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Jim Thomson July 1974

phone 484-6153

140 Erskine Ave
Apt # 1410
Toronto

ility

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Dome Temp.

Focus

Dome Temp.

low Angle

End

B leaked Oct 22

5

(continuation)

Date 1973 09 23 Tues Observer Hu-Ri Julian Day.....

Plate No.	Object	R.A. 1900	Declination 1900	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P
37616	HD 28475	04 24.2	+10 18	G12	IIa0B	13/15		01:17	01:46	
37617	HD 21364	03 21.8	+09 23	"	IIIaJ	9/17		01:53	02:14	
3761771	col steps wedge for plate		37617		IIIaJ	10 mic				
37617F1	focus test out and in				IIa0B	9	50°F			

Dome Temp

Focus

Dome Temp

Hour Angle

End

00°54'

0°39'

7 #1

b 00922
x evacuated

Date 1973 Oct 23/24 Tues-Wed Observer Hu-Ri Julian Day

Plate No. ✓	Object	R.A. 1900	Declination 1900	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.
37618	HD 142926	15 ^h 52.1 ^{59.6}	+42° 51'	G-12	IIaOb	13/9	57°F	18:07	18:27	A
37619	"	"	"	"	"	"		18:28	18:43	B
37620	HD 186547	19 ^h 39.9	+13° 04'	G-12	IIaOb	13/5		18:47	19:00	A
37621	HD 190658	20 ^h 00.9	+15° 13'	G-12	IIaOb	13/5		19:04	19:50	A
37622	HD 216494	22 ^h 48.2	-12° 09'	G-12	IIaOb	13/5		19:55	20:13	B
37623	HD 214946	22 ^h 36.7	+44° 29'	G-12	IIaOb	13/5		20:18	20:41	C
37624	HD 225093	23 ^h 58.3	+72° 36'	G-12	IIaOb	13/5		20:45	21:06	A
37625	HD 21364	03 ^h 21.8	+09° 23'	G-12	IIIaJ [*]	9/7		21:11	21:36	B
37626	HD 24760	03 ^h 51.1	+39° 43'	G-12	IIIaJ [*]	9/7		21:40	21:45	C
37627	HD 11291	01 ^h 45.8	+50 18'	G-12	IIaOb	13/5		21:52	21:58	A
37628	HD 15472	02 ^h 24.4	+70° 30'	G-12	IIaOb	13/5		22:04	22:35	B
37628T1	cal step wedge for plates 37618-24, 27-29, 32-3				IIaOb	108 m				
37628T2	cal step wedge for plates 37625-26, 30-31				IIIaJ	10 min.				
37629	HD 16066	02 29.8	+67 38	G-12	IIaOb	13/5		22:38	23:14	C
37630	HD 24760	03 51.1	+39 43	"	IIIaJ	9/7		23:18	23:24	A
37631	HD 21364	03 21.8	+09 23	"	"	"	57°F	23:28	23:46	B

Dome Temp. 60°F @ 65%

Transparency Conditions Excellent

Focus 30 R

Dome Temp.

P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
A	04 ^h 25W	+42° 43'	3-4	5.6	Bc	12-12-12	Hd Sp Bin	200/140	4 Her	fine
B	04 ^h 41W	"		"	"	12-12-12	"	200/140	4 Her	fine
C	01 ^h 09W	+13° 16'	2-3	6.1	B8 II	12-12-12	"	400/140		fine
A	01 ^h 37U	+15° 31'		6.34	M2 III	12-12-12	"	400/300		sl. color
C	00 ^h 47E	-11° 40'		5.9	B9 I	12-12-12	"	200/75		fine
C	00 ^h 05E	+44° 55'		7.12	A2	12-12-12	"	400/150		fine
A	01 ^h 05E	+73° 04'	1-2	7.52	A2	12-12-12	"	400/150		fine
C	03 ^h 57E	+09° 43'	2"	3.66	B8 D	no filter 3-3-3	Bln Sp Bin	20/70	2 Tau	fine scrubbed
C	04 ^h 15E	+39° 59'	2"	2.71	B0.5 I	no filter 3-3-3	"	20/70	45 Per	fine scrubbed
A	02 ^h 00E	+50° 43'		5.62	B9 III	12-12-12	Hd Sp Bin	200/75		fine
B	02 ^h 05E	+70° 53'		8.0	B4c	12-12-12	" "	400/150		fine
									Dev. Temp. 60°F MWQ2	
C	01 ^h 30E	+68° 00'		7.7	F2 II	12-12-12	Hd Sp Bin	400/125		fine
A	02 ^h 39E	+39 59		2.71	B0.5 I	no filter 3-3-3	Bln Sp Bin	20/70	45 Per	fine guiding low
B	01 46E	+09 43		3.66	B8 P	no filter 3-3-3	"	20/70	2 Tau	fine scrubbed

229-1059

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Dome Temp.

Transparency Conditions goodFocus 30 RDome Temp. 45°F 92%

P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
	he gave up									
A	02:32W	+68 24	1-2"	8.0	B7 III	12-12-12	Hd Sp Bin	400/150		fine
B	01:44W	+43° 56'	"	5.79	gG5	12-12-12	"	200/90		fine
C	01:36W	+10° 31	"	6.55	B9	12-12-12	"	200/75		fine
A	02:06W	+19° 54	2-5	6.56	F8	12-12-12	"	200/90	suddenly colder & windy,	fine
B	<u>01:05W</u>	+73° 17'	4-8	5.76	A0	12-12-12	"	200/80	haze developing, humidity	
									Dew MWL 2 ρ mi @ 68°F	
									rising very rapidly	
C	02:10W	+16° 45	3-4	6.09	A2 II	12-12-12	"	200/75		fine

Dome Temp. 5.6° H=7376

Transparency Conditions Good - some haze

Focus

Dome Temp.

P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
	4 45 W	+42 42	3"-4"	5.6	Be	12-12-12	Sp Bin - Hd	200/140	Approx ending time	fine
B	1 40 W	+47 00	"	5.54	0950	12-12-12	Bin Search	200/90		D. strong
C	02 48 W	+39 10	"	4.3	B5V	12-12-12	B std vol	200/70	some cloud	
									Obs 9 min @ 68°F MW P2	
C	02 55 E	+41 24	4'-7'	7.26	08 I	12-12-12	Bin. Search	400/100	cloud clouded out.	fine
F							5/5 filter			Very weak
B							5/5 no filter			ok.

Dome Temp. 40° H=73

Focus

Dome Temp. 30 H=90

Transparency Conditions Excellent by 22^h
but windy

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P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality	
5	A	01 54E	+09°42'	3-4"	3.66	B8p	no filter 4-4-4	Sp Bin Bln	40/150	2 Tau	fine
8	B	0 14 W	+9 24	"	7.26	08I	16-16-16	Bin Search-LR	400/130		grainy
0	A	01 32 E	+1 49	"	8.08	08I	16-16-16	"	800/300		fine
	B	01 43 W	+24 06	"	5.1	B8p	16-16-16	G1 Shell Stars	200/100		fine
	C	02 38 W	+9° 43	"	3.66	B8p	no filter 4-4-4	Sp Bin Bln	40/150	2 Tau	fine
	A	01 37 W	+14 23	2-3	8.2	B3pe	16-16	G1 Shell	400/92	clouded out	fine
	f									Dew Qami @ 68°F MW 2	

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~100 visitors - Seneca College - saw clouds.

* baked Nov 4

** baked Nov 7, but no Vaccillum

Date Nov 5-6 1973 Mon Tues Observer Hu-Tu Julian Day.....

Plate No.	Object	R.A. 1900	Declination 1900	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.
37650	HD 186547	19 39.9	+13.04	G12	IIa06*	13/5	37°	17:59	18:26	A
	HD 121258	20 00.9	+15.13	"	"	"		18:30		B
37651	HD 216494	22 48.2	-12.09	G12	IIa06*	13/5		20:33	21:05	A
37651 T1	Cal step wedge		90 sec		"					
37651 T2	"		90 sec		IIa06**					
37652	HD 21364	03 21.8	+9.23	G12	IIaJ	9/7		21:11	22:00	B
	HD 225289	23 59.9	+60.45	"	IIa06*	13/5		22:06		C
37652 T1	Cal step	wedge	10 min		IIaJ					
37652 F	Focus	Test			IIa0	13	35°F			E

Dome Temp. 29° H = 8270Transparency Conditions *some cloud*Focus *55-A*Dome Temp. *27* H = *93*

P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
	1 25W	+13 19'	3-4	6.1	B8IV	16-16-16	Hd Sp Bin	200/75		fine
	1 15 31	+15 31		6.34	M2 III 16		"	200/	cloud	
	0 56W	-11 42'	3-4	5.9	B9Z	16-16-16	Hd Sp Bin	400/150		fine
									Dev MWP2 9mm @ 680F	
									" " " "	
	02 ^h 42 ^m E	+9 42	3-4	3.66	B8p	^{no filter} 8-4	Sp Bin - B6	40/160	2 Tau	fine
			4-5	5.9	B7 III	16-	Hd Sp Bin	200/	cloud	
									Dev Amn MWP2 6.65F	
		<i>in in contact</i>				<i>5/5</i>	<i>no filter</i>			ok
									closed up 02:30 - snowing	

Dome Temp. $32^{\circ} 637$.Focus $55R$.Dome Temp. $29^{\circ} 737$.Transparency Conditions *some haze and thin clouds*

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ime	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
	A	02406W	+02040'	3	7.1	B9	16-12-16	G+SLU	40/140		fine
5	B	01430W	+39034	3	6.4	ApC	16-16-16	"	20/70		fine
4	C	02416W	+36059'		8.1	B3c	16-16-16	"	40/140		fine
	A	00406W	+50005		6.99	MSp.	16-16-16	"	40/140		fine
		01400W	+56016'		7.8	B8	16-16-16	"	40/140		fine
	C	02406E	+24002		5.1	BBp	16-32	"	40/64	clouds out	sl weak
	B						4-4 no filter				ok
										This whole batch shows small bubbles in emulsion	

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* Vacuum treated

Date 8/9 NOV 1973 THUR/FRI Observer Blw-R: Julian Day

Plate No.	Object	R.A. 1900	Declination 1900	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.
37659	HD 21364	03 ^H 21 ^M .8	+9° 23'	G-12	IIIa-J*	9/7	38°F	21:00	21:30	A
37660	HD 24760	03 ^H 51 ^M .1	+39° 43'	G-12	IIIa-J*	9/7		21:33	21:44	B
37661	HD 21364	03 ^H 21 ^M .8	+9° 23'	G-12	IIIa-J*	13/7		21:48	22:11	C
37662	HD 24912	03 ^H 52 ^M .5	+35° 30'	G-12	IIIa-J*	13/7		22:14	22:37	A
37663	HD 21364	03 ^H 21 ^M .8	+9° 23'	G-12	IIIa-J*	13/7		22:40	23:05	B
37664	HD 23862	03 ^H 43 ^M .3	+23° 51'	G-12	IIIa-J*	9/5		23:08	00:27	C
37664T1	cal step wedge duplats 37659-				IIIa-J*	8 min				
37665	HD 21364	03 ^H 21 ^M .8	+9° 23'	G-12	IIIa-J*	13/7		00:30	00:49	A
37666	HD 26961	04 ^H 10 ^M .7	+50° 03'	G-12	IIIa-J*	9/5		00:52	01:35	B
	IR photometry							02:15	05:30	

Dome Temp. 25° H=65%

Transparency Conditions

Focus 5.5 R

Dome Temp.

Time	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
A		3 ^h 02 E	+9° 43'	4-5	3.66	B8p	4-4-4	Sp. Bin-Bln	40/145		fine
B		03 ^h 17 ^m E	+39° 59'	4-5	2.71	130.5Z	7-7	Sp. Bin-Bln	40/138	Cloud	sl stray
		02 ^h 19 E	+9° 42'		3.66	B8p	5-5-5	Sp. Bin-Bln	40/145		fine
		02 ^h 25 E	+35° 48'	2-3	4.04	07	5-5-5	Sp. Bin-Bln	40/148		sl stray
		01 ^h 26 ^m E	+9° 42'		3.66	B8p	5-5-5	Sp. Bin-Bln	40/141		fine
		00 ^h 25 ^m E	+24 02		5.1	B8p	5-5-5	G1 shell	80/240		fine
										no. 63 Des MWP2 8mi @ 68°	
A		00 ^h 19 W	+9° 42'		3.66	138p	5-5-5	Sp. Bin-Bln	40/141		fine
B		00 ^h 15 W	+50° 16'		4.57	A2	5-5-5	Sp. Bin-Bln	40/112		fine
										(bubbles in condenser)	

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* Vacuum Greased
B 10 on 4Date Nov 9-10/73 Fri-Sat Observer R. M. F. Julian Day

Plate No.	Object	R.A. 1900	Declination 1900	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.
37667	HD 21364	3 ^h 21 ^m .8	+9° 23'	G-12	IIIa-J ^c	13/.7	32°F	22:25	22:47	A
37668	HD 24912	03 ^h 52.5	+35° 30'	G-12	IIIa-J ^c	13/.7		22:49	23:24	A
37669	HD 21364	03 ^h 21.8	+09° 23'	G-12	IIIa-J ^c	13/.7		23:34	23:56	C
37670	HD 24760	03 ^h 51.1	+39° 43'	G-12	IIIa-J ^c	13/.7		00:06	00:13	A
37671	HD 21364	03 ^h 21.8	+09° 23'	G-12	IIIa-J ^c	13/.7		00:21	00:43	A
37672	HD 26961	04 ^h 10.7	+50° 03'	G-12	IIIa-J ^c	13/.7		00:49	01:29	A
37673	HD 21364	03 ^h 21.8	+09° 23'	G-12	IIIa-J ^c	13/.7		01:33	01:53	A
37674	HD 28052	04 ^h 20.7	+15° 23'	G-12	IIIa-J ^c	13/.7		01:56	03:00	B
37674T1	cal step wedge for plates 37667-37673				IIIa-J ^c	6 min				
37674T2	cal step wedge for plates 37674-				IIIa-J ^c	6 min				
37675	HD 21364	03 ^h 21.8	+09° 23'	G-12	IIIa-J ^c	13/.7		03:04	03:32	C
37676	HD 30739	04 ^h 45.2	+08° 44'	G-12	IIIa-J ^c	13/.7		03:38	04:16	H
37677	HD 21364	03 ^h 21.8	+09° 23'	G-12	IIIa-J ^c	13/.7		04:20	04:50	B
37678	HD 41161	05 ^h 58.2	+46° 15'	G-12	ITa 0B	13/.5		04:59	05:37	C
37678T1	cal step wedge for plates 37678				ITa 0B	108 sec				
37679	HD 45542	06 ^h 23.0	+20° 17'	G-12	IIIa-J ^c	13/.5	24°F	05:43	06:19	H

Dome Temp. 20° H = 70%

Transparency Conditions

Focus $55R$ Dome Temp. $18^{\circ}F$ 95% ~~70-01-04E~~

ime	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
		01 ^h 39E	+90°43'		3.66	B8p	5-5-5	Sp. B _w - B _{ln}	40/144	{ Tan	fine
		01 ^h 34E	+35°46'	4-5	4.04	07	5-5-5	"	40/144	{ P ₂	sl. strong
		00 ^h 30E	+09°45'		3.66	B8p	5-5-5	Sp. B _w - B _{ln}	40/146	{ Tan	fine
		00 ^h 44E	+39°59'		2.71	B0.5V	7-2	Sp. B _w - B _{ln}	40/150	{ Per	sl. strong
		00 ^h 16W			3.66	B8p	5-5-5	Sp. B _w - B _{ln}	40/148	{ Tan	fine
		00 ^h 10W	+50°16'		4.57	A2	5-5-5	Sp. B _w - B _{ln}	40/146	b Pa	fine
		01 ^h 27W	+09°44'		3.66	B8p	5-5-5	Sp. B _w - B _{ln}	40/141	{ Tan	fine
		01 ^h 35W	+15°40'		4.73	FOI	5-5-5	Sp. B _w - B _{ln}	40/200	719au	fine
										Dew 9mi @ 68°F MWP2	
										" " "	-
		03 ^h 09W	+09°43'		3.66	B8p	5-5-5	Sp. B _w - B _{ln}	40/146	{ Tan	fine
		02 ^h 26W	+08°55'		4.32	M0V	5-5-5	Sp. B _w - B _{ln}	40/146	2 Ori	fine
		04 ^h 25W	+09°44'		3.66	B8p	5-5-5	Sp. B _w - B _{ln}	40/110	{ Tan clouds	sl. weak
		02 ^h 34W	+48°17'		6.51	B0	16-16-16	Sp. B _w - B _{ln}	40/140		sl. strong
										Dew 9mi @ 69°F MWP2	
		02 ^h 52W	+20°18'		4.04	B7W0	5-5-5	Sp. B _w - B _{ln}	40/147		fine

Dome Temp. 59°F 62%Focus 55-RDome Temp. 48 70%Transparency Conditions Hazy & cloudComplete cloud by 20:00

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Time	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
		0 29W	+41 07	1-2"	3.96	A0V	18-14-16	Sp Bin - B16	200/70	cloud	fine
	C	2 20E	+61 12	2"	5.9	B7III	16-16-16	Hd Sp Bin	400/140	.	fine
	C	3 03E	+60 57	2-3	5.58	B7V	16-16-16	"	400/140		fine
										Dew 9 min @ 68°F MWP2	
	A	2 27E	+50 42	2-3"	5.62	B9III	16-16-16	"	400/102	*overdevelop please*	fine
				in air / out air			6/5	no filter			

Dome Temp. 46° A=87%Transparency Conditions *very good - s/haze*

Focus

Dome Temp. 42 94% *Ex-motor unreliable?*

me	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
	A	03 ^h 10 ^m W	+10°54'	2-3	5.92	A0	12-32	G1 Shell	—		fine
2	E	01 48W	+24°34'	2"	7.01	A0	16-16-16	Blu-Sp Bin	—		fine
6	C	02 00E	+9 42	1-2"	3.66	B8p	^{no filt} 4-5-2	"	—	Ex-motor returned to life	fine
3	A	01 55E	+24 07	"	5.1	B8p	11-16-16	SHELL-G1	200/210	?	fine
	B	00 08 E	-12°20'	3-4"	7.85	B9V	16-16-16	Blu-Sp Bin	200/—		fine
			<i>in in/out out</i>				5/5	<i>no filter</i>		<i>cloud</i>	
										<i>Dew 9mi @ 68°F MWPA</i>	

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* baked Nov 16

Date Fri-Sat Nov 23-24 / 73 Observer Ir-Tn/Ta-Rak Julian Day

Plate No.	Object	R.A. 1900	Declination 1900	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.
37690	^{§ C59} HD 200905	21 ^h 01.3	43° 32'	G12	IIIa-j	13/.9	49°	18:02	19:00	B
37691	^{61 Cgs A} HD 201091	21 ^{02.4} 05.8	38 ¹⁵ ' 37"	"	"	18/.9	"	19:15	22:46	A
37692	^{8 Tan} HD 29371	4 ^h 14.1	15° 23'	G12	"	13/.9		22:56	00:03	B
37692T1	Col step	wedge	3 min		"					
37692T2	" "	"	6 min 30 ^{sec}							
37693	HD 21364	03 21.8	+9 23	G-12	IIIa-j	9/.7		00:10	00:30	C
37694	HD 24760	03 51.1	+39 43	"	"	"		00:35	00:42	A
37695	HD 24912	03 52.5	+35 30	"	"	"		00:50	01:08	B
37696	HD 21364	03 21.8	+9 23	"	"	"		01:13	01:34	A
37697	b Per	04 10.7	+50 03	"	"	"		01:38	02:30	B
37698	HD 21364	03 21.8	+9 23	"	"	"		02:34	03:10	A
37699	HD 28363	04 23.3	+15 57	"	IIIa-b	9/.5		03:15	04:23	B
37699T	Col step	wedge	90 sec		"					
37699F	Focus	Test		G12	35-R	9	42°			B
37700	HD 79469	09 12.8	+2 44	"	IIIa-b	9/.5	"	04:42	05:00	A

Dome Temp. 4.7° H=7770
 Focus Set 35-R From 55-R
 Dome Temp. 3.7° H=7370

Transparency Conditions *Very Good*
Some cloud

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ime	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
0	B	01 50W	$43^{\circ} 53$	2"	5.4	K4IV	3-3-3	Ir - Grant	40/350		Weak
46	A	05 34W	$38^{\circ} 42$	2" \rightarrow 5"	6.4	K5V	3-2-3	"	100/936	from 55-R focus changed to 35-R	Weak
03	B	00 22E	+15 39	2'-3'	4.6	K0III	3-2-3	"	20/1.75	cloud	fine
						Dev 9mi @	68°F MWPA			Labelled 9292 etc	
0	C	01 00W	+9 49	2'-3'	3.66	B8p	3-3-3	SPR-Blk	40/144	E Tau	fine
2	A	00 40W	—	2"	2.71	K0.5V	3-5	"	40/165	E Per	strong
8	B	01 04W	+35 48	"	4.04	07	3-3-2	"	40/130		fine
4	B	02 03W	+9 45	"	3.66	B8p	3-2-3	"	40/143		fine
0	B	02 08W	+50 17	1" 2"	4.57	H2	4-2-2	"	40/150	cloud	fine
10	B	03 40W	+9 43	2-3	3.66	B8p	2-3-2	"	40/155		Weak
03	B	03 50W	+16 11	2-4	7/14	F8	16-16-14	"	400/130	cloud	Weak
										Dev 9mi @ 68°F MWPA	
B							5/5	no filter		brass knob detent and cloud	
5	A	00 18E	+2 28	2-4	3.82	B9.5V	16-16-16	SPR-Blk	200/75	very cloudy	fine guiding

Dome Temp. 33° H=85/6
 Focus 45-R
 Dome Temp. 29° H=95/6

Transparency Conditions *Excellent*

Time	P.R.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
00	F	01 15W	+36 28	2"-4"	4.42	B5V	^{no filter} 3-4 3	Sp. Bin-Bln	40/110		guiding fine
04		0228W	+57 25	"	5.83	O6	3-3-4	"	100/310		fine
02	A	0214W	+29 29	"	6.28	A5	16-16-16	"	200/75		fine
06	B	0117E	+62 19	v	7.12	G	16-16-16	"	800/400	bullets in comparison	fine
08	C	0011E	+9 42	1"-2"	3.66	B6p	4-3-3	"	40/140	ξ Tau	fine
00		0025E	+16 12	2"	7.14	F8	16-16-16	"	200/100	cloud from S-E	
				in in / out out			5/5	no filter		-9 \pm 3	
										Dev 9min @ 69°F MWP2	
										" " "	

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Date Fri Sat Nov 30 Dec 1 1973 Observer IR-Ri/MasRi Pak Julian Day

Plate No.	Object	R.A. 1900	Declination 1900	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.
37707	HD 206778	21 ^h 39.3	9° 25'	G-12	IIIaj	13/.9	420F	18:11	18:44	A
37708	HD 210745	22 07.4	+57° 42'	G-12	IIIaj	13/.9		18:51	19:08	B
								19:59	20:40	
3770871	cal. step wedge				IIIaj	3min				
37709	HD 21364	03 ^h 21.8	+09° 23'	G-12	IIIaj	9/.7		01:46	02:18	A
	IR Photometry							02:45	05:00	
37710	comet Kohoutek 1970		+20° 00'		IIa0B	32/.5		06:20	06:47	B

Dome Temp. 30°F 90%

Focus 500R

Dome Temp. 20°F 70%

Transparency Conditions

38

ime	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
4	A	01 ^h 22 ^m W	+09°50'	3'	3.98	K2Ib	3-33	1r-610T	20/232		fine
2	B	01 ^h 20 ^m W		3'	4.96	K1.5Ib3		" "		cloud from NW ^{stopped at 39} count	fine
0		02 ^h 51 ^m W					3-3		20/137		
										Dev 9 min @ 68°F MW P 2	
1		03 ^h 15 ^m W	+09°42'		3.66	B8p	3-3-3	B1r-5p Bin	40/144		fine
0							16				
7		22 ^h 30 ^m E	+20°00'				16.32		← 800/222	overdevelop plate no visible sky absorption some faint emission lines & lines need longer exposure, starting earlier. (could probably have gone 10" more into dark)	

39

3 Nov 16

Date Sat. Eve. Dec 1-2 1973 Observer Mc Fadden Ri Julian Day

Plate No.	Object	R.A. 1900	Declination 1900	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.
37711	HD 198183	20 ^h 43.5	+36° 07'	G-12	IIIaj	13/7	32°F	18:27	18:52	A
37712	HD 206267	21 ^h 35.9	+57° 02'	G-12	IIIaj	13/5		18:56	19:54	B
37713	HD 218154	23 ^h 00.6	+24° 07'	G-12	IIa0B	13/5		19:59	20:34	C
37714	HD 21364	03 ^h 21.8	+09° 23'	G-12	IIIaj	9/7		20:42	21:10	A
37715	HD 24534	03 ^h 49.1	+30° 45.1	G-12	IIa0B	13/5		21:18	21:39	B
37716	HD 28363	04 ^h 23.3	+15° 57'	G-12	IIa0B	9/3		21:46	22:17	C
37717	HD 30869	04 ^h 46.2	+13° 29'	G-12	IIa0B	9/3		22:22	22:43	A
37718	HD 31364	03 ^h 21.8	+09° 23'	G-12	IIIaj	9/7		22:49	23:14	D
37718T1	cal step wedge				IIIaj	6min				
37718T2	cal step wedge				IIa0	90sec				
37719	HD 24760	03 ^h 51.1	+39° 43'	G-12	IIIaj	9/7		23:20	23:29 23:58??	
37720	HD 24912	03 ^h 52.5	+35° 30'	G-12	IIIaj	9/7		23:33	00:58	
37720F1	forecast	65R	mid		IIa0	9	30°F			
	IR photometry							01:30	02:30	

Dome Temp. 28°F 86%

Focus 65 R

Dome Temp. 20°F 89%

Transparency Conditions *lazy at first getting better*

40

Time	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
A		02 ^h 30 ^m W	+36°28'	3"	4.42	B5V	3-3-3	B12 - Sp B12	40/141		fine
B		02 ^h 42 ^m W	+57°25'		5.83	06	3-3-3	" "	80/240		fine
C		01 ^h 54 ^m W	+24°36'		7.01	10	16-16-16	" "	400/121		fine
A		01 ^h 49 ^m E	+09°43'		3.66	B8p	3-3-3	" "	40/144	3 Tan	fine
		01 ^h 49 ^m E	+31°00'		6.0-6.6	0p	16-16-16	" "	20/70	x P22	fine
		01 ^h 44 ^m E	+16°10'		7.14	F8	16-16-16	" "	400/100		fine
43	A	01 ^h 42 ^m E	+13°40'		7.10	F5	16-16-16	" "	400/100		fine
	B	00 ^h 15 ^m W	+09°40'	3"	3.66	B8p	3-3-3	" "	40/150	3 Tan	fine
										Dew 9 min @ 68°F MW P2	
										" " "	
		↓ 0 ^h 03 ^m W									
		00 ^h 02 ^m E	+39°59'		2.71	B0.5V	3-3-3	" "	40/150	← Per	strong
		00 ^h 26 ^m W	+35°42'		4.04	07	3-3-3	" "	40/150	5 Per	strong
		↑					5/5			ok. (-2 < 30°F)	very good
		01 26 W								clouds coming up from SE.	
										clouded over by 03:00	

→ I would say HA = 00^h26^mW and that end time is really 23:58; based on prev. exposure times (ie p no 37695) (SAS 1990)

Dome Temp. 32°F 97%

Focus 65 R

Dome Temp. 40°F 98%

Transparency Conditions

42

Time	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
A		00 ^h 45 ^m W	+9° 42'	4	3.66	B8p	3-3-3	B1-Sp B1	40/145	clouds for most Dew 9min @ 68°F MWPA	fine
		01 ^h 45 ^m W	+40° 00'		2.71	B3.5	3-3-3	" "	40/144	clear up again	fine
		02 ^h 34 ^m W	+50° 18'	5	4.57	A2	3-3-3	" "	40/145		weak
		01 ^h 20 ^m W	+48° 16'		6.51	B0	16-16-16	" "	20/70		fine
		00 ^h 52 ^m W	-10° 33'		6.38	B3	16-3-2	H1-Sp B1	40/62	stop exposure because dew started to form on secondary mirror	weak

Dome Temp. 27° 1-787Transparency Conditions *clear by 0^h*

44

Focus *65-R*

Dome Temp.

Time	P.R.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
3	A	0:35 E	+27° 20'	2-3	6.8	K2 III	12-18-16	West prog	400/220		
0	B	2:14 E	—	"	1.4	K0 III	22-26	"	40/19		
16	C	0:28 W	+27° 19'	2-5	6.8	K2 III	16-16/16	"	400/220		
1	A	01 ^H 08 ^M E	—	"	1.4	K0 III	24-24	"	40/18		
						Dev MW02	9 min @ 68°F			Labelled 28 T but call 1729T	
0	B	04 15 W		3-4	3.66	B8p	3-3- no filter	Sp. Bin-Bln	40/150	cloud	Very weak
						Dev MW02	9 min @ 68°F				
	C	15° 38'	2-4"	4.73	F0 V	16	Sp. Bin-Bln	40/			

Dome Temp. $+12^{\circ}F$ H=72%

Focus R-75 - R-85-

Dome Temp. $+6^{\circ}$ H=81%Transparency Conditions Good - thin cloud by 0^h

Worst seeing seen!

46

PH	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	B-V	Quality
A	04 56W	+43 53	4"-10"	5.41	K45 ¹⁶ -II	no filter 3-3-3	IT-Grant	40/500	some thin cloud R-75.	1.69	Fine
A	03 15W	30 48	"	4.52	K3 III	3-3-3	"	40/425	R-75	1.31	Fine
A	0 ^h ^{06F} 14E	16° 31	4"-6"	2.39	K5 III	3-3-3	"	40/350	R-85	1.53	Fine
A	0 ^h 40W	33° 11	3-5	4.23	K3 II	5-3	"	40/433	"	1.47	Fine
C	3 27W	+9 43	"	3.66	B5p	3-3-3	Sprin-Blk	40/160	cloud		slut
									Dw MWP2 4min @ 68°F		
A	3 20W	+40 00	4"-8"	2.71	B0.5V	3-3-3	"	40/140			slut
C	5 18W	+50 18	"	4.57	A2	3-3-3	"	40/120	cloud		weak
A	2 37W	+2 30	"	3.82	B95 ¹⁶	5-4	"	40/140	cutshort		"
		in on low				3/3	no filter		seeing bad		
							Looked in vain for comet				
							but cloud as usual				

47
H1

+ baked Dec 2
 + vacuum treated
 *** short vacuum treatment (4 hrs)

Date Dec 15-16 Sat Sun / 73 Observer Tn - M. Fadden Julian Day

Plate No.	Object	R.A. 1900	Declination 1900	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.	Hour End
37739	HD218154	23 ^h 00.6	+24° 07'	G12	IIa0-b [*]	13/5		17:41	18:17	A	0 3
37740	HD 206267	21 35.9	+57 02	"	"	13/7	17°F	18:21	19:05	B	2 4
37741	HD213534	22 ^h 26.9	+29° 02'	15	"	13/5		19:11	19:37	C	2 2
37742	HD198183	20 43.5	+36 07	"	IIIaJ ^{**}	13/7		19:43	20:19	A	4 5
37743	HD218154	23 00.6	+24 07	"	IIa0-b	13/5		20:25	21:29	B	3 4
37744	HD 21364	03 21.8	+9 23	"	IIIaJ ^{**}	9/7		21:30	22:06	C	0 0
37745	HD11291	01 45.8	+50 18	"	IIa0-b [*]	13/5		22:11	22:20	A	1 5
37745TI	Cal step	wedge	90 sec		"			22:15			
37746	HD218154	23 00.6	+24 07	"	"	13/5		22:25	22:58	B	5 1
37747	HD21364	03 21.8	+9 23	"	IIIaJ ^{**}	9/7		23:02	23:20	C	1 1
37748	x Per	03 49	+30 45	"	IIa0-b [*]	13/5		23:24	23:46	B	1 2
37749	HD 24760	03 51.1	+39 43	"	IIIaJ ^{**}	9/7	15°	23:52	0:00	C	1 2
37750	b Per	4 10.7	+50 03	"	"	"		00:23	01:07	B	2 1
37751	71 Tau	4 20.7	+15 23	"	"	"		01:12	02:17	C	3 1
37752	HD 28363	4 23.3	+15 57	"	IIa0-b [*]	9/5		2:22	03:30	A	4 2
37752TI	Cal step	wedge	6 min		IIIaJ ^{**}			8:07	11:17		

Dome Temp. 11°F 14-71%

Transparency Conditions Good - some cloud in south

Focus

Dome Temp.

me	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
7	A	0 34W	+24° 30	2-3"	7.01	A0	16-16-16	Sp Bin - Bln	400/140		sl weak
5	B	2 48W	+57 26	"	5.83	O6	16-16-16	"	200/98	cloud coming	guiding fine
7	C	2 28W	+29 26	"	6.28	A5	16-16-16	"	400/150		weak
A	A	4 54W	+36 27	"	4.42	B5V	no filter 3-3-3	"	40/150		fine
4	B	3 42W	+24° 35	"	7.01	A0	16-16-16 no filter	"	400/150	cloud 20:35 → 55	guiding sl. weak
6	C	0 02W	+09 43	1-2"	3.66	B8p	no filter 3-3-3	"	40/165	cloud	
0	B	1 51W	+50 45	"	5.62	B9III	16-16-16	Sp Bin - Hcl	200/75		guiding sl. weak
										Dev. 9min @ 68° = MW → 2	
8	A	5 16W	+24 34	3-4	7.01	A0	16-16-16	Sp Bin - Bln	400/120		guiding weak
0	C	1 16W	+09 42	1-2"	3.66	B8p	no filter 3-3-3	"	40/144		fine
	B	1 14W	+31 00	"	6.0- 6.6	O p	16-16-16	"	200/65		guiding fine
	C	1 25W	+40 00	"	2.71	B0.5V	no filter 3-6	"	40/130	EPR	guiding fine
7	B	2 13W	+50 18	"	4.57	A2	3-3-3	"	40/155		guiding sl. weak
7	C	3 14W	+15 38	2-3"	4.73	F0V	3-3-3	"	40/210		guiding sl. weak
0	A	4 25W	+16 10	3-4"	7.14	F8	16-16-16	"	200/95		"
						Dev	9min @ 68° = MW → 2			cont over →	bad?

49 #2

Date Dec 16 Observer _____ Julian Day _____

Plate No.	Object	R.A. 1900	Declination 1900	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.
37753	HD 24912	03 52.5	+35 30	512	Ilco-6*	9/7		03:36	03:43	C
37754	HD 41161	05 58.2	+48 15	"	"	9/5		03:58	04:30	A
37754T1	Col step wedge	6 min			Ilco ^{***}			16:00	22:00	
37755	HD 104451	11 56.6	+30 06	GT2	Ilco-6	18/3		04:39	05:41	B
37756	HD 87504	10 00.3	-12 35	"	Ilco ^{***}	13/5		05:51	06:37	C
—	Kohutec	15 49.2	-25 43					06:40	07:00	

Dome
Focus
Dome

Hour
End

34

105

197

Dome Temp. $+2^{\circ}$ H-8370Transparency Conditions *Photometric*

50

Focus

Dome Temp.

me	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
3	C	5 09W	—	3"	4.04	07	16-82	SP Bin-Min	40/21	ε-Per	start
0	A	3 45W	+28 18	"	6.51	B0	16-1616	"	200/80		"
		<u>0 58A</u>								Dw 9mi @ 68°F mwp2	end?
1		1 05E ^x	+29 45	3"	8.7	F3	16-1616	"	400/110		wk
2	C	1 57W	-12 52	3"5"	9.51	B85	3-3-3	"	40/120		start
										Visual observation very difficult to distinguish from background light	

#1
57

* baked Dec 16
* short term vaccinated

Date Dec 16-17 Sun-Mon / 73 Observer T. Saunders / Has Julian Day

Plate No.	Object	R.A. 1900	Declination 1900	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.
37757	HD 3712	00 34.8	+55 59	G12	Π 0-6 ⁺	9/5	12°F	17:33	17:35	B
37758	HD 218154	23 00.6	+24 07	"	"	13/5	12°F	17:45	18:30	C
37759	HD 206267	21 35.9	59° 02'	"	"	13/5		18:36	18:51	B
37760	HD 14951	02 19.3	10° 09'	"	"	9/5	13°F	19:22	19:42	A
37761	HD 21364	03 21.8	+9 23	"	Π a-J*	13/7		19:48	20:32	B
37761T	Cal step wedge		90 sec		Π 0-6 ⁺					
37762	HD 11291	01 45.8	50 18	G12	"	13/5		20:40	20:50	C
37763	HD 213534	22 26.9	+29 02	"	"	4		20:56	21:32	A
37763T	Cal step wedge		6 min		Π a-J*					
37764	HD 218154	23 00.6	+24 07	G12	Π a-6	13/5		21:36	22:26	B
37765	HD 21364	03 21.8	+9 23'	"	Π a-J*	9/7		22:30	22:59	A
37766	HD 28363	04 23.3	+15 57	"	Π 0-6 ⁺	9/5		23:04	00:12	C
37766F1	Focus Test			"	Π a-J	9	110°F			
Some	IR Photometry of Pterane, but conditions bad.									
37767	HD 24760	03 51.1	+39 43	G-12	Π a-J	9/7		01:56	02:06	B

Dome Temp. +9° H=6270

Focus ... changed from 85-R - 95-R

Dome Temp.

Transparency Conditions ... Excellent again

well, hazing over soon after
springing

52

me	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
5	B	1.39 E	56°26'	2"	3.34	KO II	16-30	Std Vel	40/16		weak
0	C	1.47 W ⁵⁰ X	24°36'?	3"	7.01	A0	16-16-16	Sp Bin - Bl ₂	400/150	*bad guiding appearance	" *
1	B	2.38 W	57°26'	3-4'	5.83	06	16-16-16	Sp Bin - Bl ₂	200/70	(prob due to dirt)	" *
2	A	1.16 E	10°34'	"	5.38	B6	16-16-16	"	200/70	Dome not turning	" *
2	B	1.29 E	9°43'	"	3.66	B8p	3-3-3 ^{no filter}	"	40/180	" 13 slit by mistake	s/wk *
										Dev Qmic @ 68° F MWP2	blank
0	C	0.25 W	50°43'	2"	5.62	B9 III	16-16-16	Sp Bin - Hd	200/70		slut *
2	A	1.27 W	29°30'	2-3"	6.28	A5	16-16-16	Sp Bin - Bl ₂	200/75		slut *
										Dev Qmic @ 68° F MWP2	blank
26	B	4.48 W	24°35'	3-4	7.01	A0	16-16-16	"	400/150		slut *
54	A	1.00 W	9°43'	2-3'	3.66	B8p	3-3-3	"	40/165	no filter	w-... *
12	C	1.11 W	16°10'	2-4'	7.14	F8	16-16-16	"	400/180		"
							4/4	no filter			
06	B	3.36 W	—	3-6"	2.71	B0.5V	3-3 ^{no filter}	Sp Bin - Bl ₂	40/140		slut

Cont - over

Dome Temp. 2°F @ 73% Transparency Conditions *some cloud, high winds*
later: photometric

56

Focus

Dome Temp.

Time T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
59	A	02 00 W	+10° 30'	3"	6.55	B9	14-14-14	Hd Sp Bin	200/80	cloud	seeing sl. weak
21	B	01 30 W.	+16° 44'	2-3"	6.09	A2 V	15-15-13	"	200/80		sl. weak
20	A	02 15 W	+11° 06'	"	5.98	K2 III	16-16-14	"	200/140		seeing very weak
										Dev MWP2 @ 68°F 9 min	
6	B	01 21 W	-10 34	3-4"	6.38	B3	15-15-15	Hd Sp Bin	400/180	close companion (on slit)	seeing fine
6	C	03 35 W	+15 12	2"	7.7	B3e	15-15-15	"	400/180		seeing sl. weak
2	A	03 35 W	+7 24	3-5"	6.35	B7 V	15-15-15	"	400/180		"
7	C	02 58 W	+9 56	"	6.58	A0	15-15-15	"	400/180	some cloud	"
53	A	04 30 E	+75 29	4-6"	6.84	F0	15-30	"	400/195		"

Dome Temp. $+7^{\circ}$ $H=75$ Transparency Conditions *Some cloud*

Focus

*Photometric later*Dome Temp. $+6^{\circ}$ $H=80\%$

Time T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
31	A	00 38E		1.2"	3.95	B0p	3-3-3	Hd Sp Bin	40/100	\emptyset Per	
59	B	01 53E	+9 43	"	3.66	B8p	3-3-3	Blu Sp Bin	40/150	2 Tau	
45		---	---								
18	A	01 57E	+24 06	1.2"	5.1	B8p	15-15-15	G1 Shell	40/20	Pleione	
42		01 33E	+44 57	"	5.79	gG5	15-15-15	Hd Sp Bin	200/110		
52	C	0 49W	+67 59	1.2"	7.7	F2II	15-15-15	"	400/220		
05		1 59W	+68 23	1"	8.0	B7II	15-15-15	"	400/170	seems brighted than 8.4	
27	C	1 23W	+44 56	"	5.79	gG5	15-15-15	"	200/110		
21	A	1 26W	+10 32	1-2"	6.55	B9	15-15-15	"	200/80		
09		2 10W	+19 53	"	6.56	F8	15-15-15	"	200/110		
38	A	1 50W	+16 46	"	6.09	A2V	15-15-15	"	200/80		
42		2 46W	+11 07	"	5.98	K2III	15-15-15	"	200/150		
54	C	4 07W	+15 12	"	7.7	B3e	15-15-15	"	400/130	haze coming	
30	A	3 35W	+10 00	"	6.58	A0	15-15-15	"	400/140	cloud finally!!	

Dome Temp. $10^{\circ}F$ 75%Focus $9.5R$

Dome Temp.

Transparency Conditions *clear - very windy*.....

60

Time T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
										B-V	
10	A	2 ^h 21W	43° 54'	3"	5.41	K4	3-6	Ir-Grant	40/33	1/10 exp	1.69
11	B	2 ^h 20W	38 42	3"	6.38	K5	3-6	"	400/504	1/10 exp	1.19
3	C	06 ^h 25E	55° 53'	2	5.42	^{13-J6} III	3-3-3	"	42/550		1.66
	A	00:54W	42° 18'	3	~3	K3	3-3-3	"	40/408		?
9	B	01424W	50° 46'	2	5.62	B9 III	16-16-16	10x-Sp Bin	20/75		
13	C	03420W	+30 20'	3	5.50	G5 V	3-3-3	Ir-Grant	40/400		0.08
4	A	03445W	+09° 43'		3.66	B8p	3-3-3	13x-Sp Bin	40/160		
39	B	03 30W	+40° 00'	3	2.71	B0.5V	5-5	"	40/140		
27	C	03 56W			4.05	O7	5-5	"	40/141		
6	A	04437W	+15° 40'		4.73	F0V	3 3 3	"	40/150		

67

no * ~~stock 6 mm slow~~
(wrong date)

Date Jan 23-24 1973 S. mm Observer Sander R. / Bl. - Ri Julian Day

Plate No.	Object	R.A. 1900	Declination 1900	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.	Hour Ar End
37802	HD 206267	21 35.9	57° 02'	G12	IIaob	13/7	26°F	17:30	17:50	A	2:4
37803	HD 213534	22 26.9	29° 02'	G12	IIaob	13/5		17:56	18:22	B	1:4
37804	HD 218154	23 00.6	24° 07'	G12	IIa-ob	13/5		18:27	19:04	C	0:5
37805	HD 21364	3 21.8	9° 23'	G12	IIIaj-E	9/7		19:09	19:34	A	0:5
37806	HD 24534	03 ^h 49.1	+30° 45.1'	G-12	IIa ob	13/5		19:40	20:05	B	0:5
37807	HD 24760	03 ^h 51.1	+39° 43'	G-12	IIIaj E	9/7		20:10	20:20	C	0:4
37808	HD 24912	03 ^h 52.5	+35° 30'	G-12	IIIaj E	9/7		20:25	20:52	A	0:10
37809	HD 26961	04 ^h 10.7	+50° 03'	"	IIIaj E	9/7		20:58	21:48	B	0:35
37810	HD 28363	04 ^h 23.3	+15° 57'	"	IIaob	9/3		21:53	22:36	C	0:0
37811	HD 30869	04 ^h 46.2	+13° 29'	"	IIaob	9/3		22:40	23:18		0:1
37811 T1	cal step wedge for	plates 37805,	07-09		IIIaj E	6mm					
37811 T2	cal step wedge for	plates 37802-	04,06,10-11		IIaob	90um					
37812	HD 29052	04 ^h 20.7	+15° 23'	"	IIIaj E	13/5		23:23	00:09	B	0:3
37813	HD 25638	03 ^h 59 ^m .0	+62° 03'	"	IIaob	13/5		00:15	00:53	C	0:4
37814	HD 25639	03 ^h 59 ^m .0	+62° 03'	"	"	"		00:56	01:27	A	0:3
37815	HD ²⁴⁷⁶⁰ 24712	03 ^h 51 ^m .1	+39° 43'	"	IIIaj E	9/7		01:31	01:40	C	0:3

Dome Temp. 15°-82%

Focus 95R

Dome Temp.

Transparency Conditions

CLEAR-Photometric

62

Time	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
0	A	2 ^h 5 ^m W	57° 26'	4'	5.82	OB	16-16-	Sp. Bin - Bln	200/130		
2	B	1 ^h 45 W	29° 28'	4'	6.28	A5	16-16-16	Sp. Bin - Bln	200/60	curious clouds	
4	C	01 ^h 51 W	24° 35'		7.01	A0	16-16-16	Sp Bin - Bln	400/120		
4	A	01 ^h 59 E	9° 43'		3.66	BBp	3-3-3	Sp Bin - Bln	40/140		
5	B	01 ^h 55 E	31° 02'		6.0 6.6	OP	16-16-16	Sp Bin - Bln	200/70		
0		01 ^h 44 E	40° 00'		2.71	B0.5I	3-3-3	" "	40/146		
2	A	01 ^h 10 E	35° 48'	3-4	4.04	07	3-3-3	" "	40/142		
2	B	00 ^h 35 E	50° 18'		4.57	AZ	3-3-3	" "	40/141		
6	C	00 ^h 02 W	16° 12'		7.14	F8	16-16-16	" "	400/100		
0	A	00 ^h 21 W	13° 41'		7.10	F5	16-16-16	" "	400/100		
		01 ^h 38 W	15° 39'	4	4.73	F0I	3-3-3	Sp Bin - Bln	40/150		
		02 ^h 40 W	+62° 20'	6-8	7.0	B0	15-15-15	Sp. Bin - Bln	400/120	ADS 2984 B	
		02 ^h 41 W	+62° 00'		7.0	B0	15-15-15	" "	400/130	ADS 2984 A	
		03 38 W	+40° 00'		2.71	B0.5I	3-3-3	" "	40/140		

Dome Temp.

Transparency Conditions

Focus

Dome Temp. 3°F 72%

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Time	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
	L	04 ^h 10 ^m W	+35° 50'		4.04	07	3-3-3	Sp Bin - Blk	40/140		
	A	02 ^h 27 ^m W	+48° 20'		6.51	B30	15-15-15	Sp. Bin - Bln	800/65		
	B	00 25 E	+29° 45'	3-4	8.7	gF3	15-15-15	Sp. Bin - Bln	800/300	Cloud at end	
	C		-15° 52'		2.89	A-512	3	Sp. Bin - Blk	40/	Cloud	

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TRIP/N/TUE

Date 1973 DEC 31/74 JAN 1 Observer Bln Julian Day

Plate No.	Object	R.A. 1900	Declination 1900	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.
37820	HD 21364	03 ^h 21 ^m .8	+9° 23'	G-12	IIIa-JE	9/7		17:32	17:59	A
37821	HD 21364	03 ^h 21 ^m .8	+9° 23'	G-12	IIIa-JE	9/7		18:01	18:32	B
37822	HD 21364	03 ^h 21 ^m .8	+9° 23'	G-12	IIIa-JE	13/7		18:34	19:25	
Too much cloud. Even insanity has its limits.										
HAPPY NEW YEAR Jim, Archie, and Warren.										

Dome Temp. 18°F $H=82\%$ Transparency Conditions $\text{Fair} - \text{Aurora}$

Focus

Dome Temp. 16°F $H=81\%$

g Time S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
59	A	03 ^H 03 ^M E	$+9^{\circ} 38'$	2	3.66	138 _p	No Filter 3-3-3	Sp. Bin-Bin	40/40		
32	B	02 ^H 30 ^M E	$+9^{\circ} 38'$	2	3.66	138 _p	3-3-3	Sp. Bin-Bin	40/40		
25		01 ^H 36 ^M E	$+9^{\circ} 38'$	2	3.66	138 _p	3-3-3	Sp. Bin-Bin	40/38	cloud	
		ITS PARTY TIME!									
		[Large scribble]									
										NEW YEAR'S NIGHT	
										WAS PHOTOMETRIC, TOO	
										BAD. LOST 13 HOURS. sch	

71

* vacuum

Date *Fri Sat Sun 4-5 1974* Observer *FR-R1/Pek-R1* Julian Day.....

Plate No.	Object	R.A. 1900	Declination 1900	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.	Hour End
37824	H 200905	21 ^h 01.3	43° 32'	G-12	IIIaj [*]	13/.3	23°	17 43	20 20	A	5 ^h
37825	HD 27371	4 ^h 14.1	-15° 23'	"	"	13/.9	18	20 32	22:14	B	0 ^h 3
37826	HD 29139	4 ^h 30.2	16° 18'	"	"	13/.9	18	22:19	22:39	C	0 ^h 4
37826T1	cal. step wedge for plates 37824 28				IIIaj	6mm					
37827	HD 31398	4 ^h 50.5	33° 00'	G42	"	13/.9		22:49	00:01	A	0 ^h 4
37828	HD 21364	03 ^h 21.8	+09° 23'	G-12	IIIaj	9/.7		00:06	00:45	B	0 ^h 4
37829	HD 24760	03 51.1	+39° 43'	G-12	IIIaj	9/.7		01:00	01:18	C	0 ^h 4
37830	HD 41161	05 ^h 58.2	+48° 15'	G-12	IIaOE	13/.5		01:25	02:19	A	0 ^h 4
37831	HD 42560	06 ^h 06.3	+14° 14'	G-12	IIaOE	9/.5		02:29	02:43	B	0 ^h 4
37832	HD 93702	10 44.0	+11° 04'	G-12	IIIaj	13/.5		02:52	04:32	C	0 ^h 4
37833	HD 110411	12 36.8	+10° 47'	G-12	IIIaj	13/.5	15°F	04:40	06:06	A	0 ^h 6
37833T1	cal step wedge for plates ³⁷⁸²⁴ 37829, ²⁷ 37832-33				IIIaj	6mm					
37833T2	cal step wedge for plates 37830, 31				IIaOE	9mm					

Dome Temp. 15°F 70%

Transparency Conditions clear with scattered clouds 72

Focus 82 R

Dome Temp. 8°F 83%

Time T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	B-V	Quality
26	A	5 ^h 56	+43° 52'	3	5.41	K4	3-7	Fr-Giant	200/1333		1.69	fine
1	B	0 ^h 35W	15° 37'	4	4.65	K0	3-3-3	"	40/450		0.99	fine
8	L	0 ^h 45W	16° 28'	5	2.39	K5	3-3-3	"	40/500	clouds	1.53	fine
										clow 12 mi @ 70°F MWP2		
01	A	01 ^h 47W	33° 07'	5	4.23	K3	3-3-3	"	40/600	clouds	1.47	fine
	B	04 ^h 02W	+09° 40'	5	3.66	B8p	3 6	Sp. Sw-Blu	40/70	59am clouds		fog
	L	04 ^h 02W	+39° 57'		2.71	B0.5I	3-3-3	" "	40/145			sl stars
	A	02 ^h 56W	+48° 15'		6.51	B0	16-1616	" "	200/70	clouds		fine stars
3	B	03 ^h 15W	+14° 15'		4.18	B3I	1616-16	" "	20/72			high fog strong
2	L	00 ^h 25W	+10° 44'		5.29	A2V	3-3-3	" "	200/550			fog
6	A	00 ^h 10W	+10° 25'		4.97	A1V	3-3-3	" "	20/550	clouds		fog
										Des 12 mi @ 70°F MWP2		
										" " " "		

Dome Temp. +18..... 72%

Transparency ConditionsThickening.....cloud.....

74

Focus

Dome Temp. +14..... 89%

Time T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
25	A	2 16E	+9° 38"	2"	3.66	B8p	^{no filter} 3-3-3	Sp Bin-Bin	40/140	cloud	fine
										Dev. 9mi @ 68°F MWP2	
42	B	2 30E	—	1-2"	2.71	B05V	3-3-3	"	40/137		fine seeing
50	C	1 20E	+30 59	"	6.0- 6.6	Op	^{filter} 15-15-15	"	200/70	near moon, some cloud	fine seeing
40	A	0 02E	+9 39	2"	3.66	B8p	^{no filter} 3-3-3	"	40/148	cloud	fine seeing weak
										Dev 9mi MWP2 @ 68°F	
41	C	2 36W	+50 03	2"-4"	5.44	Ap(Si)	4-5	Sp Bin-Hd	200/240	cloud (cut short)	
							5/5	no filter			

Dome Temp. 18° H=9770Transparency Conditions *cloudy-clearing*

76

Focus

Dome Temp. 12° H=9870

Time T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
33	A	0 0 W	$+9^{\circ}39'$	$2^{\circ}4'$	3.66	B8p	^{no filter} 3-3-3	Sp Bin. Bln	40/140	Some cloud	fine ^{seeing}
33	B	0 2 57 W	$-12^{\circ}20'$	$3^{\circ}6'$	4.85	B9V	3-3-3	"	40/90	4th lg platform	weak
4	C	0 1 47 W	$+39^{\circ}57'$	$2^{\circ}3'$	2.71	B0.5V	3-3-3	"	40/130		sl. strong
4	A	0 2 40 W	$+35^{\circ}46'$	"	4.04	O7	3-3-3	"	40/120	cloud (maybe blank, too bad?)	
2	B	0 5 30 W	$+50^{\circ}43'$	$3^{\circ}4'$	5.62	B9V	16-16/6	Sp Bin. Hd	200/70	cloud	fine ^{seeing}
										Dew. 9mi @ 68° F MW2	
										" " " "	

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Date Mon/Tues Jun 7-8/74 Observer Tn-Hns-G/Tn-Hns Julian Day

Plate No.	Object	R.A. 1900 74	Declination 1900	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.
37844 '43'	Come ^d Kikoh ^d	20 56	-13 22	G12	Tn-06	18/7		17:55	18:55	A
	IR Phot - Pleione							19 ^h —	21:30	
37845 '44'	Pleione	03 43.3	+23 51	G12	Tn-06	9/7		21:54	22:27	B
37846 '45'	HD 44351	06 16.3	+14 21	"	"	13/5		22:34	00:12	C
37846 T	cal stop - ualye		90 ser		"					
37847	IR phot -		3C 273	e stds				00:30 - 7 ^h —		

Dome Temp. 15° H=807Transparency Conditions *Excellent*

80

Focus

Dome Temp. 12° H=977

Time T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
30	A	4 53W	-9°35'				10-10-10	Comet + NN	400/100	* Overdevelop - Please	fine?
51	B	5 29W	+2926	3-4	6.3	A5	15-15-15	Sp Bin - Bl ₂	400/150		seeing weak poorly guided
0	C	3 25W	+50 28	"	5.62	B9 II	15-15-15	Sp Bin - Hd	200/57	cloud Pin 9mi NW P2 @ 60°F	guided
		<hr/>			3.66	B8p 10-		Sp Bin - Bl ₂	200/	cloud very thick	

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Date 5th Mar 13/14 1923Observer ^{MM}Sayndro_{Ri}

Julian Day

Plate No.	Object	R.A. 1900	Declination 1900	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.
37855	Kohoutek	¹⁹²⁴ 22.06	¹⁹²⁴ -7 47	G-12	IIa 08	36.7	120° F	17h 55	19:52	F
37856	HD 218154	23 00.6	+24° 07'	G-12	IIa ob	13/5		20h 11		
37856	HD 11291	01 45.8	+56° 18'	G-12	IIa ob	13/5		20h 20	20:34	F
37857	HD 21364	03 ²¹ 58	+9° 23'	G-12	IIIa j	9/5		20 38	21:35	C
3785771	cal slip wedge				IIa ob	90 sec				
37857 F1			untreated		IIIa j	4	31° F			A
" F2					"	9				B
" F3					"	18				C
" F4					"	13				B

Dome Temp. 05°F 82%
 Focus 90°R
 Dome Temp. 04°F 83%

Transparency Conditions *Clear - clouding*

Exp. Time S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
52	L	5 ^h 00W	-74° 11' (-73 ^o 11')				10-15-10	Comet NN	800/271	overdevelop plate	
			+24° 32'		7.01	A0		Sp Bin-Btn	400/		
34	B	1 ^h 59W	+58° 40'	2	5.62	B9 III	15-15/15	Hd/Sp Bi	200/72	clouds	fine
35	C	1 ^h 24W	+9° 42'	2	3.66	B8p	3-6	Sp Bin-Btn	80/135	" overdevelop plate	guiding
										Dew 9min @ 68°F M/W/R	
										Set 90-R	full aperture plunger fully in
										" "	" "
										" "	" "
										57-R	" "

Dome Temp. 18° H=6570Transparency Conditions *Good*

86

Focus *57-R → 70-R*

Dome Temp.

Unreversed for comet due to ...

g Time I.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
18	B	3:44W	$-1^{\circ} 51'$		57-R		13-12-12	comet stuff	400/40	Some haze [*] overdo please	weak
10	B	1:58W	+50 42	3'5"	5.62	B9 II	15-15-15	SpPin-Hd	200/70		Pin
54	E	1 07W	+9 41	"	3.66	B8p	^{no filter} 3-3-3	SpPin-Blu	40/150		sl. weak
										Des 9m @ 68°F MWP2	
08	A	0 50W	+39 57	1	2.71	B0.5V	^{no filter} 3-3	"	40/		guiding
33	B	1 50W	+16 08		7.14	F8	1575	"	400/		guiding,
										then cloud-	
										Des 9m @ 68°F MWP2	

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Date 24/25 Jan 74 Thu-Fri Observer G1-Tn/31a-Tn Julian Day

Plate No.	Object	R.A. 1900	Declination 1900	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.
37863	HD 23862	03 ^h 43 ^m .3	+23° 51'	G12	IIa-0b	9/7	32°F	23:08	23:56	A
37863T	Cal step	wedge	90sec		"					
37864	HD 41161	05 ^h 58 ^m .2	+40° 15'	"	IIa-0b	13/5		00:06	00:33	B
37865	HD 99946	11 24.8	+30 32	"	"	18/5		00:40	01:21	A
37866	"	"	"	"	"	"		01:24	02:13	B
37867	HD 99946	11 ^h 24 ^m .8	+30° 32'	G-12	IIa-0b	18/5		02:14	02:45	C
37867	Focus					13/1	31°			F

Dome Temp. 72° 4-103

Focus changed from 70-R to 60-R

Dome Temp. 26° H=97%

Transparency Conditions Hazy to good

cloud Hoopay!

Good stars at 1 PM - 2 PM

90

Time M.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
		04 07W	-24° 06'	3-4"	5.1 ^m	B8p	15-15-K	61 Shell	200/110		fin
33		02 28W	+48° 15'	"	6.51	B0	15-15-K	Sp Bin - Blu	400/140		fin
		02 06E	+30° 08'	2-3	5.8- 3.1	F0+F2	15-15-K	"	400/160		fin
13	3	01 16E	"	"	"	"	15-15-K	"	400/160		fin
15	1	00 44E	"	"	6.84- 7.69	F0+ F2	15-15-K	Sp. Bin - Blu	400/100	Clouds OVERDEVELOP ^{sun is} to the right of box ↑ * end time approx	fin

011

Date 25/26 Jun 74 FRI/SAT Observer Ir-Tn/Tn-Rok Julian Day

Plate No.	Object	R.A. 1900	Declination 1900	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.
37868	HD 29371	4 ^h 14.1	15° 23'	G12	IIIaJ	13/.3	33	18:10	19:11	C
37868T	Col step	wedge	6min		"			03:41	09:41	
37869	HD 29139	4 ^h 30.2	16° 18'	G-12	"	13/.9	35°	19:25	19:57	B
37870	HD 31398	4 ^h 50.5	33° 00'	"	"	13/.9		20:01	22:10	A
37871	HD 58207	7 ^h 19.5	28° 00'	"	"	13/.3		22:20	23:13	B
37872	HD 21364	3 21.8	+9 23	"	IIa0-b	9/7		23:22	23:40	C
37873	HD 2345	7 38.4	+24 38	"	IIIaJ	13/3		23:47	00:40	B
37874	HD 41161	5 58.2	+48 15	"	IIa0-b	13/5		00:45	01:24	C
37875	HD 99946	11 24.8	+30 32	"	"	18/5		01:40	02:24	B
37876	HD 93702	10 44.0	+11 04	"	IIIaJ	9/5	35°	02:37	05:07	C
37877	HD 99946	11 24.8	+30 32	"	IIa0-b	13/5		05:14	05:49	B
37878	"	"	"	"	"	18/5		05:54	06:25	C
37879	"	"	"	"	"	18/5		06:27	06:51	A
37879T	Col step	wedge	90sec		IIa0-b					

Dome Temp. 36°F

RH = 81%

Transparency Conditions

Good some haze

92

Focus 50R

Dome Temp. 25°F

H = 90%

2 # 4
hundreds# 5 # 6 # 7 # 9
place screwed up

Time T.	P.R.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality	
11	C	01 05E	150 38'	2	^B 4.65	K0 III	3-2-2	1r-Giant	40/200	stopped 18:40-18:45 AST-100 B/W 0.99	B-V	
										Dev 9min @ 68°F MWPR		
7	B	00 36E	16° 31'	2	2.39	K5 III	2-2-2	1r-Giant	40/1105		1.53	
10	A	1:17W	33° 09'	1 1/2	4.23	K3 II	2-2-2	"	40/1200		1.47	fine
13	B	0:08E	27° 53'	3	4.78	G9 II	2-2-2	"	40/200		0.99	fine
40	C	4:16W	9° 43'	4-10	3.66	B8p	15-15-15	Sp Bin-Bln	40/23	slow		fine
40	S	1:03W	+24 29	3	4.49	G8 IIa	2-2-2	1r-Giant	40/200		0.93	fine
24	C	3:23W	+48 16	3-5	6.51	B0	15-15-15	Sp Bin-Bln	400/150			strong
24	B	1:02E	+30 08	4-2"	^{6.8-} 7.1	F0+ F2	15-15-15	"	400/190			poor seeing
167	C	2:23E	+10 44	"	3.29	A2 V	2-2-2	"	100/300	Too Long		poor seeing
40	C	2:23W	+30 09	"	^{6.84} -7.09	F0+ F2	15-15-15	Sp. Bin-Bln	400/160			poor seeing
51	C	3:00W	+30 39	"	"	"	15-15-15	"	400/160			fine
51	A	3:26W	"	2"	"	"	15-15	"	400/125			poor seeing
										Dev 9min @ 68°F MWPR		

Dome Temp. 30°F 82%
 Focus 600R
 Dome Temp. 38°F 75%

Transparency Conditions haze + cirrus
 tried to find the comet

99

Time	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
3	A	02 ^h 05W	+47°20'		7.14	B8	16-16-16	Sp Bin Hd	400/130		fine
5	B	00 ^h 10W	+19°54'		6.56	F8	16-16-16	" "	400/160		fine
7	C	01 ^h 40W	+16°09'		7.14	F8	16-16-16	Sp Bin Bln	400/100		fine
	A	01 ^h 40W	+13°36'		7.10	F5	16-16-16	Sp Bin Bln	400/100		fine
18	F	04 ^h 15W	+09°42'		3.66	B8p	3-3-3	Sp Bin Bln	40/125	overexposed plate	grainy
49	C	04 ^h 16W	+39°55'		2.71	B0.5	3-3-3	Sp Bin Bln	40/150	change to 50R	grainy
49	A	00 ^h 02E	+02°28'		3.82	B7F II	3-3-3	Sp. Bin - Bln	200/500		fine
24	B	02 ^h 10W	+05°51'		4.14	A0V	3-3-3	Sp. Bin - Bln	200/500		fine
										Dev MWP2 9min @ 600x	
										" " "	
13	C	02 ^h 25W	+03°32'		4.10	B3V	15-15-15	Sp. Bin - Bln	40/25		grainy
18	A	00 ^h 54W	+10°44'		5.29	A2V	15-15-15	Sp. Bin - Bln	80/50		fine

Warren: need done
 more ITA j plates

97

Date Sun Mon Feb 34 Observer Saunders - P/R Julian Day

Plate No.	Object	R.A. 1900	Declination 1900	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.
37892	HD 11291	01 ^h 45.8	+50° 18'	G-12	IIaOB	13/5	120°F	18:15	18:26	A
37893	HD 21364	3 ^h 21.8	9° 23'	G-12	IIaj	9/7		18:32	19:05	B
37894	HD 24760	3 ^h 51.1	39° 43'	G-12	IIIaj	9/7		19:10	19:23	C
37895	HD 24534	03 ^h 49.1	+30° 45'	G-12	IIaOB	13/5		19:28	20:05	A
37896	HD 28363	04 ^h 23.3	+15° 57'	G-12	IIaOB	9/3		20:11	21:04	B
37897	HD 30869	04 ^h 46.2	+13° 29'	G-12	IIaOB	9/3	120°F	21:08	21:46	C
37897T1	cal. step wedge	for plates	37893, 94		IIIaj	6 min				
37897T2	cal. step wedge	for plates	37892, 95		IIaOB	90 sec				
37898	HD 37979	05 ^h 33.7	+2° 39'		IIaOB	13/5		21:54	22:47	A
37899	HD 41161	05 ^h 58.2	43° 15'		IIaOB	13/5		22:54	23:47	B
37900	HD 42545	06 ^h 06.3	16° 09'		IIaOB	13/5		23:56	00:14	C
37901	HD 72208	08 ^h 26.5	+10° 09'	G-12	IIaOB	13/5		00:20	01:14	A
37902	HD 99946	11 24.8	+30° 32'	G-12	IIaOB	13/5		01:25	02:22	B
37902F1	four stars	out out / w	w		IIaO	13	80°F			B

Dome Temp. 3°F

61%

Transparency Conditions *some thin cirrus*

98

Focus 90°R

Dome Temp. 0°F

63%

Time T.	P.E.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
6	A	01 ^h 12W	50° 45'		5.62	B9 III	15-15-15	Sp Bin Hd	400/142		fine
5	B	00 ^h 40W	9° 41'	3	3.66	B8p	3-3-3	Sp Bin Blu	40/150		fine
3	C	01 ^h 15W	39° 57'	3	2.71	B0.5V	3-3-3	Spln Blu	40/148		sl. strong
5	A	00 ^h 48W	31° 01'	3	6.0- 6.6	Op	15-15-15	Sp Bin - Blu	410/140		sl. strong
4	B	01 ^h 15W	16° 07'	3	7.14	F8	15-15-15	Sp Bin Blu	400/100		fine
6	C	01 ^h 34W	+13° 40'		7.10	F5	15-15-15	Sp Bin Blu	410/180		fine
										Dev 9 min @ 66°F MWP2	fy 12
										Dev 9 min @ 66°F MWP2	fy .24
47	A	01 ^h 46W	2° 36'	3	6.32	B3p	15-15-15	Sp Bin Blu	400/140		fine
47	B	02 ^h 21W	48° 15'	3	6.51	B0	15-15-15	Spln Blu	400/140		sl. strong
4	C	02 ^h 42W	16° 10'	3	4.73	B5V	15-15-15	Spln Blu	50/40		sl. strong
14	A	01 ^h 23W	+09° 56'		6.58	A0	15-15-15	Sp Bin Hd	410/140		fine
22	B	00 ^h 28E	+33° 06'		6.84 7.09	F0+ F2	15-15-15	Sp Bin - Blu	410/116	clouds over dewlers please	fine
	C						5-5 no file				ok

Dome Temp. +010°F 62%

Focus 90 R

Dome Temp. -040°F 64%

Transparency Conditions *circus*

clear after 22100

100

g Time S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
00	A	00 ^h 55 ^m W	24° 07'	1-2"	5.1	B8p	3-3-3	G1-Steel	200/600	clouds	fine
07	B	00 ^h 34 ^m W	-02° 33'	2-3"	6.71	B33II	15-30	RG *	400/62	overdevelop plate; wavy *	fine
00	C	01 ^h 04 ^m W	-02° 33'	"	6.71	B33II	15-15-15 "	"	400/140	"	fine
										Dev 9mi @ 68°F mwp2	fy .11
										" " " "	fy .22
02	A	00 ^h 25 ^m W	+42° 25'	2"	6.61	A0p	15-15-15	Ap	400/140		fine
10										Warren: We need the more ITA-D Thank you	-

Dome Temp. +03°F 75%

Focus 98R

Dome Temp. 0°F 90%

Transparency Conditions cirrus clouds

102

Log Time S.T.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
52	0 ^h 10 ^m E	+44° 55'		5.79	g65	15-15-15	Sp Bin - P14	400/160		fine
46	04 01 W	+10° 30'		6.55	B9	15-15-15	" "	400/140		fine
27	0 ^h 37 W	+19° 50'		6.56	F8	15-15-15	" "	400/160		fine
43	01 ^h 30 W	+25° 09'	3	8.86	G20	15-15-15	SSV	800/210		fine
25	02 ^h 26 W	+27° 44'	3	8.40	K3III	15-15-15	SSV	800/250	double exposure 58 count on film plate 37912	fine log 24
					Dev 9min	068°F	MUP2			
41	02 ^h 10 W	+15° 10'		7.7	B3e	15-15-15	Sp Bin - Hcl	800/280		fine
02	02 ^h 04 35 W	+02° 37'		3.82	B9IIp	15-15-15	Sp Bin - Bk	80/24		fine
51	02 ^h 10 E	+10° 43'		5.29	A2J	15-15-15	" "	400/140	circus too thick so give up	fine

Dome Temp. 90°F 840H

Transparency Conditions cloud till 20:00

108

Focus

Dome Temp.

Time S.T.	P.R.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
42	F	01 ^h 47 ^m W	+40° 00'	3"	2.71	B0.5I	3-3-3	B/n Sp B	40/150		sl. strong
										Dev. 9mi @ 69°F MWP2	g. 14
41	F	02 ^h 35 ^m W	+35° 47'	3-4"	4.04	07	3-3-3	"	40/140		sl. strong
45	C	03 ^h 20 ^m W	+16° 10'	1-2"	7.14	F 8	15-15-15 ^{filter}	"	400/100	some cloud	fine
18	F	02 ^h 15 ^m W	+48° 17'	3"	6.51	B0	15-15-15	"	400/75	overdevelop please cloud from S.W.	sl. strong
										Dev 9mi @ 69°F MWP2	g. 15
										" " "	g. 28
27	F	01 ^h 16 ^m W	+02° 27'	3-4"	3.82	B9.5Vp	3-3-3	"	40/90	around moon cleared up again; haze	fine
7	C	01 ^h 51 ^m W	+10° 45'	3-4"	5.29	A2I	3-3-	"	200/580	more cloud; snowflurries closed up	fine

777

Date 19/15 FEB THUR/FRI 1977 Observer G.I.-Ri/Sanders-Ri Julian Day.....

Plate No.	Object	R.A. 1900	Declination 1900	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.
37924	HD 11291	01 ^h 45 ^m .8	+50° 18'	G12	IIa-ob	13/5	15°F	18:31	18:55	A
37925	HD 21364	03 ^h 21 ^m .8	+09° 23'	"	IIIa-J	13/5		19:03	19:38	B
37926	HD 23862	02 ^h 43 ^m .3	+23° 51'	"	IIIa-J	13/5		19:40	21:48	C
37927	HD 37479	05 ^h 33 ^m .7	-02° 39'	"	IIa-ob	13/5		21:56	23:00	A
37927T1	cal step wedge in plates 37925, 26, 32-35				IIa-J		6 min			
37927T2	cal step wedge in plates 37924, 25				IIa-OB		90 sec			
37927T3	cal step wedge in plates 37927-31				IIa-OB		90 sec			
37928	HD 51118	06^h 52^m.5	+12° 26'	G-12	IIa-OB	13/5		23:08		B
37928	HD 79469	09 ^h 09 ^m .2	+02° 44'	G12	IIa-ob	9/7	112°F	23:32	23:45	C
37929	HD 93702	10 ^h 44 ^m .0	+11 04'	"	"	13/7		00:05	00:42	B
37930	HD 99946	11 ^h 29 ^m .8'	+30° 32'	"	IIa-ob	13/5		01:00	01:49	C
37931	HD 104451	11 ^h 56.6	+30° 06'	"	IIa-ob	18/3		02:03	03:38	A
37932	HD 110411	12 ^h 36.8	+10° 47'	"	IIIa-j	13/5		03:43	04:41	B
37933	HD 130841	14 ^h 49.2'	-15° 38'	"	IIIa-j	13/7		04:47	05:03	C
37934	HD 130109	14 ^h 41.2'	2° 19'	"	IIa-j	13/7	8°F	05:10	05:40	A
37935	HD 141153	15 ^h 44.4'	-3° 17'	"	IIIa-j	13/7		05:47	06:15	B

Dome Temp. 05°F

64%

Transparency Conditions

cirrus clouds

112

Focus 85 R

Dome Temp. 0°F

76%

Time T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
35	A	02 ^h 25 ^m W	+50° 43'	3-4"	5.62	B9 III	15-15-15	Hd Sp Bin	400/140	heavy cirrus	Pin
38	B	01 ^h 33 ^m W	+09° 40'	3-4"	3.66	B8p	3-3-3	Blu Sp Bin	40/110	13 counts at 9.7; too slow	Pin
49	C	03 ^h 22 ^m W	-24° 07'	2-4"	5.1 ^m	B9	3-3-3	Gl Shell	200/600	cirrus breaking up	Pin
50	A	02 ^h 45 ^m W	-02° 32'	3-4"	6.71 ^m	B3 V	15-15-15	rg * Blu	400/140	increasing cloud	Pin
										Dev 9mi @ 68°F MWP2	By 10
										" " "	By 20
										" " "	By 20
			+42° 23'	5-6"	6.61	A2p	15	Gl - Ap Star	400	too faint!	
45	C	04 07 E	+02° 30'	4"	3.82	B9.5 Vp	15-15-15	Blu Sp Bin	80/35		Pin
42	B	04 45 E	+10° 45'		5.29	A2 E	15-15-15	"	400/200		Pin
49	C	04 19 E	+30° 09'		6.84-7.09	F0 F2	15-15-15	Blu Sp Bin	400/100	#29	Pin
38	A	01 40 W	+29° 43'		8.7	g F3	15-15-15	Blu Sp Bin	800/240		Pin
41	B	1 ^h 23 W	10° 24'		4.97	A10	3-3-3	Blu Sp Bin	40/115		Pin
03	C	00 ^h 24 E	-15° 56'		2.89	A _m	3-3-3	Blu Sp Bin	40/140		Pin
40	A	00 ^h 17 W	2° 01'		3.74	A0 V	3-3-3	Blu Sp Bin	40/146		Pin
15	B	01 12 E	-3° 20'		3.50	A0 V	3-3-	Blu Sp Bin	40/150		Pin

Dome Temp. 10°F 80%

Focus 85 R

Dome Temp. 80°F 87%

Transparency Conditions good with haze

114

g Time S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	B-U	Quality
07	D	04 04E	16° 31'	2	2.39	K5II	3-3-3	IR-Giant	20/500		1.53	fine
47	B	01 30E	25° 13'	1 1/2	~4	G8Ib	3-3-3	"	20/133		1.40	fine
04	C	00 55E	27° 54'	1	4.78	G9III	3-3-3	"	40/660		0.99	fine
										Dew 9am @ 63°F MWP2		fine
5	A	20 55W	110° 44'		5.09	M2V	15-15-15	sp Bc Bc	20/70	cloudy & haze		fine

175

Date 17/18 Feb Sun/Mon

Observer Ir-Hns

Julian Day

Plate No.	Object	R.A. 1900	Declination 1900	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.
	IR Photometry			7-7.55		PM EST				
				cloudy after		21:30				
	TELESCOPE					DOWN				
				DEC		SLEW		DRIVE		
				FAILED						
				LEFT		TO FW		19:45		
				TOMORROW.						
				ATTN - FRANK		HAWKER				
				2nd LOST		which				
				Half		was				
				photometric						

777

Date ~~Thurs~~ Wed Feb 20-21 1974 Observer ^{MNS} Ba-Di Julian Day

Plate No.	Object	R.A. 1900	Declination 1900	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.
37940	4D 21364	03 ^h 21.8'	+05 ^o 23'	G-12	IIIa J.	13/.7	33°F	20 :19	20:37	A
37940 Y1	cal step wedge				IIIa J	6 min				
	12		Photometry					20:50	03:45	

Dome Temp. 8°F 69%Transparency Conditions *hazy*

122

Focus *50R*

Dome Temp.

Time T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
2		2 ^h 06 ^m W	9° 41'		3.66	B8p	3-3-3	Sp Bin-Blu	40/150		Line
8	B	2 ^h 21 ^m W	39° 59'		2.71	B0.5I	3-3-3	Sp Bin-Blu	40/150	clouds down S.W.	sting
		14° 1			4.18	B3E		Sp Bin-Blu			
		20° 15'			4.04	B7N	15	Sp Bin-Blu			
										Dew 9mm @ 68°F in WP2	

123

Date Mon June 25/26 1974 Observer Hrs-Ri-CM Julian Day.....

Plate No.	Object	R.A. 1900	Declination 1900	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.
	IR	Photometry						19:10	20:32	
37944	HD 31867	04 54.2	+25° 00	G12	IIaOB	13/3	18°	21:30	23:10	A-
	IR	Photometry						23:30	04:20	
37945	HD 141450	15 ^h 44.1	+13° 01	G12	IIaOB	13/5		04:55	05:45	A
3794571	cal star wedge	15 ^h 47			IIaOB		90°			

Dome Temp. 09°F 69%
 Focus 80 R
 Dome Temp. 01°F 85%

Transparency Conditions

g Time S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
32											
0	A	04 ^h 17 ^m	+25°10'	-	8.86	Q2II	15-15-15	S S V	800/210		fine
										cloud coming up fast from SW	
15	A	04 ^h 05 ^m	+12°50'		6.80	A0	15-30	SpBW - Blm	44/75	through clouds clouded over	fine
										Step wedge overdev. by mistake 12 min mwp2 @6.90	

overdevelop
 please

117
18

Dome Temp. 12° F 75%

Focus 70° R

Dome Temp. 15° F 93%

Transparency Conditions

128

Time	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
		01 ^h 50 ^m W	+09° 55'		6.58	A0	15-15-15	Sp bin - Hd	400/120	lazy	fine
		01 ^h 20 ^m W			3.82	B9.5	15-15-15	Sp bin - Blu	40/25	lazy	guiding
		0 ^h 11 ^m W	-30° 09'	23	6.24 7.09	F0, F2	F0-15-15	Sp bin - Blu	400/140		fine
		00 ^h 25 ^m W	+10 55'		4.97	F2.5	3-3-3	Sp bin Blu	40/115		fine
										Dev 9ms @ 680F MW2	
										" " "	
		01 ^h 09 ^m E	+02° 04'	2	3.71	A0.5	3-3-3	Sp bin - Blu	80/210		fine
		0^h 34^m E SAS A90 -15° 53'		2	2.89	A9m	3-3-3	Sp bin - Blu	80/300	Yes Hr L end = 0.3AE T ₁ /90	sl wt
		01 ^h 00 ^m E	+12° 51'	2	6.80	A0	15-15-15	Sp Bin Blu	400/120		fine
		01 ^h 29 ^m E	+32° 38'	2	6.26	K0TII	15-15-15	Sp Bin Hd	400/200		fine
		00 ^h 38 ^m E	+75° 28'	2	6.84	F0	15-15-15	Sp Bin Hd	400/160	lazy again	fine

Dome Temp. 22°F 84%

Transparency Conditions Crummy

130

Focus 55R

Dome Temp. 22°F 84%

g Time S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
7	A	03 14W	+9° 43'	2-3	3.66	B8p	3-3-3	Sp Bin - Bln	40/150		
10	B	02 55W	+39° 59'	2-3	2.71	B0.5V	3-3-3	Sp. Bin - Bln	40/44		
14	C	04 20W	+62° 19'	2-3	7.38	B0	15-15-15	Sp. Bin - Bln	400/130		
					4.04	B3De3		Sp. Bin - Bln	80/		

Dome Temp. 40° $H=73\%$ Transparency Conditions *clear - then haze*

139

Focus *changed from 55R-45-R*Dome Temp. 37° $H=83\%$

ng Time S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
'22		02 33 W	+9 42	3	3.66	B8P	3-3-3	Sp bin - B/n	40/150		
'13		02 53 W	+40 01	"	2.71	B05Z	3-3-3	"	40/141		
'05		04 42 W	+25 11	"	8.86	G2V	15-15-15	sp bin - Hd.	800/200		
'45		no helium									
'46		02 53 W	+9 56	3-4	6.58	H0	15-15-15	Sp Bin - Hd	400/150	Fld drawn - uncertainty	
'01		02 37 W	+29 43	3-6	8.7	gF3	15-15-10	Sp bin - Blu	800/182	seeing deteriorating * OVER DEVELOP	
'01		01 06 E	+77 42	"	6.66	A0	15-15-15	Sp Bin - Hd.	400/143		
'11		03 W	+2 09	"	3.74	A0V	3-3-3	Sp bin - Blu	200/630	some cloud	
						4 10				*Plate # 37963 & 37964T at far right of Box.	

Dome Temp. 38°F / 54% H

Focus from 45 → 35-R → 50R

Dome Temp. 26° H=72%

Transparency Conditions very good — Full moon

Haze & cloud at times

136

g Time S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
51		04 ^h 47 ^m W	+24 08	4-5"	5.1 ^M	B8p	3-3-3	G1 Shall	200/600		
		02 ^h 57 ^m W	+42° 25'	"	6.61	A0p	15-15-15	G1 Ap	400/115	some cloud — clouded over	
37		001 41W	+10 26'	3-8"	4.97	A1V	3-3-3	SpBin-R/h	200/590	Focus 50-R	
12		00 07W	-15 52	"	2.89	A _m	3-3-3	"	40/150	cloud	
25		001 25W	+ 2 03	"	3.74	A0V	3-3-3	"	40/135	" cat's paw	

Dome Temp. 26° H=6270

Focus Changed from 50-60

Dome Temp. 20° H=8870Transparency Conditions Very Good

138

g Time S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
			in in / out				5/5	no filter	60 setting		
14	A	02 13W	+39 58	2"-3"	2.71	B05V	3-3-3	Sp Bin - P/A	40/140	E Per	
19	B	03 49W	+90 42'	"	3.66	B8p	3-3-3	"	40/150	Xi Tau	
10	C	04 38W	+16° 09'	2"-4"	7.14	F8	15-15-15	"	400/140		
46	A	01 48 E	+30 07'	"	6.84709	F0, F2	15-15-15	"	400/122		
57		00 07 E	+29 44	"	8.7	GF3	15-15-15	"	800/280		
41	C	01 08W	+30 08	"	6.8-7.1	F0, F2	15-15-15	"	400/130	Sid Time reset - was 1.5 min fast	
42	A	01 03W	+10 25	"	4.97	A1V	3-3-3	"	40/130		
17	C	00 35 E	-15 52	2"-3"	2.89	Am	3-3-3	"	40/150	some cloud	
57		00 09W	+2 03	"	3.74	A0V	3-3-3	"	40/150		
29	B	01 01W	+14 51	"	7.9	B9	15-15-15	"	800/260	field drawn? ^{the cloud @ 50} very fast?	

Dome Temp. 20°F 50%

Transparency Conditions clear - Excellent

140

Focus changed to 65-R

Dome Temp. +7°F 53%

log Time S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
46	F	03 40W	+9 42	2"	3.66	B8p	3/3/3	SpBin - Bln	40/140	Last of last batch H/L S 25W	
47	C	03 20W	+39 59	2.3"	2.71	B0.5V	3/3/3	"	400/140	new batch	
48	C	02 02W	+2 02	3-10"	3.74	A0V	3-3-3	SpBin - Bln	40/150	very windy	

141

Date Wed-Thurs Morn 13-14 1974 Observer Bl.-Ri-Hns/Bl.-Ri Julian Day

Plate No.	Object	R.A. 1900	Declination 1900	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.
37984	HD 24760	03 51.1	+39°43'	G-12	IIIaT	9/7	24°F	19:02	19:14	A
37985	HD 21364	03 21.8	+09°39'	G-12	IIIaT	13/5		19:18	19:37	B
		19	<u>Platon</u>					20:00	00:10	
37986	HD 99946	11" 24.8	+30°32'	G-12	IIaOB	13/5		00:23	01:15	C
37987	HD 104451	12" 56.6	+30°06'	G-12	IIaOB	25/3		01:20	02:58	A
37987T1	cal step wedge				IIIaj	6 min				
37987T2	cal step wedge				IIaOB	90 sec				
37988	HD 110411	12 ^h 36 ^m 8	+16°47'	G-12	IIIa-J	13/5		03:02	03:48	B
37989	HD 130109	14 ^h 41 ^m 2	+2°19'	G-12	IIIa-J	13/7		03:51	04:11	C
37990	HD 130841	14 ^h 45 ^m 4	+15°38'	G-12	IIIa-J	9/7		04:14	04:33	A
37991	HD 141513	15 ^h 44.4	-03°07'	G-12	IIIa-J	9/7		04:37	05:04	B
37992	HD 141458	15 ^h 44 ^m 1	+13°01'	G-12	IIaOB	13/5		05:07	05:37	C
37993	Alpha CBr	15 ^h ¹⁹⁷⁰ 33.4	+26 ^h ¹⁹⁷⁰ 49	G-12	IIIa-J	9/9	22°F	05:40	05:50	A

Dome Temp. 14°F 61%

Focus 65° R

Dome Temp. 9°F H=57%

Transparency Conditions Superb

142

ng Time S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
14	A	02 ^h 25 ^m W	+40° 00'	3	2.71	B0.5V	3-3-3	Sp Bin - Bln	40/144		
37	S	03 ^h 20 ^m W	+09° 43'	3	3.66	B8p	3-3-3	Sp Bin - Bln	40/100		
10											
15	C	02 ^h 55 ^m W	+30° 09'	2-20	6.84 3.09	F0 F2	15-15-15	Sp Bin - Bln	400/140	FOCUS 70 R	
58	P	02 ^h 06 ^m W	+29° 44'	2-10	8.7	gF3	15-15-15	Sp Bin - Bln	80/260		
										Dew 9min @ 68°F mwp2	
										" " "	
15	E	02 ^h 15 ^m W	+10° 25'	2-3	4.97	A1V	3-3-3	Sp. Bin - Bln	40/110		
	C	00 ^h 35 ^m W	+02° 03'		3.74	A0V	3-3-3	Sp. Bin - Bln	40/144		
33		00^h10^mW 00 ^h 54 ^m W	-15° 52'		2.89	A3V	3-3-3	Sp. Bin - Bln	40/140		
104	B	00 ^h 21 ^m W	-3° 18'		3.50	A0V	3-3-3	Sp Bin - Bln	40/140		
37	C	00 ^h 58 ^m W	+12° 52'		6.80	A0	15-15-15	Sp. Bin - Bln	400/120		
150	A	01 ^h 25 ^m W	+26° 52'		2.23V	A0V	3-3-3	Bit Str	40/191		

143

Date TAMPS - FRI MAR 14-15 1974 Observer G1-Ri/Bl-Ri Julian Day

Plate No.	Object	R.A. 1900	Declination 1900	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.
37994	HD 23862	03 ^h 43. ^m 3	+23° 51'	G12	IIIa-J	13/5	28°F	19:10	20:28	A
37995	HD 51418	06 ^h 52. ^m 2	+48° 26'	"	IIIa-Ob	9/5		20:34	21:14	B
37996	HD 79469	09 ^h 09. ^m 2	+02° 44'	"	IIIa-J	13/7		21:19	21:42	C
37997	HD 87504	10 ^h 00. ^m 3	-12° 35'	"	"	13/5		21:48	22:40	A
		IR	Photometry					23:00	23:15	
37998	HD 99946	11 ^h 24. ^m 8	+30° 32'	"	IIIa-Ob	13/5		23:28	00:26	B
37999	Merak β U Ma	1970 11 00 0	1970 +56 33	"	IIIa-J	9/9		00:32	01:16	C
3799971	cal step wedge				IIIa-J	6 min				
3799972	cal step wedge				IIIa-OB	90 sec				
38000	α U Ma AB	11 ^h 01.9	+61 55	"	IIIa-OB	9/9		01:20	01:32	A
	ψ U Ma	11^h 08.6	+44 39	"	IIIa-OB	9/9		01:35		B

Dome Temp. 14°F 55% H

Transparency Conditions *circum + lazy*

144

Focus 65R

Dome Temp. 10°F 56%

Time T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
21		03 ^h 52 ^m W	+29° 07'	2-3	5.1	BSP	3-3-3	G1 Shell	200/600		
14		01 ^h 28 ^m W	+42° 24'	"	6.61	AOp	15-15-15	G1 Ap	200 ⁴⁰⁰ /140		
2		00 ^h 19 ^m E	+02° 28'	3"	3.82	B9.5Sp	3-3-3	Bln Sp Bin	40/143		
		02 ^h 12 ^m E	-12° 55'	3-4"	4.51	BSE	3-3-3	" " "	40/105	loaded between 95 + 96; too narrow for box	
15			to lazy								
	P	00 ^h 10 ^m W	+30° 10'		6.84v	F0+F2	15-15-15	Bln Sp Bin	400/130		
6	C	01 ^h 28 ^m W	+56° 33'	1-2	2.34	A/D	3-3-3	Bight Std	40/180	clouds	
										Dev 9 m = 68°F MW02	
										" " "	
2	A	01 ^h 40 ^m W	+61° 56'		2.82	K0III	15-15-15	Bight Std	40/36		
	B		+44° 40'		4.14	K1III	15		40/	cloud out	

Dome Temp. 15°F 64%

Focus 65 R

Dome Temp. 14°F 64%

Transparency Conditions *clear w. cond and**very high winds*

196

Time T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
30	A	00°10W	+02°01'	5-6	374	A05	3-3-3	Sp Rv Blh	40/110		
58	B	00°34W	-15°53'		2.89	Am	3-3-3	Sp Bw Blh	40/140		
33	C	00°08W	-03°19'		3.50	A05	3-3-3	Sp Bw Blh	40/140		
02	A	00°59W	+12°51'	4'	6.80	A0	15-15-15	Sp Bw Blh	40/120		
										Dew 9mm @ 69°F MWP2	
										" " "	
4	B	00°44W			2.57	09.5J	3-3-3	Brill Std	40/120		

Dome Temp. 20°F 70%

Focus 55 R

Dome Temp. 18°F 86%

Transparency Conditions good

748

Time T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
55	A	22 21 ^m W	-10° 34'	4-5	6.38	B3	15/15/15	Sp bin-Hd	400/111	clouds at 21:45	
06	B	22 10 W	+30° 10'	2-3	6.84 7.19	F0 F5	15/15-15	Sp bin-Blu	400/160	changed focus to 60R	
	C	20 11 ^m W	+10° 34'		4.97	A2V	3/3/3	Sp bin-Blu	40/110		
5		20 25 W	-15° 51'		2.89	Am	3/3-3	Sp bin-Blu	40/140		
		20 35 E	+32° 39'	2-3	6.26	KOTT	15/15/15	Sp bin Hd	400/200		
										Des 9 min @ 69°F mwp2	
										" " "	
30	C	00 05 W	+77° 43'		6.66	A0	15/15-	Sp bin-Hd	400/120		
		00 50 W	+61° 35'		3.63	G-BIII	15/15	Byth Std	700/100		

751

Date THURS-FRI MAR 21/22 1974 Observer Gil-Tn/Tn-HAS Julian Day

Plate No.	Object	R.A. 1900	Declination 1900	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.
38013	HD 23262 ✓	03 ^h 43 ^m .3	+23° 51'	G12	IIIa-J	13/.5	30°	19:16	21:16	A
38013 T	Cal step wedge	4 min for 38013			"					
38014	HD 51418	06 52.2	+42 26	G12	IIa-O-b	9/.5		21:21	22:23	B
38014 T	Cal step wedge	90 sec			"					
38015	HD 99946	11 24.8	+30 32	G12	"	17/.4		22:28	23:01	C
38016	HD 137569	15 21.7	+15 03	"	"	13/.4		23:06	01:47	B
38017	HD 130109	14^h41.2	-2° 19'	"	IIIa-J	13/.7		03:02	03:02	
	Some	IR	Phot done					02 ^h -	03 ^h	

Dome Temp. 25°F / 86% H

Focus

Dome Temp. 220 / 84%

Transparency Conditions Excellent + 4 on haze etc 152

g Time S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
16	A	5 08 W	+24 08	3"-5"	5.1	B8P	33-3	G1 Shell	200/350	OVERDEVELOP PLEASE! intercepted for 16min - 4/8/67 (ex cotton p/d)	
			for plate	38013						Dev 7 min @ 68°F MWP2	
23	B	3 05 W	+42 24	2"-3"	6.61	H0p	15-15-15	G1 - Ap	400/140		
										Dev 7 min @ 68°F mwp2	
01	C	00 ^h 49 E	+30° 09'	2"-4"	6.84 7.09	F04 F2	15-15-13	Sp Bin - 1/2	400/136		
47	B	07 ^h 59 E	+14 49	"	7.9	B5	15-14-15	"	400/115	clouds some snow 2.3 1.1	
			+2°							clouds closed	

Dome Temp. 10° 70%
 Focus ... changed to 75-R \rightarrow 95-R
 Dome Temp $+2^{\circ}$ 89%

Transparency Conditions ... Good, but very gusty

754

g Time S.T.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
49	03:05W	-2 33	10-15-15	3.2	B3p	15-15-15	Sp Bin-B1m	400/140	some cloud	fine
									Des 6 min @ 68°F MWPA	
17	01:35W		3-7	2+3	A1 + 45m	3-3-3		40/145		ok. strong
37	0142W	+12 51-	2-3	6.80	A0	15-12-15	Sp Bin-B1m	400/85	set 95-R	fine
		in/out				5/5	no filter			ok

155

Tues - Wed

Date March 26/27

Observer Th - Cm / Has - Tq Julian Day

Plate No.	Object	R.A. 1900	Declination 1900	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.
38020	δ Ori AB	05 ^h 33.7	-2° 39'	E-12	IIaD-6	13/1.5	30°	19:20	19:37	A
38021	HD 37479 ^{γ Ori E}	" "	" "	"	"	"		19:39	21:13	B
38021 T	Cut deep wedge		90 sec		"					
	IR Phot							21:30	→ 04:30	
38022	π Hrculis	1923 17.49.0	1923 +36° 10'	E-12	IIaD-6	19/9	21°	04:30		

Dome Temp. 21°F 709.
 Focus *Charged* 95-P. 65-R
 Dome Temp. 14° H=87

Transparency Conditions *Some cloud - High winds* 156

Time T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
37	A	01 58W	$-2^{\circ} 33'$	2-3	4.0	17	15-15-15	SP Bin - Bin	200/60		
13	B	03 35W	"	"	6.32	B3p	13-16-15	"	400/125		
156 50 3 4.56 K3 11 15- B157 Prog 10/ set 75-R Cloud											

Dome Temp. 28° H=600

Focus 60-R

Dome Temp.

Transparency Conditions ... Bad, but hanging in.

158

Time T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
37	A	3 02 W	-2 33	2"	6.32	B3p	15-15-15	Sp Bin - B1u	400/130		
0	C	3 35 W	-2 32	2"	$\frac{V}{4.0}$		3-5-3	"	40/81		
06	S	0 51 E	+29° 44'	1.2"	8.7	qF3	15-15-15	Sp. Bin - B1u	800/240		
6	C	0 30 W	+30 09	2"	$\frac{6.8}{7.09}$	F0+ F2	15-15-15	"	400/160		
0	B	02 54 E ↑	+12 50	2	6.80	A0	15-15-K	"	400/84	OVER DEVELOP	
<p>Someone doesn't know East from West.</p> <p>Ah! Your grandmother wears combat boots!</p>											

Dome Temp. $+30^{\circ}$ H=5570

Transparency Conditions Excellent - (at first)

182

Focus

Dome Temp. $+25$ H=702

Time	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
26	A	2 40W	-	2"	$\sqrt{4.0}$		15-15-15	Sp Bin-8/4	200/70	JOR AB	
20	E	3:24W	-2° 33'	2.25"	6.82	B3p	15-13-15	"	200/40		
										clouds	
28	C	0 22W	+30 08	1"-3"	$\frac{6.64}{7.09}$	F0.1 F2	15-15-15	"	400/130	some dead (Long exp)	
			no filter				4/4	set 61.5-R-			
							5/5	set 81.5			
							5/5	set 41.5			

Dome Temp. 210°K 75%

Transparency Conditions good

189

Focus 60 R

Dome Temp. 180°K 70%

Time T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
46	A	4h 37'W	39° 55'	3"	2.71	B0.5V	3-3-3	Sp Bin - Blu	40/98		
55	B	5h 04'W	25° 43'	3"	4.04	07	3-3-3	Sp Bin - Blu	40/62		
55	C	2h 37'W	43° 15'	3"	6.51	B0	15-15-15	Sp Bin - Blu	400/140		
57	A	0h 47'E	30° 08'	"	6.84-7.8	F0, F2	15-15-15	Sp Bin - Blu	400/125		
52	B	0h 37'W	29° 43'	3"	8.7	gF3	15-15-15	Sp Bin - Blu	800/240		
35	A	0h 40'W	+10° 25'		4.98	A5V	3-3-3	Sp Bin - Blu	40/70		
55	A	01h 07'E	-15° 53'		2.89	A _m	3-3-3	Sp Bin - Blu	40/90		
56	A	02h 07'E	+30° 38'		6.26	K0 III	15-15-15	Sp Bin - Hd	400/200		
57	A	02h 07'E	+25° 29'		6.84	F0	15-15-15	Sp Bin - Hd	400/160	changed focus 65R	
50	A	00h 20'E	177° 42'		6.66	A0	15-15-15	Sp Bin - Hd	400/120		
30	A	02h 25'E	+130° 15'		6.1	B0 IV	15-15-15	Sp Bin - Hd	400/120		
02	C	00h 01'W	-03° 17'		3.5	A0V	3-3-	Sp Bin - Blu	40/90		

185

Date April 8-9 1974 Mon Tues Observer L-R-Nm-Be Julian Day

Plate No.	Object	R.A. 1900	Declination 1900	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.
	α Leo A	1970 10 06.8	1970 +12 07	Now	TriX			21:15	21:30	
	α Boo	14 14.3	+19 00					22:45		
	"	"	"					22:52		
	"	"	"					22:55		
	"	"	"					22:58		
	"	"	"					23:00		
								00:09		
								00:02		
								00:12		
								00:13		
								00:14		
								00:18		
								00:19		
								00:20		
								00:24		
								00:24 ³⁰		

Dome Temp. $68^{\circ}\frac{1}{2}$ 25°F

Transparency Conditions *curious clouds above*

186

Focus

Spindle Interferometry 10X enlarger at Newton. focus

Dome Temp.

Time T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
					1.25	87.2			$\frac{1}{10}, \frac{1}{25}$ sec	8 exposure	
					1.23	87.2			1 sec		
					"	"			$\frac{1}{2}$ sec		
					"	"			$\frac{1}{4}$ sec		
									$\frac{1}{8}$ sec		
									$\frac{1}{15}$ sec		
									$\frac{1}{30}$ sec		
									$\frac{1}{60}$ sec		
									$\frac{1}{125}$ sec		
									$\frac{1}{250}$ sec		
									1 sec		
									$\frac{1}{2}$ sec		
									$\frac{1}{4}$ sec		
									$\frac{1}{8}$ sec		
									$\frac{1}{15}$ sec		
									$\frac{1}{30}$ sec		

187

I2

Date April 8-9 1934Observer NN

Julian Day

Plate No.	Object	R.A. 1900	Declination 1900	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.
	2 Bro	14 14.3	+19°20					00:25 ⁵		
	"	"	"					00:26 ²⁰		
	"	"	"					00:27		
								00:27 ⁴⁵		
								00:28 ⁴⁵		
								00:29 ³⁵		
								00:30 ⁰		
								00:30 ⁴⁰		
								00:33 ⁰⁵		
								00:36	00:45	
	2 Bro	14 14.3	+19°20					01:59	02:27	
								02:27	02:45	
								04:18	04:30	

Dome Temp.
 Focus *Newton*
 Dome Temp.

Transparency Conditions *poor ~ 2-3 mag extinction*

g Time S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
					123	<i>K2 III</i>	<i>F22</i>		$\frac{1}{60}$ sec	RG610 filter	
									$\frac{1}{15}$ sec		
									$\frac{1}{250}$ sec		
									1 sec		
									$\frac{1}{3}$ sec		
									$\frac{1}{4}$ sec		
									$\frac{1}{8}$ sec		
									$\frac{1}{15}$ sec		
									$\frac{1}{30}$ sec		
45									$\frac{1}{60}$ sec	$\frac{1}{125} / \frac{1}{250} / 1 / \frac{1}{2}$ end on roll.	
27					123	<i>K2 III</i>			$\frac{1}{30} / \frac{1}{60} / \frac{1}{125} / \frac{1}{8} / \frac{1}{15} / \frac{1}{30} / \frac{1}{60} / \frac{1}{125} / \frac{1}{8} / \frac{1}{15} / \frac{1}{30} / \frac{1}{60} / \frac{1}{125} / \frac{1}{8} / \frac{1}{15} / \frac{1}{30} / \frac{1}{60} / \frac{1}{125}$		
45									$\frac{1}{8} / \frac{1}{15} / \frac{1}{30} / \frac{1}{60} / \frac{1}{125} / \frac{1}{8} / \frac{1}{15} / \frac{1}{30} / \frac{1}{60} / \frac{1}{125} / \frac{1}{8} / \frac{1}{15} / \frac{1}{30} / \frac{1}{60} / \frac{1}{125}$	end of roll of film	
										clouds at 02:45	
470									$\frac{1}{8} / \frac{1}{15} / \frac{1}{30} / \frac{1}{60} / \frac{1}{125} / \frac{1}{8} / \frac{1}{15} / \frac{1}{30} / \frac{1}{60} / \frac{1}{125} / \frac{1}{8} / \frac{1}{15} / \frac{1}{30} / \frac{1}{60} / \frac{1}{125} / \frac{1}{8} / \frac{1}{15} / \frac{1}{30} / \frac{1}{60} / \frac{1}{125}$		

189

Date April 9/10 1974 Tues Wed Observer NN-Ri Julian Day

Plate No.	Object	R.A. 1900	Declination 1900	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.
1	Procyon & CMi A	¹⁹⁷⁰ 7 37.7	¹⁹⁷⁰ +05°18'	New	Tm X			20:17	20:27	
" #2	"	"	"	"	"			20:37	20:42	
" #3	"	"	"	"	"			20:58	21:01	
" #4	"	"	"	"	"			21:16	21:20	
" #5	"	"	"	"	"			21:22	21:31	
" #6	Alcyon & Pro	14 14.3	+19 20	"	"			22:38	22:45	
" #7	"	"	"	"	"			22:54	22:58	
" #8	"	"	"	"	"			23:04	23:09	
" #9	Spica & Vel	13 23.6	-11 00	"	"			00:47	00:52	
" #10	"	"	"	"	"			01:01	01:08	
" #11	"	"	"	"	"			01:17	01:23	
" #12	Ursa & Lyr	18 35.9	+38°45'	"	"			02:25	02:29	
" #13	"	"	"	"	"			02:35	02:39	
" #14	"	"	"	"	"			02:51	02:55	
" #15	"	"	"	"	"			03:03	03:12	
" #16	"	"	"	"	"			03:15	03:35	

Dome Temp. 20°F 64%

Transparency Conditions *over*

190

Focus

Speckle Interferometry 10X enlarge at newton focus

Dome Temp. 20°F 72%

g Time S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. <u>MF</u>	REMARKS	Quality
37		01 ^h 46 ^m W	+05°17'		0.78	F5V			$\frac{1}{30}$ sec	end of roll of film 20 exposures	
42		02 ^h 00 ^m W	+05°17'		"	"			$\frac{1}{30}$ sec	end of roll of film 20 exposures	
01		02 ^h 18 ^m W	+05°17'		"	"			$\frac{1}{30}$ sec	end of roll of film 20 exposures	
20		02 ^h 43 ^m	+05°17'		"	"			$\frac{1}{30}$ sec	end of roll of film 20 exposures	
31		02 ^h 47 ^m W	+05°12'		"	"			$\frac{1}{30}$ sec	" " " " " "	
45		02 ^h 43 ^m SW	+19°20'		1.23	K2III			$\frac{1}{30}$ sec	end of roll of film 36 exposures	
58		02 ^h 22 ^m E	+19°20'		"	"			$\frac{1}{30}$ sec	end of roll of film 36 exposures	
04		02 ^h 10 ^m E	+19°20'		"	"			$\frac{1}{30}$ sec	end of roll of film 36 exposures	
52		00 ^h 24 ^m W	-11°02'		0.73	B1V			$\frac{1}{30}$ sec	end of roll of film 36 exposures	
28		00 ^h 33 ^m W	-11°02'		"	"			$\frac{1}{30}$ sec	end of roll of film 36 exposures	
23		00 ^h 54 ^m W	-11°02'		"	"			$\frac{1}{30}$ sec	end of roll of film 36 exposures	
29		03 ^h 11 ^m E	+38'44"		0.04	A0II			$\frac{1}{30}$ sec	end of roll 36 exposures	
39		03 ^h 02 ^m E	+38'44"		"	"			$\frac{1}{30}$ sec	end of roll of film 36 exposures	
55		02 ^h 46 ^m E	+38'44"		"	"			$\frac{1}{30}$ sec	end of roll of film 36 exposures	
12		02 ^h 34 ^m E	+38'44"		"	"			$\frac{1}{30}$ sec	end of roll of film 36 exposures	
3:35		02 ^h 05 ^m E	+38'44"		"	"			5 sec	end of roll of film 36 exposures Star trails	

run out of film

197 #1

Date Apr 10-11/74 Wed-Thu Observer NN-Tg Julian Day

Plate No.	Object	R.A. 1900 ⁷⁰	Declination 1900 ⁷⁰	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.
roll # 17	B Ori A	05 13.1	-8 04	Newt	Tri-X			20:30	20:40	
# 18	"	"	"	"	"			20:50	20:54	
# 19	"	"	"	"	"			21:05	21:08	
# 20	α Ori	05 53.5	+7 24	"	"			21:21	21:25	
# 21	"	"	"	"	"			21:33	21:40	
# 22	"	"	"	"	"			22:00	22:02	
# 23	"	"	"	"	"			22:08	22:13	
	Saturn	05:57 ⁷⁴ 3	+22 ⁷⁴ 40	"	32ASA			22:35	22:45	
# 24	α cm. A	07 37.7	+5 18	"	Tri-X			22:52	22:57	
# 25	"	"	"	"	"			23:05	23:10	
# 26	"	"	"	"	"			23:20	23:30	
# 27	Spica	13 23.6	-11:00	"	"			23:56	0:0	
# 28	"	"	"	"	"			00:07	00:12	
# 29	"	"	"	"	"			00:18	00:24	
# 30	α Boo	14 14.3	+19 20					00:43	00:48	
# 31								00:54	00:58	

Dome Temp. 38° H-6370

Transparency Conditions Excellent

192

Focus

Dome Temp.

ing Time EST.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp. Filter	Program	Exp. Mtr.	REMARKS	Quality
1:40		04 27W	-8 11		+0.1	B87a	R			1/5 sec (all 36 exp.)	
1:54		04 38W	"		"	"	R			"	
2:08		04 53W	"		"	"	R			"	
2:25		04 28W	+7 25		2.28	M2J06	R			1/30 sec	
2:41		04 43W	"		"	"	R			" (Film slip)	
2:02		05 05W	"		"	"	R			"	
2:13		05 16 W	"		"	"	R			"	
2:45										3 sec/sec, 1/2 sec, 1/4, 10 sec, 5 sec	
2:57		04 17W	+5 18		0.78	F5V	R			1/30	
3:10		04 30W	"		"	"	R			"	
3:30		04 50 W	"		"	"	R			"	
0:10		00 25 E			+0.7	B1V	R			1/5	
0:12		00 14 E					R			"	
0:24		00 02 E					R			"	
0:48		00 27 E	+19 18		+1.17	K2111	R			1/30	
0:58		00 17 E					R			"	

Dome Temp. 64°F $H=7070$

Focus

Dome Temp. 48° $H=8870$ Articulated Transparency Conditions \dots Very Good

196

UFO report by Mr Mabi - 9:57 PM - round object $\frac{1}{4}$ Moon dia
 From 5° N of Zenith $\pm 30^{\circ}$ East to West Horizon in 3 secs.
 Constant brightness & not especially bright.

Time T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
06	A	01 13 E	+30 08	2.5"	6.8- 7.1	F04 F2	15-1515	Sp Bin-Bln	400/160		
18	B	00 27 W	+29 43	2.4"	8.7	9F3	13-15-15	"	800/240		
25	C	00 30 E	+14 49	"	7.9	B5	1515-15	"	800/250	th. cloud	
	A	+30 09		2.5"	6.8- 7.1	F04 F2	13-	"	400/	cloud	
	B						5/5	set 40-R		Forward in Red advanced }	
	B						"	set 00-R			
	B						"	set 80-R			

Dome Temp. 38° H=85%

Focus 50-R, 60-R

Dome Temp. 34° H=78%

Transparency Conditions

good - cloud disappearing to south

Worren * 3 plates to be overdeveloped one at far right of box

198

Time	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
5	A	05 16 W	-2° 36'	3-6"	6.32	B3J	15-14-13	Sp bin - Bln	400/74	* (overdevelop please) Tel. Reversal - bad balance	
	B		"	10-00	7.0		13-	Sp bin Bln	200/	ground haze, trees etc	
7		04 38 W	+71 43	3-4"	1-52	AO	15-15-15	Sp bin - Hd	400/140	Tel Reversal still	
54	A	<u>01 14 E</u>	+14 48	"	7.9	BS	15-15-15	Sp bin Bln	400/140	Tel Normal (60-R) * overdevelop also	
0	B	1 46 E	+75 26	"	6.84	FO	15-15-15	Sp Bin - Hd	400/180	Fld down slight doubt?	
43	C	0 56 E	+77 42	"	6.66	AO	15-15-15	Sp Bin Hd	400/140	Fld Down	
36	A	00 04 W	+32 38	"	6.26	KOTU	15-15-15	Sp Bin Hd	400/200		
19	B	<u>01 57 E</u>	+15 27	"	6.34	MRT	15-13-12	"	400/161	* overdevelop also	
	E						5/5	Set 60-R			
	B						3/3	" 20-R			
	C						3/3	" 100-R			

299

* Nitrogen Treated

Date Tues-Wed Apr 16/17 Observer Tn-Cm Julian Day

Plate No.	Object	R.A. 1900	Declination 1900	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.
38052	5 Ori AB	05 ^h 33.7 ^m	-02° 39'	G-12	Ilia-j	13/5		19:41	19:52	C
38053	HD 37479 5 Ori E	05 ^h 33.7 ^m	-02° 39'	G-12	Ilia-b	"	44°F	19:53	21:02	A
38054	HD 72208	08 ^h 26.5 ^m	+10 09	G-12	Ilia-b	"		21:10	21:31	B
38054T	Cal step	w/ce			"					
38055	HD 137569	15 ^h 21.7 ^m	+15° 03'	G-12	Ilia-b*	13/5		21:44	23:12	C
38056	HD 154528	17 00.9 ^m	+77 48	"	"	"	44°	23:24	23:45	A
38057	HD 153720	16 56.0 ^m	+75 34	"	"	"		23:50	00:25	B
38057T1	Cal step	w/ce			"		for Nitrogen			
38058	HD 152224	16 ^h 47.0 ^m	+32 44	G-12	"	13/5		00:29	01:03	C
38059	HD 142926	15 ^h 58.1 ^m	+42 51	G-12	"	13/9		01:08	01:28	B
38060	HD 164528	17 00.9 ^m	+77 48	G-12	"	13/5		01:34	01:47	C
38061	+11) 186547	19 39.9 ^m	+13 54	G-12	"	13/5		02:03	02:31	A
38062	HD 190658	20 ^h 00.9 ^m	+15 13	"	"	13/4		02:35	03:21	B
38063	HD 137569	15 ^h 21.7 ^m	+15 03	"	"	13/5		03:24	04:35	C
38064	HD 161096	17 ^h 38.5 ^m	+4 37	"	"	"	42°F	04:40	04:42	C

Dome Temp. 32° 60%

Focus 50-R

Dome Temp. 36° 82%

Transparency Conditions excellent

200

Looked at Egg X-1 at 2AM - seemed bright but seeing going

Time	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
2	C	03 30W	-02° 36'	2"	V=4.0		3-3-3	Sp bin-Bln	A0/50		Fine bad guiding
0	A	04 46W	-02° 36'	2-4"	6.32	B3p	15-15-15	Sp bin-Bln	400/136		sl guiding sl strong
1	C	02 23W	+9° 53'	1"	6.58	A0	15-15-15	Sp bin-Hd	400/140		Fine
											Fo
2	C	02 51E	+14° 51'	1-2"	7.9	B5	13-15-13	Sp bin-Bln	400/120		Rained?
5	A	03 50E	+17° 42'	2"	6.66	A0	14-13-13	Sp bin-Hd	400/130		"
5	F	03 07E	+75° 21'	1-2"	6.84	F0	14-14-14	"	400/160		"
											"
3	C	02 24E	+32° 38'	2	6.26	K0IV	13-14-14	Sp bin-Hd	200/100		Fine
8	B	01 05E	+12° 41'	2-3"	5.6	Bc	13-13-14	Sp bin-Hd	200/125		"
4	C	01 48E	+77° 43'	1-2"	6.66	A0	13-13-13	"	400/70	Nit plate test 1/2 normal exp.	vs/weak
3	A	03 50E	+13° 17'	2-4"	6.1	B8IV	13-13-13	Sp bin-Hd	200/65	broken - 2 pcs	Fine
1	F	03 22E	+15° 29'	2-3"	6.34	M2III	13-13-13	"	200/71		vs/weak
35	C	02 32W	+14° 51'	1-3"	7.9	B5	13-13-15	Sp Bin-Bln	400/125		Fine sl guiding
0	C	0 22W	+14° 43'	2"	3.93	K1IV	13-30	Std vel	10/14		vs/strong

Dome Temp. 54°F

56%RH

Transparency Conditions

Very Good - sl cloud
Good Aurora from ~ 23:00 until almost
down. Spectacular from 0^h - 02^h,

Focus Set 40-R

Dome Temp. 42°F H=74%

B

Time S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	B-V	Quality
24	A	0 hours	+26° 11'	1"	5.1	K1	3-3-3	Fr-Giant	80/505		1.21	fine
52	C	1 ^h 49W	60° 51'	2"	4.2	G5	3-3	"	40/160	Forget to pull dark slide?	0.84	no exposure
12	B	~1 ^h W	34° 26'	1'-2"	6.0	G8	3-3-3	"	80/270		0.72	strong
37	G	2 ^h 10 ^m E	19° 23'	2"	1.3	K2	3-3-3	"	20/300	thru cloud	1.29	strong
11	A	0 24 E	+11 09	2"	3.74	G8	3-3-3	"	40/160	end broken off.	0.93	sl strong
32	F	1 ^h 55W	61° 56'	2'-3"	2.85	K0	3-3-3	"	40/220		1.06	sl strong
15	C	01 ^h 10 ^m E	74° 18'	"	3.53	K4II	3-3-3	"	40/350	Bright Aurora in the area	1.46	fine
										Dev 1min @ 68°F MW32		
	A			2"	8.7	GF3	K5	Sp Bin - Bl	800/	Forget to pull dark slide		
78	F	02 02 E	+35 11	2	9.74	09.7I.	13-13-13	Sp. Bin - Bl	800/210	Much Aurora for 1st 30min		
45	B	02 56 E	+30° 07'	3	5.6	A0	15-15-15	"	80/24	bubbles in emulsion.		sl strong

202

Dome Temp. 34° H=6270

Focus 40-R

Dome Temp. 127° H=6870

Transparency Conditions High Cirrus - good in North

Among other things; another moderate Aurora

209

g Time S.T.	PH	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
25	A	00 ^H 06 ^M E	+29° 46'	2-4"	8.7	GF3	12-12-12	SpBin-Rh	800/220	thin cloud for 1st half	Reis
47	B	01 ^H 08 ^M E	+19 51	"	7.9	B5	15-13-15	"	400/130	Have? Bright red star mag 1.5 Position ~ 05 ^m 58 ^s 17" + 24° 50' (1974) sl shu, color like x Ori MARS! You " " " Dummy!!!	
						Dev 7 min	068 ⁹⁰ F	MWP2			
24	C	00 50 E	+12° 51'	2-3	6.80	A0	15-15-15	"	400/120	Changed Focus to 50R	sl shu
47	A	00 35 W	+2° 04'	3	3.74	A0V	2-2-2	"	40/85		sl shu
02	B	00 42 W	-15° 51'	5	2.89	A5IV	2-2-2	"	40/85		Reis weak arc
10	A	01 35 E	-18 22'	3-5"	6.63	07III	15-15-15	"	400/150		sl shu
21	B	02 27 W	+14° 51'	4-5	7.9	B5	14-12-12	"	400/130		sl shu
48	C	01 26 W	+10 17	"	4.30	B8V	2-2-2	"	40/85		sl shu
										Dev 7 min 068 ⁹⁰ F MWP2	

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✓ unmarked only

Date FRI-SAT Apr 19/20/74 Observer Ir-Ri/Pak-Ri Julian Day

Plate No.	Object	R.A. 1900	Declination 1900	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.	
38082	HD 85503	09 ^h 47.1	+26° 29'	G-12	ITA J [*]	13/35	42°F	19 ^h 53	20:56	A	
38083	HD 71369	08 ^h 22.0	+61° 03'	"	"	13/35	42°F	21:00	21:20	B	
38084	HD 95689	00 ^h 57.6	+60° 17'	"	"	13/35	42°F	21:23	21:32	C	
38085	HD 96833	11 ^h 04.1	+45° 02'	"	"	13/35		21:34	22:01	A	
38086	HD 101501	11 ^h 35.8	+34° 46'	"	"	13/35		22:04	23:24	B	
38086T1	cal step wedge for plates 38082-38089				ITA J [*]		4 min				
38087	HD 113226	12 ^h 57.2	+11° 30'	"	"	13/35		23:26	23:47	C	
38088	HD 124897	14 ^h 11.1	+19° 42'	"	"	13/35		23:50	23:53	A	
38089	"	"	"	"	"	"		23:54	00:00	B	
38090	HD 104451	11 ^h 56.6	+30° 06'	"	ITA 0 B	20/3		00:12	01:27	C	
38091	HD 130109	14 ^h 41.2	+00° 19'	"	ITA J B	13/7	40°F	01:33	01:44	A	
38092	HD 130841	14 ^h 45.4	-15° 38'	"	"	13/7		01:47	01:54	B	
38093	HD 137569	15 21.7	+15° 03'	"	ITA 0 B	13/5		01:59	02:49	C	
38093T1	cal step wedge for plates 38091, 92, 95, 97				ITA J B		3 min				
38093T2	cal step wedge for plates 38090, 93, 94, 96				ITA 0 B		90 sec				
					used on next page						A

Dome Temp.

Transparency Conditions *excellent*

Focus *55 R*

Dome Temp. *240 F*

61%

Ending Time E.S.T.	PR	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
3:43	B	00° 59E	-18° 23'	4	6.63	O7 III	12-12-	Sp Bni - Bh	40/150		<i>fine</i>
4:05	B	00° 20E	+01° 21'	2	4.42	A1 V	2-2-2	" "	40/85		<i>fine</i>
4:26	C	00° 42W	+12° 51'	2	6.80	A0	12-12-12	" ^	40/120		<i>fine</i>
4:44	A	01° 25W	+10° 16'	2	4.30	88V	2-2-2	" ^	40/85		<i>fine</i>
										<i>not a cloud in sight</i>	

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Dome Temp. 34° H=65%

Focus 50-R

Dome Temp. 37° H=65%

Transparency Conditions Hazy - Some Cirrus
during night

Ending Time E.S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
3:25	C	00 22W	+10° 27'	3-4"	4.97	A1V	2-2-5	Sp. Bin-Blu	40/80		strong seeing
4:48	C	01 18E	+2° 02'	2-3	3.74	A0V	2-2-2	Sp. Bin-Blu	40/70		seeing fine
5:38	A	01 32E	+12° 52'	2-3"	6.80	A0	15-15-15	Sp. Bin-Blu	400/120	Des 7mm @ 68°F MW P 2 Iron Arc filter was c 1/4" too high.	seeing fine
6:01	C	01 09E	-3 16		3.50	A0V	2-2-2	Sp. Bin-Blu	40/70		fine
										Des 7mm @ 68°F MW P 2	
7:11	A	01 33E	+2° 06'	2	3.86	A1V	2-2-2	Sp. Bin-Blu	40/50		fine
8:36	C	01 : 39E	+10° 16'	1-2	4.30	B8V	2-2-2	Sp. Bin-Blu	40/50		fine
9:20	C	01 : 08E	-18 23	2-4"	6.63	07III	15-15-15	Sp. Bin-Blu	400/150		fine
10:11	A	01 09E	+40 42	2-3	6.12	B5s	15-15-15	Ap- G1	200/70		strong
11:41	C	00 20W	+1° 24'	3-8"	4.46	A1V	2-2-2	Sp. Bin-Blu	200/250		fine
	L		min load out				4/4	no filter	set 50-R		good

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* evacuated only

Date Wed. Thru April 24/25 1974 Observer J.P.R. / M.F. / R.S. Julian Day

Plate No.	Object	R.A. 1900	Declination 1900	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.
38108	HD 85503	09 ^h 47.1	+26° 29'	G-12	IIIaJ*	13/.35	46°F	20:03	21:45	A
38109	HD 98839	11 ^h 17.3	44° 02'	G-12	IIIaJ*	13/.35	45°F	21:50	23:13	B
38110	HD 113226	12 ^h 57.2	+11° 30'	G-12	IIIaJ*	13/.35		23:18	23:37	C
38110T1	cal step wedge for plates 38108-38112				IIIaJ*	4 min				
38111	HD 95689	10 ^h 57.6	+62° 17'	G-12	IIIaJ*	13/.35		23:41	23:52	A
38112	HD 124897	14 ^h 11.1	+19° 42'	G-12	IIIaJ*	13/.35		23:56	23:59	B
38113	HD 137569	15 ^h 21.7	+15° 03'	G-12	IIg-06	13/.5		00:10	01:30	C
38114	HD 130841	14 ^h 45.4	-15° 38'	G-12	IIIaJb	13/.7		01:33	01:44	A
38115	HD 130109	14 ^h 41.2	+02° 19'	G-12	IIIaJb	13/.7		01:47	02:02	B
38116	HD 141458	15 ^h 44.1	+13° 01'	G-12	IIa0B	9/.5		02:06	02:44	C
38116T1	cal step wedge for plates 38114/15				IIIaJb	3 min				
38116T2	cal step wedge for plates 38113, 16-17				IIa0B	90 sec				
38117	HD 167771	18 ^h 11.6	-18° 30'	G-12	IIc0B	13/.5	42°F	02:50	03:44	A
38118	HD 164577	17 ^h 56 ^m 4 ^s	+1° 18'	G-12	IIIaJB	13/.5		03:51	04:14	B
38119	HD 152614	16 ^h 49 ^m 17 ^s	+10° 20'	G-12	IIIaJB	13/.5		04:18	04:33	C
38120	SHER	^{A70} 17 13.8	^{M70} +24° 22'	G-12	IIIaJB	9/.9	42°F	04:35	04:45	M

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Dome Temp. 32°F 61%

Transparency Conditions good

Focus 4.5 R

Dome Temp. 28°F 62%

ing Time E.S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	B-V	Quality
45	A	01 ^h 46W	+26°11'	3-4	5.11	K1.5	3-3-3	Giant IR	40/330	U Sco	1.21	fine
13	B	01 ^h 45W	+43°40'		6.00	G8II	3-3-3	" "	40/145	56 U Ma	0.98	fine
37	C	00 ^h 29W	+11°10'	3"	3.74	G8III	3-3-3	" "	40/100	E Uir	0.93	fine
										Dev 7 Min @ 68°F MW P2		
3:52	A	02 ^h 47W + 68°57'		4"	2.85	K0	3-3-3	" "	40/130	U U Ma	1.06	fine
59	B	00^h23E 10 Ta/90 00 ^h 23E + 19°24'		4"	1.29	K2III	3-3-3	" "	40/110	U Boo Arcturus	1.23	fine
30	C	00 ^h 03E	+15°52'	3-4"	8.10	B5III	12-12-2	Sp-Bi Bln	400/130			fine guid 8. stars.
1:44	A	00 ^h 47W	-15°51'		2.89	Am	3-3-3	"	40/85			fine guid
2:02	B	01^h10W + 02°05'			3.74	K0V	3-3-3	"	40/85	broken 1/4 missing		fine guid
2:44	C	00 ^h 50W	+12°53'	4	6.8	A0	12-12-12	"	400/120			fine guid
										Dev 7 Min @ 69°F MW P2		
										" " "		
3:44	A	00 ^h 38E	-18°23'	4	6.63	G7III	12-12-12	"	400/150	changed focus to 50R		fine
4:14	B	00 ^h 07W	+01°23'		4.46	A1II	3-3-3	"	40/60			fine
4:33	C	01 ^h 35W	+10°17'	3	4.30	B8II	3-3-3	"	40/60			fine
4:45	A	01 ^h 26W	+24°57'		3.23	A3II	3-3-3	Bredt Std	40/98			fine

#1
277

Primary Mirror Washed - 26 April, L * vacuumed only

Date Fri-Sat April 26/27 1974 Observer Ir-T_n/T_n-McKadden Julian Day.....

Plate No.	Object	R.A. 1900	Declination 1900	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.
38121	MOON	—	—	G12	IIIaj*	13/35	55°F	19:51	19:54	A
38122	HD 62509 Pol/ax	07 39.2	+28 16	"	"	"		20:11	20:15	B
38123	HD 76294	08 ^h 50.1	+6° 20'	"	"	"		20:21	20:35	C
38124	HD 71369	08 22.0	+61° 03'	"	"	"		20:41	20:59	A
38125	HD 82635	09 28.1	+36 50	"	"	"	54°F	21:03	21:41	C
38126	HD 101501	11 35.8	+34 46	"	"	"		21:45	22:41	A
38127	HD 124897	14 11.1	+14 42	"	"	"		22:47	22:51	C
38128	HD 157999	17 21.6	+4° 14'	"	"	"		22:55'	23:56	A
38128T	Cal step	wedge	3 min		"					
38129	HD 150100	16:33.8	+53 06	G12	II a0-6	13/15	53°F	00:28	00:38	A
38130	HD 150118	16:33.9	+53 08	"	"	5/4		00:50	01:13	B
38131	HD 150117	"	"	"	"	5/4		01:21	01:30	A
38132	HD 140283	15 ^h 39.7	-10 36	"	"	13/15		01:39	02:43	C
38133	HD 152863	16 51.0	+25 54	"	"	"		02:47	03:14	A
38134	HD 160835	17 37.0	+24 34	"	"	"		03:19	03:52	B
38134T	Cal step	wedge	90 sec		"					

Dome Temp. 51°F 41% RH

Focus 30-R

Dome Temp.

Transparency Conditions Very Good

218

Someone put fix in my distilled water!
All these plates are badly bleached
by the fix drying on them wfm.

ing Time E.S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	B-V	Quality
0:54	A	~3 hours W	+21° 32'	?	~0	G2V	9	Fr - Giant	20/35	moon	?	
0:15	E	2 ^h 32 ^m W	28° 09'	2"	2.14	K0III	9	"	20/48	Pollux	1.00	
0:35	C	1 ^h 42 ^m W	+6° 08'	1-2	4.11	G9III	3-3-3	"	40/130	δ Hya	1.00	
0:59	A	2 ^h 30 ^m W	+60° 51'	1-2	4.20	G5IV	3-3-3	"	40/110	α U Ma	0.84	
1:4	C	2 ^h 09 W	+36° 35'	"	5.47	G85IV	3-3-3	"	40/125	10 LMi	0.94	
2:4	A	1 01 W	+34° 25'	1-2	6.07	G8V	3-3-3	"	40/100	61 UMa	0.72	
2:51	C	1 22 E	+19 19	2"	1.29	K2III	9-	"	20/62	α Boo (guide star above slit high)	1.23	
3:36	A	3 26 E	+4 15'	3-4'	5.84	K2II	3-3-3	"	40/67?	α Oph (edge of blue in middle)	1.50	
										large Hz guide on blue		
0:78	V	1 57 E	+52 59	2"	5.64	A0	14-13-14	Waterloo Close Vis Bin	200/70			fine
1:13	E	1 22 E	+53 02	1-2"	6.58	A2	15-17-16	"	200/50	varying length in the guiding		guiding
1:30	F	1 03 E	"	"	5.56	"	15-17-13	"	200/50	lost edge of slit in total star		fine
2:47	C	1 03 W	"	2-3"	7.5	A8	14-13-14	Sub-Dwarf	400/120	2 plates in holder? (prob old batch)		fine
3:14	A	0 22 W	+25 52	2"	7.0	G8III	14-14-14	Sus Sp En	200/80			guiding
3:52	F	0 14 W	+24 36	1-2"	7.6	K1III	14-14-14	"	400/170			fine
										Dec 7 min 068°F in WP2		

Dome Temp. \angle

Transparency Conditions

Focus

Dome Temp. 4.6° H=50%

ding Time E.S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
:32	C	0 30W	+21° 34		7.73	dG1	A-A7	Waterloo Close Up Bin	400/140	sl haze	Swimming at string.
	P		main foot out	set	R-80	3/3		n. filter		(backlash taken up going)	
	P			"	R-30	3/3		"		ahead in black by 50dly	
	P			"	B-20	3/3		"		continuous	

Dome Temp. 46°F 81%

Focus 25R

Dome Temp. 42°F 77%

Transparency Conditions

229

Timing Time E.S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
0:22	A	00°10E	+00°04'		3.74	A0V	23-3	Sp Bi - Bl	40/85		fine
0:32	B	00°17W	+14°52'		9.10	B5III	12-24	" "	40/32	clouds overdevelop please	seeing weak
0:42	C	00°06W	+32°39'		6.26	K0III	12-12-12	Sp Bw-Hd	400/165	clouds again from the south overdevelop please	fine
								Dew 7 min @ 68°F MWP2			
						"	"	"			

Dome Temp. 40°F 73%

Transparency Conditions Good

226

Focus 25 R

Dome Temp. 35°F 64%

Ending Time E.S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
1:57	A	01 ^h 35E	+32° 40'	.4	6.26	K0III	13-13-13	Hd Sp Bin	400/200		lin
2:10	B	00 ^h 26E	+75° 29'		6.84	F0	13-13-13	"	400/160	OPEN DOOR WITH PLATE OVER	sliding
2:50	C	00 ^h 00W	+77° 44'		6.66	A0	13-13-13	"	400/120	BROKEN 2 PIECES	lin
										Dev 7 Min @ 68° MU P2	
2:57	C	02 ^h 00E	+13° 20'		6.1	B8IV	13-13-13	"	400/120		sliding sl. shinj
3:03	B	01 ^h 24E			6.34	M2III	13-13-13	"	400/140	overdevelop please	sl. wk.

Dome Temp. 31°F H=50%

Transparency Conditions Excellent

Focus 44-R

Dome Temp. 30°F H=62%

ing Time E.S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
01:52	A	0 16 E	+130 10	4-8	6.84- 7.09	F0+ FL	13-13-13	Sp Bin Bin	200/55		fine
03:37	A	1 57 W	+129 45	3-5'	8.7	9F3	13-13-13	"	400/130	2" broken off	fine
										Des 7mi 068°F MW P2	0
04:12	C	01 ^h 55 ^m W	+10 27	3-6"	4.97	AIV	2-2-2	"	40/70		fine
04:28	A	0 04 W	+7 04	2	3.74	AIV	2-2-2	"	40/70		fine
04:38	B	0 10 W	-15 51	2	2.89	Am	2-2-2	"	40/74		fine
04:53	C	2 01 E	-18 23	1-2'	6.63	07III	15-15-15	"	400/150		judging
04:46	A	2 04 E	+26 44	2-3'	8.6- 9.3	B8	15-15-15	"	800/280		sl. shag
04:04	B	2 20 E	+36° 27'	3-6	4.30	B5V	2-2-2	"	40/70		fine
04:22	C	1 51 W	+10° 12'	3-4'	4.30	B8V	2-2-2	"	40/70		fine
										Des 7mi 069°F MW P2	

Dome Temp. 38° H=82?

Focus 44-R

Dome Temp. 33° F 84?

Transparency Conditions Clear by 21:30 -

230
some haze
high winds

B-V

Time	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
2:26	A	02 20 E	+33 28	2"5"	4.44	G8 III	no filter 3-3	2r - Giant	40/127	8 Boo +0.95	fine
										Dev 7 min @ 68°F m w 0.2	
2:24	C	01 12 E		"	1.29	k2 IIIp	4-4	"	20/60	2 Boo +1.23	fine
2:13	B	01 43 E	+59 05	2-3	4.41	k2 III	3-3-3	"	40/140	c Dra +1.17	sl. wk.
2:55	C	00 32 E	+27 01	"	5.38	k2 IIIob	3-3-3	"	40/190	E Cr B some cloud	sl. wk.
2:48	A	00 53 W	+37 28	"	7.11	d60	15-14-14	Waterbury Closestia	400/130		fine
2:58	E	01 03 W	+37 31	"	4.65	FOV	14-14-14	"	40/15		sl. wk.
2:46	C	01 03 W	+33 58	"	7.31	G1 V	14-14-15	"	400/135		fine
3:12	A	01 27 W	+34 00	"	6.20	F8 V	15-15-15	"	200/65		fine
3:37	B	01 30 W	+52 59	3"	5.64	A0	15-15-15	"	200/45	cloud	fine

Dome Temp. 38°F H=6370Transparency Conditions *Excellent*

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Focus

Dome Temp. 37° H=62

Ending Time EST.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
2:48	A	00 47W	+18 36	1"	6.84	F1V	14-14-14	Close P. in Waterloo	400/132		Fin
3:05	B	01 03W	"	"	6.22	K2III	14-14-14	"	200/80		Fin
3:35	C	00 41E	+48 52	"	6.8	F0	14-14-14	"	200/65		ok strong
4:05	A	00 11E	"	1.2"	7.5	F5	14-14-14	"	200/65		ok strong
4:38			+53 01	"	6.52	A2	14-16-16	"	200/50		Fin Sunday
4:52	C		"	"	5.56	A2	15-15-15	"	200/50		Fin
5:08	A	00 54E	+52 59	"	5.64	A0	15-15-15	"	200/55		Fin
5:31		02 52E	+39 49	"		Em	15-15-15	Em obj	800/39		?
4:16	C	0 00	-16 06	2.3"	8.5	A5	14-14-14	subdwarf	400/50	Fld drawn? Error	Sunday week

Dome Temp. 36° H=7770Focus *set 60-R*Dome Temp. 32° H=8320Transparency Conditions *clear* by *20:30**Hazy*

239

Ending Time E.S.T.	P.R.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
2:31	A	02 38 E	+42 41	1"-3"	5.6	Be	2-3-2	Hd Sp Bin	200/352	too bad 4 Her (shattered)	
2:44	B	02 26 E	+75 29	1"-3"	6.84	FO	14-14-14	"	200/82	East of Poir (sep 2 10')	dust on plate seeing
0:24	C	01 48 E	+77 43	"	6.66	AO	14-14-14	"	200/61		fine seeing
1:36	B	00 28 W	+42 39	"	5.6	Be	2-2-2	"	200/360	4 Her (try again!)	fine
										Dew 7 min @ 68°F MW P2	
2:30	C	01 48 E	+15 30	2"-3"	6.34	M2 III	14-14-14	"	200/120		fine
3:58	A	00 59 E	+13 19	"	6.1	B8 IV	14-14-14	"	200/60	some cloud	sl stony
										Dew 7 min @ 68°F MW P2	

Dome Temp. 42°F 9070

Transparency Conditions Hazy

Focus

Dome Temp. 38° 9876

Ending Time EST.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
3:38		00 10 E	+2 04	3-6	3.74	HOU	2-4	Sp Pin-Blm	40/72		fine
3:55		00 03 W	-15 51	"	2.89	Am	2-2-2	"	40/73		fine
2:06		01 11 E	-18 23	"	6.63	07 II	14-14-14	"	400/150		fine
3:56		03 14 W ^x	+14 52	2-3	7.9	B5 II	14-14-14	"	400/100	cloud	fine sunny
		03 28 W								Des Temp @ 68°F. MW 2	

Dome Temp. 42°F 69%

Focus 20-R

Dome Temp. 37° H=75%

Transparency Conditions

Cloud all night
Finally wiped out
Aurora after 0^h

238

Ending Time E.S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
1:52	A	0426 W	+10° 26'	6-8	4.97	A1II	2-2-2	Sp Bin - Bl	40/50	Drive failed at 21:25 Fixed 21:28	
2:12	B	01420 E	-15° 51'		2.89	Am	2-2-2	" "	40/77		
2:57	C	0137E	-03° 16'	4	3.50	A0II	2-2-2	" "	40/75		
3:47	A	0045E	+12° 52'	6-8	6.80	A0	14-14-14	" "	400/120		
4:59	B	02 ^H 00 ^M E	-18° 22'	4	6.63	07II	14-14-14	" "	400/150		
5:45	C	0210E	+26° 50'	1	8.6- 9.3	138	14-20	" "	800/141	<u>VERDEVELOP</u> right hand side of Box	

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Date May 19/20 1974 Sun Mon Observer IR-Ri Julian Day

Plate No.	Object	R.A. 1900	Declination 1900	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.
38195 (96)	HD 62509	07 ^h 39.2	+28° 16'	G-12	IIIaJ	13/.35	58°F	20:30	20:36	A
38196 97	HD 26294	08 ^h 50.1	+06° 20'	G-12	IIIaJ	13/.35		20:40	21:10	B
38197 98	HD 82635	09 ^h 28.1	+36° 50'	G-12	IIIaJ	13/.35		21:20	22:48	C
38198 99	HD 124897	14 ^h 11.1	+19° 42'	G-12	IIIaJ	13/.35		22:53	22:55	A
38199 200	HD 124897	"	"	"	"	"		22:56	23:01	B
38200 201	HD 113226	12 57.2	19° 30'	"	"	"		23:05	23:25	C
38201 202	HD 131873	14 ^h 51.0	+74° 34'	"	"	"		23:32	23:59	A
38202 03	HD 135722 (5A890) HD 135772	15 ^h 11.5	+33° 41'	"	"	13/.35		00 ^h :04	00:41	B
38203 04	HD 137759	15 ^h 22.7	+59° 19'	G-12	IIIaJ	13/.35		00:47	01:23	C
3820371	cal strip wedge for plates 38195 - 38205				IIIaJ	4min				
38204 05	HD 163770	17 ^h 52.8	+37° 16'	G-12	IIIaJ	13/.35		01:27	02:58	A
38205 06	HD 168723	18 ^h 16.1	-02° 55'	G-12	IIIaJ	13/.35		03:02	03:30	B
38206 07	HD 140573	15 ^h 39.4	16° 44'	G-12	IIIaJ	13/.35	49°F	03:34	03:56	C
3820671	cal strip wedge				IIIaJ	4 min				
3820672	cal strip wedge for plate 38206				IIIaJ	4min				

Dome Temp. 40P 60%

Transparency Conditions good

292

Focus 25 R

Dome Temp. 34°F 68%

Exposing Time E.S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
36	A	04 ^h 24W	+28°10'	3-4	2.14	K0IIIb	3-3-3	IR-Grant	20/45	Pollox 1.00	fine
10	B	03 ^h 47W	+06°08'	3-4	4.11	99II-III	3-3-3	"	40/12	S Hya 1.00	fine
48	C	04 ^h 46W	+36°35'	4-10	5.47	G 85II	3-3-3	"	40/140	no 8VDC Batteries were 102 Mi not been charged 0.94	fine
55	A	00 ^h 13W	+19°23'		1.29	K0IIIp	9	"	20/35	Areturus Repaired by Frank H. 1/23	fine
101	B	00 ^h 18 ^m W	"	"	"	"	9	"	20/75	Arcturus 1.23	mottled First 12 in develop plate box
5	C	01 ^h 56W	+11°10'		3.74	G 8IIab	3-3-3	"	40/102	E. Vir 0.93	develop plate
59	A	00 ^h 40W	+74°18'	4-5	3.53	K4III	3-3-3	"	40/224	B UMi 1.46	to return please
41	B	8 ^h W	+33°26'		4.44	G 8II	3-3-3	"	40/141	8 Boo 0.95	"
23	C	01 ^h 31W	+59°06'		4.46	K2III	3-3-3	"	40/160	L DRA 1.17	fine
58	A	00 ^h 37W	+37°20'		5.19	K1IIa c.	3-3-3	"	40/240	θ HER 1.35	fine
30	B	00 ^h 45W	-02°50'		4.20	K0III D	3-3-3	"	40/128	2 Ser 0.94	fine
56	C	03 ^h 47W	+06°35'		3.81	K2IIIc	3-3-3	"	40/160	2 Ser 1.17	fine
										from new plate from old plate	develop together please
											3 in Waj exposed plate box

Dome Temp. 40°F 60%

Focus 33.R

Dome Temp. 35°F 62%

Transparency Conditions Excellent

249

Ending Time E.S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
0:35	A	02 ^h 10 ^m W	+29° 45'	2"	8.7	gF3	14-14-14	Sp Bin - Blr	800/350		fin
1:50	B	01 ^h 20 E	-03° 15'		3.50	A0II	2-2-2	"	40/50	32 Ser	fin
2:30	C	01 ^h 44 E	+32° 38'	2	6.26	K0III	14-14-14	Hd Sp Bin	200/100		fin
3:13	A	01 ^h 05 E	+75° 29'		6.84	F0	14-14-14	"	400/165		fine
4:04	B	02 ^h 37 E	+77° 42'		6.66	A0	14-14-14	"	400/120		fin
4:10	C	02 ^h 56 E	+13° 18'		6.1	B8II	14-14-14	"	400/120		fin
										# 1171	
										# 1172	
										# 1173	
3:31	A	01 ^h 56 E	+15° 30'	2-3	6.34	M2III	14-14-14	Hd Sp Bin	400/250		fin
3:24	B	03 ^h 40 E	+44° 55'	3	7.12	A2	14-14-14	"	400/120		fine
4:00	C	03 ^h 15 E	-11° 38'	4	5.9	B9II	14-14-14	"	400/110		good fin

Dome Temp. ~~60~~ 45°F 60%

Focus 20 R

Dome Temp. 44°F 68%

Transparency Conditions light cirrus, hazy.....
clear at ~22:30

246

ing Time E.S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
140	A	03 ^h 18W	+29°45'	2-3	8.7	gF3	14-14-14	Bln Sp Bin	800/350	cirrus clouds	fine
173	B	00 ^h 57E	+32°39'	2	6.26	KOIII	14-14-14	Hd Sp Bin	400/200		fine
153	C	00 ^h 21E	+75°29'	2	6.84	FO	14-14-14	" " "	400/160		fine
118	A	00 ^h 00	+77°44'	2	6.66	A0	14-14-14	Hd Sp Bin	400/120		fine
142	B	02 ^h 21E	+13°20'	2	6.1	B8IV	14-14-14	"	400/120		fine
146	C	01 37E	+15°30'	2	6.34	M2III	14-14-14	"	400/250		fine
130	A	03 ^h 24W	+12°54'	2	6.80	A0	14-14-14	Bln Sp Bin	400/120		fine
110	B	03 ^h 11E	-11°37'		5.9	B9V	14-28	Hd Sp Bin	400/50	overdevelop please dawn	fine

Dome Temp. 64°F $H=52\%$ Focus 10-R Dome Temp. 60° $H=80\%$ Transparency Conditions $\text{Very Good - slight haze -}$ Dust?

248

Timing Time E.S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
1:28	A	$2^{\text{h}}33^{\text{m}}\text{E}$	$+12^{\circ}49'$	2-3	6.80	AO	15-15-15	Sp Bin - Bl _n	400/120		kin
2:29	E	0131E	$+12^{\circ}49'$	3	6.80	AO	15-15-15	Sp Bin - Bl _n	400/122		kin
3:36	C	024E	"	2-4"	"	"	15-15-15	"	400/120	some cloud * Labeled 36 - but (call it 26)	
0:31		0032W	"	3-6	6.80	AO	15-15-15	"	400/120		kin
1:32	C	0132W	$+12^{\circ}49'$	"	6.80	AO	15-15-15	"	400/120		kin
2:20	3	0221W	"	"	6.80	AO	15-15-15	Sp. Bin - Bl _n	400/77	* overdevelop - cloud 02:20 47 counts	kin
							5/5	no filter		(cut for right of box)	

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* baked 10 hrs

Date May 24-25/74 Fri-Sat

Observer Rh-Tn-Rok

Julian Day.....

Plate No.	Object	R.A. 1900	Declination 1900	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.
38231	HD 104451	11 56.6	+30 06	G12	Ilford [*] 40-b	17/3.	58°F	21:51	01:20	A
38231 T	Col/step wedge				"					
38232	HD 167771	18 11.6	-18 30	"	"	13/5		01:27	02:18	B
38233	HD 201433	21 04.4	+29 48	"	"	13/7		02:25	02:58	C

Dome Temp
Focus
Dome Temp

Hour Angle
End

05 11V

00 00

02 11

Dome Temp. 43°F 83%

Focus set 40-R

Dome Temp. 43°F 91%

Transparency Conditions clear by

252

* Dust cover for Cas. not properly applied
(mag. of guiding diff.)

Timing Time E.S.T.	P.H.	Hour Angle End	Declination	Seeing	B Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality	
0:55	-	2 ^h 41 ^m W	19° 20'	2-4"	1.29	K217	3-6	I _r -Giant	20/66	* Arcturus	1.23	fine
1:07	B	2 53 W	"	3	"	K217	9	"	20/120	* " (PH mixed ie B+C)	"	fine
1:47	A	2 57 E	61° 42'	2-3	4.55	K0 IV	3-3-3	"	40/120	η Cep	0.92	fine
1:32	B	1 52 E [*] 1 32 E?	43° 49'	2	5.41	K4.5	3-3-3	"	40/345	ξ Cyg	1.69	fine
2:47	C	0 ^h 55 E	+33 52	3	3.48	K0 III	3-3-3	"	40/100	ε Cyg		fine
1:01	A						9	"		same η L, δ as ε Cyg		no speck
										Dew (new open rack) MWP26	Bmi @ 68°	

Dome Temp. 40° @ 73%

Transparency Conditions Good but sl. Haze

254

Focus 40-R

Dome Temp. 45° H=817₀ outside

Ending Time E.S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
1:39	A	01 ^h 42E	+14 48	2"	8.10	B8III	15-15-15	Sp Bin-Bln	400/110		fine
2:55	C	04 00W	+29 42	2"-3"	8.7	SF3	15-12-11	"	400/90	*overdevelop (at for right box)	deamarks
2:40	B	00 06E	+32 36	"	6.26	R0TII	15-15-15	Hd Sp Bin	200/100		fine
										MWP2 Fami @ 68°F	
1:29	C	0 43W	+75 25	2"-3"	6.84	F0	15-15-15	"	200/80		judging
2:06	B	1 10W	+77 40	"	6.66	A0	15-15-15	"	200/62		fine
2:37	C	1 06E	+13 17	3"-4"	6.1	B8IV	15-15-15	"	200/61		judging
3:40	A	0 11E	+15 27	2"-4"	6.34	M2III	15-15-15	"	200/100		fine
	B		min/out/out				5/5	no filter			

Dome Temp.

8870

Transparency Conditions

Hazy → cloudy

256

Focus 20R

Dome Temp.

Starting Time E.S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
1:06	A	00 ^h 29 ^m W	-15° 53'	2	2.89	Am	3-3	Sp. Bin - Blu	40/75		Fine
3:53	B	01 16 W		2-5	5.57	FS IV	15-15-	Vis Bin	280/80		Fine
W/P2		Dw 7 Min @ 68°F								(T2, T3, T5, T6 For Warrens' use & are at the right of Ey box; at far right are 2 unknown plates)	
		Dw 7 Min @ 68°F									
01:14	C	00 38 W	-3° 18'	2-3	3.50	AO V	2-2-2	Sp Bin - Blu	40/75		Fine
	A	00 38 W	-18° 26'	2-3	6.63	07 III	15	Sp. Bin - Blu	100/	cloud - cancelled	

Dome Temp. 58°F $H=8670$

Focus

Dome Temp. 55°F $H=9270$

Transparency Conditions

The moon was a ghostly galleon
tossed upon cloudy seas.

258

Starting Time E.S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
1:07	A	04 43W	$-9^{\circ}35'$ reversed	?	~1	G2V	3-5	Ir-Giant	200/106	mountains between FOECOUND ATATIS	no spectra clouds
1:24	B	03 26W	+19 19	2-3	1.29	K2IV	3-3-3	"	20/40	+ CRISIUM ARC	sl. wk
1:00	C	04 02W	"	"	1.29	K2III	3-3-3	"	20/80		sl. wk
			+					Dev (new open rack.)	8 min @ 68°F	MWP 2	
1:42	A	01 45E	+33 52	"	3.48	K0 III	3-3-	"	40/70	E Cyg clouds	weak

Dome Temp.

Transparency Conditions *high cloud - but good*

Focus *20-R*

Dome Temp.

Timing Time EST.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
3:35	A	00 37 E		3"	5.64	A0	15-15-15	Waterloo	200/65		slightly
3:51	B	00 21 E	+52 59	2-5"			15-15-15	"	200/60	Prob blend with HD150118	slightly
0:12	C	01 10 E	+27 47	2"	4.20	G5IV	15-15-15	"	200/90		slightly
0:46	A	01 44 E	+36 53	2-3"	5.94	M410	15-15-15	"	200/224		fine
										Dew 7 Min @ 68°F MWD2	
2:20	B	01 12 E	+39° 46'	2-3"	2.9	Em	15-15-15	Em Obj	800/25		fine
2:14	C	00 10 E	+38 39'	"	7.0	G5III	18-27-20	Waterloo	200/120		fine
3:35	B	01 18 W	- 9 00	"	5.08	F30-IV	20-20-25	"	40/22		fine
										Dew 7 Min @ 68°F MWD2	
3:4		0 15 E	+40 11	"	2.24	F826	25-45	"	40/225		fine

Dome Temp. 63°F H=59%

Transparency Conditions Cloudy

262

Focus 20-R

Dome Temp. 58°F H=75%

Time EST.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
1:35	A	00 37W	+14 49	1.2"	7.9	B5 III	15-15-15	Sp Bin-Blu	200/65	¹⁶ ¹ ¹² ¹ cloud 20:55-22:25-→	fine
1:44	B	00 24W	-3° 18'		3.50	A0 V	2-2-2	Sp Bin-Blu	40/52	broken 2 pcs	fine
01:44	C	01 04E	-18 24	2	6.63	07 III	15-15-15	Sp Bin-Blu	400/155		fine
										Dew MWP2 7mi @ 68PF	
1:19	A	02 18E	+35 45	1.3"	7.60	WN 4.5	15-15-15	"	400/130	#6	sun in fine
1:37	B	03 03E	+30 09		5.6	A0	15-15-15	"	200/86	cloud bank	sun in
	B						5/5	no filter			

Dome Temp. 67° H=6776

Focus 15-R

Dome Temp. 54° H=8870

Transparency Conditions Hazy - some cloud.

269

Timing Time E.S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
1:53	A	02 24 E	-3 18	2"	3.50	A0 V	2-2-4	Sp (Bino - 8/1)	40/48		fair
2:18	B	00 37 E	+14 49	1-2"	8.10	B5 III	13-12-13	"	400/120	filter damaged, so focus lessened	fair
2:36	C	00 18 W	-15 53	2"	2.89	Am	2-2-2	"	40/73		fair
2:50	A	00 37 W	-15 49	3-4"	5.57	F5 IV	13-13-13	"	40/13		fair
3:25	B	01 20 E	-18 24	"	6.63	O7 IV	13-13-13	"	400/145		fair
										Dew form @ 68°F MWPZ	
3:05	C	00 35 E	+26 43	1-2"	8.6- 9.3	B8	14-13-13	"	800/230	cloud	sl w/b
										MWPZ Dew form @ 68°F	
3:33	B	01 00 E	+30 08	2-3	5.6	A0	14-13-14	"	200/2	(partial metering)	fair

Dome Temp. 60°F 81% outside 80°F 73%

Transparency Conditions hazy-clear-cloud

276

Focus 0.5 B

Dome Temp. 60°F 82%

ing Time EST.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
01:41	A	3 ^h 35W	+29 44	2	8.7	gF3	15-15-15	Sp Bin (Plus)	800/250		
01:50	B	0 ^h 07W	-03° 18'	2	3.5	A0V	2-2-2	"	40/80		
01:16	C	[?] 02 10E 02 02E	+26° 41'		8.6- 9.3	B8	15-30	"	500/105	overdevelop plane clouds at 00:30	

Dome Temp. *60° F 59%* outside *70° F 62%*

Transparency Conditions

Focus *05 B*

Dome Temp.

ing Time
E.S.T.

P.H.

Hour Angle
End

Declination

Seeing

Ptg.
Mag.

Sp.

Comp.

Program

Exp. Mtr.

REMARKS

Quality

17

A

141 E

-030 18'

3.5

ADV

2.1/2.2

Sp Bin (ph)

40/42

clouds overdevelop phase capped

279

Date Jul 12-13 Wed-Thu Observer Gm - Tr Julian Day

Plate No.	Object	R.A. 1900	Declination 1900	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.	Hour Ex
38298	HD 104451	11 ^h 56 ^m .6	+36° 06'	G-12	D00-6	18/4	61°	20:57	23:51	A	5 ^h
38299	HD 141513	15 ^h 44 ^m .4	-3° 07'	G-12	IIaSE	13/7		00:51	01:28?	B	2 ^h
38299 T	Cal step wedge	180sec	1		"						
38300	HD 141458	15 44.1	+13 01	G12	D00-6	13/5		01:32	02:16	C	3 ^h
38300 T	Cal step wedge	90sec			"						
38301	HD 218154	23 ^h 00 ^m .6	+24 07	G12	"	13/5		02:21	03:22	A	2 ^h
38302	HD 201433	21 ^h 04.24	+29° 48'	G12	"	13/7		03:25	03:42	B	0 ^h
38302 F	Focus			"		13	54°			E	

should be set 336R

Dome Temp. 57°F H=6770

Focus 3.0-R

Dome Temp. 49°C H=5770

Transparency Conditions

clear Excellent Zenith

280

Small Fireball at 22:45 - good trail 2 20cc thru Cyg - SW - NE

Timing Time E.S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
2:51	A	5 ^h W	+29 44	2"-3"	8.7	gF3	14-15-15	Sp Bin	400/125	cloud	
2:28	B	2 48W	-3 17	"obscure"	3.5	AOI	2-2-2	"	40/75	some cloud (M Ser)	
2:16	C	3 36 W	+12 51	"2-4"	6.80	AO	15-15-15	"	400/120		
2:22	A	2 ^h 35 E	+24 34	"	7.01	AO	15-15-15	"	400/125		
3:42	B	0 ^h 17 E	+30 08	"	5.6	AO	15-15-15	"	40/18		
	I		in in/out out				3/3	no filter			

Dome Temp. 74°F H=67% outside
 Focus $10-R$ north pier temp -54°F
 Dome Temp.

Transparency Conditions $\text{Hazy} - \text{some cloud}$

289

Starting Time E.S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
1:33	A	00 36 E	+12 50	1-2"	6.80	A0	15-15-15	SpBin-Bl ₂	400/120		5
2:20	B	03 45 E	+13 17		6.1	B8IV	15-15-15	SpBin-Hd	400/120		5
	C	Δ Ave			6.84	F0	15	"	400/		
cont	B	+3	10-R	increased in Red			3/3	no filter	moved	from 20B \rightarrow 10-R	
	B	+12.8	60-R	increasing in red			3/3	moved from		10-R-60-R	
	B	+15.8	90-R	"	"	"	3/3	" "		60-R-90-R	
	B	+25.8	90-R	increased in black			3/3	" "		90-R \rightarrow 20-R & back to 90-R black, increasing	
	B	+15.8	60-R	"	"	"	3/3	"		90-R-60-R * temp in previous days	
	B	+6.8	10-R	"	"	"	3/3	"		60-R-10-R was 10° - 25° less in Spectrograph	
	B	-5.5	20-B	"	"	"	3/3	"		10-R \rightarrow 20B	
	B	-4	20-B	increasing in		Red	3/3	"		20B-50-B \rightarrow 20-B	

Dome Temp. 68° H=6870
 Focus 10-R
 Dome Temp. 58° H=8570

Transparency Conditions Very good \rightarrow Excellent
 gusty
 Excellent, photometric etc

Ending Time E.S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
07	A	04 50W	+30 14	3-4"	9F3	8.7	15-15-12	SpBin-Blu	800/180	cut short (bad balance & or wind)	sc. str.
08	B	01 52W	+12 51	2-3"	A0	6.80	15-15-15	"	400/125		sc. str.
09	C	00 21 N	-18 24	2-3"	07W	6.63	15-15-	"	200/75		sc. str.
Dew 8mi @ 69° FMWP2											
238	A	00 08W	+26 44	3-4"	B8	8.6-9.3	15-15-15	"	400/130		sc. str.
205	B	01 05 W	+13 21	"	B8IV	6.1	15-15-15	SpBin-Hd	200/60		sc. str.
334	C	00 10 W	+30 10	2"	A0	5.6	18-12-15	SpBin-Blu	200/85		sc. str.

Dome Temp. 57° H-77 outsideTransparency Conditions \dots Poor to middlingFocus \dots R-15Dome Temp. 51° H=86%

Timing Time E.S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
1:14	A	02 50 E	+10 27	3" 4"	5.8	F8 V	15-15-15	with stars	200/85		
1:49	B	01 45 E	+10 18	3"	7.3	F7 V	15-15-15	"	400/160	cloud	
2:31	C	00 02 E	"	3" 5"	"	"	15-10-15	"	400/130	hozy	
2:42	A	02 10 E	—	4" 8"	5	F	95-	"	40/16		

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Date 23/24 JUNE 1974 SUN/MON Observer Bln-Tu Julian Day

Plate No.	Object	R.A. 1900	Declination 1900	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.
38318	HD170073	18 ^h 22 ^m .5	+58° 45'	G-12	IIIa-JE	13/5	64°F	20:50	21:09	A
38319	HD153720	16 56.0	+75 34	"	IIc0-b	"		21:45	22:00	B
38319 T	Cul step wedge	90sec			IIc0-b					
38320	HD130841	14 ^h 45 ^m .4	-15° 38'	G-12	IIIa-JE	13/7		22:04	22:21	C
38321	HD141513	15 ^h 44 ^m .4	-3° 07'	G-12	IIIa-JE	13/7		22:24	22:36	A
38322	HD137569	15 ^h 21 ^m .7	+15° 03'	G-12	IIa-OB	13/3		22:39	23:27	B
38323	HD152614	16 ^h 49 ^m .3	+0° 20'	G-12	IIIa-JE	13/5		23:30	23:40	A
38324	DR Vul	20 ^h 09 ^m .6	+26° 27'	G-12	IIa-OB	20/5		23:45	01:05	B
38324 T	Cul step wedge	180sec			IIIa-JE			01:07		
38325	HD201433	21 ^h 04 ^m .4	+29° 48'	G-12	IIa-OB	13/9		01:07	01:17	C
38326	HD200775	21 ^h 00 ^m .4	+67° 47'	G-12	IIa-OB	13/5		01:24	02:10	A
38327	HD177724	19 ^h 00.8	+13° 43'	G-12	IIIa-JE	13/5	59°F	02:15	02:20	B
38327 K	Focus				15-R	13				C

Dome Temp. $58^{\circ} F = H = 78\%$

Focus 15R

Dome Temp. 85?

Transparency Conditions Cloud from N-NE but very good otherwise

290

Ending Time E.S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
2:09	A	03 25E	+58 49	3.4"	4.93	A1V	2-2-2	Sp, Bin-Blu	40/52	mottled dev.	very weak
2:00	B	01 06E	+75 28	"	6.84	F0	15-14-15	Sp, Bin-Hd	400/160		line
										dev. Bin-Blu 90° F. M. 100 h.	
2:21	C	01 20 W	-15° 51'	5-10	2.89	A _u	3-2-2	Sp, Bin-Blu	40/75	mottled	weak
2:36	A	00 38 W	-3° 16'	4-7	3.50	A0V	2-2-2	Sp, Bin-Blu	40/75	mottled	weak
2:27	C	01 52 W	+14° 52'	4	7.10	B5III	15-15-15	Sp, Bin-Blu	400/80		line
2:40	A	00 38 W	+10 17	3"	4.30	B8V	2-2-2	Sp, Bin-Blu	40/52	mottled	weak
1:05	B	01 18E	+26 45	2.3"	9.6- 9.3	B8	15-15-15	Sp, Bin-Blu	800/260		line
										Dev. Bin-Blu 100° F. M. 100 h.	
2:17	C	02 00E	+30 11,	2"	5.6	A0	15-15-15	Sp, Bin-Blu	80/44		st. strong
2:10	A		+68 06	"	7.73	B5c	15-15-15	FBe prog	400/120		line
2:20	B	01 05W	+13° 54'	1.2"	3.01	A0V _{ann}	2-2-2	Sp, Bin-Blu	400/50	mottled development	weak
							3/3	no filter			line

Dome Temp. 50°F 74%Focus 15RDome Temp. 49°F 83%Transparency Conditions clear → cloud ~0h → clear

292

ing Time E.S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
03	A	0 ^h 44E	-3° 21'	2	3.5	A0V	15-15-15	Sp Bin Blm	40/22		fine
28	B	1 ^h 48E	-18° 27'		6.63	07II	15-15-15	"	400/130		fine
46	C	0 ^h 25E	+26° 44'	2-3	^{8.6} 7.3	B8	15-15-15	"	500/265	clouds for about 1 hr.	fine
					7.73	B5e		Be Pros		Dew Bin @ 68°F mwp 2.5	
2:40	A	0 ^h 19E	+68° 05'	2	7.73	B5e	15-15-15	Be Pros	400/120		fine
0	B	?	+57° 24'	2	5.83	06	15-15-15	Sp Bin Blm	80/52		sl. sky
3:30	C	0 ^h 24W	+30° 09'	2	5.6	10	15-15-15	"	80/44		sl. sky
							3-3w filter			15R	

Dome Temp. 50°F 74%

Transparency Conditions photometric, excellent transparency

Focus 0

Dome Temp. 48°F 80%

299

ing Time E.S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
0:31	A	01 ^h 14E	+32°40'	3	6.26	KO II	15-15-15	Sp Bini - Hd	400/200		fair
0:04	B	03 ^h 34E	+13°20'	3-4	6.1	B8 IV	15-15-15	"	400/140	overexposed to compensate for low altitude large east H.A.	fair
0:38	C	00 ^h 15E	+77°44'	3	6.66	A0	15-15-15	"	400/120		fair
0:25	A	01 ^h 33E	+15°30'	3	6.34	M2 III	15-15-15	"	400/300		fair
										Dew Bini @ 69°F MWPE	
0:06	B	03 ^h 28E	+44°55'	3	7.12	A2	15-15-15	"	400/120		fair
1:42	C	03 03E	-11°40'	3	5.9	B9 IV	15-15-15	"	400/120		fair
2:48	A	03 ^h 08E	+73°05'	3	7.52	A2	15-15-15	"	400/120		fair
3:24	B	01 ^h 47W	+13°20'		6.1	B8 IV	15-15-15	"	400/123	west H.A.	fair
	B						3-3 refitter			setting 0	

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Date 1974 JUNE 30 / JULY 1 SWW/MON Observer Blm-Ri Julian Day

Plate No.	Object	R.A. 1900	Declination 1900	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.
38342	HD 141458	15 ^h 44 ^m .1	+13° 01'	G-12	IIa-OB	9/5	68°F	20:58	21:39	A
38343	HD 141513	15 ^h 44 ^m .4	-3° 07'	G-12	IIa-OB	9/9		21:42	21:46	B
38344	HD 153720	16 ^h 56.0	+75° 34'	G-12	IIa-OB	13/5		21:53	22:26	C
38345	HD 170073	18 ^h 22 ^m .5	+58° 45'	G-12	IIa-OB	13/9		22:31	22:38	A
38346	HD 188209	19 ^h 49 ^m .0	+46° 46'	G-12	IIa-OB	13/7		22:41	22:50	B
38347	HD 163472	17 ^h 51 ^m .2	+0° 41'	G-12	IIa-OB	13/7		22:56	23:11	C
38348	HD 163472	17 ^h 51 ^m .2	+0° 41'	G-12	IIa-OB	13/7		23:12	23:27	A
38349	HD 163472	17 ^h 51 ^m .2	+0° 41'	G-12	IIa-OB	13/7		23:28	23:44	B
38350	HD 163472	17 ^h 51.2	+0° 41'	G-12	IIa-OB	13/7		23:45	00:00	C
38351	HD 163472	17 ^h 51.2	+0° 41'	G-12	IIa-OB	13/7		00:01	00:17	A
38352	HD 163472	17 ^h 51 ^m .2	+0° 41'	G-12	IIa-OB	13/7		00:18	00:37	B
38352T1	cal step wedge	for plates	38342-38352		IIa-OB	" 90 sec				
38353	HD 163472	17 ^h 51.2	+0° 41'	G-12	IIa-OB	13/6		00:38	00:51	C
38354	HD 163472	17 ^h 51 ^m .2	+0° 41'	G-12	IIa-OB	13/6		00:52	01:15	A
38355	HD 163472	17 ^h 51 ^m .2	+0° 41'	G-12	IIa-OB	13/5		01:17	01:31	B
38356	HD 163472	17 ^h 51 ^m .2	+0° 41'	G-12	IIa-OB	13/5		01:32	01:48	C

Dome Temp. 54°F 73%

Transparency Conditions

Focus D.R.....

Dome Temp.

Timing Time EST.	P.E.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
0:39	A	20 ^h 10 W	+12° 53'	3	6.80	A0	15-15-15	Sp Bin - Blu	400/120		fine
0:46	B	20 ^h 15 W	-03° 16'		3.50	A0 II	22-22	Sp Bin - Blu	40/20		fine
1:26	C	00 ^h 10 E	+75° 29'		6.85	F0	15-15-15	Sp Bin - Hd	400/160		fine
2:38	A	01 ^h 28 E	+58° 50'		4.93	A1 V	22-22	Sp Bin - Blu	40/23		fine
2:50	B	02 ^h 45 E	+47° 00'		5.54	09.5 III	15-15-15	Sp Bin - Blu	40/35		fine
3:11	C	00 ^h 27 E	+00° 45'		5.67	B2 V	15-15-15	Py - Blu *	80/35		fine
3:27	A	00 ^h 11 E	+00° 45'		5.67	B2 V	15-15-15	Py - Blu *	80/35		fine
3:44	B	00 ^h 06 W	+00° 45'		5.67	B2 V	15-15-15	Py - Blu *	80/35		fine
4:00	C	00 ^h 23 W	+00° 45'		5.67	B0 V	15-15-15	Py - Blu *	80/33		fine
4:17	A	00 ^h 41 W	+00° 45'		5.67	B0 V	15-15-15	Py - Blu *	80/35		fine
4:37	B	01 ^h 00 W	+00° 45'		5.67	B2 V	15-15-15	Py - Blu *	80/35		fine
										Dom. Bin. = 68°F 10/12/23	
4:51	C	01 ^h 18 W	+00° 45'		5.67	B2 V	15-15-15	Py - Blu *	80/30		fine
5:15	A	01 ^h 38 W	+00° 45'		5.67	B2 V	15-15-15	Py - Blu *	80/30		fine
5:31	B	01 ^h 54 W	+00° 45'		5.67	B0 V	15-15-15	Py - Blu *	80/25		fine
5:48	C	02 ^h 11 W	+00° 45'		5.67	B2 V	15-15-15	Py - Blu *	80/25		fine

Dome Temp. 49°F 77%

Transparency Conditions

298

Focus D.R.

Dome Temp.

Ending Time E.S.T.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
02:05	A 02 ^h 29W	+00° 45'	4-5	5.67	B2 I	15-15-15	Py - Bln *	80/25		fine
02:22	B 02 45W	+00° 45'		5.67	B2 II	15-15-15	Py - Bln *	80/25	1" broken off	fine
02:31	C 0301W	+00° 45'		5.67	B2 II	15-15-15	Py - Bln *	80/25		fine
02:58	A 03 ^h 20W	+00° 45'		5.67	B2 II	15-15-15	Py - Bln *	80/25		fine
03:43	B 02 ^h 10W ^x	+35° 37'		7.60	WN 4.5 09.5 I	15-15-15	Sp. Bin - Bln	800/200	? Probably Field Drawn R.D. 4 35° 39 55 (±4)	fine
	02 00W								Des. Bin @ 68°F mwpz setting 0	
						3-3 no filter				

301

Date July 3-4 Wed-Thurs Observer Gow-Th Julian Day

Plate No.	Object	R.A. 1900 ⁷⁰	Declination 1900 ⁷⁰	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.
38363	K Oph	16 56.3	+09 26	G-12	IIa-OB	9/9	76°	21:36	21:52	A
38364	HD 156283	17 14.1	+36 50	"	"	"		22:02	22:13	B
38365	HD 161797	17 45.3	+27 45	"	"	"		22:17	22:30	C
38366	HD 162714	17 57.4	-09 47	"	"	"		22:35	23:04	A
38367	HD 168723	18 19.7	-02 54	"	"	"		23:08	23:36	B
38367T	Cal step wedge	90 sec			"					
38368	HD 182640	19 21.0	+03 03	"	"	"		23:41	23:59	C
38369	β Cyg A	19 29.5	+27 54	"	"	"		00:03	00:19	A
38370	α Aql	19 49.3	+8 47	"	"	"		00:24	00:24	B
38370	HD 187642	19 49.3	+8 47	"	"	"		00:29	00:33	C
38371	HD 191692	20 09.8	-00 54	"	"	"		00:41	00:52	A
38372	β Cap A	20 19.3	-14 53	"	"	"		01:04	01:24	B
38373	HD 207098	21 45.4	-16 16	"	"	"		01:31	01:49	C
38374	HD 209750	22 04.2	-00 28	"	"	"		01:58	02:14	A
38375	HD 215182	22 41.6	+30 04	"	"	"		02:25	02:38	B
38375 F1	Focus Test			"		9	73°			D

Dome Temp. 62°F 92% inside

Transparency Conditions haze

302

Focus

74° outside

Dome Temp. 60°F 91% inside

at 2:30 AM

Ex meter unstable
(overload was in effect at beginning)

Timing Time E.S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
1:52	A	00 34E	+09° 29'	2"	4.33	K2 III	15-15-15	Br Star	200/180		
1:53	B	00 32E		1-2"	4.56	K3 II	15-15-15	"	200/180*	Flip head in slit? Filter	
2:30	C	00 47E	+27 49	2"	4.17	G5 IV	15-15-15	"	200/160	M Her A	
2:04	A	00 24E		3-4"	4.32	G 9 III	15-15-15	"	200/158*		
2:36	B	00 14E	-2 48	2-3	4.17	K0 IV-12	15-15-15	"	200/180	cloud.	
3:59	C	00 55E	+3 08	"	3.69	F0 IV	15-15-15	"	200/150		
4:09	A	0 40E	+27 58		4.19	K3 II	15-15-15	"	200/180		
5:24	B	01 06E	+08 52	"	3.99	A7 IV-V	22-22	"	40/27	Prob blank? shattered anode	
6:33	C	00 59E	+08 52	2	3.99	A7 IV-V	22-22	"	140/26 !!	Label 71 α A91	
7:52	A	00 47E	-00 50	2	3.24	B9.5 III	15-15-15	"	200/126	X Label θ A91	
8:24	B			"	3.82	R+B	15-15.	"	200/143		
9:49	C	01 25E		"	3.21	AG m	15-15-15	"	200/125	S Cap	
10:19	A	01 19E	-00 22	"	3.92	G 2] b	15-15-15	"	200/160		
11:38	B	01 32E	+30° 09	1-2"	3.8	G8+F	15-15-15	"	200/179	cloud	
				1-1/2"	✓		273	no filter		set. 15-B	

Dome Temp. 63° H=79%

Focus 1.0-B

Dome Temp. 58° H=88%

Transparency Conditions Excellent

309.
Aurora @ 21:45. Spectacular!! @ 22:35 stretches to S. Horizon - Zenith corona at 0h (very bright) still visible @ 03:40 Sky spectacular all night

Ending Time E.S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
01:06	A	00 05 E	-3 16	2-3	3.50	A02	2-2-2	Sp. Bin-Bln	40/70		
01:28	B	01 16 W	-15 47	5-6	5.57	F5 IV	15-15-15	"	40/36		
01:45	C	00 32 E	+39° 49'	3-4	V=10.2	Em	No Filter 3-3-3	Ahn *	800/100		
02:28	A	00 54 W	+26 44	3	8.6- 9.3	B8	15-15-15	Sp Bin-Bln	800/200	extremely Br Aurora	
02:00	B	01 33 W	+35 47	2-3	7.60	WN4.5 09.5 Ia	15-15-15	"	400/110		
02:16	L	00 47 W	+30 10	2"	5.6	A0	15-15-15	Sp. Bin-Bln	200/60		
03:38	A	00 11 E	+58 18	2'	6.3	B7	15-15-15	Sp Bin-Bln	200/60		
	L	none	lost	10-8			3-3	no filter	(set with increasing Block nos)		

Dome Temp. 72° H=80%

Focus 10-13

Dome Temp. 65° H=81%

Transparency Conditions

Fair - Part. Lots of Cirrus
Cloud off + on all night

306

Timing Time E.S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
2:20	A	02 11 E	+26° 44'	2-3	8.6- 9.3	B8	15-15-15	Sp. Bin-Blu	800/167	Cloud after 23:05 First 25 cts @ 13/5 slit	
3:32	P	03 30 W		2"	3.34	K1 III	22-23	Br star	40/35		
3:44	A	03 24 W		"	4.43	G8 III	22-22	Br Star	40/37		
0:02	P	02 27 W		2"-3"	4.19	G9 III	22-22	"	40/36		
3:05	C	01 52 W	+39 49	1.2"	6.2	Em	15-15-15	Ahn Em *	800/118	hozy but good seeing	
3:19	A	00 26 E	+58° 19'	1-2	6.3	B7	15-15-15	Sp. Bin-Blu	200/60		
3:30	B	01 05 W	+30° 10'	"	5.6	A0	15-15-15	Sp. Bin-Blu	200/60		
3:41	C	00 30 E	-15° 52'	2.3	3.36	A3 V	22-22	Br+ Str	40/22		

308

Dome Temp. 76° H-74%

Focus 10-B

Dome Temp. 70 70%

Transparency Conditions ~~Suspicious~~
clear \bar{z} ivory moon

ing Time E.S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
55	A	00 26W	-9 12	.2"	2.50	B8V	15-30	Port Str	40/?	exposure meter not used] ^{Cross hole} cover in	
10	B	01 30W	+15 08	2-3"	8.10	B5III	15-15-15	Sp Bin Blm	400/128		
00	C	01 28E	+26 44	"	8.6 - 9.3	B8	15-15	Sp Bin Blm	800/	meter unbalanced for about 20 counts	
										clouds	
	B		set 10-B				3/3	no filter		qs was set since Fri-Sat	
	B		set 10-R				3/3	"		(back lock taken up)	
	B		set 40-B				3/3	"		(increasing black)	

30%

* vacuumed but not baked

Date 1974 July 8-9 Mon-Tue Observer In-IR Julian Day 1

Plate No.	Object	R.A. 1900	Declination 1900	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.	Hour Ar End
38394	HD 113 226	12 ^h 57.2	11° 30'	G-12	IIaD*	13/5	80°F	21:02	21:10	A	3 ^h 0
38395	HD 101 501	11 ^h 35.8	34° 46'	G-12	"	"		21:14	22:10	B	5 ^h 2
38396	HD 124 897	14 ^h 11.1	19° 42'	"	"	"		22:16	22:19	C	2 ^h 5
38397	"	"	"	"	"	"		22:22	22:24	A	2 ^h 5
38398	HD 157 999	17 21.5	4° 14'	"	"	"		22:30	23:42	B	1 ^h 10
38399	HD 180 809	19 12.9	37° 57'	"	"	"		23:45	00:22	C	00 05
38400	HD 201 091	21 02.4	138 15	"	"	"	77°F	00:27	02:00	A	00 16
38400 T	Cal step wedge		90 sec		"		First batch				
38401	HD 202 109	21:08.7	29° 49'	"	"	"		02:05	02:15	B	00 07
38402	HD 198 144	20:43.3	61° 27'	"	"	"		02:19	02:33	C	00 20
38403	HD 164 058	17:54.3	51° 30'	"	"	"		02:38	02:58	A	00 31
38404	HD 206 778	21:39.3	9° 25'	"	"	"		03:06	03:26	B	00 32
38405	HD 197 989	20:42.2	33° 36'	"	"	"		03:29	03:38	C	01 42
38405 F	Focus Test			"		13	75°			B	
38405 T	Cal step wedge		90 sec		for second batch						

Dome Temp. 80° H=6770

Focus 18-B

Dome Temp. 73° H=9270

Transparency Conditions Good but hazy

390

Timing Time EST.	P.R.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	B-V	Quality
1:10	A	3 ^h 00 W	11° 11'	2-3	3.74	G8III	15-15-15	I _r -Giant	20/14	E Vir	0.93	
2:10	B	5 ^h 20 W	34° 25'	"	6.07	G8V	15-15-15	"	200/110	61 UMa ^{companion not exact}	0.72	
2:19	C	2 ^h 53 W		3	1.29	K2II	450	"	20/17	Arcturus	1.23	
2:24	A	2 ^h 58 W		2"	"	"	"	"	20/30	"	"	
2:42	B	3 ^h 10 W	4° 15'	1-2"	5.84	K2II	15-15-15	"	200/280	α Oph	1.50	
2:52	C	0 ^h 05 E	38° 07'	1"	5.61	K0II	15-15-15	"	200/210	θ Syr	1.25	
2:00	A	0 ^h 16 E	+38 40	2-3	6.38	K5V	15-15-15	"	200/220	61 Cyg A	1.19	
2:15	B	0 ^h 07 E	30° 11'	2	4.20	G8II	15-15-15	"	200/170	5 Cyg	1.00	
2:33	C	0 ^h 28 W	+61 46	2-3	4.55	K0IV	15-15-15	"	200/170	η Cep	0.92	
2:58	A	0 ^h 35 W	51° 34'	3	3.74	K5III	15-15-15	"	200/320	γ Dra ^{broken (2 pcs)}	1.52	
3:26	B	0 ^h 32 W	9° 50'	2-3'	3.98	K2IV	15-15-15	"	200/320	ε Peg	1.56	
3:38	C	0 ^h 14 W	33° 56'	2	3.48	K0III	15-15-15	"	200/170	ε Cyg	1.03	
		in in / out out					3/2	no filter	set 18-B			
									*1	blank III and E (Irwins)		
										inserted somewhere		

Dome Temp. $66^{\circ}\text{F} - 72^{\circ}\text{h}$

Focus $10-B$

Dome Temp. $55^{\circ}\text{F} 85\%$

Transparency Conditions CLEAR - Excellent

392

(strange Aurora Lito conic glow in west from 20° \rightarrow $1:30$ 30° to West horizon)

Timing Time E.S.T.	P.E.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
09	A	032E	+5 18	5"	7.2	F9Ib	15-15-15	IC 4756	200/80		
06	B	0128W	+5 20	3-5"	7.9	B9	15-15-15	"	400/110		
51	C	0214W	+5 00	2-4"	6.5	A0	15-15-15	"	400/150		
05	A	0326W	+5 57	3-4"	6.6	B8	15-15-15	"	400/160		
49	E	0139W	+30 09	3-5"	5.6	B9I	15-15-15	Sp B ₁₀ -B ₁₂	200/100		
	E		set 10-B				3/3	no filter		sudden temp drop	

Dome Temp. 62°F @ 68%Focus $2-R$ Dome Temp. 57°F : 89%Transparency Conditions Very Good
occasional light haze

314

Ending Time E.S.T.	P.E.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
							3/4	no filter			
21:22	A	00 35W	+12 52	2-4"	6.80	A0	15-15-15	Bln Sp Bin	400/120		
22:11	B	00 18W	+75 28	"	6.84	F0	15-15-15	Hd Sp Bin	400/160		
00:24	C	02 50W	+29 52	"	8.90	F7V	15-15-15	SSV	800/200		
							11-16	Dew	July 17 2nd batch	10mi MWR @ 69°F	
02:04	A	00 44W	+28 14	2-3"	9.06*	G8W	15-15-15	SSV	800/250	*Looks brighter (2mass)	
02:55	B	05 03W	+75 25	"	6.84	F0	15-15-15	Hd Sp Bin	400/160	telescope reversed	
03:32	C	05 36W	+77 40	2"	6.66	A0	15-15-15	"	400/140	"	

375 #1

* evacuated only

Date 1979 July 12-13 Fri-Sat Observer Jr-Tn Julian Day

Plate No.	Object	R.A. 1900	Declination 1900	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.
38417F	Focus Test			G12			73°F			B
38417	HD124897	14 11.1	19° 42'	"	^{actually 410*} F100*	13/15	73°F	20:45	20:48	A
38418	HD124897	"	"	"	F100*	13/15		20:52	20:54	C
38419	HD101501	11 35.8	34° 46'	"	"	"		21:00	21:40	A
38420	HD 96833	11 04.1	45° 02'	"	"	"		21:46	21:59	B
38421	^{HD 135722 (S10590)} HD 135772	15 11.5	33 41	"	"	"		22:05	22:12	L
38422	HD 137759	15 22.7	+59 19	"	"	"	71°F	22:15	22:25	A
38422T	Col/step edge		90sec		"					
38423	HD140573	15 39.4	6° 44'	"	"	"	71°F	22:29	22:35	B
38424	HD146791	16 13.0	-4° 27'	"	"	"		22:39	22:47	C
38425	HD 153210	16 52.9	+9 32	"	"	"		22:53	23:04	A
* 38426	HD 157999	17 21.5	4° 14'	"	"	"		23:07	00:04	B
38427	HD 161096	17 38.5	4° 37'	"	"	"		00:09	00:15	C
38428	HD 163917	17 53.5	-9 46	"	"	"		00:19	00:30	A
38429	HD 168723	18 16.1	-2 55	"	"	"		00:36	00:44	F

Dome Temp. 70° H=65%

Transparency Conditions Very Good

316

Focus 2 R

Dome Temp.

Timing Time E.S.T.	P.B.	Hour Angle End	Declination	Seeing	$\frac{B}{R}$ Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
	B						3/3	no filter			
01:48	A	01 38 W	+19° 23'	1-2	1.29	K2	15-30	1r-Giant	20/30	Arcturus <i>Itai!</i>	1.23
01:54	C	01 ^h 45 W	+19° 23'	1-2	1.29	K2	45	1r-Giant	20/25	Arcturus	1.23
02:40	A	5 ^h 05 W	34° 25'	2"	6.07	G8	15-20-10	"	200/150	61 UMa <i>broken 2 pcs</i>	0.72
02:59	A	5 55 W	44° 43'	2-3	4.14	K1	15-15-15	"	200/250	4 UMa	1.13
02:12	L	2 ^h W	33° 28'	1"	4.44	G8	15-15-15	"	40/28	♂ Boo	0.95
02:21	A	2 ^h 05 W	59 06	2"	4.96	K2 III	15-15-15	"	40/45	ε Dra	1.17
							17-25 Dew	9 min 67° F MWPR	July 17	3rd batch new dew	
02:35	B	1 56 W	+6° 36'	1-2"	3.81	K2	23-15-7	"	40/55	α Ser	1.17
02:42	C	1 35 W	-4 32	1-2	4.19	K0	15-15-15	"	40/40	ε Oph	0.96
02:04	A	1 11 W	+9 28	2	4.35	K2 III	15-15-15	"	40/55	K Oph	1.15
00:04	B	1 45 W	+4 13	2	5.84	K2 II	15-30	"	200/450	σ Oph	1.50
00:15	C	1 38 W	+4 38	2	3.93	K2 III	22-23	"	20/22	β Oph	1.16
00:30	A	" " "	-9 42	2"	4.34	K0 III	15-30	"	200/178	γ Oph	1.00
00:44	A	1 ^h 30 W	-2 51	2	4.20	K0 III-D	20-25	"	200/150	η Ser	0.94
										cont →	

377 #2

* evacuated not bled
** evacuated only for 6 hrs

Date..... Observer..... Julian Day.....

Plate No.	Object	R.A. 1900	Declination 1900	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.
38430	HD164058	17 54.3	51° 30'	G-12	IIaO*	13/1.5	69°	0:50	0:58	C 2
38431	HD 201091	21 02.4	38° 15'	G-12	"	"		1:05	2:06	A 0
38432	HD 200905	21 01.3	43 32	"	"	"		2:08	2:42	B 0
38432T	Cal step wedge		90sec		"	26-32	1st bcd July 18	MWR2 9 min	68°F	
38433	HD 218159	23 00.6	+24 07	G 12	IIaO**	9/1.5		2:47	3:45	C 0
38433T	Cal step wedge 7A		90sec 7A		"					
38434	Moon	1h 43	14° 56'		IIaO**	13/1.9			3:55	B
38435	"				"					B
38436	"				"		65°F			C
38437	"				IIaO**					C
38438					IIIaj**					E
38439					IIIaj**					B
38440					"			4:16	4:17	C
38441					"					F
→ 38442T	Cal step wedge		120 secs		IIIaj**					

318

Dome Temp.

Transparency Conditions

Excellent

Focus

Dome Temp. 60° 88%

on July 9th also → "A" plateholder seems too break plates

Timing Time E.S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality	
1:58	C	2 07W	51° 33'	2	3.74	K5 III	22-22	Ir - Giant	20/55	8 Dra	1.52	
2:06	A	0 05W	38° 41'	1-2	6.38	K5 V	15-15-15	Ir - Giant	200/350	broken 2 pcs 6/Cyg A	1.19	
2:42	B	0 43W	44 52	1"	5A1	K9 III	15-15-15	"	20/65	3 Cyg	1.69	
			for 2nd batch of II 40*									
3:45	C	0 ^h 14 E	24 36	2-3	7.01	A0	15-15-15	SpBin-6h	200/70	33-41 5th batch July 11 10 min MW 82 63°F		
										33-41 5th batch July 17 10 min MW 82 62°F		
3:55							45	Ir - Giant	20/14			
	B						no film 2 secs	"	20/16			
	C		14° 25'				2 secs	"	20/22			
	C						2 secs	"	20/30			
	E						8 secs	"	20/32			
	B						8 secs	"	20/47			
4:17	C						8 secs	"	20/60			
	E						8 secs	"	20/90			

Dome Temp. 78° H-7270

Focus B-14

Dome Temp. 70° H-85

Transparency Conditions Hazy

320

Timing Time E.S.T.	P.E.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
3:20	B	00 40 E	+26 44	1-2"	8.6- 9.3	B8	15-15-15	Sp. Bin-Bln	800/260	exp meter jumps halfscale	
							42-44	Dev 2nd bucket		July 17 mwp 69°F	
3:25	C	02 21 W	+26 44	2"	"	"	15-15-15	"	800/240		
3:46	B	00 28 W	+58 19	1-2"	6.3	B7	15-15-15	Sp. Bin-Bln	800/65		
		in h	1500				3/3	no filter		set B-14	

Dome Temp. 77°F H=8270

Focus 1A-B

Dome Temp. 70 H=8570

Transparency Conditions Hazy.....

Clear by 22:30

322

Timing Time E.S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	B-V	Quality
1:23	B	01 31 E	+38 39	2-3	6.38	K5 V	15-15-15	Ir-Giant	200/350	6" Cys A 2" off end	B-V=1.19	
1:58	C	01 31 E	17° 18'	2-3	5.54	G5 I	15-15-15	"	200/230	9 Peg (also broken same way)	1.19	
1:40	B	01 38 W	38° 08'	2-3	5.61	K0 II	15-15-15	"	200/280	θ Lyr	1.25	
								45-54 Dec	July 17	10 mi @ 68°F	old road	4th hotel
2:15	C	00 43 E	+58 06	1-2	4.96	K1.5 V	15-15-15	"	20/55	ζ Cep	1.60	
2:31	B	02 30 W	+67 39	2-3	4.07	G9 III	15-15-15	"	20/33	δ Dra	1.00	
2:47	C	01 37 E	+77 29	"	4.25	K1 V	15-30	"	40/35	γ Cep	1.03	
3:11	B	02 38 W	+10° 37'	2-3	4.24	K3 II	11-15-15	"	40/95	γ Aql	1.52	
3:31	C	01 00 W	+9° 49'	"	3.98	K2 V	15-15-15	"	40/100	ε Peg	1.56	
3:42	B	03 12 E	+23 24	3	3.15	K2 V	15-15-15	"	40/45	α Ari	1.15	
3:59	C	01 32 E	+56 26	3	3.42	K0 V	15-15-15	"	40/50	α Cas	1.18	

Dome Temp. 60° H=72%

Focus 0

Dome Temp. 57° H=77%

Transparency Conditions Very Good - Cloud from South

324
07234

Timing Time E.S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	B-V	Quality
1:51	B	1 ^h 53 W	19° 23'	3	1.29	K2 III _p	45	Ir - Giant	20/25	✓ Boo'	1.29	
1:53	C	2 ^h 15 W	"	2	3.0	"	15-15-15	"	20/25	Neutral Filter $\Delta m = 1.75$		
1:54	B	2 55 W	"	3-4	3.0	"	2-3-3	"	20/100	$\Delta m = 1.75$		
2:17	C							"	20/80			
2:31	B	6 ^h 45 W	61° 53'	3-4	2.85	K0 III	15-15-15	"	20/18	broken 2 pieces reversed 1.06		
2:43	C	6 ^h 57 W	"	"	"	"	23-22	"	20/18	L U Ma		
3:04	B	3 04 W	38° 07'	3	5.61	K0 II	3-3-3	"	200/1300	Lyr clouds 1.25 times		
								SS-62	Dev. July 17	1st batch 9 min @ 68°F mwoz		
3:50	C	3 00 E	26° 36'	2-3	3.15	K2 III _o	3-3-3	"	20/130	✓ ARU	1.15	
	B	3 00 E	26° 36'				3/3	no filter				

Dome Temp. 60°F 87%

Focus 153

Dome Temp. 60°F 86%

Transparency Conditions *lazy*

328

Ending Time EST.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
1:56	B	01 42 W	+13° 20'	3"	6.1	B8IV	15-15-15	Sp Bin-Hd	200/75		
1:58	C	01 4 23 E	+54° 06'	2-3"	7.64	F2V	15-15-15	Vis Bin-Hd	800/225	at least 7 stars visible in visitors eyepiece, fld drawn.	
3:50	B	01 19 E	+46° 53'		7.62	K0III	15-15-15	Vis Bin-Hd	800/250		

Dome Temp. 37°F 62%

Transparency Conditions Clear 330

Focus 5.8.....

Dome Temp. 48°F 71%

Ending Time E.S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
1:45	3	01 29 W	+120 46'	4-5	6.80	A0	15-15-15	Sp Bin Blm	400/120	opened door a few seconds with plate telescope reversed uncapped	
3:03	6	02 51 W	"		"	"	15-15-15	"	400/120		
4:29	3	04 09 W	"	4-5	"	"	15-15-15	"	400/120	(marked 43 on plate)	
5:16	3	06 00 W	"	6.5	"	"	15-15-15	"	400/83	wester limit overexposed plate	
						Dur	2 betel	71-78	MWP2	69" = 10 mi	
03:30	1	00 05 W	+58° 14'	3-4		B7	15-15-15		40/120		
03:42	3	02 15 W	+30° 05'		5.6	A.9	15-15	"	200/99	exposed Box #1	

Dome Temp. 50°F 69%

Transparency Conditions *excellent*

332

Focus 0.5R

Dome Temp. 48°F 80%

Timing Time EST.	P.R.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
3:33	B	02 ^h 28 ^m W	-06° 45'	3	9.3	KO	15-15-15	Waterloo	800/290		
3:45	C	03 ^h 36 ^m W	+39° 49'		~10.	Em	15-15-	Em object	800/35	Speed Bag #3	
		↑	Dew	71-78	July 23	2nd batch	MWP2	10 min	@ 68°F		
		<u>Error found 12 min</u>									

Dome Temp. 52°F 62%

Focus 0

Dome Temp. 50°F 67%

Transparency Conditions excellent - clear 337

IIIaJ on right side of spread box #2

Ending Time E.S.T.	P.M.	Hour Angle End	Declination	Seeing	^B Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	B-V	Quality
01:49	B	2 ^h 15 W	19° 24'	3	1.29	K2II	3-3-3	IR-Grant	20/80	Arcturus	1.23	
02:54	C	2 ^h 20	19° 24'	3	1.29	K2	15-15-15	"	20/20	Arcturus	1.23	
01:23	B	05 ^h 25 W	34° 26'	2-6	6.07	G8V	15-15-15	"	200/100	B1 U. Ma	0.72	
01:35	C	02 ^h 50 W	40° 15'	3-2	5.84	K0II	3-3-3	"	200/1875	0 opt good seeing after star	1.50	
					79-87	Dev	MWP2	9 min @ 68°F		open rock Density 23	1st	
02:03	B	02 ^h 29 W	+38° 09'	1-2	5.61	K0II	3-3-3	IR-Grant	200/1125	θ Lyr.	1.25	
03:22	C	02 ^h 00 W	43° 55'	2	5.41	K4.5	3-3-3	"	40/500	ξ Cyg	1.69	
03:39	B	03 ^h 15 W ^E	23° 25'	3	3.15	K2III	3-3-3	"	20/90	α Ari	1.15	
03:55	B	01 ^h 00 E	56° 26'	2	3.42	K0III	3-3-3	"	20/100	λ Cas	1.18	
04:03	B	02 ^h 23 E	42° 15'	3	3.31	K3II	15-30	"	20/28	γ And A	1.2	
		Corrected										

Dome Temp. 53°F @ 81%Transparency Conditions *hazy*

336

Focus 0

Dome Temp.

Ending Time EST.	P.E.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
2:22	B	02 15 W	$+42^{\circ} 42'$	1"	5.6	Be	3-3-3	Hd Sp Bin	200/350	4 Her (near max set)	weak
1:20	C	00 ^h 56 E	$+15^{\circ} 30'$		6.34	M2III	15-30	"	400/90	clouds overdevelop plane	weak
										Dew 1st. batch July 30 MW92 @ 68°F 9 min	

Dome Temp. 59°F 82%Focus 5B Dome Temp. 53°F 75%

Transparency Conditions

hazy - fog coming in? (2300')
Very good after 04 - quite clear.

338

Ending Time E.S.T.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
0:35	A 1 ^h 28 ^m E	+29° 51 ^m	3-4	5.6	A0	15-15-15	Blu-Sp. Bin	200/100	Very confused start - Gn	sl. shgy
1:14	D 2 10 E	+58° 14'	"	6.3	B7	15-15-15	"	200/80		sl. shgy
1:17	C 1 16 W	+35° 37'	"	7.31	B1	15-15-15	"	400/?	#4 on field - exposure meter not counting	sl. shgy
1:25	B 0 36 E	"	"	7.01	A0	15-15-15	"	400/120	(meter all right)	guiding
1:34	C 0 36 W	-9° 16'	5+	4.24	B5V	2-2-2	"	20/30	Hs remarks on differential refraction Gn removes filter only after 12 counts	weak
		94 Dev 1st batch	July 30	9mm	MWD2	@ 68 F°				
		90-93 Dev 2nd batch	July 30	9mm	MWD2	@ 69 F°				
									plates in box "N-1" - ignored message to Tn Tn on left, Tn on right	

Dome Temp. 68°F - 97% RH!Transparency Conditions hazy

390

Focus

Dome Temp. 65°F 98%

Starting Time E.S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
0:41	A	2 28 W	19° 21'	4?	1.29	K2 III	22-23	Ir-Gmnt	20/20	Arcturus	fine
0:49	E	2 47 W	"	4?	1.29	K2 III	3-3-3	"	20/80	"	fine
2:46	C	2 07 E	38° 38'	2-3	6.38	K5 V	3-6	"	200/H18	61 Cys A ← Slit adjusted to .35 after 10 counts	weak
Dev July 30 1st batch 9 min MWP2 @ 68°F											

Dome Temp. 67°F H=7370

Focus 0

Dome Temp. 60° H=9070

Transparency Conditions Very Good - then increasing

cloudiness

MOON NEAR FULL

392

Timing Time E.S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
1:18	A	01 01 E	+5 16	1-2	7.2	F9 I6	15-15-15	ICA756 ^{db}	400/130?	prob more	fine
1:22	B	02 07 W	+5 16	2"	9.98		B-B-13	"	800/250	MOON LITE?	fine
								Dew Aug 1 MWPA 9mm @ 68°F			
1:55	C	01 12 E	+58 17	1.5'	6.3	B7	15-15-15	Sp Bin - Bk	200/70	5 sec C cloud.	fine
1:39	A	00 51 W	+30 08	2	5.7	A0	15-15-15	"	200/70	thick cloud	fine
							5/5	no filter		FINE	
2:02	C	0 40 E	—	1.5'	2.5	M2	15-30	Brite Star ^{FG}	40/61		fine gundis

344

Dome Temp. 55°F 66.70

Transparency Conditions hazy & cloudy.....

Focus S-B

Dome Temp. 58° 11-9870 outside

Ending Time E.S.T.	P.H.	Hour Angle Erd	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
2:52	A	04 02W	+14 52	2-2"	8.1	B5II	15-15-15	Sp Bin. (Blu)	800/220	cloud	sl wke
			Dec Aug 5	MW	P2 bl	9 min @	68°F				
3:37	E	00 55E	+30 08	2-5'	5.6- 5.79	A0	15-15-15	"	200/100		fine sun
4:50	C	01 20W	+35 39	2-3'	7.33	B7I6	15-15-15	"	400/140		fine
1:54	B	02 24W	+35 47	"	7.60	WN 4.5 09.576	15-15-15	"	400/200		fine
2:30	C	00 38W	+58 18	"	6.3	B7	15-15-15	"	200/90		fine
03:40	A	01 12W	+24 36	"	7.01	A0	15-15-15	"	200/70		fine
09:01	B	01 47E	-12 20	3-4"	4.85	B9I	15-15-15	"	40/15		fine
11:18	C		(equatorial belt)				23-23		40/12"	looked at Jupiter & Cys X-1	fine
							3/3				

Dome Temp. 54° F 73.5%

Transparency Conditions *clear - very good*

346

Focus 5-B

Dome Temp. 50° 73%

Ending Time E.S.T.	P.H.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
1:50	A	01 00W	+2 06	2-3	3.86	A1X	3-2-3	Sp Bin-Plan	40/120	no filter	fine
1:45	B	01 31W	+10 16	1-3"	4.38	B8V	3-3-3	"	40/120	"	fine
3:45	C	00 11W	+26 43	2-3"	8.4 = 9.1	B8	15-15-15	"	800/260		sl. wk
0:41	A	01 45W	-1 15	"	4.36	B5 III	3-3-3	"	40/100	no filter	fine
2:43	B	03 10W	+26 44	"	8.4 - 7.1	B8	15-15-15	"	800/200		sl. wk
3:36	C	01 12W	+24 33	1-2"	7.01	A0	15-15-15	"	400/140		fine
3:48	A	01 12W	-9 13	2"	4.24	B5V	15-15-15	"	40/15	holder back opened upon removal	fine
4:05	B	01 40E	-12 18	2-3	4.85	B9V	15-15-15	"	40/14		fine
4:28	C	02 00W	-6 31	"	15		3-3		20/6	WIII. III. OE ← .IV E	weak
4:35	C	02 04	"	"			3-3		20/48		fine

Dome Temp. 69°F H=6920

Transparency Conditions Fair - some haze

348

Focus 5-B

Dome Temp. 63° H=887

3:55 East, bright, varying object - satellite
4th Cyg, Cas & Myadier

Ending Time E.S.T.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
0:40	0128W	+72 41	1.2"	5.6	Be	15-15-15	Sp Bin-Hd	200/105	4 Her	Peri
1:17	0143E	+13 19	"	6.1	B8II	15-15-15	"	200/75		fine
2:31	0051E	+15 29	2"	6.34	M2III	15-15-15	"	400/310		sun in sl weak
							Des Aug 7	9 min @ 68°F MWP 261	2nd batch	
23:16	2 40E	+44° 55'	2"	7.12	A2	15-15-15	"	400/150		sun in weak
00:00	2 08E	-11° 40'	3"-4"	5.9	B9E	15-15-15	"	200/75	haze	fine sun in
01:12	2 06E	+73 03	2-3"	7.52	A2	15-15-15	"	400/150		sun in fine
02:48	1 46E	+39 52	1.3"	8.26	K0III	15-15-15	Vis Bin-Hd	400/135	haze	weak
03:22	1 28E	+62 56	1"	7.79	K0III	15-15-15	"	400/140		weak sun in
04:02	1 04E	+47° 20'	1.3"	7.14	B8	15-15-15	Sp Bin-Hd	400/150		fine

349

Date 74 Aug 7-8 Wed-Thur Observer Ri-Gn Julian Day

Plate No.	Object	R.A. 1900	Declination 1900	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.	Hour End
38530	HD 152614 ^{Loph}	16 49.17	+10 20	G-12	IIIaJ-E	9/5	73°F	20:17	20:45	A	01:40
38531	HD 190918	20 ^h 02.2	+35° 31'	G-12	IIaO-E	13/5		20:50	21:22	B	01:50
38532	DIR VUL:	20 ^h 09.6	+26° 27'	G-12	IIaO-E	13/5		21:35	23:19	C	02:00
38533	HD 235679	21 ^h 55.0	+54° 01'	G-12	IIaO-E	13/3		23:41	01:49	A	00:30
38533T	cal step wedge		90 sec		II						
38534	HD 209819 ^{L Agr}	22 ^h 01.1	-14° 21'	G-12	IIIaJ-E	13/5		01:55	02:34	B	01:50
38535	HD 201433	21 ^h 04.4	+29° 45'	G-12	IIaO-E	9/5		02:40	03:00	A	02:40
38535T	cal step wedge		180 sec		IIIaJ-E						
38536	HD 217312	22 54.8	+62° 32'	G-12	IIaO-E	13/5		03:09	04:01	B	01:50
38537	α And	00 06.8 ⁽¹⁹⁷⁰⁾	+28° 55' ⁽¹⁹⁷⁰⁾	G-12	IIIaJ-E	9/9	69°F	04:06	04:12	A	00:50

Dome Temp. 59°F 62%

Focus 05-B

Dome Temp. 54°F 77%

Transparency Conditions Deal & some haze

350

Ending Time E.S.T.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
01:45	A 0 ^h 40W	+10°16'	2	4.38	B8V	3-3-3	Sp Bin Blw	40/120		fin
01:22	B 0 ^h 55E	+35°46'	2	7.60	W104.5 09.5Jc	15-15-15	" "	40/200		fin
03:19	C 00 ^h 02E	+26°44'	2	8.6 9.3	B8	15-15-15	" "	80/260	BROKEN 3 PIECES	fin
01:49	A 00 37W	+54°24'	3-4	9.21	B05Jc	15-15-15	" "	800/230		fin
		Dew 1st batch Aug 12			MWP261		9 min @ 69°F		right side of exposed Box	fin
02:34	C 0 ^h 16W	-13°55'		4.25	B8V	3-3-3	Sp Bin - Blk	40/120		fin
03:00	A 2 ^h 40W	+30°10'	3-4	5.6- 5.79	A0	15-15-15	" "	20/170	right side of exposed Box broken 1/2" off end	fin
04:01	B 0 ^h 52W	+62°58'		7.7	B01Jc	15-15-15	Sp Bin - Hd	400/140		fin
04:12	A 00 ^h 53W	+29°00'		2.06	B9p	5-5	Br Star	40/170		mean smooth

Dome Temp. 55°F 81%

Transparency Conditions *excellent*

352

Focus 0.5 B

Dome Temp. 50°F 72%

Starting Time E.S.T.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
1:00	03450W	+64° 30'	3	V= 3.66	A	No Filter 3-3-3	Friedman	40/80	telescope reversed	weak
13:03	01401W	+38° 15'		5.7	B8	3-3-3	"	200/430	"	sl. wk
04:02	04:25W	+21° 26'		7.09	B7	3-3-3	"	400/870	"	sl. wk
						Dev	7 min 2nd batch	Aug 12 MWP2-b1 @ 69°F		

Dome Temp. 60°F @ 70%

Focus 10-13

Dome Temp. 50°F 80%Photometric from 11:00 on \rightarrow 356Transparency Conditions *excellent, occasional light cirrus haze low in south.*

Ending Time E.S.T.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
2:47	A 01 ^h 07 ^m W	+32° 38'	3"	6.26	K0III	16-16-16	Sp Bin-Hd	400/200		fine
3:36	B 00 ^h 35 ^m W	+26° 44'	3-4	8.6- 9.3	B8	16-16-16	Sp Bin-Bln	800/260		fine
4:38	C 00 ^h 09 ^m E	+62° 57'	4"	7.7	B0IV	16-16-16	Sp Bin-Hd	400/200		fine
3:05	A 21 35 E	+41° 19'	4"	8.22	G5V	16-16-16	Vis Bin-Hd	800/200		fine
4:27	E 0 08 E	+07 36	3-4"	8.28	K1III	16-16-16	"	800/240		sl wt

69°F 83% outside

Dome Temp. 54°F 24.5%

Transparency Conditions

clear - very good

358

Focus 4-B → 8-R

Dome Temp. 59° H: 89% out.

Ending Time E.S.T.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
0:43	F 01 05W	+10 16	2-3"	4.38	B8V	^{no filter} 3-3-3	Sp Bin Film	40/120	at right of box	sl. heavy
0:05	L 01 06W	+26 44	2-4"	8.4- 7.1	B8	15-15-15	" /	800/240		very wk
		Per MWP261	9 min	1st	batch	Aug 15			at right of box	
0:49	C 02 00W	+35 47	2-3"	7.60		15-15-15	"	400/200	*WN 45+09.5 Ia #6	sl. heavy
2:10	A 03 20W	+35 45	2-4"	7.93	B0-1	15-15-15	"	400/140	#7	sun in lens
3:03	L 01 20W	+62 58	"	7.7	B0V	15-15-15	Sp Bin Tel	400/140		sun in lens
3:50	A 00 55E	+54 23	2-3"	7.89	B8V	^{no filter} 3-3-3	Sp Bin - Bin	40/100	Exp test for Du F * AT Ear right of box	Dev 7 min MWP2 end batch Aug 15
		Dev 9 min	MWP261	1st	batch	Aug 15			* 80sec, not 90sec	
4:24	L	+24 37	3"	7.01	A0	15-15-15	Sp Bin - Bin	400/110	Focus Set to 8-R	fin
						5/5	no filter			

359

* Evac Aug 7

** Evac Aug 15 (20 hrs Evac only)

Date 1974 Aug 15-16 Thurs-Fri Observer Hu-Tn Julian Day

Plate No.	Object	R.A. 1900	Declination 1900	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.
38554	HD152224	16 47.0	+32 44	G12	IIc0 *	13/15	69°F	20 08	20:40	A
38555	HD186547	19 39.9	+13 04	"	"	"		20 49	21:07	B
38556	HD190658	20 00.9	+15 13	"	"	"		21 10	22:02	C
38556T	Col step wedge		90sec		"					
38557	HD 214946	22 36.7	+44 29	"	"	"		22 06	22:42	A
38558	HD217312	22 54.8	+62 32	"	"	"		22 46	00:05	B
38559	HD 225289	23 59.9	+60 45	"	"	"		00:16	00:32	C
38560	HD 225093	23 58.3	+72 36	"	"	"		00:36	01:29	A
38561	HD10260	01 35.3	+60 32	"	"	"		01:34	02:00	B
38562	HD 10516	01 37.4	+50 11	"	IIIaJ	"		02:04	02:15	C
38562T	Col step wedge		180sec		"					
38563	HD11188	01 44.9	+46 58	"	IIc0 **	"		02:19	02:49	A
38564	HD22912	03 35.7	+71 18	"	"	13/1.3	65°	02:54	03:47	B
38564T	col step wedge		90sec		"					

Dome Temp. 69°F H=72%

Transparency Conditions Reasonable to Poor...

360

Focus 0

some haze

Dome Temp. 65°F H=96% & drips

Ending Time E.S.T.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
01:40	01 09W	+32 39	2"	6.26	KO III	16-16-16	Sp Bin-Hd	400/200		fin
01:07	01 18E	+13 16	"	6.1	B8 IV	16-16-16	"	200/75		fin
02:02	00 44E	+15 29	"	6.34	M2 III	16-16-16	"	200/120		sl wk
02:42	02 40E	+44 55	1-2"	7.12	A2	16-16-16	"	400/140		sliding fin
01:05	01 35E	+62 58	"	7.7	B0 TV	16-16-16	"	400/180	some cloud	sliding fin
01:32	02 13E	+61 11	"	5.9	B37 III	16-16-16	"	200/75	clock out by 1 min after 38558	fin
01:29	01 13E	+73 03	2"	7.52	A2	16-16-16	"	400/140		fin
02:00	02 21E	+60 56	2-3"	5.58	B7 V	16-16-16	"	200/75		fin
02:15	02 07E	+50 35	2"	3.95	B0 P	^{no filter} 3-3-3	"	20/50	* } AT Far right of box Labelled 61T ac. clearly	fin
02:40	01 41E	+47 19	2"	7.14	B8	16-16-16	"	400/140		fin
03:47	02 38E	+71 35	1"	7.86	KO III	16-16-16	Vic Bin-Hd	400/165		

Dome Temp. 58°F 81% inside

Transparency Conditions hazy & cloud → good

362

Focus 50

Dome Temp. 60° 98% outside

Ending Time E.S.T.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
03:54	10 ^h 10W	+26° 44'	2-3"	8.4- 9.1	B8	16-16-16	Sp Bin Blu	400/150	balance off for first half	sl wt
2:21	03 ^h 30W	"	1-2"	"	"	15-15-15	"	400/150	cloud	fin
03:47	02 ^h 10W	+24 32	2"	7.01	A0	16-16-16	"	400/150	*shattered (1pc retained)	fin
04:11	0 45E	+10 32	"	5.38	B6	16-16-16	"	40/14		fin
04:29	0 29E	-12 19	"	4.85	B9V	15-15-15	"	40/14		fin

363

* Evac Aug 15

1974
Date Aug 18-19 Sun-Mon

Observer Gn - Th

Julian Day

Plate No.	Object	R.A. 1900	Declination 1900	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.	Hour Angle End
38570	HD 137569	15 ^h 21 ^m .7	+15° 03'	G-12	IIa0 ^v	13/5	72°	20:07	21:45	A	03:44
38571	DR Vul	20 ^h 09 ^m .6	+26° 27'	"	"	18/4		21:49	22:54	B	00:11
38572	"	"	"	"	"	"		22:57	00:08	C	03:23
38573	HD 201433	21 ^h 04 ^m .4	+29° 48'	"	"	13/5		00:11	00:24	A	00:45
38572T	Col step wedge		90sec								
38574	HD 213307	22 ^h 25.5	+57° 54'	"	"	"		00:47	01:16	A	00:18
38575	HD 209819 ^{L Agf}	22 ^h 01.2	-14° 21'	"	III-aJ	"		01:23	02:08	B	03:33
38575T	Col step wedge		180sec		"						
38576	HD 219688	23 12.7	-9 44	ii	"	9/5		02:14	02:38	C	

Dome Temp. 72°F 75% outside

Focus SB

Dome Temp. 65° 90%

Transparency Conditions clear → to Aen
lightning in NE & NW

364

Ending Time E.S.T.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
1:45	A 03 47W	+14 49	1-3"	8.10	B5 III	16-16-16	Sp Bin Ben	400/140		slwk
2:54	B 00 11W	+26 42	1"	8.4 - 9.1	B8	16-16-16	"	800/241	broken in two unequal pieces	fine
0:08	C 01 23W	"	"	"	"	16-16-16	"	800/260		fine
0:24	D 10 45W	+30° 07'	"	5.6 - 5.79	A0	16-16-16	"	200/70	cloud	fine
1:16	A 00 18W	+58° 18'	3-4"	6.3	B-7	16-16-16	"	200/70	cloudy	fine sunder
2:07	E 01 33W	-13 54	"	4.25	B8 V	3-3-3	"	40/130	no filter * } at Far * } right	fine
					Dew	at hotel	Aug 21 MWD 261	8 min	@ 68°F	
12:38				4.24	B5 V	3-	"	40/17	thru cloud	

365

* Evac Aug/5

Date ¹⁹⁷⁴ Aug. 19-20 Mon-Tues Observer Gn-Tw Julian Day

Plate No.	Object	R.A. 1900	Declination 1900	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.
38576	HD 152614 ^{Loph}	16 ^h 49 ^m .17	+10° 20'	G-12	IIIaJ-E	9/5	76°	20:04	20:39	A
38576 T	Cal step wedge		180sec		"					
38577	DR Vul	20 09.6	+26 27	G12	IIaO-*	12/5		20:46	22:25	B
38578	"	"	"	"	"	"		22:25	23:56	C
38579	"	"	"	"	"	"		23:57	02:05	A
38579 T	Cal step wedge		90sec		"					
38580	HD 190918	20 02.2	+35 31	G12	"	13/5		02:10	03:02	B
38581	HD 201433	21 04.24	+29° 48'	G12	"	9/5		03:07		

Dome Temp. 76°F 70% outside

Focus 8 B

Dome Temp. 65° 90%

Transparency Conditions hazy but quite fine

366

Ending Time E.S.T.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
0:39	A 01 19W	+10° 16'	1.2"	4.38	B8V	3-3-3	Sp Bin Blue	40/120	i Oph ^{not i trucks!} Bloody far right of box	fin
									"	
									Dew 1st batch Aug 21 8 min MWP261 @68°F	
2:25	E 00 15E	+26° 44'	1"	8.6- 9.3	B8	16-16-16	"	800/300		fin
3:56	O 01 15W	"	1-1.5"	"	"	16-16-16	"	800/300		fin
2:05	A 03 26W	"	1.2"	"	"	16-16-16	"	800/300		fin sunday
									Dew 2nd batch Aug 22 MWP262 9 min @68°F	
3:02	E 04 32W	+35° 48'	2"	7.60	WN 45 09570	16-16-16	"	400/165	too far west (Tel unmanageable)	fin
				5.6- 5.79	H0	16-	"	200/	completely fogged in	

368

Dome Temp. 79°F $H=6270$ Transparency Conditions *hazy*Focus 15B Dome Temp. 72°F $H=8870$

Ending Time E.S.T.	P.L.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
01:23	A	01 47 E	+47 00	1"-2"	5.60	095 III	15-15-15	Sp Bin Ben	200/70		fin
02:54	E	00 25 W	+26 42	"	8.6 9.3	B8	15-15-15	"	800/297		sl wt sanding
						Dew 1st batch	Aug 22	MWR261	9 min @ 68°F		
01:47	C	03 18 W	"	"	"	"	15-15-15	"	800/268	too slow	sl wt sanding
02:39	A	03 14 W	+30 09	2"-3"	5.6 5.79	A0	15-15-15	"	200/70	getting hazier	fin
03:32	E	01 10 E	+50 03	1-2	5.94	Apcsj	15-15-15	"	200/68	63 And and hazier	fin judd
03:55	C	00 24 E	+54 24	1"	4.89	B8 V	15-15-15	"	200/70		fin
04:10	A	00 10 E	+72 19	"	9.08	A1 V	15-15-15	"	200/70		fin
04:41	C	02 15 W	+59 02	"	2.26	F2 IV	3-3-3	Brt Star	40/200		fin
						Dew 1st batch	Aug 22	MWR261	9 min @ 68°F		
						in/out out	4/4	nofi/Her	15-B	set for 74°F	

Dome Temp. 78°F H=6270

Transparency Conditions Fair - some SW cloud 370

Focus 15-P

Dome Temp.

Ending Time E.S.T.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
0:43	A 01 40 W	+32 38	2"	6.26	KO III	16-16-16	Sp Bin-Hd	200/120		fine
1:10	B 50 47 E	+13 18	1-2"	6.1	B8 IV	16-16-16	"	200/70		fine
2:46	C 00 29 W	+15 30	2"	6.34	M2 U	16-16-16	"	200/170		guide fine
3:33	A 01 21 E	+44 55	3"	7.12	A2	16-16-16	"	400/140		fine
01:01	B 00 10 E	+62 58	1-3"	7.7	B0 IV	16-16-16	"	400/180		fine guide
02:51	C 00 35 W	+73 03	2-3"	7.52	A2	16-16-16	"	400/140	too faint? fld drawn.	fine guide
3:17	A 00 59 W			5.9	B7 U	16-16-16	"	400/140		fine
		+60 56		3.58	B7 V	16-	"	400/	cloud!	

373

Date 1974 Aug 25-26 / Sun Mon / Observer Gm - Tw / Julian Day

Plate No.	Object	R.A. 1900	Declination 1900	Inst.	Emulsion	Slit	Temp.	Starting Time E.S.T.	Ending Time E.S.T.	P.H.
38599	HD 152614 ^{10ph}	16 ^h 49 ^m .3	+10° 20'	G-12	IIIaJ-E	9/1.5	69°	19:46	20:23	C
38600	DR Vul	20 ^h 09 ^m .6	+26° 27'	"	IIaD-E	18/1.5		20:30	22:34	A
38600T	cal step wedge				"			90 sec		
38601	HD 190918	20 ^h 02 ^m .2	+35° 31'	"	"	13/1.5		22:37	23:17	B
38602	HD 201433	21 ^h 04 ^m .4	+29 48	"	"	9/1.5		23:23	23:40	A
38602T	Cal step wedge		180 sec		IIIaJ-E					
38603	HD 209819	22 01.0	-14 21	"	"	9/1.5		23:44	00:53	P
38604	HD 218154	23 ^h 00 ^m .6	+24° 07'	"	IIaD-E	9/1.5		00:58	02:06	C
38605	HD 14392	02 ^h 14 ^m .4	+49° 42'	"	"	9/1.5		02:11	02:23	A
38606	HD 14951	02 ^h 19 ^m .3	+10° 09'	"	"	"		02:26	02:43	C
38607	HD 15130	02 ^h 21 ^m .1	-12' 44'	"	"	"		02:48	03:02	A
38608	HD 218154	23 ^h 00 ^m .6	+24° 07'	"	"	13/1.5		03:07	04:15	B
38609	HD 21364	03 21.8	+9 23	"	IIaJ-E	9/1.7	62°	04:21	04:44	C

Dome Temp. 68°F 77.90

Transparency Conditions *clear* *very good*

374

Focus *0*

Dome Temp. 60° H: 96%

Ending Time E.S.T.	Hour Angle End	Declination	Seeing	Ptg. Mag.	Sp.	Comp.	Program	Exp. Mtr.	REMARKS	Quality
01:23	C 01 28W	—	3-1"	4.38	B8V	3-3-3	Sp Bin Plan	40/120	at Far right of box	fine
02:04	A 00 20W	+26 44	2"	^{8.6-} 9.3	B8	15-15-15	"	800/300	broken in 3- 2x retained at far left of box	fine sua fine
03:17	B 01 11W	+35 46	2"	7.6	^{WN4.5} +09520	15-15-15	"	400/200		fine
03:40	A 00 32W	+30 10	1-2"	^{5.6-} 5.79	A0	15-15-15	"	200/70		fine
04:53	B 00 45W			4.18	B8V	3-15!	"	40/140	c Agr	fine
02:06	C 01 00W	+24 34	2-3	7.01	A0	15-16-15	"	400/140		fine
02:23	A 01 56E	+50 04	1-2"	5.44	Ap	15-15-15	"	200/70	63 Ard	fine
02:43	C 01 41E	+10 33	"	5.38	B6	15-15-15	"	200/70	24 Ari	fine
03:02	A 01 23E	-12 19	"	4.85	B9V	16-15-15	"	200/70	ecet	fine
04:15	B 03 11W	+24 34	1-3"	7.01	A0	15-15-15	"	400/140		fine
04:44	C 00 42E	+9 42	"	3.66	B8p	2-2-3	"	40/140		fine

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Ending Time
E.S.T.

379

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