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Spectr. Temp.

Focus

Spectr. Temp.

Exp. Mtr. Seeing

Spectr. Temp.

Dome Temp./Hum.

4

[illegible]

Date _____

Mar. 20/21

Observers

M.D. Bls / KK-Bls

Emulsion Batches:

8th 68th IIaOe 12108-1039 16, 192
5th 68th IIIaFe 3058-08039

[illegible]

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr. Sec.

039 16, 192
8039

Spectr. Temp. 47° Dome Temp./Hum. 42° Transparency Conditions thin cloud 6
 Focus 500
 Spectr. Temp. Dome Temp./Hum. 40°

Comparison
e/Filter Exp.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
- 5-5								A		47° 500	710M cent Blue
200/13		5.6	G2II	BC	G12/68	120u	IIaDe	A	Solar Type	cut off for far West.	OK exp wk
400/80	4"	7.1	G4	"	"	"	"	A	"	clouded completely	vs/wk
200/50	5.6	6.0	G2II	"	"	"	"	A			Fine
800/31	"	8.1	MOV	"	"	150u	LI	A	AsmSp - KIK	Σ1321 bvt. clouded out	v wk
200/							IIIaJe	A		44° 500 clouds	
20-30				"	"	70u	"	A			cent Blue
15-15				"	643/5	"	"	A	after loosening corner clamps and putting paper strips beneath.		cent V 110
15-15				"	"	RS	"	A			" "

Transparency Conditions *s/ Hazy* 8

Comparison Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
+	5-10	40/10	1.5"	2.7	B0	BC	G12/68	120μ	IlaOe	B	STD VEL		s/str
	5-8	400/78	"	7.26	A3	"	"	"	"	A	Am MR	thin cloud broken 2 pcs	
-	6-6-6	40/40	2"	1.9	A0 IV	BC	G12/68	120μ	IlaJ-e	B	Asm Sp KK		s/str comp s.str
	6-6-6	40/12	1.2"	3.8	GOp II	BC	G12/68	120μ	IlaBe	B	Rm-prog	47°F set 503	s/str
	6-6-6	400/91	1.2"	6.79	A0	"	"	"	"	B	Am MR		vsl str
	6-6-6	40/10	1.4	3.8	GOp II	"	"	"	"	B	Rm Prog		vsl str
	6-6-6	400/79	1.2"	6.61	B9	"	"	"	"	B	Ap MR	thin cloud / Dark slide	
										B		-3u	OK

Date MAR 22/23 THUR/FRI Observers Bat-Jin

79

Emulsion Batches:

Emulsion Batches:
5m. 68, III a. 1-e 31058-08039 28 258

8^м 68^о* ПАО-Е. 12108...21038 19 206

Spectr. Temp. .

Focus... 202

Spectr. Temp. .

Exp. Mtr. Sec

Scanned with

[illegible]

Transparency Conditions *slightly* 101

Focus . . . 502

Spectr. Temp.

Dome Temp./Hum. 48°F / 96%

[illegible]

Emulsion Batches:

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[illegible]

Spectr. Temp. 27°F

Dome Temp./Hum.

Transparency Conditions *Cloud soon after opening.* ¹²

Focus 507

Spectr. Temp.

Dome Temp./Hum.

[illegible]

13

769-6093

Emulsion Batches:

8^m 68°5^m 68°Tol-e 12108 - 21038
Tol-e 31058 - 08039

Date MAR 27/28...TUES./WED Observers Bait-Tn.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Mtr.	Sec.
43319	HD 47105 (YGEM)	06 31.9	+16 29	19:01	19 08	+00 33W	+16 26	FE ARC/-	6-6	40/29	
43319T	Spot Cal'n for 43319										
43320	HD 23408 (20 TAU)	03 39.9	+24 04	19 11	19 20	+03 37W	+24 17	FE ARC/HD	6-6-6	40/9	
43320T	Spot Cal'n for 43320-23.										
43321	HD 47256	06 32.6	+27° 53'	19 23	23 08	+0433 W	+27 48	Fe/ND 9	6-6-6	400/80	
43322	HD 138406	15 26.8	+62° 05'	23 14	02 03	-01 22 E	+61 45	"	6-6-6	400/87	2
43323	HD 137182	15 19.5	+10 54	02 10	05 33	+02 14 W	+10 37	"	6-6-6	400/83	2
43323T	Spot Cal'n for Gies special request			60min	D2@15V 4300; 15min	D3@15V 4300	D3@7.5V 4300				
43323F1	Focus Test							Fe/-	6-6		
43323F2	Focus Test							Fe/-	6-6		
MAR 28											
43323F3	Focus Test	a new dock system test				0 ^h	-20°	Fe/-	6-6		
43323F4	" "	"	"	"	"	0 ^h	-20°	Fe/-	6-6		

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr.

Sec.

Tol-e 6 1/2

* Tol-e 1 1/2 to 6

(After b)

Comparison Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
-6-6	40/29	1.9	A0IV	BC	G12/68	120μ	III a JE	B	Asm Sp KK				sl str
							"						
1/2 -6-6	40/8	3.8	B9	BC	G12/68	120μ	I a O E	B	B STD VEL				vsl str
							"						
-6-6	400/80	2.4	7.26	A3	BC	G12/68	120μ	"	B	Am MR			fine sl y flow
-6-6	400/87	2"	6.79	A0	"	"	"	"	"	"			fine
-6-6	400/83	2"	7.19	A0	"	"	"	"	"	"		Temp +25°F Focus 508	fine
Test of varying Inte Exp, keeping Intx Exp = const hopefully IlaO-E From same batch as used all night													
-6-6					BC	G12/68	120μ	"	A	24°F Set 508	-7m		vsl blue
-6-6					"	"	"	"	B		-2.5m		vsl blue
-6-6	* Too wet to go up				BC	G12/68	120μ	I n a J	B	Set 502 Temp +46°F	wk cent blue		
-6-6	(After blue end CW 30° adj)				"	"	120μ	I n a J	A	Set 502	dd batch wk cent blue		
												understandably	

Spectr. Temp.

Dome Temp./Hum. +36°F/.....

Dome Temp./Hum.

Transparency Conditions 16

* Dome c Spect temp probably stable for last couple of days; Unlike conditions when 43323 F3 & F4 were taken

Comparison Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
-	6-6					BC	G12/68	120μ	I _{90-e}	B	504		Red and sharp right on
-	6-6	Set reset to 511 then				"	"	"	"	B	504 (*Prob with deker??)		most stellar
-	6-6					"	"	"	"	A	504 + Stellar exp ensured by holding		cent very Blue
-	6-6	Set 496				"	"	"	"	B	(decker up during exp)		cent v. Blue
-	8-8 18-8	Set 504				"	G16/7	120μ	O98-02	A	(On Taking out G12 I noticed that front bracket was reversed)		cent very very Blue
"	"	"				"	"	"	"	B			cent Blue
10-4 8-8 8-8 18-8	8-8 8-8 8-8 18-8	"	Comp shift Test as well			"	"	"	"	B?	should be resolvable when measured	Exp good	cent very Blue??
-	18-8	"				"	"	"	"	A?	Comp Ne put on last		F-cent Far Blue
0													
Dot.													
s													
mon.													
Ty													
areps.													

* Decker assembly push rod may fall or spring down after setting stellar posn. May have done so on Exp F6

Note - I must have jarred slit loose after F6 exp when experimenting with decker assembly.

27034
8-37Spectr. Temp. $+43^{\circ}\text{F}$Dome Temp./Hum. $+38^{\circ}\text{F}/50\%$

Transparency Conditions .. Very good .. with good .. 18.

Focus 503

Spectr. Temp. $+34^{\circ}\text{F}$Dome Temp./Hum. $+38^{\circ}\text{F}/85\%$ Super Aurora with 20% Flashes
at 3 AM after a long fadeoutComparison
/Filter Exp.

Comparison /Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
- 8-8					BC	G16/17	120u	098-20E	B		sl blue, ends better - than center -	
- 15-16					BC	G81-25	120u	IIIa J-e	B		blue & center, w. sl. red red, v sl blue.	
- 16-10	40/58	2"3"	1.9	A0IV	BC	120u	120u	"	B	Am Sp-KK	Close to Moon	red sharp blue & fuzzy
2x 6-5-6	10/8	2"4"	3.8	B9	BC	G12/68	120u	IIa 0 E	B	B STD VEL		v. sl. str Sharp in center exp fine. red end
- 6-6	100/50	3"5"	7.26	A3	"	"	"	"	B	Am-MR	Aurora T=41°	fuzzy, sl. flare (Y, mostly) Molecular band (!) bet: H β & H γ
2x 6-6	400/70	5"2"	6.79	A0	"	G12/68	120u	"	A	Am MR	thin cloud & Aurora	star fine & sharp comp lines doubled
6-6	400/23	3"	7.04	A1	"	"	"	"	B	Am MR	thin cloud & blt Aurora	ok, red sl. fuzzy
											Clouded out	
											IIIa J = 098 in Exp box #2	

11 A

Date Apr 7/8 Sat/Sun Observers Gus - Bts / Bl n - Bts.

Emulsion Batches:

IlaDe 12108-28039
IlaFe 31058-27039
IlaDe 12108-07049

Plat	Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparator Type/Filter E:	Exp. Mtr.	Seeing
433	43329F	Focus							Fe/- 66		
433	43329	HD 91316	10 ^h 27 ^m .6	+9° 49'	19 32	20 42	01 ^h 03 ^m E	+9 26	Fe/ND4	21/15	3-4
433	S1	Strip cal	for plates 43329-43334								
433	S2	Strip cal									
433	S3	Strip cal									
433	43330	HD 91316	"	"	20 43	21 44	00 01 E	+9 26	Fe/ND4	8-8-8	200/120
433	43330T	Spot cal.	for plates 43329-43334		15 min 15V	① ^{p4} 3900	② ^{D3} 4300	③ ^{D2} 4810			
433	43331	HD 91316	"	"	21 47	22 30	00 45 W	+9 26	Fe/ND4	8-8-8	200/80
433	43332	HD 91316	"	"	22 33	23 04	01 19 W	+9 26	Fe/ND4	8-8-8	200/50
	43333	HD 91316	"	"	23 09	23 23	01 38 W	9 26	Fe/ND4	8-8-8	200/30
	43334	HD 91316	"	"	23 26	23 39	01 59 W	9 26	Fe/ND4	8-8-8	200/15
	S1	Strip cal	for plates 43335-38, 40,								
	S2	Strip cal									
	S3	Strip cal									
	S4	Strip cal									

2

Date Apr 7/8 (cont)

Observers Bln - Bts

Emulsion Batches:

09802e-19098-08039

Spectr. Temp. ...

Focus

Spectr. Temp. ...

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Mtr.	Sec.
43335	HD 91316	10 ^h 27.6	+9° 49'	23 41	23 48	02 03W	+9 26	Fe/ND4 5-8		20/20	5
43336	"	"	"	23 59	00 05	02 20W	+9 26	Fe/ND4 5-8		20/15	
43337	"	"	"	00 09	00 23	02 38W	+9 26	Fe/ND4 5-8		20/4	9
43338	focus							Fe/- 8-8			
43338	HD 141458	15 ^h 44 ^m .1	+13° 01'	00 42	03 07	00 05W	+12 49	Fe/ND4 5-8		40/3	3
43338T	spot calib	for plates	43335-	15V 15m	D4 ① 3900	D3 ② 4300	D2 ③ 4810				
43339	HD 139892	15 ^h 35 ^m 37 ^s	+36° 58'	03 15	04 08	01 16W	+36 44	Fe/ND4 6-6		20/50	2
43340	HD 163506	17 ^h 51 ^m .4	+26° 04'	04 13	05 22	00 15W	+26° 05'	Fe/ND4 6-6		20/50	2
43340T	spot calib for	43339	15V ① 3900	D4 17.5V ②	D4 15V 4300	D4 15V ③ 4810					
43340F	focus							Fe/- 5-5			

Transparency Conditions 22

Focus

Spectr. Temp.

Dome Temp./Hum.

Comparison type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
200/20	5	3.71	B116	BC	G8/-025	120 μ	IIaDe	A	Cal. Std		new box of plates	OK some compa to other
200/10				"	"	"	"	B	"			
200/40	4	3.71	B116	BC	G8/-025	120 μ	IIa-05	B	Cal. Std.		clear	
				BC	G16/.7	120 μ	098	A	locus			sl blue
400/75	3-4	6.80	A0	BC	G8/-025	150 μ	IIaDe	A				comp in stellar Exp OK
80/50	2	4.95	B7V	BC	G12/.68	150 μ	IIIaJe	A	SB-Blu/Ly		Middle Fe arc exp on * spectra	OK/Fizz Exp on red Fuzz Fine
200/50	2-3	5.81	F2Ia	"	"	150 μ	IIaDe	B	Ceph-Fe		26°F 508	
							IIIaJe					
							IIaDe	A			26°F 508	cent w/ blue Red Fuzz

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions *slight haze*..... 24.

[illegible]

25

Emulsion Batches:

DAR...12108-07049

.....12108-10049

A or O.K. 02. 1909.8-10049

Date April 11, 1979, Tue/Wed Observers Fj-Bts/Rm-Bts.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
43343F	FOCUS							Fe/-	6-6
43343	HD 84441 (e Leo)	9 ^h 40.2	+24° 14'	19 ^h 44	19 ^h 53	0 ^h 54 E	+23° 48	Fe/ND4	6-6
43344	HD 89449 (40 Leo)	10 ^h 14.3	+19° 59	20 01	20 ^h 41	0 ^h 39 E	+19 34	Fe/ND4	6-6
43345	HD 118216	13 ^h 30.3	+37° 42	20 54	21 ^h 36	2 ^h 59 E	+37 18	Fe/ND4	5-5
43344T	spot calib for	433413/4	15min 15V	① 3900	② 4300	③ 4810			
43346	HD 118216	13 ^h 30.3	+37° 42	21 ^h 38	23 ^h 00	1 ^h 35 E	+37 18	Ne/-	5-5
43347	HD 118216	13 ^h 30.3	+37° 42	23 02	23 ^h 58	0 ^h 39 E	+37 18	Fe/ND4	5-5
43348	HD 84491	9 ^h 40.2	+24° 14	00 ^h 10	00 ^h 19	3 ^h 33 W	+23° 54	Fe/ND4	6-6
43349	HD 89449	10 ^h 14.3	+19° 59	00 ^h 27	01 ^h 42	4 ^h 22 W	+19° 35	Fe/ND4	6-6
43349T	spot calib for	43345/47	15min	① 4810	② 4810	③ 5450			
43350	89 Her: HD 163006	17 ^h 51.9	+26° 4	01 ^h 54	03 ^h 55	01 01 E	+26 04	Fe/ND4	6-6
43350T	spot calib for	43348/51	15min 15V	① 3900	② 4300	③ 4810			
43351	HD 86687 = SUC	19 ^h 40.8	+29° 01	04 ^h 05	05 ^h 10	1 ^h 35 E	+29° 13	Fe/ND4	6-6
	FOCUS							Fe/-	6-6

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Nr. Secs

Spectr. Temp.

Dome Temp./Hum. 36°F/63%

Transparency Conditions *Some cloud* 26

Dome Temp./Hum.

Comparison Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1/-	6-6					BC	G12/.68	120μ	IIa-De	A		38° SOS	Cent g Red red s/fuzzy red s/fuzzy
100/25	4-5	3.8	G0pII	BC	G12/.68	120μ	IIa-De	A	Ceph/Edwards				Fine
200/50		5.3	F5V	BC	G12/.68	120μ	IIa-De	A	"				"
200/50		5.3	F2IV	BC	G16/.7	120μ	098-02e	A	RSCVn/Fgi		+38° SOS	v. str bright (tip lost) some UV contrast - instr	
200/100		5.3	F2IV	BC	G16/.7	120μ	098-02-e	B	RSCVn/Fgi				"
200/66		5.3	F2IV	BC	G16/.7	120μ	098-02-e	A	RSCVn/Fgi				"
100/25		3.8	G0pII	BC	G12/.68	120μ	IIa-De	B	Ceph/Edwards		+36°	505 new box of plates	red s/fuzzy Fine
100/25		5.3	F5V	BC	"	"	IIa-De	A	"	"	"		"
200/49		5.82	F2Ia	BC	G12/.68	150μ	IIa-De	B	Ceph/Edwards		more than cloud		red s/fuzzy slr
400/31		6.2- 7.7	F0- G1	BC	G12/.68	150μ	IIa-De	A	Ceph/Edwards				Fine red s/fuzzy cent red s/fuzzy
				BC	G12/.68	150μ	IIa-De	A			34°	SOS	red s/fuzzy

27 Tests

Date Apr. 12 Observers Tn

Emulsion Batches:

Daf-e 23117-02039
Hal-e 12108-10049
098022 19098-10049
Wale 31058-27039

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Nr.	Series
43351 F2	Hartman Focus Test					0 ^h	+20°	Fe/-	15-15	Se-503	e
F3	" " "							Fe/-	15-15	Se-504	
F4	Full Aperture Focus Test (including stellar exp)				comp 1st			Fe/NDAA	45-45	Se-505	
F5	" " "	"	"	"	stellar 1st			Fe/-	15-15	Note Took center in +	
F6	Full Aperture Test		componly					Fe/NDAA	15		
F7	"	"	"					"	15		
F8	"	"	"					Fe/-	15		
F9	Full Aperture after grating rotated							Fe/-	15		
F10	"	"						Fe/NDAA	15		
F11	"	"						"	15		
F12	Full Aperture after further rot'n of grating							"	15		
F13	"	"						"	15		
F14	Standard Focus Test							Fe/-	15-15	T=+4.6	

Spectr. Temp. $+41^{\circ}\text{F}$Dome Temp./Hum $+39^{\circ}\text{F}/...60\%$

Transparency Conditions 28.

Focus

Spectr. Temp. $+42^{\circ}\text{F}$

Dome Temp./Hum.

Comparison

Filter

Exp.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1-15-15				BC	G12/68	120u	IIIaJ-e	A			right on
1-15-15				"	"	"	"	A			red red fuzzy
1-15-45				"	"	"	"	B	* using NDx4	blue red fuzzy?	
1-15-15				"	"	"	"	B			Tau 8.4
1-15-15				"	"	"	IIaJ-e	B			red fuzzy
1-15-15				"	"	"	09802e	B			red fuzzy
1-15-15				"	"	"	IIIaF-e	B			sharp
1-15-15				"	G12/48	"	IIIaJ-e	B			
1-15-15				"	"	"	09802E	B			
1-15-15				"	"	"	IIaJ-e	B			4900 fuzzy
1-15-15				"	G12/28	"	IIaJ-e	B			" " "
1-15-15				"	"	"	09802E	B			
1-15-15				"	G12/68	"	IIIaJ-e	B	"		cent s/rod

T = $+42^{\circ}\text{F}$ set 505

More Tests

Date Fri. Apr. 13. GF Observers Tn

Emulsion Batches:

Π 40-Ε 12108-10049

III a J - e 31058-27039

[illegible]

Spectr. Temp.

Focus.....

Spectr. Temp. .

Exp. Mtr. Sec

Set 570 T

Spectr. Temp. Dome Temp./Hum. *40°F/100%*
 Focus
 Spectr. Temp. Dome Temp./Hum.

Transparency Conditions ... *Rainy* 30'
** Comp control power on during 40 min of tests only.*

Comparison /Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
- 4-4		Set 500	Temp 43°F			BC	G12/68	120u	Ilad-e	B	✓	n	cont s/blue
- 4-4						"	"	"	Ilad-e	B	✓	n	
4-6						"	"	"	Ilad-e	B			HE ok? crisp
- 4-4		Set 505	Temp 43°F			"	"	"	Ilad-e	B	✓	n	cont s/Red
- 4-4						"	"	"	Ilad-e	B	✓	m	Eg ok
4-6						"	"	"	Ilad-e	B			HE ok? crisp
- 8-4		Set 503	Temp 43°F			"	"	"	Ilad-e	B			
7						"	"	"	"	B			s/wk
12						"	"	"	Ilad-e	B			
3						"	"	"	"	B			crisp, slwk

SAT-Sun

Emulsion Batches:
8^m 68^o IIa0-e...12108-...12049 22 196

Date Apr. 14-15, 1979 Observers BK-TN

[illegible]

Spectr. Temp. 4
Focus.....503.
Spectr. Temp. .

Exp. Mtr.	Series
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99	99
100	100

Transparency Conditions . . . *Hazy* 32

Focus . . . 503

Spectr. Temp. ... 42° F

Dome Temp./Hum 38°F / 100% +

Comparison	
Filter	Exp.

[illegible]

33

Tues - Wed

Date Apr. 17-18. 1979..... Observers T.H. / R.M. - T.H.

Emulsion Batches:

8" 67° IIaD-e 12108-12049
5" 66° IIIaD-e 31058-14049

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Nr.	Sec.
43355	HD 84441 ^{ELco}	9 40.2	+24 14	19 41	19 47	0 34 E		Fe/ND4	4-6	40/11	3
43356	HD 89449 ^{40 Leo}	10 14.3	+19 59	19 50	20 19	0 34 E	+19 35	"	3-3-3	80/22	1-2
43356T	Spot Calc for 43355-56, 59-62, 65-				15 min @	15V 3900	D4 D3 D2 4300 4810				
43356F	Focus Test					2h W	+28°	Fe/-	13-17	Focus 502	
43357	HD 62509 ^{B Gem}	07 39.2	+28 16	20 29	20 35	2 16 W		Fe/-	4-4	40/43	3
43358	" ^{B Gem}	"	"	20 37	20 43	2 23 W		"	4-4	40/50	3
43358T	Spot Calc for 43357-58, 63-64.				15 min @	3900	D4 15V D4 15V D4 4300 4810				
43359	HD 112028	12 48.3	+83 58	20 59	22 02	1 22 E	+83 31	Fe/ND4	3-3-3	200/63	3
43360	HD 97937	11 10.7	+13 23	22 08	23 53	2 04 W	+13 00	"	3-3-3	200/60	3
43361	HD 89449	10h 14.3	19° 59'	23 56	00 34	3 41 W		Fe ND4	3-1-3	80/19	5
43362	HD 84441	9h 40.2	+24° 14	00h 36	00 46	4 27 W		Fe ND4	2-3-3	40/10	"
43363	HD 124897 x Boo	14 11.1	+19 42	00 50	00 53	0h 04 W	19° 19	Fe/-	3-3	40/45	"
43364	"	"	"	00h 55	00 58	0 08 W	"	Fe/-	3-3	40/95	"
43365	HD 163506 = 89 Her	17h 51.4	+26° 4	01 05	01 59	2 30 E	+26° 06	Fe ND4	3-3-3	400/100	3
43366	HD 180638 = SV Cyg	19h 40.8	+29° 01	02h 06	4 26	1 50 E	+29° 14	Fe ND4	3-2-2	800/100	3

Spectr. Temp. 4
Focus... 502
Spectr. Temp. 4

2049
4049

Spectr. Temp. +47°F

Dome Temp./Hum. 44°F / H=70%

Transparency Conditions Photometric 31

Focus 502

Spectr. Temp. 43°F

Dome Temp./Hum. 37°F / 80%

gusty

Comparison
Filter Exp.

Comparison Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
4-6	40/11	2"	3.8	GOpII	BC	G12/68	120M	IIa0-e	A	Ceph-Rm		Fine
3-3-3	80/22	1.2"	5.3	FSV	"	"	"	"	B	Ceph-Rm std vel	possible trouble	Fine
								"			with 10 Arc being blackest partially centred	comp out one side
	Focus 502	T=47°F			BC	G12/68	120M	IIa0-e	A			
4-4	40/43	3	2.15	10M	"	"	"	"	A	std vel Focus 505	Looks Fuzzy	Fine
4-4	40/50	3	"	"	"	"	"	"	A	std vel Focus 499	Sharp	Fine
											see "Log"	
											Note Previous wave comp may be affected by decker problem books + trouble	
3-3-3	200/63	2.5"	5.2	Shell	BC	G12/68	120M	IIa0-e	B	Shell-Bln Focus 502	South of paper	OK! str
3-3-3	200/60	3.6"	6.49	A6n	"	"	"	"	A	SB Bln		Fine
3-1-3	80/19	5.8	5.3	FSV	"	"	"	"	B	Ceph/Evans std vel		Fine
2-3-3	40/10	"	3.8	GOpII	"	"	"	"	A	Ceph/Evans		Fine
3-3	40/45	"	1.3	K2	"	"	"	IIa0-e	B	std vel T=44°F set 500	Looks sharp	Fine
3-3	40/45	"	"	"	"	"	"	"	B	"	set 505	sl Fuzzy
3-3-3	400/109	3"			"	"	150M	IIa0-e	A	Ceph/Evans	set 503	sl str
3-2-2	800/100	3"	6.8-7.7	FO-61	"	"	"	"	B	Ceph/Evans	thin cloud C/2nd	Fine

35

Page #1

Date 18/19 April 1979 Observers KK-Tn/ly-Tn

Emulsion Batches:

41.2 6800 IIIA-C 31058-14049
 8" 6800 IIA-C 12108-18049

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp
43366F1	Reg focus test							Fe/-	12-12
43366T	Full Aperture Test Stellar 1st, Comp							Fe/-	12-12
43367	HL 61412	7 34.0	+5 29	19:51	19 56	1 46 W	5 13	Fe/-	5-6
43368	HD 47105	6 31.9	+16 29	20:00	20 23	3 15 W	16 23	Fe/-	4-4
43369	"	"	"	20 25	20 31	3 23 W	"	Fe/ND	4-4
43369T	Spot Calc for 43367-68, 70, 73, 76			15 min @	17.5V D4 3900	15V D4 4300	15V D4 4810		
43370	HD 61412	7 34.0	+5 29	20 35	20 38	2 32 W		Fe/-	4-4
43371	HD 76151	8 49.4	-5 4	20:44	22:11	2 47 W	-5 25	Fe/ND	3-3
43372	HD 103095	11 47.2	+38 26	22 17	23:57	1 35 W		"	3-3
43372T	Spot Calc for 43369, 71-72, 74-75, 77-78.			15 min @	D4 15V 3900	D3 4300	D2 4810		
43373	HD 124897	14 11.1	+19 42	0 03	0 04	0 42 E		Fe/r	3-5
43373F	Focus test							Fe/ND	3-4
43373T	Full aperture test, stellar 1st							Fe/	
43374	HD 84441	9 40.2	+24° 14'	00 19	00 28	04 13 W	+23 50	Fe/ND	6-3
43375	HD 89449	10 14.3	+19 59	00 33	01 22	04 39 W	+19 31	"	3-3-3
43376	HD 139892	15 35.6	+36 58	01 37	3 41	1 32 W	+36 38	Fe/-	3-3-3

Spectr. Temp. ...
 Focus ... 501 ...
 Spectr. Temp. ...

Exp. Mtr. Seeing

Spectr. Temp. $47^{\circ}F$ Dome Temp./Hum. $42^{\circ}/70\%$ Transparency Conditions *clear, few streaks* 36.

Focus 501

Spectr. Temp.

Dome Temp./Hum.

Comparison Type/Filter Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/- 12-12					BC	G8/-0.025	70 μ	IIIaJ-e	B			sl red
Fe/- 12-12					"	"	"	"	A		1.9 μ blue	sl blue
Fe/- 5-6	40/60	4"	0.78	FS IV-V	"	"	"	IIIaJ-e	B	Std Vel	ACHi	fine comp v. slake
Fe/- 4-4	40/60	3-4	1.9	AOTV	"	"	"	"	B	Asm-Spec/KK		"
Fe/- 4-4	40/15	"	"	"	"	"	"	IIaJ-e	B	"		"
								IIIaJ-e				fine comp v. slake ↓
I/- 4-4	40/60		0.78	FS IV-V	BC	G8/-0.025	70 μ	IIIaJ-e	B	std vel		
I/- 4-4	40/70	2-3	6.7	G63	"	G12/168	150 μ	IIaJ-e	B	Asm-Spec		ok sl uneven
I/- 5-5	400/92	"	6.95	G87I	"	"	"	"	A	"		v sl str
								"				
I/- 3-5	40/30		1.29	K0	BC	G12/168	150 μ	IIIaJ-e	B	std vel		ok
Fe/ND 3-4	se 501		T=44 $^{\circ}F$		"	"	"	IIaJ-e	A			sl blue
I/- 4-4					"	"	"	IIaJ-e	A		-.3 μ blue ? or O	sl blue
Fe/ND 6-3	40/109	5"	3.8	G0IIp	"	"	120 μ	IIaJ-e	B	Ceph-Kn	focus changed to 502 44 $^{\circ}F$	
I/- 3-3	200/45	2"-10"	5.3	F5V	"	"	"	"	B	1" e 5 to 10"		
I/- 3-3	80/260	2"	4.95	B7V	"	"	"	IIIaJ-e	A	SB Bl/Ly	cloud Cent	fine

Date 18/19 Apr 71 Observers Ly-In

Emulsion Batches:

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[illegible]

Spectr. Temp. ...
Focus 502
Spectr. Temp. ...

Exp. Mtr.	Sessing
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99	99
100	100

Spectr. Temp. 741° F.....

Dome Temp./Hum. 73.5°/83%

Transparency Conditions *Partly cloudy* 38

[illegible]

17049

8399 20 101

Spectr. Temp. 49°FDome Temp./Hum. $45^{\circ}\text{F}/45\%$ Transparency Conditions *Fine*.....400...Focus 502Spectr. Temp. 45°FDome Temp./Hum. $40^{\circ}\text{F}/46\%$ Comparison
Type/Filter Exp.

Fe/- 2-2

Fe - 5-3

Fe/112 2-3

Fe/- 3

Fe/- 5-5

Fe/- 10

Fe/- 10

Fe/- 20

Fe/- 20

Fe/- 20

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G12/68	70 μ	IIaJ	B			de
	1-2	1.9	A0IV	"	"	70 μ	IIaJ-e	B	Asm spk	comp. v. wk & uneven	*
800/70	4-8	6.77	FS	"	G12/68	150 μ	IIaDe	A	SB - Bln.	telescope reversed.	
							IIaJ-e				
200/164	2"	4.95	B7V	"	"	120 μ	IIaJ-e	A	40m	Saturn & Jupiter	comp. wk & uneven
							IIaJ-e				
40/34	2-3	1.29	A0	BC	G12/68	120 μ	IIaJ-e	B	std vel	46F cloud	comp. wk & uneven
				"	"	70 μ	IIIaJe	B			
				"	"	"	"	"			
				"	"	"	"	"			
				"	G16/.7	"	IIIaFe	A			
				"	G16/.7	"	IIIaFe	B			

* are electrode gap too wide
plates insufficiently evacuated

41

Fri/Sat

Date April 20/21, 1979 Observers Tnr/Tn

Emulsion Batches:

098-2E 19098-10049 33 192

[illegible]

12041
10349 33 112

Spectr. Temp. 5.3°F Dome Temp./Hum. 52°F / 50% Transparency Conditions sl. Hazy 42 !
 Focus 500
 Spectr. Temp. 5.1°F Dome Temp./Hum. 48°F / 60%

Comparison
Type/Filter Exp.

Fe/ND 3-33

Fe/ND 3-6

Fe/ND 3-33

Fe/ND 3-5

Fe/ND 7-7
1- 7-7

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
800/80	2-5"	6.77	F5	BC	G12/1.68	150μ	IIaDe	B	Hyades Bin ^{Tnr}	reversed	wh comp p dble
1							"				
40/10	2-3"	2.18	K0 III	BC	G12/1.68	150μ	IIaDe	B	Std Vel	note posn of image on plate telescope reversed	comp Hazy uneven
800/113	2-3"	8.2	Be	BC	G12/1.68	150μ	IIaDe	B	Tnr Be	plate cap found partly down hozy	SI flv?
400/112	1"	V _{26.8} MAX	≈ G	BC	G16/1.7	150μ	09802E	B	Ceph-Rm-Tnr		
							"				
40/12	1"	V _{27.7}	K2 III	BC	G16/1.7	150μ	"	B	Std Vel		
				"	"	"	IIaD	B			
				"	"	"	098	B			

43

Date 22/23 Apr 1979 Observers Hy-Tn-KK / Bb-Tn...

2019 Emulsion Batches:

H40-e*1208-22049

H40-F

H40-Je 31058-19049

H40-O 12108-18049

24 23A

24 200

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
43387C	Comp exp test							Fe/-	13
43388	HD 47105	06 51.2	+16 29	19:35	19 50	02 58W	+16 24	Fe/-	20
43389	"	"	"	19:59	20 12	03 19W	"	Fe/-	55
43390	HD 61412	07 34.0	+05 29	20:15	20 20	02 26W	+05 15	Fe/-	55
43391	HD 72208	08 26.5	+10 09	20:27	22 10	03 23 W	+9 51	Fe/ND	3-4
43391T	Spot Calc for	43389-90		15 min @ 15V	175V D4 3900	15V D4 4300	15V D4 4810		
43392	HD 89449	10 143	19 59	22 14	22 42	2 08 W	+19 32	Fe/ND	4-4
43392T	Spot Calc for	43391-93		15 min @ 15V	D4 3900	D3 4300	D2 4810		
43393	HD 89441	9 40.2	+24 14	22 46	22 53	2 53 W	+23 52	Fe/ND	6-6
43394	HD 139892	15 35.6	+36 58	22 59	00 15	1 38 E	+36 40	Fe/-	4-4
43395	HD 141458	15 49.1	+13 01	00 19	01 55	0 8 E	+12 45	Fe/ND	4-4
43396	"	"	"	01 56	03 22	01 19 W	"	"	4-4
43396T	Spot Calc for	43395-97		15 min @ 15V	D4 3900	D3 4300	D2 4810		
43397	HD 141458	15 49.1	+13 01	03 23	04 33	2 31 W	+12 45	"	4-4
43397F	Focus Test							Fe/-	4-4

Spectr. Temp.

Focus... 499

Spectr. Temp.

Em. Mtr.

Spectr.

Spectr. Temp. 56° Dome Temp./Hum. $54^{\circ}\text{F}/89\%$ Transparency Conditions *clear*Focus 99.9 Spectr. Temp. 50°F Dome Temp./Hum. $45^{\circ}\text{F}/90\%$ Comparison
Type/Filter Exp.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G16/.7	70 μ	IIaF	A			
40/60	3"	1.9	A0IV	Be	G16/.7	RS	IIaF	A	Acm - KK	mask + V in exp. motor	
40/60	2"	"	"	Be	G8/.25	120 μ	IIaJ	B	"		
40/60		0.8	FSV	"	"	"	"	B	Sr. Uol		
400/60	2-4"	6.5?	A0p	BC	G12/.68	120 μ	IIa0-e	B	SB Ly		fine
							IIa1-e				
400/78	3-4	5.3	FSV	BC	G12/.68	120 μ	IIa0-e	B	std Vel Rm		Fine
							"				
48/10	4"	3.8	G0pII	BC	G12/.68	120 μ	"	B	Ceph Rm	Fe 5157	Fine
200/95		4.9	B37V	"	"	"	IIaJe	B	SB. Blk/Ly		slwk
400/60	2-4"	6.80	A0	"	"	"	IIa0*	B	SB-Blk		slwk
400/58	"	"	"	"	"	"	"	A	"		Fine
				"	"	"	"				
400/42	3"	6.80	A0	BC	G12/.68	"	IIa0F	B	SB-Blk	some cloud	vs 7 wks
				"	"	"	"	B			vs 1 blue

Date APR 23/24 MON/TUES Observers Bert-In

12108
Emulsion Batches:

4^m 68° IIad-e ~~3448~~-22049 10 2.20
8^m 68° IIad-e 12108-22049 17 1.76

[illegible]

Spectr. Temp. 53°F.....

Dome Temp./Hum. 58°F/67%

Dome Temp./Hum. 50°F. / 70%

Transparency Conditions 46

Comparison Type/Filt./Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
e/- 1-14					BC	G12/68	120 μ	Dial-e	B			sl. val
e/- 1-14	40/35	2	1.9	AOT	BC	G12/68	120 μ	Dial-e	B	ASM-KK		vsl/wk comp ok
e/- 1-14	40/11	2	2.15	KOIII	"	"	"	Dial-e	B	SID VEL		or sl stronger outside
e/- 1-14	800/130	1'-2"	6.79	AO	"	"	"	"	B	An MR	<1" seeing at end thin cloud chore	fine, v sl flex
e/M/D 3-3	800/80	1'-3"	7.19	AO	BC	G12/68	120 μ	Dial-e	A	An MR	* Fired 2nd An because detector not hozy here: cloud all way in 7" maybe interference	fine but sl yflex
e/M/D 3-3	800/90	2'-4"	7.04	AI	BC	G12/68	120 μ	Dial-e	B	An MR		fine
											KK. Maybe good idea to push Dial's	
											Left over Dial strips left in room for tests,	

47

Date April 29/35. Surman Observers Blm - Bts/Bts.....

Emulsion Batches:

8^m 68° .. IlwDe - 12108 - 24049 18 195
 5^m 68° .. MaTe - 12108 - 22049 13 242

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
43402F	focus							Fe/-	3-3
43403	HP 84441 (G60)	09 ^h 40.2 ^m	+24° 14'	21 06	21 13			Fe/ND4	4-5
43404	HD 89449 (G60)	10 ^h 14.3 ^m	+19° 59'	21 15	21 57	01 50W		Fe/ND4	3-3-3
43404T	spot calib for	43403-05	07	15V 15min	① 3900	② 4300	③ 4810		
43405	HD 112028	12 ^h 48.3 ^m	+83° 58'	22 ^h 09 ^m	23 46	+01 08W	+83° 32'	Fe/ND4	3-3-3
43406	HD 141458	15 49.1	+13 01	23 51	03 03	01 28W	+12° 49'	Fe/ND4	3-3-3
43407	HD 139892	15 ^h 35.8 ^m	+36° 58'	03 12	04 38	03 13W	+36° 44'	Fe/-	4-3-3
43407T	spot calib for	43406		15min	① 3900	② 4300	③ 4810		
43407F	focus							Fe/-	3-3
07F2	focus							Fe/-	3-3

Spectr. Temp. ...
 Focus
 Spectr. Temp. ...

Exp. Mtr. Sec.

249 18 10
2049 13 242

Spectr. Temp. 47°F
Focus 502
Spectr. Temp.

Dome Temp./Hum. 42°F/79%
Dome Temp./Hum.

Transparency Conditions scattered thin cloud 48

Comparison
Type/Filter Exp.

2/- 3-3

2/104 1-5

2/104 3-3

2/104 3-3

2/104 3-3

2/- 433

2/- 3-3

2/- 3-3

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G12/68	120 μ	IIaDe	A		47°F 502	vs/b'ue
40/11	3-4	3.8	60p(II)	BC	GR/68	120 μ	IIaDe	A	Ceph-Km		vs sl sm
200/55		53	FST	"	"	"	"	B	Std. Vel.	clear	sl sm
200/65	3-6	5.2	AD	"	"	"	"	A	Shell-Bln	147°F 502	sl sm arc ok one side
400/60	3	6.80	AO	BC	G12/68	120 μ	IIa-DE	B	Sp. Bin-Bln		
400/175	3	4.95	B7I	BC	G12/68	120 μ	IIIaSe	A	"		sl wk, arc fine
				BC	G12/68	120 μ	IIaDe	B		502	
				"	"	"	"	A		40° 504	good

49

Date _____

May 1/2 Tues/Wed

Observers

Bln-Bts / Rm-Bts

Emulsion Batches:
8th 6th Phase: 12108-24049 21 197
Phase: 12108-22049.

Emulsion Batches:

Doc - 12108-24049 21 197

File: 12108-22049

[illegible]

Spectr. Temp. ..
Focus
Spectr. Temp. ..

Exp. Mtr.	Society
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100	100

4249 21 177
2049.

Spectr. Temp. Dome Temp./Hum. 42°F / 76% Transparency Conditions 50
 Focus
 Spectr. Temp. Dome Temp./Hum.

Comparison
Type/Filter Exp.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G8/L	150R	IIaDe	A		45° - 502	sl red
800/300	4-5	3.8	G0.40	"	"	"	"	A	Ceph Rm		vs/str
200/75	2-3	5.3	F5II	"	"	"	"	B	Std. Vel		vs/str
800/119	2	7.20	965+ A2	BC	G12/.68	150R	IIaOE	A	VB-B/n	circus at 22:30	fine
800/161		5.82	F2Ia	BC	G12/.68	150R	IIaOE	B	Ceph/Rm	42° - 503	vs/str
							IIaOE			quite clear	
800/79	3-4	6.8-7.7	F0-G1	BC	G12/.68	150R	IIaOE	A	Ceph/Rm	circus Cloud	vs/ wke flexure
				"	"	"	"			40° 504	ok

51

Date May 2/3 Wed/Thurs Observers KK-Tu

Emulsion Batches:

IL03 12108-22019 12 238

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
43413	HD 47105	6 31.9	+16 29	20:04	20 38	4 25 W		Fe/- 4-4-2	
43414	Moon	8 02	+16 10	20 55	21 30	W		Fe/- 4-4	
43414T	Spot Calc for 43413-14			15min @	17.50 04 3900	15 04 4300	16 04 4810		
43414T1	Full Aperture test							Fe/- 10,10	
43414F1	Focus Test							Fe/- 6,6	
43414F2	MAY 4 Tests Focus Test				+20°	0 ^h		Fe/- 6-6	
43414F3	Focus Test							" 6-6	
43414T4	Full Aperture without decker assembly ie by hand, gently							" 6-6	
F5	Focus Test								
F6	Focus Test								
43414T2	Full Aperture without decker assembly (ie Coupler)								
43414T3	" " with decker, assembly - normal → gentle								

Spectr. Temp. :
Focus... 502
Spectr. Temp. :

Exp. Mtr. Seis

40/35 24

40/35

ie 502 T

Transparency Conditions *clouds* 52

Focus... 502.....

Spectr. Temp. 46°F.....

Dome Temp./Hum. /

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe-1-44A	40/35	2-4'	1.9	AUTO	BC	G12/.68	120μ	111.5	B	Asm Spec/KK		OK
Fe-1-44	40/55		—	GO.V	BC	"	"	"	B	" Std Vol	thick cloud <u>Omit?</u>	too wk
Fe-1-10					"	"	"	11.20	B			cont s/blue fine
Fe-1-10					"	"	"	"	B			fine cont s/blue
Fe-1-6	set 502	T=45°F			"	"	"	098-02e	B			
					"	"	"	"	A			
					"	"	"	"	B			no shift
					"	"	"	"	B	or is it 'A' as it scans from measures		
					"	"	"	"	A			
					"	"	"	"	B			no shift
					"	"	"	"	H		cont -2.5u	

53

Fri-Sat

Date MAY. 4-5...1979 Observers J.N. - T.N.

Emulsion Batches:

5^m 68°8^m 68°Dio 1-e 12108 - 22049 1317
Dio 2-e 12108 - 01059 2019A

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Mtr.	Sec.
43414	HD 47105	06 31.9	+16 29	20 03	20 17	4 12 W	+16 26	Fe/-	6-6	40/36	3"
43415	"	"	"	20 19	20 36	4 31 W		Fe/-	6-6	40/40	4"
43416	HD 62509	07 39.2	+28 16	20 40	20 50	3 37 W		Fe/-	6-6	40/7	"
43416T	Spot Cal'n for 43414-16			* 5min	@ 3900	17.5V D4 15V D4 5V D4	4300 4810			* Who	10
Proceeding with tests after closing the wide Fo Arc gap.											
43416T1	Full Aperture	(note All those using decter assembly & of course O.H. 4 +15° (ie coupler)						Fe/-	15-15	sel 502	T-
43416T2	"	firing stellar with manual controls.)						"	"		
43416T3	"							"	14-14		
43416T4	"							"	23-23		
43416T5	"							"	"		
43416T6	"	without decter assembly (but may have been rough)						"	"		
43417	HD 127617	14 27.3	+19 13	22 25	03 23	3 25 W	+18 51	Fe/ND	4-4	800/70	3-5
43417T	Spot Cal'n for 43417-19				15min @ 15V	D4 3900	D3 4300	D2 4810			
43418	HD 180163	19 10.4	+38 58	03 30	03 40	1 00 E	+39 05	Fe/ND	4-4	40/7	3"
43419	HD 163506 (89 Her)	17 51.4	+26 04	03 43	04 17	0 55 W	+26 03	Fe/ND	4-4	400/75	2"

220291311
01054 20 19A

Spectr. Temp. 45°F
Focus 502
Spectr. Temp.

Dome Temp./Hum. 44°F / 80%
Dome Temp./Hum. 13°F / 92%

Transparency Conditions ... Semi-cloudy 54 ...
Note Focus Tests, etc done on previous page

Comparison Type/Filter Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
6-6	40/36	3"	1.9	A0IV	BC	G12/68	120u	IliaS-e	B			
6-6	40/40	4.8"	"	"	"	"	"	"	B			
6-6	40/7	"	2.15	K0III	"	"	"	"	B		cloud	
	* Who left timer at 5min, instead of 15min											
6-15	set 502	T = 43°F			BC	G12/68	120u	IliaS-e	B			
"					"	"	150u	"	B			
"					"	G16/7	150u	"	B			
"					"	"	70u	"	A			
"					"	G81-025	70u	"	B			
"					"	"	120u	"	A			
6-15	800/70	3-5"	8.2	Be	"	G12/68	150u	IliaS-e	B	Bo-Tnr	Set 503 T=43°F	slwk
								"				
4-1	40/7	3"	4.3	B5	"	"	"	"	B	Std. Vel -B	Set 505 T=38°F	Fewls Fine
4-1	400/75	2	5.81	F2Ia	"	"	"	"	A	Ceph-Fe		Fewls Fine

prob too narrow

wk Comps

Fe Arc gap widened prob O shift

discard too wk
contus/no shift
or
cent very blue
or no shift
discard too wk
too wk

Date May 6/7 Observers KK-Tn

1100e 12108-01059

Spectr. Temp. .
Focus...504.
Spectr. Temp. .

[illegible]

Spectr. Temp. 43°F.....Dome Temp./Hum. +41°F/H=99%Transparency Conditions 56.Focus... 504.....

Spectr. Temp.

Dome Temp./Hum.

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
2/- 75					BC	G12/.68	120	IIIaJn	A	Tests	re centered electrodes before exposures	-1.2 μ
					"	"	"	" n	B			-1.3 μ
"	stellar 1st				"	"	"	" old	A	Tn done		-0.8
"	comp 1st				"	"	"	" old	B	Klt done		-0.2
25					"	"	"	"	A			-0.5 μ
5					"	"	"	"	B			
10/- 100					"	"	"	IIa0-e	A	right hand window less illuminated		
14 100					"	"	"	"	B	Klt done	small lens + diffuser (44 pos.)	
16/- 200	T=43°F 504 set				"	"	"	IIIaJold	A			-14.0
18	"	"			"	"	"	"	B			

Transparency Conditions *hazy - thin cloud* 58

Focus 500

Spectr. Temp. 75.3 F.....

Dome Temp./Hum. 75.0°/80%

[illegible]

59

Date May 8/9 Tues/Wed...⁷⁹ Observers Rm - Tr

New D19

Emulsion Batches:

5^h 68^m III d/e 12108... -06059 17144
 8^h 68^m II d/e 12108... -07059 24 85

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
43425	HD 47015 (γ Gem)	6 ^h 31.4	+16° 29	20:08	20 27	4 38 W	16° 24.5	Fe/-	4-4
43426	HD 62509 (β Gem)	7 ^h 39.2	+28° 16	20:31	20 40	3 ^h 44 W	28° 04	Fe/-	4-4
43426T	Spot Cal'n for 43425		26,30,	15 min @	17.5V D4 3900	15V D4 4300	15V D4 4810		
43426F1	Focus Test					3 ^h 47 W	+28°	Fe mix	14-14
43426F2	" "					1 ^h 54 W	+23°	Fe mix	8-8
43427	HD 84441 = ε Leo	9 ^h 40.2	+24° 14'	21 ^h 00	21 ^h 06	2 ^h 10 W	+23° 52	Fe/NDX	7-7-7
43428	HD 89449 = 40 Leo	10 ^h 14.3	+19° 59	21 ^h 11	22 05	2 34 W	+19° 34	Fe/NDX	7-7-7
43429	HD 84441 = ε Leo	9 ^h 40.2	+24° 14	22 ^h 09	22 22	3 25 W	+23° 52	Fe/NDX	10-10
43430	HD 137909 = β CrB	15 ^h 23.7	+29 27	22 ^h 26	23 ^h 34	1 ^h 04 E	+29° 09	Fe mix	7-7-7
43430T	Spot Cal'n for 43427-29				15 min @	15V 3900	D3 4300	D2 4810	?
43431	HD 163506 = 89 Her	17 ^h 51.4	+26° 4	23 ^h 43	0 ^h 28	* 2 ^h 35 E	+26° 01	Fe/NDX	4-4-4
43432	HD 186628 = 50 Cyg	19 ^h 43.8	+29° 12	0 ^h 37	3 ^h 02	1 ^h 53 E	+29° 11	Fe/NDX	4-4-4
43433	HD 180583	19 ^h 12.0	+27° 45	3 ^h 05	4 ^h 15	0 ^h 11 E	+27° 52	Fe/NDX	4-4-
						* Rm - got your E & W Right			

Spectr. Temp. .

Focus

Spectr. Temp. .

Exp. Mtr.

Sect.

Spectr. Temp. 70°F Dome Temp./Hum. $67^{\circ}\text{F}/\text{H}=6570$ Transparency Conditions *Hezy* 60Focus 495

Spectr. Temp.

Dome Temp./Hum.

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1-4	4	40/40	3'	1.9	AGLV	BC	G12/.68	120 μ	IIIa-Je	B	Asm Spec KK		sl wk
1-4	4	40/47	2"-3"	2.16	KOTII	BC	"	"	IIIa-J-e	B	std vel		sl wk
									"				
2-4	4					13C	G12/.68	120 μ	IIIa-J-e	A			cont Right on
2-8	8					13C	G8/-0.25	120 μ	IIIa-J-e	B		spect. temp 70° focus 495	cont sl Red
2-7	7	40/15	2	3.8	GopH	"	"	"	"	B	Ceph-Rm		Fine
2-7	7	200/60	1-2"	5.3	FSTV	"	"	"	"	B	std vel		Fine
		40/15	2-6"	3.8	GopH	"	"	"	"	B	Ceph/Rm		Fine
4-7	7	40/60	2-3	3.8	Fop	"	"	"	IIIa-J-e	B	KK		Fine wk
									IIIa-J-e	B	Ceph, Rm.		
4-7	7	400/68	3-5"	5.82	FZIV	"	G12/.68	150 μ	IIIa-J-e	B	"		Fine
4-7	7	800/117	3-5"	6.8-7.7	FO-GI	"	"	"	"	A	"	67 $^{\circ}\text{F}$ Focus=497	Fine sl Fok Sider
4-7	7	200/31	2-6"	6.2	FLI	"	"	"	"	B	"		Fine sl Fok Sider

61

Date May 9/10 Wed/Thurs 8 Observers Blu-Tu-KK8^m 68°
8^m 68°
6^m 68°

Emulsion Batches:

Ilac. 12108 - 01059 25 181
 Ilac-e 12108 - 07059 24 175
 Ilac-e 12108 - 06059 21 177

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Nr.	Seen
43433F	Focus Test							Fe/-	H-1A		
43433A	HD 47105	6 31.9	+16 29	20 01	20 04	4 18 W		Fe/ND	6-6	40/7	3
43434	"	"	"	20 06	20 09	4 23 W	+16 27	Fe/ND	6-6	40/6 1/2	
43435	HD 61412	7 34.0	+5 29	20 13	20 15	3 28 W	+5 17	"	6-6	40/7	"
43436	"	"	"	20 19	20 20	3 34 W	"	"	"	40/7	
43437	HD 88021/2	10 03.8	+20 49	20 29	23 31	04 14 W	+20 26	Fe/ND	4-4-4	400/28	1
43437T	Spot Cal'n for 43433-36			15 min @ 15V	3900	D4 03 4300	D2 4810				
43438	HD 139892	15 35.6	+36 58	23 37	01 00	00 14 W	+35 42	Fe/-	4-4-4	200/20	1
43438T	Spot Cal'n for 43437, 40-41.			15 min @ 15V	3900	D4 D3 4300	D2 4810				
43439	HD 144513	15 44.4	-3 07	01 07	01 45	00 47 W	-3 22	Fe/-	6-6-6	80/76	1
43439T	Spot Cal'n for 43438-39, 42.			15 min @ 15V	3900	D4 D3 4300	D2 4810				
43440	HD 147835	16 19.1	+32 34	01 51	02 38	01 08 W	+32 23	Fe/ND	4-4-4	200/31	1
43441	HD 157482	17 18.5	+40 04	02 42	03 09	0 40 W	+40 00	"	4-4-4	200/35	1
43442	HD 164284	17 55.3	+4 22	03 12	04 04	0 59 W	+4 23	Fe/-	4-4-4	80/60	1
43442F	Focus Test							Fe/-	A-4		

25 181
24 176
21 177

Spectr. Temp. 76°F
Focus 494
Spectr. Temp. 72°F

Dome Temp./Hum. $75^{\circ}/84\%$
Dome Temp./Hum. $69^{\circ}\text{F}/92\%$

Transparency Conditions . *scattered cloud - HAZE* . 62

Comparison
type/Filter Exp.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
<i>/- 11-14</i>				BC	<i>G12/.68</i>	<i>120μ</i>	<i>IIIaJ</i>	B			<i>cont Ad</i>
<i>D 6-6</i>	<i>40/7</i>	<i>3"</i>	<i>1.9</i>	<i>AO II</i>	BC	"	<i>IIa0-e</i>	B	<i>Asm Spec</i>		<i>vs star</i>
<i>12 6-6</i>	<i>40/6 1/2</i>	"	"	"	"	"	"	B	"		
<i>" 6-6</i>	<i>40/7</i>	"	<i>0.8</i>	<i>F5V</i>	"	"	"	B	<i>st/ve/</i>	<i>Procyon</i>	
<i>"</i>	<i>40/7</i>	"	"	"	"	"	"	B	"		
<i>E/N 4-4</i>	<i>400/128</i>	<i>1-2</i>	<i>7.20</i>	<i>965+ A2</i>	BC	<i>G12/.68</i>	<i>120μ</i>	<i>IIa0-e*</i>	B	<i>VB-Bln</i>	<i>sl Flow Fine</i>
<i>el- 4-4</i>	<i>200/120</i>	<i>1-2"</i>	<i>4.95</i>	<i>B7V</i>	BC	<i>G12/.68</i>	<i>120μ</i>	<i>IIa0-e*</i>	B	<i>SB Blh-Ly</i>	<i>wk</i>
<i>el- 6-6</i>	<i>80/76</i>	<i>1-2"</i>	<i>3.50</i>	<i>AO V</i>	BC	<i>G81.025</i>	<i>150μ</i>	<i>IIa0-e*</i>	A	<i>SB Blh</i>	<i>wk</i>
<i>Fe/N 4-4</i>	<i>200/31</i>	<i>1"</i>	<i>6.18</i>	<i>AB V</i>	BC	<i>G12/.68</i>	<i>150μ</i>	<i>IIa0-e*</i>	B	<i>SB-Bln</i>	<i>Ring</i>
<i>" 4-4</i>	<i>200/35</i>	<i>1"</i>	<i>6.22</i>	<i>dF8</i>	"	"	<i>120μ</i>	A	"		<i>Fin</i>
<i>el- 4-4</i>	<i>80/60</i>	<i>1-3"</i>	<i>4.79</i>	<i>B2Ve</i>	"	"	<i>150μ</i>	B	<i>IIIaJ-e</i>		<i>Fe</i>
<i>el- 4-4</i>				BC	<i>G12/.68</i>	<i>150μ</i>	<i>IIa0-e</i>	A		<i>72°F</i>	<i>vs Res</i>

63

#1

Thurs - Fri

Date May 12-11 / 79..... Observers ... K.K. - T.H.

Emulsion Batches:

Hal-e 12108 - 07059
 Hal-e 12108 - 06059 B 208
 O.K. 02e 19098 - 08059

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Mtr.	Sec.
43443	HD 47105	06 31.9	+16 29	20 11	20 20	4 38W	+16 25	Fe/ND	6-6	40/7	35
43444	HD 61472	7 34.0	+5 29	20 26	20 28	3 45W	+5 16	"	6-6	40/6	
43445	HD 62509	7 39.2	+28 16	20 33	20 36	3 47W		"	6-6	40/11	
43445F	Focus Test					0 ^h	+28	Fe/-	16-16		
43445T1	Full Aperture Shift Test with coupler - (very gently)							Fe/-	16-16	Comp/1st	
4344572	"	"		"	normal			"	15-15	Comp/1st	
4344573	"	"		"	with vigor			"	15-15	Comp/1st	
4344574	Full Aperture Shift Test without coupler - very very gentle							"	15-15	Comp/1st	
43446	Moon	Exp meter Test		21 21	21 24		-10 58	Fe/ND	6-6	40/88	
43447	"	"	"	21 38	21 40			Fe/-	8-8	40/144	
43448	"	"	"	21 43	21 44			Fe/ND	6-6	100/5	
43449	"	"	"	21 46	21 50			Fe/-	8-8	40/110	
43450T	Spot Caln for 43443-46, 48.					D4 15min @ 15V 3900	D3 4300	D2 4810			
43450	Saturn	10 38.3	+10 44	22 07	22 33	02 51W		Fe/ND	8-8	40/110	V
43451	Moon			22 40	23 53	0 40E		Fe/-	4-8-	40/60	V

07359
06059
06059

Spectr. Temp. 730 Dome Temp./Hum. 68°F / 95% Transparency Conditions 1407g - cloudy OH
 Focus 494.5
 Spectr. Temp. Dome Temp./Hum.

Comparison
type/Filter Exp.

Fe/ND 6-6
11 6-6
1 6-6
1-16
Fe/16-6
1 5
1 5
1 5
Fe/ND 5-6
Fe/16-6
1 6-6
1-16
1 8
Fe/16-6
1-16
1 8
Fe/16-6
1-16

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
40/7	3.5"	1.9	A0 IV	BC	G12/68	120u	Ha0-e	B	Asm Sp		fine
40/6		0.8	FS I	"	"	"	"	B	st/vel		fine
40/11		2.15	K0 III	"	"	"	"	B	"		fine
				"	"	"	IIIaJ	B	T=73°F set 494.5		sl Red
comp 1st				"	"	"	"	B		* placed in	-1.5u
comp 1st				"	"	"	"	A		Exp IIIa0	-2.4u
comp 1st				"	"	"	IIIaJ-e	B		Focus test	-6.0u
comp 1st				"	"	"	"	A		box	-2u?R
40/8.8	Blue Filter			"	"	"	Ha0-e	B	Prob overexposed		sl str
40/14.4	Blue Filter			"	"	"	IIIaJ-e	A			fine
100/5	Blue Filter			"	"	"	Ha0-e	B		* G	
10/100	Mask + Clear			"	"	"	IIIaJ-e	A			v sl str
							IIIa0-e				
40/10	V. filter			BC	G10/7	"	O960e	B			fine
40/60	V filter			"	"	"	IIIaF	A	cloud		sl str

Date Observers / 5

Emulsion Batches:

Emulsion Batches:
D.O.F. 23 117-02039

Spectr. Temp. .

Focus.....

Spectr. Temp. .

[illegible]

Spectr. Temp.
Focus 496
Spectr. Temp. 680

Dome Temp./Hum+...../99.7

Dome Temp./Hum.

Transparency Conditions . . . *Cloudy* 66

66

Comparison pe/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
DA 8/6							13 208		Dal-e				
							15 239		"				
e/-	15-5					BC	G12/68	120μ	"	A	{ normal / force	T=68°F Set 496	
e/-	15-5					"	"	"	"	B	} an coupler	Labeled T4 again increase of confusion -2.34	
e/-	15-5									B		cent very blue	
	15-5									B	T=68°F Set 496		d red
	15-5									A	" "		v s/hel

Date May 11-12 Fri-Sat. Observers AK-Tn.....

Wal-e 12108- 10059
08802E 19098- 08059^{27, 15}

Spectr. Temp. ...
Focus ... 495.
Spectr. Temp. ...

[illegible]

Spectr. Temp. ... 70°F

Dome Temp./Hum. 68°F / 92% H

Transparency Conditions . very hazy

68

Focus ... 494

Spectr. Temp. ... 69°F

Dome Temp./Hum. 63°F / 100%

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/- 202					BC	G8/-025	120 μ	IIIaJ-e	B		descanted v Rel	
Fe/- 202					"	"	120 μ	"	B	reversed	cent blue	descanted
Fe/- 208	400/35	4-5	1.9	ADIV	BC	G8/-025	120	IIIJJe	B	Asm Spec KK	blue filter, canned kept though	almost blank
Fe/10 208	400/17	"	"	"	BC	G16/7	120	098-02e	A	"	V filter in meter	wh
								IIIaJ-e			slightly mottled	
Fe/10 898	400/92	5	2.15	KIII	BC	G16/7	120 μ	098-02E	B	5th Vel	v filter reversed	Fine
								"				
Fe/10 898	400/90	3	2.8	GO	BC	G16/7	120 μ	"	B	Asm Sp KK	v filter unreversed	OK
Fe/- 156					"	"	"	IIIaF	B		69°F, 494	OK
Fe/- 156					"	G16B/138	"	IIIaJ-e	B			cent very blue

69

Sun-Mon

Date MAY 13-14/79..... Observers B/n-Tn.....

Emulsion Batches:

H&D-E 12108...-09059

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
43456F	Focus Test					0 ^h		Fe/-	15-15
43456T	Spot Cal'n for	43456-G1		15 min @ 15V		D4 3900	D3 4300	D2 4810	
43456	HD 47105	06 31.9	+16 29	20 11	20 13	09 49W	+16 26	Fe/NDx4	6-6
43457	HD 61412	07 34.0	+5 29	20 18	20 20	03 49W	+5 18	Fe/NDx4	6-6
43458	HD 88021/2	10 03.8	+20 49	20 32	23 39	04 39W	+20 27	Fe/NDx4	4-4
43459	HD 141458	15 44.1	+13 01	23 46	03 21	02 42W	+12 49	Fe/NDx4	6-6
43460	HD 161096	17 38.5	+4° 37'	03 29	03 36	01 02W	+4 35	Fe/NDx4	6-6
43460F1	Focus Test							Fe/-	7-7
43460F2	Focus Test							Fe/-	7-7
43461	HD 161096	17 38.5	+4 37	03 48	3 56	01 22W	+4 35	Fe/ND	6-6

Spectr. Temp. 2

Focus... 499...

Spectr. Temp. 1

Exp. Mtr. Secin

40/6 1

40/7 3

800/180 5

800/200 2

40/17 4

40/12

Transparency Conditions *Good to thin, cloudy* ⁷⁰

Focus . . . 499

Spectr. Temp. 53 °F

Dome Temp./Hum. +47 F / 100% 7/14

Comparison Type/Filter Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/- 15-15					BC	G12/168	120μ	IIa-F	B			cent SI Rel
								IIa-O-E				
Fe/N 6-6	40/6	2"	1.9	A0IV	BC	G12/168	120μ	"	B	Asm Spec KK	reverse Exp meter may be unreliable	Fine
Fe/N 6-6	40/7	3"	0.8	F5V	BC	G12/168	120μ	IIa-O-E	B	Std. Vel.	" " " " " reversed	Fine
Fe/N 4 4 4	800/180	5-7	7.20	965 A ₂	BC	G12/168	150μ	IIa-O-E	B	VB-Bln	T=56°F	Fine
Fe/N 6-6	800/200	2-4"	6.80	A0	BC	G8/-025	150μ	IIa-O-E	A	SB-Bln	Bot 498	
Fe/N 6-6	40/17	4	3.93	K2III	BC	G8/-025	150μ	IIa-O-E	B	Std. Vel		Fine
Fe/- 7-7					"	"	"	"	B		T=53°F	cent Rel
Fe/- 7-7					BC	G12/168	150μ	"	B		T=53°F	cent SI Rel
Fe/N 6-6	40/12		3.93	K2III	"	"	"	"	A	Std Vel		vs str

7059

58°F / 85%RH

thin cloud

72

498.

53°F

99814

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
F-44	44	800/77	1"-5"	6.79	AO	BC	G12/.68	120 μ	IlaoE	B	Am-MR	cloud	sl/wk
									"				
F-44	44	but 120 μ slit was especially firmly clamped to Collimator					G12/.68	120 μ	"	B		full operation with decker coupler	cont. blue 34
												Flagged at end because of premature opening of spectrograph door.	
												Ilao's should be OK.	

13

Emulsion Batches:

...Hao-e 12108-09.059

Date MAY 15/16 TUES/WED 79 Observers But-In

[illegible]

Spectr. Temp.

Dome Temp./Hum. /

Transparency Conditions .. *very gusty & some cloud* ⁷⁴

[illegible]

Emulsion batches:

IIaOe...	12108-09059	14059
IIIaJe...	12108-10059	18 186
O7802e...	19098-08059	

Date May 16/17 2007 Observers BLN - BLS

Spectr. Temp.
Focus 499...
Spectr. Temp.

25.9 2/40SD
25.9 18 186
10.57

Spectr. Temp. 56°
Focus 499
Spectr. Temp. 49°F

Dome Temp./Hum. 53°F/65%
Dome Temp./Hum. 44°/80%

Transparency Conditions Clear and Good 76
Seeing. Crummy mirrors

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/- 7-6					BC	G12/68	120	IIaDe	A		56° 499	vsl red
Fe/104 4-4-1	200/35	2"	6.49	A6n	BC	G12/68	150 μ	"	A	SB-Bln	there seems to be a plate chip in the IIaDe exposure box	vsl str
							RS 0780e		B		53° 500 1/2 (set for 510)	
Fe/- 4-4-4	80/100	2-3	4.95	B7J	BC	G12/68	150 μ	IIIaJe	B	SB-Bln/Ly	Focus = 500	bubbles
Fe/104 4-4-6	400/60	2	6.18	A3V	BC	G12/68	150 μ	IIaDe	A	SB-Bln		
								IIIaJe			bubbles + unem	
Fe/104 4-4-4	400/80	2	5.81	F2Ia	BC	G12/68	150 μ	IIaDe	B	Ceph-Fe		
Fe/104 4-4-1	40/-		3.93	K2III	BC	G12/68	150 μ	IIa-DE	A	Std. Vel.	new box of plates	
Fe/- 4-4-4					"	"	"	"	B		T = 490 μ V	

11

Date May 17/18 Thurs/Fri Observers KK-Bts-Es.....

Emulsion Batches:
 7^m 68^o IIaFe 12108-14059
 5^m 68^o IIIaFe 12108-10059
 5^m 68^o IIIaF 23117-17059

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Mtr.	Sec.
43469	HD 47105 ^(8Gem)	06 ^h 31 ^m 9	+16° 29'	20 ^h 18 ^m	20 ^h 54 ^m	5 ^h 40 ^m W	+16° 28'	Fe/-	8-8-8	40/62	5 ^m
43469F1	Full aperture shift test							Fe/-	15-12		
43469T1	Grating illumination test & Bv										
T2	Spot plate			2 ^m D4 5450A	15 ^v	should be 2 ^v					
43470	HD 161096 ^(20th)	17 ^h 38 ^m 5	+04° 37'	00 ^h 56 ^m	01 ^h 04 ^m	-01 ^h 13 ^m	+04° 34'	Fe/NP4	5-5-5	100/43	
43471	"	"	"	01 ^h 12 ^m	01 ^h 16 ^m	-01 ^h 02 ^m	+04° 34'	Fe/NP4	5-5-5	100/31	
43472	"	"	"	01 ^h 22 ^m	01 ^h 27 ^m	-00 ^h 51 ^m	"	"	"	100/30	
43473	"	"	"	01 ^h 35 ^m	01 ^h 42 ^m	-00 ^h 37 ^m	"	"	"	100/30	
43474	"	"	"	01 ^h 47 ^m	01 ^h 57 ^m	-00 ^h 28 ^m	"	"	"	100/30	
43474F1	Focus							Fe/-	20-20		
74F2	Full aperture shift test					03 ^h 00 ^m W		Fe/-	10-10		
74F3	"					03 ^h 00 ^m E		Fe/-	10-10		
43475	HD 163506	17 ^h 51 ^m 4	+26° 04'	02 57	03 45	01 ^h 14 ^m W	+26° 02'	Fe/NP4	5-	400/80	5 ^m
43475T	spot calibration for 43475			15min 15V	① 3900 ^{D4}	② 4300 ^{D3}	③ 4810 ^{D2}				
43475F	focus							Fe/-	5-5		

Spectr. Temp. 58°F Dome Temp./Hum. $54^{\circ}/68\%$ Transparency Conditions Haze 78Focus 502 Spectr. Temp. 50°F Dome Temp./Hum. $45^{\circ}/73\%$

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1/- 8-16	40/62	~5"	1.9	A0IV	BC	G16/17	RS	IIIaF	A	Asw. KIC	58° 502	comp. (unexp.)
2/- 15-18					"	"	"	"	B			v sl blue
							None	103aD				
								103aD				
3/ND4 5-5.5	100/43		39.3	K2III	BC	G12/68	20 μ	IIaDe	A	std vel	52° 500	dk
4/ND4 5-5.5	100/31		"	"	"	"	"	"	A	"		sl wh
" "	100/30		"	"	"	"	"	"	A	"		sl wh
" "	100/30		"	"	"	"	"	"	A	"	51° 506	fuzzy
	100/30		"	"	"	"	"	"	A	"	496	fine
5/- 20-25					"	"	"	IIIaJe	A		50° 501	v sl red
6/- 10-12					"	"	"	"	A			v sl blue
7/- 10-12					"	"	"	"	A			v sl blue
8/ND5	400/80	5"	581	F2Ia	"	"	"	IIaDe	A	SB-Bln		fine
								IIaDe				v sl red
9/- 55					"	"	"	"	A		50° 501	

19

Date May 18/19 Fri/Sat Observers Bojetchko - Bts - Blu

7^m 68° Emulsion Batches:
 HaOe... 12108-14059/17059
 17188
 16184

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
43476F	Focus							Fe/-	4-4
43476	HD 89449	10 ^h 14 ^m 3	+19° 59'	20 20	20 37	+01 46	19° 32'	Fe/ND4	4-4-4
43477	HD 141458	15 ^h 44 ^m 1	+13° 01'	20 53	22 02	-02 17	+12° 45'	Fe/ND4	4-4-4
43478	"	"	"	22 07	23 16	-01 04	"	Fe/ND4	4-4-4
43479	"	"	"	23 17	00 31	+00 12	"	Fe/ND4	4-4-4
43480	"	"	"	00 36	02 04	+01 44	"	Fe/ND4	4-4-4
43480T	spot calib for	43476-80		15V 15min	① 3900	② 4300	③ 4810		
43481	HD 141458	15 ^h 44 ^m 1	+13° 01'	02 06	03 43	+03 23	+12° 45'	Fe/ND4	4-4-4
43481T	spot calib for	43481-82		15V 15min	① 3900	② 4300	③ 4810		
43482	HD 161096	17 ^h 38 ^m 5	+7° 37'	03 51	04 04	+01 50	+7° 32.5'	Fe/ND4	4-4-4
43482F1	Focus							Fe/-	4-4
43482F2	Focus							Fe/-	4-4
43482F3	full aperture shift lost							Fe/-	3-3

Spectr. Temp. 493
 Focus 17188
 Spectr. Temp. 16184

Exp. Mir. Sec.

Transparency Conditions . clear but hazy 20

Focus 498.....

Spectr. Temp.

Dome Temp./Hum. 52°/85%

Comparison Type/Filte Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/- 4-4	7				BC	G12/.68 150 μ	II α -OE	A			T=61°F Focus=498	mispliced doctoo-?
Fe/NDA 4-4-4	200/35		5.3	F5V	BC	G12/.68 150 μ	II α -OE	A		Std. Vel.	BROKEN PLATE	v s/ str
Fe/ND 4-4-4	400/60		6.8	AD	"	"	"	A		SB-Bln		fine
Fe/ND 4-4-4	400/60		"	"	"	"	"	A		"		fine
Fe/ND 4-4-4	400/63	2-3	"	"	"	"	"	B		"		v s/ str
Fe/ND 4-4-4	400/60	4	"	"	"	"	"	A		"	59° 498	fine
Fe/ND 4-4-4	400/42	4-5	"	"	"	"	"	B		"	new box of plates	Fine
Fe/ND 4-4-4	100/40		3.93	K2 III	"	"	"	A		std vel		fine
Fe/- 4-4	"				"	G12/.68 150 μ	II α -OE	B			56° 499	good
Fe/- 4-4	"				"	G12/.68 150 μ	II α -OE	A			"	v s/ blue
Fe/- 3-3	"				"	"	"	B				

81

Date ... May 19/20 Observers ... Ly - Bts

Emulsion Batches:

7^m 68° TlaOe...12108...17059 17 176

[illegible]

Q59 1176

Spectr. Temp. ... 64° F
Focus 497

Dome Temp./Hum. ... 60° / 95%

Transparency Conditions ... haze with scattered thin cloud
82

Spectr. Temp.

Dome Temp./Hum.

Comparison
Type/Filter Exp.

Fe/- 4-4
Fe/- 4
Fe/NO4

Fe/NO4 4-4

Fe/NO4 4-4

Fe/NO4 5-5

Fe/NO4 5-8

Fe/- 5-5

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G12/1.68	150 μ	IIaDe	A		64° 497	bow
400/60	3"	6.8	A0	BC	G12/1.68	150 μ	IIaDe	A	SB-Bln		v sl wk comp. str.
400/60		5.2	B3	"	"	"	"	B	SB-Ly	pause for cloud to pass.	sl wk
400/60	2"	"	"	"	"	"	"	A	"		sl wk
400/85	4"	6.5	K4II	"	G8/-0.025	70 μ /3	IIaD	B	CutII-Ly	some cloud 61° 498	wk, sl. flex comp wk
400/	3"	3.9	K2III	"	"	120 μ	"	A	St. Ucl.	some cloud clouded out	wk, comp v sharp
				"	"	"	"	B		60° 498	sl v ed

Date _____

Observers

Ly-Bls

7^m 68°

Emulsion Batches:
IIaOe...12108-17059/2005

1916

[illegible]

Spectr. Temp. ..

Focus 77

Spectr. Temp. ..

Exp. Mtr. Seeing

2059/2055
R 161

Spectr. Temp. 64°
Focus 497
Spectr. Temp. 62°

Dome Temp./Hum.
Dome Temp./Hum.

Transparency Conditions $\dots$ Poor $\rightarrow$ cloud.
84

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/ND 4.4-4	100/30	5-6	3.8	GO _p II	Be	G ₁₂ /68	129	IIa-0	A	Ceph. Rm.	64° 497	fine
Fe/ND 4.4-4	400/100	2-3	5.3	FSV	"	"	"	"	B	Std Uel.	double star just outside	fine
Fe/ND 4.2-4	800/43	1-2	6.8	A0	"	"	"	"	A	SB-Bln.	moved & found S off by 10° wk	
Fe/- 6-6					"	"	"	"	B		previous 2 plates should be OK. error det. using dec circles vs. red cloud off & on gradually increasing $\Rightarrow$ left on one point of slit cleared out. 62° 497 new box of plates (20559)	

85

Emulsion Batches:

IIaDe. 12108 - 20059 / 21059

..... 17 176

Date MAY 21/22 '79 ^{Mon-Tues} ~~Sun-Mon~~ Observers Blu-Bts

[illegible]

Spectr. Temp. 50° F......Dome Temp./Hum. 52°F / 88%

Dome Temp./Hum. ... 42°F / 79%

Transparency Conditions... clear.....
bright aurora arc in the north
86

Comparison Type/Filter Exp.		Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality	
Fe/-	6-6					BC	G8/-025	150 μ	IIa-OE	A		56°	497	vs/line
Fe/104	6-6	400/90	5-6	6.80	A0	BC	G8/-025	150 μ	IIa-OE	A	SB-Blu			vs/line sl/gas
Fe/104	6-6	400/80	4	5.81	F2Ia	BC	G12/68	150 μ	IIaOe	B	Ceph-Fe	52°	501	crisp V Fine
Fe/104	6-6	40/14	6	3.93	K2III	BC	G12/68	150 μ	IIaOe	A	Std Vel	50°	501	Fe vs sharp V Fine
Fe/-	5-5					BC	G12/68	150 μ	IIa-OE	B		new box of plates 50°	501	cont Ref

81

Engineering Staff
Wed - Tues

Emulsion Batches:

011 IIIaJ.....

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Date MAY 23-24/79.... Observers K.K.-T.A.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
43493T1	Grating alignment tests - tungsten lamp + diffuser								15 ^s
T2	"		"						60 ^s
T3	"		"						60 ^s
T4	"		"						60 ^s
T5	"		"						30 ^s
T6	"		"						30 ^s
MAY 26									
43493F2	Focus Test					0 hr L		Fe/—	25-25
43493F3	Focus Test After adj of PHA tilt screws.					Blue end CCW to limit a 30° Red end CW by a 60°		"	25-25
F4	"	"				Repeat		"	25-25
T7	Full Aperture Shift Test To determine if shift is on Comp or Stellar							"	5-5 5-5
T8	" "					Repeat			5-5 5-5
T9	Full Aperture without Coupler, but vigorously								15-15

Spectr. Temp.

Focus.....498

Spectr. Temp.

Exp. Mtr.

Sec

Spectr. Temp. ... 59°F

Dome Temp./Hum.

Transparency Conditions .. Rainy - no loss

Focus 498.5

Spectr. Temp.

Dome Temp./Hum.

88

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
15 ^s						G12/.68	200 μ	IIIaJ	B			
60 ^s						G12/.68			B			
65 ^s						G8/-.025			A			
65 ^s						"			B			
30 ^s						G43/.5			A			
25 ^s						"			B			
15 ^s					BC	G12/.68	120 μ	IIaJ	B	T=53°F Set 500	cent +10 μ	
15 ^s					BC	"	"	"	A	" "	blue cent 0 $\rightarrow$ +14 μ	
15 ^s					"	"	"	"	A	" "	blue cent -9 $\rightarrow$ +5 μ	
15 ^s					"	"	"	"	B		sharp blue - red	-3.3 μ
15 ^s					"	"	"	"	B		but blue end very fuzzy	-3.3
15 ^s					"	"	"	"	A		v sharp lines	-2.5 μ

81

Tests

Emulsion Batches:

Date MAY 27/79 Observers Tn

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
43493T10	Full Aperture without coupler & very gentle, but comp pos. decker held in					0 ^h	+17°	Fel-	12-12
43493T11	Same, but with adjusted PHA						"	Fel-	12-12
43493T12	Full Aperture without couple & very gentle. stellar 1st because it seems more gentle						+45°	Fel-	12-12
43493T13	Same but with PHA						"	Fel-	"
43493T14	Full Aperture with couple, Normal force ' Comp 1st						"	"	"
43493T15	Repeat						"	"	"
T16	Full Aperture with coupler, Normal force Comp 1st							Fel-	20-20
T17	Repeat							Fel-	20-20
F5	Focus Test							Fel-	30-30
F6	" "							Fel-	30-30
Prime Mirror alluminized MAY 28/79									

Spectr. Temp. .

Focus....197

Spectr. Temp. .

Exp. Mir. .

Sens.

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions 90

Comparison	
Type/Filter	Exp.

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fel-	2-12				"	BC	G12/68	150μ	IIIaJ	B		can't shift On	
Fel-	2-12				"	"	"	"	"	A		shift On	
Fel-	12-15				"	"	"	"	IIIaJ-e	B		shift On Red + 2.0μ	
Fel-	"				"	"	"	"	"	A		maybe fogged shift On Red + 2.0 μ	
"	"				"	"	"	"	IIIaJ-e	B		now illu. more south?? Are adjusted as previous illuminating source for	- 2.5μ
"	"				"	"	"	"	"	A			- 2.5μ
Fel-	2-10				"	"	"	70μ	"	B			- 4.0μ
"	2-10				"	"	"	"	"	A			- 3.0μ
Fel-	10-10				"	"	"	"	"	A			
Fel-	10-10				"	"	"	"	"	B			

Emulsion Batches:

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[illegible]

Spectr. Temp.

Dome Temp./Hum. 57°F / 80%

Transparency Conditions 92

Comparison	
Type/Filter	Exp.

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/ND	20-20					BC	G12/68	120u	IIuF	B			OK
"	"									B		centr = -3.3u	
"	"									B		centr = -2.5u	
"	"									B		grated = 1.7-3u in red centr = -2.5	
Fe/-	15-15								IIIaJe	B		centr 0.0 or 1.0u	
"	15-15								"	B		centr = -2u	

93

Wed-Thurs

#1

Date

May 30/51

Observers

Tn-Myd

7^m 68°4^m 68°

Emulsion Batches:

II-40-e 12108 21059
 098-02e 19098-08059 43 177

Spectr. Temp.

Focus.....4

Spectr. Temp.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
43494	F Focus Test					0	+37	Fe/-	5-5
43494	α Boo HD 124897	14 ^h 11.1	+19° 42	20:27	20:28	1 33 E	+19° 13	Fe/ND	7-7
43495	HR 5110 HD 118216	13 30.3	+37° 42	20:38	20:43	0 36 E	+37° 13	Fe/ND	4-4
43496	"	"	"	20:56	21:07	0 13 E	"	Fe/ND	8-8
43496	Spot Calc for 43496, 43501				15 min @	15V D3 4810	7V D1 Hd	7V D2 5450	
43497	HD 115043	13 09.5	+57° 14	21:18	21:59	1 ^h 00 W	+56 45	Fe/ND	4-4
43497	Spot Calc for 43494-95, 97-43500, 02-08.				15 min @	15V 3900	D4 03	D2 4810	
43498	β Com HD 114710	13 07.2	+28° 23	22:07	22:11	1 ^h 14 W	+27° 55	Fe/ND	6-6
43499	η Boo HD 121370	13 ^h 49.9	+18° 54	22 16	22 18	0 39 W	+18 27	Fe/ND	6-6
43500	39 Ser HD 142267	15 ^h 48.3	+13° 31	22 27	22 59	0 39 E	+13 12	"	4-4
43501	HR 5110 HD 118216	13 ^h 30.3	+37° 42	23 07	23 19	2 ^h 00 W	+37 15	Fe/ND	5-5
43502	"	"	"	23 24	23 31	2 11 W	"	Fe/ND	4-4
43503	ρ CrB HD 143761	15 ^h 57.2	+33° 36	23 36	23 49	0 3 W	+33° 18	"	4-4
43504	HD 153344	16 53.9	+62° 16	23 56	00 43	0 3 W	+62° 02	"	4-4
43505	72 Her HD 157214	17 16.9	+32° 36	00 48	00 58	0 7 E	+32° 25	"	4-4

Exp. Mtr.

40/17 2

400/92 12

200/76 1

400/112 2

40/11 2

40/12 1

400/112 2

40/15 2

40/10 1

400/112 1

400/114 1

200/57 1

2/059
08059 4317

Spectr. Temp. 61.0°F Dome Temp./Hum. $75.9^{\circ}\text{F}/70\%$ Transparency Conditions *L. Hazy* 94
 Focus 49.6
 Spectr. Temp. Dome Temp./Hum.

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/- 5-5					BC	G12/.68	150 μ	IIa0-e	B			cut s/red
Fe/ND 7-7	40/17	2"	1.2	K2III	BC	"	120 μ	IIa0-e	B	Std Vel.		Fine
Fe/ND 4-4	400/92	1.2"	5.3	F2	BC	"	120 μ	IIa0-e	B	Fgi-Flare Star		
Fe/ND 8-8	200/70	"	"	"	BC	G16/.7	120 μ	098-02E	B	"		slwk
Fe/ND 4-4	400/112	2"	7.3	G0	BC	G12/.68	120 μ	IIa0-e	B	Solar-Type		slwk slwk
Fe/ND 6-6	40/11	2-3"	4.8	G0	BC	G12/.68	120 μ	"	B	Solar-Type		Fine
Fe/ND 6-6	40/12	"	3.3	G0	"	"	"	"	B	"		Fine
Fe/ND 4-4	400/112	2"	6.7	G2	"	"	"	"	B	"		"
Fe/ND 5-5	40/15	2-3"	5.3	F2	BC	G16/.7	120 μ	098-02e	B	Fgi-Flare Star		slwk
Fe/ND 4-4	40/10	"	"	"	"	G12/.68	120 μ	IIa0e	B	" " " T=60°F		Fine
Fe/ND 4-4	400/112	"	6.0	G2I	"	"	"	"	B	Solar Type		Fine
Fe/ND 4-4	400/114	"	7.8	G5	"	"	"	"	B	"	47 minutes - Wow!	slwk
Fe/ND 4-4	200/57	"	6.0	G2I	"	"	"	"	B	"		Fine
											Cont $\rightarrow$	

96

Dome Temp./Humt $+55^{\circ}\text{F}$ / $A=803$

Fig 8

97

Date MAY 31/JUNE 1. THUR/FRI Observers But-Tn.....
797^m 6^u

Emulsion Batches:

D-19-E 12108 -31059
5^m 6^u 0.98-2E 19098 -08059 48192(should have been 4^m)

Spectr. Temp. 7

Focus.....49

Spectr. Temp. ..

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
43509	HD 18216	13 ^h 30.3	+37° 42	20 31	20 45	0 31 E	+37 13	FE/ARC ND	4-4-4
43510	"	"	"	20 49	21 15	0 01 E	"	FE/ND ND	4-4-4 4-4-4
43510T	Spot Cols for 43510, 13.			15 min @	15V D3 4810	7V D1 Hd	7V D2 5450		
43511	HD 138406	15 26.8	+62 05	21 26	22 22	0 49 E	+61 43	FE/ND	4-4-4
43511T	Spot Cols for 43509, 11, 12, 14-19.			5 min @ 15V		D4 3900	D3 4300	D2 4810	
43512	HD 137182	15 19.5	+10 54	22 26	23 47	+00 43 W	+10 34	FE/ ND	4-4-4
43513	HD 118216	13 30.3	+37 42	23 53	0 46	3 31 W	+37 14	FE/ND ND	4-4-4 4-4-4
43514	"	"	"	0 49	0 58	3 43 W	"	FE/ND	4-4-4
43515	HD 156547	17 13.1	+26 00	01 02	01 33	00 36 W	+25 49	FE/ND	4-4-4
43516	HD 157702	17 22.9	+18 53	01 37	02 23	01 19 W	+18 49	"	5-5-5
43517	HD 176003	18 53.04 18 55.4	+44 05	02 27	02 53	00 17 W	+44 01	"	5-5-5
43518	HD 176798	18 56.9	+43 07	03 01	03 32	00 52 W	+43 08	"	5-5-5
43519	HD 186791	19 41.5	+10 22	03 36	03 38	00 12 W	+10 30	"	7-
	P1 Focus Test	after PH A adj						Fe/-	7/7
	F2 x "							"	"
	T Full Aperture Shift Test with coupler							Ne/-	17-17

Exp. Mtr.

Sens.

400/99

3"

400/200

23"

400/72

2"

400/67

2"

400/200

13"

400/100

1"

400/70

2"

400/73

3"

400/75

3"

400/79

1"

400/15

1"

Spectr. Temp. $+63^{\circ}\text{F}$Dome Temp./Hum $62^{\circ}\text{F}/70\%$

Transparency Conditions . Very hazy - steady..... 98

Focus 49.6.....

Spectr. Temp. $+60^{\circ}\text{F}$Dome Temp./Hum $58^{\circ}\text{F}/72\%$ Comparison
Type/Filter Exp.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
4-4-4 400/99	3"	5.3	F2 II	BC	G12/68	120 μ	IIa D E	B	Fgi FLARE STAR	violet emission wing on H δ	ok red good focus
4-4-4 400/200	2-3	"	"	BC	G16/7	"	098-02E	B	"		
							"			high fog level	
4-4-4 400/72	2"	6.79	A m	BC	G12/68	120 μ	IIa D-E	B	A m MR	thin cloud	unseen
							"				
4-4-4 100/67	2"	7.12	A m	BC	G12/68	120 μ	"	B	A m MR	cloud	vsl wh
4-4-4 100/200	1-3"	5.3	F2 II	"	G16/7	"	098-02E	B	Fgi FLARE STAR	thin cloud / clear - last half	
4-4-4 100/100	1"	"	"	"	G12/68	"	IIa D-E	B	"	clear	vsl str
4-4-4 100/70	2"	7.04	A1	"	"	"	"	B	A m MR	some cloud	fine
5-5-5 100/73	3"	7.48	A0	"	"	"	"	B	A m MR		fine
5-5-5 100/75	3"	7.00	A1	"	"	"	"	B	A m MR	60°F	fine
5-5-5 100/79	"	7.27	A3	"	"	"	"	B	"		fine
7-7-7 10/15		7.15	K3 II	"	"	"	"	B	Std Vel		fine
				"	"	"	098-	A		red ok, blue very red	
				"	"	"	"	B			
7-7-7 10/15				"	"	"	"				vsl red! cut 518/ee

.68 tilt no good for the comp

Date Jun 1 Observers Bts

.....
 HAF

Focus.....

Spectr. Temp. .

[illegible]

Spectr. Temp. 62°

Dome Temp./Hum.

Transparency Conditions 100

Focus

Spectr. Temp.

Dome Temp./Hum.

[illegible]

101

Fri Sept

Emulsion Batches:

098-22E 20049-01069
 II 90-e 17108-31059
 III 21-e 17108-17059

Date June 1-2 1979 Observers Tn-Boj

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
43520	HD 124897	14 ^h 11 ^m 1	19° 42'	20 32	20 34	01 19 E	+19° 16.6	Fe/ND	7-7
43520T	Spot Calc for 43520-21, 24				15 min @ 4810	15V D3 7V D1 7V D2 5450			
43521	HD 118216	13 30.3	+37 42	20 43	20 57	0 15 E	+37 17	Fe/ND Ne/-	7-7 7-7
43522	"	"	"	21 09	21 19	0 04 W	"	Fe/ND	7-7
43522T	Spot Calc for 43522-23, 25				15 min @ 15V	D4 3900	D3 4300	D2 4810	
43523	HD 135681	15 11 18	-12° 40	21 36	22 46	0 7 E	-12 57	Fe/ND	4-4
43524	HP 118216	13 30.3	+37 42	22 56	23 09	01 57 W	+37 17	Fe/ND	7-7
43525	"	"	"	23 16	23 45	02 34 W	"	Fe/ND Ne/-	7-7 7-7
43526	HD 141513	15 ^h 44 ^m 4	-03° 07'	00 07	0 30	1 05 V	-3 22	Fe/-	8-8
43526T	Spot Calc for 43526				15 min @	1705 V D4 3900	15V D4 4300	15V D4 4810	
43526F1	Focus Test							Fe/-	18-18
43526T1	Full Aperture Shift test with coupler, prob done roughly					0 ^h 41 ^m L	-3°	Ne/-	38-10
* Note 098s & II 90-ss Int tests Developed						5 min @ 68°F	D19		

Spectr. Temp. 4
 Focus.....
 Spectr. Temp. 4

Exp. Mtr. Sec

40/15
 40/20
 40/10

80/91
 80/20
 80/40

80/33
 80/33

80/33
 80/33

80/33
 80/33

80/33
 80/33

80/33
 80/33

80/33
 80/33

80/33
 80/33

80/33
 80/33

80/33
 80/33

Transparency Conditions *Some a large eth. cloud* 102

[illegible]

Sac - Mon

Date June 3-4..... Observers Blm-Tn.....

Emulsion Batches:

Emulsion Batches:

5 ^m 68°	D98-02E	20049-01069
7 ^m 68°	T40E	12108-01069

7th 68th Trade 12108-01069

[illegible]

Spectr. Temp. 66° F.....

Dome Temp./Hum. 69°F/67%...

Transparency Conditions *v.s/ busy but fine* 104

Dome Temp./Hum. 61°F / 76%

[illegible]

105

Tues-Wed

Emulsion Batches:

1st 6th II-0-C 12108-01069
 5th 6th 098-02E 20049-01069

Date June 5/6 Observers Rau-Tu

Plate No.	Object	R. A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
43532 F	Focus					-0 ^h 35 ^m	+37°	Fe/-	18-19
43532T1	Full Aperture Shift Test (no coupler)			Decker held up during both compresses		"	"	Fe/-	"
43532T2	"	"	"	Decker with downward force		"	"	Fe/-	"
43533	HD118216	13 ^h 30.3	+37° 42	20 ^h 37	20 57	0 01 W	+37 16	Fe NDX 4	7-7
43534	"	"	"	21 ^h 01	21 ^h 30	0 35 E	"	Fe/ND Ne/-	7-7
43535	HD163506 = 89 Her	17 ^h 51.4	+26° 4	21 ^h 48 ^m	22 ^h 30	2 47 E	+26° 01	Fe/ND	4-4-4
43535T	Spot Calc for 43533, 35-41.			15 min @ 15V	3900	4300	4810		
43536	HD161096	17 ^h 38.5	+40° 37	22 ^h 34	22 ^h 40	02 ^h 23 E	+40° 33	Fe NDX 4	6-6
43537	HD186688 = SUGig	19 ^h 40.8	+29° 01	23 ^h 00	00 ^h 04	03 ^h 01 E	+29° 11	Fe NDX 4	3-3
43537T	Strip Calc for 43534			because last 4x5 shuttered in Sensitometer				2 min	
43538	HD180583	19 ^h 12.0	+27° 45	00 ^h 14	01 ^h 57	0 ^h 38 E	+27° 51	Fe/ND	4-4-4
43539	HD203156	21 ^h 15.4	+37° 49	02 ^h 04	03 11	1 ^h 28 E	+38 06	Fe NDX 4	4-4-4
43540	HD204867	19 ^h 41.5	+10° 22	03 16	03 20	0 14 W	+10° 31	"	7-6
43541	" HD186791	"	"	03 ^h 23	03 24	0 19 W	"	"	4-4

Spectr. Temp.

Focus... 49

Spectr. Temp.

Exp. Mtr. See

fanned

80/40 3

80/50 3

80/28

45/65

80/30 3-5

45/130 3-5

45/130 3-5

45/130 3-5

45/130 3-5

45/130 3-5

45/130 3-5

45/130 3-5

45/130 3-5

45/130 3-5

45/130 3-5

45/130 3-5

45/130 3-5

45/130 3-5

45/130 3-5

45/130 3-5

Spectr. Temp. ...57°F.....

Dome Temp./Hum. 58°F / 85%

Dome Temp./Hum. 52°F/97%

Transparency Conditions *Semi cloudy* 106

106

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
F ₂ -1	1-17					BC	G12/.68	120μ	IaF	B		65°F F=494	v sl blue?
F ₂ -1						"	"	"	"	A		-38	v sl blue
		prob more	↓ force	then	coupler	exerts.	"	"	"	B		-35	v sl blue
F ₂ -17	7-7	80/40	3	5.3	F2IV	"	"	120μ	IIa0-e	B	F ₂ PSCV ₆		good, very st str.
F ₂ -17	7-7	80/50	3-4	"	"	"	G16/.7	120μ	09802E	B	"		comp sl str
1-17	4-1	80/28		5.8	F2Ia	"	G12/.68	120μ	IIa0-e	B	Ceph/Evans		fine
									"				
6-6		40/20	4	3.93	K2III	"	"	120μ	IIa0-e	B	std vel	JF Labelled "35, then change to 36	v sl str
3-3		800/130	3-5	6.8-7.7	F0-G1	"	"	200μ	Ib0-e	B	Ceph/Evans	cloud 61°F F=496	fine comp sl wh
									09802E				
F ₂ -17	4-1	400/131?	3-4	6.2	F2Ib	"	"	120μ	IIa0E	B	Ceph/Evans	cloud	Exp meter unreliable for this exposure.
4-4		400/133	3"	5.9	F2	"	"	120μ	Ia0e	B	Ceph/Evans		v sl str
"	7-6	40/19		4.15	K3II	"	"	120μ	"	B	std vel		fine
4-4		40/9		"	"	"	"	200μ	"	B	"		v sl str contamination?

Date June 6/7 Observers KK, Es, Ri, Bts

68°F 7^m
4 1/2 }

IIaOe
Emulsion Batches:

IIa.F.....
IIIa.Je.....
IIIa.Fe.....

Spectr. Temp.

Focus

Spectr. Temp.

[illegible]

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions 108

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/-	8-18					BC	GR/68	120 μ	IIaF	B		62° 498 No companion discarded	
Fe/-	15-15					BC	GR/68	150	"	B		broken - 62° 497 1/2 "	
Fe/-	68	40/44				"	"	"	IIIaFe	B		prob. no comp due to decker placement prob	
Fe/-	3-6-6	40/76				"	"	"	"	B			
Fe/-	9-9					"	"	150	"	B			-3.5
Fe/-	15-5					"	"	150	IIIaF	B			-3.6
Fe/-	15-5					"	"	120	"	B			-3.5
Fe/Nov	4.6-1	400/63	2"	7.2	g M3	"	"	150 μ	IIaOe	B		some cloud / cloud out	
Fe/-	1-1					"	"	150 μ	"	B		60° 498	sl red

Date June 8/9..... Observers Bojchko-Bts.....

Emulsion Batches:

4^m 72° IIaF.....

[illegible]

Spectr. Temp. 74°

Dome Temp./Hum.

Transparency Conditions 110°

Focus 49.4

Spectr. Temp.

Dome Temp./Hum.

Comparison
Type/Filter Exp.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/- 15-15				BC	G12/68	150 μ	IIaF	B		broken 74° 494	v red
Fe/- 15-15				"	"	"	"	"		vigorous tag on decken focus poor	s/blue
" "				"	"	"	"	"		broken marked 44F2a	s/blue
Fe/- 15-15				"	"	255	"	"			
T											St-Comp
Fe/- 18-18				BC	G12/.68	150 μ	IIaF	B			+ 10.8 μ
Fe/- 10-10	} arc-misfiring			"	"	"	"	"			-1.6 $\pm$.4
Fe/- 10-10				"	"	"	"	"			-0.8 $\pm$.4
Fe/- 10-10				"	G16B/4	"	"	"			-2.2
Fe/- 10-10											

Date June 11/12 Monday Observers Bnt - Bts

7^m 680

$$\underline{\text{LaOe}} \dots 12.168 - 07.069$$

Focus

Spectr. Temp.

[illegible]

03.069

Spectr. Temp. 58°

Dome Temp./Hum. $53^{\circ}/69\%$

Transparency Conditions Clear 112

Focus 499

Spectr. Temp.

Dome Temp./Hum.

Comparison
Type/Filter Exp.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	GR/68	120 μ	IIaDe	B		580 499	red
100/75	3-5	6.79	A0	"	"	"	"	"	Am - MR		fair
400/80	"	7.19	A0	"	"	"	"	A	Am MR		poor focus
900/80	5	7.04	A1	"	"	"	"	B	Am MR	540 500	poor focus
100/75	3-5	7.00	A1	BC	G12/68	120 μ	IIa0E	A	Am MR		focus poor
				"	"	"	"	B		520 500	sl red
				"	"	150	"	B			

113

Date 12/13 June '79 Trc/htd Observers Blm - Bts

Emulsion Batches:

IIa-DE 12108-07069

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Mtr.	Sec.
43549F	Focus							Fe/-	4-4		
43549 ✓	HD 117555	13 ^h 26 ^m 7 ^s	+24° 44'	20 ^h 48 ^m	23 ^h 44 ^m	+03 ^h 21 ^m	+24 23	Fe/ND4	4-4-4	900/303	
43549T	spot calib for	43549-51		15V 15 min	① 3900 ^{D4}	② 4300 ^{D3}	③ 4810 ^{D4}				
43550	HDE 226868	19 ^h 59 ^m 6 ^s	+34° 56'	23 ^h 51 ^m	03 20	00 30W	+35° 08	Fe/ND4	4-4-9	800/285	5
43551	HD 186791	19 ^h 41.5 ^m	+10° 22'	03 24	03 27	00 49	+10° 33'	Fe/ND4	4-8	40/17	3
43551F	Focus							Fe/-	4		
June 13 - KK											
43551T1	Full aperture	after 0.5mm CCW rotation			compler used			Fe/-	5-5	500	F=
T2	"	no compler, comp. 1st						"	"		
T3	"	" , stellar 1st						"	"		
F2	focus test							Fe/-	15-15		
T4	Full aperture							Fe/-	5-5		

2069

Spectr. Temp. 58°FDome Temp./Hum. $56^{\circ}\text{F}/70\%$ Transparency Conditions Excellent..... 114...

Focus 498.....

Spectr. Temp. 54°

Dome Temp./Hum.

Comparison
Type/Filter Exp.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/- 4-4				BC	G12/68	120 μ	IIa-OE	A		58° 498 ^{Tilt 628} _{rel 13} ^{cent} _{v. red}	
Fe/104 4-4-4	900/330	3-4	^{8.7} -8.83 gGe	BC	"	200 μ	"	A	Sp. Blu-Blu		
Fe/104 4-4-4	800/205	5	9.71 09.71a	BC	G12/68	200 μ	IIa-OE	B	Sp. Blu-Blu	56° 500	
Fe/104 4-8	40/17	3	4.15 K3III	"	"	120 μ	"	A	Std. Vel.		focus!
Fe/- 4				BC	G12/68	120 μ	IIa-OE	B		54° 500 ^{Flat} ₊₁₅₂ ^{cent} _{red}	
Fe/- 5-5	58° F = 497			BC	G12/68	150 μ	IIa F	B		58° 497	-2.6
"				"	"	"	"	"			-0.3
"				"	"	"	"	"			-0.7
Fe/- 5-5				"	"	"	"	"		blue end +24 red end +104	cent sl. red
Fe/- 5-5				"	"	250 μ	"	"			-3.3

115

Date 13/14 June '79 and from Observers Ron-Ten

Emulsion Batches:

Emulsion Batches:
Tub. 12108 - 12069

[illegible]

Spectr. Temp. 6
Focus 4
Spectr. Temp. 3

Spectr. Temp. 63°F
 Focus 494
 Spectr. Temp. 59°F

Dome Temp./Hum. $60^{\circ}\text{F}/62\%$
 Dome Temp./Hum. $54^{\circ}\text{F}/73\%$

Transparency Conditions *Fine v 5/late* 116
blue end +164
red end -39

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
E/- 15-15					BC	G12/.68	120 μ	II-F	B		63°F	fine
4-4-4	80/40	1.2	5.92	dG2	"	"	"	II-O-e	B	KK	focus = 494 cont +5.2	fine
4-4-4	80/40	"	5.82	F2 Ia	"	"	120 μ	IIaO-e	B	Ceph/Evans		
4-8-4	40/23	"	3.93	K2 II	"	"	"	"	B	std rel		
4-4-4	80/46	"	6.2	F6E-IV	"	"	"	"	B	Ceph/Evans		fine
4-4-4	400/239	"	6.8-7.7	F0-B1	"	"	"	"	B	Ceph/Evans cloud		vs1 str
4-4-4					"	"	"	II-F	B	Set 494 T=62°F	blue end +20 red end 0	big gradist 77
4-8-4	40/34	"	4.02	F5 II	"	"	"	IIaO-e	B	Ceph/Evans		strong
4-4-4	80/81		5.89	F2	"	"	"	"	B	Ceph/Evans		sl str.

117

□/

Eng Night too

Date 1979 June 14/15 ^{Thurs/Fri} Observers A.K.-T.H.

Emulsion Batches:

No. 1-e 06069-12108

No. 2-e 12069-12108

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
43559F1	Focus test	0 HA	+25°				+25°	Fe/-	15-15
T1	Full aperture							Fe/-	15-15
F2	Focus test							Fe/-	15-15
43559 ✓	HD 121370	13 49.9	+18 54	20 51	21 20	0 40W	+18 30	Fe/-	7-7-7
43559 T2	Spot Calc for 43559, 63				15 min @ 17.5V D4 3900		15V D4 4300	15V D4 4810	
43560	HD 146051	16 09.1	-3° 26'	21 25	21 37	1 19 E		Fe/ND	6-6-6
43561	HD 122742	13 58.6	+11 16	21 45	22 59	2 12 W	+18 53	Fe/ND	4-4-4
43562	HD 137909	15 23.7	+29 27	23 07	23 17	1 05 W	+25 12	"	6-6-6
Spectral Plate "	"	"	"	23 35	1 25 ^S	W-65			
"	" Vega			23 45	1 25 ^S				
43563	HD 159561	17 30.3	+12 38	23 52	00 00	0 19 E		Fe/-	6-6-6
43564	HD 161096	17 38.5	+4 37	00 04	00 09	0 19 E		Fe/ND	6-6
43564 T1 ✓	Spot Calc for 43560-62, 64 -67.				15 min @ 15V 3900		D3 4300	D2 4810	
43564 T2	Full Aperture shift test with coupler, normal					1 10W	+36°	Fe/-	15-15
43564 T3	" "	"	"	"	"	1 17W	"	Fe/-	15-15
43564 F	Focus Test				"	1 26W	"	Fe/-	15-15

Spectr. Temp.

Focus.....A

Spectr. Temp.

Exp. Mtr. Seel

40/70 1

40/17 3

40/72 2

80/39 2

40/67 2

40/21 1

12/28
12105

Spectr. Temp. 68°F Dome Temp./Hum. $68^{\circ}\text{F}/\text{H}=80\%$ Transparency Conditions *streaks & hazy* 118
 Focus *49.1*
 Spectr. Temp. Dome Temp./Hum.

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/- 15-15					BC	G12/.68	RS	IIaF	B			OK
Fe/- 15					"	"	"	IIIaJ	B			
Fe/- 15					"	"	150 μ	"	B		<i>blue over 122 red end 0</i>	<i>big green vs red</i>
Fe/- 7-7 SD 4 49.0	40/70	1 $\frac{1}{2}$ "	2.8	G0	"	"	70 μ	"	B	Asm Spec/KK		<i>blue poor red v. fine!</i>
Fe/ND 6-66	40/17	3"	4.30	M III	BC	G12/.68	70 μ	IIaDe	B	Std Vel		sl wk
Fe/ND 4-44	200/72	2"	7.0	G8V	BC	G12/.68	150 μ	IIaDe	B	Asm Spec/KK	<i>thickening haze</i>	fine
" 6-66	80/39	2-3	3.93	F0p	"	"	70 μ	"	B	"		v sl str
												sl wk
												sl sm
Fe/- 6-66	40/67	2 $\frac{1}{2}$ "	2.2	A5 III	BC	G12/.68	150 μ	IIaJc	B	Asm Spec/KK		flex?
Fe/ND 6-66	40/21	"	3.93	K2 IV	"	"	"	IIaDe	"	Std Vel		fine
02 4810								"				
Fe/- 15-15					<u>RC</u>	G12/.68	150 μ	IIaF	B	<i>Note: RC was very difficult to unclamp; much tighter clamped</i>		ghosts?
Fe/- 5-					"	"	120 μ	"	B	<i>then BC</i>		"
Fe/- 1-					"	"	"	"	B	<i>Set 491 T=68°F</i>	<i>Over $\rightarrow$</i>	<i>v red.</i>

Emulsion Batches:

Date Observers TL

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.....

.....

Spectr. Temp.

Focus

Spectr. Temp.

[illegible]

Exp. Mt.	Sec.
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
20	20
21	21
22	22
23	23
24	24
25	25
26	26
27	27
28	28
29	29
30	30
31	31
32	32
33	33
34	34
35	35
36	36
37	37
38	38
39	39
40	40
41	41
42	42
43	43
44	44
45	45
46	46
47	47
48	48
49	49
50	50
51	51
52	52
53	53
54	54
55	55
56	56
57	57
58	58
59	59
60	60
61	61
62	62
63	63
64	64
65	65
66	66
67	67
68	68
69	69
70	70
71	71
72	72
73	73
74	74
75	75
76	76
77	77
78	78
79	79
80	80
81	81
82	82
83	83
84	84
85	85
86	86
87	87
88	88
89	89
90	90
91	91
92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

Relig.

July 1901

80/50 2

Spectr. Temp. ...+67°F.....

Dome Temp./Hum.

Transparency Conditions 5/ Haza 120

Dome Temp./Hum ~~163~~°F / H=90%[illegible]

121

Emulsion Batches:

...Fla O-C 14096-12108

...Ш.а. J-с... 06095... 12108

.....

Date 1979 June 15-16 Observers Boj-Tn

[illegible]

12108
12108

Spectr. Temp. $+77^{\circ}\text{F}$ Dome Temp./Hum $75^{\circ}\text{F}/\text{H}=70\%$ Transparency Conditions *hazy* 122
 Focus 484
 Spectr. Temp. $+74^{\circ}\text{F}$ Dome Temp./Hum $+70^{\circ}/\text{H}=85\%$

Comparison
Type/Filter Exp.
Fe/- 15-5
Fe/ND 44-4
Fe/- 6-56
504
210
Fe/ND 44-4
" 44-4
Fe/- 8-8

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G12/68	120u	098	B		blu end +10u red end -12u cent B/hoi. Red	
80/20	2-3"	5.81	A0	"	"	120u	II40-e	B	Shelt-Bh	Reversed	
				"			"				
80/153	3"	3.50	A0V	BC	G8/-025	120u	II40-e	B	SB Bh		wk $\rightarrow$ s/wk
							"				
400/110	2"	6.18	A3V	BC	G12/68	150u	II40-e	B	SB Bh	T=77 $^{\circ}$ Exp motor unhooked	Fine Exp Fe in Steller
800/38*	7-2"	9.74	09-7Jab	"	"	200u	"	B	"	* Exp motor bad Cloud	s/wk
				"	"	200u	098	B			cent s/B/4e

- 12/08

Spectr. Temp. $+75^{\circ}\text{F}$Dome Temp./Hum $73^{\circ}\text{F} / H=77\%$ Transparency Conditions *Cloudy*.....124Focus *484*.....Spectr. Temp. $+73^{\circ}\text{F}$Dome Temp./Hum $+69^{\circ}\text{F} / H=$

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
10/5 4-1	180/312	3	2.9	F8	BC	G12/68	120u	Ilco-O	B	Waterloo		fine
1 4-1	80/38	3	4.2	G5	"	"	"	"	B	"		vs sl str.
1.2 4-2								"				
Fo/ND 4-4	80/30	3	4.0	A9	BC	G12/68	120u	"	B	Wat Prog		vs sl str.
Fel- 6/6						"	"	098	B			Blue OK red sl Blue in Red
F- 6/6						"	"	"	B			
Id- 6/6						"	"	"	B			
											<i>Clearing</i>	
5/2 4-4	80/30	1-2'	4.6	F0	"	"	"	Ilco-O	B	Wat Prog.		vs sl str.
" 4-4	80/28	"	5.7	A5	"	"	"	"	B	"		vs sl str.
" 4-4	80/35	"	5.5	F5	"	"	"	"	B	"		vs sl str.
" 4-4	80/35	2"	5.6	F8	"	"	"	"	B	"		Fine
" 4-4	80/35	"	7.0	G5III	"	"	"	"	B	"		fine
" 4-4	80/60	"	6.9	M2II	"	"	"	"	B	"		fine vs sl str.
" 4-4	80/26		3.7	G0IB	"	"	"	"	B	Std. Vel.		vs sl str.

Date 1979 June 17/18 Sun/Mon Observers KK-Tn

112F

[illegible]

Date JUN 18/19 MON/TUES 79 Observers But-Tn

Emulsion Batches:

7^m 680

Emulsion Batches:

IIa0-e	12108-14096	18, 168
IIa0-e*	12108-17069	18, 194

Spectr. Temp.

Focus... 4.92

Spectr. Temp.

[illegible]

[illegible]

129

Emulsion Batches:

...~~1100~~... 12108-17069 B, 178

Date Jan 19:20 Tues-Wed. Observers Lg.-Tn.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
43588F1	Focus Test					0 ^h	+30°	Fe/-	14-14
43588F2	" "	discarded				"	"	Fe/-	14-14
43588	HD 112989	12 55.5	+31 19	20 50	22 02	2 36 W	+30 54	Fe/ND	8-8-8
43588	Spot Calc for	43588-	94.		5 min @ 15V	D4 3900	D3 4300	D2 4810	
43589	HD 128220	14 30.6	+19 39	22 09	00 26	3 26 W	+19 18	Fe/ND	5-5-5
43589F1	Focus Test					0 ^h	-6°	Fe/-	15-15
43589F2	" "					0 ^h	-6°	Fe/-	15-15
43590	HD 162714	17 47.3	-06 07	00 43	02 40	2 22 W	-06 07.3	Fe/ND	4-44
43591	HD 157482	17 18.5	+40 04	02 45	02 59	* 2 12 W	+40 00	"	4-4-
43592	HD 175426	18 50.2	+36 51	03 02	3 15	1 56 W	+36 55	"	4-4-
43593	HD 186791	19 41.5	+10 22	03 19	3 21	1 14 W		"	6-6
43594	HD 163506	17 51.4	+26 04	03 27	3 42	3 22 W	+26 04	"	6-6

Spectr. Temp. 42
Focus.....
Spectr. Temp.

Exp. Mtr. Seen

80/60 2-

80/135 5

80/20 2-

80/23 3

40/14 3

80/30 3-

Transparency Conditions *Fire - s/haze* 130.

Focus 488

Spectr. Temp. +63°F.....

Dome Temp./Hum. ~~58°F~~ / ~~75%~~

- Then - very clear

[illegible]

131

Date June 20-21 Wed Thurs Observers KK-Tg

Emulsion Batches:

5th 6th ... Use 12108 - 05096 15, 23
... Prod - 12108 - 17069

Spectr. Temp. 7
Focus 4
Spectr. Temp. 7

[illegible]

05096 1675
-17089

Spectr. Temp. $+68^{\circ}\text{F}$ Dome Temp./Hum $+64^{\circ}\text{F}/78\%$ Transparency Conditions *Cloudy hazy* 132..
 Focus *484*
 Spectr. Temp. $+66^{\circ}\text{F}$ Dome Temp./Hum $+59^{\circ}\text{F}/89\%$

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
FeI-77	80/140	4"	2.8	G0	BC	G12/68	70 μ	IIIa-e	B	Asm Bin-KK		good
1 7-10	40/65	4"	1.29	K0p	"	"	"	"	B	Std Vel?	no coupler	good
FeI-77-7	80/120	5"	3.93	F0p	"	"	"	"	B	Asm-Spec/KK	no coupler	focus best in center
524 480								"				
FeI 77	80/24	4-8"	3.93	K2 III	BC	G12/.68	70 μ	IIIa-e	B	Std Vel	cloud capla used	Fine
FeI 7-7					"	"	"	"	B		cent-2.8 μ	sharp
10-575					"	"	"	IIa F	B		Very bad blue on red Blue cent +7 μ (Red cent -18 μ) red and blue	
FeI-15-75					"	"	"	IIa F	A		Rig Cloud	cent-3 blue/red cent-6 Red/blue

133

Date June 24-25 Sun-Mon Observers ... Ly - T. n

Emulsion Batches:

7th 68 ... H40-E ... 12108 ... 19069 17, 182

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
43599F1	Focus TEST					0 ^h		Fe/-	5-5
43599F2	"							Fe/-	15-15
43599	HD 157482	17 18.5	+40 04	20 50	21 27	02 00E	+39 57	Fe/ND	7-7-7
43599T	Spot Calc for 43599-43605				15 min @ 15V	D4 3900	D3 4300	D2 4810	
43600	HD 163506	17 51.4	+26 04	21 31	22 16	1 45E	+26 02	Fe/ND	7-7-7
43601	HD 175426	18 50.2	+36 51	22 20	23 00	2 0 E	+36 55	"	7-7-7
43602	HD 161096	17 38.5	+04 37	23 08	23 15	00 34E	+4 33	"	10-10
43603	"	"	"	23 21	23 25	00 24E	"	"	7-7
43604	HDE 226868	19 54.6	+34 56	23 38	03 21	1 17 W	+35 08	"	3-3-3
43605	HD 175426	18 50.2	+36 51	03 25	03 38	2 38 W	+36 57	"	5-5-5
43605F1	Focus Test after PHB adjustment					0 ^h	"	Fe/-	15-15
43605F2	Focus Test						"	"	15-15
43605 F3	Focus Test							Fe/-	15-15

Spectr. Temp. ...

Focus ... 429

Spectr. Temp. ...

19069 11/13

Spectr. Temp. ... $+59^{\circ}\text{F}$ Dome Temp./Hum. $+55^{\circ}\text{F}/\text{H}=75\%$ Transparency Conditions ... *Very good* 134Focus ... 489 Spectr. Temp. ... $+53^{\circ}\text{F}$ Dome Temp./Hum. $+50^{\circ}\text{F}/\text{H}=91\%$ *Photometric*

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe- 5-5					Be	G8/.025	120 μ	IIaO?	B			blue red red blue
Fe- 15-5					BC	G8/.025	120 μ	IIaF	A			blue sl red red sl blue
Fe/ND -77 P2 880	80/36	3-6	6.2	dF8	Be	G8/.025	120 μ	IIaOe	A	Sp Bin - Blu		sl wk
Fe/ND 7-7	80/50	3-5"	5.8	F2Ia	BC	G8/.025	120 μ	"	A	Ceph - Fe		fine
" 7-7	80/47	3-8"	5.3	B3	"	"	"	"	A	Sp Bin - Ly		
" 7-7	80/31	3"	3.9	K2II	"	"	"	"	A	Std. Vel.		US 15M
" 7-7	80/20	"	"	"	"	G12/68	120 μ	"	A	"	T = 57°F Focus 491	sl sm.
" 3-3	800/205	2-4"	9.74	O9.7J6b	"	"	200 μ	"	A	SB Blu		fine
" 3-5	80/25	3"	5.2	B3	"	"	120 μ	"	A	Sp Bin - Ly		f
Fe- 15-5					"	"	"	IIaF	B	Focus 491 T = 53°F	Compare with 43598F15FZ	blue red red blue
" 15-5					"	"	"	"	A	1" broken off Label end		Fluor
Fe- 15-5							70 μ	IIaF	B	after adjustment to pressure plate screws in PNB		
										Note. I must have reversed my red & blue ends while adjusting		

Date _____

Date June 25-26 Mon/Tue Observers Ly In

Doc-e 12108-19069 18, 115
Doc-e 12108-25069 16, 168

Дуо-е... 12108-25069 16, 168

[illegible]

2069 B, 173
2069 W, 168

Spectr. Temp. +63°F

Dome Temp./Hum. +60°F/60% H

Transparency Conditions V. sl. thin cloud but fine 136

Focus 488

Spectr. Temp. +60°F

Dome Temp./Hum. 55°F/70% H

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
F/-	15-15					BC	G12/68	120u	Iluf	A			v sl blue nit or
F/ND	5-10	400/95	2"	6.7	A0	BC	G12/68	120u	Ilaf	A	Ap MR		more guiding
"	7.7	80/56	1.2"	6.22	df8	"	G8/025	"	"	A	SB B/n		sl weak
"	7.7								"				
F/ND	7.7	80/54	1.2"	5.3	B3	BC	G8/025	120u	"	A	SB - Ly		
"	7.7	80/54	2.4"	7.1	G0p	"	"	"	"	A	Ceph - Ly		sl weak
"	5.3	800/228	2"	9.7	09.7 Iab	"	G12/68	200u	*Ilaf	A	Sp Bin - B/n	T = 62°F	v sl str
"	7.7	80/110	1"	6.14	K016p	BC	G8/025	120u	"	A	SB Ly	T = 61°F	weak
F/ND	10-10	0/55	3"	4.9	G8111	"	"	70u	"	A	SB - Ly		fine
"	11-13	80/34	3"	3.73	G016	"	"	"	"	A	stable		v sl str
F/-	5-10					"	"	"	Iluf	B		cent + 8u blue as red	
"	15-15					"	"	"	"	A		red vs red red v sl blue	
												blue v sl red otherwise ok	

137

Date June 26-27 (w/No) Observers Ly-14

Emulsion Batches:

4th Wave... 12108-05069
5th Wave... 12108-25069 18, 17A

Spectr. Temp.
Focus 480
Spectr. Temp.

[illegible]

Transparency Conditions ... *circus and haze* 138

Focus 488-486

Spectr. Temp. *+63°F*.....Dome Temp./Hum ~~48.0~~.../...89.6

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/- 17-12					BC	G8/-025	120u	IIcF	A	T=66°F Set 488		
" "					"	"	"	"	A	T=66°F Set 486		
7 "					"	"	"	"	B	" "	cont red in blue OK in red	
Fe/- 7-7	80/222	2-3	3.50	A5V	"	"	"	IIIaFe	A	Sp Bin - Blu		comp v wh one side
								"				
Fe/ND 7-7	400/300	2-7	6.22	dF8	"	"	"	IIcDe	A	Sp Bin - Blu.	H ₂ K omission	sl. weak unclear at H ₂ K
								"				
Fe/ND 7-7	400/273	3-5"	7.40	Gop	"	"	"	"	A	Ceph - Ly	terminated due to cloud	
Fe/ND 7-7	400/220	"	3.93	K2III	"	"	"	"	A	Std. Vel. thick cloud	mainly in 2 bursts of counts	
										companion uneven		

139

Date June 27/28 Wed Observers KK - BGS

Emulsion Batches:

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Spectr. Temp.

Focus 4

Spectr. Temp.

[illegible]

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions 140.

Comparison	
Type/Filter	Exp.

[illegible]

7^m 68° II a.O.e... 12108-27069 19, 172
 . 09803e. 20049-06069

Date June 28/29 Thurs-Fri Observers GIS - BTS

[illegible]

669 11, 12
669

Spectr. Temp. 69°
Focus 484
Spectr. Temp.

Dome Temp./Hum. 62°F / 90%
Dome Temp./Hum. +57°F / 98%

Transparency Conditions Hazy 142

Comparison
Type/Filter Exp.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/- 4-4				BC	GD/68	120μ	IIaDe	A			sl blue
Fe/NO 4-4	400/160	2-4	4.1	K5III	BC	G12/.68	150μ	IIaDe	A	CaII/Ly	v sl wh
Fe/NO 4-4	400/162	4	4.9	K4III	BC	"	"	"	A	CaII/Ly	v sl wh
Fe/NO 4-4	400/110	3	5.8	F2Ia	"	"	"	"	A	Ceph-Fe	v sl str
Fe/NO 4-4	800/119	3	9.74	09.7Iab	"	"	200μ	"	A	Sp. bin-Bln	ok
Fe/NO 4-4	40/16	4-5	4.15	K3II	"	"	"	"	A	Stl. Vel.	fine
Fe/- 4-4				"	"	"	"	A		62° 486 1/2	sl blue

148

Date July 2/3 Mon/Tues Observers Bl. n - B. t. s.

7^m 68^o

Emulsion Batches:

Ilaoe. 12108 - 27069 17, 165

Spectr. Temp.

Focus.....

Spectr. Temp.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Mtr.	See
43623F	focus							Fe/-	5-5		
43623	HD 147835	16 ^h 19 ^m 06	+32° 34'	20:56	21:33	00 24 E	+32° 21'	Fe/ND4	5-5-5	400/15	2
43624	HD 157482	17 ^h 18 ^m 27 ^s	+40° 09'	21:40	00 24	01 27 W	+39° 58'	Fe/ND4	8-8-8	400/600	
43624T	spot cal for	43623-32		15V 15min	① 3900	② 4300	③ 4810				
43625	HD 163506 (89 Her)	17 ^h 51.4 ^m	+26° 04'	00 29	00 43	+01 13	+26° 01'	Fe/ND4	5-5-5	400/80	3
43626	HD 186791	19 ^h 41.5 ^m	+10° 22'	00 47	00 51	00 29 E	+10° 33'	Fe/ND4	8-8	40/16	4+
43627	HD 192422	20 ^h 09.7	+38° 28'	00 54	02 26	00 39 U	+38° 41'	Fe/ND4	5-5-5	400/100	
43628	HD 207198	21 42.2	+61° 59'	02 31	02 50	00 29 E	+62° 18'	Fe/ND4	5-5-5	400/80	3
43629	HD 213307	22 ^h 25.5 ^m	+57° 54'	02 53	03 12	00 51 E	+58° 15'	Fe/ND4	5-5-5	400/65	
43630	HD 209172	21 ^h 21 ^m 7	+36° 14'	03 18	03 30	00 30 E ^{xv}	+36° 33'	Fe/ND4	5-5-5	400/15	
43631	HD 188209	19 ^h 49 ^m 0	+46° 17'	03 34	03 44	02 18 W	+46° 57'	Fe/ND4	5-5-5	400/15	
43632	HD 214680	22 ^h 34.8 ^m	+38° 32'	03 47	03 52	00 21 E	+38° 54'	Fe/ND4	8-	40/6	
	32F1 focus							Fe/-	5-5		
	32F2 focus							Fe/-	5-5		

069 7/165

Spectr. Temp. ... 66°

Dome Temp./Hum. 64°F

Transparency Conditions. Cloud then clear 144.

Focus ... 487

Spectr. Temp. ... 63°

Dome Temp./Hum. 59°F/81%

Comparison Type/Filter Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/-55				BC	G12/68 150μ	IIa-Oe	A			66° 487.	good
Fe/NO4 5-55	400/65	2	6.18	A3I	"	"	"	"	Sp. Bin-Bl		
Fe/NO4 8-8-8	400/600		6.22	dfB	BC	G82/-025 150μ	IIa-OE	A	Sp. Bin-Bl	above H&K lines	
Fe/NO4 5-55	400/80	3	5.81	F2In	BC	G12/68 150μ	IIa-Oe	A	Sp Bin-Bl		Fine
Fe/NO4 8-8	40/16	4-5	4.15	K3H	"	"	IIa-OE	A	Std. Vel.		
Fe/NO4 5-55	400/100		7.60	B0.5	"	"	"	A	CNO - Bl		fine
Fe/NO4 5-55	400/80	3	6.27	09	BC	G12/68 150μ	IIa-OE	A	CNO-Bl	64° 488	Fine
Fe/NO4 5-55	400/65		6.3	B7	"	"	"	"	Sp Bin-Bl		
Fe/NO4 5-55	400/65		5.87	B0	BC	G12/68 150μ	IIa-OE	A	CNO-Bl		
Fe/NO4 5-55	400/65		5.56	09.5	BC	G12/68 150μ	IIa-OE	A	CNO-Bl		
Fe/NO4 8-	40/6		4.67	09	BC	G12/68 150μ	IIa-Oe	A	CNO-Bl		
Fe/-55				"	"	"	"	A		(Flat vs Blue) T=63° 488	blue vs bl red ok
Fe/-55				"	"	"	"	B		(but a bit blue)	v sl blue

Date: July 3/4 .. Tues/Wed .. Observers .. gis - Bts.

Emulsion Batches:
7^m 68° . H₂Oe. . . 12108-03079 18,170

[illegible]

147

#1

Date 1979 July 4/5 Wed/Thurs Observers KK-TN

Emulsion Batches:

7th 68 T20e 12108 - 27069
 5th 68 098.02 20049 - 04079 15 1A7
 4th 68 *098.02 20049 - 04069

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Mtr.	Sect.
43640F1	Focus test					0 ^h	0°	Fe/-	9-9		
F2	Focus test							"	"		
F3	"							"	"		
F4	"							"	"		
F5	"							Ne/-	30-30		
43640	Moon			21 01	21 02	00 57W	-11°33	Fe/ND	7-7	40/12	
43641	"			21 05	21 06	01 01W	"	"	"	40/10	
43642	"			21 08	21 09	01 04W	"	"	"	40/10	
43643	HD 161096	17 38.5	+4 37	21 27	21 31	01 38E	+4 32	"	"	40/18	3
43644	"	"	"	21 40	21 43	01 25E	"	"	7-7	40/15	
43645	ADS 11632A	18 41.7	+59 29	21 58	01 00	0 50W	+59 32	Ne/*	12-12	800/105	
43645 ¹	Spot C6/n	for 43645		15 min @	15V D3 4810	7V D1 H+	7V D2 4550				
43646	Vega HD172167	18 33.6	+38 41	01 12	01 13	1 10W		Ne/-	45-45	40/100	
43647	"	"	"	01 17	01 21	1 18W		Ne/-	45-45	40/200	
43648	"	"	"	01 23	01 29	1 26W		"	45-45	40/300	
43649	HD 215182	22 38.3	+29 42	01 36	02 02	2 06 E	+30 03	"	30-30-30	40/172	

Spectr. Temp.

Focus.....40

Spectr. Temp.

Spectr. Temp. ... $64^{\circ}5$ Dome Temp./Hum. $60^{\circ}F/62\%$...
 Focus 489
 Spectr. Temp. Dome Temp./Hum.

Transparency Conditions ~~Scattered clouds~~, 148.

Many brt, Fast meteors seen

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/- 9-9					BC	G12/.68	120 μ	098-02*	A	+22.6 μ	F=494	but center red end indicates red
" "					"	"	"	"	B	+9.8 μ	F=489	blue end v red
" "					"	"	"	"	A	+15.5 μ	"	
" "					"	"	"	"	A	-5.3 μ	F=484	blue
Ne/- 30-31					"	G16B/.38	*	"	A		F=492	fine
Fe/d 7-7	40/12				"	G12/.68	"	Il-0-C	A	std vel	F=489	fine
" "	40/10				"	"	"	"	A	"	F=494	ruined in center
" "	40/10				"	"	"	"	A	"	F=484 T=64°F now	fine
" "	40/18	3-4	3.93	K2II	"	"	"	"	A	std vel	F=489 T=64°F	vsl str
" 7-7	40/15	"	"	"	"	G16B/.38	"	"	A	"	F=492	vsl str
He/- 12-24	800/105	"	V=8.6	M4V	"	G24I/.38	+V Filter 200	098-02	A	Asm-Sp KK	" * V Filter before slit some band	vsl str
He/- 45-45	40/100	2-3	2.00	A0V	"	G24I/.9	RS	IV-NH	B	Exp Test	F=487 discarded	too wk
He/- 45-45	40/200	"	"	"	"	"	"	"	B	"		too wk
" 45-45	40/300	"	"	"	"	"	"	"	A	"		wk
" 3-4-5	40/172	3	V=2.9	F8-9?	"	"	"	"	A	Asm-Sp KK		too wk

*hyperion
no good
apparently*

Spectr. Temp. 56 °F.....

Dome Temp./Hum. ~~50°~~ / 80%

Transparency Conditions 150

[illegible]

151

Date July 5/6 Thurs/Fri Observers Gis - Tn

Emulsion Batches:

Emulsion Batches:

7 ^m 680	IIaOe	12108-27069	
5 ^m 680	O98-02E	20049-04079	21 190

[illegible]

Spectr. Temp. +63°F.....

Dome Temp./Hum. $+61^{\circ}\text{F} / 69\%$

Transparency Conditions v.s. Hazy 152 ..

Focus 487

Spectr. Temp. $+59^{\circ}\text{F}$

Dome Temp./Hum. +55°F / 80%[illegible]

153

(1979)

Date ... July 6/7 ... Fri/Sat Observers Bjo - Tn

Emulsion Batches:

7m68° II+D-e 12108- 03079
5m68° 098-22E 20049- 04079 19,17

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
43658F	Focus Test							Fe/-	15-15
43658	ND 141513	15 44.4	-03' 07'	20 43	20 53	-00 14E	-03-22	Fe/ND4	8-8
43659	ND 161096	17 38.5	+04 37'	20 56	21 04	-01 57E	+04 34	Fe/ND4	8-8
43660	ND 157482	17 18.5	+40 04	21 11	22 11	-00 29E	+39 58	Fe/ND	5-5-5
43660T	Spot Calc for	43658-61.		15min @ 15V		04 3900	03 4300	02 4810	-
43661	HDE 226868	19 54.6	+34 56	22 24	01 02	-00 14E	+35 09	Fe/ND	3-3-3
43662	"	"	"	01 07	03 40	2 22W	+35 08	Fe/ND Nd/-	3-3-3 3-3-3
43662T	Spot Calc for	43662-63.		15min @ 15V		03 4810	7101 Nd	7102 5450	
43663	ND 186791	19 41.5	+10 22	03 43	03 44	2 41	+10 35	Fe/ND Nd/-	5-5 5-5

Spectr. Temp. ...
Focus 4
Spectr. Temp. ...

Exp. Mtr. ...

4/30

4/30

80/70

800/148

800/133

4/12

Dome Temp./Hum. +58°F / 78 %

154

[illegible]

2 Large Tons

Emulsion Batches:

7min. 2.00c 12108-03079

Date July 7/8 Sat/Sun Observers Gis - Tn

Spectr. Temp.

Focus.....48

Spectr. Temp.

[illegible]

Transparency Conditions *None - same as usual*

Focus 483

Spectr. Temp. 665°F.....

Dome Temp./Hum. 64°F / 80%

156

Comparison Type/Filter Exp.		Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/ND 33-3		800/196	5"-2"	9.74	09.7Iab	BC	G12/68	200 μ	IIaOe	A	Sp. bin - Bln.		Fine
D2 4810									"				
Fe/ND 4-4		80/25	1-2"	6.3	B7	"	"	120 μ	"	B	Sp bin - Bln.		sl 749 Fine
" 6-6		80/27	2	4.15	K3II	"	"	"	"	A	std vel		Fine
Fo/- 6/6					"	"	"	"	"	B	T=66.5°F set 483	cent red/blue	
Fo/- 6/6					"	"	"	"	"	A		cent vs/blue ref OK cent vs/blue	
IIaOe dev July 9 DIA 7min @ 68°F Bts													

151

Emulsion Batches:

7min H40E 12108-07079

Date July 8/9 Sun-Mon Observers B/n-Tn

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
43667F	Focus Test					0h	+14 26	Fe/-	26-26
43667	HD161096	17 38.5	+4 37	20 36	20 41	02 14E	+4 36	Fe/ND	6-6
43668	HD188209	19 49.0	+4° 47'	20 47	21 00	04 09E	+4° 59'	Fe/ND4	5-5-5
43669	HDE 226868	19 54.6	+34 56	21 07	23 28	01. 41E	+35° 09'	Fe/ND4	4-4
43669T	Spot Calc for 43667-69				15min @ 15V	D4 3900	D3 4300	D2 4810	
43669F1	Focus					01 40E	+35°	Fe/-	6/6
43669F2	Focus					"	"	"	"
July 11 Tests									
43669F3	Focus Test					0h	+5°	Fe/-	25-25
F4	" "	after PHB adj (blue end CCW 180°)				To bring blue up 0.01 inch?	"	"	25-25
F5	" "	To see if center blue gives sharper visual focus				"	"	"	25-25
F6	" "	"	"	"	"	"	"	"	25-25

Spectr. Temp. ...
Focus ... 48
Spectr. Temp. ...

Exp. Mtr. Seen

Demo Temp
PHB Broth

Spectr. Temp. ... 73.5 °F

Dome Temp./Hum. ... +72°F/70%

Transparency Conditions Hazy... to cloudy

Focus ... 483

158

Spectr. Temp.

Dome Temp./Hum. ... 68°F/74%

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
FeL 16-26					BC	G12/68	120μ	IIa-J	A			lost in Dev?
FeND 6-6	80/26	1-2	3.93	K2Ti	"	"	250μ	IIa-O-e	A	stefve/		Focus? Fine
Fe/N 9 11-55	80/15	"	5.56	09.5	"	"	150μ	"	A	CNO-Bh		vs/wk
Fe/N 9 4-4	800/51	2"	9.74	09.7	BC	G12/68	250μ	IIa-OE	B	SB-B1m	cloudy!	wk
D2 80								IIa-OE				
Fe/- 6/6					BC	G12/68	250μ	IIa-OE	B		T=73.5F 483	cent v red in Blue flat or cent vs/Red
" 1					"	"	"	"	A			
					IIa-Oe	dev	July 9 D19				Finin @ 68°F Bts	
Fe/- 25-25	Domo Temp +70°F				BC	G12/68	120μ	IIa-Je	A	T=72°F set 483		OK
" 25-25	PH B noticeably tighter or clumped in)				BC	"	"	"	B	"	Far blue and red center mid → red OK	
" 25-25					BC	"	"	"	A	"	478	cent blue
" 25-25					BC	"	"	"	B	"	"	cent more blue in Red center blue

Note do not use 250u slit & PHB till further notice Tn/Bh

159
Date July 12/13 Thurs/Fri Observers Rts.....

Emulsion Batches:

IIIa Fe 12.128-06.06.9

IIa Q.e. 12.108-07.07.9

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Mtr.	See
43670F	focus							Fe/-	16-16		
43670	HD161096 (poph)	17 ^h 38 ^m .5	+4° 37'	22 ^h 55 ^m	23 ^h 19 ^m	+00 ^h 40 ^m W	+4° 36'	Fe/-	4-4-4	40/30	
43671	"	"	"	23 ^h 27 ^m	23 ^h 35 ^m	+00 ^h 57 ^m W	"	Fe/ND4	4-4-4	40/17	4
43672	"	"	"	23 ^h 39 ^m	23 ^h 46 ^m	+01 ^h 08 ^m W	"	Fe/ND4	4-4-4	40/17	
43673	"	"	"	23 ^h 51 ^m	23 ^h 59 ^m	+01 ^h 29 ^m W	"	Fe/ND4	4-4-4	40/18	
43674	"	"	"	00 ^h 11 ^m	00 ^h 19 ^m	+01 ^h 41 ^m W	"	Fe/ND4	4-4-4	40/17	
43675	"	"	"	00 ^h 23 ^m	00 ^h 40 ^m	+02 ^h 03 ^m W	"	Fe/ND4	4-4-4	40/17	45
43676	"	"	"	00 45	01 09	+02 ^h 31 ^m W	"	Fe/ND4	4-4-4	40/17	
43677	"	"	"	01 16	01 34	+02 ^h 56 ^m W	"	Fe/ND4	4-4-4	40/17	
43678	"	"	"	01 40	01 52	+03 14	"	Fe/ND4	4-4-4	40/18	
43679	"	"	"	01 56	02 04	+03 26	"	Fe/ND4	4-4-4	40/17	
43680	"	"	"	02 09	02 23	+03 45	"	Fe/ND4	4-4-4	40/17	
43681	HD 204172	21 ^h 21.7 ^m	+36° 14'	02 29	02 59	+00 38	+36° 33'	Fe/ND4	5-5-5	400/65	2
43681T	spot cal for	43670 - 82		15 ^h 15 ^m min	① 3900 ^{D4} ② 4300 ^{D3} ③						
43682	HD 207198	21 ^h 42.2 ^m	+61° 59'	03 11	03 36	+00 56 ^m W	+62° 21'	Fe/ND4	5-5-5	400/90	
43682F	focus							Fe/-	16-16		

Spectr. Temp. 78° Dome Temp./Hum. $75^{\circ}\text{F}/84\%$ Transparency Conditions $v. \text{hazy}$ Focus 481

160

Spectr. Temp. 75° Dome Temp./Hum. $70^{\circ}\text{F}/84\%$

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/- 16-16					BC	G12/68	120 μ	IIIaJ	A		78° 4 min July 13 D-19 R ⁺	mostly red
Fe/- 4-4-4	40/70		3.93	K2III	"	"	"	"	A	engineering	481	wh, variable focus
Fe/mon 4-4-4	40/17	4	"	"	"	"	"	IIaOe	A		78° 487	exp fine focus fair
Fe/mon 4-4-4	40/17		"	"	"	"	"	"	A		487	vs sl wk red poor f.
Fe/mon 4-4-4	40/18		"	"	"	"	"	"	A		484	"
Fe/mon 4-4-4	40/17		"	"	"	"	"	"	A		78° 481	vs sl wk focus fair
Fe/mon 4-4-4	40/17	45	"	"	"	"	"	"	A		clouds 478	sl wk focus ok
Fe/mon 4-4-4	40/17		"	"	"	"	"	"	A		475	vs sl wk
Fe/mon 4-4-4	40/17		"	"	"	"	"	"	A		484	wk
Fe/mon 4-4-4	40/18		"	"	"	"	"	"	A		clear 77° 478	sl wk
Fe/mon 4-4-4	40/17		"	"	"	"	"	"	A		478	"
Fe/mon 4-4-4	40/17		"	"	"	"	"	"	A		77° 475	" uneven
Fe/mon 5-5-5	100/65	2	5.87	B0Ib	BC	G12/68	150 μ	IIaOe	A	CNO-Bln	76° 482	
Fe/mon 5-5-5	400/90		6.27	Ib-II 09.7	"	"	"	"	A	CNO-Bln	July 13 7 min @ 68°F in D-19 R _i	
Fe/- 16-16					"	"	"	IIIaJe	A		75° 482	sl blue

161

Date .. July 13/14 Fri/Sat. Observers .. But - Bts

Emulsion Batches:

Emulsion Batches:
7min. Ade... 12108... 13079 17 168

[illegible]

Spectr. Temp. 80°
Focus 480

Dome Temp./Hum. 78° F./75%

Transparency Conditions . Haze , Some Cloud
162

Spectr. Temp.

Dome Temp./Hum. 73°F / 80%

[illegible]

163

Date Sun. - Mon. July 15-16 Observers Bla-RiEmulsion Batches:
A12 09802-20049-04079
T 1100E-12018-13079

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Mtr.	Sec.
43688F2	focus test							Fe/-	12-12		
43689	HD 142860	15 ^h 51 ^m 50	+15° 59'	22:29	22:30	01 ^h 58W	+15° 47'	Fe/ND	6-6	40/263	
43690	✓ HD 172865	18 37.4	+30° 11'	22:44	00:37	01 ^h 13W	+30° 15'	Fe/ND	5-5-5	400/250	1-2
43690F1	spot cal for 43689			15 min @	15V D3 4810	7V D1 H2	7V D2 5450				
43690F	Focus							Fe/-	6-6		
43691	HD 186791	19 ^h 41.5	+10° 22'	00:46	00:48	00 ^h 19W	+10° 33'	Fe/ND	7-7	40/21	2
43692	✓ HD 202128	21 08.8	+15° 34'	00:52	01:23	00 33E	+15° 56'	Fe/ND	5-5-5	400/200	2
43692T1	spot cal for 43690, -96			15 min @ 15V	D4 3900	D3 4200	D2 4910				
43693	HD 192660	20 ^h 10.9	+40° 01'	01:30	02:43	01 ^h 46W	+40° 15'	Fe/ND	5-5-5	800/260	1-3
43694	HD 192422	20 09.7	+38° 28'	02:46	03:36	02 40W	+38° 42'	Fe/ND	5-5-2	800/291	
43695	HD 204172	21 21.7	+36° 14'	03:43	03:51	01 ^h 43W	+36° 35'	Fe/ND	5-5-5	80/14	
43696	HD 214680	22 34.8	+38° 32'	03:55	03:57	01 ^h 35W	+38° 56'	Fe/ND	7-7	40/6	3
43696F1	focus test					540/100 01 35W		Fe/-	16-16		

04079
3079

Spectr. Temp. ... 78°F

Dome Temp./Hum. 24°C

Transparency Conditions *Good*

Focus 4.81

Spectr. Temp. ... 75°F

Dome Temp./Hum. ... 21°C ... 90%

164

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/- 100	---	---	---	---	B.C.	G16/.7	150μ	098-02	A	---	T=780 F=481	blank
Fe/ND 6-6	---	---	---	---	"	"	150μ	"	A	HA Std	---	v sl str
Fe/ND 5-5.5	400/250	1-2	7.78	G5 III	"	G8/-0.025	"	IIa-E	A	UB-BL	---	v sl wk
Fe/- 6-6	---	---	---	---	B.C.	G8/-0.025	150μ	IIa-0	A	---	T=770 F=481	v sl blue
Fe/ND 7-7	40/21	2	4.15	K3 III	"	"	"	IIa-0	A	Std 2.1	F=482	fine
Fe/ND 5-5.5	400/920	2	6.51	A7 I	"	"	"	"	"	UB-BL	---	fine
Fe/ND 5-5.5	800/260	1-3	8.17	B07B	B.C.	G12/.68	150μ	IIa-E	A	CNO Pros.	---	fine
Fe/ND 5-5.5	800/291	---	7.60	B0.57D	B.C.	G12/.68	150μ	IIa-E	A	CNO Pros.	---	fine
Fe/ND 5-5.5	80/14	---	5.87	B07B	B.C.	G12/.68	150μ	IIa-E	A	CNO Pros.	---	fine
Fe/ND 7-7	40/6	3	4.67	B9 I	B.C.	G12/.68	150μ	IIa-E	A	CNO Pros.	---	v sl str
Fe/- 16-16	---	---	---	---	B.C.	G12/.68	150μ	IIIa-E	A	---	750 F=482	blue
											<i>in exposed Box with the 098</i>	

Emulsion Batches:
(NEW BATCH) JFE E 02 059-14 079 (NEW BATCH)
18, 196

Date MON-TUES. 16-17..... Observers Burt-Ri.....

Emulsion Batches:

Two E 02 059-14 079 (NEW BATCH)

18, 196

[illegible]

Transparency Conditions .. GOOD .. CLOUD ..

Comparison		Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/-	4-9											77°F 7482	sl blue
Fe/ND	4-4-4	400/17	5"	3.93	K2 III	BC	G12/68	120μ	IIaOE	A	STD VEL		fine
Fe/ND	4-4-4	400/85		6.79	A0	B.C.	G12/68	120μ	IIaOE	A	Am-MR		fine, but quadrant
Fe/ND	4-4-4	400/80	5-8	7.19	A0	B.C.	G12/68	120μ	IIaOE	A	Am-MR	clouds	fine
B?	4P10								IIaOE				
Fe/-	4-4											72°F 482	sl blue
Fe/ND	4-4	400/48	8-10	7.39	A0	B.C.	G12/68	120μ	IIaOE	A	Ap-MR	70°F 484 clouds again	v sl whk
Fe/-	10-0						G12/68	New detector	098	14		68°F 484	
Fe/-	10-0						"	"	"	"			

Date July 18/19 Wed/Thurs Observers Gis - Bts

Emulsion Batches:

7ⁿ IIaOe... 02059-14079
4^{1/2} 09802e... 20047-17079

412.09802e.00047-17079

[illegible]

Spectr. Temp. 73°
 Focus 483
 Spectr. Temp. 66°

Dome Temp./Hum. ... $70^{\circ}\text{F}/61\%$...
 Dome Temp./Hum. ... $62^{\circ}\text{F}/71\%$...

Transparency Conditions ... clear

168

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/- 4-4					BC	G12/68	120 μ	IIa0e	A		73° 483	blue vs. red red: v.s. blue
Fe/- 4-4					"	"	"	"	B		(after plateholder adjustment)	blue: s blue red: s red
Ne/- 3-3 Fe/NO4 3-3	40/26	4" 3.85	F6 I	BC	G16/.7	150 μ		09802e	A	Ha std.		v sl strong
Fe/NO4 4-4	800/175	4 9.74	09.7Iab	BC	G12/68	200 μ		IIa0e 09802e	A	SB - Bln	72° 484	fine red. for scratch
Fe/NO4 4-4	800/180	3 9.74	09.7Iab	BC	G12/.68	200 μ		IIa0e IIa0e	A	SB - Bln		sl. strong sl. flax.
Fe/NO4 4-4	40/10	3 4.64	F7 I	BC	G12/68	200 μ		IIa0e	A	Std Vel	67° 485	sl. str
Fe/- 4-4					BC	G12/68	200 μ	IIa0e	A		485	v sl blue

119

Thurs/Fri

Date July 19/20..... Observers KK-Bts.....

Emulsion Batches:

68° 4 1/2. 098a2e. 02059. -1407.9 17, 167
 68° 7" IIaOe. 20049. -1707.9
 68° 4 1/2. IV-N (AgNO₃).....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Mtr.	Sec.
43704S1 S2 S3	{ B Cdr d CBr	Speckle tests	$\lambda = 5450$	1/25 1/100 1/50 1/100 1/100							
43705F1	Focus test							Fe/-	10-10		
05F2	"							Fe/-	10-10		
05F3	"							Fe/-	10-10		
43705	HD 142866	15 51 ⁵⁰	+15° 59'	21 35	21 43	+01 20	+15 49.6	Fe/ND4 Ne/-	3-3-3 3-3-3	40/25	2
43706	"	"	"	21 48	21 54	+01 31	"	Fe/ND4 Ne/-	3-3-3 3-3-3	40/25	
43707	ADS 11632 B	18 42.1	+59° 30'	22 07	01 16	+02 06	+59 38.5	Fe/ND4 Ne/-	3-3-3 3-3-3	800/116	2
43707 ^x	spot cal for	43705 -		15 min	D315V ① 4810	D17V ② HX	D27V ③ 5450	Fe/ND4 Ne/-	3-3-3 3-3-3	40/20	4
43708	HD 204867	21 26.3	-6° 01'	01 26	01 31	-00 26E	-5° 34.5	Fe/ND4 Ne/-	5-5 5-5	40/10	
43709	"	"	"	01 33	01 37	-00 21E	"	Fe/ND4 Ne/-	30-30 -30	40/200	
43710	HD 215182	22 38.3	+29 42	01 52	02 28	-00 40		Ne/-	20-20	40/200	
43711	"	"	"	02 31	03 18	+00 05		Ne/-	20-20	40/200	
11F1	Focus	No MASK on	1st, then	stellar				Fe/-	10-10		
11F2	"	usual						Fe/-	10-10		
11F3	"	"						Fe/-	10-10		

4039 17, 107
0.79

Spectr. Temp. 73°

Dome Temp./Hum. $71^{\circ}/61\%$

Transparency Conditions clear

Focus

170

Spectr. Temp.

Dome Temp./Hum.

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/- 10-10					BC	G16/.7	120 μ	IIJF	A	-2.7 μ	F=482	v sl blue
Fe/- 10-10					"	"	"	"	B	-2.6 μ		
Fe/- 10-10					"	"	"	"	A			
Fe/ND4 3-3-3 Ne/- 3-3-3	40/25	2	3.85	F6V	"	G16/.7	120 μ	09802e	A	Hx Std		fine
Fe/ND4 3-3-3 Ne/- 3-3-3	40/25		"	"	"	"	150 μ	"	B	Hx Std		fine
Fe/ND4 3-3-3 Ne/- 3-3-3	800/116	2	$\lambda=9.7$	dM5	"	"	200 μ	"	A	Asm-Spec KK	ADS 11632B	ok
Fe/ND4 3-3-3 Ne/- 3-3-3								09802e				
Fe/ND4 3-3-3 Ne/- 3-3-3	40/20	4	3.73	G0I6	"	"	150 μ	"	A	Std vel	without v filter	v sl str.
Fe/ND4 5-5-5 Ne/- 5-5-5	40/10		"	"	"	"	"	"	B	Std vel	with v filter	fine
Fe/ND4 30-30-30 Ne/- 30-30-30	40/220	4		G8II +F?	"	G16/.2	150 μ	IV-Nh	B	Asm-Spec/KK	$T=70^{\circ}$ F=483 v filter in front of slit	sl str
Fe/ND4 60-60-60 Ne/- 60-60-60	40/200	"		"	"	"	"	HIE	A	"	"	fine shorter
Fe/- 22-22-22					"	"	"	IV Nh	B		"	
Fe/- 10-10-10					"	G16/.7	"	IIJF	A		70°	sl blue
Fe/- 10-10-10					"	G12/.68	"	"	A		V filter before slit by error	

Date Thurs/Fri cont. Observers KK-Bts

Emulsion Batches:
10th 68 HIE

Spectr. Temp.

Focus.....

Spectr. Temp.

[illegible]

Spectr. Temp. Dome Temp./Hum.

Transparency Conditions clear

Focus

Spectr. Temp. Dome Temp./Hum.

172

Comparison Type/Filter Exp.		Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/104	6-6	40/11		4.64	F7J	BC	G12/68	150 μ	IIaDe	A	Std tests	70° 483	ok
Fe/-	10-12				"	"	"	"	IIaF	A			vst blae
Fe/104	6-6	40/10		"	"	"	"	"	IIaDe	A	8rd vcl.		ok
"	6-6	40/10	2"	"	"	"	"	"	"	"	"	F=487	ok
"	6-6	40/10		"	"	"	"	"	"	B	"		ok
"	5-6	40/10		"	"	"	"	"	"	A	"	F=479	fine
"	5-6	40/10		"	"	"	"	"	"	B	"		fine
"	5-6	40/10		"	"	"	"	"	"	A	"	F=483	fine
Fe/-	10-10				"	"	"	"300"	IIaF	B	+0.8 μ	Tighter decker used, no caplen	
Fe/-	10				"	"	"	"300"	"	A	+1.1 μ	no decker	

173

Date Fri. / Sep. 20/21 Observers As - Bp

Emulsion Batches:

7 min Il. A. O. e. 20047-18079 18 183
0.9802e... 0.2059... 14079

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
43719F	focus							Fe/-	10-10
43719.	HD 142860	15 ^h 51 ^m 50 ^s	+15° 59'	21 43	21 52	+01 32	+15° 46' 5	Fe/ND4	3-3
43720	NDE 228868	19 ^h 54 ^m 6 ^s	+34° 56'	22 09	02 00	+01 32W	+35° 08	Fe/ND4	4-4-4
43720T	spot cal for	43719		15 min	① 4810	② 4810	③ 5450		
43720T2	spot cal for	43720 - 26		15 min	① 3900	② 4300	③ 4810		
43721	HD 204172	21 21.7	+36° 14'	02 12	02 26	+00 37	+36° 35' 4	Fe/ND4	4-4-4
43722	HD 207198	21 ^h 42.2	+61° 59'	02 36	02 58	+00 50	+62° 22'	Fe/ND4	4-4-4
43723	HD 213307	22 ^h 25.5	+57° 54'	03 08	02 27	+00 34	+58° 16' 8	Fe/ND4	4-4-4
43724	HD 214680	22 ^h 34.8	+38° 32'	03 33	03 38	+00 36	+38° 56' 6	Fe/ND4	4-4-4
43725	HD 13854	02 ^h 09.9	+56° 36'	03 46	04 09	-02 29	+56° 58' 2	Fe/ND4	4-4-4
43726	HD 222368 (i. p. e.)	23 34.8	+5° 05'	04 16	04 21	+00 18	+05° 31' 3	Fe/ND4	4-4-4
43726F	focus							Fe/-	4-4

Spectr. Temp.

Focus

Spectr. Temp.

Exp. Mtr.

See

18077 18133
14079

Spectr. Temp. 76° Dome Temp./Hum. Transparency Conditions V ... *hazy*...
 Focus 482
 Spectr. Temp. Dome Temp./Hum. $68^{\circ}/78\%$ 174

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/- 10-12					BC	616/7	150 μ	098020	A		76° 482	sl blue
Fe/- 3-3	40/25	3"	3.85	F6V	"	"	"	"	A	Hx Std		sl blue
Fe/104 3-3	800/175	2-3	9.74	09.7	"	612/68	200 μ	IIaDe	A	SB-Bln	76° haze $\rightarrow$ clear	fine
Fe/104 4-4								098				
Fe/104 4-4								IIaDe				
Fe/104 4-4	100/70	2	5.87	B0Ib	"	"	150	IIaDe	B	CNO-Bln	74° 483	fine
Fe/104 4-4	100/90		6.27	09.7	"	"	"	"	A	"		fine
Fe/104 4-4	400/62		6.3	B7I	"	"	"	"	B	SB-Bln		fine
Fe/104 4-4	40/16		4.67	09I	"	"	"	"	A	CNO-Bln	72° 483	
Fe/104 4-4	100/80		6.77	B1Ib	"	"	"	"	B	CNO-Bln		
Fe/104 4-4	40/10		4.64	F7V	"	"	"	"	A	std vel		
Fe/- 4-4					"	"	"	"	A		72° 483	
					IIaDe							
					dev July 22			D19		7min	68°F	Bts

175

Date July 21/22 Sat/Sun Observers ... Purdon - B.S. - F. Reed

Emulsion Batches:

7 min. Ilave... 20049-21079
098022 02059-14079

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Mtr.	Sec.
43727F	Focus							Fe/-	4-4		
43727 ✓	V1016 Cygni	19 ^h 53 ^m 35 ^s	39 33 ³⁰	23 30	01 00	+00 46	+39 49	Fe/ND4	4-4	-	2
43727T	spot cal for	43427-28,		15V 15 min	① 3900	② 4300	③ 4810				
43728 ✓	V1016 Cygni	19 ^h 53 ^m 35 ^s	39 33 ³⁰	01 03	03 29	+03 12	+39 49	Fe/ND4	4-4	-	2
287	spot cal for	43429-30		15 min	① 4810	② 4810	③ 5450				
43729	V1016 Cygni	19 53 ³⁵	39 33 ³⁰	03 36	04 00	+03 44	+39 49	Fe/ND4	3-3-3	-	4
43730	HA 204867 (34)	21 26.3	-6 01	04 12	04 17	+02 28	-05 34 E	Fe/ND4	5	40/18	5
30F	Focus							Fe/-	10-10		

Spectr. Temp. 73°

Dome Temp./Hum 73°/68%

Dome Temp./Hum. 50°/70%

Transparency Conditions clear..... some haze.....

176

[illegible]

111

Date July 22/23 Observers KK-Rls

Emulsion Batches:

Ilare... 20049-21079 17 152
Orare... 22059-22079 18, 185
Ilare... 12108-26069 16, 266

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Mtr.	Sec.
43731S1	HD 137909 (GGB)	15 23.7 ⁴²	+29 27	~20 30	speckle exposures						
31F	focus							Fe/-	7-7		
43731	HD 137909 (GGB)	15 23.7 ⁴²	+29 27	20 46	20 52	+01 09	+29 13	Fe/ND4	9-9	40/24	2
43732	HD 140436 (GGB)	15 38.8 ²³	+26 37	20 55	21 00	+01 02	+26 26	Fe/ND4	9-9	40/20	
43733	HD 121370 (η Rsc)	13 49.9	+18 54	21 05	21 09	+02 59	+18 34	Fe/ND4	9-9	40/25	
43734	HD 146051 (η Rsc)	16 09.1	-3 26	21 13	21 19	+00 49	-03 37	Fe/ND4	9-9	40/31	
43735	HD 159561 (α Ph)	17 30.3	+12 38	21 25	21 29	-00 20	+12 40	Fe/-	15-15	40/30	
43736	"	"	"	21 31	21 36	-00 12	"	"	"	40/30	
43737	ADS 11632 A	18 41.7	+59 29	21 47	00 45	+01 46	+59 37	Fe/-	3-3-3	40/110	3
37T1	spot cal for	43731-34, 39-42, 44-46	15V	15min	① 3900	② 4300	③ 4810				
37T2	spot cal for	43735-36, 43	15min	① 3900	② 4300	③ 4810					
37T3	spot cal for	43737	15min	① 4810	② Hα	③ 5450					
43738	HD 201092	21 2.4	+38 15	00 55	01 05	-00 16		Fe/-	3-3-3	40/55	5
43739	HD 206201 (K Peg)	21 40.7	+25 11	01 12	01 22	-00 37	+25 35	Fe/ND4	7-7-7	40/22	5
43740	HD 215182 (η Peg)	22 38.3	+29 42	01 27	01 42	-01 15	+30 10	Fe/-	19-15	40/100	

2.79 11.152
2.29 18.155
2.69 16.216

Spectr. Temp. 79°
Focus 481
Spectr. Temp.

Dome Temp./Hum. 78°/67%
Dome Temp./Hum.

Transparency Conditions v. hazy
178

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
			3.93	Fop								
Fe - 7-2					BC	G8/-0.25	150 μ	IIaDe	A		79° 481	good
Fe/104 9-9	40/24	23	3.93	Fop	"	"	"	"	A	Asm Spec KK		vs! str
Fe/104 9-9	40/20		3.81	ADIV	"	"	"	"	A	Asm Spec KK		sl str
Fe/104 9-9	40/25		3.27	GO	"	"	"	"	A	Asm Spec KK		vs! str.
Fe - 9-9	40/31		4.30	MI III	"	"	"	"	B	Std Vel		vs! wk
Fe - 5-2	40/80		2.2	AST III	"	"	"	IIIaJe	A	Asm Spec/KK		dust on film
	40/80		"	"	"	"	"	"	B	Asm Spec/KK		dust on film
Fe - 3-3-2 Fe - 3-3-2	100/110	3"	V=8.9	dM4	"	G16/.7	200 μ	098.02	A	"	V filter in meter	exp film vs! flex
								IIaDe				
								IIIaJe				
								09802e				
Fe - 3-3-2 Fe - 3-3-2	100/55	3"	V=6.3	K7V	"	"	200 μ	"	A	"Std Vel"	76° 61 Cyg 482	fine
Fe/104 7-2	40/22	3"	4.4	FSTV	"	G8/-0.25	150 μ	IIaDe	B	Asm Spec/KK	v filter for 9 counts	vs! str
Fe - 19-18	40/100		3.8	G80? + F?	"	G8/.2	150 μ	IIaDe	A	Asm Spec/KK	UV	

Spectr. Temp. .
Focus
Spectr. Temp. .

Date 22/23 Sun/mon CONT Observers KK/BG

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[illegible]

Transparency Conditions

180

Dome Temp./Hum.

Comparison Type/Filter Exp.		Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/-	1575B	40/100	3"	4.20	G8II	BC	G8/1.2	150μ	IIaDe	B	Comparison for n Peg		
Fe/NO4	7-7-7	40/20		5.17	A2n	"	G8/.025	"	"	A	AsmSpec/KK		vsl str
Fe/-	2-2-2	40/100		3.6	B6p	"	"	"	IIIaJe	B	AsmSpec/KK		fine
Fe/NO4	7-7-2	00/75		5.81	G5Vp	"	"	"	IIaDe	A	AsmSpec/KK	76° 482	vsl str.
Fe/NO4	7-7-6	40/30		3.34	K0II	"	"	"	IIaDe	B	Std Vel		vsl str
"	10-6	80/30		"	"	"	"	"	"	A	"	F = 477	"
Fe/-	10-6				"	"	"	"	"	A		79° 481	vsl. blue

Emulsion Batches:
IIaOe 20049-23079 20, 158

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Spectr. Temp.
Focus
Spectr. Temp

Exp. Mtr.	Se
1	1
2	2
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92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

Spectr. Temp.

Dome Temp./Hum. 75°/82%

Dome Temp./Hum.

Transparency Conditions . . . *v. hazy* 182

[illegible]

183

Date July 24/25 Tues/Wed Observers But - Bts

Emulsion Batches:

7^m 68° JADP. 20049 - 23079. 18, 169.....
02059?

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Mtr.	See
43749F	focus							Fe/-	4-4		
43749 ✓	HD 138406	15 ^h 26.8 ^m	+62° 05'	21 22	22 02	+02 25	+61 47	Fe/ND4	4-4-4	400/90	1-2
49T	spot cal for	43749-53.		15 min 15V	① 3900	② 4300	③ 4810				
43750	HD 156547	17 ^h 13 ^m	+26° 00'	22 07	22 49	+01 24W	+25 55	Fe/ND4	4-4-4	400/80	
43751	HD 176003	18 53.0	+44 05	22 54	23 25	+00 21W	+44 12	"	4-4-4	400/80	
43752	HD 186791	19 41.5	+10 22	23 31	23 34	-00 20 ^E	+10 36	"	4-4-4	400/15	1-2
43753	HD 176798	18 56.9	+43 07	23 45	00 31	+01 23W	+43 13	"	4-4-4	400/56	
53F1	focus							Fe/-	4-4		
Tests July 26-27 ↓											
43753T1	(using coupler assembly) Full aperture shift tests, new stops on coupler, teflon decker-mount,						Comp → Stellar	Fe/-	15-15		
T2	"	"	"	"	"	"	reversed & order	"	"		1. Doctor exam before stellar
T3	"	"	"	"	"	"	comp 1st → Stellar	"	"		Normal range
T4	"	"	"	"	"	"	Stellar 1st → Comp	"	"		Normal range
43753F2	Focus Test					0 ^h 0 ^m	+34°	"	5-5		
43753F3	" "					0 0	"	"	3-3		

Spectr. Temp.

Dome Temp./Hum. 78°F./82%

Transparency Conditions . . . *✓* *hazy* *184*

[illegible]

Spectr. Temp. $+71^{\circ}\text{F}$
Focus $4.84 - 4.86$
Spectr. Temp. 67°F

Dome Temp./Hum 68°F/H. 98%
Dome Temp./Hum 61°F/ 9%

Transparency Conditions... occasional cloud from N to NE
 Then SE-S
 '300" = old 120μ plane slit
 186

[illegible]

181

Fr/Sat

Date .. July 27. 1979. Observers .. Bp. - Tn

Emulsion Batches:

5^m 67° 098-22E 20099 - 2207923, 17
71^m 68° 1190-0 02059 - 24079

Spectr. Temp.

Focus... 48

Spectr. Temp.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Mtr.	See
43758 F	Focus							Fe/-	5-5		
43758	ND 142860	15 ^h 51 ^m .8	+15° 59'	20 24	20 34	00 41 W	+15° 42.8	Fe/ND Ne/-	4-4 4-4	30/50	2
43759	ND 161096	17 38.5	+4 37	20 41	20 44	00 55 E	+04° 33.5	Fe/ND Ne/-	4-4 4-4	30/38	1.5
43760	ND 199216	20 50.7	+49° 09'	20 59	00 13	00 37 E	49° 25.5	Fe/ND4	4-4-4	30/250	2
43759 T	Spot Calc for 43758-59				15 min @	D3 15V 4810	D1 7V H2	D3 7V 5450			
43760 T	Spot Calc for 43760-65				15 min @	D4 15V 3900	D3 4300	D3 4810			
43761	ND 207198	21 ^h 42.2 ^m	61° 59'	00 18	01 20	-00 20 E	62 19.4	Fe/ND	4-4-4	400/98	3
43762	ND 213307	22 25.5	57 54	01 24	02 20	-00 04 E	58 15	Fe/ND	4-4-4	400/65	3
43763	ND 204172	21 21.7	36 14	02 29	02 45	+01 29 W	36° 33.5	Fe/ND	4-4-4	400/75	3
43764	ND 13854	02 09.9	56 36	02 56	03 39	-02 32 E	56° 55.4	Fe/ND	4-4-4	400/90	3
43765	ND 12929	02 01.5	22 59	03 47	03 49	-02 13	23° 19.6	Fe/ND	6-6	400/14	3
43765 F	Focus							Fe/-	5-5		

(Very little left to show)

220792
24079

Spectr. Temp. $+73^{\circ}\text{F}$
Focus 4.84
Spectr. Temp. 68.5°F

Dome Temp./Hum. $+75^{\circ}\text{F}/70\%$
Dome Temp./Hum. $165^{\circ}\text{F}/100\%+$

Transparency Conditions $\text{thin cloud} - \text{thick}$
188

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe- 5-5					BC	G16/.7	150r	09802E	A			
Fe/ND 4-4					"	"	"	"	B	H α Std		
He- 4-4	80/50	2"	3.85(V)	F6V	"	"	"	"	B	std Vel		
Fe/ND 4-4					"	"	"	"	B	std Vel		
He- 4-5	80/38	1.2"	3.93	K2 III	"	"	"	"	B	std Vel		
Fe/ND 4-4	300/250*	2-3	7.51	B1 II	"	G12/.68	"	II α -e	A	CNO-B/h	* Exp motor unstable Much cloud $\rightarrow$ thin cloud	
077V								09802E			7 may be fogged due to PH coming apart on unloading	
5-5								II α -e				
03												
4810												
Fe/ND 4-4	400/98	3"	6.27	I β -II	BC	G12/.68	"	"	B	CNO B/h		
Fe/ND 4-4	400/65	3"	6.3	B7 II	"	"	"	"	A	SB-B/h		
Fe/ND 4-4	400/75	3"	5.87	B0 II β	"	"	"	"	B	CNO B/h		
Fe/ND 4-4	400/90	3"	6.77	B1 II β	"	"	"	"	A	"	70°	
Fe/ND 6-6	40/14		3.15	K2 III	"	"	"	"	B	std Vel		
Fe- 5-5								09802			68.5°	

2 Visitor Tours 2½ hrs

Sat - Sun

Date July 28-29, 1979 Observers BK-Tn

Emulsion Batches:

7/16 600 Emulsion Batches:
... 1140-e 02059-24079

Spectr. Temp.

Focus.....7

Spectr. Temp.

[illegible]

K1

Sun - Mon

Date July 29-30/79... Observers B/n-Tn.....

Emulsion Batches:

5^m 67° 098-02E 20049-22079 2A, 19^m
 7^m 268° 1190-e 02059-24079 2, 21^m
 7^m 68° 1140-e* 02059-28079

Spectr. Temp.

Focus... 48

Spectr. Temp.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Mtr.	See
43771F1	Focus Test							Fe/ND	5-5		
43771F2	" "							Fe/ND	5-5		
43772	HD 142860	15 51.8	+15 59	20 24	20 34	00 49 W	+15 45	Fe/ND He/-	5-5 5-5	400/250	2
43772T	Spot Calc for 43772				15min @ 4810	15V D3 7V D1 Hx		7V D2 5450			
43773	HD 141513	15 44.4	-3 07	20 40	20 44	01 06 W	-3 20	Fe/ND	5-5	80/25	5
43774	HD 191781	20 06.6	+45 06	20 57	01 52	01 54 W	+45 22	Fe/ND	3-3-3	800/150	3
43774T	Spot Calc for 43773-75			15min @ 15V	D4 3900	D3 4300	D2 4810				
43775	HD 192660	20 10.9	+40 01	01 57	03 28	3 24 W	+40 17	Fe/ND	4-4-4	800/200	2
43776	HD 207198	21 42.2	+61 59	03 31	03 43	2 10 W	+62 22	"	4-4-4	400/90	2
43776T	Spot Calc for 43776-79			15min @ 15V	D4 3900	D3 4300	D2 4810				
43777	HD 213307	22 25.5	+57 54	03 45	03 55	01 39 W	+58 19	Fe/ND	4-4-4	400/60	2
43778	HD 214680	22 34.8	+38 32	03 58	04 01	01 35 W		"	4-4-4	40/6	2
43779	HD 222368	23 34.8	+5 05	04 04	04 10	00 43 W	+5 33	"	6-6	40/17	3
43779F	Focus							Fe/-	6-6		

Spectr. Temp. ...74.5°F.....

Dome Temp./Hum. +74°F / 69%

Transparency Conditions *very good* 192

Focus ...482.....

Spectr. Temp. ...70°F.....

Dome Temp./Hum. +65 / 85%

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/ND 5-5					BC	G12/68	150u	098-02	B	} 150u deuter slipping (too loose)		
Fe/ND 5-5					BC	G16/17	"	"	B			
Fe/ND 5-5 No. 1-5-5	400/250	2"	V=3.85	F6V	"	"	"	"	A	Ha Std	labelled 71 by mistake	
Fe/ND 5-5								"				
Fe/ND 5-5	80/25	5-6"	3.50	A0V	BC	G81-025	150u	IIe0-e	B	SB2-Bln		
Fe/ND 3-3-3	600/150	3-5-2"	10-18	ON97 J-5	"	G12/68	200u	"	H	CIV0-Bln	Exp meter unstable	exp fine sl. flex (45°)
								"	H-L note I heard a "snap" noise around 4377 Å near end of 4377 Å. maybe something shifted?			
Fe/ND 4-4-4	800/260	2-3"	8.19	B016	BC	G12/68	150u	"	B	CN0Bln	Focus 484 T=71°F	
" 4-4-4	400/90	2"	6.27	097J6X	"	"	"	IIe0-e*	A	"		
								"				
Fe/ND 4-4-4	400/60	2'	6.3	B7V	BC	G12/68	150u	IIe0-e*	B	SB-Bln		
" 4-4-4	40/6	2	4.67	09V	"	"	"	"	H	CIV0Bln		
" 6-6	40/11	3	4.64	F7V	BC	G12/68	150u	IIe0-e*	B	Std. Vel.		
" 5-6					"	"	"	IIe0	A	T-70° set 484		

193 Tues - Wed

Date July 31 - Aug 1 Observers Rm - Tn

Emulsion Batches:
...IIa0-e 02059-28079

Focus

Spectr. Temp.

[illegible]

Spectr. Temp. $76^{\circ} F$

Dome Temp./Hum. *74°/97%*

Dome Temp./Hum. / 98%

Transparency Conditions . . . *hazy* → *cloudy*

[illegible]

Thurs - Fri

Date Aug 2-3, 1979 Observers T. & Sam - Ly

Emulsion Batches:

...Prod. 02059-01084...

.....

• • • • •

[illegible]

Transparency Conditions *ok - sl hazy - some cloud*

Focus 481

Spectr. Temp. +68.....

Dome Temp./Hum. 104°F / H-99%

196

[illegible]

Date 3/4 Aug 179 Fri/Sat Observers Blu-Tu

Emulsion Batches:
 Aⁿ 098-02 E 20049-02089
 .. Ital-e 02059-01089

[illegible]

Spectr. Temp. $+74^{\circ}\text{F}+$

Dome Temp./Hum. $75^{\circ}\text{F}/86\%$

Transparency Conditions *bazy. - cloudy* 198

Dome Temp./Hum. 71°F / 85%

Comparison Type/Filter Exp.		Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/-	6-6					BC	G16/17	150u	0984	A			
Fe/NO	5-5												
Fe/-	5-5	40/27	2"	4.3	F6V	"	"	"	09802E	A	Hx Std	Fe arc gap calibration block left in by Blw Fe arc weak.	
7U DI	5-50								"				
Fe/NO	44-1	100/120	1-3'	7.60	B0.5II	BC	G12/68	150u	IIa-OE	B	CNO std.		
D2	4810								"				
Fe/NO	44-9	100/73	2-4	7.51	B1 II	BC	G12/68	150u	"	A	CNO std		

Date 5/6 Aug 1979 Sun/Mon Observers KK/Tn

Emulsion Batches:

4 1/2 68° III 25 12108 - 23079

№ 0-е 02059-04089

10 1/2 68° HIE

[illegible]

0.33
0.0029

h. + 79° / 88°

200

02329

• • • • •

+ 1987

'300' slit = old 120 μ plane slit in teflon decker

[illegible]

201

Mon/Tue

Emulsion Batches:

72 68 II-0-e 02059-04089

Date

Aug. 6/7

Observers

Rm/Tn

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
43794 F	Focus Test							Fe/-	5-5
43795	HD161096 = β Oph	17 ^h 38.5	+4° 37	20 ^h 10	20 ^h 14	00 ^h 46E	+4° 34	Fe/ND	8-8
43796	HD163506 = 89 Her	17 ^h 51.4	+26° 4	20 ^h 18	20 ^h 39	00 ^h 34E	+26° 3	Fe/ND	5-4-4
43797	HD180583	19 ^h 12.0	+27° 45	20 ^h 43	21 ^h 36	0 ^h 57E	+27° 54	Fe/ND	4-4-5
43798	HD186688 = SUByg	19 ^h 40.8	+29° 01	21 ^h 43	0 ^h 32	1 ^h 30W	+29 12	Fe/ND	4-4-4
43798T	Spot Cal'n for 43795-43801			15 min	15V D4 3900	15V D3 4300	15V D2 5450		
43799	HD195295 = γ Ugr	20 ^h 25.3	+30° 2	0 ^h 37	0 ^h 57	1 ^h 10W	+30° 19	Fe/ND	4-4-4
43800	HD198726 = TVul	20 ^h 47.2	+27° 52	0 ^h 59	2 ^h 57	2 ^h 48W	+28 11	Fe/ND	4-4-4
43801	HR 8157 HD203156 =	21 ^h 15.4	+37° 49 +38° -8	2 ^h 59	4 ^h 34	3 ^h 58W	+38° 09	Fe/ND	4-4-4
43801FI	Focus test - w/ PH yoke							Fe/-	10-10

Spectr. Temp.

Focus...

Spectr. Temp.

04089

Spectr. Temp. ... 72°F
 Focus ... 483
 Spectr. Temp. ... 64°F

Dome Temp./Hum. ... 71°F/67%
 Dome Temp./Hum. ... 160°F/88%

Transparency Conditions ... g.ood
 202

Companso Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/- 5-5					BC	G12/.68	150μ	IIaOE?	A			
Fe/ 8-8	40/16		3.93	K2III	"	"	"	IIaOE	A	std vel		
Fe/ 5-4-4	80/26	2-5	5.82	F2Ia	"	"	"	IIaOE	B	Ceph/Evans		
Fe/ 4-4-8	80/27	"	6.7	F6I	"	"	"	IIaOE	A	Ceph/Evans		
Fe/ 4-4-4	400/137		6.8-7.7	F0-G1	"	"	120μ	IIaOE	B	Ceph/Evans	light cloud	
								"			Spect T = 68°F 485	
Fe/ 4-4-4	40/29	3-6	9.4	F5II	"	"	120μ	IIaOE	A	Ceph/Evans ^{std}		
Fe/ 4-4-4	400/260	"	~6.9	F5Ib G0Ib	"	"	"	"	B	Ceph/Evans		
Fe/ 4-4-4	400/246	3-4	~6.5	F2	"	"	"	"	A	Ceph/Evans		
Fe/- 10-10					"	"	150μ	IIaF	A		T = 65° F = 500 Should be 495.5	

203 Tues - Wed

Date Aug. 7/8..... Observers Tn.....

Emulsion Batches:

...D.O.E. 02059-07089

.....

.....

[illegible]

Spectr. Temp. ... 7100

Focus 500

Spectr. Temp. 70 °F.....

Dome Temp./Hum. ^{962 in} +72°F/87% ³⁰⁴ +Transparency Conditions *Hazy & gusty*

Dome Temp./Hum. 164°/93%

[illegible]

205

Date 1979 Aug 8/9 Observers KK

Emulsion Batches:

.....

.....

.....

[illegible]

Spectr. Temp. .

Focus 4

Spectr. Temp.

Exp. Mtr. Soc.

Exp. Mtr. Soc.

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions

Zd

Comparison Type/Filter Exp.		Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Ar	-180					G12/.68	150μ	IIdF	A			after inserting washer - too tight - yoke blue	blue
Fe/-	10-10					BC G12/.68	150μ	IIdO	A			T=69° F=494	blue
Fe/-	10-10					" "	" "	O98	B			blue blue red sl red	tilt
Fe/-	10-10					" "	" "	O98	A				blue
Kr/-	10-10					" "	" "	O98	A				v strong p. focus

Date Aug 10/11 '79 Observers bp-bts

Emulsion Batches:

Ilade. 02059...07089

Office

Spectr. Temp.

Focus... 438

Spectr. Temp.

[illegible]

Spectr. Temp.

Dome Temp./Hum. ... 66° ... 89%

Transparency Conditions . same . cloud

208

Dome Temp./Hum.

[illegible]

Date Aug. 11/12, 1979 Observers BK-BJS

Emulsion Batches:

II No. 02059-07.089

Spectr. Temp.

Focus

Spectr. Temp.

[illegible]

67.089

210

.....

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fel/Vic	4-4-68	400/100	4-5	5'6	F8	BC	G.D./68	120 μ	IlaDe	A	Waterloo	498	fine
									IlaDe			63° 500	
	4-4-68	40/10		2'9	F8	"	"	"	"	"			v sl str
	4-4-68	400/170		7'1	KO								fine
	4-4-68	400/100		5'6	Fo							62° 500	fine
	4-4-68	40/17		3'3	KO								fine
Fel-	4-4								"			60° 501	good
									spectrum rather wide on 120 μ slit				

211

Date Aug. 12/13. 1979... Observers ... Bts.: G. is.
San/Mon

Emulsion Batches:

... IlaDe... 02059-07089
... OPRoze... 20049-02089 50 192
baked. IlaJe... 12108-02079

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Mtr.	Seem
43810F	focus							Fe/-	10-10		
43810 ✓	HDE 226868 (Cyg X-2)	19 ^h 54 ^m .6	+34° 56'	20:16	22:39	00 10E	+35° 10.5	Fe/ND4 Ne/-	3-3-3 3-3-3	800/200	2-3
10T	spot cal for	43810, 16-18		15min	① 4810	② Hα	③ 5450				
43811	HDE 226868 (Cyg X-2)	19 ^h 54 ^m .6	+34° 56'	22:48	01:38	02 49W	+35° 11.4	Fe/ND-4	4-4-4	800/150	2-3
11T	spot cal for	43811-15, 19.		15min 15V	① 3900	② 4300	③ 4810				
43812	HD 209975 (19 Cep)	22 ^h 02.0	+61° 48'	01:46	01:51	00 55W	+62° 13.6	Fe/ND-4	4-4-4	400/75	2
43813	"	"	"	01:55	01:59	01 03W	"	"	"	"	
43814	"	"	"	02:02	02:06	01 10W	"	"	"	"	
43815	"	"	"	02:09	02:14	01 18W	"	"	"	"	
43816	"	"	"	02:21	02:25	01 29W	"	Fe/ND4 Ne/-	3-3-3 3-3-3	400/75	
43817	"	"	"	02:30	02:34	01 38W	"	"	"	"	
43818	"	"	"	02:38	02:42	01 46W	"	"	"	"	3
43819	HD 6182	00 ^h 57 ^m .8	+61° 18'	03:46	04:36	01 41W	+61° 41'	Fe/ND4	4-4-4	800/120	"
43-	HD 3712 (α Cas)	00^h 34^m.8	+55° 59'	04:48				Fe/-	6	400/	
19F	focus							Fe/-	10-10		

Spectr. Temp. 67°

Dome Temp./Hum. ... 63°F / 72%

Transparency Conditions ... v. good

Focus 4.99

212

Spectr. Temp.

Dome Temp./Hum. ... 59°F / 75%

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/- 10-75					BC	G16/.7	200 μ	09802e	A		67° 499	
Fe/1004 3-3-3	800/200	2-3"	9.74	09.7Iab	"	"	"	"	A	Sp bin - Bln	Counts off.	fuzzy exp ok
He/- 3-3-3								"				
Fe/10-4 4-4-4	800/150	2-3'	9.74	09.7Iab	"	G12/.68	200	IIaOe	A	Sp bin - Bln.	64° 500	v sl str
								"				
Fe/10-4 4-4-4	400/75	2-3"	5.10	09.5Ib	"	"	"	"	A	Sp. SH.	63° 500	strong
" "	"	"	"	"	"	"	"	"	"	"		strong
" "	"	"	"	"	"	"	"	"	"	"		strong
" "	"	"	"	"	"	"	"	"	"	"		strong
Fe/10-4 3-3-3	400/75	"	"	"	"	G16/.7	200 μ	098-02e	"	"	63° 500	v sl str
" "	"	"	"	"	"	"	"	"	"	"		fine
" "	"	3	"	"	"	"	"	"	"	"		
Fe/1004 4-4-4	800/120	"	8.70	B0.5IIp	"	G12/.68	200 μ	IIaOe	A	CNO - Bln.	dark slide left in 62° 500	sl str
Fe/- 6	40/		3.34	K07L	"	"	"	IIaTe	A	std vel	thin cloud	
Fe/- 10-75						"	"	IIaF	A		62° 500	ok

215

Wed/Thurs

7^m 68² Emulsion Batches:

7^m 68² 02059-12089 22 200
 412 68² 098-02F 20049-02089

Date ... Aug. 15-16/79 Observers ... Lyr. T_h

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
43820F	Focus Test					0 0	+40°	Fe/-	7-7
43820	HD 157482	17 18.5	+40 04	20 05	21 28	01 27 W	+39 57	Fe/ND	7-7
43820T	Spot Coll for 43820				15 min @ 15V	D4 3900	D3 4300	D2 4810	
43821	HD 157482	17 18.5	+40 04	21 31	22 53	02 52 W	+39 57	Fe/ND	7-7
43822	"	"	"	22 56	00 05	04 04 W	+39 58	"	7-7
43823	HD 175426	18 50.2	+36 51	00 11	00 35	03 02 W	+36 55	"	7-7
43824	HD 218356	23 02.2	+24 56	00 40	01 26	00 19 E	+25 12	"	7-7
43825	HD 219634	23 12.2	+61 25	01 35	03 17	01 22 W	+61 47	Fe/ND Ne/-	5-5-5 5-5-5
43825T	Spot Coll for 43825				15 min @	15V D3 4810 OK	7V D1 Hx	7V D2 5950	
43826	HD 224559	23 53.7	+45 51	03:25	04 27	01 50 W	+46 13	Fe/ND Ne/-	5-5-5 5-5-5
43827	HD 222368	23 34.8	+05 05	04:33	04 41	02 23 W	+05 29	Fe/ND Ne/-	8-8 8-8
43827F	Focus					0 0	+05	Fe/-	15-15

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr. Sec.

400/440 3-

400/413 3

400/440 2-

80/47 2-

80/100 "

400/400 2

80/56 2

80/35 2

Transparency Conditions *Some cloud at beginning...*

Focus 502

Clear 216

Spectr. Temp. 55.....

Dome Temp./Hum. 45.0°/100%

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe - 7-7						BC	G8/-0.25	120μ	?	A			
Fe/ND 7-7		400/420	3-5	6.22	df8	BC	G8/-0.25	120μ	IIa0-e	A	Hok-Ly		
Fe/ND 7-7									"				
Fe/ND 7-7		400/413	3	6.22	df8	BC	G8/-0.25	120μ	IIa0-e	A	Hok-Ly	* broken 2 pcs saved	
" 7-7		400/440	2-3	"	"	"	"	"	"	A	"		
" 7-7		80/47	2-3	5.3	B3	"	"	"	IIa0-e	A	SB-Ly		
" 7-7		80/100	"	6.1	KoJhp	"	"	"	"	A	Hok-Ly		
Fe/ND 7-7		400/400	2"	7.0	B8	"	G16/.7	150μ	098-e	A	SB-Ly		rs sl wk
Fe/ND 7-7									"				
Fe/ND 7-7		80/56	2-3	6.5	B3	BC	G16/.7	150μ	"	A	B		fine for fld
Fe/ND 7-7		80/35	2-3	4.64	F7V	"	"	"	"	A	Std. Uel.		fine comp sl str
Fe/ND 7-7						"	"	"	"	A		T=55°F F=502	ok

217

Thurs - Fri

Date . Aug. 16-17. 179.

Observers ... Bja - Tn

Emulsion Batches:

Emulsion Batches.

4 1/2	68	098-02E	20049-02089	31,182
7	68	II-0-e	02059-12089	21,208

Spectr. Temp.

Focus... 5.0.

Spectr. Temp.

[illegible]

Dome Temp./Hum. +57/85.....

Comparison	
Type/Filter	Exp.
Fe/	15-15
Fe	5-5-5
Al-	5-5-
7102	
5450	
Fe D	77-7
02	
4810	
Fe/NO	1-77
Fe/NO	5-

Date AUG. 19/20, 1979 Observers GIS - In
Sun/Mon.

Emulsion Batches:
7th 68° 078:02e 02057 - 16089^{20 213}
4th 68° 078:02e 20049 - 16089^{15 156}

[illegible]

Spectr. Temp. 64.5°.....

Dome Temp./Hum. 68°F/80%

Dome Temp./Hum. 59°/100%

Transparency Conditions . . . *Cloudy sort of* . . .
220"

Comparison Type/Filter Exp.		Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/M	7-7	400/431	2" 4"	6.22	LF8	BC	G8/-0.25	120μ	IIa0-c	A	SB- Bln/Ly	498.5	Fine sl gng?
									"				
Fe/M	5-5	300/300	2"	7.95	097J4	BC	G12/.68	150μ	"	A	CNO-Bln	+68°F at start	Fine bt gng?
Fe/M	5-5	800/131	2"	9.74	097J4	BC	G16/.7	200μ	098-02	A	SB- Bln	+68°F at start	sl wh
									"				
Fe/M	5-5	400/92	2"	6.77	B1 Ia6	BC	G12/.68	150μ	IIa0-c	A	CNO-Bln	+64°F at start set 499.5	Fine
Fe/M	5-5	400/92	2"	6.56	B2 Ia	BC	G12/.68	150μ	"	A	CNO-Bln		" gng
"	"	40/30	2"	3.15	K2 III	"	"	"	"	H	std Vel		str
Fe	7-7					"	"	"	"	"		499.5	
Fe/M	4-4									A			
"	"									B	after adjustment		

221

Date AUG 20/21 MON-TUES Observers B. J. - T. a.....

Emulsion Batches:

$\pi 0.0 - e$ 02059 - 16089 19-200
 $\pi 0.0 - e^*$ 02059 - 12089 20 210
 $\pi 0.0 - e^*$ 02059 - 20089 19 190

7th 68

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Mtr.	Sec.
43837 ✓	HD 138406	15 26.9	+62 05	20 04	20 41	+02 52W	+61 46	FE ARC ND4	5-5-5	400/80	2
43837T	Spot Cal'n for		43837-44			15min @ 15V	D4 3900	D3 4300	D2 4810		
43838	HD 156547	17 13.1	+26 00	20 45	21 42	+02 05W	+25 53	FE ARC ND4	5-5-5	400/80	3
43839	HD 176003	18 53.0	+44 05	21 45	22 22	+01 05W	+44 11	"	5-5-5	400/80	2
43840	HD 190165	19 58.6	+45 11	22 25	23 24	+01 03W	+45 22	"	5-5-5	400/80	12
43841	HD 217695	22 57.4	+47 24	23 30	00 19	-01 02E	+47 48	"	5-5-5	400/82	1
43842	HD 221246	23 25.3	+48 35	00 28	01 08	-00 41E	+48 57	"	5-5-5	400/165	1
43843	HD 222207	23 33.5	+41 57	01 13	01 36	-00 22E	+42 20	"	5-5-5	400/80	1
43844	HD 222416	23 35.3	+44 31	01 40	02 34	+00 35W	+44 54	"	5-5-5	400/82	1
43844T	Spot Cal'n for		43844-45			15min @ 15V	D4 3900	D3 4300	D2 4810		
43845	HD 18337	02 51.7	+59 11	02 50	03 55	-01 22E	+59 26	FE/ND	5-5-5	400/80	1
43846	HD 16855	02 37.1	+43 07	04 00	04 27	-00 34E	+43 24	"	5-5-5	400/81	2
43847 ✓	HD 12929	02 01.5	+22 59	04 32	04 34	+00 09W	+23 20	"	7-7	400/20	
43847T	Spot Cal'n for		43846-47			15min @ 15V	D4 3900	D3 4300	D2 4810		
43847F	Focus Test							Fe/-	5-5		

16089 19 200
17089 20 210
18089 19 190

Spectr. Temp. 72°F
Focus 497.5
Spectr. Temp. 66°F

Dome Temp./Hum. $68^{\circ}\text{F}/82\%$
Dome Temp./Hum. $61^{\circ}\text{F}/100\%$

Transparency Conditions $\#424$ c. some CIRUS
221

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
5-55	00/80	2.3	6.79	A0	BC	G12/68	120 μ	Ia0-e	A	Am MR			Fine
D3 4306	02 480							1					
5-55	00/80	3'	7.41	A1	BC	G12/68	120 μ	"	A	Am MR	broken 2ps saved		Fine
5-55	100/80	2'	7.00	A1	"	"	"	"	A	Am MR			Fine
5-55	100/80	1.2'	7.58	A2	"	"	"	"	A	Am MR			vsl wk
"	400/82	"	7.50	H0	"	"	"	"	A	Ap MR			Fine but See a Fe in Sl. Mem.
5-55	100/165	"	7.58	K5 III	"	"	"	"	A	MR prog			fine
"	700/80	"	6.77	B9	"	"	"	"	A	4p MR	T-67.5°F Set 498.5		"
"	400/82	1"	7.45	B9	"	"	"	Ia0-e*	A	Ap MR			fine
D2 4810								"					
5-55	100/80	1.3'	7.85	A0	BC	G12/68	120 μ	"	A	Am MR	broken 2ps saved		Fine
5-55	100/81	2.3	6.7	A2	"	"	"	Ia0-e*	A	Am MR			Fine
"	410/20		3.15	K2 III	"	"	"	"	A	STD VEL			Fine
D2 4810								Ia0-e*					
5-55					BC	G12/68	120 μ	Ia0	A				vsl blue

223

Date ... Aug. 21/22. Tues. Wed. Observers ... L.G. ... T.M.

Emulsion Batches:

7th 6th ... D.A.O. ... 02059-20089
 5th 6th ... 0980E ... 2049 - 16089
 6th 6th ... D.A.O. ... 12108 - 23079 10th 11th

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
43848T	Full Aperture Shift Test					0 ^h +	+4 33	Fe/-	14-7
43848F	Focus Test					0 ^h +	"	Fe/-	7-7
43848	HD161096	17 38.5	+4 37	20:04	20:07	00 08W	+04 33	Fe/ND	7-7
43849	HD157482	17 18.5	+40 04	20:13	21 00	01 22W	+39 56	"	7-7-7
43849	Spot Calc. for 43848-49, 51, 52, 54.				15 min @ 15V	D4 3900	D3 4300	D2 4810	
43850	HDE 226868	19 54.6	+34 56	21 07	23 10	00 55W	+35 04	Fe/ND	5-5-5
43850T	Spot Calc. for 43850, 53				15 min @	15V D3 4810	7V D1 H2	7V D2 5450	
43851	HD157482	17 18.5	+40 04	23 31	00 55	05 17W	+39 59	Fe/ND	8-8-8
43852	HD218356	23 02.2	+24 56	01 00	01 35	00 13W	+25 17	Fe/ND	8-8-8
43853	HD218634	23 12.2	+61 25	01 39	03 22	01 50W	+61 47	Fe/ND	6-6-6
43853T	Spot Calc. for 43853-56				15 min @	175V D4 3900	15V D4 4300	15V D4 4810	
43854	HD10260	01 35.2	+60 32	03 28	04 17	00 21W	+60 51	Fe/ND	7-14-7
43855	HD47105	06 31.9	+16 29	04 25	04 35	04 16E	+16 22	Fe-	9-9-9
43856	"	"	"	04 38	04 44	04 9E	"	Fe-	9-9
43856F	Focus							Fe/-	9/9

Spectr. Temp.

Focus.....4

Spectr. Temp.

Exp. Mtr. See

20089
15089
23029

Spectr. Temp. $+72.5$
Focus $497 \rightarrow 499$
Spectr. Temp. $+66$

Dome Temp./Hum. $+72.7/70.3$
Dome Temp./Hum. $+61.1/100.3$

Transparency Conditions $5/14/72$ (slow)
224

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/- 14-7					BC	G12/68	70u	IIcD	H		x 900 chl because Left Hand window partly obscured are further apart than on other slits?	rotation 6.5u - 130u
Fe/- 7-7					"	G12/68	120u	"	A			OK
Fe/14 7-7	40/23	2"	3.93	K2III	BC	G12/68	120u	IIaDe	A	Std Vel.		v sl str.
1 7-7	40/500	1"	6.22	dF8	"	G8/-025	"	"	"	HOK-Bln/Ly	meter out of balance	sl str.
Fe/ND 5-5-5	800/160	2-3	9.74	09.7Iab	BC	G16/.7	200u	098-c	A	SB-Bln.		Fine
Fe/ND 5-5-5								"				
Fe/ND 8-8-8	400/450	2-3"	6.22	dF8	BC	G8/-025	120u	IIaDe	A	HOK-Bln/Ly		Star fine
Fe/ND 8-8-8	80/110	2-3	6.14	KaIbp	"	"	"	"	"	HOK-Ly	T=67°F Set 499	Star fine
Fe/ND 6-6-6	80/83	2-4	~7	B8	"	G16/.7	150u	098-c	A	SB-Ly		
Fe/ND 7-7-7	80/40	2-3"	5.6	B8	BC	G8/-025	150u	IIaDe	A	SB-Ly		comp cut Fine
Fe/- 9-9	40/140	3"	1.9	A0IV	"	"	"	IIaJ-eA		Asm-KIC	sl unarm fine	sl unarm fine
Fe/- 9-9	40/80	"	"	"	"	"	"	"	"	"	may have been fogged on removal	comp wk
Fe/- 9-9								IIaO	A			comp wk

→ All Comp. wk - & weather on one side

225 1979.

Date AUG 22/23 Wed-Thurs. Observers Gis - Tn

Emulsion Batches:

Emulsion Batches:
 D40-e 02059-20089 22 2006

Spectr. Temp.

Focus

Spectr. Temp.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
43857F	Focus Test							Fe/-	9/9
43857	HD 161096	17 ^h 38 ^m .5	+ 4° 37'	19 45	19 59	00 05W	+04 36	Fe/ND	11-11
43858/	HD 157482	17 ^h 18 ^m .5	+40° 04'	20 05	21 42	02 08W	+40 00	Fe/ND	7-7-7
43858T	Spot Cc/a for 43857-60,				15 min @ 15V		D4 103 3900 4300	P2 48/10	
43859	HD 170000	18 ^h 22 ^m .2	+71° 17'	21 55	22 01	01 27W	+71 20	Fe/ND	8-8
43860	HD 199216	20 ^h 50 ^m .7	+49° 09'	22 05	23 50	00 44W	+49 26	Fe/ND	5-5-5
43860T1	Comparison test - decker <u>out</u>							FeNe/ Wr 6	10
T2	Comparison test - decker in - slit rotated ~ 10° CCW from outside							FeNe/ Wr 6	20
T3	Shift test							FeNe/ Wr 6	10-10
F	Focus test							FeNe/ Wr 6	20-20
T4	Comparison test on ave - new lens							Fe/-	w
T5	full aperture						old lens	Fe/ ND	15-15

20089 22

Spectr. Temp. 70°F Dome Temp./Hum. 66°F/78% Transparency Conditions cloudy - hazy
 Focus 498
 Spectr. Temp. 68°F Dome Temp./Hum. 63°F/96% 226

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/- 9/2					BC	G8/-025	120u	IIcO	A		cont 51 Red in blue vs 18' in Red	
Fe/O 11-11	40/32	3-4"	3.93	K2 III	"	"	"	IIcO-e	A	Std. Vel.		Fine
Fe/ND 7-7-7	400/44	3-8"	6.22	dF8	"	"	"	LA	14	SB-Bln/Ly	cloud	Fine
3 p2 4210								"				
Fe/ND F-8	40/10	4"	4.18	ApSi	"	G12/.68	150u	"	A	SB-Bln	70°F	Fine
Fe/ND 5-5-5	400/120	4-8"	7.51	BII	"	"	"	"	A	CNO std.	broken 2 pgs saved Thick cloud at end	Fine
Fe/Ne/Na/b 10					"	"	70u		A		F2499 T=66°	
Fe/Ne/Na/b 20					"	"	"		A			very strong
Fe/Ne/Na/b 10-20					"	"	"		A			strong
Fe/Na/b 20-20					"	"	"		A			
Fe/- 20					"	"	"		A			strong
Fe/ND 15-15					"	"	250u		A		new checker	badly rotated

2 227

Date Aug. 25/26 SAT-SUN Observers WEST-TN

Emulsion Batches:

Ilford 02059-22089Spectr. Temp. 7.6Focus 499Spectr. Temp. 4.6

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp
43861	* HD 203842	21 ^h 19.5	+09° 44'	23:23	02:24	3:04 W	+10 06	Fe/ND	5-5-5
43861T	Spot Calc for 43861-63.			15 min @ 15V		D4 3900	D3 4300	D2 4810	
43862	HD 222368	23 34.8	+5 05	02 39	03 03	1 22 W	+5 32	Fe/ND	5-5-5
43863	^{13 PEG} HD 207652	21 45.6	+16° 50'	03:09	03 50	3 59 W	+17 13	n	5-5-5
Sunday-Monday Tests									
43863T	Full aperture	Hollow cathode, new lens + mirror				(Also shift test)		Fe Ne/ Wrb	15-15
T2	4	4	4	4	4	4		Fe Ne/Wrb	15-15

Exp. Mtr.

Seeing

800/23 3'

400/130 2"

400/60 3-3'

* Approximate

9-22089

Spectr. Temp. $+69^{\circ}\text{F}$Dome Temp./Hum. $65^{\circ}\text{F}/90\%$ Transparency Conditions *cloudy*.....Focus *499*.....

228

Spectr. Temp. $+64^{\circ}\text{F}$Dome Temp./Hum. $58^{\circ}\text{F}/99\%$ maybe HD 203847 *Yes*

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/10/5-5 102 4810	800/233	2"	6.8	F5III	BC	G12/68	150u	DaO-e	A	<i>wrong one</i> Mult stars	* maybe wrong thrucloud star if RA error issue is below. maybe set at $\approx 21.24.8$	
Fe/10/5-5	400/130	2"	4.64	F7V	BC	G12/68	150u	"	A	Std Vel	thrucloud. RA reads 23 33.7 38.4	
" 5-5	400/60	2-3'	6.9	F2III	"	"	"	"	A	mult stars		
Fe/10/6 15-15	* Approximate times)				BC	G12/68	70u	IIIa J	A	F=6TF	F=499	sl. str.
Fe/10/6 15-15					"	"	250u	"	A	"		v. strong

Date AUGUST... 27-28 Observers WEST-TN

New D-19

4 stop

7m 680

Emulsion Batches:

Page 02059 - 22089

Spectr. Temp.

Focus

Spectr. Temp.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.*	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
43864	HD 203345	21 ^h 16 ^m .5	+09° 55'	20:06	22 42	0 32 E	+10 16	Fe/ND	7-79
43864T	Spot Colln for 43864				15min @ 15V	D4 D3 3900 4300	D2 4810		
43865	HJD 222368	23 ^h 34. ^m 8	+05° 05'	22:48	22 59	2:34 E	+	Fe/ND	9-99
43866	HD 203345	21 ^h 16. ^m 5	+09° 55'	23:06	00 20	1 06 W	+10 14	iē/ND	99-9
43867	HD 203345	21 ^h 16. ^m 5	+09° 55'	00:23	01 44	230 W	"	n	9-99
43868	HJ 222368	23 ^h 34. ^m 8	+05° 05'	01:49	01:58	0:25 W	+	"	99-9
43868F	Focus Test							Fe/-	9-9
				* Begin Time made					
				- 20 46 because of thick cloud					
				for 1st 20 mins					
43868FZ	Focus test - thicker washer between clamp & yoke							FcNo /-	S-S
B3	" "				screws removed from ph			" "	T

Spectr. Temp. 68°F

Dome Temp./Hum. 57°F/90%

Dome Temp./Hum. 61° F / 100%

Transparency Conditions *cloudy - semiclar*

5 Fog increasing 230

[illegible]

Date Aug 29/30 Observers KK-Bts
Wed/Thurs.

IIIaJe. 1210.8-23079
098.00 20049-16089

Spectr. Temp.
Focus
Spectr. Temp.

Exp. Mtr.	See
1	1
2	2
3	3
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98	98
99	99
100	100

23079
16689

Spectr. Temp. ... 72°

Dome Temp./Hum. ... 70°F./198%

Transparency Conditions ... v. hazy

Focus ... 50.3

232

Spectr. Temp.

Dome Temp./Hum.

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/- 5-5					BC	GR/68	120 μ	IIIaJ	B		72° F=503 remounted 120 slit	blue turn red rock
Fe/- 9	40/120	1"	2.2	AST III	"	"	"	IIIaJc	B	AsmSp/KK		
Fe/- 6-6					"	"	"	IIIaJ	A		old washer back on yoke 72° F=497	grating covered
Fe/- 6					"	"		"	A			blank
Fe/- 6-6					"	"	"	"	A			
" 33					"	"	250 μ	"	A			
Fe/- 3					"	"	250 μ	"	A			
Fe/- 5-5					"	G8/.2	70 μ	"	A			sl str.
Fe/- 5-5					"	G8/-.005	70 μ	"	A			
Fe/- 35-35					"	G8/-.04	"	"	A			blank
Fe/- 10-10					"	G16/i72	"	OP802e	A			
Fe/- 10-10					"	G16/68	"	"	"			

233

Date ... Aug 30/31 ... Observers ... Bjo - Bts

Thurs / Fri

7 1/2 68°

Emulsion Batches:

..IIaDe 02059-22089

.....02059-31089

.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
70F	focus							Fe/-	4-4
HO 191781	20^h 06.6	45° 06'	20 00	45° 20'				Fe/NO4	
43870	HO 170000	18 ^h 22.2	71° 17'	20 45	20 48	00 45	71° 20.6	Fe/NO4	4-4-1
43871	HO 192422	20 09.7	38 28	20 57	22 11	00 17	38° 43'	"	4-4-4
43872	HO 192660	20 ^h 10.9	+40° 01'	22 19	00 22	02 27	+40° 17'	"	4-4-4
43873	HO 195592	20 27.2	43° 59'	00 29	02 11	04 01	44° 16.8	"	44
73T ✓	spot cal for	43870 - 74		15min 15V	① 3900 ^{D4}	② 4300 ^{D3}	③ 4810 ^{D2}		
43874	HO 215733	22 ^h 42.2	+16° 43'	02 18	03 03	01 36	+17 09	Fe/NO4	4-4-4
43875	HO 213304	22 25.5	57 54	03 10	03 23	03 14	58° 19.6	"	4-4-4
43876	HO 12323	01 55.8	55 08	03 32	05 01	+01 20	55 31.8	"	3-3-3
76T ✓	spot cal for	43875/76/77		15min 15V	① 3900 ^{D4}	② 4300 ^{D3}	③ 4810 ^{D2}		
43877	HO 12929	02 01.5	22 59	05 07	05 09	01 23	23 22.5	Fe/NO4	3-3-3
77F	focus							Fe/-	3-3

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr.

Sec.

22089
231089

Spectr. Temp. ... 74°

Dome Temp./Hum. 68°F/78%

Transparency Conditions ... v. good 234

Focus ... 496

Spectr. Temp.

Dome Temp./Hum.

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/- 4-4					BC	G12/.68	250μ	Ilaoe	A		74° 496	cent Red v. fuzzy
Fe/444	300/		10.18	(Iab) ON 97		"	"	"				
Fe/444	40/8	3"	4.18	(Ap Si)	"	"	150μ	"	A	SBB1/4		arc on stellar
" 4-4	400/120		7.60	(Ib) B0.5	"	"	"	"	A	CNO		Fine
" 4-4	400/130		8.17	B076	"	"	"	"	A	CNO	72° 497	Fine
" 44	400/151		7.95	Ia 097	"	"	"	"	"	"		"
Fe/444	400/70		7.80	B1II	"	"	"	"	A	CNO	67° 499	Fine
" 4-4	200/32		6.3	B7II	"	"	"	"	"	SBB1/4	new box of plates	gng Flare
" 3-3	400/76		8.88	ON 97	"	"	250μ	"	"	"		v. w. k
Fe/444	40/36		3.15	K2III	"	"	"	"	"	std vel		focus Ktne
Fe/- 3-3								"			65° 499	cent Red bad focus

Date Aug. 31 / Sept. 1..... Observers Bn - Bts.....
Fri / Sat

Emulsion Batches:

Emulsion Batches:

7/4 68° IIaDe 02259 - 31089 20 163
IIIaJe 12108 - 23079

Spectr. Temp.

Focus

Spectr. Temp.

[illegible]

Transparency Conditions . . . clear - some cloud . . .

Focus 499

Spectr. Temp. 68

Dome Temp./Hum. 64°F/100%

[illegible]

Date Sept 1/2 Sat-Sun Observers PK-Bts

Emulsion Batches:

..JLaOe.02059-31089

Spectr. Temp.

Focus

Spectr. Temp.

Exp. Mtr.	Sec.
1	1
2	2
3	3
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96	96
97	97
98	98
99	99
100	100

40/15

40/15

400/26

Transparency Conditions... *u... hazy, thin, cloud....*
238

Comparison Type/Filter Exp.		Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/40	4.4-4.6	40/15		4.2	GSIII	BC	62/68	120 μ /15	IIaDe	A	Waterloo	74° 496	fine
Fe/-	4.4				"	"	"	"	"	A			vsl rod
Fe/-	4.4-4.6	40/15		2.9	FB	"	"	"	"	A	"		vsl str
Fe/-	4.4-4.6	100/26		5.6	AZ	"	"	"	"	A	"	clouded out	wh
							90sec		IIaDe				sl wh?

1979

7 1/4 68°

Emulsion Batches:

Table... 02059-01099

Date Sept 2/3 Sun-Mon Observers RW-136

.....

.....

[illegible]

66076

.....

240

496

.....

69... 100% +

[illegible]

241

Date Sept 3/4 Mon/Tues Observers But - Bts

7 1/4 68°

Emulsion Batches:

Emulsion Batches:
IIaDe...02059...01099 20 196

Spectr. Temp.

FOCUS.....

Spectr. Temp.

[illegible]

[illegible]

243

Date 4/5 Sept. Tues/Wed. Observers Bln - Bts.....

Emulsion Batches:

7/4 68° IIa-OE... 02059-04099

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
43885F	Focus							Fe/-	4-4
43885	HD192666	20 ^h 10 ^m .9	+46° 01'	19 33	21 39		+46° 17'	Fe/ND4	4-4-4
43886	HD 195592	20 ^h 27 ^m .2	+43° 59'	21 46	22 58	401 06W	+44° 15'	Fe/ND4	4-4-4
86T [✓]	spd cal for	43885-		15min SV	(1) 3900 ^{D4}	(2) 4300 ^{D3}	(3) 4810 ^{D2}		
86F	focus							Fe/-	4-4
Tests	Sept 5-6 ↓								
43886 F2	Focus Test							FeNe/WR6	10-10
43886 F3	" "							"	4
43886 F4	" " with additional fld Lens							"	11
	Sept 6								
43886 F5	Focus test							FeNe/WR6	15-15
F6	"							"	11
F7	"							"	11

Spectr. Temp. 6

Focus 4.92...

Spectr. Temp. 7

Exp. Mtr. Secs

800/300 2-3

800/300 2

Feld. 10-10

Aperture 10

Spectr. Temp. 66° F.....

Dome Temp./Hum. 66°F / 87%

Dome Temp./Hum 62°F / 100+%

Transparency Conditions clear 244.

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/- 4-4					13C	G12/.68	150 μ	IIa-OE	A		69° 498	vs/red
Fe/104 4-4	800/270	2-3	8.17	BoIb	BC	G12/.68	150 μ	IIa-OE	A	CNO	Power failure @ 2/3 exposure	fine
Fe/104 4-4	800/300	2	7.95	09.9 Ia	"	"	"	"	A	CNO		fine
Fe/- 4-4								IIaO	A		67° 498	sl. red
Fe/104 10-15	Problem noted with				BC	G12/.68	120 μ	IIIaJ	A	good tension	humidity too high. 72°F 497	
" 4	Aperture mask switching				"	"	"	"	B	changed shims	to get same Tension as "A"	-11 μ
" 4					"	"	"	"	B			-11 μ
Fe/104 15-15											T=74° F=498	
" 1					BC	G12/.68	120 μ	old IIIaJ	B	after "0013 CW rotation of focusing mount		-11 μ
" 1					"	"	"	"	B			-11 μ
" 1					"	"	"	"	A			

245

Date 6-7 Sept Thurs-Fri Observers Tn... & ... Kk...

Emulsion Batches:

...LiQ. e... 02059-04099

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
43887F1	Focus Test	May have failed due to faulty Comp			Stellar switching		+4 35	FeNe/6	15-15
43887E2	"	Done in Reverse			stellar -> comp.		+4 35	"	"
43887	HD 161096 ^{B Oph}	17 38.5	+4 37	19 29	19 35	0 37W	+4 35	Fe/ND	6-6
43888	"	"	"	19 37	19 43	0 45W	"	"	6-6
43889	HD 195592	20 27.2	+43 59	19 51	21 27	0 18E	+44 13	"	4-4
43889.T	Spot Calc for 43887-97,				15 min @ 15V	D4 3900	D3 4300	D2 4810	5.5m.
43890	HD 202109	21 08.7	+29 49	21 41	22 11	00 17E	+30 07	FeNe/6	4-4
43891	HD 215182	22 38.3	+29 42	22 13	22 35	01 22E	+30 04	FeNe/6	4-4
43892	HD 215733	22 42.2	+16 43	22 42	23 35	00 26E	+	Fe/ND	4-4
43893	HD 203156 ^{HR 8157}	21 15.4	+37 49	23 43	00 58	02 25W	+38 08	"	4-4
43894	HD 13854	02 09.9	+56 36	01 08	01 40	01 50E	+56 58	"	4-4
43895	HD 14143	02 12.2	+56 43	01 55	02 54	00 38E	+57 03	"	4-4
43896	HD 14818	02 18.2	+56 10	02 28	03 22	00 17E	+56 30	"	4-4
43897	HD 16929	02 33.1	+60 51	03 33	04 15	00 22W	+61 11	"	4-8
43897F	Focus test			Stop ->	Comp			FeNe/6	15-15
F2 F3	"							"	"

Spectr. Temp. .

Focus... 49

Spectr. Temp. .

04099

Spectr. Temp. 74°FDome Temp./Hum. $73^{\circ}\text{F} / 85\%$ Transparency Conditions Fine 246Focus $49.7 - 50.1$Spectr. Temp. 66°FDome Temp./Hum. $68^{\circ}\text{F} / 100\%$

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/6 15/5					BC	G12/68	150 μ	IIIa-J old	B			
" "					"	"	"	"	A			
Fe/ND 6-640/18	3"	3.93	K2II	"	"	"	"	IIa-D-e	B	sl Vel		sl strong Fine
" 6-640/20	3-4	"	"	"	"	"	"	"	A	"		not blurry Fine
" 44400/157	3-6"	7.95	09.7Ia	"	"	"	"	"	B	CNO B/h	focus prob wrong	sl wk, gny focus
D2 480								"				poorly Axial
Fe/6 4440/120	4"	A.2	G8II	BC	G8/2	120 μ	"	"	B	Spec Std.	T=72° F=501	comp str
Fe/6 4440/100	"	3.8	G8II + F	"	"	"	"	"	B	Asw Spec KK		comp str
Fe/7 44400/70	3"	7.80	B1-II	"	"	G12/68	150 μ	"	B	CNO B/h		Fine
" 44400/250	3-5"	5.89	F2	"	"	"	120 μ	"	B	Ceph-Rm	71°F	Fine
" 44400/95	4"	6.77	BJ Tab	"	"	"	150 μ	"	B	CNO-B/h		v sl wk
" 44400/130	3-4"	7.17	B2Ia	"	"	"	"	"	B	"	cloud FLJ unartula Fld altered	"
" 44400/92	"	6.56	"	"	"	"	"	"	B	"	66°F	Fine
" 4800/42	3"	8.29	09.5II(rn)	"	"	"	"*	"	B	"	* Can easily see at comp on TV no 200 μ slit available	v wk
Fe/6 15/5					"	"	"	IIIa-J old	B			sl blue
" "					"	"	120 μ	IIa-J!!	A B		T=65° F=502	on -6m

Transparency Conditions *Fine* $\rightarrow$ *this cloud* 249.

Focus 502 - 506

Spectr. Temp. 452°F.....

Dome Temp./Hum. 46°/96%

[illegible]

249

Emulsion Batches:

1^m69^s .IIaDe... 02059.-07099

Date Sept 9/10 Sun/Mon Observers Ly. Bts / Bts.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Mtr.	Sec.
43901F	focus							Fe/-	6-6		
43901	HD157482	17 18.5	+40 04	19:36	20:36	02 12W	+40 02	Fe/ND4	6-6-6	400/470	3
43902	"	"	"	20:40	21:50	03 25W	"	"	6-7-7	400/500	"
02T	spot cal for	43901-07.		15V 15min	⁰⁴ ①3900	⁰³ ②4300	⁰² ③4810				
02F	focus							Fe/-	7-7		
43903	HD218356	23 02.2	+24 56	20:00	22:54	01 14E	+25 23	Fe/ND4	7-7-7	400/310	
43904	HD191781	20 06.6	+45° 06'	23:15	01 59.	+04 49W	+45° 23'	Fe/ND4	4-4-4	400/30	2-3
43905	HD203156	21 15.4	+37° 49'	02 12	03 40	+03 54 ^X W	+38° 12'	Fe/ND4	4-4-4	400/250	2-1
43906	HD13854	02 09.9	+56 36	03 53	04 28	+01 11W	+56 57	Fe/ND4	4-4-4	400/100	"
43907	HD12929	02 01.5	+22 59	04 42	04 47	+01 39	+23 24	Fe/ND4	4-4-4	400/16	"
07F	focus							Fe/-	8-4		
	Sept 10/11	Bts	focus tests								
07F2	focus							Fe/-	4-4		
07F3	focus							Fe/-	4-4		

07099

Spectr. Temp. 60° Dome Temp./Hum. $59^{\circ}/78\%$ inside Transparency Conditions $sl. haze$ 250...Focus 501 Spectr. Temp. 59° Dome Temp./Hum. $54^{\circ}/92\%$

Comparison Type Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/- 6-6					BC	GR/-625	$120^{\circ}/.5$	IIaDe	A		60° 501	blue end sl blue red end sl blue
Fe/1004 6-6-6	400/470	3"	6.7	df8	"	"	$120^{\circ}/.5$	"	A	HOK - Bl. Ly	wrong focus acc to	sl. strong
" 6-7	400/500	"	"	"	"	"	"	"	A		focus reset to 505	sl. str.
Fe/- 7-7					"	"					red end sl blue	bl end v red
Fe/1004 7-7-7	200/310	"	6.04	KoIbp	"	"	$120^{\circ}/.3$	"	A	HOK - Ly		sl str
Fe/1004 4-4-4	400/70	2-3	10.18	ON9.7 Iab	"	GR/.68	$250^{\circ}/.3$	"	A	CNO Bln	seeing deteriorated to 4"	fine
Fe/1004 4-4-4	400/250	2-3	5.89	F2	"	GR/.68	$120^{\circ}/.5$	"	A	Ceph - Rm	haze - scattered cloud 60° 505	sl str.
Fe/1004 4-4-4	400/100	"	6.77	BIab	"	"	"	"	A	CNO Bln	60° 505	fine
Fe/1004 4-4-4	40/16	"	3.15	K2III	"	"	"	"	A	std vel		ok, sl. uneven
Fe/- 4-4					"	"	"	"	A		clouds 59° 505	v sl red
Fe/- 4-4					BC	GR/.68	$120^{\circ}/.5$	IIaD	A		62° 504	No Comp
Fe/- 4-4					"	"	"	"	B			No Comp

251

Date 1979 Sep 11 Observers KK

Emulsion Batches:

3^m 69° Emulsion Batches:
old (Sep. 74) III AJ

[illegible]

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions 252

[illegible]

Date SEPT 11/12 TUES/WED Observers Bat-Th

7^m 68°

...Пау-е 02059-07099

Ид-е* 02059-10099

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
43908F	FOCUS							Fe/-	4-4
43908	HD 186791 (8 Aq. 1)	17 41.5	+10 22	19 10	19 13	-01 27 E	+10 37	Fe/ND	4-8
43909 ✓	HD 156547	17 13.1	+26 00	19 19	20 11	+01 59 W	+25 57	"	4-4
43909 T	Spot Calc for 43908-12.					15 min @ 15V	D4 3900	D3 4300	D2 4810
43910	HD 176003	18 53.0	+44 05	20 15	21 00	+01 10 W	+44 12	Fe/ND	4-4
43911	HD 202313	21 09.9	+30 33	21 04	23 14	+01 05 W	+30 53	"	4-4
43912	HD 222201	23 33.5	+41 57	23 18	00 13	00 19 E	+42 24	"	4-4
43913	HD 222416	23 35.3	+44 31	00 21	01 59	01 26 W	+44 59	"	4-4
43913 T	Spot Calc for 43913-16.					15 min @ 15V	D4 3900	D3 4300	D2 4810
43913F1	Focus Test					01 30 W	+45°	Fe/-	14-14
43913F2	" "					"	"	"	"
43914	HD 2019	00 19.4	+30 49	02 16	03 06	01 49 W	+31 17	Fe/ND	5-5
43915	HD 16855	02 37.1	+43 07	03 13	03 48	00 12 W	+43 28	"	5-5
43916	HD 26571	04 07.0	+22 09	03 59	04 32	00 33 E	+22 24	Fe/ND FeNe/ND	5-5
								FeNe 1st, then back to Fe for 2nd & 3rd	

[illegible]

Date:

Sept 12/13

Wed/Thurs

Observers

$$R_m - T_a$$

Emulsion Batches:

7^m 680

Division Batches:
 1140-e 02059-10099

[illegible]

Spectr. Temp. 62.5°F
Focus 505
Spectr. Temp. 60°F

Dome Temp./Hum. 61°F / 90%

Dome Temp./Hum. 57°F / 101%

Transparency Conditions 256

[illegible]

#1

LARGE RASC TOUR

51

Fri-Sat

Date Sep 14-15 / 79 Observers T.H. - K.K.

Emulsion Batches:

* *
Il-a-O-e 02059

12099

Il-a-O-e 02059-10099

Il-a-J-e 12108-01099

9th 6th H.I.E. Oct 77

30 156

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
43924F1	Focus Test							Fe/-	1 st -1 st
43924F2	" "							Fe/-	5-5
43925	HD 161096	17 38.5	+4 37	19 05	19 12	0 45W	+4 36	Fe/ND	6-6
43925T	Spot Cal'n for 43925, 29-31.			15 min @ 15V	3900	4300	4810		
43926	HD 159561	17 30.3	+12 38	21 33	21 52	03 34W	+12 34	Fe/ND	2-2
43927	HD 215182	22 38.3	+29 42	22 03	22 52	00 32E	+30 06	Ne/-	30-30
43927T	Spot Cal'n for 43926, 36.			15 min @ 13900	175V DA	15V DA	4810		
43928	α UMi HD 8890	1 22.5	+88 46	23 04	23 29	03 39E		Ne/-	30-30-30
43928T	Spot Calibration for 43927-8			15 ^m 7 1/2	D3 8464	7680	7080		
43929	HD 203156	21 15.4	+37 49	23 38	01 03	03 01W	+38 10	Fe/ND	5-5-5
43930	HD 14143	02 12.2	+56 43	01 18	02 08	00 53E	+57 03	"	4-4-4
43931	HD 14818	02 18.2	+56 16	02 15	02 39	00 28E	+56 29	"	4-4-4
43932	HD 13854	02 09.9	+56 36	02 47	03 15	00 16W	+56 58	"	4-4-4
43933	HD 30614	04 44.1	+66 10	03 22	03 25	02 11E	+66 18	"	4-8
43934	HD 25638	03 59.0	+62 03	03 33	04 19	00 30E	+62 15.4	"	4-4-4

Spectr. Temp.

Focus.....50

Spectr. Temp.

Exp. Mtr.

Secs

40/22 3

40/140 6

40/30

40/140 5

40/255 5

40/135 4

40/95 4

40/93 1

40/7 4

40/90 3

Spectr. Temp.

Dome Temp./Hum. *159°F/82%*

Dome Temp./Hum. /

Transparency Conditions .. *Fine* 258[illegible]

Date Sep 14-15 Cont... Observers Th.....

..... 22 222

[illegible]

Exp. Mtr. Sec

Transparency Conditions 260

Spectr. Temp. 53.....°F.....

Dome Temp./Hum. 50°F / 96%

[illegible]

261

page #1

Date Sep. 16-17-Sun Mon

Observers

T₁

(KK had a boy so wasn't here)

Emulsion Batches:

7^m 680 Trade 02059-12099

Date 12108-01099 22 20

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
43937F1	Focus Test	} Comparison of 612-68				0°15W	+2920	Fe/-	23-23
43937F2	" "					"	"	Fe/-	23-23
43937	HD 137909 ^{B.G.B}	15 23.7	+29 27	19 11	19 19	03 15W	+29 13	Fe/ND	8-8
43938	HD 159561 ^{α Oph}	17 30.3	+12 38	19 27	19 41	01 30W	+12 35	Fe/ND	2-2
43938T	Spot Calc for 43938			15 min @	175V D4 3900	150 D4 15V D4 4300 48/10			
43939	HD 161096	17 38.5	+4 37	19 47	19 54	01 35W	+4 35	Fe/ND	8-8
43940	"	"	"	20 06	20 11	01 52W	"	"	6-6
43940T	Spot Calc for 43937, 39-				15 min @	15V 3900	103 4300	102 48/10	
43941	HD 195592	20 27.2	+43 59	20 38	21 38	00 31 W	+44 15	Fe/ND	444
43942	HD 199216	20 50.7	+49 09	21 42	22 26	00 57 W	+49 29	"	494
43943	HD 215733	22 42.2	+16 43	22 33	23 06	00 16 E	+17 10	"	444
43944	HD 6182	00 57.8	+61 18	23 17	00 14	01 25 E	+61 41	"	3-3-3
43945	HD 12993	02 02.1	+57 27	00 19	01 35	01 08 E	+57 49	"	3-3-3
43946	HD 15690	02 26.3	+57 05	01 39	02 16	00 51 E	+57 25	"	3-3-3
43947	HD 16832	02 36.9	+56 14	02 21	03 50	00 32 W	+56 33	"	3-3-3

Spectr. Temp. .

Focus 595

Spectr. Temp. .

7-12099
-01099 23 10

Spectr. Temp. 65°F Dome Temp./Hum. 64°F / 70% Transparency Conditions Fine sl. hazy 262
 Focus 505-507
 Spectr. Temp. Dome Temp./Hum.

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/ND 7-23					BC	G12/1.68	120u	U-40-e	B			
Fe/ND 7-23					"	G12/1.68	"	"	B			
Fe/ND 8-9	40/20	1"-2"	3.93	F0p	"	"	"	U-40-e	B	Asm Sp K/K		vsl str
Fe/ND 8-9	40/180	"	2.2	H5III	"	"	"	U-40-e	B	"	sl. str	strong inter reflection?
								"				
Fe/ND 8-9	40/29	2"	3.93	K2III	BC	G8/1.025	120u	U-40-e	B	Std Vel	} To compare G8 vs G12 T=65°F	fine
" 6-6	40/20	3"	"	"	"	G12/1.68	120u	"	B	"		vsl str
								"				
Fe/ND 444	400/160	1"-2"	7.95	09.7Iq	BC	G12/1.68	150u	"	B	CNO-B1/4	T=64°F	vsl str
" 444	400/140	2"	7.51	B1II	"	"	"	"	B	"		vsl str
" 444	400/70	2"-4"	7.80	B1II	"	"	"	"	B	"	T=64°F shattered spec saved	
" 3-33	300/180	3"-6"	8.70	B0.5IIp	"	"	250u	"	B	"		vsl str
" 3-33	300/112	2"-5"	9.20	06.5V	"	"	"	"	B	"		fine
" 3-33	300/125	3"	8.66	B1.5II	"	"	"	"	B	"	T=61°F set 507	fine
" 3-33	300/136	3"-5"	9.25	09.5II	"	"	"	"	B	"		fine

Cont Over →

263

#2

Emulsion Batches:

Cont

Date sep 16-17

Observers Tn

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[illegible]

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mr.	Sec.
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
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87	87
88	88
89	89
90	90
91	91
92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

450/100 1-2

90/7

Spectr. Temp. 60 °F.....

Dome Temp./Hum.

Transparency Conditions 254

Dome Temp./Hum. 55°F / 96%

[illegible]

9-17099
b

Spectr. Temp. 67°F
 Focus 504 - 506
 Spectr. Temp. 61°F

Dome Temp./Hum. $67^{\circ}\text{F} / 69\%$
 Dome Temp./Hum. $56^{\circ}\text{F} / 100\%$ + Fog

Transparency Conditions *Fine some haze* 26%
Good diffuse Aurora
Excellent by 2^h, Super by 3 AM - To 20^h 14 and south of it.

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/-	7-3					BC	G12/68	120 μ	098-025	B			
"	2-3					"	"	"	"	A			red
Fe/-	7-7	40/20	2'	3.93	K2M	BC	G12/.68	120 μ	II aoe	B	STO VEL		uslstr
"	5-5	100/93	1.2"	7.04	A1	"	"	"	"	B	Am MR		fine
"	5-5	100/130	1'-4"	8.7	K0	"	"	"	"	B			fine
Fe/-	5-5	100/88	2.3"	7.5	A0	BC	G12/.68	120 μ	"	B	A _p MR		fine
"	5-5	100/89	3-5"	6.77	B9	"	"	"	"	B	A _p MR	Fe Hrc T=64 $^{\circ}\text{F}$ Gap narrowed	fine
"	5-5	100/89	3"	7.45	B9	"	"	"	"	B	A _p MR	in brt Aurora	sl uneven
"	5-5	100/89		7.85	A0	"	"	"	"	B	Am MR	T=61 $^{\circ}\text{F}$ Set 506	red end fuzzy
Fe/-	2-2					"	"	150 μ	098	A		F=504 T=65 $^{\circ}$	
"	"					"	"	"	"	B			
Fe/-	10-10					"	"	RS	"	B			

Date Sept 18-19 Tues-Wed Observers Burt Tr

7^m 68° IIaD-C 02059-17099

Spectr. Temp.
Focus....50
Spectr. Temp.

Transparency Conditions . . . *Fine s/baze . . . gusty . . .*

Focus 504

Spectr. Temp. 63³ F.....

Dome Temp./Hum. *56°F / 92%*

268

[illegible]

259

Date Sept. 19/20. Wed/Thurs Observers Rm-Bts/Bts.....

Emulsion Batches:

7th 6th IIaDe...02059-18099 16 193
IIaJe...12108-01099 13 240

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Mtr.	Sees
43963F	focus							Fe/-	4-4		
63F2	focus							Fe/-	4-4		
43963	HD 163506 = 89 Her	17 ^h 51.9	+26° 4'	19 ^h 15	19 ^h 47	1 ^h 29W	+26° 03'	Fe/ND4	5-5-5	400/130	2
43964	HD 187929 = 77 Aql	19 ^h 47.4	+00° 44.9	20 ^h 10	20 ^h 26	0 ^h 11W	+0° 56'	Fe/ND4	5-5-5	400/26	
43965	HD 186678 = 50 Cyg	19 ^h 40.8	+29° 01'	20 ^h 42	23 ^h 09	3 ^h 02W	+29° 12'	Fe/ND4	5-5-5	400/200	
43966	Spot Caln for 43963	70.32/5 min	@ 15V		04 3900	03 4300	02 4810				
43966	HD 195295 = 41 Cyg	20 ^h 25.3	+39° 2'	23 ^h 15	23 32	2 ^h 40W	+30° 17'	Fe/ND4	5-5-5	400/26	
43967	HD 203156 = 18157	21 ^h 15.4	+37° 49'	23 ^h 38	00 39	+2 ^h 57W	+30° 08'	Fe/ND4	5-5-5	400/20	
43968	HD 6182	00 ^h 57.8	+61° 18'	00 56	02 30	+1 ^h 05W	+61 39	Fe/ND4	5-5-5	400/92	
43969	HD 14143	02 ^h 12.2	+56° 43'	02 45	03 30	+00 50W	+57 02	Fe/ND4	5-5-5	400/130	3
69T	spot cal for 43971, 73			15 min	04 17.5V ① 3900	04 15V ② 4300	③				
43970	HD 24760	03 ^h 51 ^m	+39° 43'	03 43	03 45	-00 34E	+39 54	Fe/ND4	7-7	40/9	
43971	HD 33328	05 ^h 04.7	-08° 53'	04 03	04 24	-01 06E	-08 47	Fe/-	6-6-6	40/40	
43972	HD 29139 (α Tau)	04 30.2	+16° 18'	04 38	04 39	-00 14E	+16 27	Fe/ND4	7-7	40/10	
43973	HD 47105 (8 Gem)	06 31.9	+16 29	05 07	05 21	-01 31E	+16 24	Fe/-	10-10	40/120	
73F	focus							Fe/-	30-30		

0.099 16 113
0.099 12 240

Spectr. Temp. 55°F
Focus 508
Spectr. Temp. 46°F

Dome Temp./Hum. 51°F / 66%
Dome Temp./Hum. 48°F / 82%

Transparency Conditions very good 270

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe - 4-1					13C	G12/-68	1260/1.5	IIaOe	B		55°F 508	
Fe - 4-4					"	"	"	"	A			
Fe/NO 5-5	400/136	2-4	5.82	F2 Ia	"	"	"	"	B	Ceph/Evans		vs sl. str.
Fe 5-5	40/26		~4	FC15- G416	"	"	"	"	B	Ceph/Evans	photographer	sl str.
Fe 5-5	400/260		6.8-7.6	FO/G1	"	"	"	"	"	Ceph/Evans	540 508 (illegible)	sl str
Fe 5-5	40/26		4.02	F5 II	"	"	"	"	B	Ceph/Evans	labelled 64-8 (illegible)	sl str
Fe 5-5	400/260		5.89	F2	"	"	"	"	B	Ceph/Evans		sl str
Fe/NO 5-5	800/192		8.70	B0.5 II p	"	"	2500/1.5	"	B	CNO/Bln		fine
Fe/NO 5-5	400/130	3	7.17	B2 Ia	"	"	1500/1.5	"	B	CNO/Bln		vs sl str
Fe/NO 7-7	40/8		2.88	B0.5 V	"	"	"	IIaJe	B	Bln	plate chipped on one corner	vs sl str uneven
Fe - 6-6	40/40		4.07	B20e	"	"	"	IIaJe	B	Be/Bln		unknown sl. whk
Fe/NO 7-2	40/10		2.39	K5 III	"	"	"	IIaOe	B	std vel.		unknown
Fe - 10-10	40/120		1.9	A0 IV	"	68/-0.25	300/1.5	IIaJe	B	KK	sl. shaded one side, exp	fine
Fe - 30-30					"			IIaJe	B		46° 571	ok

Date 20/21 Sept. 1979 Th/Fr: Observers Bln-Tr./Tn.....

Emulsion Batches:

7th 680 . H&O-e . 02059-18099

18 19

Spectr. Temp.

Focus.....

Spectr. Temp.

[illegible]

Spectr. Temp. 60°F.....

Dome Temp./Hum. 59°F/69%

Dome Temp./Hum. 53°F / 98%

Transparency Conditions *Some cloud* 272
Aurora start ~ 22:30

447. 097

→ prout
cino

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/-	16-10					BC	G12/.68	150/.5	III _a -J	B		58°F 507	
Fe/-	16-10					BC	G12/.68	150/.5	II _a -O _e	A		58°F 507	
Fe/NEW D2	44-4	400/150	1-2	7.95	O9.7I _a	BC	G12/.68	150/.5	II _a -O _e	B	CNO std.	cloudy partly	fine
Fe/D	44-4	400/133	1.2'	7.51	B1 II	BC	G12/.68	150/.5	I _a -O	B	CNO std	clear	v sl str
"	44-4	400/90	"	7.80	B1 II	"	"	"	"	B	CNO		v sl str
Fe/A3-3	3-3	800/260	2-3	8.70	B0.5II _b	BC	G12/.68	250/.5	II _a -O E	B	CNO		fine
Fe/A3-3	3-3	800/260	1" 2-3	8.88	ON9Z	BC	G12/.68	250/.5	II _a -O E	B	SB-BIn		v sl str unseen
Fe/A3-3	3-3	800/110	1"	8.66	B1.5I _b	"	"	"	"	B	CNO std	prob sl wk then cloud again	v sl wk
							wrong tilt						
							(.58)						

713

Date 4/22 Sept 1979 Observers Bjo - Tr

Emulsion Batches:
7^m 67° H40-E 02059-20099 n 22

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
43980F	FOWLS					01 ^h W	4 35	Fe/	15-15
43980	HP 161096	17 38.5	+04 37	19 00	19 20	01 22 W	04 35	Fe/ND4	6-6
43980F2	Focus Test					"	"	Fe/-	16-16
43980T1	Full Ap Shift test					1 35W	"	"	8-8
T3	"	"	"	"	"	1 40W	"	"	8-8
T4	"	"	"			0 ^h	"	"	8-8
T2	"	"	"			0 ^h	"	"	8-8
T5	"	"	"			0 ^h	"	"	12-12
T6	"	"	"			0 ^h	"	"	12-12
43981	ND 215733	22 42.2	16 43	20 35	21 30	01 32 E	+17 08	Fe/ND4	4-4-4
43982	ND 14143	02 12.2	56 43	21 38	22 31	04 02 E	+57 05	"	4-4-4
43983	ND 14818	02 18.2	56 10	22 37	23 04	03 35 E	+56 32	"	4-4-4
43983T	Spot Calc for 43980-85,				15 min @ 15V	14 3900	D3 4300	D2 4810	
43984	HP 16429	02 33.1	60 51	23 10	01 26	01 29 E	61 12	Fe/ND4	4-4
43985	ND 24398	03 47.8	31 35	01 31	01 33	02 36 E	31 50	"	6-6

Spectr. Temp.
Focus.....5
Spectr. Temp.

Exp. Mtr. See

20099720

Spectr. Temp. ... 60°F
 Focus 507
 Spectr. Temp. ... 54.5
 Dome Temp./Hum. 57°F / 88%
 Dome Temp./Hum. 48°F / 100% too wet

Transparency Conditions ... Cloudy 274

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
10L 15/3					BC	G12/1.68	150/1.5	Ilia old				
E/100 1-6	10/20	3"	3.93	K2 III	BC	G12/1.68	150/1.5	Ilao	B	std vel	cloud	
10L 16-3					"	"	"	Ilia old	A	T=60°F		
" 8-8					"	"	150/1.9	"	B			
" 8-8					"	"	"	"	A			
" 8-8					"	"	120/1.9	"	B			
" 8-8					"	"	"	"	A			
12-7					"	"	70/1.9	"	A			
16-7					"	"	"	"	B			
E/100 4-4	100/97	2-3'	7.80	B1 II	"	"	150/1.5	" Ilao, presumably	B	CNO-Bla	some cloud	v sl str
100/132	2-3'	7.17	B2 Ia	"	"	"	"	"	"	CNO std	"	v sl str
100/94	4-5"	6.56	B2 Ia	"	"	"	"	"	"	"		
100/110	5-10"	8.29	09.5 Ia	"	"	"	"	"	"	CNO		
100/17	5-8	2.96	B1 Ib	"	"	"	"	"	"	CNO std		

275

Date Sept 22/23. Sal/Sun Observers BLS

7^m 67° Emulsion Batches: Ilade 02059. - 20099 17198

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
86F	focus							Fe/-	S-S
43986	HD 213307	22 ^h 25 ^m .5	+57° 54'	21 14	21 33	-01 07 E	+58° 11'	Fe/ND4	S-S-S
43987	HD 172865	18 ^h 37 ^m .4	+30° 11'	21 50	00 22	+05 30 W	+30° 18'	Fe/ND4	7-7-7
43988	HD 6182	00 ^h 57 ^m .8	+61° 47'	00 44	02 14	+01 00 W	+61° 42'	Fe/ND4	S-S-S
43989	HD 14818	02 ^h 18 ^m .2	+56° 10'	02 26	02 45	+00 10 W	+56° 36'	Fe/ND4	S-S-S
89T	spot cal for	43986-		15min 15V	D4 ① 3900	D3 ② 4300	D2 ③ 4810		
43990	HD 16429	02 ^h 33 ^m .1	+60° 51'	02 53	04 38	+01 47 W	+61° 10'	Fe/ND4	S-S-S
43991	HD 46966	06 ^h 31 ^m .7	+06° 10'	04 50	05 18	-01 28 E	+06° 06'	Fe/ND4	S-S-S
43992	HD 29139 (Tan)	04 ^h 30 ^m .2	+16° 18'	05 28	05 28	+00 43 W	+16° 28'	Fe/ND4	7-7
92F	focus							Fe/-	S-S

Spectr. Temp.

Focus

Spectr. Temp.

Exp. Mtr.

Sec

-22099 11/12

Spectr. Temp. 55°
 Focus 508
 Spectr. Temp.

Dome Temp./Hum. 49°F / 75%
 Dome Temp./Hum. 43°F / 73%

Transparency Conditions ... some haze ... 276

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/5-5					BC	G12/68	150 μ .5"	IIaOe	B		55° 508	
Fe/104 5-5	400/60	3"	6.3	B7V	BC	G12/68	150 μ .5"	IIaOe	B	SB-Bln		sl uneven
Fe/104 7-7	400/250		7.78	G5III + K0III	BC	G8/-025	"	IIaOe	B	VB-Bln		fine
Fe/104 5-5	800/260		8.70	B0.5 IIp	BC	G12/68	250 μ .5"	IIaOe	B	CNO/Bln	52° 509	vs sl str
Fe/104 5-5	400/90		6.56	B2Ia	BC	"	150 μ .5"	IIaOe	B	CNO/Bln	50° 509	vs sl str
								IIaOe				
Fe/104 5-5	400/100	3"	8.29	O9.5 II (ln)	"	"	"	"	"	CNO/Bln		fine
Fe/104 5-5	400/60	3-4	6.80	O8V	"	"	"	"	"	CNO/Bln	48° 510	fine
Fe/104 7-7	40/11		2.39	K5III	"	"	"	"	"	std vel		fine
Fe/5-5					"	"	"	"	"		48° 510	sl blue

277

Date Sept 23/24 Sun/Mon Observers Gru-KK-Bts/Blm-Bts5^m 68° IIIaJe 12108-20099

Emulsion Batches:

5^m 68° 09802c 20049-2009910^m 68° H.I.E. 23099 15, 1137^m 67° IIcDe 02059-23099

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Mtr.	Sec.
93F1	focus							Fe/-	25-25		
93F2	focus ^(n Agl)							Fe/-	25-25		
43993	HD 187929	19 ^h 47 ^m 23	+00° 45'	19 ^h 11 ^m	19 ^h 55 ^m	-00 04 10	+00 57.4	Ne/-	30-30 -30	40/90	23
93F3	focus							Ne/-	60-60		
43994	HD 204867 ^(B Agr)	21 ^h 26 ^m 18	-06° 01'	20 ^h 11 ^m	20 ^h 34 ^m	-01 03 50	-05° 39'	Ne/-	30-30 -30	40/92	23
43995	HD 209750 ^(L Agr)	22 ^h 00 ^m 39	-00° 48'	20 ^h 44 ^m	21 ^h 01 ^m	-01 11 10	-00° 23'	Ne/-	30-30 -30	40/91	23
43996	HD 213307 ^(B Cep)	22 ^h 25 ^m 27	+57° 54'	21 ^h 13 ^m	22 ^h 00 ^m	-00 35 10	+58° 19'	Ne/-	30-30	40/91	23
96T	spot cal for	43993-97		10 min D4 7½V ① 7680	10 min D4 7½V ② 8464	30 min D3 7½V ③ 8464	-				
43997	AD 8890 ^(a UMi)	01 ^h 22 23	+88 46	22 ^h 18 ^m	22 ^h 30 ^m	-04 00 35	+89° 10'	Ne/-	5-6	40/34	23
43998	" ^(a UMi)	"	"	23 ^h 01 ^m	23 ^h 04 ^m	-03 27 10	+89 10'	Ne/- Fe/ND4	5-10 5-10	40/26	
43999	HD 204867 ^(B Agr)	21 ^h 26 ^m 18	-06° 01'	23 ^h 19 ^m	23 ^h 25 ^m	+01 47	-05 38	Ne/- Fe/ND4	5-5-5 5-5-5	80/51	
44000	HD 215733	22 42.2	+16° 43'	23 39	00 ^h 14 ^m	+01 21 10	+17° 08'	Fe/ND4	5-5-5	400/100	
00T	spot cal for	43998-99	15 min	D3 15V ① 4810	D1 7V ② H2	D2 7V ③ 5450					
44001	HD 12323	01 ^h 55 ^m .8	+55° 08'	00 ^h 24 ^m	01 40	-00 29 E	+55° 31'	Fe/ND4	5-4-4	200/260	23
44002	HD 12993	02 ^h 02 ^m	+57° 27'	01 ^h 44 ^m	03 30	01 15 W	+57° 49'	Fe/ND4	4-4-4	800/240	11

20099
-20099
13.099 15,113
-33099

Spectr. Temp. 56°
Focus 507
Spectr. Temp. 50°

Dome Temp./Hum. $53^{\circ}\text{F}/72\%$
Dome Temp./Hum. $44^{\circ}\text{F}/81\%$

Transparency Conditions *excellent!!* 278

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	- P.H.	Program	Remarks	Quality
Fe/- 25-25					Bc.	G12/.68	150 μ .5	IIIaJ	A.		V filter 56° 507	no comparison
Fe/- 25-25					"	"	"	"	B			
Fe/- 30-30	40/90	2-3	3.5	F6Ib	BC	G12/.9	150 μ .3	HIE	B	IR Cep / Gu.	glass backing broken	wk only stellar
Fe/- 60-60					"	"	"	"	B			
Fe/- 30-30	0/92	2-3	2.86	G0Ib	"	"	"	"	B	IR Cep / Gu.		vsl wk
Fe/- 30-30	0/91	2-3	2.93	G2Ib	"	"	"	"	B	"		vsl wk
Fe/- 30-30	0/91	2-3	3.96	F5Ib	"	"	"	"	B	"	light struck in darkroom	
								HIE				
Fe/- 5-10	40/124	2-3	2.00	F8Ib	"	"	150 μ .5	"	B	"		unknown vsl wk
Fe/NOV 5-10	0/26	"	"	"	"	G14.7	"	O9B02e	B	"	54° 508	sl strong unknown
Fe/NOV 5-5	0/51	"	2.86	G0Ib	"	"	"	"	B	"		strong
Fe/NOV 5-5	400/100	"	7.80	B1II	BC	G12/.68	150 μ .5	IIaVe	B	CNO $\star$	First few counts with V filter still in place	sl str
								O9B02e			H α very strong	
Fe/NOV 4-4	300/260	2-3	6.88	ON9IV	BC	G12/.68	250 μ .5	IIa -OE	B	CNO $\star$		sl str
Fe/NOV 4-4	300/240	"	9.20	O6.5V	"	"	"	"	B	CNO / Bl-		vsl str

279

Date Sept 23/24 cont Observers Bln-Bts

Emulsion Batches:

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[illegible]

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr.	Sec.
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5

Transparency Conditions 280

Focus

Spectr. Temp.

Dome Temp./Hum. 44° F / 93%

[illegible]

23099 1974

Spectr. Temp. 58°F

Dome Temp./Hum. $54^{\circ}\text{F}/88\%$

Transparency Conditions *clear... some haze*

Focus 506

282

Spectr. Temp. 57°F

Dome Temp./Hum. $53^{\circ}\text{F}/100\%$

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/-	25-28					Bc	G12/68	120 μ . .5	IIIaJ	B		58° 506	
Fe/ND	55-58	400/90	2-3	7.04	A1	"	"	"	IIaDe	B	Am MR		vs1 str
"	55-58	400/91		7.00	A1	"	"	"	"	B	Am MR		vs1 str
55-58		400/90	2	7.58	A2	"	"	"	"	B	Am MR	58° 506	fine
55-58		400/90		7.56	B9	"	"	"	"	B	Ap MR		fine
Fe/ND	7-7	10/15		4.64	F74				IIaDe	B	STD VEL	clouds, humidity, high	fine
Fe/-	5-5					"	"	"	"	"		57° 506	

Date SEPT 25/26 TUES/WED Observers But etc

Emulsion Batches:
7m680 Ilaoe. 02059 - 24099 18 198

Spectr. Temp.

[illegible]

24299 18 198

Spectr. Temp. ... 64°F

Dome Temp./Hum. ... 64°F/72%

Transparency Conditions ... v. hazy 284

Focus 504

Spectr. Temp. ... 58°F

Dome Temp./Hum. ... 53°F/94%

Companson Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1-5-5					BC	G12/68	120M .5	IIa0	B			
4-5-5	400/90	2-3	7.04	A1	"	"	"	IIa0e	B	Am MR		fine
5-5-5	400/91	2	7.27	A3	"	"	"	"	"	Am MR		fine
5-5-5	400/91		7.39	A0	"	"	"	"	"	Ap MR		fine
5-5-5	400/90		7.8 7.52	A0	"	"	"	"	"	Ap MR	Wrong Star	fine
5-5-5	400/170		7.58	K5III	"	"	"	"	"	MR PROG		fine
5-5-5	400/90		6.77	B9	BC	G12/68	120M .5	IIa0e	B	Ap MR	62°F	505 fine
5-5-5	400/90	2-3	6.7	A2	"	"	"	"	B	Am MR	clearer	fine
5-5-5	400/100		7.85	A0	"	"	"	"	B	Am MR	broken - 2 pieces	ok
7-5-5	400/20		2.39	K5III	"	"	"	"	B	STD VEL		vsl str
1-5-5					"	"	"	"	B		58°F	506

285

Pg #1

Date Sept. 26/27 Wed/Thurs Observers Rm-Tr

Emulsion Batches:

7^m 68° Π 0-e 02059-240.9919
 7^m 68° * Π 0-e 02059-26099 1915
 5^m 68° 0.98 mE 200.49-200.99

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Mtr.	Sec.
44019	HD 163506 = 89 Her	17 ^h 51.4	+26° 4	18 ^h 47	19 ^h 01	01 11 W	+26° 06	Fe NDx4	5-5-5	80/22	1-2
44020	HD 180583 = HR 7308	19 ^h 12.0	+27° 45	19 ^h 07	19 ^h 26	00 15 W	+27 54.2	Fe NDx4	5-5-5	400/112	"
44021	HD 137929 = η Aql	19 ^h 47.4	00° 44.9	19 ^h 33	19 ^h 42	00 ^h 05 E	+00° 58.4	Fe NDx4	5-5-5	40/26	"
44022	HD 186688 = SU Cyg	19 ^h 40.8	+29° 01	19 ^h 46	21 04	01 24 W	+29° 13.3	Fe NDx4	5-5-5	40/240	1-
44022 ^T	Spot Cal for	44019-25	15min	15V	^{D4} ① 3900	^{D3} ② 4300	^{D2} 4810				
44023	HD 195295 = A Cyg	20 ^h 25.3	+30° 2	21 ^h 12	21 ^h 20	0 ^h 56 W	+30° 19	Fe NDx4	7-7	40/57	"
44024	HD 198726 = TV Aql	20 ^h 47.2	+27° 52	21 ^h 31	22 ^h 11	1 ^h 26 W	+28° 11	Fe NDx4	5-5-5	400/261	"
44025	HD 203156 = HR 8157	21 ^h 15.4	+37° 49	22 ^h 44	23 10	1 56 W	+38° 10	Fe NDx4	5-5-5	80/54	"
44026	HD 222368 = i Psc	23 ^h 34.8	+5° 05	23 ^h 15	23 ^h 20	0 ^h 14 E	+5° 34	Fe NDx4	7-7	40/13	"
44027	HD 219634	23 12.1	+61 25	23 42	00 52	1 40 W	+61 52	Fe/ND Ne/-	5-5-5 5-5-5	400/300	"
44028	"	"	"	00 55	02 14	3 03 W	"	Fe/ND Ne/-	5-5-5 5-5-5	400/290	"
44029	"	"	"	02 17	-03 31	4 20 W	"	Fe/ND Ne/-	5-5-5 5-5-5	400/254	"
44028 ^T	Spot Cal for	44027-29		15min @	^{15V D3} 4810	^{7V D1} H α	^{7V D2} 5450				
44030	HD 28363	4 23.3	+15 57	03 40	05 00	0 38 W	+16 08	Fe/ND	7-7	400/260	"
44030 ^T	Spot Cal for	44026, 30		15min @	15V	^{D4} 3900	^{D3} 4300	^{D1} 4810			

9-240 99
9-260 99
9-200 99

Spectr. Temp. 64°F..... Dome Temp./Hum... 64°F / 72% Transparency Conditions Fine... e.v. thp. circus... 28%
 Focus 505.....
 Spectr. Temp. Dome Temp./Hum. 56°F / 83%

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe ND 9-240 99	80/22	1-2	5.82	F2Ia	BC	G12/.68	126 μ /.5	IIaOE	B	Ceph/Evans	Focus 505	Fine
Fe ND 9-260 99	400/112	"	6.7	F6Ib	"	"	150 μ /.5	IIaOE	B	Ceph/Evans		Fine
Fe ND 9-200 99	40/26		4.3	F6Ib-G9Ib	"	"	120 μ /.5	"	B	Ceph/Evans		s/st
Fe ND 9-240 99	400/260	1-3	6.8-7.7	F0-G1	"	"	"	"	B	Ceph/Evans		vs/st
Fe ND 9-240 99	40/27	1"	4.02	F5II	RC	G12/.68	120 μ /.5	IIaOE	B	Ceph/Evans	64°F	sl st
Fe ND 9-260 99	400/261	1"	6.9	F5Ib-G0Ib	"	"	"	"	"	Ceph/Evans	T=63.5°F	Fine
Fe ND 9-200 99	80/54	1"	5.89	F2	"	"	"	"	B	Ceph/Evans	both saved broken in 2 pieces	sl st
Fe ND 9-240 99	40/13	1"	4.69	S7V	"	"	"	"*	B	std vel	new box of plates	vs/st
Fe ND 9-260 99	400/300	1"	6.47	B8	"	G16/.7	120 μ /.3	098e	B	SR Ly		vs/st
Fe ND 9-200 99	400/290	1.3"	"	"	"	"	"	"	B	"		vs/st
Fe ND 9-240 99	400/254	1-3	"	"	"	"	"	"	B	"		vs/st
Fe ND 9-260 99	400/260	1"	7.14	F8	"	G8/-.025	120 μ /.3	IIaOE*	B	HADES - B1		Fine
								"				

cont →

287 #2

Date Sept 26-27 Cont Observers Lg-Th

Emulsion Batches:

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[illegible]

288

Dome Temp./Hum. ... 54°F / 78% .

[illegible]

Date Sept. 27/28 Thurs/Fri Observers Gru^{KK}-Bts/

Emulsion Batches:

105 HIE 27099

5- 10-Nh (1/17, 201)

Oct 3 → 11af.c.....-20099

[illegible]

Spectr. Temp.

Dome Temp./Hum. 66° F. / 73%

Dome Temp./Hum. 60°F/95%.

Transparency Conditions ..scattered cloud.....290..

[illegible]

Sun - Mon

5th 68°

Emulsion Batches:

Emulsion Batches:
IV 1/6 (1/7, 2nd, 1st). 3^d

17, 30

Spectr. Temp. 6

Focus... 504

Spectr. Temp. 6

Exp. Mtr. Seci

[illegible]

Spectr. Temp. 64.5°F.....

Dome Temp./Hum 61°F./96%.

Dome Temp./Hum. /

Transparency Conditions ... Hazy - Clouds 292

Type/Filter	Companson Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
3-36		A0/300				BC	G12 G24/9	RS	TN _H	B		V Filter	slow comp v wk
3-38		A0/140				"	"	"	"	B		V Filter cloudy	wk comp v wk
1-10								"	"				wk
1-11						BC	G24/9	RS	"	B			too wk
Plates are clean, low fog, after 3' at 40°C, but inadequately hypered back to 1/15 conc. (1/5 of 1/500 AgNO ₃)													

Date TUES/WED OCT 9/10 Observers But-Tr

Emulsion Batches:

FOCUS.....51

Spectr. Temp. .

Exp. Mr.	Secs
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
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88	88
89	89
90	90
91	91
92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

1905

1/10/15-

10

192 4.7

06/09/24

406/92 13-5°

10-132 17'

113

4, 9 3'

155 4'

Transparency Conditions *Clearing* 294

Spectr. Temp. 39.....

Dome Temp./Hum. 132°/98%

Prob when Obs box fell	
open on walk back to	
Adm's bldg.	

Spectr. Temp. ...44°.....

Dome Temp./Hum. 48°/90%

Dome Temp./Hum. 40°/91%

Transparency Conditions Clear 296[illegible]

Emulsion Batches:
IIA02-02059-10109 2020b

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.....

Spectr. Temp.
Focus.....
Spectr. Temp.

Exp. Mtr.	Sec.
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
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90	90
91	91
92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

Transparency Conditions .. some haze 298

Focus \$10

Spectr. Temp.

Dome Temp./Hum. 40°F/93%

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
F6 W/-	S-8					BC	G12/68	70 μ /5	Tao	b		48° S10 cent w/blue	
F6 W/V	S-8	100/90	3-4	5.8		BC	G12/68	70 μ /5	Tao e	B	A.p MR	vs/wk	
"	6-6	100/91	3"	5.2		"	"	"	"	B	A.p MR		Fine
"	S-8	100/90		7.56	B9	"	"	120 μ /5	"	B	A.p MR	S/wk	
"									"				
F6 W/V	S-8	100/90	4"	7.5	AO	BC	G12/68	120 μ /5	"	B	A.p MR		Fine
"	S-8	100/93		7.85	AO	"	"	"	"	B	A.m MR	CLOUD vs/wk	
"	S-8	100/91	3"	6.2		"	"	"	"	B	A.p MR	44° S11 CLOUD	Fine
"	S-10	10/18		2.39	K5TH	"	"	"	"	B	STD VEL		Fine S/gag
F6 W/-	S-8						"	"	"	B		43° S11 cent s/blue	

Date _____

Oct. 21/22

Observers

Gu.-In.-Finstad-Freedman

Emulsion Batches:

Emulsion Batches:
 10m HIF old (1977) batch? 112,225!
 5m ILZF 29 168

5. D.2.F.

29 168

[illegible]

Transparency Conditions 300

Focus 503

Spectr. Temp. 70°F

Dome Temp./Hum. 66°F / 98%

69° 503

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
40/110	2-3"	3.86	F5Ib	BC	G12/1.9	150μ .3	HIE	B	IR Ceph/Gu	* V filter	backing plate shuttered	} very high fog	
40/40	2-3"	3.96	F5Ib	BC	G16/1.7	RS	IIa-F	B	IR Ceph/Gu		comp wk		wh
40/59	"	"	"	"	"	"	"	"	B	"		comp wk	sl wh
40/69	"	"	"	"	"	"	"	"	"	"	cloud	comp wk	sl wh
								"	B			m	vs bl.
								"					good

Date OCT 22/23 MON/TUES Observers ... But-Tn.....
79

Emulsion Batches:

Emulsion Batches:

4 th 12 th	Te.O-e	02059-10109	23 174
5 th 6 th	III Te	- 20099	
	III Te*	- 19109	

[illegible]

303 Tue Wed

Emulsion Batches:

7th 68^o H&O-02059-?

Date Oct 30-31, 199 Observers Butler K/H (some)

[illegible]

Spectr. Temp. $+43.5^{\circ}\text{F}$ Dome Temp./Hum. $+39^{\circ}\text{F}/.988$ Transparency Conditions .. *sl. hazy... cloudy...* 304.Focus 510 *after focus tests*Spectr. Temp. ... 42°F Dome Temp./Hum. ... $39^{\circ}\text{F}/.1008$

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/ND 12-10					BC	G8/-025	12W/1.0	IIIaJc	A		T=43° F=511 after rotation	blue red red:sl bl.
" " "					"	"	"	"	B			"
Fe/ND 9-9	80/40	3"	3.93	F0p	"	"	120W/5	IIIaJc	B	Asp Sp. MK	T=43.5 Set 510 focus	v sl strong poor in blue
" " 8-14	80/18	2.3"	5.2	A0p	"	G12/1.68	70W/5	"	B	A _p MR	T=43 " grainy	sl strong red focus
" " 5-5	400/94		7.40	A5	"	"	120W	"	B	Am PR	T=43° Set 512 some SE cloud	"
D2 42/10								"				
Fe/ND 5-5	80/17	3"	3.34	NO II	BC	G12/1.68	120W/5	"	B	STD VEL	cloud	uneven
Fe/ND 15-15								IIIaJ	B		after attempted rotation	blue & red red & blue
" " 15-15								IIIaJ	A			"

Wed-Thurs

Date _____

Oct 31 - Nov 1

Observers

Rm-Bts

Davis-Dirt

Emulsion Batches:

7m 66

...IIaOe 62059-22109

.....

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[illegible]

-22109

Spectr. Temp. 48°F
 Focus .. 510
 Spectr. Temp.

Dome Temp./Hum. +47°F / 93%
 Dome Temp./Hum.

Transparency Conditions ... same haze 306 ..

Comparison
Type/Filter Exp.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
F/- 5-5				BC	G12/.68	150/.5	IIaOE	B		48°F 510	cent sl Blue in Red cent vs Red in Blue
F/- 5-5	a/180	2-3	6.8-7.7	FO-G1	"	150/.3	IIaOE	B	Ceph/Evans		sl strong
F/- 5-5	00/90		6.7	FGI-IIb	"	150/.3	IIaOE	B	Ceph/Evans		fine
F/- 5-5	00/130	3-4	F2	5.89	"	150/.5	IIaOE	B	" "		vd str
				"			IIaOE				
F/- 5-5	0/12		F7B	4.64	"	150/.5	IIaOE	B	std vel		sl str
F/- 5-10	5/26		F5II	4.43	"	130/.5	IIaOE	B	Ceph/Evans		strong
F/- 5-5	00/180		F5IIb G07b	6.4	"	150/.3	IIaOE	B	Ceph/Evans	changed to .3 slit after 45 counts 490 510	sl str.
F/- 5-5	00/106		F2	5.89	"	150/.3	IIaOE	B	Ceph/Evans	some thin cloud	unc. on comp str
F/- 5-5	00/36		F5	2.10		"	"	B	S Bi/Bln-Ly-Tur	no comets last 10 min.	vd sl wht
F/- 5-5						"	"	B		humidity very high cloud . 48°F 510	blue, sl red red, sl blue
										red end generally poor focus	blue
F/- 5-5				BL	G12/.68	120/.5	IIaOE	B	} F=180 } F=510		
F/- 5-5				"	"	"	"	A			blue

Emulsion Batches:

...I.a.Oe. 02059-30109

Date ... Nov. 2/3. Fri/Sat Observers BLS.....

.....

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[illegible]

30/09

Spectr. Temp. 44°

Dome Temp./Hum. 39°F... 83%

Transparency Conditions ... clear... some haze... 308

Focus 511

Spectr. Temp. 41°

Dome Temp./Hum. 33°F... 90%

Comparison Type/Filter Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/5					BC	G12/68	152/5	IaOe	B		44° 511	cent Blue
Fe/1004 S-S	400/110	5	7.12	B0V	"	"	"	"	B	EB-Bln		Focus? Fine
Fe/1004 S-S	400/110	4-5	7.15	B0V	"	"	"	"	B	SB-Bln		"
Fe/1004 S-S	200/71	3	5.50	B2V	"	"	152/2	"	B	SB-Bln	41° 512	Focus? Fine
Fe/1004 S-S	410/22	4	2.15	K0III	"	"	"	"	B	sl blue		Focus 51 str
Fe/5					"	"	"	"	B		41° 512	cent Blue

309

Date . Nov. 4/5 ... Sun/Mon Observers ... Bts ... K.K.

Emulsion Batches:

...T.A.O.e... 02059...-30109

...III a Je.....-20099

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
77F	focus							Fe/-	5-5
44077	HR 8157 HD 203156	21 ^h 15 ^m 4	+37° 49'	20 51				Fe/ND45	
44077T1	β And 1780	01 08	+35 30	01 35					
T2	Grazing illumination test								
44077	HD 18925 (X Per)	2 ^h 57.6	+53° 07'	01 ^h 17 ^m	01 ^h 39 ^m	01 ^h 14 ^m W	+53° 29'	Fe/ND45	4-5-L
44078	"	"	"	01 ^h 42 ^m	02 08	01 43W	"	"	4-5-L
44079	HD 47105 (X Per)	6 ^h 31.9	+16° 29'	02 ^h 17 ^m	02 40	01 16E	+16° 27'	"	4-4-0
44080	"	"	"	02 ^h 54 ^m	04 01	+00 05W	+16° 27'	Fe/-	5-10-8
80T [✓]	spot cal. for	44077-79		15V 15m	① 3900	② 4300	③ 4810		
80F	focus							Fe/-	8-8

* Watten 6
filter not in
filter wheel

1-30109
20099

Spectr. Temp. 44°
Focus 511
Spectr. Temp. 42°

Dome Temp./Hum. 40°F/... 82%
Dome Temp./Hum. 36°/83%

Transparency Conditions ... clear 30

Comparison Type/Filter Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/- 5-5					BC	G2/1.68	150/15	IIaOe	B	Ceph/Rm	44° 511	no comp Dis color
Fe/100	400/	2-3	5.89	F2	"	"	120/15	"	B	Ceph/Rm	clouds	
X	GRATING	ILLUM. TEST	BC				250μ	IIIF	—	test	5x6 1/2 inch plate	
Fe/100	10/100	4	2.9	G8III +A3V	BC	G8/1.2	120/15	IIaOe	B	KK	44° 511 ↓ *comp vstr	fine
" 11-4	40/140	"	"	"	"	"	"	"	B	"		* 51str FINE
" "	40/250	5	1.9	A0 IV	"	"	"	"	B	"		* vstr
Fe/- 5-5	40/60	"	"	"	BC	G8/-0.025	120/15	IIIaJe	B	"		comp FINE vstr w/ ok
Fe/- 8-8								IIaOe			clouds	
						"	"	"	B		42° 511	red blue

311

Pg 51

Date

Nov 8/9/77

Observers

Gu TN

Emulsion Batches:

3m 67°

HIF

Hole

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
44081	HD 204867	21 26.3	-06 01	20 14	20 38	02 01W	-05 38	Ne/Fid Low	30-30- 30 ↓
44082	HD 204867	"	"	20 46	21 06	02 28W	-5 38	Ne/Fid	30-30- 30
44083	HD 209750	22 00.7	-00 48	21 18	21 42	02 30W	-00 27	Ne/ "	30-30- 30
44084	HD 213307	22 25.3	+57 54	21 50	22 33	02 57W	+58 21	Ne/ "	30-30- 30
44085	HD 8890	01 22.3	+88 46	22 41	22 53	00 36 E	+89 10	Ne/ "	30-30- 30
44086	HD 20902	03 17.2	+49 30	23 00	23 06	01 23 E	+49 48	Ne/ "	30-30- -30
44086 ✓	Spot Cal'n for	44081-86		7 1/2U	D4 10min 7680	D4 10min 8464	D3 30min 8464		
44087	HD 24760	03 51.1	+39 43	23 28	23 41	01 22 E	+39 57	Fe/-	13-13
44088	"	"	"	23 44	23 57	01 05 E	"	"	15-15
44089	"	"	"	00 06	00 17	0 45 E	"	"	17-17
44090	"	"	"	00 25	00 36	0 27 E	"	"	17-17
44091	"	"	"	00 43	00 54	0 09 E	"	"	17-17
44092	"	"	"	01 04	01 18	0 15 W	"	"	17-17
44093	"	"	"	01 21	01 33	0 30 W	"	"	17-17

Spectr. Temp. ...

Focus ... 5/4

Spectr. Temp. ...

Spectr. Temp. ...

Spectr. Temp. ...

Spectr. Temp. ...

Spectr. Temp. ...

Spectr. Temp. ...

Spectr. Temp. ...

Spectr. Temp. ...

Spectr. Temp. ...

Spectr. Temp. ...

Spectr. Temp. ...

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Spectr. Temp. ...

Spectr. Temp. ...

Spectr. Temp. ...

Spectr. Temp. ...

Spectr. Temp. ...

Spectr. Temp. ...

Spectr. Temp. ...

Spectr. Temp. ...

Spectr. Temp. 491°F

Dome Temp./Hum. 73.4°/95%

Transparency Conditions .. *hazy* *3/2* ..

Focus 514

Spectr. Temp.

Dome Temp./Hum. /

[illegible]

313 P9 #2 Cont

Date Nov 8-9/79

Observers T. H.

9 left ↓ 95 Coln

Emulsion Batches:

18 256 5^m D19 18^m D12-1-e 02.108... = 19109 ^{boxed} 4^{hr} 50^{sec}

18 256 5^m D19 18^m D12-1-e^(*) 12.108... 20099

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
44094	HD 24760	03 51.1	+39 43	01 42	01 54	00 51 W	+39 57	Fe/-	17-17
44095				02 00	02 11	01 08 W		Fe/-	17-17
44096				02 15	02 26	01 23 W			17-17
44097				02 30	02 41	01 38 W			17-17
44098				02 45	02 58	01 55 W			17-17
44099				03 04	03 16	02 13 W			17-17
44100				03 24	03 38	02 35 W			24-17
44101				03 41	03 55	02 52 W	+39 58		220-17
44102				04 01	04 13	03 10 W			17-17
44103				04 21	04 33	03 30 W			17-17
44104				04 39	04 55	03 52 W			17-17
44105				05 05	05 19	04 16 W			15-15
44105	Spot Coln for 44087-44102			15 min	D4175V 3900	D415V 4300	D415V 4810		
44095	" " " 44103 - 05,07			"	"	"	"		
44106	HD 29139	04 30.2	+16 18	05 30	05 31	03 49 W		Fe/ND 8-8	

Spectr. Temp. ...

Focus ...

Spectr. Temp. ...

Exp. Mtr. Seem

4/100 3"

4/100

4/100

4/100

4/106

4/106

4/124

4/117

4/110

4/115

4/115

4/120 2"

4/130 1-2

Spectr. Temp. Dome Temp./Hum.

Transparency Conditions ... *thin cloud nearby* ... 314.

Focus

Spectr. Temp. Dome Temp./Hum.

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe-12-12	40/100	3"	2.71	B0.5V	BC	G8/-0.25	120/7	ITa-Job B		SB Th		
Fe-15-11	40/100										T=36°F reset to 516	
12-12	40/100										some cloud	
12-12	40/100											
15-12	40/106											
17-12	40/106										thin cloud	
24-12	40/124											
20-12	40/117											
2-12	40/110											
12-12	40/115							ITa-J-e*			Fe are Adjusted - more centered	
12-12	40/115							"			Train Vign	
15-12	40/120	2"						"			** Problem noted MAY 1981 44105T prob for $\frac{7}{5}$ 44103-05, 7 44095T prob for $\frac{7}{5}$ 44087-44102	
								"				
								ITa-J-e				
Fe/ND 8-8	40/30	1-2'	2.39	K5III	BC	G8/-0.25	120/7	ITa-J-e	B	std/vel	** Over again	

仕 3

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[illegible]

Spectr. Temp. .
Focus
Spectr. Temp. .

Exp. Mtr.	Sec.
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
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94	94
95	95
96	96
97	97
98	98
99	99
100	100

KK	I
2	A

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions 3/6

Focus

Spectr. Temp.

Dome Temp./Hum. *+28°F / 99%*

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fel-	I-					BC	68/-025	120/-7	Dole	B		T-35°F Set 576	**
Fel-	1545	40/116	2	2.71	B03V	"	"	"	Dole*	B	SB T _h		
KK If I do another big run, I will need 2 Full boxes of Dole's on hand. If you do												KK ** On Far right of Dole* Exp box if it matters.	

Sun - Mon

Emulsion Batches:

II40C 02059-05119

.....

[illegible]

Spectr. Temp. ...
Focus 51
Spectr. Temp. +

Exp. Mtr.	Scoring
-----------	---------

300	240	5'
-----	-----	----

42. 90 6"

4/10

4/12

400/100 = 5

44/150 3-5

Spectr. Temp. $+33^{\circ}\text{F}$

Dome Temp./Hum. *+30°/99.8*Dome Temp./Hum. 127°F / 100%+

Transparency Conditions . . . *Stable but part closed* . . .

[illegible]

319 Mon-Tues

Emulsion Batches:
...Ita 0-e 02059-05119

...Итого 02039-05119

Date Nov. 12-13, 1979 Observers Bu + Th

[illegible]

2-05119

Spectr. Temp. ... 38°F

Dome Temp./Hum. ... 33°F/60%

Transparency Conditions ... s/hazy 320

Focus ... 517

Spectr. Temp. 35°F

Dome Temp./Hum. 30°F/97%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/ND 55-400/100	2"	7.56	B9	BC	G12/68	120/1.5	11, 2 oe	B	Ap MR	Label is #13	v sl str.
" 55-400/100	"	7.50	"	"	"	"	"	B			v sl str.
							"				v
Fe/ND 55-400/100		7.85	A0	BC	G12/68	120/1.5	"	B	Am MR		v sl str.
" 55-400/100	1"	6.1	A2	"	"	"	"	B	Am MR		v sl str.
" 55-400/100	1 1/2"	7.5	B9	"	"	"	"	B	Ap MR		v sl str.
" 55-400/76	2	7.16	B9	"	"	"	"	B	Ap MR		v sl str.
Fe-55				"	"	"	1140	B			good

321

Tues Wed

Date Nov 13-14 / 79 Observers Bud-Tn

Emulsion Batches:
 6m 70° ITC 02059-12119
 4m 70° ITCeb

[illegible]

Spectr. Temp. 38°F.....Dome Temp./Hum. 135°/72%.....Transparency Conditions thin cloud.....Focus 517.....

322

Spectr. Temp.

Dome Temp./Hum. 33°F/85%....

Comparison Type/Filter Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/- 5-5					BC	G12/68	120μ/7	Ilao	B			good
Fe/10 5-5	400/100	2	7.00	A1	BC	G12/68	120μ .5	Ilaoe	B	Am MR	sl cloud	v sl str.
Fe/10 5-5	100/110	13	6.78	B9	BC	G12/68	120μ .5	"	B	Ap MR	cloud	v sl str
Fe/- 10-12								III 2J	A	T=40°	blue blue, red lined, center ok	
Fe/- 10-12					BC	G12	70/7	"	B	F=513	"	

323

Wed/Thur

Date Nov 19/15 79

Observers

Rm - Tn / Tn Ly

Emulsion Batches:

Un.O.E. 02059-12179

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp
44122	HD186688 = SU Cyg	19 ^h 40.8	+29° 01'	21 ^h 19	21 57	5 ^h 30 W		Fe/ND	5-5-5
44123	HD203156 = HR8157	21 ^h 15.4	+39° 49	22 ^h 02	22 ^h 29	4 ^h 27 W	+38 19.2	Fe/ND	5-5-5
44123T	Spot Caln for	44122	15 min @ 15V		D4 3900				
44124	HD17327	21 ^h 41.8	+64° 14	22 ^h 35	00 09	0 36 W	+64° 40	Fe/ND	5-5-5
✓ 44124T	Spot Caln for 44122-24				15 min @ 15V	D4 3900	D3 4300	D2 4810	
44125	HD 10260	01 35.3	+60 32	00 20	00 48	2 24 W	+61 05	Fe/ND	7-7
44126	HD 30869	04 46.2	+13 29	00 52	01 29	0 03 E	+13 47	Fe/ND	7-7-7
44127	HD 28363	04 23.3	+15 57	01 34	01 50	0 40 W	+16 15	"	7-7-4
44127 F	Focus Test						"	Fe/-	7-7-7
44127 F2	Focus test after ph rotation & centering of comp beam							Fe/-	15-15
F3	"							"	"
F4	"							"	"
Nov 16									
F5									
F6									

Spectr. Temp. .

Focus.....5

Spectr. Temp. .

Exp. Mtr. Seem

84/200

21/400

40/120 2"

20/93 3"

84/115

400/32 3"

2/19

Spectr. Temp. ... $+38^{\circ}\text{F}$

Dome Temp./Hum. $+32^{\circ}\text{F}/90\%$

Transparency Conditions ... *Partly cloudy* ... 324

Focus ... 515

Spectr. Temp. ... $+33^{\circ}\text{F}$

Dome Temp./Hum. $27^{\circ}\text{F}/100\%$

Comparison Type/Filter Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
F 5-55	84/800		68-7.7	F0-G1	BC	G12/.68	150/.3	IIaOE	B	Ceph/Evano	37°F Focus 515	fine
F 5-55	121/400		5.89	F2	"	"	150/.5	IIaOE	B	Ceph/Evano		sl strong
F 5-55	400/120	2"	7.77	B8III	"	"	150/.5	IIaOE	B	SU Cas Assoc		vsl strong
D2 27/10	200/93	3"	5.56	R8	BC	68/.025	150/.5	"	B	SB Ly	$T=35^{\circ}\text{F}$	vsl strong
F 1/10 27/10	400/115		6.77	F5	"	"	150/.3	"	B	SB-Bln-Tur-Ly	occasional cloud interrupted	sl strong
F 2-71	400/32	3"	7.12	F8	"	"	150/.3	"	B	"	cloud	no comparison
F-L F-2					"	"	11/7	IIIa-e	B			
F-L 5-55					"	"	70/.7	IIIaTeb	A		$T=35^{\circ}\text{F}$ $F=514$	
					"	"	"	"	B		"	
					"	"	"	"	B		$F=509$	
					after additional adjustments							
									A		$T=30^{\circ}\text{F}$ $F=505.5$	should be 506.5
									B			

Spectr. Temp. 41°F

Dome Temp./Hum. 73°F/93%

Transparency Conditions very hazy - Fog 32G

Focus 503

Spectr. Temp. 41°F

Dome Temp./Hum. 73°F/100%+

zero point of focus curve 506.5 at 30°R
Cloud Too

Comparison Type/Filter Ex	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/ND 442 D3 44 4320 480	800/205	3"	8.89	B5	BC	G12/.68	200M/.5	IIaOE	B	SU Cas R Abs		vs! weak
Fe/ND 455	800/205	1-2"	9.12	B9 I	BC	G12/88	150M/.5	IIaOE	B	SU Cas R Abs		unseen
Fe/ND 555	400/80	"	7.12	F8	BC	"	150M/.3	IIaOE	A	Hyad. Bin.		vs! strong
" 555	400/80	2"	6.77	F5	"	"	"	"	B	Hyad. Bin.		sl strong
" 555	400/80	"	7.44	F8	"	"	"	IIaOE*	A	Hyad. Bin.		vs! strong
" 4810								"				
Fe/ND 555	400/78	2"	7.12	F8	"	"	"	"	B	Hyad. Bin.	cloud	
Fe/ND 555					"	"	150M/.7	"	A			sl. blue
Fe/ND 555					"	"	"	"	B			sl. blue

227

Sat/Sun

Date Nov. 24/25..... Observers Bk - Bts.....

Emulsion Batches:

7th D1968 IIaO.e. 02059-14.119

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
34F	focus							Fe/-	5-5
44134	HD 187691	19 46.2	+10 10	17 24	18 50	2 56 W	+10° 19' 8	Fe/NO4	5-5-5
44135	HD 194093	20 18.6	+39 56	18 59	19 02	2 36 W	40 12	Fe/Nov	5-70
44136	HD 209166	21 56.2	+12 38	19 07	19 54	1 50 W	+13° 01' 9	"	5-5-5
44137	HD 219449	23 10.7	- 9 38	20 00	20 25	1 07 W	-09° 08' 8	"	5-5-5
44138	HD 218634	23 04.5	+ 8 08	20 31	21 12	2 01 W	+ 8 37	"	5-5-5
44139	HD 222399	23 35.1	+37 06	21 17	22 19	2 37 W	+37 35	"	5-5-5
44140	HD 13994	2 11.0	+57 04	22 26	23 36	1 17 W	+57 24	"	5-5-5
✓	spot cal for	44134-44,		15V 15min	① 3900	② 4300	③ 4810		
44141	HD 14189	2 12.6	+39 49	23 41	1 28	3 08 W	+40 12	"	5-5-5
44142	HD 38670	5 42.4	+20 50	11 36	2 02	0 12 W	+20 51	"	5-5-5
44143	HD 40873	5 56.6	+51 35	2 12	2 44	0 38 W	+51 36	"	5-5-5
44144	HD 32092	4 55.6	+26 32	2 52	4 41	3 38 W	+26 39	"	5-5-5
14F	focus							Fe/-	5-5

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr.

Sec.

Transparency Conditions clear 328

Focus \$500

Spectr. Temp.

Dome Temp./Hum. 37°/99%

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/-	5-5					BC	62/68	20 μ .5	Ilade	B		50° : 500	no comp.
Fe/104	5-5	100/100	2	5.6	F8	"	"	"	"	B	Waterloo		v sl str
Fe/104	5-5	40/12		2.9	F8	"	"	"	"	"			v sl str
"	5-5	100/100	1-3	5.9	F1	"	"	"	"	"			
"	5-5	100/180		5.3	K0	"	"	"	"	"			
"	5-5	100/200	2-3	6.6	M2	"	"	"	"	"			fine comp. sl. wk.
"	5-5	100/100		6.9	F1	"	"	"	"	"		shadowed by scrap of torn emulsion	v. sl. strong
"	5-5	100/152		7.0	B2	"	"	"	"	"			v sl str
"	5-5	100/100		7.5	F2	"	"	"	"	"			v sl str
"	5-5	100/80		5.0	B9	"	"	"	"	"		43° 502	v sl str comp. wk.
"	5-5	100/80	3	6.4	A5	"	"	"	"	"		comp. on stellar !	v sl str comp. wk.
"	5-5	40/83		7.3	F5	"	"	"	"	"			fine
Fe-72	5-5					"	"	"	"	"		42° 502 clouds	v sl blue

Transparency Conditions *Cirrus - cloud*

Focus 509

Spectr. Temp. 36°K

Dome Temp./Hum. / 88 / 6 ...

weddy 330

[illegible]

331

Date Nov 29-30/79 Observers KA-Tb

Emulsion Batches:

Emulsion Batches:
 No. - e 02059-28119 17192

Spectr. Temp. 7

Focus...506

Spectr. Temp. ↓

[illegible]

Transparency Conditions . *v. hazy* 332

Focus 506

Spectr. Temp. $+32^{\circ}\text{F}$

Dome Temp./Hum. *27°F / 90%*

[illegible]

333

Date Nov 30- Dec 1 Observers Tm-AK

Emulsion Batches:

D40-e 02059-2811914-Mh 1355

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
44151	HD 219150	23 08.6	+1° 39'	17 26	18 44	0 9 E	+2 11	Fe/ND	5-3-5
44151 T	Spot Cal'n for 44151-54				15 min @ 15V	D4 3900	D3 4300	D2 4810	
44152	HD 222368	23 34.8	+5 05	18 51	19 01	0 18 E		Fe/ND	5-7
44153	HD 217782	22 58.0	+42 13	19 05	19 21	0 38 W		Fe/ND	5-3-5
44154	HD 8890B	1 22.5	+88 46	19 32	22 11	0 9 W	+89 12	"	5-5-3
44155	HD 8890 discarded	1 22.5	+88 46	22 20	22 42	0 39 W		Ne/-	30-30-30
44156	HD 8890	1 22.5	+88 46	22 45	23 04	1 01 W	+89 12	Ne/-	30-30-30
44156 T	Spot Calibration for 44156-		7 1/2 15"	7080 D4	7680 D4	8464 D4			
44157	HD 18925	2 57.6	+53 07	23 17	00 01	2 40 W	+0	Ne/-	30-30-30
44158	HD 18925	"	"	00 08	00 24	3 3 W		Fe/-	7-7-7
44159	HD 47105	6 31.9	+16 29	00 28	00 56	0 1 W	+	"	7-7
44159 F	Focus test					-		Fe/-	5-5

Spectr. Temp. .

Focus . . . 506

Spectr. Temp. .

28119

Spectr. Temp. 33°F Dome Temp./Hum. $77^{\circ}\text{F}/80\%$ Transparency Conditions *gusty - part cloudy*Focus 506 Spectr. Temp. 28°F Dome Temp./Hum. $72.2/93\%$

334

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/NO 5-3-5	300/200	3.5"	7.67	FD	BC	G12/68	150/1	Ilad-e	B	Fe prog		fine
C2 1810							1	"				
Fe/NO 5-7	400/94		4.64	F7V	BC	G12/68	150/1	"	A	Std Vel		fine
Fe/NO 5-3-7	400/105		5.17	A2N	"	"	"	"	A	15m Sp	$+32^{\circ}\text{F}$	fine
" 5-5-7	300/85	2.6"	8	F	"	"	150/3	"	B	"	αUMiB probably contaminated by A	focus poor in red
NO/NO 30-3-3	40/90		2	F	"	G12(24)/7.68	120/5	HIE	A	"	V film and slit	only comp.
NO/NO 30-3-3	40/96		2	F	"	G12(24)/9	120/5	IV-NH	B	"	" RS of type	wk
								IV-NH				
NO/NO 30-3-3	40/100	3"	$V=2.24$	G8II+ A3V	BC	G24/9	120/5	IV-NH	A	Asm Sp	"	wk
NO/NO 7-7-7	40/90	2.4"	"	"	"	G12/68	120/5	III-Te	B	"		sl str.
" 7-7	40/55	3.4"	1.9	A0IV	"	"	"	"	A	"	cloud	narrow decker for part exp.
Fe/NO 5-5					"	"	120/9	Ilad-e	A			blue

335

Clear from 18:30 Eng Tests

Emulsion Batches:

Emulsion Batches:

.. Pol-e 02059 - 01129¹⁷ 191
.. Aleb 12108 - 10119¹³ 238

Date 1972 Dec 2/3 Observers KK-TM / TM

[illegible]

Transparency Conditions *Scattered clouds*..... 336

Focus 508-509

Spectr. Temp.^oF.....

Dome Temp./Hum. *+16°/100%* ++

Frosty

336

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/K ₂ Cr ₂ O ₇	5-5-5	800/150	4.2"	9.3	MIV	BC	G12/68	15/3	Dub-e	A	Asm-Sp		✓ sl wh some flexure
02 480									"				
Fe/30	5-5-5	400/135	3"	3.34	X0 II	BC	G12/68	15/15	"	A	std vel	T-227 set 509	guiding
1	5-5-5	400/110	"	5.81	G5Vp	"	"	"	"	B	Asm-Sp		fine
1	5-5-5	400/93		4.50	A7V	"	"	"	"	A	Asm-Sp		fine
Fe-575		40/70	4"	4.07	B2IVe	"	"	"	Waleh	B	Bo-Bl _n	* Filter manually - seems that filter wheel is clogged.	fine
									"			comp -	
Fe-777		40/110	3"	3.51	095V	BC	G12/68	150/110	"	A	SB Bl _n	cloud	fine
"	777	40/106	3"	1.9	A0IV	"	"	120/110	"	B	Asm Sp		fine
Fe-10-2						"	"	"	Dub-e	A?		Filter wheel again	sl blue

Spectr. Temp. ... 40°

Dome Temp./Hum. 137°F / 98%

Transparency Conditions 338

Focus 503

Spectr. Temp. 41.7°F

Dome Temp./Hum.

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
FeL / 10-10					Bc	G12/.68	70/1.0	III-25ch	A	-10.0 μ		blue
" / 10-10									B	-8.6 μ		blue
" / 5-20									A			
" / 3-3									B	-2.0 μ ?		
FeL / 10-10							120/1.0	II-2F	A	-0.0 μ	on right	
Fe - 10-10							"	"	B		" "	
Ne / 10-10							"	IV-Nh	B		should have had V filter	
FeL / 5								IV-Nh				
								HIE 3				

339

Date

Sun-Sun Dec 8/9, 1979

Observers

PK-TM

Emulsion Batches:

IIA-e 02059-01129

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
44167	HD 32092	4 55.6	+26 32	23 14	00 48	00 39 W	+26 45	Fe/ND	5-5-5
44167T	Spot Calc for 44167-70.			15 min @ 15V		DA 3900	D3 4300	D2 4810	
44168	HD 38670	5 42.4	+20 50	0 50	01 27	00 31 W	+20 37	Fe/ND	5-5-5
44169	HD 71153	8 10.7	+24 52	1 32	3 00	0 33 E	+24 42	"	5-5-5
44170	HD 71152	8 10.7	+24 52	3 02	3 40	0 06 W	"	"	5-5
44170F	Focus Test					"	"	Fe/-	5-5
Dec 11 - Tests.									
44170F2	G12 Focus Test								
44170F3	"								
44170F4	G43 Focus Test								
44170F5	"								
44170F6	"								
44170F7	"								
44170F8	G8 Focus Test								
44170F9	"								

Dome +46°F

Spectrograph 48°F

Set 502

0"

+15°

Fe/- 25-25

"

"

"

15-15

"

"

"

"

"

"

"

25-25

"

"

Spectr. Temp. ...

Focus ... 502

Spectr. Temp. ...

Exp. Mtr. ...

Sect. ...

400/110 3-5

400/110 3-5

400/110 3-5

400/110 3-5

400/110 3-5

400/110 3-5

400/110 3-5

400/110 3-5

400/110 3-5

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400/110 3-5

400/110 3-5

400/110 3-5

400/110 3-5

400/110 3-5

400/110 3-5

400/110 3-5

400/110 3-5

6/29

Spectr. Temp. $+30^{\circ}\text{F}$

Dome Temp./Hum. $48^{\circ}\text{F}/89\%$

Transparency Conditions $\dots$ Good $\dots$ 5/ haze, cloud

Focus $\dots$ 508

Spectr. Temp. $+27^{\circ}\text{F}$

Dome Temp./Hum. $+20^{\circ}\text{F}/87\%$

340

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
R1 5-5	400/110	3-5"	7.3	F5	BC	G12/68	150u	Dade	B	Waterloo		
D2 4810								"	"			
R1/10 5-5	400/110	3-5"	5.0	B9	BC	G12/68	150u	"	A	Waterloo		vsl sm.
" 5-5	400/92	2"	8.2	G	"	"	"	"	B	Waterloo	Approx 1/3 contamination from HD 31152	
" 5-5	400/33	2"	7.2	A3	"	"	"	"	A	Waterloo		
bl 5-5					"	"	"	"	B		Cloud	
Set 502												
R1 2-5					BC	G12/68	150/110	Dade	A		Cent S' Blue	
" "					"	"	"	"	B		" " "	
" 5-5					"	G43/15	"	"	A		cont. more blue than for G12	cont blue
" "					"	"	"	"	B			"
" "					"	"	PS*	"	A		* Forgot Fld Lens	no comp
" "					"	"	"*	"	B		" " "	"
" 5-5					"	G81-025	150/110	"	A		T=49°F now	cont vsl Red
" "					"	"	"	"	B		Cont $\rightarrow$	"

Date Dec 11 Observers TJ

.....

.....

.....

Spectr. Temp. ...
Focus 50
Spectr. Temp. ...

[illegible]

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions

Focus 302

349

Spectr. Temp. extend

Dome Temp./Hum.

[illegible]

Date Dec 14/15 Fri Sat Observers W/C-BLS

Emulsion Batches:

IIae 02059-01129

.....

• • • • •

[illegible]

21129

25°F/80°F

clear.

509.

.....

$$249/8270$$

Comparison	
Type/Filter	Exp.

Fe	-	5-5
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Feb/04 55-

2 Feb/24 5:5-

345

Date Dec 15/16 Sat/Sun Observers Wlr - Bts

Emulsion Batches:

IIa.0e.02059-08129IIIa.0e.12108-1011.909802e.20049-02119

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Mir.	Sec.
73F	focus							Fe/-	5-5		
44173	HD 219150	23 ^h 08.6	+1° 39'	18 ^h 23 ^m	21 ^h 01	+3 ^h 08 W	+02° 08.5	Fe/ND4	5-5-5	40/10	
44174	HD 16523			21^h 30^m			+56° 37'	Fe/ND4	2-	40/1	
44174	HD 23408 20 Tau	3 ^h 39.9	+24 04	22 ^h 12 ^m	22 ^h 14 ^m	+00 ^h 09 ^m W		Fe/ND4	4-3	40/3	
44175	HD 29139 α Tau	4 ^h 30.2	+16° 18'	22 ^h 28 ^m	22 ^h 30 ^m	-00 45 ^m E		Fe/ND4	5-10	40/11	
44176	HD 47105 γ Gem HD 47105	6 ^h 31.9	+16° 29'	22 ^h 55	00 47	-00 30 E	+16 26	Fe/-	8-8-8	40/20	
75T	spot cal for	44173-75		15V 15 min	① 3900	② 4300	③ 4810				
76T	spot cal for	44176-		15V 15 min	① 3900	② 4300					
44177	HD 62509 (β Gem)	07 39.2	+28° 16'	01 02	01 06	-01 18 E	+28 04.6	Fe/ND4	8-8-6	40/25	
77F	focus							Fe/-	5-5		

28/29
01.9
02.19

Spectr. Temp. 36°
Focus 508
Spectr. Temp.

Dome Temp./Hum. 34°/78%
Dome Temp./Hum.

Transparency Conditions clear
346

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
12/- 5-5				BC	G12/.68	150 .5	IIaOe	A		36° 508	ok
Fe/M 5-5 400/110	3	2.57	FO	"	"	"	"	A	Fernie		fine
Fe/M 5-5 400/		10.6 _{uv}	WCL	"	G43/.5	250 .3	IIaOe	A		37° 511 clouds	
Fe/M 4-3 40/3		3.8	B9	"	G43/.5	250 _{uv} .3	IIaOe	B	STD Vel.	37° 511	sl str.
Fe/M 5-2 40/11		2.39	K5III	"	G12/.68	250 .3	IIaOe	B	STD Vel.	37° 507	fine comp sl str.
Fe/- 8-1 40/120		1.9	A0II	"	G8/-1025	70 .5	IIIaJe	A	KK	37° 505	fine
							IIaOe				
							IIIaJe				
Fe/M 3-8 40/25		2.15	K0III	"	G8/-1025	150 .5	IIaOe	A	std vel		fine
Fe/- 5-5							IIaOe	A		37° 507	ok

Date Dec. 16/17 Sun/Mon Observers KK-Bts/Bts

Emulsion Batches:

Emulsion Batches:

6'1/2" 68°	.. 09802e .. 20049-02119
6'1/2" 68°	.. IIIaJeb.12108-10119
7'1/2" 67°	.. IIa0e... 02059-03129

[illegible]

1-02/9
-2/9
-5/9

Dome Temp./Hum. 12°F/77%

Transparency Conditions . . . *clear* . . .

Type	Filter	Comparison Exp.
Fe	-	5-6
Fe/NO ₄		5-6
Fe	-	5-6
Fe/NO ₄		6-6
Fe	-	6-6
Fe/NO ₄		6-6
Fe	-	7-7
Fe/NO ₄		7-7
Fe	-	5-5
Fe/NO ₄		5-5
Fe	-	5-5
Fe/NO ₄		5-5
Fe	-	5-5
Fe/NO ₄		5-5

Date Dec 17/18 Montine Observers Tnr - Bts

Emulsion Batches:

..Jl. Oc. 02057-08129

Spectr. Temp.

Focus.....

Spectr. Temp.

[illegible]

- 0829

Spectr. Temp. 19°
 Focus 514
 Spectr. Temp.

Dome Temp./Hum. $16^{\circ}\text{F}/82\%$
 Dome Temp./Hum.

Transparency Conditions clear $350'$

Comparison
Type/Filter Exp.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/- 5-5				BC	G12/.68	$150/.5$	IaOe	B		19° 513	
Fe/ND4 5-55	300/-	3	8.97 A3 V	"	"	"	"	B	Su Cas R Ass.	514	vsl. weak
Fe/ND4 8-8-8	400/-	3	7.12 F7 V	BC	G8/- .025	$150/.3$	IaOe	B	Hyades Bin.	19° 571	vsl. weak
Fe/ND4 8-8-8	400/-	2	6.67 F7 V	"	"	"	"	B	"		"
Fe/ND4 8-8-8	400/-	2	7.55 F7 V	"	"	"	"	B	Hyades Std		"
Fe/ND4 5-55							IaOe				
Fe/ND4 5-55	400/-60	2	$V=7.05$ F7 V	"	G16/.7	$150/.3$	09802e	B	Hyades Std	19° clouds! 513	FINE
							"				
Fe/- 10-7				"	"	"	09802e	B		19° 513	

351

Thurs - Fri

Date Dec. 20/21.../79 Observers Gu. Ty.....

Emulsion Batches:

7th 68th ... II.0-e 02059-17129
7th 68th ... HIE

7th 68th HIE

[illegible]

Spectr. Temp. .

Focus 37

Spectr. Temp.

Exp. Mtr.	Seci
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
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16	16
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81	81
82	82
83	83
84	84
85	85
86	86
87	87
88	88
89	89
90	90
91	91
92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

Leaf 9

175	11
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46

Transparency Conditions . . . *bazy - cloudy* . . . 352 . . .

Focus 312

Spectr. Temp.

Dome Temp./Hum. /

Downhill from here on anyway.
(That is, sun is returning)

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/O 55-5		300/150	2.3	7.57	F0	BC	G12/68	150/5	IIaO-e	A	Fe. Prog	cloud	* uneven
		Lost exp forgot to note enough plates to redo.											
Fe/O 30-30		10/120	"	1.8	F5	BC	G12/9	150/5	HIE	B	IR Ceph	glass backing broken in two	Strong exp fine
Fe/O 30-30		10/46	"	4.1	G70	BC	"	"	"	A	"		finger prints!
* problems with peeling emulsion on this batch of IIaO's getting worse!													

Date Dec 28/29 1979 Observers Tnr - Tn

02059-17129
 098me 20049-17129

Spectr. Temp. .
Focus
Spectr. Temp. .

Exp. Mtr. Seci

* something was across the plate
while in the plateholder

355

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.....

.....

[illegible]

356

Comparison
m Type/Filter Exp

357

normal
width

70

120

150

+ 200

x a

†

Lens Slits

nominal width (μ)	actual width (μ)	actual ang. width (")	projected * width (μ)	proj. width $\frac{\text{cm/sec}}{12 \text{ Å/mm}}$
70	68	0.4	15	13
120	102	0.6	22	18
150	129	0.76	28	23
+ 200	165 [†]	1.0	36	30

* with 0.8 anamorphic factor (exact value depends on grating λ/r)

† to 50% transmission, edges not sharp