m 25	1h 4m W	1"/clear	2.94	50μ/1.2	67/4.40	6.85	G0	NoA	60s	2m 22V	IIa-0	M-5		
Cont	HD46223	06 31.2	+04 49	Dec 1983	0704	0744	40m 14	1 43 W					7.5	04					67F/15m		
	HR2786	07 18.1	−26 35.		0748	0804	16m 14	1 15 W					6.2	G2 Ib							
	HR3259	08 17.7	−12 32		0806	0828	21m ✓	41m W					6.7	G7.5V							
←	HR3466	08 42.3	−53 03		0831	0837	6m 5	24m W					5.4	B8pSi ?							
2721	HD 195524	20 32.3	−41 35	10/11	0035	0110	35m ✓	5 11m W	1"/clear	"	"	"	7.4	G5	"	"	"	"	"	"	16°C 48% 5 10mph
	η CAP	21 03.4	−19 56	Dec 1983	0112	0116	4m ✓	446W	(1" thin low!)				5.0	A3m:							
	θ¹ Mic	21 19.8	−40 52		0119	0123	3m ✓	436W	1½"				4.8	Ap.							
	τ P.A	22 08.9	−32 39		0126	0132	5m ✓	356W					5.4	F5							
	HR8477	22 13.7	−41 27		0135	0202	27m ✓	4.08W					6.9	G5							
	μ² Gru	22 15.5	−41 41		0205	0220	15m ✓	438W					6.0	G8							
	ν Tuc	22 32.2	−62 02		0223	0313	50m ✓	514W					6.5	M4							16°C 45% 20mph HR8582
	HD26736	04 13.5	+23 29		0356	0656	3h 5h	3h 17m W					8.75	G3							vB #15 15°C 40% 5mph
	η² Pic	05 04.8	−49 36		0659	0721	22m ✓	2 49W					6.5	M2							
	49 Ori	05 38.1	−07 13		0725	0728	3m ✓	2 25W					4.9	A4							
	HR1952	05 39.9	−01 10		0733	0737	3m	2.5 230 W					4.7	B3							
	HR2318	06 24.2	−25 47		0744	0809	25 ✓	2 19W					6.9	G0							
	μ CMa B	06 55.5	−14 00		0812	0850	38m ✓	2 32W					7.+	A2							
2722	ψ³ Aqr	23 18.1	−09 41	11/12	0038	0041	3m ✓	1 59W	1½" Cirrus	"	"	"	5	A0	"	"	"	"	"		
	104 Aqr	23 40.9	−17 55	Dec 1983	0044	0050	6m ✓	1 46W					5.6	G0IV							
	27 Psc	23 57.7	−03 40		0053	0101	8m ✓	1 40W					5.9	G9							14°C 50% 5mph
	6 Eri	00 10.3	−15 33		0105	0111	6m ✓	1 38W					5.4	F6							
	η Scl	00 27.1	−33 05		0114	0155	41m ✓	205W					6.6	M4							
	20 Cet	00 52.2	01 16		0158	0238	40m ✓	223W					6.3	M0							
←	37 Cet	01 13.5	−08 00		0240	0250	5.5h ✓	2 14W					5.5	F2							
	46 Cet	01 24.8	−14 39		0252	0305	13m ✓	2 17W					6.1	K3							
4→	7 Cet	03 18.2	+03 17		0342	0412	4h+5h 8						5.4	G4							
2723	7 Col	05 52.6	−33 47	"	0501	0504	3m ✓	11m E					4.7	B5							
	HR2007	05 47.6	−4 05		0509	0524	15m 18	14m W					6.6	G4							
	δ Pic	06 10.4	−54 57		0528	0531	3m ✓	1m E					4.6	B1							

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2723	η² Dor	06 18.8	-65 35	11/12	0635	0715	40m ✓	41m W	1.5"/cirrus	2.94	50μ/1.2	67/4.40	6.5	M3	NeA	60s	2m	IIa-O	M-S	[illegible]	
Cont	HR 2462A	0638.5	-48 13	Dec 1983	0618	0628	10m / 12	29m W					5.8	G8			22 ✓		67°F 15 min		
	" B	0638.5	-48 13		0629	0749	39m / 60	1 49W	(at 40m slide closed!)				7.+	A2							
	HR2608	06 56.2	-48 44		0752	0832	40m ✓	2 13W					6.6	M1							
	19 Mon	07 01.9	-04 14		0834	0837	2m / 2.5	2 13W					4.7	B1							
	HR2702	07 08.5	-39 37		0839	0842	2m ✓	2 12W					4.6	B3							
	HR2746	07 12.8	-45 09		0843	0846	2m / 3	2 12W					4.8	Am							
	HR2812	07 21.5	-18 59		0848	0850	2m ✓						4.9	B7							
2724	HD 3980	00 41.0	-56 35	831213	01 30	02 04	12,20m	2 04W	3"-2" cirrus	2.94	50μ/1.2	67/4.40	6.5	Ap SrEuCr	NeA	60s		IIa-O (baked)	M-S	RWS	LOTS OF CLOUD!
	HD 10840	01 43.9	-61 06	"	02 14	03 02	15,30m	2 00W	1½"-3" POOR	"	"	"	6.6	ApSi				"	"	"	
	HD 24825	03 54.7	-38 48	"	05 00	06 00	20,40m	2 47W	1"-2" POOR-GOOD	"	"	"	6.8	ApCrEu				"	"	"	OBSERVER IAM TIRED!
	HD 29435	04 36.2	-30 45	"	06 19	06 48	10,18m	2 53W	1½" GOOD	"	"	"	5.8	ApSi				"	"	"	
	HD 44979	06 22.6	-34 59	"	07 01	07 20	19m	1 39W	1½" GOOD	"	"	"	6.9	ApSi				"	"	"	WEATHER BETTER BUT CLOUDS ON ALL HORIZONS
	HD 54188	07 04.1	-56 44	"	07 48	07 53	5m	1 30W	2" GOOD	"	"	"	5.3	ApSi				"	"	"	
	HD 55719	07 11.8	-40 28	"	08 04	08 11	7m	1 43W	1½"-3" GOOD	"	"	"	5.9	ApSrEuCr				"	"	"	SEEING ERRATIC WINDS RISING.
	HD 56544	07 14.3	-46 49	"	08 25	08 35	10m	2 03W	1½"-2" GOOD	"	"	"	5.9	ApSi	NeA	60s		"	"	"	
2725	HD 27463	04 16.2	-60 59	831214	04 56	05 41	15,30m	2 11W	~1" POOR	2.94	50μ/1.2	67/4.40	6.1	ApEuCr(Sr)	NeA	60s		IIa-O(O) (baked)	M-S	RWS	TILT → 4.45 FOR SY. CIRRUS BAD
	HD 56907	07 15.9	-50 01	"	05 49	07 00	27,43m	30W	~1" GOOD	"	"	"	6.8	ApSi				"	"	"	BAKING: ½ hr @ 65°C in vacuo.
	HD 66624	08 02.2	-41 16	"	07 22	07 27	5m	10W	1¼" GOOD	"	"	"	5.5	ApSi				"	"	"	1½ hr @ 65°C in F.G PRE-HEAT BOX!
	HD 73340	08 35.4	-50 55	"	07 35	07 48	5,8m	01 E	1¼" GOOD	"	"	"	5.5	ApSi				"	"	"	
	HD 74067	08 39.7	-40 12	"	07 57	08 02	5m / 5	08 W	1¼" GOOD	"	"	"	5.2	A(pSiCr)				"	"	"	
	HD 77653	09 01.3	-52 08	"	08 09	08 14	5m	02 E	2" GOOD	"	"	"	5.4	ApSi	NeA	60s		"	"	"	
2726	γ Phe	01 26	-43 24	Dec 15/16	01 03	01 30 [illegible]	2,3,5	[illegible]	2" good	2.94	50μ/.8	67/4.40	3.4	M0 III	NeAr	40s		IIa-O bk	D-19	[illegible]	
	δ Phe	01 30	-49 04	"	01 40	01 50	1,2,4	1h 15	"	"	"	"	3.9	K0 III				"	"	"	
	ζ¹ Ret	03 17	-62 40	"	02 11	02 30	3½,5½,7	0h 07	"	"	"	"	5.5	G2 V				"	"	"	
	ζ² Ret	03 18	-62 33	"	02 40	02 58	3,4½,6	0h 34	"	"	"	"	5.2	G2 V				"	"	"	
	HR 1299	04 10	-35 19	"	03 03	04 30	15,20,34	1h 15	"	"	"	"	6.4	G5				"	"	"	seeing awful worse during last exp.
	HD 40409	05 53	-63 06	"	04 38	05 06	3½,5,6	~0h 20		"	"	"	4.6	gK3				"	"	"	
	HD 45184	06 23	-28 45	"	05 55	06 32	6½,10,16	1h 04		"	"	"	6.2	G0				"	"	"	

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2727	BS 506	01 41	-53 49	Dec 16/17	01 05	01 23	2, 4, 6	0w39	2″-3″ / clear	2.94	50μ / .8	67 / 4.40	5.5	F8 V	Fe-Ar	40s		IIa0 bk	D-19	SBY for PCKeenan	
	ψ Phe	01 53	-46 22	"	01 33	02 10	6½, 10½, 12	1w14	"	"	"	"	4.4	M4 III				"	"	"	
	β For	02 48	-32 27	"	02 21	02 34	1, 3, 5	0w43	2″	"	"	"	4.5	G8 III				"	"	"	
	58 Eri	04 46	-16 57	"	02 48	03 06	1½, 5, 8	0 2 45	"	"	"	"	5.5	dG1				"	"	"	seeing steadier
	β Ret	03 44	-64 51	"	03 20	03 30	2½, 5, 1	0w45	"	"	"	"	3.8	K1 III				"	"	"	
	52 υ2 Eri	04 35	-30 36	"	03 39	03 46	1, 3, 2	0w09	"	"	"	"	3.8	K0 III				"	"	"	
2728	k Col	06 16	-35 08	"	04 41	04 54	2, 3, 4	0 2 25	"	"	"	"	4.4	G8 III				"	"	"	c calibration superposed
	HD 44594	06 19	-48 44	"	05 05	05 52	10, 14, 19	0w30	"	"	"	"	6.6	dG2:				"	"	"	
	HD 49396	06 45	-52 11	"	06 01	06 55	10½, 16, 20	1w08	2π / clear	"	"	"	6.3	G5 Iab				"	"	"	
	ζ Pup	07 48	-24 49	"	07 05	07 15	1, 2, 3	0w24	"	"	"	"	5.4	G3 Iab				"	"	"	
	BS 3225	08 10	-39 28	"	07 25	07 52	4, 8, 12	0w40	.	"	"	"	4.4	K3 Ib				"	"	"	Thin Haze?
	HD 74868	08 49	-44 29	"	08 00	08 39	8, 11, 15	0w53		"	"	"	6.6	G3 II				"	"	"	
2729	X Eri	01 52	-51 41	Dec 17/18	00 43	00 54	1.5″, 2, 3	0 00	2-3″ / patchy clouds	"	"	"	3.7	G8 III				"	"	"	Patchy clouds
	η2 Hyi	01 54	-67 43	"	01 03	01 25	4.5, 6, 8	0w32	3″ / "	"	"	"	4.7	G8 III				"	"	"	
	HR 574	01 56	-47 27	"	01 36	01 56	4, 6, 8	1w32	2″	"	"	"	4.8	G8 III				"	"	"	
	82 Eri	03 19	-43 08	"	02 05	02 16	1, 2, 3, 4	0ε01	"	"	"	"	4.3	dG7?				"	"	"	moon showing long streaks of clouds
	HR 1168	03 44	-54 19	"	02 31	03 50	18, 24, 30	1w07	"	"	"	"	6.3	K2 III				"	"	"	
	HD 45184	06 24	-28 45	"	04 02	04 24	10, 10	1 2 00	"	"	"	"	6.3	G0				"	"	"	"
2730	τ Cet	01 43	-16 01	Dec 18/19	00 31	00 38	.5, 1, 1.5	0 00	2″ / clear	"	"	"	3.6	G8 V	Fe-Ar	40s		"	"	"	heavy haze moving in
	k Phe	02 01	-44 47	"	00 46	01 24	9, 12, 15	0w28	"	"	"	"	5.1	K5 III				"	"	"	
	π1 Hyi	02 14	-67 55	"	01 37	02 26	20, 25	1w18	"	"	"	"	5.5	M1 III				"	"	"	
	HD 19826	03 09	-23 48	"	02 50	03 28	NG, 16, 20	1w24	"	"	"	"	6.4	K0 IV				"	"	"	
	ε Eri	03 22	-09 30	"	03 35	03 40	.8, 1, 3, 2	1w24	"	"	"	"	3.8	K2 V				"	"	"	
	HD 45184	06 24	-28 45	"	03 50	04 12	10, 12	1 2 02	"	"	"	"	6.2	G0				"	"	"	
	HR 2392	06 31	-11 09	"	04 20	05 08	19, 25	0ε17	"	"	"	"	6.4	K0p	Fe-Ar	40s		"	"	"	
2731	ν2 CMa	06 36	-19 14	"	05 58	06 03	1, 2, 2½	0w33	"	"	"	"	3.9	K1 IV	Fe-Ar	40s		"	"	"	
	8 ν3 CMa	06 37	-18 12	"	06 10	06 26	2, 3, 4, 5	0w53	"	"	"	"	4.4	K1 II-III				"	"	"	
	12 Pup	07 58	-23 16	"	06 40	07 04	5, 7, 9	0w11	"	"	"	"	5.1	G5				"	"	"	
	d Vel	08 43	-42 34	"	07 15	07 25	1, 2, 3	0ε13	"	"	"	"	4.1	sgG5				"	"	"	
	c Vel	08 34	-49 54	"	07 30	07 56	5, 7, 9	0w29	"	"	"	"	4.9	K0				"	"	"	

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					BEGIN	END									KIND	EXP					
2731	θ Pyx	09 20	−25 54	Dec. 18/19	08 05	08 31	10,14 /	0w17	2″ / clear	2.94	50M / .8	67 / 4.40	4.9	M1	Fe-Ar	40s		IIa-O NK	D-19	Sgy	
2732	57 Cet	01 58	−20 54	Dec 19/20	00 33	01 17	18.5,24 /	0w28	″	″	″	″	5.4	M1 III	″	″		″	″	″	
	HR 637	02 09	−50 54	″	01 25	02 04	9,11,13 /	1w04	″	″	″	″	6.1 ~~5.6~~	K0 I ~~G8~~?				″	″	″	
	67 Cet	02 16	−6 30	″	02 12	02 40	6,8,10 /	1w33	1″ / ″	″	″	″	5.6	G8?				″	″	″	
	HD 15064	02 24	−40 55	″	02 55	03 26	7,9,11 /	2w12	″	″	″	″	6.2	G2 V				″	″	″	
	HR 2667	07 03	−43 35	″	03 44	04 04	4,5,6 /	1E50	″	″	″	″	5.5	G3 V				″	″	″	
	HR 2802	07 20	−25 51	″	04 55	06 06	29,40 /	0E04	″	″	″	″	5.9	gM4				″	″	″	
	HD 65662	07 56	−60 29	″	06 14	07 11	24,30 /	0w24	″	″	″	″	5.8	K4 III	Fe-Ar	40s		″	″	″	
2733	HR 3384	08 32	−31 27	″	07 27	07 57	13,16 /	0w35	″	″	″	″	6.4	K0 V	Fe-Ar	40s		″	″	″	
	HR 3862	09 41	−23 51	″	08 05	08 14	1.5,2.6, / 3.5	0E17	2″ / ″	″	″	″	4.9	G0 V				″	″	″	
	N Vel	09 30	−56 58	″	08 23	08 31	1,2, / 3.3	0E12	3″ / ″	″	″	″	3.1	K5 III				″	″	″	Seeing getting bad Sky brightening
2734	HD 80726	09 18.7	−56 17	840314	02 40	03 22	42 / 45	48W	1½″+ / GOOD	2.94	50M / 1.2	67 / 4.40	7.4	A3 Vs	Ne A	60s		IIa-O	M-S	BOB SLAWSON	CHECK FOCUS ITS OKAY!
	HD 96451	11h 04.4	−75 04	″	03 45	04 47	22,40 / 60	27W	1¾″+ / FAIR	″	″	″	6.6	Ap Sr(Eu)							T=12° RH=82%
	HD 105770	12h 10.2	−83°41	″	04 57	06 22	34,150 / 75	53W	1½″ / FAIR-GOOD	″	″	″	6.9	Ap Si							T=12° RH=73%
	HD 116458	13 24.8	−70°32	″	06 50	07 35	10,15,20 / 15/20	55W	1½″-2″ / GOOD	″	″	″	5.84	Ap Hg(Mn)							FIRST Hg(Mn) star!
	HD 129899	14 49.7	−77 06	″	08 22	07 49	29,58 / 45	1 44W	1½-2½ / GOOD	″	″	″	6.7	Ap Si 4200	NeA	60s					OBSERVER COLD! WINTER COMETH
2735	HD 88158	10 07.5	−62 09	840315	03 10	03 57	10,16,20 /	39W	3″-1½″ /	2.94	50M / 1.2	67 / 4.40	6.4	Ap Si	NeA	60s	15m@ 15V&B	IIa-O(bk)	M-S	BOB SLAWSON	HEAVY CLOUD UNTIL 02h30 U.T.
	HD 92664	10 39.7	−65 01		04 06	04 32	5,8,12 /	42W	1¾ od. /				5.8	Ap Si							SEEING IMPROVING
	HD 96451	11 04.4	−75 04		04 43	05 35	20,30 /	1 19W	1½″-2″ /				6.6	Ap Sr(Eu)							"SOFT" SEEING T=10.5° RH=71%
	HD 105770	12 10.2	−83°41		05 49	07 01	27,44 /	1 35W	2″ /				6.9	Ap Si							
	HD 116458	13 24.8	−70 32		07 08	07 28	8,12 /	53W	2″ /				5.84	Ap Hg(Mn)	NeA	60s					
2736	HD 129899	14 49.7	−77 06	840315	08 09	08 54	18,27 /	52W	2″+ / FAIR	2.94	50M / 1.2	67 / 4.40	6.7	Ap Si 4200	NeA	60s	15m@ 15V	IIa-O(bk)	M-S	BOB SLAWSON	T=10° RH=82% LOUSY NIGHT!
	HD 145547	16 15.5	−70 57		09 00	09 51	51 /		1½″ / GOOD-BAD				7.3	A2 III/IV							CLOUDS
	HD 165040	18 07.0	−63 40		09 57	10 09	4½,8 /	1 09E	3″ / POOR				4.8	Ap							DAYLIGHT TOO BRIGHT?
	Sky/cloud	18 07.02	−63 35		10 10	10 14½	4½ /								NeA	60s					JUST A HINT OF CONTINUUM

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2737	ε CMA	06 58.0	-29 00	15/16	0024	0025	6s / 7s	20m W	1.5 / clear	2.94	50μ / 1.2	67 / 4.40	1.3	B2 II	Ne A	60s	15 min	Baked IIa O	M5 15 min	[illegible]	Hazy HR2618
	39 ERI A	04 13.6	-10 15	MAR 1984	0037	0047	10m / ✓	3h27 W	hazy				6.0	K3			15V		67°F		companion 9m 13.8 A
	HR2462A	06 38.7	-48 13		0052	0059	7m / 9	1h14m W					5.8	G6			Blue				
	HR2462B	06 38.3	-48 13		0102	0143	41m / ✓	1h58m W					7.2	A2							70% 14°C 30mph NE
	19 MON	07 02.0	-04 13		0149	0151	2m / ✓	1h41m W					4.7	B1					(1 long trail, 3 short)		HR2648
	HR2746	07 12.9	-45 09		0206	0208	2m / ✓	1h49m W.					4.8	Am							(2 Trails)
	HR 2812	07 21.5	-18 59		0213	0216	2m5 / ✓	1h47m W					4.9	B7							
	ε CMi	07 24.6	+09 21		0219	0228	8m / ✓	1h56m W					6.0	G8							HR2828
	HR2902	07 33.1	-14 27		0231	0305	34m / K✓	2h25m W					6.4	M2 pt B							
	HR2948	07 38.1	-26 46		0324	0326	2m / ✓						4.5	B6			pair oriented NW/SE, but				SE of pair
	HR2949	07 38.0	-26 46		0327	0329	2m / ✓	2 40 W					4.6	B5			in BS cat, SW/NE!				NW of pair
	HR2961	07 38.9	-38 15		0354	0356	2m / ✓	3h09m W					4.6	B3							
	HR 3113	07 57.0	-30 17		0359	0402	2m5 / ✓3m	2h57m W					4.9	A7							
	HR 3237	08 12.8	-35 49		0405	0407	2m / ✓	2h47m W					4.7	B3e							
2738	HR 3682	09 15.1	-38 29	"	0420	0430	9m / ✓	2h08 W	"	"	"	"	6.0	K0	"	"		"	"	"	
	HR 3706	09 18.8	-11 52		0432	0439	6m5 / ✓	2h12 W					5.7	G8							26 HYA
	HR 3709	09 19.6	-09 27		0440	0447	6m5 / ✓	2 21 W					5.7	G8							27 HYA
	HR 4080	10 21.8	-41 33		0531	0542	10m / ✓	2h12 W	2" /				5.9	K1							
	U HYA	10 36.7	-13 16		0545	0645	60m / 8✓	3h01m W	"				7:	C5							HR4163
	HR4162	10 36.5	-27 20		0648	0709	20m / ✓	3h26m W					6.5	M2							
	HR4813	12 38.3	-07 53		0715	0724	9m / ✓	1h39m W					5.9	K2							X VIR
	HR4902	12 53.3	-09 25		0726	0747	20m / ✓	1h47m W					6.4	M3							ψ VIR
	HR5002	13 17.0	-66 40		0750	0811	20m / ✓	1h47m W					6.4	K1							
	HR5095	13 31.1	-06 10		0815	0834	18m / ✓	1h57m W					6.3	M3							74 VIR
	HR5301	14 09.8	-16 12		0836	0902	25m / ✓	1h45m W					6.6	M3							
	HR5381	14 22.3	-27 42		0906	0922	16m / ✓15m	1h54m W					6.1	K5							51 HYA
	HD147010	16 19.2	-20 02		0939	0950	10m / 30	25m W					7.57	Ap.							S star of NW pair.
2739	ε CMA A			16/	Stopped by clouds				1"/clear	"	"	"	1.3	B2 II	"	"	"	"	"	"	
	B	06 58.1	-28 58	17 MAR	2355	2356	8s / ✓		(hazy)				8:	?							
	B	"	"	1984	2358	0028	30m / ✓	26m W													

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(cont)		1983																			
2739	HR2857	07h28.2m	+28 08	16/17	0034	0038	3.5m / ✓	5m W	1.5"/clear	2.94	50μ/1.2mm	67/4.40	5.1	A6	NeA	60s	15mm	Baked	M-S	[initials]	64 GEM
	HR3067	07 52.3	+26 47	MAR 1984	0046	0050	3.5m / ✓	6m E		(slide closed 1 step)			5.1	A3			15V B	IIaO	67°F		φ GEM
	HR3122	07 58.7	−03 39		0052	0102	10m / ✓	0m	1.2"/				6.1	K2			filter	2h NH	15m		27 MON
	HR3159	08 01.0	−63 29		0107	0110	2.4m / ✓	~0					4.7	B3							
	HR3728	09 21.3	−62 18		~~0114~~ 0121	0127	6m / ✓	58m E		(slide closed)			5.7	G7							
	HR3642	09 06.4	−70 28		0133	0135	2m / ✓	35m E					4.5	B2e							
	HR3414	08 35,6	−57 55		0143	0150	7m / ✓	12m W					5.8	G9							
	HR3467	08 42.4	−53 04		0154	0156	2m / ✓	10m W					4.7	B4							
	HR3466	08 42.3	−53 03		0158	0202	3.5m / ✓	16m W					5.4	B8 ss							
	HR3574	08 56.1	−52 40		0204	0206	1.5m / ✓	7m W					4.5	B5							Close vis Bin. sep 2"
	HR3294	08 22.2	−48 25		0212	0215	3m / 2.5 ✓	49m W					4.7	B1							
	HR3452	08 41.0	−47 17		0218	0221	3m / ✓	36m W					4.9	A5							
2740	HR3431	08 39.1	−12 23	"	0235	0251	15m / ✓	1h7m W	1.2"/hazy	"	"	"	6.4	K4	"	"	"	"	"	"	6 HYA
	HR3441	08 40.9	−15 52		0252	0301	9m / ✓	1 16W					5.9	K1							9 HYA
	HR3923	09 54.2	−18 57		0302	0324	22m / ✓	25m W					6.5	M1							
	HR4138	10 31.5	−71 55		0329	0332	2m / ✓						4.8	A2							
	HR4142	10 32.1	−73 08		0349	0420	31m / ✓	45m W.	2"/				6.6	K5.							
	HR4538	11 50,4	−70 08		0423	0440	16m / 20	14m E	some puffy clouds				6.4	G							
	HR4583	12 01.4	−78 06		0442	0446	4m / ✓	18m E					4.8	B9							ε CHA
	HR4089	10 23.4	−66 48		0451	0454	3m / ✓	1h30m W					4.8	B8							
	HR4196	10 42.3	−64 20		0500	0503	3m / ✓	1h18W					~~4.8~~ 4.7	~~B8~~ B3							
	HR4205	10 44.0	−63 50		0507	0511	3m / ✓	1 24W					4.7	B5							
	HR4222	10 46.7	−64 15		0513	0517	3m / ✓	1h27m W					4.7	B3							
	HR4549	11 51.9	−65 05		0520	0524	3.5m / ✓	1h29m W					4.8	B4							v. close vis bin sep 2"
	HR3990	10 08.7	−51 44		0528	0531	3m / ✓	2 20W					4.7	B2							
	HR4134	10 31.2	−53 37		0534	0540	6m / ✓	2 04W.					5.4	F7							
2741	η CAR	10 45.1	−59 33	"	0559	0621	22m / ✓+40	2 33W	2"/clear	"	"	"	6.8	pec	"	"	"	" "	"	"	
	θ2 CAR	12 04.0	−63 02		0634	0637	2.5m / ✓	1h30W					4.6	B3							
	HR4732	12 25.9	−51 22		0640	0643	2.3 / ✓	1 14W					4.7	B4							
	HR4897	12 54.4	−59 01		0648	0658	2m / ✓	51m W					4.5	B5							λ GRU

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					BEGIN	END									KIND	EXP.					
(Cont)	1984 →																				
2741	HR4989	13 13.6	-58 58	16/17	0657	0702	4m / ✓	46m W	1.5" / clear	2.94	50μ / 1.2mm	67 / 4.40	5.4	F8	NeA	60s	15m	baked IIa-O	MS-15m 67°F	[illegible]	
	HR4993	13 14.8	-67 48	Mar 1984	0706	0709	2m / 2.5m ✓	51m W					4.7	B8			15V Blue	2h 65°C			η Mus
	HR5305	14 18.8	-80 53		0712	0717	5m / ✓	5m E					5.2	A2p.				forming gas			η Aps
	HR4979	13 11.3	-37 41		0721	0726	5m / ✓	1h 13m W					5.5	G3							
	HR 5364	14 19.7	-45 07		0730	0733	3m / ✓	11m W					5.1	A8							
	HR5019	13 17.5	-18 12		0824	0829	4.5m / ✓	2h 9m W					5.4	G6V							61 Vir.
	HR5068	13 26.6	-15 52		0831	0840	/ ✓	2 12W					5.8	K1							69 Vir
	HD147010	16 19.1	-20 01		0843	0914	30m / ✓40	8m E	1.5" / cirrus				7.57	Ap.							
	HD148199	16 26.6	-29 16		0918	0939	21m / ✓25		"				7.10	Ap.							
	HR6318	17 00.1	-04 13		0943	1000	17m /	3m E	" variable 1.5–4				6.3	K4							
2742	HR2593A	06 55.4	-14 00	17/18	0133	0218	45m /	2 25W	1.5" / clear	"	"	"	6.2	M	"	"	"	"	"	[illegible]	15°C 58% 5mph NE μ CMa A
	HR3282	08 20.8	-32 59	MAR 1984	0222	0244	18m eff / ✓	1h 23m W	1.5"–2"				6.2	K1				[illegible]			
	HR 3556	08 54.8	-27 38		0247	0251	4m / ✓	57m W					5.0	A3							δ Pyx
	HR 3862	09 41.5	-23 50		0254	0300	6m / ✓	20m W					5.4	G0							
	HR 3871	09 43.5	-27 43		0302	0307	5m / ✓	25m W					5.3	F7							θ Ant.
	HR3919	09 53.6	-25 53		0309	0323	13m / ✓	28m W	1.5"				6.1	K3							
	HR 4171	10 37.7	-16 47		0325	0333	8m /	5m E	1.5"				5.8	K0							φ HYA
	HR4299	11 01.0	-02 25		0434	0448	13m /	48m W	1"				6.4	K5							61 Leo
	HR4402	11 23.8	-10 45		0451	0506	15m / ✓	42m W	1–1.5"				6.3	K5							ε CRT
	HR4468	11 36.0	-9 43		0508	0510	2m /	34m W					4.6	B9							θ CRT
	HR4514	11 43.9	-18 16		0511	0517	6m /	34m W					5.7	G8							ζ CRT
	HR4314	11 04.5	-27 13		0519	0524	4.5 /	40m W					5.3	F4							χ¹ HYA
	HR 4523	11 46.0	-40 24		0525.5	0531	5m /	46m W					5.6	G5							
	HR4721	12 24.6	-42 26		0535	0552	17m /	29m W					6.8	G							Hardorp star.
2743	HR5540	14 58.2	-76 33		0603	0636	33m /	1h 21m E					6.7	M0							R Aps
	HR5489	14 44.2	-35 04		0639.5	0642	2.5m / ✓	1h 1m E					4.9	A1							
	HR5407	14 27.3	-29 24		0644	0646	2.5 / ✓	40m E					4.9	B8							Δm = 5m ft comp in RA
	FO VIR	13 28.9	+01 10		0652	0705	12m / ✓15m	37m W					6.7	A2?							Schmidt program
	HR5409	14 27.3	-02 10		0712	0718	5m+ / ✓	9m E					5.5	G2				ft comp just off slit			φ Vir.
	HR5535	14 50.0	-02 15		0719	0728	8m / ✓	20m E					5.9	G8							11 LIB

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(cont)					BEGIN	END									KIND	EXP.					
2743	HR5586	14 59.8	-08 25	17/18	0730	0733	3m /	25m E	1.5"/clear	2.94	50μ/1.2mm	67/4.40	4.9	A0	NeA	60s	15min	baked flat	MS		δ Lib
	HR5723	15 23.2	-10 13	MAR	0837?	0842	4.5m /	40m E					5.4	F5			15V	1½m	15min		ε LIB
	HR5885	15 50.1	-25 43	1984	0845	0847	2m /						4.6	B2			B	forming gas	67°F		1 Sco
	HR5660	15 13.6	-31 25		0749	0752	3m /	20m E					5.3	F0							1 Lup
	HR5606AB	15 04.2	-46 59		0757	0758	1m / 3/4	4m E					4.7+4.6	B5							π Lup AB.
	HR5651	15 11.9	-44 25		0801	0803	2m / ✓	7m E					4.6	B3							"
	HR5698	15 21.3	-47 52		0808	0813	4m / ✓	7m E					5.5	F7							ν¹ Lup.
	HR5699	15 21.0	-48 16		0815	0824	9m / ✓	5m W.					6.2	G2							ν² Lup
2744	HR5781A	15 34.8	-44 54	"	0842	0844	1.8m / ✓						4.35	B5							Dec comp. 2" in 1m
	HR5943	15 58.6	-41 41		0847	0855	8m / ✓	2m E					6.0	G8							
	HR5666	15 17.1	-63 29		0858	0910	11m / ✓	53m W					6.1	K0							ε Cir
	HD147010	16 19.3	-20 00		0912	0940	28m / ✓	21m W					7.57	Ap.							
	HR5985	16 04.4	-19 45		0942	0944	1.3m / 1.8	41m W					4.9	B2							β Sco C
	HR6118	16 26.1	-18 24		0946	0947	1.5 / ✓	23m W					4.6	B2e							χ Oph
	HR6141	16 29.2	-25 05		0952	0954	1.8 / ✓						4.6	B2							22 Sco.
	HR6519	17 30.5	-23 57		0957	0959	1.8 / ✓	29m E					4.8	A1							51 Oph
	HR6595	17 42.5	-21 41		1002	1005	3m / ✓	36m E					5.3	F5							58 Oph
	HR6628	17 48.0	-31 42		1008	1010	2m / ✓						4.8	B8							~~Rotation~~ *
2745	HR1988	05 45.5	01 08	18/19	2351	0009	17m / ✓	1h26m W	1.2"/clear	"	"	"	6.7	G4	"	"	"	"	"	"	12°C 80% calm 5 Rotation *
	HR2208	06 12.1	+10 40	MAR 1984	0012	0035	23m / ✓	1 27 W					7.1	G8							
	HR3176	08 06.6	+21 36		0039	0050	10m / ✓	13m E	1.2" even down there!				6.0	G2 IV							μ Cnc
	HR2290	06 20.1	-48 45		0059	0119	20m / 25	2h 2m W					7.2	G0							
	HR3294	08 22.2	-48 27		0139	0142	2m / ✓						4.7	B1							
	HR3510	08 50.1	+15 26		0146	0204	18m /	18m W					6.8	G2							
	HD75974	08 53.0	+20 01		0206	0232	26m /	43m W	1.5" /				7.4	G							13°C 70% 5.5
	HR3626	09 07.7	+26 40		0234	0258	24m /	56m W	1.5-3"				6.6	G5							75 Cnc
	HD73350	08 36.8	-6 44		0301	0326	25m /						7.4	G							
	HR3750	09 26.8	-06 00		0328	0337	8m /	1h15m W					6.0	G2							
	HR3951	09 59.9	+32 00		0339	0350	11m / ✓	55m W	1.5"				6.1	G4							20 L Mi
	HR4030	10 15.5	+23 33		0353	0408	15m / ✓	57m W					6.6	G1							35 Leo

Fo Vir Rich.

dowling 40" Payne — [illegible]

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CONT																					
2745	η CAR	10 45.1	-59 33	18/19 MAR 1984	0414	0458	44m ✓	1h 18W	1.5"/clear	2.94	50μ/1.2mm	67/4.40	var	pec	NeA	60s	15m	baked IIaO	M-S	[illegible]	
	HR4328	11 07.0	-30 05		0518	0540	22m ✓	1h 37m W	(Bumped Spectra)				7.1	G2			15V B	1½ NH	15 min 67°F		
2746	HR4498	11 40.2	-29 07	"	0547	0613	26m ✓	1h 37m W	1"/clear	"	"	"	7.5	G	"	"	"	"	"	"	
	Fo Vir	13 28.7	+01 09		0618	0634	15m ✓	9m W	1"/clear				6.7	A2							near moon 13h30m −6°
	31 Com	12 50.7	+27 36		0638	0648	10m	1h 3m W	1.5–2"				5.6	G0III							HR4883.
	HD114174	13 07.8	+05 17		0651	0713	22m ✓	1h 10m W.					7.5	G.							
	HR4533	11 47.9	-00 15		0716	0729	13m ✓	2 46W					6.7	F8							
	HR4525	11 46.4	-30 12		0732	0754	22 ✓	3h 11m W					7.3	G5							12°C 72% Calm
	HR4734	12 26.2	-48 50		0758	0818	20m ✓	2 57W					7.0	G5							
	HR4788	12 34.0	-44 36		0820	0833	12m+ ✓	3h 4m W					6.5	G5.							
	HR4979	13 11.1	-37 42		0835	0840	4.5 ✓	2h 34W					5.55	G3							
	HR5670	15 16.8	-58 43		0846	0847	10s / 1 min	35m W					4.16	A2							β Cir.
	HR5967	16 02.3	-38 32		0852.5	0855	2m ✓						4.7	B7							
	HD147010	16 19.0	-20 02		0859	0929	30m ✓	15m W	<1"/clear				7.57	Ap.							
	HD148199	16 26.4	-29 16		0932	0954	22m ✓	34m W					7.10	Apn							
	HR6031	16 11.0	-10 01		0956	0959	2½m ✓	56m W													ψ Sco.
2747	HR2354	06 25.0	-63 23	19/20 MAR 1984	0003	0020	17m ✓	1h 3m W	<1"/clear	"	"	"	7.1	G0	"	"	"	"	"	"	14°C 68% 5mph S.
	HD46223	06 31.1	+04 49		0026	0059	33m ✓	1h 36m W	1–2"/clear				7.5	O4 std							MK73 Std
	HR1697	05 11.9	-06 05		0101	0118	17m ✓	3 14W	1.5"/clear				6.86	G7III	KP80 std						
	HR1909	05 34.7	-33 04		0120	0141	21m ✓	3 13W	"				6.86	K2IIIa	Std. 73.						
	HR3210	08 11.0	+17 42		0156	0223	27m (~18m) ✓	1h 21m W	1.7"/clear				6.6	G2							Dec trail
	HD52220	06 58.5	-32 41		0230	0333	1h 3m ✓	3h 43W					8:	G1Ib	MK73 std						
	HR2786	07 18.3	-26 35		0336	0348	12m ✓	3 38W					6.23	G2Ib	MK73 std						
	HR4299	11 00.9	-02 26		0405	0430	25m ✓	37m W	1.5"	(over stairs!)			6.35	K5III	(BS)						61 Leo
	HR4402	11 23.9	-10 45		0448	0513	25m ✓	58m W					6.3	K5	(BS)						ε CRT.
	HD105590	12 08.7	-11 43		0525	0609	44m ✓	1h 10m W	1.5"				7.7	G5	Sadeblor						dec trail
	HR4841	12 45.1	-68 45		0617	0633	17m ✓	57m W					6.85	G0	Hardorp						5 Cru
	HR4895	12 54.0	-58 19		0635	0657	16m/20m	1h 6m W					6.9	G							
	Fo VIR	13 28.0	+01 10		0654	0711	17m ✓	51m W					6.7	A2+							
	HR5011	13 15.9	+09 31		0713		✓						5.8	G0V	Sadeblon ★						59 VIR

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																					13°C 62% calm
2748	HD114853	13 13.2	−45 07	19/20 MAR 1984	0743	0806	23m 28 ✓		1" clear	294	50μ/1.2mm	67 4.40	7.5	G2	NoA	60s	15m 15V B	Baked IIaO 24h forming	m-s 67F 15m gas		
	HR4995	13 13.5	−19 52		0808	0818	10m ✓		1.5" clear				6.2	G6							55 Vir.
(2)	HR5670	15 16.8	−58 43		0821	0825	12m 25 1.2	17m W	1.5" clear				4,16	A3V							βCri
	HR5659A	15 12.0	+19 18		0831	0855	24m 28 ✓	52m W					7.4	G5							S. of pair.
	HD147010	16 19.2	−20 02		0858	0928	30m ✓	18m W					7.57	Ap.							
(2)	HR5806	15 04.4	−47 00		0932	0936	60	1h 39m W					4.7	B5.							
	HR6058	16 16.0	−50 03		0939	0941	2m 4m						4.8	F8							
	HR6070	16 17.2	−28 36		0944	0945	1m 5 ✓	38m W					4.8	A0							
	HR6155	16 33.0	−44 02		0948	0951	2m ✓	27m W					5.0	B0							μ Nor
	HR6262	16 53.1	−42 21		0953	0955	2m 5 3						5.2	B1e							ζ Sco
	HR6334	17 04.0	−34 05		0958	1000	2m 2 3	6m W					5.1	B1e							
	HR6595	17 42.4	−21 42		1004	1008	4m ✓	24m E					5.3	F3							58 Oph
2749	HD41628	06 04.6	−25 03	20/21 MAR 1984	0004	0025	21m 28	1h 32m W	1" clear, some curving, large	334	50μ/1.2mm	120/70	7.8	A5.	NoA	30s	15m 15V B	baked IIaO 24h forming	m-s 67F 15m gas		alternate trails on each compon.
	HR3251	08 15.3	−30 53		0030	0039	9m 12	24m E					6.98	G6+F4	Cby bin						alt. tr.
	HR3267	08 17.8	−37 17		0043	0054	10m 12	12m E					6.95	B+G	Cby bin						alt. tr.
	HR3359	08 28.9	−44 40		0058	0100	2m ✓	16m E					4.8	B2/3	"	"			(15°C 60% calm)		alt. tr.
	HR3542	08 52.6	−52 04		0104	0111	6m ✓	29m E					6.4	B+A	"	"					RA tr.
	HR3661	09 11.9	−43 33		0114	0116	2m ✓						5.45	B8/9	"	"					RA tr.
	HR3831	09 36.3	−48 42		0121	0128	7m 9	56m E					6.45	A+F							alt. tr.
	HR2290	06 20.0	−48 45		0134	0149	15m ✓	2h 40m W					7.2	G0	Hartley						
	HR2318	06 24.1	−28 47		0152	0206	13m ✓	25m W					6.85	G0.	"				(14°C 60% Smoke NE)		
	HR3176	08 06.7	+21 36		0209	0215	5m ✓	1h 21m W	1.5				6.0	G2	"						μ CNc
	HD75974	08 53.0	+20 01		0218	0238	20m ✓	57m W	1.5				7.4	G2	"						
	HR3510	08 49.9	+15 25		0241	0252	11m ✓	1h 14m W	"				6.8	G2	"						
	HD73350	08 37.0	−06 45		0255	0308	12m ✓	1 43m W	1"				7.4	G	"						
	HR3951	10 00.1	+32 00		0311	0318	7m ✓	36m W					6.1	G4	"						21 Leo.
2750	HR4030	10 15.6	+23 33		0328	0338	10m ✓	35m W					6.6	G1	"						35 Leo.
	HR4006	10 12.9	+27 11		0342	0355	12m ✓	54m W					6.8	G3.5	K						
	HR4370	11 16.1	−45 48		0403	0413	10m 9	10m W					6.7	F+F	Cby binary.						RA tr.
	HR4549	11 49.7	+01 50		0503	0504	30s 5						4.16	F9V	MK73						β Vir.

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																					14°C 58% 5mph NE
2750	HR4498	11 40.5	−29 07	20/21	0508	0529	20m / 16	1h2mW	1.5"/clear	3.34	50μ/1.2mm	120/7.0	7.5	G Hardorp	NeA	20s	15m	baked IIaO	m-s 15min	[initials]	
	HR4523	11 45.9	−40 24	MAR 1984	0532	0535	3m ✓	1h1mW					5.6	G5 "			15V B	2h forming gas	67°F		
	HR4525	11 46.5	−30 12		0537	0552	15m ✓	1h17mW					7.3	G5"							
	HR4533	11 48.2	−00 15		0554	0603	9m ✓	1h27mW					6.7	F8.							
	FO VIR	13 29.0	+01 09		0606	0615	15m ✓	0					7.0	A2: Schmidt star.							
	β Com	13 11.1	+27 56		0618	0621	3m 2.5	24mW					4.85	G0V	MK73 std.						HR 4983
	31 Coma	12 50.9	+27 36		0625	0630	5m ✓	52mW					5.6	G0V	MK73 std						
	HR 5072	13 27.7	+13 53		0633	0638	5m 4.5	23mW.					5.7	G2.5V, std							70 Vir.
	HD114174	13 07.9	+05 18		0642	0703	20m ✓	1h08mW					7.5	G.							
−	HR5428	14 32.3	−30 39		0708	0733	25m ✓	14mW					7.11	K+G Cby binary							alt trail
2751	HR5409	14 27.3	−02 11	"	0755	0802	7m 5	49mW	"	"	"	"	5.50	G2IV	KP80 std.		"	NOT baked IIaO	m-s 15min 67°F	[initials]	φ Vir
	HR5183	13 46.1	+06 26		0805	0830	25m ✓	1h57mW	"	"	"	"	7.1	G2 Hardorp	"		"				
	HR5853	15 43.3	+02 33		0834	0854	18m 16	24mW.					6.6	G5.	"						ψ Ser.
	HR5911	15 52.5	+13 16		0856	0918	22m 20	39mW					6.7	G2V.	"						(3day moon 15h !! near −16°)
	HD147010	16 19.2	−20 02		0920	0950	30 ✓	43mW					7.0:	Ap.							
	HR6060	16 14.7	−08 19		0952	1002	10m 9	1hW					6.15	G2V	"						18 Sco
2752	HR1697	05 11.9	−06 04	21/22	0005	0017	3,1.5,6 / 3	2h20W	2"/clear windy	3.34	100μ/.8	120/7.0	6.86	G7III	KP80 std NeA	10s	"	Not baked IIaO	MWP-2 7m 67°F	[initials]	
	HD46150	06 30.9	+04 57	MAR 1984	0021	0032	1.2,2.5,5 / 4	1h16mW					6.9	O5	MK73 std.						14°C 50% 20+NE
	HD46223	06 31.2	+04 50		0034	0050	2,4,8 / 6.5	1h36W.					7.5	O4	MK73 std						
	HR2630	07 01.3	+24 12		0054	0103	1,1.8,3.5 / 2	1h18W.					6.09	G5II	MK53 std						
	HR2857	07 28.1	+28 08		0107	0111	20,40,80 / 40s	59mW					5.1	A6 (BS).							64 GEM
	HR3067	07 52.3	+26 47		0114	0118	" / 40s	43mW.					5.1	A3 "							φ GEM
	HR2479	06 42.9	+03 56		0122	0127	25,50,100 / 80s	2hW					5.9	B0III	MK53 std						
2753	HD52266	06 59.5	−05 48	"	0141	0153	1.5,3,6 / 4.5	2h08W	"	"	"	"	7.22	O9V	"	"	"	"	"	"	
T	HD52938	07 02.0	−08 25		0157	0222	25m / 50	2h35W					9:	K3.5IIb	MK73 std						(~~good test~~)
	HD57682	07 21.2	−08 56		0225	0230	.8,1.6,3 / 2	2 26W					6.25	O9V	MK53 std						
	HR3682	09 15.2	−38 30		0234	0241	1,2,4 / 1.5s	42mW	2.5"/clear				6.0	K2	BS.						
−	HR3706	09 18.6	−11 52		0244	0248	25,50,100 / 50	46mW					5.7	G8							26 Hya
−	HR3709	(09 19.5	−9 28)		0251	0256	" / 50	54mW.					5.7	G8							27 Hya
−	~~HR3728~~	~~09 20.4~~	~~−62 19~~		~~0300~~	~~0305~~	~~" / 50~~						~~5.7~~	~~G7~~							
−	HD91629	10 33.5	−59 18		0313	0338	25m ✓	22mW					9.0	G0Iab	MK73 std						

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2754	HR4089	10 23.6	−66 49	21/22	0350	0353	10,20,40s / 35s	46m W	2-3"/clear	3.34	100μ/.8mm	120/7.0	4.8	B8 (B5)	NeA	10s		IIa O	mWA-2 [illegible] 7m 67°F	[illegible]	
	HR4142	10 31.8	−73 09	MAR 1984	0400	0411	1,5,3,6m / 6s	56m W					6.6	K5.							
	HR3862	09 41.7	−23 52		0415	0417	20,40,80s / 80s	1h 52m W					5.4	G0.							
	HR3871	09 43.7	−27 43		0419	0420	" / 73s	1h 54m W					5.3	F7							θ Ant.
	HR3919	09 53.7	−25 53		0424	0428	40,80,160s / 160s	1 52 W.					6.1	K3							11°C 70% 20mph NE
	HR3923	09 54.1	−18 56		0515	0527	1,5,3,6 / ✓	2h 50m W	2-3"/clear				6.5	M1							
	HR3990	10 08.5	−51 44		0531	0534	10,20,40s / 40s	2 43 W.					4.7	B2							
2755	HR4080	10 21.8	−41 34	"	0544	0551	3/4,1.5,3 / 2	2 45 W					5.9	K1							
	HR4134	10 31.2	−53 38		0554	0557	40,20,80 / 40s	2 44 W.					5.4	F7							
	HR4196	10 42.6	−64 21		0607	0610	15,30,60s / 45s	2 45 W					4.7	B3.							
	HR4205	10 44.4	−63 51		0613	0615	" / 45s	2 48 W					4.7	B5							
	HR4162	10 36.5	−27 21		0618	0634	2,4,8 / ✓	3h 14m W					6.5	M2:							
	FO VIR	13 29.0	+61 09		0638	0647	1,3,2.5,5 / 3	0h 35m W					7:	A2:							
	HR4979	13 11.3	−37 42		0653	0655	20,40,80s / 45s	1h 2m W					5.5	G3							
2756	HR4989	13 13.9	−58 58	"	0715	0719	25,50,100 / 40s	1h 22m W	"	"	"	"	5.4	F8	"	"	"	"	"	"	
	HR4993	13 15.3	−67 48		0724	0727	10,20s,40 / 20	1h 30m W					4.7	B8.							
	HR5002	13 16.6	−66 40		0730	0738	1m,2,4 / 2	1h 43m W					6.4	K1							10°C 65% 20 NE
	HR 5303	14 19.6	−80 52		0745	0749	15,30,60 / 60	46m W					5.2	A2p	(favored blue too much!)						η Aps.
	HR 5019	13 17.7	−18 12		0800	0803	30,50,100 / ✓	2h 4m W					5.4	G6V							61 Vir
	HR5068	13 26.5	−15 52		0806	0811	1/2,1,2 / ✓	2h 3m W.					5.8	K1							69 Vir.
	HR 5301	14 10.0	−16 12		0815	0830	2,4,8m / ✓						6.6	M3							
2757	HR5364	14 20.3	−45 08	"	0846	0849	12,24,48s / 50s	1h 48m W	3"/clear	"	"	"	5.1	A8	"	"	"	"	"	"	
	HR5381	14 22.4	−27 41		0853	0901	1,2,4m / 2						6.1	K5							51 Hya
	HD147010 (moon)	16 19.2	−20 01		0904	0908	4m / 6	0h					7.57	Ap	(Contaminated!)						moon 16 06 −32
	HD148199	16 26.6	−29 15		0911	0914	2m / 4	4m W.					7.1	Ap							
	HR6031	16 11.2	−09 59		0918	0920	10,20,40s / 20s						5.0	A2							ψ Sco.
	HR6058	16 16.3	−50 01		0925	0928	10,40,80s / 80	30m W					4.8	F8							γ' Nor
	HR6098	16 28.2	−70 03		0934	0936	10,20,40s / 70s						4.4	G0							ζ TrA
	HR6155.	16 32.8	−44 02		0939	0942 ~~0936~~	20,40,80s / 30s	28m W.					5.0	B0.							μ Nor

maint guide

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																			weather	unstable	13°C 60% 30 mph NE, windy, cold
2758	(4) HR3259	0817 5	-1233	22/23	0023	0036	3,1,2,5 / 2	21m E	1.8 / clear	3.34	100μ / 18	120 / 70	6.76	G7.5V (KP80 std)	NeA	20s	15 min	IIa-O	MWP-2	[illegible]	
	HR3176	0806.7	+21 36	MAR 1984	0041	0048	1,2,4 / 2	0	2-3"				6.0	G2 (Hardorp)			15V B		7 min 67°F		μ CNC.
	HR3510	0850.1	+15 25		0137	0149	3+m ✓	6m W.					6.8	G2 (")							
	HD75974	0853.0	+20 00		0144	0149	5m ✓						7.4	G(n?) (Hardorp)							
	HR3538	0853.4	-05 24		0152	0203	1,2,4m / 2	29m W					6.67	G3V (KP80 std)							
	HD83041	09 34.3	-28 50		0208	0230	22m / ~~30~~	16m W.					8.9	A0 (HB?)							
	HR3951	~~09~~ 10 00.0	+32 00		0248	0256	1,2,4 / 2	16m W					6.1	G4 (Hardorp)							20 L Mi.
	HD88009	1008.2	+18 34		0300	0312	11m ✓	24m W.					8.0	G8+IIIa (MK73 std)							
	HR4006	1012.8	+27 10		0315	0330	1,2,4m / 3						6.8	G3.5III (KP80 std)							
2759	HR4171	1032.8	-16 48	"	0341	0345	0.5,1,2 ✓	28m W					5.8	K0 (BS)							φ HYA
	HR4299	11 00.9	-02 26		0350	0400	1.5,3,6 ✓	19m W					6.35	K5 (BS)							61 Leo
	HR4222	10 47.1	-64 17		0407	0411	10,20,40s ✓						4.7	B3 "							
	HR4538	11 50.2	-70 09		0416	0425	1.5,3,6 ✓ 5	4m E					6.4	G5							
	HR4549	11 52.0	-65 06		0429	0432	15,30,60 / 40	0					4.8	B4							
	HR4583	1200.4	-78 07		0435	0438	10,20,40 / 30	2m E					4.8	B9nn							ε CHA
	HR4603	12 04.0	-63 03		0448	0450	10,20,~~80~~ / 20	6m W					4.6	B3							θ² CRU
2760	HR4402	11 23.8	-10 45	"	0545	0553	1,2,4m ✓	1h 49m W					6.3	K5							ε CRT
	HR4514	11 44.0	-18 16		0556	0600	.5,1,2 ✓	1h 37m W					5.7	G8.							ζ CRT.
	HR4314	11 04.5	-27 13		0603	0606	12,24,48s ✓	2h 23m W					5.3	F4							χ Hya
	HR4523	11 46.0	-40 25		0615	0618	20,40,80 ✓	1h 53m W					5.6	G5.							
	FO VIR	1329.0	+01 08		0623	0626	3m ✓	18m W					7.	A5.							
	HR4732	12 25.8	-51 23		0629	0632	10,20,40s / 40s	1h 27m W					4.7	B7							
	HR4902	12 53.3	-09 26		0637	~~0642~~	1.5,3,6 ✓	~~17m E~~					6.4	M3							ψ VIR
	HR5409	14 27.3	-02 11		0645	0650	25,50,100 ✓	17m E					5.5	G2							φ VIR
2761	FO VIR	13 28.8	+01 09	"	0659	0702	3m ✓	53m W					7.	A5							
	HR5407	14 27.3	-29 26		0705	0707	12,25,50 / 20	2m W					4.9	B8							52 HYA
	HR5489	14 44.1	-35 06		0711	0713	" ✓	10m E					4.9	A1							
	HR5535	14 50.1	-02 15		0718	0723	.5,1,2 ✓						5.9	G8							11 LIB.
	HR5353	14 17.1	-07 28		0726	0729	3m / 5m	33m W	[illegible]				7.2	G Hardorp.							
	HR5165	13 43.5	-16 05		0736	0744	1,2,4m ✓	1h 22m W.					6.4	G0 KP80 std							83 VIR

radio tubes

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2761	HR4991	13 13.3	-43 04	22/23	0751	0813	3,6,12m ✓	2h30m W	2-3"/clear	3.34	100μ/1.8	120/7.0	7.5	K4 III	NeA MK73	10s	15m	IIa-O	MWP-2	[illegible]	
	HR5586	14 59.9	-08 26	MAR 1984	0816	0820	10,20,40s ✓	4m W					4.9	A0.			15V B		7m 67°F		δ Lib.
	HR5606AB	15 04.4	-47 01		0824	0826	7,14,28s ✓	43m W					4.7	B5.							π Lib
2762	HR5651	15 11.9	-44 25	"	0836	0838	10,20,40 10	47m W					4.6	B3							
	HR5660	15 13.6	-31 27		0843	0847	3" ✓	56m W					5.3	F0							1 Lup.
	HR5698	15 20.9	-47°53		0852	0857	30,60,120 30	1h W.					5.5	F7							ν¹ Lup
	HR5699	15 21.0	-48 21		0901	0909	3/4,1.5,3 ✓	1h09m W					6.2	G2							
	HD147010	16 19.2	-20 02		0912	0918	6m ✓	20m W.					7.6	Ap.							
	HD147009	16 19.2	-20 01		0919	0932	13m ✓	34m W					8.38	A.							
	148199	16 26.6	-29 15		0934	0938	4m ✓	34m W					7.	Ap							
	HR5723	15 23.3	-10 17		0942	0946	.4,.8,1.6m 0.6	44m W					5.4	F5							ε Lib
	HR5885	15 50.1	-25 44		0949	0951	~~20,40,80~~ (10) 20 40	1h23m W					4.6	B2							1 Sco
	HR6070	16 17.3	-28 36		0954	0958	10,20,40s 15	1h1m W					4.8	A0							
(not	taken yet	(4 22.5	-13 48)	23/24	found Comet Crommelin after much dark adapting, averting of eyes, and then use of 1T eyepiece.—Not very bright)																
2763	HD60778	07 35.3	-00 08	Mar 1984	0040	0101	16m 25	49m W	1"/clear	3.34	"	"	9	A2V? (HB?)	"		"	"	"	"	
	HD52938	07 02.0	-08 25		0106	0158	52m ✓+80	2h20m W					9+	K3.5 IIb (MK 73 std)							13°C 60% calm
	CPD-31°1790	07 40.5	-31 38		0206	0329	83m 4.5	3h12m W	1"/clear				10	M3 Iab-Ib "							in NGC 2439
	HD73884	08 38.5	-47 45		0334	0434	60m 120	3h20m W					9.2:	K2.5 Iab-Ib CN+1 (KP80 std) (MK73+)							v. ft. comp 5" N.
(3)	HR4089	10 23.2	-66 50		0439	0442	30,90,60s 30	1h44m W					4.8	B8							
(2)	HR3990	10 08.6	-51 45		0445	0449	23,46s 23	2h04m W					4.7	B2							
	HD102567	11 47.8	-62 05		0536	0559	23m 50	1h36m W					9.1	A	(Kz x-ray candidate)						
(2)	FO ViR	13 28.9	+01 08		0604	0612	5.3m 1.5	8m W					7	A2+							
	HR4498	11 40.5	-29 07		0617	0622	5m ✓	~2h W					7.5	G5	Hardorp						
	HR4525	11 46.6	-30 12		0624	0629	5m ✓	2h8m W					7.3	G5	"						
	HR4533	11 48.1	-00 16		0631	0633	2.5m 3m	2h10m W					6.7	F8.	"						
	HD105590	12 08.7	-11 43		0644	0654	5m eff ✓	2h11m W					7.7	G #	"					→ ●:	dec trail
	" B	12 08.6	-11 44		0657	0717	20m 30	2h33m W					9:	? (F)	"					●:	2nd brightest. [illegible]
	HR4721	12 24.5	-42 26		0720	0723	2.5m ✓						6.8	G5	"						
	HD112257	12 54.2	+27 49		0728	0744	16 25	2h15m W					8.4	G2	"						
	HD114174	13 08.0	+05 17		0746	0752	6m ✓	2 08 W					7.5	G:							

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	HR ~~5383~~ 5061	13 15.8	+09 31	23/24	0454	0455	1.2m / ✓	~~2h5m W~~	1.5" / clear	3.34	100μ / 1.8	120 / 7.0	5.8	G	NeA	10s	15 min	IIaO	MWP2	[illegible]	59 VIR
	HR5072	13 27.4	+13 54	May 1984	0458	0500	1.5m / 1.2	1h58m W					5.7	G5			15V B		7m 67°F		70 VIR
	FO VIR	13 29.0	+01 09		0802	0806	4m / ✓	~2h W					7:	A2+							
~~[illegible]~~	HR4734	12 26.2	-48 51		0809	0813	3.5m / ✓	3h12m W					7.	G5							
	HR4788	12 37.1	-44 35		0815	0817	2.5m / ✓	~3h W.					6.5	G5:							
	HR4841	12 45.0	-68 45		0820	0828	3.5m / ✓	3h4m W					6.85	G0							
2764	HR5303	14 18.8	-80 53	"	0838	0839	30s, 60s / 50s	7h45 W					5.2	Ap.							η Aps.
	HR4895	12 54.0	-58 18		0842	0846	3.3m / ✓	2h17m W					6.9	G							
	HR4903	12 54.3	-44 04		0848	0851	2 / ✓	3 22 W					6.5	G2							
	HR4979	13 11.4	-37 41		0853	0854	1m / ✓	~3 W.					5.6	G3.							
	HD114853	13 13.1	-45 07		0856	0900	4m / 6	3 13 W.					7.5	G2							
	HR4995	13 13.4	-19 52		0904	0906	1.5m / ✓	3 18 W.					6.2	G6							55 VIR
	HR5117	13 36.0	-34 21		0908	0914	5m / 6.	3h03 W					7.5	G5:							A.
~~[illegible]~~	HR5659S	15 11.9	+19 19		0916	0922	6 / 7	1h34m W					7.4	G5.					~~[illegible]~~		~~[illegible]~~?
	HR5659N	15 11.9	+19 19		0923	0938	15m / 20	1 51 W					8.4	G6							
	HD147010	16 19.2	-20 02		0940	0947	7m / ✓	52m W.					7.6	Ap							
	148199	16 26.5	-29 15		0949	0954	4 / ✓	53m W					7.1	Ap.							
(3)	HR5364	14 19.8	-45 08		0955	0958	15) 30 60s / ✓	3 04 W					5.1	A8.							
	HR5209	13 50.5	-24 19		1001	1004	4m / ✓6	3 40 W					7.1	G5							
2765	Comet Crommelin	04 29.2	-14 11	24/25 Mar	0027	0159	92m / ✓	5h W	? / clear	"	150μ /	(IT 120 / 7.0)		G2e?		1s	"	"	"	"	
2766	HR3251	08 15.4	-30 52	1984	0250	0325	35m / ✓	2h38 W	2"		50μ /	120 / 7.0	6.98	G+F	Cly prog. bin.		Y filter.		M.S 67°F 15m	[illegible]	13°C 60% calm all trails.
	HR3267	08 17.7	-37 17		0336	0409	33m / ✓	3 20 W.	1.5"				6.95	B+B+G	"						
	HR3359	08 29.1	-44 41		0412	0422	5m / ✓	3 20 W	(couple of false starts)				4.84	B+B	"						
	HR3831	09 36.1	-48 42		0426	0456	30m / ✓	2 43 W					6.45	A+F.	"						
	FO VIR	13 28.8	+01 09		0552	0617	25 / 20	16m W	1" /				~~7.5~~ 7.0	A2+							
	HR 5019	13 17.5	-18 14		0621	0626	4.5m / ✓	37m W	1.5" /				5.45	G6							61 VIR
	HR5235	13 53.8	+18 27		0629	0630	45s / 20s	5m W					3.3	G0.							
	HR5384	14 22.3	+01 16		0635	0651	16m / ✓	2m E					6.9	G2							
	HR4721	12 24.5	-42 25		0657	0715	18m / ✓	2 19 W					6.8	G5							
	~~[illegible]~~ 5021	13 15.8	+09 32		~~0717~~ 0720	0727	6m / 5m	1 39m W					5.8	G0.							59 VIR

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Cont																					
2766	HR 5072	13 27.5	+13 52	24/25	0730	0737	7m / ✓	1 40m W	1.5/clear	3.34	50μ/1.2	120/7.0	5.7	G5	NeA	20s	15min 15V B	IIa-0	M-S 67°F 15min	[illegible]	70 VIR
	HR4734	12 26.0	-48 51	MAR 1984	0741	0801	20m / ✓	3h 3m W					7.0	G5							
2767	HR4549	11 51.9	-65 07	"	0822	0823	30s / ✓	4h W.	"	"	100μ/1.8	"	4.8	B4.	(BS)	"	"	"	MWP-2 7min 67°F	"	
(2)	HR4732	12 26.1	-51 23		0827	0829	20s, 40 / 30	3h 30 W					4.7	B4	"						
	HR ~~5654~~ 5236	13 55.9	-54 37		0833	0837	3m.7 / ✓	2 10 W					6.7	G Handbp.							
(2)	HR5651	15 11.6	-44 29		0842	0843	10, 20s / ~~40~~ 5	1h W					4.6	B3 (BS)							
(3)	HR5666	15 16.9	-63 31		0848	0855	1, 2, 4m / ✓	1h 7m W					6.1	K0 "							
	HR5344	14 16.1	-18 31		0902	0906	3.5 / ✓4	1 18 W.					7.0	G5. Handbp.							
	HR5353	14 17.1	-07 27		0908	0912	3.5 / 5	1 24 W					7.2	G							
	HR5853	15 43.0	+02 32		0916	0918	2m / 2.5	1h 4m W					6.6	G5.							γ Ser
	HD147010	16 29.1	-20 03		0922	0928	6m / 8	38m W					7.6	Ap.							
	148199	16 26.6	-29 16		0930	0934	4m / 5m ✓	37m W					7.1	Ap.							
	HR6318	17 00.2	-04 14		0936	0945	1, 2, 4 / ✓	13m W.					6.3	K4 (BS)							
	HR5943	15 58.4	-41 43		0948	0952	.5, 1, 2 / ✓	1h 24m W					6.0	G8 "							
	HR5566	14 57.3	-48 50		0956	1000	4m / ✓	2 33 W.					7.1	G7							
	HR5657	15 12.5	-25 17		1002	1006	4m / ✓	2 22 W.					7.2	G4							23 LIB
2768	HR2786	07 18.1	-26 35	25/26	0043	0052	9m	1h 5m W	1"/clear	3.34	50μ/1.2	120/7.0	6.23	G2 Ib	~~MK73 std~~ NeA	20s	10m 15V B	IIa-0	M-S 15min 67°F	[illegible]	(lost first hour to windscreen)
	HR3259	08 17.6	-12 33	Mar 1984	0056	0109	13m	24m W					6.76	G7.5V (KP80 std)							
	HR3459	08 42.9	-07 10		0111	0115	4m	4m W					5.46	G1 Ib (MK73 std)							31 MON.
	HR 3538	08 53.3	-05 23		0118	0129	11m	7m W					6.67	G3V (KP80 std)							
	HR3873	09 44.7	+23 49		0133	0134	1m	40m E					3.8	G1 II (KP80 std)							6 LEO
	HD102567	11 47.9	-62 04		0149	0418	2½h	2m W			50μ/0.8mm		9.2	BIe (Kry star)							
(3)	HR4511	11 43.5	-62 20		0422	0436	2, 4, 6		(first exp w/.8 slit, 2nd, third w/ 1.2)		1.2m		5.8	G0 I KP80							
?	HR4540	11 50.	+01 50.		0445	0446	60s						4.16	F9 · MK73.							
	HR4498	11 49.4	-29 06		0548	0610	22m	2h W.					7.5	G5 Handbp.							
	HR4721	12 24.5	-42 25		0614	0628	14	1h 36 W.					6.8	G5.							
(2)	FO VIR	13 28.9	+01 10		0630	~~0653~~ 0710	23m, 15m	56m W.					6.7-7.	A5							
	HR5011	13 15.9	+9 32		0713	0722	8m	1h 39m W					5.8	G0							59 Vir.
2769	HR5072	13 27.5	+13 53	"	0731	0738	7m	1 43 W.	1"	"	"	"	5.7	G5	"	"	"	"	"	"	70 VIR
	HR5235	13 53.8	+18 28		0739	0741	1m						3.3	G0							η Boo

HD 98340 — need finding chart.

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cont 2769	HR4734	12 26.1	−48 50	25/26	0745	0802	16m	3 08W	1"/clear	3.34	50µ/1.2	120/7.0	7.0	G5	NeA	20s	15 min	IIa-O	M-S	[illegible]	
	HR4788	12 34.0	−44 36	Mar 1984	0804	0815	10m	3 14W					6.5	G5.			15V B		15m 67°F		
	HR4841	12 45.1	−68 44		0821	0836	15m	3h16mW					6.85	G0.							
	HR4895	12 53.9	−58 18		0838	0854	16m	3 33W					6.9	G							S Cru
	HR4979	13 11.4	−37 41		0858	0904	5m	3 26W.					5.55	G3							
	HD147010	16 19.2	−20 02		0907	0933	26m	46mW.					7.57	Ap.							
	HD148199	16 26.6	−29 15		0936	0958	18m	1h5mW					7.10	Ap.							
2770	HD68561	8h07.8	−69°51	APR 12/13	00 59	01 24	24½m / 30	2h00W	1" / clear	2.94	50µ / 1.2mm	67 / 4.4°	7.6	ApSi	x2 NeA	x2 60s	14V 14min B filt	IIa-O (baked)	M-S	RWS	FIRST COMP AT 3.34! → 2nd at 2.94
	HD 72881	8h31.2	−65°28		01 32	01 53	21m / 24 ✓	2h05W	1" avg				7.4	ApSi							OSBORNE EXPOSURES
	HD 73340 HR 3413	8h35.6	−50°55		02 06	02 10	4m10s / 5 ✓	2h17W	1½"				5.67	B8pSi				5 min Vac 105 min F4 @ 65°F			HV VEL Member of IC 2391
	HR 3439 HD 74067	8h39.8	−40°12		02 19	02 29	2,2,3m / 3	2h33W	1½"				5.17	Ap(SiCr) B9V				5 min Vac need personal factor = 0.6			FIRST EXPOSURE ~⅓ obscured by dome.
	HR 3466 HD 74535	8h41.9	−53°02		02 40	02 48	3m10s/5m / 3½	2h50W	1½"				5.37	B9III(pSi) B8Si		FOUND BUG IN EXPOSURE PROGRAM					FAINTER THAN HR 3467.
	HD 76614	8h52.7	−69°46		03 20	03 44	24m / 24	3h35W	1" or less				7.6?	A0III/IV(pSi)							
	HR 3605 HD 77653	9h01.3	−52°08		03 56	04 01	2½m,3½m / 2½	3h43W	1"				5.09	ApSi							no room for comp
2771	HD 101189	11h37.5	−61°44	ABR 12/13	04 44	04 47	3m / 3	1h53W	1"				5.13	Ap HgMn	NeA	60s		IIa-O baked	M-S	RWS	HR 4487 in NGC 3766
	HD 103962	11h57.5	−59 40		05 00	05 15	15m / 18	2h01W	1" good!				7.1?	B9III(pSi)							
	HD 112381 ~~105770~~	12h56.0	−54 30		05 27	05 40	13m / 12	1h28W	1"				7.0?	ApSiCr							
	HD 116458	13h21.8	−70.32		05 56	06 00	4m30s / 5½	1h20W	1¼" vv				5.66	Ap Hg(Mn)							HR 5049 MAGNETIC STAR
	HD 116890	13h27.6	−69.33		06 10	06 17	7m / 7	1h33W	1¼"				6.2	ApSi/B9							HR 5066 EZ MUS
	HD 117025	13h28.1	−64.36		06 25	06 32	7m / 7	1h47W	1¼"				6.2	ApSrEuCr							HR 5069
	HD 118242	13h36.3	−64.52		06 50	07 09	19m / 24	2h17W	<1"!				7.3?	ApSi			THIS is a double! separation ≤1" & ΔM ~ 0 ∥ slit				TOOK BOTH TOGETHER.
	HD 118473	13h37.9	−64.38		07 21	07 45	24m / 30	2h52W	1"				7.5?	ApSi			southern & bright of wider pair				
	HD 147010	16h19.2	−20.02		08 29	08 50	21m / 21	1h15W	1"				7.57	Ap							
	HD 147084	16h19.7	−24.08		09 02	09 06	3½m / 3½	1h31W	1½"				5.4	A5III							MKf HR 6081
	HD 148199	16h26.6	−29 15		09 12	09 26	14m / 14	1h44W	1"				7.1	Ap							~~SKY TOO BRIGHT ALREADY~~
	HD 197417	20h47.2	−72.17		09 37	10 12	33m / 45	1h51E	1-1½"				8.2?	Ap							SKY TOO BRIGHT TO CONTINUE (added +15m)
2772	HD 68561	8h07.8	−69°51	ABR 13/14	00 37	01 06	29m / 40	1h46W	1¼"	2.94	50µ / 1.2mm	67 / 4.4°	7.6	ApSi	NeA	60s		IIa-O 105 min F4 @ 65°F	M-S	RWS	
	HD 72881	8h31.2	−65°28		01 12	01 36	24m / 27	1h53W	1"				7.4	ApSi							ROTATED SPECTROGRAPH TO 359½° MARK.
	HD 73340	8h35.6	−50°55		01 44	01 49	5m / 4½	2h01W	1"				5.67	B8pSi				HV VEL			ROTATED SPECTROGRAPH TO 360½° – VERY GOOD
	HD 74067	8 39.8	−40°12		01 58	02 01	3m / 3	2h08W	1¼"				5.17	Ap(SiCr)							

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contd																					
2772	HD 74535	8h41.9	−53°02	ABR 13/14	02 15	02 19	3¾m / 3¾m	2h26W	1¼"	2.94	50μ / 1.2mm	67Å / 4.40	5.37	B8 Si			14VO 14m+B	IIa-O baked 105min	M-S.	RWS	fainter than HR3467
	HD 76614	8h52.7	−69°46		02 29	02 58	29m / 27	2h53W	1¼"				7.6	A0 III/II (pSi)							
	HD 77653	9h01.3	−52° 08		03 09	03 12	2½m / 3m	2h58W	1½"				5.09	Ap Si							
	HD 83625	9h37.5	−54°09		03 21	03 40	19m? / 19m	2h50W	1½"–¼				6.7?	Ap Si							LOOKED ABOUT B=7.0–7.2 ?
	HD 86199	9h54.6	−57.18		03 45	03 58	13m? / 13m	2h51W	1¼"				6.5?	Ap Si							LOOKED FAINTER ~7.0 ?
	HD 101189	11h37.5	−61.44		04 05	04 08	3m / 3m	1h18W	1½"				5.13	Ap HgMn							
	HD 103962	11h57.5	−59.40		04 16	04 34	18m / 20	1h25W	1¼"				7.1	B9 III (pSi)							
	HD 105770	12h10.2	−83.41		04 43	05 04	21m / 30+ stuck.	1h42W	1½"+				6.9?	Ap Si	NeA	60s					GUIDE MOTION → ~4-5 min lost ?
2773	HD 112381	12h56.0	−54 30	ABR 13/14	05 35	05 47	12m / 12	1h38W	1½"	2.94	50μ / 1.2m	67 / 4.40	7.0	Ap Si Cr	NeA	60s		IIa-O baked 100 min	M-S	RWS	
	HD 116458	13h24.8	−70 32		05 53	05 59	5½m / 5½	1h23W	2"–1¼"				5.7	Ap Hg (Mn)				"Personal factor"			HR 5049 MAGNETIC STAR
	HD 116890	13h27.6	−69.33		06 07	06 14	7m / 7	1h35W	1¼"				6.21	Ap Si				.65			
	HD 117025	13h28.1	−64.36		06 18	06 25	7m / 7	1h45W	1¼"				6.2	Ap SrEuCr				& slightly lower			
	HD 118242	13h36.3	−64.52		06 47	07 11	24m / 30	2h22W	1¼"				7.3	Ap Si [illegible]				fog (but still too high)			took both together. visual double ~1"
	HD 118473	13h37.9	−64.38		07 17	07 47	30m / 45	2h58W	1¼"–1½"				7.5	Ap Si				→ ~0.13			
	HD 147010	16h19.2	−20°02		08 02	08 23	21m / 21	52W	1½"				7.57	Ap (HgMn) ~~Si~~				(PLATE 2774 SAME BACKING			
	HD 147084	16h19.7	−24°08		08 32	08 35	3½m / 3½	1h04W	1½"				5.35	A5 III				BATCH BUT FOG ONLY 0.11)			MK† (1973)
	HD 148199	16h26.6	−29°15		08 42	08 56	14m / 14	1h18W	1½"				7.10	Ap				POSSIBLY THERE IS A DIFFERENCE			
	HD 150549	16h45.1	−67°05		09 05	09 08	3½m / 3½ stk	1h12W	1½"				5.3	Ap Si				IN DEVELOPER TEMP.			
	HD 197417	20h47.2	−72°17		09 18	10 03	45m / 60m	1h56E	1½"				8.2?	Ap	NeA	60s					
2774	HD 68561	8h07.8	−69°51	ABR 14/15	00 18	00 55	37m / 40	1h39W	1½"	2.94	50μ / 1.2mm	67 / 4.40			NeA	60s	14m 1…				FORGOT ABOUT ENDING EXPOSURE! SHOULD BE ~30m
	HD 71491	8h24.7	−55 26		01 05	01 22	17m / 17	1h47W	1½"–2"				6.7	Ap							SEEING GETTING SOFTER.
	HD 72303	8h29.1	−54 10		01 27	01 41	14m / 14	2h03W	1½"–2"				6.6	Ap							
	HD 73340	8h35.6	−50 55		01 47	01 53	6m / 6	2h08W	1¾" av				5.67	Ap Si							HV VEL, P~2⅓ days known spectrum var. See IC 2391
	HD 74067	8h39.8	−40 12		01 59	02 03	4m / 4	2h14W	1½"				5.17	Ap Si (Cr)							
	HD 74535	8h41.9	−53 02		02 11	02 15	4m / 4½	2h24W	1½"				5.37	~~B8~~ Si							HR 3466 also in IC 2391
	HD 76614	8h52.7	−69 46		02 20	02 48	28m / 32	2h47W	1½–1¼"				7.6	A0 II/III (pSi)							seeing getting better"
	HD 77653	9h01.3	−52°08		02 55	02 58	3m / 3	2h48W	1¼"				5.09	Ap Si							
	HD 83625	9h37.5	−54°09		03 02	03 21	19m / 19	2h35W	1¼"				6.7+	Ap Si							
	HD 86199 ~~86199~~	9h54.6	−57 18		03 25	03 38	13m / 13	2h36W	1¼"–1"				6.5+	Ap Si							
	HD 96451	11h04.4	−75.04		03 46	04 04	18m / 24	1h51W	1¼"				6.6+	Ap Si (Eu)							

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NUMBER	OBJECT	R.A. (≤1984.5)	DEC. (≤1984.5)	DATE U.T.	U.T. EXP. BEGIN	U.T. EXP. END	TOTAL / CORR.	H.A. END	SEE. / TRANS.	CAM. FOCUS	SLIT	GRATING / TILT	MAG.	SP.	COMP KIND	COMP EXP.	CALIB.	EMUL.	DEV.	OBS	REMARKS
cont'd 2774	HD 101189	11h 37.5	-61°44	ABR 14/15	04 12	04 15	3m / 3	1h 29 W	1¼"	2.94	50μ / 1.2mm	67 / 4.4	5.13	Ap Hg Mn	NeA	60s	14m @ 14v+B	IIa-O unbkd (80m)	M-S	RWS	HR 4487
2775	HD 103962	11h 57.5	-59°40	ABR 14/15	04 51	05 12	21m / 24	2h 06 W	1¼"	2.94	50μ / 1.2mm	67 / 4.4	7.1	B9III(pSi)	NeA	60s		IIa-O (90m)	M-S	RWS	(-83°41)
	HD 105770	12h 10.2	-83°41		05 19	05 53	34m / 34	2h 35 W	1"				6.9+	???				Power! Hi! 0.70			WRONG STAR STAR LOOKS TOO TOO FAR RED!! WAS 30' NORTH! FOUND HD105770 BUT NOT WORTH IT TO TRY AGAIN
	HD 112381	12h 56.0	-54°40		06 08	06 27	19m / 19		1½"				7.0	Ap SiCr							
	HD 116458	13h 24.8	-70 32		06 36	06 43	7m / 7		1½"-3"				5.66	Ap Hg(Mn)				40min baking not			SEEING BLEW UP ON LAST TRAIL
	HD 116890	13h 27.6	-69 33		06 53	07 01	8m / 8	2h 25 W	1½"-3"				6.21	Ap Si				as fast as 105min			SEEING UNSTABLE
	HD 117025	13h 28.1	-64 36		07 10	07 21	11m / 11	2h 44 W	1½"+				6.2	Ap SrEuCr				yet little decrease in			
	HD 118473	13h 37.9	-64 38		07 26	07 56	30m / 35	3h 10 W	1½"+				7.57	Ap Si				fog	Try 100min		
	HD 147010	16h 19.2	-20°02		08 17	08 37	20m / 20	1h 10 W	1½"				7.57	Ap				speed	↓ ~15%		
	HD 147084	16h 19.7	-24°08		08 43	08 46	3½m / 3½	1h 19 W	1¼"				5.35	A5III				fr..	↓ 12%		MK+(1973) HR 6081
	HD 148199	16h 26.6	-29 15		08 59	09 13	14m / 15	1h 39 W	1¼"				7.10	Ap Si							
	HD 197417	20h 47.2	-72 17		09 20	10 08	48m / 50	1h 46 E	1¼"				8.2	Ap	NeA	60s					
2776	HD 68561	8h 07.8	-69°51	ABR 15/16	00 20	01 01	41m	1h 48 W	1½"-4"	2.94	50μ / 1.2mm	67 / 4.4			NeA	60s		IIa-O (bk) (70m)	M-S	RWS	seeing is #@$>!!
	HD 71491	8h 24.7	-55 26		01 05	01 23	18m	1h 53 W	1½"-2"												clouds coming in FROM SOUTH!
	HD 72303	8h 29.1	-54 10		01 31	01 50	19m	2h 16 W	1½"									clouds => 0.2m~0.3m extinction (avg)			VERY WINDY
	HD 72881	8h 31.2	-65 28		01 58	02 44	46m	3h 07 W	1½"-3"									clouds come & go valley filling with fog fast!			
	HD 73340	8h 35.6	-50 55	A	02 52	03 06	7½m	3h 26 W	2"+		Dekker?							clouds gone/ fog going colder & coming Back			
	HD 74067	8h 39.8	-40 12		03 13	03 19	6m	3h 35 W	2"+												T=9°C RH=65%
	HD 74535	8h 41.9	-53 02		03 27	03 35	8m	3h 49 W	2½"+												VFO ACTING UP A BIT COLD? POSSIBLY CLOUDS WILL HELP.
	HD 101189	11h 37.5	-61 44		03 46	03 50	4m	1h 08 W	2"+												
	HD 103962	11h 57.5	-59 40		03 55	04 33	38m	1h 31 W	1½"												SEEING BETTER VFO NOT
	HD 112381	12h 56.0	-54 30		04 46	05 11	25m	1h 10 W	2"						NeA	60s	14v/14min B				ITS COLD T=8° RH=72%
2777	HD 116458	13h 24.8	-70 32	ABR 15/16	05 47	05 56	9m	1h 29 W	2"+2" dancing	2.94	50μ / 1.2mm	67 / 4.40			NeA	60s		IIa-O (baked) 100m.	p.f. = .65		2" disk & 2" of dancing!! => 4" seeing ...
	HD 116890	13h 27.6	-69°33		06 05	06 17	12m	1h 46 W	2"+												
	HD 117025	13h 28.1	-64°36		06 24	06 36	12m	2h 03 W	2"+												
	HD 118473	13h 37.9	-64°38		06 43	07 20	38m	2h 39 W	2"												T=7°C RH=79%
	HD 147010	16h 19.2	-20°02		07 33	08 02	29m	39 W	1½"												seeing better? here
	HD 147084	16h 19.7	-24 08		08 12	08 17	4½m	54 W	2"-5"				5.35								seeing bad.
	HD 148199	16h 26.6	-29 15		08 23	08 42	19m	1 12 W	1½" Lt clouds												MORE CLOUDS!
	HD 197417	20h 47.2	-72 17		09 52	10 03	11m	1 48 E	1¼"						NeA	60s					

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2778	HD 147010	16h 19.2	-20°02	APR 16/17	07 02	07 24	22m	5W	1¼" / GOOD	2.94	1.2 mm / 50 μm	67 / 4.4	7.57	Ap?	NeA	60s		(100 min) IIa-0	M-S	R[illegible]	
	HD 147084	16h 19.7	-24°08		07 28	07 32	3½m	13W	1½"					A5 III							Mkt ([illegible])
	HD 148199	16h 26.6	-29°15		07 36	07 50	14m	24W	1¼"				7.1	Ap?							
	HD 150549	16h 45.1	-67°05		07 56	08 00	4m	15W	1½-2½"				5.3	Ap si	HR	6204					gusty wind SEEING ERRATIC
	HD 152564	16h 58.0	-69°15		08 08	08 15	7m	17W	1½"-3"				6.0	Ap si	HR	6276					(AND DEFINENTLY NOT ERATIC)
	HD 165040	18h 07.0	-63°40		08 24	08 29	100/150 sec.	37E	1½"-2"				4.85	Ap	HR	6745					2 exp. [illegible]
	HD 181018	19h 21.9	-65°36		08 35	08 51	16m	1 30E	1½"-2½+				7.1	Ap	HR ~~70~~						
	HD 196867	20h 38.9	+15°52		09 01	09 04	60/80 sec.	2 34E	2"	WRONG STAR!			3.7	(B9 IV ?)	(HR 7906)		PROBABLY	HR 7928	? Am		Mkt (1973)
	HD 197417	20h 47.2	-72°17		09 11	10 02	51m	1 45E	1½"+				8.2	Ap	NO WAY!!						occasional bubbles
													B mag								
6 2779	IC 2602 # 1 HD 92385	10h 42m	-64° 18'	4/5 May	00 29	00 53	324m	21m	1.5"	2.94	1.2μm / 50μm	67 / 4.4	6.67	B8/9 V	Ne A	60s	22V	IIa-0	M-S	Gry	
8	#11 HD 92715	"	"		01 00	01 27	27m	55m	1.5"	"	"	"	6.80	B9.5 V			2 min				
10	#14 HD 92896	"	"		01 38	02 38	60m	2h 7m	1.5-2"	"	"	"	7.54	A3 IV			Blue				
12	HR 4712	12h 22.6m	-35° 19'		02 50	02 56	6m	45m	1.5"	"	"	"	5.24	B9 III							
14	HR 4794	12h 34.9	-40 56		03 08	03 14	6m	51m	1.5"	"	"	"	5.35	A7 III							
16	HR 4947	13h 6.0	-35 46		03 22	03 31	9m	36m	1.5"				5.68	A0 IV-III							
18	HR 5120A	13 35.9	-26 25		03 40	03 52	12m	30m	1.5"				6.00	A7 III							
20,22	HR 5120B	"	"		03 58	04 30	32m	1hr 5m	1.5"				7.00	A7							
	HR 5482	14 44.0	-62 48		05 43	05 54	11m	1hr 20m	1.5-2"				5.65	A9V							thick clouds coming quickly!
6 2780	Praesepe HD 74028 KW 445	8 41 15	19 28	5/6 May '84	23 25	00 37	72m	2hr 10m	1.5"	"	"	"	8.17	A7V	Ne A	30s	22V	Baked 90min forming gas 65°C IIa-O		Gry	
8	IC 2602 #24 HD 93424	10h 42'	-64° 18'		00 48	01 58	70m	1hr 34m	1.5"	"	"	"	8.29	A2V			1 min				
10	#17 HD 92989	"	"		02 01	02 46	45m	2hr 18m	1.5"-2"				7.62	A0V			Blue				
12	#2 HD 92467	"	"		02 54	03 16	22m	2hr 48m	1.5"				7.02	B9.5V							C/s dbl ~1" at ~80° wrt slit. Δm = 2-3
	NGC 3532 K 174	11h 4.1m	-58° 26'		03 36	04 06	30m	3h 17m	1.5"				7.42	A0 IV							HD 96620
	NGC 6633 # 58	18h 22.7	6° 30'		05 19	06 04	45m	2h E	1.5"				7.66	A0							HD 169959
	#10	18h 23.9	7° 12.1'		06 15	07 15	60m	53m E	1-1.5"				7.98	B9							HD 169512
	#177	18h 30.7	6° 27.5'		07:24	08:24	60m	9m W	1.5"				8.01	A0V						HD 170881	C/s Dbl. Brighter Cmpt.
	NGC 6475 #82	17h 53'	-35°		09:09	09:49	40m	2h 12m	1.5"				7.81	A1V.							HD 162680
	#71	"	"		09:53	10:23	30m	2h 47m	1.5"				7.40	A0 III							HD 162631

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2731	Praesepe KW348	8 40 21	19 38 15	6/7 May	23:43	00:05	22m	1hr 40m	1-1.5"	2.14	50μ/12		6.95	A7 III	NeA	30s	1min 22V	IIa-O	M-S	Gry	G HD 73819
	IC 2391 #10	8h 40'	-52° 52'		00:21	02:04	103m	3hr 40m	1-1.5"	"	"		8.74	A3V.				Baked 65°C 90min Forming gas			G HD 74517
	NGC 3532 #194	11h 4'	-58° 30'		02:17	03:28	71m	2hr 40m	1.5"	"	"		8.30	A0V							G HD 96665
	465	"	"		03:36	04:46	70m	4hr	1.5"	"	"		8.36	A0							G HD 98246
	NGC 6475 #30	17h 53'	-35°		06:18	07:53	95m	18m	1.5"	"	"		8.74	A5/B3III/IV							G HD 162416
	#77				08:00	08:22	22m	49m	1-1.5"	"	"		7.12	B9/A0(V)							G HD 162679
	NGC 6633 #161				08:46	10:03	79m	1hr 54m	1.5"				8.30	A0							G HD 170363
2732	HR 4294	10 59.9	6 11	7/8 May	01:22	01:35	5m+8m	57m	1" clouds	"	"	"	5.15	A5III	NeA	60s	2min 22V	IIa-O	M-S	Gry	G Thick moving Cirrus,
	HR 4703	12 21.2	-67 26		01:50	01:56	6.5m	2m	1-1.5" clouds				5.34	A5V						G	Cirrus
	HR 4834	12 49.8	-33 55		02:05	02:21	10m, 6m	6m	1.5" clouds				4.87	A0IV						SW G	Thick moving Cirrus
	HR 5264	14 0.8	1 37		04:32	04:40	2m	1hr	1.5" clouds				4.36	A3V						U	1-2 may enhancing haze
	HR 6095	16 21.2	19 11		06:47	06:49	2'4m	53m	1.5" clear				4.62	A9III						G	light cirrus
	HR 6195	16 39.8	4 15		06:58	07:08	10.5m	52m	1.5" clear				5.75	A1V						G	"
	HR 6194	"	"		07:15	07:53	35m	1hr 43m	1.5" clear				7.06	A3IV						G	"
	HR 6549	17 36.8	-54 29		08:02	08:10	8m	58m	1.5" clear				5.45	A5 IV-V						G	"
	HR 6569	17 39.1	-49 24		08:18	08:24	6m	1hr 9m	1.5" clear				5.17	F3IV						G	"
	HR 7020	18 41.6	-7° 41'		08:34	08:39	5m	20m	1.5" clear				5.07	F2IIp shell						G	"
	~~07-2~~																				
2733	HR 7883	18 49.9	-22 11	7/8 May	09:24	09:54	30m	1hr 30m	1-1.5" clear				6.99	A7 III	"	"	"	"	"	Gry G	light cirrus
	HR 8709	22 53.8	-15 54		10:06	10:11	1m, 3m, 16m	2hr 20m	1.5" clear				3.32	A3V.						G	"
	HR 8060	21 3.5	-19 55		10:19	10:24	5m	15m	1-1.5" clear				5.01	A5V.						G	"
2734	HR 6093	16 21.3	1° 4'	8/9 May	05:38	05:44	6m	10m	1.5" clear?				5.16	F0V	"	"	"	"	"	Gry U	
	HR 6201	16 40.4	-0° 58'		05:53	06:16	23m	3m	1.5" clear				6.54	A7III						U	
	HR 6205	16 40.9	1° 13'		06:25	06:41	16m	27m	1.5" clear?				6.06	F2-4 III-IV						SU	
	HR 6449	17 20.0	-10 41		06:48	07:17	29m	24m	1.5" clear				6.79	F1 III						SU	
	HR 6628	17 48.1	-31 42		07:28	07:33	5m	12m	1.5" Cirrus?				4.79	B8V.						U	
	HR 6700	17 58.8	-23 49		07:58	08:03	5m	31m	1.5" Cirrus				4.72	B9 V						U	
	HR 6724	18 1.9	-24 17		08:12	08:24	12m	50m	1-1.5" Cirrus?				5.86	F3III						U	

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2784 cont.	HR 7012	18 43.9	-64 53	8/9 May.	08:36	08:43	6.5m	28m	1.5″ Clear?	294	50μ/1.2	67/4.4	4.99	A5 IV-V	NeA	60s	2min 22V	IIa-O	M-S	Gry	G
	HR 7152	18 57.6	-37 8		08:51	08:57	6m	27m	1.5″ Clear				5.28	F2V							G
	HR 7231	19 4.5	-1 32		09:07[30]	09:43[30]	36m	1hr 7m	1.5″ clouds				6.88	F1V							SU
	HR 8187	21 23.3	-12 57		09:53	10:03	10m	51m	1-1.5″ Clear				5.78	F1V							SO
	HR 8709	22 53.8	-15 54		10:10	10:11	1.3m	2hr 14m	1.5″ Clear				3.32	A3V.							O
2785	Praesepe KW207	8 38 50	19 20	9/10 May	23:27	00:20	53m	2h 12m	1.5″ Clear	"	"	"	7.87	A7Vn	NeA	30s	1min 22V.	IIa-O baked 65°C 90min FG.	15min 67°F Metol Sulfite	Gry	G HD 73576
	IC 2391 #6	8h 40′	-52° 52′		00:28	00:54	26m	2h 44m	1.5″ Clear				7.28	A0V							G HD 74275
	IC 2391 #8	"	"		01:00	01:31	31m	3h 20m	1.5″ Clear.				7.39	A0V							G HD 74516
	IC 2602 #5	10h 42m	-64° 18′		01:42	03:02	80m	2h 50m	1.5″ Clear.				8.46	A6V.							G HD 92535
	NGC 3532 #189	11h 4m	-58° 30′		03:14	04:29	75m	3h 56m	1.5″ Clear				8.40	B9							G HD 96653
	NGC 6475 #96	17h 53m	-35°		05:26	07:11	105m	11m	1.5″ Clear.				8.85	A3							G HD 320859
	#121	"	"		07:42	08:01	19m	39m	1-1.5″ Clear				6.95	B9/A0III							G HD 162888
	NGC 6633 #61	18h 27′	6° 30′		08:14	09:35	81m	1hr 40m	1.5″ Clear				8.50	A3							G HD 169958
	HD 214539	22h 39.7	-67° 46′		09:52	10:19	27m	1h 50m	1.5-2″ Clear				7.24	B9V.							High velocity star. G
2786	Praesepe KW 204	8h 40′	+20°	10/11 May	23:22	23:46	24m	1h 40m	1.5-2″ Clear?				6.92	F0III	"	"	"	"	"	Gry.	HD 73575
	KW 300	"	"		23:51	00:04	13m	1hr 53m	1.5″ Clear				6.47	A6III(m)							HD 73731
	IC 2391 #15	8h 40′	-52° 52′		00:14	00:50	36m	2hr 44m	1-1.5″ Clear				7.73	A1V							HD 74678
	NGC 3532 #82	11h 4m	-58° 30′		00:59	02:16	77m	1hr 46m	1-1.5″ Clear.				8.57	A0/1 IV/V							HD 96305
	#132	"	"		02:25	03:50	85m	3hr 20m	1.5″ Clear.				8.61	(A2)							HD 96472
	NGC 6475 #103	17h 53m	-35°		04:59	05:32	33m	1hr 46m	1.5″ Clear				7.53	A0IV							HD 162781
	NGC 6633 #92	18h 27m	6° 30′		05:47	07:27	100m	20m	1-1.5″ Clear				8.70	A3							HD ~~320~~ 170135
	#125	"	"		07:53	09:53	2hrs	2hr	1-1.5″ Clear				8.93	A0							HD 170293
	#102	"	"		10:01	10:06	5m	2hr 20m	1″ Clear				5.70	B8III-II							HD 170200
2787	Praesepe #449	8h 40′	+20°	11/12 May.	23:26	00:27	61m	2hr 25m	1-1.5″ Clear.				8.12	A7Vn	"	"	"	"	"	Gry	G HD 74050
	IC 2391 #33	8h 36.7m	-53° 12′		00:44	01:30	46m	3hr 28m	1-1.5″ Clear.				7.94	A1V.							G HD 73681
	NGC 3532 #172	11h 4m	-58° 30′		01:41	03:07	86m	2hr 40m	1-1.5″ Clear.				8.67	(B9)							G HD 96609
	#231	"	"		03:13	04:19	66m	3h 52m	1″ Clear.				8.33	A9II							G HD 96898

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NUMBER	OBJECT	R.A.	DEC.	DATE U.T.	U.T. EXP. BEGIN	U.T. EXP. END	TOTAL / CORR	H.A. END	SEE / TRANS.	CAM. FOCUS	SLIT	GRATING / TILT	B MAG	SP.	COMP KIND	COMP EXP	CALIB.	EMUL	DEV.	OBS	REMARKS
2757 cont.	NGC 6633 #52	18h 23m	6° 30'	11/12 May	05:38	07:36	118m /	8m	1-1.5" Clear	2.94	50μ/12	67/44	8.99	(A3)	Ne A	30s	1min 22V	IIa-O	M-S	Grg	G BD +6° 3761
	" 134	"			07:46	09:46	2hrs /	2hrs	1-1.5" Clear				9.01	A				Baked 90min FG 659			G HD 170346
	HR 8006	20 54.3	-1 26		07:55	10:09	14m /	5m	1" Clear				6.84	A9V$_2$							G
2758	HR 3536	8 51.2	-57 34	12/13 May	23:40	23:48	8m /	1hr 35m	1-1.5" Clear				5.48	B8III	"	60s	2min 22V	IIa-O	M-S	Grg	G
	HR 3683	9 15.9	-8 41		23:54	00:02	9m /	1hr 25m	1-1.5" Clear				5.38	B9 III							G
	HR 3732	9 21.3	-55 27		00:10	00:20	10.3m /	1hr 40m	1-1.5" Clear				5.82	A3IV$_2$							G
	HR 3899	9 50.4	-4° 10		00:28	00:42	14m /	1hr 32m	1-1.5" Clear				6.18	A8III							G
	HR 4218	10 46.8	-15 11		00:50	01:11	21.3m /	1hr 6m	1-1.5" Clear				6.66	A0III							G
	HR 4311	11 3.8	-47 35		01:18	01:29	11m /	1hr 5m	1.5" Clear				5.91	A5II-III							G
	HR 4343	11 10.9	-22 44		01:35	01:38	3m /	1hr 9m	1.5" Clear				4.51	A2III							G
	HR 4778	12 32.5	-19 42		01:49	02:08	19.3m /	18m	1-1.5" Clear				6.55	F2V							G
	HR 4797	12 35.1	-20 26		02:14	02:33	19m /	40m	1-1.5" Clear				6.53	F0III							G
	HR 4868	12 49.3	-60 19		02:41	03:15	34m /	1hr 8m	1-1.5" Clear				7.10	A3II							G
	HR 4881	12h 51.1	-26 39		03:22	03:39	17m /	1hr 30m	1.5" Clear.				6.38	A0III λBoo							G
2759	HR 5642	15 10.8	~~-48 41~~ -45 2	12/13 May	05:04	05:14	10m /	46m	1.5" Clear				5.83	A3IV	"	"	"	"	"	Grg	G
	HR 5697	15 53.7	-63 23		05:24	05:25	50sec /	15m	1.5" Clear				3.14	F2III							G
	HR 5725	15 55.8	-33 55		05:32	05:39	7m /	25m	1.5" Clear				5.96	A3V							SO } Double star.
	HR 5726	15 55.8	-33 55		05:42	05:51	9m /	38m	1.5" Clear				5.73	B9V							G
	HR 6033	16 11.3	-8 30		06:03	06:11	8.5m /	43m	1.5" sl hazy				5.55	A9V							G
	HR 6193	16 40.6	-24 26		06:18	06:34	16m /	36m	1.5" sl hazy				6.29	F0V							G
	HR 6449	17 20.0	-10 41		06:42	07:08	25.5m /	30m	1.5" sl hazy				6.79	F1III							Plate blur!
	HR 6478	17h 25.9	-58° 37'		07:25	07:37	12.5m /	55m	1.5" sl hazy				6.00	B9II							G
	HR 5971	16h 6.1	-56° 9'		07:50	08:16	26m /	2hr 54m	1.5" sl hazy				6.74	F2II							G
	HR 6663	17h 53.4	-34° 28'		08:38	08:52	14m /	1hr 43m	1.5" sl hazy				6.14	B9.5/A0III							G NGC 6475 #110
	NGC 6475 #104	17h 53m	-35°		09:00	09:28	28m /	2hr 18m	1.5" clear.				6.91	A0V							G HD 162780
	#55	"	"		09:37	10:07	30m /	2h 58m	1-1.5" clear				6.92	B9/9.5III$_p$							G HD 162576

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NUMBER	OBJECT	R A	DEC.	DATE U.T.	U.T. EXP. BEGIN	U.T. EXP. END	TOTAL / CORR.	H A. END	SEE. / TRANS.	CAM. FOCUS	SLIT	GRATING / TILT	MAG.	SP.	COMP. KIND	COMP. EXP.	CALIB.	EMUL.	DEV.	OBS.	REMARKS
2790	HR 3683	9 15.9	-8 41	13/14 May	23:50	23:56	6.5m	1h 28m	1.5 / clear	294	50µ/12	64/44	5.38	B9 III	NeA	60s	2 min	IIa-O	H-S	Gry	so
	HR 3772	9 32.4	28 26		00:04	00:32	28m	1h 46m	1-2" / clear?				6.65	A3Vnn			22V				U
	HR 4042	10 16.5	-7 59		00:41	00:49	8m	1h 18m	1.5" / clear				5.55	F2III							G
	HR 4249	10 51.4	1° 7'		00:59	01:18	19.5m	1h 13m	1.5" / Cirrus				6.46	A3V.							G
	HR 4343	11 10.9	-22 44		01:26	01:29	3m	1h 5m	1.5-2" / Clear				4.51	A2III							G
	HR 4405	11 24.1	-17 36		01:35	01:37	2.5m	59m	1.5-2" / Clear				4.29	A5V							so
	HR 4534	11 48.2	14 40		01:47	01:48	20s	46m	1.5" / Clear				2.23	A3V							U 20 coverings with white hand paddle.
	HR 4886	12 51.7	16 13		02:01	02:21	20m	16m	1.5" / Clear				6.46	A7V							Su
	HR 5048	13 29.1	-6 41 24		02:35	02:44	9.5m	7m	1.5" / Clear				5.71	F2III							G
	HR 5059	13 25.3	-1° 7'		02:54	03:08	14m	29m	1.5" / Clear				6.16	A7 III							so
	HR 5140	13 40.9	-58 42		03:22	03:29	7m	35m	1.5" / Clear				5.35	B9 III							G
	HR 5368	14 18.8	0 27		03:40	03:57	17m	23m	1.5" / Clear				6.39	A7V.							G
2791	HR 6093	16 21.3	1° 4'	13/14 May	05:55	06:00	5.5m	26m	1.5" / Clear				5.16	F0V.	"	"	"	"	"	Gry	G
	HR 6201	16 40.3	-0° 58'		06:07	06:27	20m	33m	1.5" / Clear				6.54	A2III							G
	HR 6205	16 40.9	1° 13'		06:33	06:46	13m	52m	1.5" / clear				6.06	K2-4III-IV							G
	HR 6449	17 20.0	-10 41		06:53	07:18	24.5m	46m	1.5" / clear				6.79	F1 III							G
	HR 6628	17 48.1	-31 42'		07:26	07:30	4m	28m	1.5" / clear				4.79	B8V							o
	HR 6690	17 56.1	6° 29'		07:39	07:55	16m	46m	1.5" / clear				6.29	B9III							G
	HR 6700	17 58.8	-23 49		08:02	08:06	3.5m	54m	1.5" / clear				4.72	B9V.							So
	HR 6724	18 1.9	-24 17		08:17	08:27	10.5m	1hr 13m	1.5" / clear				5.86	F3III							G
	HR 7245	17 6 3	0 37		09:09	09:30	21m	1hr 8m	1.5" / clear				6.61	B9III							G
	HR 7519	19 44.9	7 34.		09:33	09:52	14m	55m	1.5" / clear				6.09	A3III							G
	HR 7596	19 53.9	0 14.		09:58	10:07	9.5m	1hr 1m	1.5" / clear				5.71	A0 III							G
	HR 8709	22 53.8	-15 54		10:17	10:18	1m	1hr 47m	1.5" / clear				3.32	A3V.							o. Plate defects
2792	HR 3183	8h 6.6	-20° 30'	14/15 May	23:35	23:42	7m	2hr 25m	1.5" / clear				5.48	A5II	"	"	"	"	"	Gry	
	HR 3487	8h 45.5	-45 59		23:48	23 50	1.5m	1hr 54m	1.5" / Clear				3.91	A1 III							G
	HR 3966	10h 2.2	-60° 2'		23:59	00:15	16m	1hr 2m	1-1.5" / Clear				6.36	A7 III							G
	HR 3989	10h 4.8	15° 50'		00:23	00:46	23.5m	1hr 32m	1-1.5" / clear				6.74	F2V.							G

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	2792 cont				14/15 May																	
14		HR 4408	11 29.8	16 33		00:59	01:10	11m	25m	1.5" Clear	2.94	50μ/12	67/1.4	5.93	F2V	NeA	60s	2min	IIa-O	M-S	Grey	G
16		HR 4531	11 47.8	14° 22'		01:17	01:30	13.5m	33m	1.5" Clear				6.17	F0V			22V				G
18		HR 4635	12 10.2	-23 31		01:43	01:50	7m	30m	1.5" Clear				5.52	A2V							G
20		HR 4850	12 51.2	-48° 0'		01:56	02:11	15m	9m	1.5" Clear				6.36	A0III							G
22		HR 5005	13 15.6	-1 18		02:19	02:46	27m	21m	1-1.5" Clear				6.99	F1II							G
24		HR 5057	13 24.3	23 56		02:55	03:06	11m	33m	1.5" Clear				5.84	A3III							G
26		HR 5388	14 23.2	8 19		03:41	03:53	12m	20m	1.5" Clear				6.01	A3V							G
28		HR 5497	14 45.1	-25 23		03:58	04:03	5.5m	8m	1.5" Clear				5.27	F2III-IV							G
4	2793	HR 5842	15 40.8	19 43	14/15 May	05:30	05:33	3.2m	46m	1.5-2" Clear				4.56	A1V	"	"	"	"	"	Grey	S.SU
6		HR 5867	15 45.3	15 28		05:39	05:40	1.5m	45m	1.5" Clear				3.73	A2IV							SO
10		HR ~~6037~~ 6038	16 15.5	-67 54		05:52	06:02	10m	42m	1.5" Clear				5.90	A4V							SU
12		HR 6203	16 40.1	12 26		06:10	06:23	13m	33m	1.5" Clear				6.13	A3V							G
14		HR 6302	16 57.8	-14 51		06:29	06:55	26.5m	49m	1-1.5" Clear				6.99	F3V							G
16		HR 6562	17 36.7	-15 34		07:01	07:15	14m	29m	1-1.5" Clear				6.31	F0IV							G
18		HR 6600	17 42.9	-13 30		07:20	07:41	21.5m	50m	1-1.5" Clear				6.76	F0V							G
20		HR 6814	18 16.3	1° 0'		08:05	08:31	26m	1h 6m	1-1.5" Clear				6.94	F2V							G
22		HR 7331	19 18.9	12° 21'		08:44	08:53	9.5m	27m	1.5" Clear				5.79	F0III							G of Sm
24		HR 7493	19 41.5	12° 9'		09:03	09:18	15m	28m	1-1.5" Clear				6.31	B9III							G
26		HR 7671	20 4.2	-11 39		09:28	09:52	24m	39m	1-1.5" Clear				6.86	F1III							G
28		HR 8709	22 53.8	-15 54		10:01	10:02	40s	2hr	1.5" Clear				3.32	A3V							SO
0	2794	HR 2768	7 16.3	-30 52	16/17 May	23:49	00:09	20m	3hr 50m	1.5" Clear				6.52	A7III	"	"	"	"	"	Grey	G
4		HR 3439	8 39.7	-40 12		00:16	00:21	5½m	2hr 42m	1.5" Clear				5.19	B9V							G (A-)
10		HR 4357	11 13.3	20 37		00:41	00:42	½m	26m	1.5" Clear				2.68	A4V							U
12		HR 4405	11 24.1	-17 36		00:47	00:49	2m	22m	1.5" Clear				4.29	A5V							G
14		HR 4534	11 43.2	14 40		00:56	00:57	22s	6m	1.5" Clear				2.23	A3V							G, Steady
16		HR 4567	11 55.2	-17 4		01:02	01:07	4.5m	9m	1.5" Clear				5.16	A0V							G
		HR 4589	12 0.1	6 42		01:17	01:21	3.6m	18m	1-1.5" Clear				4.79	A5V							G
		HR 4746	12h 27.0	-4° 32'		01:27	01:53	26m	24m	1-1.5" Cirrus				6.66	A8V							G Cirrus

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NUMBER	OBJECT	R.A.	DEC.	DATE U.T.	U.T. EXP. BEGIN	U.T. EXP. END	TOTAL / CORR.	H.A. END	SEE. / TRANS.	CAM. FOCUS	SLIT	GRATING / TILT	MAG.	SP.	COMP KIND	COMP EXP.	CALIB	EMUL	DEV.	OBS	REMARKS
2795	HR 3960	10h 1.5	-60° 21'	17/18 May	23:54	00:09	15m /	1h 8m	1.5-2" Clear?	2.94	50µ/12	67/44	6.20	A7IVF2II	NeA	60s	2-m	IIa-O	M-S	Grig	SO
	HR 4040	10h 19.2	-8 59		00:15	00:40	25m /	1h 22m	1.5" Cirrus				6.65	F1IV			22V				G
	HR 4757	12h 29.0	-16 26		00:52	00:55	3m, 4/3 m /	32m	1.5" Cirrus				2.90	B9.5V						SO 3	
	HR 4534	11h 48.2	14 40		01:02	01:04	1m? /	18m	1.5" Cirrus				2.23	A3V						G	20 passes with wi. 4 paddle.
	HR 4993	13 14.1	-6 49		01:19	01:23	4m /	50m	1.5-2" Clear				4.72	B8V						D	
	HR 5071	13 28.4	-51 5		01:30	01:35	5m /	51m	1.5-2" Clear				5.13	A1V						SO	
	4R 5141A	13 40.7	-54 29		01:41	01:45	4.5m /	53m	1.5" Clear				4.96	B8Vn						G	
	HR 5141B	"	"		01:51	02:07	16m /	31m	1-1.5" Clear				6.4	A0V						G	
	HR 5059	13 25.3	-1° 7'		02:17	02:29	12.5m /	6m	1-1.5" Clear				6.16	A7III						G	
	HR 5174	13 46.0	-36° 10'		02:36	02:40	4.7m /	4m	1-1.5" Clear				5.13	A0V						SO	
	HR 5207	13 51.0	-52° 44'		02:47	02:52	5m /	2m	1.5" Clear				5.16	B9V						G	
2796	HR 5290	14h 5.9	-9° 14'	17/18 May	03:42	03:51	9m /	47m	1.5" Clear	"	"	"	5.80	F2IV	NeA	"	"	"	"	Grig	G
	HR 5264	14h 0.8	1 37		03:57	03:59	2.5m /	1hr	1.5" Clear				4.36	A3V							SO
	HR 5418	14 29.0	0 54		04:06	04:18	12m /	51m	1.5" Clear				6.10	A5IV							G
	HR 5487	14 42.2	-5 35		04:24	04:26	2m /	46m	1.5" Clear				4.26	F2III							G
	HR 5517	14 47.0	-26 35		04:32	04:40	8.5m /	55m	1.5" Clear				5.75	B9V							G
	HR 5531	14 50.0	-15 59		04:48	04:49	0.6m /	1hr	1.5" Clear				2.90	A3IV							D
	HR 5679	15 15.0	0 26		04:56	05:05	9m /	53m	1.5" Clear				5.81	A4V							G
	HR 5703	15 20.1	-15 29		05:11	05:31	20.5m /	1hr 13m	1.5" Clear				6.71	F0III							G
	HR 6037	16 15.5	-67 54		05:36	06:46	10.5m /	1hr 34m	1.5" Clear				5.90	A4V							U
	HR 6189	16 38.8	-9 31		06:54	07:17	23.5m /	1hr 42m	1.5" Clear?				6.83	F3V							G
	HR 6489	17 25.1	-1 38		07:24	07:49	25.5m /	1hr 27m	1.5" Light cirrus				6.90	F3V							G
	HR 6534	17 32.6	-5 44		07:55	08:04	9m /	1hr 35m	1.5" Clear				5.80	A5V							SO
2797	HR 7254	19 8.4	-37 56	17/18 May	08:40	08:42	2m /	36m	1.5" Clear				4.15	A2V	"	"	"	"	"	Grig	G
	HR 7498	19 47.6	-7 33		08:49	08:58	9.5m /	14m	1.5" Clear?				5.63	A4III							G
	HR 7553	19 49.9	-10 48		09:06	09:14	8.5m /	28m	1.5" Clear?				5.77	F0V							G
	HR 7587	19 55.8	-58 57		09:22	09:27	5.5m /	35m	1.5" Clear				5.25	B9.5IV							G
	HR 7885	20 51.3	-5 34		09:38	09:44	6.5m /	4m	1.5" Clear				5.47	B9III							G
	HR 7938	20 33.2	12 58		09:52	09:59	7.5m /	29m	1.5" Clear				5.45	A3IV							G
	4R 8709	22 53 8	-15 54		10:09	10:10	25s, 40s	1hr 50m	1.5" / Clear				3.32	A3V							U.G

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2778	NGC 3532 #105	11h 4m	-58° 30'	18/19 May	23:45	00:08	23m / 69m	11m	1.5 / clear	294	50μ/1.2	67/4.4	8.78	A0	NeA	30s	22V	IIa-C baked	M-S	Grey	Ended as another star seen to be on slit
	"	11h 4m	-58° 30'		00:10	01:19	69m	1hr 20m	1.5 / clear		50μ/.8		"	"			1 min	90 min 65°C Forming gas.		G	Cirrus at end. HD 96387
2779	HR 3439	8 39.7	-40 12	20/21 May	23:31	23:36	5m	2hr 8m	1.5" / clear	"	50μ/1.2		5.19	B9V	"	60s	22V	IIa-0	M-S	Grey	SU
	HR 3633	9 15.9	-8 41		23:42	23:48	6m	1hr 45m	1.5" / clear				5.35	B9III			2 min	unbaked			G
	HR 3960	10h 1.5	-60° 31'		23:55	00:09	14m	1hr 21m	1.5" / clear?				6.20	A4IVF2II							SU
	HR 4155	10h 35.5	-10° 30'		00:16	00:40	24m	1hr 17m	1-1.5" / clear				6.86	F0V							G
	HR 4272 ~~4334~~	10h 38.0	-12 21		00:49	01:03	14m	1hr 32m	1.5-2" / clouds				6.04	A0Vn							U
	HR 4757	12h 29.0	-16 26		01:12	01:14	90s?	2m	1.5" / clouds?				2.90	B9.5V							40 passes with slit paddle. U
2800	IC 2602 #13	10h 42m	-64° 18'	21/22 May	23:36	00:06	30m	41m	2-3" / clear	"	50μ/1.2		7.18	A0V	"	30s	22V	IIa-0 baked	"	Grey	HD 92837 G Poss. See. y. !
	IC 2602 #19	"	"		00:12	00:55	43m	1hr 20m	2" / clear		"		7.65	A0V			1 min	90 min 65°C F.G.			HD 93095 G
	NGC 3532 #98	11h 4m	-58° 30'		01:05	02:21	76m	2h 34m	1.5-2" / clear		50μ/.8		8.78	A0							HD 96368 G
	K152	"	"		02:33	04:00	87m	4h 14m	1.5-2" / clear		"		9.00	A0							HD 96522 G
	NGC 6475 #47	17h 53m	-35°		05:06	07:05	119m	30m	1.5-2" / clear		50μ/1.2		9.05	A2V							HD 320363 G
	#40	"	"		07:15	08:40	85m	2h 6m	1.5-2" / clear		50μ/.8		9.10	A7/8V							HD 162514 G
	#65	"	"		08:48	10:15	87m	3hr 37m	1.5-2" / clear		"		9.07	A2V							— G
2801	NGC 3532 K221	11h 4m	-58° 30'	22/23 May	00:26	02:16	110m	2hr 33m	1-1.5" / clear	"	50μ/1.2		8.95	A2III	"	"	"	"	"	Grey	HD 96808 G
	HR 4993B	13 14.1	-67 49		02:25	03:19	54m	1hr 27m	1-1.5" / clear		"		9.2	A0							G
	HR 5207B	13 51.0	-32 44		03:25	04:01	36m	1hr 32m	1" / clear		"		7.72V	A3 or F0?							U
	NGC 6633 #7	18h 23m	6° 30'		05:13	07:13	2hrs	14m	1-1.5" / clear		"		9.04	A							C HD 169492
	#114	"	"		07:22	08:53	91m	1hr 50m	1-1.5" / clear		50μ/.8		9.17	A							G HD 170271
	#90	"	"		09:05	10:24	79m	3hr 23m	1-1.5-2" / clear		"		8.36	A3							G HD 170114
2802	IC 2391 # 33	8h 37m	-53° 12'	23/24 May	23:48	00:36	48m	3hr 24m	1.5-2" / clear	"	50μ/1.2		7.94	AIV	"	"	"	"	"	Grey	HD 73681
	HR 3960	10h 1.5m	-60° 20'		00:44	00:54	10m	2hr 18m	2" + wedge / clear		"		6.20	A0IVF2II							
	Coma #10 HR 4633	12h 9.9	27° 22'		01:11	01:22	11m	38m	2" / clear		"		6.12	A9Vn							
	Coma #104	12h 23m	26° 12'		01:36	02:01	25m	1hr 3m	2" + wedge / clear		"		6.97	A8/Am							HD 107334
	HR 4746	12h 27.0	-4° 32'		02:13	02:26	13m	1hr 24m	1.5" / clear		"		6.66	A8n							

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					BEGIN	END									KIND	EXP.					
16 2802 cont	HR 5721	15 22.9	-0° 58'	23/24 May	02:51	03:01	10.5m	55m	1.5" Good	294	50μ/12	67/4.4	6.37	F0V	NeA	30s	1min	IIa-O	M-S	Gry	
	HD 140283	15 42.2	-10° 52'		03:09	03:44	35m	26m	1.5-2" Good				7.7	F3 VI			22V	Baked			
	NGC 6475 #79	17h 53m	-35°		04:59	06:15	76m	11m	1.5" Good				9.04	A2V.				90min 65°C F-G			
	#70	"	"		06:24	08:00	96m	1hr 33m	1.5" Cirrus?				9.20	F0V.							
	#108	"	"		08:27	08:52	25m	2hr 25m	1.5-2" Cirrus				7.01	B9III/IV							HD 162804
2803	HR 6037	16 15.5	-67 54	26/27 May	05:53	06:07	14.5m	1hr 30m	1.5-2" Clear?	"	"	"	5.90	A4V	NeA	60s	2min	IIa-O	M-S	Gry G	
	HR 6277	16 53.3	-1 35		06:14	06:32	18m	1hr 16m	1.5" Clear				6.53 ~~5.90~~	F0V ~~A4V~~			22V			G	
	HR 6493	17 25.8	-5 4		06:37	06:41	4m	53m	1.5" Clear				4.93	F3V						G	
	HR 6534	17 32.6	-5 44		06:46	06:54	8m	59m	1.5" Clear				5.80	A5V						G	
	HR 6628	17 48.1	-31 42		06:59	07:02	3.5m	52m	1.5" Clear				4.79	B8V						G	
	HR 6700	17 58.8	-23 49		07:07	07:10	3m	50m	1.5" Clear				4.72	B9V						G	
	HR 6734	18 2.2	-8 11		07:17	07:24	7m	1hr	1.5" Clear				5.62	F2V						G	Cls Dbl w HR 6733 both stars on slit.
20	HR 6879	18 23.1	-34 24		07:33	07:33	13s?	48m	1.5" Clear				1.82	B9.5III						G	13 passes with white paddle
	HR 7020	18 41.6	-9° 4'		07:40	07:44	4m	41m	1.5" Clear				5.07	F2III p δ Del						G	
	HR 7040	18 44.0	2° 3'		07:50	07:54	4m	47m	1.5" Clear				4.96	B9V						G	
	HR 7211	19 3.4	-31° 4'		08:00	08:06	6.5m	41m	1.5" Clear				5.53	A0IV						G	
24	HR 7231	19 4.5	-1 32		08:24	08:49	25m	1hr 23m	1-1.5" Clear				6.88	F1V						G	
2804	HR 8187	21 23.3	-12 57	26/27 May	09:28	09:36	8.5m	9m	1-1.5" Clear	"	"	"	5.78	F1V.	"	"	"	"	"	Gry	G
	HR 8418	22 5.6	-13 57		09:42	09:44	2m	43m	1.5" Clear				4.20	B9IV-V							G
	HR 8478	22 13.6	-27 51		09:50	09:55	5.2m	40m	1.5" Clear				5.27	B8III							G
	HR 8222	21 29.1	-19 13		10:00	10:26	26.5m	36m	1.5" Clear				6.98	F0V							G
	HR 8518	22 20.8	-1 28		10:33	10:34	1.3m	7m	1.5" Clear				3.79	A0V.							G

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	2805	HR 4160	10 36.4	-11 40	27/28 May	23:39	00:02	2.3m /	1hr 7m	1.5" / Clear	2.94	50μ/1.2	67/4.4	6.81	F0V.	NeA	60s	2min 22V B	IIa-O	M-S	Gry	
		HR 4172	10 38.0	-12 22		00:05	00:16	11m /	1hr 19m	1.5" / Clear				6.04	A0Vn							
		HR 4515	11 44.5	8 21		00:22	00:26	4.5m /	24m	1.5"-2 / Clear				5.03	A4V							
		HR 4555	11 53.0	0 38		00:31	00:48	17m /	37m	1.5" / Clear				6.50	F0V.							
		HR 4757	12 29.0	-16 26		00:54	00:56	40s? /	8m	1.5" / Clear				2.90	B9.5V							40 passes with white paddle
		HR 4993	13 14.1	-67 49		01:06	01:09	3m /	24m	1.5" / Clear				4.72	B8V							
18		HR 5028	13 19.7	-36 38		01:15	01:16	30s? /	21m	1.5" / Clear				2.79	A2V							20 passes with white paddle.
		HR 5071	13 28.4	-51 5		01:21	01:25	4m /	22m	1.5-2" / Clear				5.13	A1V							
		HR 5107	13 33.9	-0 31		01:32	01:33	1m /	18m	1.5" / Clear				3.48	A3V							
		HR 5174	13 46.0	-36 10		01:40	01:44	4.5m /	20m	1.5" / Clear				5.13	A0V							
26		HR 5264	14 0.8	1 37		01:50	01:54	4m /	24m	1.5" / Clear				4.36	A3V							
		HR 5531	14 50.0	-15 59		02:01	02:02	35s? /	1hr 5m	1.5" / Clear				2.90	A3IV							35 passes with white paddle.
	2806	HR 5789	15 34.0	10 35	27/28 May	02:30	02:35	5.5m /	1hr 16m	1.5" / Clear				5.2	F0IV	"	"	"	"	"	Gry	
		HR 5791	15 34.3	1 43		02:41	03:05	24.5m /	46m	1.5-2" / Clear				6.84	F0III							
		HR 5848	15 43.2	-15 37		03:11	03:18	7.5m /	43m	1.5-2" / Clear				5.64	F0IV							
12		HR 5875	15 48.1	-3 46		03:26	03:34	8m /	32m	1.5-2" / Clear				5.65	A5IV							
		HR 5919	15 53.9	8 37		03:39	03:57	18m /	14m	1.5" / Clear				6.47	A7Vn.							
16		HR 5925	15 55.8	-33 55		04:04	04:10	6m /	3m	1.5-2" / Clear				5.46	A3V.							
		HR 6058	16 15.5	-50°01		04:16	04:26	10.5m /	6m	1.5-2" / Clear				5.8	F8							
		HR 6262	16 52.5	-42°20		04:34	04:39	5m /	31m	2" / Clear				5.22	B1e							
22		HR 6318	17 00.0	-4° 11'		04:47	05:12	25.5m /	5m	2" / Clear				6.30	K4							
	2807	HD 181018	19h 21.9	-65° 36	29/28[?] MAY	08:02	08 22	20m / ✓+	44 W	1½" / CLEAR	2.94	50μ / 1.2 Å/mm	64 / 4°10	7.1(?)	Ap	NeA	60s	14/14 B	IIa-O	M-S	RWS	T = 8° RH = 75% COLD
		HD 186117	19h 47.5	-73° 34		08.27	09:07	40m / ✓+	102W	1½" / CLEAR?				7.8	Ap (marginal)							
		HD 196867	20h 38.[illegible]	+15° 52		09:27	09:31	½ 70,9672 / 75s	35W	2" / CLEAR				3.77	B9 IV							†HR 7906 (X3)
		HD 197417	20h 47.2	-72° 17		09:38	10 32	54m / 75m	228W	2½"-15"! / CLEAR				8.2	Ap(weird)	NeA	60s					SEEING VERY BAD (up to 15"!)

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2808	HR 6934	18 30 6	-45° 56	June 8/9	07 04	07 08	18,30,69s / 30	1h08 W	2" / GOOD	3.34	100M / 0.8mm	120 / 7.03	4.8	B6	NeA	10s		IIa-O	MWP-2	RWS	GARRISON FOCUS?!
	HR 7032	18 42.7	-8° 17		07 26	07 36	1½,2½,5m / 2½	1h24W	2" / GOOD				6.0	G8							BRIGHT
	HR 7029	18h43.3	-35° 39		07:46	07.50	20,40,60s / 45	1h36W	2½" / GOOD				4.7	B2							STARS streaked
	HR 7012	18h43.9	-64° 54		08.00	08.03	40,20,80s / 80s	1h49W	2½" / GOOD				5.0	A3							
	HR 7116	18h53.2	-22° 46		08:12	08 28	1½,3½,7m / 4m	2h05W	2½"-3" / GOOD				6.2	K2							
	HR 7120	18h54.2	-22° 42		08.36	08:49	1½,3½,7m / 4m6	2h25W	2½"-3" / GOOD				6.3	K5	NeA	10s					FOCUS [illegible] BETTER [illegible]?
2809	HR 4583	11h50.6	-7[illegible]	June 9/10	00:48	00:52	20,40,80s / ✓	1h26W	2½" / GOOD	3.3[illegible]	100M / 0.8mm	[illegible]	4.85	B9	NeA	13[illegible]		IIa-O	MWP-2	R[illegible]	T=9.0°C RH=38!
	HR 5303	14h16.1	-80 57		01:03	01:07	½,1,2m / ✓	37E	2½" / GOOD				5.16	A2p							right G B Stars
	HR 5781 A	15h35.1	-44 55		01:18	01:20	10,20,40s / ✓	1h43E	2"				4.36	B5							
	HR 5781 B	15h35.1	-44 5[illegible]		01:37	01:45	[illegible]	1h19E	2"				~6.3		CONTAMINATED			ΔM ~ 1.9	sep = 2.4"		SUSPECT DUE TO MEDIOCRE SEEING
	HR 5967	16h02.3	-38 34		01:58	02:03	15,30,60s / 45s	1h26E	1½"				4.75		PLATE FLAW & GRATING SHIFT						
	HR 6070	16h17.3	-28 35		02 12	02.15	15,30,60s / ✓	1h30E	2½"				4.90		NeA	13s	STREAKED				
2810	HR 6098	16h26.7	-70° 04	June 9/10	03:50	03:58	30,60,120s / 60	05W	2½"	3.34	100M / 0.8mm	120 / 7.00	5.46	G0	NeA	13s		IIa-O	MWP-2	RWS	T=10½°C
	HR 6262	16h52.8	-42 21		04:08	04.12	20,40,80sec / 40	07E	1½"				5.22	B1e							fainter & bluer than ζ² sco
	HR 6334	17h03.8	-34 06		04:22	04 25	20,40,80sec / 60	05E	1½"				5.23	B1(e?)							
	HR 6519	17h30.5	-23 57		04:33	04:35	16,32,70s / 45	22E	1¾"				4.81	A1							
	HR 6569	17h[illegible].1	-49 24		04:44	04:48	20,40,80 / 60	18E	2¼"				5.17	F4							
	HR 6595	17h42.5	-21 40		04:55	04:59	25,50,100s / ✓	10E	2"				5.34	F5							
	HR 6628	17h48.1	-31 42		05:05	05 08	15,30,60s / ✓	06E	1¾"				4.79	B8	NeA	13s					
2811	HR 6631	17h49.0	-40° 05	June 9/10	06.28	06:36	20,40,8[illegible] / ✓	1 20W	1½"-2"	3.34	100M / 0.8mm	120 / 7.00	5.07	A3	NeA	13s		IIa-O	MWP-2	RWS	T=10½°C
	HR 6675	17h55.6	-44° 21		06.40	06 51	1⅓,2⅔,5⅓m / ✓	1 29W	1½"				6.07	K0							
	HR 6682	17h56.6	-41° 43		06:57	07:15	2½,5,10m / ✓	1 54W	1½"-2"				6.53	K6							
	HR 6700	17h58.8	-23° 49		07.23	07 26	15,30,65s / ✓	2 01W	1½"				4.72	A0							
	HR 6868	18h19.7	+21° 57		07:36	07:59	3,6,12m / ✓	2 13W	3"				6.54	M0							OFFSET FROM 109 Her FAVOURED BLUE.
	HR 6896	18h24.4	-20° 34		08:20	08:47	1½,3,6m / ✓	2h57W	3"				6.12	K2			streaky.				FAINT BLUE COMPANION H DECTRAILED BTCH!
	HR 6918	18h26.4	+0° 11		08:55	09:02	50,100,200s / ✓	3h10W	2½"				5.71	G0+A0	NeA	13s					TOOK A COMPONENT ONLY.
2812	HR 5781B	15h35.1	-44 55	June 14/15 1984	02:45	02:54	1⅓,2⅔,4m	0h06E	½"+	3.34	100M / 0.8mm	120 / 7.00	~6.3		NeA	13s.		IIa-O	MWP-2	R[illegible]	seeing better than LC 2809 but still not good [illegible]
	WESTWARD HR 5605/06	15h04.0	-47 0[illegible]		03:22	03:25	[illegible] 60s	h55W	1½"				4.58	B5	} DEC TRAILED		westward component (5605)				} seeing good - both stars well separated but not the best.
	EASTWARD HR 5605/06	15h04.0	-47 00		03:[illegible]	03:33	15,30,60s	1h06W	1½"				4.68	B6			east " component (56[illegible])				
	HR 5967	16h02.3	-38 34		03:[illegible]	03:50	15,30,60s	h25W	1½"				4.75	B7							

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contD LC 2812	HR 6070	16h17.3	-28°35'	June 14/1984	04:01	04:06	15,30,60s	h25W	1½" / GOOD	3.31	100μ / 0.8mm	120 / 7.00	4.80	A0				IIa-O	MWP-2	RWS	
	HR 6262	16h52.8	-42 21		04:16	04:22	20,40,60s	h08W	½"				5.22	B1e	NeA	13s					EAST OF 6271 9² scw.
2813	HR 6334	17h03 8	-34 06	June 14/1984	05:07	05:12	20,40,80s	h47W	1½"	3.34	100μ / 0.8mm	120 / 7.00	5.23	B1 (e)	NeA	13s.		IIa-O	MWP-2	RWS	multiple [illegible]
	HR 6519	17h30.5	-23 57		05:22	05:27	20,40,80s	h34W	1½"				4.81	A1							[illegible] set rotation
	HR 6569	17h39.1	-49 24		05:33	05 42	20,40,80s	h41W	1½"				5.17	F4							
	HR 6700	17h58.8	-23 49		05.48	05:55	15,30,60s	h34W	1½"				4.72	A0							
	HR 6896	18h24 4	-20°34		06:05	06.20	1½,3,6m	h33W	1½"				6.12	K2							DEC TRAILED
	HR 7029	18h43.0	-35°39		06:27	06.33	10,32,64s	h28W	1½"				4.69	B2	NeA	13s					
2814	HR 7012	18h43.9	-64°54	June 14/1984	06:58	07:06	20,40,80s ✓	1h00W	2½" / FAIR	3.34	100μ	120 / 7.00	4.99	A3	NeA	13s	2v@22m 'B'	IIa-O	MWP-2	RWS	CLOUDS COMING.
	HR 7149	18h56.1	-5°53		07:21	07:31	1¼,2½,5m ✓	1h12W	1½" / FAIR				5.91	K2							OFFSET FROM ? Aql
	HR 7152	18h57 7	-37°08		07:40	07:46	25,50,100s ✓	1h26W	1½" / FAIR				5.28	F0							
	HR 7292	19h14.6	-25°10		07:53	07:58	60,30,120s ✓	1h21W	1½" / FAIR				5.41	F5							
	HR 7446	19h31.0	-7°03		08.06	08 12	20,40,80s ✓	1h14W	1½" / FAIR				4.95	B0.5							
	HR 7618	19h58.0	-26°14		08:19	08.25	50,100,200s ✓	1h05W	1½" / F				5.73	G5	NeA	13s					
2815	HD 135730	15h10.1	-41°00	July 7/8 1984	02:01	02:24	23m ✓	1h43W	2" / Poor	2.44	50μm / 1.2mm	67 / 4.40	6.28	Am	NeA	60s		IIa-O	MS	B.H.	Clouds
	HD 144433	16h06.2	-33°06		02:34	03:28	54m underexposed	1h50W	2" / Poor				7.5	A6 IV							clouds
	HD 145127	16h09.3	-24°33		03:35	03:59	24m ✓	2h16W	1½" / Fair-Poor				6.6	A0							
	HD 149914	16h37.5	-18°12		04:08	04:32	24m ✓	2h21W	1½" / Fair				6.7	A0							
	HD 151659	16h48 7	-24 37		04:39	05:07	28m ✓	2h40W	1½" / Fair				~~6.9~~ 7.1	A2							
	HD 167956	18h18 9	-48°47		05:23	05 49	26m ✓	1h58W	1" / Fair				7.2	A3							
	HD 189832	20 02.1	-38°54		06:06	06:43	37m ✓	1h08W	1"-2" / Fair-Poor				7.4	Ap							
	HD 202671	21 17.0	-18°03		07:06	aborted	at 07:11		2" / Poor				5.4	B8	NeA	60s					Clouds forcing me to quit
2816	HD 135617	15h15.9	-23°58'	July 15/16	~~01:58~~ ~~:33~~ 16	02:30	32m	2h11W	1.5" / Fair	2.94	50μm / 1.2mm	67 / 4.40	7.2	A2	NeA	60s		IIa-O	MS	B.H.	cirrus
	HD 145057	16h08.5m	-13°01'		02:39	03:03	24m	1h57W	1-1.5" / Fair				7.0	A2							Clouds coming
	HD 145188	16h09.5m	-22°07'		03:10	03:33	23m	2h22W	1-1.5" / Fair				7.0	A0							
	HD 146106	16h17.5m	-23°15'		03:41	04:13	32m	2h56W	1" / Fair				7.4	A0							Clouds passing just a little to the south
	HD 147932	16h24.7m	-23°22'		04:22	05 02	40m	3h35W	1" / Fair				7.6	A							
	HD 148321	16h27.2m	-25°26'		05:11	05:30	21m	4h01W	1.5" / Fair				7.2	A2p							
	HD 154418	17h05.2m	-21°32'		05:33	05:46	13m	3h39W	1" / Fair				6.3	A3m							Clouds south, east & west
	HD 202671	21h17.0m	-18°03'		05:58	06:03	5m	0h15mE	1" / Fair-Poor				5.4	B8							Clouds almost here

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LC2817	HD 138813	15h 34.m3	-25° 41'	July 19/20 /84	23:53	00:26	33m /	0h 5m W	1" / Fair	2.94	50 μm / 1.2 mm	67 / 4.40	7.5	A0	NeA	60s		IIa-0	MS	B.H.	Cirrus about
	HD 139202	15h 36.m6	-22° 04'	"	00:30	00:55	25m /	0h 32m W	1" / Fair				7.2	A0							
	HD 140419	15h 43.m4	-24° 21'	"	01:02	01:35	33m /	1h 05m W	1" / Good				7.5	A0							
	HD 141091	15h 47.m2	-25° 11'	"	01:40	02:13	33m /	1h 40m W	1" / Fair				7.5	A0							Clouds coming
	HD 141164	15h 47.m5	-23° 48'	"	02:18	02:32	14m /	1h 59m W	1" / Fair				6.5	A0							Thin cirrus passing over
	HD 143483	16h 00.m2	-12° 19'	"	02:38	03:19	~~40m~~ 41m /	2h 34m W	1" / Fair				7.7	A0							
	HD 143692	16h 01.m8	-23° 09'	"	03:25	03:54	29m /	3h 05m W	1" / Good				7.3	A2							Clouds gone
	HD 148438	16h 27.m9	-17° 57' ~~-25° 36'~~	"	04:03	04:27	24m /	3h 13m W	1" / Good				7.1	A0							
	HD 150365	16h 40.m4	-18° 02'	"	04:32	04:51	19m /	3h 25m W	1" / Good				6.8	A5	NeA	60s					
LC2818	HD 150970	16h 44.m6	-28° 49'	July 19-20/84	05 14	05:43	29m /	4h 13m W	1" / Good	2.94	50 μm / 1.2 mm	67 / 4.40	7.2	A1	NeA	60s		IIa-0	MS	B.H.	
	HD 171528	18h 37.m0	-52° 37'	"	05:52	06:38	46m /	3h 15m W	1" / Good				7.8	A7							
	HD 202671	21h 17.m0	-18° 03'	"	07:02	07:07	5m /	1h 04m W	1" / Fair				5.4	B8							Cirrus back
	HD 224926	0h 01.m0	-3° 07'	"	07:20	07:24	4m /	1h 23m E	1" / Fair				5.1	B7	NeA	60s					
2819	HR 6456	17 24.8	-37 09	29/30	0021	0044	2,1/1,2,4,8m / 3m	1h 10m W	<1" / few cirrus	3.34	100μ / 0.8	120 / 7.0	7.0	G	NeA	10s		Baked IIa-0 2h HN₂ 65°C	MWP-2 7m 67°F	[illegible]	
	HD159656	17 36.7	-42 32	AUG 1984	0048	0110	3,6,12 / 5m	1h 25m W	<1" / "				7.8	G							incredible seeing!
	HR6585	17 43.2	-51 49		0115	0123	1/2,1,2,4m / 1.5	1h 30m W	" "				5.85	G							
	HR6586	17 43.4	-57 32		0127	0136	" / 3m	1h 45m W	1"/clear				6.7	G							
	HR6640	17 50.4	-45 36		0139	0145	1/2,1,4m / 4	1h 47m W	"				6.8	G							
2820	HR6777	18 08.8	-32 41	"	0304	0320	1,2,4,8m / 6m	3h 1m W	"	"	"	"	7.1	G	"	"		"	"	"	
	HR6894	18 25.7	-48 08		0323	0325	1.4m / ✓	2 50 W					6.1	G							
	HR6998	18 37.7	-21 04		0329	0332	2.8 / ✓	2 44 W	2"/clear?				6.5	G							
	HR7103	18 51.4	-26 41		0335	0339	4m / ✓	2 38 W					6.9	G							
	HR 7330	19 20.4	-34 58		0341	0347	5m / ✓	2 17 W					7.1	G							
	HR 7569	19 51.2	+11 38		0350	0354	3.5m / ✓	1 53 W					6.8	G							
	HR7914	20 39.8	+19 53		0356	0402	4.5m / ✓	1 12 W.					7.0	G							
	8314	21 43.6	+14 44		0405	0409	3m / ✓	15 W					6.7	G							
	HR7292	19 14.4	-25 17		0413	0416	15,30,1s / 30	2 52 W	2"/clear				5.4	F							
	HR7446	19 35.7	-07 01		0419	0422	" / 30	2 37 W					4.9	BO.							
	HR7618	19 57.9	-26 14		0426	0430	30s,1,2m / 1m	2 23 W.					5.7	G5							

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2816	HR7343 ~~19 22.2 -44 6~~	19 22.2	-44 49	29/30	0526	0530	15 30 60 5m	4h W	1.5/clear	3.34	100/0.8mm	120/7.0	4.6	F2	NeA	10s		Baked IIa-O	MWP-2	JS	Gray prog.
	HR7998	20 52.9	-66 55	Aug 1984	0536	0548	7 15 30 5m	2 47 W					5.8	F1							"
	HR8507	22 17.1	-00 19		0552	0604	" 2m	1h 38 W					6.8	F3							Contamination of last opp
	HR8559	22 27.8	-00 06		0609	0614	15 30 60 20 5		1"/clear				4.8	F3							Δm = 0.2 sep = 1.8" Close double maybe 10% overlap
	HR8865	23 18.0	-09 39		0625	0628	15 30 60 30	1h 1m W					4.96	A0							"
	HR8450	22 09.3	+06 09		0633	0635	3 6 15 125	2h 18m W					3.61	A2							"
2822	HR8968	23 38.8	-14 16	"	0654	0657	15 30 60	1h 10m W	"	"	"	"	5.24	F0	"	"		"	"	"	
	HR8789	23 05.9	-23 49		0702	0705	" 30	1h 50m W					5.4	G9							
	HR8817	23 09.1	-22 32		0709	0711	" 30	1h 53m W					5.4	B+A							very close double
	HR8949	23 34.4	-42 41		0720	0723	" 15	1 40 W					4.3	Ap							
	HR88	00 21.9	-12 15		0728	0740	15 45 60	1 10 W					7.0	G2							
	HR125	00 30.7	-48 53		0744	0747	30 15 60 15 5	4h 8 W					4.78	A0							
	HR377	01 15.9	-68 57		0752	0758	20 40 80 30	33m W.					5.3	F6							
	" B				0804	0831	27 10m	1h 7m W	"				9?	G							
	HD27859	04 23.3	+16 52		0840	0856	15 V	1h 36m E					8.4	GIV							H+K class VB52
	HD29310	04 36.4	+15 10		0859	0910	11 m V	1h 36m E					8.1	GI V							VB102
	HD28099	04 25.6	+16 43		0914	0936	22m V	58 E	"				8.7	G?							VB64
2823	HD114853	13 13.9	-45 05	30/31	2322	2330	8m 6	4h 10m W	1.5/clear	"	"	"	7.5+	G	"	"		"	"	JS	wind 10
	HR5117	13 36.9	-34 19	Aug 1984	2332	2340	8m 6	3h 57m W					7.5	G				plate slightly overdeveloped			
	HR5209	13 51.4	-24 17		2342	2348	5m 4.5	3 50 W					7.1	G				9 min instead of 7			
	HR5344	14 17.1	-18 29		2350	2355	5m 4.5	3 32 W					7.0	G							
	HR5353	14 18.1	-07 25		2358	0002	4m V	3 38 W					7.2	G							
	HR5853	15 43.0	+2 35		0008	0018	3.0 2	2h 20m W	2"/clear				6.6	G							
	HD154276	17 03.8	+17 15		0015	0056	41m V	1h 47m W					9.7	G							
	HR6349	17 04.3	+00 44		0100	0103	2m V	152 W					6.5	G							
	HR6372	17 09.0	-03 51		0105	0109	4m V	154 W					7.1	G							
	HR6722	18 09	+15 09		0112	0118	5m V	1h 12m W.					7.0	G							
	+15°3364	18 07.3	+16 00		0122	0207	45m V	1h 54m W					9.3	G							
	HR6094	16 23.9	-39 05		0214	0216	2m 1.5	3 46 W					6.0	G							
	HR6192	16 41.7	-33 03		0219	0222	3m 2.5	3 24 W					6.5	G2							

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2823	HR6269	16 53.5	−20 22	30/31 Aug 1984	0227	0230	3m 2.5	3h 32m W	2"/clear	3.34	100µm / 1.8	120 / 40	6.5	G	N+A	10s		Baked IIa-O 2+HN	MWP.2	DJ	
	HD156365	17 18.1	−24 02		0232	0238	5m ✓	3 14W					7.2	G					670 9m		
	HR6400	19 01.3	−24 49		0241	0248	6m ✓	3h 24m W					7.1	G					(slightly overdeveloped).		
	HR6939	18 33.4	−58 39		0252	0257	4.5 4	2h 18m W					7.1	G							
	HR6262	16 53.9	−42 19		0307	0312	20,40,80/100 40	4h 13m W					5.2	B1e							
	HR6334	17 03.8	−34 03		0317	0322	11 40	4 12W					5.1	B1e							
2824	HR6519	17 30.4	−23 56	"	0353	0355	15,30,60 20	4+	"	"	"	"	4.8	A1	"	"	"	"	"	"	
	HR6595	17 43.2	−21 40		0400	0404	" 15	4+					5.3	F5							
	HR6628	17 48.1	−31 39		0407	0409	" 20	4 15W					4.8	B9							
	HR6569	17 39.2	−49 24		0412	0415	20,40,80 30	4 30W					5.2	F4							
	HR6631	17 48.9	−40 02		0418	0422	20,40,80 30	4 27W					5.0	A3							
	HR6675	17 55.6	−44 20		0424 ??	0433	1,2,3,5 2m	4 30 W					6.1	K0							
	HR6682	17 56.7	−41 41		0435	0451	2,4,8 3	4 50 W					6.5	K6							
	HR6934	18 30.5	−45 54		0455	0458	20,40,80 25	4 22W					4.8	B6							
	HR7029	18 48.3	−35 35		0502	0505	15,30,60 30	4 15W.					4.7	B2							
2825	HR6458	~~17 19.7~~	~~−32.37~~	31 Aug / Sept 1984	0013	0015	2m ✓	5h W	2"/clear	"	"	"	6.0	G	"	"	"	"	MWP2	DJ	
	HR6538	17 31.3	+34 19		0020	0027	6m ✓	55m W					7.2	G					67° 7m		
	HR5799	15 20.8	−48 15		0032	0034	2m ✓	3h 13m W					6.3	G					=		
	HR5864	15 46.6	−37 48		0038	0041	2.5 ✓	2 56W					6.7	G							
	HR5929	15 56.3	−36 04		0043	0046	2.5 ✓	2 48W					6.6	G							
	HR5939	~~15 59.7~~	−63 44		0049	0052	2.25 ✓	2h 40m W					6.6	G							
	HR~~5984~~ A	15 35.1	−44 54		0058	0059	15s ✓	3 23W					4.35	B							2" rep
	" B	"	"		0114	0116	2m ✓	3 40W					6.5	A?							
	HR5967	16 02.6	−38 29		0136	0139	15,30,60 20	3 37W					4.7	B7							
	HR6070	16 17.5	−28 33		0142	0145	" 30	3 26W					4.8	A0							
	HR6700	17 59.0	−23 48		0151	0155	30,15,60 20	1 54W					4.7	A0							
	HR7345	19 18.9	+37 21		0159	0207	8m ✓	46m W					7.0	G							
	HR6868	18 19.6	+21 57		0212	0235	3,6,12,24 2m	2h 14W					6.5	M0							? first 2 sp. superposed?
	HR6896	18 24.4	−20 32		0238	0243	15,30,60/120 ✓	2 18W					5.1	K2							

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2826	HR6918A	18 26.3	+00 12	31/1 Aug/Sept 1984	0317	0321	1/2,1,2^m / ✓,1^m		1.5"/clear	3.34	100μ/1.8	120/7.0	5.7	G0	NeA	10^s		IIa-0 baked 3^h H2N2	MWP-2 7^m 67°F	[initials]	
	B	"	"		0322	0329	6^m / ✓	3^h W.					7.5	A0							
	HR7032	18 42.6	−08 14		0333	0340	1,2,4 / ✓	2 57 W					6.0	G, f							
	HR7012	18 44.3	−64 50		0344	0348	40,80,160 / 40^s	3 W					5.0	A3							? last 2 exp. superposed?
	HR7116	18 53.2	−22 45		0353	0400	1,2,4 / 2	3^h 5^m W					6.2	K2							left slide open last exp contaminated
	HR7120	18 54.4	−22 40		0402	0410	1,2,4 / 2	3 15 W	2"/clear				6.3	K5							
	HR7149	18 56.3	−05 50		0413	0420	1,2,4 / 1.5	3 22 W					5.9	K2							
	HR7152	18 57.9	−37 03		0422	0425	15,30,1 / 30	3 26 W					5.1	F0							
	HR 6822	18 14.2	−20 43		0433	0438	1/2,1,2^m / 1.5	4 23 W					5.45	B0 Ia							
2827	HR6823	18 14.4	−20 22	"	0456	0504	1,2,4 / ✓	4 46 W					6.02	O9 II							
(2 exp)	HR7343	19 22.2	−44 48		0510	0512	12,24^s / ✓	3 49 W					4.63	F2							
	HR8450	22 09.3	+06 10		0517	0520	12,24,15,30 / 20	1 11 W					3.6	A2							
(2)	HR8949	23 34.2	−42 40		0523	0626	10,20^s / 20	52^m W					4.8	A0							
	~~HR125~~	~~00 30~~	~~−48 53~~										4.8	A0							
	HR 6	00 5.6	−49 09		0649	0651	1.5^m / 1.2	45^m W					6.2	G1							
	HR23	00 8.6	−54 02		0655	0658	3.5^m / ✓	49^m W					7.1	G4							
	HR 72	00 17.7	−08 04		0703	0706	3.5^m / ✓	49^m W					7.1	G0							
	HR 88	00 22.0	−12 13		0715	0719	3.5^m / ✓	56 W					7.1	G2							
	HR 97	00 24.4	+01 53		0731	0734	2.5 / ✓	1^h 9^m W					6.6	G5							
	HR 108	00 27.5	−20 23		0737	0740	3^m / ✓	1 12 W					7.0	G0							
	HR172	00 39.7	−16 52		0743	0748	4.5^m / ✓	1^h 8^m W.					7.4	G5							
	HR173	00 39.8	−23 52		0750	0753	2.5^m / ✓	1 12 W.					6.8	G3							
	HR 176	00 39.6	−59 33		0756	0758	2^m / ✓	1 17 W					6.4	G1							
	HR 203	00 44.6	−12 53		0803	0806	2.5^m / ✓	1 22 W					6.76	G0							
	HR209	00 45.2	−47 36		0808	0810	1.8 / ✓	1 25 W					6.44	G1							
	HR 210	00 45.5	−22 35		0814	0816	1.8 / ✓	1 30 W					6.5	G3							
	HR255	00 53.5	−08 45		0819	0822	3.5^m / ✓	1 35 W.					7.1	G5							
2828	HR6934	18 31.1	−45 54	1/2 Sept 1984	0539	0541	12,24^s / 30	5^h 10^m W					4.8	B6							~~No - first 2 of 125~~
(2)	HR7029	18 43.7	−35 34		0544	0546	12,24^s / 30^s	5^h 5^m W					4.7	B2							? overlap on last exp of 7029 & first of 125?
	HR125	00 31.1	−48 51		0600	0604	15,30,10^s / 15	0^h 24^m E					4.8	A0							
(2)	HR 377A	01 16.3	−68 53		0619	0622	15,30^s / 30	0^h 50^m E					5.3	F6							No. Just skipped a space

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2828	HR377B	01 16.0	-68 53	1/2	0626	0640	10m/✓	33m E	2"/clean	3.34	100μ/.8	120/7.0	9?	?	NeA	60s		IIa-O baked 2k H_2N_2	MWP-2 7m 67°F		
	HR 6	00 57	-49 07	Sept 84	0719	0721	2m/1.5						6.2	G1							
	HR 72	00 17.9	-08 04		0730	0734	3m/3.5	1h20m W					7.1	G0							
	HR108	00 27.6	-20 23		0736	0739	3+m/✓	1h15m W					7.0	G0							
	HR203	00 44.7	-12 52		0742	0745	2.5/✓	1h3m W					6.8	G0							
	HR~~300~~	01 02.6	-29 33		0751	0755	3.5/✓	57m W					7.2	G5IV							
	332	01 0~~7.1~~	-61 45		0802	0807	4m/2.5	—					7.2	G5III							
	373	01 15.8	+02 41		0810	0812	1.7/5m	1h W					6.3	G5.							Wrong star?
	405	01 23.9	-15 40		0815	0818	3.3/✓	1h2m W					7.0	G5							
	448	01 33.0	-07 03		0833	0835	1.6/✓	1h6m W					6.4	G2							
	582	01 59.3	+03 04		0843	0845	2/✓	48m W					6.5	G2							
	608	02 02.3	-15 17		0847	0850	2.5/✓	52m W					6.8	G3							
	610A	02 02.9	-00 23		0855	0858	2.5/✓	58m W					6.8	G5IV							
	HD28033	04 25.3	+21 27		0904	0912	8m/✓	1h10m E					7.9	F8							
	"30246	04 45.6	+15 31		0915	0940	25/✓	1h E					8.3	G5							
2829	(2) HR6098	16 27.6	-70 03	4/5	0115	0118	20s,20s/✓	3h W	2-3"/clean	"	"	"	4.4	G0.	"	"	2m 20V B	"	"	"	1 Drift 10 Trails
(2)	HR6094	16 23.0	-39 08	SEPT 1984	0123	0126	1,2m/1.5	3h20m W					6.0	G5							
(2)	HR6192	16 40.9	-33 05		0129	0134	1.8,2.0/1.8	3h7m W					6.5	G2							
(2)	HR6269	16 52.5	-20 23		0137	0142	2.3,2.7/2.3	3h3m W					6.5	G3							
(2)	HR6722	18 00.3	+15 07		0146	0154	3,4.5/4	2 07 W					7.0	G5							
(2)	HR6519	17 30.6	-23 58		0156	0158	15,30s/25	2 42 W					4.8	A1							
2830	HD156365	17 17.4	-24 04		0232	0302	30m/15m	3 58 W	1.5"/clean	"	50μ/1.2	"	7.2	G	"	20s		"	M-5		
	HR 6456	17 22.0	-37 09		0305	0336	30m/15m	4 28 W					7.0	G5					15m		
(3)	HR7343	19 22.2	-44 50		0339	0348	1.5,2.5,4.5/1m	2 40 W					4.6	~~A~~F2 III					67°F		
(2)	HR7998	20 53.1	-06 56		0352	0416	8,16m/8	1 37 W					6.8	F1 IV							
(2)	HR8502	22 17.4	-00 20		0420	0444	8,16/8	40m W					6.8	F3 V							
(3)	HR8450	22 09.3	+06 07		0448	0452	40,80,160/120	58m W					3.6	A2V							
2831	(3) HR8559A	22 28.0	-00 07		0504	0516	1.5,6,3/1.5	1h3m W					4.8	F3V							close double small contam
	HR8865	23 18.3	-09 39		0518	0530	1.5,3,6/1.5	27m W					5.0	A0V							
	HR8968	23 39.1	-14 16		0533	0547	3,4,8/1.5	22m W					5.24	F0 IV							

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NUMBER LC	OBJECT	R.A. 1984	DEC.	DATE U.T.	U.T. EXP. BEGIN	U.T. EXP. END	TOTAL / CORR.	H.A. END	SEE. / TRANS.	CAM. FOCUS	SLIT	GRATING / TILT	MAG	SP.	COMP KIND	COMP EXP.	CALIB.	EMUL.	DEV.	OBS	REMARKS
2832	HD114853	13 13.1	-45 08	5/6 Sept 1984	2333	2350	17m / V	4 55W	1½ / clear	3.34	50µ / 4.2	120 / 7.0	7.5+	G X	Neon	20s	20V 2mm B filter	baked IIa-O	M-S	[illegible]	
	HR 5117	13 36.0	-34 22		2352	0003	11m / 10	4 44W					7.5	G							
	HR 5209	13 59.5	-24 21		0005	0014	9m / 10	4 40W					7.1	G							
	HR 5236	13 55.7	-54 38		0016	0021	5m / V	4 43W					6.7	G							
	HR 5344	14 16.2	-18 31		0023	0032	9m / 10	4 34W					7.0	G							
	HR 5353	14 17.2	-07 28		0034	0047	12m / 15	4 47W					7.2	G							
	HR 5566	14 57.2	-48 49		0049	0058	9m / V	4 19W					7.1	G							
	HR 5657	15 12.6	-25 17		0100	0110	9m / V	4 14W					7.2	G							
	HR 5699	15 20.9	-48 17		0112	0116	4m / V	4 14W					6.3	G							
	HR 5864	15 46.6	-37 50		0118	0124	5m 5s / V	3 53W					6.7	G							
	HR 5929	15 56.6	-36 07		0125	0130	5m / V	3 50W					6.6	G E							
	HR 5939	16 00.3	-63 43		0133	0139	5m / 10	3 57W					6.6	G							
	HR 5996	16 06.2	-14 00		0141	0150	8 / V	4 02W	1½ / 5				7.0	G							
2833	HR 6060	16 14.8	-08 09	"	0157	0204	6m / V	4 08W	"	"	"	"	6.2	G	"	"	"	"	"	"	
	HR 6094	16 23.1	-39 09		0207	0213	5m / V	4 08W					6.0	G							
	HR 6192	16 40.9	-33 06		0214	0220	6m / V	3 56W					6.5	G							
	HR 6269	16 52.6	-20 23		0222	0229	6m / V	3 54W					6.5	G							
	HR 6349	17 04.6	+00 41		0231	0239	8m / V	3 53W					6.5	G							
	HR 6372	17 08.1	-03 52		0241	0253	12m / V	4 03W	cirrus coming up slow				7.1	G							
	HD 156365	17 17.2	-24 04		0255	0308	13m / V	4 10W					7.2	G							
	HR 6456	17 21.9	-37 11		0312	0322	10m / V	4 18W					7.0	G							
	HD 159656	17 36.9	-42 34		0324	0340	16m 20 / V	4 22W	cirrus + moon (11d)				7.8	G							aborted because of cirrus+moon.
	HR 6585	17 43.1	-51 51		0344	0348	4m / V	4 24W					5.85	G							
	HR 6586	17 43.9	-57 31		0350	0358	8m / 10	4 32W					6.7	G							
	HR 6640	17 50.7	-45 37		0400	0408	8m / 10	4 36W	1.5-2" / decreasing cirrus				6.8	G							
	HR 6777	18 09.1	-32 43		0411	0424	12m / 15	4 33W					7.1	G							
2834	HR 6894	18 25.9	-48 09	"	0434	0439	5m / V	4 31W	"				6.1	G			20V 2mm B				
	HR 6939	18 32.5	-58 42		0441	0451	10m / V	4 37W	1.5 / increasing cirrus				7.1	G							

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2835	HR5939	16 00.2	−63 42	6/7	0154	0205	11m / ✓	4h22mW	2"/clear	3.34	50μ/1.2	120/7.0	6.6	G	NeA	20s	2h	IIa-O	M-S	[illegible]	some cirrus
	HD159656	17 36.9	−42 35	Sept 1984	0210	0228	18m / 20	3 12W					7.8	G			20V B	baked 3h H_2N_2			
	HR6582	17 44.0	−57 31		0233	0245	12m / ✓	323W	1.5"/				6.7	G							
	HR6640	17 50.9	−45 37		0248	0259	11m / ✓	330W					6.8	G							
	HR6617	17 47.1	−22 30		0301	0324	23m / ✓	359W					7.5-8	G6Ib Std							
	HR6777	18 09.1	−32 43		0326	0338	12m / 15	3h51W					7.1	G							
	HR6998	18 38.1	−21 05		0340	0348	8m / ✓	332W					6.5	G							
	HR7103	18 51.7	−26 41		0350	0359	9m / 10m	330W					6.9	G							
	HR7164	18 58.8	−18 36		0401	0411	10m / 12	335W					~~7.0~~	~~G3~~							
	"	"	"		0414	0434	20m / ✓	4hW					7.5	G3II Std							
	HR7330	19 20.7	−34 59		0437	0447	10m / ✓	3.49W					7.1	G							
(2)	HR7343	19 22.1	−44 50		0450	0455	1m30s / 1m	3.57W					4.6	F2							
2836	HR7998	20 53.1	−06 57		0529	0533	4.5 / 6	3h3mW					6.8	F1							
	HR8507	22 17.3	−00 21		0536	0540	4.5 / 6	1 46W					6.8	F3							
(2)	HR8450	22 09.3	+06 07		0547	0551	10,20 / 35	2h5mW					3.6	A2							
	HR8559N	22 28.0	−00 08		0554		45s / 1m						4.8	F3							
	" S	"	"			0557	45s / 1m	1 41W					4.8	F3							
	HR8865	23 18.2	−09 41		0600	0602	1m / ✓	1h6mW					5.0	A0							
(2)	HR8968	23 39.0	−14 17		0604	0606	40,80s / 80	48mW					5.2	F0							
	HD195521	2032.5	−41 35		0611	0623	12m / 14	414W	cirrus increasing + 12d moon				7.4	G							moon contam?
2837	HD 31517	4h54.9	−25°46	13/14 SEPT.	0857	09 19	22m / ✓	h44 E	3"/FAIR	2.94	50μ/1.2	67/4.40	6.7	Am ?	NeA	60s	14v 14m B	IIa-O baked	M-S	RWS	PHOTOMETRIC Am Stars. T=4°C RH = 67%
	HD 36060	5h 26.6	−40°58		09 28	09 38	10m / ✓	1h03 E	"	"	"	"	5.9	A7m							
	HD 41214	6h 00.5	−51° 13		09 47	09 55	8m / ✓	1h14 E	"				5.7	Am	NeA	60s					
2838	HD 191220	20h 22.7	−83°22	16/17 SEPT	02 18	02 54	36m / —	1h34 W	2"/POOR!	2.94	50μ/1.2m	67Å/4.40	6.2	Am	NeA	60s		IIa-O baked	M-S	RWS	CLOUDED OUT!
	HD 191220	20h22.7	−83°22	17/18 SEPT	00 20	00 36	16m / ✓	0h41 E	2"/GOOD	"	"	"	6.2	Am	NeA	60s		"	"	"	SAME PLATE AS LAST NIGHT.
	HD 198501	20h 50.7	+28 03		0044	0055	11m / ✓	0h51E	1"/GOOD	"	"	"	6.8	Am							
	HD 199443	20h 56.9	−16°06		0002	0107	5m / ✓	0h42E	1½"/GOOD	"	"	"	5.9	Am							
	HD 200623	21h 04.7	−35°46		01 12	02 31	79m / ✓	0h32W	1.0"-23"/GOOD				9.0	Am							T=11°C RH=42%
	HD 203548	21h 23.4	−46°41		02 46	02 55	8½m / ✓	h37W	~1.5"/GOOD				6.3	Am							
	HD 206546	21h 42.4	−19°41		03 03	03 10	7m / ✓	h37W ?	1¼"/GOOD				6.2	Am							

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2838	HD 207503	21h 48.9	-12 47	17/18 SEPT.	03 19	03 27	7½m / ✓	0h 44W	1.0″ / GOOD	2.94	50μ / 1.2mm	67 / 4.40	6.23	Am				IIa-O	M-S	RWS	
	HD 209625	22h 04.1	-00 59		03 34	03 37	3½m / ✓	38W	1-1.5 / GOOD				5.28	Am							
	HD 212385	22h 23.7	-39 12		03 43	03 54	11m / ✓	36W	1″ / GOOD				6.85	Am							CATALANO VAR ?
	HD 215545	22h 45.9	-47°01		04 01	04 10	9½m / ✓	28W	1″+ / GOOD				6.59	Am							COMPANION ~8″ dm ~ 4
	HD 215631	22h 48.7	-77°08		04 19	04 31	12m / ✓	49W	1½″-2″ / GOOD				6.72	Am	NeA	60s	14v 14m B				exposures OK.
2839	HD 216823	22h 56.0	-48 03	17/18 SEPT	06 04	06 09	5m	2h 18W	1½″ / FAIR	2.94	50μ / 1.2mm	67 / 4.40	5.7	Am	NeA	60s		IIa-O	M-S	RWS	CIRRUS IN SE.
	HD 216956	22h 56.8	-29°42		06 14	06 14	5s	2h 22W	1½″ / GOOD				1.16	Just. Am A3V !							+ MK-73 Am (?)
	HD 218108	23h 07.4	-79°34		06 27	06 36	9m	2h 35W	1½″ / FAIR				6.1	Am							CLOUDS COMING IN
	HD 221675	23h 33.4	-01°20		06 43	06 50	7m	2h 22W	1¼″ / GOOD				5.9	Am							~~HR 9002~~
	HD 223024/A	23h 45.2	-18°46		07 02	07 06	3½m / ✓	2h 25W	1½″ / GOOD				5.3								HR 9002
	B	23h 45.2	-18°46		07 06	07 15	9½m / 12	2h 36W	1½-3″ / GOOD				6.3								Δ = 6.6″ dm = 1.0.
	HD 223466	23h 49.0	-25°26		07 22	07 36	14m	2h 53W	2″+ / CIRRUS				6.4								VERY FAINT COMPANION dm > 6.0
	HD 3719	0h 38.2	-73°14		CLOUDED OUT BEFORE I COULD EVEN START										NeA	60s.					CLOUDS MOVING IN FAST!!!!!
	HD 31577	4h 54.9	-25°46		08 50	09 01	10½	h 46E	1¼″ / GOOD				6.7								QUICK TO COME QUICK TO GO.
	HD 26591	4h 10.9	-20°24		09 08	09 13	3½m	h 08W	1¼″ / GOOD				5.750	Am SB							HR 1300
	HD 36060	5h 26.6	-40°58		09 20	09 25	5m	h 55E	1¼″ / GOOD				5.9								
	HD 36619	5h 31.5	-23°26		09 29	09 54	25m	h 30E	1¼→1″ / GOOD				7.756		NeA	60s					SKY BRIGHTENING NOTICEBLY.
2840	HD 191507	20h 12.5	-61°36	18/19 SEPT.	00 57	01 17	20m / STR.	h 14W	1-2″ / FAIR	2.94	50μ / 1.2mm	64 / 4.4	7.1 ?	Ap (B9 IV) (pSi)	NeA	60s		IIa-O	M-S	RWS	RH - 78% & ↑
	HD 191220	20h 22.7	-83 22		01 26	01 43	17m / ✓	h 30W	~2″ / FAIR				6.2	Am							RH = 82% T = 5°C
	HD 197417	20h 47.4	-72°17		01 47	02 42	55m / ✓	1h 04W	~2″ / FAIR				8.2	Ap							CATALANO 4.55 days.
	HD 198501	20h 50.7	-28°03		02 47	03 01	14m / 25	1h 20W	1.5″ / GOOD				6.8	Am							
	HD 199443	20 56.9	-16°06		03 04	03 14	10m / 15	1h 29W	2″ / GOOD→POOR				5.9	Am							CLOUDS EVERYWHERE
	HD 200623	21h 04.7	-35°46		03 18	03 25	7m / 85	1h 30W	2″ / POOR				9.0	Am	NeA	60s	14/14 B				CLOUDED OUT.
2841	HD 191507	20h 12.5	-61°36	SEPT. ?	00 27	00 37	10m	h 22E	? / POOR	2.94	50μ / 1.2mm	67 / 4.4	7.1	Am	NeA	60s		IIa-O	M-S	RWS	T=3° RH=86% CLOUDS TOO THICK.
2841	HD 3719	0h 38.2	-73°14	SEPT. 27/28	01 55	02 11	16m / ✓	2h 40E	1″ / EXC.	2.94	50μ / 1.2mm	67 / 4.4	6.96	Am	NeA	60s		IIa-O	M-S	RWS	T=11° RH=31%
	HD 3880	0h 37.1	-56 35	"	02 17	02 23	5½m / ✓	2h 32E	1″ / EXC.				5.91	Ap							CATALANO LIST
	HD 6532	1h 05.2	-26 49		02 53	03 47	54m / ✓	1h 30E	¾″-2″ / EXC.				8.4	Am (Ap)							
	HD 6666	1h 06.5	-24 05		03 55	04 02	7¼m / ✓	1h 17E	≤1″ / EXC.				6.3	Am							
	HD 6783	1h 05.2	-77 40		04 09	04 32	23m / 45	0h 46E	1″ / EXC.				7.4	Ap							
	HD 8783	1h 23.6	-72 24		04 39	05 09	30m -6m / 10	h 27E	1″ / EXC.				7.5	Ap							STAR DRIFTED OFF EDGE ~6min while [illegible] [illegible].

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2841	HD 10840	1h44.0	-61 05	27/28 SEPT	05 33	05 43	10 / ✓	0h13E	1-1¼ / Exc.	2.94	1.2mm / 50μ	67Å / 4.4	6.6	Ap				IIa-O	M-S	RWS	T=11 RH=28%
	HD 12037	2h02.6	-04 22		05 52	0658	64m. / ✓	0h43W	1" / Exc.				8.71	Am	NeA	60s			WRONG	STAR	???
2842	HD 221006	23h28.3	-63°12	28/9 SEPT	00 42	0048	6m / ✓	2h50E	1¼" / Exc	2.94	1.2mm / 50μ	67Å / 4.4	5.7	Ap	NeA	60s		IIa-O	M-S	RWS.	T=14° RH=31%
	HD 206653	21h45.5	-67°40		01 01	01 21	20m / ✓	h33E	1" / Exc		"	"	7.2	Ap							
	HD 203548	21h23.4	-46°41		01 35	0142	7m / ✓	h10 W	1" / Exc				6.3	Am							
	HD 206546	21h42.4	-19°41		01 47	01 54	7m / ✓	h03W	1" / Exc.				6.2	Am							
	HD 207503	21h48.9	-12°47		01 58	02 05	7m / ✓	h08W	1" / Exc.				6.3	Am							
	HD 3980	0h41.1	-56 35		02 11	0216	5m / ✓	2h34E	1" / Exc				5.7	Ap							
	HD 208217	21h55.9	-61 57		02 29	0257	28m / ✓	h52W	1" / Exc.				7.6	Ap							
	HD 209625	22h04.1	-00 59		03 04	03 07	3m / ✓	h53W	1" / Exc.				5.28	Am							
	HD 212385	22h23.7	-39 12		03 14	03 27	13m / ✓	h55W	1" / Exc.				6.85	Am							
	HD 215545	22h45.9	-47°01		03 33	0343	10m / ✓	h49W	1" / Exc.				6.59	Am							
	HD 215631	22h48.7	-77°08		03 48	04 03	15m / ✓	1h05W	1" /				6.72	Am							
	HD 216823	22h56.0	-48°03		04 10	04 15	4½m / ✓	1h10W	1" / Exc.				5.7	Am							
	HD 216956	22 56.8	-29°42		04 19	04 19	4s. / 5s	1h14W	1" / Exc.				1.16	Am ?	NeA	60s	14U 14M B				+MK-73 !!
2843	HD 216956	22 56.8	-29°42	29/9 SEPT	04 55	04 55	4s. / 5	1h49W	1" / Exc !!	2.94	1.2mm / 50μ	67Å / 4.4	1.16	Am ?	NeA	60s		IIa-O(bk)	M-S	RWS.	T=13 RH=29%
	HD 218108	23 07.4	-79°34		05 02	05 10	8m / 10m	1h54W	1" / Exc.				6.1	Am							
	HD 206653	21h45.5	-67°40		PIER IN THE WAY !!			(#@!!?%)													
	HD 221675	23 33.4	-01°20		05 23	05 29	6m / ✓	1h47W	1" / Exc.				5.9	Am							VFO GLITCHED WHILE BEGGING.
	HD 223024A	23h45.2	-18°46		05 35	05 38	3½m / ✓	1h44W	1" / Exc.				5.3	Am							
	HD 223024 B	23h45.2	-18°46		05 41	05 50	9m / ✓	1h56W	1" or less / Exc.				6.3+?	Am?							HR 9002
	HD 223466	23h49.0	-25°26		05 56	06 05	9m / ✓	2h06W	1" / Exc.				6.4	Am							
	HD 221006	23h28.3	-63°12		06 11	06 17	6m / ✓	2h40W	1"-1¼" / Exc.				5.7	Ap							
	HD 223967	23h53.4	-59°38		06 22	0640	18m / ✓	2h38W	1" / Exc.				7.1	Ap							
	HD 3719	0h38.2	-73°14		06 48	0703	15m / ✓	2h17W	1" / Exc.				6.85	Am							
	HD 6532	1h05.2	-26°49		07 11	08 06	55m / ✓	2h53W	1" / Exc.				8.41	Am							
	HD 6666	1h06.5	-24°05		08 14	08 22	8½m / ✓	3h08 W	1" / Exc				6.33	Am							
	HD 10840	1h44.0	-61°05		08 31	0843	12m / ✓	2h50W	1" / Exc?				6.6	Ap							
	HD 12563	2h01.8	-29°44		08 51	09 00	8½m / ✓	2h51W	1" / Exc				6.388	Am	NeA	60s					

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2844	HD 206653	$21^h45.5$	$-67°40$	29/30 SEPT	00 03	00 28	25m 20	1^h23 E	1" GOOD	2.74	1.2mm 50μ.	674 4.4	7.2	Ap	NeA	60s		IIa-O(hk)	M-S	RWS	SLIGHTLY HAZY.
	HD 203548	$21^h23.4$	$-46°41$		00 32	00 39	7m	0^h30 E	1" GOOD				6.3	Am							
	HD 3980	$0^h41.1$	$-56°35$		00 45	00 50	5m	3^h57 E	1" GOOD				5.7	Ap							T=12 EW=3/2
	HD 10840	$1^h44.0$	$-61°05$		00 57	01 09	12m	4^h41 E	1" GOOD				6.6	Ap							
	HD 206546	$21^h42.4$	$-19°41$		01 16	01 22	6½m	0^h26 E	1" GOOD				6.2	Am							
	HD 207503	$21^h48.9$	$-12°47$		01 27	01 35	7½m	0^h19 E	1" GOOD				6.288	Am							
	HD 208217	$21^h55.9$	$-61°55$		01 41	02 08	27m	$h07$ W	1" GOOD				7.6	Ap							
	HD 206653	$21^h45.5$	$-67°40$		02 12	02 31	19m	$h40$ W	1" GOOD				7.2	Ap							
	HD 209625	$22^h04.1$	$-00°59$		02 38	02 41	2m 30s	$h31$ W	1" GOOD				5.28	Am							
	HD 212385	$22^h23.7$	$-39°12$		02 48	03 00	12m	$h31$ W	1" GOOD				6.85	Am							
	HD 215545	$22^h45.7$	$-47°01$		03 07	03 16	9m	$h24$ W	1" GOOD				6.59	Am							
	HD 215631	$22^h48.7$	$-77°08$		03 22	03 36	14m 20		1½" 32° GOOD				6.72	Am							WEATHER CHANGING T=11% RH=28% ?
	HD 216823	$22^h56.0$	$-48°03$		03 45	03 50	5m	$h48$ W	1½" GOOD				5.7	Am	NeA	60s.	Hg Hg B				
2845	HD 206653	$21^h45.5$	$-67°40$	29/30 SEPT.	04 30	04 51	21m	3^h02 W	1½" GOOD	2.94	1.2mm 50μ	678 4.4	7.2	Ap	NeA	60s		IIa-O(hk)	M-S	RWS	
	HD 10840	$1^h44.0$	$-61°50$		05 19	05 31	12m	0^h18 E	1½" GOOD				6.6	Ap							I AM TIRED!
	HD 216956	$22^h56.8$	$-29°42$		05 38	05 38	4.5s	2^h38 W	1½" GOOD				1.16	Am							
	HD 221675	$23^h33.4$	$-01°20$		05 47	05 52	5½m	2^h14 W	1½" GOOD				5.9	Am							
	HD 223024A	$23^h45.2$	$-18°46$		06 00	06 03	3½m	2^h13 W	1½" GOOD				5.3	Am							
	HD 223024B	$23^h45.2$	$-18°46$		06 06	06 18	12m	2^h28 W	1½" GOOD				6.3?	Am							
	HD 223466	$23^h49.0$	$-25°26$		06 23	06 29	6½m	2^h36 W	1" GOOD				6.4	Am							
	HD 223967	$23^h53.4$	$-59°38$		06 37	06 55	18m	2^h57 W	1½" GOOD				7.1	Ap							
	HD 3980	$0^h41.1$	$-56°35$		07 02	07 07	5m	2^h23 W	1½" GOOD				5.7	Ap.							
	HD 3719	$0^h38.2$	$-73°14$		07 14	07 30	16m	2^h47 W	1½" GOOD				6.85	Am							
	HD 6532	$1^h05.2$	$-26°49$		07 41	08 40	58m	3^h30 W	1½" GOOD				8.4	Am							
	HD 10840	$1^h44.0$	$-61°05$		08 49	09 05	16m	3^h16 W	2" GOOD				6.6	Ap	NeA	60s					
2846	HD 206653	$21^h45.5$	$-67°40$	30/1 OCT.	00 54	01 19	25m	$h28$ E	1½" GOOD	2.94	1.2mm 50μ	678 4.4	7.2	Ap	NeA	60s.		IIa-O(hk)	M-S	RWS	
	HD 3980	$0^h41.1$	$-56°35$		02 12	02 22	10m	2^h20 E	2" GOOD				5.7	Ap							BAD SEEING. T=8% RH=5%
	HD 10840	$1^h44.0$	$-61°05$		02 56	03 14	18m	2^h32 E	2" GOOD				6.6	Ap							
	HD 206653	$21^h45.5$	$-67°40$		03 20	03 41	21m	1^h54 W	1½" GOOD				7.2	Ap							SEEING BETTER
	HD 208217	$21^h55.9$	$-61°55$		04 17	04 45	28m	2^h49 W	1-1½" GOOD				7.6	Ap							SEEING GOOD

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NUMBER	OBJECT	R.A. 1985	DEC. 1985	DATE U.T. 1984	U.T. EXP. BEGIN	U.T. EXP. END	TOTAL / CORR.	H.A. END	SEE. / TRANS.	CAM. FOCUS	SLIT	GRATING / TILT	MAG	SP.	COMP KIND	COMP EXP.	CALIB.	EMUL	DEV.	OBS	REMARKS
cont'd 2846	HD 212385	22h23.7	-39 12	30/01 OCT.	0525	05 38	13M	3h14W	1-1¼" / GOOD	2.94	50μ / 1.2mm	67Å / 4.40	6.85	Am				IIa-O	M-S	RWS	Ap Sr-Cr(Eu)
	HD 10840	1h44.0	-61 05		06 30	06 48	18M	1h03W	2" / GOOD				6.6	Ap							
	HD 223967	23h53.4	-59°38		06 54	07 16	22M	3h22W	2-3" / GOOD?				7.1	Ap							T=6°C RH=51%
	HD 3980	0h41.1	-56°35		07 37	07 46	9M	3h04W	3"+ / GOOD				5.7	Ap							
	HD 6666	1h06.5	-24 05		07 55	08 03	8M	2h56W	1¼" / GOOD				6.33	Am							SEEING GOOD HERE?
	HD 12563	2h01.8	-29 44		08 08	08 15	7M	2h13W	1-1¼" / GOOD				6.39	Am							
	HD 13305	2h08.9	-24°25		08 20	08 29	8½M	2h20W	1¼" / GOOD				6.45	Am							
	HD 31517	4h54.9	-25°46		08 38	08 53	15M	0h01E	1¼" / GOOD				6.7	Am	NeA	603	1/1 19M B				
2847	HR 9102	0h 3m 31s	-29° 21'	1/2 Oct	02 20	02:41	21m	1h 20m E	2-3" / Good+Fog	2.94	50μ/1.2	67Å / 4.40	6.39	A1V			[illegible]	IIa-O	M-S	G Grey Blanco1-2L	Seeing sometimes [illegible] to large values. Some fast moving fog during exposure.
	HD 141 Blanco1-C	0h 5m 20s	-29° 14'		02 55	04:00	65m	0h 0m	2-3 / Good				7.59	B9V	NeA	30s	1min 22V Blue	Baked 64°C 90min forming gas	15min 67°F	G HD 141	
	HD 225206 Blanco1-20	0h 3m6	-29° 28'		05 05	06 10	65m	2h 11m	2-3" / Good				7.77	B3/9V						G HD 225206	" "
	HR 531	1h 48.3m	-10° 46'		06 22	06 27	5m	42m	2-3" / Good				5.00	F3III						G	Cold!
	HR 652	2h 12.2m	-30° 48'		06 34	06 40	6m	30m	2-3" / Good				5.25	B9V						G	Cold + windy!
	HR 859	2h 52.0	-9° 30'		07:10	07:24	14m	36m	3" / Good→Fog				6.32	A7IV						G	Aborted because of fog.
2848	NGC 6475 #14	17h 53m	-35°	2/3 Oct	00 12	01:12	60m	3hr 26m	2" / Cirrus	2.94	"	"	7.80	B3/9III/IV	"	"	"	"	"	G Grey	Light cirrus HD 162305
	#83	"	"		01:19	01:35	16m	3h 49m	1.5-2" / Good				6.43	Ap S.						G	HD 162725
	HR 8715	22h 54.1	0° 54'		01:46	02:00	14m	48m	2" / Good				6.11	A7III						G	
	Blanco1-7	0h 4.1	-30° 21'		02:12	03 43	91m	13m	2" / Good				8.30	A0IV/V						G	HD 225282
	Blanco1-11	0h 4.1	-29° 43'		04:51	06 21	90m	2h 25m	2" / Good				8.30	A0V						SO	HD 225264
	HD 23441	3h 45.7	24° 29'		06 42	07:02	20m	35m	2" / Good				6.43	B9/A0V						G	H857 Pleiades
	HD 23568	3 46.1	24° 29'		07:15	07:41	26m	3m	1.5-2" / Good				6.32	B9.5V						G	H1234 Pleiades
	HD 23410	3 44.8	23° 7'		07:53	08:23	30m	57m	2" / Good				6.85	A0V						G	[illegible] Pleiades
	HD 28677	4h 30m [illegible]	15° 7'		08:54	09:10	16m	47m	2" / Good				6.02	F2V						G	Hyades #[illegible]
	HD 31236	4h 54.0	19 28		09:19	09:37	18m	51m	2" / Good				6.37	F3IV						G	[illegible] because of Hyades 126 [illegible]

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1	2849	NGC 6475 #34	17h 53'	-35°	4/5 Oct	00:03	01:07	64m	3h 28m	1-1.5" Good.	2.94	50µ/1.2	674/440	8.21	A1V	NeA	30s	1 min 22V Blue	IIa-O Baked 90 min. 68°C Forming gas	M-S 15 min. 67.5°C	Grey	G	HD 162457
2		NGC 6475 #141	"	"		01:12	01:24	12m	3h 46m	1.5" Good				6.38	B9/A0 III							G	HR 6661 HD 162478
10		Blanco 1 B (#57)	0h 2.4	-31° 18'		01:48	03:48	2hr	1m	1-2" Good.				8.88	A0V							G	HD 225077
12		Blanco 1 8	0h 3.4	-30° 13'		05:25	05:44	19m	1h 57m	1-1.5" Good				7.15	B8V							30	HD 225187
14		HD 23632	3h 46.5	23° 45'		05:58	06:23	25m	1h 8m	1-1.5" Good				6.99	A1V							G	H1380 Pleiades. Faint companion, near s.l.v.
16		HD 23631	3h 46.5	23° 52'		06:29	07:01	32m	30m	1.5" Good				7.26	A2V/m							G	H 1397 Pleiades
18		HD 23948	3h 49.0	24° 18'		07:09	07:54	46m	20m	1-1.5" Good.				7.54	A2V							G	H 2488 Pleiades
20		HD 23872	3h 48.3	24° 21'		08:03	08:43	40m	1h 11m	1-2" Good				7.52	A2V							G	H 2220 Pleiades
22		HD 23753	3 48.8	23° 40'		08:53	09:07	14m	1h 34m	2" Good				6.17	B8/9V							G	H 2425 Pleiades
24																							
6,9,10	2850	α Cen A	14h 38.2	-60° 45'	5/6 Oct.	00:01	00:07	see notes	5h 47m	2" Good	"	"	"	0.69	G2V	"	60s	2 min 22V Blue	IIa-O	"	Grey	G	1st: defocused 1 pass 2nd: focused 5 passes with paddle: 3rd 10 passes
12		μ Ara	17h 42.5	-51° 49'		00:21	00:36	15m	3h 12m	2" Good.				5.15	G5							30	
14		HR 7358	20h 33.2	12° 58'		00:48	00:56	8m	41m	1.5" Good				5.38	A3Vs							30	
16		HR 8087	21 7.6	-2° 16'		01:04	01:10	6m	21m	1.5" Good				5.29	A0V.							40	
18		HR 8098	21 9.7	9° 59'		01:18	01:32	14m	40m	1.5-2" Good				6.07	A2Vs							G	
20		HR 8187	21 23.3	-12° 57'		01:40	01:49	9m	44m	1.5" Good				5.49	F1V.							G	
22		HR 8431	22 7.5	-33° 4'		01:56	01:59	3m	10m	1.5" Good				4.50	A2V							G	
24		HR 8717	22 54.4	8° 43'		02:10	02:14	4m	21m	1.5-2" Good				4.90	A1V							G	
14		HR 8768	23 38.9	-14° 19'		02:24	02:30	6m	49m	2" Good				5.00	F0IV							G	
16		HR 8993	23 43.4	-18° 22'		02:36	02:41	5m	44m	1.5-2" Good				5.24	B9V.							G	
6																							
8	2851	HR 8821	23 9.2	9° 44'	5/6 Oct	03:27	03:33	6.5m	43m	1.5-2" Good	"	"	"	5.39	B9III	"	"	"	"	"	Grey	G	
10		HR 26	0h 9.2	11° 3'		03:42	03:49	7.5m	1m	1.5-2" Good				5.44	B9V,							G	
12		HR 323	1h 5.7	-35° 45'		05:19	05:41	22m	55m	1.5" Good				6.61	A1V							G	
14		HR 749A	2h 33.1	-28° 18'		05:49	05:53	4m	21m	1.5" Good				4.97	B9V							G	
17		HD 26911	4 14.9	+15° 22'		06:05	06:33	28m	1h 22m	1.5" Good.				6.32	F3V							G	Hyades #20
16		HD 27176	4 17.4	21 32		06:44	06:58	14m	1h	1.5" Good				5.65	A8/F0V							G	Hyades #24 S80 Cu Dbl.
18		HD 27429	4 19.5	18 42		07:07	07:31	24m	29m	1.5" Good				6.11	F2V							G	Hyades #32
20		HD 27459	4h 19.7	15° 3'		07:37	07:46	9m	13m	1.5" Good.				5.26	A9V							G	Hyades #33
22		HD 27628	4 21.1	14° 2'		07:54	08:08	12m	6m	1.5" Good				5.72	A3p							G	Hyades #38

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24	2851 cont	HD 27749	4 22.5	16° 44'	5/6 Oct	08:21	08:34	13m	32m	2" Good	2.94	50μ/1.2	67Å/4 40	5.64	A1m	NeA	60s	2min 22V Blue	IIa-O	M-S 67°F 15min	Gry G	Hyades #45
2		HD 27819	4 23.2	17° 25'		08:41	08:47	5.5m	44m	1.5" Good				4.80	A7.5V						G	Hyades #47
		HD 27946	4 24.4	22° 10'		08:54	09:04	10m	1h	1.5-2" Good				5.28	A5/7V						G	Hyades #55
6	2852	HR 5699	15 20.4	-48° 15'	6/7 Oct	00:14	00:40	26m	5h 42m	2" Good.	"	"	"	5.65	G2V	"	"	"	"	"	Gry G	
8		HR 6894	18 25.4	-48° 08'		00:47	01:05	18m	3h 5m	1.5" Good				5.46	G5						G	
10		HR 8087	21 7.6	-21° 16'		01:12	01:17	5.5m	33m	1.5-2" Good				5.29	A0V						G	
12		HR 8373	21 56.1	+12° 0'		01:26	01:35	9m	1m	1.5-2" Good				5.54	A2Vnn						G	
14		HD 210111	22 7.8	-33° 12'		01:55	02:11	16m	25m	1.5-2" Good.				6.37	A2III/IV						G	
16		HR 8452	22 9.8	-11° 39'		02:18	02:24	6m	37m	1.5" Good.				5.34	B7III						G	
18		HD 210739	22 12.1	-26° 24'		02:31	02:46	15m	56m	1.5" Good				6.17	A3V						G	
20		HD 213135	22 28.9	-27° 11'		02:54	03:08	14m	1h 2m	1.5" Good.				5.95	F0V						G	
22		HD 217792	23 2.6	-34° 50'		03:16	03:22	6m	42m	1.5" Good				5.11	A9V						G	
24		HD 218003	23 4.0	-27° 13'		03:28	03:50	22m	1h 9m	1-5" Good				mpg = 6.8	A3III						su	Variable seeing &
		HR 8728	22 56.8	-29° 42'		03:55	03:56	5passes 10passes	1h 23m	1.5" Good				1.16	A3V						G	passes with white paddle.
	2853	HR 591	1h 58.3	-61° 39'	6/7 Oct	05:47	05:49	24 passes	15m	1.5" Good	"	"	"	2.86	F0V	"	"	"	"	"	Gry su	white paddle.
		HR 714	2h 24.4	-60° 23'		05:56	06:05	9m	4m	1.5" Good.				5.35	F2III						G	
10		HR 652	2h 12.2	-30° 48'		06:12	06:17	5.3m	28m	1.5" Good				5.28	A0V						G	
12		HR 934	3h 3.2	-59° 48'		06:26	06:33	7m	7m	1.5-5" Good				5.11	F0IV						su	Variable seeing } clouds intervened
14		HD 28294	4h 27.5	14° 42'		08:01	08:25	24m	21m	1.5-5" cirrus				5.90	F0V						G	Hyades #68
16		HR 1275	4h 4.9	-27° 42'		08:34	08:46	12m	1h 6m	2" cirrus?				5.59	F1IV						G	
18		HR 1723	5 14.7	-26° 58'		08:51	08:57	5.5m	6m	2-3" clear				5.07	B9V						G	
		HR 1762	5 19.7	-21 15'		09:02	09:06	4m	11m	2-3" Clear				4.71	A0Vv						G	
		HR 2491	6 44.5	-16 42		09:13	09:15	2, 4, 6 passes	1h 6m	2" clear				-1.46	A1V						50,0,v0	
	2854	HR 5566	14h 56.7	-48° 47'	7/8 Oct	00:09	00:53	44m	6h 23m	2" clear	"	50μ/.8	67/4 40	6.35	G7	"	"	"	"	"	Gry G	Is this a record hour angle?
		HR 6998	18h 37.7	-21° 4'		01:04	01:25	21m	3h 15m	1-1.5" Clear		50μ/1.2	67/4 40	5.86	G4						G	
		HD 210300	22h 9.1	-28° 22'		01:33	01:52	19m	9m	1-1.5" Clear				6.44	A5V						G	
		HD 212385	22 23.7	-39° 12'		01:59	02:24	25m	28m	1-1.5" clear				mpg 6.9	Ap SrEuCr						G	

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2854	HD 214484	22 37.9	-33° 10'	7/8 Oct	02:31	02:39	8m	29m	1.5" Good	2.94	50μ/1.2	67/4 48	5.66	A0V	NeA	60s	2 min 22V	IIa-O	M-S	Gry G	
cont.	HD 216042	22 49.1	-32° 53'		02:45	03:05	20m	42m	1.5" Good				6.33	F0V			Blue			G	
	HD 217236	22 58.7	-29° 33'		03:10	03:19	9m	47m	1.5" Good				5.51	F0V						G	
	HD 218242	23 6.0	-38° 59'		03:24	03:32	8m	52m	1.5" Good.				5.61	A0V						G	
	HD 222872	23 43.7	-26° 20'		03:38	03:58	20m	41m	1.5" Good.				6.17	F3/5V						G	
	HD 224113	23 54.5	-32 1		04:07	04:18	11m	50m	1-1.5" Good				6.10	B5/8						G	
	HD 221507	23h 32.1	-37 54		04:24	04:26	2m	1h 21m	1" Good				4.37	B9.5IVp						SO	
2855	HR 804	2h 42.5	3° 10'	7/8 Oct	05:53	05:54	1m	20m	1" Good	"	"	"	3.47	A3V	"	"	"	"	"	" SO	
	HD 28485	4 29.2	15° 36'		06:07	06:22	15m	1h 40m	1.5" Good				5.58	F0V						G	Hyades #80
	HD 28527	4 29.5	16° 10'		06:27	06:33	6m	1h 30m	1.5-2" Good				4.78	A6Vn						G	Hyades #82
	HD 28546	4 29.7	15° 39'		06:40	06:52	12m	1h 10m	1.5" Good				5.48	A5m						G	Hyades # 83
	HD 28556	4 29.7	13° 41'		06:58	07:09	11m	44m	1.5" Good				5.40	F0Vn						G	Hyades # 84
	HD 29375	4 37.2	16° 0'		07:15	07:30	15m	39m	1.5" Good				5.79	F0Vn						G	Hyades #103
	HD 29499	4 38.2	7° 50'		07:37	07:47	10m	24m	1.5" Good				5.39	A5m						G	Hyades # 107
	Hyades # 108 HD 29488	4 38.3	15° 53'		07:53	08:00	7m	11m	2-3" Good				4.68	A5/7V						G	Seeing suddenly deteriorated. wind
	HR 1338	4h 15.6	-51° 31'		08:14	08:18	3.6m	30m	2" Good				4.25	F4III						G	
	HR 1469	4 36.4	0° 58'		08:28	08:33	5m	24m	1.5-2" Good				5.31	B7V						SU	
	HR 1712	5 14.5	-1° 26'		08:40	08:58	18m	12m	1.5" Good				6.15	F0IV						G	
	HR 2092	5 55.7	-31° 23'		09:06	09:15	9m	12m	1.5-2" Good				5.50	F2III						G	
2856	HR 5864	15h 46.2	-37° 51'	9/10 Oct	23:55	00:15	20m	5h 3m	1.5" Good.	"	"	"	6.01	G6	NeA	30s	1 min 22V	IIa-O Baked	M-S	Gry G	
	HR 6192	16h 40.5	-33° 7'		00:19	00:34	15m	4h 28m	1-1.5" Good				5.87	G2			Blue	64°C 90 min		G	
	HR 7959	20h 50.3	-62° 29'		00:49	00:59	10m	45m	1-1.5" Good				6.28	A2III				Forming gas		F	} Brighter Cls Dbl Fainter. Trail in dec.
	HR 7960	"	"		01:06	01:26	20m	1h 10m	1-1.5" Good				6.59	A3III						Double exposure?	i.e. both primary + secondary here? (contamination)
	HD 209970	22h 6.8	-28° 13'		01:45	02:13	28m	41m	1-1.5" Good				mpg 7.5	Fm Del						G	
	210139	22h 7.9	-25° 51'		02:20	02:45	25m	1h 11m	1" Good.				7.4	A2III						G	
	218759	23h 9.9	-29° 37'		02:49	03:10	29m	34m	1-1.5" Good				7.2	F0V						SO	
	219860	23h 18.6	-39° 15'		03:16	03:36	20m	51m	1.5" Good.				7.0	A3V(m)						G	
	220506	23 23.6	-37° 17'		03:40	03:57	17m	1h 8m	1-1.5" Good				7.0	A3V						SU	

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2856	222701	23 35.3	-26° 58'	9/10 Oct	04:03	04:20	17m	1h 12m	1-1.5" Good	2.94	50μ/1.2	67/1440	7.0	A5mA5-F0	NeA	30s	1 min 22V Blue	IIa-O Baked	M-S	Gry G	
cont	HR 9091	0h 1.5	-29° 46'		04:26	04:29	2.5m	1h 2m	1.5" Good				5.01	B4III						G	Blanco I cluster.
2857	HD 30034	4h 43.5	11° 7'	9/10 Oct.	06:02	06:13	11m	1h 54m	1.5" Good				5.40	A9Vs						Gry G	Hyades #111
	30210	4h 45.1	11° 41'		06:19	06:29	10m	1h 41m	1.5" Good				5.37	A2m						G	Hyades #112
	30780	4h 50.5	18° 49'		06:35	06:43	8m	1h 32m	1.5" Good				5.10	A7IV-V						G	Hyades #123
	33254	5h 8.5	9° 49'		06:49	07:00	11m	1h 33m	1.5" Good				5.43	A2p						G	Hyades #130
	33204	5h 8.7	28° 1'		07:09	07:33	24m	1h	1-1.5" Good				6.01	A5/9m						SU	Hyades #131
	28052	4h 25.4	15° 35'		07:39	07:43	4.5m	6m	1.5" Good				4.48	F0V						G	Hyades #141
	27934	4h 24.4	22° 16'		07:51	07:54	3.5m	6m	1.5" Good				4.22	A7V						G	Hyades #54
	28226	4h 27.0	21° 35'		08:00	08:15	15m	13m	1.5" Good				5.72	Am						G	Hyades #67
	28319	4h 27.7	15° 50'		08:21	08:23	1.5m	31m	1.5" Good				3.41	A7III						G	Hyades #72
	29388	4h 37.3	12° 29'		08:30	08:33	3m	31m	1.5" Good				4.27	A6Vn						G	Hyades #104
	32301	5h 2.1	21° 34'		08:40	08:45	5m	18m	1.5" Good				4.64	A7V						G	Hyades #129
	HR 1610	4h 59.7	39° 35' 35"		08:55	09:15	20m	51m	1.5" Good				6.66	B9Vn						G	Dbl w HR 1609
2858	NGC6475#63	17h 53'	-35°	12/13 Oct	00:55	01:30	35m	4h 23m	1-1.5" Clear?	"	"	"	7.56	B9(III)	"	"	"	"	"	Gry G	HD 162630
	#56	"	"		01:35	01:47	12m	4h 40m	1.5" Clear?				6.17	B8V						G	HD 162556
	#26	"	"		01:55	02:04	9m	4h 57m	1.5" Clear.				5.90	B6V						G	HD 162314 Blue Straggler
	HD211506	22h 17.3	-36° 40'		02:25	02:49	24m	1h 18m	1.5" Cirrus				7.3	A7m						SU	Some moving Cirrus.
	HD 224920 Blanco I-17	0h 0.1	-30° 9'		03:01	04:29	68m	1h 15m	1.5" Cirrus				8.43	A0V						G	Exposure clock down 18m. due to clouds.
	HR 7498	2h 33.1	-28° 18'		06:29	06:57	28m	1h 13m	1.5" Cirrus				7.95	A5V						G	Terminated early due to clouds. Full exp = 50 min.
2859	NGC6475#72	17h 53'	-35°	13/14 Oct	00:06	01:03	57m	4hr	1-1.5" Good.	"	"	"	8.20	A2	"	"	"	"	"	Gry G	HD 162656
	HR 6640	17h 50.2	-45° 36'		01:10	01:38	28m	4hr 38m	1.5" Good.				6.11	G5						G	
	HR 7931	20h 44.0	-27° 19'		01:45	02:20	35m	2h 16m	1-1.5" Good				6.50	G-G5						G	
	HD212963	22 27.8	-33° 51'		02:26	02:51	25m	1h 14m	1-1.5" Good				mpg 7.4	F0V						SU	
	Blanco I #13	0h 2.1	-30° 14'		02:56	03:58	62m	46m	1-1.5" Good				8.44	A0V						G	HD 225047
	221907	23 35.3	-26° 55'		05:09	05:27	18m	2h 43m	1.5" Good				7.0	A2m						G	
	224112	23 54.4	-31° 58'		05:35	05:53	18m	2h 49m	1" Good.				7.0	A						SU	

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2859	An(Bok) 1	5h 16.3	-68° 9'	13/14 Oct	06:07	08:17	2hrs	9m	1.5" Good	2.94	50μ/1.2	67/4.46	8.86	A7V	NeA	30s	1min 22V	IIa-O Baked	M-S	Gry G	Dozed 10min! HD 35026
cont	NGC2516 #19	7h 58m	-60° 47'		08:26	09:07	41m	2h	1.5" Good				7.85	B9/A0V				90min 64°C	67°F	G	Fainter (~10mag) also on slit. HD 66137
	HR 2504	6h 46.7	-14° 24'		09:17	09:21	3.5m	34m	1.5" Good				5.29	B9III				Forming Gas	15min	G	
2860	NGC6475 #92	17h 53m	-35°	14/15 Oct	23:57	01:07	70m	4h 7m	1-1.5" Good-	"	"	"	8.41	A1V	"	"	"	"	"	Gry G	HD 320861
	HR 7164	18 58.2	-18° 36'		01:13	01:49	36m	3h 45m	1-1.5" Good				6.37	G3						G	
	HR 7330	19 20.2	-35° 1'		01:55	02:18	23m	3h 52m	1-1.5" Good.				6.48	G2						G	
	213728	22 33.2	-32° 13'		02:41	02:56	15m	1h 17m	<1"-1" Good				7.1	B7III						SO	
	Blanco1 #1	0h 6.3	-30° 37'		03:02	04:15	73m	1h 3m	1" Good.				8.66	A1V						G	HD 235
	HD 23643	3h 46.5	23° 38'		05:18	06:43	85m	8m	1-1.5" Good				7.77	A3V						SO	H1425 Pleiades
	23886	3h 48.5	24° 12'		06:56	08:08	72m	1h 15m	1-1.5" Good				7.97	A3V						G	H2289 Pleiades
	22615	3h 38.1	20° 52'		08:15	08:33	18m	1h 50m	1.5" Good				6.51	A4III						G	TS259 Pleiades
	23753	3h 47.4	23° 22'		08:40	08:46	6m	1h 54m	1.5" Good				5.45	B8/9V						SO	H1823
	23862	3h 48.2	24° 5'		08:52	08:56	4.5m	2h 4m	1.5" Good				5.09	B7/8p						G	H2181 Pleiades Pleione
	HR 2497	6 44.4	-30° 34'		09:05	09:14	9m	35m	1.5" Good				6.54	B8IV						G	
													~~5.80~~	~~G1~~							
2861	HR 5929	15 56.0	-36° 8'	15/16 Oct	00:02	00:29	27m	5h 31m	1.5-3" Good.	"	"	"	5.80	G1	"	"	"	"	"	Gry G	
	HR 6456	17 21.5	-37° 12'		00:38	01:07	29m	4h 43m	1.5" Good.				5.93	G5						G	
	HD 209741	22h 5.3	-29° 9'		01:16	01:49	33m	42m	1.5" Good				mpg 7.7	A0IV.						SO	
	Blanco1 #A	0h 1.3	-30° 46'		01:58	03:58	2hr	56m	1-2" Good				8.99	A3V						G	HD 224964
	23643	3h 46.5	23° 38'		05:07	06:13	66m	35m	1-2" Good				7.77	A3V						G	H1425 Pleiades
	23194	3 43.0	24° 30'		06:20	07:45	85m	1hr	1-1.5" Good				8.06	A5V						G	H232 "
	24899	3h 57.4	24° 2'		07:53	08:27	34m	1h 30m	1-2" Good				7.19	A1						G	TS194 "
	HR 2347	6h 27.4	1° 55'		08:36	08:46	10m	43m	1.5" Good				6.48	B9V						G	
	HR 2514	6h 47.5	-1° 18'		08:51	08:58	7m	50m	1.5" Good				6.03	F1V						G	
	HR 2530	6h 50.0	-0° 31'		09:03	09:11	8m	40m	1.5" Good				6.16	F2V						G	

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2862	HR 5939	15 59.4	-63°44′	16/17 Oct	23:56	00:17	21m	5h 19m	1.5" Good	2.94	50µ/.8	67/430	6.41	G5	N&A	30s	1min 22V Blue	IIa-O Baked 90min 64°C Forming gas	M-S	Grg G	
	HR 6094	16 22.7	-39° 9′		00:26	00:36	10m	5h 15m	1.5" Good		50µ/1.2		5.90	G5						G	
	HD159656	17h 36.5	-43° 33′		00:44	01:29	45m	4h 55m	1.5" Good		"		7.8	G						G	
	HR 8276	21h 38.3	20° 11′		01:39	01:50	11m	1h 14m	1.5" Good				5.85	F2V						G	
	HR 8776	23h 3.2	6° 32′		01:59	02:13	14m	12m	1-1.5" Good				6.41	F2V						G	
	Bland #19	0h 4.0	-29° 43′		02:35	03:20	45m	18m	1" Good				8.30	A0IV						G	HD 225264
	HD225119	0h 2.8	-28°30′		03:34	04:11	37m	1h 11m	1" Good				8.23	ApSi						G	Bland cluster???
	23361	3 44.5	24° 0′		05:29	06:54	85m	13m	1-1.5" Good				8.04	A3V						G	H652 Pleiades
	23863	3 48.3	23° 50′		07:02	08:34	92m	1h 59m	1-1.5" Good				8.12	A7V						G	H2195 "
	HR 2413	6h 35.1	4° 31′		08:44	08:53	9m	39m	1" Good				6.55	B9III						G	
	HR 2551	6h 51.9	8° 24′		09:00	09:06	6m	42m	1" Good				5.77	F0Vn						G	
2863	HR 6060	16h 14.4	-8° 19′	17/18 Oct	23:50	00:04	14m	4h 55m	1.5" Good	"	"	"	5.50	dG1	"	"	"	"	"	Grg G	
	HR 6269	16h 52.2	-20° 23′		00:11	00:27	16.5m	4h 41m	1.5" Good				5.88	G3						G	
	HR 6586	17h 43.2	-57° 32′		00:40	01:03	23m	4h 26m	1.5" Good				6.01	G						G	
	HR 7103	18h 51.2	-26° 39′		01:13	01:44	31m	3h 59m	1.5" Good				6.29	G5						G	
	HD 210851	22h 12.9	-34° 50′		02:00	02:23	23m	1h 17m	1" Good				7.6	A9/F0						SO	
	HD 212852	22h 26.8	-28° 30′		02:44	03:07	23m	1h 47m	1-1.5" Good				7.6	A9V						G	
	220455	23h 23.2	-27° 22′		03:17	03:48	31m	1h 31m	1" Good				7.9	A0V						SO	
	An(Bol) #7	5h 17.5	-68° 29′		05:14	07:36	2hr 22m	34m	1" Good				9.16	A3V						G	HD 35183
	NGC 2516 #29	7h 58m	-60° 47′		07:52	08:42	50m	2h 8m	1-1.5" Good				8.26	A0Vb						G	Morgan's AOVb? HD star/66656
	HR 3327	8h 25.7	-39° 0′		08:52	09:00	8.5m	2h 18m	1-1.5" Good				6.53	B8V						G	CVB v.A 3328
	HR 2386	6h 31.6	-5° 51′		09:12	09:17	5m	8m	1-1.5" Good				5.60	F0Vnn						G	
2864	HD 156365	17h 16.9	-24° 4′	18/19 Oct	23:58	00:24	26m	4h 17m	1-1.5" Good	"	"	"	7.2	G	"	"	"	"	"	Grg G	
	HR 6777	18h 8.6	-32° 43′		00:31	01:11	40m	4h 12m	1-1.5" Good				6.43	G5						G	
	HR 8267	21h 37.0	19° 15′		01:22	01:28	6m	1hr	1.5" Good				5.45	F1V						G	
	HR 8624	22h 39.6	19° 36′		01:35	01:43	8m	14m	1" Good				6.21	A2V						G	
	210767	22h 12.5	-39° 34′		01:54	02:27	33m	1h 25m	1-1.5" Good				7.9	F0IV						G	
	220606	23h 24.4	-30° 16′		02:35	03:06	31m	1hr 42m	1-1.5" Good				7.9	A3V						G	

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2864	HD 221240	23h 29.7	-37° 3'	18/19 Oct	03:16	03:47	31m	1h 28m	1-1.5" Good	2.94	50μ/12	67/40	7.9	A9V	NeA	30s	1 min 22V	IIa-O	M-S	Grey SV	
cont'd	Blank 1 #8	0h 3.4	-30° 13'		03:56	04:10	14m	1h 17m	1-1.5" Good				7.15	B8V			Blue	Baked		G	HD 225187
	HD 23156	3h 42.8	24° 19'		05:11	06:57	106m	25m	1-1.5" Good				8.23	A7V						G	M58 Pleiades.
47	HD 28991	4h 33.8	17° 42'		07:07	08:20	73m	58m	1-1.5" Good				7.90	F8V						G	VA751 Hyades
	HR 3328	8h 25.7	-39° 0'		08:32	08:51	19m	2h 22m	1" Good				7.25	A3V						G	CVB w 3327.
	HR 3015	7h 45.2	-14° 31'		09:02	09:05	3m	1h 30m	1" Good				5.04	F0V						G	
2865	HR 6939	18 31.7	-58° 44'	19/20 Oct	23:54	00:17	23m	3h	1.5" Good	"	"	"	6.44	G0	"	"		"		Grey G	
	HR 7958	20h 33.2	+12° 58'		00:27	00:30	3.5m	1h 11m	1" Good				5.38	A3IV$_s$						B	
10	HD 197214	20h 42.0	-29° 30'		00:40	01:05	25m	1h 36m	1" Good				7.6	G						G	
	212035	22h 21.2	-34° 34'		01:16	01:44	28m	37m	1" Good				7.8	F2/3V						G	
11	214853	22h 40.5	-27° 20'		01:50	02:13	23m	47m	1-1.5" Good				7.6	A4III						G	
12	HR 8880	23h 19.8	23° 39		02:21	02:23	2m	17m	1-1.5" Good				4.80	A5V						G	
	215863	22h 47.8	-34° 51'		02:34	03:00	26m	1h 27m	1-1.5" Good				7.7	A2V						G	
13	215966	22h 48.6	-35° 4'		03:06	03:32	26m	1h 58m	1-1.5" Good				7.7	ApEuCr						G	
	225101	0h 2.6	-36° 20'		03:42	04:00	18m	1h 12m	1" Good				7.3	F2V						G	
	HR 214	0h 46.4	19° 29'		04:50	05:02	12m	1h 20m	1.5" Good				6.13	F0V$_n$						G	
14	HR 413	1h 25.4	19° 5'		05:10	05:17	7m	1h 6m	1.5" Good				5.38	F2V						G	parallel star
	HR 463	1h 36.2	12° 3'		05:25	05:32	7.5m	1h 10m	1.5" Good				5.37	F0V						G	
2866	HR 809	2h 43.6	15° 15'	19/20 Oct	05:57	06:03	6m	34m	1.5" Good				5.77	B9V$_n$						G	
	HR ~~859~~ 859	2h 52.1	-9° 30'		06:10	06:21	11m	43m	1.5" Good				~~5.71~~ 6.51	A7IV						G	
	HR 901	2h 58.9	-25° 20'		06:26	06:33	7.5m	50m	1.5" Good				5.71	F2V						G	
	HR 934	3h 3.2	-59° 48'		06:39	06:44	4.5m	55m	1.5" Good				5.11	F0III						G	
	HR 1079	3h 31.7	9° 19'		06:52	06:57	5.5m	41m	1.5" Good				5.71	B9III						G	
	HR 1609	4h 59.7	3° 36'		07:06	07:21	15m	24m	1" Good				7.03	B9V$_n$						G	
	HR 1619A	5h 1.2	10 35'		07:27	07:33	6.5m	13m	1" Good				6.20	B8V						G	
	HR 1619B	"	"		07:37	08:03	26m	17m	1" Good.				7.7	A1III						SV	
22	HR 1778A	5h 22.6	-5° 26'		08:03	08:13	5m	6m	1-1.5" Good				5.96	B3III						G	
	HR 1778B	"	"		08:18	08:45	27m	38m	1" Good				7.7	A5III						SV	
	2843 (Secch)	7h 24.2	-37° 16'		08:56	09:11	15m	58m	1" Good				6.84	F0III-IV						G	

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2866 Cont	HR 2843 (south)	7h 24.2	-37° 16'	19/20 Oct	8:56	09:11	15m	58m	1" Good	2.94	90µ/1.2	67/440	6.84	FOIII-IV	NeA	30s	1 min 22V Blue	IIa-O Baked	N-S	Gry	
2867	HD 213248	22h 30.1	-31° 6'	20/21 Oct	00:11	00:41	30m	32m	1.5" Good	"	"	"	7.6	A9IV	"	"	"	"	"	Gry G	
	212359	22 23.2	-26° 27'		00:51	01:21	30m	15m	1" Good				7.9	F2V						G	
	214341	22 37.1	-33° 33'		01:28	01:56	28m	36m	1-1.5" Good				7.8	A2m						G	
	216290	22 51.3	-34° 43'		02:01	02:26	25m	52m	1" Good				7.7	A1m						G	
	223655	23 50.6	-32° 31'		02:33	02:58	25m	26m	1-1.5" Good				7.7	F2V						G	
16	224641N	23 58.7	-26° 37'		03:04	03:29	25m	49m	1-1.5" Good				~7.7	F0						SU	
	224642	23 58.8	-31° 47'		03:34	04:05	31m	1h 24m	1" Good				7.9	F2V						G	
	HR 804	2h 42.6m	3° 10'		05:20	05:21	45s	3m	1" Good				3.47	A3V						Standard	
	HD 23373	3h 48.5	24° 20'		05:34	05:54	20m	36m	1.5" Good				6.60	B9.5V						G	H 2283 Pleiades
24	HR 1254	4h 3.1	8° 9'		06:02	06:07	5m	39m	1" Good				5.83	F2V						G	
	HR 1315	4h 13.7	9° 58'		06:12	06:14	2.5m	40m	1" Good				5.22	B9Vn						G	
2868	HD 48783	6h 46.3m	-20° 43'	20/21 Oct	06:44	07:28	44m	2h	1" Good	"	"	"	8.30	B9/A0 V	"	"	"	"	"	Gry G	NGC 2287 #101
	HR 1570	4h 54.0	10° 8'		07:40	07:42	1m 45s	6m	1" Good				4.65	A0V						G	
	HR 1469	4h 36.4	0° 58'		07:47	07:50	2.8m	24m	1" Good				5.31	B7V						G	
	HR 1955	5h 40.3	0° 20'		07:56	08:03	7m	19m	1-1.5" Good				5.93	F0V						G	
	HR 2174(A)	6h 8.1	2° 30'		08:10	08:15	5m	35m	1-1.5" Good				5.73	A3Vn						G	
12	HR 2244	6h 15.0	-13° 43'		08:20	08:22	2m	35m	1" Good				5.01	B9Vn						G	
14	HR 2518	6h 46.8	-37° 55'		08:27	08:30	2.5m	57m	1" Good				5.26	B9IV						G	
15	HR 2942 (AC=6A)	7h 24.2m	-37° 16'		08:40	08:56	16m	1h 10m	1" Good				6.97	A9IV						G	
2869	HR 7994	20h 52.0	-11° 39'	21/22 Oct	23:59	00:19	20m	48m	1.5-2" Good	"	"	"	6.38	G1	"	"	"	"	"	Gry	Very variable seeing!
	HR 8041	20h 59.5	-4° 49'		00:25	00:42	17m	1h 4m	1.5-3" Good				6.21	G1							
	HD 209741	22h 5.3	-29° 9'		00:49	01:12	23m	28m	1"-3" Good				7.7	A0IV							
	HD 210049	22h 7.5	-33° 4'		01:18	01:19	1.3m	34m	1-3" Good				4.58	A2V							HR 8431
	213728	22h 35.2	-32° 13'		01:25	01:36	11m	24m	1-1.5" Good				7.1	B7III							
12	213759	23h 9.9	-29° 37'		01:42	01:55	13m	6m	1-1.5" Good				7.2	F0V							
13	220455	23h 23.2	-27° 22'		02:01	02:25	24m	24m	1-1.5" Good				7.9	A0V							

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NUMBER LC	OBJECT	R.A. (1985.0)	DEC. (1985.0)	DATE U.T.	U.T. EXP. BEGIN	U.T. EXP. END	TOTAL / CORR.	H.A. END	SEE. / TRANS.	CAM. FOCUS	SLIT	GRATING / TILT	MAG	SP.	COMP. KIND	COMP. EXP.	CALIB.	EMUL	DEV.	OBS	REMARKS
2869	HD 224112	23h 59.5	-31° 58'	21/22 Oct	02:42	02:53	11m	20m	1-1.5" Good			C	6.35	B8V						Grey	
cont	222996	23h 45.0	-33° 1'		02:59	03:33	34m	1h 10m	1-1.5" Good				8.0	A4N/V							W-ndy!
	221609	23h 32.9	-36° 21'		03:42	04:07	25m	1h 58m	1-2" Good				7.6	F3V							
LC2870	HD 12563	2h 01.8	-29°04'	21/22 Oct.	04:58	05:05	7½m	0h 25m W	1" Exc.	2.9	Syn 1.2mm	67.4	6.4	Am	NeA	60s.		IIa-0	M-S	RWS	T=170! RH=38%
	HD 12037	2h 02.6	-04°22		05:13	06:22	69m	1h 43m W	1" Exc.				8.7	Am	NeA	60s	14y B 14y V	WRONG STAR!!			observer dead.
LC2871	HD 191220	20h 27.7	-83 22	01/02 Nov.	00:34	00:44	10m	2h 28m W	1½" Good	2.94	Syn 1.2mm	67.4	6.2	Am	NeA	60s.		IIa-0	M-S	RWS	
	HD 191507	20h 12.5	-61 36		01:03	01:21	18m	3h 14m W	1" Good				7.1	Ap							Brand lines.
	HD 198501	20h 50.7	-28°03		01:29	01:41	12m	2h 58m W	1" Good				6.8	Am				BAKED 95m @ F.C. @ 68°C. IN VAC + 20m			
	HD 199443	20h 56.9	-16° 06		01:47	01:53	6m	3h 02m W	1" Good				5.9	Am							close to ⅓ moon.
	HD 200623	21h 04.7	-35°46		01:58	03:25	87m	4h 27m W	1" Good				9.0	Am							moon ?
	HD 208217	21h 55.9	-61°55		03:31	03:57	26m	4h 14m W	1" Good				7.6	Ap							
	HD 223967	23h 53.4	-59° 38		04:11	04:29	18m	2h 42m W	1½" Good				7.1	Ap							
	HD 6783	01h 05.4	-77°40		04:36	05:20	44m	2h 21m W	1½" Good				8.2	Ap							
	HD 8783	01h 23.6	-72° 24		05:25	06:29	64m	3h 12m W	1" Good				8.2 ~~8.6~~	Ap							HD MAG = 7.5 BUT REALITY ~ B6..??
	HD 12037	02h 02.6	-04°22		06:36	07:48	72m	3h 52m W	1½" Good				8.7?0	Am			WRONG	STAR !! (AGAIN!)			ANOTHER WRONG ONE AT LEAST MOON IS SET!
	HD 12513	02h 01.8	-29°44'		07:56	08:05	9m	4h 11m W	1" Good				6.4	Am							
	HD 13305	02h 08.9	-24°25		08:10	08:20	10m	4h 18m W	1½" Good				6.45	Am							
	HD 14943	02h 22.4	-51 10		08:26	08:32	6½m	4h 16m W	1½" Good				5.9	Am	NeA	60s.	14y B 14y V				
LC2872	HD 191207	20h 12.5	-61 36	02/03 Nov.	00:08	00:23	15m	2h 21m W	<1" Good				7.2	Ap	NeA	60s.		IIa-0(bl)	M-S	RWS	
	HD 208217	21h 55.9	-61 55		00:27	00:48	21m	1h 03m W	1" Good				7.6	Ap							
	HD 191220	20h 22.7	-83 22		00:55	01:05	10m	2h 53m W	1" Good				6.2	Am							3 trails.
	HD 198501	20h 50.7	-28 03		01:12	01:23	11m	2h 42m W	1" Good				6.8	Am							
	HD 191507	20h 12.5	-61 36		01:31	01:47	16m	3h 45m W	1" Good				7.2	Ap							2nd time tonight.
	HD 199443	20h 56.9	-16°06		01:53	01:58	5m	3h 12m W	1½" Good				5.9	Am							
	HD 200623	21h 04.7	-35°46		02:07	03:40	93m 100	4h 46m W	1" Good				9.0	Am							
	HD 191507	20h 12.5	-61° 36		03:46	04:06	20m	6h 04m W	1" Good				7.2	Ap							3rd time tonight.
	HD 223967	23h 53.4	-59°38		05:03	05:18	15m	3h 35m W	1" Good				7.1	Ap							
	HD 8783	01h 23.6	-72° 24		05:28	06:19	51m	3h 06m W	1" Good				7.5?	Ap							
	HD 12037	01h 57.4	-04°22		06:56	08:13	77m 86m 11m	4h 29m W 4h 31m W	1" Good				8.7	Am							these coords are corrected!
	HD 13305	02h 08.9	-24° 25		08:18	08:28	10m						6.45?	Am							

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					BEGIN	END									KIND	EXP					
2873	HD 191507	20h 12.5	-61 36	Nov 3/4	00:18	00:37	19m / ✓	2h 39W	1½″ / GOOD	2.94	60μ / 1.2	67 / 4.4	7.2	Ap.	NeA	60s		IIa-O	M-S	RWS	
	HD 200623	21h 04.7	-35 46		00:41	02:22	101m / ✓	3h 32W	1″+ / GOOD				9.0	Am							WATCH OUT FOR SKY BACKGROUND!
	HD 208217	21h 55.9	-61 55		02:29	02:55	26m / ✓	3h 13W	1″+				7.6	Ap							
	HD 191507	20h 12.5	-61 36		03:21	03:44	23m / ✓	5h 48W	1½″ av.				7.2	Ap							
	HD 223967	23h 53.4	-59° 38		03:55	04:12	17m / ✓	2h 33W	1″+				7.1	Ap							VFO PROBLEMS.
	HD 6783	01h 06.2	-77° 40		04:19	05:09	48m / ✓	2h 19W	1″-2″				~8.2	Ap							2 min lost while observer fishes hair out of eye.
	HD 12037	01h 57.4	-04 22		05:19	06:39	80m / 90	2h 56W	1″				8.71	Am							RH↑ T↓ (67/9)
	HD 13305	02h 08.9	-24 25		06:48	06:57	9m / ✓	3h 03W	1¼″				6.454	Am							
	HD 14943	02h 22.4	-51 10		07:03	07:08	5¼m / ✓	3h 01W	1″				5.9	Am							
	HD 15144	02h 25.2	-15 24		07:16	07:22	5½m / ✓	3h 11W	1¼″				5.83	Am							CATALAWO
	HD 15588	02h 29.2	-22 44		07:26	07:38	11½m / ✓	3h 23W	1¼″				6.74	Am							
	HD 18454	02h 56.7	-23 55		07:43	07:47	4m / ✓	3h 05W	1¼″+				5.42	Am							
	HD 36619	05h 31.5	-23 2Ƶ6		08:00	08:28	28m / ✓	1h 12W	1½″→1″				7.76	Am	NeA	60s	14V 14m B				MOON DOWN.
2874	HD 13305	02h 08.9	-24 25	Nov 7/8	06:25	06:36	11m / ✓	2h 58W	1″-6″+	2.94	59μ / 1.2	67 / 4.4	6.45	Am	NeA	60s		IIa-O	M-S	RWS	HUMIDY HIGH. WIERD SEEING.
	HD 21997	03h 31.2	-25 39		06:44	06:54	9½m / ✓	1h 53W	1½″~				6.36	Am							
	HD 14943	02h 22.4	-51 10		06:58	07:04	6m / ✓	3h 12W	1¼″~				5.89	Am							
	HD 15144	02h 25.2	-15 24		07:08	07:14	6m / ✓	3h 20W	1½″				5.83	Am							
	HD 15588	02h 29.2	-22 44		07:19	07:31	12½m / ✓	3h 32W	1¼″+				6.74	Am							
	HD 18454	02h 56.7	-23 55		07:35	07:40	4½m / ✓	3h 14W	1½″+				5.4	Am							
	HD 26591	04h 10.9	-20 24		07:46	07:52	6m / ✓	2h 12W	1¼″				5.79	Am							
	HD 31517	04h 54.9	-25° 46		08:02	08:14	12m / ✓	1h 50W	1″				6.7	Am							
	HD 36060	05h 26.6	-40° 58		08:18	08:24	6½m / ✓	1h 20W	1¼				5.9	Am							
	HD 41214	06h 00.5	-51° 13		08:29	08:34	5½m / ✓	1h 05W	1¼				5.66	Am							
	HD 56731	07h 16.4	-30 52		08:41	08:49	8½m / ✓	04W	1½+				6.3	Am							
	HD 53704	07h 03.6	-42 18		08:53	08:56	3½m / ✓	24W	1½				5.2	Am	NeA	60s	14V 14m B				
2875	HD 14943	02h 22.4	-51 10	Nov 8/9	01:06	01:14	8m	2h 40 E̶	1″	2.94	50μ / 1.2	67 / 4.4	5.9	Am	NeA	60s		IIa-O unbaked	M-S	RWS	
	HD 15144	02h 25.2	-15 24		01:19	01:27	7½m	2h 25E	1¼″				5.8	Am							
	HD 15588	02h 29.2	-22 44		01:32	01:52	18m	2h 04E	1″				6.74	Am							
	HD 18454	02h 56.7	-24 16		02:09	02:14	5m	2h 10E	1″				5.4	Am							
	HD 21997	03h 31.2	-25 39		02:18	02:32	14m	2h 26E	1″				6.4	Am							

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	2875	HD 24188	3h45.4	-71 42	Nov 8/9	02:49	03:01	12m	2h 11E	1¼	2.94	50μ x 1.2mm	67/4.4	6.0	Ap	NeA	60s.		IIa-O	M-S	RWS	UNBAKED PLATE
	2876	HD 24825	3h54.8	-38 48	Nov 8/9	04:24	04:44	20m	h 36E	1¼	2.94	50μ x 1.2mm	67/4.4	6.8	Ap	NeA	60s		IIa-O	M-S	RWS	i.e. 2875 OK.
		HD 26591	4h10.9	-20 24		04:50	04:58	7½m	h 39E	1¼				5.79	Am							
		HD 27463	4h16.2	-60 58		05:04	05:17	12½m	h 25E	1¼				6.49	Ap							
		HD 29305	4h33.6	-55 04		05:24	05:27	30, 60s.	h 33E	1¼				3.47	Ap							2 spectra.
		HD 29435	4h36.3	-30 44		05:32	05:44	11½m	h 19E	1"				6.48	Ap							
		HR 1991	5h36.6	-78 50		06:11	06:24	12½m	h 38E	1¼				6.1	Ap							HD 38602
7		HD 41214	6h00.5	-51 13		07:14	07:22	7m	h 04E	1¼				5.66	Am							
		HD 42078	6h06.2	-42 17		07:26	07:37	11m	h 05W	1¼				6.15	Am							
		HD 45229	6h22.6	-56 22		07:42	07:51	8m	03W	1"				5.85	Am							
		HD 48797	6h42.8	-39°08		07:58	08:11	12½m	03W	1"				6.30	Am							
		HD 50643	6h52.7	-18 54		08:17	08:28	11m	10W	1"				6.14	Am							
		HD 53704	7h03.6	-42 18		08:33	08:38	4½m	10 W	1"				5.21	Am	NeA	60s.	14V 14mB				
	2877	HD 193721	20 31.2	-81°02	9/10 Nov	00:08	00:34	26m ✓	2 35W	1½	2.94	50μ/1.2	67/4.4	6.9	G7	NeA	30s	–	IIa-O	M-S	Myd.	RH = 57% T = 12°C
		193896	20 22.2	-9° 42		00:38	01:01	23m ✓	3 10W	1"				7.2	G5							
		205935	21 39.5	-55°48		01:04	01:31	27m ✓	2 25W	1"				7.4	K0							
		206834	21 44.2	-9° 09		01:35	01:44	9m ✓	2 35W	1"				6.2	G8							
		40 Peg	22 38.2	+19°26		01:49	02:07	18m ✓	2 05W					6.7	G8							
		1 Cet	23 57.5	-15°56		02:10	02:35	25m ✓	1 10W					7.3	K0							
17		36 Psc	0h 15.8	+8° 09		02:37	02 58	19m ✓	1 15W					7.0	G8							
		HD 1367	0h 17.0	+1° 36		03:00	03:21	21m ✓	1 38W					7.1	K0							
		3488	0h 36.7	-54°29		03:24	03:51	27m ✓	1 50W					7.4	K0							
		58 Psc	0 46.2	+11°54		03:55	04:07	12m ✓	1 55W					6.5	G8							
		ρ² Eri	3 02.0	-7°45		04:11	04:21	10m ✓	6 E					6.3	K0							
27		HD 20313	3 07.8	-79°03		04:26	04:33	7m streaky	4 E					5.9	F2							
	2878	HD 28776	4 30.1	-35°41		05:31	5:49	18m ✓	5 E	1"				7.0	K0	"	"		"	"	"	
		29104	4 34.8	+19°52		05 55	06 15	20m ✓	15 W					7.1	G5+AF							
8		SKY NEAR MOON ~~35162~~	~~5 21.2~~	~~-24°47~~		06:15	06:35	20m	–					–	G2							

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2878 contd.	HD 35162	5h 21.2	-24° 47	9/10 Nov	06:38	06:43	5m / ✓	2E	1" /	2.94	50µ / 1.2	67 / 4.4	5.7	G7+A7	NeA	30s	–	IIa-O(b)	M-S	Myd.	4" separation E-W Could be done close in DEC
	36891	5 35.8	+40° 11		06:47	07:19	32m / 50	15W	~1" /				7.1	G3							less than 20° ALTITUDE
	40733	5 58.2	-44° 02		07:23	07:39	16m / ✓	15W	1" /				6.9	G8							
	44362	6 18.4	-50° 21		07:41	08:21	40m / ✓	40W	/				7.9	G2							check finder
	50785	6 52.2	-42° 29		08:27	08:41	16m / ✓	25W	/				6.9	F3							
	57146	7 18.2	-26° 33		08:45	08:53	8m / ✓	10W	/				6.2	G2							9°C 57%
2879	HD 7082	1 09.5	-57° 46	10/11 Nov	00:00	00:25	25m / ✓	207E	1½" musty /				7.3	G6	"	"	"	"	"	"	9°C 71% RH
	12270	1 57.5	-65° 30		00:30	00:55	25m / ✓	210E	1" /				7.3	G8							check finder.
	61 Cet	2 03.0	-0° 24		01:01	01:16	15m / ✓	208E	/				6.8	G5+G5							
	ρ' Eri	3 00.4	-7° 43		01:20	01:35	15m / ✓	248E	/				6.8	K0							
	HD 20313	3 07.8	-79° 03		01:40	01:46	6m / 7	245E	/				5.9	F2							
	20894	3 20.8	-23° 41		01:51	02:01	10 / ✓	242E	/				6.4	G6.5p							
	23010	3 40.5	-11° 51		02:04	02:20	16 / ✓	243E	/				6.9	F5							
	79 Cet ~~[illegible]~~	2 34.4	-3° 38		02:23	02:53	30m / 28	104E	/				7.5	G							
	HD 20439 vB2	3 16.5	+7° 37		02:58	04:08	70m / 62	30E	/				8.4	G0-G2							check finder.
	21 Ori	5 18.4	+2° 36		04:33	04:38	5 / ✓	202E	/				5.8	F5							
	HD 38713	5 46.4	-16° 14		04:41	05:01	20 / 18	207E	/				7.1	G2							
	39632	5 53.4	+10° 35		05:04	05:34	30 / 36	139E					7.6	G9							T=8°C RH=49%
2880	HD 32406	5 03.3	+30° 29		05:47	06:25	38 / 35	2E					7.4	K0							
	47475	6 36.4	-41° 32		06:30	07:00	30 / ✓	57E					7.5	K0							
	49396	6 45.1	-52° 11		07:05	07:39	34 / ✓	26E					7.7	G6							
	51043	6 52.5	-54° 04		07:44	08:18	34 / ✓	4W					7.7	G5							
	51330	6 56.6	+11° 56		08:22	08:38	15 / 12	21W					6.6	F2							
	ε CMi	7 24.8	+9° 18		08:40	8:47	7 / ✓	2W					6.0	G6.5	"	"					7°C 51%
Focus	1204	9/11 Nov-84		3.22	-3.42	by .02's	3.32 best				52µ / 1.2	120 / 7.0			"	30s		IIa-C	M-S		T=13°

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	2881	HD 193721	20 31.2	−81° 02	11/12 Nov	00:22	00:29	7 / ✓	2 40 W	1" / clear	3.32	50μ / 1.2	120 / 7.0	6.9	G6-8	NeA	15s	–	IIa0(6)	M-S	Myd	10° 60%
		193896	20 22.2	−9° 42		00 35	00:44	9 / ✓	3 05 W	/				7.2	G5				90m			
		205935	21 39.5	−55° 48		00:50	01:01	11 / ✓	2 05 W	/				7.4	K0				forming			
		3488	0 36.7	−54° 29		01:03	01:14	11 / ✓	40 E	/				7.4	K0				gas.			
		7082	1 09.5	−57° 46		01:17	01:27	10 / ✓	1 01 E					7.3	G6							
		46 Cap	21 44.2	−9° 09		01:31	01:34	3½ / ✓	2 33 W					6.2	G8							
		40 Peg	22 38.2	+19° 26		01:37	01:43	6 / ✓	1 48 W	streaky				6.7	G8							
		1 Cet	23 57.5	−15° 56		01:46	01:56	10 / ✓	33 W					7.3	K0							
20		36 Psc	0 15.8	+8° 09		01:59	02:06	7 / ✓	33 W					7.0	G8							
		HD 1367	0 17.0	+1° 36		02:09	02:17	8 / ✓	43 W					7.1	K0							
		58 Psc	0 46.2	+11° 54		02:20	02:25	4½ / ✓	21 W					6.5	G8							
6↑		HD 12270	1 57.5	−65° 30		02:31	02:41	10 / ✓	35 E					7.3	G8							
	2882	61 Cet	2 03.0	−0° 24		03:27	03:33	6 / ✓	13 W					6.8	G5+G5							
		ρ¹ Eri	3 00.4	−7° 43		03:36	03:42	6 / ✓	–					6.8	K0							
		ρ² Eri	3 02.0	−7° 45		03 44	03:48	4 / 5	31 E					6.3	K0							Ft comp 1" ENE
		HD 20313	3 07.8	−79° 03		03:55	04 02	2,3 / 4	26 E	streaky				5.9	F2							
		20894	3 20.8	−23° 41		04:06	4:10	4 / ✓	28 E					6.4	G6.5p							
		23010	3 40.5	−11° 51		04:14	04:21	7 / ✓	37 E					6.9	F5							
		28776	4 30.1	−35° 41		04 27	04 34	7 / 8	1 14 E					7.0	K0							check fidu (OK).
	34658	34658	5 18.4	+20° 36		04 42	04 48	2,3 / ✓	1 48 E					5.8	F5							
24		27685	4 21.6	+16° 45		04:53	05:20	27 / 29	19 E					8.4	G4							Solar Type
6		35162	5 21.2	−24° 47		05 22	05 27	2,2½ / ✓	1 12 E					5.7	G7+A7							
	2883	HD 32406	5 03.3	+30° 29		06 04	06:16	12" / 15	3 E					7.4	K0							
		34579	5 18.4	+20° 08		06 19	06:27	8 / streaky	8 E					7.1	G8+G1							
		27149	4 16.9	+18° 11		06:31	06 54	23 / 26	1 20 W					8.2	G5							Hy #23 Solar Type
		26736	4 13.4	+23° 32		06 57	07 42	45 / 50	2 12 W					8.8	G3							Hy #15
12		44362	6 18.4	−50° 21		07 47	08:04	17 / ✓	29 W					7.9	G2							
		47475	6 36.4	−41° 32		08:07	08:19	12 / ✓	26 W					7.5	K0							

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2883 con'd	25 Gem	6 40.4	+28° 13	11/12 Nov	08:22	08:35	13 / ✓	38 W	1½" / clear	3.~~2~~2	50μ / 1.2	120 / 2.0	7.5	G5	Neon	15s	—	IIa-O(6)	MS	Myd.	
	HD 49396	6 45.1	−52° 11		08:38	08:52	14 / ✓	50 W					7.7	G6							9° 47%
	~~51043~~	~~6 52.5~~	~~−54° 04~~	DAWN!																	
2884	HD 193721	20 31.2	−81° 02	12/13 Nov	00 00	00:13	13 / ✓	227 W	1"+ / clear				6.9	G6-8	Neon	30s	—	IIa-O	MS		11°C 47% RH
	40 Peg	22 38.2	+19° 26		00 19	00 30	11 / ✓	37 W	1" /				6.7	G8							
	BS 7895	20 31.3	−9° 56		0034	0042	8 / ✓	257 W					6.4	G3							Solar Type
	HD 223238	23 46.8	+4° 02		0046	01:36	50 / ✓	35 W					8.3	G3							Solar Pgm
12	12270	1 57.5	−65° 30		01:55	02:14	19 / ✓	57 W					7.3	G8							
↷	ρ² Eri	3 02.0	−7° 45		02:37	0244	7 / ✓	131 E					6.3	K0							
↶	HD 20313	3 07.8	−79° 22		02:18	02 32	5.6 / ✓	153 E					5.9	F2							
	28776	4 30.1	−35° 41		0249	03:03	14 / "	242 E					7.0	K0							
2885	~~W Ari~~	~~3h 14.8~~	~~+28° 59~~						Faintr than 12th?		Can't find		~10	G?		15s		IIa-O6			
	HD 38713	5 46.4	−16° 14		04:04	04:15	11 / ✓		½ UNSTEADY				7.1	G2							
	28767	4 13.4	+12° 24		04:17	0508	~~[illegible]~~ 46 / ✓	25 E	1"+ /				8.7	G1							Hyades #18 Solar Pgm
	32406	5 03.3	+30° 29		0506	05 19	13 / ✓	56 E					7.4	K0							
	34579	5 18.4	+20° 08		05 24	0533	9 / ✓	58 E					7.1	G8							
	39632	5 53.4	+10° 35		05 36	0548	12 / ✓	1 18 E					7.6	G9							
	40733	5 58.2	−44° 02		0552	0559	7 / ✓ steady	1 13 E					6.9	G8							
	36891	5 35.8	+40° 11		06 24	06 36	12 / 17	13 E					7.1	G3							
15m SKY>	25 Gem	6 40 4	+28° 13		06 40	0654	14 / ✓	58 E					7.5	G5							
	50785	6 52.2	−42° 29		~~0655~~ 07 15	~~0710~~ 0722	7 / ✓	44 E					6.9	F3							
27	51043	6 52.5	−54° 04		07 25	07:39	14 / ✓	27 E					7.7	G5							
	52622	6 58.4	−56° 22		0742	0748	6 / ✓	24 E					6.8	F2							
2886	51330	6 56.6	+11° 56		07 59	08 08	9 / ✓	1 E	} foggy				6.6	F2		30s		IIa-O			
	52703	7 00.3	−33° 27		08 10	08 32	22 / ✓	19 W					7.5	G8							
+SKY> 5m	W Gem	7 01.5	+24° 14		0835	0840	5 / ✓	26 W					6.1	G5							
	57146	7 18.2	−26° 33		0848	0855	7 / ✓	24 W					6.2	G2							11°C 43%

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2887	~~HD 193721~~	~~20 31.2~~	~~-81° 02~~	~~Too close to pier~~						2.94	50µ / 1.2	67			Neat	60s	—	IIa-O	M-S	Myd	13° 46%
	HD 205935	21 39.5	-55° 48	14/15 Nov	00:27	01:17	50 ✓	2 31 w	1" clear				7.4	K0							
	46 Cap	21 44.2	-9° 09		01:21	01:38	17 ✓	2 49 w	1"				6.2	G8							
	36 Psc	0 15.8	+8° 09		01:42	02:27	35 ✓	56 w					7.0	G8							
	HD 3488	0 36.7	-54° 29		02:33	03:23	50 ✓	1 41 w					7.4	K0							
	7082	1 09.5	-57° 46		03 56	04:41	45 ✓	2 26 w					7.3	G6							
	61 Cet/12641	2 03.0	-0° 24		04:45	05:15	30 ✓	2 07 w	1½"				6.8	G5+G5							
	ρ² Eri	3 02.0	-7° 45		05:18	05:35	17 ✓	1 28 w					6.2	K0							
	HD 20894	3 20.8	-23° 41		05:38	06:00	22 ✓	1 34 w					6.4	G6.5p							very blue
	28776	4 30.1	-35° 41		06:02	06:38	36 ✓	1 03 w					7.0	K0							
	35162	5 21.2	-24° 47		06:40	06:51	11 ✓	24 w					5.7	G7+A7	Neat	60s					
2888	HD 32406	5 03.3	+30° 29		07 04	08 14	70 40	2 07 w					7.3	K0	Neat	60s	—	IIa-O			
	40733	5 58.2	-44° 02		08 18	08 51	33 ✓	1 48 w					6.9	G8							10°C 53% RH
2889	HD 205935	21 39.5	-55° 48	15/16 Nov	00:00	00:50	50 ✓	2 13 w	1"				7.4	K0	Neat	60s	—	IIa-O			13°C 40%
	46 Cap	21 44.2	-9° 09		00 53	01:10	17 ✓	2 24 w					6.2	G8							
	36 Psc	0 15.8	+8° 09		01:14	01:49	35 ✓	31 w					7.0	G8							
	HD 3488	0 36.7	-54° 29		02:19	03:09	50 ✓	1 32 w					7.4	K0							
	7082	1 09.5	-57° 46		03:13	03:58	45 ✓	1 47 w					7.3	G6							
	61 Cet	2 03.0	-0° 24		04 34	05:04	30 ✓	2 00 w					6.8	G5+G5							
	ρ² Eri	3 02.0	-7° 45		05:09	05:26	17 ✓	1 23 w					6.2	K0							
	HD 20894	3 20.8	-23° 41		05:28	05:50	22 ✓	1 28 w					6.4	G6.5p							
	28776	4 30.1	-35° 41		05:53	06:29	36 ✓	57 w					7.0	K0							
	35162	5 21.2	-24° 47		06:31	06:42	11 ✓	20 w					5.7	G7+A7							
	40733	5 58.2	-44° 02		06:46	07:19	33 ✓	19 w					6.9	G8							
	52622	6 58.4	-56° 22		07:22	07:50	28 ✓	10 E					6.8	F2							
2890	57146	7 18.2	-26° 33		08:02	08:19	17 ✓	1 E					6.2	G2	Neat	60s	—	IIa-O			
	57118	7 18.4	-19° 15		08:23	08:48	25 ✓	29 w					6.7	F0							
	193896	20 22.2	+9° 42	16/17 Nov	00:10	00:55	45 ✓	3 30 w	1" clear				7.2	G5							15°C 42% RH

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B 13 2890	40 Peg	22 38.2	+19° 26	16/17 Nov	01:00	01:28	28 / ✓ streaky	1 52 w	1" / clear	2.94	50 µ / 1.2	67	6.7	G8	Neon	60ˢ	-	IIa-O	MS	Myd.	
cont'd	1 Cet	23 57.5	-15° 56		01:31	02:16	45 / ✓	1 20 w	<1"				7.3	K0							
	HD 1367	0ʰ 17.0	+1° 36		02:24	03:04	40 / ✓	1 50 w					7.1	K0							
	58 Psc	0 46.2	+11° 54		03:08	03:31	23 / ✓	1 47 w	1"				6.5	G8							
	HD 12270	1 57.5	-65° 30		03:34	04:19	45 / ✓	1 24 w					7.3	K0							
	ρ¹ Eri	3 00.4	-7° 43		04:22	04:52	30 / ✓	53 w					6.8	K0							
	HD 20313	3 07.8	-79° 03		05:00	05:13	13 / ✓ streaky	1 05 w					5.9	F2							
	23010	3 40.5	-11° 51		05:17	05:50	33 / ✓	1 12 w					6.9	F5							
2891	21 ORIONIS 34658	5ʰ 18.4	+2° 36		06:07	06:19	12 / 9						5.8	F5	Neon	60ˢ					
	38713	5 46.4	-16° 14		06:22	07:02	40 / ✓	17 w					7.1	G2							
	34579	5 18.4	+20° 08		07:05	07:45	40 / 45	1 29 w					7.1	G8							
	39632	5 53.4	+10° 35		07:48	08:48	60 / 70	1 57 w					7.6	G9	"	"					13° C 41% RH
B 2892	40 Peg	22 38.2	+19° 26'	17/18 Nov	00:22	00:53	31 / ✓	1 18 w	1" / cirrus				6.7	G8	"	"					15° 42% +10%
	1 Cet	23 57.5	-15° 56'		00:56	01:41	45 / ✓	48 w	<1"				7.3	K0							-
	HD 1367	0ʰ 17.0	+1° 36'		01:43	02:23	40 / ✓	1 11 w	clear				7.1	K0							
	58 Psc	0 46.2	+11° 54		02:25	02:48	23 / ✓	1 08 w	1"				6.5	G8							
	HD 12270	1 57.5	-65° 30		02:53	03:38	45 / ✓	1 44 w					7.3	G8							
	ρ¹ Eri	3 00.4	-7° 43		04 33	05:03	30 / 27	1 10 w					6.8	K0							
	HD 20313	3 07.8	-79° 03		05:07	05:18	12 / 13	1 15 w					5.9	F2							
	23010	3 40.5	-11° 51		05:43	06:14	28 / 26	1 37 w					6.9	F5							
	21 Ori	5 18.4	+2° 36		06:16	06:25	9 / ✓	12 w					5.7	F5							
	HD 34579	5 18.4	+20° 08		06:28	07:28	60 / 80	1 10 w	cirrus				7.1	G8							+50%
	38713	5 46.4	-16° 14		07:30	08:20	50 / ✓	1 40 w					7.1	G2							13° 29% +20%
A 2893	HD 205935	21 39.8	-55° 48	18/19 Nov	00:15	01:05	50 / 45	2 35 w	<1" / clear				7.4	K0	Neon	60ˢ	-	IIa-O			16° 34%
	46 Cap	21 44.2	-9° 09		01:07	01:24	17 / 15	2 49 w					6.2	G8							
	36 Psc	0 15.8	+8° 09		01:44	02:19	35 / ✓	2 13 w					7.0	G8							
	HD 3488	0 36.7	-54° 29		02:51	03:41	50 / ✓	2 14 w					7.4	K0							

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						BEGIN	END									KIND	EXP.					
A	2893	HD 7082	1 09.5	−57°46	18/19 Nov	03:44	04:29	45 / ✓	2 29 w	1" / clear	2.94	50μ / 1.2	67	7.3	G6	Net	60s	–	IIa-O	M-S	Myd	
	cont.	61 Cet	2 03.0	−0°24		04:35	05:05	30 / ✓						6.8	G5+G5							
		ρ² Eri	3 02.0	−7°45		05:10	05:30	20 / 17	1 32 w	1½"				6.3	K0						+15%	
		HD 20894	3 20.8	−23°41		05:34	06:09	35 / 20	1 59 w	1½-2"				6.4	G6.5p						+50%	No Wind / [illegible]% RH Seeing getting worse.
		28776	4 30.1	−35°41		06:12	07:00	48 / ✓	1 42 w					7.0	K0						"done seeing"	+50%
		35162	5 21.2	−24°47		07:04	07:16	12 / 11	1 05 w					5.7	G7+A7							
24		40733	5 58.2	−44°02		07:19	07:58	39 / ✓	1 10 w					6.9	G8							+20%
6		52622	6 58.4	−56°22		08:01	08:31	30 / ✓	42 w					6.8	F2							13°C 24% RH
7																						
B	2894	HD 193896	20 22.2	−9°42	19/20 Nov	00:27	01:17	50 / ✓	4 [illegible] w	1" / clear				7.2	G5							15°C 40% RH
		40 Peg	22 38.2	+19°26		01:20	01:48	28 / 33	2 30 w					6.7	G8							
		1 Cet	23 57.5	−15°56		01:51	02:36	45 / ✓	1 52 w					7.3	K0							
		HD 1367	0 17.0	+1°36		02:38	03:18	40 / 37 ✓	2 15 w					7.1	K0							
		4482	0 46.2	+11°54		03:23	03:46	23 / 20 ✓	2 14 w					6.5	G8							
		12270	1 57.5	−65°30		03:52	04:42	45 / 40 ✓	2 00 w					7.3	G8							
		ρ¹ Eri	3 00.4	−7°43		04:51	05:18	27 / ✓	1 30 w	1" ~~cirrus~~				6.8	K0							
		HD 23010	3 40.5	−11°57		05:23	05:57	28 / ✓	1 30 w	cirrus				6.9	F5							+15%
		21 Ori 34658	5 18.4	+2°36		06:02	06:11	9 / ✓	6 w					5.7	F5							
23		38713	5 46.4	−16°14		06:14	06:54	40 / 37 ✓	21 w					7.1	G2							
5		~~47475~~	~~6 36.4~~	~~−41°39~~										7.5	K0	clouded out.						
27	2895	SA115-349	23 42.0	+0°46	20/21 Nov	00:29	02:05	96 / ✓	1 41 w	1" / clear	3.32	50μ / 1.2	120	9.7	G8	Net	15s	–	IIa O(b)	M-S		15°C 30% RH Landolt Std ★.
	2896	IT W Ari	3h 19.8	+28°54		04:33	07:03	150 / ux	3 01 w			100μ / .6		13?	G?				IIaD	mwP-2		14° 32%
	2895	36 Psc	0h 15.8	+8°09	21/22 Nov	00:16	00:23	7 / ✓	32 E	1" / clear	~~[illegible]~~ 3.32	50μ / 1.2	120	7.0	G8							15°C 40% RH
		ρ² Eri	3 02.0	−7°45		00:27	00:31	4 / wrong ★	3 12 E					6.3	K0			ρ³ Eri				
		HD 28776	4 30.1	−35°41		00:36	00:43	7 / ✓	4 20 E					7.0	K0							
F	IT 2897	W ARI	3 19.8	+28°54		02:15	07:00	250m / ux	3 05 w			100μ / .6		14?	N?				IIa-D	MWP-2		35m [illegible].
15	2895	ε CMi	7 24.8	+9°18		07:31	07:34	3 / ✓	29 E			50μ / 1.2		6.0	G6.5							
		HD 58535	7 24.2	−31°47		07:46	07:50	4 / ✓	12 E					6.4	G8						ok.	~~[illegible]~~
		R Pup	7 40.3	−31°38		07:53	08:07	14 / ✓	12 E					7.7	G2							
		SA99-172	7 53.4	−0°33		08:15	08:50	35 / ✓ streaky	19 w					8.9	A1						13°C 37%	Landolt Std.

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A	2898	HD205935	21 39.5	-55°48	22/23 Nov	00:15	01:20	65 ✓	305W	1"-2" / good	2.94	50µ / 1.2	67 / 4.4	7.4	K0	NeA	60s	-	IIa-O	M-S	Myd.	12° 62% RH
		46 Cap.	21 44.2	-9°09		01:24	01:44	20 ✓	324W					6.2	G8							
		36 Psc	0 15.8	+8°09		01:48	02:23	35 ✓	132W	1"	focus off.			7.0	G8							
		HD3488	0 36.7	-54°29		02:26	03:16	50 ✓	205W					7.4	K0							
17		7082	1 09.8	-57°46		03:18	04:03	45 ✓	218W					7.3	G6							
	2899	HD52703	7 00.3	-33°27		04:44	05:14	30 ✓	222E					7.5	G8		30s	-	IIa-O(b)			
		58535	7 24.2	-31°47		05:17	05:29	12 ✓	230E					6.4	G8							+10%
		58526	7 25.1	-5°45		05:32	05:51	19 ✓	209E					6.9	G3							
		59067	7 27.1	-11°31		05:54	06:06	12 ✓	155E					6.4	G8+B							
13		61227	7 36.6	-23°44		06:10	06:24	14 ✓	148E	bad focus.				6.9	F0							
		MY Pup.	7 37.9	-48°33		06:28	06:36	8 ✓	137E					6.3	F4							
		R Pup	7 40.3	-31°38		06:40	07:18	38 ✓	57E					7.7	G2							check finder. OK
		HD 63382	7 45.3	-56°41		07:22	07:32	10 ✓	48E					6.5	F0							
		64067	7 48.8	-56°22		07:35	07:51	16 ✓	31E					6.7	G5							
		10 Pup	7 51.6	-14°48		07:54	08:01	7 ✓	25E					6.1	F1							
		HD 66812	8 03.0	-42°54		08:05	08:32	27 ✓	6E					7.3	G8							
27		AH Vel	8 11.5	-46°36		08:34	08:43	9 ✓	3E					6.4	F7							10°C 60%
	Focus			2.70 → 3.20 by .05s				3.05 best								NeA	60s		IIa O	MS		
4	2900	HD 52703	7 00.3	-33°27	30/1 Dec	04:43	05:13	30 ✓	150E	1" / good	3.05	50µ / 1.2	67 / 4.4	7.5	G8	NeA	30s	-	IIa-O(b)	MS	Myd.	T=13° RH=54%
		58535	7 24.2	-31°47		05:15	05:27	12 ✓	200E					6.4	G8							
		58526	7 25.1	-5°45		05:30	05:49	19 ✓	139E					6.9	G3							
		59067	7 27.1	-11°31		05 51	06:03	12 / 14	127E					6.4	G8+B							Resolved! ½s seeing (less than 1" apart? 3.105° .9")
		61227	7 36.6	-23°44		06 05	06:19	14 ✓	111E					6.9	F0							
		MY Pup	7 37.9	-48°33		06:20	06:28	8 / 12	113E					6.3	F4							
		R Pup	7 40.3	-31°38		06:30	07:06	36 ✓	37E					7.7	G2							
		HD 63382	7 45.3	-56°41		07:09	07:19	10 / 12str	20E					6.5	F0							
20		64067	7 48.8	-56°22		07:21	07:37	16 ✓	14E					6.7	G5							Low faint companion? 1.1-15.

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GARRISON CLASSIFICATION SPECTOGRAPH

NUMBER	OBJECT	R.A.	DEC.	1984 DATE U.T.	U.T. EXP. BEGIN	U.T. EXP. END	TOTAL / CORR.	H.A. END	SEE. / TRANS.	CAM. FOCUS	SLIT	GRATING / TILT	MAG B	SP.	COMP KIND	COMP EXP.	CALIB	EMUL	DEV	OBS	REMARKS
2900 cont	10 Pup	7 51.6	-14°48	1 Dec	07:39	07:46	7 ✓	8E	<1"	2.94	50μ 1.2	67 4.4	6.1	F1	NeA	30s	-	IIa-O(b)	MS	Mgd	
	HD 66812	8 03.0	-42°54		07:48	08:15	27 ✓	10W					7.3	G8							
26	AH Vel	8 11.5	-46°36		08:18	08:27	9 ✓	13W					6.4	F7							
	HD 70761	8 22.2	-26°18		08:30	08:38	8 ✓	14W					6.3	F5							12° 53%
Focus Plate Dec 2 3.15 - 3.60 by .05's (3.42 best)																					
2901	SA114-473	22 41.1	+0°38	1/2 Dec	00:31	02:01	90m ✓	3 20W	1" clear	3.42	50μ 1.2	120	9.5	G7p	NeA	15s	-	IIa-O(b)	MS	14° 56%	Lambert plate
	SA94-342	2 57.2	+0°20		02:12	04:12	120 140 ✓	1 18W					10.0	K0							
	SA96-180	4 50.4	-0°04		04:20	06:30	120 145 ✓	1 42W					10.0	G8							
	SA98-653	6 50.8	-0°16		07:07	08:07	60 68 ✓	1 19W					9.5	A0							
	SA98-667	6 50.9	-0°16		08:08	08:30	22 25 ✓	1 41W					8.4	B9							
	HD 66812	8 03.0	-42°54		08:33	08:41	8 11 ✓	43W					7.3	G8							14° 60% color
	SA115-427	23 42.0	+0°58	2/3 Dec	00:32	02:42	130 5m ✓	3 05W	1" clear				10.1	K1							15° 55%
	SA96-764	4 51.9	+0°22		02:47	04:11	75 80 ✓	32E					9.7	F5							
	HD 62058	7 40.3	-31°38		04 16	04 30	14 17 ✓	3 05E					7.7	G2							
25	SA97-358	5 56.3	+0°14		04:55	06:25	90 110 ✓	37W					10.0	A0							
65	SA99-185	7 53.6	-0°41		07:02	08:22	80 100 ✓	30W					9.5	K0							14° 52% color
Focus Plate Dec 4 3.44 - better																					
2902	SA115-427	23 42.0	+0°58	3/4 Dec	00:19	02:49	150 ✓	3 17W	1/4"	3.44			10.1	K1		15s		IIa-O(b)	MS		15° 55%
	ρ^2 Eri	3 02.0	-7°45		02 54	02 57	3m ✓	5W					6.2	K0							
	79 Ceti	2 34.4	-3°38		03:01	03:14	13 ✓	45W	1"				7.5	G							
	SA95-52	3 53.0	-0°13		03:18	05:13	115 ✓	1 30W					10.1	F6							
	HD 29104	4 34.8	+19°52		05:18	05:29	11 ✓	1 04W					7.1	G5+A+F							check finder 5 * Dome
	29310	4 36.4	+15°07		05:31	05:55	24 ✓	1 28W					8.1	G1							Hy # 102
	BS 2290	6 19.5	-48°44		06:18	06:28	10 ✓	19W					7.2	G							
	HD 40733	5 58.2	-44°02		06:32	06:40	8 ✓	53W					6.9	G8							
	57118	7 18.4	-19°15		06:43	06:48	5 ✓	20E					6.7	F0							
22	SA99-447	7 54.8	-0°17		06:54	07:54	60 ✓	9W					9.4	A0							
4	HD 58526	7 25.1	-5°45		07:59	08:07	8 ✓	52W					6.9	G3							
6	59878	7 32.0	+22°56		08:10	08:24	14 18 ✓	03W					7.6	K0+F8							14° 58% light mist
40																					

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	NUMBER LC	OBJECT	R.A.	DEC.	1984 DATE U.T.	U.T. EXP. BEGIN	U.T. EXP. END	TOTAL / CORR.	H A. END	SEE. / TRANS.	CAM. FOCUS	SLIT	GRATING / TILT	MAG B	SP.	COMP. KIND	COMP. EXP.	CALIB.	EMUL.	DEV	OBS.	REMARKS
	2903	SA92-336	0 53.8	+0°39	4/5 Dec	00 31	01:40	65 ✓	59 W	1"+ / clear	3.44	50μ / 1.2	120	9.0	G8	NeA	20s	—	IIaO(b)	MS	Ryd	15° 48%
		SA95-96	3 51.6	−0°04		02:37	04:42	125 ✓	104 W					10.15	B9							
		39 Tau	4 04.1	+21°57		04:45	04:50	5 / 6	100 W					6.5	G1							
		SA96-180	4 50.4	−0°08		05:37	08:07	150 ✓	332 W					10.0	G8							
		SA100-606	8 51.7	−0°04		08:10	08:43	33 ✓	5 W					8.7	B9							13° 45% calm
14		SA93-37	1 53.7	+0°05	5/6 Dec	00:29	02:09	100 / 130	32 W	1" / clear				9.9	F2							2" Double ★ B at ~310° 15° 41%
		SA96-329	4 49.7	+0°04		03:58	05:13	75 ✓	40 W					9.55	A8							
		ε CMi	7 24.8	+9°18		05:16	05:20	3½ ✓	148 E					6.0	G6.5							
		HD 58535	7 24.2	−31°47		05:23	05:28	5 ✓	138 E					6.4	G8							Double 1" How ft B?
		SA97-230	5 55.0	+0°09		05:33	07:33	120 ✓	158 W					9.8	G1							
		R Pup	7 40.3	−31°38		07:42	07:59	17 ✓	36 W					7.7	G2							
		HD 64320	7 49.7	−60°01		08:02	08:25	23 / streaky	53 W					8.0	K0							
28		67249	8 04.3	−50°32		08:28	08:39	11 ✓	52 W					7.2	G5							13° 36% calm.
	2904	SA93-326	1 53.5	+0°40	6/7 Dec	00:21	02:11	110 ✓	39 W	1" / clear				10.0	F6							15° 44%
		SA93-554	1 51.3	+1°08		03:10	03:52	42 ✓	222 W					8.9	F0							
		~~HD 26736~~	~~4 13.4~~	~~+23°32~~	Moon too close.				—					~~8.8~~	~~G3~~							~~Solar-type gen~~
		SA95-402	3 54.8	+0°38		04:02	05:42	100 ✓	208 W					9.9	A8							2" Double ★. B at ~345°
		HD 59067	7 27.1	−11°31		05:44	05:50	5½ ✓	115 E					6.4	G8+B							
		61227	7 36.6	−23°44		05:54	06:00	6 ✓	115 E					6.9	~~G~~ F0							
		MY Pup	7 37.9	−48°33		06 04	06 08	3+ ✓	108 E					6.3	F4							
		HD 66812	8 03.0	−42°54		06:14	06:26	12 ✓	115 E					7.3	G8							
17		SA98-653	6 50.8	−0°16		06:30	07:55	70 ✓	126 W					9.5	A0							
		HD 63382	7 45.3	−56°41		07:57	08:03	4+ ✓	40 W					6.5	F0							
1		64067	7 48.8	−56°22		08 09	08 16	7 ✓	49 W					6.7	G5							
3		67243	8 05.2	−33°31		08 19	08 31	12 ✓	48 W					7.25	G1							Very Blue ★ also on slit to east/3m [illegible]
		20 Pup	8 12.6	−15°44		08 32	08 36	4+ ✓	45 W					6.1	G5							
7		AH Vel	8 11.5	−46°36		08 38	08 42	4+ / 5	47 W					6.4	F7							14° 30% calm

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2905	HD 26591	4h10.9	-20 24	7/8 DEC.	03 05	03 15	10m / 12	0h27 E	2"-1½" / GOOD	3.06	50×1,200μ	67 / 4.40	5.79	Am	NeA	60s.		IIa-0	M-S	RWS	FULL MOON @ 11h UT.
	HD 36619	5h31.5	-23 26		03 35	04 29	54m / 60	0h32 E	1¼" / GOOD				7.76	Am							
	HD 41214	6h00.5	-51 13		04 37	04 44	7m / 9	0h47 E	1¼" / GOOD				5.66	Am							
	HD 42079	6h06.2	-42 17		04 56	05 05	9m / 11	0h31 E	1¼" / GOOD				6.15	Am							
	HD 45229	6h22.6	-56 22		05 33	05 43	10m / 12	0h10 E	1¼" / GOOD				5.85	Am							
	HD 46283	6h31.5	-07 23		05 49	06 20	31m / 35	0h18 W	1" / GOOD				7.27	Am							
	HD 48797	6h42.9	-39 08		06 25	06 37	12m / 15	0h24 W	1" / GOOD				6.29	Am							
	HD 50462	6h52.3	-12 09		06 45	07 17	32m / 40	0h54 W	1" / GOOD				7.12	Am							
	HD 50643	6h52.7	-18 54		07 32	07 44	12m / 15	1h21 W	1" / GOOD				6.29	A5m							HR 2566
	HD 51106	6h55.2	-01 33		07 50	08 22	32m / 36	1h56 W	1"				7.32	Am							
	HD 53704	7h03.6	-42 18		08 26	08 30	4½m / 6	1h56 W	1" / GOOD				5.21	Am							
	HD 56731	7h16.4	-30 52		08 34	08 47	12½m / 15	2h00 W	1" / GOOD				6-3	Am	NeA	60s	15V 15m (B)	unbaked			
																					11°C 71% 20
2906	HR 433	01 28.9	-21 44	14/15 DEC 1984	0050	0112	3,6,12 / 6	41m W	1.5"-2" / good	2.98	50μ / 1.2mm	67 / 4.4	5.14	A1V	NeA	60s		IIa-0 unbaked	M-S	G	Gray (3.69 pred)
	HR 520	01 45.8	-53 36		0116	0138	6,3,12 / 7	50m W					5.08	A1V							" (3.64)
	HR 553	01 53.6	+20 42		0142	0151	25,50,100,200m / 35	54m W	2"				2.77	A5V							" (0.5)
	HD 16141	02 34.6	-03 39		0200	0306	25,40 / 55m	1h30m W	1.5-2"				7.5	G							5 olm 79 Cet. (36)
2907	HR 1920	05 37.0	+07 33	"	0432	0442	10m / 12	2m W	1.5 / some cirrus "	"		"	5.81	B8							Gray
	HR 1998	05 46.2	-14 48		0444	0446	1.5 / 1.2	3m E	"				3.65	A3							"
	HD 49106	06 45.4	-20 43		0500	0800	3h / 4.5	2h13m W	2" / cirrus				8.96	B9							"
	HR 8437	22 7.5	-33 0	15/16	0033	0051	18m / 22m	3h45 W	1" / clear				6.6	A2							Lindegren
	HR 9044A	23 53.6	-27 10		0103	0135	30m / ✓		"				7.1	A2							Dec Trail.
	HR 9044B	"	"		0140	0240	60m / 90m	3 50 W	"				7.7	F2							" "
	HR 520	01 45.5	-53 36		0324	0329	5m / ✓	2 45 W	"				5.1	A1V							
	HR 553	01 53.6	+20 42		0337	0338	1m / 40s	2 46 W	"				2.8	A5V							
	HR 996	03 18.4	+03 17		0344	0348	4m / 6m	1h30m W	"				5.4	G5							κ Cet (Solar)
	HR 1262	04 04.3	+12 55		0353	0410	17m / 22m	1 07 W	"				6.5	G1							39 Tau "
	HR 2067	05 55.0	+13 56		0443	0515	32m / 40	21m W	"				7.2	G0.							
	HR 2290	06 20.0	-48 45		0517	0547	30m / 40	28m W					7.2	G 2:							

ALL ABOUT 20% UNDER EXPOSED

MAYBE NOT TOO BAD ?

doe / ship Dean / mirrors / slowfast / push. patt. | lock. ease / some / birds

Send kimbell report / Shutter / gelatin / 782

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2908	HD49106	06 45.5	-20 44	15/16	0608	0713	65m / 100	1h30m W	1"/clear	2.98	50μ/1.2	67/ mf 4 40	8.92	B9	Neaf	60s	15m B 15V	IIa O	M-5	[illegible]	hit slide mid exposure
	-20°1554	06 45.2	-20 43	Dec 1984	0714	0854	1h40m / 3h	3h10m W					9.4	B9				Baked			
[illegible]	HR8437	02 7.8	-33 12	16/17	0030	0048	18m / 20m	3 45W	2"/clear	"	"	"	6.6	A2	"	"	"	"	"	"	Grey -
	HR8966A	23 38.6	-46 46	[illegible]	0105	0127	20m ✓						6.7	A7							doctrinal
	" B	"	"		0128	0212	44m / 55	3 38W	1.5/"				7.6	A9							"
	HR9044B	23 53.5	-27 08		0233	0325	50m / 80m	4 37W	"				7.7	F2?							"
	HR553	01 53.4	+20 41		0331	0333	40s / 35	2 45W					2.8	A5							
	HR1920	05 37.1	+07 32		0337	0344	7m ✓	47m E	1.5/clear				5.8	B8							
	HR1998	05 46.0	-14 50		0322	0323	30s / 35	16m E	1"/clear				3.65	A3							
	HR996	03 18.5	+03 17		0328	0336	8m ✓		1.5				5.4	G5							KCet (solar)
	HR1262	04 04.3	+21 55		0340	0500	90m ✓	2.02m W	1.5				6.5	G1							39 Tau
	HR2067	05 55.1	+13 56		0508	0550	40m ✓	1h W	1.5/clear				7.2	G0							
	HR2290	06 20.0	-48 46		0554	0636	42m ✓	1h22m W	1.5				7.2	G							
	HD49185	06 45.6	-20 50		0642	0849	127m / 150	3h10m W	1.5/clear				9.3	A							
2910	HR8437	22 07.9	-33 12	17/18	0035	0054	18m ✓	3h55m W	1.5/clear	"	"	"	6.6	A	"	"	"	"	"	"	13 55 [illegible]
	HR553	01 53 5	+20 40	Dec	0101	0102	30s T ✓	18m W	"				2.8	A.							
	Ceres	02 44.2	+09 25	1984	0113	0253	100m ✓	1h17m W	"				8.3	G2 V							solar.
	"	"	"		0305	0425	80m / 120	2h51m W	"	✓			"	"							
	HR1998	05 46	-14 49																		
	HD49151	06 45.5	-20 51		0516	0649	92m ✓	1h13m W	"				8.5	B8							
	49069	06 45.1	-20 54		0654	0825	91m ✓	2 50W	"				8.4	B8							
	HR3435	08 38.5	-53 04		0831	0845	14m ✓	1 22W	"				6.37	B8							
	HR3113	07 57.1	-30 20		0846	0851	4m ✓						4.94	A2							
2911	HR9088	00 01.2	+26 56	18/19	0029	0051	22m ✓	2h3m W					6.4	G3							85 Peg
	HR8042A	21 01.3	+43 06	Dec 1984	0055	0148	53m ✓	6h W					7.1	G3							(SW component)
	CERES	02 44.0	+09 29		0155	0420	2h25m ✓	2h50m W					8.3	G2V							
	-20°1542	06 44.9	-20 45.		0513	0747	2h33m ✓	2h15m W					8.99	B9.						drawer not well	quit early.
	HD202628	21 17.2	-43 25	19/20	0058	0203	65m ✓	6h3m W					7.4	G5							
	HD20313	03 09.6	-79 01	Dec 1984	0208	0218	10m ✓	26m W					5.9	F2							
	HR1262	04 04.4	+21 55		0259	0329	30m ✓	41m W					6.5	G1							39 Tau
	HD 27383	04 19.0	+16 29		0331	0414	43m ✓	1h12m W					7.4	F8							55 Tau

mta = Sanjiv Mehta
from Waterloo

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2911	HD34579	05 18.3	+20 05	19/20	0416	0458	42m / ✓	58m W	1.5 / clear	2.98	50μ / 1.2mm	67 / 4.4	7.1	G8+G1	NeA	60s	15m B	IIa-O	M-S	[illegible]	
Cont	No.116 (49023)	06 45.1	-20 42	Dec 1984	0539	0649	70m / 60	1h 22m W	4" / clear				8.4	B9			15V	baked	15 min 67°F	+mta	49024 very close to slit but off.
	49333	06 46.3	-21 01		0651	0704	13m / ✓	1h 36m W	2.5 / clear				5.9	B9							
	65869	07 57.5	-60 41		0711	0828	77m / ✓	1h 48m W	3" / clear				7.8	B9.							
	66066	07 58.5	-60 46		0829	0854	25m / 35m	2 13 W	2" / clear				6.8	B8.5.							
2912	HD205905	21 38.2	-27 25	20/21	0032	0028	56m / ✓	5 11 W	2" / clear	"	"	"	7.4	G4	"	"	"	"	"	"	15 45
	HR8966B	23 38.6	-46 44	Dec 1984	0139	0239	1h / ✓	4 23 W	1.5 / clear				7.6	A9							
	HD16141	02 34.5	-03 39		0249	0331	42m / ✓	2.19 W	1.0 / clear				7.5	G							79 Ceti
	HD28033	04 25.3	+21 23		0342	0452	70m / ✓	1h 49m W	2" / .				7.9	F8							
	HD30455	04 42.7	+18 40		0455	0552	57m / 70	2 26 W	1.5 /				7.6	G2							
	HD31966	04 59.7	+14 22		0557	0642	45m / ✓	3 03 W	1.5 / cirrus.				7.4	G5.							
	HD65663	07 56.5	-61 01		0649	0727	38m / 30	53m W	2" / cirrus.				6.8	B8.5							
	HR2851	07 27.1	+06 58		0733	0744	11m / 9	1 38 W	2" / cirrus				5.5	F0							?
	HD61715	07 38.0	-48 36		0749	0808	19m / ✓	1 51 W	2" / cirrus thickening				6.33	F4 I							
	HR2880	07 31.2	+01 55		0818	0832	14m / 10	2 23 W	2" / thick cirrus variable.				5.5	F0							
2913	HR 8701	22 54.2	-70 14	21/22	0029	0104	33m / ✓	3 35 W	3" / clear	"	"	"	6.7	G1	"	"	"	"	"	"	[illegible]
	HR8545A	22 25.6	-16 52	DEC 1984	0111	0154	43m /	4 54m W	3" / some cirrus.				6.9	G2:							(Southern of pair)
	HR8477	22 13.8	-41 31		0158	0238	40m /	5 50m W	3" / cirrus.				6.9	G5							
2914	HR8477	22 13.7	-41 31	22/23	0050	0100	10m / 15	4 15 W.	2" / cirrus	3.35	50μ / 1.2mm	120 / 7.0	6.9	G5	"	30s	"	"	"	"	
(2)	HR1920	05 37.0	+07 28	Dec 1984	0440	0501	13.6 / 6	53 W	2" / cirrus.				5.8	B8							
	HD45829	06 29.2	+07 52		0503	0606	63m / ✓	1h 7m W	2" / cirrus.				8.21	K0 I							Brighter Western of pair
	NGC2287 #B	06 44.9	-20 46		0644	0746	62m / 40	2 45 W	" "				8.4	B8							N.W. of triplet
	NGC2287 #C	06 44.8	-20 45		0749	0851	62m / ✓	4 10m W	" Clear				"	"							
→(2)	HR 8701	22 54.1	-70 10	23/24	0032	1002	17, 12 / 12	3 36m W	1.5" / clear				6.7	G1							
	HR8545(A)	22 25.1	-16 49	Dec 1984	0107	0125	18m / ✓						6.9	G2							(S of Pair)
	8544(B)	22 25.6	-16 48		0125	0150	25m / ✓	4h 57m W	"				7.1	G2							(N " ")
	8700	22 52.8	-48 42		0152	0206	14m / ✓	4h 47m W	"				6.6	G3							
	Ceres	02 42.2	+9 48		0212	0348	96m / ✓	2 40 W	2-3" / Clear				8.3	G2 V							
2915	HD49106	06 45.5	-20 43		0404	0607	123m / ✓	56m W	"				8.9	B8							
	49151	06 45.6	-20 48		0611	0711	60m / ✓	2h W					8.4	B8							

fabry. lens. time

NUMBER	OBJECT	R.A.	DEC.	DATE U.T.	U.T. EXP. BEGIN	U.T. EXP. END	TOTAL / CORR.	H.A. END	SEE. / TRANS.	CAM. FOCUS	SLIT	GRATING / TILT	MAG	SP.	COMP. KIND	COMP. EXP.	CALIB.	EMUL.	DEV.	OBS	REMARKS
2915 (cont)	HD49069	06 45.3	-20 51	23/24	0713	0803	50m / ✓	2 52W	1.5"/clear	3.35	50μ/1.2	120/7.0	8.4	B8	NeA	30s	15m B	IIa-O	M-S	[illegible]	
	HD65869	07 57.5	-60 36	Dec 1984	0810	0847	37m / ✓	2 22W	2"/clear				7.8	B9			15V	baked	15 min	Mta	
2916	NGC1662-1	04 47.4	+11 00	24/25	0130	0146	16m	1h 25m W	2"/clear	"	100μ/1.2	1T/7.0	9.6	?	NeA	4s	—	IIa-D	67°F M-S	"	#1 on Fitzgerald Hoag
	NGC1662-2	04 48.1	+11 02	Dec 1984	0211/0146	0234	23m	36m W	"		all the way open		10.0	?						"	#2. slit not used spectra useless
	NGC1662-3	04 47.5	+11 02		0243	0255	12m	15m W	"	"	"		9.4	?						"	
2917	" E-12	04 48.5	+10 31	"	0439	0532	53m	2h 22W	"	"	100μ/1.2	"	11.1		"	1s	—	"	"	"	Plate loaded improperly
2918	-20°1554	06 45.2	-20 40	"	0613	0741	88m / ✓	2 32W	1"/clear		50μ/1.2	120/7.0	9.4	B9.	NeA	30s	15m B	IIa O		[illegible]	
	-20°1542	06 45.0	-20 40		0742	0845	63 / ✓	3 36W	1.5"/clear				9.0	B8.			15V	baked			1.2 50 mod.
	HD49333	06 46.4	-20 57		0846	0354	7m / 6						5.9	B9							
[illegible]	HD205905	21 38.4	-27 23	25/26	0032	0102	30m / 25	5h 4m W	1.5"/clear				7.4	G				"		[illegible]	15 45
	HR8042A	21 01.4	-43 04	Dec 1984	0104	0129	25m / 30	6h 9m W	2"/clear				7.1	G							
	HD202628	21 17.5	-43 24		0130	0200	30m / 35	6 22W	2"/ "				7.4	G							
2919	NGC1662-12	04 48.4	+10 29	"	0253	0333	40m	26m W	1"/clear	"	100μ/0.8	1T/7.0	11.1	A	NeA	1s	—	IIa D	"	Mta.	15° 452nm
	NGC1662-20	04 47.0	+10 56		0357/0349	0536	99m	2h 34m W												Mta	
2920	HD49185	06 45.7	-20 48	"	0605/0559	0716	70m / ✓	2 14W	1"/clear	"	50μ/1.2	120/7.0	9.3	B8	"	30s	15m	IIa-O	M-S	[illegible]	
	48983	06 44.9	-20 49		0718	0749	31m / ✓	2 45m W	"				8.3	B9			15V	Baked	67°F 15 min		
	66066A	07 58.6	-60 45		0756	0807	11m / ✓		"				6.75	B8.5							S. of pair
	" B	"	"		0808	0824	15m / 18		"				7.5:	?							N. of pair
	65663	07 56.6	-60 59		0825	0839	13m / 12	2 24W	2"/clear	←→			6.8	B8:							
	HR3678	09 03.0	-85 30		0843	0849	6m / ✓	1 28W					5.7	A8							
[illegible]	HR9088	00 01.3	+27 00	26/27	0032	0044	12m / 10	2 30W	2"/clear	"			6.4	G							Same plate
	HD 26	00 04.5	+08 46	Dec 84	0049	0149	60m / 90	3 30W.					8.2	G							
2921	NGC1662-24	04 48.0	+10 45	"	0237	0505	148m	2h 02 W	2"/clear	"	100μ/0.8	1T/7.0	12.45		NeA	1s	—	IIa-D	"	Mta	
2922	HD50785	06 52.4	-42 26	"	0527	0535	7.5 / ✓	28m W	1"/clear		50μ/1.2	120/7.0	6.9	F3		30s	15m	IIa-O	"	[illegible]	
	52703	07 00.5	-33 23		0537	0554	17m / ✓	39m W					7.5	G8.			15V	baked			
	57146	07 18.4	-26 33		0557	0603	6m / ✓	31m W					6.2	G2							
	68535	07 24.4	-31° 44'		0606	0613	6.5 / ✓	34m W					6.4	G8							
	64320	07 50.2	-59 55		0616	0646	30m / ✓	41m W					8.0	K0							
	64571	07 52.8	-34 50		0648	0703	15m / ✓	55m W					7.5	F8							
	68808	08 11.8	-46 36		0705	0711	6m / ✓	44 W					6.4	F7							

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2922 (cont)	HD 68860	08 12.6	-34 28	26/27 Dec 1984	0713	0732	18m / 36	1h 5m W	1" clear	3.35	50µ / 1.2mm	120 / 7.0	7.7	F8	NeA	30s	15m Hg 15V	IIa-O	m-s		
	70761	08 22.2	-26 17		0733	0738	5m	1h 1m W					6.3	F3				Baked	15m 67°F		
	75276	08 47.1	-46 05		0740	0745	5m	43 W.					6.3	F2							
	75289	08 42.4	-41 39		0747	0756	8m	54 W.					6.9	G0							
	76304	08 53.4	-40 21		0758	0812	14m	1h 4m W					7.4	K0 + A							
	HR 3435	08 38.6	-53 00		0814	0819	5m	1h 26m W					6.4	B8							
2923	77020	08 57.6	-48 25	"	0827	0837	10m	1 23 W.	"	"	"	"	6.9	G8	"	"	"	"	"	"	
	77615	09 00.5	-60 48		0839	0849	10m	1 35 W.					7.0	G8							
	79698	09 12.9	-59 16		0851	0900	8m	1 32 W					6.6	G6							
2924	NGC 1662-12	04 48.5	+10 31	27/28 Dec 1984	0118	0147	29m	1 10m E	2" clear	3.35	100µ / .8mm	120 / 7.0	11.18		NeA	15	—	IIaD	M-S 15m 67°F	Mtn	Checking exposure time (16c 45%)
	NGC 1662-12	04 48.5	+10 31		0147	0246	59m	13m E					11.1								
2925	NGC 1662-17	04 48.0	+10 48		0325	0501	96m	2h 02m W					11.8		"	"	"	"			
	NGC 2287-27	06 45.9	-20 48		0524	0607	43m	1h 11m W					10.9								
	NGC 2287-29	06 45.8	-20 48		0610	0732	82m	2h 36m W					11.52								
	-109	06 46.6	-20 58		0811	0814	3m	3h 25m W					5.9								
	-42	06 46.3	-20 55		0823	0903	40m	4h 06m W					11.01							Mtn	
2926	NGC 1662-19	04 47.1	+11 02	28/29 Dec 1984	0104	0305	121m	10m W	2 clear				11.9		"	"	"	"	"	Mtn	14c 45%
	NGC 2287-33	06 45.8	-20 48		0318	0502	104m	10m W					11.8								
2927	NGC 2287-43	06 45.5	-20 55		0535	0642	67m	1h 50m W					11.3		NeA	15		IIaD	M-S 15m 67°F	Mtn	
	-41	06 46.1	-20 54		0648	0856	128m	4h 03m W					12.0								
	-70	06 44.8	-20 36		0900	0911	11m	4h 20m W					9.10							Mtn	
2928	NGC 1662-21	04 47.5	+11 01	29/30	0057 0944	0429	212m	1h 37m W 4h 21m W	2.5 good				12.3		"	"	"	"	"	Mtn	14c 45 1/2 Moon
	NGC 2287-39	06 46.3	-20 47	Dec 1984	0442	0515	33m	0h 22m W					10.4								
2927	NGC 2287-40	06 46.1	-20 54		0539	0647	68m	1h 58m W					11.2								
	-58	06 45.8	-20 36		0653	0820	97m	3h 30m W					11.4								
	-80	06 44.8	-20 46		0826	0902	56m	4h 15m W					10.4								
	102	06 45.4	-20 43		0906	0920	4m	4h 21m W					7.9								
2930	NGC 2287 110	06 45.6	-20 31	30/31 Dec 1984	0126	0311	105m	1h 44m E	1.5 clear	"	"	"	11.4		"	"		"	"	Mtn	15c 45%
	-123	06 46.2	-20 45		0322	0440	78m	04m E					11.1								
	-104	06 45.8	-20 41		0446	0457	11m	11m W	2.0				9.2							Mtn	

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2931	NGC 2287 137	06 48.8	-20 47	30/31	0535	0644	69m	2h 00m W	1.5 clear	3.35	100μ .8mm	120 2.0	11.1		NeA	1s		IIaD	14.5 15m 67°F	Mta	
	-19	06 45.5	-20 39	Dec	0651	0806	75m	3h 22m W					11.1								
	-115	06 46.5	-20 53	1984	0811	0856	45m	4h 11m W					10.5								
	-204	06 46.6	-21 06		0857	0909	12m	4h 25m W					9.1							Mta	
2932	NGC2287-55	06 45.9	-20 38	31/1 Dec/Jan	0058	0210	72m	2h 30m E					11.0		11	11		11	11	Mta	40% 15°C
	-68	06 44.4	-20 38	84/85	0216	0345	89m	0h 54m E					11.3								Ng pair
	-76	06 44.9	-20 46		0348	0515	87m	0h 35m W					11.3								
2933	-91	06 44.8	-20 30		0542	0700	78m	2h 20m W					11.2								Interference fringes (10%?)
	-95	06 44.6	-20 31		0703	0804	61m	3h 25m W					10.9								
	-96	06 44.8	-20 30		0804	0907	63m	4h 27m W	11	11	11	11	10.9		11	11		11	11	Mta	
2934	-71	06 44.5	-20 36	1/2 Jan	0904	0959	235m	0h 23m W	1.5 clear	11	11	11	12.3		11	11		11	11	Mta	15°C 50%
	-119	06 45.2	-20 39	1985	0500	0524	24m	0 48m W					9.9							Mta	
2935	-57	06 46.0	-20 34		0555	0907	192m	4h 30m W					12.2								
2936	-31	06 45.5	-2046	2/3	0045	0405	200m	0 30m E	2.0				12.0								17°C 55%
	-98	06 45.1	-2035	Jan	0410	0801	271m	3h 28m W					12.6								
	-04	06 45.4	-2044	1985	0803	0904	61m	4h 30m W					10.8								
2937	NGC2287-99	06 45.2	-2032	3/4 Jan	0050	0455	245m	0h 26m W	2.0	11	100μ .6mm	11	12.6							Mta	16°C 50%
2938	-10	06 45.3	-20 45	1985	0530	0831	181m	4h 03m W					12.4								
2939	NGC2287-17	06 45.4	-20 38	4/5 Jan	0058	0331	153m	1h 10m E	1.5		11		12.0								
	-31	06 45.6	-20 43	1985	0333	0540	127m	1h 14m W					12.0								
2940	-33	06 45.8	-20 46		0600	0747	107m	3h 21m W					11.8								
	-227	06 46.0	-2033		0748	0904	76m	4h 40m W													
2941	-82 -47	06 45.1	-2050	5/6 Jan	0047	0205	78m	2h 17m W					11.2								14° 55%
~~298~~	-41 ~~-82~~	06 46.1	-2055	1985	0207	0438	151m	0h 15m W					12.0								
2942	-18	06 45.5	-2038		0456	0900	244m	4h 40m W					12.6								
2943	-82	06 45.2	-2051	4/7	0042	0246	124m	1h 31m E	2.5	3.35	100μ .6mm	120 2.0	11.2		11	11		11	11	Mta	
~~294~~	-41	06 46.2	-2056	Jan	0255	0519	140m	1h 01m W					12.0								
2944	-46	06 45.7	-20 41	1985	0535	0636	61m	2h 20m W					11.2								
	-47	06 45.8	-20 41		0638	0739	61m	3h 22m W					11.4								
	-4	06 45.5	-20 45		0743	0846	63m	4h 30m W					11.5		11	11	11	11	11	Mta	

JMM = Jaymie Matthews / UWO
MPF = F = Pim FitzGerald / Waterloo

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2945	HD 60435	07h 30.9m	-57° 58'	7/8 Jan 85	03 05	06 00	175m / 200+	+1h	3.0 / haze scatt cld	2.98	50μ / .8mm	67 / 4.4	9.1	Ap	NeA	30s		IIaO	M-S 15m	JMM (Matthews)	Plate fogged (light leak in holder?)
2946	"	"	"	8/9	00 55	05 30	275m	+0h.5	2.0 / scatt cld	"	"	"	"	"	"	50s		"	"	"	
2947	"	"	"	9/10	00 53	05 24	271m	0h	2.0 / light haze	"	"	"	"	"	"	60s		"	"	"	
2948	NGC 2287 1A	06h 45m.4	-20° 41.6	Jan 17/18	03 59	04 09	10m	0h	2-5 / haze	3.35	100μ / .8mm	120 / 7.0	9.7			1s		IIaD	"	Mta/MPF	N of pair
	1B			1985	04 14	04 24	10m	10m W					9.7								S of Pair
	5				0430	04 40	10m	10m W					9.6								
2949	NGC2287-228				0605	06 26	21m	3h					10.3								Sidereal Clock
	109				06 30	06 30	35s	3.5h					5.9								Off!
	70				06 45	06 51	6m	3h					9.1								
	15				07:04	07:39	35m	3.2h					10.9								
	54	"	"		07:50	08 21	31m	3.6h	"	"	"	"	10.7			"		"	" 67°F	Mta/MPF	
2950	NGC 2287 #109	06 46.3	-21 06	JAN 18/19 1985	02:43:30	02:44	30s		2-5" HAZE	3.35	100μ/.8mm	120/7.0	5.9	Bp				IIaD		"	Plate dropped 1
		"	"		02:45	02:46	60s														from holder at 2
	"	"	"		02:46.5	02:48.5	120s	0:46 E													telescope! 3
	#23	06 45.3	-20 49		03:02	03:17	15m / 15	0:17 E	3" HAZE				9.4	B9.5:V:							4
	#70	"	"		03:23	03:37	14 / 14	0:01 E					9.1	B9.5 IV	NeA	1s		IIaD			5
2951	NGC2287-109	06 46.3	-21 06		04:25:35	04:26:35	60s / 60s	0:47W					5.9	Bp							+5
	-23	06 45.3	-20 49		04:30	04:46	16m / 16m	1:12 W					9.4	B9.5:IV:							Bright component of two +3
	-70	06 44.7	-20 38		04:49	05:03	14 / 14m	1:25 W					9.1	B9.5 IV							+1
	-228	06 45.7	-20 35		05:06	05:46	40m / 40	2:13 W					10.3								-1
	-96	06 45.4	-20 31		05:52	07:02	70m / 70	3:30					10.9V	A2 V							-3
	HR 4177B	10 38.4	-59 05		07:16	07:21	5m	5m E					8.2								-5
2952	NGC2287-39	06 46.1	-20 49	19/20 Jan 1985	02:23	02:53	30m / 30	0:38m E	2" HUMID				10.4	B9.5-A0.5V	NeA	1s		IIaD		Mta/F	+6
	-54	"	"		03:00	03:41	40 / 40	0:05 W	2"	3.35	100μ/.8mm	120/7.0	10.7	A3+?							+4
2953	Tr7 -12	07 26.5	-23 58		03:58	05:00	62m / 60	0:45 W	2" HUMID				11.1								-5
	-8	07 26.6	-23 59		05:03	06:23	80m / 80	2:10W					11.4								-3
	-6	07 26.7	-23 58		06:30	06:42	12m / 12	2:27W													Star appears -1
	-6	07 26.7	-23 58		06:43	06:49	6m / 12	2:35W													brighter than #1 +1
	-6	"	"		06:50	06:53	3m / 12	2:39W													+3
	-1	07 26.5	-23 57		06:56	07:14	18 / 18	3:00 W													+5

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2954	Bo 8-10 -24	10 42.2	-59 06	20 JAN	07:32	08:36	64 / 60	1:08W	2" HUMID	3.35	100μ 0.8mm	125 / 7.0	11:					IIaD	M-S 15m	Mtn/F	-5
	-23				08:38	08:58	20m / 20	1:28W					10:						67F		-3
	-33	10 41.6	-59 10		09:01	09:04	5m / 6m	1:37W					8.6								-1
	BO10 -18/ HR 4198	10 42.1	-59 07		9:09:39	09:08:29	30s / 18s	1:39W					3.3								+1
	HR 4188	10 41.0	-59 34		12:06 09:11:39	09:13:03	51s / 60s	1:30W													+3
	HR 4177	10 38.6	-59 05		09:15:18	09:16:46	58s / 60s	1:50W													+5
	HR 4177	10 38.6	-5905		09:16:53	09:17:49	56s / 60s	1:52W													+6
2955	HD 60435	07 30.9	-57 53	31 JAN	06:37	08:46	129 / 130	5:20W	2" HUMID	3.20	50μ .5mm	67 / 4.4	9.1	Ap	NaA	60s		IIaO	M-S 15m	JMM	baked plate
2956	HD 60435	07 30.9	-57 53	01 FEB	06:35:15	08:48:20	130	5:21W	2"	"	"	"	"	"	"	"		"	"	"	"
	"	"	"	2 FEB	06:32:30	08:39:30	127	5:15W	1.5"	"	"	"	"	"	"	"		"	"	"	"
2957	HD 26591	4h10.9	-20°24	02/03	03:30	03:39	9m 15m	3h41W	1-1.5" GOOD	3.02	50μ 1.2mm	67 / 5.4	5.79	Am	NaA	60s		IIa-O unbaked	M-S	RWS	FOCUS NEEDS CHANGING INTO +
	HD 29305	4h33.6	-55 04		03:55	03:59	12m 90s	3h40W	1.5" GOOD				3.47	Ap							FOR HD 29305 12 NEXT (#4,6,8)
2958	HD 60435	7h30.9	-57°53	"	05:04	06:54	110m SHORTED	3h38W	1½-2" GOOD	3.02	50μ 0.8mm	67 / 5.40	9.1	Ap	NaA	30s	(1m 15m B)	(unbaked)	M-S	RWS	MATTHEWS PROG. (#18,20,22)
2959	HD 60435	7h30.9	-57 53	03/04	01:00	02:41	101m	0h33E	1½ GOOD	3.02	50μ 0.8	67 / 5.40	9.1	Ap	NaA	30s		IIa-O baked	M-S	RWS	JMM PROG. (#11,13,15)
	"	"	"	04/01	06:02	07:52	110m	4h44W	1-1½ F-G	"	"	"	"	"	"	"		"	"	"	(#11,13,15)
	"	"	"	05/06	06:19	08:17	118m	5h13W	1½-1 GOOD	"	"	"	"	"	"	"		"	"	"	(#18,20,22)
	"	"	"	06/07	00:47	02:36	109m	0h25E	1" GOOD	"	"	"	"	"	"	"	(1m 15m B)	"	"	"	(#25,27,29)
2960	HD 60435	7h30.9	-57°53	08/09	02:38	04:32	114m	1h35W	1" GOOD	3.02	50μ 0.8	67 / 5.4	9.1	Ap	NaA	60s		IIa-O baked	M-S	RWS	(#4,6,8) JMM
	"	"	"	08/09	07:11	09:11	120m	6h18W	2" GOOD	"	"	"	"	"	"	"		"	"	"	(#11,13,15) "
	"	"	"	09/10	02:53	04:46	113m	1h55W	1" GOOD	"	"	"	"	"	"	"		"	"	"	(#18,20,22) "
	"	"	"	10/11	04:00	05:52	112m	3h08W	1" GOOD	"	"	"	"	"	"	"	(1m 15m B)	"	"	"	(#25,27,29) "
2961	HD 88182	10h09.2	-12°01	11/12	06:23	06:30	7m ✓	1h07W	1.2" GOOD	3.02	50μ 1.2	67 / 5.4	6.2	Am	NaA	60s		IIa-O	M-S	RWS	
	HD 88699	10h12.6	-26°57		06:35	06:42	7m ✓	1h16W	1.2" GOOD	"	"	"	6.22	Am							
	HD 97394	11h11.4	-43°36		06:45	08:15	90m ✓	1h51W	1.3" GOOD	"	"	"	8.79	Am							
	HD 97689	11h13.1	-52°46		08:22	08:37	15m ✓	2h11W	1.5" GOOD				6.82	Am							
	HD 99674	11h26.2	-53°04		08:43	08:49	6m ✓	2h10W	1.3" GOOD				5.8	Am							
	HD 102249	11h44.9	-66°38		08:56	08:57	1m —	1h59W	1.5" GOOD				3.8	Am							HR 4520
	HD 105509	12h08.1	-44°14		09:03	09:09	6m ✓	1h47W	1.2" GOOD				5.73	Am							
	HD 109241	12h32.7	-41°19		09:13	09:27	14m ✓	1h41W	1.2" GOOD				6.69	Am	NaA	60s	(1m 15m B)				

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NUMBER	OBJECT (	R.A. (1985.0)	DEC. (1985.0)	DATE U.T. 1985	U.T. EXP. BEGIN	U.T. EXP. END	TOTAL / CORR.	H.A. END	SEE. / TRANS.	CAM. FOCUS	SLIT	GRATING / TILT	MAG.	SP.	COMP KIND	COMP EXP.	CALIB	EMUL.	DEV.	OBS.	REMARKS
2962	DM -5.0139	5h34.3	-05 05	02/12/13	01:32	05:56	282m / 400+	5h22W	1-1.5 / Good	3.33	50μ / 1.2mm	120 / 7.0	10.9	(A0)	NeA	20s		IIa-0 (baked)	TOO FAINT !!		ORION CL-464 IDENT FROM BD CHART.
2963	HR 2685	07 05	-38 18	3/20-21	00:53	01 02	9'30"	1w07	1 / good	2.98	50μ / .8		6.1	G0 III	Ne Ar	30		IIa-0 Baked	D-19	AJ Yorka	
"	"	"	"	"	01 06	01 20	14	1w26	"	"	"		"	"	"	"		"	"	"	
"	HR 3043	07 46	-24 47	"	01 38	01 43	5	1w05	"	"	"		5.3	G0 III	"	"		"	"	"	
"	"	"	"	"	01 46	01 56	10	1w18	"	"	"		"	"	"	"		"	"	"	
"	HR 3315	08 24	-24 00	"	02 06	02 19	13	1w06	"	"	"		5.3	K5 III	"	"		"	"	"	
"	"	"	"	"	02 23	02 42	19	1w25	"	"	"		"	"	"	"		"	"	"	
"	d VEL	08 44	-43 35	"	02 53	02 55	2'16	1w19	"	"	"		4.1	sg G5	"			"	"	"	
"	"	"	"	"	03 00	03 02	1'50	1w26	"	"	"		"	"				"	"	"	
"	HR 3696	09 15	-57 29	"	03 11	03 18	7'30	1w15	"	"	"		4.3	M1 III				"	"	"	
"	"	~~-57 2~~ "	"	"	03 29	03 41	12	1w27	"	"	"		"	"				"	"	"	
"	HR 4154	10 34	-43 35	"	03 53	04 05	12	0w42	"	"	"		6.0	G5				"	"	"	
"		~~4~~ "	"	"	04 10	04 28	18	1w05	"	"	"		"	"				"	"	"	
"	HD 96918	11 07	-58 53	"	04 38	04 40	2	1w55	"	"	"		3.9	G0 Ia				"	"	"	
"	HD 96918	"	"	"	04 44	04 47	2'30	0w52	"	"	"		"	"				"	"	"	
"	HR 5188	13 55	-82 35	"	05 08	05 39	31	1E06	1-1.5 / "	"	"		5.8	K2-5				"	"	"	
"	"	"	"	"	05 42	06 27	45	0E17	"	"	"		"	"				"	"	"	
"	HR 5241	13 56	-63 31	"	06 40	06 45	5	0°0	"	"	"		4.1	K4 III				"	"	"	
"	"	"	"	"	06 59	07 05	6	0w20	"	"	"		"	"				"	"	"	
"	"	"	"	"	07 09	07 16	7	0w31	"	"	"		"	"				"	"	"	
"	HR 5297	14 09	-53 12	"	07 25	07 29	3,5	0w31	"	"	"		4.7	G8 III				"	"	"	
"	"	"	"	"	07 32	07 37	5	0w39	"	"	"		"	"				"	"	"	
2964	HR 2685	07 05	-38 21	3/21-22	00 42	01 02	20'	1w11	"	"	"		6.1	G0 III				"	"	"	
"	θ Cha	08 21	-77 26	"	01 14	01 20	6'	0w14	1.5-2 / clear	"	"		4.4	K1 III				"	"	"	
"	"	"	"	"	01 23	01 32	9'	0w26	"	"	"		"	"				"	"	"	
"	"	"	"	"	01 35	01 47	12'	0w50	"	"	"		"	"				"	"	"	
"	λ VEL	09 07	-43 22	"	01 59	02 00	1'	0w08	"	"	"		2.2	K4 Ib				"	"	"	
"	"	"	"	"	02 02	02 04	2'	0w12	"	"	"		"	"				"	"	"	
"	"	"	"	"	02 06	02 09	3'	0w16	"	"	"		"	"				"	"	"	
"	"	"	"	"	02 12	02 16	4'	0w24	"	"	"		"	"				"	"	"	

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2964	d Vel	08 44	-43 35	3/21-22	02 24	02 28	4'	1w 00	~2/clear	2.98	50μ/1.8		4.1	sg G5	NeAr	60		Baked IIa-O	D-19	JJ York	
"	"	"	"	"	02 30	02 35	5'	1w 07	"	"	"		"	"	"	"		"	"	"	
"	HD 83548	09 37	-43 07	"	02 46	02 56	10	0w 33	"	"	"		5.5	G9 II				"	"	"	
"	"	"	"	"	02 59	03 18	19'	0w 56	"	"	"		"	"				"	"	"	
"	"	"	"	"	03 31	03 47	26'	1w 25	"	"	"		"	"				"	"	"	
"	HR 4523	11 46	-40 25	"	04 05	04 10	5'	0e 20	"	"	"		4.9	G5 V				"	"	"	
"	"	"	"	"	04 14	04 22	7'30"	0e 07	"	"	"		"	"				"	"	"	
"	"	"	"	"	04 40	04 50	10'	0w 21	"	"	"		"	"				"	"	"	
2965	α Aps	14 45	-78 59	"	06 43	06 49	6'	0e 40	2-3/	2.98	"		3.8	K5 III				"	"	"	
"	"	"	"	"	06 52	07 01	9'	0e 29	"	"	"		"	"				"	"	"	
"	φ' Lup	15 21	-36 12	"	08 00	08 05	5'	0°0	3+	"	"		3.6	K5 III				"	"	"	
"	HR 3315	08 24	-24 00	3/23-24	00 25	01 03	38'	0w 02	3/excellent	"	"		5.3	K5 III				"	"	"	
"	HR 3696	09 16	-57 29	"	01 17	01 42	25'	0e 11	"	"	"		4.3	M1 III				"	"	"	
"	HR 3692	09 15	-44 12	"	01 53	02 25	32'	0w 23	"	"	"		5.1	K4				"	"	"	
"	"	"	"	"	02 28	03 13	45'	1w 21	"	"	"		"	"				"	"	"	
"	HD 96918	11 08	-58 53	"	03 28	03 37	9'	0e 08	3+ "	"	"		3.9	G0 Ib				"	"	"	
"	"	"	"	"	03 40	03 52	12'	0w 07	"	"	"		"	"				"	"	"	
"	HR 4511	11 42	-62 25	"	04 02	04 14	12'	0w 07	"	"	"		5.1	G0 Ia Fe1				"	"	"	
2966	c' Cen	14 42	-35 07	"	06 06	06 16	12'	1e 01	3	"	"		4.0	K5 III				"	"	"	
"	"	"	"	"	06 25	06 43	18'	0e 36	"	"	"		"	"				"	"	"	
"	"	"	"	"	06 45	07 11	26'	0e 08	"	"	"		"	"				"	"	"	
"	φ' Lup	15 21	-36 12	"	07 25	07 31	6.5'	0e 26	"	"	"		3.5	K5 III				"	"	"	
"	"	"	"	"	07 50	07 59	9'	0w 02	"	"	"		"	"				"	"	"	
"	"	"	"	"	08 02	08 14	12'	0w 17	"	"	"		"	"				"	"	"	
"	42 Lib	16 39	-23 46	"	08 25	08 45	20'	0w 30	"	"	"		5.0	K5 III				"	"	"	
"	"	"	"	"	08 51	09 21	30'	1w 07	"	"	"		"	"				"	"	"	
"	10 ω² Sco	16 06	-20 50	"	09 31	09 36	5'	0w 52	3+	"	"		4.3	G3 II				"	"	"	
"	"	"	"	"	09 37	09 45	7'30	1w 02	"	"	"		"	"				"	"	"	
"	"	"	"	"	09 47	09 57	10'	1w 14	"	"	"		"	"				"	"	"	
"	HR 2685	07 05	-38 18	3/24-25	00 05	00 37	32'	0w 58	3 clear	"	"		6.1	G0 III				"	"	"	

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2966	HD 85622	09 51	-46 29	3/24/25	00 50	00 59	9'	1h26	3" clear	298	50m/.8		4.6	G5Ib	NeA	60"		IIa-O	D-19	RJY	
"	"	"	"	"	01 02	01 16	14	1h09	"	"	"		"	"				"	"	"	
"	"	"	"	"	01 20	01 38	18'	0h47	"	"	"		"	"				"	"	"	
"	HR 4154	10 34	-43 35	"	01 50	02 30	40'	0h37	"	"	"		6.2	G5-				"	"	"	
"	HR 4050	10 16	-61 15	"	02 40	02 46	6.5'	0°03	"	"	"		3.4	K5Ib				"	"	"	
"	"	"	"	"	02 49	02 58	9	0w09	"	"	"		"	"				"	"	"	
"	"	"	"	1'	03 01	03 13	12	0w24	"	"	"		"	"				"	"	"	
2967	HR 4511	11 42	-62 25	"	04 02	04 11	9½	0h04	"	"	"		5.1	G0Ia				"	"	"	
"	"	"	"	"	04 14	04 28	14'	0w13	"	"	"		"	"				"	"	"	
"	"	"	"	"	04 30	04 48	18'	0w34	"	"	"		"	"				"	"	"	
"	HR 5241	13 56	-63 37	"	05 04	05 15	11	1h14	3+	"	"		4.7	K4 III				"	"	"	
"	"	"	"	"	05 18	05 34	16	0h55	"	"	"		"	"				"	"	"	
"	"	"	"	"	05 40	06 03	23	0h25	"	"	"		"	"				"	"	"	
"	HR 5297	14 09	-53 22	"	06 17	06 25	8	0h17	"	"	"		4.7	G8 III				"	"	"	
"	"	"	"	"	06 28	06 40	12	0h02	"	"	"		"	"				"	"	"	
"	"	"	"	"	06 44	07 00	16	0w19	"	"	"		"	"				"	"	"	
"	L Aps	14 46	-78 20	"	07 20	07 38	18	0w20	"	"	"		3.8	K2 III				"	"	"	
2968	HD 42078	6h06.2	-42°17	APR 8/9 1905	01:48	01:17	7½m	3h37W	1½" good	298	60m/1.2mm	67/54	6.15	Am	NeA	60s		IIa-O	MS.	RWS	
	HD 45229	6h22.6	-56°22		01:30	01:36	5½m	3h51W	"				5.85	Am							
	HD 46283	6h31.5	-07°23		01:50	02:18	28m	4h12W	1½"-3"				7.3	Am							
	HD 48797	6h42.8	-39°08		02:23	02:33	9½m	4h16W	1"				6.3	Am							T=13 RH=40%
	HD 50462	6h52.3	-12°08		02:37	02:58	21m	4h31W	1½"				7.2	Am							DIDN'T START EXPOSURE AT EDGE
	HD 50643	6h52.7	-18°54		03:02	03:12	10m	4h46W	1.2"				6.3	Am							
	HD 56731	7h16.4	-30°52		03:17	03:27	10m	4h36W	1.2"				6.3	Am							
	HD 68434	8h09.5	-56°05		03:32	03:37	5m	3h54W	1.2"				5.8	Am							
	HD 69997	8h18.6	-10°08		03:52	04:03	10m	4h10W	1.2"				6.31	Am							PRECESSED COORDS WERE AT E2000.
	HD 71267	8h25.3	-14°52		04:11	04:18	7m	4h18W	1.3"				5.96	Am							"
	HD 71297	8h25.8	-03°56		04:29	04:35	6m	4h35W	1.3"				5.6	Am							"
	HD 75737	08h50.8	-07 08		04:46	04:52	6m	4h28W	1.4"				5.54	Am	NeA	60s	16/8 14/9				MEASURED DOUBLE BOTH. "

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2369	HDE 1B2	$10^h09.2$	-12°01	APR 8/9	05:51	06:00	9m	4^h17W	1.2" Exc.	2.98	50µ / 1.2mm	6.7 / 5.4	6.23	Am	NeA	60s.		I_{a}-0	MS.	RWS.	
	HD 88699	$10^h12.6$	-26°57		06:04	06:13	9m	4^h29W	1.2"				6.22	Am							
	HD 97689	$11^h13.1$	-52°46		06:20	06:53	13m	3^h46W	1.2"				6.82	Am							
	HD 99574	$11^h26.2$	-53°04		06:52	06:57	5m	3^h58W	1.2"				5.80	Am							
	HD 105509	$12^h08.1$	-44°14		07:03	07:08	5m	3^h26W	1.2" VAR.				5.74	Am							
	HD 109241	$12^h29.1$	-40°51		07:12	07:24	12m	3^h22W	1.2"				6.7	Am							
	HD 112334	$12^h55.7$	-26°23		07:30	07:44	14m	3^h39W	1.5"				6.9	Am							
	HD 115337	$13^h16.3$	-43 54		08:13	08:18	5m	3^h28W	1.5"				6.82	Am							HD 115331
	HD 116114	$13^h21.0$	-18°40		08:23	08:40	17m	3^h45W	1.5"				7.03	Am							
	HD 117661	$13^h31.3$	-18°39		08:48	08:56	7m	3^h51W	1.5"				6.0	Am							
	HD 125337	$14^h18.3$	-13°29		09:08	09:10	125s.	3^h18W	1.5"				4.6	Am							
	HD 126504	$14^h26.3$	-46°04		09:15	09:20	5m	3^h21W	1"				5.8	Am	NeA	60s					
LC 2370	HD 50462	$6^h52.3$	-12°08	1985 04/30/01	23:48	00:06	18m.	3^h07W.	1"	2.98	50µ / 1.2mm	6.7 / 5.4	7.2	Am.	NeA	60s.		I_{a}-0	MS	RWS.	MUCH CLOUDS. ERASURE?
	HD 77140	$8^h58.4$	-47°11		00:17	00:26	3,5m 24	1^h18W	1"				5.2	Am.							
	HD 75737	$8^h50.8$	-07°00		00:34	00:47	5,7m. 7	1^h50W	1"				5.6	Am.							NOW DOUBLE δ = 1" MEASURED BOTH!
	HD 71297	$8^h25.8$	-03°56		00:55	01:09	5,8m	2^h38W	1.2"				5.6	Am.							CIRRUS COME & GO.
	HD 68434	$8^h09.5$	-56°05		01:30	01:53	9,12m	3^h37W	1.2"-3"				5.8	Am.							VARIABLE CLOUDS & BEAMS.
	HD 102249	$11^h44.9$	-66°38		02:07	02:13	9s, 120s	0^h22W	2"				3.8	Am							
	HD 99574	$11^h26.2$	-53°04		02:22	02:37	15m. 20m	1^h04W.	1.2"				5.8	Am.	NeA	60s					CLOUDS.
LC 2371	HD 105509	$12^h08.1$	-44°14	1985 04/30/01	03:42	04:06	9,14m	1^h51W	1.2"	2.98	50µ / 1.2mm	6.7 / 5.4	5.74	Am.	NeA	60s.		I_{a}-0	MS.	RWS.	
	HD 117374	$13^h37.3$	-85°42		04:24	04:51	10,15m.	1^h08W	1.2"				5.6	Am.							CLOUDS
	HD 115331	$13^h16.3$	-43°54		05:04	05:24	7,10m	2^h02W	1.2"				5.8	Am							
	HD 117661	$13^h31.3$	-18°39		05 32	06:00	10,15m	2^h22W	1.2"				6.0	Am							
	HD 125337	$14^h18.5$	-13°19		06 13	06 23	2,3m	2^h00W	2"												HAMMY
	HD 126504	$14^h26.3$	-46°04		06 18	06 47	6,9m	2^h16W	2"						NeA	60s	MV WM B				
LC 2372	HD 139271	$15^h38.7$	-31°08		07 41 07 28	07 56 (07.39)	11m, 15m 11	2^h12W	2"				6.0	Am.	NeA	60s		I_{a}-0	MS	RWS HAMMY	
	HD 148321	$16^h27.3$	-25°26		08:36	08:59	23m	2^h26W	2"									OVEREXP			
	HD 154783	$17^h07.8$	-30°23		09:06	09:18	12m	2^h33W	2"												
	HD 159492	$17^h36.9$	-54°30		09:26	09:41	15m OVER														WRONG TRAIL SPEED.
	HD 159492	$17^h36.9$	-54°30		09:41	09:49	5m	2^h07W	2"												

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2972	HD173654	18h45.7	-44°58	1995 30/01	9h54	10h04	10m ✓	1:15W	1.5π												M. HAMUY
~~2973~~	HD 170384	18h 30.0	-41°56	"	10h11	10h21	10m 12	1 45W	1.5π								14/14 B				"
2973	HD 46283	6h31.5	-07°23	05/02	23h28	23h53	25m	3 19W	1.0π	2.98	50μ / 1.2mm.	67Å / 5°	7.5	Am-	NeA	Ws.		IIa (baked)	MS.	RWS	
	HD 68434	8h 09.5	-56°05	"	23h 56	00h 01	5m	1.49W	1.0π				5.9					"	"	"	
	HD 69997	8h 18.6	-10°08	"	00h04	00h 14	10m	1.52W	1.0π				6.5							"	
	HD 71267	8h 25.3	-14°52	"	00h16	00h 24	8m	1:56W	1.3π				6.0							"	
	HD 71297	8h 25.8	-03°56	"	00h26	00h 32	6m	2:03W	1.3π				5.8							"	
	HD 75737	8h 50.8	-07°08	"	00h34	00h 39	5m	1 45W	1.3π				5.7							"	DOUBLE STAR <1" COMBINED SPECTRUM
	HD 76370	8h 54.8	-07°55	"	00h 51	01h 05	14m	2.06W	1.3π				6.9							SOUTHERN COMPONENT	DOUBLE STAR SEPARATION 6"
	HD 76369	8h 54.8	-07°55	"	01h 06	01h 24	18m	2 26W	1π1/4→1π				7.1							NORTHERN COMPONENT	
	HD 77140	8h 58.4	-47°11	"	01h 27	01h 31	3.5m	2:30W	1π→1 1/4				5.4							"	
	HD 78045	9h 02.3	-66°20	"	01h 36	01h 38	75sec	2 35W	1π→1 1/4				4.2							"	
	HD 78045	9h 02.3	-66°20	"	01h 38	01h40	75sec	2:37W	1π→1 1/4				4.2							"	
	HD 79193	9h 11.7	-07°03	"	01h 44	01h 52	8m	2:36W	1π				6.3		NeA	60s	14/14B	"	"	"	
2974	HD 81009	9h 22.2	-09° 46	"	02h31	02h 45	14m	3:21W	1.5π				6.5		NeA	60s		"	"	HAMUY	
	HD 81309	9h 23 1	-37°41	"	02h52	03h 03	11m	3 37W	1.5π				6.5								
	HD 84367	9h 43.5	-27°42	"	03h10	03h 13	3m	3 25W	1.5π				5.0								
	HD 85364	9h 50.5	-04°10	"	03h20	03h 30	10m	3.37W	1.5π				6.2								
	HD 99574	11h 26.2	-53°04	"	03h42	03h 52	10m	2:24W	1.5π				6.3								
	HD 102249	11h 44.9	-66°38	"	03h59	04h 00	1m	2:13W	1.5π				3.8								
	HD 115331	13h 16.3	-43°54	"	04h 06	04h 14	8m	0:57W	1.5π				6.0								
	HD 117374	13h 37.3	-85°42	"	04h27	04h44	5m, 10m	1:05W	1π→2π				5.8								SLOW MOTION IN R.A. 2 EXPOSURES
	HD 117661	13h 31.3	-18°39	"	04h 53	05h 03	10m	1:30W	1.3π				6.2								~~SLOW MOTION IN R.A. 2 EXPOSURES~~
	HD 125337	14h 18.5	-13°19	"	05h 08	05h 11	2.5m	0:50W	1.3π				4.7							"	
	HD 126504	14h 26.3	-46°04	"	05h23	05h 32	9m	1:04W	1.5π				6.1		NeA	60s	14/14B	"	"	HAMUY	
2975	HD 109241	12h 32.7	-41°19	"	06h 32	07h 01	29m	4:28W	2π				6.7		NeA	60s	14/14B	"	"	"	POOR SEEING!
	HD 112374	12h 55.7	-26°23	"	07h 07	07h 29	22m	4 33W	2π				6.7								"
	HD 116114	13h 21.0	-18°40	"	07h 35	08h 02	27m	4 40W	2π				7.2								"
	HD 117025	13h 28.1	-64°37	"	08h 10	08h 24	14m	4:55W	2.5π				6.3								"
	HD 135379	15h 17.4	-58°49	"	08h 32	08h 35	3m	3 15W	2.5π				4.2								POOR SEEING!

DEVELOPED FOR 25m. UNINTENTIONALLY (LAST 10m WITHOUT ROCKING)

NUMBER	OBJECT	R.A.	DEC.	DATE U.T.	U.T. EXP. BEGIN	U.T. EXP. END	TOTAL / CORR.	H.A. END	SEE. / TRANS.	CAM. FOCUS	SLIT	GRATING / TILT	MAG	SP.	COMP KIND	COMP EXP.	CALIB	EMUL	DEV.	OBS	REMARKS
2975	HD 138413	15h 32.6	-19° 41	05 01/02	08h 44	08h 53	9m	3:20W	2.5π				5.7							HAMUY	POOR SEEING!
"	HD 139271	15h 37.7	-39° 05	"	09h 10	09h 22	12m	3:45W	2π				6.2							"	POOR SEEING!
	HD 141378	15h 48.9	-03° 50	"	09h 31	09h 41	10m	3:52W	2.5π				5.7							"	NAME?
	HD 144197	16h 06.5	-45° 11	"	09h 47	09h 51	4m	3:45W	2.5π				4.9							"	BAD SEEING!
	HD 159492	17h 36.9	-54° 30	"	09h 57	10h 04	7m	2:25W	2.5π				5.4		Ne A	60s	14 / 14B			"	SEEING!
2976	HD 51106	06h 55.2	-01° 33	05 02/03	—	—	0m	—					7.6		Ne A	60s	~~14~~ 14B			HAMUY	TRACKING FAILURE NOT EXPOSED
	HD 76370	08h 54.8	-07° 55	"	03h 12	03h 53	41m	5:00W	2→3π				6.9							"	HR 3553 . POOR SEEING SOUTHERN STAR, CLOUDS
	HD 84367	09h 43.5	-27° 42	"	04h 02	04h 09	7m	4:25W	2π				5.3							"	~~HR 3552~~ "RED" STAR ~~NORTHERN STAR~~
	HD 85364	09h 50.5	-04° 10	"	04h 16	04h 42	26m	4:55W	2→3π				6.2							"	CLOUDS, SEEING!
	HD 97689	11h 13.1	-52° 46	"	04h 48	05h 18	30m	4:54W	2→3π				7.1							"	CLOUDS BAD SEEING!
	HD 109241	12h 32.7	-41° 19	"	05h 25	05h 52	27m	3:22W	1.5π				6.9							"	SEEING IMPROVING
	HD 112374	12h 55.7	-26° 23	"	06h 03	06h 30	27m	3:35W	1.5π				7.3							"	"
	HD 117661	13h 31.3	-18° 59	"	06h 34	06h 44	10m	3:15W	1.5π				6.2							"	"
	HD 139271	15h 37.7	-39° 05	"	06h 52	07h 03	11m	1.26W	1.5π				6.3							"	"
	HD 148321	16h 27.3	-25° 26	"	07h 13	07h 37	24m	1.13W	1→2π				7.2							"	FIRST EXPOSURE ABORTED!
	HD 154783	17h 07.8	-30° 23	"	07h 48	07h 57	9m	0:50W	1.5π				6.2							"	~~[illegible] EXPOSURE ABORTED.~~ !
	HD 159492	17h 36.9	-54° 30	"	08h 02	08h 07	5m	0:32W	1.5π				5.5		Ne Ar	60s	14 / 14B			"	
2977	HD 170384	18h 30.0	-41° 56	"	08h 40	08h 48	8m	0:20W	1.3π				6.2		Ne Ar	60s	[illegible]			"	
	HD 173654	18h 45.7	-00° 58	"	08h 55	09h 03	8m	0:20W	1.3π				6.1							"	IT LOOKS LIKE A BINARY SYSTEM.
	HD 179366	19h 15.7	-66° 42	"	09h 11	09h 18	7m	0:05W	1.3π				5.7							"	
	HD 183552	19h 31.7	-53° 14	"	09h 32	09h 41	9m	0:11W	1.3π				6.1							"	
	HD 185257	19h 38.9	-39° 29	"	09h 48	10h 04	16m	0:27W	1.3π				6.8							"	
	HD 186984	19h 47.2	-13° 45	"	10h 10	10h 20	10m	0:35W	1.3π				6.3		Ne Ar	60s	14 / 14B			"	
2978	HD 69997	08h 18.6	-10° 08	05 03/04	00h 15	00h 28	13m	2.12W	1.3π				6.7		Ne Ar	60s	14 / 14B			HAMUY	CIRRUS
	HD 71267	08h 25.3	-14° 52	"	00h 32	00h 41	9m	2:20W	1.3π				6.2							"	"
	HD 76370	08h 54.8	-07° 55	"	00h 48	01h 05	17m	2:15W	1.3π				6.9							"	DUBLE SYSTEM HR 3353 - SOUTHERN
	HD 76369	08h 54.8	-07° 55	"	01h 08	01h 30	22m	2:40W	1.3π				7.1							"	HR 3352 - NORTHERN
	HD 77140	08h 58.4	-47° 11	"	01h 37	01h 41	4m	2.47W	1.3π				5.4							"	~~[illegible]~~
	HD 78045	09h 02.3	-66° 20	"	01h 46	01h 52	1.5m-2.5m	2:54W	1.5π				4.1								TWO EXPOSURES 2 AND 3 TRAILS
	HD 79193	09h 11.7	-07° 03	"	02h 01	02h 13	12m	3:07W	1.5π				6.3								CIRRUS

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2978	HD 81009	09h 22.2	-08° 46	05 05/04	02h 21	02h 36m	15m	3:20W	1.5π				6.8							HAMJY	CIRRUS
	HD 81309	09h 23.1	-37° 41	11	02h 46	03h 00	14m	3·32W	1.5π				6.6							11	11
	HD 84367	09h 43.5	-27° 42	11	03h 10	03h 15	5m	3 40W	1.5π				5.3							11	11
	D 85364	09h 50.5	-04° 10	11	03h 20	03h 32	12m	3 47W	1.5π				6.2		NeAr	60s	14 14B			11	11
2979	D 88182	10h 09.2	-12° 01	11	04h 02	04h 17	15m	6. 12W	1.5π				6.3		NeAr	60s	14 14B			11	CLOUDS
	D 88699	10h 12.6	-26° 57	11	04h 25	04h 41	16m	4: 30W	2π				6.2							11	DOUBLESPACE?
	HD 116114	13h 21.0	-18° 40	11	04h 50	05h 18	28m	2:02W	1.3π				7.2							11	CLOUDS
	HD 117025	13h 28.1	-64° 37	11	05h 24	05h 36	12m	2.13W	1.3π				6.2							11	
	HD 117374	13h 37.3	-85° 42	11	05h 51	06h 00	9m	2:30W	1.3π				5.8							11	DIFFICULT TO TRAIL
	HD 123998	14h 17.8	-81° 01	11	06h 06	06h 11	5m	2:00W	1.3π				5.2							1/	11
	HD 125158	14h 19.8	-61° 16	11	06h 18	06h 24	6m	1:50W	1.3π				5.5							11	
	HD 128898	14h 42.4	-64° 58	11	06h 29	07h 00	1m	1:54W	1.3π				3.4							11	
	HD 135379	15h 17.4	-58° 49	11	06h 36	06h 38	2m	1:25W	1.3π				4.2							11	
	HD 135730	15h 18.0	-41° 04	11	06h 44	06h 57	13m	1:45W	1.3π				6.5							11	
	HD 138105	15h 32.6	-20° 44	11	07h 09	07h 19	10m	1: 55W	1.3π				6.4							11	
	HD 138413	15h 32.6	-41°41	11	07h 29	07h 34	5m	2·06W	1.3π				5.7		NeAr	60s	14 14B			11	
2980	HD 139271	15h 38.7	-39°08	11	08h 21	08h 32	11m	3·00W	2π				6.3		NeAr	60s	14 14B			11	POOR SEEING IDENTIFICATION?
	HD 144197	16h 06.5	-45° 11	11	08h 45	08h 49	4m	2:50W	2π				5.0							11	POOR SEEING
	HD 145389	16h 17.0	-67° 57	11	08h 56	09h 06	10m	2:55W	2π				6.0							11	11
	HD 148321	16h 27.3	-25° 26	11	07h 13	09h 39	26m	3 28W	2π				7.2							11	IDENTIFICATION? DOUBLE SPACE?
	HD 174115	18h 48 8	-19° 10	11	07h 52	10h 14	22m	1. 30W	2π				6.8		NeAr	60s	14 14B			11	
2981	HD 102249	11h 44 9	-66° 38	OS 05/06	04h 10	04h 12	2m	3·40W	3π				3.8		NeAr	60s	14 14B			HAMJY	CLOUDS, 2 TRAILS POOR SEEING
	HD 117374	13h 37 3	-85° 42	11	04h 20								5.8							11	2 TIMES QUITED!
	HD 128898	16h 41.2	-66° 54	11	04h 32	04h 34	2m	0 05W	3π				3.4							11	
	HD 135379	15h 16.2	-58° 45	11	04h 39	04h 47	2m 7m	0 16E	3π				4.2							11	TWO EXPOSURES!
	HD 139271	15h 38.7	-39° 05	11	04h 53	05h 09	16m	0:15E	2π				6.3								
	HD 144197	16h 05.5	-45° 08	11	05h 14	05h 20	6m	0:29E	3π				5.0							11	
	HD 145389	16h 15.5	-67° 54	11	05h 26	05h 39	13m	0·23E	3π				5.9							11	
	HD 135730	15h 17.1	-41° 01	11	05h 46	06h 04	20m	1. 00W	3π				6.5							11	
	HD 148321	16h 27.3	-25° 56	11	06h 14	06h 40	26m	0:27W	2π				7.2							11	CLOSE TO THE MOON!

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2981	HD 154418	17h 05.3	-25° 32	05 Oct 06	06h 47	07h 01	14m	0.10N	2π				6.4		NeAr	60s	14/40			HAMUY	ON PREVIOUS SHEET
2982	HD 154783	17h 07.8	-30° 23	"	07h 25	07h 35	10m	0:40W	2π				6.2		NeAr	60s	14/40			"	
"	HD 157792	17h 25.5	-24° 10	"	07h 39	07h 42	3m	0.30W	2π				4.5							"	
"	HD 159532	17h 36.2	-43° 00	"	07h 47	07h 47	24 sec	0.24W	2π				2.3							"	24 sec exposure
"	HD 170384	18h 30.0	-40° 56	"	07h 53	08h 05	12m	0.12E	2.5π				6.2							"	
"	HD 174115	18h 48.8	-19° 10	"	08h 10	08h 35	25m	0.00	2.5 3π				7.0							"	IDENTIFICATION
"	HD 179366	19h 15.7	-66° 42	"	08h 40	08h 49	9m	0:12E	2.5π				5.7							"	
"	HD 183552	19h 31.7	-53° 14	"	08h 54	09h 05	11m	0.12E	2.5π				6.1							"	
"	HD 184552	19h 35.1	-24° 45	"	09h 11	09h 20	9m	0.02E	2π				5.8							"	
"	HD 185257	19h 38.9	-39° 29	"	09h 25	09h 43	18m	0:18W	2π				6.8							"	DOUBLE SPACE?
"	HD 186219	19h 42.8	-32° 33	"	09h 48	09 56	8m	0.23W	2π				5.6							"	
"	HD 186543	19h 46.9	-56° 24	"	10h 00	10h 07	7m	0 33W	2π				5.6							"	
"	HD 188097	19h 57.1	-69° 12	"	10h 12	10h 22	10m	0:37W	2π				6.0		NeAr	60s	14/14B			"	
2983	HD 76370	08h 54.8	-07° 55	05 Jan 25	00h 11	00h 45	34m	3.20W	1.5π	2.97	50μ WIDE.	47 5.4	6.9		NOT WORKING					HAMUY	NO COMPARISON. NR 3553, CLOUDS
	HD 76369	08h 54.8	-07° 55	"	00h 49	01h 22	33m	3.55W	1.5π	"			7.1							"	HR 3552, CLOUDS
	HD 79193	09h 11.7	-07° 03	"	01h 32	01h 51	19m	4.07W	1.5π	"			6.5							"	CLOUDS
	HD 85364	09h 50.5	-04° 10	"	01h 56	02h 20	24m	4.00W	1.5π	"			6.4		DID NOT USE					"	CLOUDS DON'T ALLOW SOMETIMES TO SEE THE CLOUDS
	HD 102249	11h 44.9	-66° 38	"	02h 33	02h 35	60s	2.20W	2π	"			3.8		PEHLER					"	
	HD 117025	13h 28.1	-64° 37	"	02h 43	02h 53	10m	0:53W	1.5π	"			6.3							"	
	HD 117374	13h 37.3	-85° 42	"	03h 07	03h 12	11m	1:04W	1.5π	"			5.8							"	
	HD 123998	14h 16.0	-80° 56	"	03h 18	03 25	6m	0:37W	1.5π	"			5.2							"	
	HD 125158	14h 18.7	-61° 12	"	03h 31	03 36	5m	0:45W	1.5π	"			5.5							"	
	HD 128898	14h 41.2	-64° 54	"	03h 43	03h 44	50s	0.32W	1.5π	"			3.4							"	
	HD 135730	15h 17.1	-41° 01	"	03h 50	04h 02	12m	0 13W	1.5π	"			6.5							"	
	HD 138105	15h 29.7	-20° 41	"	04h 07	04h 18	11m	0:18W	1.5π	"			6.4							"	
	HD 138413	15h 31.8	-19° 38	"	04h 23	04h 30	7m	0 26W	1.5π	"			5.7							"	
	HD 141378	15h 48.2	-03° 47	"	04h 35	04h 42	7m	0 22W	1.5π	"			5.7				H/14B			"	
2984	HD 144197	16h 05.5	-45° 08	"	05h 14	05h 18	4m	0 42W	1.5π	"			5.0							HAMUY	
	HD 145689	16h 15.5	-67° 54	"	05h 23	05h 32	9m	0:45W	1.5π	"			5.9							"	
	HD 154418	17h 05.3	-25° 32	"	05h 39	05h 50	11m	0.14W	1.5π	"			6.4							"	

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NUMBER	OBJECT	R.A.	DEC.	DATE U.T.	U.T. EXP. BEGIN	U.T. EXP. END	TOTAL / CORR.	H.A. END	SEE. / TRANS.	CAM. FOCUS	SLIT	GRATING / TILT	MAG.	SP.	COMP KIND	COMP EXP.	CALIB	EMUL	DEV	OBS	REMARKS
2984	HD 157792	17h 25.5	-24° 10	05 24/25	05h 58	06h 01	3m	0:05 W	2″	2.97	50μ WIDE	67	4.5		NONE					HAMUY	POOR SEEING
	HD 159532	17h 36.2	-43° 00	"	06h 07	06h 10	16, 24 seg	0:04 W	2″	"			2.3							"	" 2 EXPOSURES!
	HD 166960	18h 12.4	-04° 02	"	06h 16	06h 38	22m	0:05 E	2″	"			6.9							"	
	HD 173654	18h 45.7	-00° 58	"	06h 45	06h 57	12m	0:20 E	2″	"			6.1			DEKKER				"	DOUBLE STAR!
	HD 174115	18h 48.8	-19° 10	"	07h 09	07h 31	22m	0:11 W	2″	"			7.0			NOT				"	DOUBLE?
	HD 179366	19h 15.7	-66° 42	"	07h 39	07h 48	9m	0:01 W	2″	"			5.7			USED.				"	
	HD 183552	19h 31.7	-53° 14	"	07h 55	08h 06	11m	0.03 W	2″	"			6.1							"	
	HD 184552	19h 35.1	-24° 45	"	08h 11	08h 20	9m	0:14 W	2″	"			5.8							"	
2985	HD 185257	19h 38.9	-39° 29	"	08h 48	09h 10	22m	1:00 W	1.5″	"			6.8							HAMUY	
	HD 186219	19h 47.8	-72° 33	"	09h 16	09h 24	8m	1:06 W	1.5″	"			5.6							"	
	HD 186543	19h 46.9	-56° 24	"	09h 29	09h 39	10m	1 24 W	1.5″	"			5.6							"	
	HD 186984	19h 47.2	-13° 45	"	09h 45	09h 59	14m	1:42 W	1.5″	"			6.3							"	
	HD 188097	19h 57.1	-69° 12	"	10h 05	10h 16	11m	1:52 W	1.5″	"			6.0							"	
2986	HD 76370	08h 54.8	-07° 55	05 25/26	23h 36	23h 57	21m	2:34 W	1.5″→2″	2.97	50μ 1.2mm	67Å/mm 3.4	6.9		Ne Ar	60s	14 14B			HAMUY	CIRRUS! HR 3553
	HD 76369	08h 54.8	-07° 55	"	24h 00	00h 28	28m	3:05 W	1.5″→2″	"	"	"	7.1							"	HR 3552
	HD 78045	09h 02.3	-66° 20	"	00h 36	00h 38	100s	3:07 W	2″	"			4.1							"	
	HD 79193	09h 11.7	-07° 03	"	00h 43	00h 57	14m	3:20 W	1.5″	"			6.3							"	
	HD 81009	09h 22.2	-09° 46	"	01h 02	01h 19	17m	3:29 W	1.5″	"			6.8							"	
	HD 81309	09h 23.1	-37° 41	"	01h 24	01h 38	14m	3 47 W	1.3″	"			6.6							"	
	HD 85364	09h 50.5	-04° 10	"	01h 42	01h 51	9m	3:33 W	1.3″	"			6.2							"	
	HD 102249	11h 44.9	-66° 38	"	02h 00	02h 04	50, 100 seg	1 50 W	1.3″	"			3.8							"	2 EXPOSURES Δ, 2 TRAILS
	HD 117025	13h 28.1	-64° 37	"	02h 08	02h 17	9m	0:21 W	1.3″	"			6.2							"	
	HD 117374	13h 37.3	-85° 42	"	02h 23	02h 33	10m	0 28 W	1.5″	"			5.8							"	
	HD 123998	14h 16.0	-80° 56	"	02h 38	02h 42	4m	0 00	1.5″	"			5.2		Ne Ar	60s	14 14B			"	
2987	HD 125158	14h 18.7	-61° 12	"	03h 10	03h 15	5m	0:30 W	1.5″	2.97			5.5		Ne Ar	60s	14 14B			HAMUY	
	HD 128898	14h 41.2	-64° 54	"	03h 21	03h 22	48 seg	0:15 W	1.5″	"			3.4							"	
	HD 135730	15h 17.1	-41° 01	"	03h 32	03h 43	11m	0.00	1.3″	"			6.5							"	
	HD 138105	15h 29.7	-20° 41	"	03h 58	04h 08	10m	0 10 W	1.3″	"			6.4							"	QUITED ONE TIME REPEATED
	HD 138413	15h 31.8	-19° 38	"	04h 12	04h 17	5m	0 18 W	1.3″	"			5.7							"	
	HD 141378	15h 48.2	-03° 47	"	04h 23	04h 28	5m	0 13 W	1.3″	"			5.7							"	NAME?

PLATE UPSIDE DOWN OUT OF FOCUS.

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GARRISON CLASSIFICATION SPECTOGRAPH

NUMBER	OBJECT	R.A.	DEC.	DATE U.T.	U.T. EXP. BEGIN	U.T. EXP. END	TOTAL / CORR.	H.A. END	SEE. / TRANS.	CAM. FOCUS	SLIT	GRATING / TILT	MAG.	SP.	COMP KIND	COMP EXP.	CALIB.	EMUL	DEV.	OBS.	REMARKS
2987	HD 144197	16h 05.5	-45° 08	05 25/26	04h 36	04h 39	3m	0:07W	13"	2.97			5.0							HAMUY	
	HD 145689	16h 15.5	-67° 54	"	04h 45	04h 52	7m	0:10W	15"	"			5.9							"	
	HD 152192	16h 52.2	-30° 25	"	05h 02	05h 27	25m	0:08W	15"	"			7.2							"	IDENTIFICATION?
	HD 154818	17h 05.3	-21° 32	"	05h 31	05h 42	11m	0:10W	15"	"			6.4							"	
	HD 157792	17h 25.5	-24° 10	"	05h 46	05h 48	2m	0:03E	15"	"			4.5		NeAr	60s	14 1/4B			"	
2988	HD 159532	17h 36.2	-43° 00	"	06h 16	06h 17	1m 30s	0:15W	15"	2.97			2.3		NeAr	60s	14 1/4B			HAMUY	GUIADA CON GUITARRA FAST
	HD 166960	18h 12.4	-04° 02	"	06h 26	06h 44	18m	0:05W	15"	"			6.9							"	
	HD 173654	18h 45.7	-00° 58	"	06h 52	07h 01	10m	0:11E	15"	"			6.1							"	DOUBLE STAR?
	HD 179366	19h 15.7	-66° 42	"	07h 07	07h 15	8m	0:27E	15"	"			5.7							"	
	HD 174115	18h 48.8	-19° 10	"	07h 21	07h 41	20m	0:25W	13"	"			7.0							"	
	HD 183552	19h 31.7	-53° 14	"	07h 47	07.55	8m	0:03E	15"	"			6.1							"	
	HD 184552	19h 35.1	-24° 25	"	08h 00	08h 07	7m	0:05W	15"	"			5.8							"	
	HD 185257	19h 38.9	-39° 29	"	08h 12	08h 28	16m	0:22W	13"	"			6.8							"	
	HP 186219	19h 47.8	-72° 33	"	08h 34	08h 41	7m	0:26W	15"	"			5.6							"	
	HP 186543	19h 46.9	-56° 24	"	08h 48	08h 55	7m	0:41W	15"	"			5.6							"	
	HD 186984	19h 47.2	-13° 45	"	09h 05	09h 16	11m	1.01W	15"	"			6.3							"	
	HP 188097	19h 57.1	-69° 12	"	09h 29	08h 39	10m	1:15W	15"	"			6.0							"	
	HD 218108	23h 07.4	-79° 34	"	09h 45	09h 57	12m	1:37E	15"	"			6.3		NeAr	60s	14 1/4B			"	
2989	HD 76370	08h 54.8	-0° 55	05 26/27	23h 46	00h 03	17m	2.44W	13"	2.97			6.9		NeAr	60s	14 1/4B			HAMUY	
	HD 76369	"	"	"	00h 06	00h 26	20m	3:07W	13"	"			7.1							"	
	HD 78045	09h 02.3	-66° 20	"	00h 31	00h 34	100 sec	3:08W	13"	"			4.1							"	2 TRAILS
	HD 79193	09h 11.7	-07° 03	"	00h 39	00h 50	11m	3:14W	13"	"			6.3							"	
	HD 80477	09h 17.0	-58° 39	"	00h 58	01h 44	48m	4:02W	15"	"			8.0		NOT OBVIOUS. PROB. WRONG STAR.						IDENTIF.? DOUBLE SPACE?
	HD 81009	09h 22.2	-09° 46	"	01h 53	02h 11	18m	4.30W	15"	"			6.8							"	
	HD 81309	09h 23.1	-37° 41	"	02h 16	02h 32	16m	4:45W	15"	"			6.6							"	
	HD 85364	09h 50.5	-04° 10	"	02h 36	02h 49	13m	4:35N	15"	"			6.2							"	
	HD 102249	11h 44.9	-66° 38	"	02h 55	04h 58	1,2m	2:50W	15"	"			3.8							"	2 EXPOSURES 1, 2 TRAILS
	HD 117025	13h 28.1	-64° 37	"	03h 03	03h 12	9m	1:20W	13"	"			6.2		NeAr	60s	14 1/4B			"	
2990	HD 117374	13h 37.3	-85° 42	"	03h 41	03h 58	5m 10m	1:58W	15"	2.97			5.8		NeAr	60s	14 1/4B			HAMUY	2 EXPOSURES 1, 2 TRAILS
	HD 123998	14h 16.0	-80° 56	"	04h 05	04h 10	5m	1:30W	15"	"			5.2							"	2 TRAILS

PLATE UPSIDE DOWN OUT OF FOCUS.

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GARRISON CLASSIFICATION SPECTOGRAPH

NUMBER	OBJECT	R.A.	DEC.	DATE U.T.	U.T. EXP. BEGIN	U.T. EXP. END	TOTAL / CORR.	H.A. END	SEE. / TRANS.	CAM. FOCUS	SLIT	GRATING / TILT	MAG	SP.	COMP. KIND	COMP. EXP	CALIB	EMUL	DEV.	OBS	REMARKS
2990	HD 125158	14h 18.7	-61° 12	05 26/27	04h 17	04h 21	4m	1:40W	1.5π	297			5.5							HAMUY	
	HD 128898	14h 44.2	-64° 54	"	04h 26	04h 29	50s, 100s	1.25W	1.5π	"			3.4							"	2 EXPOSURES 1, 2 TRAILS
	HD 132322	15h 00.3	-63° 53	"	04h 32	04h 59	27m	1:36W	1.5π	"			7.4							"	
	HD 138105	15h 29.7	-20° 41	"	05h 04	05h 15	11m	1 47W	1.3π	"			6.4							"	
	HD 141378	15h 48.2	-03° 47	"	05h 20	05h 26	6m	1:43W	1.3π	"			5.7							"	HR 5875
	HD 145689	16h 15.5	-67° 54	"	05h 30	05h 37	7m	1:43W	1.3π	"			5.9							"	
	HD 152192	16h 52.2	-30° 25	"	05h 40	06h 03	23m	0:47W	1.3π	"			7.2		NeAr	60s	14/14B			"	
2991	HD 154418	17h 05.3	-21° 32	"	06h 26	06h 37	11m	1:09W	1.3π	297			6.4		NeAr	60s	14/14B			HAMUY	
	HD 157792	17h 25.5	-24° 10	"	06h 42	06h 48	150, 100 sec	0:59W	1.3π	"			4.5							"	2 EXPOSURES
	HD 159532	17h 36.2	-43° 00	"	06h 52	06h 56	10, 0, 20 sec	0:58W	1.5π	"			2.3							"	EXPOSURE #1: 10 sec " 2: 0.01 " 3: 20 sec
	HD 161227	17h 44.1	-16° 47	"	07h 05	08h 04	59m	1:57W	1.3π	"			8.0							"	
	HD 166960	18h 12.4	-04° 02	"	08h 08	08h 23	15m	1:48W	1π	"			6.9							"	
	HD 173654	18h 45.7	-00° 58	"	08h 26	08h 34	8m	1:25W	1.3π	"			6.1							"	BINARY STAR?
	HD 174115	18h 48.8	-19° 10	"	08h 38	08h 56	18m	1:45W	1.3π	"			7.0							"	
	HD 179366	19h 15.7	-66° 42	"	09h 01	09h 08	7m	1:30W	1.3π	"			5.7							"	
	HD 183552	19h 31.7	-53° 14	"	09h 11	09h 20	9m	1:25W	1.3π	"			6.1							"	
	HD 184552	19h 35.1	-24° 45	"	09h 24	09h 31	7m	1:33W	1.3π	"			5.8		NeAr	60s	14/14B			"	
2992	HD 62992	07h 44.5	-38° 08	05 27/28	23h 48	00h 46	58m	4:40W	1.3π	297			8.0		NeAr	60s	14/14B			HAMUY	
	HD 74762	08h 43.1	-53° 27	"	00h 51	01h 47	56m	4:44W	1.3π	"			8.0							"	IDENTIF? DOUBLE STAR
	HD 78045	09h 02.3	-66° 20	"	01h 55	02h 01	100, 150 sec	4:40W	1.3π	"			4.1							"	2 EXPOSURES 2,3 TRAILS
	HD 80457	09h 17.0	-58° 39	"	02h 07	03h 06	59m	5:30W	1.3π	"			8.0							"	IDENTIF?
	HD 93874	10h 48.1	-63° 45	"	03h 11	04h 32	81m	5:25W	1.3π	"			8.4							"	IDENTIF? DOUBLE STAR?
	HD 112528	12h 56.8	-19° 41	"	04h 41	05h 52	71m	4:35W	1.3π	"			8.3							"	IDENT?
	HD 132322	15h 00.3	-63° 53	"	06h 06	06h 40	34m	3:20W	1.3π	"			7.4							"	IDENT?
	HD 145689	16h 15.5	-67° 54	"	06h 46	06h 54	8m	2:18W	1.3π	"			5.9							"	
	HD 159532	17h 36.2	-43° 00	"	06h 59	07h 05	15s, 25s	1:09W	1.3π	"			2.3		NeAr	60s	14/14B			"	2 EXPOSURES WITH FAST MOTION
2993	HD 161227	17h 44.1	-16° 47	"	07h 32	08h 20	48m	2:16W	1π	297			8.0		NeAr	60s	14/14B			HAMUY	IDENT?
	HD 166960	18h 12.4	-04° 02	"	08h 23	08h 40	17m	2:09W	1π	"			6.9							"	
	HD 184552	19h 35.1	-24° 45	"	08h 46	08h 52	6m	0:58W	1π	"			5.8							"	DOUBLE STAR
	HD 185257	19h 38.9	-39° 29	"	08h 56	09 11	15m	1:13W	1.3π	"			6.8							"	

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2993	HD 186219	19h 47.8	-72° 33	05 27/28	09h 17	09h 23	6m	1:16 W	1π	2.97			5.6							HAMUY	DOUBLE SPACE
	HD 186543	19h 46.9	-56° 24	"	09h 26	09h 31	5m	1:25 W	1π	"			5.6							"	
	HD 186984	19h 47.2	-13° 45	"	09h 36	09h 45	9m	1:39 W	1π	"			6.3							"	
	HD 188097	19h 57.1	-69° 12	"	09h 49	09h 57	8m	1:49 W	1π	"			6.0							"	
	HD 218108	23h 07.4	-79° 34	"	10h 03	10h 13	10m	1:12 E	1π	"			6.3		NeAr	60s	14/14B			"	
2994	HD 62992	07h 44.5	-38° 08	05 28/29	23h 40	00h 39	59m	4:37 W	1.3π	2.97			8.0		NeAr	60s	14/14B			HAMUY	
	HD 74762	08h 43.1	-53° 27	"	00h 43	01h 46	63m	4:46 W	1.5π	"			8.0							"	
	HD 80457	09h 17.0	-58° 39	"	01h 52	03h 11	79m	5:39 W	1.3π	"			8.3							"	
	HD 93874	10h 48.1	-63° 45	"	03h 19	04h 42	83m	5:39 W	1.3π	"			8.4							"	
	HD 112528	12h 56.8	-79° 41	"	04h 49	06h 13	84m	5:01 W	1.3π	"			8.4							"	
	HD 132322	15h 00.3	-63° 53	"	06h 22	07h 00	38m	3:45 W	1.3π	"			7.6							"	
	HD 135728	15h 16.7	-31° 24	"	07h 07	09h 08	121m	5:46 W	1.5→2π	"			8.8							"	
	HD 159532	17h 36.2	-43° 00	"	09h 13	09h 19	2×3.3s	3:28 W	1.5π	"			2.3							"	2 EXPOSURES GUIDED WITH FAST GUITAR
	HD 179366	19h 15.7	-66° 42	"	09h 24	09h 31	7m	2:00 W	1.5π	"			5.7							"	
	HD 186984	19h 47.2	-13° 45	"	09h 37	09h 48	11m	1:46 W	1.3π	"			6.3							"	
	HD 218108	23h 07.4	-79° 34	"	09h 53	10h 03	10m	1:18 E	1.3π	"			6.3		NeAr	60s	14/14B			"	
2995	HD 62992	07h 44.5	-38° 08	05 29/30	23h 31	00h 30	59m	4:32 W	1.3π	2.97			8.0		NeAr	60s	14/14B			HAMUY	
	HD 74762	08h 43.1	-53° 27	"	00h 44	01h 44	60m	4:50 W	1.3π	"			8.0							"	ONE TIME QUITED
	HD 80457	09h 17.0	-58° 39	"	01h 50	03h 19	89m	4:50 W	1.5π	"			8.3							"	
	HD 93874	10h 48.1	-63° 45	"	03h 24	04h 55	91m	5:50 W	1.5π	"			8.4							"	
	HD 135728	15h 16.7	-31° 24	"	05h 30	07h 50	116m	4:22 W	1.5π	"			8.8		05:54 → 07h50 for second exp.					"	ONE TIME QUITED ≈ 40 mins
	HD 152192	16h 52.2	-30° 25	"	07h 58	08h 25	27m	3:22 W	1.3π	"			7.2							"	
	HD 161227	17h 44.1	-16° 47	"	08h 31	09h 34	63m	3:39 W	1.3π	"			8.2							"	
	HD 166960	18h 12.4	-04° 02	"	09h 37	09h 57	20m	3:34 W	1.3π	"			6.9							"	
	HD 186219	19h 47.8	-72° 33	"	10h 01	10h 08	7m	2:10 W	1.3π	"			5.6							"	
	HD 186543	19h 46.9	-56° 24	"	10h 12	10h 18	6m	2:20 W	1.3π	"			5.6							"	
	HD 188097	19h 57.1	-69° 12	"	10h 22	10h 31	9m	2:24 W	1.3π	"			6.0		NeAr	60s	14/14B			"	
2996	HD 63514	07h 47.1	-38° 38	05 30/31	23h 36	02h 06	150m	6:09 W	1.5→2π	2.97			8.9		NeAr	60s	14/14B			HAMUY	HD 63571 POOR SEEING
	HD 92664	10h 39.7	-65° 02	"	02h 13	02h 22	9m	3:34 W	2→3π	"			5.4							"	POOR SEEING
	HD 85364	09h 50.5	-04° 10	"	02h 29	02h 55	26m	4:57 W	2→3π	"			6.2							"	"

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					BEGIN	END									KIND	EXP					
2996	HD 123998	14ʰ 16.0	-80° 56	05 31/31	03ʰ 06	03ʰ 24	7m, 7m	1:00W	3π	2.97			5.2							HAMUY	POOR SEEING 2 EXPOSURES 3 TRAILS EACH
	HD 135728	15ʰ 16.7	-31° 24	"	03ʰ 32	05ʰ 47	135 min	2:22W	2→3π	"			8.8							"	POOR SEEING
	HD 145689	16ʰ 15.5	-67° 54	"	05ʰ 53	06ʰ 04	11m	1:40W	2π	"			5.9							"	
	HD 147010	16ʰ 19.2	-20° 02	"	06ʰ 11	07ʰ 00	49m	2:33W	2π	"			7.6		NeAr	~50s 60s	14 14B			"	CLOUDS 2 COMPARISONS
2997	HD 97394	11ʰ 11.4	-43° 36	05 31/1	23ʰ 28	02ʰ 03	155m	2:48W	1.5→2π	297			9.0		NeAr	60s	14 14B			HAMUY	
	HD 101189	11ʰ 37.5	-61° 44	"	02ʰ 14	02ʰ 25	5, 6m	2:35W	>2π	"			5.1							"	POOR SEEING 2 EXPOSURES
	HD 103962	11ʰ 57.5	-59° 40	"	02ʰ 27	03ʰ 02	35m	3:00W	1.5π	"			7.3							"	
	HD 115331	13ʰ 16.3	-43° 54	"	03ʰ 06	03ʰ 18	12m	1:57W	1.5π	"			6.0							"	
	HD 112381	12ʰ 56.0	-54° 30	"	03ʰ 35	03ʰ 52	17m	2:52W	1.5π	"			6.5							"	
	HD 123998	14ʰ 16.0	-80° 56	"	03ʰ 58	04ʰ 12	5, 7m	1:52W	1.5π	"			5.2							"	2 EXPOSURES 2, 3 TRAILS
	HD 128898	14ʰ 41.2	-64° 54	"	04ʰ 18	04ʰ 26	50, 70 sec	1:40W	1.5π	"			3.4							"	2 EXPOSURES GUIDED WITH FAST 6
	HD 145689	16ʰ 15.5	-67° 54	"	04ʰ 56	05ʰ 04	8m	0:44W	1.3π	"			5.9							"	
	HD 148321	16ʰ 27.3	-25° 26	"	05ʰ 12	05ʰ 35	23m	1:04W	1.3π	"			7.2		~~NeAr~~	~~60s~~	~~14 14B~~			"	
	HD 96451	11ʰ 04.4	-75° 04	"	05ʰ 40	06ʰ 06	26m	6:58W	1.5→3π	"			6.6		NeAr	60s	14 14B			"	POOR SEEING Mp=6.6 B=?
2998	HD 165040	18ʰ 07.1	-63° 40	"	06ʰ 25	06ʰ 40	90, 135, 180, 225 sec	0:28W	1.3π	"			4.6		NeAr	60s	14 14B			HAMUY	TEST
															NeAr	60s	14 14B			"	4 EXPOSURES 2, 3, 4, 5 TRAILS
2999	HD 181018	19ʰ 21.9	-65° 36	"	07ʰ 56	08ʰ 24	28m	1:00W	1.3π	297			7.3		NeAr	60s	14 14B			HAMUY	UFO CROSSED THE SLIT
	HD 200623	21ʰ 04.7	-35° 46	"	08ʰ 33	10ʰ 24	111m	1:16W	1.3π	"			9.0		NeAr	60s	14 14B			"	Mp=9 → B=? CLOUDS!
3000	HD 96451	11ʰ 04.4	-75° 04	06 1/2	23ʰ 49	00ʰ 06	17m	1.00W	1.3π	297			6.6		NeAr	60s	14 14B			HAMUY	Mp=6.6 → B=?
	HD 101189	11ʰ 37.5	-61° 44	"	00ʰ 11	00ʰ 15	4m	0:37W	1.5π	"			5.1							"	
	HD 103962	11ʰ 57.5	-59° 40	"	00ʰ 18	00ʰ 41	23m	0:43W	1.3π	"			7.1							"	Mp=7.1 B=?
	HD 112381	12ʰ 56.0	-54° 30	"	00ʰ 45	00ʰ 59	14m	0:02W	1.3π	"			6.5							"	
	HD 115331	13ʰ 16.3	-43° 54	"	01ʰ 02	01ʰ 10	8m	0:07E	1.3π	"			6.0							"	
	HD 123998	14ʰ 16.0	-80° 56	"	01ʰ 16	01ʰ 37	6m, 5m	0:40E	1.5π	"			5.2							"	2 EXPOSURES, CLOUDS GUIDED WITH FAST 6
	HD 116458	13ʰ 24.7	-70° 33	"	01ʰ 46	02ʰ 01	6m, 8m	0:36W	1.5π	"			5.6							"	2 EXPOSURES CLOUDS
	HD 117025	13ʰ 28.1	-64° 36	"	02ʰ 04	02ʰ 31	10m, 14m	1:02W	1.5π	"			6.2							"	2 EXPOSURES CLOUDS
	HD 116890	13ʰ 27.6	-69° 34	"	02ʰ 33	02ʰ 45	12m	1:17W	1.5π	"			6.2		NeAr	60s	14 14B			"	CLOUDS
3001	HD 141378	15ʰ 48.2	-03° 47	"	04ʰ 07	04ʰ 24	7m, 9m	0:36W	1.3π	297			5.7		NeAr	60s	14 14B			HAMUY	2 EXPOSURES CLOUDS
	HD 144197	16ʰ 05.5	-45° 08	"	04ʰ 29	04ʰ 40	3.5, 5m	0:35W	1.3π	"			5.0							"	2 EXPOSURES CLOUDS
	HD 145689	16ʰ 15.5	-67° 54	"	04ʰ 44	05ʰ 07	9m, 13m	0:52W	1.5π	"			5.9							"	2 EXPOSURES CLOUDS

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3001	HD 147084	16h 19.7	-24° 09	06 1/2	05h 14	05h 20	6m	1:00 W	1.3T	297	50μ / 1.2mm	67 / 54	← 5.4					IIa-O	M-S.	HAMUY	
	HD 147010	16h 19.2	-20° 02	"	05h 24	06h 04	40m	1:44W	1.5"	"			← 7.6							"	BRIGHT SKY CLOUDS
	HD148199	16h 26.6	-29° 16	"	06h 07	06h 34	27m	2 08W	1.3"	"			7.1							"	
	HD 148321	16h 27.3	-25° 26	"	06h 37	07h 05	28m	2 39W	1.3T	"			7.2							"	
	HD 150549	16h 45.1	-67° 05	"	07h 10	07h 23	5m, 6m	2:40W	1.3T	"			5.1		NeAr	60s / 60s	14 / 14B			"	2 EXPOSURES
3002	HD 165040	18h 07.1	-63° 40	"	07h 49	07h 59	2.5m, 4m	1:53W	1.3T	2.97			4.6		NeAr	60S	[illegible]			HAMUY	2 EXPOSURES
	HD 181018	19h 21.9	-65° 36	"	08h 05	08h 35	30m	1:15W	1.5T → 2"	"			7.1							"	mp = 7.1 → B = ?
	HD186117	19h 47.7	-73° 34	"	08h 42	09h 34	52m	1.46W	1.5"	"			7.5							"	CLOUDS
	HD212385	22h 23.7	-39° 12	"	09h 41	10h 08	27m	0:16E	1.3T	"			7.0		NeAr	60s	14 / 14B			"	ONE TIME QUITED, EF=.85
3003	HD 97394	11h 11.4	-43° 36	06 2/3	23h 38	02h 10	152m	3:03W	1.3"	2.97			9.0		NeAr	60s	[illegible]			HAMUY	
	HD 112381	12h 56.0	-54° 30	"	02h 16	02h 31	15m	1:39 W	1T	"			6.5							"	
	HD 112528	12h 56.8	-19° 41	"	02h 37	03h 53	70m	3:01W	1T	"			8.4							"	
	HD 112381	12h 56.0	-54° 30	"	03h 59	04h 16	17m	3:23W	1.3"	"			6.5							"	
	HD117374	13h 37.3	-85° 42	"	04h 23	04h 56	9m, 11	3 23 W	1.3T	"			5.8							"	2 EXPOSURES WITH WHITE GUITARE
	HD 123998	14h 16.0	-80° 56	"	05h 04	05h 10	6m	2:58W	1.3T	"			5.2							"	GUIDED WITH WHITE GUITAR
	HD 128898	14h 41.2	-64° 54	"	05h 16	05h 23	50, 75 seg	2:46W	1.3T	"			3.4							"	2 EXPOSURES WITH WHITE GUITAR
	HD 145689	16h 15.5	-67° 54	"	05h 30	05h 50	8m, 10m	1:40W	1.3T	"			5.9							"	2 EXPOSURES
	HD 147084	16h 19.7	-24° 09	"	05h 55	06h 00	5m	1:45W	1.3"	"			5.4		NeAr	60s	14 / 14B			"	BRIGHT SKY
3004	HD 147010	16h 19.2	-20° 02	"	06h 16	07h 00	44m	2:45W	1"	297			7.6		NeAr	60s	[illegible]			HAMUY	BRIGHT SKY (S) STAR BRIGHTER OF PAIR
	HD 148199	16h 26.6	-29° 16	"	07h 03	07h 33	30m	3 10W	1"	"			7.1							"	BRIGHT SKY
	HD 148321	16h 27.3	-25° 26	"	07h 36	08h 09	33m	3 46W	1T	"			7.2							"	BRIGHT SKY
	HD 165040	18h 07.1	-63° 40	"	08h 17	08h 29	20, 250 seg	2 26W	1.3T	"			4.6							"	3 EXPOSURES 1 QUITED, CLOUDS
	HD 181018	19h 21.9	-65° 36	"	08h 33	09h 09	36m	1:53W	1.3T	"			7.1							"	CLOUDS
	HD 212385	22h 23.7	-39° 12	"	09h 23	09h 51	28m	0.28E	1"	"			7.0							"	
	HD 218108	23h 07.4	-79° 34	"	09h 56	10h 16	17m	0.46E	1T	"			6.3		NeAr	60s	14 / 14B			"	ONE TIME QUITED, CLOUDS
3005				8506 26/27						2.96					NeA	60s.		IIa-O	M-S.	BOB SLAWSON	THICK NIMBUS CLOUDS AROUND
3005'	HD 112374	12h 55.7	-26° 23	8506 28/29	03:16	03:56	40m.	4h 49W	2"	2.96	9μ / 1.2mm	67 / 54	7.3		NeA	60s		IIa-O	M-S	BOB SLAWSON	CLOUDED OUT.
3006	HD 165040	18h 07.1	-63° 40	8506 29/30	05:16	05:26	10m.	1h 11W	3"	"	"	"	4.6		NeA	40s.		IIa-O	M-S.	"	CLOUDS GET THICKER.
	HD 186219	19h 47.0	-72° 33		06:56	07:10	14m.	1h 15W	2-3"				5.6								TRY AGAIN. T=1°C RH=73%
	HD 208217	21h 55.9	-61° 55		07:18	08:16	60m	0h 13W	2"				7.6								THICK CLOUDS COMING IN.

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3007	HD 78045	9h02.3	−66°20	8507 01	00:13	00:18	70, 105 sec.	5h15W	1½″ FAIR.	2.96	50μ / 1.2mm.	67 / 5.40	4.1	Am.	NeA	30s.		IIa-O	M-S.	3rB Slanbow	
	HD 81309	9h23.1	−37°41		00:31	00:52	~19m.	5h29W	1½-3″ FAIR				6.6	Am.							
	HD 83625	9h37.5	−54°09		00:56	01:24	28m.	5h43W	2-5″				6.6	ApSi							
	HD 86199	9h54.6	−57°10		01:28	01:55	27m.	6h00W	1½-4″ FAIR.				6.5	ApSi							
	HD 92664	10h36.8	−65°02		02:02	02:09	7½m	5h30W	2-4″				5.4	ApSi							
	HD 101189	11h37.5	−61°44		02:43	02:48	5m.	5h11W	2″.				5.2	ApHgMn.							
	HD 103962	11h57.5	−59°40		02:54	03:08.	~12m.						7.1	B9III (pSi)				ABORTED AFTER ~12m.			
	HD 112381	12h56.0	−54°30		04:36	04:56	20m	6h01W	2″				6.5	ApSiCr.							
	HD 116458	13h24.7	−70°33		05:02	05:12	10m.	5h48W	2″				5.6	ApHg(Mn)							
	HD 116890	13h27.6	−69°34		05:15	05:31	16m.	6h04W	1½-2″				6.2	Ap Si							
HD117025 ~~3008~~	~~HD 118242~~ ~~HD 118690~~	13h28.1	−64°36		05:37	05:52	15m.	6h24W	1½″+				6.2	ApSrEuCr	NeA	30s.	14/14m B				HD117025
3008	HD 128898	14h42.4	−64°58		06:28	06:31	90sec.	5h50W	3″	2.96	50μ / 1.2mm.	67 / 5.40	3.4	Am/Ap.	NeA	30s.					
	HD 132322	15h00.3	−63°53		06:43	07:49	66m.	6h49W	2″				7.6	Am/Ap.							GUIDING POOR??
	HD 145699	16h15.5	−67°54		07:56	08:09	13m.	5h55W	1½-2″				5.9	Am.							
	HD 150549	16h45.1	−67°05		08:14	08:18	4m.	5h34W	1½″				5.1	Ap Si							
	HD 152564	16h57.9	−69°15		08:24	08:33	9m.	5h36W	1.5				6.0	Ap Si							
	HD 165040	18h07.4	−63°40		08:44	08:50	80/120s.	4h43W	1.5				4.6	Ap.							
	HD 208217	21h55.9	−61°55		09:03	09:28	25m	1h34W	1″				7.6	Ap SrEuCr							
	HD 212385	22h23.7	−39°12		09:36	09:48	12m	1h26W	1″				6.85	Am/Ap.				NOTE 30V / 14m !			
	HD 15144	02h25.2	−15°24		10 12	10:17	5m	2h25E	1″				5.9	Ap SrCr							
	HD 21997	03h31.2	−25°39		10:23	10:33	10m.	2h57E	1½″				6.5	Am.	NeA	30s	30V/14m B				
3009	HD ~~89025~~	10h15.8	+23°29	8507 02	00:02	00:11	2¼, 3½m.	3h59W	?	2.96	50μ / 1.2mm	67 / 5.40	4.0	F0III	NeA	30s					MK†
	HD 147084	16h19.7	−24°09		00:48	00:52	3½m.	1h24E	1.2″.				5.4	A5III							MK† THIN CLOUD
	HD 97394	11h11.4	−43°36		01:03	02:34	91m.	5h27W	1″				8.8	A5p Am							
	HD 147084	16h19.7	−24°09		02:40	02:44	4m.	0h28W	1″				5.4	A5II							MK†
	HD 172167	18h36.1	−38°45		04:35	04:38	1,2,4,4,8s.	0h05W	2?				0.0	A0V.							MK LAST TWO SPECTRA MADE WITH DEFOCUSED IMAGE. (~10″)
	HD 116890	13h27.1	−69°34		04:51	05:05	14m.	5h42W	1″				6.2	Ap Si							
	HD 128898	14h41.2	−64°54		05:12	05:14	30, 54 sec.	4h37W	1″				3.4	Am.	NeA	30s	15/15 B				
3010	HD 147010	16h19.2	−20°02		06.12	06:42	30m.	4h27W	1″+				7.6	ApSi	NeA	30s.					
	HD 18622A	19h47.8	−72°33		06:52	07:03	4m, 5m.	1h24W					5.6	Am.							

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3010	HD196867	20h38.9	+15°52	8507 07/02	07:49	07:52	45,90s.	1h16W	1" / POOR	2.96	50μ / 1.2mm	67 / 5.4	3.7	B9 IV				IIa-O	M-S	BUSSWANSON	THROUGH CLOUD.
	HD 216956	22h56.9	-29°42		08:00	08:01	3,5,4s.	0h50E	1.5" / FAIR.				1.2	A3 V	MAY NOT HAVE ADVANCED PLATE BETWEEN FIRST TWO MK+						
	HD 223967	23h53.4	-59 38		08:58	09:21	22m.	0h27E	1-1½ / POOR				7.1	Ap.							
	HD 223466	23h49.0	-25°26		09:25	09:35	10m.	0h09E	1" / POOR				6.4	Am.							
	HD 223024A	23h45.2	-1846		09:39	09:42	3m.	0h02W	1"+				5.3	Am							
	HD223024B	23h45.2	-1646		09:43	09:53	9m.	0h13W	1"+ / POOR				6.3	Am	NeA	30s	15 15 B				
3011	HR5967	16 02.6	-38 31	26/27	add 02h 0200	7m each 0205	20,40,80s / 80s	3h W	3" / clear	3.35	100μ / .8mm	120 / 7.0	4.7	B7	NeA	30s		IIa-O	MWP.2	[illegible]	70%, 5°C, mod.
3012	L² Sco	17 49.2	-40 08	Aug 1985	0206	0211	40,80,160 / 60s	4h20mW	3"/clear				5.0	A3					7m		
	4 SGR	17 58.8	-23 48		0215	0220	10,40,20 / 20s	4 21mW	3"/clear				4.7	A0					67°F		
	HR7012	18 44.5	-55 41		0226	0230	30,60,120 / 40	3h 45W					5.0	A3					fogged plates!		
	δ Tuc	22 26.5	-65 00		0508	0512	20,40,80 / 30	30mW					4.4	B8							
	16 Aqr	22 42.8	-18 54		0530	0553	3,6,12m / 5m	53mW					6.1	K4							
	51 Peg	22 56.6	+20 41		0613	0628	2,4,8m / 2m	1h13mW					6.2	G5							
	HD219150	23 12.7	+02 08		0633	0650	16m / 10m	1 21 W					8.3	F2							Ferraz's star
3013	12293	01 59.6	-16 22		0708	0758	50m / 70	20mE					9.1	A							50% 7°C mod.
	Searched for			Halley — No luck																	
3014	HR6070	16 17.0	-28° 34	27/28	2330	2332	20,40,80 ✓	~0h	1"/clear	"	"	"	4.8	A0	"	"		"	"	[illegible]	13°C, 40% calm
	" 6918A	18 26.3	+00 12	Aug 1985	2350	2355	40,80,160 ✓	~40mW	"				5.7	G0+A					New batch of plates		
	" B	"	"		2356	0032	5,10,20m ✓	9mE					8.	F? A0							
	HD146029	16 14.0	-22 20		0040	0049	3,6,10 ✓	2h30mW					7.3	B9							
	ι Sco	17 46.7	-40 04		0105	0108	5,10,20 ✓	1h7mW					3.5	F2 Ia							
	HD164519	18 01.6	-22 54		0120	0156	5,10,20 ✓	1 40W					~8	A5 Ia							
	165782	18 07.6	-18 32		0215	0305	50m / 80m	2 43W					>9.2	G8 Ia							Beware 12d moon
	201626	21 09.3	+26 33		0318	0400	42m / 45	38mW					9.1	G9p.	(very strange star!)						
3015	+25°4655	21 58.9	+26 21	"	0445	0527	42 / 50	1h15mW					9.	Sd O							
	+28°4211	21 50.4	+28 48		0532	0641	55m / 2h	2 37W					9.5	O9p	wrong star?						
	HD219150	23 12.7	+02 08		0644	0709	15m / 10m	1h32mW					8.3	F2							
	12293	01 59.6	-16 22		0703	0734	30m / 80m	40mW					9.1	A.							11° 38% calm
	ι Tuc	01 07.0	-61 45		0843	0853	6,25 / 25	1 32W					7.35	G5							

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LC																					
3015	39 Cet HR373	1h 15.8	-2 35	27/28	0856	0859	2.5m / ✓	1h 20m W	1"/clear	3.35	100μ/.8mm	120/7.0	6.3	G5	NeA	10s		IIa-O	MWP-2	[illegible]	
Cont	HR610	02 03.0	-00 24	Aug 85	0913	0917	4m / ✓	1h 1m W					6.8	G5					7 min 67°F		
	HD17576	02 47.7	-36 59		0923	0934	10m / 20	32m W					8.1	G0+WD							
	κ Cet	03 18.2	+03 18		0937	0939	1.2m / 1m	7m W					5.4	G5V							
	HR1318B 39 ERI B	04 13.6	-10 14		0942	1012	30m / 40m	15m E					~9	G							
	27 Tau	03 48.4	+23 57		1014	1015	13s / ✓						3.8	B8							
	28 Tau	03 48.2	+24 05		1016	1019	60, 30s / 40s	20m W					5.0	B8							
3016	γ Cir (B)	15 22.4	-59 12	28/29	2345	2348	3.5m / 6x30s	2 16 W	<1"/clear	"	"	"	6.5	F ?	"	"		"	"	"	redden, fainter
	γ Cir S	15 22.2	-59 12	Aug 1985	2353	2355	2m / 1m	2 24 W					5.5	B ?							bluer, brighter
	HR5967 HR6187B	16 02.0 16 40.4	-38 33 -48 44		0018	0058	40m / 30 10	2 08 W					4.7 9.2	B7 B ?				some solar contam (full moon)			12°35' calm.
	" A	"	"		0111	0113	1.5m / ✓	2 20 W					6.0	O5							
	" C	"	"		0118	0123	4m / ✓	2 32 W					7.1	O7 ?							
	161817	17 46.1	+25 46		0144	0151	6+m / ✓	1h 52m W					6.9	A2 VI							
3	ι² Sco	17 49.4	-40 03		0154	0157	20, 40, 80s / ✓	1 57 W					5.0	A3							
3	4 SGR	17 59.1	-23 49		0203	0205	" / ✓	1 56 W					4.7	A0							
3	HR7012	18 43.4	-64°54'		0210	0212	" / 80s	1 16 W					5.0	A3							(false start)
3	δ Tuc	22 27.0	-65 00		0242	0244	10, 20, 40 / 30	1 52 E					4.4	B8							}}
3	66 Aqr	22 42.5	-18 52		0253	0304	1, 5, 3, 6 / ✓	1 50 E					6.1	K4							
3017	51 Peg	22 56.6	+20 41	"	0315	0326	" / ✓	1 42 E	1"/clear	"	"	"	6.2	G5	"	"		"	"	[illegible]	
	219150	23 12.9	+02 08		0329	0402	6, 10, 15 / ✓	1 22 E					8.3	F2							
	HR7671	20 04.4	-11 34		0405	0419	2, 4, 8 / ✓	2 05 W					6.9	F1p.							
	HD17576	02 47.7	-36 58		0509	0529	20m / ✓	3 28 E					8.1	G0+WD							
3018	51 Peg	22 56.6	+20 41	"	0553	0602	9m / 6	55m W	1-2"/clear	"	50μ/1.2mm	"	6.2	G5	"	"		Baked IIa O 24 in HN	M-5 15 min 67°F	[illegible]	
	8531 A	22 24.4	-57 48		0608	0616	7 / 5	1 42 W					6.0	G5.							
	8658	22 45.5	-49 03		0620	0640	20m / 15	1 45 W					7.4	G0							
	8477	22 13.8	-41 24		0705	0714	9m / 8	1 51 W					6.9	G5							
	85 PEG	00 01.2	+27 00		0720	0730	10m / 8	1 19 W					6.4	G3							
	HD26	00 04.5	+08 47		0734	0817	43m / 60	2 03 W					8.2	Gp							
	β Hyi	00 25.5	-77 18		0822	0823	1.5m / 30s	1 49 W					3.4	G2							
	HR72	00 18.1	-08 05		0829	0842	13m / ✓						7.1	G0							
	9 CET	00 22.1	-12 13		0844	0857	13m / ✓	2 25 W					7.0	G2							

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3018	HR1597A	0036.7	-24 50	28/29 Aug 85	0904	0914	8m 5	2 29W	1.5"/clear	3.35	50μ/42	126/74.0	6.3	G5	NeA	10s		IIaO	M-S	JL	1.
(cont)	HR235	0049.4	-10 39		0917	0921	4m 3	2 22W					5.7	F8.				baked 24 N2H	67°F 15min		
	K Cet	0318.7	+03 21		0930	0934	3m 2	5m W					5.4	G5V							
	HR1008	0319.7	-43 05		0938	0940	2m 1	11m W					5.0	G5							
	39 Tau	0403.3	+21 58		0948	1002	14m 8	13m E					6.5	G1							
3019	HR6051	16 13.7	-21 03	29/30 Aug 85	0033	0042	8m	2 20W	1.5"/clear	2.95	50μ/42	67/	6.4	A0	4	20s		"	"	J	10°C 38% calm
	6167	16379	-6053		0048	0054	5m 5	2 10W					6.1	B7							
	6460	1723.5	-44 08		0057	0100	2m 5	1 30W					5.1	B7							
	6489	17 25.3	-01 38		0103	0120	15m	1m 49 W					6.9	F3							8" 35% calm
	6519	17 39.6	-23 56		0123	0126	3m	1 56 W	2"/clear				4.8	B9.5							
	7134	18 57.8	-52 57		0130	0133	3m	29m W	"				4.8	A0							
	7145	18 56.7	-26 40		0138	0142	3m 5	38m W					5.2	A0 II							
	7292	19 14.9	-25 16		0145	0151	6m	30m W	1.5"				5.4	F+F							
	7671	20 04.3	-11 35		0154	0209	15m	2m E					6.8	F							7°C 30% calm
	5898	15 53.9	-60 37		0239	0252	13m	4 52W					6.2	B9							
	21 Sgr	18 24.6	-26 32		0257	0302	4.5 7m	2 30W	1.5"/clear				5.1	K2							blue HK comp in RA
	HR6918A	18 26.5	+00 12		0304	0311	6m	2 46W					5.7	G0+A0							
3020	" B	"	"	"	0320	0358	36m	3 24W					7.1	F?							
	7032	18 42.9	-08 15		0400	0416	9m	3 20W					6.0	G8							
	δ Tel	18 31.0	-45 54		0413	0415	2m 5	3 38W					4.8	B6							
	7029	18 43.7	-35 36		0418	0420	2m	3 30W					4.7	B2							
	ν¹ Sgr	18 53.5	-22 44		0424	0436	12m	3 37W					6.2	K2							
	ν² Sgr	18 54.5	-22 40		0438	0453	15m	3 53W					6.3	K5							
	δ Tuc	22 26.6	-64 59		0533	0534	50s 75s	1 02W					4.4	B8							
	K Cap	21 42.1	-18 53		0538	0544	6m	1 56W					5.6	G8							
	36 Psc	00 15.8	+08 13		0554	0610	15m	12m E					7.0	G8							
	HD1367	00 12.2	+01 37		0613	0634	19m	8m W					7.1	K0							
	HR162	0037.0	-54 26		0637	0705	28m	22m W					7.4	K0							
	58 Psc	00 46.3	+11 58		0725	0737	12m	46 W					6.5	G8							

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3021	61 Cet	02 03,2	-00 24	29/30	0755	0812	15m ✓	3m W	1.5/cli.	295	50μ/1.2mm	67/4.5	6.8	G5	NeA	20s	14m	IIa-O	MS	[illegible]	
	HR 350	01 09.9	-57 42	Aug 1985	0816	0842	26 ✓	1h 26m W					7.3	G6			14V B	baked 2h 65° H_2N_2	67°F 15m		
	HR 584	01 58.0	-65 26		0845	0910	25 ✓	1h 6m W					7.3	G8							
	HR 981	03 08.8	-78 59.		0915	0923	7.5 ✓	9m W					5.9	F2							
	ρ¹ Eri	03 00.7	-07 41		0927	0943	16m ✓	38m W					6.8	K2							
	ρ² Eri	03 02.1	-07 42		0945	0955	10m ✓	48m W					6.3	K2							
	HR 1016	03 21.0	-23 41		0957	1008	11m ✓	41m W					6.4	G6							
3022	149382	16 33.5	-03 58	30/31	2353	0053	60m ✓	2 17 W.	1.5/clear	"	"	"	8.7	OB SD.	"	"	"	"	"	"	9°C 33% calm
	γ¹ Nor	16 16.1	-50 02	Aug 1985	0102	0105	2.5m 4	2 46 W					4.8	F8							
	HR 6070	16 17.3	-28 34		0109	0112	2.5 ✓	2 53 W					4.8	A0							
	ζ¹ Sco	16 53.0	-42 18		0116	0127	4.5 3.5	2 30 W					5.2	B1.5 Ia+e							forgot to pull slide at first
	30 Oph	17 00.1	-04 11		0131	0145	14m ✓	2 42 W					6.3	K4							
	HR 6334	17 03.7	-34 03		0148	0151	2.5m ✓	2 45 W					5.1	B1e.							
	λ Ara	17 39.0	-49 24		0155	0159	3.5 ✓	2 16 W					5.2	F4							
	HR 6628	17 48.2	-31 40		0202	0204	2m ✓	2 12 W					4.8	B8							
	λ² Sco	17 49.2	-40 03		0207	0210	2m ✓	2 17 W					5.	A3							
	HR 6675	17 55.8	-44 20		0233	0243	10m ✓	2 46 W					6.1	K0							
	HR 6682	17 56.7	-41 41		0246	0307	20m ✓	3 07 W					6.5	K6							
	4 Sgr.	17 58.8	-23 49		0310	0312	2m ✓	3 10 W					4.7	A0							
	HR 7012	18 44.4	-64 57		0316	0319	2.5m ✓						5.0	A3							
3023	η Sct	18 56.2	-05 52	"	0331	0340	9m ✓	2 42 W					5.9	K2							
	21 Sgr	18 24.5	-20 31		0343	0350	7m ✓	3 24 W	1"/clear				5.1	K2							ft blue comp RA ~2" = HR 7152
	ε CrA	18 57.7	-37 04		0353	0355	1.5m ✓	2 55 W					5.1	F0,							
	ψ Sgr	19 14.5	-25 16		0359	0402	3m ✓	2 44 W					5.4	F5.							
	κ Aql	19 35.7	-67 01		0404	0406.	130s ✓	2 29 W					4.9	B0.5							
	60 Sgr	19 58.1	-26 13		0409	0414	5m ✓	2 13 W					5.7	G5							
	δ Tuc	22 26.4	-64 58		0419	0421	70s ✓	8m E					4.4	B8 V.							25 trails; ft. comp RA
	66 Aqr	22 42.8	-18 52		0425	0433	8m ✓	11m E					6.1	K4							
	197214	20 42.4	-29 27		0537	0610	32 ✓	3 25 W					7.6	G							
	HR 7931	20 44.4	-27 17		0612	0630	18 ✓						7.1	G5							

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3023	HR 8042B	21 01.5	-43 01	30/31	0634	0705	31m ✓	4h 02 W	1"/clear	2.95	50μ/1.2	67/5.4	7.6:	K0	Ne-A	20s	14m	IIaO	M-S	[initials]	8°C 33% calm
(Cont)	HR8700	22 52.9	-48 40	Aug 1985	0711	0722	11m ✓	2 27 W					6.6	G3			14V	baked	67°F		
	HD4308	00 44.3	-65 40		0726	0745	19m ✓	59m W					7.2	G3			B	2h 65°C H_2N_2	15m		
3024	HR512	01 39.5	-82 57	"	0811	0823	12m ✓	42m W	"	"	"	"	6.4	G2	"	"	"	"	"	"	
	α Cet	01 48.8	-10 41		0830	0832	1.5m ✓						4.9	F2							HR 531
	σ Cet	02 31.2	-15 15		0835	0838	2.5m ✓	5m W					5.2	F5							
	33 τ8 Eri	03 53.1	-24 39		0841	084[illegible]	80s ✓	1 12 E					4.5	B5							
	32 Eri A	03 53.6	-03 00		0851	0855	4m ✓						5.7	G8							
	" B	03 53.5	-03 00		0855	0903	6m ✓	52m E					6.2	A2							
	HD20439	03 16.7	+07 41		0911	1006	56m ✓	47m W					8.4	G0							
	28 Tau	03 48.3	+24 08		1009	1012	2.5m ✓						3.8	~~B8 III~~ B8p							
	27 Tau	03 48.3	+24 00		1012	1014	50s/40	26m W					5.	B8 III							
3025	161817	17 46.1	+25 45	31 Aug / 1 Sept 1985	2353	0022	29m ✓	37m W	2-3"/clear	"	"	"	6.9	A2 VI	"	"	"	"	"	"	5° 40% ↑ calm
	146029	16 14.1	-22 21		0026	0059	33m ✓	2 46 W					7.3	B9							
	ι Sco	17 46.5	-40 05		0102	0103	50s ✓	1 18 W					3.5	F2 Ia							
	HD164514	18 01.6	-22 54		0106	0156	50m ✓	1h 56m W					8	A5 Ia							
	HR 5996	16 06.2	-13 58		0212	0249	38m ✓	4 25 W	2"/clear				7.4	G4							
	HR6372	17 08.2	-03 51		0252	0317	25m ✓	4 10 W					7.1	G5							
	μ Ara	17 43.3	-51 49		0321	0329	8m ✓	3 47 W	1½"				5.9	G5							
	HR6777	18 09.2	-32 40		0331	0355	25m ✓	3 48 W					7.1	G5							
	HR7569	19 51.4	+11 39		0359	0416	17m ✓	2 26 W					6.8	G2							
	15 Sge	20 03.5	+17 03		0419	0437	18m ✓	2 35 W	2"/clear				6.4	G1							
	HR7914	20 40.1	+19 52		0441	0510	29m ✓						7	G2							5° 45% mod.
	HR8314	21 43.5	+14 45		0547	0603	16 ✓	2 20 W	1.5"/clear				6.7	G0							
	HR6	00 05.9	-49 09		0614	0624	10m ✓	20m W					6.2	G1							
3026	HR23	00 08.6	-54 03	"	0632	0655	22m ✓	49m W	1.5"/clear	"	"	"	7.1	G4	"	"	"	"	"	[initials]	
	HR97	00 24.4	+01 52		0700	0714	14m ✓	52 W					6.6	G5	close to moon (5°)						
	HR108	00 27.5	-20 24		0717	0732	15m ✓	1h 06m W	1"/clear				7.0	G0	close to moon (20°)						
	HR172	00 39.6	-16 32		0735	0804	29m ✓	1 26 W					7.4	G5	" " (20°)						
	HR173	00 39.8	-23 52		0806	0821	15m ✓	1 43 W					6.8	G3							

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3026	HR176	00 39.9	−59 28	31 Aug 1 Sept	0825	0840	15m / ✓	2h W	1.5–2″ / clear	295	50μ / 1.2mm	67 / 5.4	6.4	G1	NeA	20s	14	IIaO	M-S	[illegible]	4°C 45% light
(cont)	HR203 18 Cet	00 44.8	−12 54	1985	0844	0856	12m / ✓	2 14W					6.8	G0			14V B	baked 2h 65°C H2F2	67°F 15m		
	HR209	00 45.1	−47 37		0859	0910	11m / ✓	2 27W					6.4	G1							
	HR210	00 45.5	−22 36		0914	0930	15m / 12	2 42W					6.5	G3							
	HR255	00 53.3	−08 46		0933	0958	24m / ✓	3 06W					7.1	G5							close to moon (10°)
	HR582	01 59.3	+03 03		1000	1015	15m / 12	2 17W					6.5	G2							
3027	HR5303	14 15.8	−80 56	1/2 Sept 85	2314	2315	~50s / [illegible]	3h 5m W	2–3″ / clear				5.2	A2	"almost hit pier – stopped"						4°C 45% calm
	δ¹ Aps	16 19.2	−78 37		2345	0015	30m / 20m	2h W	"				6.4	M4 III							
	ζ TrA	16 27.1	−70 02		0017	0019	2m / 3.5	2h W	"				4.4	G0							HR6098
	χ¹ Nor	16 16.1	−50 11		0025	0029	5m / 4	2 17W	1.5″ / clear				4.8	F8							
	ζ¹ Sco	16 52.9	−42 20		0036	0040	4m / ✓	1h 52W	"				5.2	B1							
	Her 4EG	18 19.6	+21 57		0045	0120	35m / 25	1h 5W	1.5–2″				6.5	M0							
	η Sct	18 56.3	−05 51		0123	0131	7.5m / ✓	40m W					5.9	K2							
	HR6400	17 19.0	−70 01		0132	0201	24m / ✓	2 18W					7.1	G2							
	HR7671	20 04.3	−11 35		0242	0255	13m / 15	56m W					6.8	F2							
	HR6722	18 00.3	+15 09		0258	0335	36m / 30	3 40W	2″ /				7.	G5							
	Y SGR	18 20.7	−18 49		0337	0355	18m / 12m	3 40W	1.5–2″ /				6.7	F8I							HR6863
	HR6959	18 32.0	−14 48		0359	0452	52m / +90	4 20W	2–5″ / clear				7.5	K3 Ib-II							humidity increasing
3028	66 Aqr	22 42.9	−18 53	"	0535	0545	10m / 12	1h 7m W	2–3″ / clear				6.1	K4							
	1 Cet	23 57.6	−15 53		0548	0621	32m / ✓	29m W	2″ / clouds coming.				7.3	K0			fog building in valley				
	HD219150	23 12.9	+02 08		0626	0726	60m / 40	2 19W					8.3	F2							
	223238	23 47.3	(−) 04 07	(?)	0730	0813	42m / 50	2 32W					8.3	G3			moon close (10°)				Banged plateholder
	HR300	01 02.8	−29 35		0847	0911	24m / ✓	2 15W					7.2	G5							
	HR332	01 06.8	−61 43		0914	0930	15m / ✓	2 31W	2″+ / clear				6.3	G5.							
	HR610A	02 03.1	−00 21		0936	0956	20m / ✓	2h W					6.8	G5.							
	28 Tau	03 48.3	+24 08		1000	1005	5.5m / .5						5	Bp							
[illegible]	27 Tau	"	+24 00		1006	1008	1.5m / 1.2	28m W					3.+	B8 III							
3029	HR5303	14 15.8	−80 56	2/3 Sept 85	2304	2306	2m / ✓						5.2	A2							6°C 50% light
	"	"	"		2306	2311	4m / ✓	3h 4m W.	1.5″ / clear "	"	"	"	"	"	"	"	"	"	"	[illegible]	
	δ¹ Aps	16 18.3	−78 36		2334	2347	10m / ✓						6.4	M4 III							

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(cont) 3029	ζ Tra	16 26.8	−70 01	2/3 Sept 85	2356	2358	2m/3m	1 41W	1.5"/clear	2.95	50μ/1.2mm	67/5.4	~~[illegible]~~	G0	~~NeA~~	20s	14m	IIaO	M-S	[initials]	
	ζ¹ Nor	16 16.0	−50 01		0008	0011	4.5/4m	2 4W	1"/clear				~~4.8~~	F8			14#	baked 2h 65°C	67°F 15m		
	"	"	"	"	0014	0019	4.5/✓	2 11W	"				(5.5)	"			B	H_2N_2			
	ζ Tra	16 26.9	−69 57		0023	0027	4m/✓	2 9W	"				(5.4)	G0							
	106 Her	18 19.5	+22 01		0033	0051	17m/✓	41mW	"				6.5	M0							
	HR6349	17 04.5	+00 49		0054	0104	9m/✓	1 09W	"				6.5	G0							
	HR7165	18 57.4	+17 26		0107	0116	9m/✓	27mW					6.2	F8							
	7296	19 15.7	−33 26		0121	0129	8m/10m	22mW					6.3	G0p,e							
	7500	19 14.6	+15 10		0133	0151	13m/✓	45W					6.6	G8							
	7671	20 04.3	−11 31		0154	0207	12m/✓	12mW					6.8	F2							
3030	66 Aqr	22 42.6	−18 54	"	0406	0416	10m/✓	18mE					6.1	K4							
	219150	23 12.9	+02 07		0504	0547	42/✓	43mW	1.5-2/clear				8.3	F2							
	223238	23 47.1	+04 06		0552	0705	73m/✓	1h28mW	2"/clear				8.3	G3							
	9 Cet	00 21.9	−12 14		0708	0734	26m/✓	1 22W	2"/clear				7	G2							
	φ² Cet	00 49.3	−10 41		0737	0745	8m/6	1 07W					5.7	F8							
	HR405	01 23.8	−15 41		0748	0818	30m/✓	1 04W					7.1	B5							
	HR618	02 02.3	−15 20		0821	0831	10m/20s	38W	1.5/clear				6.8	G3							
	HR573	01 15.7	−02 35		0834	0844	10m/✓	1 38W					6.3	G5 e							
	HD17576	02 47.7	−37 00		0848	1004	76m/✓	1h28mW	3"/clear				8.1	G+WD							8° 40% light.
3031	HR5898	15 53.9	−60 37	3/4 Sept 85	0032	0039	7m/✓	2h58mW	2-3"/clear	3.28	50μ/1.2mm	120/7.0	6.2	B9	NeA	30s	14m	IIaO	MS	[initials]	
	6057	16 13.6	−21 04		0042	0048	5m/	2 46W	2"/clear				6.4	A0			14#	baked			
	6167	16 37.4	−60 53		0051	0055	4m/✓	2 31W	1.5/				6.1	B7			B	as above			
	6460	17 23.4	−44 08		0100	0102	2m/✓	1 52W	"				5.1	B7							
	6489	17 25.3	−01 38		0106	0118	13m/	2 07W					6.9	F3							
	6519	17 30.6	−23 57		0121	0123	2m/1.5	2 05W					4.8	A0							
	HD161817	17 46.2	+25 45		0129	0146	16m/20	2 12W					6.9	A2							
	HR7145	18 56.5	−20 40		0149	0157	2m/✓	1 08W					5.2	A0							
	7134	18 57.2	−52 58		0155	0157	1.5/	1 12W					4.6	A0							
	7292	19 14.5	−25 17		0200	0203	3.5/	1 01W					5.4	F2							
	HD201626	21 09.4	+26 32		0247	0452	2h5m/2.5	1 57W	2"/clear				9.1	G9p							

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3032																					
3032	HR8531A	22 24.3	−57 49	3/4 Sept 85	0553	0559	5m / 5	1h50m W	1.5 / clear	3.28	50μ / 4.2m	120 / 7.0	6	G4	NeA	50s	14V 14m B[illegible]	IIa-O baked 2h 65°C H_2N_2	M-5 67°F 15min	[illegible]	
	8658	22 45.6	−49 04		0604	0621	16m / 13	1 49W					7.4	G0							
	8729	22 56.8	+20 41		0625	0632	6m / 5	148W					6.2	G4							
	85 Peg	00 01.3	+27 00		0634	0641	7m / 6	0h54m W					6.4	G3							
	HD26	00 04.6	+08 46		0645	0735	50m / 80	1 43W					8.2	Gp.							
	β Hyi	00 25.6	−77 18		0741	0742	36s / ✓	130W					3.4	G2							
	HR159A	00 36.6	−24 50		0746	0754	7m / 6	1 30W					6.3	G5.							
	HR6	00 05.8	−49 08		0808	0815	6m / 5.5	224W					6.2	G1							
	HR23 ~~[illegible]~~	00 08.7	−54 03		0818	0833	15m / 13	2 39W.				120 / 1T	7.1	G1							
3033	Halley!	06 11.8	+19 25		0900	1000	1h /	~2E	"	"	100μ / .6m	7.0	16?	e.	~~[illegible]~~		=	IIa-D	M-5	[illegible]	Too much moon!
3034	146029 (×2)	16 14.1	−22 20	4/5 Sept 85	2356	~~0024~~	18 / ✓		"	"	50μ / 1.2m	"	7.3	B9	NeA	20s	14V 14m B	IIa-O baked 2h 65°C H_2N_2	M-5	"	9°35%calm
	"	"	"		"	0024	9 / ✓	2 27W					"	"							
	ι¹ Sco	17 46.7	−40 05		0627	0628	20s / ✓						3.5	F2 Ia							
	HD164514	18 01.6	−22 55		0033	0101	26m / ✓	1h 17W					8	A5 Ib							
	165782	18 07.8	−18 32		0105	0259	1h54m / ✓	3h 10W					9.2	G8 Ia							
	HR7671	20 04.3	−11 35		0303	0309	6m / ✓	1 22W.					6.8	F2.							
	HR 6777	18 09.3	−32 41		0313	0328	15m / ✓	3 36W					7.1	G5.							
	HR7164	18 58.8	−18 32		0405	0418	12m / 15 ✓	3 36W.					7.0	G3							time out for publicity pictures
	HD197214	20 42.5	−29 28		0449	0505	15m / ✓	2 41 W					7.6	G.							
	HR7931	20 44.6	−27 17		0547	0559	12m / ✓	3 32W					7.1	G5							
	8042A	21 01.6	−43 02		0602	0614	13m / ✓	3 32W					7.1	G3							
	HD202628	21 (09.6)	−43 24		0620	0645	24m / 0X	3.54W.					7.4	G5.	wrong star!						
	205905	21 58.6	−27 21		0648	0709	21m / ✓	3 49W.					7.4	G4							
	42 Cap	21 41.0	−14 03		0712	0719	6m / ✓	3 58W					5.8	G2							
3035	φ² Cet	00 49.5	−10 40		0726	0729	3m / ✓	58m W					5.7	F8.							
	219150	23 13.0	+02 08		0733	0757	24 / ✓	3h 2m W.					8.3	F2							
	HR97	00 24.7	+01 52		0801	0811	10m / ✓	2 04W.					6.6	G5							
	HR108	00 27.9	−20 24		0813	0823	10m / ✓	2 12W					7.0	G0							
—	Halley	06 12.2	+19 25	position only — too windy to take spectrum.																	

NUMBER	OBJECT	R.A.	DEC.	DATE U.T.	U.T. EXP. BEGIN	U.T. EXP. END	TOTAL / CORR.	H.A. END	SEE. / TRANS.	CAM. FOCUS	SLIT	GRATING / TILT	MAG.	SP.	COMP KIND	COMP EXP.	CALIB.	EMUL	DEV.	OBS	REMARKS
3036	18 Sco (~~HR 5844?~~)	16 15.1	−08 18	5/6	2347	2350	100s /	2h W	1,2 / clear	3.28	50μ / 42mm	120 / 7.0	6.1	G2	NeA	20s	14m	IIaO,	M-S	[signature]	
	HR6400	17 18.9	−70 01	Sept 85	0002	0012	10m /	1h15W					7.1	G2			1W Blue	baked IIa 5h	15m		
	6722	18 00.3	+15 07		0053	0103	10m /	1 24W					7.0	G5				65° H_2N_2	67°F		
	7260	19 07.5	+16 51		0106	0115	8m /	29m W					6.8	G4							
	7569	19 51.5	+11 39		0120	0129	8m /	0h					6.8	G2							
	6757	18 05.6	−00 27		0135	0152	17m /	2 07W					7.4	G8II p.							
	15 Sge	20 03.6	+17 03		0156	0205	9m /	22m W					6.4	G1							
	6863	18 20.9	−18 51		0209	0218	8m /	2h20W					6.7	F8I							
	"	"	"		0222	0228	6m / 8m						"	"							
	κ Del	20 38.6	+10 05		0232	0236	3m5 / 5m	20m W					5.8	G5							
	7914	20 40.3	+19 53		0241	0251	10m /	33m W					7.	G2							
	7296	19 15.6	−33 30		0256	0306	10m /	214W					6.3	G8 p.							
	7304	19 16.7	−18 57		0313	0317	4m /	221W					6	G8							
3037	8314	21 43.9	+14 44		0438	0447	8m /	1 24W					6.7	G0							
	51 Peg	22 56.9	+20 40		0450	0454	4m /	19m W					6.2	G5							
3038	HD449-55B	04h 53.2	−55° 52	SEPT 26 (UT) '85	0608	0643	35m / ~40m	2h30E	2" / THIN CLOUDS	3.28	100μm / .6mm	120 / 7.0	(11.5?)	~M3Ve			30m @7F YELLOW	IIa-D	M-S @67°F for 15 min	IKS	[−5] Thin (moonlit) cloud at 6:30; STOPPED at 06:43.
	SKY	"	"		0644	0704	20m /	2h10E	? / CLOUDS				?	MOONLIGHT							[−4]
	HALLEY'S COMET	06h 14.8	+19°51		0837	0844	7m /		≤3" / CLEAR		" / UNTRAILED		≤12?	e							[−2] double object! both on slit ~~from time to time~~
	"	"	"		0848	0908	20m / ?	1h30E	≤2" / "		" / "		"	"	NeA	~½s	→				[−1] guiding on S. ... separation ~3".
3039 →					~~0134~~																[+1]
[−5]	M28 (T7)	18h23.8	−24°51	SEPT 27 '85 (UT)	0134	0300	86m? / 3h?	4h16W	~2" / CLEAR	3.28	100μm / .1mm (UNTRAILED)	120 / 7.0	>15?	?				IIa-D (3h @66°F)	M-S, 15m	IKS	Just starting to show features...
[−3]	HD449-55 "S"	04h 53.2	−55°52'		0425	0449	24m /	4h20E	~3" / CLEAR		100μm / .6mm		~11.5?	~M3Ve							
[−2]	"T"	"	"		0450	0526	36m /	3h48E	2" / "				~12.0?	"							
[−1]	"S"	"	"		0528	0552	24m /	3h20E	" / "												
[0]	"T"	"	"		0553	0624	31m /	2h48E	"												
[−1]	"S"	"	"		0629	0649	20m /	2h27E													
[−2]	"T"	"	"		0646	0716	30m /	1h56E													
[−3]	"S"	"	"		0717	0737	20m /	1h35E													
[−4]	"T"	"	"		0738	0808	30m /														
[−5] / [−6]															NeA	~5s / ½s					

plate badly fogged due to rushing first exposure!! probably unusable.

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NUMBER	OBJECT	R.A.	DEC.	DATE U.T.	U.T. EXP. BEGIN	U.T. EXP. END	TOTAL / CORR.	H.A. END	SEE. / TRANS.	CAM. FOCUS	SLIT	GRATING / TILT	MAG. B	SP.	COMP. KIND	COMP. EXP.	CALIB.	EMUL.	DEV.	OBS.	REMARKS
3040	HD449-55 S	4h 53.2	-55°52	Sept. 27 1989	08 24	08 45	21m / c 30m	0h26E	2½" / clear	3.28	100μm / .6mm	120 / 7.0	11.5?	M3Ve	(with	3039)	~J	IIa-D (3h @66°c 4% FG)	M-S, 15m	IKS	B-V ≈ 2 ?
	" T	"	"		08 46	09 14	28 / 45?		"				12.0?	"							"
	3 field stars	6h 14.5	+19°52		09 25?	09 30?	~5m		"												
	Comet Halley	"	"		09 32½	09 35½	~3m		2" / clear					e							Just sky on plate
															NeA	~1s					
3041	M28 (V7)	18h 23.8	-24° 51'	Sept. 28 1989	00h 04	03h 04	3h	4h 24W	<2" / clear	"	100μm / ~.1mm trailing	"	15??	?			30m @7V yellow filter	IIa-D	M-S, 15m	IKS	-5 good enough exposure.
	HD449-55 S	4h 53.2	-55° 52'		03h 13	03h 52	39m	5h 16E	2" / "		" / .6mm		12	M3Ve				(baked 3h @66°c in 4% F.G.)			-3
	" T	"	"		03h 53	04h 47	54m	4h 21E	<2" / "		"		12½	"							-2
	" S				04h 48	05h 21	33m	3h 47E	2" / "												-1
	" T				05h 22	06h 16	54m	2h 52E	2" / "												0
	" S				06h 21	06h 50	29m	2h 18E	2" / "												+1
	" T				06h 51	07h 38	47m	1h 30E	" / "												+2
	" S				07h 39	08h 10	31m	0h 58E	" / "												+3
	" T				08h 11	08h 56	45m	0h 11E	2 / "												+4
															NeA	~½s					+5
	Comet Halley	06h 14.4	+19° 55'		09h 06	09h 26	20m	1h 02E	~2"? / "												+6 maybe yes ?
3042	HD449-55 S	4h 53.2	-55° 52'	Sept. 29 1989	03h 02	03h 43	41m	5h 22 E	≤3" / clear	"	100μm / .4mm	"	12 ?	M3Ve				IIa-D	M-S, 15m	IKS	-4
	" T	"	"		03h 44	04h 41	57m	4h 23 E	~2" / "				12.5?	"				(baked 3h @66°c in 4% F.G.)			-3 "T" always seems to fit the slit better than "S"!
	" S				04h 42	05h 16	34m	3h 48E	<2" / "												-2
	" T				05h 16	06h 07	51m	2h 57E	<2" / "												-1
	" S				06h 07	06h 38	31m	2h 26E	<2" / "												0
	" T				06h 38	07h 29	51m	1h 35E	" / "												1
	" (S) ??? probably T again!				07h 30	08h 00	30m	1h 04E	" / "												2
	" (T) ✗ actually S!				08h 01	08h 18	17m	0h 45E	" / "												3 Damn, should have just kept going!
	" T				08h 22	09h 07	45m	0h 03W	" / "												4
	Giacobini-Zinner ??	~6h 15.0	+00° 09		~09h 20		~3m?		<2" / "												5 Nothing that looked like a comet!!!
															NeA	~½s					6

Again, considerable fogging due to first (3h) exposure; also exposures ok, but could go longer! probably because of moonlight.

Exposures look good but they're not consistent!... ... due to progressively worse guiding ??

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3043	HD449-55 S	4h 53.2	-55° 52	SEPT. 30 1985	02h 37	03h 20	43m /	5h 41 E	2-2½" / clear	3.28	100μm / .4mm	120 / 7.0	~12	M3Ve			(30m @ TV c̄ yellow)	IIa-D	M-S, 15m	IKS	-2
	" T	"	"		03h ~~22~~ 22	04h 21	59m /	4h 39 E	~1" /				~12½	"				(baked 3h @66°C in 4% FG)			-1
	S				04h 22	05h 00	38m /	4h 00 E	" /												+1
	T				05h 01	05h 52	51m /	3h 08 E	" /												+2
															NeA	~½ s					+4
3044	" S	"	"	"	06h 06	06h 44	38m /	2h 16 E	≤2" / clear	"	"	"	•	"			with 3043	"	"	"	-2 sloppy guiding! exposure increased to compensate (+20%)
	" T				06h 44	07h 32	47m /	1h 28 E	/				•	"				(")			-1
	S				07h 33	08h 09?	35 /	0h 51 E	/	← plate not engaged!!! (ie - no exposure!!!)											+1 - just can't win... 5m added due to telescope's sloppy guiding!!
	~~T~~						/		/												+2
L															NeA	~½ s					~~+4, +5~~
3045	HD449-55 S	"	"	~~SEPT.~~ OCT. 1, 1985	05h 23	05h 53	30m /	3h ~~09~~ E	~2" / ~clear	"	"	"	~12	"			(30m @ TV c̄ yellow)	IIa-D	M-S @ 67° for 15m	IKS	-2
	T				05h 54	06h 41	47m /	2h 15 E	/				~12½	"				(baked 3h @66°C in 4% FG)			-1
	S				06h 42	07h 14	32m /	1h 42 E	/												+1
	T				07h 15	08h 02	47m /	0h 54 E	/												+2
	COMET HALLEY	06h 13.5	+ 19° 59		08h 18	09h 08	50m /		/		(" ~~only guiding~~ countweighted)										+4 comparison star 30" to West.
L															NeA	~½ s					+5
~~3046~~																					
3046	HD449-55 S	04h 53.2	-55° 52	OCT 4 1985	03h 44	04h 33	49m /	4h 12 E	>3" / ~clear	"	"	"	~12	M3Ve			(30m @ TV yellow)	IIa-D	M-S (15m)	IKS	-2
	" T	"	"		04h 34	05h 43	69m /	3h 01 E	~3" / "				~12½	"				(baked 3h @66°C in 4% F.G. ~~stored 1d in freezer.~~)			-1
	S				05h 44	06h 24	40m /	2h 20 E	" / "												+1
	T				06h 25	07h 27	62m /	1h 17 E	/												+2
															NeA	~½ s					+3
3047	" S	"	"	"	07h 38	08h 54	76m /	0h 09 W	/					"			c̄ 3046	"	"	"	-2
L															NeA	~½ s					-1

Plates appears slower than expected, and I.T. fog is very high (insufficient time to stabilize ?? ... try 2h min)

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3048	HR 8006	20h 54.3	-1° 26'	10/11 Oct '85	00:34	00:56	22m	39°W	1" Good	3.00	50µ/12	67/5:40	6.84	F0V			2m 22V	IIa-O	M5 15m	Gry G	
	HR 8057	21h 7.6	-21° 16'		01:10	01:15	5m	44°W	1" Good				5.29	A0V						G	
	HR 8181	21h 25.2	-65° 26'		01:27	01:31	4m	42°W	1-1.5" Good				4.71	F6V.						SE	
	HR 8307	22h 17.2	-0° 19'		01:37	01:58	21m	17°W	1" Good				6.83	F3V						G	
	HR 8717	22h 54.5	8° 44'		02:04	02:09	4.9m	9°E	1.5" Good				4.90	A1V.						SO	
	HD220657	23h 24.6	23° 19'		02:15	02:21	6m	27°E	1.5" Good				5.01	F8III						G	S.spp
	HD 221950	23h 35.6	2° 1'		02:36	02:48	12m	11°E	1-1.5" Good				6.13	F5						G	Olsen.
	HD 222368	23h 39.2	23° 37'		02:56	02:59	3.3m	4°E	1.5" Good				4.64	F7V						SO	S.spp
	HD 223346	23h 48.0	2° 8'		03:08	03:36	28m	24°W	1.5" Good				6.91	F2						G	Olsen
	HR 33	0h 10.5	-15° 33'		03:41	03:47	6.5m	14°W	1.5" Good				5.38	F7V						G	
	HR 35	0h 10.9	-35° 13'		03:53	04:02	9m	28°W	1.5" Good				5.69	F4V.						G	
3049	HR 695	2h 21.9	-23° 53'	10/11 Oct '85	05:25	05:35	10.5m	9°E	1.5" Good	"	"	"	5.80	G1V					Gry	G	
	HR 740	2h 31.4	-15° 19'		05:43	05:49	6m	5°E	1.5" Good				5.20	F4III						G	
	HR 781	2h 38.8	-11° 56'		05:54	06:00	6m	1°E	1.5" Good				5.29	F5V+F8V						G	
	HD 18369	2h 56.4	0° 23'		06:06	06:36	30m	17°W	1.5" Good				6.94	A5Ib						G	
	HD 18866	2h 58.5	-64° 8'		06:44	06:50	6.5m	29°W	1.5" Good				5.12	A3-5III						G	
	HD 20060	3h 9.8	-65° 58'		06:56	07:24	28m	5°W	1.5" Good				6.78	A3III/IV						SO	
	HR 1338	4h 15.6	-51° 31'		07:39	07:42	3m	4°W	1.5" Good				4.55	F4III						G	
	HR 1249	4h 1.8	-0° 19'		07:49	08:01	12m	37°W	1.5" Good				5.88	F5V						G	
	HR 1474	4h 36.8	-2° 30'		08:07	08:15	8m	16°W	1.5" Good				5.51	F0V						G	
	HD 29559	4h 36.8	-41° 54'		08:20	08:36	16m	37°W	1.5" Good				6.39	A3V.						SO	
	HD 31225	4 52.5	-20° 48'		08:42	09:14	32m	59°W	1.5" Good				7.02	A3						G	
3050	HD 198420	20 50.0	-21 22'	11/12 Oct '85	23:56	00:26	30m	16°W	1.5" Good	"	"	"	7.60	F5				IIa-O pulsed 90m 64°C forming gas		Gry G	Olsen
	HD 199288	20 56.7	-44° 10'		00:36	00:55	19m	39°W	1.5" Good				7.12	G0						G	Olsen.
	HD 204363	21 27.4	-11° 38'		01:01	01:19	18m	32°W	1.5" Good				7.10	F5						G	Olsen
	HD 208812	21 56.9	-8° 38'		01:25	01:38	13m	22°W	1.5" Good				6.71	A0e						SO	
	HD 216752	22 11.9	-6° 33'		01:51	02:34	43m	1h 2m W	1.5" Good				7.99	G0						G	Olsen
	HD 221943	23 39.7	-44° 58'		02:42	03:00	18m	4°W	1.5" Good				7.11	A7III						G	

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	3050 cont.	HD 224596	23 58.4	-42° 19'	11/12 Oct '85	03:07	03:24	17m	6°W	1.5 Good.	300	50μ/1.2	67/5.40	6.98	A7V					Gray	G Supp
20		HD 2395	0 26.9	-20° 13'		03.31	03.48	17m	2°W	1.5" Good				7.02	A7III						G Supp 4/4 only! 406/4
22		HD 5388	0 54.5	-47° 29'		04:58	05:18	20m	1° 5°W	1.5" Good				7.21	F8						G Olsen.
24		HD 12042	1 56.4	-51° 51'		05:25	05:37	12m	22°W	1.5" Good				6.58	F8						G Olsen
26		HR 510	2 42.0	-50° 52'		05:45	05:52	7m	9°E	1.5-2" Good				5.97	GOV						G
6	3051	HR 1010	3 17.9	-62° 34'	11/12 Oct '85	06-27	06:33	6m	3°E	1.5-2" Good				5.84	G2V					Gray	G
8		HD 22262	3 33.3	-31° 8'		06.46	06:59	13m	6°W	1.5-2" Good				6.68	F5						G
10		HD 22514	3 36.3	-33° 50'		07:03	07:27	24m	32°W	1.5" Good.				7.40	F2						G
2		HD 24500	3 51.2	-47° 22'		07:34	07:51	17.5m	41°W	1.5" Good				6.98	A8						G
14		HD 24503	3 54.1	-46° 25'		08:05	08:23	15m	1° 10°W	1.5" Good				7.07	A3V						G
16		HD 34554	5 16.4	-31° 18'		08:34	09:14	40m	40°W	1.5" Coats?				7.95	F5						SU
18																					
1	3052	HR 7773	20 19.8	-12° 49	12/13 Oct '85	00:25	00:29	4m	55°W	2" Good?	"	"	"	4.71	B8.5V					Gray	G
3, 10		HR 7854	20 36.3	-61° 35'		00:36	00:46 00:47-00:50	10m, 7.5m	1° 3°W	2" Good				5.31	F5V(n)						3U G
12		HR 7875	20 38.8	-60° 36'		00.59	01:09	10.5m	1° 16°W	2" Good				5.65	F8V						G
1		HR 7936	20 45.2	-25° 20'		01:15	01:18	3.5m	1° 18°W	2" Good				4.57	F4V						SU
12		HR 8087	21 7.6	-21° 16'		01:24	01:30	6m	1° 8°W	1.5"-2" Good				5.29	A0V						G
18 20		HR 8232	21 30.7	-5° 38'		01:38 01:41	01:39 01:43	1.5m 2.3m	58°W	2" Good				3.74	G0Ib						G SU Std.
22		HR 8414	22 5.0	-0° 24'		01:53	01:56	3m	37°W	2" Good				3.74	G2Ib						G
24		HR 8717	22 54.4	8° 44'		02:02	02:07	5m	2°E	2-3" Good				4.80	A1III						G W only!
26		HD 222368	23 39.2	5° 33'		02:16	02:20	4m	35°E	2-3" Good.				4.64	F7V						G Std.
	3053	HR 77	0 19.3	-64° 58'	12/13 Oct '85	02:58	03.03	5m	31°E	2" Good				4.81	F7V.					Gray	G
5		HR 147	0 34.9	-48° 5'		03 12	03:25	13m	24°E	1.5-2" Good				5.75	F6V						G
6		HR 197	0 41.8	-65° 33'		03:32	03.43	11m	13°E	1.5-2" Good				5.89	F6V						G
12		HR 370	1 14.5	-45° 37'		04:46	04:54	16m	24°W	1.5-2" Good				5.54	F8V						G
4		HD 10453 7672	1 15.8	-2° 35'		05:05	05:25	20m	55°W	1.5-2" Good				6.29	G0						G Olsen
16		HD 10453	1 41.0	-11° 24'		05:37	05:50	11m	55°W	1.5" Good				6.16	F5						G Cls Dbl. Both on slit
		HR 515	2 44.4	-15° 38'		06.01	06 05	3m	6°W	1.5" Good				4.95	F6V						G

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LAS CAMPANAS OBSERVATORY (24-INCH)

GARRISON CLASSIFICATION SPECTOGRAPH

	NUMBER	OBJECT	R.A.	DEC.	DATE U.T.	U.T. EXP. BEGIN	U.T. EXP. END	TOTAL / CORR.	H A. END	SEE / TRANS.	CAM. FOCUS	SLIT	GRATING / TILT	MAG.	SP.	COMP KIND	COMP EXP.	CALIB	EMUL	DEV	OBS.	REMARKS
20	3053 cont	HR 963	3 11.5	-29° 3'	12/13 Oct '85	06:16	06:18	2.5m	7m E	1.5" Good	300	50μ/1.2	67/5.40	4.39	F8V	NeA.		2 in 22V	IIa-O	M-S	Gry	-
		HD 20320	3 15.1	-8° 52'		06:27	06:31	4.5m	2m W					5.03	A5m			blue.	unbaked		G	Supp
6	3054	HD 165784	18 7.7	-21° 27'	13/14 Oct '85	23:45	00:17	32m	2h 58m W	1.5-2" Good.	"	"	"	7.39	A2 Iab						G	Supp
8		HD 171237	18 33.6	-24° 14'		00:25	00:43	18.5m	2h 59m W	1.5" Good.				7.05	F3 II-III						G	Supp
10		HD 188815	19 57.9	-46° 8'		00:50	01:30	40m	2h 23m W	1.5" Good.				7.97	F8						G	Olsen
1		Jupiter IV	20 40.6	-19° 16'		01:39	01:56	17m	2h 5m W	1.5" Good.				7.0?	G2V.						G	Std.
4		HD 205294	21 34.3	-34° 24'		02:03	02:25	23m	1h 40m W	1.5" Good.				7.35	G0						G	Olsen
16		HD 218059	23 4.2	4° 9'		02:35	03:02	27m	47m W	1.5" Good.				7.53	F8						G	Olsen
18		HD 2760	0 30.3	-10° 10'		03:08	03:25	17m	16m E	1.5" Good.				7.06	A3						G	Supp
20		HD 8487	1 22.8	-24° 25		03:31	03:46	15m	53m E	1.5" Good.				6.89	A7Vn						G	Supp Cls DH Srowly on sld.
22		HD 9063	1 28.1	-24° 53'		03:51	04:11	20m	28m E	1.5" Good				7.27	A7V						G	Supp
24		HD 6903	1h 9.0	19° 35'		05:09	05:19	10m	1h 0m W	1.5" Good				6.24	G0 III						G	Std
26		HD 17918	2 52.3	16° 25'		05:27	05:43	16m	20m E	1.5" Good				6.8	F5 III						G	Std.
	3055	HD 23585	3 46.1	23 57	13/14 Oct '85	06:10	07:51	110m	56m W	1.5" Good?				8.67	F0V						SU	Std. Some Cirrus
		HD 27524	4 20.6	21 06		08:02	08:31	29m	1hr 0m W	1.5" Good/Cirrus				7.23	F5V						SU	Std. Some Cirrus
		HD 27383	4 19.0	16° 29'		08:36	09:05	29m	1hr 36m W	1.5" Good				7.44	F9V						G	Std.
		HD 46769	6 34.5	0° 54'		09:13	09:18	5.5m	27m E	1.5" Good.				5.80	B8 Ib						G	Supp
	3056	HD 172522	18 39.6	8° 51'	18/19 Oct '85	23:46	00:09	23m	2h 38m	1.5" Good.	"	"	"	7.14	A2 III						G	Supp.
8		HD 172914	18 43.6	-41° 27'		00:16	00:54	38m	3h 20m	1.5" Good				7.86	F5						G	Olsen
10		HD 191841	20 11.4	-8° 8'		01:00	01:34	34m	2h 31m	1-1.5" Good				7.76	F8						G	Olsen
12,14		HD 200973	21 4.7	-31° 16'		01:59 01:47	02:30 01:58	10m, 31m	2h 35m	1.5" Good				7.70	F5						G	Olsen
16		HD 208110	21 53.2	+6° 48'		02:37	02:59	22m	2h 15m	1.5-2" Good.				6.96	G0						G	Olsen.
18		HD 217679	23 1.6	0° 21'		03:06	03:56	50m	2h 4m	1.5-4" Good				7.91	F8						G	Olsen. Variable seeing!
20		HR 12	0h 7.0	-22° 35'		04:02	04:09	7.5m	1h 11m	1.5" Good.				6.08	A2 λBoo						G	
22		HR 541	1 50.3	-50° 16'		04:51	04:58	7.5m	18m W	1.5" Good.				6.08	A1 λBoo						G	
24		HD 15515 AB	2 28.6	-21° 6'		05:05	05:33	28m	14m W	1.5" Good				7.59	F5						G	Olsen
26		HD 17326	2 43.1	-66° 47'		05:47	06:02	15m						6.80	F8						G	Olsen.

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3057	HD 21019	3 22.5	-7° 51'	18/19 Oct '85	06:34	06:51	17m /	38m W	1.5 / Good.	3.00	F2 50μ/1.2	67/	6.90	G0						Gry. G	Olsen
	HD 24616	3 53.3	-23° 11'		06:56	07:25	29m /	41m W	1.5" / Good				7.48	G0						G	Olsen
	HD 30369	4 45.4	-25° 11'		07:30	08:09	39m /	33m W	1.5" / Good				7.94	F2						G	Olsen
	HD 31925	4 58.3	-16° 24'		08:15	08:22	7m /	34m W	"				6.09	F2							olsen
	HR 2039	5 51.4	-9° 2'		08:39	08:46	7m /	4m W	"				6.07	A2 λ Boo						G	I Found Halley's comet!
	HR 36811	5 33 4	-1° 55'		08:53	09:14	21m /	50m W	1.5" / Good				7.26	A3 V						G	Supp
3058	HD 165360	18 5.2	-8° 7'	19/20 Oct '85	23:47	01:18	31m /	3h 25m W	1.5" / some cirrus				7.60	F8						G	Olsen
	HD 171840AB	18 37.3	-32° 42'		00:24	00:55	31m /	3h 30m W	1-1.5" / some cirrus				7.69	F5						G	olsen
	HR 6944	18 30.5	-18° 24'		01:01	01:04	3m /	3h 46m W	1.5" / Good?				5.14	A0 λ Boo						G	
	HD 200580	21 3 3	2° 56'		01:13	01:52	39m /	2m W	1-1.5" / cirrus.				7.88	F8						G	olsen
	HD 208496	21 57.4	-59° 5'		02:00	02:11	11m /	1h 26m W	1-1.5" / cirrus?				6.59	F5						G	olsen SB2!
	HD 223400	23 48.7	-66° 20'		02:18	02:52	34m /	17m W	1-1.5" / cirrus				7.75	F8						G	olsen.
	HD 3735	0h 39.2	-34° 3'		03:09	03-29	20m /	3m W	1-1.5" / Cirrus				7.21	F8						G	
	HD 9336A	1 30.8	-19° 6'		03 37	03:54	17m /	23m E	1-1.5" / Cirrus?				7.08	A7 III						G	
	HD 17072	2 40.4	-69° 18'		04:59	06-21	30m? /	1h 56m	1-1.5" / Clouds!				7.28	G0						G	interrupted 05:21 because of clouds. began 05:39
	HD 31925	4 58.3	-16° 24'		06-32	06.44	? aborted clouds	1h E	1-1.5" / Clouds				6.09	F2.						G	[en, etc] interrupted 06-39
3059	HD 168393	18 19.0	-11° 18'	20/21 Oct '85	23:51	00:42	51m /	3h 40m W	1-1.5" / some cirrus				7.99	F8						G	Olsen
	HD 199623	20 54.3	-51° 20'		00:48	00:56	8m /	1h 14m W	1.5" / Good				6.24	F5						G	Olsen
	HD 215257	22 43.1	+3° 48'		01:08	01:50	42m /	24m W	1-1.5" / some cirrus				7.95	F8						G	Olsen
	HR 8890	23 22.0	-15° 7'		01:57	02:00	3.5m /	4m E	1.5" / Good.				5.40	A3 λ Boo						SO	
	HD 1317A	0 16.6	8° 47'		02:09	02:51	42m /	8m E	1-1.5" / Good.				7.9	F5						G	Olsen
	HD 1317B	"	"		02:54	03:28	34m /	30m W	1-1.5" / Good		50μ/.8		8.1	F5?						G	Olsen
	HD 9336B	1 30.8	-19° 6'		03:35	04:27	52m /	15m W	1-1.5" / Good		50μ/.8		8.4	K0						G	Supp
	HD 17072	2 40.4	-69° 18'		05:16	05:41	25m /	19m W	1.5" / some cirrus		50μ/1.2		7.28	G0						SU	Olsen
	HD 20060	3 9.8	-63° 58'		05:46	06-00	14m /	9m W	1.5" / some cirrus		"		6.78	A3						G	
	HR 1100	3 35.5	-17° 30'		06:07	06:09	2.5m /	7m E	1.5" / Good?		"		5.10	B9.5 λ Boo						G	
	HD 24133	3 49.9	1° 31'		06:17	06:34	17m /	3m W	1.5" / Good		"		7.03	F0						SU	

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3060	HD 27524	4 20.6	21° 0'	20/21 Oct'85	06:59	07:24	25m	23m W	1-1.5" Good.	3.00	50μ/1.2	67/5.40	7.23	F5V	NeA	4s	1min 22V	IIa-0 baked	M-S	Gry G	
	HD 27808	4 23.3	21° 42'		07:30	08:06	26m	1h 2m W	1-1.5" Good.				7.56	F8V			blue		15min	G	
	HD 40535	5 58.3	-9 23		08:24	08:33	9m	7m E	1.5" Good.				6.41	F2IV						SO	Sgr
	HD 41296	6 0.3	-58° 6		08:39	08:55	16m	14m W	1-1.5" Good?				6.98	A3V						SU	
	HD 58439	7 24.2	-18° 59		09:03	09:14	11m	52m E	1-1.5" some cirrus				6.53	A2Ib						G	
3061	HD 208612	21 56.8	-8° 38'	21/22 Oct'85	00:13	00:25	12m	10m E	1.5-2" Cirrus	"	"	"	6.71	A0shell	"	"	"	IIa-0	"	Gry G	
	Jupiter IV	20 40.6	-19° 14'		00:31	00:45	14m	1hr 26m W	1.5" Cirrus				7.00	G2V				Baked.		U	thick cirrus. Near moon thus contamination with lunar spectrum. So what?
	HR 8104	21 12.1	-39° 29'		01:10	01:15	5.5m	1h 25m W	1-1.5" Cloud.				5.70	F5+F6						G	
	HR 8283	21 40.7	-14° 7'		01:26	01:30	4.5m	1h 12m W	1-1.5" Cirrus				5.83	G1+G0						G	
	HR 8890	23 22.0	-15° 7'		01:41	01:44	3m	17m E	1-1.5" Good?				5.40	A3λBoo						G	
	HD 3229	0 34.7	-0° 35'		02:24	02:35	11.5m	37m E	1.5" Cirrus				6.37	F8.						G	Olsen
	HD 5268	0 53.5	-8° 49'		02:58	03-26	25m	5m E	1.5" Cirrus				7.05	G0						G	interrupted 03:10 restarted 03:13 Olsen.
	HR 235	0 49.3	-10° 44'		03:34	03-38	4.5m	11m W	1.5-2" Cirrus				5.69	F7IV-V						G	
	HD 13847	2 13.6	-27° 59'		04:39	05:29	50m	38m W	1-1.5" some cirrus				8.12	F2						G	Olsen.
	HD 17072	2 40.4	-69° 18'		05:35	06-00	25m	42m W	1.5" Good?				7.28	G0						G	Olsen.
	HD 24424	3 52.2	-4 25		06:30	07:08	38m	38m W	1.5" Good				7.93	F5						G	Olsen
3062	HD 194636	20 26.5	-18 16	22/23 Oct'85	00:31	00:33	2m	1h 32m W	1-1.5" Good?	3.02	"	"	5.18 ~~[illegible]~~	B8II-III	"	"	"	IIa-0	"	Gry G	Supp
	HD 201099	21 6 9	-5° 38'		00:44	01:28	44m	1h 47m W	1-1.5" Light cirrus				8.15 ~~[illegible]~~	G0				Baked.		G	Olsen
	HD 221638	23 33.7	-71° 3'		01:35	02:17	42m	9m W	1-1.5" Good?				8.04	F8						G	Olsen
	47 Tuc	0h 23.1	-72° 11'		02:23	02:53	30m	5m E	1-1.5" Good.				4.3	G3						F	Untrailed. Slit bisects cluster.
	HD 3611	0 37.5	-66° 8'		02:58	03:36	38m	24m W	1-1.5" Good.				7.97	G0						G	Olsen
	HD 10519	1 41 5	-17° 58'		03:44	04:25	41m	9m W	1-1.5" Good				8.08	G0						G	Olsen. Some cirrus
	HR 793	2 41.4	19° 57'		05:13	05:17	4.5m	2m W	1-1.5" Cirrus				5.67	A0λBoo						G	
	HD 23791	3 47.8	23° 13'		05:29	07:19	110m	59m W	1.5" intermittent cirrus				8.66	A9V						G	Pleiades.
	HD 33507	5 9.6	-7° 37'		07:36	08:11	35m	28m W	1-1.5" Good.				7.93	F8						G	AB Binary. Olsen.
	HD 37987	5 40.7	-26° 21'		08:17	08:52	35m	38m W	1-1.5" Good.				7.99	F5						G	Olsen.
	HD 57118	7 18.3	-19° 15'		08:57	09:10	13m	41m E	1.5" Good.				6.71	F0Ib II						G	Supp.

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6	3063	Jupiter IV	20h 41.3	-19° 11'	23/24 Oct '85	01:22	01:40	18m	2h 28m W	1.5" Cirrus	3.02	6= 50μ/1.2	67/5.40	7.00	G2V.						Gry G	
8		HD 208360	21h 56.1	-49° 46'		01:48	02:51	63m	2h 24m W	1-1.5" Cirrus				8.35	G0						G	Olsen [Heavy cirrus last 1/3!] earthquake!
10		HD 2615	0 28.8	-32° 39'		03:25	04:15	50m	1h 17m W	1-3" Cirrus!				8.08	F5						G	I'm getting tired of cirrus. Olsen.
12		HD 16649	2 38.9	-20° 29'		05:14	05:59	45m	51m W	1-1.5" Good?				8.09	G0						G	Olsen.
14		HD 26337	4 8.9	-7° 56'		06:05	06:35	30m	4m E	1-1.5" Good.				7.73	G0						G	Olsen.
16		An Bok #4	5 16.8	-68° 12'		06:43	09:06	143m	1h 20m	1-1.5" Good.				9.28	A5						G	HD 35094
18																						
6 20	3064	HD 170747	18 31.3	-29° 12'	24/25 Oct '85	23:47	00:27	40m	3h 29m W	1-1.5" Some cirrus				7.87	G0						Gry G	Olsen.
8 22		HD 196378	20 38.8	-60° 36'		00:34	00:38	4m	1h 33m W	1-1.5" Some cirrus				5.66	F8						G	Olsen
10		HD 207190	21 46.8	-19° 39'		00:45	01:30	45m	1h 17m W	1-1.5" Some cirrus				8.19	F8						G	Olsen.
12		HD 210737	22 11.9	-20° 58'		01:34	02:12	38m	1h 34m W	1-1.5" Some cirrus				8.02	F5						G	Olsen.
14		HD 4520	0h 45.9	-54° 11'		02:20	03:09	49m	2h E	1-1.5" Cirrus.				8.23	F5						G	thick cirrus last 1/3 of AB Olsen.
6	3065	HR 6742	18 4.1	-29° 35'	27/28 Oct '85	23:43	23:50	7.5m	3h 31m W	1-1.5" Cirrus				5.47	F4-G1Ib				IIa-O unbaked		Gry G0	
8		HR 7454	19 36.7	-14° 20'		23:56	00:07	11m	2h 15m W	1-1.5" Cirrus				5.97	F5V.						G	
10		HR 7496	19 42.7	-15° 30'		00:12	00:21	9m	2h 23m W	1-1.5" Good?				5.95	F5IV						G	
12		HR 7776	20 20.1	-14° 50'		00:26	00:27	1.5m	1h 52m W	1-1.5" Good?				3.87	F8+A0						G	
14		HR 7936	20 45.2	-25° 20'		00:32	00:34	2.5m	1h 34m W	1-1.5" Good?				4.57	F4V						G	
16		HR 8006	20 54.3	-1° 26'		00:41	01:04	23m	1h 55m W	1-1.5" Cirrus				6.84	F0V						G	Good to begin, thick cirrus last 5 min.
18		HR 8181	21 25.2	-65° 26'		01:11	01:14	3.5m	1h 34m W	1.5" Some cirrus				4.71	F6V						G	Olsen.
20		HD 211998	22 33.2	-72° 19'		01 22	01:36	14m	58m W	1.5" Cirrus				5.99	G0						G	Good to begin, thick cirrus last 4 min. Olsen.
22		HR 366	1h 13.6	-8° 0'		01:59	02:05	6.5m	1h 23m E	1-1.5" Good?				5.59	F5V						G	
24		HR 98	0h 25.1	-77° 20'		02:15	02:16	1.5m	23m E	1.5" Good				3.42	G2IV						SG, O	
26		HR 377	1h 15.3	-68° 57'		02:24	02:30	6m	1hr E	1-1.5" Good				5.33	F6IV						G	
6	3066	HD 4597	0h 46.8	-37° 1'	28/29 Oct '85	02:53	04:23	90m	1hr 22m	1-1.5" Good				8.39	G0				IIa-O baked.		Gry G	Olsen
8		HD 21166	3 19.1	-74° 21'		04:54	05:51	57m	18m W	1.5" Good?				7.64	F2						G	Olsen
10		HD 28099	4 25.7	16° 43'		06:01	07:15	74m	36m W	1.5" Good		50μ/.8		8.78	G6V						G	rG
12		HD 31925	4 58.3	-16° 24'		07:24	07:30	6.5m	18m W	1-1.5" Good				6.09	F2						G	
		HD 32065	4 56.9	-58° 6'		07:36	07:53	17.5m	44m W	1-1.5" Good				7.20	F2						SV	

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3066 cont	HD 35930	5h26.8	-13° 35'	27/28 Oct '85	07:59	08:26	27m	46°W	1-1.5" Good	3.02	50/1.2	67/5.4	7.71	F5	NeA		1min 22V	IIa-O	M-S	Gry	olsen
13	HD 39118	5 49 7	2° 1'		08:31	08:48	17m	45°W	1-1.5" Good.				6.93	?				barbed		G	olsen
20	HD 48938	6 44.3	-27° 20'		08:53	09:07	14.5m	10°W	1.5" Good				6.98	F8						G	olsen
22	HD 49933	6 50.0	-0° 31'		09:11	09:18	7.5m	14°W	1.5" Good				6.15	F2						G	Light sky ; olsen
3067	HR 802	2h 40.2	-54° 37'	28/29 Oct '85	04:47	04:53	6.5m	3°W	1-1.5" Good				5.61	F4III			2min 22V	IIa-O	M-S	Gry	
	HR 962	3h 12.0	-1° 15'		05:00	05:07	7m	16°E	1-1.5" Good				5.63	F8V						G	
10	HR 1036	3 26.1	18° 42'		05:21	06:11	20m	35°W	1-1.5" Cirrus				6.72	A3λB8						Sc	interrupted 05:31 clouds resumed 06:01
12	HR 1025	3 16 3	-77° 27'		06:20	06:31	11.5m	1°5"W	1.5" Good				5.96	F4III						So	
13	HR 1083	3 29.1	-62° 59'		06:37	06:41	4.5m	1°2"W	1.5" Good				5.12	F3IV-V						G	
14	HD 26574	4 11.1	-6° 53'		06:49	06:51	2m	30°W	1.5" Good				4.37	F2II-III						G	
15	HD 27045	4 16.3	+20° 33'		06:58	07:03	5m	16°W	1.5" Good				5.20	A3m						C	
20	HD 30652	4 49.0	6° 56'		07:09	07:10	1m	10°W	1.5" Good				3.64	F6V						C	
22	HR 1560	4 52.1	-5° 29'		07:19	07:22	3m	20°W	1.5" Good				4.64	F4+A6						So	
24	HR 1674	5 5.2	-57 30'		07:29	07:34	4.5m	19°W	1.5" Good				5.24	F7V						G	
26	HR 1767	5 19.0	-50° 37'		07:39	07:48	9.5m	20°W	1.5" Good				5.86	F7III						G	
3068	HR 1935	5 37.1	-25° 42'	29/29 Oct '85	08:08	08:15	7.5m	25°W	1.5" Good				5.77	F4V			"	IIa-O	M-S	Gry	
5	HD 50022	7 12.8	-45° 9'		08:22	08:25	3.5m	5°E	1.5" Good				4.87	AOpS.						G	
10	HR 2812	7 21.5	-15° 59'		08:32	08:36	4m	55°E	1.5" Good				4.92	B7IV						G	
	HR 2906	7 33.6	-22° 16'		08:40	08:44	4m	1h E	1.5" Good				4.96	F6IV						G	
14,16,17,20	HR 3314	8 24.9	-3° 51'		08:52	08:58	70s, 70s, 40s, 90s	1h 37°E	1.5" Good				3.88	A0V						90s, 50s, 50	
22	HR 2851	7 27.2	6° 59'		09:04	09:10	6m	27°E	1-1.5" Good				5.47	F0III						G	
6	3069 HR 8187	21 233	-12° 57'	29/30 Oct '85	00:44	00:46	2m	1°15"W	2-3" Cirrus?	3.33	100/1.2	120/10	5.78	F1V						Gry	
8	HR 8222	21 29.1	-19° 13'		00:52	00:58	6m	1°22"W	2" Good?				6.98	F0V.							
10	HR 8368	21 56.8	-55° 4'		01:04	01:05	1m45s	1°2"W	2" Good?				4.68	F0IV							
12	HR 8776	23 3.2	6° 32'		01:13	01:18	5m	8°W	2" Good.				6.80	F2V							
14	HR 8969	23 38.9	-14° 19'		01:23	01:24	70s	21°W	2" Good				5.24	F0III							
16	HR 214	0h 46.3	19° 29'		02:48	02:52	4m	0h	2" Good				6.40	F0V.							Windy!

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	NUMBER	OBJECT	R A.	DEC.	DATE U.T.	U.T. EXP. BEGIN	U.T. EXP. END	TOTAL / CORR.	H A. END	SEE. / TRANS.	CAM. FOCUS	SLIT	GRATING / TILT	MAG	SP.	COMP KIND	COMP EXP.	CALIB.	EMUL	DEV.	OBS	REMARKS
18	3069 cont.	HR 413	1h 23.5	19° 5'	29/30 Oct '85	03:01	03:03	2m	29°E	2" Good	333	100μ/12	120/7.0	5.77	F2V	Ne A		2min 22V	IIa-O	MWP-2 67°F 7min	Gry	
20		HR 463	1 36 2	12° 4'		03:09	03:11	2.5m	31°E	2" Good				5.92	F0V							
22		HR 714	2 24.5	-60° 23'		03:27	03:29	2m	1h 2m E	1.5-2" Good				5.79	F2III							
24		HR 901	2 58.9	-25° 20'		03.40	03:43	2-40s	1h 24m E	1.5" Good				6.11	F2V							
26		HR 934	3 3.2	-59° 48'		03:50	03:51	90s	1h 18m E	2" Good				5.45	F0III							
6	3070	HR 1275	4 4.9	-27° 42'	29/30 Oct '85	05:19	05:21	2m	51°E	1.5" Cirrus?	"	"	"	5.80	F1V	"	Same	"	"	"	"	
8		HR 1254	4 3.1	8° 9'		05:25	05:30	2m	39°E	1.5" Cirrus				5.83	F2V							
10		HR 1611	4 59.2	-12° 34'		05:37	05:38	1m	1h 28m E	1.5" Good?				5.05	F0IV							
12		HD 26574	4 11.1	-6° 53'		05:45	05:49	40s	29°E	1.5" Cirrus				4.37	F2II-III							
14		HR 1717	5 14.5	-1° 26'		06:36	06:40	4m	40°E	1.5" Good?				6.54	F0V							
16		HR 1955	5 40.3	0° 20'		06:45	06:48	3m	58°E	1.5" Cirrus				6.23	F0IV							
18		HR 2092	5 55.7	-31° 23'		06:54	06:56	2m	1h 5m	1.5" Light cirrus				5.80	F2III							
20		HR 2386	6 31.6	-5° 51'		07:09	07:06	2m	1h 31m	1.5-2" Light cirrus				5.85	F0Vnn							
22		HR 2514	6 47.5	-1° 18'		07:11	07:13	2.5m	1h 40m	1.5" Light cirrus				6.03	F1V							
24		HR 2530	6 50.0	-0° 31'		07:19	07:22	3m	1h 34m	1.5" Good?				6.16	F2V							
26		HR 2951	7 27.2	6° 59'		08:00	08:02	2m	1h 31m	1.5" Cirrus				5.47	F0III							
28		HR 3015	7 45.2	-14° 31'		08:08	08:09	90s	1h 42m	1.5" Good?				5.37	F0V							

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CSI-55-04522 ?
GJ2036A+B

+.5 2 18

NUMBER	OBJECT	RA	DEC.	DATE U.T.	U.T. EXP. BEGIN	U.T. EXP. END	TOTAL / CORR.	H.A. END	SEE. / TRANS.	CAM. FOCUS	SLIT	GRATING / TILT	B MAG	SP.	COMP KIND	COMP EXP	CALIB	EMUL	DEV.	OBS	REMARKS
3071	HD 499-55 S	4h 53.2	−55° 52′	JAN. 18 1986	Ø1h 25	Ø1h 55	30m / ✓	Øh Ø8 W	≈1½s / CLEAR	3.33	100μm / .4mm	120 / 7.0	12.5(?)	M3Ve	NeA +4	~½s	30@7V (YELLOW)	IIa-D (baked 3h @ 68°C, FG)	M-S, 15m	IKS	−2
	" T	"	"		Ø1h 57	Ø2h 43	46m / ~60	Øh 56 W	~2″ / "				13.0(?)				with 3071A				−1
	S				Ø2h 46	Ø3h 18	32m / ✓	1h 31 W	" / "												+1 sloppy guiding! ... but good enough
	T				Ø3h 21	Ø4h Ø8	47m / ~60	2h 41 W	" / POSSIBLE L. CIRRUS												+2
3072	HD 499-55 S	4h 53.2	−55° 52′	JAN. 19 1986	Ø1h Ø6	Ø1h 40	34m /	Øh Ø3 E	~1½″ / CLEAR	"	"	"	12.5 ?	"			30m @7V (YELLOW)	IIa-D (3h @ 68°C, 42 FG)	M-S, 15min	IKS	−2
	T	"	"		Ø1h 43	Ø2h 44	61m /	1h 22 W	" / "				13.3 ?	"							−1
	S				Ø2h 45	Ø3h 16	31m /	1h 34 W	" / "												+1
	T				Ø3h 18	Ø4 16	58m /	2h 34 W	" / "												+2
L					~~Ø4h 20~~										NeA	~½s					Ø
3073	" S	"	"	"	Ø5h 20	Ø5h 53	33m /	4h 11 W	" / "	"	"	"		"			" with 3072	"	"	"	−2
L															NeA	~½s					Ø
3074	HD 499-55 S	4h 53.2	−55° 52	JAN. 20 1986	Ø1h ØØ	Ø1h 31	31m /	Øh ØØ E	~2″ / CLEAR	"	"	"	12.5 ?	M3Ve			30m @7V (YELLOW)	IIa-D (3h @ 68°, 42 FG) 2½h	M-S, 15m	IKS	−2
	" T	"	"		Ø1h 32	Ø2h 35	63 /	Øh 55 W	~2″ / "				13.3 ?	"			with 3074				−1 all exposures a bit weak; probably due to shortened bake + thin haze. (u-comp sets)
	" S	"	"		Ø2h 36	Ø3h Ø9	33 /	1h 30 W	≈2″ / "												+1
	" T	"	"		Ø3h 1Ø	Ø4h 14	64 /	2h 35 W	~1½ / "												+2
	SKY	"	"		Ø4h 17	Ø4h 47	30 /	3h Ø8 W	no. / "												+3
L															NeA	~½s					4
3075	HR 4049	10 17.7	−28 57	7/8 April 1986	0055 ~~10 17.8~~ ~~0055~~	0100 ~~−28 57~~	½, 1, 2m 1m	55m E	2″/clear	3.30	100μ / .8	120 / 7.0	5.6	B9 I	NeA	10s	NONE	IIa-O	MWP2 7m 67%	[illegible]	
	HD 101584	11 40.6	−55 29	1986	0112	0140	4, 8, 16m 8m	1h 40 E	"	"	"	"	7.4	F I p.							
	HD 72268	8 30.1	−36 44		0218	0259	40m 30m	2 5 W	"	"			8.6	K3 I							
	HR 4146	10 34.1	+06 57		0303	0315	1½, 3, 6 1½	1h 2m W					6.0	G9 p.							
3076	HR 4400	11 23.4	+01 22	"	0505	0514	5, 2, 1½ 2	2h 13m W	"	"	"	"	6.3	G8 III							
	HR 4532	11 48.2	−26 59		0521	0539	25, 5, 10 5m	1 44 W					6.7	M4 III							14°C 42 @ 10km/
?	HD 106134 ~~HD 107003~~	12 17.8	−21 03		0548	0629	40m 10	2h 35m W					8 ~~[illegible]~~	~~[illegible]~~							~~[illegible]~~
?	HD 107003	12 17.8	−21 02		0630	0710	40m ✓	5, 2½, 15					9.3	M5 III							~~[illegible]~~
	Halley	16 08.8	−47 34		0715	0752	20, 10, 5 20	30, 1-20					2.2?	G2 + Emission							trailed
	"	.0851	" 34		0753	0830	1-20, 2 ✓ + single trail										untrailed	#1 nucleus	#2 nucleus		

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3077	HD 36395	5 30.7	−3 37	8/9	2344	0117	93m / ✓	4h13m W	1.5 / clear	330	0.8 / 50μ	120 / 7.0	10	M1.5V	NeA	10s	×	IIa-O	MWP-2	[illegible]	15° 48% calm
	HD46149	6 31.2	+5 03	April 1986	0125	0146	3,6,12 / 12	3h40W					7.5	B (0)							
	HR2706	07 11.7	+24 06		0149	0200	1½,3,6 / 3	3h12W					6,2	F5							
	HD94613	10 53.8	−61 56		0204	0340	96m / ✓	1h12m W					9.5:	M3 I							
	HD 90586	10 26.0	−53 51		0346	0438	52m / ✓	2h38m W					8.9	M2 I							14°, 38%, light
	HR 5001	13 15.3	−19 49		0442	0451	1,2,4 / 2	0h2m W					6.2	K1 III-IV							
	HR5058	13 25.5	−39 36		0532	0545	1½,3,6 / 1½	0 46W					6.3	K0.5III p							
	HR5270	14 01.9	+09 50		0549	0610	3,6,12 / 5	0 35W					7.1	F8 p.							
3078	HR5099	13 32.2	−15 12	"	0626	0640	2,2,4,8 / 3	1h35m W	"	"	"	"	6.7	K1.5III	"	"	"	"	"	"	[illegible]
	α Cen A	14 38.8	−60 40		0647	0648	1,2,4 / 1	35m W					0.7	G2V							
	" B	14 38.9	−60 40		0649	0652	1,2,4,8 / 1	39m W					2.2	K1							
	HD117877	13 32.6	+06 00		0658	0734	5,10,20 / 8	2h28W					7.7	G8							
	HR 5165	13 43.8	−16 01		0737	0747	1¼,2½,5 / 3	231W					6.4	G0							
	HR5196	13 49.1	−17 58		0750	0759	1,2,4 / 2	237W					6	K0.5III							
	HR5409	14 27.7	−02 06		0802	0806	½,1,2 / 1	2h5m W					5.5	G2 IV							
	HR5582	14 58.3	−10 59		0809	0836	3½,7,14 / 4	−h2m W					7.2	K3 III CN2							
3079	Halley	15 40.9	−47 36	"	0909	1000	50m / ✓	2h49m W					?	G2 comet							untrailed
	HD36936	05 34.3	−04 18	9/10	2350	0046	8,16,32 / 8	3 42W	1" / clear	"	"	"	8.6	B5	"	"	14m	"	"	"	12° 24 8% light S
	HD37017	05 34.8	−04 22	APR 1986	0049	0101	1½,3,6 / 2						6.4	B2			14VNC				(SAO 132317)
	HD37016	05 34.9	−04 18		0103	0114	1,2,4 / 2	4 18W					6.1	B2.5V			Blue				double
	HD81192	09 23.9	+19 53		0119	0156	5,10,20 / 10						7.5	G7 III							
	CERES	10 40.8	+24 51		0241	0301	20m / ✓	50m W					8.4	G2 V							
	HALLEY	15 20.8	−47 27		0340	0445	65m / ✓	2h4m E					—	G2 comet							trailed.
	"	15 19.0	−47 26		0517	0519	62m / ✓	27m E					–	"							untrailed; nucleus fixed [illegible]
	"	15 17.6	−47 26		0520	0540	20m / ✓	7m E					"	"							Comparison calibration.
3080	HD128598	14 37.4	−14 55	"	0702	0829	87m / 100	2h22m W	"	"	"	"	10	K2 III p	"	"	"	"	"	"	
	HR5802	15 35.9	+10 03		0837	0848	1½,3,6 / 2	1 42W	2-3" / clear				4.2	K0 III p							
	HR5824	15 39.7	−23 49		0850	0902	1½,3,6 / 2	1 52W					6.3	K3 III p							
	HR6196	16 40.8	−17 44		0904	0912	1,2,4 / 1	1h1m W					6.0	G7.5 II p							
	HR6516	17 29.9	−01 06		0914	0922	" / 1½	23m W					6.0	G9 IV-V p.							1" Bi in Dec

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3080 (Cont)	HD157089	17 20.6	01 24	9/10 APR 1986	0925	0941	2,4,9 / 7	51m W	2"/clear	3.36	100μ/18	120/2.0	7.1	F4 w2	WeA	10s	ON LC 3879	IIa-O	MWP-2	[initials]	13°C 42% clear
	HD175751	18 56.4	-5 54		0943	0951	1,2,4 / 1½	34m E					5.9	K2 III							
	~~HD179870~~ wrong place HD179870	19 13.0	+08 58		0953	1012	19m / 20	30m E					8.5	K0 II ab							
	HR7574	19 57.8	+18 32		1014	1022	4,2,1 / 2	1h E					6.2	O8f							contaminated by Dawn?
3081	HR2879	07 32.2	+22 51	10/11 APR 1982	2321	2333	12m / 15	34m W	1"/Cirrus	3.30	50μ/1.2	"	7.6	K0+F2	"	"	B	baked	MS	[initials]	
	HR2936	07 39.0	+32 01		2335	2341	5m / 8	34m W					6.5	F6 II			14VAC 14m	IIa O 2h H_2/N_2			15°C 30% lights
	HR3540	08 54.7	+27 57		2347	2352	4½m / ✓	30m E					6.2	G8							
	HR3306	08 25.4	+07 36		2354	2357	2m / 3	6m W					6.1	G8							
	HR3557	08 56.0	+04 15		0000	0008	8m / 10	16m E					7.1	G8							
	HR3073	07 51.8	-14 53		0011	0014	3m / ✓	55m W					6.1	F1							
	HD68860	08 12.7	-34 35		0032	0034	12 / 30	1h 05m W					7.7	F8 p.							
	HD77321	08 59.9	-49 32		0047	0105	17 / 22	38m W					8.2	G5							5" Bin NW Am 5
	HR3641	09 09.1	-08 43		0108	0113	4m / ✓	37m W					6.5	G8							
	HR3679	09 14.3	-55 31		0123	0128	5m / ✓	47m W					6.3	G8							
	HR3693	09 15.6	-57 30		0130	0139	9m / ✓	57m W					7.4	G8							
	HD81949	09 26.8	-54 18		0143	0159	16m / ✓	1h 6m W					8	G3							
	HR3842	09 37.7	-43 08		0201	0205	4m / ✓	1h W					6.5	G8							
	HR4154	10 34.9	-43 37		0207	0214	7m / ✓	13m W					7.0	G8							
3082	HD93203	10 44.3	-57 29	"	0311	0323	12m / 36	1h 13m W	1.2"/clear	"	"	"	7.7	F7.	"	"	"	"	"	"	4" Bin SE Am 5
	HR4276	10 57.5	-59 39		0325	0338	12m / 20	1 14 W					7.2	G3							
	HR4353	11 12.6	-49 42		0340	0350	9m / ✓	1 11 W					7.2	G8							
	HD97082	11 09.4	-58 45		0357	0406	8m / 10	1 31 W					7.3	G1.							
	HR4441	11 31.4	-59 21		0410	0414	4m / ✓	1 16 W					6.2	G3							6" Bin SE Am 6.
	HR 4511	11 43.2	-62 23		0416	0419	2½m / ✓						5.8	G0.							
	HD101584	11 40.7	-55 30		0421	0429	8m / 12	1 23 W.					7.4	F0p							
	HR4538	11 49.8	-70 8'		0432	0435	3m / 4	1h 18m W					6.4	G6							
	HR4614	12 06.1	-68 35		0440	0450	10m / 14	1 17 W					7.5	G3.							
	HR4645	12 12.3	-70 06		0451	0459	8m / 6	1 21 W					7.0	F6							
	HR4768	12 31.2	-59 20		0502	0504	2m / ✓	1 07 W					6.1	F7							
	HR4820	12 41.6	-69 21		0513	0520	6m / 8	1 13 W					7.4	F7.							

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3082	HR4862	12 49.3	−71 56	10/11	0522	0529	6m / ✓	1h14mW	1.5/Cirrus	3.0 30	50μ/1.2	120/7.0	6.7	G8	NeA	20s	B 14VAC	IIa-O	M-S	[illegible]	
(cont)	HR4976	13 13.4	−78 25	Apr 1986	0531	0538	7m / ✓	1hW					6.9	F8			14m	baked 2h H2N2	15m 67°F		
3083	HR4882	12 52.0	−53 49	4	0607	0617	10m / ✓	2hW.					7.4	G8							
	HR4895	12 53.9	−58 25		0619	0629	10m / 18	2h9mW					7.3	F7							
	HR4912	12 56.0	−26 30		0631	0641	10m / 15	219W.					7.3	F3							
	HR4941	13 06.1	−41 35.		0643	0648	4.5m / 6	216W.					6.6	K0							
	HR5024	13 20.1	−59 46		0650	0654	4m / 5	2h9mW					6.6	F3.							
	HR5124	13 38.3	−57 37		0657	0706	9m / ✓	2h2mW					7.2	G5.							
	HR5165	13 44.0	−16 10		0709	0712	3m / ✓	2h2mW					6.4	G0.							
	HR5171	13 46.7	−62 31		0717	0752	35m / 80	2h40mW					8.5	K6.							
	HALLEY	14 49.4	−47 00		0805	0905	60m / ✓	2 56mW					—	G2 [illegible]							
	HR5421	14 37.0	−56 52		0912	0925	12m / 20	3h27mW					7.9	F5							V Con.
	HR5461	14 39.9	−56 27		0928	0941	12m / ✓	3 35W					7.5	K0							
	HR5637	15 10.6	−55 22		0944	0949	5m / ✓	312W					6.6	G2							
	HR5667	15 15.2	−41 30		0951	0953	2m / ✓	313W.					5.7	G5+B							
	HR5738	15 27.7	−51 39		0956	1008	11m / ✓	315W.					7.2	G2							
3084 3	HR3514	08 49.1	−40 16	11/12	2354	0002	1,2,4 / 2s	10mE	2"/~~thick~~ cirrus		"	"	5.5	A3	"	"	"	"	"	"	
3	HR3571	8 54.7	−60 35	Apr 1986	0006	0009	15,30,60 / 25s	9mE	variable				3.8	B8p							
3	HR3561	09 11.3	+03 53		0014	0030	3,5,8m	4mE	↓				6.1	A0p							~~[illegible]~~
3	HR4049	10 17.6	−28 58		0034	0042	1,2,4 / 5	59mE					5.6	A0p							
2	HR4293	10 59.4	−42 09		0557	0601	40,80s / 70s	3h40mW					4.5	A3							
3085 2	HR4317	11 05.3	−27 15		0613	0621	2,4+ / 3	3h53mW					5.65	A0.							
2	HR4712	12 22.8	−35 20		0623	0429	2,4m / 3	2 44W.					5.24	B9							
2	HR4802	12 36.8	−48 30		0631	0634	40,80s / 40	2 35W	↓				3.9	A1							
1	HD117880	13 32.8	−18 27		0641	0802	81m / ✓	3 7mW	heavy cirrus				9.13	A(HB)							
1	HR5514	14 46.4	−25 29		0805	0810	4m / ✓	2h2mW	"				5.6	A0							
1	HR5671	15 17.9	−68 38		0814	0816	2m / 1m	1h37mW					2.9	A1							
2	HR5895	15 50.5	−02 57		0821	0834	3,10m / 4m	1 22W					5.2	A3							
1	HR6944	18 30.7	−18 17		0838	0844	6m / 4m	1h8mE					5.1	A0							

3086, 3087, 3088 for [illegible]

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GARRISON CLASSIFICATION SPECTOGRAPH

NUMBER LC	OBJECT	R.A. (console 1986)	DEC.	DATE U.T.	U.T. EXP. BEGIN	U.T. EXP. END	TOTAL / CORR.	H.A. END	SEE. / TRANS.	CAM. FOCUS	SLIT	GRATING / TILT	MAG.	SP.	COMP KIND	COMP EXP.	CALIB.	EMUL	DEV.	OBS	REMARKS
																					12°C 40% light
3086	κ GEM	07 43.5	+24 22	12/13	2322	2323	60s / +50	20m W	1.5" / clear	3.0	50μ / 1.2	12w / 7.0	4,5	G8	NeA	20s	B filter	Baked IIa-O	M-S	[illegible]	wwm 821
	β GEM	07 44.5	+28 03	APR 1986	2327	2328	85 / ✓	24m W	2"				2.14	K0.			14VAC 14m	2h 65°C	67°F 15min		"
	39 Cnc	08 39.2	19 59		2341	2355	14m / ✓	3m E	1"				7.37	K0				N_2N_2			KW253 PRAESEPE
	HR3428	08 39.5	19 37		0000	0014	14m / ✓	15m W	1"				7.46	K0							283 "
	35 Cnc	08 34.5	19 33		0017	0028	10m / ✓	34m W	1.5"				7.25	G0.							—HD72779 "
	HD73598	08 39.0	19 30		0032	0047	15m / ✓	50m W	1.5"				7.55	K0							KW212 "
	HD 73974	08 40.9	19 50		0050	0117	27m / ✓	1h16m W	2"				7.86	K0							KW428 "
	HD81192	09 24.0	+19 45		0119	0132	12 / ✓	49m W	1.5"				7.5	G7							Rowan WL
	HR3809	09 34.1	+39 37		0135	0142	6m / +4m	49m W	2"				5.8	G9.5.							
	ε Leo	09 45.1	23 44		0146	0147	40s / +50s	43m W	"				3.8	G0							
	HR4006	10 13.1	+27 07		0150	0201	11m / ✓	29m W	1.5"				6.9	G3							
	61 UMa	11 40.2	+34 13		0204	0210	6m / ✓	49m E	1.5-2				6.05	G8V							
	HR4550	11 52.1	+37 45		0214	0228	14m / ✓+18	43m E					7.2	G8Vp							
	β Vir	11 50.1	+1 41		0231	0233	40s / 30s	35m E	1.5"				4.16	F8V							
3087	β Crv	12 33.7	−23 19	"	0		20s, 25s						3.54	G5							
	β CVn	12 32.9	+41 26		0407	0410	3m / ✓+2	21m W	2"				4.87	G0V							
	31 Com	12 50.9	+27 38		0420	0424	3m / ✓+2.5	15m W.					5.6	G0III							
	37 Com	12 59.7	+30 53		0427	0432	5m / ✓+7	17m W.	2"				6.1	G9.							
	β Com	13 11.1	+27 57		0437	0439	60s / ✓						4.8	G0V.							
	70 Vir	13 27.8	+13 53		0511	0514	3m / ✓	28m W					5.7	G2							
	η Boo	13 54.1	+18 28		0517	0518	20s / ✓						3,3	G0.							
	HR5270	14 01.9	+09 51		0520	0532	11m / ✓	11m E					7.1	F8							
	α Boo	14 15.0	+19 17		0538	0539	40s / 200s	6h E					1,2	K1							(used N.D. filter 2½ mag)
	69 Vir	13 26.7	−15 56		0544	0547	3m / 2m	1h2m W					5.85	K0.							
	HD121447	13 55.1	−18 14		0616	0730	74m / ✓+120	2 17 W.					9.1	K4							
	ρ Boo	14 31.3	+30 23		0733	0737	3m / ✓+2						4.9	K3							
	δ Boo	15 14.9	+33 19		0740	0742	90s / ✓	1h9m W					4.4	G8							
3088	α Ser	15 43.6	+06 21	"	0752	0753	60s / 30s	52m W	2"				3.8	K2							
	λ Ser	15 45.8	+07 17		0756	0758	100s / 90s		1.5"				5.0	G0.							
	β Her	16 29.4	+21 20		0802	0803	40s / 30s	15m W					3,7	G8							

Ceres 1986 10 39.8 1950 10 37.5
74 Apr. #2434. 2445

3088, 3089, 3090 for WWMorgan

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GARRISON CLASSIFICATION SPECTOGRAPH

NUMBER	OBJECT	R.A.	DEC.	DATE U.T.	U.T. EXP. BEGIN	U.T. EXP. END	TOTAL / CORR.	H A. END	SEE. / TRANS.	CAM. FOCUS	SLIT	GRATING / TILT	MAG	SP.	COMP. KIND	COMP. EXP.	CALIB.	EMUL.	DEV.	OBS	REMARKS
3088	HR6152	16 29.9	+20 31	12/13	0807	0816	9m / 8m	29m W	2"/clear	3.0	50μ/1.2	120/7.0	6.5	G8	NeA	20s	8	baked	M-S	[illegible]	
(Cont)	ζ Her	16 40.6	+31 40	Apr 1986	0818	0819	40s / 20s						3.4	G0.				IIa-0 2h 65°C H_2N_2	15m 67°F		
	HD154363	17 04.4	-04 59		0823	0937	74m / √+50m	115W.					9.1	K5							
	HD157089	17 20.4	+01 32		0840	0948	7m / 14m	111W.					7.1	F9							
	μ Her	17 45.9	+27 47		0951	0952	1m / 50s	49m W					4.2	G5.							
	HR6695	17 55.7	+37 20		0955	1001	5m / √+3m	47m W.					5.2	K1.							
	HR6791	18 07.0	+43 29		1003	1012	8m / √+10m	48 W					5.9	G8.							
	θ Lyr	19 15.7	+38 11		1014	1019	5.5 / √+5	14 E					5.6	K0							
	ε Cyg	20 45.3	+34 00		1021	1022	40s / 30s	1h 40 E					3.5	K0							
3089	ξ Leo	09 31.4	+11 26	13/14	0057	0102	5m / √	17m W	2-3"/clear	"	"	"	6.0	K0.	"	"	"	"	"	"	
	48 Leo	10 34.2	+07 05	Apr 1986	0106	0114	8m / √	35m E	3"/clear				6.0	G9							
	79 Leo	11 23.6	+01 31		0127	0136	8m /	1h 2m E	"				6.3	G8							
	HR4049	10 17.8	-28 52		0141	0145	3m+ /	12m W	"				5.58	A0,							
	CERES	10 39.9	+24 37		0148	0250	62m / √	55m W	"				8.4	G2V							
	HR4550	11 52.3	+37 53		0319	0349	30m / √	42m W	"				7.2	G8p							
	β CVn	12 32.9	+41 28		0351	0352	40s / 80s	6m W					4.9	G0V							
	31 Com	12 50.9	+27 38		0357	0400	2½m / √	5m E	2½"/				5.6	G0.							
	β Vir	11 49.8	+1 54		0405	0406	40s /	1 02 W					4.2	F8							
	HD121447	13 55.2	-18 07		0413	0612	2h / √	1h 2m W.	2"/				9.1	K4							
	(2) α Boo	14 15.1	+19 17		0616	0617	8, 4s / 6s √	50m W.					1.2	K1.							
	ρ Boo	14 31.2	+30 28		0623	0625	2m / √						4.87	K3							
	α Cen A	14 38.6	-60 40		0631	0631	1s / 2	38m W					0.7	G2V							
3090	" " "	"	"	"	0643	0644	90s / 5m	54m W	2"/clear				1/4.7	"				assume 4m filter			
	" " B	"	"		0650	0657	5, 10s / 10s	58m W					2.2	K1V							
	α Ser	15 43.5	+06 34		0654	0655	40s / √	2m E	2"/clear				3.82	K2							
	λ Ser	15 45.7	+07 30		0700	0701	80s / 100s	0h 0m	"				5.0	G0V							
	HR5058	13 25.4	-39 33		0716	0724	8m / √	2 45m W					6.3	K0p.							
	HD117877	13 32.5	+6° 03'		0728	0750	22m / 25	3h 4m W	2-3"/clear				7.7	G8p.							
	HR6152	16 30.0	+20 37		0754	0803	8m / √	19m W					6.5	G8							
	ζ Her	16 40.7	+31 38		0807	0808	25s / √	13m W					3.5	G0							

3010, 3011 for W W Morgan

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NUMBER	OBJECT	R A	DEC.	DATE U.T.	U.T. EXP. BEGIN	U.T. EXP. END	TOTAL / CORR.	H.A. END	SEE. / TRANS.	CAM. FOCUS	SLIT	GRATING / TILT	MAG	SP.	COMP KIND	COMP EXP.	CALIB.	EMUL.	DEV.	OBS	REMARKS
3090	HD 57089	17 20.4	+01 27	13/14 Apr 86	0817	0834	17m ✓	1m W.	2"/clear	3°0	50μ/1.2	120/7.0	7.6:	F9V	NeAr	20s	—	baked	M-S	DJ	
(cont)	β Oph	17 42.6	+ 4 34		0837	0838	40s ✓						3.9	K2				IIaO 2h 65°C	67°F 15 min		
	μ Her	17 45.7	+27 42		0847	0848	40s ✓	11 E					4.2	G5.				H_2N_2			
	HR6695	17 55.7	+37 15		0851	0855	4m ✓	14m E					5.2	K1							
3091	HR6766.	18 07.4	−28 28		0907	0910	3m ✓	10m E					5.5	G7							
	HR6791	18 07.0	+43 25		0915	0930	15m ✓	9m W.					5.9	G8.							
	η SER	18 20.7	−02 56		0932	0933	60s	1m E					4.2	K0							
	η Sct	18 56.3	−05 52		0936	0942	6m ✓	28m E					5.9	K2 p							
	θ Lyr	19 15.7	+38 06		0946	0952	6m ✓						5.6	K0							
	β Aql	19 54.6	+06 23		0956	0957	80s ✓	1h10m E					4.6	G8							
	ε Cyg	20 45.3	+33 56		1002	1002	40s ✓	156 E					3.5	K0.							
	61 Cyg A	21 06.0	+38 41		1007	1017	10m ✓	2h E					6.4	K5V						stopped by dawn	
3092	HD 46149	06 31.2	+05 03	14/15 April 1986	2333	2346	12m 18	2h4m W	2"/clear	"	"	"	7.5	O	"	"	B	baked	M-S	DJ	
	HR2706	07 11.5	+24 07		2349	2355	5m 6	1h31m W	"				6.2	F8			14 VAC 14 mm	IIaO 2h 65°C	67°F 15 min		
	39 CNC	08 39.3	+20 02		0004	0018	14m ✓	28m W	1"+				7.4	K0				H_2N_2			KW253 Praesepe
	35 CNC	08 34.6	+19 35		0021	0031	10m ✓	46m W	1.5"				7.3	G0							— "
	HD73598	08 38.9	+19 32		0034	0050	16m		1.5"				7.6	K0.							KW212 "
	HD73974	08 41.0	+19 51		0053	0115	22m ✓	1h23m W	1.5"				7.9	K0.							KW428 "
	HR3428	08 39.6	+19 40		0118	0135	17m ✓	1 45 W	1.5-2"				7.5	K0.							KW283 "
	42 CNC	08 40.0	+19 43		0138	0148	10m ✓	1 57 W					7.1	A9							KW328 "
	HD73712 ~~KW284~~	08 39.6	+19 21		0151	0202	11m →	2 12 W.					7.0	A9	{superposed?						KW284 "
	38 CNC	8 38.9	+19 46		0205	0216	10m →	2 27 W.					6.9	F0							KW204 "
	HD101584	11 40.5	−55 28		0220	0230	10m ✓	21m E					7.4	F0							
	HR4841	12 44.6	−68 44		0232	0237	5m 9	1h18m E					6.9	F6.							
	HR3259	08 17.7	−12 31		0241	0247	6m 7	3 18 W.					6.7	G8							
	HR3578	08 58.1	−16 00		0250	0255	5m ✓						6.4	F6							
	HR3759 A	09 29.0	−02 42		0258	0300	1.5m ✓	2h22m W					5.1	F6							
3093	HR3759 B	09 28.4	−02 41		0326	0355	29 ✓	3 17 W					8.1	K0							
	HD82106	09 29.2	+05 41		0358	0438	40m 50	3 58 W.					8.2	K3V							
	HR4587	[illegible] 12 00.0	−10 25.		0440	0445	4.5 ✓	1 34 W					6.3	G5							

5620
5015.
240 (5:20)

7
7. feet 6.3 mag

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NUMBER	OBJECT	R.A.	DEC.	DATE U.T.	U.T. EXP.		TOTAL / CORR.	H.A. END	SEE./TRANS.	CAM. FOCUS	SLIT	GRATING / TILT	MAG.	SP.	COMP		CALIB	EMUL	DEV	OBS	REMARKS
					BEGIN	END									KIND	EXP.					
3093	55 Vir	13 13.4	−19 56	14/15	0518	0521	3m / 4m	58m W	1"/clear	3.0	50μ/1.2	120/70	6.2	G6	NeAr	20s	B filt	baked	M-S	[illegible]	
(cont)	HR5273	14 02.9	+10 49	APR 1986	0526	0534	7m / 8m	20m W					7.0	G8			14VAC 14min	IIa-O 65°C 2h	67°F 15m		
(5)	α Cen A	14 39.0	−60 47		0547	0612	1½, 3, 4½, 5½, 29m / 7m	22m W	"				5.7:	G2V	(filter ND)			H_2N_2			test of filter.
	HR5659 A	15 12.1	+19 14		0618	0631	12m ✓	9m W					7.4	G5.							
	" B	"	"		0632	0658	26m / 30	36m W.					8.3	G6.							
(2)	HD140283	15 42.4	−10 56		0700	0725	13, 8m / 13m	34m W.					7.7	F5							
	HR6171	16 35.6	−02 23		0728 ~~0725~~	0733	5m ✓	13m E					6.6	K2							
3094	HD152391	16 52.2	−00 04	"	0744	0755	10m ✓	7m E	"	"	"	"	7.4	G6	"	"	"	"	"	"	
	HD154363	17 04.3	−05 06		0758	0843	45m ✓	29m W					8.9	K5.							
	HD157881	17 25.2	+02 04		0845	0847	62m ✓	1h13m W					8.9	K7							
	HD160346	17 38.5	+3 32		0848	1006	18m ✓	1 18 W.					7.5	K3							
	HR 7574	19 57.6	+18 35		1009	1012	3m / 6	50m E					6.2	Of							
	HR7671	20 04.4	−11 38		1014	1020	6m / 9	53m E					6.86	F1 p							
3095	HD46919	06 31.2	+5 02	15/16	2355	0008	12m / 15	2h29m W	1"/clear	"	"	"	7.5	O	"	"	"	"	"	"	
	38 Cnc	08 38.9	+19 47	Apr. 1986	0013	0020	7m ✓	35m W					7.6	F0.							
	42 Cnc	08 39.8	+19 44		0022	0031	9m ✓	45m W					7.05	F0.							
	HD73719	08 39.4	+19 22		0034	0042	8m ✓	56m W					7.0	F0							17°C 30% calm
	HD50281	06 51.6	−05 11		0046	0106	20m ✓	3 08 W.					7.7	K6							
	Wesley HD50635B #9228B	06 53.9	+13 12		0110	0143	32m ✓	3 42 W					8.4	G4							=38 Gem B
	HR2927	07 36.6	−04 06		0145	0148	2m ✓	3 05 W	comparison prism interference				5.6	F6							prism?
	HD61606	07 39.2	−03 35		0150	0224	34m ✓	3 38 W.					8.2	K2							
	HD52698	07 00.6	−25 57		0226	0246	20m ✓	4 39 W.					7.6	K0							
	HR2906	07 33.5	−22 16		0248	0250	1m ✓	4 13 W					5.0	F6							
	HR3538	08 53.5	−05 23		0252	0256	4m ✓	2h57m W					6.7	G3							
	HR3808	09 32.5	−21 04		0259	0303	3m.5 ✓	2 24 W					6.0	K0.							
	HR3862	09 41.6	−23 51		0306	0307	90s ✓	2 20 W.					5.5	F9.							
3096	HR4054	10 18.9	+19 31	"	0345	0347	80s ✓	2 22 W	"	"	"	"	5.2	F6	"	"	"	"	"	"	
	HD89948	10 21.7	−29 30		0352	0405	12m / 15m	2 36 W.					7.9	G5.							
	HR4251	10 52.8	−20 05		0408	0410	100s ✓	2 10 W					5.7	F6							
	HR4414	11 26.1	+03 05		0414	0424	10m ✓	1 53 W					7.3	K0							

3098-3099-WWM

focus 2.80, .85, .90, 3.00, .05, .10, .15, .20 → 3.00
tilt 4.5

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3096	HD99492	11 26.1	+03 05	15/16	0425	0502	37m / ✓	2h 30W	1"/clear	3.0	50µ/1.2	120/7.0	8.6	K2	NeA	20s	B	baked	M-S	WG	Companion to HD99491
	HR4437	11 30.9	+14 27	Apr 1986	0531	0538	7.5 / ✓	3h W.					6.8	G0			14 VAC 14 mm	IIaO 65°C 2h H₂N₂	15 min 67°F		
	HR4455.	11 33.6	+03 08.		0541	0544	3m / 4m	3h 5m W.					6.2	F5.							
	HR4657	12 14.4	−10 12		0549	0553	4m / ✓	2 43W.					6.6	F5							
	HD110315	12 40.4	+15 27		0556	06 30	35m / 70m	2 44W	1"/cirrus problems				9.1	K8							aborted — clouds
	(2) HR4968	13 09.3	+17 35.		0637	X	X	X	"				5 7	F5							aborted first second by clouds.
	α Cen A	14 38.7	−60 43		0654	0714	20m / 18	1h 28m W.	clouds > 1 mag.				7?	G2 V	(w filter + clouds)						
	HD144253	16 05.0	−20 25		0720	0736	16m / 40	25m W	/ clouds				7.1	K2,							
	HR6349	17 04.5	+00 42		0740	0746	5? / 5	24m E					6.6	F8.							
3097	HD156026	17 15.3	−26 35	"	0800	0820	20m / 18	0h.	"				7.5	K5e							
	ξ Oph	17 20.1	−21 07		0823	0823	40s / 60s	2m E	clouds decreasing				4.8	F1							
	44 Oph	17 25.6	−24 12		0827	?	/ ✓						4.5	A3m							
	HR6489	17 25.3	−01 38.		0833	0842	8m / ✓	12m W.	some cirrus.				6.9	F3							
	HR6516	17 29.7	−01 02		0845	0851	6m / ✓	15m W.	"				6.0	G9.							
3098	κ GEM	07 43.5	+24 27	16/17	2337	2339	2m / ✓	53m W	1.5"/clear/hazy	2.96	50µ/1.2	67/4.5	4.5	G8.	NeA	20s					
	β GEM	07 44.4	+28 05	Apr 1986	2343	2344	20s / 15s		"				2.1	K0.							12°C 40% mod
	35 CNC	08 34.5	+19 40		2350	0013	23m / ✓	30m W.	"				7.2	G0.							
	HD 73598	08 39.0	+19 37		0015	0047	32m / ✓	1h 5m W	1"/clear				7.6	K0							Praesepe KW212
	39 CNC	08 39.2	+20 05		0049	0119	30m / ✓	1h 36m W.	"				7.4	K0							KW 253
	HD73710	08 39.6	+19 40		0121	0154	33m / ✓	2h 11m W	1½"/				7.5	K0							KW 283
	HD73974	08 41.0	+19 52		0156	0259	63m / ✓	3 15m W	1½-2"/				7.9	K0							KW 428
	48 LEO	10 34.2	+07 00		0327	0336.	9m / 8	1h 58m W	1.5/				6.0	G9							
	79 LEO	11 23.2	+01 25		0338	0348	10m / 9	1 23W					6.3	G8							
	61 UMa	11 40.1	+34 15		0351	0400	9m / ✓	1 18W,					6.05	G8							
	HR4550	11 52.0	+37 46		0403	0433	30m / 45	1h 39m W	2"/				7.2	G8p.							
	β Vir	11 49.9	+01 47		0437	0439	80s / 60s	1 47W					4.2	F8							
	31 Com	12 50.9	+27 35		0442	0450	8m / ✓	57m W.					5.6	G0							
3099	HR5058	13 25.3	−39 42	"	0534	0550	16m / 14m	1 23W.	2"/				6.6	K0.							
	69 Vir	13 26.7	−15 52		0557	0608	11m / 10m	1 41W.					5.9	K0.							
	70 Vir	13 27.8	+13 52		0618	0626	8m / ✓	1h 56m W					5.7	G2.5							

3099 - 3100 wwm

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3099	α Boo	14 15.0	+19 18	16/17	0637	0638	12s / ✓	1h 22m W	2"/cirrus	2.96	50μ/1.2	67/4.5	1.2	K1	NeAr	20s	—	Baked IIaO	M-S	[illegible]	
	δ Boo	15 14.9	+33 26	APR 1986	0644	0648	4m / ✓	30m W					4.4	G8							
	α Ser	15 43.7	+06 33		0651	0653	100s / 80						3.8	K2.							
	λ Ser	15 45.8	+07 29		0656	0659	3m / 2.5	14m W.					5.0	G0							
	α Cen A	14 38.9	-60 42		0712	0730	18m / 12	1h 50m W					7:	G2V	w/ filter.						
	" B	"	"		0733	0735	22s / 15s	1 54m W					2.2	K1							
	β Her	16 29.6	+21 31		0739	0741	90s / 70	10m W.					3.7	G8.							
	HR6152	16 29.9	+20 30		0744	0808	24m / 20	37m W.	2"/cirrus				6.5	G8.							
	ζ Her	16 40.7	+31 40		0813	0815	100s / 70						3.5	G1							
	HD157089	17 20.4	+01 28		0823	0853	30m / ✓	31° W	1.5"/clear, but hazy.				7.7	F9.							
3100	β Oph	17 42.5	+04 36	"	0909	0911	120s / 80s	27m W.	"	"	"	"	3.93	K2	"	"	"	"	"	"	
	μ Her	17 45.8	+27 43		0915	0918	2½m / 1.5						4.2	G5							
	HR6695	17 55.7	+37 15		0922	0930	8m / ✓	33m W					5.2	K1							
	HR6791	18 06.9	+43 25		0934	0947	13m / 18	38m W.					5.9	G8							
	η Ser	18 20.7	-2 56		0951	0953	100s / 80	32m W.					4.2	K0							
	η Sct	18 56.3	-05 53		0956	1005	9m / 8	7m W.					5.9	K2.							
	θ Lyr	19 15.4	+38 06		1009	1019	9m / 12	2m W					5.6	K0.							
3101	HD46149	06 31.1	+05 02	17/18	2332	2353	21m / 30	2h 25m W	1"/clear hazy	"	"	"	7.5	O.	"	10s	"	"	"	"	0.2m east, 5' South } nearest
	HR2706	07 11.6	+24 06	Apr 1986	2359	0005	5.5m / 7	1 55 W.					6.2	F5							
	HR3314	08 49.2	-40 16		0011	0013	2m+ / 3						5.54	A3							
✓	HR3571	08 54.9	-60 38		0018	0019	25-35s / 35	26m W					3.7	B8p.							
	HR3607	09 11.3	+03 50		0024	0028	4m / 5	19m W					6.1	A0.							
	HR2859	07 27.2	-11 34		0039	0045	5+m / 8	2h 18m W	1"/				6.4	G8.							
	R Pup	07 40.3	-31 37		0052	0117	24m / 30	2h 38m W					7.7	G2							
	HR3031	07 45.3	-56 40		0120	0126	5.5m / 7	2 42 W.					6.5	F0							
	HR3076	07 49.6	-59 58		0128	0158	30m / 40	3 09 W					8.0	K0.							
	HR4049	10 17.3	-28 55		0202	0205	2.2m / 3	49m W					5.6	A0.							
	HR4293	10 59.7	-42 08		0208	0210	60s / ✓	12m W	1.5"/				4.5	A3							
	HR4317	11 05.3	-27 13		0216	0219	3+m / ✓	16m W.					5.7	A0							

3104 warm.

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3102	HR4049	10 17.6	−28 55	17/18	0315	0318	3m / ✓	2h3m W.	1.5/hazy clouds	296	50μ/4.2	67/4.5	5.6	A0.	NeAr	10s	B 14V 14min	baked IIa-O 2" 65°C H_2N_2	M-5 15min 67°F	[initials]	
(2)	HD101584	11 40.5	−55 28	Apr 1986	0324	0340	16m / 16	1h2m W.						7.4	F0p.						
	HR4712	12 22.8	−35 17		0358	0359	100s / 120	38m W					5.3	B9.							
	HR4802	12 37.0	−48 25		0404	0405	20s / ✓	30m W					3.9	A1							
	Halley	12 28.3	−36 08		0453	0553	60m / ✓	2 30W					—	G2 comet							
	HD117880	13 32.6	−18 21		0605	0706	61m / 70m	2 36W.					9.1	A (HB)							
	HR5514	14 46.2	−25 30		0610	0613	2.5m / 3.5						5.6	A0.							
	HR5236	13 55.4	−54 29		0619	0626	7m / ✓	2h33W.					6.7	G							
	HR5344	14 16.2	−18 22?		0730	0740	10m / 12	2 26W.					7	G5.							(coords failed?)
	HR5353	14 17.1	−7 36		0800	0814	14m / ✓	3h W.					7.2	G							
	HR5384	14 22.4	+01 18		0817	0826	9m / 12	3 07W.					6.9	G2							
	HR5671	15 17.6	−68 38		0830	0831	20s / ✓	2 17W					2.9	A1							
3103	α Cen A	14 38.7	−60 42	"	0844	0853	9m / ✓	3h19m W.					7?	G2							
	B	14 38.4	−60 42		0856	0857	15s / ✓	3 21W.					2.2	K1							
	HR5895	15 50.2	−03 02		0901	0903	2m / ✓	2 15W					5.2	A3.							
	HR6944	18 30.5	−18 25		0909	0911	115s / ✓	17m E					5.1	A0							
	HR7342	19 20.6	−15 58		0921	0922	80s / ✓	55m E					4.7	Apep.							V Sgr.
	HR6604	17 42.5	+14 19		0927	0935	8m / 12	55m W					6.7	F5.							
	HR6617	17 46.8	−22 28		0938	1004	26m / ✓	1h20m W.					7.7	G0 (reddened)							
3104	β Gem	07 44.2	+28 01	18/19	2356	2357	9s / 18	1h17m W	1"/clear	"	"	"	2.1	K0.	"	"	"	"	"	"	12°C 50% rel.
	ξ Leo	09 31.2	+11 21	Apr 1986	0004	0010	14m / ✓	32m E					6.0	K0							
	HR3809	09 34.0	+39 39		0013	0021	7m / 10	8m E					5.8	K0.							
	ε Leo	09 44.8	+23 47		0024	0025	40s / ✓	16m E					3.8	G0.							
	HR4006	10 12.9	+27 09		0032	0044	12m / 18m	24m E					6.9	G3.							
	HR4049	10 17.6	−28 58		0047	0050	3m / ✓	22m E					5.6	A0							
	HR3557	08 55.8	+04 16		0056	0110	13m / ✓	1h9m W					7.1	G8							
	HR3641	09 08.8	−08 43		0113	0120	7m / ✓	1h16m W					6.5	G8							
	HD82106	09 29.1	+05 45		0135	0219	40m / ✓	1h55m W.					8.2	K3							
	HR3808	09 32.7	−21 03		0222	0227	4.5m / ✓	2h W.					6.0	K0							
	HR4414	11 26.1	+03 05		0230	0248	16m /	27m W					7.3	K0							

plate broken?

3105 [illegible]

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3104	β Vir	11 49.8	+01 58	18/19	0250	0251	40s / 58	8m W	1"/clear	2.96	50μ/1.2	67/4.5	4.2	F8	NeA	10s	B 14V 14mm	baked IIaO 2h 65°C H2N2	M-S 15mm 67°F	[illegible]	
(CONT)	HR 4550	11 52.2	+37 51	Apr 1986	0258	0329	30m ✓		1"/cirrus coming up.				7.2	G8							
3105	β CVn	12 33.0	+41 27		0347	0349	2m5 / 5m	22m W					4.9	G0.							
	37 Com	12 59.6	+30 54		0354	0401	7m ✓	6m W.					6.0	G9							[illegible]
	β Com	13 11.1	+27 59		0404	0406	2m / 3m	1m W.					4.8	G0							[illegible]
	HD117877	13 32.4	+05 59		0410	0430	20m ✓	4m W.					7.7	G8.							
	η Boo	13 53.8	+18 30		0512	0513	20s / 35s	22m W					3.3	G0							
	HR 5270	14 01.9	+09 50		0515	0528	13 ✓	31m W.					7.1	F8 p.							
	ρ Boo	14 31.3	+30 29		0531	0536	4m5 / 6m	10m W.					4.9	K3							
	HD121447	13 55.0	−18 11		0545	0645	60m / 120	2h	1"/clouds terminated				9.1	K4	probably only about 3/4 hour effectively.						
3106	HR 3514	08 49.1	−40 13	20/21	0054	0059	4+m ✓	1h24m W	1.5/few clouds remain	"	"	"	5.5	A3	"	"	"	"	"	"	
	HR 3571	08 55.0	−60 33	Apr 1986	0105	0107	80s ✓	1 25m W					3.7	B8.							very high winds
	HR 3651	09 11.5	+03 55		0112	0120	8m ✓	1 23 W					6.1	A0.							
	HR 4049	10 17.7	−28 57		0124	0128	4m / 4+	22m W					5.6	A0							
	HR 4293	10 59.5	−42 09		0205	0206	48s / 60	19m W					4.5	A3.							
	HR 4712	12 22.8	−35 19		0212	0215	3m5 ✓	55m E					5.4	B9.							
	HR 4154	10 34.6	−43 34		0220	0235	15m ✓	1h14m W					7.0	G8.							
	HD97082	11 09.3	−58 44		0243	0300	17m / 30	1 04 W.					7.3	G1							
	HR 4441	11 31.4	−59 22		0304	0313	9m ✓	56m W.					6.2	G3							
	HR 4511	11 43.0	−62 24		0317	0322+	5+m ✓	53m W.					5.8	G0							
	HD117880	13 32.9	−18 28		0327	0403	36 / 70	13m E	terminated by clouds.				9.1	A(HB)							
3107	β CVn	12 32.9	+41 22	"	0420	0426	5m5 / 4.5	1h 2m W.					4.9	G0.							
	β Com	13 11.2	+27 51		0429	0432	3m ✓	33m W.					4.8	G0.							
	HR 5011	13 16.2	+09 26		0437	0441	4m ✓	37m W.					5.8	G0							
	η Boo	13 54.2	+18 22		0444	0445	60s ✓	5m W					3.3	G0.							
	ρ Boo	14 31.2	+30 18		0544	0551	6+m ✓	33m W.					4.9	K3							
	HR 4587	12 00.2	−10 27		0558	0610	12m ✓	3h23m W.					6.3	G8-K0.							
	HR 5001	13 15.4	−19 53		0613	0624	10m ✓	22m W.					6.2	K1							
	HD115404	13 16.1	+17 04		0627	0703	40m ✓	3h W.					7.5	K2						4" Δm = 5m	companion almost in RA
	α Ser	15 43.7	+06 27		0708	0709	60s ✓	38m W					3.8	K2p.							

3107, 8, 9 for WWM.
3111 for WWM.

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3107	π Ser	15 45.9	+7 24	20/21	0713	0715	2m (3s) ✓	43m W	1.5-2"/clear	2.96	52μ/1.2	6.7/5.4	5.0	G0 V	Ne-Ar	10'	—	baked	M-5	[initials]	
	β Her	16 29.8	+21 27	APR 1986	0720	0721	1m						3.7	G8				IIa-O			
	α Cen A	14 38.9	-60 46		0728	0738	10m / 12m	2h13m W					7:	G2 (w/ filter, ...)							
	B	14 38.9	"		0740	0741	20s ✓	2h16m W					2.2	K1							
3108	HR6152	16 30.0	+20 25	"	0754	0805	11m ✓	49m W	"	"	"	"	6.5	G8 p.	"	"	"	"	"	"	
	ζ Her	16 40.6	+31 35		0808	0809	50s / 60	43m W					3.45	G0.							
	β Oph	17 42.8	+04 35		0814	0815	60s ✓	15m E					3.93	K2							
	μ Her	17 45.7	+27 43		0818	0820	1m5 ✓	12m E					4.2	G5.							
	HR6766	18 07.2	-28 28		0824	0829	4m ✓	25m E					5.5	G7.							
	η Ser	18 20.6	-02 54		0835	0837	60s ✓						4.2	K0.							
	HR6791	18 06.9	+43 26		0841	0858	16m ✓	4m W.					5.9	G8							
	θ Lyr	19 15.8	+38 08		0904	0917	12m ✓	45m E					5.6	K0.							
	β Aql	19 54.6	+6 24		0920	0923	2m5 ✓	1h18m E					4.6	G8							
	HR7671	20 04.6	-11 35		0927	0940	12m ✓	1 08 E					6.9	F1							
	ε Cyg	20 45.3	+33 57		0945	0946	100s ✓	1h45m E					3.5	K0							
	61 Cyg A	21 06.1	+38 42		0952	1020	28m						6.4	K5.							
LC3109	β Gem	07 44.5	+28 04	21/22	2346	2346	15s / 25	1h18m W					2.1	K0.							
	HD81192	09 23.9	+19 49	Apr 1986	0116	0137	21m ✓	1 30 W.	4"/clear.				7.5	G7							perfect night.
	HR3809	09 34.1	+39 41		0141	0152	11m ✓	1h35m W					5.8	K0							14°C 45% calm
	CERES	10 39.4	+23 53		0157	0251	53m / 70	1h30m W					8.4	G2							
	β CVn	12 32.9	+41 25		0257	0301	4m5 ✓	15m E					4.9	G0.							
	α Cen A	14 39.1	-60 43		0308	0318	9m5 ✓	2h4m E					7!	G2							
	HD121447	13 55.2	-18 08		0325	0456	90m / 150	19m W.					9.1	K4,	(+moon?)						
(3)	Moon	12 02.4	+02 56		0453	0503	4, 5, 8s, 2 / ½s	2h20m W					—	G2							3/4 moon
3110	HR4293	10 59.8	-4 29	"	0546	0547	70s ✓	4h5m W					4.5	A3							13°C 40% calm
	HD117880	13 33.0	-18 24		0552	0650	58m / 80	2h35m W					9.1	A (HB)	(+moon?)						careful of moon contamination
	HR5514	14 46.5	-25 34		0653	0655	2m5 / 3	1h27m W					5.6	A0							
(2)	HR5895	15 50.6	-03 03		0700	0705	(1.5) 2.5 / 2.5	33m W					5.2	A3							
3111 (2)	ζ Her	16 40.8	+31 39		0720	0723	60, 40 / 60	0h					3.45	G0.							
	HD154363	17 04.4	-05 02		0727	0857	90m ✓	1h11m W					9.1	K5 p.							
	4527?	18 56.3	-05 51		0900	0905?	5m	33m W					3.9	K2							

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3112	ν Aps	14 45	-78 59	July 9/10	23 58	00 20		0ʷ02	1"/exc.	2.96	50μ/8		3.8	K5	Ne A1	30"		IIa-O	D-19	103	3 exp
3113	HR 5955	16 04	-72 22		00 57	01 30		0ʷ14	2"		"		5.7	K1	"			"	"	"	3 exp
	HR 6125	16 29	-61 36		02 14	02 50		0ʷ48	1/exc.		"		5.2	K0				"	"	"	"
	HD 165687	18 07	-17 09		03 06	03 49		0ʷ10	"		"		5.7	K0						"	2
	37 Aql	19 34	-10 36		04 06	04 39		0ᴱ27	"		"		5.2	G7						"	3
	18 w Cap	20 51	-26 57		05 38	06 16		0ᴱ04	"		"		4.2	M1						"	3
	24 Cap	21 06	-25 04		06 31	07 06		0ʷ28	"		"		4.5	M5?						"	3
	46 Cap	21 44	-09 09		07 16	07 51		0ʷ36	"		"		5.3	K0						"	3
	β Gru	22 42	-46 58		08 06	08 19		0ʷ05	"		"		2.1	M3							3
	99 Aqr	23 26	-20 42		08 30	08 42		0ᴱ09	"		"		4.5	K5						"	2
3114	HD 133502	15 06	-57 23	July 10/11	23 40	00 45		0ʷ12	"	3.00	"		7.1	K2	Ne A1	30"				"	1
	HR 5862	15 46	-40 09		01 07	01 55		0ʷ51	"		"		6.4	G8						"	2
	HR 6135	16 32	-70 57		02 15	02 51		0ʷ51	"		"		5.5	K1						"	2
	HR 6408	17 18	-59 41		03 10	03 58		1ʷ14	"		"		5.9	K2						"	2
	188088	19 53	-23 59		04 52	05 37		0ʷ17	"		"		6.2	dK5						"	2
	GL 825	21 16	-38 56		05 56	06 55		0ʷ12	"		"		6.6	dM1						"	1
	205985	21 38	-27 23		07 03	07 46		0ʷ41	1½"/exc		"		6.7	G4						'	2
	86 Aqr	23 08	-23 49		08 02	08 20		0ᴱ13	"		"		4.5	G7						"	3
	HR 8958	23 37	-13 08		08 35	08 51		0ᴱ13	2"/exc.		"		5.7	G4	Ne A1	30"				"	1
3115	HR 5518	14 47	-12 47	July 11/12	23 38	00 24		0ʷ13	1/exc.		"		6.3	K0	Ne A1	30"				"	2 exp
	HR 6612	16 27	-37 09	"	00 42	01 17		0ᴱ34	"		"		5.8	K1							2
	ν L.b	15 36	-29 05	"	01 30	01 45		0ʷ45	"		"		3.6	K5							3
	HR 6382	17 11	-38 48	"	02 07	03 06		0ʷ31	"		"		6.3	K1							2
	35 $\nu^2 S_{gr}$	18 58	-32 41	"	03 57	04 28		0ʷ10	"		"		5.4	K5							3
	HR 7898	20 38	-23 57	"	05 40	06 20		0ʷ17	"		"		6.4	dK5							3
	42 Cap	21 40	-14 07	"	06 33	06 50		0ᴱ14	"		"		5.1	G2 III							3
	3 Cap	21 25	-22 29	"	07 25	07 30		0ʷ41	"		"		3.8	G0-B							2
	50 Aqr	22 23	-12 37	"	07 43	08 02		0ʷ16	"		"		5.9	G5							2
3116	88 Aqr	23 03	-21 15	"	08 30	08 35		0ʷ3	1½"/exc		"		3.7	K0							2
	-14° 6438	23 16	-13 45	"	08 48	09 23		0ʷ44	"		"		7.5	G8 III							1

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3116	ξ Lup	15 11	-52 02	July 12/13	00 51	01 07		0w35	1½ /	3,00			3.4	G8			X	IIa 0	D-19		4
	133507	15 06	-57 15	"	23 35	00 38		0w11	1½/exc.	"			7.1	K2	Ne-Ar	30"		"	"		1
	γ' Nor	16 15	-50 02	"	01 17	01 38		0w02	1½ /	"			5	F9 Ia				"	"		3
	HR 6382	17 11	-38 48	"	01 52	03 15		0w44	2 /	"			6.3	K1				"	"		3
	HR 6757	18 21	-0° 27	"	03 27	04 09		0w45	2+ /	"			6.5	G-cH wk				"	"		1
3117	58 ω Sgr	19 54	-26 20	"	05 21	05 41		0w27	2-3 /	"			4.7	dG5				"	"		3
	HR 5518	14 47	-12 47	13/14	23 56	00 23		0w19	2-3 / exc	"			6.4	K0 III				"	"		1
3118	NGC 6723	18·59	-36 39	Aug. 08 1986	04 16	04 26	10m / >		2" - 3"	3.2	0.8	120/7.0	—	—	Ne Ar	≤ 2s	4m 10 VAC	II a D	M. S.	MAX + MOA	GLOBULAR CLUSTER NUCLEUS
	"	"	-36 36		04 :53	05.15	~22m / >		CLOUDY "	"	"	"	—	—	"					"	HALO
	A 76	21 29	-02 51		06:15:21	06:45:21	30m / >						—	—							PLANETARY NEB. (PN)
3119	NGC 6723	18 : 59	-36 39	Aug. 09 1986	2:22 26	2:31 13	8,5m / >		3", CLEAR	"	"	"	—	—	"	"	—	IIa-D,	"	"	NUCLEUS – I.T.C'S HALO ON PLATE
	"	"	-36 36		2:40:36	3 10:36	30m / >						—	—				baked 2h ½N2, 68°C			HALO
	M 3-32	18 : 44	-25 21		3:29	4:19	50m / >														PN
3120	A70	20 : 31	-07 08	"	7.02:10	8:32:10	1,5h / >		2"	"	"	"	—	—	—	—	—	"	"	"	PN, PROBLEMS IN TEL. TRACKING
3121	HD154153	17 04.7	-44 05	Aug25	01:25	01·35	10m10m	2 02W	1½ / good	2.97	50μ/.8	67/54	6.2	A3	NeAr	10s	14V	IIaO	M-S	St	focus adj. for 2nd exp Gry Pgm
	HD154865	17 07.6	-12 01		02 25	03.45	1h20m						7.7	F8			14m	baked	67°F		
	HD207687	21 50.3	-10 06		04:20	05:35	1h15m	1 14W	/ poor				7.5	G0				IIaO 2h 68°	15m		cirrus
	HD6434	1 04.0	-39 34		05:45	07:00	1h15m	0 35E	/ v. poor				7.7	G0							thick cirrus
	HD14642	2 18.9	-62 00		07:12	08.32	1h20m	0 18W					7.7	F5							
	HD26754	4 09.9	-61 38		08 36	09:11	35m	1 35W	2 /				7.1	G0							
3122	HD154153	17 04.7	-44 05	Aug 30/31	23.39	23 53	14m / ✓	0 42W	2½ / poor	2.97	50μ/1.2	67/5.4	6.2	A3	NeA	10s	14V	IIaO	M-S	St	T=12 H=36 W=25mph 50% cirrus ~~bad guiding~~
	HD154865	17 07.6	-12 01		00 06	01.24	1h18m / ✓	2 09W					7.7	F8			14m	baked 2h 68°			bad guiding
	HD175297	18 54.4	-14 43		01:27	02.19	52m / wk	1 18W					7.3	F2							
	HD182101	19 22.1	+9 53		02:25	02.49	24m / v. wk	1 20W					6.3	F8							W=30 mph wrong star
x	HD194881	20 30.7	-65 52		03.13	05 08	1h55m / dark 31 m.	2 33W					7.4	~~G0~~ F5							thick cirrus
	HD6434	1 04.0	-39 34		05.27	06 57	1h30m / ✓	0 16E					7.7	G0						reset on	telescope had to be reset on a bright object
	HD14642	2 19.0	-62 00		07:04	08 30	1h26m ✓	0 15E					7.7	F5							(streaky)
	HD20759	3 18.8	-36 37		08 36	09:55	1h19m ✓	0 27E					7.7	F2							W=20 T=11

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					BEGIN	END									KIND	EXP.					
3123	HD154153	17 04.7	-44 05	Aug 31 / Sept 1	23.33	23.45	1h12m / ✓	0 35W	2" / clear	2.97	50μ / 1.2	67 / 5.4	6.2	A3	NeA	10s	no calib.	IIaO	M-S	Bt	Gry Pgm T=13 H=39 W=15
	HD154865	17 07.6	-12 01		23.51	00.52	1h01m / ✓	1 44W					7.7	F8				baked	67°F		
	HD153469	17 11.7	-21 35		00 56	01.26	30m / ✓	2 12W					7.0	F0				2h 68°C	15m		
	HD162396	17 51.8	-41 59		01:30	01 47	17m / ✓	1 52W					6.2	F8				Aug 29			streaky
	HD175297	18 54.4	-14 43		01:56	02:37	41m / ✓	1 40W					7.3	F2				Batch			
	HD182101	19 22.1	+9 53		02.48	03.09	21m / ✓	1 44W	1.5 /				6.3	F8							telescope had to be reset on a bright object @ [illegible] display
	HD189712	20 00.5	+5 36		03.15	04:05	50m / ✓	2 03W					7.5	F5							
	HD207687	21 50.3	-10 06		04:10	05:30	1h20m / ✓	1 37W					7.5	G0							
	HD6434	1 04.0	-39 34		05:37	07:00	1h23m / ✓	0 08E					7.7	G0							streaky
	HD20759	3 18.8	-36 37		07.06	08:03	57m / ✓	1 19E					7.7	F2							
	HD22211	3 34.0	+6 22		08.15	08 44	29m / ✓	0 54E					6.5	G0							
	HD24755	3 54.2	-35 45		08:53	09:48	55m / ✓	0 06E					7.7	F8							comparison on stellar
3124	HD154109	17 04.3	-41 05	Sept 1/2	23. 30	00: 40	1h10m /	1 36W	2" / cirrus	2.97	50μ / 1.2	67 / 5.4	8.0	F5	NeA	10s	14V 14m	IIaO	M-S	Bt	T=13.5 H=44 W=5
	HD154307	17 33.3	-2 58		00.46	01:20	34m /	1 48W					7.4	F8				baked	67°F 15m		
	HD161023	17 42.9	-13 30		01:24	01:37	13m /	1 55W					6.4	F2				2h 68°C			
	HD165003	18 05.6	-54 11		01:42	02.20	38m /	2 15W					7.4	F5				Aug 29 Batch			
	HD171128	18 32.5	-8 35		02 24	03 30	1h06m /	3 00W					8.0	A5							
	HD185785	19 39.8	-1 54		03 42	04:32	50m /	2 54W					7.5	F8							
	HD194881	20 30.7	-65 52		04:37	05:24	47m /	2 51W					7.5	F5							CLOUD IN NORTH " " WEST
	HD209837	22 06.0	-29 41		05 30	06:37	1h03m /	2 33W					7.9	F0							
	HD5303	0 52.6	-74 44		06:42	07:51	1h09m /	1 01W					7.7	G0							
	HD14642	2 19.0	-62 00		07:57	08 43	46m /	0 25W					7.7	F5							RA CONSOLE DISPLAY IS NOT STABLE. DIGITS CHANGE ON THEIR OWN ACCORD. RESET TELE. ON SIRIUS 3 TIMES. STILL HAVE PROBLEMS.
	NIGHT OF SEPT 2/3 LOST @ RA CONSOLE DISPLAY PROBLEMS																				
3125	HD157089	~~23~~ 17 20.4	+1 27	Sept 3/4	23.49	00 20	31m /	1 10W	1.5 / clear	2.97	50μ / 1.2	67 / 5.4	7.0	G0	NeA	10s	14V 24m	IIaO	M-S	Bt	T=12 H=35 W=5
	HD157165	17 20.5	+1 34		00:22	01:37	1h19m /	2 26W					8.0	F8				baked 2h 68°C	67°F 15m		
	HD184266	19 33.4	-16 21		02 04	03 07	1h03m /	1 44W					7.6	G0				Sept 3 batch			reset telescope on ρ' Sgr
	HD184571	19 34.3	+4 17		03:20	04:26	1h04m /	2 58W					7.6	F2							reset telescope on 5 Aql
	HD204848	21 30.8	-9 49		04:42	05.44	1h02m /	2 18W					7.4	G0							reset telescope on β Aqr
	HD204851	21 30.8	-12 35		05 50	07:08	1h18m /	3 42W					7.5	G0							it's a joy to have two stars in a row with the same RA!
	HD13765	2 12.9	-24 52		08 02	09:[illegible]	1h08m /	1 32W					7.9	F5							reset telescope on Jupiter, then ζ Cet, then υ Cet. Both α + δ displays are inaccurate

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					BEGIN	END									KIND	EXP.					
																					reset telescope on 10 Tau trying to And HD25169 no success
3126	HD155302	17 28.3	-14 04	Sept 4/5	23 47	01: 33	1h46m	2 19W	2"/clear	2.97	50μ/1.2	67/5.4	7.9	F8	NeA	10s		IIaO	M-S	Bt	
																		baked 2h 68°C	15m 67°		T=15°C H=32% W=10mph
	HD26754	4 09.9	-61 38		08: 53	09: 43	40m	0 12E					7.2	G0				Sept 4 batch			
3127	HD154195	17 04.3	-33 45	Sept 6/7	00:04	01:52	1h57m	3 07W	2"/cirrus	2.97	50μ/1.2	67/5.4	8.4	Gc	NeA	10s		IIaO	M-S	Bt	
	HD184266	19 33.4	-16 21		02:27	03 56	1h29m	2 44W					7.6	G0				baked 2h 68°	reset telescope on Menk + υ Sgr		T=17°C H=29% W=<5
	HD213666	22 32.9	-33 57		04:16	05:59	1h43m	1 47W					7.8	G0				Sept 4	reset telescope on β PsA		
	HD213949	22 34.3	-1 36		06:09	07:44	1h35m	3 32W					7.9	F5					reset telescope on η Aqr		
	HD16105	2 33.1	-48 27		08 14	09:50	1h36m	1 39W					7.9	F8					reset telescope on R Eri		
3128	HD160312	17 38.4	+4 29	Sept 7/8	23:53	01: 30	1h37m	2 15W	2"/clear	2.97	50μ/1.2	67/5.4	8.0	F2	NeA	10s		IIaO			
	HD185785	19 39.8	-1 54		01:54	03 11	1h17m	1 56W					7.5	F8				baked 2h 68°	reset telescope on ζ Aql		
	HD203249	21 20.7	-11 31		03 29	04: 49	1h20m	1 53W					7.8	F8				Sept 4	reset telescope on ζ Cap		
	HD213949	22 34.3	-1 36		05 08	06: 35	1h27m	2 [illegible]5W					7.9	F5					reset telescope on η Aqr		
	HD17576	2 47.5	-37 0.3		07:28	09 37	2h09m	1 14W					7.8	G0					reset telescope on β For		Wrong Star!
3129	HD146624	16 15.5	-28 34	Sept 9/10	23 57	00 03	6m / ✓ stby	2 24W	1.5"/cirrus	2.97	50μ/1.2	67/5.4	4.8	AcV	NeA	20s		IIaO	comp at same dec		rG PGM
	HD146791	16 17.0	-4 38		00 05	00 07	2m / ✓	2 23W					3.2	K0-III				unbaked	T=20°C H=29% W=10mph		
	HD165341	18 04.7	+2 30		00:12	00:18	6m / ✓	0 44W					4.0	K0V					close comp at same dec		
	HD165438	18 05.5	-4 45		00 21	00 51	30m / ✓	1 15W					5.8	K1+IV							
	HD167263	18 14.9	-20 23		00 53	01:05	12m / ✓	1 22W					6.0	O9II							
	HD167838	18 16.6	-15 26		01:07	01:42	35m / ✓	1 58W					6.7	B5Ia							
	HD231195	19 19.9	+14 23		01: 46	03 33	1h47m / ux	2 44W					7.9	F5Ia					dec slews at slowest speed only. Relay? Connection.		
3130 ~~3129~~	HD182835	19 25.3	+00 18	Sept 10-11	01 23	01: 28	5m / ✓	0 59W	1.5"/clear	2.97	50μ/1.2	67/5.4	4.6	F2Ib	NeA	20s		IIaO	late start acct. troubleshooting with Harman. Corrected problem		
																		unbaked	(see diary) dec fuse blew again		
	HD184915	19 35.8	-7 05		02 35	02 39	45s / ✓	0 40W					5.0	B0.5III					NO MORE SPARES borrowed fuses from Carnegie		
	HD184930	19 37.6	-1 21		02: 50	02 52	2.5m / ✓	1 53W					4.4	B5III					and grounded a resistor FUSE BLEW AGAIN!		
same plate	HD198026	20 46.4	-5 07	Sept 11-12	02:06	02 :25	12m / ✓	0 22W	1.5"/clear	2.97	50μ/1.2	67/5.4	4.4	M3III	NeA	20s		IIaO	late acct telescope repairs		
	HD202109	21 12.1	+30 12		02 33	02 37	4m / x	[illegible]E					3.1	G8II					T=18°C H=26% W=∅		
	HD203504	21 21.4	+19 45		02 43	02 53	10m / ✓	0 12E					4.0	K1III							

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3130 ~~3129~~	HD204724	21 29.3	+23 34		02:37	03 28	31ᵐ / ✓	0 39W					4.5	M1III							
	HD207088	21 45.5	+22 57		03 32	04:18	40ᵐ / ✓	1 13W					5.3	K0Ib							
	HD208057	21 52.3	+25 56		04:20	04:25	5ᵐ / ×	1 14W					5.0	B3V							
	HD210027	22 06 2	+25 21		04:30	04:33	35ˢ / ✓	1 08W					3.8	F5V							
	HD214923	22 40.8	+10 52		04:41	04 42	36ˢ / ✓	0 42W					3.5	B8V							
	HD219688	23 17.2	-9 12		04:51	04:53	22ˢ / ✓	0 17W					4.4	B5V							
	HD220657	23 24.7	+23 18		04:59	05 06	6.4ᵐ / ✓	0 22W					4.5	F8IV							
	HD222368	23 38.2	+5 30		05:13	05:16	35ˢ / ✓	0 18W					4.1	F7V							
	HD3651	0 38.5	+21 10		05:22	05 55	28ᵐ / ✓	0 03E					5.8	K0V							
3131 ~~3130~~	HD6903	1 09.0	+19 34		06:06	06:26	20ᵐ / d.✓	0 02E					B 6.2	G0III							
	HD9270	1 30.5	+15 16		06.35	06.40	45ˢ / ✓	0 10E					3.6	G8III							13:20 3 DEC FUSES [illegible] CONSOLE TO LET CAPACITORS COOL
	HD20630	3 18.7	+3 18		08 34	08 42	8ᵐ / ✓	0 04E	1″				4.8	G5V							
	HD20894	3 21.0	-23 42		08:45	09:07	22ᵐ / ✓	0 27W					5.5	G7Ib							
	~~HD21120~~	3 24.1	+8 59		09:12	09:15	35ˢ /	0 33W					3.6	G8III							not on plate
	HD22049	3 32.4	-9 32		09:21	09:25	45ˢ / ✓	0 34W	1.5″				3.7	K2V							
	HD23249	3 42.7	-9 50		09:29	09:33	4ᵐ / ✓	0 32W					3.6	K0IV							
	HD23288	3 44.1	+24 12		09:37	09:49	12ᵐ / d.✓ sky	0 47W					5.4	B7IV							in Pleiades
	HD23302	3 44.0	+24 02		09 53	09:55	2ᵐ / ✓	0 34W					3.6	B6III							" "
3132	HD167264	18 13.0	-21 03	Sept 12-13	00.27	00.30	9ᵐ / ✓×	1 07W	2″3″/ck	2.97	50μ / 1.2	67 / 5.4	5.4	B0Ia	NeA	20ˢ		IIaO	M-S	Bt	cloud over Andes T=15 H=45 W=15
	HD167263	18 14.2	-20 22		00 38	00.54	16ᵐ / ✓	1 23W					6.0	O9II					6.7° 15ᵐ	replaced with 1	3 capacitors
	HD168723	18 20.5	-2 54		00:39	01:02	35 / ✓	1 26W	[illegible]				3.3	K2III							
	HD173764	18 46.4	-4 47		01:06	01 24	18ᵐ / d.✓×	1 21W					4.2	G5II							
	HD175191	18 54.4	-26 22		01:29	01:29	20ˢ / ✓ sky	1 19W	[illegible]				1.9	B2.5V							
	HD176123	18 58.6	-18 35		01:33	03.08	35ᵐ / ✓	[illegible] 54W					6.3	G3II							
	HD196610	20 36.6	+18 11		03.16	05 60	1ʰ34ᵐ / ✓						6.3	M6III							comp at [illegible] W=30mph
	HD1013	0 13.3	+20 04		06:05	07:12	1ʰ07ᵐ / ✓	1 43W	2″5				4.8	M2III							
	HD1522	0 18.2	-8 47		07:15	07:30	15ᵐ / ✓	1 56W					3.6	K1.5III							
	HD8512	1 22.7	-8 17		07:33	07:45	12ᵐ / ✓	1 07W					3.6	K0IIIb							
	HD10761	1 44.1	+9 07		07:48	08:02	15ᵐ / ✓	1 03W					4.3	G8III							
	HD11443	1 51.6	+29 31		08:05	08:09	35ˢ / ✓	[illegible] 02W					3.5	F6II							

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	HD11636	1 53.2	+20 42		08.15	08.18	3m / d.a	1 10W					2.6	A5V							
	HD13174	2 08.0	+25 52		08:21	08 57	36m / ✓	1 34W					5.0	F2III							
	HD13611	2 11.7	+8 48		09:00	09 16	16m / ✓	1 49W					4.4	G8IIICN-2							
	HD16908	2 42.0	+27 39		09.19	09:37	18m / ✓	1 41W					4.6	B3V							
	HD17094	2 43.7	+10 04		09:40	09 44	9m / ✓	1 50W					4.2	F0IV							
3133	HD144470	16 05.9	-20 36	Sept 13/14	23.43	23 45	2m10s / ✓	2 27W	2"/cirrus	2.97	50μ / 1.2	67 / 5.4	3.9	B1V	NeA	20s		IIaO	M-S	Bt	T=11°C
	HD146051	16 13.5	-3 40		23 50	23:53	3m / ✓	2 27W					2.7	M0.5III				unbaked	67° 15m		H=49% v=18 mph
	HD146624	16 17.3	-28 34		23:57	00:03	6m / ✓	2 34W					4.7	A0V							
	HD146791	16 17.4	-4 39		00.07	00.11	3.5m / ✓	2 42W					3.2	K0-III							
	HD147165	16 20 2	-25 35		00.15	00 16	1m / ✓ off cl.+	2 44W					2.9	B1III							faint comp with same dec
	HD148349	16 26.8	-7 34		00:19	01:39	1h20m /	4 02W					5.2	M2.5III							
	~~HD167818~~	18 17.2	-27 04		01:42	02:35	53m / x	3 06W					4.6	K3II							not on plate
	HD187930	19 35.9	-1 19		02:39	02.42	3m / ✓	1 55W					4.3	B5II							
	HD185758	19 39.4	+17 58		02 47	03 01	13m / ✓	2 09W					4.4	G0II							
	HD185958	19 40.3	+17 26		03 02	03 26	24m / ✓	2 34W					4.3	G8IIIaCN2							
	HD198026	20 46.9	-5 01		03 29	04:12	43m / ✓	2 14W					4.4	M3III							
	HD203504	21 21.3	+19 46		04:14	04 30	16m / ✓	1 56W					4.0	K1III							
	HD218329	23 06.2	+9 25		04:35	05.27	49m / ✓	1 09W					4.5	M1IIIab							
	HD219215	23 13.5	-6 01		05 29	06 00	31m / ✓	1 35W					4.2	M1.5III							
	HD222661	23 41.8	-14 27		06:03	06 07	3.5m / ✓	1 14W					4.5	B9.5V							
	HD224427	23 56.8	+25 10		06 10	07:17	1h07m / ✓	2 09W					4.6	M3III							
	HD224935	00 01.2	-5 59		07 20	08 10	50m / ✓	2 58W					4.4	M3III							
	HD9856	1 35.1	-15 19		08 13	09:35	1h22m / ✓	2 49W					5.5	K2IIIa							
	HD11353	1 50.6	-10 16		09:37	09.51	14m / d.a	2 50W					3.7	K0III							
3134 ~~3133~~	HD147547	16 21.2	+19 10	Sept 14/15	23.39	23.42	2.5m / d.a	2 14W	2"/clear	2.97	50μ / 1.2	67 / 5.4	3.7	A9III	NeA	20s		IIaO	M-S	Bt	T=10°
	HD148478	16 28.5	-26 24		23 47	23 49	1.50 / ✓	2 12W					1.0	M1.5Iab				unbaked	67° 15m		H=48% v=10 mph
	HD148605	16 29.3	-25 05		23 52	23 58	5? / ✓	2 20W					4.9	B2V							
	HD148856	16 29.5	+21 31		00 02	00 03	1m10 / ✓x	2 26W					2.8	G8III							
	HD149161	16 31.7	+11 31		00 06	00 27	21m / d.a	2 47W					4.8	K7III							
	[illegible]149757	16 34.2	-10 23		00:32	00 33	50s / ✓ dky	2 44W						O9.5V							

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NUMBER	OBJECT	R A	DEC.	DATE U.T.	U.T. EXP BEGIN	U.T. EXP END	TOTAL / CORR.	H.A. END	SEE / TRANS.	CAM. FOCUS	SLIT	GRATING / TILT	MAG.	SP.	COMP KIND	COMP EXP.	CALIB	EMUL.	DEV.	OBS	REMARKS
	HD144438	16 35.0	-28 12		00.39	00:40	40s / ✓	2 58W					2.8	B0V							
	HD153210	16 56.9	+9 26		00.45	00 50	5m / ✓	2 45W					3.2	K2III							
	HD154143	17 02.4	+14 06		00 52	02:00	1h05 / ✓	3 50W					5.0	M3III							
	HD169414	18 23.0	+21 44		02:02	02 17	15 / ✓	2 46W					3.8	K2.5IIIab							
	HD182835	19 25.8	+00 15		02 20	02 33	13 / ✓	1 59W					4.6	F2Ib							
	HD184406	19 33.4	+7 19		02 37	03 00	23 / ✓ stby	2 18W					4.4	K3IIIb							
	HD184915	19 36.1	-7 05		03.02	03 10	8 / ✓	2 27W					5.0	B0.5III							
	HD191263	20 08.0	+10 39		03 13	03 42	29 / ✓	2 28W					6.2	B3V							
	HD192713	20 14.9	+23 23		03 44	04:30	46 / ✓	3 07W					5.2	G2Ib							W=30 mph
	HD206778	21 43.5	+9 49		04:36	04 44	8 / ✓	1 54W					2.4	K2Ib							
	HD206859	21 43.9	+17 14		04:46	05:17	31 / ✓	2 28W					4.3	G5Ib							
	HD216386	22 51.8	-7 42		05 22	05 45	23 / ✓	1 44W					3.7	M2.5IIIa							
	HD223428	23 48.8	-15 56		05 48	07:15	1h27 / ✓	2 19W					6.2	K2IIIb							
	HD14429	2 16.3	-6 32		07:20	08 05	45 / ✓						5.5	G8.5III							
	HD16582	2 38.7	+0 14		08:10	08 14	4 / off.t	0 28W					4.0	B2IV							
	HD17918	2 52.4	+16 22		08 15	09:04	46 / ✓	1 05W					6.3	F5III							
	HD18322	2 55.7	-8 39		09:07	09:30	23 / 12.0t	1 27W					3.9	K1IIIb							
	HD18331	2 55.8	-13 49		09:33	09 48	15 / ✓	1 46W					5.2	A1V							
3135	HD156014	17 13.9	+14 27	Sept 16/17	23.47	23 57	10 / ✓	1 43W	3"/clear	297	50µ/1.2	67/5.4	3.1v	M5Ib	Ne A	20s		IIaO unbaked	M-5 67° 15m	BH	comp at same dec. T=2° H=66% W=15
	HD157999	17 25.8	+4 13		00 00	00 35	3m / ✓	2 09W					4.3	K2II							
	HD154561	17 34.3	+12 37		00 39	00 40	35s / ✓	2 06W	2.5"				2.0	A5III							
	HD161096	17 42.4	+4 35		00 45	00 50	5 / ✓	2 07W					2.7	K2III							
	HD163506	17 54.9	+26 04		00 53	01 23	30 / ✓	2 35W					5.5	F2Ia							
	HD164353	17 54.9	+3 03		01 25	01 29	4 / stby	2 29W					4.0	B5Ib							
	HD165341	18 04.7	+2 30		01:31	01 43	12 / ✓	2 35W					4.0	K0V							comp at same dec
	HD167838	18 16.8	-15 15		01 47	03 04	1h11 / stby ✓	3 45W					6.7	B5Ia							
	HD196867	20 37.0	+15 56		03 12	03 15	2m / ✓	1 36W					3.7	B9IV							
	HD19 —	WRONG STAR			03 15																
	HD198001	20 47.0	-9 33		03 29	03 31	25s / ✓	1 45W					3.7	A1V							reset telescope coordinates
	HD207076	21 45.5	-2 18		03 35	03 54	19 / x	1 16W					7.2	M7III							

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					BEGIN	END									KIND	EXP.					
	HD18191	2 55.0	+18 14		07 00	09:16	2h46m / ✓	1 18W					5.9	M6III							W=35mph
	HD18884	3 01.5	+4 03		09:19	09:26	7m / sl.ox	1 26W					2.5	M1.5III							
	HD23324	3 44.2	+24 47		09:30	09:40	10m / sl.ux	0 56W					5.6	B8V							
	HD23850	3 49.2	+23 54		09.45	09:47	2m / ux	0 59W					3.6	B8III							
3136	HD147084	16 19.6	−24 07	Sept 17-18	23 46	23 54	8m / ✓	2 38W	1.5, cirrus	2.97	50μ / 1.2	67 / 5.4	3.3	A5II	NeA	20s		IIaO	M.S 67° 15m	BG	cloud over Andes
	HD160365	17 38.0	+13 22		23:57	00 32	35m / ✓	1 58W					6.2	F6III							T=7.5° H=43% W=10mph
	HD161664	17 46.9	−22 27		00 35	02 02	27m / sl.ky	3 18W					6.2v	G2Iab-Ib							
	HD161868	17 47.1	+2 46		02:08	02 10	2m / ✓	3 27W					3.7	A0V							
	HD183143	19 26.7	+18 17		02 16	03 58	1h42m / ux	3 35W					6.9	B7Ia							
	HD216956	22 56.4	−29 40		04:06	04.07	20s / sl ox	0 14W					1.1	A3V							
	HD217906	23 02.9	+28 03		04:12	04.17	5m / ✓	0 17W					2.4v	M2.5II-III							
	HD223719	23 51.1	+2 54		04 20	06 01	1h41m / sl.ky	0 14W					5.5	K4III-IIIa							thick cirrus moon 3° away
	HD886	00 08.3	+15 05		06 05	06 06	45s / ✓	0 58W					2.6	B2IV							
	HD6805	1 07.8	−10 12		06.10	06 16	6m / –	0 14W					4.6	K1.5III							
	HD7087	1 10.5	+20 55		06.19	06 37	18m / ✓	0 12W					4.6	G8.5III-IIIa							
	HD26015	4 06.5	+15 07		06 43	08 07	1h24m / sl.ky	0 55W					5.4	F3V							thick cloud
3137	HD144470	16 05.8	−20 36	Sept 19-20	23 46	23.47	1m / sl.ky	2 54W	2" / cirrus	3.18 ~~3.20~~	50μ / 1.2	120 / 7.0	3.9	B1V	NeA	20s		IIaO	M-S 67° 15m	BG	T=12.5° H=34% W=15mph
	HD146051	16 13.4	−3 39		23 52	23 53	65s / ✓	2 52W					2.7	M0.5III							
	HD146624	16 17.3	−28 34		23 58	00.00	2m10s / ✓	2 54W					4.8	A0V							
	HD147084	16 19.7	−24 06		00 04	00:08	3m50s / ✓	3 01W					5.3	A5II							
	HD147165	16 20.3	−25 32		00 12	00 13	30s / overlap	3 04W					2.9	B1III							comp at same dec
	HD148478	16 28.5	−26 23		00 17	00 18	50s / overlap	3 02W					1.08	M1.5Iab							
	HD148605	16 29.2	−25 04		00 22	00 24	2m / –	3 06W					4.7	B2V							
	HD149438	16 34.9	−28 10		00 28	00:29	20s / –	3 06W					2.8	B0V							
	HD161096	17 42.8	+4 34		00:35	00 37	1.5m / ✓	2 07W					2.8	K2III							reset dec coordinate on telescope
	HD161868	17 47.2	+2 42		00 41	00 42	1m / –	2 07W					3.8	A0V							
	HD164353	17 59.8	+2 55		00 46	00 48	70s / –	1 59W					4.0	B5Ib							
	HD165341	18 04.7	+2 29		00 51	00 55	3.5m / ✓	2 03W	3"				4.0	K0V							comp at same dec
	HD167263	18 14.3	−20 24		00 59	01 09	1h10m / –	2 06W					6.0	O9II							
	HD167818	18 17.1	−27 05		01:11	01:35	24m / –	2 29W	2"				4.6	K3II							

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	HD182835	19 25.6	+00 17		01 39	01:45	6m / ✓ stky	1 31W					4.6	F2 Ib							
	HD183143	19 26.6	+18 12		01:47	03 32	1h45m / 01m ✓ stky	3 17W					6.9	B7 Ia							
3138	HD218329	23 06.1	+9 19		03:43	04 15	32m / d.ok	0 20W					4.5	M1 IIIab	NeA	20s					
	HD219215	23 13.6	-6 07		04:17	04 38	21m / d.ok	0 36W					4.2	M1.5 III							
	HD214688	23 17.2	-9 15		04:42	04:43	90s / ✓	0 35W					4.4	B5 V							
	HD222368	23 39.2	+5 35		04:46	04:49	3m / d.ok	0 23W					4.1	F7 V							
	HD222661	23 42.6	-14 34		04:53	04 55	2m / ✓	0 25W					4.5	B9.5 V							
	HD224935	00 01.2	-6 07		04:58	05 19	21m / ✓	0 30W					4.4	M3 III							
	HD3651	0 38.4	+21 09		05 23	05:45	23m / d.ok	0 17W					5.8	K0 V							
	HD4408	0 45.8	+15 24		05 47	06 41	54m / ✓	1 08W					5.4	M4 IIIa							cirrus overhead
	HD6903	1 08.9	+19 34		06 44	07:05	21m / ✓	1 07W					13 6.2	G0 III							
	HD8512	1 23.2	-8 14		07:07	07:10	3m / dlg s.t	0 54W					3.6	K0 IIIb							
	HD9270	1 30.5	+15 16		07:12	07:16	4m / ✓	0 55W					3.6	G5 III							
	HD10761	1 44.5	+9 08		07:18	07:29	9m / d.ok	0 55W					4.2	G8 III							
	HD11636	1 53.8	+20 43		07:33	07:35	1.5m / ✓	0 53W					2.6	A5 V							
	HD13174	2 08.5	+25 52		07:37	07:56	19m / ✓	1 01W					5.0	F2 III							
	HD14129	2 16.2	-6 29		07 58	08 37	39m / dlg s.t	1 33W					5.5	G8.5 III							
	HD22072	3 33.3	+17 46		08 40	09:24	44m / ✓	1 03W					6.1	K1 IV Fe-1							thick cirrus
	HD20894	3 20.6	-23 40		09:27	09:52	25m / ✓ stky	1 39W					5.5	G2 IIb							" "
3139	HD146791	16 12.4	-4 39	Sept 20/21	23:48	23 49	16s / ✓	2 47W	1.5/cirrus	3.18	50μ/1.2	120/7.0	3.2	G9.5 IIIb	NeA	20s		IIaO	M-S 67°	BH	T=13° H=87% W=10 mph
	HD148349	16 26.8	-7 33		23 53	00 24	31m / ✓	3 13W					5.2	M2.5 III					5m		
	HD161664	17 46.9	-22 24		00 27	01:29	1h02m / ✓	2 58W					6.2	G2 Iab/Ib							
	HD191746	20 09.3	+28 21		01:37	02 12	35m / d.ok	1 18W					6.9	B3 V							
	HD216385	22 34.4	+9 31		02 16	02:39	23m / ok	1 00E					5.2	F7 V							
	HD196610	20 37.1	+18 17		02:42	04:00	1h18m / ✓	2 39W					6.3	M6 III							comp at same dec
	HD207076	21 46.7	-2 12		04:02	06 14	2h12m / ✓	3 42W					7.2	M7 III							
	HD18191	2 54.9	+18 20		06 17	07 23	1h / x						6.0	M6 III							
3140	HD149757	16 36.3	-10 31	Sept 21/22	23:51	23 51	22s / ok	2 35W	1.5/cirrus	3.18	50μ/1.2	120/7.0	2.6	O9.5 V	NeA	20s		IIaO	M-S 67°	BH	T=13.5° H=45%
	HD153210	16 57.0	+9 26		23 58	00:00	2m / ✓	2 23W					3.2	K2 III					15m		W=25 mph
	HD157999	17 25.8	+4 12		00:04	00 14	10m / ✓	2 37W					4.3	K2 II							

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	HD160365	17 38.3	+13 21		00:18	00 35	17s / ✓	2 16W					6.2	F6 III							
	HD167264	18 14.4	-20 43		00:38	00 44	6s / sl ov stky	1 49W					5.3	B0 Ia							
	HD167838	18 16.9	-15 22		00 47	01:12	25m / ✓	2 17W					6.7	B5 Ia							
	HD176123	18 58.6	-18 33		01 16	01:55	39m / stky	2 16W					6.3	G3 II							
	HDE231195	19 20.0	+14 21		02:02	03 56	1h56m / ux	3 35W					7.9	F5 Ia							
	HD220657	23 24.5	+23 16		03.54	04.03	4m / ux	0 03E					4.5	F8 IV							
	HD223428	23 48.8	-15 58		04:06	04:49	43m / ✓	0 19W					6.2	K2 IIb							
	HD223719	23 51.3	+2 49		04:51	05:30	39m / stky	0 59W	1"				5.6	K4 III-IIIa							
	HD224427	23 56.9	+25 00		05.33	05.49	16m / ✓	1 12W					4.7	M3 III							
	HD1364	0 16.8	+20 03		05.52	08.29	2h37m / stky	3 32W	1.5 / cirrus				7.3	M3.5 IIIa							cirrus
	HD20630	3 18.7	+3 16		08.34	08.42	8m / ✓	0 44					4.8	G5 V							cloud
3141	HD149161	16 31.8	+11 32	Sept 22-23	23:48	00 07	19m / ✓	2 59W	1.5" / cirrus	3.18	50μ / 1.2	120 / 7.6	4.8	K7 III	20s	NeA		IIaO	M-S 67° 15m	BT	T=12° H=42% W=0 mph
	HD154143	17 02.4	+14 07		00:09	00:35	29m / ✓	2 58W					5.0	M3 III							
	HD156014	17 13.9	+14 25		00 41	00 52	11m / ✓x	3 01W					3.1-3.9	M5 Ib-II							comp at same dec
	HD159561	17 34.2	+12 35		00.56	00 56	15s / x	2 47W					2.1	A5 III							
	HD163506	17 54.8	+26 03		00 59	01.13	14m / ✓	2 42W					5.5	F2 Ia							
	HD168723	18 20.6	-2 55		01.17	01.19	108s / ✓	2 22W					3.3	K0 III-IV							
	HD169414	18 23.0	+21 44		01:22	01 29	7m / ✓	2 30W					3.8	K2.5 IIIab							
	HD173764	18 44.4	-4 47		01:31	01:37	6m / x	2 14W					4.2	G4 II							
	HD175191	18 54.4	-26 20		01 42	01:42	10s / x	2 12W					1.9	B2.5 V							
	HD184406	19 35.4	+7 23		01:46	01:54	8m / ✓	1 45W	2" /				4.4	K3 IIIb							
	HD184915	19 36.2	-7 04		01:58	02.01	2m10s / ✓	1 45W					5.0	B0.5 III							
	HD184930	19 36.0	-1 20		02 08	02 10	82s / ✓	1 58W					4.4	B5 III							
	HD185758	19 39.5	+17 57		02 12	02 19	7m / ux	2 04W					4.4	G1 II							
	HD185958	19 40.3	+17 25		02 21	02 30	9m / ✓	2 13W					4.4	G8 IIIa							
	HD191263	20 08.0	+10 42		02.32	02 52	20m / ✓	2 08W					6.2	B3 V							
	HD192713	20 14.9	+23 27		02 55	03:11	16m / ✓	2 20W					5.2	G2 Ib							
	HD196867	20 39.0	+15 51		03:15	03:16	55s / ✓	2 02W					3.8	B9 V							H= 64%
	HD198001	20 47.0	-9 32		03 23	03.24	52s / ✓	2 01W					3.8	A1 V							fog coming up mtn
	HD198026	20 47.0	-4 57		03 28	03:42	14m / ✓	2 18W					4.4	M3 III							

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3142	HD204724	21 29.3	+23 42		04:22 ~~03 54~~	04:47	25ᵐ / [illegible]	2 42W					4.5	M1 III	NeA	20ˢ					left dark slide in at 3 54
	HD214923	22 40.9	-10 46		04:53	04:53	38ˢ / x	1 37W					3.5	B8 V							reset dec coordinates
	HD216956	22 54.9	-29 42		05 06	05:06	5ˢ / ✓	1 33W					1.1	A3 V							not tracked
	HD886	0 12.5	+15 07		05 12	05:12	20ˢ / ✓	0 24W					2.8	B2 IV							
	HD1013	0 13.9	+20 07		05 15	05 35	20ᵐ / ✓	0 45W					4.8	M2 III							
	HD1522	0 18.6	-8 54		05:43	05:46	3ᵐ / ok	0 51W					3.6	K1.5 III							
	HD223541	23 49.7	-13 10		05 50	07:07	1ʰ17ᵐ / ✓	2 43W					7.1	K0⁺ III-IV							
	HD6953	1 09.4	+25 22		07:11	08 43	1ʰ34ᵐ / 1.x	2 57W					5.8	K5 III							
	HD17094	2 44.0	+10 04		08:46	08:48	2ᵐ / x	1 29W					4.2	F0 IV							
	HD17918	2 52.2	+16 24		08:53	09:17	24ᵐ / ✓	1 44W					6.3	F5 III							
	HD16582	2 38.8	+0 15		09:21	09:22	60ˢ / ✓	2 05W					4.0	B2 IV							
	HD18331	2 55.9	-3 44		09:26	09:30	35ᵐ [?] / ✓	1 58W					5.2	A1 V							
	HD21120	3 24.6	+9 04		09:35	09:58	21ᵐ / ✓	1 38W					3.4	G8 III							
	HD22049	3 32.2	-9 27		09 42	09 45	22ᵐ [?] / ✓	1 37W					3.7	K2 V							
3143	HD165782	18 07.5	-18 31	Sept 23 24	23 47	02:33	3ʰ06ᵐ / ok	4 13W	2"/Avg	318	50μ/1.2	120/70	7.4	G8 Ia	NeA	20ˢ		IIaO	MS	BSt	T=8.5°
	HD207089	21 45.5	+22 50		04:23	05 33	1ʰ10ᵐ / ✓	3 16W	3-4"				5.3	K0 Ib							H=63% W=10 mph
	HD9856	1 33.3	-5 22		02 05	03 04	56ᵐ / ✓	1 57W					3.5	K2 IIIa							W = 25 mph T = 6°

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GARRISON CLASSIFICATION SPECTOGRAPH

NUMBER	OBJECT	R.A.	DEC.	DATE U.T.	U.T. EXP. BEGIN	U.T. EXP. END	TOTAL / CORR	H.A. END	SEE. / TRANS.	CAM. FOCUS	SLIT	GRATING / TILT	V MAG	SP.	COMP KIND	COMP EXP.	CALIB.	EMUL	DEV.	OBS	REMARKS
3144	HD 20630	3 18.6	3° 19'	27/28 Nov	4:52	5:02	10 min	1h45m	1.5-2" Good	301	50μ/1.2	67/54	4.83	G5V	NeA	20s	22V 25c	IIa-O	Metal-Sulph	Gry	G
	HD 22879	3 39.7	-3° 15'	1986	5:22	6:07	45m	2h12m	1.7-2" Good				6.65	EF							G
	HD 31295	4 54.2	10° 3'		6:15	6:19	4m	1h10m	1.5" Good				4.65	A3 vBc							G
	HD 34673	5 13.5	2° 35'		6:39	6:49	10m	1h16m	1.5" Good				5.34	F5-IV							G
	HD 36879	5 27.7	-20° 46'		6:55	6:56	90s	1h13m	1.5" Good				2.54	G5II							G
1648	HD 36673	5 32.1	-17° 50'		7:01	7:03	45s x2	1h16m	1.5" Good				2.53	FOIb							SU, G
24	HD 37320	5 33.5	-62° 30'		7:12	7:16	4min	1h28m	1.5-2" Good				3.76	FOII							G
22	HD 39954A	5h 31.5	-5° 57'		7:28	7:46s	20 min	2m	1.7-2" Good				5.73	EF							G
3	HD 65077	7h 45.1	-34° 7'		8:12	8:25	13m	25m	1.5-2" Good				5.36	EF							G
20	HD 68803	8h 11.6	-46° 56'		8:33	8:52	19m	26m	1.5-2" Good				5.76	F7Ib-II							G
1	3145 HD 2475	0h 27.7	-20° 24'	28/29 Nov	0:22	0:41	19m	2m	1.5" Good	"	"	"	6.43	G0V	NeA	10s	22V 13c	baked IIa-O	M-S	Gry	G
5	HD 6268	1h 2.7	-27° 57'	1986	0:53	3:08	135m	1h53m	1-1.5" Good				8.12	F/G							G
10	18894	3h 1.5	-6° 32'		3:41	3:57	16m	44m	1.5" Good				6.19	G0II-II							G
12	22470	3h 35.7	-17° 31'		4:04	4:07	3m	20m	1-2" Good				5.23	A0 vB00							G
14	24472	3h 52.3	-22° 19'		4:13	4:38	25m	35m	1-2" Good				7.09	MF							G
17	30743	4h 49.1	-13° 47'		4:48	5:02	14m	2m	1.5" Good				6.28	MF							G
15	31295	4 59.2	10° 8'		5:08	5:10	2m	5m	1.5-2" Good				4.65	A3 vB00							SU
20	38510	5h 44.6	-27° 0'		5:23	6:33	90m	55m	1.5" Good				8.21	EF							SU
22	38713	5h 46.5	-16° 15'		7:00	7:23	23m	1h26m	1.5" Good				6.17	G2Ib-II							G
24	51929	6h 55.6	-56° 56'		7:31	8:21	50m	1h15m	1.5" some clouds				7.40	EF							Some clouds lost SU 5-10 minutes
6	3146 HD 3196	0h 34.5	-3° 39'	29/30 Nov 1986	0:20	0:27	7m	15m	2" Good.	"	50μ/1.2	"	5.20	F8V	"	"	"	"	"	Gry	G
8	3823	0h 39.7	-59° 32'		0:35	0:47	12m	1m	1.5-2" Good		"		5.89	G1V							G
14	4219	0h 43.8	-13° 29'		0:53	1:48	55m	57m	1.5-2" Good		"		7.58	MF							Some optimism of very poor seeing G
12	10607A	1h 40.9	-67° 44'		2:02	3:32	90m	1h45m	1-2" Good		50μ/8		8.33	EF							G
19	25401	4h 0.8	-26° 33'		4:18	5:08	50m	1hr	1-1.5" Good		50μ/1.2		7.52	MF							G
18	27836	4h 23.5	14° 44'		5:17	6:27	70m	1h57m	1-1.5" Good				7.62	G1V							G
13	42988	6h 12.0	-29° 1'		6:39	7:19	40m	1hr	1-1.5" Good				7.44	MF							G
	56737	7h 14.2	-61° 3'		7:27	7:57	30m	36m	1-1.5" Good				7.17	MF							G

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	NUMBER	OBJECT	R.A.	DEC.	DATE U.T.	U.T. EXP. BEGIN	U.T. EXP. END	TOTAL / CORR.	H.A. END	SEE. / TRANS.	CAM. FOCUS	SLIT	GRATING / TILT	MAG.	SP.	COMP. KIND	COMP. EXP.	CALIB.	EMUL	DEV.	OBS.	REMARKS
22	3146	64238	7 51.7	-14° 49'	29/30 Nov	8:05	8:12	7m	13m	1-1.5" Good	3.01	50μ/1.2	67/5.4	5.69	F1 Ia	NeA	10s	22V 12c	baked IIa-0	M-S	Gry	G
24	(cont)	70958	8 23.9	-3° 43'	1986	8:23	8:31	7.5m	0m	1-1.5" Good				5.60	MF							G
26		75276	8 46.9	-46° 6'		8:36	8:45	9.5m	8m	1.5" Good				5.75	F2 Iab							G
6	3147	HD 142	0h 5.5	-49° 9'	30/1 Nov/Dec 1986	0:21	0:36	15m	26m	2-3" Good	"	"	"	5.70	G1 IV	"	"	"	"	"	Gry	G
8		HD 217096	22h 57.9	-35° 35'		0:44	1:07	23m	2h 6m	2-3" Good				6.13	F8 III-IV							G
10		6903	1h 9 1	19° 35'		1:18	1:35	17m	22m	2" Good				5.55	G0 III							G
12		7134	1h 10.9	-12° 55'		1:42	2:33	51m	1h 19m	1.5" Good.				7.49	MF							G
14		17169	2h 43 7	-36° 22'		2:42	3:33	51m	46m	1.5" Good.				7.12	EG							G
16		23010	3h 40.6	-11° 51'		4:07	4:23	16m	39m	1.5" Good				6.49	F5 II							G
6	3148	35416A	5h 22.7	-31° 46'	1/2 Dec 1986	5:34	6:19	45m	58m	1.5" Good	3.01	50μ/1.2	67/5.4	7.54	MF	"	"	"	"	"	Gry	SU
8		57623	7h 16.8	-67° 56'		6:42	6:51	9m	25m	2" cloud				3.98	F6 II							very variable cloud. Streaky
10		59612	7 29.3	-23° 00'		7:02	7:07	5.5m	21m	1.5-2" cloud				4.85	A5 Ib							G
12		55105	7h 7.9	-57° 19'		7:18	7:42	24m	35m	1.5" Good?				6.87	FBS							SU
14		76932	8h 58.1	-16° 5'		8:07	8:24	17m	33m	1.5-2" Cloud				5.81	EF							SU
15		89353	10h 17.5	-28° 56'		8:34	8:42	8.5m	1h 36m	2" cloud				5.34	A0 λBoo							SU
6	3149	HD 1461	0h 18.0	-8° 7'	2/3 Dec 1986	00:20	00:44	24m	30m	1.5" Good?	"	"	"	6.46	G0V	"	"	"	"	"	Gry	G
8		221054	23h 28.4	-51° 5'		00:52	02:42	110m	2h 19m	1.5" Good.				8.26	F7/G2w							SU (ok)
10		19063AB	3h 2.9	-11° 1'		02:53	03:25	32m	26m	1.5" Good.				7.10	MF							G Close double.
12		27305	4 14 3	-65° 00'		04:24	05:49	85m	1h 40m	1.5" Good				8.08	F6w F3							SU (ok)
14		56803	7 17.4	-13° 52'		06:14	07:01	47m	11m	1-1.5" Good				7.54	MF							G
16		63382	7 45.3	-56° 41'		07:07	07:19	12m	21m	1-1.5" Good				6.12	F0 II							G
18		67243	8h 5.2	-33° 32'		07:26	07:58	32m	2m	1.5" Good				6.14	G1 Ib							fainter star near slit G blue?
20		76932	8 58.1	-16° 5'		08:03	08:14	11m	39m	1.5" Good				5.81	EF							G
22		81471	9h 23.5	-51° 41'		08:20	08:34	14m	45m	1.5" Good				6.08	A7 Iab							G
24		84046	9 39.4	-62° 53'		08:38	08:49	11m	43m	1.5" Good				6.43	B8/9(w)							G

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	NUMBER	OBJECT	R A.	DEC.	DATE U.T.	U.T. EXP. BEGIN	U.T. EXP. END	TOTAL / CORR.	H.A. END	SEE. / TRANS.	CAM. FOCUS	SLIT	GRATING / TILT	MAG.	SP.	COMP KIND	COMP EXP.	CALIB.	EMUL.	DEV.	OBS.	REMARKS
6	3150	HD 4304	0h 44.4	-53° 47'	3/4 Dec 1986	00:24	00:43	19m	6m	2" Good	3.01	50μ/1.2	67/5.4	6.15	F7III	NeA	12s	22V 1sec	baked IIa-0	M-S	Gry	G
8		219221	23h 14.1	-49° 41		00:55	02:40	105m	2h 35m	1.5-2+" Good		50μ/.8		8.53	EF							G
10		14459	2h 19.3	-0° 31'		02:54	04:26	92m	2h 15m	1-1.5" Good		50μ/.8		8.11	EG							G
12		33313	5h 9.1	7° 10'		04:53	05:39	46m	38m	1.5" Good		50μ/1.2		7.41	MF							G
14		57415	7h 18.6	-45° 16'		05:56	06-32	36m	38m	1.5" Good		"		7.17	MF							G
16		58585	7h 24.8	-21° 57'		06:38	06:48	10m	28m	1.5" Good		"		6.05	A8I-II:							G
18		61902	7h 38.6	-51° 8'		06:55	08:01	66m	31m	1.5" Good.		50μ/.8		8.23	EF							G
20		64067	7h 48.8	-56° 23'		08:07	08:30	23m	51m	1.5" Good		50μ/1.2		5.59	G5II							G
22																						
6	3151	4391	0h 45.1	-47° 38'	4/5 Dec	01:01	01:13	12m	40m	1.5" Good?	"	50μ/1.2	"	5.80	G1V						Gry	G
8		9378	1h 30.7	-49° 58'		01:21	01:58	37m	40m	1.5" Good				7.37	FBS							G
10		14938	2h 23.7	-3° 16'		02:10	02:50	40m	8m	1.5" cirrus				7.20	MF							light cirrus G
12		14940	2h 23.5	-16° 19'		03:41	04:10	29m	2hr	1.5" muddy				6.70	FBS							Cirrus and patchy suclouds.
6	3152	HD 3795	0h 39.8	-23° 52'	5/6 Dec 1986	00:25	00:42	17m	18m	1.5" Good.	"	"	"	6.14	G3V	"	"	"	"	"	Gry	G
8		6269	1h 2.7	-29° 36'		00:47	01:15	28m	27m	1.5" Good.				6.29	G5IV							G
10		17548	2h 48.2	-1° 34'		01:25	03:01	96m	29m	1-1.5" Good.				8.16	EF							G
12		25704	4h 1.5	-57° 15'		03:47	05:01	74m	1h 16m	1-3+" Good?		50μ/.8		8.12	EF							Some episodes of G very poor seeing
14		50785	6h 52.3	-42° 29'		05:14	05:37	23m	59m	2" Good?		50μ/1.2		6.52	F5II-III							G
16		61227	7h 36.7	-23° 45'		05:49	06:06	17m	1h 14m	1.5" Good?				6.37	F0II							G
18		61989	7h 40.0	-33° 24'		06:19	07:03	44m	21m	1.5" Good.				7.32	MF							G
20		73301	8h 35.9	-38° 25'		07:10	07:48	38m	30m	1.5" Good?				7.23	MF							Some cloud at end of G exposure.
22		68752	8h 12.7	-15° 45'		07:56	08:16	20m	21m	1.5" cirrus				4.99	G5II							SD
24		65228	7h 56.3	-22° 51'		08:23	08:26	3m	47m	1.5" Good				4.20	F7II							G
26		62623	7h 43.3	-28° 55'		08:32	08:33	72s	1h 7m	1.5" Good				3.96	A2Ib.							G

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	NUMBER	OBJECT	R.A.	DEC.	DATE U.T.	U.T. EXP. BEGIN	U.T. EXP. END	TOTAL / CORR.	H.A. END	SEE. / TRANS.	CAM. FOCUS	SLIT	GRATING / TILT	MAG.	SP.	COMP KIND	COMP EXP.	CALIB.	EMUL.	DEV	OBS	REMARKS
6	3153	HD 1835	0h 22.1	-12° 17'	6/7 Dec	00:39	00:59	20m /	56m	1.5" / Good	3.01	50μ/1.2	67/5.4	6.39	G2V	NeA	12s	1 min 22V	IIa-0	M-S	Grg	G
8		11592	1h 53.3	10° 33'	1986	01:06	01:35	29m /	2m	1.5" / Good				6.77	MF				baked 64°C			G
10		19445	3h 7.6	26° 17'		01:54	03:36	102m /	49m	1.5-3.4" / Good		50μ/8		8.05	EF				90 min forming gas			G
12		26519	4h 10.1	-25° 28'		04:32	05:27	55m /	1h 38m	2" / Good		50μ/8		7.86	MF						G	Some episodes of very poor seeing.
14		49301	6h 45.8	-30° 44'		05:38	06:41	63m /	15m	1-1.5" / Good		"		8.11	EF						U	appears a magnitude too faint. Have checked
16		61383	7h 38.2	-5° 26'		06:51	07:39	46m /	22m	1-1.5" / Good		50μ/1.2		7.59	MF						G	Eric's comments, SAO cards + star charts. Correct star.
18		74395	8h 43.6	-7° 11'		07:44	07:48	4.5m /	34m	1-1.5" / Good		"		4.62	G1 V6						G	
20		90772	10h 26.9	-57° 34'		07:58	08:01	3m /	2h 6m	1.5" / Good		"		4.66	ASIa						G	
22		91324A	10h 30.9	-53° 39'		08:08	08:12	4m /	1h 57m	1.5" / Good		"		4.90	MF						G	
24		89353	10h 17.5	-28° 56'		08:19	08:24	4.5m /	1h 32m	1.5" / Good				5.34	A0 λB9						SU	
26		96314	11h 5.3	-27° 13'		08:31	08:36	5m /	2h 7m	1.5" / Good				5.71	A0 λB9						G	
6	3154	HD 4294	0h 43.9	-62° 31'	7/8 Dec	00:29	00:41	12m /	21m	1.5" / Good		50μ/1.2		6.07	F5III-IV					Grg	G	close visual dbl. Fainter secondary near slit
8		5156	0h 52.5	-24° 51'	1986	00:46	01:00	14m /	31m	1-1.5" / Good		"		6.46	F8 IV-V						G	visual dbl.
10		6268	1h 2.7	-27° 57'		01:05	02:45	100m /	2h 6m	1-1.5" / Good		50μ/8		8.12	F/G						SU	
12		22255	3h 34.5	5° 40'		02:58	03:47	49m /	37m	1-1.5" / Good		50μ/1.2		7.48	MF						G	
14		31128	4h 51.6	-27° 5'		04:40	06:45	129m /	2h 18m	1-1.5" / Good		50μ/8		9.0	F3/5V						G	
16		63107	7h 46.8	9° 40'		06:55	07:33	38m /	10m	1-1.5" / Good		50μ/1.2		7.09	MF						G	
18		66573	8h 3.8	9° 18'		07:40	08:22	42m /	43m	1-1.5" / Good		"		7.26	MF						G	
20		63700	7h 48.7	-24° 50'		08:27	08:29	2m /	66m	1.5" / Good		"		3.39	G3V6						G	
22		59890	7h 30.2	-30° 56'		08:34	08:40	6m /	1h 34m	1.5" / Good		"		4.65	G3V6						G	
6	3155	HD 4398	0h 45.5	-22° 36'	8/9 Dec	00:29	00:47	18m /	29m	2-3" / Good		50μ/1.2		5.50	G3V					Grg	G	
8		7259	1h 11.8	-30° 52'		00:53	01:15	22m /	31m	1.5-2.4" / Good				6.52	F7V						G	Episodes of very poor seeing.
10		13765	2h 13.0	-24° 51'		01:35	03:05	90m /	1h 20m	1.5-3.5" / Good				7.93	EF						G	Lousy seeing!
12		26015	4h 6.9	15° 8'		03:57	04:10	13m /	31m	2-3" / Good				6.01	F3V						G	Snowball seeing!
14		27397	4h 19.2	14° 0'		04:17	04:29	12m /	38m	2-3" / Good				5.59	F0V						G	
16		27524	4 26.7	21° 0'		04:36	05:06	30m /	1h 14m	1.5" / Good				6.80	F5V						SU	
18		38451	5 46.0	21° 11'		05:24	07:00	96m /	1h 43m	1.5"-2" / Good		50μ/8		8.9	A3						OA	Brian Warner's star
20		68284	8h 11.1	4° 19'		07:09	08:19	70m /	36m	1-2" / Good				7.77	EF						G	

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22	3155	54605	7h 7.9	-26°22′		08:26	08:26	18s	1h 48m	1.5″ / Good	3.01	50μ/1.2	1.84	F8Ia		NeA	12s	22V 1sec	IIa-O	M-S	Gry	G
24	(cont)	78791	9h 5.1	-72°33′		08:34	08:37	3.5m	1m	1.5″ / Good			4.48	F9II					baked			G
6,8	3156	HR 1412	4h 27.9	15° 50′	~~10/11~~ 9/10 Dec 1986	04:27	04:31	2m, 1.5m	36m	2-3″ / Good?	3.01	50μ/1.2	3.42	A7III		NeA	20s	22V 2sec	unbaked IIa-O	M-S	Gry	SO, ok
10		HR 1666	5h 07.2	-5° 6′		04:42	04:43	1m	7m	2″ / Good?			2.79	A3III								SO(ok)
12		HD 34658	5h 18.5	2° 35′		04:55	05:05	10m	19m	1-2″ / Good			5.34	F5II								G
14		HD 44447	6h 15.3	-71° 42′		05:29	06:12	43m	29m	1-1.5″ / Good?			6.61	MF								SU
16		58526	7h 25.2	-5° 46′		06:31	07:09	38m	16m	1.5″ / Cirrus			5.97	G3Ib								lightning in the Andes. G
18		59438A	7h 28.8	-14°58′		07:16	07:36	20m	40m	1-1.5″ / Good?			6.04	MF								G Close double. Spectrum of "A"
20		61715	7h 37.9	-48°34′		07:43	08:01	18m	56m	1.5″ / Good			5.68	F4Iab								G
6	3157	HD 6706	1h 7.1	-9° 51	10/11 Dec 1986	00:41	00:54	13m	22m	2″ / Cirrus	3.01	50μ/1.2	~~5.82~~	~~F7IV~~ 5.82	F7IV	NeA	12s	22V 1sec	baked IIa-O	M-S	Gry	G
8		5616	0h 57.1	-15° 51′		00:59	01:59	60m	1hr 37m	1.5-2″ / Good?				7.61	FBS							G
10		16784	2h 40.1	-30°11′		02:14	03:25	62m / 9m	1hr 21m	1.5-2″ / Cirrus		50μ/.8		8.02	MF							G interrupted by cirrus 2:54. Resume 2:59, I:3:09 R:3:11 I:3:19 R:3:21
12		37472	5h 37.1	-26° 44′		04:39	05:21	42m	20m	1.5″ / Some cirrus		50μ/1.2		7.52	FBS							G Some cirrus.
14		48170	6h 38.2	-58° 20′		05:34	07:14	100m	1h 13m	1-1.5″ / Some cirrus		"		8.23	EF							G
16		78558	9h 7.8	-15° 5′		07:31	08:18	47m	14m	1-1.5″ / Good?		"		7.30	MF							G
18		67594	8h 7.9	-2° 57′		08:25	08:30	5m	1hr	1-1.5″ / Good?		"		4.34	G2Ib							G
6	3158	HD 8350	1h 21.9	-19° 9′	11/12 Dec 1986	00:40	00:55	15m	13m	1.5″ / Good	"	"	67/9.4 ~~4.5~~	6.35	F5	"	"	"	"	"	Gry	G visual double. Fainter secondary near slit.
8		12901	2h 5.3	-10° 20′		01:08	01:30	22m	4m	1.5-2″ / Good	"	"	"	6.75	FBS							G
10		17865	2h 50.2	-44° 8′		01:38	03:18	100m	1hr 8m	1-1.5″ / Good				8.17	MF							G
12		30257	4h 45.2	-2° 56′		04:05	04:44	39m	39m	1.5-2″+ / Good				7.26	FBS							G
14		39403	5h 51.4	-9° 49′		04:52	05:42	50m	31m	1.5-3″ / Good				7.39	FBS							G
16		67262	8h 5.5	-28° 12′		05:57	07:02	65m	23m	1.5-3+″ / Good.				7.74	FBS							G
18		67780	8h 7.7	-36° 23′		07:11	07:58	47m	30m	1-1.5″ / Good				7.75	FBS							G

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	3159	HD27524	4h20.7	21° 6'	12/13 Dec 1986	03:47	04:34	47m	58m	1.5-3+ Good	3.01	50μ/1.2	67/5.4	6.80	FSV	NeA	12s	1min 22V	IIa-O baked	M-S	Grey	G
5		32065	4h56.9	-58° 5'		04:43	05:08	27m	56m	1.5+ Good				6.82	MF							G
6		33562	5h8.7	-42° 2'		05:16	05:55	39m	1h31m	1-1.5+ Good				7.57	FBS							G
7		51929	6h55.6	-56° 56'		06:04	06:50	46m	38m	1-1.5+ Good				7.90	EF							Bad sky guide! G
9	4	70298	8h20.6	1° 6'		07:08	07:55	47m	20m	1.5-3+ Good				7.24	MF							G
10		75001	8h35.7	-82° 31'		08:09	08:32	23m	42m	1.5+ Good		50μ/1.8		6.84	δ Del							G
15		85124	9h46.8	-65° 11		08:39	08:39	30s (10 passes with wide paddle	22m	1.5+ Good		50μ/1.2		2.96	A8Zb							U
3m																						
1	3160	HD7476	1h14.1	-10 3'	13/14 Dec 1986	00:29	00:37	8m	10m	1.5+ Good	"	"	"	5.70	FSV	"	"	"	"	"	Grey	G
5		10647	1h42.0	-53° 48'		00:43	00:51	8m	4m	1.5+ Good				5.52	F8V							G
6		8302	1h21.7	5° 11'		00:58	01:34	36m	1hr	1-1.5+ Good				7.47	FBS							G
12		12414	2h1.2	7°48'		01:40	02:09	29m	55m	1-1.5+ Good				7.06	MF							G
14		18031	2h52.9	-7° 48'		02:20	02:52	32m	47m	1-1.5+ Good				7.21	FBS							G
16		27305	4h14.3	-65° 0'		03:57	04:54	57m	1h27m	1-1.5+ Good		50μ/1.8		8.08	FGwF3							G
18		34086	5h13.8	-10° 26'		05:13	05:48	35m	1h23m	1-1.5+ Good.				7.43	FBS							G
20		40616	5h59.5	4° 50'		05:54	06:51	57m	1h40m	1-1.5+ Good.				7.46	MF							G
22		67249	8h14.3	-30° 33'		07:12	07:43	31m	27m	1.5+ Good				5.95	G5II							G
4		76300	8h53.5	-35°36'		07:47	08:17	30m	12m	1.5+ Good		50μ/1.8		7.40	MF							G
26		85124	9h46.8	-65° 1'		08:24	08:24	36 passes with wide paddle	34m	1.5+ Good		50μ/1.8		2.96	A8Zb							G
28		85124	"	"		08:30	08:30	24 passes with wide paddle	28m	1.5+ Good		50μ/1.2		"	"							SU
1m																						
1	3161	HD9562	1h33.0	-7° 5'	14/15 Dec 1986	00:30	00:42	12m	0m	1.5+ Good	"	"	"	5.76	G2IV							
5		13227	2h8.7	5° 55'		00:54	01:25	31m	8m	1.5-3+ Good				6.98	FBS							
10		17576AB	2h47.6	-37° 2'		01:35	02:50	75m	54m	1.5+ Good				7.84	EF							
12		24424	3h52.3	-4° 25'		03:38	04:25	47m	1h25m	1.5+ Good.				7.51	EF							
14		38767AB	5h47.5	3° 54'		04:32	05:25	53m	30m	1.5+ Good.				7.60	MF							
16		51449AB	6h56.8	2° 54'		05:43	06:21	38m	17m	1.5+ Good.				7.49	FBS							
18		77354	9h1.3	-1° 41'		06:30	07:45	79m	24m	1.5+ Good		50μ/1.8		7.94	EG							

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3162	HD 688	00 10.3	−03 25	15/16	0112	0152	40m/50	1h37m W	1"/clear	3.01	60μ/1.2	67/54	7.8	K0	NeA	20s	14V	baked	Microdol	JJ	joy stick not working
	HR 506(2)	01 42.1	−53 46	DEC 1986	0213	0222	4+8/8	136W	1.5/clear				6.05	F9			14mm	IIa-O 65°C	sulfite		HD 10647
	HR 602	02 01.2	−44 43		0226	0250	24/18	143W					6.6	K5			B	1½ hr.	67°F 13m		χ Phe
	HR 995	03 19.0	+27 04		0253	0314	21/30	50m W					6.7	G6			filter	N2N stored			59 Ari
	HD 20619	03 18.1	−02 51		0326	0400	34/40	1h37m W	1"				7.8	G1.5				in N2			
	HR 1007	03 20.3	+03 41		0403	0422	19/14	1h58m W	1.5				6.7	G9						(17 Cet)	HD 20791 15°C 40% calm
	HR 1085	03 33.3	+17 48		0428	0454	26/35	220W	1.5				7.1	K1							HD 22072
	γ Tau	04 18.9	+15 37		0458	0501	3m/2	137W	1.5				4.65	0.99 K0							
	δ Tau	04 22.0	+17 32		0503.5	0506.5	3m/4	140W	1.5				4.74	0.98 K0							
	π Tau	04 25.8	+14 43		0509	0516	7/4.5	145W	"				5.7	" G7							HR 1396
	ε Tau	04 27.8	+19 10		0520	0524	4+/7	151W	2"				4.6	K0							
	o¹ Tau	04 27.8	+15 57		0530.5	0535	4m/18	203W	2"				4.8	G9							
3163	53 Eri	false start – wrong star												K2III							
	HR 1487	04 38.7	−14 18		0602	0626	24/18	243W	1.5/clear	"	"	"	6.5	K1 IV	"	"	"	"	"	"	
	HD 26575	04 10.3	−35 15		0631	0710	39/4	354W					7.9	K1 III							
	HR 3003	07 45.2	+18 32		0715	0727	12m/18m	37m W					6.3	K4							81 Gem
	HR 3095	07 56.2	+15 49		0729	0757	22m/30	50m W					7.1	K3							ι Cnc
	HR 3319	08 26.0	+12 44		0754	0820	26/35	50m W	"				7.1	M3							27 Cnc
	HR 3627	09 08.5	+22 05		0823	0831	8m/12	18m W					6.1	G9							ξ Cnc
	HR 3779	09 31.0	+09 49		0834	0847	13/18	13m W					6.5	K2.5							6 Leo
	HR 3212	08 10.8	−07 43		0849	0858	8m/10	1h45m W	.				6.3	G6 III							HD 68312
3164	HD 1879	00 22.2	−15 58	16/17	0036	0130	54m/+90	2h8m W	1"/clear	"	"	"	8.0	M2 III	"	"	"	"	"	"	40% 16°C calm
	η Tau	03 46.4	+24 03	Dec 1986	0140	0141	45s=2T/40	1h6m E	2"				2.75	B7 III sh							
	27 Tau	03 48.2	+24 00		0144	0145	45s/2T 60	1h3m E					3.54	B8 III std.							
	28 Tau(2)	03 48.3	+24 04		0148	0151	160+140/180	56m E					5.0	B8p shell							
	HZ 891	03 48.4	+24 20		0157	0224	27m/35	24m E					7.5	A2 V							NW of 910
	HZ 910	03 48.2	+24 20		0224	0235	11m/16	15m E					6.6	B9.5 V							SE of 891
	HZ 996	03 49.0	+24 19		0236	0304	28m/35	15m W					7.6	A2 V							
	HZ 742	03 47.7	+24 18		0304	0323	19m/30	34m W					7.06	A1 V							
	HR 1183	03 48.8	+23 41		0326	0333	7m/10	44m W					6.1	B9 V							

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3164	Pleiades HZ 1129	03 49.9	+23 54	16/17	0338	0400	22m / 30	1h13m W	1.5"/clear	3.01	50μ/1.2	67/5.4	7.01	A2V	NeA	20s	14m	IIa-0	M-S	[illegible]	
	HR1172	03 47.3	+23 22	Dec	0401	0405	4m / ✓	1h17W					5.3	B8V			14V	baked			
	HR1830	05 28.5	−03 27	1986	0408	0429	21m / ✓	0					6.9	K1-III				65°C			
3165	γ Tau	04 18.9	+15 36		0440	0452	1½,3,6 / ✓	1 32 W	1.5"/clear				4.65	K0III				1½hrs.			
	δ Tau	04 22.1	+17 31		0454	0506	" / ✓	1 44 W.					4.74	K0III				H_2N_2			
	ε Tau	04 27.8	+19 09		0508	0520	/ ✓	1 52 W.					4.61	K0III							
	θ¹ Tau	04 27.7	+15 56		0522	0537	2,4,8 / ✓	2 10 W.					4.81	G9III							
3166	HDE294271	05 37.8	−02 28	"	0604	0635	31m / 40	1h57W	1"/clear	"	"	"	7.8	B	"	"	"	"	"	"	
	HD37479	05 38.1	−02 31		0638	0647	8+ / 10	1 59 W.					6.5	B							
	HD37525	05 38.4	−02 34		0650	0726	36m / 50	2 48 W.					8.0	B							
	HD73598	08 38.9	+19 39		0735	0804	29m / 40	23m W.	1"/clear				7.55	K0III							Praesepe KW212
	HR3428	08 39.5	+19 46		0805	0834	29 / 40	54m W.					7.46	K0III							KW 283
	39 CNC	08 39.2	+20 07		0835	0900	23m / 35	1h19m W					7.37	K0III							KW 253
3167	HD688	00 10.4	−03 23	17/18	0057	0157	60m / ✓	2 50 W.	1.5"/clear	"	"	"	7.8	K0-III	"	"	18V	"	"	"	(16°C 50% calm)
	AR995	03 18.9	+27 03	Dec 86	0202	0232	30m / ✓	16m W	"				6.8	G6IV			14m				59 Ari
	HD 20619	03 18.3	−02 54		0234	0318	44m / ✓	1h3m W					7.7	G1.5V							
	HR 1085	03 33.1	+17 45		0327	0407	40m / ✓	1h38m W					7.06	K1							
	HR1487	04 38.7	−14 21		0412	0433	18m / ✓	58m W.					6.5	K1							
	HR1685	05 10.2	−02 17		0436	0507	30m / ✓	1h1m W					7.2	K1							
	HR1697	05 12.0	−06 05		0509	0543	34m / ✓	1 35 W.	2"/~~clear~~ cirrus				6.86	G7							
	HR1963	05 41.5	+01 28		0547	0607	20m / ✓	1h28m W.	2"/cirrus.				6.06	K1 III							59 Ori
	HR2267	06 18.1	−09 23		0613	0643	30m / ✓	1 28 W.					6.6	K1.5III							
	HR2508	06 46.8	−08 59		0647	0738	50m / ✓	1 55 W.					6.86	M1+Ib-IIa							
	HD57682	07 21.3	−08 57		0741	0757	16m / 12	1 40 W.					6.25	O9V							
	HR3741	09 25.5	−01 28		0804	0838	34m / 50	15m W.					7.3	K2IIIb	Too much cirrus; terminated						
3168	HR 341	01 09.5	+25 24	18/19	00 39	0155	75 / +100	1h53m W.	1.5"/clear, but not photometric	"	"	"	7.4	K7III	"	"	16V 14m	"	"	"	
	HD879	00 22.3	−15 56	Dec 1986	0158	0328	90m / +120	4 14 W					8.0	M2IIIb.							
	HD28034	04 25.3	+15 31		0336	0435	59m / 75	1 17 W.					8.0	F8V							vB59 Hyades
	HD27406	04 19.3	+19 17		0438	0552	74m / 90	2 40 W.					8.0	G0V							vB31 "
	HDE294271	05 37.8	−02 29		0554	0639	45m / ✓	2 10 W					7.8	B							

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(cont) 3168	37479	0538.0	−0236	18/19	0652	0708	16m ✓	239W.	1.5-2 / hazy	3.01	50μ/1.2	67/5.4	6.5	B	NeA	20s	16V	IIa-O	M-S	[illegible]	
	31274	0451.8	−4651	Dec 1986	0713	0841	88m / 160	458W					8.1	G9			14m	baked	15 min		
3169	HD1364	0017.0	+2012	20/21	0035	0209	94m ✓	3h6mW	1-1.5 / clear	3.30	50μ/1.2	120/7.0	8.8	M1.5	"	"	"	H_2N_2 1½ hr.	67°F "	[illegible]	
	33 Psc	0004.6	−0543	Dec 86	0210	216	6m ✓	327W.					5.6	K0				65°C			HR3
	HR46	0013.7	−0758		0218	0246	28m ✓	348W.	1.5-2 / clouds.				6.8	M3+							=HD1014.
	HR1464	0434.9	−3034		0250	0253	3m ✓		2"/cloud about				4.8	G8							$=\upsilon^2$ ERI
	HR1481	0437.4	−1415		0255	0259	4m / 3.5	22mE					4.9	K2							53 Eri
F (?)	HR1487	0438.6	−1418		0319	0348	28m (=14) / 24	24mW	2" / thru & between clouds.				6.5	K1							58 Eri
π^3 Ori (?)	HR1532	0447.0	−1653		0352	0403	10m+ / 8	31mW	" / "	"			6.1	G2.5V	— F6V π^3 Ori						
	π^4 Ori	0449.0	+0702		0406	0408	1m (?) / 30s	35mW.	" / "				3.5	B2III							HR1543
	π^2 (π^6) Ori	0457.8	+0145		0420	0440	20m / 15	57mW	" / "				5.85	K2 II							HR1601
	HR1697	0512.0	−0603		0443	0518	35 / 30	1h21mW	" / "				6.86	G7 III							
	HR1698	0512.4	+0254		0521	0528	6m ✓	131W.	" / "				5.64	K0.5 III							ρ Ori
	HR1830	0528.5	−0330		0530	0553	22m ✓	138W	" / "				6.9	K1							
3170	δ Ori A	0531.0	−0021	"	0616	0617	8s / 20s	201W	" / clearing "	"	"		2.0	O9.5 II	"	"	"	"	"	"	
	B	0531.4	−0021		0619	0629	9m ✓	213W	1.5 / clear				6.7	B2 V							
	υ Ori (3)	0534.1	−0721		0631	0637	40,80,160s ✓	222W					4.4	B0 V.							HR1855.
	HD52266	0659.6	−0552		0642	0703	20m ✓	118W.	1.5 / clear				7.2	O9 V.							
	HR2764 (A)	0715.9	−2317		0708	0738	29m / 15	138W.					6.6	K3 Ib							
	" B	0716.1	−2318		0740	0750	10m ✓	1h50mW	2" / clear				6.5	FQ							
	τ CMa	0718.1	−2455		0753	0754	80s / 60s	152mW					4.25	O9 Ib							HR2782
	HD57682	0721.4	−0857		0757	0805	8m / 10m	2hW.	"				6.25	O9 V							
	ζ Mon	0807.8	−0257		0809	0813	4m ✓	1h20mW					5.3	G2 Ib							
	19 Pup	0810.5	−1251		0815	0820	5m ✓	127W					5.66	G9 III							=HR3211
	HR3212	0810.8	−0744		0825	0834	8m ✓	140W.					6.3	G6 III							
3171	η And	0056.2	+2320	21/22	0042	0045	3m ✓	1h7mW.	1.5 / clear	"	"	"	5.3	G8 IIIb	"	"	"	"	"	"	HR271
(3)	ψ^3 Psc (3)	0108.8	+1935	Dec 1986	0049	0409	3,5,9 / 9m ✓	1h20mW.					6.2	G0 III							HR339
	χ Psc	0110.5	+2056		0133	0142	8m ✓	150W.	2" / clear				5.7	G8.5 III							HR351
(3)	β Ari	0153.7	+2044		0145	0148	20,40,80 / 20 ✓	113W.					3.8	A5 V.							HR553
(3)	α Ari	0206.2	+2323		0152	0155	20,40,80 ✓	108W	2-3" / clear				3.15	K2 III							

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~~(cont)~~ 3171	HD688 ~~00 10.3~~	00 10.3 ~~-03 23~~	-03 23	21/22	0204	0254	50 / ✓	~~4h 03m W~~	1.5-2 / clear	3.30	50μ / 1.2	120 / 7.0	7.8	K0III	NeA	10s	16V	IIaO	Metol	[illegible]	
	10 Tau	03 36.1	+00 22	Dec 1986	0259	0302	100s / ✓						4.9	F9			14m B	baked 1" H2F2 65°C	Sulfite 15m 67°F		=HR1101
	46 Tau	04 12.8	+07 43		0308	0312	3.5 / 4m	19m W.	1.5"/clear				5.7	F3							=HR 1309
3172	HD27808	04 23.3	+21 41	"	0331	0357	20m / 30	47m W.	1"/clear				7.66	F8V.							Hyades vB48.
	HD27383	04 18.9	+16 29		0355	0415	20m / ✓	1 15W.	1"/clear				7.44	F9V.							" vB29.
	HD27836	04 23.2	+14 44		0419	0440	20m / 40	1 36W	1"/cirrus				8.22	G1V							" vB50
	HD28099	04 25.7	+16 43		~~0445~~ 0405.	~~0555~~ 0455.	60m off / 120	2 47W.	2"/cirrus				8.76	G2V.							" vB64
	γ Tau	04 18.7	+15 35		0557	0559	2m / ✓	3h W	2"/cirrus (light)				4.65	K0							
	δ Tau	04 22.1	+17 30		0603	0605	2+m / ✓	3h 3m W	"				4.74	K0							
	ε Tau	04 27.5	+19 08		0608	0611	2m / ✓	3 3W	"				4.56	K0							
	θ¹ Tau	04 27.7	+15 54		0613	0616	2+m /	3 08W.	"				4.8	K0							
	π Tau	04 25.8	+14 40		0619	0423	4m / 5m	3h 16m W	"				5.67	G7							
	α Tau	04 35.0	+16 26		0626	0626	20s / ✓	3 10W.	"				2.4	K5III							
	HD52938	07 02.1	-08 28		0632	0802	90m / 120m	2 20W.	1-1.5"/clear.				9.0	K3.5IIIb.							
	ξ Cnc	09 08.4	+22 03		0806	0812	6m / 8	24m W.	1.5-2/clear				6.11	G9							AR 3627
	HR3741	09 25.5	-01 27		0815	0832	17m / 20	26m W	1.5"/clear				7.33	K2IIIb.							
	HR3779	09 31.1	+09 38		0838	0848	9m / ✓	37m W					6.45	K2.5							
3173	(3) γ Tau	04 18.6	+15 38	22/23	0335	0343	1,2,4m / ✓	47m W	2"/clear	"	"	"	4.65	K0	"	"	"	"	"	"	Cloudy til midnight
	(3) δ Tau	04 21.9	+17 33	Dec 1986	0347	0354	1,2,4m / ✓	55m W.	"				4.74	K0							
	(3) ε Tau	04 27.6	+19 12		0357	0405	1,2,4 / ✓		2" clear ~~cirrus~~				4.56	K0							
	(3) θ¹ Tau	04 27.3	+15 59		0407	0508	1m,3,5 / ✓	2h 5m W.	2"/cirrus, interrupted by ~~terminated by~~				4.8	G9.							
3174	HR2156	06 05.1	-24 09	"	0531	0624	53m / ✓	1 42W	1.5"/terminated by cirrus				8.6	M6III	"	"	"	"	"	"	S Lep.
	ζ Pup	08 03.3	-39 52		0652	0652	3s / 10s	13m W					1.99	O5f.							
	β Cnc	08 15.5	+09 19		0657	0700	2.5m / ✓ +2m	8m W					5.0	K4III							
	HR3314	08 24.7	-03 51		0707	0708	40s / 30						3.9	A0V.							
	HD73598	08 38.9	+19 35		0713	0729	16m / 24	15m W.					7.55	K0							Praesepe KW212
	HR3428	08 39.5	+19 42		0733	0755	21m / 30	40m W.					7.46	K0.							KW283
	HD73665				0757	0817	20m / 30						7.37	K0						=39 Cnc	KW253
	HD73974	08 40.8	+19 55.		0820	0843	23m / 35	1h 26m W.					7.86	K0.							KW428.
	HR3461	08 43.5	+18 12		0845	0848	2m / ✓	1h 27m W					5.0	K0.							

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3175	HR341 (2)	01 09.4	+25 24	23/24	0111	0141	20,10 +40	1h 56m W	1"/cirrus	3.30	50µ/11.2	120/7	7.4	K7	NeA	10s	16V	IIa O	M5	JJ	
	τ Psc	01 10.8	+30 04	Dec 86	0143	0148	5m 8	2 04W					5.6	K0,5.			14m B	baked 1½ hr. N_2H_2 65°K	67°F 15min		HR 352
(3)	α Tri	01 52.1	+29 33		0152	0155	20,40,60s	1h 30m W	1.5"/clear				3.9	F6 IV							
(2)	β Ari	01 53.6	+20 45		0200	0202	10s 20s 12s	1 36 W	1.5-2"/clear				3.8	A5 V							
(2)	α Ari	02 06.1	+23 24		0208	0210	10,20	1 30 W.	1.5-2"/clear				3.15	K2 III							
	ι Cet	00 18.6	−08 52		0214	0216	2m	3 25 W.	2"/clear				4.8	K1.5							HR 74.
(2)	β Cet	00 42.7	−18 00		0224	0225	10s 20s	3 09W	"				3.06	K0							
	η Cet	01 07.9	−10 09		0230	0232	45s						4.6	K1.5							
3176	HD27808	04 23.3	+21 39	"	0250	0318	28m	22m W	1"/clear				7.66	F8 V							vB 48.
	HD28034	04 25.3	+15 27		0324	0346	20m 30	48m W.	" "				8.03	F8 V							vB 59
	HD27406	04 19.3	+19 09		0349	0412	23m 35	1 20W.	" "				8.04	G0V							vB 31
	HD27836	04 23.3	+14 42		0415	0450	35m 45	1 56W	2"/clear				8.22	G1V							vB 50
	HD28635	04 30.7	+13 51		0456	0537	41m 60	2 35W					8.32	F9V.							vB 88
	HDE294277	05 37.9	−02 37		0542	0602	20m 30	1 52W.	2"/clear				7.8	B							
	HD37479	05 38.4	−02 38		0605	0612	6m 10	2 03W	2-3"/clear				6.55	B							σ Ori E
	HD37525	05 38.4	−02 42		0615	0659	44m 60	2 49W.	3-5"/clear				8	B							
	ζ Pup	08 03.0	−39 38		0726	0727	10s	52m W	5"/clear				2	O5							terrible seeing!
	β Cnc	08 15.7	+09 13		0732	0737	5m	48m W	5"				5.0	K4.							
(3)	HR 3314	08 25.0	−03 55		0740	0742	20,40,60s		3"/clear				3.9	A0 V							
3177	η Hya (3)	08 42.5	+03 26	"	0756	0757	20,40,80	46m W	2"/clear				4.1	B3 V							
(3)	η Leo	10 06.6	+16 55		0808	0812	" " "	26m E	3"/clear				4.0	A0 IV,							
	ι CMa	06 55.4	−17 01		0818	0819	40s	2h 52m W	3"/clear				4.38	B3 II							
(3)	σ² CMa	07 02.2	−23 50		0824	0825	5,10,20s	2h 50 W.	2"/clear				2.9	B3 Ia							
	δ CMa	07 03.0	−15 36		0830	0831	40s						4.0	B2 II							
	τ CMa	07 18.0	−24 57		0834	0835	40s 50s	2 45W	2"/clear				4.25	O9 I $_2$							
	HD57682	07 21.2	−08 58		0839	0847	8m	2 54W.	1.5"/clear				6.24	O9V							
	η CMa	07 23.5	−29 18		0852	0853	10s	2 57W	2"/clear				2.4	B5 Ia							
3178	HD28034	04 25.4	+15 30	24/25	0318	0346	28m	52m W.	1"/clear	3.30	50µ/11.2	120/A90	8.0	F8 V	NeA	10s	16V 14m	"	"	JJ	
	HD28635	04 30.7	+13 53	Dec 86	0349	0427	33m	1 27W	1"/clear				8.3	F9 V			B				
	σ Ori AB	05 38.0	−02 29		0432	0433	5s 20	27m W	"				2.75	B0.5 V							

Merry Christmas!

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Chin office 1½ ft
chain var 2-2½'

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3178	σ Ori E	0538.0	−02 36	24/25	0440	0444	4m / 13 ✓	38m W	1"/clear	3.30	50μ/1.2	120/7.0	6.55	Bp.	NeA	10s	16 ✓	IIa-0	M-S	[illegible]	HD = 37479.
	HD37633	0539.2	−02 40	Dec	0450	0553	63m / 32 ✓	1 45W	"				9.07	A0p.			14m	baked	15m		
	HD37806	0540.4	−02 42	86	0557	0617	20m / 14 ✓	208W.	1"/clear				7.9	A0p.			B	N_2H_2	67°F		
	HD37904	0541.0	−02 53		0620	0626	5m / 2 ✓	216W.	"				6.3	Ap?				1½hrs 65c			
	HD37744	0539.9	−02 48		0627	0631	4m / 3m	222W	"				6.0	B1.5V							
	HD37699	0539.7	−02 26		0633	0647	14m / ✓	238W	"				7.5	B4V.							
	KW114	0837.8	+20 01		0710	0743	33 / 18 ✓	36m W	1"/clear				8.35	F0							HD73345
	KW340	0840.1	+20 18		0747	0836	49m / 32 ✓	1h28m W	"				8.74	F0							HD73798.
	σ CMa	0701.2	−27 54		0841	0843	3m / ✓42s	315W.					5.2	K7Ib							HR2646
	145 CMa	0716.0	−23 16		0849	0855	6m / ✓	310W.					6.6	K3Ib.							
	HR2874	0729.3	−23 00		0857	0858	60s / 40s ✓	3h W					4.85	A5Ib							
3179	HR341	01 09.4	+25 25	25/26	0043	0113	30m / ✓	138W	1".5-2"/clear	"	"	"	7.4	K7III	"	"	"	"	"	"	
	HD16139	0235.5	+27 27	Dec	0146	0215	59m / 120m	115W.					9.0	G8+IIIa							
	35 Ari	0242.4	+27 41	1986	0218	0224	40,80,160s / 70						4.6	B3V							HR 801
	39 Ari	0246.8	+29 12		0230	0234	2m / 4m	117W.					5.6	K1.5III							HR824
	HR879	0022.4	−15 59		0239	0256	17m / 35m	408W.					8	M2IIIb	aborted - too far west - insufficient.						
	HD27406	0419.4	+19 09		0258	0327	28m / 14 ✓	43m W.	1".5-1"/clear				8.04	G0V							VB31,
	HD27836	0423.4	+14 41		0330	0404	34m / ✓	116W.	1".5-1"/clear				8.22	G1V							VB 50
	σ Ori AB	0538.1	−02 38		0409	0410	20s / ✓	7m W	"				3:	O9.5V.							
	σ Ori D	0538.2	−02 38.		0425	0430	4m / 6m	29m W.					6.4	B							trailed in Dec.
	294272E	0537.9	−02 36		0445	0535	28m / ✓						8.5:	A0?							Eastern of pair
	" W	"	" .		0536	0616	40m / ✓	214W.					8.5:	A0?							Western of pair
	σ Ori C	0538.1	−02 37		0621	0715	54m / ✓	312W.					8.8	A2							
3180	HD73746	0839.8	+19 13	"	0728	0828	60m / ✓	123W	1"/clear	"	"	"	8.94	F0	"	"	"	"	"	"	KW318
	HD73711	0839.4	+19 34		0830	0846	15m / 20	141W.	1".8/clear				7.4	A0.							KW276
	HD73731	0839.5	+19 34		0846	0853	6m / ✓	150W.					6.4	A0							KW300
3181	HR 879	0022.4	−15 57	26/27	0048	0118	30m / ✓	234W	1".5/clear				8.0	M2III							
	HR224	0048.0	+07 35	Dec	0120	0125	5½ / ✓	215W.					5.9	K4III							δ Psc
	39 Ari	0247.0	+29 14	86	0129	0133	4+ / 6	25m W.					5.6	K1.5III							HR824
	θ Cet				0137	0138	80s / ✓	154W					4.67	K0III							HR402

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(Cont)																					
3181	46 Cet.	01 25.1	-14 36	26/27	0141	0146	5m 6m	2m W	1.5"/clear	3.30	50/1.2	120/Ag	6.1	K2.5 III	NeA	10s	16V	IIaO	M-S		HR412
	β Phe	01 28.1	-43 20	Dec 86	0150	0153	140s 120s	2s 04W	"				5.0	M0 III			14m B	Ruled N_2H_2 1½ hrs 65°C	15m 67°F		HR429
	50 Cet	01 35.4	-15 24		0157	0208	11m 10m	2 13W.					6.8	K2 III							HR459 65% 15E Mod Sky
	HR489	01 40.8	+05 28		0212	0217	5m ✓	2 15W.	2-3"/clear				5.8	K3 III							ν Psc
	HR506	01 42.3	-53 48		0221	0224	3m	60s	1.5"/clear				6.0	F9 V							
	(2) τ Cet	01 43.5	-15 56		0228	0231	225s ✓	225W.	1.5-2"				4.22	G8 V							HR509
	(2) ο Psc	01 44.6	+09 09		0235	0241	2m ✓	235W.	2" clear				5.22	G8 III							HR510
	ζ Cet	01 50.7	-10 21		0245	0247	2m ✓	235W.	"				4.9	K0 III							HR539
3182	π Tau	04 25.8	+14 42	"	0302	0306	4m 3	18m W.		"	"	"	5.67	G7 III	"	"	"	"	"	"	
	HD26736	04 13.7	+23 32		0313	0413	60m 90	138W.	1.5"/clean				8.75	G3 V							vB15.
	HD28099	04 25.9	+16 44		0416	0519	63m 80	232W.	1.5"				8.7	G2 V							vB64.
	HD37479	05 38.0	-02 36		0525	0529	4m ✓	130W.	1.5"/clean				6.5	B2p.							
	HD37727	05 41.2	-02 47		0532	0604	32m ✓	2h 2W.	12"				8.36	B7 V							
	HD37333	05 37.0	-02 27		0607	0647	40m ✓	2 49W	1.5" clean				8.58	A1 V							
	HD73616	08 39.2	+20 11		0655	0754	59m 100	54mW	2" clean				9.2	F2							KW226
	HD73729	08 39.5	+20 13		0757	0832	35m 50	1h 31mW	1.5"/clean				8.5	F2n							KW292
	HD73618	08 39.0	+19 36		0835	0842	7m 20	1 44W.	1.5"/clean				6.9	A0:							KW224A (NW)
	HD73619	08 39.2	+19 36		0844	0855	10m 20	1 51W.	1.5"/clean				7.1	A0:							KW224B (SE)
3183	ζ' Ret	03 17.7	-62 35	27/28	0049	0052	3m ✓	45mE	1.5"/clear	"	"	"	6.17	G2.5V	"	"	"	"	"	118	HR1026
	ζ² Ret	03 18.4	-62 31	Dec 1986	0055	0058	2½m ✓	39mE	"				5.84	G1V							HR1010
	ζ¹ Cet	02 12.3	+08 49		0103	0105	1m40s ✓	35mW	"				5.25	G8							
	μ Cet	02 44.1	+10 05		0108	0109	40s ✓	8mW	"				4.56	F0 IV							HR813
	HR856	02 52.4	+16 25		0113	0118	5m 8	9mW.					6.8	F5 III							
	HR875	02 55.9	-03 47		0122	0124	805 ✓	10mW					5.1	A1 V							
	HD20619	03 18.3	-02 55		0128	0143	15m ✓	7mW	1"/clear				7.15	G1.5V:							
	k For	02 21.9	-23 52		0147	0150	140s ✓	1h 10W	"				5.8	G0 V							HR695
	k Cet	03 18.5	+03 19		0154	0156	2m ✓	20mW	"				5.5	G5 V							HR996
	o² Eri	04 14.6	-07 40		0203	0205	100s ✓	27m	"				5.25	K1 V							
	59 Ari	03 19.0	+27 03		0213	0224	10m ✓	47mW					6.8	G6 IV							HR995.
	18 Tau	03 44.3	+24 48		0227	0231	4m ✓	30mW.					5.6	B8 V							

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3183	27 Tau	03 48.3	+24 00	27/28	0234	0236	20s ✓	30m W.	1.5"/clear	3.30	50µ/1.2	120/7.0	3.6	B8III	NeA	10s	16V	baked IIaO N2H2 1½	M-S	[illegible]	
	28 Tau	03 48.3	+24 05	Dec 86	0240	0242	100s ✓	36m W					5.	B8p			14m B	65°C	15 min 67°F		
3184	HD26756	04 13.5	+14 37	"	0314	0444	90m ✓	2 13W.	"	"	"	"	9.16	G5V	"	"	"	"	"	"	vB17 Hyades
	π3 Ori	04 48.9	+07 00		0448	0449	20s ✓						3.65	F6V.							
	π4 Ori	04 50.7	+05 35		0455	0456	15s ✓						3.5	B2III							
	42 Ori	05 34.5	-04 54		0503	0504	40s ✓						4.4	B1V							
	σ Ori E	05 38.0	-02 39		0507.5	0512	4m ✓	1 17W.	1.5"/clear				6.5	B2p							HD37479
	HD37564	05 38.5	-02 35		0514	0622	68m / 50	2 27W	"				9.1:	A?							
	~~HD~~ +20° 2161	08 39.3	+19 59		0628	0738	70m / 90	42m W.					9.1 ~~8.83~~	F2							KW271
	HD73993	08 41.0	+20 09		0750	0850	60m / 70	1 53W.	1.5"/clear(?)				8.83	F2n							KW429
	α Cen A	14 38.9	-60 46		0854	0855	2s,4s,8s / 2s						0.9	G2V							
	α Cen B	"	"		0856	0859	6s,12s,24s / 8						2.6	K1V.							
3185	Vesta	00 41.4	-3 43	28/29	0057	0230	90m ✓	~~[illegible]~~ 3h 15m W	2-4"/clear	"	"	"	8.4	G2V	"	"	"	"	"	"	no other star in finder field
	(3) ε Eri	03 32.2	-09 34	Dec 86	0333	0346	1½,3,6m / 1½	1h W.	1.5-2"/clear				4.6	K2V							
	59 Ari	03 18.9	+29 59		0249	0308	18m ✓	1 35W.	1.5"/clear				6.8	G6IV							HR995
	HR856	02 52.4	+16 21		0310	0323	12m ✓	2 17W	"				6.8	F5III							
	π6 Ori	04 57.8	+01 40		0327	0331	4m ✓	19m W.					5.85	K2II							
	HD31966	04 59.8	+14 20		0333	0343	10m / 20	30m W.	1.5"/clear				7.3	G2IV-V							
	HR1697	05 12.2	-06 06		0346	0355	9m ✓	30m W	1"/clear				6.86	G7III							
	(3) γ Ori	05 24.2	+06 22		0359	0401	3,6,12s / 3	24m W					1.4	B2III							HR1790
	(2) β Lep	05 27.7	-20 47		0404	0406	20,40s / 30s	24m W					3.66	G5II							HR1829
3186	(3) δ Ori A	05 31.1	-00 20.	"	0420	0422	3,6,12s ✓			"	"	"	2.0	O9.5II	"	"	"	"	"	"	
	" B	"	-00 19		0424	0431	6m+ ✓	47m W	1.2"/clear				6.7	B2V							
	ι Ori A	05 34.5	-05 57		0434	0435	8s / 6s	47m W					2.5	O9III							
	ν Ori	06 06.7	+14 46		0437	0438	40s ✓	18m W					4.2	B3V							HR2159
	HR2392	06 32.1	-11 09		0441	0454	13m / 15	9m W.					7.4	G9.5III p.							
	χ1 Ori	05 53.3	+20 14		0457	0459	80s / 120s	53m W					5.0	G0V							HR2047
	HD43836	06 18.6	+23 16		0503	0516	12m / 24						7.42	B9II							
	43818	06 18.4	+23 26		0517	0529	12m / 24	58m W.					7.2	B0II							HR2763
	λ Gem	07 17.2	+16 32		0532	0533	40s / 30s	3m W.					3.7	A3V.							

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3187	50 Ni E	05 38.1	-02 37	28/29	0545	0549	4m ✓	1 58 W.	1"/clear	3.30	50µ/1.2	120/7.0	6.5	Bp	NeA	10s	16V	baked IIaO	M-S	✓	
	HD 37545	05 38.5	-02 58	Dec	0552	0711	75m ✓	3 20 W.	"				9.3	B			14m B	N_eH_2	15m 67°F		
	HD 73397	08 37.9	+19 30	82	0718	0848	90m 120	1 57 W.	1½"/clear				9.3	F4.				1½m 65F			KW124
3188	LMC Supernova	05h 35.4	-69° 17'	26/27	07h 14	07h 20	6m	7h 28 W	1½"/clear?	3.01	50µm/1.2	67/5.4	4.5		NeA	30s		IIa-O	M-S	IKS	(one past)
	"	"	"	Feb.	07h 27½	07h 29½	2m						(~4 B-V)			40s			15m 66°F		
	"	"	"	'87	07h 30	07h 33½	3½m														
	"	"	"		07h 34	07h 39½	5½m ✓														
	"	"	"		07h 40	07h 49	9m														
L	S Dor.	05h 44.9	-65° 44		07h 59	08h 06	6m ✓														
3189	LMC Supernova	05h 35.4	-69° 17'	27/28	07h 36	07h 43	7m	7h 56 W	1½"/clear	3.01	50µm/1.2	67/5.4	5.0	~-0.9 B-V	NeA	40s		IIa-O	"	IKS	
	"	"	"	Feb.	07h 47	08h 01	14m														
	"	"	"	'87	08h 01	08h 06	4m														
L	S Dor	05h 44.9	-65° 44		08h 11	08h 16	5m						4.96 B-V	+.21							
3190	LMC Supernova			29/1	04h 40	05h 00	20m		1½"/clear?	"	"	"	~5.5 B-V	+.55	"	"		"	"	"	
	"			Mar.	05h 00	05h 07½	7½m		"												
	"			'87	05h 07½	05h 13	5m		"												
	S Dor				05h 13	05h 16	3m		"												
3190 (cont)	"			1/2	03h 09	03h 23½	/		~1"/cirrus?	"	"	"						II			
	"			March	03h 24	03h 31	/		~1½"/cirrus												
	"			'87	03h 31	03h 35½	/		1½"/cirrus?												
L	S Dor				03h 47	03h 52	/		1½"/cirrus												
3191	LMC Supernova			Mar. 30	04h 54	01h 09	15m	1h 32 W	1.2"/cirrus	"	"	"	~5.5?	~+.0?	"	"		"	"	"	
				1987	01h 00	01h 17	8m		"												
					01h 17½	01h 21½	4m		"												
	S Dor				01h 29½	01h 32½	2½		"				no 4.66	+.21							

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3191	LMC Supernova	05h 35.4	-69° 16′	March	06h 05	06h 28	23m /		"	3-01	50μm / 1·2	67 / 5.4			Ne-A	42s	2"@22Å (BLUE)	IIa-O	M-S	IKS	
(cont)	"	"	"	4th	06h 28	06h 41	13m /	"	"										15"@370Å		
	"	"	"	1987	06h 41	06h 48	7m /	7h 16m W	~1½" / CLEAR												
L	S Dor	05h 41.8	-65° 44		06h 52	06h 56	4m /		"				B 4.56	B-V +.21							
3192	LMC Supernova	05h 35.4	-69° 16	March	00h 11	00h 30½	19½m /		≤1½" / CLEAR	"	"	"			"	"	"	"	"	"	
				5th	00h 31	00h 41½	11½m /		"												
				1987	00h 41½	00h 47	5½m /		"												
	S Dor	05h 44.8	-65° 44		00h 50	00h 53	3m /		"				B 4.56	B-V +.21							
3192 (cont)	LMC Supernova	05h 35.4	-69° 16	March	00h 20	00h 39½	/		≤1½" / CLEAR	"	"	"			"	"	"			"	
	"	"	"	6th	00h 40	00h 49	/		" / "												
	"	"	"	1987	00h 49	00h 55	/		" / CIRRUS?												
L	S Dor	05h 41.8	-65° 44		00h 59½	01h 02½	/	1h 27m W	" / "				B 4.56	B-V +.21							
3193	LMC Supernova	05h 35.4	-69° 16′	March	00h 04	00h 24	/		~1½" / CLEAR?	"	"	"			"	"	"	"	"	"	74% illum. Moon,
	"	"	"	10th	00h 24	00h 34	/		" / "												through haze.
	"	"	"	1987	00h 34	00h 39	/		~1½" / "												
L	S Dor	05h 44.8	-65° 44		00h 43	00h 47	/	1h 27m W	~1¼" / "				B 4.56	B-V +.21							
3194	LMC Supernova	05h 35.4	-69° 17	March	00h 23	00h 43	/		≤1¼" / CLEAR	"	"	"			"	"	"	"	"	"	UNTRAILED, ~1½" W OF SN. (looking for B3)
	"	"	"	11th	00h 49	01h 09	20m /		"												
	"	"	"	1987	01h 09	01h 19½	10m /		"												
	"	"	"		01h 19½	01h 25½	3m /		"												
	S Dor	05h 44.8	-65° 44		01h 27	01h 30	3m /		"				B 4.56	B-V +.21							
3194 (cont)	Sky	05h 35.2	-69° 17	March	23h 49	23h 59	/ (HAZE, CLOUDS)		— / HAZE (CLOUDS?)												UNTRAILED (to check contamination)
	LMC Supernova	05h 35.4	-69° 17	12th	00h 00	00h 20	/ "		≥1½" / "												
	"	"	"	1987	00h 20	00h 30½	/ "		≥1¼" / "												
L	"	"	"		00h 30½	00h 35½	/ "		" / "												

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3195	LMC Supernova	05h 35.4	-69° 17	MARCH	00h 02	00h 22½	/		1¼"/ clear?	3.01	50µm/1.2mm	67/5.4			NeA	42s	2m @ 22 V B	IIa-O	M-S	IKS	
	"	"	"	14th	00h 22½	00h 33	/		1½"/ "										20m @ 68°F		
	"	"	"	1987	00h 33½	00h 39	/		1½"/ some cloud at end										(Last 5m without agitation)		
	δ Dor	05h 44.8	-65° 44		00h 44	00h 47	/	1h 44 W	/												
3195 (cont)	LMC supernova			MARCH	00h 00	00h 19½	/		1¼"/ clear?	"	"	"			"	"				"	
	"			15th	00h 20	00h 30½	/		1½"/ cirrus												
	"			1987	00h 30½	00h 35¼	/		"/ "												
	δ Dor				00h 38	00h 41	/	1h 42 W	1½"/ "												
3196	LMC Supernova			MARCH	00h 00	00h 22½	/		>1½"/ cirrus	"	"	"			"	"	"	"	M-S	"	
	"			16th	00h 23	00h 34½	/		"/ "										15m @ 68°F		
	"			1987	00h 34½	00h 40½	/		/												
	δ Dor				00h 42½	00h 45½	/		/												
3196 (cont.)	LMC Supernova			MARCH	23h 50	00h 11	/		/ last ½ through heavy cirrus	"	"	"			"	"					plate-holder holder was knocked at beginning of night
	"			17th	00h 11	00h 21	/		/ all through heavy cirrus												
	—			1987	—	—			/												
3197	LMC Supernova			MARCH	00h 22	01h 02	/		heavy cirrus	"	"	"			"	"	"	"	"	"	
	"			18th	03h 30	03h 50	/		1½"/ clear?												
	"			1987	03h 50	04h 00	/		"/ "												
	δ Dor				04h 03	04h 06	/		"/ "												
3197 (cont)	LMC Supernova			MARCH	02h 46	03h 06	/		1½"/ clear?	"	"	"			"	"				"	
	"			19th	03h 12	03h 22	/		"/ "												
	"			1987	03h 22	03h 27	/		"/ "												

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3198	LMC Supernova	Ø5h 35.4	-69° 17	MARCH	23h 54	ØØh 14	/		1½"/ clear	3-Ø1	50µm / 1.2mm	67 / 5.4			NeA	42s	2m @22V_B	IIa-O	II-S	LKS	
	"			20th	ØØh 14	ØØh 24	/		" / "										15m @68°F		
	"			1987	ØØh 24	ØØh 29½	/	1h 59 W	" / "												
	δ Dor	Ø5h 44.8	-65° 44		ØØh 36½	ØØh 39½	/		" / "												
3198	LMC Supernova			MARCH	Ø3h 2Ø	Ø3h 4Ø	/		1½"/ clear?	"	"	"			"	"				"	
(cont.)	"			22nd	Ø3h 4Ø	Ø3h 5Ø½	/		" / "												
	"			1987	Ø3h 51	Ø3h 56	/		" / "												
	δ Dor				03h 59	Ø4h Ø2	/		" / "												
	θ Dor	Ø5h 13.8	-67° 12		Ø4h 14	Ø4h 4Ø	/	6h 4Ø W	>1½" / "												
3199	LMC Supernova			MARCH	Ø1h 5Ø	Ø2h 1Ø	/		1½"/ clear?	"	"	"			"	"	"	"	"	"	
	"			25th	Ø2h 12	Ø2h 22½	/		" / "												
	"			1987	Ø2h 22½	Ø2h 27½	/		" / "												
	δ Dor				Ø2h 31	Ø2h 34	/	4h 17 W	" / "												
3199	LMC Supernova			MARCH	23h 46	ØØh Ø6	/		~1"/ clear	"	"	"			"	"	"			"	
(cont)	"			27th	ØØh Ø6	ØØh 16	/		" / "												
	"			1987	ØØh 16	ØØh 21	/		" / "												
	δ Dor				ØØh 28	ØØh 31	/		" / "												
3200	LMC supernova			MARCH	ØØh 49	Ø1h Ø9	/		≥2"/ clear	"	"	"			"	"	"	"	" *	"	(first comparison has a 1m trail of the SN. on top.)
	"			29th	Ø1h Ø9	Ø1h 19½	/		" / "												
	"			1987	Ø1h 2Ø	Ø1h 26	/		" / "										* plate appears a bit underdeveloped, probably due to old developer.		
	δ Dor				Ø1h 27½	Ø1h 3Ø½	/		" / "												
32ØØ	LMC Supernova			MARCH	Ø1h 51	Ø2h 11	/		>1½"/ clear	"	"	"			"	"		"		"	
(cont)	"			30th	Ø2h 11	Ø2h 21½	/		" / "												
	"			1987	Ø2h 21½	Ø2h 26½	/		" / "												
	δ Dor				Ø2h 28½	Ø2h 31½	/	4h 35 W	" / "												

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3201	LMC supernova	05h 35.4	-69° 17'	April	03h 45½	04h 05			≥1½" / clear	3-01	30μm / 1-2 mm	67 / 5-4			Ne-A	42s	2m e 22 W (blue)	IIa-O	H-K	IKS	
	"			1st	04h 05	04h 16													(15m e 60 F)		
	"			1987	04h 16	04h 21½															
	δ DOR	05h 44.8	-65° 44'		04h 23½	04h 26½															
	ε DOR	05h 49.9	-66° 54'		04h 28	04h 33		6h 39m													
3201	LMC supernova			April	03h 54	04h 14½			~1" / clear	"	"	"			"	"				"	
(cont)	"			2nd	04h 14½	04h 25															
	"			1987	04h 25	04h 29¾															
L	δ DOR				04h 34½	04h 37½		6h 53m													
3202	LMC Supernova			April	03h 05¼	03h 25½			~1" / clear	"	"	"			"	"	"	"	"	"	
	"			3rd	03h 25½	03h 34½			1½" / "										(")		
	"			1987	03h 35	03h 39½			1½" / cirrus?												
	δ DOR				03h 41	03h 44			1¼" /												
	ε DOR				03h 46	03h 50			" /												
3202	LMC Supernova			April	04h 12½	04h 33½			1½" / clear	"	"	"			"	"				"	
(cont)	"			4th	04h 33½	04h 44			2" /												
	"			1987	04h 44¼	04h 50½			" /												
	δ DOR				04h 56	04h 59			/												
L	ε DOR				05h 02	05h 07		7h 25m	/												
3203	LMC Supernova			April	23h 33	23h 52			1⅛" / thin cirrus	"	"	"			"	"	"	"	"	"	
	"			4/5th	23h 52	00h 01½			/										(")		
	"			1987	00h 02	00h 06½			/												
	δ DOR				00h 09	00h 12			/												
	ε DOR				00h 13	00h 18		2h 44m	/												

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3203	LMC Supernova	05h 35.4	-69° 17	APRIL	03h 11½	03h 36			2" / clear	3·01	30μm / 1.2mm	67 / 5.4			Ne-A	42s				IKS	
(cont)	"			6th	03h 36¾	03h 48¼			≥2" "												
	"			1987	03h 48¼	03h 54			" / "												
	S DOR	05h 44.8	-69° 44		03h 56½	04h 00½			2-3" / "												
	ε DOR	05h 49.9	-66° 54		04h 02½	04h 08¾			2-5" / "												
L	LMC Supernova				▮ 04h 13 → 04h 23				" / "												▮ - trailed ← comp. ● - unbailed
					● 04h 23½ → 04h 33½																
3204	"			APRIL	23h 41½	23h 57½			1½" / clear	"	"	"			"	"	2m@27 (blue)	IIa-O	M-S	IKS	
				4/7th	23h 57¾	00h 04¾			" / "										(15m@68°C)		
				1987	00h 05	00h 09½			" / "												
	S DOR				00h 11	00h 14			<1½" "												
	ε DOR				00h 15½	00h 19¾			~1" "												
3204	LMC Supernova			APRIL	02h 32	02h 51¾			<1½" / clear	"	"	"			"	"				"	
(cont)	"			8th	02h 52	03h 02															
	"			1987	03h 02	03h 08¾															
	S DOR				03h 09½	03h 12½															
L	ε DOR				03h 14¾	03h 19¾		5h 54m													
3205	LMC Supernova			APRIL	01h 55	02h 15			~1½" / clear	"	"	"			"	"	"	"	"	"	
	"			10th	02h 15¼	02h 25¾													(")		
	"			1987	02h 26	02h 30½															
	S DOR				02h 32½	02h 35½															
	ε DOR				02h 37	02h 42½															
3205	LMC Supernova			APRIL	01h 04	01h 24			~2" / clear	"	"	"			"	"				"	
(cont)	"			11th	01h 24	01h 33½															
	"			1987	01h 34	01h 38¾															
	S DOR				01h 41	01h 44															
L	ε DOR				01h 45½	01h 50¾															

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3206	LMC Supernova	05ʰ 35·4	-69° 17	APRIL	02ʰ 36	02ʰ 48½	/		≤1¾"/CLEAR	3·01	50μm/1·2mm	67/5·4			Ne-A	42ˢ	2ᵐ@20° (BLUE)	IIa-O	IL-F	IKS	
	"			13ᵗʰ	02ʰ 49	02ʰ 56	/		~1¾/ "										(15ᵐ@68°F)		
	"			1987	02ʰ 56	02ʰ 59¾	/		" / "												
	δ DOR	05ʰ 44.8	-65° 44		03ʰ 02	03ʰ 05	/		" / "												
	ε DOR	05ʰ 49·9	-66° 55		03ʰ 07	03ʰ 12	/		" / "												
3206 (cont)	LMC Supernova			APRIL 24ᵗʰ	02ʰ 15	02ʰ 30	/		~1½/ "	"	"	"			"	"				"	
	"				02ʰ 30	02ʰ 38½	/		1¼-2/ "												
	"			1987	02ʰ 38½	02ʰ 43½	/		" / "												
	δ DOR				02ʰ 46	02ʰ 48¾	/		" / "												
L	ε DOR				02ʰ 51	02ʰ 56	/		" / "												
3207	LMC Supernova			APRIL 15ᵗʰ 1987	02ʰ 17	02ʰ 37			≥2"/CLEAR	"	"	"			"	"	5ᵐ@20° (BLUE)	"	"	"	
	"				02ʰ 37	02ʰ 46½			" / "										(")		telescope 'jumped'.
	"				02ʰ 46½	02ʰ 51¼			" / "												
	δ DOR				02ʰ 53¼	02ʰ 56½			~1½/CLEAR?												
	ε DOR				02ʰ 59¼	03ʰ 05½			" / 1ST 3ᵐ THROUGH >50% CLEAR												
3207 (cont)	LMC Supernova			APRIL 16ᵗʰ 1987	00ʰ 25	00ʰ 38			1½"/CLEAR	"	"	"			"	"				"	
	"				00ʰ 38	00ʰ 44			1¾"/ "												
	"				00ʰ 44¼	00ʰ 47½			" / "												
	δ DOR				00ʰ 50	00ʰ 53			" / "												
L	ε DOR				00ʰ 57	01ʰ 01¼			≤1¾"/ "												
3208	LMC Supernova			APRIL 17ᵗʰ 1987	02ʰ 25¼	02ʰ 40¼			~1¾"/CLEAR	"	"	"			"	"	"	"	"	"	
	"				02ʰ 40½	02ʰ 47½			" / "										(")		
	"				02ʰ 47½	02ʰ 51			" / "												
	δ DOR				02ʰ 53	02ʰ 57			" / "												
	ε DOR				02ʰ 58	03ʰ 04¼		6ʰ 13½W	" / "												

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3200	LMC Supernova			APRIL	01h 10½	01h 27			1⅞"/CLEAR	3.01	50μm/1.2mm	67/5.4			Ne-A	42s				IKS	
(cont)	"			18th,	01h 27⅓	01h 35⅓			" / "												
	"			1987	01h 35¼	01h 39			≥1⅝" / "												
	δ DOR				01h 41	01h 45¾			~1¾" / "												
L	ε DOR				01h 47	01h 53½			" / "												
6	3209	HD 92207	10 36.9	-58 39	17/18 April '87	2:40	2:51	11m	1hr 18m	2-3" Good			5.96	A0Ia	Neb	20s	1min 22V	IIa-O Baked.	M-S	Gry G	Variable Seeing!
8		HD 100262	11 31 68	-59 26		2:58	3:05	7m	38m	2" Good.			5.69	A2Ia				90-min 64°C Pumping Gas		G	
10		HD 100261	11 31 9.2	-59 21		3:09	3:25	16m	57m	1.5-2" Good.			6.23	G3 0-Ia						G	
12		HD 112374	12 35.8	-26 23		3:33	4:03	30m	11m	1.5-2" Good.			7.30	F3Ia						SU	Asp II Superpixel.
14		HD 112934	12 39.8	-32 59		4:12	4:32	20m	35m	1.5-2" Good.			6.39	FBS						G	
16		HD 121607	13 55.8	1° 7'		4:41	4:53	12m	1hr	2-2.5" Good.			5.11	A8V.						G	
18		HD 126692	14 27 56	-56° 4'		5:03	5:35	32m	12m	2" Good.			7.42	A3 II						G	
20		HD 130158	14 46 37	-25 34		5:42	5:47	5m	4m	1.5" Good			5.60	Ap						G	
22		HD 135208A	15 13 43	-18 23		5:54	6:22	25m	13m	2" Good.			~~7.32~~ 6.76	MF						G	
24		HD 141851	15 50.6	-3 3		6:28	6:34	6m	13m	2-2.5" Good			5.23	λ Boo						G	
		HD 142994	15 58.2	-38 42		6:44	7:25	41m	31m	1.5-3" Good.			7.46	A3/5 II						SU	Variable seeing!
6	3210	HR 6081	16 19.8	-24° 8'	17/18 April	8:00	8:06	6m	51m	2-3" Good			5.39	A5 II	"	"	"	"	"	Gry G	Std.
8		HD 149989	16 39.7	-51° 27'		8:22	8:40	18m	1hr 5m	2" Good.			6.62	FBS						G	
10		HD 154153	17 4 51.9	-44° 5'		8:45	8:57	12m	57m	2" Good			6.47	FBS						SU	
12		HR 6615	17 46 40.4	-40° 7'		9:10	9:11	1m	25m	2" Good			3.53	F2Ia						G	
14		HD 165438	18 5 33	-4 45		9:17	9:39	22m	38m	2" Good			6.72	A1 III						G	Std.
4		HD 173638	18 45.9	-10 8		9:44	9:56	12m	15m	2" Good.			6.30	F1Ia						G (5th)	contaminated with next star.
16		HR 7400	19 28.3	1 55		10:02	10:10	8m	14m	2" Good.			5.85	λ Boo						G	
20		HR 7387	19 25.9	0° 19'		10:14	10:19	5m						F2 Ib						G	Std

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3211	LMC Supernova			APRIL	$23^h\ 24$	$23^h\ 34\frac{1}{2}$			1-1½" cure	3.01	50μm / 1.2mm	67 / 5.4			Ne-A	2×21'	5"@20' (BLUE)	IIa-O	M-S	IKS	plate focus one day; spots put on same day of exposure.
	"			28th	$23^h\ 34\frac{1}{2}$	$23^h\ 39\frac{1}{2}$			" / "										(developed		
	"			1967	$23^h\ 39\frac{3}{4}$	$23^h\ 42$			" / "										along unit		
	δ DOR				$23^h\ 43\frac{1}{2}$	$23^h\ 46\frac{1}{4}$			" / "										32_ _)		
L	ε DOR				$23^h\ 48$	$23^h\ 52$			" / "												
3215	LMC Supernova			APRIL	$00^h\ 31\frac{1}{2}$	$00^h\ 42\frac{3}{4}$			≤1½" cure	"	"	"			"	2×16'	"	"	M-S	"	
	"			28th	$00^h\ 43$	$00^h\ 48\frac{1}{2}$			" / "										(19"@68%)		
	"			1967	$00^h\ 48\frac{1}{2}$	$00^h\ 51$			" / "												
	δ DOR				$00^h\ 53$	$00^h\ 56$			" / "												
L	ε DOR				$00^h\ 57$	$01^h\ 01$			" / "												

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6	3212	HD 108965	12 30.8	-59 20	15/19 Apr 87	3:55	4:05	10m /	42m	1.5" Good	301	50/12	67/54	6.10	F7Ib/II	NeA	20s	1 min 22V	IIa-O baked.	15 min N-5	Grey	G
8		HD 117854	13 33.6	-59 27		4:13	5:20	67m /	59m	1.5" Good				8.16	EG							G
10		HD 134169	15 7.6	+3 59		5:35	6:45	70m /	46m	1.5" Good				8.25	EI=							G
12		HD 146481	16 18.3	-54 29		6:57	7:44	47m /	39m	1.5" Good				7.77	EG							G
14		HD 150421	16 41.9	-46 3		7:53	8:19	26m /	46m	1+1.5" Good				7.08	F6 II							G
16		HD 154733	17 7.8	-30 23		8:24	8:34	10m /	35m	1.5" Good				6.23	δ Del.							G
18		HD 157802	17 25.1	-61 45		8:39	9:01	22m /	41m	1.5" Good				7.04	δ Del.							SU
20		HD 172594	18 40.9	-14 35		9:10	9:40	30m /	8m	1.5" Good				7.23	F6 I							G
22		HD 174464	18 50.1	-9 48		9:44	9:57	13m /	15m	1.5" Good				6.43	F1 II							G
24		HD 176723	19 2.4	-38 16		10:03	10:12	9m /	18m	1.5" Good				6.06	F2							G
26		HR 7063	18 46.5	-4 46		10:18	10:24	6m /	46m	1.5" Good				5.32	G4 IIa							G
6	3213	HD 93737	10 47.5	-59 50	16/20 Apr 1987	1:34	1:46	12m /	10m	1.5" Good				6.27	A0Ia	"	"	"	"	"	Grey	G
8		HR 4110	10 26.9	-57 34		1:52	1:56	4m /		1.5" Good				5.17	A5Ia							SU
10		HR 4317	11 5.3	-27 13		2:05	2:12	7m /	18m	1.5" Good				5.65	λ Boo							G
12		HD 103877	11 57.1	17 32		2:19	2:49	30m /	3m	1-1.5" Good				7.16	δ Del							G
14		HD 108317	12 25.9	5 22		2:58	4:41	113m /	1hr 17m	1-1.5" Good				8.74	EG							G
16		HD 122563	14 1.9	9 45		4:50	5:25	35m /	35m	1.5" Good				7.10	EG							G
18		HD 132242	14 58.5	-43 6		5:35	5:53	18m /	6m	1.5" Good				6.69	F7II							G
20		HD 134270	15 10.1	-55 17		5:58	6:21	23m /	22m	1.5" Good				6.55	G1 Ib							G
22		HD 144183	16 6.2	-56 9		6:25	6:43	15m /	11m	1.5" Good?				6.73	F0 Ib							G
24		HD 144667	16 7.7	-39 3		6:50	7:28	36m /	33m	1.5" Cirrus				6.38 ~~7.41~~	A Shell ~~A7IIIe~~							G
26		HD 144668	16 7.7	-39 4		7:31	8:11	40m /	1h 16m	1.5" Cirrus				7.41	A7 IIe							SU

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6	3214	HD 160915	17 42.6	-21 41	19/20 April 1987	8:48	9:18	20m, 8m	48m	1.5 / Cirrus	3.01	50μ/1.2	67/5.4	5.34	F6V	NeA	20s	1 min 22V	IIa-O baked	M-S	Grey	6,SU Cirrus.
8		HD 161868	17 47.2	2 43		9:24	9:28	1m, 2m						3.79	AOV						G,G	Varies SN. HR6629 cirrus.
10		HD 181615	19 20.9	-15 59		9:41	9:48	7m /	20m	1.5 / Thick cirrus				4.71	Hydrogen weak.						U	Thick cirrus.
	3216	LMC SN	5 35.4	-69 17	20/21 April 1987	3:08	3:30	22m /	7h 20m	2-3" / Cirrus						NeA	42s	5 min 20V	IIa-O unbaked	M-S 15 min.	Grey	Beginning quite clear, end, thick cirrus. I need to be 3" taller to do this!
6	3217	HD 106516A	12 14.5	-10° 14'	20/21 April 1987	4:35	4:55	20m /	1h 57m	1.5" / Good?				6.61	MF	NeA	20s	1 min 22V	IIa-O baked	M-S 15 min	Grey	G
8		HD 125276AB	14 18.2	-25 45		5:02	5:16	14m /	13m	1.5" / Good				6.39	MF						G	
10		HD 130701	14 57.4	-63 55		5:34	5:53	19m /	18m	1.9" / Good				6.57	F8II						G	Complete?
12		HD 145417	16 12.8	-57 32		6:06	7:51	103m /	56m	1.1-1.9" / Good?				8.32	EG						G	Some cirrus.
14		HD 154153	17 4.9	-44 5		7:57	8:29	25m /	35m	1.5" / Cirrus				6.47	F8S						G	
6	3218	HD 150331	16 40.8	-33 7	21/22 April 1987	7:18	7:40	22m /	20m	1.8-2" / Good.				6.51	GOII	"	"	"	"	Grey		
8		HD 160529	17 41.0	-33 30		7:49	8:49	60m /	28m	1.5" / Good		50μ/1.8		7.95	A9Ia							spectrum unstable
16		HD 177300	19 5.5	-51 26		8:57	Aborted due to Clouds.							7.79	F5Iab							Runaway star.
17		HD 174791	19 13.1	5 30		9:53	10:17	24m /	24m	1.8-3" / Cirrus				6.58	λ Boo							stopped 8x3 stab. cirrus with 9:58.
	3219	LMC SN			22/23 April 1987	1:19	1:27	10m /		2" / Good					SN	NeA	42s	5 min 20V	IIa-O unbaked		Grey	
						1:30	1:36	6m /		2-3" / Good					SN							
						1:37	1:40	3m /	5h 30m	2" / Good					SN.							
4	3220	HD 98622	11 19.7	-53 34	22/23 April 1987	2:09	3:41	92m /	1h 47m	1.5" / Good.		50μ/1.8		8.52	EG	NeA	20s	1 min 22V	IIa-O baked		Grey	
8		HD 112374	12 55.8	-26 23		3:50	4:26	36m /	55m	1.5" / Good		50μ/1.2		7.30	F3Ia Pec II							
10		HD 132475	14 59.1	-21 58		4:40	6:44	124m /	2h 9m	1.5"-1.9 / Good		50μ/1.8		9.11	EG							
12		HD 146143	16 15.9	-50 1		6:51	7:01	10m /	11m	1.9" / Good		50μ/1.2		5.77	F7Ib							
14		HD 150453	16 41.1	-19 54		7:08	7:18	10m /	2m	1.5" / Good				6.01	MF							
16		HD 152493	16 56.8	-65 11		7:27	8:01	34m /	30m	1.5" / Good.				7.3	gA1							
18		HD 156979	17 21.7	-45 36		8:19	9:09	50m /	1h 13m	1.5" / Good				7.5	F8Ib							
20		HD 177300	19 5.5	-51 26		9:13	10:13	60m /	33m	1-1.3" / Good				7.79	F5Iab							Closed for 5min with star off slit!
22																						

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	3221	SN 1987A			23/24 April 1987	01:03	01:11	8m		1.5" Good	3.01	50μ/1.2	67/5.4		SN	NeA	42s	5min 20V	IIa-O	M-S 15min.	Grey	
		"				01:13	01:17	4m		"					SN							
		"				01:18	01:20	2m		"					SN							
		"				01:21	01:22		5hr 17m	"					SN							
4	3222	HD 90132	10 22.9	-37 57	23/24 April 1987	01:43	01:50	6.3m	55m	1.5"-1" Good		50μ/1.2		5.58	A8V	"	20s	1min 22V	"	"	Grey	6
8		HD 91324	10 30.9	-53 39		01:55	02:00	5.5m	58m	1-1.5" Good		"		5.39	F6V(-1)				baked			3hr
10		HD 95752	11 1.2	-64 13		02:08	02:46	38m	1h 13m	1.5" Good.		"		7.43	A7Ib/II							6
12		HD 105026	12 4.7	-64 11		03:10	03:56	46m	1h 20m	1.5" Good.		"		7.61	F0Ib							6
14		HD 126793	14 29.2	-62 48		04:13	06:01	108m	1hr	1-1.5" Good		50μ/1.8		8.80	F6							6
16		HD 151097	16 46.4	-47 34		06:09	07:40	90m	22m	1-1.5" Good.		50μ/1.8		8.35	F6Iab							6
18		HD 161912	17 49.1	-40° 5'		07:59	08:03	4m	17m	1.5" Good.		50μ/1.2		5.06	A2Ib							6
20		HD 164972	18 3.9	-25° 36'		08:10	08:56	96m	21m	1.5" Good.				7.68	F0Ib							6
22		HD 165784	18 7.7	-21° 27'		09:00	09:43	43m	1h 6m	1.5" Good.				7.42	A2Ia							6
24		HD 173168	18 47.3	-65° 5'		09:51	10:01	10m	43m	1.5" Good.				5.97	A8V							6
		HD 183352	19 31.7	-53 13		10:04	10:15	11m	13m	1.5" Good				6.06	dDe							6
	3223	SN 1987A			24/25 April 1987	00:07	00:15	8m		1.5" Good?					SN	"	42s	5min 20V	" unbaked	"	Grey	Partially cloudy Strips SN Prob ok.
						00:16	00:20½	4m		"					SN							
						00:21½	00:23½	2m		"					SN							
						00:24½	00:25½	1m	4h 23m	"					SN							
6	3224	HD 91324	10 30.9	-53 39	24/25 April 1987	00:50	00:55	5.5m	3m	1.5" Good?				5.39	F6V(-1)	"	20s	1min 22V	" baked	"	Grey	
8		HD 91533	10 32.2	-55 35		01:07	01:31	24m	31m	1.5" Cirrus				6.31	A2Iab							
10		HD 97534	11 11.9	-60 14		01:39	01:43	4m	4m	1.5-2" Good?				5.06	A7Ia							
12		HD 97937	11 15.3	12 55		01:52	02:23	31m	40m	1.5" Cirrus				6.94	λ Boo							Muddy sky. I may extinct?
14		HD 114537	13 13.5	-59 2		05:18	05:28	10m	1h 47m	1.5" Cirrus				5.46	F7III							stopped 5:46 clouds open 5:55
16		HD 136359	15 22.1	-60° 37'		05:38	06:15	28m	26m	1.5" Clouds				6.15	F7V							

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	3225	SN 1987A			25/26 April 1987	23:19	23:27	8m		1.5" / Good?	3.01	50μ/1.2	67/5.4			Ne A	42s	5min 20V	IIa-0	M-S	Gry	Cirrus
						23:29	23:34	5m														
						23:35	23:37	2m														
						23:38	23:39	1m	3h 40'													
6	3226	ρ Pup	8 07.0	-24° 16'	25/26 April 1987	23:59	23:59	45s	1h 28m	1.5" / Good				3.24	ρ Pup.	"	20s	1min 22V	"	"	Gry G	cirrus??
8		HD 68601	8 10.9	-42 57		00:05	00:09	3.5m	1h 34m	1.5" / Good				4.92	A5Ib				baked		G	
10		HD 74180	8 40.1	-46 36		00:15	00:18	3.m	1h 13m	1-1.5" / Good				4.61	F0Ia						G	
12		HD 79108	9 11.5	3 55		00:27	00:39	12m	1h 3m	1-1.5" / Good				6.13	λ Boo						G	
14		η Leo	10 6.6	16 50		00:48	00:49	1m	19m	1.5" / Good				3.49	A0Ib						G	Mk Std.
16		HR 3981	10 7.3	-0° 18'		00:57	00:59	2m	28m	1.5" / Good				4.45	A0III						G	Mk Std
18		HD 88349	10 9.5	-45° 43		01:15	02:23	68m	1h 50m	1-1.5" / Cirrus				7.94	δ Del.						Su	First 45min clear, then cirrus. (thick)
20		HD 145510	16 12.3	-44 2'		05:52	06:58	66m	23m	1-1.5" / Cirrus				7.86	FBS						G	mostly clear, but many small, opaque clouds.
22		HD 159307	17 33.5	-3° 3'		07:08	08:13	65m	17m	1-1.5" / Cirrus				7.88	EF						G	" "
24		HD 172914	18 43.7	-41° 27'		08:26	09:22	54m	16m	1-1.5" / Good.				7.89	F6V(-2)						G	MW STD
26		HD 173885	18 47.5	-14 43		09:27	10:03	36m	53m	1" / Good.				7.37	MF						G	
		HR 7279	19 12.0	-7 58		10:08	10:14	6m	39m	1" / Good				5.47	B3V						G	
	3227	SN 1987A			26/27 April 1987	23:44	23:52	8m		1.5" / Good?					SN	"	42s	5min 20V	"	"	Gry	Cirrus?
						23:54	23:58	4m		"					SN				unbaked			
						23:59	00:01	2m		"					SN							
						00:02	00:03	1m	4h 8'	"					SN							
6	3228	HR 4511	11 42.9	-62 25	26/27 April 1987	02:25	02:36	10.5m	33m	1.5" / Good?				5.80	G0 0-Ia	"	20s	1min 22V	"	"	Gry G	Mk Std.
8		HD 100198	11 30.5	-61 12		02:42	03:06	24m	1h 15m	1.5" / Good				6.89	A3Ia				baked		G	
10		HD 101947	11 42.8	-62 24		03:11	03:22	10.5m	1h 20m	1.5" / Good.				5.80	F5Ia						G	
12		HD 110716	12 44.1	-68 45		03:28	03:53	25m	49m	1.5" / Good.				6.82	F5Ib						G	
14		HD 111613	12 50.4	-60 15		04:00	04:11	11m	1hr	1.5" / Good.				6.07	A2Iab						G	
16		109 Vir	14 45.6	1° 56'		04:50	04:51	1m	15m	1.5" / Good				3.71	A0V.						G	
		HD 142115	15 53.5	-41° 5'		05:03	06:15	72m	2m	1-1.5" / Good				8.15	FBS						G	

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20	3228	HD 148211	16 26.5	-22° 6'	26/27 April 1987	06:22	07:40	75m	55m	1-1.5" Good	3.01	50μ/1.2	67/54	8.24	EF	NeA	20s	1 min 22V	IIa-O	M-S	Grey	G
22	cont.	HD 160113	17 39.8	-49° 57'		07:47	08:58	71m	59m	1-1.5" Good				8.01	EG				baked			G
24		HD 165401	18 8.0	4° 39'		09:04	09:43	39m	1h19m	1-1.5" Good				7.40	MF							G
26		HD 186786	19 49.6	-65° 38'		09:50	10:05	15m	3m	1.5" Good.				6.35	FOII/III							G
28		HR 7447	19 36.1	-1° 18'		10:13	10:15	2m	19m	1.5" Good.				4.28	B5III							G
	3231	SN 1987A			27/28 April 1987	23:15	23:23	8m		2" Good					SN	"	90s	5min 20V	"	M-S	Grey	
						23:25	23:29½	4.5m		"					SN				unbaked			
						23:30½	23:32½	2m		"					SN							
						23:33	23:34	1m	3h43m	"					SN							
6	3230	HD 70761	8 22.2	-26° 18'	27/28 April 1987	00:09	00:22	12.5m	1h43m	1.5" Good.		50μ/1.2		6.27	F2Iab	"	20s	1.5 min 22V	baked	"	Grey	G
8		HD 74272	8 40.7	-45° 16'		00:27	00:33	5.5m	1h36m	1.5-2" Good.				4.88	A5II							G
10		HD 75276	8 46.8	-46° 6'		00:40	00:56	16m	1h53m	1.5-2" Good				6.30	F2Iab							G
12		HD 76932	8 53.1	-16° 5'		01:01	01:16	15m	2h1m	1.5" Good				6.36	MF							G
14		HD 80404	9 16.7	-59° 13'		01:24	01:24	~20s	1h52m	1.5" Good				2.42	A9Ib							G
16		HD 81980	9 28.4	-10 12'		01:32	01:49	17m	2h4m	1-1.5" Good				6.54	FOVn							G
18		HD 91324	10 30.9	-53° 39'		01:56	02:02	6m	1h16m	1.5" Good				5.39	MF							G
20		HD 106223	12 12.6	30° 21'		02:24	03:40	7m	1h11m	1.5" Good				7.70	λ Boo							G
22		HR 4581	12 51.3	-26 40		03:49	04:02	13.5m	55m	1.5" Good				6.38	λ Boo							G
24		HR 5165	13 43.8	-16° 7'		04:39	05:02	23m	1h2m	2"-2.5" Good				6.41	G0Ib-II							G
26		HR 5409	14h 27.5	-2° 10'		05:09	05:24	15m		2-3" Good.				6.51	G2III							G
6	3231	HD 137704	15h 26.8	-53° 39'	27/28 April 1987	05:51	06:52	61m	1h10m	1.5" Good		50μ/1.2		7.86	F2/3II	"	"	"	"	"	Grey	G
8		HD 148816	16h 29.9	4° 13'		07:03	08:00	57m	1h16m	1.3" Good.				7.82	EF							G
10		HD 161817	17 46.1	25° 45'		08:09	08:50	41m	49m	1.5" Good				7.16	FHB							G
12		HD 162714	17 57.9	-6° 8'		09:00	09:58	58m	1h52m	1.5" Good		50μ/.8		7.58	FBIb							G
4		HD 181615	19 20.9	-15° 59'		10:04	10:07	3m	31m	1-1.5" Good				4.71	Hyperion work							G
16																						

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	NUMBER	OBJECT	R.A.	DEC.	DATE U.T.	U.T. EXP. BEGIN	U.T. EXP. END	TOTAL / CORR.	H.A. END	SEE. / TRANS.	CAM. FOCUS	SLIT	GRATING / TILT	MAG	SP.	COMP KIND	COMP EXP.	CALIB.	EMUL.	DEV.	OBS.	REMARKS
	3232	SN 1987A			28/29 April 1987	00:57	01:05	8m		1.5" Good	3.01	50μ/1.2	67/5.4		SN	NeA	42s	5min 20V	IIa-O	M-S	Grg	
						01:10	01:14½	4.5m		"					SN							
						01:16	01:18	2m		"					SN							
						01:18	01:19	1m	5h32m	"					SN							
6	3233	HD 58824	10 12.9	−51° 10'	28/29 April 1987	01:49	01:58	9m	1h33m	1.5-2" Good.				5.53	A7V	"	20s	1.5min 22V	"	"	Grg	G
8		HD 90853	10 27.3	−58° 39'		02:04	02:05	1m 40s	1h26m	1.5" Good				4.13	F0Ib				baked			c
10		HD 101570	11 40.2	−62° 01'		02:13½	02:31	17.5m	38m	1.5-2" Good				6.08	G3Ib							c
12		HD 104411	11 58.6	−62° 45'		02:41	03:00	19m	50m	1.5-2" Good				6.68	A8II							c
14		HD 116064	13 21.0	−39° 15'		03:11	05:30	137m	1h57m	1-1.5" Good.				9.27	F(Gw(A)							o
16		HD 141103	15 46.6	−0° 14'		05:48	06:26	36m	25m	1-1.5" Good.				7.46	AF							G
18		HD 144172	16 3.8	0° 42'		06:46	07:19	33m	1h4m	1.3" Good				7.28	AF							c
20		HD 158103	17 27.9	−31° 22'		07:37	08:37	60m	54m	1.3" Good.				7.97	FBS							c
22		HD 178937	19 11.1	−37° 36'		07:03	09:59	56m	36m	1.5" Good				7.58	F8Ib							c
24		HD 195961	20 36.3	−61° 35'		10:06	10:14	8m	33m	1.5-2" Good				5.28	gQ1							c
	3234	SN 1987A			29/30 April 1987	23:23	23:31	5m		2-3+" Good?					SN	"	42s	5min 20V	unbaked	"	Grg	
		"				23:33	23:37	4.5m		"					SN							
		"				23:39	23:41	2m		3+" Good?					SN							
		"				23:42	23:43	1m	3h59m	3" Cirrus					SN							
1	3235	HD 84810	9h 44.9	−62° 27'	29/30 April 1987	00:07	00:19	12m	25m	3-3+" Good?				4.91	G5Ib-II	"	20s	1.5min 22V	baked	"	Grg	
5		HD 85822	9h 57.2	−46° 25'		00:25	00:47	22m	47m	3-3+" Good				5.78	G5Ib							
6		HD 98058	11h 16.0	−3° 35'		01:08	01:14	6m	11m	3" Good?				4.68	A Shell							cirrus
12		HD 99022	11h 22.5	−56° 42'		01:27	01:40	13m	9m	2-3" Good?				5.80	A Shell							
14		HD 102249	11h 44.9	−66° 39'		01:49	01:51	2m	3m	3+" Good?				3.78	A7II/III							
16		HD 102350	11 45.8	−61° 6'		01:58	02:06	8m	12m	3-3+" Good?				5.00	G5Ib/II							
		HD 102878	11 49.7	−62° 34'		02:23	02:39	16m	42m	3" Clouds				5.96	A2Ib							Aborted due to clouds

	NUMBER	OBJECT	R.A.	DEC.	DATE U.T.	U.T. EXP. BEGIN	U.T. EXP. END	TOTAL / CORR.	H.A. END	SEE. / TRANS.	CAM. FOCUS	SLIT	GRATING / TILT	MAG	SP.	COMP KIND	COMP EXP.	CALIB.	EMUL.	DEV.	OBS	REMARKS
	3236	LMC Supernova	Ø5h 35.4	-69° 17'	MAY	Ø1h 5Ø	Ø2h ØØ¼			~1¼"/CLEAR	3.Ø1	57μm/1.2mm	67/5.4			Ne-A	2×16s	5m @2ØT (BLUE)	IIa-O	H-S (15m @ 68°F)	IKS	
		"	"	"	1st	Ø2h ØØ¼	Ø2h Ø5			"/ ?												
		"	"	"	1987	Ø2h Ø5¼	Ø2h Ø7½			"/ ?												
		δ DOR	Ø5h 44.8	-65° 44		Ø2h 1Ø	Ø2h 12¾			"/ ?												
		ε DOR	Ø5h 49.9	-66° 55'		Ø2h 14	Ø2h 19		7h 24W	"/ ?												
6	3237	HD 102878	11 49.7	-62° 34'	April 30/	02:47	02:57	10m	1h 3m	1.5"/Good	3.01	56μ/1.2		5.96	A2Iab							
8		HD 103516	11 54.2	-63° 12'	1 May 1987	03:01	03:12	11m	1h 12m	1.5"/Good.				6.10	A2Ib							
10		HD 106000	12 11.2	-64° 26'		03:17	03:40	23m	1h 24m	1.5"/Good				6.30	A2/3 II							
12		HD 115778	13 19.6	-59° 42'		03:49	04:07	18m	43m	1.5"/Good.				6.61	F3/5 II							
14		HR 5165	13 43.8	-16° 6'		04:13½	04:30½	17m	43m	1.5"/Good.				6.41	G0 Ib-IIa							Mk std.
16		HR 5457	14 42.3	-5 36'		04:43½	04:45	90s	3m	1.5"/Good				4.26	F2V							std.
18		HR 5409	14 27.5	-2° 10'		04:52	04:59	7m	27m	1.5"/Good				5.51	G2III							std.
20		HR 5911	15 52.6	13° 15'		05:08	05:33	25m	~~23~~ 22m	1.5-2"/Good				6.70	G0V Fe-.5							std.
22		HR 5999	16 7.7	-39° 4'		05:57	06:33	36m	22m	1-1.5"/Good.				7.41	A7 IVe							pms.
24		HR 6478	17 26.2	-50° 37'		06:40	06:50	10m	40m	1-1.5"/Good.				6.00	A0 II							std.
26		HR 6685	17 54.9	26° 3'		07:08	07:20	12m	40m	1.5"/Good				5.80	F2Ib							
	3238	LMC Supernova			MAY	23h 16¼	23h 25¾			~1½"/	"	"	"			"	4Øs	"	"	"	"	
		"			1st	23h 26	23h 29¾			≤1½"/										(")		
		"			1987	23h 3Ø	23h 32-			"/												
		δ DOR				23h 35	23h 38			1¼"/												
		ε DOR				23h 39¾	23h 43¾			"/												
	3238 (cont)	LMC Supernova			MAY	23h 16	23h 25½			≥1¼"/	"	"	"			"	"				"	
		"			2nd	23h 25½	23h 3Ø¼			≤1½"/												
		"			1987	23h 3Ø¼	23h 32¾			"/												
		δ DOR				23h 34½	23h 37½			"/												
		ε DOR				23h 40	23h 44			"/												

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3239	LMC Supernova	Ø5h 35.4	-69° 17	MAY	Ø2h 24¼	Ø2h 36½	~~½~~		~1½"/	3.Ø1	5Øμm/1.2mm	67/5.4			Ne-A	4Øs	5m@2ØV (BLUE)	IIa-O	M-S (15m @ 68°F)	IKS	
	"	"	"	4th	Ø2h 36½	Ø2h 42½			" /												
	"	"	"	1987	Ø2h 42½	Ø2h 46¼			" /												
	δ DOR	Ø5h 44.8	-65° 44		Ø2h 48¼	Ø2h 53¼			" /												
	ε DOR	Ø5h 49.9	-66° 55		Ø2h 55	Ø3h Ø2			" /												contaminated by 1~2' of comparison.
3239	LMC Supernova			MAY	ØØh 58	Ø1h Ø8			1½"/	"	"	"			"	"				"	
(cont)	"			5th	Ø1h Ø8¼	Ø1h 13			" /cum?												
	"			1987	Ø1h 13¼	Ø1h 15½			" / "												
	δ DOR				Ø1h 18½	Ø1h 22½			" / "												
	ε DOR				Ø1h 24	Ø1h 3Ø¼			" / "												
324Ø	LMC Supernova			MAY	Ø1h 52	Ø2h 1Ø			≥2"/	"	"	"			"	"	"	"	"	"	
	"			8th	Ø2h 1Ø½	Ø2h 19			"/												
	"			1987	Ø2h 19¼	Ø2h 23¾			"/												
	δ DOR				Ø2h 26¼	Ø2h 31			"/												
	ε DOR				Ø2h 34¼	Ø2h 43			"/												
324Ø	LMC Supernova			MAY	Ø2h Ø1½	Ø2h 15½			~1¾"/	"	"	"			"	"				"	
(cont)	"			1Øth	Ø2h 15¾	Ø2h 21½			~1¾"/												
	"			1987	Ø2h 21¾	Ø2h 25¼			~1¾"/												
	δ DOR				Ø2h 26¾	Ø2h 31½			~1½"/												
	ε DOR				Ø2h 33	Ø2h 39¼		7h 2Ø W	≤1½"/												
3241	LMC Supernova			MAY	ØØh 5Ø¼	ØØh 59¼			~1¼"/	"	"	"			"	"	"	"	"	"	
	"			11th	ØØh 59½	Ø1h Ø4			" /some thin cirrus												
	"			1987	Ø1h Ø4¼	Ø1h Ø6½			" / "												plate not advanced ... don't use!!!
	δ Dor				Ø1h Ø8½	Ø1h 12(?)			" /clear												
	ε Dor				Ø1h 13	Ø1h 18			" / "												

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3241	LMC Supernova	05h 35.4	-69° 17'	MAY	00h 39½	00h 48¾			≥1¼" clear	3·01	50µm / 1.2mm	67 / 5.4			Ne-A	40s				IKS	
(cont)	"	"	"	12th	00h 48¾	00h 53½			" / "												
	"	"	"	1987	00h 53½	00h 55¾			" / "												
	δ Dor	05h 44.8	-65° 44		00h 58	01h 00¾			≤1¼" "												
L	ε Dor	05h 49.9	-66° 55		01h 02½	01h 07½			" / "												
3242	LMC Supernova			MAY	01h 22½	01h 36¾			≤2" / clear	"	"	"			"	"	5m@20V	IIa-O	H-S	"	
	"			14th	01h 37	01h 44			" / "								(BLUE)		(15m@68°F)		
	"			1987	01h 44⅛	01h 47½			" / "												
	δ Dor				01h 50¾	01h 55¼			≥1½" "												
	ε Dor				01h 57	02h 03¼			≤1½" "												
3242	LMC Supernova			MAY	01h 02	01h 14			~1¾" / clear	"	"	"			"	"				"	
(cont)	"			15th	01h 14	01h 20			" / "												
	"			1987	01h 20	01h 23¼			" / "												
	δ Dor				01h 26	01h 31			" / "												
L	ε Dor				01h 32¾	01h 41		6h 37½ W	" / "												
3243	LMC Supernova			MAY	00h 47¼	00h 57¾			~1¾" / close	"	"	"			"	"	5m@20V	IIa-O	H-S	"	
	"			21st	00h 58	01h 02¾			"								(BLUE)		(15m@68°F)		
	"			1987	01h 05	01h 05¼			"												
	δ Dor				01h 09	01h 14			"												
	ε Dor				01h 15¼	01h 22¼		6h 42 W	"												
3243	LMC Supernova			MAY	00h 06	00h 17½			≤1¾" / close	"	"	"			"	"				"	
(cont)	"			27th	00h 17½	00h 23¼			≥1¾" / "												
	"			1987	00h 23½	00h 27¼			"												
	δ Dor				00h 29¾	00h 33¾			"												
L	ε Dor				00h 35½	00h 42¾			"												

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3244	LMC Supernova	Ø5ʰ 35ᵐ.4	-69° 17	MAY	ØØʰ ØØ½	ØØʰ 16			≥1½″/≤50% cirrus	3 Ø1	50μm/1.2mm	67/5.4			Ne-A	4Øˢ	5ᵐ@2ØØ	IIa-O	M-S	IKS	
	"			28th	ØØʰ 16¼	ØØʰ 23¼			"								(BLUE)		(15ᵐ@68°F)		
	"			1987	ØØʰ 23½	ØØʰ 26½			≤1½″/clear?												
	δ DOR	Ø5ʰ 44.8	-65° 44		ØØʰ 29	ØØʰ 32¾			"												
	ε DOR	Ø5ʰ 49.9	-66° 55		ØØʰ 34½	ØØʰ 4Ø¾			"												
3244	LMC Supernova			JUNE	23ʰ 25¼	23ʰ 34½			~1¼″/thin cirrus	"	"	"			"	"				"	
(cont)	"			5th	23ʰ 34¾	23ʰ 39¼			≤1½″/ "												
	"			1987	23ʰ 39½	23ʰ 41¾			"												
	δ DOR				23ʰ 44½	23ʰ 47¼			~1″/thin cirrus												
	ε DOR				23ʰ 49	23ʰ 54			"												
3245	LMC Supernova			JUNE	ØØʰ Ø1¾	ØØʰ 16¾			~1½″/clear	"	"	"			"	"	"	"	"	"	
	"			9th	ØØʰ 17	ØØʰ 23¾			"												
	"			1987	ØØʰ 24	ØØʰ 27½			"												
	δ DOR				ØØʰ 28¾	ØØʰ 32¾			"												
	ε DOR				ØØʰ 34	ØØʰ 41¼			"												
3245	LMC Supernova			JUNE	ØØʰ 23	ØØʰ 35½			~1¼″/clear	"	"	"			"	"				"	
(cont)	"			10th	ØØʰ 35¾	ØØʰ 42½			"												
	"			1987	ØØʰ 43	ØØʰ 46¼			"												
	δ DOR				ØØʰ 49¼	ØØʰ 53¼			"												
	ε DOR				ØØʰ 54¾	Ø1ʰ Ø1			"												
3246	LMC Supernova			JUNE	23ʰ Ø9¾	23ʰ 21¼			~1¼″/clear	"	"	"			"	"	"	"	"	"	
	"			10th	23ʰ 21½	23ʰ 28¼			≤1½″/ "												
	"			1987	23ʰ 28½	23ʰ 31¾			"/moonlit cirrus												
	δ DOR				23ʰ 36½	23ʰ 40½			"												
	ε DOR				23ʰ 42	23ʰ 47			"												

NUMBER	OBJECT	R.A.	DEC.	DATE U.T.	U.T. EXP. BEGIN	U.T. EXP. END	TOTAL / CORR.	H.A. END	SEE. / TRANS.	CAM. FOCUS	SLIT	GRATING / TILT	MAG.	SP.	COMP. KIND	COMP. EXP.	CALIB.	EMUL.	DEV.	OBS	REMARKS
3246	LMC Supernova	05h 35.4	-69° 17	JUNE	00h 47	01h 09¾			~1½"/CLEAR	3.01	50μm/1.2mm	67/5.4			Ne-A	40s				IK.S	
(cont)	"			15th	01h 10	01h 22¼			"												
	"			1987	01h 22½	01h 29¼		8h 42m	"												
	δ DOR				01h 32½	01h 42¼			"												
3247	LMC Supernova			JUNE	23h 07¼ + 23h 31	23h 29 23h 43¾			~1"/CLEAR	"	"	"			"	"	5m@200 (BLUE)	IIa-O	IK-S (15m@GG7)	"	plate not advanced between exposures.
	"			18/19	23h 43¾	23h 58¾			"												
	δ DOR			1987	23h 53¼	23h 57¼			"												
	ε DOR	05h 49.9	-66° 55'		23h 58½	00h 04½			"												
3247	LMC Supernova			JUNE	22h 55½	23h 25½			~1⅛"/CLEAR	"	"	"			"	"				"	
(cont)	"			20/21	23h 25¾	23h 36¼			"/"												
	"			1987	23h 36½	23h 43¼			~1½"/"												
	δ DOR				23h 50¼	23h 55			"												
	ε DOR				23h 56½	00h 02¾			"												
3248	LMC Supernova			JUNE	23h 03	23h 40¼			≤1¼"/CLEAR	"	"	"			"	"	"	"	"	"	
	"			25/6	23h 40½	00h 00¼			"/"								(")		(")		
	"			1987	00h 00½	00h 09¾		8h 07m	"/"												
	δ DOR				00h 13½	00h 18½			"/"												
	ε DOR				00h 20½	00h 28		8h 10½m	"/"												
3248	LMC Supernova			JULY	08h 15½	09h 00½			≤2"/CLEAR	"	"	"			"	"				"	
(cont)	"			4th	09h 00⅝	09h 20¼			"												
	"			1987	09h 20½	09h 30			"												
	δ DOR				09h 32	09h 36			"												

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3249	LMC Supernova	Ø5h 35.4	-69° 17	JULY	Ø9h 26	Ø9h 45¾			≥1½"/CLEAR	3.ØL	50µm/1.2mm	67/5.4			Ne-A	4Øs	2½m@20V	IIa-O	M-S	IKS	
	"	"	"	29th	Ø9h 46	Ø9h 56			"								(BLUE)	(1½h@68°C 5% F.G.)	(15m@68°F)		
	"	"	"	1987	Ø9h 56½	1Øh Ø2			"												
	δ DOR	Ø5h 44.8	-65° 44		1Øh Ø4	1Øh Ø6			"												
	ε DOR	Ø5h 49.9	-66° 55		1Øh Ø8½	1Øh 11¾		3h 54 E	"												
3250	ζ Sco	16 20.5	-25 34	13/14	00 24	0030	50,100,200/150s	57m W	2"/clouds	3.00	50µ/1.2mm	67/5.4	3.07	B1 III	NeA	60s		IIa O	MS	[initials]	8°C 60%RH high wind
	ζ Oph	16 36.3	-10 30	~~July~~ 1987	0043	0050	"/100s	59m W	2"/cirrus				2.6	O9.5V				(not baked)	15m@68°F		
	HR6196	16 40.6	-17 39	AUG	0055	0115	20m/25m	1h19m W	1.5/clear				6.0	G8 II							
									→ Completely Cloudy —												
3251	SN 1987A	5 35.8	-69 13	14/15	0814	0929	40m+20,10/80m	3 17 E	3"/cirrus				5	SN	NeAr	40s		"		[initials]	6°C 88% 20kph
	δ Dor	5 45.1	-65 43	AUG	0936	0944	5m/12m	3 9 E	4"/cirrus				4.56	A7							
	ε Dor	5 50.2	-66 53	1987	0955	1007	12m/✓	2 57 E	3"/cirrus				4.97	B6							
3252	-62°3703	13 52.2	-62 37	15/16	2345	0101	75m/150m	4h W	2"/clear				8.05	Be	NeAr	40s	16V 14m	"		"	9°C 60% 5-10kph
	HR6014	16 08.3	+06 27	Aug	0107	0203	56m/75	2 47W	<2"/clear				6.95	K1.5 IV							
	HR6349	17 04.3	+00 42	87	0206	0244	38m/50	2 33W	2-3"/clear				6.6	F8							
	HD160371	17 40.0	-32 14		0247	0424	1h37m/4h	3h37W	2→6"/clear				8.	K2.5 Ib			(terminated by windfall seeing)				BMSCO.
	HR6766	18 07.1	-28 29		0428	0448	20m/40m	3 34W	3"/clear				5.5	G7 III							
	HR6823	18 14.2	-20 24		0507	0530	18 eff/40m	4 10W	2"/clear				6.	O9 II							16 SGR
	~~HR 6822~~	~~18 14.4~~	~~-20 43~~		0533				wrong star? position off by 20' in Dec.												
	HR7304	19 16.8	-18 59		0541	0603	22m/30	3 40W	2"+/clear				6	G8 II-III							
	HR7788	20 22.2	-09 43		0630	0727	57m/80m	3 58W	2"+/cirrus, thickening.				7.2	G5 IIIa							
	HR9021	23 48.6	-15 56		0736	0832	55m/70m	1 38W	1.5/cirrus				7.4	K2 IIIb							
3253	SN1987A	05 36.1	-69 15	"	0849	0930	40m/30m	3h10m E	2"/mostly clear				4.8	SN	NeAr	40s	"	"		"	
	"	"	"	"	0943	1005	15+7m/7m	2 36m E	" "	3.3	50µ/1.2	120/7.0	"	"	NeAr	20s					
	δ Dor	05 45.1	-65 44		1010	1013	3m/✓	2 38E	2"/"				4.6	A7							8°C 50% 20kph
3254	HD 122669	14 04.6	-62 33	16/17	0100	0228	88m/200m	5h20m W	2"/clear	3.28	"	"	9.3	Be	"	10s		IIa O	"	[initials]	10°C 50% calm seems fainter
	161774	17 48.2	-33 52	Aug 1987	0315	0423	68m/120m	3 32m W	2"/clear				8.9	Be				baked 2h 65°C			
	HR7896	20 38.4	+10 00		0536	0542	6m/10m	2h 2m W	2-3"/clear				5.8	G2 IV				Forming gas			
	HR8167	21 21.5	-16 55		0552	0554	1.5m/4m	1 30W	2"/				5.2	G7 III							

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3254	HD 213813	22 33.8	+00 27	16/17	0601	0646	45m 60m	1h 10m W	1"5/clear	3.28	50µ/1.2mm	120/4.0	8.23	M0+III	NeAr	10s	16m	II-O	M-S	JD	
(cont)	HR 8711	22 54.2	−16 22	Aug 1987	0648	0658	9m 12	1h 1m W	"				6.7	K2.5III			14V 5 fields	behind	15m 67 of		
	HR 8758	23 36.9	−13 10		0700	0710	9m 12	30m W	"				6.7	G9III							
	R AQR	23 43.2	−15 24		0712	0744	32m 40	58m W	"				8.	M							HD 222800
	HD 223541	23 49.9	−13 13		0746	0808	22m 60	75m W	1"/clear				8.0	K0							
3255	SN 1987A	05 36.0	−69 19	4	0816	0835	10,5 10	4h 03m W					~4.8	SN							

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526 A	SN1987a	5h 35.4	-69 17	Aug 28 1987	08 05	08 23		3h 32m E		3.28	50μ/12	120/10	4.8	?	N2/Ar	60s		IIIaJ	M/s	JF	
	SN1987a	"	"		08 26	08 35		3h 42m E					5.5						15m		
	E Men	4h 55	-74 55		08 38	08 59		5h 25m E					5.5								
	T Dor N	5h 13	-67 12		09 04	09 14		4h 00m E					4.8								
	D Dor	5h 44	-65 44		09 18	09 19		4h 35m E		↓			4.35								
527 A	SN1987a	5h 35.4	-69 17	Aug 28	07 50	08 00		2h 56m E		3.28	50μ/12	120/10			N2/Ar	60s		IIaO	M/s	JF	
	SN1987a	5h 35.4	-69 17		08 02	08 50		2h 05m E		↓	↓								15m		
	T Dor	5h 13	-67 12		08 55	09 05		1h 38m E					4.8								
	D Dor	5h 44	-65 44		09 08	-11		2h 05					4.3								
528 A	SN1987a	5h 35.4	-69 17	Aug 28 1987	07 10	07 50		1h 30m E		3.28	50μ/12	120/10			N2/Ar	60s		IIaJ	M/s	JF	
	D Dor				07 55	07 57		1h 35m E		"	"		4.3						15m		
529 A	SN 1987a			Aug 28 1987	07 15	08 00		0h 25m W		3.28	50μ/12	120/10			N2/Ar	60s		IIaO	M/s	JF	
	D Dor				08 05	08 20		0h 30m W		"	"		4.3						15m		
530 A	SN 1987a			Aug 28 1987	07 15	07 30		1h 10m W		3.28	50μ/12	120/10			N2/Ar	60s		IIaO	M/s	JF	
	D Dor				07 35	07 51		1h 0m W					4.3						15m		
531 A	SN 1987a			Aug 28 1987	04 50	05 45		0h 45m W		3.28	50μ/12	120/10			N2/Ar	60s		IIaO	M/s	JF	
	D Dor				05 50	05 52		0h 40m W		"	"		4.3						15m		
526 A	SN 1987a			Aug 28 1987	00 45	00 49				3.28	50μ/12	120/10	4.3		N2/Ar	60s		IIaO	M/s	JF	Yuk
	SN 1987a D Dor				01 01	01 56		0h 32m W					4.3						15m		
533 A	SN 1987a			Aug 28 1987	01 10	01 50		1h 10m W		3.28	50μ/12	120/10				60s		IIaO 1.5m	M/s	JF	
	"				01 58	01 59		1h 0m W					4.3						15m		

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	3256	HD 54 [illegible]	5 18 2	-25° 53'	5/6 Feb 88	[illegible]:06	02:21	15m	1h 23m	1" / Clear	3.01	50μ/1.2	67/5.4	3.23	λ Boo?			1min 22V.	IIa-O Baked	M-S 15min	Gray	G
		HD 44396	6 45.1	52° 11'		02:33	03 24	46m	54m	1-1.5" / Good				6.56	G2Ib				64°C 90min FG			G
		HD 63077	7h 45.1	-34° 7'		03:33	03-41	5m	17m	1.5" / Good				5.36	G0(-2)							Std G
		HD 75654	8 49.3	-39° 5'		03:51	04:05	14m	24m	1.5" / Good				6.38	A2/3 II/III							G
14		HD 85747	[illegible] 7.5	-50 26'		04:41	[illegible]	37m	1hr 14m	1" / Good				7.70	EG							G
		HD 94326	10 51.9	-46° 8'		06:10	06-57	47m	26m	1" / Good				7.75	λ Boo?							Not λ Boo Sc
15		HD 95109	10 57.3	59° 40'		07:04	07:39	35m	1hr 2m	1-1.5" / Good				6.11	G3 Ia							Var. Sc
		HD 100326	11h 35.1	-61° 13'		07:47	07:58	11m	44m	1.5" / Good				6.22	A0Ib/Ia							G
		HD 112 134	12h 57.5	-32° 57'		08:05	08:22	17m	18m	1" / Good				6.58	F2(-2)							Std. G
		HD 119699	13 45.8	-62° 57'		08:31	08:48	17m	35m	1" / Good				6.61	A2 II							G
		HD 126868	14h 27.5	-2° 10'		08:59	09:04	5m	1h 2m	1.5" / Good				4.81	G2 IV							Std. G
		HD 114642	13h 11 21.5	-16° 7'		09:13	09:18	5m	23m	1-1.5" / Good				5.04	F5III-IV							G
6	3257	HR 1101	3 36 2	0° 22'	6/7 Feb 88	00:33	00-36	3m	1h 20m	1-2" / Good	"	"	67/5.4	4.28	F9 IV-V			"	"	"	Gray	Std. G
8		HD 35949	5 24.9	-54° 20'		00:46	01:20	34m	19m	1.5" / Good.				7.16	F3Ib/II							HCL. G
10		HD 51929	6 55.7	-56° 56'		01:29	02-20	51m	11m	1.5" / Good.				7.40	G0(-2)							Std. G
12		HD 63598	7 48.3	-24° 56'		02:30	04:00	90m	36m	1-1.5" / Good.				7.94	EG							G
14		HD 79601	9 13.3	-42° 15'		04:51	05:51	60m	1hr 2m	1-1.5" / Good		50μ/0.8		8.0[illegible]	EG.							G
16		HD 94966	10h 56.3	-31° 8'		06 14	06 55	41m	24m	1-1.5" / Good				7.44	FBS							G
18		HR 4347	11h 11.9	-18° 25'		07:02	07:10	5m						6 13	λ Boo?							G
20		HD 102578	11 49.7	-62° 34'		07:22	07:30	8m	6m	1.5" / Good				5.69	A2Iab							" Sc
22		HD 103437	11 53 8	-37° 41'		07:40	08:01	21m	33m	1-1.5" / Good				6.47	MF							G
24		HD 107233	12 19.1	-48 14		08:16	08:53	37m	58m	1" / Good				7.32	A3/5 V							G
26		HD 142703	15 55.9	-14 48		09:00	09:13	13m	2h 17m	1" / Good				6.13	λ Boo?							HR 5930 A2 III G

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4	3258	HD 38616	5 41.7	-67° 24'	Feb 7/8 1988	00:37	01:08	31min /	6m	2" / Good.	3.01	50μ/1.2	67/5.4	7.08	A2Ib/IIp	No-A.		1min 22V	IIa-O baked	M-S 15min	Gray	SV
8		HD 51449AB	6 56.8	2° 54'		01:27	02:11	44m /	18m	1.5" / Good				7.47	FBS							G
10		HD 56274	7 15.3	-13° 21'		02:18	03:28	70m /	40m	1.5" / Good				7.74	EG							G
12		HD 67780	8 7.7	-36° 23'		03:35	04:25	50m /	46m	1-1.5" / Good.				7.75	FBS							G
14		HD 84937	9 48.2	13° 48'		05:05	06:25	80m /	1hr 5m	1-1.5" / Good		50μ/0.8		8.34	EF							G
16		HD 97320	11 10.5	-65° 21'		06:35	08:25	110m /	1hr 44m	1-1.5" / Good.		50μ/1.2		8.17	EF							G
18		HD 105274	12 6.6	-64° 34'		08:36	09:06	30m /	1hr 28m	1.5" / Good.				6.81	MF							SU
20		HD 103516	11 54.2	-63° 12'		09:11	09:21	10m /	1hr 55m	1.5" / Good				5.40	A2Ib.							G
6	3259	HD 32065	4 56.9	-58° 5'	Feb 8/9 1988	00:37	01:10	33m /	45m	1.5-2" / Good				6.82	F5(-2)						Gray G	Skl.
8		HD 44447	6 15.3	-71° 42'		01:18	01:55	40m /	14m	2-3" / Good.				6.61	GOp						G	
10		HD 63382	7 45.3	-56° 41		02:07	02:25	18m /	48m	2" / Good.				6.11	FOII						G	HLSG.
12		HD 66573	8 3.8	9° 18'		02:39	03:33	54m /	1m	1.5" / Good.				7.26	G2(-2)						G	Skd.
14		HD 83277	9 35.9	-27° 54'		04:31 ~~04:27~~	06:02	91m /	1m	1-1.5" / Good.				8.30	AS/7 IIw						G	
16		HD 102200	11 44.9	-45° 59'		06:16	08:26	130m /	1hr 14m	1-1.5" / →		50μ/0.8		8.73	EG						G	Some cirrus.
18		HD 108015	12 24.1	-47° 4'		08:34	09:24	50m /	1hr 32m	1.5"+ / Good.		50μ/0.8		7.99	F3 Ib						SU	Some episodes of bad seeing HLSG
6	3260	HD 34799	5 18.2	-25° 53'	Feb 9/10 1988	00:38	01:43	65m /	1hr	1.5" / Good.		50μ/0.8		8.23	λ Boo?							SU
8		HD 55105	7 7.9	-57° 19'		01:54	02:19	25m /	14m	1.5" / Good		50μ/1.2		6.87	FBS							SU
10		HD 67852	8 9.3	1° 3'		02:39	03:30	51m /	3m	1.5" / Good.		"		7.72	FBS							G
12		HD 88972	10 14.9	-11° 7'		04:24	05:34	70m /	4m	1-1.5" / Good		"		7.96	FBS							G
14		HD 92449	10 38.8	-55° 32'		05:43	05:50	6½m /	12m	1.5" / Good				4.28	G2-3 Ib.							G
16		η Car	10 44.6	-59° 37		06:05	06:26	21m /	18m	1-1.5" / Good.				6.21	peculiar							G
18		HD 102839	11 49.2	-70° 9'		06:39	06:59	20m /	6m	1.5" / Good				4.47	G5Ib						G	B-V = 1 TC
20		HD 111971	12 52.9	-57° 35'		07:22	08:32	70m /	16m	1-1.5" / Good.				8.03	EG						G	C/s Obj.
22		HD 140283	15 42.6	-10° 53'		08:42	09:23	41m /	1hr 55m	1" / Good				7.22	F9(-5)						G	Caution! Bright Sky! New Moon!

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6	3261	HD 27397	4h 19.2	14° 0'	Feb 10/11 1988	00:35	00:48	13m /	1hr 8m	2" / Good	3.01	50μ/1.2	67/5.4	5.59	F0 IV				IIa O	M-S	Gray G	Std.
8		HD 26015	4h 6.9	15° 8'		00:54	01:16	21m /	1hr 49m	2" / Good				6.01	F3 V						G	1 min taken to Std. adjust and screen
10		HD 38767 AB	5h 47.5	3° 54'		01:24	02:24	60m /	1hr 17m	1.5" / Good				7.60	MF						G	B = v faint, but near or on slit
12		HD 68117	8h 8.1	-52° 34'		02:38	03:11	33m /	18m	1.5" / Good				7.17	δ Del						Su	
14		HD 74006	8 39.5	-35° 15'		03:18	03:22	4m /	38m	1.5" / Good				3.98	G5 II/III						G	
..		HD 67589	8h 8.3	8° 5'		03:37	04:38	61m /	1h 9m	1-1.5" / Good				7.72	FBS						G	
18		HD 89708	10h 20.1	-18° 59'		05:36	06:27	51m /	47m	1-1.5" / Good				7.51	MF						S.	
20		HD 96363	11h 5.8	-0° 2'		06:46	07:57	60m /	1h 31m	1-1.5" / Good		50μ/0.8		7.91	FB S						G	stop 7:32 Resume 7:43
22,24,25		HD 102870	11h 49.9	1° 51'		08:02	08:06	90s, 90s /	57m	1.5" / Good		50μ/0.8, 50μ/1.2		3.61	F9V						G	Std.
27		HD 113083	13h 0.7	-27° 18'		08:12	09:21	69m /	54m	1.5" / Good		50μ/0.8		8.05	EG						G	
6	3262	HD 102878	11h 49.7	-62° 34'	Feb 11/12 1988	06:02	06:53	51m /	12m	6"+ / Good?		50μ/1.2		5.69	A2 Iab							Disgusting seeing! 6-8" !!!
8		HR 4441	11 31.2	-59° 22'		07:00	07:40	40m /	53m	3-6" / Good?				5.13	G3 0-Ia							Very variable seeing!
10		HD 100262	11 31.2	-59° 26'		07:49	08:04	15m /	1hr 17m	3-4" / Good?				5.15	A2 Ia							
12		HD 142703	15 55.9	-14° 48'		08:17	08:48	31m /	2hr 23m	3-5" / Good?				6.13	λ Boo?							
	3263	HD 105590	12 07.7	-11° 45'	23/24 Mar 1988	0349	0358	9m / ✓	35m E	1.5" / Clear	3.28	100μ/.8	120/7.0	7.7	Gp.	NeAr	10s	1m 22V	IIa-O	MWP-2	[illegible]	17°C 10kph 35% Adm ~4m for comp on slit.
		114853	13 13.2	-45 05		0436	0445	9m / ✓	1h 3m E	1" / Clear				7.5+	G2							
	3 exp.	117176	13 27.5	+13 48		0451	0456	30, 60s / 60s	1h 7m E	"				5.7	G5							= 70 Vir.
		118319	13 36.1	-34 22		0500	0509	9m / ✓	1h 2m E	"				7.5	G5							HR 5117
	3 exp.	120690	13 50.6	-24 09		0512	0533	3,6,12m / 6	52m E	"				7.1	G5							HR 5209
		124990	14 16.2	-18 20		0537	0601	12,8,3+ / 8	51m E	"				7.0	G5							HR 5344
		α Cen A	14 39.3	-60 36		0606	0608	3,6,9s / 1s	1h 5m E	"				0.7	G2							HR 5459 = HD 128620
		ψ SER	15 43.2	+02 45		0614	0617	3+ / ✓	2h E	"				6.6	G5							HR 5853
	3264	HD 120467	13 49.0	-22 02	"	0639	0742	62m / ✓	1h 19m W	"	"	"	"	9.5	K6 V	"	"	"	"	"	"	
		131976	14 56.6	-21 19		0745	0916	91m / ✓	1h 43m W	"	"	"		9.6	M2V							NW
		131977	14 56.7	-21 19		0917	0938	4,6,12 / 4	2 05 W					6.9	K5							SE
		HR 5622	15 05.7	-16 11		0940	1004	12,6,4 / 6	2 20 W					6.9	K5 III							= 21 Lib (std)

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																					1815 5W 45%
3265	θ Dor	05 14.4	−67 10	24/25 MAR 1988	2354	2358	4m ✓	2 14W	1.5/clear	3 28	100μ/0.8	1200/mm 7.6	6.2	K2III	NeAr	10s	14m 16V	IIa-0	MWP-2	NS	
	SN 1987A	05 36.0	−69 15		0005	0033	30m ✓	2 25W	〃				8.6	SN							
	HR 1299	04 10.5	−35 20		0040	0055	14m ✓	4 13W.				120/7.0	7.9	K1 III	Standards programme						
	HD 31274	04 51.8	−46 51		0057	0118	20m ✓	3 56W.					8.1	G9III p							
	S Lep	06 05.4	−24 09		0125	0208	40m ✓	3 31W.					8-9	M6 III							HR 2156
	HD 49068	06 45.3	−20 50		0228	0248	20m 30	3 31W.					8.2	K1.5 II-III			Trouble finding stars!				in NGC 2287
	HR 2508	06 47.1	−09 00		0256	0305	9m ✓	3 47W.					6.9	M1 Ib-II			Trouble w/ Dec readout - jumped 15'				
	HR 2834	07 24.3	−31 48		0308	0319	1.5, 3, 6 ✓	3 24W.					6.4	K1 IIIa							
	HD 60898	07 35.6	−14 22		0324	0354	30m 40	3 46W.	2" change HA / clear				8.8	K0 II-III							
	HD 60899	07 35.7	−14 39		0355	0425	30m 40	4 18W					8.8	G8.5 II							
	HD 64616	07 53.5	−26 14		0427	0439	12m ✓	4 15W.					7.85	K0 III							
	HR 3212	08 11.1	−07 46		0441	0452	1.5, 3, 6 ✓	3 50W					6.3	G6 III							
	HD 72268	08 30.2	−36 41		0454	0535	40m +60	4 35W					8.6	K3 Iab							
3266	HD 80431	09 18.4	−34 04	〃	0612	0700	48m +60	5 11W.	1.5/clear	〃	〃	〃	9.0	M4 III	〃	〃	〃	〃	〃	〃	
	HD 94481	10 53.6	−13 42		0703	0714	1.5, 3, 6 ✓	3 50W.					6.5	G4 III							= HR 4255
	HR 4742	12 27.2	−16 34		0719	0742	3, 12, 6 ✓	2 43W					7.2	G3 III							= HD 108477
	HD 111499	12 49.2	−15 00		0750	0820	30m ✓	3h W					8.5	M5 II							
	HR 5150	13 41.0	−08 39		0823	0829	6m 45	2 18W					6.6	M1.5 III							
	HR 5181	13 46.8	−17 49		0856	0903	7m ✓	2 47W					7	M2 III							
	HD 121447	13 55.2	−18 13		0905	1008	63m 90	3 40W.					9:	K4 III Ba							18h45% 2-5
3267	27 Ori	05 23.9	−00 54	25/26 MAR 1988	2340	2347	1, 2, 4m ✓	1h 55W	1.5/clear	〃	〃	〃	6.1	G9 III-IV		〃		〃	〃	〃	HR 1787
	HR 1830	05 28.8	−03 29		2350	0011	3, 6, 12 ✓	2 14W.					6.94	K1 III							HD 36134
	51 Ori	05 41.9	+01 28		0013	0024	1, 3, 8 ✓	2 15W					6.1	K1 III							HR 1963
	HR 2267	06 18.2	−09 27		0026	0040	2, 4, 8 ✓	1 54W.					6.6	K1.5 III							HD 43993
	HR 2334	06 26.5	+00 16		0042	0053	1.5, 3, 6 ✓	1 56W					6.4	K1 II							HD 45416
	HD 46202	06 31.6	+04 58		0100	0148	48m 40	2 48W	2"/clear, windy				9.3	O9 V							in NGC 2244
	HDE 298599	09 37.4	−53 38		0155	0328	93m 3h	1 25W					9.2:?	K7: ?							Poladian's pec. star
	HR 3741	09 25.7	−01 28		0330	0359	1.5, 5, 4 ✓	1 48W					7.3	K2 IIIb							

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3268	6 Leo	9 31.4	+09 44	25/26	0422	0437	2,4,8m ✓	2h39m W.	1.5/clear	3.28	100μ/.8	1200/7.0	6.45	K2.5IIIb	NeAr	10s	14m 16V	IIa-O	MWP2 67°F 7min	[illegible]	HR3779
	46 Leo	10 31.3	+14 03	MAR 1988	0442	0512	4,8,16 ✓	214W.					7.14	M1.5IIIb							
	SAO156490 ~~HD96765~~	11 08.0	-15 29		0520	0525	4m	false start – checked – wrong star					~~9.5~~	~~G3III~~ CH2							
	HD96765	11 07.9	-15 30		0537	0624	47m ✓	247W					9.5	G3III CH2							SAO156485
	HR4255	10 53.6	-13 39		0638	0650	1,5,3,6 ✓	332W.					6.5	G4III							probs. w/ RA [illegible]
	75 Leo	11 16.6	+02 09		0652	0709	2.5,5,10 ✓	327W					6.7	M0 III							HR437[illegible]
	87 Leo	11 29.6	-02 55		0711	0725	2,4,8 ✓	328W.					6.3	K3.5III							HR4432
	HR4491	11 41.0	-16 33		0732	0752	20m ✓	345W.					8.1	M3.5III							prob w/ Dec read.
	HD130705	14 48.7	+10 03		0812	0828	16m ✓	114W.					8	K3IIIb CN2							
3269	31 Boo	14 40.8	+08 11	"	0837	0844	1,2,4m ✓	137W.	"	"	"	"	5.9	G7III	"	"	"	"	"	"	HR5480
	HR5584	14 58.5	+04 34		0847	0859	12m ✓	133W					7.5	M2III							
	HR5594	15 01.0	-00 10		0901	0909	8m ✓	142W.					7.2	M0.5IIb							
	110 Vir	15 02.0	+02 06		0911	0915	0.5,1,2 ✓	146W.					5.44	K0.5IIIb							HR5601
	HR5692	15 17.7	+20 30		0918	0932	2,4,7 ✓	148W					6.7	G8IIIa							
	HR5859	15 44.5	+05 28		0935	0939	2,1,1/2 ✓s	1h29m					5.6	A0V							
	τ Ser	15 55.5	+15 36		0942	0944	15,15,30 ✓s	122W					4.33	F6V							HR5933
	37 Lib	15 33.1	-10 02		0952	0958	40,80,160 ✓	2h W.					5.6	K1III-IV							HR5777
3270	HD46202	06 31.5	+04 57	26/27	0022	0102	40m ✓	1h55m W	2"/cirrus	"	"	"	9.3	O9V	"	"	"	"	"	"	
	30 Gem	06 43.2	+13 10	Mar 88	0106	0114	4,2,4 ✓s	207W					5.65	K0III CN1						18°45% calm	HR2478
	λ Gem	06 17.1	+16 26		0120	0122	5,10,25 ✓	140W					3.7	A3V							HR2763
	HD52938	07 02.1	-08 25		0125	0203	38m 90	237W.					9:	K3.5IIIb							
	HDE298599	09 37.3	-53 33		0208	0230	20m [illegible]	aborted - thick clouds.			100μ/.6		10.5:	K7??			thick cirrus 2-3mag;				poldan's star
wrong star	35 Leo	10 16.0	+23 30		0303	0320	2.5,10 0%	42m W.	3" ~~cirrus~~ thin cirrus		.8		6.55	G1IV-V			(cable caught on Spectrograph) took comparison to check).				HR4030.
	HR4337	11 08.4	-58 53		0331	0335	1,2,1/2 ✓						5:	G4-0 Ia+							
	HR4544	11 50.5	-05 16		0446	0501	3,4,8 ✓	47m W					6.7	K0III							~~HR4645.~~
	16 Vir	12 19.7	+03 26		0504	0515	1/2,3,6 ✓	32W.					6.12	K0IIIb Fe-1							→ HR4695
3271	HR4807	12 37.8	+01 58	"	0528	0603	5,10,[illegible] ✓	1h2m W.	"	"	"	"	7.3	M3IIIb	"	"	"	"	"	"	~~HR4920~~
	36 Com	12 58.4	+17 27		0606	0620	2,4,8 ✓	1h W.					6.34	M1IIIb							HR4920
	HR5171A	13 46.8	-62 29		0637	0718	40m 120	1h9m W		clouds			8.5	K0Ia+							
	HR5757	15 39.2	-77 51		0724	0739	14m ✓	23m E					7.4	K2III							

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	1988 →																				16" 45% calm
(Cont) 3271	K TrA	15 55.0	−68 30	26/27	0742	0805	3,6,12m ✓	13m E	2"/cirrus	3.28	100μ/.8	120/7.0	6.2	G5IIa	NeAr	10s	14m	IIa-0	MWP2	[initials]	HR 5891
	HR5831	15 39.5	+12 06	MAR 1988	0812	0840	4,8,16 / 16	38m W	2"/cirrus – thickening.				7:	G8 III a			16V		(clouds on slit)		fr comp in RA
3272	HD56126	07 15.5	+09 59	27/28	2355	0025	30m ✓	1h 22m W	1.5"/clear	3.25	100μ/.6	120/7.0	9:	F5I	NeAr	10s		baked	M-S	[initials]	
	HDE298599	09 37.2	−53 34	Mar 88	0037	0347	3h10m ✓	1h 51m W	1"/clear				10+	K7:				IIa O 2h 65°C H2N2			polarization star.
	HR2834	07 24.2	−31 46		0354	0405	11m ✓	4 22 W	2"/clear	"	50μ/1.2	"	6.4	G8II	NeAr	20s					
	HD68860	08 12.5	−34 30		0409	0439	30m ✓	4 05 W	1.5"/clear		"		7.66	F8Iap							
	HD77334	08 59.6	−49 27		0443	0533	50m ✓	4 13 W.					8.20	G5Ib							
	HD93203	10 44.5	−59 27		0540	0611	30m ✓	3 08 W.					7.7	~~F7Iab~~/Ib early O star – wrong star!							(Check ID)
	HR4276	10 57.4	−59 37		0613	0635	22m ✓	3 19 W.					7.2	G3Ia							U Car.
	HR 4538	11 49.9	−70 06		0638	0651	13m ✓	2 42 W					6.37	G6 Ib							
	HR 4614	12 06.2	−68 31		0656	0726	30m ✓	3h W.					7.47	G3 Ib							
	HR4645	12 12.6	−70 01		0728	0740	12m ✓	3 10 W.					7.0	F6 Ib							S Mus
	HR4820	12 41.7	−69 17		0743	0801	18m ✓	3 01 W.					7.1	F7Ib							R Mus
	HR 4895	12 53.7	−58 22		0803	0825	22m ✓	3 12 W.					7.34	F7Ib-II							S Cru
	HR5421	14 31.5	−56 48		0829	0907	38m ✓	2 19 W.					7.84	F5Ia	companion superposed!						V Cen
3273	HR5621	15 08.3	−66 54	"	0918	0926	8m ✓	2h W.	"	"	"	"	6.45	F6II	"	"	"	"	"	"	
	HR6197	16 42.0	−45 57		0934	0953	18m ✓	57m W					7.1	F5Iab							
	HR6266	16 53.5	−42 21		0955	1005	10m ✓	53m W					6.5	F5Ib-II							
	slit closure experiment!				60s comparison on			0, 10μ,	20μ,	30μ,	40μ	50μ, 60μ									
							12 closed	14	16 full open	18	20	22	24								18C 50% calm
3274	HD56126	07 15.4	+10 00	28/29	2351.	0117	80m.eff ✓	1 45 W.	1.5"/clear	3.25	50μ/0.8	120/7.0	~~10~~ 9.5	K7:	NeAr	20s	14m	baked	M-S	[initials]	Kwok Star.
	HR2597	06 56.8	+11 53	Mar 88	0122	0133	11m ✓	2 19 W.			"/1.2		6.6	F2 Ib-II			16V	IIaO			
	HD93203	10 44.4	−57 32		0143	0206	23m / 60	56m E					7.7	F7Iab-Ia / good ID this time – right star!							
	HR2927	07 36.8	−04 07		0212	0220	5m3s / 3	2 26 W					5.6	F6III							= 25 Mon
	HD89948	10 21.9	−29 32		0225	0250	25m ✓	11m W					7.9	G5:							
	HD88009	10 08.5	+18 32		0255	0328	33m / [illegible]	1h 3m W					8.0	G8IIIa CN1			(moon)	9h34m	+17°22'	(believe problem)	close to 3/4 mo gibbous moon
	HR3994	10 10.1	−12 19		0332	0334	2m / 1.5	1 07 W.					4.6	K0III CN1							
	HR4912	12 55.9	−26 25		0337	0357	20m ✓	1 16 E					7.5	F3 Ia							λ HYA
	HR4941	13 06.2	−41 25		0434	0443	9m ✓	40m E					6.6	K0II-III							
	HR5171A	13 46.8	−62 26		0453 (456)	0454	60m ✓ + 90	9m E			"/0.6		8.5	K0 0-Ia							

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(Cont)		1988																			
3274	HR5421	14 31.7	−56 51	28/29 Mar 1988	0556	0621	25m ✓	27m E	1.5″/clear	3.25	50μ/1.2	120/7.0	7.8	F5Ia	NeAr	20s	14m	baked IIaO	MS 15min 64°F	[illegible]	KEN
	5527	14 51.9	−63 43		0625	0634	9m ✓	35m E					6.6	G3II+B8			16V				A × Cir
	5545	15 04.7	−82 58		0638	0655	17m ✓	27m E					6.95	G8Ib							π² Oct
3275	5547	14 59.3	−77 06	"	0707	0726	19m ✓	10m W	"	"	"	"	6.98	G8II	"	"	"	"	"	"	
	5836	15 43.0	−60 14		0730	0757	27m ✓	2m E					7.53	G0Ib							
	5891	15 54.2	−68 30		0800	0810	10m ✓	0h					6.2	G5IIa							k TrA
	5939	15 59.8	−63 41		0813	0829	15 ✓	14m W					7.2	F8II							δ TrA
	5943	15 58.4	−41 40		0834	0839	5m+ ✓	25m W					6.0	K0II-III							ξ
	6058	16 15.9	−50 02		0842	0847	5m ✓	15m W					5.8	F9Ia							γ Nor
	6062	16 17.9	−57 52		0909	0931	22m ✓	57m W					7.5	F8-G0Ib							δ Nor
	6085	16 21.5	−43 50		0936	0951	15m ✓	1h14W					7.04	G3II							
	6513	17 30.7	−43 59		0953	1003	10m ✓	1 17W					6.86	F8-G0Ib							
3276	SN SHELTON	05 35.9	−69 13	29/30 Mar 1988	0004	0034	30m ✓	2 45W	1″/clear	3.25	50μ/0.8	120/7.0	8.6	SN-II	"	"	"	"	"	"	50% 17° 20S
	θ Dor	05 13.9	−67 12		0039	0044	5m 4	3 16W			"		6.22	K2III							
	HR2251	06 16.6	+05 07		0054	0100	6m ✓	2 30W	1.5″/clear		"/1.2		6.3	F9V							
	HR2313	06 24.6	−01 01		0102	0107	5m ✓	2 29W					6.4	F8V							
	α LEP	05 32.1	−17 53		0111	0112	12s ✓	3 27W					2.82	F0Ib							
	HD58134	07 22.4	−29 43		0119	0205	45m ✓	2 30W	1″/clear				8.5:	G5Ib							
	HD93203	10 44.5	−57 29		0210	0315	65m ✓	18m W					7.7:	F7Iab/Ib							
	HR4455	11 33.7	+03 11		0319	0326	6m 5m	21m E	1.5″				6.2	F5V							89 Leo
	ζ Leo	10 15.8	+23 34		0332	0333	40s 60s	1 04W	"				3.74	F0III							HR4031
	κ Pyx	09 07.6	−25 42		0339	0348	9m +5	2 28W	"				6.2	K4III							
	λ Pyx	09 22.7	−28 42		0352	0359	5m+ 4	2 18W	"				5.6	G8.5III							
	HR3741	09 25.7	−01 18		0401	0425	24m ✓	2 46W	"				7.33	K2IIIb							
	HR3749	09 26.7	−22 07		0427	0433	5m+ ✓	2 54W					5.8	K2.5III							
	α Hya	09 27.1	−08 29		0437	0440	50s ✓	3h W					3.4	K3II-III							
3277	HD105590	12 08.7	−11 40	"	0545	0612	25m ✓	1h50m W	1.5″/clear	"	"	"	7.7	G3	"	"	"	"	"	"	
	HR4981	13 11.4	−15 59		0615	0618	3m ✓	45m W					5.5	F5III-IV							53 Vir
	HR5000	13 15.4	−19 43		0622	0630	8m ✓	1h3m W					6.25	K1III-IV							57 Vir
	HR5117	13 36.3	−34 27		0635	0653	17m ✓	1h4m W					7.5	G5							

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					BEGIN	END									KIND	EXP.					
(cont)		1988		29/30																	
3277	HR5209	13 50.8	−24 20	29/30	0655	0706	11m / ✓	1h 2m W	1–1.5″ / clear	3.25	50μ / 1.2	1120 / 7.0	7.1	G5	NeAr	20s	14m	baked	M-S	[illegible]	
	HR5344	14 16.4	−18 31	Mar 1988	0708	0720	12m / ✓	51m W.					7.0	G5.			16V	IIa O 2h 65°C N_2H_2	15 min 67°F		
	HR5353	14 17.3	−07 32		0722	0737	15m / ✓	1 07 W					7.2	G							
	HR5381	14 22.4	−27 44		0740	0758	10 + 5m / ✓	1h 23 W				[illegible]	6.1	K5 III							51 Hya
	ψ Ser	15 43.2	+02 33		0802	0812	10m / ✓	16m W.					6.6	G5.							HR5853
	HR5196	13 49.3	−18 02		0815	0821	6m / ✓	2h 20m W					6.03	K0.5 III							89 Vir.
	HD120467	13 49.2	−22 01		0825	0959	94m / ✓	3 57 W					9.5	K6 V							
	HR5338	14 15.4	−05 58		1000	1002	1.2m / ✓	3 35 W					4.6	F6 III							ι Vir 12° 50% 208
3278	HR1249	04 02.0	−00 18	30/31	2339	2344	5m / ✓	3 32 W.	1.5–2″ / clear	"	"	"	5.9	F5 V	"	"	"	"	"	"	
	HR1614	05 00.3	−05 49	Mar	2348	0009	21m / ✓	2 59 W.	1.5″ / clear				7.3	K3 V							
	HR1673	05 08.0	−4 30	1988	0011	0015	4m / ✓	2 57 W	"				5.6	F2 V							68 Eri
	HR1687	05 10.7	−02 32		0017	0026	8m / ✓	3 05 W.	"				6.4	F5 V							
	γ LEP	05 44.0	−22 27		0028	0029	1m / ✓		"				3.6	F							
	HR1982	05 44.1	−22 25		0030	0042	12m / ✓	2 49 W.	2″ / clear				6.15	K2 V							
	δ LEP	05 44.0	−22 26		0044	0045	1m + / 1m	2 51 W	"				4.07	F6 V							HR1983
	η LEP	05 56.0	−14 11		0047	0048	1m / 1m	2 43 W.	"				4.04	F1 III							HR2085
x2	o′ CMa	06 53.7	−24 09		0058	0109	8m, 3.5 / ✓✓	2 07 W					5.5	K2 Iab							HR2580
	HD52220	06 55.6	−32 43		0111	0143	32m / ✓	2h 35m W	2″ /				8:	G1 Ib							
overly?	σ CMa	07 01.4	−27 55		0145	0150	5m / ✓	2 40 W.					5.2	K7 Ib							HR2646
	HR3026	07 47.1	−15 55		0155	0306	70m / ✓	3 11 W.					8.1	K1 Ia-Iab						close to	3027 = WZ (SE [illegible])
	HD64616	07 53.3	−26 13		0316	0347	30m / ✓	3 40 W					7.85	K0 III							
	HR3441	08 41.1	−15 52		0350	0357	6m / ✓	3 07 W.	2″ / cirrus				5.9	G9.5 III							9 Hya
3279	HR4171	10 38.1	−16 47	"	0447	0454	6m / ✓	2h 7m W.	"	"	"	"	5.8	G8 III	"	"	"	"	"	"	φ Hya
	HR4255	10 53.7	−13 40		0456	0506	10m / ✓	2h 03 W					6.5	G4 III							
	HR4287	10 59.3	−18 11		0508	0513	5m / ✓	2h 05 W	2″ / (cirrus thickening)				5.16	K0 III							ιCrt.
	HR4299	11 01.3	−02 23		0516	0531	15m / ✓	2 21 W	"				6.4	M0 III							
	HD130492	14 50.9	−24 15		0536	0639	63m / ✓	20m E	1.5–1″ / cirrus				8.85	K5 V							
	HR5568	14 56.7	−21 19		0642	0653	11m / ✓	13m E					6.85	K4 V							
	HR5694	15 18.5	+01 52		0656	0659	3m / ✓	27m E					5.6	F8 III–IV							
	HR5723	15 23.5	−10 16		0602	0608	3m / ✓	26m E					5.4	F5 IV							

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actual setting 1988

NUMBER	OBJECT	R.A.	DEC.	DATE U.T.	U.T. EXP BEGIN	U.T. EXP END	TOTAL / CORR.	H.A. END	SEE. / TRANS.	CAM. FOCUS	SLIT	GRATING / TILT	MAG	SP.	COMP KIND	COMP EXP.	CALIB.	EMUL	DEV.	OBS	REMARKS
3279	HD144253	16 05.1	-20 21	30/31	0710	0741	30m / 40m	33m E	1.5"/clear	3.25	50µ/1.2	120/20	8.3:	dK2	NeHe	20s	14m	Baked	M-S	[illegible]	
	HR5913	15 52.8	+16 07	Mar 1988	0745	0751	5m / 10	11m E					6.4:	F5II-III			16V	IIaO			
	HR5979	16 06.7	-56 08		0753	0803	9m / ✓	11m E					6.74	F2II				2h65° N_2H_2			
	HR6120	16 29.1	-57 42		0806	0836	30m / ✓	1m E					7.5	G8Ib							
	HR 6557	17 36.8	-38 00		0843	0906	23m / ✓	39m E					7.5	G2Ib							
	HR 6661	17 52.0	-06 08		0908	0933	25m / ✓	27m E					7.6.	F8Ib-G3Ib var.							
	HR6704	17 59.3	-20 16		0935	1004	34m / ✓	3m E					7.6	K0II-III							
3280	HR1687	~~23~~ 05 10.6	-02 28	31 Mar	2325	2331	5m 4 / ✓	214 W.	1"/~~clear~~ cirrus	3.25	"	"	6.36	F5V	"	"	"	"	"	"	17° 40% 105W
	HD34673	05 18.5	-03 04	1 Apr 1988	2333	0034	1h / 80m	313 W.	1"/clear				8.8	K3V							
	ζ LEP	05 43.7	-~~22~~ 22 23		0037	0039	50s / 40s	252 W.	"				4.07	F6V							HR1983
	η LEP	05 55.9	-14 07		0041	0042	20s 55s / 40s	244 W	"				4.04	F1III							
	HR1909	05 34.7	-33 00		0050	0102	12m / ✓	325 W	1.5"/clear				6.86	K2 IIIa							
	κ Ori	05 46.7	-09 35		0104	0105	35s, 45s / 85	315 W					1.86	B0.5Ia							HR2004
	δ Lep	05 50.5	-20 44		0108	0110	80s / ✓	317 W					4.8	K0III							
	HR2113	05 59.3	-02 59		0113	0119	6m / ✓	317 W					5.7	K1.5III							
	HR2227	06 14.1	-06 08		0120	0126	5m / ✓	308 W					5.3	K1.5III							γ Mon
	κ Col	06 16.1	-35 04		0127	0131	3m / ✓	312 W.					5.4	K0.5III							HR2256
	HR2267	06 18.2	-9 19		0133	0144	10m / ✓	322 W.					6.6	K1.5III							
	HR2443	06 37.1	-18 06		0146	0152	6m / ✓	311 W.					5.6	K3III							ν³ CMa
	HR2508	06 46.9	-08 55		0155	0214	19m / ✓	324 W.					6.86	M1Iab-IIa							
3281	HR3153	07 59.4	-60 33	"	0244	0306	22m / 16	304 W.	"	"	"	"	6.88	M1IIa	"	"	"	"	"	"	1
	HR3484	08 46.0	-13 30		0317	0320	3m / 2.5m	232 W					5.2	G8III							12 Hya
	HR3518	08 50.2	-27 41		0334	0337	3m / ✓	245 W.					5.3	K3III							γ Pyx
	HR3628	09 07.7	-25 49		0343	0349	4, 6m / ✓	238 W.	false start.				6.2	K4III							κ Pyx
	HR3733	09 22.9	-28 48		0351	0355	3m / ✓	230 W.					5.6	G8.5III							λ Pyx
	HR3845	09 39.3	-01 05		0358	0405	6m / 5m	223 W.					5.4	K2.5III							35 ι Hya
	HR3803	09 31.0	-57 00		0409	0414	4m / 3m	241 W.					4.68	K5III							N Vel
	HR3903	09 50.9	-14 46		0417	0420	3m / ✓	226 W.					5.0	G7III							39 υ¹ Hya
	HR3919	09 53.9	-25 53		0424	0432	7m / ✓	235 W					6.1	K2III							
	HR4094	09 25.7	-16 45		0434	0439	4m / ✓						5.3	K4.5III							

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NUMBER (cont)	OBJECT	R.A. (actual setting) 1988	DEC.	DATE U.T.	U.T. EXP. BEGIN	U.T. EXP. END	TOTAL / CORR.	H.A. END	SEE. / TRANS.	CAM. FOCUS	SLIT	GRATING / TILT	MAG B	SP.	COMP. KIND	COMP. EXP.	CALIB.	EMUL	DEV.	OBS	REMARKS
3281	β Sex	10 29.6	-00 34	31 Mar 1988	0456	0457	1m+ / 1.5	2 25W	1.5 / clear	3.25	50μ/1.2	120/7.0	4.9	B6V	NeAr	20s	14m	baked	IIIa-S		HR4119
	ρ Leo	10 32.3	+09 23		0508	0509	40s / ✓	2 35W.					3.7	B1 I6			16V B	IIIa-O 2h 65°C N2H2	15min 67°F		HR4133
	HR4337	11 08.2	-58 55		0517	0520	3m / ✓	2 09W.					5.0	G4-0 I.							χ Cen.
3282	HR4432	11 29.7	-2 58	"	0536	0545	8m / ✓	2 13W					6.3	K3.5 III							57 Leo
	HR4450	11 32.5	-31 49		0548	0550	1.5m / ✓	2 15W					4.5	G7 III							ξ Hya
	HR4471	11 36.3	-00 45.		0553	0556	2.5m / ✓	2 18W					5.3	G8.5 IIIb							91 ν Leo
	HR4491	11 39.4	-16 33		0559	0644	45m / ✓	3h 3mW					8.1	M3.5 III							
	HR4514	11 44.2	-18 17		0645	0650	4.5m / ✓	3h 4mW.					5.7	G8 III							ζ Crt
	HR4532	11 48.3	-26 44		0652	0707	15m / ✓	3 17W					6.7	M4 III							
	HR4544	11 50.4	-5 19		0709	0719	10m / ✓	3 27W					6.7	K0 III						moon near (contam?)	
	HR4742	12 27.4	-16 34		0721	0736	14m / ✓	3h 37mW	1" /				7.2	G3 III							
	HD144253	16 05.2	-20 25		0738	0818	40m / ✓	11mW	1" /				8.3	K2 V							
	HR6125	16 30.3	-61 37		0822	0832	9m / ✓	0h	1.5 / clear				6.43	K0 II-III							
	HR6438	17 22.4	-5 8.7		0834	0849	15m / ✓	37mE					6.95	G8 I6-II							
	HR6487	17 27.6	-55 10		0851	0908	15m / ✓	21mE					7.05	G8 II-III							
	HR6196	16 40.5	-17 43		0911	0918	6m 5m / ✓	36mW					6.07	G7.5 II							
	HR6424	17 16.7	-24 15		0921	0931	8m 7m / ✓	12mW					6.3	K0 II-III							o Oph A
3283	HR2048	05 53.4	+10 36	1/2 Apr. 1988	2347	0035	48m / ✓	2 40W	1"-1.5 clear	3.0	50μ/1.2	67/5.4	7.6	G9 II	NeAr	20s	14m 16V B	baked IIIa-O	IIIa-S		45% 18% 0
	HR2597	06 56.5	+11 58		0038	0050	12m / ✓	1h 51W	"				6.7	F2 I6-II							
	HR2859	07 27.2	-11 32		0051	0105	14m+ / ✓	1 36W.	"				6.37	G2 I6-II							
	HR3031	07 45.5	-56 43		0108	0120	12m / ✓	1 34W.	"				6.51	F0 II							
	HD64571	07 52.8	-34 55		0122	0149	26m / ✓	1 55W	"				7.47	F8/G0 I6							
	HR3177AB	08 05.3	-33 34		0151	0222	30m / ✓	2 16W.	"				7.25	G1 I6				not much contam in good seeing			(contam. of star companion)
	HR3178	08 04.7	-50 34		0225	0256	30m / ✓	2 50W.					7.16	G5 II							
	HR3229	08 12.7	-15 44		0313	0323	10m / ✓	3 09W.					6.06	G5 II							20 Pup
	HR3232	08 11.7	-46 35		0325	0336	10m+ / ✓	3 23W.					6.35	F7 I6-II							Alt Vel.
	HD65560	08 12.6	-34 33		0338	0423	44m 60 / ✓	4h 9W					7.66	F8 I.p.							
	HR3496	08 47.0	-46 04		0425	0437	12 / ✓	3 49W.					6.31	F2 Ia-b							
	HR3497	08 47.4	-41 39		0449	0505	16m 20 / ✓	4 17W.					6.94	G0 I.-0							
	HR3548	08 53.5	-40 22		0507	0537	30m 35 / ✓	4 43W.					7.43	K0 II-III + A5							

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3284	HR4614	12 06.2	−68 32	1/2	0753	0633	40m ✓	2 27w	1.5"/clear	3.0	50μ/1.2	67/5.4	7.47	G3Ib	NeAr	20s	14m	baked	M-S	GJ	
	HR4768	12 31.4	−59 22	Apr 1988	0636	0646	9m ✓	2 14w.					6.11	F7Ib-II			16V	IIaO	67°		BG Cru
	HR4862	12 49.7	−71 53		0648	0709	20m ✓	2 19w.					6.72	G8Ib-II			Blue filt.	2h 65°C N2H2	15mm		
	HR4976	13 14.6	−78 22		0734	0755	21m ✓	2 41w.					6.92	F8Ib							Left slide in! for first 20 min.
	HR5545	15 05.1	−82 56		0810	0836	26m ✓	1 30w					6.95	G8Ib							
	HR5547	14 59.8	−77 05		0838	0904	26m ✓	2h 05w					6.98	G8II							
	HR5621	15 08.9	−66 57		0906	0920	14m ✓	2h 10w					6.45	F6II							
	HR5891	15 54.8	−68 29		0923	0939	16m ✓	1h 43m w.					6.22	G5II							K TrA
	HR5637	15 10.7	−55 17		0942	1000	18m ✓	2h 50w.					6.55	G2Ib-II							
	HR5664	15 15.5	−41 23		1002	1008	6m ✓	2h 55w					5.74	G5Ia+B							
3285	HR1687	05 10.6	−02 32	2/3	2345	2353	7m / 9	2 44w	1"/clear	3.0	"	"	6.36	F5V	"	"	"	"	"	"	40% 18°5 NE
(x2)	HR1982	05 43.9	−22 25	Apr	2355	0018	13m 8 / 13	2 36w.					6.15	K2V							
	HR2251	06 16.5	+05 07	1988	0020	0029	8m+ / 10	2h 14w					6.32	F9V							
	HR2313	06 24.6	−00 57		0030	0039	8m+ / 10	2 16w.					6.43	F8V							
	HD50281	06 51.6	−05 11		0041	0138	57m ✓	2 50w.					7.71	K6V							
	HD52698	07 00.8	−25 57		0141	0222	40m ✓	3 24w.					7.61	K0V							
	HR3583	08 57.6	−48 32		0224	0248	24m ✓	1 54w					6.94	G8-K0II							
	HR3604	09 00.7	−60 55		0250	0318	27m ✓	2 21w.					7.0	G8II							
	HR3673	09 12.9	−59 22		0321	0332	12m ✓	2 23w	1.5"/				6.4	G6II							
	HR3649	09 14.2	−55 33		0334	0347	13m ✓	2 36w.	"/				6.26	G8II-III							
	HR3693	09 15.6	−57 34		0349	0417	28m ✓	3 05w.	1"/				7.36	G8II							
	HR3842	09 37.7	−43 06		0419	0433	14m ✓	3h w.	1.5"/				6.50	G8II							
3286	HR4353	11 12.5	−49 42	"	0527	0555	28m ✓	2h 46w	"	"	"	"	7.17	G8II-III	"	"	"	"	"	"	
	HR4882	12 51.9	−53 48		0557	0626	29m ✓	1h 37w					7.37	G8Ib-II							
	HR4941	13 05.9	−41 31		0628	0645	17m ✓	1h 43w					6.64	K0II-III							
	HR5024	13 20.0	−59 44		0647	0658	11m / 14	1h 42w.					6.61	F3-5II							
	HR5124	13 38.2	−57 36		0700	0729	29m ✓	1h 54w					7.15	G5Ib							
	HR5165	13 43.8	−16 07		0731	0741	10m ✓	2h w.					6.41	G0Ib-II							13h 11m − 10° near full moon
	HR5461	14 40.0	−56 26		0745	0821	36m ✓	1 45 w.					7.48	K0-1II							
	HR5527	14 51.9	−63 44		0839	0854	15m ✓	2h 6w					6.6	G3II+B8							

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(Cont)					BEGIN	END			1"						KIND	EXP.					
3286	HR5738	15 27.6	-51 35	2/3 April 1988	0855	0920	25m / ✓	1h 56 W	1.5 / clear	3.0	50μ / 1.2	67 / 5.4	7.2	G2 II	NeAr	20s	14m 16.0V B filter	baked IIaO 2h 65°C N2H2	MS 15m 67°F	[illegible]	
	HR5836	15 43.1	-60 16		0922	0957	35m / 40	2 18 W					7.5	G0 Ib							
	HR5900	15 54.9	-60 09		1000	1010	10m / ✓	2 19 W.	2" /				6.12	G5 II-III + A3							[illegible] on slit [illegible]
3287	HD105510 AC A	12 09.0	-11 47	3/4 Apr 1988	0316	0351	35 / ✓	1m E	1" / cirrus clearing			"	7 7.	G3 solar" program"	"		"	"	"	"	(thick cirrus & moon first 4h) 40%, 17°C calm.
	HD89948	10 21.8	-29 30		0356	0406 (0406)	10m / aborted by thick clouds						7.9	G5 [illegible] (S II).							
	HD114853	13 13.2	-45 02		0655	0727	32m / ✓	2 21 W.	" / cirrus clearing.				7.5+	G2							
	HR5117	13 36.2	-34 23		0728	0759	30m / ✓	2 31 W.					7.5	G5						(1 day past full moon at 14h - 16°)	
	HR5209	13 50.9	-24 17		0801	0823	22m / ✓	2 40 W.					7.1	G5.							
	HR5236	13 56.1	-54 37		0825	0843	18m / ✓	2 55 W					6.7	G.							
	HR5657	15 12.7	-25 13		0846	0908	22 / ✓	2 03 W					7.2	G4			one end of slit more illuminated by moon than the other.				23 [illegible]
	HR5738	15 27.8	-51 31		0911	0941	30m / ✓	2 21 W.					7.2	G2 II							
	HR6085	16 21.7	-43 44		0943	1009	26m / ✓	1 58 W.					7.04	G3 II							
3288	HD144432	16 06.2	-27 41	14/15 7/88	02 42	03 12	30m / ✓	1h 30m W	1.5 / cirrus	3.28	50μ / 0.6	120 / 7.0	8.2	F0 III e	Ne Ar	10s		IIaO 2h 65°C N2H2		JG	
	HD172480	18 40.9	-27 57		03 56	03 26	90m / ✓	1h 35 W	1.5" / clear				8.6	G0							
3289	HD142527	15 55.9	-42 17	15/16 July 88	00 55	01 45	50m /	40m W	1.5 / clear	3.28	50μ / 0.6	120 / 7.0	8.4	F6 III e	NeAr	20s		IIaO 2h 65°C N2H2	" "	JG	wind. !!
3290	HD142527	15 55 9	-42 17	2/3 Aug 88	00 50	01 40	50m /	1h 50m / W	1.5 / clear	3.28	50μ / 0.6	120 / 7.0	8.4	F6 III e	NeAr	20s		IIaO	"	JG	
	HD144432	16 06.3	-27 41		01 50	02 25	35m /	2h 20m W	2.0 / clear	"	"	"	8.2	F0 III e	"			2h 65° N2H2	"		
	HD172480	18 40.8	-27 58		02 50	04 30	1h 40m /	1h 50m W	2.0 / clear	"	"	"	8.6	G0	"				"		
3291	HD142527	15 55.9	-42 17	5/6 Aug 88	00 58	01 45	64m /	2h 5m W	2.0 / clear	3.15	50μ / 0.6	120 / 7.0	8.4	F6 III e	NeAr	20s		IIaO 2h 65°	"	JG	19°C 25%
	HD144432	16 06.3	-27 41		01 55	02 37	42m /	2h 47m W					8.2	F0 III e				N2H2	"		
	HD172480	18 40.9	-27 58		02 44	04 24	100m /	1h 55m W					8.6	G0							

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					BEGIN	END									KIND	EXP.					
3292	HD 142527	15 55.9	-42 17	7/8 Aug 88	2347	00 51	64m /	1h 20m W	3.0/90%	3.28	50μ/0.6	120/7.0	8.4	F6 III e	NeAr	20s	14m	IIa O 2h 65°C	H-S	JG	8°C 35% H.
	HD 144432	16 06.3	-27 41		01 00	01 42	42m /						8.2	F0 III e			U filter	N_2H_2	15m 67°F		
	HD 172480	18 40.9	-27 58		01 52	03 32	100m /						8.6	G0							
3293	HD 143006	15 57.9	-22 55	8/9 Aug	23 47	00 35	48m /	1h 8m W	1.5/100%	3.29	50μ/0.6	120/7.0	9.5	G5 I e	NeAr	4s	I.T.	IIa D	H-S	JG	13°C 24% H
	HD 150193	16 39.6	-23 52		00 41	00 53	12m /	43m W	1.0/100%				8.9	A0 e					15m 67°F		
	SAO 253680	16 43.5	-62 52		01 18	01 50	32m /	1h 36m W					10.0	F2							??
	HD 319896	17 30.3	-35 08		02 06	02 37	31m /	1h 37m W					10.0	F8 e							
	HD 171894	18 37.5	-23 44		02 57	03 16	19m /	1h 08m W					9.2	K0							
3294	HD 143006	15 57.9	-22 55	16/17 Aug.	00 52	01 42	50m /	2h 45m W	1.0/90%	3.29	50μ/0.6	120/7.0	9.5	G5 I e	NeAr	4"	I.T.	IIa D	H-S 15m 67°F	J.G.	12°C 39% H.
	HD 150193	16 39.6	-23 52		01 51	02 06	15m /	2h 35m W					8.9	A0 e							
	SAO 253680	16 43.5	-62 52		02 21	03 02	32m /	3h 15 W					10.0	F2							
	HD 319896	17 30.3	-35 08		03 12	03 52	40m /	3h 20 W					10.0	F8 e							
	HD 171894	18 37.5	-23 44		04 01	04 13	12m /	2h 35m W					9.2	K0							magnitude bad!!

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	E-2 : Ø4 (F)			Oct. 5 1988	7h38	7h42		4h05 /	~1" / CLEAR	3.25	100μm / 1.2	120 / 7.25	8.33	.13				IIa-D	M-S	IKS	-5 I.T.
	" : 18 (N)				7h49	7h59		4h21 /			"		9.21	8.33					(15m @ 68F)		-4 double exp. by mistake
	F-1 : #27728				8h09	8h16		4h38 /			"		8.87	1.67							
	SN1987a				8h21	8h53		5h15 /			"		~10.5~	~1.0~							-2
	COMP										"				NeA	1s	-				Ø
	SN 1987a			"	9h08	9h15		5h37 /			" / .6	" / "	"	"							+1
	sky				9h15	9h18		/			"										+2
	comp.										"				NeA	1s	-				+3
	E-2 : Ø4 (F)			OCT. 6	8h00	8h03⅔			~1" / clear	3.29	100μm / .6	120 / 7.0					30m @ 7V + GG13	IIa-D	M-S	IKS	Grating tilt seemed quite wrong; but focus does seem close for plate centre.
	" : P)			1988	8h12½	8h -			"	"	" / .8	"							(15m @ 68F)		
	SN1987a				8h27	8h46			"	"	"	"									
	"				8h47	8h51			"	"	"	"									
	COMP.								"	"	"	"			NeA	1s					
	FOCUS / TILT TESTS			OCT. 6	~20h																

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NUMBER	OBJECT	R.A.	DEC.	DATE U.T.	U.T. EXP. BEGIN	U.T. EXP. END	TOTAL / CORR.	H.A. END	SEE. / TRANS.	CAM. FOCUS	SLIT	GRATING / TILT	MAG.	SP.	COMP. KIND	COMP. EXP.	CALIB.	EMUL	DEV.	OBS	REMARKS
3295	HD25653	$4^h\ 1.^m8$	$-44°\ 41'$	29 Oct 1988	$5^h\ 19^m$	$5^h\ 22^m$	3^m	$1^h\ 12^m$ E	1.0 / 100%	3.28	100μ / 0.8	120 / 7.25	8.2	A3 IV-V	NeAr	4s	I.T.	IIaD	M-S 15m 67°F	JG	13°C 42% H
	HD25762	$4^h\ 2.^m6$	$-44°\ 37'$		$5^h\ 29^m$	$5^h\ 39^m$	10^m	32^m E					8.8	K0							
	HD25966	$4^h\ 4.^m4$	$-44°\ 41'$		$5^h\ 45^m$	$5^h\ 53^m$	$8^m\ 30^s$	25^m E					8.0	M1 III							bad!!
3296	SN1987A	$5^h\ 35.^m9$	$-69°\ 13'$	29 Oct 1988	$7^h\ 53^m$	$8^h\ 13^m$	20^m	27^m E	1.0 / 100%	3.28	100μ / 0.8	120 / 7.25			NeAr	4s	I.T.	IIaD	M-S 15m 67°F	JG	13°C 42% H
	HD25653	$4^h\ 1.^m8$	$-44°\ 41'$		$8^h\ 35^m$	$8^h\ 39^m$	3^m	$2^h\ 30^m$ E					8.2	A3 IV-V							
	HD25966	$4^h\ 4.^m4$	$-44°\ 41'$		$9^h\ 21^m$	$8^h\ 30^m$	9^m	$2^h\ 15^m$ E					8.0	M1 III							
3297	HD25653	$4^h\ 1.^m8$	$-44°\ 41'$	29/30 Oct 1988	$4^h\ 24^m$	$4^h\ 28^m$	4^m	$1^h\ 40^m$ E	1.5 / 90%	3.28	100μ / 0.8	120 / 7.25	8.2	A3 IV-V	NeAr	4s	I.T.	IIaD	M-S 15m 67°F	JG	13°C 45% H
	HD25966	$4^h\ 4.^m4$	$-44°\ 41'$		$4^h\ 34^m$	$4^h\ 44^m$	10^m	$1^h\ 30^m$ E					8.0	M1 III							
	SN1987A	$5^h\ 35.^m9$	$-69°\ 13'$		$4^h\ 52^m$	$5^h\ 12^m$	20^m	$2^h\ 30^m$ E													
3298	SN1987A	$5^h\ 35.^m9$	$-69°\ 13'$	30/31 Oct 1988	$4^h\ 25^m$	$4^h\ 50^m$	25^m / $8^m\ 35^s$	$2^h\ 30^m$ E	1.5 / 100%	3.28	100μ / 0.8	120 / 7.25			NeAr	4s	I.T.	IIaD	M-S 15m 67°F	JG	12°C 37% H
	HD25966	$4^h\ 4.^m4$	$-44°\ 41'$		$5^h\ 46^m$	$5^h\ 12^m$	50^m	50^m E					8.0	M1 III							
	HD25653	$4^h\ 1.^m8$	$-44°\ 41'$		$5^h\ 06^m$	$5^h\ 19^m$	3^m	50^m E					8.2	A3 IV-V							
3299	BS 74	$0^h\ 18.^m8$	$-8°\ 53'$	18/19 Nov 1988	$2^h\ 8^m$	$2^h\ 18^m$	$1^m\ 2^m\ 3^m$	40^m W	1.5 / 100%	3.22	50μ / 1.2	67 / 5.4	4.8^B	K1.5 III	NeAr	30s		IIaO	M-S 15m 67°F	BW	Moon
	BS 402	$1^h\ 23.^m4$	$-8°\ 14'$		$2^h\ 21^m$	$2^h\ 29^m$	$2^m\ 3^m\ 3^m$	60^m W					4.7^B	K0 III b							
	BS 510	$1^h\ 44.^m8$	$+9°\ 6'$		$2^h\ 41^m$	$2^h\ 51^m$	$2^m\ 3^m\ 4^m$	15^m W					5.2^B	G8 III							
	BS 911	$3^h\ 1.^m7$	$+4°\ 3'$		$3^h\ 1^m$	$3^h\ 5^m$	$40^s\ 70^s\ 100^s$	47^m E					4.2^B	M1.5 III							
3300	BS 509	$1^h\ 43.^m5$	$-15°\ 60'$	18/19 NOV 1988	$4^h\ 19^m$	$4^h\ 25^m$	$1^m\ 1.5^m\ 2^m$	$1^h\ 46^m$ W	1.5 / 100%	3.22	50μ / 1.2	67 / 5.4	4.2^B	G8 IV	NeAr	40s	14s 30V Filter B	IIaO	M-S 15m 67°F	BW	Moon.
	BS 996	$3^h\ 18.^m7$	$+3°\ 20'$		$4^h\ 36^m$	$4^h\ 59^m$	$4^m\ 8^m\ 10^m$	50^m W					5.5^B	G5 V							
	BS 1084	$3^h\ 32.4$	$-9°\ 29'$		$5^h\ 0^m$	$5^h\ 16^m$	$100^s\ 150^s\ 200^s$	55^m W					4.6^B	K2 V							
	BS 1269	$4^h\ 7^m$	$+15°\ 8'$		$5^h\ 26^m$	$5^h\ 53^m$	$10^m\ 16^m$	58^m W					6.4^B	F3 V							
3301	BS 1143	$3^h\ 42.4$	$-37°\ 21'$	18/19 Nov 1988	$4^h\ 11^m$	$4^h\ 34^m$	$5^m\ 7^m\ 10^m$	$3^h\ 4^m$ W	1.5 / 100%	3.22	50μ / 1.2	67 / 5.4	5.8^B	K2 III	NeAr	40s	14s 16 Volt Filter B	IIaO	M-S 15m 67°F	BW	
	BS 1195	$3^h\ 49.1$	$-36°\ 41'$		$4^h\ 41^m$	$4^h\ 53^m$	$2.5^m\ 3^m\ 5^m$	$3^h\ 15^m$ W					5.1^B	G9 II-IV							
	BS 11	$3^h\ 47.4$	$-30°\ 12'$		$5^h\ 0^m$	$5^h\ 31^m$	$10^m\ 10^m$	$3^h\ 55^m$ W					6.5^B	G6 III							

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3302	BS 8387	22h 02.5m	-56° 50'	19/20 Nov	0h 39m	1h 9m	10m 18m	2h 20m W	Variable / Variable	3.22	50μ / 0.8	67 / 5.4	5.8B	K4-5 V	NeAr	40s	14 sn	IIaO	HS 15m 67°F	BW	Moon & Cloudy e End
	BS 166	0h 38.8m	+21° 12'	1988	1h 36m	2h 12m	36m	0h 47m W					6.7B	K0 V			16 volt Filter B	Baking			54 Psc
	BS 741	2h 32.3m	+14° 59'		2h 22m	2h 52m	30m	27m E					6.6B	F8 V							29 Ari
	BS 1279	4h 7m	+15° 8'		3h 1m	3h 27m	26m	1h 26m E					6.4B	F3 V							
3303	BS 914	3h 1.2m	-28° 8'	19/20 Nov	5h 14m	6h 20m	27m 36m	2h 36m W	2" / Variable	3.03	50μ / 0.8	67 / 5.4	6.7B	K0 V	NeAr	40s	14 sn	IIaO	HS 15m 67°F	BW	Moon & Cloudy
	BS 1143	3h 42.5	-37° 21'	1988	6h 28m	6h 45m	17m	2h 18m W					5.8B	K2 III			16 Volt Filter B	Backing			
	BS 1184	3h 47.5	-30° 12'		7h 6m	7h 36m	30m	3h 4m W					6.5B	G6 III							
	BS 1195	3h 49.1	-36° 14'		7h 50m	7h 58m	8m	3h 15m W					5.1B	G9 II-III							
	BS 1393	4h 23.6	-34° 3'		8h 5m	8h 24m	6m 10m	3h 16m W					5.5B	K4 III							
3304	BS 8905	23h 24.8m	+23° 21'	20/21 Nov 1988	0h 47m	1h 20m	5m 10m 15m	1h 13m W	2½" / 90%	3.30	50μ / 0.8	6.7 / 5.4	5.0B	F8 III	NeAr	40s	14 sn	IIaO	HS 15m 67°F	BW	Moon. υ Peg & Cap.
	BS 8204	21h 26.0	-22° 28'		1h 27m	1h 44m	3m 57m	3h 42m W					4.7B	G4p			16 Volt Filter B	Backing 2h			
	BS 74	0h 18.8	-08° 53'		1h 53m	2h 13m	6m 13m	1h 15m W					4.8B	K 1.5 III							
	BS 402	1h 23.5	-10° 14'		2h 18m	2h 27m	8m	21m W					4.7B	K0 IIIb							
	BS 510	1h 44.8m	+9° 6'		2h 35m	3h 4m	10m 15m	40m W					5.2	G8 III							
	Sky				3h 5m	3h 20m	15m														near moon'
3305	BS 716	2h 22.8m	-73° 42'	20/21 Nov 1988	4h 46m	5h 40m	20m 30m	2h 36m W	2½" / 90%	3.40	50μ / 0.8	67 / 5.4	6.1B	K1 III	NeAr	40s	14m	IIaO	HS 15m 67°F	BW	χ Hyd
	BS 1143	3h 42.5m	-37° 21'		5h 55m	6h 30m	12m 25m	2h 13m W					5.6B	K2 III			16 Volt Filter B	Backing 2h			
	BS 1195	3h 49.1m	-36° 14'		6h 43m	7h 11m	10m	3h 41m W					5.1B	G9 II-III							
	BS 1393	4h 23.2m	-34° 2'		7h 18m	8h 00m	5m 15	2h 55m W					5.5	K4 III							
	BS 3040	7h 49m	-37° 3'		8h 5m	8h 29	24m	0					5.8	K0 III							
3306	BS 74	0h 18.8m	-08° 53'	21/22 Nov 1988	0h 33m	01h 0m	24m 6m 10m	2m W	1" / 100%	3.50	50μ / 0.8	67 / 5.4	4.8B	K 1.5 III	NeAr	40s	14m 16 Volt Filter B	IIaO Backing 2h	HS 15m 67°F	BW	

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3307	BS 8987	22h 2.5m	-56° 50'	21/22 Nov	1h 11m	2h 25m	26' / 18'	3h 50m W	1" / 100%	3.50	50μ / 0.8	67 / 5.4	5.8B	K4.5 V	NeAr	40s	14m	[struck through] 67°F	MS 15m 67°F	BW	ε Ind
	BS 715	2h 22.8m	-73° 42'	1988	2h 43m	3h 58m	25' / 45'	56m W					6.1B	K1 III			16 Volt Filter B	IIa O			κ Hyd
	BS 914	3h 5.2m	-28° 8'		4h 7m	5h 25m	30' / 49'	46m W					6.7B	K0 V							ε For
	BS 1143	3h 42.5	-37° 21'		5h 34m	6h 16m	12' / 26'	1h 47m W					5.8B	K2 III							
	BS 1393	4h 23.7	-34° 2'		6h 22m	7h 2m	12m / 25m	2h 3m W					5.5B	K4 III							
3308	BS 2618	6h 53.6m	-24° 10'	21/22 Nov	7h 24m	8h 13m	9m 14m 20s	0h 41 W	1" / 100%	3.50	50μ / 0.8	67 / 5.4	5.6B	K2 Iab	NeAr	40s	14m	IIa O	MS 15m	BW	
	BS 3045	7h 48.8m	-24° 50'	1988	8h 15m	8h 31m	3m 5m 7m	6m W					4.6	G3 Ib			16 Volt Filter B		67°F		ξ Pup.
	BS 2693	7h 7.9m	-26° 23'		8h 35m	8h 39m	30s / 1m 1.5m	55m W					2.5	F8 Ia							
3309	BS 8204	21h 26.0	-22° 26'	22/23 Nov	0h 25m	0h 57m	6m 10m 15m	2h 57m W	2" / 100%	3.52	50μ / 0.8	67 / 5.4	4.7B	G4 p	NeAr	40s	14m	IIa O	MS 15m	BW	5 Cap
	BS 8496	22h 16.5	-12° 53'	1988	1h 4m	2h 10m	25m / 40m	3h 20m W			50μ / 0.6		6.5	K0 III			16 Volt Filter B		67°F		[struck through]
	BS 165	0h 38.7m	+13° 48'		2h 34m	3h 12m	6m 12m 18m	1h 59m W					4.5	K3 III							δ And
	BS 510	1h 44.8m	+9° 6'		3h 20m	3h 50m	10m 20m	1h 31m W					5.2	G8 III							ε Psc
3310	BS 903	2h 59.3m	-32° 32'	22/23 Nov	4h 6m	5h 0m	20' / 20'	2h 29m W	2" / 100%	3.52	50μ / 0.8	67 / 5.4	6.3B	A0 V	NeAr	40s	14m	IIa O	MS 15m	BW	
	BS 943	3h 7.5m	-26° 52'	1988	5h 5m	5h 57m	20m / 30m	2h 16m W	1.5" / 100%		0.6		6.4B	A5 V			16 Volt		67°F		
	BS 1084	3h 32.4m	-9° 30'		6h 11m	6h 35m	4m 6m 10m	2h 29m W			0.8		4.6B	K2 V			Filter B				ε Eri
	BS 1907	5h 36.3	+9° 17'		6h 45m	7h 9m	8m / 15m	1h W					5.0B	K0 III p							φ² Ori
3311	BS 1744	5h 13.8m	-67° 12'	22/23	7h 29m	8h 12m	15m / 25m	2h 30m W	1.5" / 100%	3.52	50μ / 0.8	67 / 5.4	6.1	K2.5 III	NeAr	40s	14m	IIa O	MS 15m	BW	
	BS 4050	10h 16.7	-61° 16.5'	Nov 1988	8h 18m	8h 41m	8m	2h 10m E			0.6		4.9	K3 IIa			16 Volt Filter B		67°F		
3312	BS 8905	23h 24.8	+23° 21'	23/24 Nov	0h 11m	0h 40m	8m 20m	45m W	2" / 100%	3.52	50μ / 0.8	67 / 5.4	5.0B	F8 III	NeAr	40s	14m	IIa O	MS 15m	BW	υ Peg
	BS 1655	22h 44.9	-53° 13.6'	1988	0h 47m	1h 47m	15m / 25m	2h 13 W			0.6		6.0	K2 III			10 Volt Filter		67°F		η Gru
	BS 402	1h 23.4m	-18° 50'		1h 39m	2h 3m	4m 8m 10m	8m W			0.8		4.7	K0 III							σ Cet
	BS 509	1h 43.5	-16° 0'		2h 7m		2m 4m 6m	4m W			0.8		4.2	G8 V							τ Cet

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3313	BS506	1h 42m.1	-53° 50'	23/24	2h 31m	3h 16m	16m / 27m	1h 4m W	2" / 100%	3.52	50µ / 0.6	67 / 5.4	6.1B	F9 V	NeAr	40s	14m	IIa O	MS 15m	BW	
	BS510	1h 44m.8	+9° 6'	Nov	3h 23m	3h 36m	12m	1h 22m W			0.8		5.2	G8 III			16Volt	~~Backing~~	67°F		~~ν Psc~~ o Psc
	BS996	3h 18.8	+3° 20'	1988	3h 41m	4h 30m	10' 15' 22'	41m W			0.8		5.5B	G5 V			Filter B	Baked			χ Cet
	BS1084	3h 32m.4	-9° 13'		4h 37m	5h 5m	5' 9' 14'	1h 3m W			0.8		4.6B	K2 V							ε Eri
	BS911	3h 1m.7	+4° 3'		5h 11m	5h 22m	2' 3.5' 5'	1h 52m W			0.6		4.2	M1.5 III							α Cet
3314	BS 1184	3h 47m.5	-30° 12	23/24	5h 49m	6h 57m	25m / 42m	2h 40m W	1.5" / 100%	3.52	50µ / 0.6	6.7 / 5.4	6.5B	G6 III	NeAr	40s	14m	IIa O	MS 15m	BW	τ For
	BS 1195	3h 49.1	-36° 14'	Nov	7h 18m	7h 35m	6h 10m	3h 16m W					5.1B	G9 II-III			16Volt	~~Backing~~	67°F		
	~~BS 2426~~	~~6h 37m.7~~	~~+9° 00'~~	1988	~~7h 43m~~						~~0.6~~		~~7.4B~~				Filter B	Baked			
	BS2426	6h 37m	+10 52'		7h 43m	8h 48m	65m	1h 42m			0.6		7.4B	K0							
3315	BS 8387	22h 02m.5	-56° 50'	24/25	0h 18m	0h 44m	26m	2h 15m W	2" / 100%	3.52	50µm / 0.6	67 / 5.4	5.8	K5 V	NeAr	40s	14m	IIa O	MS 15m	B Wing	ε Ind
	BS 8536	22h 42.0	-46° 57'	Nov	0h 49m	1h 4m	2m 4m 6m	1h 55m W	2-4 var / 100%		0.8		3.7	M5 III			16Volt	Backing	67°F		β Gru
	BS 637	2h -10	-50 52	1988	1h 21m	02h 11m	50m	0E 26	2" / 100%		0.6		6.9	K1 V			Filter B				
	BS 805	2h 41m.7	-38° 26'		2h 21m	3h 06	45m	0E 02			0.6		6.9	G8 III							
	BS 848	2h 49m.8	-35° 53		3h 39m	4h 20	40m	1h 3m W	1".5 / 100%		0.6		6.8	K0 III							τ² For
3316	BS 911	3h 1m.7	+4° 3'	24/25	4h 31m	4h 46m	5m 9m	1h 19m W	1.5" / 100%		0.8	67 / 5.4	4.2	M1.5 III	NeAr	40s	14m	IIa O	MS 15m	B Wing	α Cet
	BS 1231	3h 57m.6	-13° 32'	Nov	4h 51m	5h 13m	4m 7m	~~1h 10m W~~ 0h 50W	2"		0.8		4.6	M1 III			16Volt	Backing	67°F		γ Eri
	BS 1556	4h 51m.9	+14° 14'	1988	5h 27m	6h 40	32m, 40m	1h 22W			0.8, 0.6		6.6	M3.5 S			Filter B				o¹ Ori
	BS 1907	5h 36m.3	+9° 17'		6h 48m	7h 21m	15' 10' 6'	1h 20m W	2" / 100%		0.8		5.0	K0 III p							φ² Ori
3317	BS3123	7h 59m	-23° 18'	24/25	4h 33m	4h 55m	22m	30m E	2" / 100%	3.52	50µ / 0.6	67 / 5.4	6.2	K2	NeAr	40s	14m	IIa O	MS 15m	BW	12 Pup
	BS 4337	11h 8m.1	-58° 55'	Nov	8h 4m	8h 24m	7m 10m	3h 10m E			0.8, 0.6		5.1	G0 Ia			16Volt	Backing	67°F		V382 Car
	BS 3634	9h 7m.6	-43° 23'	1988	8h 33m	8h 46m	2m 3.5m 5m	49m E			0.8		3.9	K4 Ib-IIa			Filter				λ Vel

+.4RA −2 Dec

55%
14°
Calm

47% 50%
17° 13°
calm/clear

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LC		1988	1988																		
3318	HR8531A	22h24.5	−57 50	17/18	0037	0042	5+m ✓	3h24mW	1.5/clear	3.29	50μ/1.2	120/7.25	6.0	G4 V	NeAr	20s	14m	Baked IIaO	M-S	[illegible]	
	8658	22 45.7	−48 59	DEC 1988	0049	0104	15m ✓	3 25W					7.4	G0			16V	2h H2N 65°C	15m 67°F		
	HR6	00 05.6	−49 02		0120	0125	5m ✓	2 25W	1"				6.2	G1							
	HR23	00 08.3	−54 06		0128	0147	12m,6m / 12	2 44W					7.1	G4							
	HR159A	00 36.8	−24 39		0151	0155	4.5 ✓	2 25W					6.3	G5							
	173	00 39.9	−23 49		0204	0213	8+ ✓	2 38W					6.8	G3							
	608	02 02.5	−15 21		0216	0225	8+ ✓	1 28W					6.8	G3							
	996	03 18.7	+03 23		0229	0232	3 ✓	20m W					5.4	G5V std							= κ Cet
	1008	03 19.5	−43 04		0237	0239	1.5 ✓	25m W					5.0	G5 V							
	HD27691	04 22.0	+15 00		0256	0316	20m ✓	0h					7.55	G0V							Dec double 2" Hya #40
	27859	04 23.7	+16 50		0325	0410	45m ✓	50m W					8.4	G1V							Hya #52
		~~35.9~~	~~69 15~~																tried for SN — aborted.		
	HD42581	06 10.0	−21 52		0545	0835	2h50m ✓	3h40W	"	"	"	"	9.6	M1V	"	"	14m	"	"	"	
3319	HD213985	22 34.9	−17 19	18/19	0037	0207	90m ✓	4 40W	1.5/clear	3.29	50μ/1.2	120/7.25	9.0	B9	"	"	16V	"	"	"	
	HR172	00 39.9	−16 35	Dec 1988	0212	0227	15m ✓	2 56W	"				7.4	G5							
	176	00 40.3	−59 27		0231	0244	6m(W),6(guide)	3 13W	"				6.4	G1							
	203	00 44.8	−12 53		0248	0256	8m ✓	3 23W	"				6.76	G0							18 Cet
	SN 1987A	05 35.5	−69 14		0326	0626	3h ✓	2h W	1.5/Clear	"	100μ/.6	"	11.?	SN							
	HD46202	06 31.6	+04 59		0655	0823	88m / 75	3h W			50μ/1.2	"	9.26	O9 V std							
	46149	06 31.7	+05 03		0830	0847	17m / 22	3h26W					7.5	B2 (not B2 - rotated star?)							
3320	HD4395	00 45.6	−11 31	19/20	0042	0117	35m ✓	1 45W	<1"/clear	3.29	50μ/1.2	120/7.25	8.4	G5	NeAr	20s	14m	baked IIaO	MS	[illegible]	50% 14° calm
	4967	00 51.0	−22 54	DEC 1988	0128	0335	2h7m ✓	3 56W	"		/.4		10.22	K4 V			16V	2h H2N 65°C	15m 67°F		
	21197	03 24.5	−05 25		0343	0414	30m ✓	2h2mW	"				9.0	K5 V							
	21531	03 27.3	−19 48		0418	0522	64m ✓	3h9mW	"				9.7	K2V							
3321	SN1987A	05 36.0	−69 12	"	0611	0657	46m ✓	2 36W	"		100μ/.4	1T	11?	SN				IIaD			
	PRAESEPE 164	08 38.5	+20 09		0715	0820	65m ✓	56m W	"			"	12	G				"			
3320 (cont)	HD 89948	10 21.9	−29 31	"	0842	0902	20m ✓	7m E	"		50μ/1.2	120/7.25	7.9	G5				IIaO			
3322	HD11964	01 56.8	−10 18	20/21	0030	0042	12m ✓	2m W	1"/clear	3.29	50μ/1.2	120/7.25	7.24	G5	NeAr	20s	14m	baked IIaO	M-S	[illegible]	
	11507	01 52.5	−22 25	Dec 1988	0047	0247	2h ✓	2h13mW	"	"	50μ/.6	"	10.2	M1V			16V	2h H2N2 65°C	67° 15m		
	24916	03 56.9	−01 08		0253	0511	2h+ ✓	2 33W	"	"	50μ/1.2	"	9.2	K5 V							

535.9 −69 12

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3323 IT	SN 1987A	05 35.6	-69 15	20/21	0556	0626	30m / 27m	2h 7m W	1"/clear	3.29	100μ/.4	120/7.25 IT	11	SN	NeAr	1s	X	IIa-D	M-S 15m 67°F	[illegible]	
	Praesepe #399	0840.3	+19 40	Dec 1988	0638	0723	45m / ✓	0h 1m W	"				11.5	G							
3324 IT	" 432	0840.8	+19 37		0748	0845	57m / ✓	1h 23m W	"	"	"	"	11.7	G							
3322 (cont.)																					
	HR3994	10 09.6	-12 25	"	0907	0909	2½m / 1m ✓	17m W.	"	"	50μ/1.2	120/7.25	4.6	K0III	NeAr	20s	14m	[illegible] IIa-O	M-S	[illegible]	
3325	HR107	00 27.9	+10 08	21/22 Dec 88	0037	0045	7m / ✓	1h 38m W.	1".5/clear	3.29	50μ/1.2	120/7.25	6.5	F6 V	"	"	16V	H_2N " 2h 65°C	15m 67°F "	[illegible]	
	HR222	00 47.9	+05 10		0048	0059	11m / 10m	1h 30m W.	1".2/clear				6.6	K2 V							Companion SE on [illegible] AM~2m, sep ~40"
	HD 26	00 04.8	+08 43		0107	0237	90m / 110m	3h 52m W	1".5				9.3	Gp.							
	HR255	00 53.9	-08 49		0239	0249	10m / 12m	3h 46m W					7.1	G5							
	210	00 45.7	-22 32		0251	0300	9m / ✓	336 W	2"/Clear				6.5	G3							
	209	00 45.4	-47 34		0302	0309	7m / ✓	345 W					6.4	G1							
	582	01 39.7	+03 05		0312	0319	7m / ✓	240 W	1".5/clear				6.5	G2							
	373	01 16.1	-02 37		0322	0328	6m / ✓	3h 33m W					6.3	G5IIIe E							= 39 Cet.
	405	01 24.1	-15 47		0330	0340	9m / ✓	337m W	1".2/				7.05	G5.							
	300	01 02.8	-29 41		0342	0354	11m / ✓	4 12 W.	1".2/				7.22	G5							
	332	01 07.2	-61 54		0356	0404	7m / ✓	4 17 W					6.25	G5.							= ζ Tuc
	784	02 39.8	-09 37		0410	0415	5m / ✓	256 W	1"/				6.3	F6V							
	818	02 44.6	-18 40		0417	0418	1m.5 / ✓	3h W					4.95	F6V.							= τ Eri
3326	HD36003	05 27.9	-03 35	21/22 Dec 88	0459	0559	1h / ✓	1h 52 W	1".2/	"	"	"	8.73	K5V	"	"	"	"	"	"	
	HR1983	05 43.9	-22 30		0601	0603	30s (27) / ✓	1 42 W.					4.07	F6V							= γ Lep.
	2927	07 36.7	-04 11		0608	0611	3m / ✓	3m E					5.57	F6III							= 25 Mon.
	1173	03 46.3	-23 19		0617	0619	1m.5 / ✓	3h 54m W					4.65	F3 III							
	HD36936	05 34.6	-04 23		0652	0743	40m / ✓	331 W.	1".5/				8.6	B5 V							
	HD37017	05 34.8	-04 31		0745	0753	8m / ✓	340 W					6.43	B2 Vh							
	HD37016	05 34.8	-04 27		0755	0800	5m / ✓	347 W					6.1	B2.5V							
	HD37040 = SAO132325	05 35.0	-04 23		0802	0810	8m / ✓	357 W.					6.5:	B5							
	HR3750	09 27.4	-06 02		0814	0819	5m / ✓	14m W					6.0	G2							
	HR3803	09 31.0	-57 00		0824	0827	3m / 2.5	18m W					4.7	K5III							= N Vel
	HR4287	10 59.3	-18 13		0834	0837	3m / ✓	1h 2m E					5.2	K0III							= α Crt
	HR3418	08 38.2	+03 26		0841	0845	4m /	1h 30m W					5.6	K1 III							= σ HYA
	HR3518	08 50.1	-27 39		0850	0853	[illegible]	1h 26m W					5.5	K3 III							= γ PYX.

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3327	HR143	6035.1	-00 31	22/23 Dec 1988	0038	0044	6m	1h34mW	1.5/clear	3.29	50μ/1.2	120/7.25	6.4	F5	Neon	20s	14m 26V	baked IIa-O 2h H2N 6.5°C	IIIa-F 15m 677	WJH	
	HR 33	0010.7	-15 31		0047	0049	2.5	2 04W					5.4	F7							
	173	0040.2	-23 49		0051	0100	9m	1 45W					6.8	G3							
	366	0114.0	-08 00		0102	0105	3m	1 16W.					5.6	F5							
	HD9540	01 32.8	-24 12		0107	0129	22m	1h21mW					7.75	G8							
	o CET	02 18.5	- 03 01		0132	0135	40,80s/120	40mW.					4:5.0	M6e							Mira
	HR740	02 31.5	-15 19		0142	0144	2m	38mW					5.2	F4.							δ CET.
	o CET	02 18.8	-03 02		0148	0151	3m 2m	57mW.					5.5	M6e							Mira
	HR857	02 52.0	-12 50		0154	0208	14m	43mW					6.9	K2V							
	HR962A	03 12.2	-01 14		0213	0216	3m	29mW.					5.6	F8							
	LLCet.	0233.4	-13 13		0220	0416	1h56m						9.5	Me							LPV.
	HR429	01 27.9	-43 19		0422	0425	3m	4h23mW					5.0	M0 III							γ Phe
3328	440	0131.2	-49 05	"	0437	0440	2.5 2	4h34mW.	"	"	"	"	4.94	K0 III	"	"	"	"	"	"	δ Phe
	555	0153.5	-46 17		0443	0453	10m 9	4h26mW					6.0	M4 III							ψ Phe
	585	0159.7	-21 01		0500	0508	8m	4h33mW.					5.6	M0. III							59 V Cet
	602	0201.6	-44 40		0510	0520	10m	4h45mW					6.6	K5 III							χ Phe
	841	0248.8	-32 27		0525	0529	3m	4h06mW.					5.45	K0 III							β FOR
	1231	03578	-13 32		0532	0534	2m	3h02mW.					4.54	M0.5 III							δ ERI
	1299	0410.6	-35 18		0538	0609	30m 25	3h24mW					7.9	K1 III							
	1464	0435.3	-30 34		0636	0638	2m	3h28mW.					4.8	G8 III							50 ν² ERI
	1481	0437.8	-14 17		0641	0643	2m	3h30mW					4.9	K2 III b							53 ERI
	1487	0438.9	-14 20		0648	0656	7.5	3h42mW.					6.5	K1 IIIa							
	1492	0437.0	-62 04		0700	0707	7m 15m	3.56W.					7.5	M8e							=RDor.
	HD31274	04 52.0	-46 50		0721	0800	39m	4h33mW.					8.1	G9 III	CN-3.5						
	RCW	6/2 19.2	-19 10		0804	0900	56m	1h54E	1"/clear				9s	Me.							
3329	HR107	00 27.9	+10 07	23/24 Dec 1988	0040	0051	11m	1h57W	1.5/clear	3.0	50μ/1.2	67/5.4	6.5	F6V	"	30s	"	"	"	"	
	222	0048.0	+05 17		0053	0112	19m	1h52W.	1.5-2				6.6	K2V							
	HD4395	0045.8	-11 29		0119	0235	76m	3h18mW.	1.5-2"				8.4	G5							bumped Spectra in middle of 4p
	HD9540	01 33.1	-24 09		0238	0321	43m	3h17W.	1.5				7.8	G8V							
	11964	01 57.0	-10 13		0323	0349	26m	3h21W	1.2				7.24	G5.							

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3329	HR784	02 40.0	−9 25	23/24	0351	0400	9m/10m	2h49m W	1.5/clear	3.00	50μ/1.2	67/5.4	6.3	F6V	Neon	30s	14m	baked IIa-O	M-S	[illegible]	
(Cont)	HR857	02 52.3	−12 43	Dec 88	0402	0423	21m	3 02 W					6.9	K2V			16V	2h H_2N 65°C	67°F 15min		
	HR1614	05 00.6	−05 40		0458	0528	30m	1 57 W	1.5/clear				7.3	K3V							
	1687	05 11.0	−02 23		0530	0541	11m	1 58 W					6.4	F5V							
	1982	05 44.4	−22 12		0544	0557	13m/15	1 42 W					6.15	K2V							
	2313	06 25.0	−00 58		0601	0613	12m	1 17 W					6.4	F8V							
	2927	07 37.0	−04 09		0615	0619	4m+	12m W					5.6	F6 III							
	HD61606	07 39.6	−03 38		0623	0751	88m	1h40m W					8.2	K2V							
3330	HR3578	08 58.4	−16 04	23/24	0804	0818	12m eff	50m W		"	"	"	6.4	F6	"	"	"	"	"	"	
	4251	10 53.1	−20 02	Dec 88	0822	0832	7m eff	52m E					5.7	F6							
	4455	11 34.0	+03 10		0835	0845	10m						6.2	F5							
	HR608	02 02.5	−15 22	24/25	0047	0103	16m/20	33m W	1.5–2"/clear	"	"	"	6.8	G3	"	"	"	"	"	"	
	o Cet	02 18.8	−03 02	Dec 88	0105	0111		23m W	1.5/clear				4:	M6e							
	~~U Cet~~	~~02 33.3~~	~~−13 13~~		~~0117~~								~~9~~	~~M2e~~	Damn forgot to pull slide!						~~[illegible]~~
	HD34673	05 18.7	−03 06		0322	0502	100m	1h15m W	<1"/clear				8.8	K3V							
	36003	05 28.0	−03 31		0503	0710	2h7m	3 16 W	1-1.5/				8.7	K5V							
	HR1982	05 44.1	−22 22		0713	0727	13m/20	3 16 W	1.5/clear				6.15	K2V							
	BD-2°2902	09 28.6	−02 40		0733	0823	50m	29m W	1"/clear				8.06	K0							≈ Woolley #348B
	HD89948	10 22.0	−29 28		0825	0903	38m	16m W	"				7.9	G5 pec (SrII)							
3331	HR608	02 02.6	−15 22	25/26	0040	0104	23m	38m W	2"/clear	"	"	"	6.8	G3	"	"	"	"	"	"	
	U Cet	02 33.2	−13 13	Dec 1988	0107	0302	1h55	2h6m W	<1"/clear		50μ/0.6		9:	M2e							
	HD27691A	04 22.1	+14 58		0313	0354	40m/60	1h10 W	1.5/clear		/1.2		7.55	G0V							HYADES
	HD29310	04 37.0	+15 05		0356	0456	60m	[illegible]h56 W					8.1	G1V							
	HR1982	05 44.1	−22 23		0500	0522	22m	1 15 W	1.5/				6.15	K2V							
	HD42581	06 10.2	−21 50		0525	0741	2h eff 3h	3 09 W	1.5/few cirrus		50μ/0.6		9.6	M1V							some cirrus for 15 min in middle
	HD89948	10 22.0	−29 33		0745	0833	48m	11m E	<1"/clear		/1.2		7.9	G5 pec							
	HR3750	09 27.3	−06 10		0836	0845	9m	56m W	1"/few cirrus				6.0	G2							
	N Vel = HR3803	09 31.2	−56 58		0849	0900	6m3m/5m						4.7	K5 III							
3332	HR608	02 02.6	−15 23	26/27	0034	0104	30m	43m W	1.5/hazy but clear	"		"	6.8	G3	"	"	"	"	"	"	
	HD21197	03 24.5	−05 25	Dec	0110	0229	1h19m	46m W	<1"/clear		50μ/0.6		9.0	K5V							

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					BEGIN	END									KIND	EXP.					
3332 (Cont)	θ¹ Tau	04 28.1	+15 55	26/27	0238	0242	4m ✓	5m E	2"/clear	3.0	50μ/1.2	6.7/5.4	4.8	K0 III	NeAr	20s	14M	baked IIa-O	→	[illegible]	
	γ Tau	04 19.1	+15 34	Dec 1988	0247	0251	4m ✓						4.6	K0 III			16V B filter	M-S 15m 67°F			
	δ Tau	04 22.4	+17 30		0254	0257	2.5s 4s	16m W	2-3"/clear			4.8 ~~6~~ →	~~3.8~~	K0 III							
	ε Tau	04 27.9	+19 08		0300	0304	4m ✓	17m W					4.5	K0 III							
	δ Tau (repeat)	04 22.1	+17 29		0307	0311	4m ✓	30m W	2"				4.8	K0 III							
	HD 27691 A	04 22.1	+14 59		0317	0427	70m ✓	1h45m W	1.5				7.55	G0 V							
	30455	04 48.2	+18 40		0429	0519	50m ✓	2h12 W					7.6	G2 V							
	U Ori	05 55.3	+20 09		0524	0624	60m 90	2h10 W	1"		50μ/0.6		8:	Me							
	R Cnc	08 16.1	+11 43		0627	0731	64m ✓	56m W	1"		"		8.5:	Me							
	R Crv	12 19.1	−19 10		0739	0859	80m ✓	1h36m E	1"		"		9:	Me							
3333	HD 28033	04 25.5	+21 27	27/28	0327 ~~0315~~	0357	30m 40s	1h12m W	1.5/clear	3.30	50μ/1.2	120/7.25	7.9	F8 V	"	10s	"	"	M-S 67°F 15m	[illegible]	
	HD 28992	04 34.1	+15 26	Dec 1988	0401	0501	60m ✓	1 12 W					8.6	G1 V							
	β Ori	05 14.2	−08 14		0506	0506	1.5s ✓	1h37 W	thin - streaky				0.1	B8 I							
	29 Ori	05 23.4	−07 50		0510	0512	2m ✓	1 34 W					5.1	G8							
	27 Ori	05 24.0	−00 55		0521	0528	6m ✓	1 48 W					6.1	G9							
	ι Ori	05 35.2	−05 58		0531	0532	9s ✓	1 43 W					2.5	O9 III							
	ε Ori	05 35.9	−01 13		0535	0536	35 ✓	1 46 W					1.5	B0 Ia							
	ζ Ori	05 40.5	−01 57		0542	0543	9s 6s	1 48 W					~~2.0~~ 1.8	O9.5 Ib							
	51 Ori	05 41.9	+01 29		0546	0553	6m ✓	1 56 W					6.06	K1 III							
	κ Ori	05 47.4	−09 45		0556	0557	6s 9s	1 53 W					1.9	B0.5 Ia							
	56 Ori	05 52.0	+01 52		0600	0608	7m ✓	2 02 W					6.2	K2 II							
	+20° 2162 Praesepe 275	08 39.7	+19 46		0616	0852	2h35m ✓	2h W			50μ/0.6		10.6	G							
3334	HR 255	00 53.8	−08 49	28/29	0054	0124	30m ✓	2h20 W	2"/cirrus approaching	3.30	50μ/1.2	"	7.1	G5	"	"	"	"	"	"	
	HR 459	01 35.5	−15 26	Dec 1988	0130	0148	15m ✓						6.81	K2 IIIa							= 50 Cet
	HR 539	01 50.9	−10 25		0150	0153	3m ✓	1h51 W					4.9	K0 III							= ζ Cet
	HR 666	02 16.6	−06 29		0157	0216	[illegible] ✓	1 48 W					6.5	G8.5 III							
	γ Tau	04 19.1	+15 32		0220	0222	2m ✓	8m E					4.6	K0 III							
	δ Tau	04 22.2	+17 28		0225	0228	2.5m ✓	6m E					4.8	K0 III							
	θ¹ Tau	04 27.9	+15 52		0231	0233	2.5 ✓	6m E					4.8	K0 III							
	ε Tau	04 27.9	+19 07		0236	0238	2m ✓	0					4.5	K0 III							

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3334	39 TAU	04 04.6	+21 57	28/29 Dec	0244	0252	8m/10	36m W.	1.5-2"/cirrus	3.30	50μ/1.2	120/4.25	6.5	G1	NeAr	10s	14m	baked IIa-O 2h H2N	M-S	[initials?]	=HD25680
(Cont)	HD 29621	04 40.1	+23 47	1988	0300	0400	60m/40m		1.5"/cirrus				9.55	G5			16V B filter?	65°	15m 67°F		
	HR1685	05 10.5	-02 14		0514	0536	22m/✓	2h 15W.	1.5"/clear.				7.2	K1 IV							
	β Ori	05 13.7	-08 14		0539	0540	1.5s/✓	2 15W.					0.1	B8 Ia							
3335	ι Ori	05 34.7	-05 55	"	0549	0550	9s/11s		"	"	"	"	2.5	O9 III	"	"	"	"	"	"	
	ε Ori	05 35.9	-01 11		0552	0553	3s/5s	2h 6m W	1.5"/clear.				1.5	B0 Ia							
	ζ Ori	05 40.4	-01 55		0555	0556	6s/✓	2h 5m W					1.8	O9.5 Ib							
	κ Ori	05 47.4	-09 42		0558	0559	9s/✓	2h 2m W.					1.9	B0.5 Ia							
	HR2334	06 26.9	+00 21		0606	0616	9m/✓	1h 38m W	1.5"/clear				6.4	K1 II							
	5 CMi	07 32.1	+08 21		0619	0737	78m/	1h 54m W			/0.6		9.1	Me							
	HR3484	08 45.7	-13 31		0740	0744	3.5m/	48m W.	1.5-2"/clear.				5.2	G8 III							
	HR 3845	09 39.4	-01 04		0750	07 54	4m/	4m W.					5.4	K2.5 III							35 ω Hya?
	HR4094	10 25.7	-16 46		0756	0800	4m/✓	35m E					5.3	K4.5 III							
	HR4450	11 32.7	-31 49		0806	0808	2m/✓	1h 35E					4.5	G7 III							
3336	HR2392	6 32 47	-11 60	9.3	0100	0112	7m/		1.4"/clean	3.28	50μ/1.2	120/4.25	6.4	K0 III						G. Thimm?	
?	H2334	6 26 14	00 18	"			17m/						5.2	K1 II							
	HR1505	5 35 16	-33 05 22		0158	0216	20m/						5.74	K2 IIIa							
	HR 2764 (~~4630~~)	7 16 10	- 23 18		0231	0235	5m/						4.86	K3 Ib							
	"	"	"		0236	0241	5m/						4.86	K3 Ib							
	HR 3518				0256	0301	4,5m/						4.02	K3 III							
	HR 3628	9 07 34	-25 48		0304	0309	5m/						4.58	K4 III							
	HR 4094	10 25 34	-16 47		0330	0330	3m/						3.82	K4.5 III							
	HR 4991	13 13 21	- 43 05		0500	0520	20m/						6.15	K4 III							
3337	HR 4511	11 43 00	- 62 25		0619	0621	2m/						5.01	G0 0							Now baked plate
	HR 4441	11 31 17	- 59 22		0638	0640	2m/						5.07	G3 0							
	HR 4786	12 33 49	- 23 20		06 50	06 51	15s/						2.66	G5 II							
	HR 4932	13 01 39	+ 11 01		0655	0656	15s/						2.81	G8 V							
	HR 4540	11 50 09	+01 49		0700	0701	1m/	01 50W					3.61	F9 V							
	HR 4825	12 41 07	-01 23		0745	0746	1m/	01 33W					3.65	F0 V							
	HR 4369	11 16 26	-07 04		0800	0812	11m/	03 27W					6.14	A7 III							

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~~3336~~	HR 4299	11 01 ~~01877~~ 17	-02 25		08 40	08 43	3m/		4"	3.28	50μ/1.2	120/7.5	4.73	M0 III						G. Thom.	
	HR 4517	11 45 18	+06 34		08 52	08 54	2.5m/	0340 W					4.02	M3 III a,b							
	HR ~~4910~~	12 55 03	+03 26		09 01	09 04	30s/	0235 W	3"				3.38	M3+ III							
	HR 4763	12 30 34	-57 03		09 13	09 14	15s/	0314 W					1.62	M3.5 III							
	HR 4532	11 48 13	-26 41		09 20	09 28	8m/						5.11	M4+ III							
	~~38173~~	~~05 37 44~~	~~-70 25~~				~~65m/~~						~~8.38~~	~~F2 IV~~							
3338	HR 2693	07 07 58	-26 23	10.3.89	02 52	02 53	15s/		1.5"	3.28	"	"	1.84	F8 Ia							
	HR 2943	07 38 44	+05 15		02 59	03 00	15s/						0.34	F5 IV-V							
	~~HR~~ 3185	08 07 33	-24 18		03 06	03 07	15s/						2.88	F5 II p							
	HR 2107	05 59 01	-09 22		03 22	03 29	7m/	~~0440 W~~					6.28	F2 IV	CEph. falsch ic(!)						
	HR 1865	05 32 44	-17 50		03 35	03 36	15s/	~0440 W					2.59	~~F0~~ I b							
	HR 4540	11 50 42	+01 46		04 29	04 30	30s/	0045 W					3.61	F9 V							
	HR 4825	12 41 40	-01 27		04 38	04 39	30s/	0130 W					3.65	~~F0~~ V							
					~~054~~ 0448		~~2.5m/~~	~~0210 W~~					~~3.76~~	~~F6 II~~							
	HR 3684	09 15 45	-37 25		~~09 15 45~~	~~04 50 -37 25~~	2.5m/	0210 W					4.62	F5 VI							
	HR 4114	10 27 52	-58 45		05 00	05 01	30s/	0105 W					3.82	F0 I b							
	HR 4616	12 06 53	-64 36		05 18	05 20	2m/	0010 W					4.14	F0 III							
3339	HR 4511	11 43 31	-62 29		06 18	06 20	2m/	0110 Q					5.01	G0 Ia							
	HR 4441	11 31 47	-59 26		06 28	06 30	2m/	0130 W					5.07	G3 0 Ia							
	HR 4523	11 46 31	-40 30		06 41	06 44	3m/	0130 W					4.90	G5 V							
	HR 4786	12 34 23	-23 24		06 55	06 56	15s/	0055 W					2.66	G5 II							
	HR 4932	13 02 11	+10 58		07 03	07 04	15s/	0035 W					2.81	G8 V							
	HR 4544	11 51 02	-65 20		07 14	07 17	3m/	0200 W					5.63	K0 III							
	HR 4630	12 10 08	-22 37		07 23	07 24	45s/	0145 W					3.00	K2.5 IIIa							
	HR 3994	10 10 35	-12 22		07 33	07 34	45s/	0400 W					3.62	K0 III							
	HR 4094	10 26 05	-16 51		07 48	07 49	45s/	0410 W					3.82	K4.5 III							
	HR 4991	13 13 58	-43 09		08 00	08 06	6m/	0120 W					6.15	K4 III							
3340	~~HR~~ 37084	05 30 10	~~-70 17.8~~	11.3.89	00 54	01 54	60m/	0300 W		3.28	50μ/1.2	120/7.5	9.36	K2/4 III							
	37122	05 30 29	-70 00.8		04 15	05 00	45m/	/					8.24	K2 III							
	270134	05 46 31	-67 43.0		06 28	06 55	27m/						9.1	~~F0~~ III							

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	HR4441	11 31 47	-59 26		0729	0732	3m/	—					5.07	G3 0-Ia						La Thuile	
	HR4544	115102	-0520		0741	0746	5m/	—					5.63	K0 III							
	HR3803	093113	-5702		0756	0756	30s/	—	3"/clear				3.12	K5 III							
	HR4532	114845	-2645		0808	0808	45m/	/					5.11	K4 III							
	HR4616	120653	-6436		0817	0819	2m/	/					4.14	F0 III							
	HR4773	123228	-7208		0826	0828	45s/	—					3.86	B5 V							
	HR4736	122725	-6347		0838	0842	4m/	/					6.20	B8 IV							
	HR4712	1223 36	-6524		0852	0855	3m/	/					5.42	B9 III							
3341	87502	053317	-70 43.5	12.3d	0020	0220	2h/	/	2"-3"/clear				9.83	F2/3N-V							
	40597	055417	-69 14.8		0230	0440	1.2h/	/					8.92	K2/3 III							
	41279	055830	-7013.2		0415	0530	1.25h/	/					9.02	K2/3 III							
3342	HR1865	053244	-1750	13.8d	23.37	23.38	15s/	/	2" /hazy				2.59	F0 Ib							
	HR1859	05 3526	-0555		23.41	23.42	15s/	/					2.77	O9 III							
	HR1784	052357	-0748		23.48	23.50	2m/	/					4.13	G8 III							
	HR1931	054845	-0236		23.55	23.54	40s/	/					3.75	O9.5 V							
	HR1865	053156	-0719		00.00	0002	2m/	/					4.63	B0 V							
	HR1891	053522	-0425		0007	0014	7m/	/					6.25	B3 V							
	HR2085	055624	-1410		0019	0020	45s/	/					3.70	F1 III							
	HR1983	054428	-2227		0024	0025	45s/	/					3.60	F6 V							
	HR2513	064527	-5212		0037	0044	7m/	/					6.32	G6 Ia, b							
	HR2596	065605	-7108		0050	0052	2m/	/					4.38	B3 V							
	HR2156	060546	-2412		0100	0107	7m/	/					6.0	K6+ III							
3343	HR2618	065838	-2858		0130	0131	15s/	/					1.50	B2 IV							
	HR2294	062242	-1757		0137	0138	15s/	/					1.98	B1 IV-III							
	HR2479	064339	0356		0146	0149	3m/	/					5.74	B0 III							
	HR2534	065042	-0803		0153	0200	7m/	/					6.24	A2 V							
	HR2786	071851	-2635		0210	0207	7m/	/					5.40	G2 Ib							
	HR3043	074902	-2455		0222	0228	6m/	/					5.32	G0 III							
	HR3188	080836	-0259		0235	0237	2m/	/					4.35	G2 Ib							
	HR3259	081824	-1238		0242	0245	7m/	/					5.98	G7.5 V							

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	HR 3484	084622	-13 33		0305	0311	2m /	/					4.31	G8 III 6						G Thuillier	
	HR 3441	084143	-15 57		0317	0319	2.5m /	/					4.87	G9.5 III							
	HR 3547	085524	05 37		0326	0327	50s /	/					3.12	G9 II-III							
3344	HR 3314	082540	-03 55		0358	0359	1m /	/					3.9	A0 V							
	HR 3454	084314	03 23		0405	0407	2m /	/					4.30	B3 V							
	HR 3849	094019	-14 20		0413	0416	3m /	/					5.06	B5 V							
	HR 4119	103018	-00 38		0423	0426	3m /	/					5.04	B6 V							
	HR 3982	100822	+11 58		0430	0431	15s /	/					1.36	B7 V							
	HR 3733	092312	-28 50		0438	0440	2m /	/					4.72	G8.5 III							
	HR 3438	084006	-35 18		0447	0448	1.5m /	/					3.97	G7.5 II							
	HR 3364	083029	-36 43		0508	0458	10m /	/					0.67	K3+IIa-IIb							
	HR 3981	100756	-00 22		0514	0516	2m /	/					4.49	A0 III							
	HR 4802	123742	-48 32		0522	0523	45s /	/					3.86	A2 V							

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					BEGIN	END							Blue		KIND	EXP				J G	
3345	BS3024	7h 42.0m	-72°34'	2/3	0h 18m	0h 31m	3m 6m /	52m W	1.5" / 100%	3.03	0.8μ	67Å/mm / 5.4	4.99	K0 III			Ar Ne 10 seg	IIa O	14m M-S 67°F	Cal 14min 16 Volt	ζ Vol (+3)
	BS3170	8h 3.4m	-32°42'	April	0h 42m	1h 22m	40m /	1h 19m W					7.12	M1 Ib			blue			J G	
	BS3315	8h 24.1	-24°00'	1989	1h 27m	1h 48m	20m /	1h 20m W					6.76	K5III + K1III			Filter				very dificult + other star = dic.
	BS3384	8h 32.4	-31°28'		1h 57m	2h 26m	28m /	1h 56m W					7.17	K0 V							
	BS 3433	8h 39.2	-29°31'		2h 28m	2h 36m	8m /	2h W					5.79	G4 III							ζ Pyx
	BS 3673	9h 12.8	-59°22'		2h 42m	2h 56m	14m /	1h 46m W					6.39	G6 II							
	BS 3750	9h 27.3	-6° 1'		3h 1m	3h 10m	9m /	1h 45m W					6.02	G2 V							
	BS 3884	9h 44.9	-62°25'		3h 17m	3h 20m	3m /	1h 36m W					4.91	G5 Iab-Ib							
3346	BS 4174	10h 35.9m	-78°28'	2/3	3h 52m	4h 3m	13m /	1h 32m	1.5" / 100%	3.03	0.8μ	67Å/mm / 5.4	5.69	M0 III	Ne Ar	10 seg	Ar Ne 10 seg	IIa O	14m M-S 67°F	J G	γ Cha
	BS 4325	11h 6.2	-62°16'	April	4h 10m	4h 18m	8m /	1h 15m W					5.64	G8 III			blue				
	HD 100012	11h 29.8	-25°44'		4h 29m	5h 10m	40m /	1h 42m W					6.7V	G8 III			Filter				
	BS 4647	12h 12.6	-34°4'		5h 14m	6h 34m	80m /	2h 25m W					8.16	M4 III							
	BS4862	12h 49.0	-71°55'		6h 42m	7h 5m	23m /	2h 20m W					6.62	G8 Ib-II							
	BS5188	13h 58.3	-82°33'		7h 14m	8h 5m	50m /	2h 11m W					7.41	K2-3 IIIp							
3347	BS 5771	15h 35.9	-66° 10	2/3	8h 24m	8h 30m	6m /	58m W	1.5" / 100%	3.03	0.8μ	67Å/mm / 5.4	5.28	K12 III	Ne Ar	10 seg	14 min 16 V	IIa O	14m M-S	J.G	ε TrA
	BS 5962	16h 2.3	-49° 12	April	8h 34m	8h 41m	7m /	42m W					5.57	G8 III			blue		67°F		η Nor
	BS 6020	16h 18.7	-78° 39		8h 49m	9h 10m	20m /	35m W					6.37	M5 IIIb			Filter				δ1 Aps
	BS 6271	16h 53.8	-42° 21		8h 15m	8h 20m	5m /	30m W					4.99	K4 III							ζ2 Sco
	BS 6401	17h 14.7	-26° 35		9h 32m	9h 36	4m /	25m W					5.19	K1 V							36 Oph
	BS 6424	17h 17.3	-24° 16		9h 41	9h 55	14m /	42m W					6.30	K0 II-III							39 o OPH
																					+5

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3348	BS 3170	$8^h\ 4.^m0$	$-32°39'$	8/9	2^h7^m	2^h52^m	45m	2^h15^m	1" 20%	3.01	0.8μ	67Å/mm 5.4	4.12	M1 I b	NeAr	10^s	14^m	IIa O	15^m M-S	JG/MT	
	BS 3433	$8^h39.^m4$	$-29°32'$	April	2^h3^m	2^h11^m	8m	2^h0^m					5.79	G4 III			16 V		67°F		J Pg x
	BS 3673	$9^h12.^m8$	$-59°23'$	1989	2^h24^m	2^h41^m	14m	1^h55^m					6.39	G6 II			Blue Filter				
	BS 3750	$9^h27.^m1$	$-6°\ 1^m$		2^h49	2^h58^m	9m	1^h58^m					6.02	G2 V							
	BS 3884	$9^h45.^m1$	$-62°29^m$		3^h05^m	3^h09^m	4m	1^h51^m					4.91	G5 Ia-b-Ib							
	BS 4174	$10^h35^m.3$	$-78°33^m$		3^h17^m	3^h34^m	15m	1^h25^m					5.69	M0 III							γ CHA
	BS 4325	$6^h\ 7^m.5$	$-62°22^m$		3^h39^m	3^h49^m	10m	1^h10^m					5.64	G8 III							ε Car
	~~BS 4700~~	~~$12^h20.^m8$~~	~~$-60°20$~~																		
3349	BS 4700	$12^h20^m.8$	$-60°20^m$	8/9	4^h31^m	4^h38^m	7m	0^h45^m	1.5" 80%	3.01	0.8μ	67Å/mm 5.4	5.01	K3-4 III	NeAr	10^s	14^m	IIa O	15^m M-S	MT/JG	ε CRU
	BS 5041	$13^h23^m.4$	$-64°29^m$	April	4^h54^m	5^h2^m	7m	6m					5.38	G6 II			16 V		67°F		
	BS 5459	$14^h38^m.8$	$-60°47^m$	1989	5^h11^m	5^h12^m	1m	0^h59^m					0.70	G2 V			Blue Filter				α¹ Cen / OUT OF FOCUS
	BS 5460	$14^h38^m.8$	$-60°47^m$		5^h13^m	5^h14^m	1m	0^h57^m					1.21	G1 V							α² Cen / OUT OF FOCUS
	BS 5771	$15^h35^m.8$	$-66°17^m$		5^h26^m	5^h34^m	8m	1^h34^m					5.28	K1-2 III							ε Tra
	BS 5797	$15^h37^m.3$	$-42°32^m$		5^h39^m	5^h51^m	12m	1^h19^m					5.75	K4.5 III							w Lup
3350	BS 5943	$15^h58.^m$	$-41.°43^m$	8/9	6^h20^m	6^h28^m	8m	1^h15^m	1 90%	3.01	0.8μ	67Å/mm 5.4	5.99	K0 II-III	NeAr	10^s	14^m	IIa O	15^m M-S	JG/MT	
	BS 5962	$16^h2.^m5$	$-49°12^m$	April	6^h37^m	6^h43^m	6m	0^h52^m					5.52	G8 III			16^v		67°F		η Nor
	BS 6020	$16^h18.^m8$	$-78°40^m$	1989	6^h52^m	7^h13^m	20m	0^h30^m					6.37	M5 III b			blue Filter				S¹ Aps
	BS 6024	$16^h12.^m6$	$-54°36'$		$7^h19.^m5$	7^h29^m	10m	16^m					5.98	G8 III							I Nor
	BS 6072	$16^h19.^m0$	$-50°9'$		7^h38^m	7^h42^m	4m	9^m					5.10	G8 III							δ² Nor
	BS 6166	$16^h35.^m7$	$-35°14'$		$7^h46.^m5$	7^h57^m	10m	11^m					5.73	K6 III							
	BS 6229	$16^h48^m.9$	$-59°01'$		8^h02^m	8^h10^m	8m						6.33	K5 III							η Ara
3351	BS 6271	$16^h53^m.8$	$-42°20'$	8/9	8^h43^m	8^h47^m	4,5m	20m	1° 90%	3.01	0.8μ	67Å/mm 5.4	4.99	K4 III	NeAr	10^s	14^m	IIa O	15^m M-S	JG/MT	ζ² Sco
	BS 6401	$17^h14.^m7$	$-26°35'$	April	8^h56^m	9^h00^m	4m	13m					5.19	K1 V			16^v		67°F		36 OPH A
	BS 6424	$17^h17.^m3$	$-24°17'$	1989	$9^h5.^m5$	$9^h19.^m5$	14m	30m					6.3	K0 II-III			blue Filter				39 OPH A
	BS 6582	$17^h44.^m7$	$-64°43'$		9^h24^m	9^h28^m	4m	11m					4.81	K2 II							η Pav

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3352	BS 1654	5h 5m	-22°23'	12/13 April	23h50m	0h 2m	12'	3h38m	1.5" / 100%	3.01	0.8μ	67Å/mm / 5.4	5.65	K5III v	NeAr	10s	14m 16 Volt	IIaO	MS 67°F	JG	2 ε Lep
	BS 1836	5h 26.2	-58°55'	1989	0h 6m	0h21m	14'	3h36m	3h(?)				6.14	G6III			B. Filter				λ Dor
	HD 41312	6h 2.6m	-26° 17'		0h31m	0h55m	24'	3h39m					6.53	gK3							
	BS 2524 (corr.)	6h 46.5m	-54°41'		1h20m	1h 56m	36'	3h 52m				7.32	~~7.89~~	G6 VII							double sep. 18"
	BS 2554	6h 49.6m	-53°37'		2h 2m	2h 8m	6'	4h 1m					5.32	G6 II							
	BS 2993	7h 43.1m	-28°23'		2h17m	2h37m	20'	3h36m					6.22	K3Ib							1 Pup
	BS 3046	7h 48.0m	-47° 3'		2h41m	2h51m	10'	3h46m					5.77	K0 III							
	BS 3229	8h 12.9	-15 45'		2h56m	3h10m	14'	3h 40m					6.06	G5II							20 Pup
	BS 3518	8h 50.1m	-27° 40'		3h20m	3h27m	7'	3h 19m					5.28	K3III							
	BS 3706	9h 19.2m	-11° 56'		3h32m	3h41m	9'	3h4m				5.72	~~6.19~~	G8III							26 HYA
3353	BS 4063	10h 19.3m	-54°59'	12/13 April	4h39m	4h59m	20'	2h23m	1.5" / 100%	3.01	0.8μ	67Å/mm / 5.4	6.19	K3II	NeAr	10s	14m 16Volt	IIaO	MS 67°F	JG	α ANT
	BS 4104	10h 26.7m	-31° 1'	1989	5h 7m	5h18m	11'	3h34m					5.70	K4III			B. Filter				
	BS 4162	10h 36.7m	-27°22'		5h22m	5h49m	27'	3h55m					6.51	M2III							
	BS 4180	10h 38.9m	-55°33'		5h56m	6h2m	6'	4h6m					5.32	G2-3Ib							
	BS 4514	11h 44.2m	-18°18'		6h 9m	6h18m	9'	3h16m					5.70	G8IIIa							27 ζ CRT
	BS 5864	15h 46.8	-37°53'		6h23m	6h41m	18'	0h22m					6.73	G6V							
			(1989.4)																		
3354	HD 146624	16h17.6	-28°35	22/23 MAY 89	08:48	08:50	1¼m	3h54W	1.0	2.98	50μ / 1.2mm	67 / 5.4	4.8		NeA	40s		IIa-O (baked)	MS	RWS.	CIRRUS CLOUDS.
	HD 145964	16h13.9	-21°05		08:55	09:08:45	13¾m	4h16W					6.4								" + MOON!
	HD 145127	16h09.5	-24°33		09:15	09:35	20m	4h45W					6.6								VARIABLE CLOUDS.
	HD 141164	15h47.8	-23°48		09:40	10:05	25m	5h40W					6.8		NeA	40s					EXCESSIVE HA. (next pos #15)
	HD 126110	14h24.1	-45 09	23/24 MAY 89	23h58.5	00:48	50m	2h10 E	"	"	"	"	8.2?	B9V?	NeA	40s		"	"	"	CONTINUING ON SAME PLATE GLASPEY
	HD 126135	14h24.1	-40°42		00:53	01:09:30	16½m	1h30 E					7.0	B8							GLASPEY.
	HD 128344	14h37.2	-47°59		01:18	01:30	12m	1h43 E					6.7	B8							SOME CIRRUS. GLASPEY.
	HD 128819	14h39.6	-40°48		01:36	01:48½	12½m	1h29 E					6.7	B8/9							GLASPEY.
	HD 132094	14h57.8	-37°19		01:54½	02:14	19½m	1h20 E					7.3	B9							GLASPEY,
	HD 136482	15h21.5	-37°36		02:19	02:31	12m	1h24E					6.7	B8/9	NeA	40s					GLASPEY

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3355	HD 146624	$16^h17.6$	$-28°35'$	MAY 25/26	01:50	01:57	4,5,6 TRAILS		1"/CIRRUS	3.28	50M 1.2mm	120 7.25	4.80		NeA	30s		NOT BAKED IIa-O	M-S	RWS	26^s/TRAIL
	HD 145964	$16^h13.9$	$-21°05'$		02:04	02:34	3,4(?),5						6.41					BUMPED GRATING SECOND EXP.			2^{MIN}/TRAIL
	HD 145127	$16^h09.5$	$-24°33'$		02:41	03:00	4,5		≤1"				6.64								2^{MIN}/TRAIL
	HD 141164	$15^h47.8$	$-23°48'$		03:09	03:33	5,6						6.82								2^M/TRAIL
	HD 146606	$16^h17.6$	$-28°01'$		03:37	04:09	$13^M, 17^M$.						7.06		NeA	30s.					
3356	HD 141063	$15^h47.3$	$-25°57'$	MAY 27/28	03:26			ABANDONED - CLOUDS TOO THICK.					7.17		NeA	30s		IIa-O	M-S	RWS	
	HD 141063	$15^h47.3$	$-25°57'$	NOV 28/27	02:42½	03:18	$15-18^M$.	4^h46 E	1-1½/600?	3.29	50M 1.2mm	120 7.25	7.17		NeA	30s		IIa-O	M-S	RWS	TRY AGAIN!
	HD 143715	$16^h02.2$	$-24°59'$		03:23	03:40	17^M	0^h39E	1-2/600				7.22								ONLY ONE EXPOSURE
	HD 145198	$16^h09.7$	$-22°08'$		03:47	04:03	16^M	0^h23E	1"/EXC.				7.24								
	HD 141091	$15^h47.4$	$-25°11'$		04:07½	04:24½	17^M	0^h25W	1"/EXC.				7.30								
	HD 143785	$16^h02.5$	$-19°49'$		04:29	04:47	18^M	0^h29W	1"				7.39 (7.59?)		NeA CHECK	30s. TILTS.		BUMPED GRATING SLIGHTLY ABOUT ½ WAY THROUGH LAST (SHORT)			TRAIL.
3357	HD 126135 SKY	$14^h24.0$	$-40°42'$	June 18/19	04:31	04:58	$12,15^m$.	4^h41W	1"/CIRRUS	3.29	50M 1.2mm	120 7.25	6.97		NeA	30s.		IIa-O	M-S.	RWS.	BEWARE OF MOONLIGHT!
	~~HD 126344~~	$14^h37.1$	$-47°58'$		06:08½	06:23½	15	4^h52W					~~6.65~~					SKY ONLY.			
	HD 128344	"	"		06:25½	06:40½	15	5^h10W	1-3"/CIRRUS				6.65		NeA	30s.					BAD SEEING WAS OFF MOON.
3358	HD 143785			June 20/21	23:47	00:08	ABORTED		~~THICK~~ THICK CLOUDS				7.6		NeA	30s		IIa-O	M-S	RWS.	
	HD 143785	$16^h02.5$	$-19°49'$		00:56	01:20½	$24½^m$	2^h28E	1-1½/SOME CIRRUS	3.29	50M 1.2mm	120 7.25	7.6								TRY AGAIN!
	HD 144273	$16^h05.1$	$-19°39'$		01:29	01:51½	$22½^m$	0^h59E	1¼-1"/CIRR				7.66		COULD USE 20% longer exposure -						
	HD 144175	$16^h04.7$	$-23°38'$		02:00	02:21¾	$21¾^m$	0^h29E	1"/PHOT.				7.75		PLATES RATHER FOGGY.						
	HD 147432	$16^h22.2$	$-23°06'$		02:26	02:50	24^m	0^h18E	1"/PHOT.				7.82		NeA	30s.		NEXT FREE SPOT = #18			
3359	HD 143785	$16^h02.5$	$-19°49'$	June 21/22	05:21½	05:55½	34^m.	3^h25W	1-3" NON PHOT	3.29	50M 1.2mm	120 7.25	7.59		NeA	30s.		IIa-O	M-S	RWS	
	144273	$16^h05.1$	$-19°39'$		05:59½	06:33½	34^m.	3^h59W	1-3"									¼ MOON @ RA ~ 23^h.			
	144175	$16^h04.7$	$-23°38'$		06:36½	07:22	$45½^m$.	4^h48W	1-3"												DEC ~ $-27°$.
	147432	$16^h22.2$	$-23°06'$		07:25½	08:02	$36½^m$.	5^h11W	2-5"	CIRRUS CLOUDS MOVE INTO SEEING.					NeA	30s.		IIa-O bkgnd	M-S.	RWS	
3360	HD 145793	$16^h13.3$	$-28°14'$	June 25/26	23:38½	01:07	23^m + 28, 35	1^h32E	1"/CIRRUS	3.29			8.16		"	"		"	"	"	BUMPED GRATING TWICE DURING FIRST EXP.
	HD 143472	$16^h00.8$	$-25°10'$		01:11	02:38	24, 29, 33	0^h12W	1"/CIRRUS				8.13								
	HD 144981	$16^h08.7$	$-19°26'$		02:43	04:15	23, 30, 37	1^h40W	≤1"/CIRRUS				8.13								
	HD 145942	$16^h13.7$	$-22°07'$		04:19	05:00	40^m.	2^h21W	¾"/CIRRUS				8.02		NeA	30s.		CLOUDS QUITE THICK.			MOONRISES.

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3361	HR 1946	0540.6	+16 31	6/7	0758	0812	2,4,8m	56m W	2"/cirrus	3.29	100μ/.8	120/7.25	4.7	B3	NeAr	10s		IIa-O	MWP-2	(initials)	11°C 45% 20kph
	HR 1963	0541.9	+01 25	Nov 1989	0817	0825	1,2,4 / 25s	1h7m W	" "	"	"	"	6.1	K0	"	"		"	7 min	"	
	HR 2010	0548.9	+12 38		0828	0830	15,30,60s / 30s	1h6m W	"	"	"	"	4.8	B9					67°F		
	HR 2198	0611.5	+16 09		0835	0837	" / 40s	50m W					4.7	B5							
	HR 2503	0646.8	+07 58		0844	0854	1.5,3,6m ✓	42m W					6.2	K4							
	HR 3003	0745.3	+18 31		0857	0908	" ✓	3m E					6.3	K5							
3362	HR 8413	22 05.0	+04 49	7/8	0007	0020	15,3,6m	40m W	2"/cirrus	"	"	"	6.3	K4	"	"	14h	"	"	"	
	HR 8717	22 54.5	+08 47	Nov 1989	0024	0027	15,30,5,1m	1m E					4.9	A1			16V		overdeveloped		
	HR 8911	2326.1	+01 18		0031	0036	30s,1m,2m	24m E	1.5/cirrus				5.0	Ap			Blue				12°C 60% calm
	HR 8697 (216385)	2251.6	+09 49		0051	0056	1,2,4m	32m W	thickening				5.6	F7 IV			filter				thru thick cirrus
	HD 216640 (HR 8711)	2254.0	-16 14		0118	0140	3,6,12m	1h2m W	"				6.7	K2.5 III b							
	HD 222093 (HR 8958)	2337.0	-13 01		0148	0207	3,6,12m	1h W	1"/very thick				6.7	G9 III							11.5°C 50% calm
3363	mira	0218.7	-02 49	"	0530		5,10,20s			"	"	"		[illegible]	"	"	N				
	= HD 14386					0535	15,30s	3h17m W	1"/few cirrus				3:	M5 IIIe				"	"	"	11°C 45% calm
	HR 434	01 29.5	+06 14		0543	0604	3,6,12m	3h3m W	1"/"				6.1	K4					overdeveloped		
	HR 754	02 35.1	+05 42		0608		1.5,3,6m		thick cirrus				5.7	G8							stopped by clouds
3362 (3366)	HD 165634	1807.2	-28 27	8/9	2357	0003	45,90,180s ✓	4h27m W	1.5/clear, photometric	"	"	"	5.5	G7 III	"	"	"	"	"	(initials)	14°C 48% calm
	HR 8413	22 05.0	+05 00	Nov 1989	0012	0028	2,4,8m ✓	53m W					6.3	K4							
	8717	22 54.5	+08 46		0031	0035	15s,30s,1m,2m ✓	9m W					4.9	A1							
	8911	2326.0	+01 00		0042	0045	" ✓	8m E					5.0	Ap.							Dec coords jump 10'
	HD 193896	2022.2	-09 35		0057	0121	3,6,12 ✓	3h30 W					7.2	G5 IIIa							
	HD 216385	22 51.7	+09 46		0125	0128	30s,1m,2m ✓	1h8m W					5.6	F7 IV							
3363	216640	22 53.9	-16 17	"	0151	0207	2,5,9 ✓	1 44 W	1"/clear "	"		"	6.7	K2.5 III b	"	"	"	"	"	"	
	222093	23 36.9	-13 01		0211	0230	2,5,9 ✓	1h23 W					6.7	G9 III							beautiful night
	223428	2348.8	-15 50		0233	0300	14,7,4 ✓	1 42 W	<1"/clear				7.4	K2 III							12°C 50% calm
	223541	2349.8	-13 04		0311	0355	24,12,6 ✓	2 35 W					8.0	K0 III-IV							
	HR 434	01 29.4	+06 06		0358	0411	6,4,2 ✓	1h11 W					6.1	K4							
	HR 754	02 35.1	+05 32		0413	0418	3,1.5,45s ✓	15m W					5.7	G8							

over developed

over developed

hw/h

focus 3,29 position 5 and 28 3,30 pos. 20-24.
3,10 " 10
.15 " 11
.20 " 12
.50 " 18

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3364	HD14386 (nuria)	02 18.5	−02 54	8/9	0453	0457	5,10,20,15,30,60 / 30s	1h10m W	<1" / clear	3.29	100µ / 0.8	120 / 7.25	3:	M5e	NeAr	10s	14m	IIa-O	MWP-2		
	HD23010	03 40.5	−11 43	Nov 1989	0506	0509	3.5m ✓	0h					6.85	F5			16V		67°F		
	HD18331 NR 875	02 56.0	−03 36		0516	0518	15,30,60s / 1m	52m W					5.25	A1V			Blue filter		7min		
	HD12524	02 01.2	−44 37		0523	0542	2.5,5,10 / 1m	2h11m W					6.6	K5III							
	HR1311	04 13.0	+09 16		0547	0551	30s / 1.25	9m W.					5.6	G5.							
	HR1427	04 29.6	+16 15		0555	0558	15,30,60s / ✓	50m					4.9	A7							
3365	HR1656	05 06.6	+18 42	"	0610	0612	30,60,120s / 60s		"	"	"	"	5.5	G4.	"	"	"	"	"	"	
	1676	05 08.7	+15 39		0617	0619	30,45,60s / 15s	16m E					5.1	F2							
	1770	05 22.0	+03 32		0625	0627	15,30,60s / ✓						4.8	B1							
	1780	05 23.5	+17 27		0631	0634	30,60,120s / ✓	18m E					5.5	F8							
	1946	05 40.4	+16 36		0637	0639	15,30,60s / ✓	30m E					4.7	B3							
	HD28100	04 25.8	+14 45		0644	0651	45,90,180s / 1m	56m W.					5.7	G7III							
	HR1851	05 31.2	−00 15		0658	0712	1.5,3,6m / ✓	12m W.					6.69	B2V							δ Ori B
3366	HD52938	07 02.3	−08 26	"	0752	0852	60m / 90m	20m W	"	"	"	"	9.0	K3.5III	"	"	"	"	"	"	
	four series.																				
3367	HD196867	20 39.0	+15 44	9/10 Nov 1989	0024	0032	20,40,80,160s / ✓	2h26 W.	2" / clear	3.24	50µ / 1.2	120 / 7.25	3.7	B9IV	NeAr	10s	14m	IIa-O	M-5		13°C 50% slight haze
	198001	20 47.0	−09 32		0035	0043	" ✓	230W.			photometer		3.8	A1V			16V Blue filter	unbaked	67°F 15m		
	198542	20 51.1	−26 53		0047	0102	15m ✓	245W					5.75	M0III-IIIb							
	200914	21 06.4	−25 03		0104	0122	18m ✓	250W.					6.1	M0.5III							
	218594	23 08.8	−21 17		0127	0142	2,4,8m ✓	1h16W.	1.5				4.9	K1III							
~~3367~~	222368	23 39.2	+05 31		0147	0147	1,2m ✓	43m W	1.5				4.64	F7V							
3368	"	"	"	"	0204	0210	40,80,160s / ✓	1h5m W	1.5	"	"	"	"	"	"	"	"	IIa-O	"	"	
	HD11977	01 54.8	−67 32		0224	0230	5m ✓	50m E					5.64	G8:5III				baked 2h 65°C H_2N_2			
	14802	02 22.1	−23 42		0236	0239	3m 4	1h0m E					5.8	G0V				5% 95%			
	HD7439 (A)	01 13.6	−07 55		0245	0248	2m 2.5						5.5	F2							brighter of pair
	HD7438 (B)	"	"		0301	0356	5m ✓	1 18W					8.5	G7							fainter of pair
	HD14386 (nuria)	02 18.7	−02 59		0400	0403	20,40,80s / ✓	18m W.					3:	M5e.							
	HD18322	02 55.8	−08 53		0430	0434	3m 2.5	13m W					5	K1IIIb							
	HD18884	03 01.7	+04 02		0438	0440	100s / ✓	12m W					4.2	M1.5.IIIa.							
	HD17576	02 47.7	−36 53		~~0520~~ 0445	0551	30m / 60m	1h39m W					8.1	GOV (WD companion)							forgot to put dark slide?

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3369	HD27598	04 20.1	−16 48′	9/10	0606	0706	60m ✓	1h21m W.	1″/clear	3.24	50μ/1.2	120/7.25	8.5	M4 III	NeAr	10s	14m	baked IIa0	M-S	dg	11°C 44% 10kph N
	HD 41698	06 05.2	−24 07	Nov 1989	0709	0810	60m ✓	40m W.					8.5	M6 III			16V	2h N2H2	15m		
	HD 33959	05 14.6	+32 36		0814	0821	2,4m ✓4	1h40m W	2″/				5.25	A9			blue filter	65°C.	67°F		
	HD43760	06 17.0	−10 36		0825	0840	5,10m 10m	59m W	1.″5/				7.1	F0.							
	Ganymede	06 46	+22 44		0858	0902	6m ✓	54 W					5.4	G2 V							
3370	HD170547	18 29.5	−05 46	10/11	2355	0023	28m ✓	4 32 W	1.″5/few clouds about.	″	″	″	7.2	G8 II - III ″	″	″	″	″	″	″	12°C 50% 10kph NE
	171237	18 33.7	−24 15	Nov 89	0037	0058	20m 25	5h W					7.05	F3							
	198802	20 52.3	−11 37		0102	0112	10m 15	2 58m W					7.0	G1							
	199960	20 59.8	−04 45		0114	0124	10m 15	3h3m W					6.8	G1							
	202628	21 17.6	−43 22		0126	0144	18m 20	3h06 W					7.4	G5							
	HD 26	00 04.7	+ 08 44		0156	0311	63m ✓	1h45 W			~~/~~ .6		9.3	G4p.							
	HD 7439	01 13.8	− 07 50		0315	0319	3m 4	44m W.	3″/clear		1.2		5.5	F2							
	7438	″	″		0320	0500	62m ✓	2h26m W					8.5	G7							
	HD 14386 (mira)	02 18.6	−02 55		0509	0514	4.5m ✓	1 34 W.					3+	M5e							
	HD 29260	04 36.4	+18 34		0519	0551	32 35	6m E	3″/clear				7.1	F5.							
	28033	04 25.4	+21 27		0554	0706	72m ✓	1h20m W	″				7.9	F8 V							
	29085	04 32.9	−29 47		0714	0720	6m ✓	1h26m W.					5.5	K0 III							
	γ Ori HD35468	05 24.2	+ 06 20		0725	0726	4s 8s	42m W					1.4	B2 III							
3371	HD43760	06 16.9	−10 37		0738	0756	18m ✓	18m W	2″/clear				7.1	F0							
	ε Ori HD37128	05 35.3	−01 17		0758	0759	4,8s 10s						1.5	B0 Ia							
	φ² Ori HD37160	05 36.1	+ 09 10		0803	0807	4m ✓	1h11m W.					5.0	K0 IIIp							
	α Ori HD39801	05 54.2	+ 07 9		0810	0813	40,80s ✓	58m W					2.7	M2 Iab							
	χ¹ Ori HD39587	05 53.5	+ 20 12		0817	0820	3m ✓	1h6m W.					4.96	G0 V							
	χ² Ori 41117	06 03.0	+ 20 04		0823	0826	3m 4	1h2m W.					4.9	B2 Ia							
	48434	06 43.0	+ 03 49		0828	0835	7m 12						5.9	B0 III							
	λ Gem 56537	07 17.0	+ 16 29		0838	0840	40,80s ✓	4m E					3.7	A3 V							
	ζ Hya 76294	08 54.8	+ 5 51		0852	0854	2m ✓	1h22m E					4.1	G9 II - III							
3372	HR6961 ~~HD 171237~~	BS NW of	171237	11/12	0013	0017	4m (20 wrong star)		3″/clear,	″	″	″ 5.7	~~7.05~~	~~F3~~ / K4. ″	″	″	″	″	″	″	
	171237	18 33.7	−24 21	Nov 89	0018	0043	25m ✓	4 51 W.					7.05	F3 II - III							11°C 55% 10kph
	198802	20 52.1	−11 35		0048	0110	20m 30	3h4m W.					7.0	G1							

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3372	HD199960	2059.6	-04 44	11/12	0114	0134	20m/✓	3h16mW	3"/clear	3.24	50μ/1.2mm	120/7.25	6.8	G1	NeAr	20s	14m	baked H_2O	M-5	[illegible]	a few cirrus at first
(cont)	202628	21 17.5	-43 21	Nov 1989	0138	0209	30m/✓	335W	2"/clear				7.4	G5			16V	2h 65°C	67°F		
	12293	1 59.5	-16 26		0243	0459	2h eff/14	141mW	"				9.1	A (HB?)			Blue filter	H_2N_2	15min		
	min 14386	02h18.5	-03 00		0501	0505	4m/✓	130W.					3:	M5e							
	27149	04h17.1	+18 10		0508	0509	2h/✓	35mW.	2"/clear				8.2	G5							
	37686	05 39.5	-02 31		0616	0816	2h/	1h20mW	"				9.25	B9			(bumped grating with knee; effect?)				δ Ori cluster
	37886	0540.7	-02 57		0820	0902	42m/✓	.			.8mm		8.96	B9IV							
3373	209747	2205.2	+04 49	12/13	2353	0015	22m/✓	56mW.	1.5"/clear	2.97	50μ/1.2mm	67/5.4	6.3	K4	"	20s	"	"	"	"	
	HR8455	2209.7	+19 26	Nov 89	0019	0027	7m/ux	103W.	2"				5.5	G0							
	8557	2227.2	+04 27.		0029	0039	10m/✓	58mW	2"/				5.8	K0							
	8717	22 54.7	+08 35		0042	0046	4m/✓	38mW	"				4.9	A1							13°C 50% gusty 20 trans
	8911	2326.4	+01 00		0049	0054	5m/✓	13mW					5.0	Ap							
	190390	20 04.6	-11 30		0100	0139	39m/✓	4h21mW.	2-3"/clear				6.86	F1IIIp							=HR7671.
	219150	23 13.0	+02 08		0153	0309	76m/✓	2 42W.					8.3	F2							
	HD9138	0129.6	+06 05		0311	0335	23m/✓	52mW	1.5-2"/				6.1	K4.							
	HR 563	0156.7	+17 49		0410	0422	10m/12	1h11mW	1.5				5.9	K0							
	(mira) HD14386	0218.7	-2 52		0426	0437	1.5m, 3m, 6m/16m	1 05W.					3:	M6e							
	HD16161	0235.2	+05 36		0445	0453	8m/✓	1 05W.					5.7	G8							
3374	HD12641	0203.3	-00 19	"	0508	0529	21m/	212W.	1.5"/clear				6.8	G5							
	18784	0300.5	-07 31		0531	0553	21m/✓	140W					6.8	K0							
	18953	0302.2	-07 32		0556	0609	13m/✓	154W					6.3	K0.							
	23010	0340.6	-11 38		0612	0624	12m/18	131W.	1"/				6.85	F5III							
	29260	04 36.7	+18 38		0627	0652	25m/35	1h2mW					7.13	F5IL							
	26722	04 13.3	+09 23		0656	0703	7m/10	137W.	2"/				5.6	G5							
	HR1427 HD28527	0429.8	+16 21		0706	0710	3m/✓	127W.					4.9	A7							
	32923	05 06.8	+18 48		0712	0719	7m/✓	59mW.	1.5"/				5.5	G4							
	33276	05 09.0	+15 46		0721	0725	3m/4	1h03mW					5.1	F2							
	35149	05 22.3	+03 40		0730	0733	3m/3.5	59mW					4.8	B1							
	35296	05 23.7	+17 33		0736	0742	6m/9m	1h5mW					5.5	F8							
	37711	05 40.4	+16 43		0744	0747	3m/3.5	55mW					4.7	B3							
	HR1963	05 41.9	+01 36		0750	0803	13m/✓	1 09W.					6.1	K0							

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		1985																			
3375	HR2010	05 48 17	+12 39	12/13	0813	0816	3m / 3.5	1h 14m W	1.5 / clear	2.97	59 / 1.2mm	69 / 5.4	4.8	B9	NeAr	20s	14m	baked IIaO	M-5	mJ	
	2198	06 11.4	+16 09	Nov 1984	0819	0822	3m / 4	58m W					4.7	B5			16V	2h 65R	67°F		
	2503	06 46 8	+8 00		0825	0840	15m /	40m W					6.2	K4.			Baker filter	N2 H2 5%	15mm		
	3003	07 45.3	+18 33		0842	0900	18m /	23m W					6.3	K5.							
3376	HD210460	22 09.9	+19 33	13/14	0004	0024	20m / 25	1.04 W.					6.8	G0							15% 50% strong S.
(7671)	190390	20 04.5	−11 34	Nov 1984	0028	0057	29m /	34m W	1" / clear	2.97	50 / 1.2mm	67 / 5.4	6.9	F1	NeAr	20s	1.	1.	1.	mJ	
	205935	21 40.1	−55 35		0102	0140	37m /	2 50 W					7.4	K0 II-III							
	206834	21 44.5	−09 03		0151	0214	23m /	3 20 W.					6.2	G8 II-III							
	224481	23 57.8	−15 54.		0217	0301	44m /	1h 53 W	1.5				7.3	K0 II-III							
	HD1227	00 16.0	+08 06		0303	0333	30m /	2 07 W.	1.5				7.0	G8 II-III							
	HD13627	00 17.4	+01 34'		0335	0410	35m /	2 44 W					7.1	K0 II							
	HD 4484	00 46.5	+11 52		0413	0433	20m /	2 37 W.					6.5	G8 II							
	HD3488	00 32.0	−54 15.		0503	0534	31m /	3h 48m W					7.4	K0 II III							
	HD 7082	01 09.9	−57 34		0538	0625	47m /	4 06 W					7.3	G6 II-III							
(mun)	14386	02 18.7	−03 00		0629	0635	6m /	3 07 W.	2"				3.5	M6e.							
	339559	05 14.6	+32 40		0640	0649	8m /	25m W.	1.				5.25	A9							
	20814	03 21.1	−23 38		0653	0713	20m /	2 43 W.	1.5				6.4	G6.5 III							
	26722	04 13.5	+09 13		0717	0733	16m /	2 11 W.	2"				5.6	G5							
3377	35149	05 22.2	+03 30	11	0741	0746	4m /	1 15 W	1.5				4.8	B1 V							
	35296	05 23.8	+17 23		0749	0759	10m /	1 27 W	1.5				5.5	F8							
	43760	06 17.2	−10 38		0803	0826	23m / 30	1h W	1.				7.10	F0							
	63382	07 45.6	−56 41		0839	0851	12m / 15	3m E					6.5	F0 II							
	64067	07 49.1	−56 21		0853	0905	12m / 20	7m W					6.7	G5 II							
3378	193721	20 32.7	−80 46	14/15	0001	0029	28m / 35	2 50 W	1.5 / clear	1.	1.	1.	6.9	G6-8 II	1.	1.	1.	1.	1.	1.	1% 60% strong S
	214567	22 38.3	+19 26	Nov 1984	0034	0054	20m / 30	1 10 W	1" / clear				6.7	G4 II							
	193596	20 22.5	−09 44		0057	0133	36m / 50	4 04 W	2"				7.2	G5 II-III							
	12270	01 58.3	−65 26		0148	0230	40m /	34m E	1.5-2"				7.3	G8 II							
	20313	03 09.0	−78 51		0235	0247	12m / 18	1h 28m E	1.				5.9	F2 II-III							
	216640	22 54.2	−16 18		0255	0321	26m /	3h 24 W	1.				6.7	K2.5 III b.							
	222093	23 37.2	−13 05		0324	0402	38m / 45	3 20 W	3"				6.7	G9 III							

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3378	HD 14386 (mira)	02 18.8	-02 59	14/15 Nov 89	0437	0448	11m ✓	1h24mW	3-4" clear	2.97	50µ/1.2	67/514	3,5	M6e	NeAr	20s	14m	baked	M-S	JL	
(o-t)	HR 23010	03 40.8	-11 44		0500	0531	30m ✓	45mW	3"-2"				6.85	F5II			16V blue filter	IIa-O 650C 2h	15cm 67°F		
	29104	04 35.0	+19 54		0534	0604	30m/40	23mW	1.5-2"				7.1	G5II-III				N2H2 520			
	29260	04 36.7	+18 34		0606	0646	40m/60	1h04mW	1.5				7.13	F5Ib							
	34658	05 18.7	+02 38		0657	0700	9m ✓	37mW	"				5.75	F5II							
	38713	05 46.8	-16 15		0703	0729	26m/35	38mW	1.5 clear				7.06	G2Ib							
3379	44362	06 18.8	-50 11		0740	0831	50m/60	1 08W	1.5				7.9	G2Ib?							
	43760	06 17.1	-10 40		0834	0902	28m ✓						7.1	F0							
3380	172594	18 41.2	-14 39	15/16 Nov 89	2359	0029	30m/40 ✓	4 58W	1.5 clear	"	"	"	7.2	F2Ib	"	"	"	"	"	"	15C 65% cloudy.
	174464	18 50.4	-09 50		0030	0057	21m/30	5mW					6.4	F2II-Ib							wind gusts in dome
	216385	22 51.8	+09 36		0056	0109	12m ✓	1h15mW	1.5-2"				5.6	F7							
	223541	23 50.0	-13 14		0135	0310	85m ✓	218W	1.5				8.0	K0							
	HD 4408	00 45.9	+15 18		0313	0358	45m ✓	210W	1.5 clear				6.9	M4IIIe							
	HD 14386	02 18.9	-03 06		0428	0441	7m4m ✓	1h20mW	"				3.6	M6e							
	29104	04 35.1	+19 43		0445	0532	47m ✓	4mE	"				7.1	G5II-III							
	29260	04 36.6	+18 24		0534	0636	62m ✓	59mW	"				7.13	F5Ib							
	50785	06 52.6	-42 32		0643	0707	24m ✓	47mE					6.9	F3II-III							
	52622	06 58.7	-56 20		0710	0727	17m/20	32mE	1"				6.8	F2II							
	~~51330~~ 51357	06 52.7	+11 51		0731	0748	17m/20	10mE	1"				6.7	F2Ib-II							
	57118	07 18.5	-19 18		0751	0806	15m/20	13mE					6.7	F0Ib-Ib							
	61227	07 36.9	-23 46		0807	0822	15m/20	16mE					6.9	F0II							
	64571	07 52.9	-34 51		0825	0854	29m/40	1mW					7.5	F8Ib							
3381	173638	18 46.2	-10 12	16/17 Nov 1989	0000	0024	24m ✓	4h36mW	1.5-2" cirrus	"	"	"	6.5	F2Ib	"	"	"	"	"	"	
	171237	18 29.1	-24 16		0024	0045	21m/40	516W					7.0	F3II-III							
	HD 1879	00 22.5	-16 07		0105	0233	58m ✓	113W.	1" clear				8.0	M2IIIb							15C 59% cloudy
(mira)	14386	02 18.9	-03 07		0236	0248	8m4m ✓	30mE	2" clear				3.6	M6e							
	12293	01 59.9	-16 31		0252	0410	78m/120	112W	1.5 clear				9.1	A (HA?)							
	27Tau	03 48.5	+24 01		0442	0445	2m/1.5	1mE	2"				3.6	B8III							
	28Tau	03 48.6	+23 57		0446	0454	8m ✓	8mW	2"				5.2	B8p							
	28776	04 30.4	-35 41		0501	0531	30m ✓	3mW.	1.5				6.96	K0II							

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		1989																			
3381	HD39632	0553.7	+10 35	16/17	0543	0643	60m / ✓	8m E	2"/clear	2.97	50μ/1.2mm	67/5.4	7.6	G9 II	NeAr	20s	14m	baked	M-S	[illegible]	
(cont)	40733	0558.5	-43 58	Nov	0646	0717	31m / ✓	22m W					69	G8 II			16V	IIa O	15min		
	49396	0645.5	-51 59	1989	0722	0808	46m / 60	25m W	1.5"/.				7.65	G2 Ib			blue	2m.65°C	67°F		
	51043	0653.0	-53 51		0810	0855	45 / 60	1 04W	1.5"/				7.65	G5 Ib-III			filter	N2H2			
3382	198802	20 52.6	-11 42	17/18	0017	0032	15m / ✓	2 46W	1.2"/clear	3.20	50μ/1.2	120/7.25	7.0	G1	"	"	"	"	"	"	17°C 50% calm
	207076	21 46.1	-02 21	Nov	0041	0213	92m / ✓	3h 33m W	1.5"/clear				8.7	M7 III							
	211416	22 18.0	-60 18	1989	0218	0222	4m / 3m	3h 12m W	3"/				4.25	K3 III							
	216032	22 49.1	-13 40		0251	0303	12m / 10m	3 21m W	3"/				5.6	M0 III							
	216386	22 52.2	-07 37		0307	0319	12m / 10m	3 33W	2"/				5.4	M2.5 III							
	219215	23 13.8	-06 07		0321	0329	8m / ✓	320W.	1.5"-2"/clear				5.8	M1.5 III							
	223428	23 49.1	-15 59		0331	0355	24m / ✓	3 13W	1.5"/				7.4	K2 III							15°C 45% 10kph NE
	14802	02 22.3	-23 55		0358	0402	4m / ✓	46m W					5.8	G0 V							
	14386	02 19.0	-03 03		0404	0406	2m / ✓	53m W					3.7	M6e							
	"	"	"		0408	0409	1m 2m	56m W					"	"							
	20791	03 20.6	+03 39		0450	0501	10m / ✓	48m W	1.5"/				6.65	G8.5 III							
	22072	03 33.6	+17 50		0504	0520	15m / ✓						7.1	K1 IV							
3383	23288	03 44.0	+24 15	"	0532	0536	3 / 4		"	"	"	"	5.5	B7 IV	"	"	"	"	"	"	
	23302	03 44.0	+23 55		0539	0540	40s / ✓						3.6	B6 III							
	23432	03 45.3	+24 21		0543	0547	4m / 5						5.7	B8 V							
	27Tau	03 48.5	+24 01		0549	0550	40s / ✓						3.6	B7 III							HD23850
	28Tau	03 48.5	+24 05		0555	0557	2m / 3m	1h 15m W					5:	B8p							23862
	29260	04 36.7	+18 37		0601	0621	20m / 30	50m W					7.1	F5 Ib							
	38247	05 44.5	+18 47		0623	0723	60m / ✓	45m W					8.24	G8 Ib							
	HDE294304	05 40.5	-02 40		0730	0857	87m / 3h	2h 25m W					9+	B9							
3384	207076	21h 45.1?	-02 16	18/19	0004?	0132	60m / 150	3 06W	1.5"/clear	"	"	"	8.5	M7 III	"	"	"	"	"	"	
	211416	22 17.9	-60 19	Nov	0212	0214	2m / ✓	306W					4.25	K3 III							
	216386	22 51.9	-07 41	89	0219	0226	6m / ✓	245W.					5.4	M2.5 III							
	14386 (Mira)	02 18.8	-03 04		0241	0244	3m / ✓	25m E					3.8	M6e							
	219436	23 15.6	-39 21		0300	0352	52m / ✓	3 47W					8.2	A0							
	219974	23 20.1	-40 04		0355	0423	28m / 60m	4 13W					8.0	A2							

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3384	HD23288	03 43.8	+24 14	18/19	~~0535~~ 0521	0526	4m+ / ✓	53m W	1.5"/clear	3.20	50μ/1.2	120/ ~~7.25~~ 7.25	5.4	B7IV	NeAr	20s	14m	baked IIaO	M-S	G	
(cont)	23432	03 44.9	+24 30	Nov 89	0531	0537	6m / ✓	1 03 W.					5.7	B8V			16V	65°C 2h	67°F		
	23862	03 48.2	+24 05		0542	0546	4m / ✓	1 08 W.					5.2	B8p.			blue filter	N_2H_2 75%	15m		28 Tau = Pleione
	29260	04 36.4	+18 35		0549	0620	30m / ✓	54h W					7.1	F5Ib.							
	36389	05 31.3	+18 39		0652	0702	10m / 15	41m W					6.2	M2Ib							
	34649	05 13.5	−67 02		0707	0716	9m / ✓	1h 13m W					6.1	K2.5III a							
3385.	37128	05 35.1	−01 13	"	0732	0732	7.5s / 6s	1 08 W.	1"/clear	"	"	–	1.5	B0Ia	–	"	"	"	..	"	ε Ori.
	39587	05 53.5	+20 29		0736	0738	2m / ✓	56m W					~~5~~.0	G0V							
	~~4~~41117	06 02.8	+20 21		0741	0744	2m / ✓	52m W.					4.9	B2Ia							
	48434	06 42.8	+04 06		0750	0757	6m+ / ✓	26m W					5.9	B0III							
	57240	07 18.2	−39 10		0809	0812	3m / ✓	05m W					5.3	A2							
	60559	07 32.8	−39 59		0819	0825	6m / ✓	4m W					6.1	B8(p Si)							
	63401	07 46.7	−39 14		0829	0835	6m / ✓	1m W					6.1	B9(p Si)							
3386	HD47442	06 37.2	+18 20	3/4	0029	0033	3m / ✓	6m W	1.2"/clear	3.20	50μ/1.2	120/7.25	5.6	K3 III	NeAr	20s	14min	baked IIaO	M-S	G	HR2443
	HD49293	06 47.2	+02 15	Mar 1990	0045	0049	3m / ✓	5m W					5.6	K0III			16V	65°C 2h	67°F		HR2506
	HD58972	07 27.5	+08 49		0053	0100	6m / ✓	24m E	2"/clear				5.7	K3 III			blue filter	N_2H_2 75%	15min		HR 2854
	HD59294	07 29.1	+11 54		0103	0108	5m / ✓	18m E	1.5"/clear				5.8	K1III							HR 2864 55. 17?. 520.
(2)	HD 49068	06 45.3	−20 53		0125	0256	30m, 60m / 60	2h 15 W	1"/clear				8.2	K1.5II-III						cluster 2287?	lost dec words. ~~HR2287~~?
	HD93527	10 47.3	−15 34		0316	0333	16m / 20	1h 10m E					7.9	F7 II/III							
	HD78515	9 08.7	+21 59		0339	0347	7m / ✓	42m W	1.5"/clear				6.11	G9 III							HR 3627 ξ Cnc
	HD82395	9 31.3	+11 22		0351	0357	6m / ✓	30m W					6.0	K0 III							3782 ξ Leo
	80431	9 18.5	−34 01		0408	0540	75m / ✓	2h 26m W	1"/clear				9:	M4III							
	96746	11 07.9	−32 00		0545	0719	94m / ✓	2h 16 W	1"/clear				9.5	G2 I							
	117733	13 32.1	−12 40		0724	0748	23m / ✓	20m W					8.2	F3 II/III							
	121261	13 54.8	−36 06		0756	0954	1h 58m / ✓	2h 5m W	1"/clear				10.5	G2/3 II							
3387	o Cet	02 18.7	−03 03	4/5	0003	0042	39m / 60	4 32 W	1.2"/clear	"	"	"	8:	M8:e	"	"	"	"	"	"	JD2447955.5
light struck	HD48632	06 41.6	−49 30	Mar 1990	0111	0157	46m / 60	1h 23m W					8.8	F3 II						check: set by position	Chart wrong? G
	HD 50099	06 48.4	− 53 59		0254	0310	16m / 30	2 30 W					7.6	F2 II/III							
	75974	08 53.2	+19 57		0327	0342	14m / 28	57m W					7.4	G n?							false start.
↓	81809	09 27.2	−05 54		0346	0349	3m / 6	30m W					6.0	G2V							HR 3750

plugs – warm bleed?
tapes? " "

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3387	HD89353	10 17.7	-28 57	4/5	0356	0358	2m+ / 4	10m E	1"/clear	3.20	50μ/1.2	120/7.25	5.6	A0 p.	[illegible]	10s	14 min	baked	M-S	[illegible]	= HR 4049
(cont)	93527	10 47.1	-15 38	Mar 1990	0433	0455	22m / 40	16m W					7.9	F7 II/III			16 V Blue filter	IIa-O 65° 2h	67°F		
	~~[illegible]~~ 97327	11 11.4	-34 45		0459	0617	1h eff / 1.5	1h 15m W	1.5"/clear				8.8	G/K II/III + F.				N_2H_2 5%	15 min		small grade
	~~[illegible]~~ 100418	11 32.7	-16 17		0622	0627	4+m / 6	1 03 W.					6.6	F8/G0 Ib/II							
	110716	12 44.8	-68 42		0640	0648	8m / ✓	11m W					6.85	G0 I							HR 4841
	112164	12 54.6	-44 06		0652	0658	6m / ✓	13m W					6.5	G2 IV							HR 4903
	110380	12 40.9	-01 ~~[illegible]~~ 34 (S)		0702		20s / ✓						3.7	F0 V							γ Vir B HR 4826
	110379	"	" (N)			0710	20s / ✓	49m W					3.7	F0 V.							γ Vir A HR 4825
3388	HD116713	13 25.8	-39 42	"	0729	0735	~~6m~~ / 5	20m W	1"/clear	"	"	"	6.3	K0 III	"	"	"	"	"	"	HR 5058
	117877	13 32.7	+05 53		0745	0805	20m / ✓	42m W					7.7	G8 IIIa							small grade
	116976	13 27.1	-15 51		0808	0814	6m / 5m	56m W	1.5"				5.85	K0 III CN2							
	124990	14 16.7	-18 30		0819	0829	9m / ✓	21m W					7.	G5							HR 5344
	~~125882~~ 125184	14 17.6	-07 24		0832	0843	10+m / ✓	35m W					7.2	G.							HR 5353
	125081	14 17.2	-21 49		0849	0915	26m / 20	1 07 W	1.2"/clear				8.0	F2 II							
	140144	15 42.7	-27 58		0920	0952	32m / 50	20m W					8.5	GIII + ~~A~~F0							Brighter of pair.
3389	Mira	02 18.8	-03 01	5/6	0001	0040	39m / ✓	4 33 W	1.5"/clear	"	"	"	8!	M8e	"	"	"	"	"	"	= HD 14386
	HD48632	06 41.7	-49 28	Mar 1990	0053	0153	1h / ✓	1h 22 W	"				8.8	F3 II							
	50099	06 48.7	-53 58		0159	0224	25m / 30	1 48 W					7.6	F2 II/III							
	75974	08 53.5	+19 59		0231	0255	24m / 60	15m W	"				7.4	G(n?)							wrong star?
	81809	09 27.3	-06 08		0300	0306	5+ / 5 ✓	9m E	"				6.0	G2 V							HR 3750
	73351	08 37.3	-06 44		0329	0355	26m / ✓	1h 29m W	1"/clear				<9.3	A0							fainter (S) comp.
	89353	10 17.8	-28 51		0402	0406	3m+ / ✓	0m					5.6	A0							HR 4049
	93527	10 47.3	-15 30		0412	0443	30m / ✓	8m W					7.9	F7 II/III							
	97327	11 11.2	-34 47		0532	0656	84m / 75	1 57 W	1.5"/clear				8.8	G/K II/III + F.							
	100418	11 32.6	-16 18		0701	0710	8m / ✓	1h 50m W	1.2"/clear				6.6	F8/G0 Ib/II							
	110716	12 44.7	-68 45		0716	0728	10m / ✓	55m W	"				6.85	G0 I							HR 4841
	105590	12 08.8	-11 52		0735	0755	20m / ✓	2h W.					7.7	G3 Vp							ft comp on slit.
3390	HD140144	15 42.2	-28 04	5/6	0809	0901	52m / ✓	28m E	"				8.5	GIII + A8/F0							
	146234	16 15.0	-15 41	Mar 90	0904	0937	33m / 40	25m E	"				8.4	F6/7 II							
	142357	15 52.8	+15 57		0943	0951	8m / ✓	11m W	"				6.8	F5 II-III							

Margin note beside rows 3–8: long exp? [illegible] (obs)

priorities – repair, bake TS
Batt.
Tim rental
✓ Key
✓ Speakers – high treble?
Jarrett

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3391	Mira	02 18.6	−03 08	6/7	0002	0036	34m/✓	4h32m W	1"/clear	3.20	50μ/0.6	120/7.25	8:	M8e+	NeAr	10s	14m	baked	M–S	ND	short slit
	HD49195	06 38.8	−76 52	March 1990	0058	0238	2h/✓	2h35m W	1.5"/clear		/1.2		9.9	F6 II			16V	IIa O	15 min		Dec Readout probs.
	53526	07 02.0	−57 18		0316	0332	15m/20m	2 45 W.					7.6	F2/3 II			blue	1h 65°C	67°F		& Cable caught – check forms
	82668	09 31.1	−57 00		0343	0346	2m5/5 ✓	31m W					4.68	K5 III			filter	N_2H_2			N Vel HR 3803
	(2) 84441	09 45.1	+23 49		0352	0354	20/40/40s	25m W					3.8	G0 II				5%			ε Leo HR3873
	85503	09 51.7	+26 02		0358	0359	40s/3m	23m W					3.9	K2 IIIp.							μ Leo HR3905
	(2) 89025	10 16.0	+23 25		0404	0406	20,40/40s	6m W					3.7	F0 III							ζ Leo HR 4031
	86663	09 59.5	+08 05		0409	0417	8m/✓	34m W.					6.3	M2 III							π Leo HR3950
	96700	11 07.4	−30 01		0521	0531	10m/✓	40m W	1"/clear.				7.1	G2V							HR4328.
	102647	11 48.0	+14 36		0539	0541	8s/✓	10m W.					7.2	A3V							β Leo HR4534.
3392	121447	13 55.3	−18 17	"	0605	0739	94m/✓	0	<1"		/1.2→.8		9.5	K4 · Ba4.5!							
	152858	17 03.6	−76 20		0812	0935	83m/100	1h12m E	1.5"		X1.2		9.3	F0 II/III							
	161149	17 42.9	+14 17		0946	0952	6m/10	1 34 E					6.66	F5 II							HR6604
	163506	17 55.0	+26 03		1000	1003	2m/3m	1 35 E					5.8	F2 Ib							89 Her HR6605.
3393	HD44594	06 19.9	−48 47	7/8	0000	0011	11m/✓	10m W	1"/clear	"	"	"	7.2	G0	"	"	"	"	"	"	HR2290
	51491	06 54.0	−59 59	May 90	0016	0221	2h5m/✓	1 47 W.	1.5"/clear				9.6	F3 II/III							seems fainter than 9.6.
	53526	07 02.0	−57 13		0225	0249	24m/✓	2 05 W					7.6	F2/3 II							
	73884	08 38.5	−47 46		0315	aborted							9:	K2 Ib.							
	85503	09 52.1	+26 03		0326	0329	3m/✓	3m E					5:	K2 IIIp							
	73884	08 38.5	−47 44		0341	0502	81m/120	2h44m W	1"/clear				9:	K2 Ib.							
	96765	11 08.0	−15 27.		0537	0707	90m/✓	2 19 W.	"				9.5:	G3: III: p.							
	152858	17 03.0	−76 22		0734	0928	114/✓	1h13m E					9.3	F0 II/III							assume B, N.
	161149	17 42.9	+14 16		0940	0950	10m/✓	1 32 E					6.7	F5 II							
	163506	17 55.0	+25 53		0954	0957	3m/✓	1 36 E					5.8	F2 Ibe							=89 Her.
3394	HD44594	06 19.7	−48 48	8/9	0018	0034	16m/✓	37m W	<1"/clear	2.97	50μ/1.2	67/5.4	7.2	G0	"	20s	"	"	"	"	=HR2290
	48632	06 41.6	−49 27	Mar 1990	0037	0140	63m/40	1h22 W	a few cirrus in north – not overhead				8.8	F3 II							
	50099	06 48.6	−54 00		0147	0213	26m/45	1h48 W	"				7.6	F2 II/III							
	53526	07 02.1	−57 18		0216	0242	26m/30	2 03 W	"				7.6	F2/3 II							
	68860	08 12.7	−34 35		0247	0317	30m/60	1 28 W.					7.7	F8 Iab							
	75289	08 47.3	−41 44		0320	0337	17m/✓	1h14 W					6.94	G0 Ia-0							

.8/pixel
1.7/pixel

399 lab kettle

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					BEGIN	END									KIND	EXP.					
3394	HD77321	08 59.8	-49 32	8/9	0341	0430	49m / 60	1h 54m W	<1" / clear	2.97	50μ / 1.2mm	67 / 5.4	8.2	G5Ib	NeAr	20s	14m	baked	~~[illegible]~~	[illegible]	
(cont)	78732	09 08.9	-08 43	Mar 1990	0434	0445	11m / ✓	2h W					6.5	G8II			16V	IIa O	M-S		HR 3641
	81949	09 26.6	-54 18		0509	0553	44m / 50	2h 50m W					8:	G3/5Ib.			blue filter	2h 65°C	15 min		
	89353	10 17.6	-28 57		0613	0617	4m / 6	2 23 W					5.6	A0 Ibp.				H_2N_2	67°F		HR4049.
	97327	11 11.4	-34 46		0625	0737	72m / 90	2 50 W.					8.8	G/K II/III + F				↑5%			
	117733	13 31.7	-12 38		0742	0826	44 / ✓	1 18 W					8.2	F3 II/III							
	125081	14 17.0	-21 51		0830	0900	30m / ✓	1 07 W					8.0	F2 II							
	140144	15 42.5	-27 57		0905	0959	54m / 2h	40m W					8.5	G III + A8/F0							
3395	48632	06 41.7	-49 26	9/10	0012	0142	90m / ✓	1h 37m W	<1" / clear	"	"	"	9:	F3 II	"	"	"	"	"	"	
	50099	06 48.6	-54 00	Mar 1990	0146	0230	44m / ✓	2 10 W.					7.6	F2 II/III							
	68860	08 12.7	-34 32		0237	0336	59m / ✓	1h 51m W					7.7	F8 Iab.							
	77321	08 59.8	-49 32		0339	~~0409~~ 0409	30m / 60	aborted by thick cirrus.					8.2	G5Ib							
3396	37016	05 34.8	-04 26	10/11	0020	0027	7m / ✓	1h 23m W	1" / "a few cirrus about"	"	"	"	6.09	B2.5V	"	"	"	"	"	"	HR ~~[illegible]~~ 1891
	37017	05 34.9	-04 30	Mar 1990	0028	0038	9.5 / ✓	1h 34m W					6.43	B2 IV p.							HR1890
	36936	05 34.4	-04 22		0041	0153	72m / 35	2 50 W					8.6	B5 V.							test for moonlight
	75974	08 53.3	+19 59		0219	0250	31m / ✓	28m W					7.4	G n?							
	81809	09 27.2	-06 01		0254	0301	6.5m / ✓	5m W					6.0	G2V							HR 3750
	66812	08 03.2	-42 57		0323	0353	30m / ✓	2h 21 W	1.5" / cirrus moving in.				7.3	G8 II							HR3166
	89353	10 17.4	-28 56		0357	0402	5m / ✓		cloudy. —				5.6	A0 p.							HR4049
Chile returns to Democracy				11 March 1990 – cloudy night																	
3397	HD36936	05 34.4	-04 25	12/13	2355	0045	50m / 80	1 50 W	<1" / clear	"	"	"	8.6	B5V	"	"	"	"	"	"	
	38713	05 46.4	-16 18	Mar 1990	0059	0119	20m / ✓	2 11 W					7.1	G2 Ib-II							HR 2000.
	40733	05 58.3	-44 2		0123	0141	18m / ✓	2 22 W.					6.9	G8 II							HR 2117
	44362	06 18.6	-50 19		0144	0224	40m / ✓	2 44 W.					7.9	G2 Ib (hook F8 II)							HR 2281
	77321	08 59.8	-49 30		0227	0330	63m / ✓	1 09 W.					8.2	G5 Ib							small cluster (faint)
	81949	09 26.7	-54 14		0334	0450	55m / 80	2 04 W.	1" / clear				8	G3/5 Ib							
	97082	11 09.3	-58 47		0500	0525	25m / 40	56m W					7.3	G1 Iab/Ib							
	100261	11 31.4	-59 23		0529	0539	10m / ✓	48 W.					6.2	G3 0-Ia							HR 4441
	101584	11 40.5	-55 31		0542	0612	30m / ✓	1h 11m W					7.4	F0 Ia pe shell							
	101947	11 43.3	-62 25		0620	0627	7m / ✓	1h 24m W					5.8	G0 0-Ia FeI							HR 4511

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3397	~~HD115~~ HD115778	1320.1	-59 44	12/13	0631	0642	10m / ✓	0h	1"/clear	2.97	5μ/1.2mm	67/5.4	6.6	F3-5 II	NeAr	20s	14m	baked IIaO	MF	[illegible]	HR5024,
(Cont)	131246	1504.1	-82 59	Mar 90	0649	0717	28m / ✓	1h7m E					6.95	G8 Ib			16V Blue	2h 65°C	15 min		HR5545 π² Oct.
	118520	1338.2	-57 34		0725	0750	25m /	53m W.					7.15	G5 Ib			filter	H_2N_2	67°F		
3398	140144	1542.4	-28 00		0804	0913	40m 30m /	12m W	0.5/				8.5	G III + A8/F0				5%			~~no~~ short slit 30 min long slit 40 min
	142357	1552.9	+16 03		0919	0929	10m / ✓	16m W					6.6	F5 II-III							HR5913
	150421	1642.4	-46 08		0936	0956	20m / ✓	5m E					7.1	F5 Iab							
	152293	1653.9	-42 32		0958	1009	11m / ✓	5m E					6.5	F5 Ib-II							HR6266,
3399	HD49396	0645.3	-52 07	13/14	0010	0057	47m / ✓	55m W	1.5/clear	"	"	"	7.65	G6 Iab "	"	"	"	"	"	"	HR2513
	51043	0652.5	-53 58	Mar	0100	0152	52m /	1h43 W	"				7.65	G5 Ib-II							HR2587
	52622	0658.6	-56 16	1990	0155	0213	18m /	2h W	"				6.84	F2 II							HR2639
	63382	0745.5	-56 33		0218	0230	12m /	1h29m W	"				6.5	F0 II							HR3031
	64067	0749.0	-56 14		0233	0303	30m / ✓	1h57m W.	"				6.7	G5 II							HR 3062
	50785	0652.5	-42 30		0309	0332	23m /	3 24 W.	"				6.9	F5 II/III							HR2575
	61715	0738.1	-48 34		0335	0349	14m / ✓	2h54 W	"				6.3	F7 Ib/II							HR2957.
	67249	0804.5	-50 30		0351	0420	39m /	3 10 W	"				7.2	G5 II							HR3178
	68808	0811.7	-46 39		0433	0446	13m / ✓	3 17 W.	"				6.35	F7 Ib/II							HR 3232
	97082	1109.3	-58 46		0521	0611	50m /	1 47 W	"				7.3	G1 Iab/Ib.							
	110716	1244.8	-68 47		0620	0639	18m / ✓	39m W	"				6.85	F6 Ia							HR 4841
	112164	1254.4	-44 11		0644	0701	17m / ✓	51m W	"				6.5	G2 II							HR4903
3400	148218	1629.1	-57 46	"	0712	0728	16m 30 /	2h17 E	2"/clear				7.5	G8 Ib							HR 6120
	124990	1416.3	-18 31		0749	0813	24m / ✓	41m W					7.0	G5							HR5344.
	125184	1417.3	-07 26		0815	0845	30m / ✓	1h13m W					7.2	G							HR5353
	158476	1731.2	-46 02		0856	0922	26m / ✓	1 24 E					6.9	F8-G0 Ib							HR6513
	135101A	1512.1	+19 17		0928	1000	32m (40s) /	1h32m W.					7.4	G5							HR 5659 S
3401	51330	0657.0	+11 53	14/15	0000	0012	12m /	3m W	1"/clear	"	"	"	6.7	F2 Ib-II "	"	"	"	"	"	"	HR2597
	57118	0718.6	-19 17	Mar 1990	0020	0033	12m / ✓	1m W					6.7	F0 Iab-Ib							2785
	57146	0718.5	-26 34		0035	0046	11m / ✓	16m W.					6.2	G2 II							2784
	58367	0724.9	+09 19		0050	0101	11m / ✓	23m W					6.0	G6.5 IIb							HR2828
	58526	0725.2	-05 43		0105	0126	20m /	48m W					6.9	G3 Ib.							HR 2832
	59067	0727.3	-11 29		0131	0149	18m /	1 09 W					6.4	G8 Ib-II + B + B9 V							HR2859 [illegible]

Package – bot.

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NUMBER	OBJECT	R.A.	DEC.	DATE U.T.	U.T. EXP		TOTAL / CORR.	H.A. END	SEE./TRANS.	CAM. FOCUS	SLIT	GRATING / TILT	MAG.	SP	COMP		CALIB.	EMUL	DEV.	OBS	REMARKS
					BEGIN	END									KIND	EXP.					
3401	HD61227	07 36.7	−23 46	14/15	0052	0208	16m / ✓	1h18m W	1"+ var / clear	2.97	50μ/1.2mm	67/5.14	6.9	F0II	NeAr	20s	14m	baked	M-S	[illegible]	HR2933
Cont	58535	07 24.3	−31°44'	May 90	0222	0237	15m / ✓	2h W.					6.4	G8II			16V	IIaO	670		2834
	~~[illegible]~~ 62058	07 40.4	−31 35		0240	0328	48m / ✓	2 35 W	1.5"/clear, windy.				7.7	G2 0-Ia			blue filter	2h 65°C N2H2(5%)	15 min		RPup=HR2974.
	64238	07 51.8	−14 46		0331	0340	9m / ✓	2 35W	" temp dropping				6.1	F1Ia							10Pup=HR3073
	70761	08 22.3	−26 18		0345	0356	10m / ✓	2 21W.	"				6.3	F2Iab							HR3291.
	94481	10 53.7	−13 39		0359	0414	15m / ✓	7m W	"				6.5	G4III							HR4255.
	93527	10 47.0	−15 34		0453	0552	59m / ✓	1h53m W	"				7.9	F7II/III							
3402	100418	11 32.8	−16 14	"	0604	0617	13m / ✓	1h32m W	"				6.6	F8/G0Ib/II							
	108477	12 27.2	−16 34		0621	0650	28 / ✓	1 11W.	"				7.2	G3III							HR4742
	116713	13 25.5	−39 44		0655	0716	19 / ✓	39m W	"				6.3	K0.5III Ba3							HR5058
	97327	11 11.5	−34 44		0721	0822	60m / ✓	4h W.	"				8.8	G/K II/III+F							
	146284	16 15.2	−15 34		0828	0928	60m / ✓	1m W	1"/clear, windy				8.4	F6/7II							
	159633	17 36.8	−38 04		0933	1000	27m / ✓	48m E					7.5	G2Ib							
3403	HD50099	06 48.5	−54 00	15/16	0007	0049	42m / ✓	52m W	2"/clear	3.20	50μ/1.2mm	120/7.25	7.6	F2II/III	NeAr	10s	"	"	"	"	
	58332	07 20.8	−63 42	May 1990	0100	0159	59m / ✓	1h30m W	"				9.6	F0II/III							
	63609	07 40.8	−77 54		~~0232~~ 0237	0331	54m / ✓	2 43m W.	stopped by pier.				9.3	G2II			set by position, not chart;				wrong star I.D. on chart. This is position
	96746	11 07.8	−32 01		0356	0451-29 0639	2h44 / ✓	2 24W					9.5	G2Iab							
	116976	13 26.9	−15 56		0645	0650	4.5 / ✓	14m W					5.85	K0III CN2							
	130109	14 45.8	+01 55		0722	0723	40s / ✓	32m E					3.7	A0V.							HR5511=109Vir.
	132345	14 58.5	−11 05		0732	0751	19m / ✓	16m E					7.2	K3III CN+2							HR5582
	133774	15 06.3	−16 13		0753	0802	18m / ✓	2m E					6.9	K5III							moon? HR5622
	138905	15 35.2	−14 44		0815	0818	2m / ✓	25m E					4.0	G8III							HR5787 [illegible]
	144608	16 07.0	−20 53		0830	0834	200s / ✓						5.2	G3II-III							
	147084	16 20.0	−24 09		0841	0843	180s / ✓	44m E					5.35	A5II							oSco HR6081
3404	143275	15 59.9	−22 36	"	0857	0858	8s / ✓	10m E	1.5	"	"	"	2.2	B0.3IV	"	"	"	"	"	"	δSco HR5953
	144218	16 04.9	−19 47		0901	0903	1.5m / ✓	9m E					4.9	B2V							βSco C HR5985
	148478	16 28.9	−26 25		0908	0910	30s, 20s, 40s / ✓	26m E					2.9	M1.5Iab							
	161149	17 42.8	+14 21		0919	0928	8m / ✓	1h22m E					6.7	F5II							

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3405	HD 126769	$14^h27.6$	$-29°26$	MAY4/5	05:51	05:57	14s/180s	1^h39 W	1¼" / GOOD	3.20	50µ / 1.2	120	4.97	B7/8V	NeAr	20s.	28m 16V BLUE	NOT BAKED IIa-O		RWS.	
	HD 126981	$14^h29.5$	$-45°16$		06:12	06:19	3m, 4m	1^h59 W					5.49	B8V							
	HD 127208	$14^h30.1$	$-22°24$		06:30	06:59	12m, 16m	2^h37 W					6.95	B8Ve							
	HD 139518	$15^h38.7$	$-23°06$		07:05	07:20	6,9m	1^h50 W					6.32	B9.5V							
	HD 139909	$15^h40.6$	$-13°57$		07:33	08:11	11,10,16	2^h40 W					6.89	B9.5V	NeAr	20s					BUMPED GRATING DURING 2ND EXP.
→ 3406	HD 145964	$16^h13.9$	$-21°05$	May4/5	08:38	08:56	7,10	2^h51 W					6.42	B9V	NeAr	20s	28m 16V B	IIa-O NOT BAKED		RWS.	
	HD 146001	$16^h14.2$	$-25°27$		09:00	07:13	5,7	3^h08 W					6.07	B8V							
	HD 146029	$16^h14.3$	$-22°21$		09:18	09:57	19	3^h32 W					7.38	B9V							
	HD 146284	$16^h15.8$	$-24°15$		09:42	09:52	10	3^h46 W					6.70	B9III/IV							
	HD 146416	$16^h16.4$	$-21°16$		09:55	10:06	11	3^h59 W					6.61	B9V							
	HD ~~157546~~ 157546	$17^h24.0$	$-18°25$		10:17	10:24	6½	3^h09 W					6.33	B8V	NeAr	20s.					
3407	HD 95347	$10^h59.5$	$-43°45$	MAY 12/13	23:17	23:23	150s. 180s.	0^h57 E	¾" CIRRUS.	3.20	50µ / 1.2m	120	5.8	B9/9V	NeAr	10s	14m 16V B	IIa-O BAKED		RWS	CIRRUS.
	HD 92550	$10^h39.8$	$-47°05$		23:31	23:40	6½m, 10m	0^h12 E					6.9	B9V							
	HD 96224	$11^h04.6$	$-49°20$		23:52	00:02	165s, 235s.	0^h23 E					6.1	B9.5V							
	HD 103789	$11^h56.5$	$-33°15$		00:06	00:17	180, 240s	1^h00 E					6.18	B9.5V							
	HD 104080	$11^h58.6$	$-45°46$		00:24	00:35	240, 360s.	0^h44 E					6.34	B8/9V	NeAr	10s.					MOONRISE
3408	HD 105078	$12^h05.4$	$-35°38$	MAY 13/14	00:13	00:23	240, 360s.	0^h58 E	¾ CIRRUS	3.20	50µ / 1.2m	120	6.23	B7V	NeAr	10s.					NOT PHOTOMETRIC
	HD 106955	$12^h17.4$	$-23°57$		00:29	00:43	5,7m	0^h51 E					6.48	B9V							FAINT COMP. 1.5" 300° - 12mag.
	HD 107931	$12^h23.8$	$-47°19$		00:52	01:06	5½, 8m	0^h34 E					6.61	B9V							
	HD 109195	$12^h32.6$	$-52°01$		01:12	01:27	5½, 8m	0^h22 E					6.54	B9.5V	NeAr	10s.					MOONRISE + CIRRUS

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3409																					
2	HR4063	$10^h19.6$	−55°02	20/21 JUNE	23:06	23:51	10,15,20m	2^h45 W	P FAIR	2.97	50μ 0.8mm	67.9 54°	6.2	K3	NeAr	20s	16V 14m B	IIa-O BAKED		RWS	FOR PC-KEENAN
	HR4159	$10^h35.6$	−59°33		23:54	00:35	9,13,17m	3^h13 W	"				6.1	K5							NOT PHOTOMETRY. VERY THIN CIRRUS.
	HR4287	$10^h59.8$	−18°18		00:41	00:53	3½,5,6½m	3^h08 W					5.2	KØ							
	HR4539	$11^h50.3$	−15°52		00:59	02:11	15,22,33m	3^h24 W					7.1	KØ							DOUBLED SPECTROGRAPH 2ND EXPOSURE
	HR4700	$12^h21.4$	−60°24		00:20	02:36	3½,5,6½m	3^h26 W					5.Ø	K3.							
	HR5058	$13^h26.1$	−39°45		02:41	03:18	8,12,16m	3^h06 W					6.3		NeAr	20s.					
3410	HR5459	$14^h31.6$	−60°50	20/21 JUNE	03:51	03:53	16,25,4½	2^h26 W					0.7	G2V	NeAr	20s.	16V 14m B	IIa-O(GAW)		RWS	2 COMP AT START.
	HR5632	$15^h10.7$	−61°25		03:59	04:27	11m 16m	2^h31 W					6.9	G2V							
	HR6125	$16^h30.8$	−61°38		04:34	05:20	10m 14m 20m	2^h03 W					6.4	KØ							
	HR6285	$16^h58.6$	−55°59		05:24	05:36	2½,3½,5m	1^h52 W					4.7	K3.							
	HR6382	$17^h12.3$	−38°49		05:46	06:37	2m 30m	2^h39 W					7.3								NOT SURE IF 2m EXPOSURE IS GOOD.
	HR6401	$17^h15.3$	−26°36		06:45	07:13	6m 7m 12m	3^h12 W					6.2?		NeAr	20s.					NNW of PAIR
3411	HR7259	$19^h10.0$	−39°20	20/21 JUNE	07:38	07:53	200,300,900s S	1^h57W					5.3		NeAr	20s	16V 14m B			RWS	
	HR7703	$20^h11.2$	−36°06		07:57	08:24	6m 9m 12m	1^h27W					6.2								
	HR7965	$20^h50.0$	−33°47		08:27	08:49	5m 7½m 10m	1^h13 W					5.9								
	HR8093	$21^h09.6$	−11°22		08:53	09:08	3,4½m	1^h12W					5.5		NeAr	20s					2 COMP AT END.
3412	αPsA	22 57	−29 40	30/31 Dec 1990	0000	0005	4,8,16s 8m	2	P/S good	2.97	50μ 0.2mm	67 5.4	1.24	A3	NeAr	30s	16V 14m B	IIa-O unbaked	M-S 15m 67°F	RWS	
	ηCet	0108	−10 14		0330	0346	2½m 5m		"	"	"	"	4.61	GK III							
	ζEri	0342.8	−9 48		0414	0448	(3,6,12s) 20m						4.46	KO III							
3413	αCorA	05 39.3	−35 05	"	0611	0612	1m 30s	0^h28W	2"/good	"	"	"	2.52	B7 IV	"	"	no comp	"	"	"	
	HD 34 513	05 17.	−17 47		0642	0725	43m 50s	2 05W					7.5	FO II			NO CAL				
	HD 47475	06 36.7	−41 35		0739	0752	13m 45s	1 15W					7.5	KO II							
	HD 76634	08 54	−40 30		0802	0847	45m 90m	0 09W	1"/clear				7.4	KO II							
3414	HD 210848	22 13	−25 15	1/2 Dec 1990	0020	0046	8m 16m 12m	2 33W	1"/clear	"	"	"	6.5	F7 II	"	"	16V 14m long wire	IIa-O baked	M-S 67°F 15m	RWS	55 18 NE.S.
	HD 17603	01 57.6	−78 48		0055	0231	25m 120m	33mW	1"/clear				8.6	F3 II				2 hr 65°C H_2N_2			
	MIRA	02 18.6	−3 08		0248	0404	16,26,36s 30m	1 46W	1.5"/clear				6.5	Me							
	HD 17005	02 42.6	−18 22		0422	0529	6m √	2 47W	1.5"/clear				8.5	G0 II							
	HD 23010	03 40.8	−11 50		0535	0559	24m √	2 18W	"				7.8	F5 II							
	HD 28837	04 36.8	−41 13		0610	0703	53m √	2 34W	"				8.0	F3/5 II							

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3414	HD34513	05 17.3	-17 50	1/2 Dec 1990	0710	0757	27m ✓	2h20mW	1"/clear	2.97	50μ/1.2mm	67/514	7.5	F0 II	NeAr	30s	14m	M-S	Baked		
(cont)	HD35949	05 25.5	-54 25		0742	0752	70m ✓	3h28W	"	"	"	"	8.4	F3 IV/II			16V blue	15 min 67°F	IIa-O 2h 65°C H_2N_2		Bumped grating.
3415	HD12603	1h57m.0	-78 48	2/3 Dec 1990	0037	0237	2h ✓	0h47mW	1.5"/clear	2.97	50μ/1.2mm	67/514	8.7	F3 II	NeAr	30s	14m.	baked	M-S		45°F 13°C calm
	HD 21190	3h10m.8	-83 35.		0257	0457	2h ✓	1h52mW	"				8.7	F2/3 IIb			16V blue	IIa-O 2h 65°C H_2N_2	15 min 67°F		
	HD 25663	4 01.9	-50 36		0510	0620	76m ✓	2h23mW	1"				8.6	F2/3 II			filter				
	HD37227	5 33.7	-57 09		0624	0705	40m ✓	1h36mW	1"				8.0	F0 II							
	HD47475	6 36.7	-41 34		0718	0802	44m ✓	1h30mW	1"				7.5	K0 II							
	HD81809	9 27.6	-06 06		0824	0848	12h 8.4m/12	0h35mW	1.5"				6.0	G2V							=HR3750
3416	~~HD3867~~	~~00 40.5~~	~~-40 36~~		~~0038~~								~~8.4~~	~~A0~~							(slide closed!)
	AD7439	01 14.3	-08 02	3/4 Dec 1990	0218	0224	6m ✓	1h19mW	2"/cirrus	"	"	"	5.5	F2V	"	"	"	"	"	"	HR366
	HD14386	02 10.1	-3 07		0235	0315	40m 30m	1h04mW	" cirrus thickening				6.5	Me							Mira
	HD25703	04 03.0	-39 50		0404	0452	48m/90	57mW	1.5"/cirrus + bright moon				7.7	A2V							
	HD27208	04 16.1	-39 38		0455	0555	60m/120	1h49mW	1.5"/cirrus + bright moon				7.8	A0V.n							
	~~43~~847	06 16.5	-39 19		0601	0616	12m/18m	9mW	"	"	"	"	6.2	A2V.							
3417																					
~~3417~~	HD223985	22 35.0	-17 23	4/5 Dec 1990	0034	0204	90m ✓	3h41mW	1.5"/clear	2.97	50μ/0.6mm	67/514	9.	B9	NeAr	30s	"	"	"	"	like HR 4049?
	HD14386	02 19.0	-03 01		0232	0302	30m/25	0h55mW	"		1.2mm		6.5	M IIIe							Mira
	HD22069	03 30.8	-58 39		0310	0411	60m ✓	0h53mW	"		0.6mm		9.0	F0 II							
	HD25663	04 01.8	-50 38		0434	0536	62m ✓	1h47mW			"		8.1	F2/3 II							
	HD35296	05 29.8	+17 12		0556	0601	4m 6m	0h49mW			1.2mm		5.5	F8V							
	HD43386	06 16.0	+12 05		0604	0609	4.5m 6m	0h06mW			"		5.5	F5 IV-V							
	HD43587	06 17.0	+04 53		0613	0627	14m ✓	0h23mW			"		6.3	F9V							
	HD50692	06 55.0	+25 06		0630	0651	21m ✓	0h08mW			"		6.3	G0V							
	HD51956	06 59.0	-0 54		0714	0731	77m ✓	1h45W			0.6mm		8.7	F8 Ib							
3418	HD210848	22 13.2	-25 15	5/6 Dec 1990	0017	0025	8m 6	2h28W	1.5"/clear	3.20 3.19	50μ/1.2mm	120/7.25	6.5	F7 II	NeAr	15s	14m	baked Ha-O	M-S		
	202895	21 19.8	-47 28		0035	0215	1h46m 2h	5h12W	2"/clear				9.5	F2 I			16V blue filter	2h 65°C	15m		
	17005	02 42.5	-28 13		0248	0332	44m/35	1h06W	1.5"/clear				8.5	G0 II				H_2N_2	67°F		

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3418	HD14386	2h 18.6m	-03 04	5/6	0337	0354	15m eff / ✓	1h 57m W	2" / cirrus	3.19	50μ / 1.2mm	120 / 7.25	6.5	MIIIe	NeAr	15s	14m	Kodak IIaO	M-S	[initials]	lost 2 minutes suddenly: thickening cirrus
(Cont)	HD35949	5 24.7	-54 23	Dec 1990	0608	0706	58m / 45	1h 58m W	1.5-2" / clear				8.4	F3Ib/II			16V	2m, 65°C	67°F		
	37227	05 33.1	-57 08		0710	0744	34m / 25	2 28 W					8.0	F0II			blue	N_2H_2	15m		
	51956	06 59.1	+00 55		0755	0850	55m / ✓	2 10 W					8.7	F8Ib							
3419	210848	22 13.3	-25 16	6/7	0027	0033	5m / ✓	2 40 W	1.5" / clear	"	"	"	6.5	F7III	"	"	"	"	"	"	
	202895	21 19.9	-47 23	Dec 1990	0039	0205	1h 25m / ✓	5h 6m W	1.5" /		/ 0.6mm		9.5	F2I							
	17005	02 42.5	-28 11		0226	0256	30m / ✓	0h 34m W	1" / clear		/ 1.2mm		8.5	G0II							
	22069	03 30.4	-58 38		0301	0351	50m / 60	0 41 W	1" /		"		9.0	F0II							
	23010	03 40.8	-11 52		0356	0404	7m / ✓	44 W	1" /		"		7.0	F5II							
	25663	04 02.0	-50 36		0422	0452	30m / ✓	1h 10 W	1" /				8.6	F2/3II							
	28837	04 31.1	-41 16		0456	0513	17m / ✓	1 03 W					8.0	F3/5-II							
	34513	05 17.5	-17 53		0517	0528	11m / ✓	0 31 W					7.5	F0II							
	35949	05 25.7	-54 28		0534	0559	25m / ✓	0 54 W					8.5	F3Ib/II							
	37227	05 34.0	-57 15		0606	0626	20m / ✓	1 13 W					8.0	F0II							
	40798	05 58.8	-43 07		0635	0809	94m / ✓	2 31 W			/ 0.6mm		10.3	F7II							
	49396	06 45.4	-52 12		0822	0842	20m / 30	2 18 W			1.2mm		7.3?	G6Iab							
3420	HD7329	01 12.0	-57 25	7/8 Dec	0042 (104)	0236	90m / ✓	1h 49 W	1.5" / clear	3.19	50μ / 1.2mm	120 / 7.25	9.3	F2II	"	"	"	"	"	"	Gmais: ~~[illegible]~~ ID. star map error
	HD10303	01 39.5	-48 08.1		0255	0423	88m / ✓	3 08 W	1" /		/ 0.6		10.1	F6(II)							
	17005	02 42.4	-28 15		0445	0510	25m / ✓	2 53 W			1.2mm		8.4	G0II							
	37453	05 39.1	+29 51		0525	0615	50m / 120	1 01 W					8.6	F I							
	63609	07 40.6	-77 57		0652	0817	85 / 3m 120	1 02 W					9.3	G2II							Gmais: finding chart error
	81809	09 27.5	-06 03.8		0832	0845	6, 4, 3 / 5	0 12 W					6.0	G2V							
3421	HD 26	00 04.8	+08 42.9	8/9	0050	0249	2h / 3h	3 12 W	1.5-2" / clear	"	"	"	9.3	Gp	"	"	"	"	"	"	setting problem
	Vesta	03 10.0	+09 33	Dec 1990	0321	0351	30m / ✓	1 09 W					8.0	G2V							
	27 Tau	03 48.9	23 54		0400		25s /						3.8	B8III							
	28 Tau	03 48.7	+24 02			0403	3m, 1.5m / 3	0 43m W					5.1	B8pe							
	37453	05 39.3	+30 01		0440	0545	60m / 90	1h 34 W	2-3" / clear		/ 0.6		8.6	F5I							
	63609	07 41.8	-77 58.3		0556	0626	90m / ✓	0 14 W	" /		"		9.3	G2II							

Vaz.
Mike - there magical moment of moonrise over the mtns.
Cheque

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NUMBER	OBJECT	R.A.	DEC.	DATE U.T.	U.T. EXP. BEGIN	U.T. EXP. END	TOTAL / CORR.	H.A. END	SEE. / TRANS.	CAM. FOCUS	SLIT	GRATING / TILT	MAG.	SP.	COMP. KIND	COMP. EXP.	CALIB.	EMUL	DEV.	OBS	REMARKS
3421	HD66342	08 00.0	-60 36	8/9 Dec 1990	0734	0750	16m/+25	19m W	1.5/clear	3.19	50μ/1.2mm	120/7.25	6.9	M1 II	NeAr	15s	14m 16V blue	Kodak IIa-O 2h 65°C N2H2	M-S. 15m 67°F	Js	HR 3153
(cont)	49396	6 45.9	-52 17		0755	0835	40m/✓	2h 18m W	"	"	"	"	7.3	G6 Iab							
3422	HD12603	1 58.5	-78 51	9/10	9/10 0046	0213	87m/✓	0h 47m W.	4"-2"/clear	3.19	"	"	8.5	F3 II	"	"	"	"	"	"	BAD Seeing (as bad as DDO)
	10935	01 44.6	-68 00	10/11 Dec 1990	10/11 0034	0237	120m/✓	1h 28m W	1.5/clear				10.0	F2 II							
	21190	03 12.2	-83 33		0256	0434	98m/✓	1 59 W.	3"/few cirrus				8.6	F2/3 Ib/II							
	HR2298(A)	06 22.9	+04 34		0512	0515	2.5m/✓	0 28 E	3-6"/cirrus few				4.6	A5 IV						HD 44769	ε Mon A
	(2) 2299(B)	"	"		0516	0601	32, 13m/32	0 14 W					6.8	F4 V						44770	B
	HD56096	07 13.2	-44 37		0609	0727	40, 20, 12/10	0 45 W	3-1.5/~~clear~~ cirrus				6.66	M5 IIIe							L2 Pup
	HR3950	09 59.6	+08 03		0733	0753	20m/✓	1 29 E	1.5/~~clear~~ "				6.3	M2 III						HD86663	π Leo
	HD83041	09 34.5	-28 52		0757	0843	46m/✓	13m E	"/cirrus				8.9	A0							
3423	~~HD12293~~	~~1 59.9~~	~~-16 25~~		~~0045~~		/		2"/cirrus	"	"/0.6	"	~~9.1~~	~~A~~	"	"	"	"	"	"	~~HB star?~~
	HD14386	2 18.8	-3 01.	11/12	0155	0226	20, 11m/20	0h 46m W	2"/clear		/1.2		6.5	M5 IIIe							Mira
	HD14214	02 17.2	+01 40	Dec	0240	0249	8m/✓	1 11 W.	"				6.2	G0 IVb							
	18256	02 55.5	+17 56	1990	0253	0302	9m/✓	0 47 W	"				6.1	F6 V							
	17576	02 47.3	-37 03		0306	0415	69m/90	2 07 W	3"/clear				8.1	G0V + WD							
	26913	04 14.5	+06 05		0459	0532	33m/40	1 57 W	2"/clear				~~7~~.6	G5 IV							humidity rising; wind high.
	26923	04 14.6	+06 04		0534	0554	20m/✓	2 19 W					6.9	G0 IV							
	35296	05 24.0	+17 21		0609	0615	5m/✓	1 31 W					5.5	F8V							Cold! 8°! Summer??
	43386	06 16.3	+12 15		0620	0625	5m/✓	0 50 W					5.5	F5 IV-V							
	50692	06 55.0	+25 21		0630	0640	10m/12	0 25m W					4.3	G0V							very high wind
	56096	07 14	-44 39		0650	0714	15, 8m/8 ✓	40m W	2"/clear.				6.66	M5 III							L2 Pup.
3424	55474	07 11.3	-39 06	"	0736	0800	24m/✓	1 29 W	1.5/clear	"	"	"	7.7	A2	"	"	"	"	"	"	
	61623	7 38.4	-39 59.9		0804	0815	10m/✓	1 17 W.	"				6.5	A0							
	62227	07 41.0	-39 16		0819	0840	21m/✓	1 41 W	"				7.7	A9.							
	12293	1 59.8	-16 23.5	12/13	0047	0153	65m/90	0 37 W	2.5-3"/clear	"	"/0.6	"	9.1	A	"	"	"	"	"	"	
	14386	2 18.9	-3 01.3	Dec	0157	0218	20m/✓	0h 44m W	3"/clear		1.2		6.5	M5e							Mira
3425	14386	"	"	"	0249	0325	35m/✓	1h 50m W		2.97	50μ/1.2mm	67/5.4	"	"	"	30s	"	"	"	"	"
	Vesta	03 07.2	+9 34.6		0346	0512	85m/110	2 49 W					8.	G2V							
	43847	6 16.5	-39 22		0530	0548	18m/✓	0 15 W					6.2	A2							

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LC																					
3425	HD48503	0641.7	-39 55	12/13	0551	0636	45m / 60	0h 39m W	2" / clear	2.97	50µ / 0.2mm	67 / 6.8	7.7	A0	NeAr	30s	14m 16V Blue filter	baked IIaO 2h 65°C N2H2	MS 15m 67°F	JT	
	49319	0645.2	-39 41	Dec 1980	0640	0654	14m 20	0h 52m W					6.5	B9							
	54893	0708.7	-39 48		0657	0700	3m / 7m						4.7	B3							A Pump
	56096	0713.4	-44 48		0704	0828	48m 24m 20	1h 51m W	2" / clear				6.66	M5e							L2 Pump
3426	MIRA	02 19.0	-03 02	29-30 JAN 91	00 55	02 45	1h 50m	04 15	2" / clear	3.20	100µ / 0.8mm	120			NeAr	20s	—	BAKED IIaO 2h 65°C	MS 15m	PABLO PRADO	
3427	MIRA	02 19.0	-03 02	30-31	00 45	02 45	2h	4h 23m	2" / clear	3.20	100µ / 1.2	120			"	15s	14m 16V Blue f.	N_2H_2	67°F	"	

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115207	Hby 1551	18 05.5	-29 26	25/26 MAY 1992	0655					10.5	1"	3.0	8.15	B2 Vp							He paW prg
																					"
64740	HR3089				02353					10.5	1"	3.0	4.13	B1.5 Vp							Clear & cold
10725	Hby 120				0011									B2 V							seeing 1-1.5"
	κ Hya				0035									B5 V							He paW prg
					0040																"
94080	[illegible]													~~[illegible]~~							"
89890	HR 4074				0118									B3 III(e?)							"
					0123																

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NUMBER (-7)	OBJECT	R.A.	DEC.	DATE U.T.	U.T. EXP. BEGIN	U.T. EXP. END	TOTAL / CORR	H.A. END	SEE / TRANS.	CAM. FOCUS	SLIT	GRATING / TILT	MAG.	SP.	COMP. KIND	COMP. EXP	CALIB	EMUL	DEV	OBS	REMARKS
144217	β Sco C	16 05.0	-19 47	25 May 92	0344				Cloudy	10.5	1"	3,0	4.90	B2 V							poor transparency
					0355				~1".5												paW He proj
[illegible]	9 ω¹ Sco	16 06.6	-20 38		0451									B1 V							
					0503																
133518		15 00.8	-52 00																		
161868	γ Oph	17 47.5	+2 39		0641									A0 V							sky clearing?
165207	Hby 1551	18 02.9	-29 26		0720									B2 Vp							
[illegible]	[illegible]	[illegible]	[illegible]		0741				Seeing ~2"												
165975	Hby 1623	18 22.3	-30 09		0810									B2 Vp							
					0822									B3 IIIp							
172854	Hby 1650																				
164740	HR 3089	07 52.8	-49 35	25-26 MAY 92	2326				Cloudy					B1.5 Vp							paW He proj
					2331				~2"												
					2336																
	ν Hya	09 39.3	-14 15		0353				ok					B5 V							
379080	w Car	10 13.6	-70 01		0011									B8 III							
	HR 4074	10 20.6	-56 00		0037									B3 IIIe?							
125823	α CEN	14 19.9	-39 28		0132									B7 III pv							Seeing improving
					0137																
127381	ε Lup	14 32.1	-50 26		0212									B2 III							
242121	Hby 928	15 06.3	-52 00		0236									B2 Vp							
132058	β Lup	14 58.1	-43 06		0302									B2 IV							
144228	β Sco C	16 05.0	-19 47		0326									B2 V							
[illegible]	[illegible]	[illegible]	[illegible]		0340																
136415	δ Cir	15 22.8	-59 16		0359									B5 IV							
141557	Hby 1173	16 35.2	-45 36		0610									B2 Vp							
158408	υ Sco	17 30.3	-37 17		0627									B2 IV							
					0635																

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NUMBER	OBJECT	R.A. (2000)	DEC.	DATE U.T.	U.T. EXP. BEGIN	U.T. EXP. END	TOTAL / CORR.	~~H.A. END~~ Air Mass	SEE. / TRANS.	CAM. FOCUS	SLIT	GRATING / TILT	MAG.	SP.	COMP. KIND	COMP. EXP.	CALIB.	EMUL	DEV.	OBS	REMARKS
10 bins	1	119605	13h 44m 30s	-16° 10' 44"	11/7	1 33	10 min		~2"	11.92		4.21	5.60	G5 V	V/V	G0 II					2 days before fullmoon
	2	~~139112~~																			
	3	"				155															
	4	139112	15 39 17	-59 12 24		2 14	15 min						8.84	F0 V		F0 II					
1 bin →	~~5~~	"				~~2 37~~		1.20										computer crash			
	65					301												change of format			
	6					319	15 min	1.27													
	7	Argon																			
	8	161471	17 47 35	-40 07 37		3 40	5 min						3.02								
	9						150 sec														
	10						150 sec														
2 bins →	11	~~170349~~	Argon			~~427~~	~~15~~ 1 sec														
	12	170349	18 29 35	-16 38 30		427	15 min	1.03					9.36	A9 V		F0 II					
	13	"				444		1.04													
	14	"				459	15 min														
	15	Argon																			
	16	~~171129~~	~~19 33 33~~	~~-12 42 19~~									~~8.35~~	~~F0 IV~~	~~F2 Ib~~						
1 bin →	16	182835	19 26 51	-00 20 19			5 min						4.65	F2 Ib							
	17	"				532	5 min														
	18	"				538	5 min														
	19	Argon				545	1 sec														
	20	190390	20 05 05	-11 35 57		555	10 min						6.34	F0p	shell		HR 7671				
	21	"				6	10 min														
	22					618	10 min	1.11													
	23	Argon				632															
	24	213985	22 35 27	-17 15 27		642	15 min	1.08					8.85	A0 III							
	25					703	15 min														
	26					719	15 min	1.04													
	34	Argon																			
	25	~~1062~~	2 Darks				15 min	©													

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26	HR 8732			11-7	8 34																
27	"	lamp flats + Dark					2 min														
28	110 62	01 53 13	-79 55 39				15 min														
29	"				9 43	10	min	1.61	1.8"				7.22	A1 IV/V							
30	"				9 53	11	min														thick cirrus moving in
31	"	lamp flats			10 18		2 min														
32		Dark					20 min														
				Enlu	11/12	1995															
7130		2 Dark + Bias					15 min														
7133		4/5 lamp flats + Dark					2 min														
7151	HR 5193	13 49 21	-42 27 05	11-7	23 45	1	min														
152	1297 74	14 46 58	-60 51 56	"	23 46	15	min	1.18					8,11	A9 IV							
153	"	"	"	12-7	00.03	15	M.N	1.17													
154	"	"	"	"	00 22	15	"	1.19													
155	Argon					1	sec														
156	147084	16 20 36	-24 10 09	"	00.35	200	"	1.02					4.57								
157	"	"	"	"	00 59	60	"	1.02													
158	"	"	"	"		60															
159	ARGON				1 06	1	sec														
160	159877	17 37 36	-15 34 16	"	01 17	10	M.N	1.92					5.94	F0 IV | A5 V							
161	"	"	"	"																	
162	"	"	"	"																	
163	Argon	2 bias			1 52																
166																					

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file NUMBER	OBJECT	R.A.	DEC.	DATE U.T.	U.T. EXP. BEGIN	U.T. EXP. exposure time / END	TOTAL / CORR. #	file H.A. END	object SEC. / TRANS.	CAM. FOCUS	SLIT	GRATING / TILT	MAG.	SP.	COMP. KIND	COMP. EXP.	CALIB.	EMUL.	DEV.	OBS	REMARKS
	Aragon		Dec 1/2	1995		25s			Dark	x2					Darks	2x10, 25,	3x 750s				
	Bias						x10		Bias	x10					Bias x10						
	Flat					10s	x7		flat						Aragon						
	Darks					10s			Aragon						flat x7						
	Dark					25s		8600	HR 1279			4^00	150	8654	HD 59612	x3			4^15	150s	Aragon
	Dark					10 min	x3		"			4^03	"	8655	HD 55661				4^46	750s	
8544	HD 46300				4:49	150s			"			4^02	"		"				5^17	750s	
8545	"				4:59			8604	HD 36673				Arag 80	8660	HD 62735				6^01	450s	
8546					5:10				"				60		"				6^09	450s	
	Aragon					25s			"				60		"				6^13	450s	
8548	HD 55612				5:30	600s		8608	HD 50798				600	8666	HD 73634					150s	
8549	"				5:43	600s									"				6^56	150s	
8550	"				5:56	600						5^23			"				7^00	150s	
	Aragon					25s		8614	HD 57736			7^08	900	8671	HD 80404	x3				30s	
8552	HD 58439				6:27	~~300s~~			"			7^24	900	8775	HD 90772				7^30	120s	
8553	"				6:34	300s			"			7^39	900	~~8775 HD~~	"				7^55	"	
8554	"				6:41	300		8617	HD 96620			5^00	300		"				7^36	"	
	Aragon								"			8^06	300	8780	HD 96898				7^51	600s	
8556	HD 64230				6:57	300			"			8^12	300		"				8^01	"	
8557	"				7:03	300									"				8^12	"	
8558	"				7:09	300															
	Aragon					25									Aragon						
8560	HD 75520				7:29	600			Dec 2/3 1995						Bias x5						
8561	"				7:40	600															
	Bias																				
8563	HD 75520				7:51	600															
	Bias																				
	Aragon					25															
8566	HD 90772				8^09/12/17	200															
	Aragon	25s		Bias x5																	