

TT 21310 - 22639
1959 Dec. 10 - 1969 April 24

OBSERVERS

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DEC. 14, 1966
JUN 30, 1967

Ball brushing ways installed on camera June 7, 1966.

Plates 21858 - 21893 were developed around June 26

π 21947 begins the nitrogen burst development (1967 Oct 23) series. A test plate π 21947A which was flashed 4x on Aug 25 and developed Oct 23 is included. Bubble tracks are evident.

8 No	OBJECT	R.A. DEC.	DATE U.T.	MID Exp. U.T.	Exp.	H.A. MID	QUAL.	Prov. WT.	EMULSION	SECTOR	P.A.	DEFINITION	STEADINESS	TRANS.	T ^c Focus	OBSERVER	PLATE HOLDER	CONFIG- URATION	REMARKS	9 GLASS No
21310 CLPM	NGC 2353	07:12 -10:13	1959 Dec 10	07:23	10 ^m	00 ^h 31 ^m E	✓		IG	-	98	2	2 ⁺	2	0.0 99.5	ADW	4	-	Using 24-inch oscillator poor guide star (test field, guide 31-37)	
1 CLPM	NGC 2353	07:12 -10:13	Dec 10	07:52	10 ^m	00 ^h 03 ^m E	✓		IG	-	270°	2	3	2	0.0 99.5	ADW	3	-	244 oscillator test field guide 17-22	
2 CLPM	NGC 225	00:46 +61:31	Dec 22	00:12	30 ^m	00 ^h 25 ^m E	✓		II-G	-	0°	2	3	2	-3.9 99.0	ADW	3	-		
3 CLPM	NGC 752	01:55 +37:26	Dec 22	01:47	20 ^m	00:02 ^m E	✓		I-G	-	0°	2	2	2	-3.4 99.0	ADW	4	-	diff. guiding	
4 CLPM	η Tau	03:44 +23:58	Dec 22	03:31	2 ^m -3 ^m -4 ^m	00:10 ^m E	✓		I-G	-	0°	2	3	2	-3.4 99.0	ADW	IV-2	2 3	guide stem loose!	
5 CLPM	NGC 1662	04:46 +10:51	Dec 22	04:27	25 ^m	00:15 ^m E	✓		I-G	-	0°	2	2	1 ⁺	-3.8 99.0	ADW	IV-1	-		
6 CLPM	NGC 2301	06:49 +00:32	Dec 22	06:17	25 ^m	00:27 ^m E	✓		I-G	-	0°	2	3	1 ⁺	-4.2 99.0	ADW	IV-1	-	jumpo in x	
7 CLPM	NGC 2437	07:39 -14:42	1963 Feb 20	04:37	30 ^m	01:01 ^m W			IG	-	0°	2	2	2	-2 98.9	KARS	I-1	-		
8	Trapezium	5:32.8 -5:25	Feb 21	00:34	10 ^m	00:50 ^m E			IG	-	0°	1	1	2	-12 97.8	KARS	II-1	-		
9	Trapezium	5:32.8 -5:25	"	00:50	10 ^m	00:34 ^m E			IG	-	0°	1	1	2	-12 97.8	KARS	II-2	-		

10 No	OBJECT	R.A. — DEC.	DATE U.T.	MID. EXP. U.T.	EXP.	H.A. MID	QUAL.	PROV. WT.	EMULSION	SECTOR	P.A.	DEFINITION	STRAIGHTNESS	TRANS.	T°C / Focus	OBSERVER	PLATE HOLDER	CONFIG- URATION	REMARKS	11 GLASS No.
21320 ✓	NGC2422	7:34 -14:23	Feb 21 ⁶³	03:08	10 ^m	19 ^m E			103ab	-	0°	1	1	2-	-14/ 97.1	Kas	I-1	-		
1 ✓	NGC2422	7:34 -14:23	Feb 21	03:23	10	4E			103ab	-	0°	1	1	3	-14/ 97.1	Kas	I-2	-		
2 ✓	NGC2548	08:10.5 -5:39	Feb 21	04:01	10	2E			103ab	-	0°	1	1	2	-14/ 97.1	Kas	II-1	-		
3 ✓	NGC2548	08:10.5 -5:39	Feb 21	04:30	20	27W			103ab	-	0°	1	1	2-1	-14/ 97.1	Kas	II-2			
4 ✓	Trapezium	05:32 -5:25	Feb 22	00:48	10	36E			II6	-	0°	1	1	2-	-7/ 96.5	Kas	3			
5 ✓	λ Ori	05:30 +9:52	Feb 22	01:21	10	2E			II6	-	0°	1	1	2-	-17/ 96.5	Kas	4			
6 ✓	NGC2437	7:37 -14:35	Feb 22	03:48	10	20W			103ab	-	0°	1	1	2-	-18/ 96.5	Kas	I-1			
7 ✓	NGC2437	7:37 -14:35	Feb 22	04:08	10	40W			103ab	-	0°	1	1	2	-78/ 96.5	Kas	I-2			
8 ✓	NGC2099	05:49 +32:32	Feb 23	00:44	20	50E			103ab	-	0°	2	2	2	-11/ 97.5	Kas	I-1		Guide Star 12-12 . . ✓	
9 ✓	NGC2099	05:49 +32:32	Feb 23	01:04	10	30E			103ab	-	0°	2	2	2	-11/ 97.5	Kas	I-2			

12 No	OBJECT	R.A. — DEC.	DATE U.T.	MID EXP. U.T.	EXP.	H. A. MID	QUAL.	PROV. WT.	EMULSION	SECTOR	P.A.	DEFINITION	STEADINESS	TRANS.	T _C — Focus	OBS.	PLATE HOLDER	CONFIG- URATION	REMARKS	13 GLASS No
21330 ✓	NGC 2168	06:06 +24:21	63 Feb 23	01:28	6 ^m	23E			1026	-	0°	2 2- 2	2	2	-11/ 975	1	II-1			
1 ✓	NGC 2168	06:06 +24:21	Feb 23	01:42	20 ^m	9E			1026	-	0°	2 2- 2	2	2	-11/ 975	4	II-2			
2 ✓	NGC 2281	06:46 +11:07	Feb 23	02:25	10 ^m	7E			103ab	-	0°	2-1+ 2	2	2	-11/ 975	"	III-1		Guide Star 20-20	
3 ✓	NGC 2437	07:39 -14:42	Feb 23	02:55	5 ^m	29E			103ab	-	0°	1+ 1+ 2	2	2	-11/ 975	"	III-2			
4 ✓	NGC 2437	07:39 +14:42	Feb 23	03:07	10 ^m	17E			IIc	-	0°	1+ 1+ 2	2	2	-11/ 975	"	3		Guide Star 10-17	
5 ✓	NGC 2682	08:48 +12:00	Feb 23	04:24	10 ^m	9E			103ab	-	0°	2 2 2	2	2	-11/ 975	"	I-1		Guide Star 10-20	
6 ✓	NGC 2682	08:48 +12:00	Feb 23	04:35	6 ^m	2W			103ab	-	0°	2 2 2	2	2	"	"	I-2		Guide Star 10-20	
7 ✓	NGC 3231	10:21 +67:05	Feb 23	05:31	10 ^m	36E			103ab	-	185°	2-2- 2	2	2	-13/ 975	"	II-1		Guide Star 24-19	
8 ✓	NGC 3231	10:21 +67:05	Feb 23	05:42	6	25E			103ab	-	185°	2-2- 2	2	2	-14/ 975	"	II-2		"	
9 ✓	Pleiades		Nov 28	5:20	20				103a G			2			+5°C 8.75	W44		New guide		

also taken 28 Nov. 1963, H1-H9, 9 plates
of Pleiades. These are filed in plate vault
at this point.

14 NO.	OBJECT	R.A. — DEC.	DATE U.T. 1963	MID EXP. U.T.	EXP	H.A. MID.	QUAL.	PROV. WT.	EMULSION	SECTOR	P.A.	DEFINITION	STEADINESS	TRANS.	T ^o — Focus	OBS.	PLATE HOLDER	CONFIG- URATION	REMARKS	15 GLASS No.
21340 ✓	Pleiades		Nov 30		5 × 10 ^m				II G			0-1			00 87.5	Walt			Sid t 1:52-1:57 2:00-2:10	
1	Pleiades		Nov 30		30 ^m				II G			0-1			00 87.5	Walt			Sid t 2:14-2:44	
2 ✓	Pleiades		1964 Jan 7		5 ^m				103a G			3			87.8	Walt			Sid t 2:25-2:30	
3 ✓	Pleiades		Jan 7		10 ^m				103a G			3			87.8	Walt			Sid t. 2:31-2:41	
4 ✓	Pleiades		Jan 7		5 ^m				103a G			3			87.8	Walt			Sid t 2:52-2:57	
5 ✓	Pleiades		Jan 7		10 ^m				103a G			3			87.8	Walt			Sid t 3:00-3:10	
6 ✓	NGC 957	2 ^h 30.0 +57°19'	Jan 16	0:24	10 ^m	23E	g		103a G	Nov	0°	2	1	2	-3.5 98.8	STR ARU	I-1		Sid 2:02-2:12 Guide star 16-26.	
7 ✓	NGC 957	"	Jan 16	0:32	6 ^m	15E	g		103a G	"	0°	2	1	2	"	ARU STR	I-2		Sid 2:14-2:20 16-26	20
8 ✓	NGC 1039 = M34	2 ^h 38.8 +42°34'	Jan 16	0:53	10 ^m	0E			103a G	"	0°	2	1	2	"	STR ARU	II-1		Sid 2:33-2:43 16-26	20
9 ✓	NGC 1528	4 ^h 11.6 +51:07	Jan 16	1:37	11 ^m	52E			103a G	Nov	0°	2	2	2	"	ARU STR	II-2		Sid 3:15-2:25 26-26	20

No	OBJECT	R.A. DEC.	DATE U.T. 1964	MID Exp U.T.	Exp.	H.A. MID.	Qual	Pool. Weight
21350	NGC 1528	4 ^h 11.6 +51° 07'	Jan 16	1:50	6 ^m	40E		
21351	NGC 1647	4:43.8 +19:00	Jan 16	2:20	10 ^m	40E		
21352	NGC 1647	4:43.8 +19:00	Jan 16	2:30	6 ^m	30E		
21353	NGC 1912	5:25.3 +35:48	"	2:56	10 ^m	45E		
21354	NGC 1912	5:25.3 +35:48	"	3:15	6 ^m	32E		
21355	NGC 957	2:30.0 +57:19	Jan 17	0:01	5 ^m	49E		
21356	NGC 957	2:30.0 +57:19	Jan 17	0:10	3 ^m	41E		
21357	NGC 957	"	"	0:30	5 ^m	15E		
21358	NGC 957	"	"	0:36	3 ^m	9E		
21359	NGC 1528	4 ^h 11.6 +51:07	"	1:27	5 ^m	62E		

EXHURON	SECTOR	P.A.	DEFINITION	STRAIGHTNESS	TRANSP.	TC Foc	OBS	PLATE HOLDER	CONVERTING	REMARKS
103a G	None	0°	2-2	2	2	43.5 98.8	STR ARU	III-1		Sid 3:30-3:36 GS 26-26
103a G	None	0°	2-2	2	2	39 98.8	ARU STR	III-2		Sid. 3:59-4:09 GS 19-26
103a G	None	0°	2-2	2	2	45 98.8	STR ARU	IV-1		Sid 4:11-4:17 GS 19-26
103a G	None	0°	2-1+2	2	11		ARU STR	IV-2		Sid. 4:36-4:47 GS 22-26
103a G	None	0°	"	"	"		STR ARU	3		Sid. 4:52-4:58 GS 22-26
"	"	"	2-1+2	2		-5.0 98.6	ARU	1		Sid 1:41-1:46 GS 25-24
103a G	None	0°	2-1+2	2		98.6	ARU	2		Sid 1:51-1:54 GS 25-24
"	"	"	"	"	"	98.6	ARU	11-1		2:11-2:16 9-29
"	"	"	"	"	"	98.6	ARU	11-2		2:18-2:21 9-29
"	"	"	1+2	1+	1+	98.6	STR	111-1		3:08-3:13 11-30

No	OBJECT	R.A. - DECL	DATE U.T. 1964	MID EXP	EXP	H.A. MID.	QUAL	Prod. Weight
21360 ✓	NGC 1528	4:11.6 +57°07'	Jan 17	1:31	3 ^m	58E		
21361 ✓	NGC 1647	4:43.8 +19:00	"	2:02	5 ^m	59E		
21362 ✓	NGC 1647	4:43.8 +19:00	"	2:07	3 ^m	54E		
21363 ✓	NGC 2099	5:49.7 +32:33	"	3:23	10 ^m	44E		
21364 ✓	NGC 2099	5:49.7 +32:33	"	3:30	3 ^m	37E		
21365 ✓	NGC 2168	6:06.4 +24:21	"	3:51	5 ^m	32E		
21366 ✓	NGC 957	2:30.0 +57:19	Jan 21	0:01	10 ^m	32E		
21367 ✓	NGC 957	2:30.0 +57:19	"	0:09	3 ^m	24E		
21368 ✓	NGC 1039	2:39.4 +42:37	"	0:25	3 ^m	17E		
21369 ✓	NGC 1039	2:39.4 +42:37	"	0:34	10 ^m	8E		

Emulsion	P.A. Secs	P.A. Definition	DEFINITION STEADINESS	SPREADING	TRANSF.	T.C. Foc.	OBS	PLATE HOLDER	CONFIG.	REMARKS
103 aG	16	0°	1+	2	1+	98.6	STR	III-2		ST=3:14-3:17 GS 11-30
"	11	"	"	"	"	98.6	ARU	IV-1		3:43-3:49 16-19
"	"	"	"	"	"	98.6	ARU	IV-2		3:49-3:52 16-19
"	"	"	1+	1+	2-	98.6	STR	I		5:02-5:12 19-9
"	"	"	1	1	"	98.6	STR	2		5:13-5:16 19-9
"	"	"	1	1	"	98.6	ARU	II-1		5:33-5:38 27-20
II-G	"	"	1+	1+	2	99.8	ARU	I		S.T. 1:55-2:05 G.S. 8-15
"	"	"	"	"	"	99.8	ARU	2		2:06-2:09 8-15
"	"	"	"	"	"	99.8	ARU	II-1		2:23-2:26 19-7
"	"	"	"	"	"	99.8	ARU	II-2		2:28-2:38 19-7

1964

21370 ✓	NGC 1528	4:12.1	Jan	1:50	5 ^m	24E
		+51:09	21			
1 ✓	NGC 1528	4:12.1	"	1:56	5 ^m	18E
		+51:09				
2 ✓	NGC 1647	4:43.8	"	3:12	10 ^m	27W
		+19:06				
3 ✓	NGC 1647	4:43.8	"	3:23	10 ^m	38W
		+19:00				
4 ✓	NGC 2301	6:49.7	"	4:08	3 ^m	43E
		+0:31				
5 ✓	NGC 2301	6:49.7	"	4:15	10 ^m	36E
		+0:31				
6 ✓	NGC 2323	7:01.2	"	4:50	10 ^m	12E
		-8:17				
7 ✓	NGC 2323	7:01.2	"	4:59	6 ^m	3E
		-8:17				
8 ✓	PLEADIES		4 Feb U.T.		5 ^m	E
9 ✓	"		"		5 ^m	E

II-6	No	0°	1+	14	2	+1.5	ARU	1	ST. 3:47-3:52
						99.8			GS. 11-35
"	"	"	"	"	"		ARU	2	3:53-3:58
						99.8			11-35
"	"	"	"	"	"		ARU	II-1	5:07-5:17
						99.8			16-15
"	"	"	"	"	"		ARU	II-2	5:18-5:28
						99.8			16-15
103	"	"	1	1	2	+0.5	ARU	III-1	6:06-6:09
aG						99.5			28-5
"	"	"	1	1	2		ARU	III-2	6:10-6:20
						99.5			28-5
"	"	"	"	"	"		ARU	IV-1	6:45-6:55
						99.5			28-11
"	"	"	"	"	"		ARU	IV-2	6:56-7:02
						99.5			28-11
103		0°				-1	WAH RS.	I	ST. 3:18:20 - 3:23:20
aG						99.3			
"	"	"					"	II	ST. 3:23:55 3:53:55

OBJECT	R.A. DEC	DATE U.T. 1964	MID EXP U.T.	EXP	H.A. MID
21380 ✓ PLEADIES	103 06	4 Feb		5 m.	153° W
1 ✓ " "	" "	" "		5 m.	2° 00' W
2 ✓ Orion Neb	1032-D	" "			1136 W
1965					
3 ✓ NGC 1647	4:43.8 +19 00	31 Jan U.T.	1:29	6 m	26 E
4 ✓ " "	" "	" "	1:42	10 m	13 E
5 ✓ " "	" "	" "	1:52	3 m	3 E
6 ✓ " "	" "	" "	1:58	1 m 30 s	3 W
7 ✓ NGC 1912	5:25.3 +35 48'	2 Feb	2:15	10 m	22 E
8 ✓ " "	" "	" "	2:26	10 m	11 E
9 ✓ Trapezium	5:32.2 -5 25'	" "	3:03	9 m	17 W

Emulsion	Sector	P.A.	Definition	Stardness	Transparency	TAP FOCUS	Observer	Plate Holder	Remarks
1032G	"	0°				-2° 993	WAH R.S.	3	5:33:30 S.T. 5:39:30 S.T. 5:41:30 S.T. 5:46:30 S.T.
"	"	"				"	"	4	6:10:30 7:10:30
1032-D						-2° 993	WAH A.W.	1-1	
1965									
II-G	"	0°				-18° 96.1	ARU	2	4:12-4:18 S.T. seeing fair
"	"	"				"	ARU	1	4:24-4:34
1032G	"	"				"	ARU IV-1	"	4:37-4:40
"	"	"				"	ARU IV-2	"	4:42-4:44 drive failure
"	"	"				-15° 96.9	ARU III-1	"	4:58-5:08 seeing poor high wind
"	"	"				"	ARU III-2	"	5:09-5:19
II-G	"	"				"	ARU I	"	5:45-5:54 drive failure

OBJECT	RA DEC	DATE U.T. 1965	MID EXP U.T.	EXP	H.A. MID	UT exposure ST exposure
21390 Trapezium	5:32.8 -5:25'	3 Feb	2:12	15 ^m	32 E	
"	"	"	2:27	15 ^m	16 E	
Entered to here June 6, 1966 w/ van Alkana						
2 NGC 3242	10:23 -18:23	April 22		30 ^m		0356-0426 1200-1230
3 M3=NGC5272	13:39 +28:38	"		30 ^m		0516-0546 1320-1350
4 M5=NGC5904	15:16 +2:16	"		45 ^m		0645-0730 1450-1535
5 M10=NGC6254	16:54 -4:02	"		30 ^m		0756-0826 1600-1630
6 IC 4665	17:43 +5:41	"		30 ^m		0921-0951 1725-1755
7 NGC 3242	10:22 -18:28	April 29		30 ^m		0304-0334 1135-1205
8 M3=NGC5272	13:39 +28:38	"		60 ^m		0410-0510 1241-1341
9 M5=NGC5904	15:16 +2:16	"		60 ^m		0543-0643 1416-1516

Emulsion	Sector	P.A.	Seeing	Steadiness	Transparency	Temp Focus	Observer	Plate Holder	Telescope	Remarks
II-G		0°				-20° 96.0	ARU	4		Grating seeing poor S.T. 4:53-5:08 high wind
"	"	"	"	"	"	"	ARU	3		Grating S.T. 5:09-5:24
103 A-G			2"			+7° 99.0	WVA		W	Sky clear
"			2"			0° 99.0	WVA		W	"
"			2"			+4° 99.0	WVA		W	"
"			2"			+4° 99.0	WVA		W	"
"			2"			+4° 99.0	WVA		W	"
"			2"			+8° 99.2	HANDKE		W	Half moon, slight haze
"	E		2"			+7° 100.6	HANDKE		W	"
"	S		2"			+7° 100.6	WVA		W	"

OBJECT	R.A. DEC.	1966 DATE U.T.	Exp.	UT exposure ST exposure	Emulsion	sector	P.A.	Seeing	Transp.	Temp. Focus	Obr.	Plate holder	Telescope	Remarks
21400 ✓ MID=NGC6254	16:54:23 -4:02	Apr. 29	39 ^m	0721-0800 1553-1632	103 Q-G		E	2"		+6° 98.9	HANDKE		W	Half moon, slight haze
1 ✓ IC 4665	17:43 +5:41	"	10 ^m	0829-0839 1702-1712	"			2"		+5° 98.9	HANDKE			— — — —
2 ✓ vA-C216	17:56 +82:44	"	30 ^m	0935-1005 1808-1838	"		E	2"		+5° 98.9	HANDKE		W	Light cirrus
3 ✓ G107-69,70	7:27 +48:18	May 3	30 ^m	0220-0250 1112-1142	"		N	1"		+11° 99.1	HANDKE		E	Sky very bright and hazy
4 ✓ vA-C216	17:56 +82:44	"	30 ^m	0505-0535 1320-1350	"		E	1"		+9° 101.0	HANDKE			Sky clear
5 M13=NGC6205	16:39 +36:33	"	60 ^m	0606-0706	"		E	1"		+7.5° 101.0	WVA			— — —
6 ✓ NGC3242	10:22 -18:23	May 6	30 ^m	0253-0323 1152-1222	"		S	1"		+18° 101.1	WVA			
7 ✓ vA-C216	17:56 +82:44	May 13	30 ^m	0440-0510 1407-1437	"		E	2"		+4° 99.0	WVA		W	Sky clear
8 ✓ vA-C216	17:56 +82:44	"	30 ^m	0521-0551 1448-1518	"		E	2"		+4° 99.0	WVA		W	— — —
9 ✓ near NGC188	0:37 +85°	"	~30 ^m	End. 0755 - - 1722	"		W	2"		+4° 99.0	WVA		E	— — —

of exposures in April = 11

Object	(1950) R.A. Dec.	Date U.T. 1966	Mid. Exp. U.T.	Exp.	H.A. Mid. Exp.	UT exposure ST exposure
21410 M3-NGC 5272	13:39 +28:38	May 19		30 ^m		0440 - 0510 1432 - 1502
1 G60-54	12:57 +3:45	"		30 ^m		0545 - 0615 1535 - 1605
2 M10-NGC 6254	16:54 -4:02	"		10 ^m		0653 - 0703 1645 - 1655 <i>Ball bushing ways installed on camera</i>
3 G121-27	11 ^h 50 ^m +27:48	Jun 15	3:50	30 ^m	3:35	03:35 - 04:05 15:13 - 15:43
4 G62-15	13 ^h 06 ^m +8:30	"		30 ^m		5:05 - 5:35 16:41 - 17:11
5 G144-25	20 ^h 38 ^m +15:18	"	7:16	30 ^m	1:15 E	7:03 - 7:33 18:41 - 19:11
6 W.D. VA-C 216	17 ^h 57 ^m +82:44	June 17 1966	3:44 4:30	30 ^m 30 ^m	2:25 1:49	3:28 - 3:58 (last 5 min m. cloudy) 15:45 - 15:45 4:15 - 4:45 (last 5 min m. cloudy) 16:20 - 16:20
7 WDL P 71-157	18 ^h 19 ^m +68:33	"	5:57 6:40	30 ^m 30 ^m	22 ^m 5 ^m W	5:42 - 6:12 17:29 - 17:57 6:25 - 6:55 18:12 - 18:42
8 G142-52	19 ^h 44 ^m +11:58	"	7:58 8:38	30 ^m 30 ^m	2 ^m W 36 ^m W	7:43 - 8:13 19:30 - 20:00 8:23 - 8:53
9 LP 439-354	14 ^h 09 ^m +15:47	June 19 '66	5:50	60 ^m	3W3D	5:20 - 6:20 17:14 - 18:14

exposures in May = 10

Emulsion	Sector	P.A.	Seeing	Transparency	(C) Temp Focus	Observer	Phot holder	Telescope	Remarks
		E	2"		+12° 99.0	WVA		E	Sky clear
		S	1"		+11° 99.0	WVA		E	— — —
		S	1"		+11° 99.0	WVA		E	— — — Stopped by clouds
103aG	-	W	1+	fair	+16.0 58.1	WVA	1	E	
"	-	S	2	"	"	Handke		E	
"	-		2	"	"	Handke		W	290 light clouds + seeing poor last half of exp.
"	-	E	2-1	Fair to poor	58.5	Handke		W	290 p. cloudy to H. clouds last 5 minutes 1st exposure. (clouded out)
"	-		-1	Fair to poor	48.0				p. cloudy to H. clouds seeing poor
"	-		2	Fair	+16.0 58.1	"		W	290
"	-		1	"	58.1	"			
"	-		1-poor	Fair	"	"		W	0
"	-		poor	"	"	"			
(204/40)	103aG	-	W	2	good +20.9 58.0	WVA		E	

Object	R.A. Dec.	U.T. Date	U.T. exp. S.T. exp.	exp.	Guide Star	Plate holder	Emul.	Sector	Camera P.A.	Tel.	Seeing	Grating	Temp. Focus	Obs.	Remarks
21420 ✓ VA-C216	17 ^h 56 ^m +82° 44'	Jun 19 '66	7:22 - 7:52 19:15 - 19:45 7:57 - 8:27 19:50 - 20:20	30 ^m 30 ^m	(9.5, 24)		103aG	-	N	E	2	-	19.1 60.2	WVA	
1 ✓ G 156-31	22 ^h 36 ^m -15° 35'	"	8:59 - 9:29 20:53 - 21:23	30 ^m	(29.4, 57)		"	-	S	W	2	-	"	"	bright down
2 ✓ TOM 202	14 ^h 25 ^m +26° 46'	June 22 1966	3:06 - 3:36 15:11 - 15:41 3:50 - 4:02 15:55 - 16:07	30 ^m 12 ^m	(14.1, 25.5)		"	-	N	E	1 1-	-	25.0c 56.0	Handke	Haze Eyepiece bumped off Exp. Stopped
3 ✓ TOM 202	"	"	04:15 - 04:45 16:20 - 16:50 05:03 - 05:33 17:08 - 17:38	30 ^m 30 ^m	"		"	"	"	"	1- 1-	"	"	"	thick clouds Seeing poor
4 ✓ M13 NGC 6205	16 ^h 40 ^m +36° 33'	"	6:20 - 7:20 18:26 - 19:26	60 ^m	12.0 28.9		"	"	S 180°	E	1	-	24.0c "	"	"
5 ✓ G 144-25	20 ^h 38 ^m +15° 18'	"	8:30 - 9:00 20:35 - 21:05	30 ^m	19.2 1.5		"	"	S 0°	W	1-	-	"	"	Sky poor Having trouble Seeing fields
6 ✓ VA-C216	17 ^h 57 ^m +82° 44'	June 23 1966	03:00 - 03:30 15:09 - 15:39 03:38 - 04:08 15:47 - 16:17	30 ^m 30 ^m	19.1 .2		"	-	E 370	W	2 1+	-	25.0c 56.0	Handke	Haze
7 ✓ TOM 202	14 ^h 25 ^m +26° 46'	"	04:57 - 05:27 17:06 - 17:36 05:40 - 06:10 17:50 - 18:20	30 ^m 30 ^m	31.9 33.5		"	-	W 370	E	2+	-	"	"	Haze
8 ✓ G 142-52	19 ^h 44 ^m +11° 58'	"	06:48 - 07:18 18:59 - 19:29 07:23 - 07:53 19:32 - 20:02	30 ^m 30 ^m	8.0 15.5		"	-	S 0	W	1+ TO POOR	-	24c "	"	Haze
9 ✓ G 18-51	22 ^h 26 ^m +5° 33'	"	08:29 - 08:59 20:39 - 21:09	30 ^m	31.2 7		"	-	S 0	W	1 TO POOR	-	"	"	Thick haze

No	Object	RA Dec.	U.T. Date	U.T. exposure S.T. exposures	exp.	Guide star
21430	Tom 202	14 ^h 25 ^m +26° 46'	June 29 1966	02:50 - 04:20 16:23 - 16:53 04:30 - 05:00 17:03 - 17:33	30 ^m 30 ^m	28.8 32.5
1	M13	16 ^h 40 ^m +36° 31'	"	05:40 - 06:40 18:13 - 19:13	60 ^m	28.8 1.0
2	M92	17 ^h 15 ^m +43° 12'	"	07:05 - 08:05 19:37 - 20:37	60 ^m	20.0 1.5
3	G 130-43	0 ^h 5 ^m +28° 59'	"	08:30 - 09:00 21:03 - 21:33	30 ^m	7.2 23.0
4	Near, but not photo	11 ^h 28 ^m +18° 49'	June 30 1966	03:00 - 03:30 15:35 - 16:05	30 ^m	6.7 4.5
5	G 185-37	19 ^h 43 ^m 42 ^s +27° 00' 8"	July 7 1966	6:38 - 7:08 19:42 - 20:12	30 ^m	13.3 22.0
6	LP 71-157	18 ^h 17 ^m 42 ^s +68° 33' 0"	"	8:26 - 8:56 21:30 - 22:00	30 ^m	12.2 9
7	Tom 202	14 ^h 26 ^m 06 ^s +26° 41'	July 8 "	3:45 - 4:15 16:55 - 17:25 4:30 - 5:00 17:35 - 18:05	30 ^m 30 ^m	
8	VA-c 216	17 ^h 54 ^m 16 ^s +82° 44' 8"	"	6:27 - 6:57 19:36 - 20:06 7:20 - 7:50 20:28 - 20:58	30 ^m 30 ^m	
9	LP 71-157	18 ^h 17 ^m 36 ^s +68° 53' 4"	"	8:36 - 9:06 21:45 - 22:15	30 ^m	

of exposures in June = 32

Plate Holder	Emul.	Sector	Camera P.A.	Tel.	See.	Grating	Temp. Focus	Obs.	Remarks
103 26	-	-	270 W	E	poor	-	+24°C 56.0	HAND E	Hazy, thin clouds
"	-	-	270 W	E	poor	-	"	"	"
"	-	-	270 W	E	Mostly poor	-	+22°C 56.0	"	"
"	-	-	0 S	W	2	-	"	"	sky Improving
"	-	-	270 W	E	2	-	+25°C 56.0	Hand E	Partly cloudy Heavy clouds after exp.
103a6	-	-	0 S	W	1-	-	+22.8 58.9	DHD*	Moon haze, after clouds flashed 1x 0.5@F6.3
"	-	-	0 N	E	1+2	-	+19.0 58.9	"	moon. (F.D. uncertain (poor chart)) assumed offsets correct flashed 2x
1	"	-	N W	W	2	-	+19.0	DHD	Flash 2x
1	"	-	N W	W	1+	-	58.9	"	"
2	"	-	W W	W	2	-	+19.0 58.9	"	flashed 2x Moon High clouds
10	"	-	N W	W	1+	-	58.9	"	Flash 1x Clouds Moon Dawn

DHD = David DeVorkin

No	OBJECT	(1950)	1966	UT. EXP.	EXP	GRADE STAR	P.H. #	E. mud	SECT.	CAM. P.A.	TEL	SEE	GRAT.	TEMP	OBS	REMARKS
		RA DEC	UT. DATE	S.T. EXP.										EXP. X		
2440	G142-52	1945 19 +1201.0	July 12	5:26 - 5:56 18:48 - 19:19 6:01 - 6:31 19:29 - 19:59 8:10 - 8:40 21:55 - 22:05	30 30 30	21.0 11 12.2 9	1	103ab "	-	E	W	POOL	-	28 63.5	DAD	Flash 2X Turbulences Flash 2x Turb. -> seeing -00
1	LP71-157		"				✓	"	-	N	E	ECH+		27 63.5	"	
2	TON 202	14° 26' 06" +26° 41'	July 13	4:10 - 4:40 17:35 - 18:05 4:47 - 5:17 18:16 - 18:46	30 30		1	"	-	W	E	1	-	28 58.6	DAD	Clouds. Flash 3X
3	G128-7	22° 49' 48" +29° 29' 4	"	6:56 - 7:22 20:20 - 20:50 7:42 - 8:12 21:10 - 21:40	30 30	25.2 15	2	"	-	S	W	1+	-	28 62.5	"	Flash 3X
4	G128-7	"	July 15	6:26 - 6:56 20:02 - 20:32 7:05 - 7:35 20:40 - 21:10	30 30	"	1	"	-	S	W	ECH+	-	21° 57.5	DAD	Flash 3X
5	G156-31	22° 36' 45" -15° 29' 5	"	8:10 - 8:40 21:45 - 22:15	30	29.4 5.7	2	"	-	S	W	ECH-	-	"	"	Flash 3X Turbulences. Dawn
6	G18-51	22° 27' 10" +5° 59' 4	July 19	5:56 - 6:26 19:48 - 20:18 6:37 - 7:07 20:28 - 20:58	30 30	9.0 6	1	"	-	E	W	1-1+	-	24° 61.9	DAD	Flash 3X None Turbulence!
7	G156-31	22° 36' 45" -15° 29' 5 CLOUDS	"	7:53 - 8:23 21:25 - 22:15 8:26 - 8:56	"	29.4 5.7	"	"	-	S	W	0+	-	"	"	Flash 3X Turbulences
8	G185-37	19 43:42 +27° 00' 8	July 20	3:51 - 4:20 17:46 - 18:16 4:32 - 5:02 18:27 - 18:57	30m 30m	13.3 22.0	2	103ab	-	S	W	2" - 10" 2" - 10"	-	59.2	WVA	flash 3X # seeing lousy!
9	G144-25	20:38:11 +15:18' 8	"	5:38 - 6:08 19:34 - 20:04 6:14 - 6:44 20:10 - 20:40	30m 30m	21.7 4	1	"	-	S	W	2"-5" 3"	-	18.5 59.2	"	flash 3X #

168
at 2nd
exp. end

No.	OBJECT	(1950) R.A. DEC.	U.T. DATE (1966)	U.T. EXP. S.T. EXP.	Exp.	Guide Star	Plate Holder	Emul	Sector	Camera P.A.	Tel.	SEE	Grat.	Temp. Focus	OBS.	REMARKS
21450	G 156-31	22 ^h 35 ^m 48 ^s -15:35.2	July 20	7:44-8:14 21:40-22:10 8:21-8:51 22:17-22:47	30 ^m 30 ^m	29.4 5.7		1D315	-	S	W	3"	-	16.2 57.8	WVA	Flashed 3X #
1	G 158-95	00 ^h 29:02 -6:08.2	"	9:09-9:30 23:06-23:27	21 ^m	30.0 8.4		11	-	E	W	3"	-	11	"	Flashed 2X # Down!
2	G 149-81	13 ^h 20 ^m 36 ^s +24° 44.1	July 20	3:16-3:46 17:15-17:45	30 ^m	19.5/17	1	n	-	W	E	+3	-	17 58.9	DHD	Flash 3X #
3	G 167-7 G 166-57	14 ^h 56 ^m 14 ^s +31° 32.0	"	4:15-4:45 18:14-18:46 4:50-5:20 18:49-19:21	30 ^m n	23.8/ 32	2	n	-	S	E	+3	-	"	"	Flash 3X #
4	LP 71-157	18 ^h 17 ^m 42 ^s +68° 33.0	"	6:21-6:51 20:20-20:50 6:58-7:25 20:57-21:24	30 ^m 27 ^m	25.6/ 7		n	-	S	E	+3-2	-	"	"	Flash 3X # Imbalance ↑ - Cut short - compressed exposure!
5	G 129-47	23 ^h 55 ^m 08 ^s +23° 02.2	"	8:20-8:35 22:20-20:35 8:40-9:10 22:40-23:10	15 30	10.1/ 21		n	-	S	W	3+ 3-1+	-	16 58.9	"	Flash 2X # Brought guides off! Dawn
6	G 63-32	13 ^h 26 ^m 52 ^s +11° 42.7	July 22	3:04-3:34 17:06-17:36 3:37-3:47 17:39-17:49	30 10		1	n	-	W	W	1	-	21 57.8	DHD	Flash 3X #
7	G 108-25 G 137-78	16 ^h 1 ^m 29 ^s +20° 41.2	"	4:41-5:11 18:44-19:14 5:21-5:46 19:24-19:51	30 26		2	n	-	S	E	1	-	"	"	Flash 3X # Guided to end of ways!!!
8	G 18-51		"	6:44-7:14 21:47-22:17 7:20-7:50 22:23-22:53	30 n		0	n	-	n	W	1+	-	"	"	Flash 3X # Wind
9	G 31-52		"	8:25-8:55 22:28-22:58 8:57-9:27 23:00-23:30	30 30			n	-	W	n	1+	-	"	"	Flash 3X # Wind Dawn

Starting with U 21460
the emulsions are not
wiped after washing 39

NO.	OBJECT	(1950) R.A. DEC.	U.T. DATE (1966)	U.T. EXP. S.T. EXP.	EXP.	GUIDE STAR	Plate holder	Emul.	Sector	Camera P.A.	Tel.	SEF	Grat.	Temp. Focus	Obs.	REMARKS
21460	G 178-2 165-47	14 ^h 4 ^m 49 ^s +38° 51.7'	July 25	3:00 - 3:30 17:15 - 17:45 3:40 - 4:10 17:55 - 18:25	30 30	14.9/11	1	103ab	-	S	E	3"	-	26 62	DHD	Flash 3X MOON
1	G 167-19	15 ^h 5 ^m 15 ^s +25° 7.3'	"	4:35 - 5:05 18:50 - 19:20	30	14.1/30	2	"	"	W	"	3"	-	"	"	FLASH 3X CLOUDS HAZE!
2	G 144-25	20 ^h 38 ^m 11 ^s +15° 18.8'	"	7:08 - 7:38 21:23 - 21:53 7:41 - 8:11 21:56 - 22:26	30 30	21.7/4	0	"	"	S	"	1"	-	"	"	Flash 3X
3	G 158-95	0 ^h 29 ^m 02 ^s -6° 08.12	"	8:50 - 9:20 23:05 - 23:35 9:23 - 9:33 23:38 - 23:53	30 15	29.6/9	G	"	"	E	"	1"	-	"	"	Flash 3X DAWN
4	G 135-56	14 ^h 27 ^m 10 ^s +15° 44.4'	July 26	3:35 - 4:05 17:53 - 18:23	30	32.2/16	1	"	-	W	"	2"	-	25 61	DHD	FLASH 3X MOON
5	G 137-78	16 ^h 1 ^m 29 ^s +20° 41.2'	"	4:48 - 5:10 19:07 - 19:29 5:13 - 5:41 19:32 - 20:01	22 29	15.2/24	2	"	-	S	"	"	"	"	"	Flash 3X MOON At end of exp. some light at lens end!
6	G 31-52	0 ^h 25 ^m 16 ^s -6° 45.1'	"	7:05 - 7:36 21:25 - 21:56 7:42 - 8:15 22:02 - 22:35	31 33	19.8/21	0	"	"	E	"	"	"	"	"	Flash 3X Rachmwind #2
7	G 158-95	0 ^h 29 ^m 56 ^s -6° 02.12	"	8:36 - 9:06 22:56 - 23:26 9:08 - 9:38 23:28 - 23:58	30 30	29.6/9	G	"	"	"	"	<2"	"	"	"	Flash 3X DAWN
8	G 167-19	15 ^h 5 ^m 15 ^s +25° 7.3'	July 27	3:25 - 3:55 17:51 - 18:21 4:02 - 4:12 18:27 - 18:37	30 10	14.1/30	1	"	-	W	E	<2"	-	26 61	DHD	Flash 3X MOON END of WAYS! Clouds
9	AC 216	17 ^h 56 ^m 38 ^s +82° 44.12	"	6:07 - 6:37 21:34 - 22:04	30	9.5/24	2	"	"	N	"	1"	-	"	"	Flash 3X Haze! Cloud Clear CLOUD! No Moon

NO.	OBJECT	(1950) R.A. DEC.	U.T. DATE (1966)	U.T. EXP. S.T. EXP.	EXP.	GUIDE STAR	PLATE No. HOURS	EMUL.	SECTOR	CAMERA P.A.	TEL.	SEE.	GRAT.	TEMP. FOCUS	OBS.	REMARKS
2470	G135-56	14 ^h 27 ^m 10 ^s +15° 44' 4"	July 29 "	2:45 - 3:15 17:16 - 17:46 3:20 - 3:45 17:50 - 18:15	30 25	30.8/25	1 "	10306 "	- "	S "	E "	2" "	- "	24 58.9	DHD "	Flashed 3x, Moon Clouds.
1	G137-78	16 ^h 00 ^m 42 ^s +20° 44' 2"	"	4:27 - 4:57 18:57 - 19:27 5:05 - 5:35 19:36 - 20:06	30 30	36.1/27	2	"	-	W	E	1-2" 1"→2"	-	"	WVA	Flashed 3x, MOON! ← HAZE!
2	G128-34	23:05:58 +31:23.8	"	21:30 - 22:00 7:00 - 7:30	30 ^m	143/12	"	-	S	W	2-3"	-	21.0 60.9	WVA	Flashed 3x MOON! Clouds.	
3	G167-19	15 ^h 5 ^m 15 ^s +25° 7' 3"	July 30 "	3:04 - 3:34 17:38 - 18:08 3:40 - 4:10 18:15 - 18:45	30 ^m 30 ^m	19.1/30	1 "	- "	W "	E "	3"→4" 3"5"	- "	20.5 59.8	DHD "	FL. 3X MOON (SEE → 6") (→ 5")	
4	G138-25	16 ^h 22 ^m 57 ^s +15° 48' 4"	" "	4:32 - 5:02 14:05 - 14:35 5:11 - 5:41 14:46 - 15:20:16	30 ^m 30 ^m	30.2/24	2 "	- "	W "	E "	4" "	- "	" "	" "	FL 3X MOON (!) ^m , m=N	
5	G128-34	+23° 05' 58 ^s +31° 23' 8"	" "	7:15 - 7:45 21:30 - 22:20 7:47 - 8:17 22:24 - 22:54	30 ^m 30 ^m	29.9/5	9 "	- "	E "	W "	2-3" 3"	- "	17. 62	" "	FL. 3X MOON ETC. See: DET.	
6	G158-96	0 ^h 29 ^m 02 ^s -6° 08' 2"	" "	8:43 - 9:12 23:17 - 23:47 9:18 - 9:48 23:54 - 0:24	30 30	29.6/9	0 "	- "	" "	" "	" "	3-5" "	- "	" "	" "	FL. 3X DAWN. " DAWN; END OF WAYS!!
7	G17-21	16 ^h 28 ^m 1 ^s +4° 18' 1"	August 1 "	2:54 - 3:24 17:36 - 18:06 3:32 - 4:02 18:14 - 18:44	30 30	32.2/24	3 "	- "	W "	E "	2" 2"	- "	23 60.9	DHD "	FL. 3X MOON "	
8	LPID-15/16	16 ^h 33 ^m 51 ^s +57° 13'	"	4:43 - 5:13 19:20 - 19:50	30	19.6/0 Test	4	"	"	"	"	"	"	"	"	" TEST PLATE BRIGHT HAZE! ECH. clock corr - 1 ^m 8 ^s + 5 ^s
9	G16-17/18	15:54:44 +5:15.5	Aug. 3	3:45 - 4:15 18:35 - 19:05	30	21.8/8.8	5	"	-	S	E	2-3"	-	18.1 61.0	WVA	FL. 3X full moon

exposures in July = 72

No.	OBJECT	(1950)	U.T. DATE 1966	U.T. EXP.		EXP.	Guide Star.
		R.A. DEC.		S.T.	EXP.		
21480	G 151-46	15:16:49 -7:32.5	Aug 4	2:27-2:48 17:24-17:42	21 ^m	12.6 2.3	
1	G 153-27	16:05:31 -20:17.6	"	3:06-3:36 17:59-18:29	30 ^m	21.2 24.8	
2	LP 101-15/16	16:33:30 +57:15	"	4:42-5:12 19:35-20:05	30 ^m	24.1 33	
3	G 151-46	15:16:49 -7:32.5	Aug 5	2:11-2:41 17:38-17:58	30 ^m	12.6 2.3	
4	G 153-27	16:05:31 -10:17.6	"	2:55-3:25 17:52-18:22	30 ^m	20.5 24.8	
5	G 137-78	16:00:42 +20:44.2	"	3:46-4:16 18:43-19:13	30 ^m	15.2	
				4:26-4:56 19:23-19:53	30 ^m	2.3	
6	G 185-37	19:43:42 +27:00.8	"	5:35-6:05 20:32-21:02	30 ^m	13.0	
				6:07-6:37 21:05-21:35	30 ^m	2.2	
7	VA-C216	17:56:38 +82:44.2	"	7:09-7:39 20:07-20:37	30 ^m	32.6 30.5	
				7			
8	G 153-58	16:27:31 -12:32.6	Aug 12	2:33-2:54 17:58-18:04	6 ^m	18.3 15.8	
9	G 138-59	16:39:43 +10:32.3	"	3:44-4:00 19:09-19:25	16 ^m	31.0 30	

Plate holder	Emul.	Sector	Camera P.A.	Tel.	Sec.	Grat.	Temp. Focus	Flashed	Configuration	OBS.	REMARKS
6	103ag	-	S	E	3-4"	-	21.0 62.2	3X	#	WVA	Image motion ^{MOON} very large. Stop before 30 ^m .
7	"	-	S	E	3-8"	-	20.5 "	3X	#	"	Image jumping MOON
8	"	-	S	E	3-8"	-	19.0 "	3X	#	"	Image jumping MOON
1	"	-	S	E	2-4"	-	23.5 61.0	3X	#	WVA	
2	"	-	S	E	2"	-	21.9 "	3X	#	"	
3	"	-	S	E	2"	-	21.0 "	3X	#	"	MOON
					2"	-	"	#			
4	"	-	S	E	1"	-	20.0 "	3X	#	"	wind rocked telescope first 5 min. of exp.
					2"	-	58.9	#		Seeing GOOD!!	
5	"	-	S	E	2"	-	19.0 "	3X	#	"	
1	103ag	-	S	E	2"	-	19.2 59.0	3X	#	WVA	Stopped by clouds!
2	"	-	E	E	2"	-	"	3X	#	"	Image jumping

NO.	OBJECT	(1950)	U.T. DATE 1966	U.T. EXP.	EXP.	SOUTH STAR	Plate holder	Emul	Sector	Camera P.A.	Tel	see	grat.	Temp focus	Flashed	Config.	OBS.	REMARKS
		RA DEC		ST. EXP.														
21490 ✓	R 253	20:30.4 +19:22	Aug 12	4:47-5:08 20:10-20:31	7,7,7	13 26	8	103aD	-	S	W	1-2"	-	18°	-	2 3 1	WVA	I.D. uncertain 1962 plate
1 ✓	W 953	21:55.0 +7:54	"	5:45-5:55 21:10-21:20	2.5, 2.5	27 20	7	103aD	0.5	S	W	2"	-	17°	-	2 3 1 4	"	1962 plate
2 ✓	W 1168	22:05.7 +29:43	"	6:21-6:39 21:46-22:04	6,6,6	28 31	9	103aD	-	S	W	2"	-	17°	-	3 2 1	"	1962 plate
3 ✓	G 129-47	23:55:08 +23:02.2	"	7:22-7:52 22:47-23:17 7:55-8:25 23:20-23:50	30 ^m	10.7 31	3	103aG	-	S	W	3"-8" 2-6"	-	17.0	3X	#	"	Seeing variable!!! Seeing somewhat better
4 ✓	G 32-67	00:13:38 +19:35.4	"	8:45-9:15 00:10-00:40	30 ^m	80 21	4	103aG	-	W	W	3-8"	-	16.0	3X	#	"	
5 ✓	G 32-67	00:13:38 +19:35.4	"	9:26-9:56 00:52-01:22	30 ^m	8.0 21	10	103aD	-	W	W	3-6"	-	16.0	3X	#	"	1962 plate
6 ✓	G 153-58	16:27:31 -12:32.6	Aug 13	2:24-2:54 17:52-18:22	30 ^m	18.3 15.8	1	103aG	-	S	E	2"	-	18.5	3X	#	WVA	
7 ✓	G 179-43	15:38:54 +43:35.9	"	3:22-3:52 18:50-19:20	30 ^m		2	"	-	S	E	3-5"	-	17.5	3X	#	"	
8 ✓	W 1082	20:41.2 +56:00	"	4:17-4:30 19:46-19:59	3.5, 3.5	18.8 22	5	103aD	-	N	W	3"	-	17.5	-	1 2 3	"	1962 plate
9 ✓	R 253	20:30.4 +19:22	"	4:49-5:11 20:18-20:40	7,7,7	13, 26	6	103aD	-	S	W	2"	-	17.0	-	2 1 3	"	1962 plate

NO	OBJECT	(1950) RA/DEC	UT DATE 1966	U.T. EXP S.T. EXP	EXP	GUIDE STAR	PL HOLDER	EMUL	SECT	DAM. P.A.	TEL.	SEE	GAAT.	TEMP FOV.	F.L.	CONF	OBS.	REMARKS
21500	✓ W 1082	20 ^h 41.2 +56° 00'	Aug 16	4:45 - 4:55	3 ³	—	1	103aD	—	S	W	2"	—	21/59	—	1/2	DHD	WIND + LIGHTNING
	✓ 1 G 179-43	15 ^h 38 ^m 18 ^s +43° 39.4	Aug 17	3:00 - 3:30 18:46 19:14	30 ^m	16.9/53	3	103ab	—	W	E	1"	—	22/51	3X	#	DHD	
	✓ 2 G 179-43	"	"	3:40 - 4:10 19:24 - 19:54	"	"	4	"	—	"	"	"	—	"	"	"	"	
	✓ 3 W 1082	20 ^h 41.2 +56° 00'	"	5:10 - 5:20 20:55 - 21:05	3,3,3	—	1	103aD	—	E	W	1"	—	22/59	—	2/3	"	1962 #1 is double exposure.
	✓ 4 W 953	21 ^h 55.8 +7° 59'	"	7:39 - 8:09 23:44 - 23:44	10,10,10	28.2/11	2	"	1.5	S	"	1-2"	—	20.8/62	—	1/2	"	WIND 1962
	✓ 5 G 32-35	0 ^h 34 ^m 12 ^s +10° 18.2	"	8:43 - 9:13 00:28 - 00:58	30	31.0/24	5	103ab	—	W	W	2"	—	"	3X	#	"	DAWN
	✓ 6 "	"	"	9:18 - 9:38 1:03 - 1:23	20	"	6	"	—	"	"	4"	—	"	3X	#	"	DAWN
	✓ 7 G 16-17/18	15 ^h 54 ^m 44 ^s +5° 15.5	Aug 19	2:40 - 3:10 18:33 - 19:03	30	19.9/16	1	103ab	—	W	E	2"	—	22.5/51	3X	#	DHD	WIND HAZE
	✓ 8 G 138-25	16 ^h 23 ^m 46 ^s +15° 45.9	"	3:33 - 4:03 19:25 - 19:55	30	30.2/24	2	103ab	—	W	E	2"	—	"	3X	#	"	"
	✓ 9 LP 71-157	18 ^h 17 ^m 42 ^s +68° 35.0	"	5:00 - 5:30 20:52 - 21:22	30	21.8/0	5	103ab	—	N	E	2"	—	"	3X	#	"	"

NO	OBJECT	(1950) RA/DEC	UT DATE 1966	UT EXP. S.T. EXP	EXP	GUIDE STAR	PL HOLD.	EMUL SECT	FAM PA	TEL.	SEE	GRAT	TEMP FOLYS	FL.	CONF	OBS.	REMARKS
21510	✓ LP 71-157	18 ^h 17 ^m 42 ^s +68° 33' 0"	Aug 19	5:46 - 6:16 21:38 - 22:08	30	21.8/6	6	103ab -	N	E	2"	-	18.5/59.1	3X	#	DHD	
1	✓ G171-10	23 ^h 39 ^m 26 ^s +43° 54' 8"	Aug 20	5:25 - 5:55 21:21 - 21:51	30	32.2/14	3	103ab -	E	W	3"-6"	-	17/57	3X	#	DHD	Turbulence
2	✓ "	"	"	6:05 - 6:35 22:01 - 22:31	30	"	4	" -	"	"	"	-	"	"	"	"	Cross hair illumination is on blitz.
3	✓ G32-67	0 ^h 13 ^m 38 ^s +19° 35' 4"	"	7:05 - 7:20 23:05 - 23:17	15	8.0/21	8	"	W	"	"	-	"	"	"	"	Bumped guides
4	✓ "	"	"	7:28 - 7:58 23:24 - 23:54	30	"	7	"	"	"	"	-	"	"	"	"	Turbulence
5	✓ G171-47/48	10 ^h 15 ^m 36 ^s +43° 44' 6"	Aug 23	5:47 - 6:17 19:55 - 20:25 6:23 - 6:53 22:31 - 23:01	30 30	24.4/20	1	103ab -	S	W	3"-8"	-	15.5/58.8	3X	#	DHD	Turbulence WIND
6	✓ G130-43	0 ^h 04 ^m 47 ^s +28° 58' 7"	"	7:22 - 7:52 23:30 - 00:00	30	7/23	2	"	"	"	3"-10"	-	"	"	#	"	"FLARING"
7	✓ v Ma 2	0 ^h 46 ^m 32 ^s +5° 08' 8"	"	8:18 - 8:48 00:27 - 00:57 8:59 - 9:20 1:08 - 1:29	30 21	27.6/6	5	" -	W	W	3"-8"	-	14/58.8	3X	#	"	ETC.
8	✓ G136-103	15 ^h 21 ^m 35 ^s +17° 39' 4"	Aug 24	2:48 - 3:18 18:59 - 19:29 3:57 - 4:07 20:18 - 20:49	30	24.8/7	6	" -	S	E	2"-3"	-	15.4/58	3X	#	DHD	MOON
9	✓ W1082	20 ^h 41 ^m 2 ^s +56° 00'	"	3:57 - 4:07 20:09 - 20:19	333	-	7	103ad -	E	W	3"	-	15/58	-	#	DHD	MOON

NO.	OBJECT	1950 RA/DEC	UT DATE 1966	U.T. EXP S.T. EXP	EXP	GUIDE STAR	PL. H.	EMUL SECT	CAM PA	TEL	SEE	GRAT	TEMP FOLDS	FL.	CONF	OPS.	REMARKS
21520	G129-47	23 ^h 55 ^m 08 ^s +23° 02' 2"	Aug 24	F → 19:58 T → 20:28 S.T. F → 5:45 U.T. T → 6:15	30 ^m	10.7/31	8	103alt	S	W	2"	-	14.2/58	3x	#	DHD	SEEING NOT CONS
1	G129-47	"	"	6:25 - 6:55 22:38 - 23:08	30 ^m	"	3	103alt	S	W	2.5"	-	"	3x	#	"	↓
2	vMa 2	0 ^h 46 ^m 32 ^s +5° 08' 8"	"	7:55 - 8:25 00:09 - 00:39	30 ^m	27.6/6	12	103alt	W	W	3"	-	14/58	3x	#	"	1962 Plate
3	G70-28	0 ^h 58 ^m 21 ^s -4° 43' 5"	"	8:47 - 9:17 01:00 - 01:30 9:23 - 9:53 1:36 - 02:06	30 ^m	21.9/6	4	103alt	S	W	3"	-	13/58	3x	#	"	- SOMETHING IN TAIL SLIPPED IN EXP
4	G69-16	0 ^h 40 ^m 55 ^s +28° 10' 8"	Aug 25	5:12 - 5:42 21:28 - 21:58 5:46 - 6:16 22:02 - 22:32	30 ^m	27.2/21	1	103alt	S	W	2"	-	15.1/58	3x	#	DHD	DAWN MOON
5	G171-47 ₄₈	0 ^h 15 ^m 36 ^s +43° 44' 6"	"	6:47 - 7:17 23:02 - 23:32 7:20 - 7:50 23:36 - 00:06	30 ^m	12.0/13	2	"	E	"	"	-	13/58	"	#	"	"
6	G70-28	0 ^h 58 ^m 21 ^s -4° 43' 5"	"	8:54 - 9:24 1:11 - 01:41 9:29 - 9:59 1:43 - 2:13	30 ^m	21.9/6	3	"	S	"	4"	-	"	"	#	"	DAWN
7	G69-10	0 ^h 36 ^m 14 ^s +30° 20' 4"	Aug 26	4:37 - 5:27 21:17 - 21:47 5:32 - 6:02 21:52 - 22:22	30 ^m	20.0/34	4	"	E	W	3"	-	19/58	3x	#	DHD	DAWN WIND & MOON
8	G69-16	0 ^h 40 ^m 55 ^s +28° 10' 8"	"	6:44 - 7:14 23:04 - 23:34 7:19 - 7:49 23:40 - 00:10	30	27.2/21	7	"	S	"	2"	-	18.2/58	"	#	"	"
9	G73-70.71	2 ^h 33 ^m 27 ^s +61° 38' 8"	"	09:00 - 09:30 01:20 - 01:50 9:33 - 9:43 1:54 - 2:04	30 10	16.1/8	8	"	"	"	"	-	18/58	"	#	"	DAWN DAWN

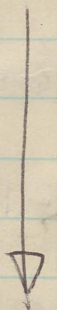
NO	OBJECT	1950 RA / DEC	UT DATE 1966	U.T. EXP S.T. EXP	EXP	GUIDE STAR	PA	EMUL PA	CAM PA	TEL	S E E	G R A S	TEMP FOCUS	F L A S H E X	C O N T	B O S	S E E R	REMARKS
2153	0 ✓ G69-10	0 ^h 36 ^m 14 ^s +30° 20' 4"	Aug 27	5:15 - 5:45 21:39 - 22:09 5:50 - 6:06 22:13 - 22:29	30 16	20.0/ .34	1	103a	E	W	2"-5"	-	21 58	3X	#	DHD	-	Moon 196200.
	1 ✓ LP31-60	3 ^h 05 ^m 18 ^s +73° 36'	"	7:45 - 8:15 0:09 - 0:39	30	23/27	2	"	"	"	2"-5"	-	20.5	"	#	"	-	" Clouds. "
	2 ✓ LP31-60	3 ^h 05 ^m 18 ^s +73° 36'	Aug 29	8:39 - 9:09 1:11 - 1:41	30 ^m	23/27	3	"	"	"	2"-4"	-	20.0 60.5	"	#	DHD	-	Moon!
	3 ✓ G73-70,71	2 ^h 33 ^m 27 ^s +6° 38' 8"	"	9:31 - 10:01 2:03 - 2:33	30 ^m	15.1/1	4	"	S	"	"	-	"	"	#	"	2	"
	4 ✓ G19-4	16 ^h 60 ^m 27 ^s +0° 4' 3"	Aug 30	3:07 - 3:22 19:42 - 19:57	15 ^m	22.23/25	1	"	W	E	2"	-	24.1 59.5	"	#	DHD	-	Moon haze
	5 ✓ G182-19	17 ^h 37 ^m 55 ^s +37° 13' 0"	"	3:52 - 4:21 20:23 - 20:52	29 ^m	21.8/25	2	"	S	E	2"	-	"	"	#	"	-	Cloud!!
	6 ✓ G69-47	1 ^h 02 ^m 48 ^s +28° 13' 6"	"	7:24 - 7:54 00:00 - 00:30	30 ^m	12.8/ 20	3	"	E	W	3"	-	21 61	"	#	"	-	Moon & Clouds in
	7 ✓ G69-47	1 ^h 02 ^m 48 ^s +28° 13' 6"	Aug 31	6:37 - 7:07 23:07 - 23:47	30 ^m	12.8/ 20	1	103a	E	W	2"	-	23 61	"	#	DHD	-	Full Moon
	8 ✓ G132-57	1 ^h 04 ^m 67 ^s +33° 56' 2"	"	7:20 - 7:50 00:05 - 00:35	30 ^m		2	"	S	"	"	-		"	#	"	-	"
	9 ✓ G3-36	2 ^h 00 ^m 09 ^s +5° 28' 4"	"	8:25 - 8:37 01:06 01:18	12 ^m	16.6/ 40	3	"	N	"	"	-	22.5	"	#	"	-	"!

NO	OBJECT	1950 RA/DEC	UT DATE 1966	U.T. EXP S.T. EXP	EXP	GUIDE STAR	P.H.	EMUL	CAM PA	TEL	S E E	G R A T	S E E T	TE MP COOL	F L A M E	C O N F.	O B S	REMARKS
21540	G3-36	2 ^h 00 ^m 09 ^s +5° 28' 4"	Aug 31	1:33 - 1:45 ST 8:53 - 9:05 UT	12 ^m	16.6/40	4	102ab	N	W	2"	-	-		3x	#	DHD	Full Moon!
1	G3-44	2 ^h 11 ^m 03 ^s +15° 45' 4"	"	9:26 - 9:51 2:11 - 2:36	25 ^m	18.2/23	5	"	E	"	"	-	-		"	"	"	Bumped guide MOON DAWN
2	G140-24	17 ^h 55 ^m 22 ^s +4° 35' 4"	Sept 2	3:08 - 3:38 19:55 - 20:25	30 ^m	33/31	1	"	W	E	2"	-	-	25.2/61	"	#	DHD	TRANS PEARL MOON
3	G140-24	"	"	3:46 - 4:16 20:33 - 21:03	30 ^m	"	2	"	"	"	2"-4"	-	-	"	"	#	"	" "
4	G182-19	17 ^h 37 ^m 55 ^s +37° 13' 0"	"	4:35 - 5:05 21:22 - 21:52	30 ^m	21.8/35	3	"	S	"	"	-	-	25	"	#	"	" "
5	G182-19	"	"	5:09 - 5:39 21:55 - 22:25	30 ^m	"	4	"	"	"	"	-	-	24/61	"	#	"	" "
6	G139-39	17 ^h 25 ^m 26 ^s +14° 31' 7"	Sept 8	3:05 - 3:35 20:17 - 20:47	30 ^m	17/15 @ 273°	1	"	W	E	4"	-	-	18/61?	"	#	DHD	
7	G182-36	18 ^h 1 ^m 3 ^s +37° 31' 6"	"	4:07 - 4:37 21:28 - 21:50	30 ^m	12.9/1	2	"	"	"	3"	-	-	16.4	"	#	"	
8	G182-36	18 ^h 1 ^m 3 ^s +37° 31' 6"	"	4:49 - 5:19 22:00 - 22:30	30 ^m	"	3	"	"	"	3"	-	-	"	"	#	"	MOON
9	G3-44	2 ^h 11 ^m 03 ^s +15° 45' 4"	"	7:46 - 8:16 00:57 - 1:27	30 ^m	18.2/23	4	"	S	W	1"	-	-	15.8/58.9	"	#	"	" "

exposures in August = 78

NO	OBJECT	1950 RA/DEC	UT DATE 1966	U.T. EXP S.T. EXP.	EXP	GUIDE STAR	PH SLATE	E MODS	CAM P.A.	T EL.	S EES	T RANS	B RATA	S ELECT	T RIBUT	F OCUS	F LASH	C ONF.	O BS	REMARKS
21550	G3-44	2 ^h 11 ^m 03 ^s +15° 45.7	Sept 8	8:32 - 9:02 1:43 - 2:13	30 ^m	18.2/ 23	5	10366	S	W	1"	EX	-	-	16	"	3x	#	DND	Moon, Aurora!
1	G73-35	2 ^h 09 ^m 49 ^s +3° 21.6	"	9:30 - 10:00 2:42 - 3:12	30 ^m	27.8/4	6	"	W	W	1"	"	-	-	16.1	"	"	#	"	" DOWN
2	G139-39	17 ^h 25 ^m 26 ^s +14° 31.7	Sept 9	2:28 - 2:58 19:44 - 20:14	30 ^m	17/ 15	1	"	"	E	3"	EX	-	-	20	60	"	#	DND	
3	Ross 253	20 ^h 30 ^m 4 ^s +19° 22'	"	3:32 - 3:42 20:47 - 20:57	2 ^m x 3	13/ 26	12	10366	S	W	2"	"	-	-	"	"	-	3 ²	"	
4	G134-22	2 ^h 15 ^m 47 ^s +42° 44.5	"	5:23 - 5:53 22:38 - 23:08	30 ^m	15.2/ 7	2	10366	E	"	2"-8"	"	-	-	19	57	3x	#	"	Moon, Seery Variable
5	G134-22	2 ^h 15 ^m 47 ^s +42° 44.5	"	6:01 - 6:31 23:16 - 23:46	30 ^m	"	3	"	E	"	2"-5"	"	-	-	18	"	"	#	"	" "
6	G3-33	1 ^h 57 ^m 29 ^s +12° 49'.8	"	7:01 - 7:31 00:16 - 00:46	30 ^m	34.6/ 30	4	"	S	"	2"-3"	FAIR	-	-	"	"	"	#	"	" Aurora?
7	G3-33	1 ^h 57 ^m 29 ^s +12° 49'.8	"	7:45 - 8:15 01:00 - 01:30	30 ^m	"	5	"	"	"	2"-3"	"	-	-	"	"	"	#	"	" "
8	G73-35	2 ^h 09 ^m 49 ^s +3° 21.6	"	9:03 - 09:33 2:19 - 02:49	30 ^m	27.8/ 4	6	"	W	"	2"-3"	Ave.	-	-	17.8	"	"	#	"	" HAZE
9	G73-35	2 ^h 09 ^m 49 ^s +3° 21.6	"	9:44 - 10:14 3:00 - 3:30	30 ^m	"	7	"	"	"	4"	MED.	-	-	"	"	"	#	"	" DAWN! " " " " " ETC.

II	OBJECT	1950 RA/DEC	U.T. DATE 1966	U.T. EXP S.T. EXP	EXP.	Guide Star	PLATE HOLDER	REF S.E.C.	CAM P.A.	TEL	SEE	J RANS	G RRT.	S T.	TEMP.	F OCUS	F LASH	C ONF.	O BS.	REMARKS
21560	✓ Ross 253	20 ^h 30 ^m 24 ^s +19° 22'	Sept 10	3:08 - 3:18 20:27 - 20:37	2 ^m x 3	13/ 26	8	10306	S	W	2"	F-P	-	-	20	60.8	-	1 ² 3	DHD	Light Clouds
1	✓ G132-57	1 ^h 04 ^m 57 ^s +33° 56.2	"	5:11 - 5:41 22:30 - 23:00	30 ^m	16.3/ 8	9	"	"	"	2"	F	-	-	19	"	3x	#	"	Ditto
"	"	"	"	5:53 - 6:23 23:12 - 23:42	30 ^m	"	"	W	"	"	1"-2"	"	-	-	"	"	"	#	"	"
2	✓ G74-7	2 ^h 08 ^m 14 ^s +39° 41.6	"	6:57 - 7:27 00:17 - 00:47	30 ^m	8.6/ 16	10	"	E	"	2"	"	-	-	19	"	"	#	"	"
"	"	"	"	7:34 - 8:04 0:54 01:24	30 ^m	"	"	"	"	"	2"	"	-	-	"	sl	"	#	"	Moon
3	✓ G73-35	2 ^h 09 ^m 49 ^s +3° 21.6	"	9:00 - 9:12 2:19 - 2:31	12 ^m	27.8/ 4	11	"	W	"	"	"	-	-	"	"	"	#	"	" Bowed guide
"	"	"	"	9:17 - 9:47 2:37 - 3:07	30 ^m	"	"	"	"	"	2"	P!	-	-	18.5	"	"	#	"	" Clouds - DAWN
4	✓ G74-7	2 ^h 08 ^m 14 ^s +39° 41.6	Sept 13	5:35 - 6:05 23:06 - 23:36	30 ^m	8.6/ 16	1	"	E	"	2"	F-P	-	-	20.5	59.5	"	#	DHD	Clouds - GUIDE & too faint
5	✓ LP101-15/16	16 ^h 53 ^m 30 ^s +57° 15'	Sept 15	3:55 - 4:25 21:34 - 22:04	30	6.5/ 35	2	"	W	E	8"	Ex!	-	-	13.5	59.5!	3x	#	DHD	WIND
6	✓ VA-C246	17 ^h 56 ^m 38 ^s +82° 44.2	"	5:29 - 6:59 23:07 - 23:37	30	26/ 30	3	"	W	E	4"	"	-	-	12	"	"	#	"	"
"	"	"	"	6:07 - 6:37 23:45 - 00:15	"	"	"	"	"	"	"	"!	-	-	11.3	"	"	#	"	"
7	✓ G74-7	2 ^h 08 ^m 14 ^s +39° 41.6	"	7:34 - 8:01 1:10 - 1:40	"	8.6/ 16	4	"	E	W	"	"	-	-	11	61.5	"	#	"	"
8	✓ G6-7	2 ^h 54 ^m 44 ^s +10° 35.7	"	9:12 - 9:42 2:51 - 3:21	30	30.1/ 9	8	"	E	W	>10"	"	-	-	10	"	"	#	"	"
9	✓ G137,2426	15 ^h 33 ^m 07 ^s +17° 52.8	Sept 16	11:00 - 1:30 18:43 - 19:13	30 ^m	11.2/ 34	5	10306	S	E	3-4"	quad	-	-	15.8	59.8	3x	#	WA	"



II	OBJECT DATE	1950 RA/DEC	1966 U.T. DATE	UT. EXP ST EXP	EXP	GUIDE STAR	PLATE NO.	EXPOS R	L.A.M. P.A.	T.E.L.	S.E.E.	T.R.A.N.S.	G.R.A.T.T.	S.P.O.T.	T.E.M.P.	F.O.C.U.S. (598)	F.L.A.S.H.	C.O.N.F.I.G.	O.B.S.	REMARKS
1	1570 GISS 27	18 ^h 33 ^m 02 ^s -8° 18' 2"	Sept 16	1:48 - 2:18	30 ^m	9.8/4	6	10366	S E	2-3"	good	-	-	140	"	3X	#	WA		
1	G 182-36	18 ^h 01 ^m 03 ^s +37° 31' 6"	"	2:36 - 2:59	23 ^m	26.1/105	9	"	S E	2-5"	good	-	-	135	"	"	#	"	bumped guider	
2	LP 71-157	18 ^h 17 ^m 42 ^s +68° 33' 0"	"	3:47 - 4:17	30 ^m	25.6/17	10	"	S E	2-10"	good	-	-	125	"	"	#	"		
3	vA-C216	17 ^h 56 ^m 38 ^s +82° 44' 2"	"	5:16 - 5:46	30 ^m	13.9/18	11	"	W E	3"	good	-	-	120	57.2	"	#	"		
4	LP 31-60	3 ^h 05 ^m 18 ^s +73° 36'	"	6:12 - 6:42	30 ^m	25.1/16	12	"	E W	3-10"	good	-	-	115	"	"	#	"	F.D. uncertain!	
5	G 134-22	2 ^h 13 ^m 47 ^s +42° 44' 5"	"	7:17 - 7:47	30 ^m	15.2/7	7	"	E W	2"	good	-	-	112	"	"	#	"		
6	G 5-7	2 ^h 54 ^m 44 ^s +10° 35' 7"	"	8:07 - 8:37	30 ^m	30.4/9	8	"	S W	1"	"	-	-	115	"	"	#	"	image jumping	
7	G 160-5	3 ^h 35 ^m 00 ^s -11° 37' 4"	"	8:53 - 9:23	30 ^m	14.2/21	3	"	S W	1"	"	-	-	112	"	"	#	"	" (first few minutes)	
8	G 79-59	3 ^h 39 ^m 45 ^s +12° 22' 9"	"	9:47 - 10:17		14.1/35	4	"	S W	2-4"	"	-	-	112	"	3X	#	"	image jumping	
9	G 5-22	3 ^h 10 ^m 30 ^s +18° 39' 2"	"	10:33 - 11:03		15.0/35	1	"	E W	2-5"	"	-	-	105	"	O	#	"	DAWN !!!	

OBJECT	1950 RA/DEC	1966 U.T. DATE	U.T. EXP S.T. EXP	EXP	GUIDE STAR
21580 ✓	LP 31-60 3 ^h 05 ^m 18 ^s +73° 36'	Sept 18	4:37 - 5:07 22:27 - 22:57	30 ^m	23.7/27
1 ✓	"	"	5:17 - 5:47 23:07 - 23:37	30 ^m	"
2 ✓	G 5-22 3 ^h 10 ^m 30 ^s +18° 39.2	"	6:53 - 7:23 00:34 - 1:14 7:29 - 7:51 1:20 - 1:42	30 ^m 22 ^m	15.0/35
3 ✓	G 185-37 19 ^h 43 ^m 42 ^s +27° 00'.8	Sept 20	3:10 - 3:40 21:07 - 21:37	30 ^m	14.9/6
4 ✓	G 174-1 2 ^h 27 ^m 46 ^s +57° 9.5	"	3:46 - 4:16 21:45 - 22:15 7:21 - 7:51 1:20 - 1:50	30 ^m	29.1/8.9
5 ✓	G 174-1 2 ^h 27 ^m 46 ^s +57° 9.5	Sept 21	6:16 - 6:46 00:18 - 00:48	30 ^m	"
6 ✓	Scor X-1 16 ^h 17 ^m 04 ^s -15° 31.2	Oct 6	6:50 - 7:20 8:53 - 01:23 00:42 - 01:04 19:42 - 20:04	30 ^m 22 ^m	7/10
7 ✓	NGC 7062 21 ^h 21 ^m 40 ^s +46° 10'	"	2:00 - 2:20 21:00 - 21:20	20 ^m	29.5/20
8 ✓	NGC 188 00 ^h 39 ^m 24 ^s +85° 04'	"	3:10 - 3:40 22:11 - 22:41	30 ^m	25.2/5
9 ✓	NGC 188 " "	"	3:50 - 4:20 22:51 - 23:21	"	"

exposures in September = 51

P.H.	EMUL	CAMP.	TEL.	SLITS	TRANS	PRISM	SHUTTER	MISC	NOISE	APERT	FOCUS	OB
1	103ab	E	W	2"	Fair	-	-	16.9	58.4	3X	#	DHD
2	"	"	"	"	"	-	-	"	"	"	#	"
3	"	"	"	"	Poor	-	-	16.0	"	"	#	1) Trace variable !! ±2m B-S- desappd!! cloud CLEARING? NOPE!
7	"	W	E	5"-10"	g	-	-	16.5	60	3X	#	DHD turbid ~4"
8	"	"	"	8"-12"	f	-	-	"	"	"	#	" WIND
8	"	E	W	6"-8"	f	-	-	16.8	60	"	#	" ECH! !!
9	"	E	W	4"-8"	f	-	-	15	60	3X	#	DHD tran var. clear up
10	"	S	W	4"-10"	"	-	-	13.5	"	"	#	" turb. cloud up
10	"	"	"	1"	Ex	"	"	11.3	59.4	"	#	DHD Twilight
11	"	"	"	3"	"	-	-	10.6	"	"	#	"
7	"	"	"	2"	"	-	-	10.3	"	3X	#	"
8	"	"	"	2"	"	-	-	10.	"	"	#	" Moon

TT		1966																	
G-37-40	37-40	3 ^h 27 ^m 33 ^s	Oct 6	6:58 - 7:28 2:00 - 2:30	30 ^m	35.4 / 18	12	103ab	E	W	2"	FAIR	-	-	8	59.4	3x	# DHO	Moon
21590 [↑]		+33° 51.8	"	7:37 - 8:07 2:38 - 3:08	"	"	1	"	"	"	"	"	-	-	8	"	"	#	" bright
1	G37-40	"	"	"	"	"	"	"	"	"	"	"	-	-	8	"	"	#	"
2	G79-59	3 ^h 39 ^m 42 ^s	"	8:40 - 9:10 3:42 - 4:12	"	14.1 / 35	2	"	S	"	"	"	-	-	8	"	"	#	" "
3	G79-59	+12° 22.9	"	9:30 - 10:00 4:33 - 5:03	"	"	3	"	"	"	"	"	-	-	8	"	"	#	" "
4	G170-12	17 ^h 2 ^m 8 ^s	Oct 7	00:33 - 1:03 18:37 - 19:07	30 ^m	21.8 / 0	1	"	W	W	2"	"	-	-	15	59.4	"	# DHO	Twilight Turb
5	"	+17° 0.6	"	1:06 - 1:31 20:11 - 20:36	25 ^m	"	2	"	"	"	3"	"	-	-	14	"	"	#	WIND →
6	NCE 702	21 ^h 21.4	"	1:53 - 2:03 20:58 - 21:08	10	16 / 0	4	"	S	"	+3"	"	-	-	"	"	-	#	" "
7	G141-4	+46° 10'	"	2:31 - 3:01 21:36 - 22:06	30	226 / 0	3	"	"	"	>4"	"	-	-	13	"	2x	#	WIND!
8	G174-1	+6° 19.0	"	4:07 - 4:37 23:13 - 23:43	30	29.1 / 8.9	5	"	E	"	>5"	"	-	-	12.5	59.4	"	#	" !!! MOON
9	"	+57° 9.5	"	04:46 - 05:16 23:52 - 00:22	30	"	6	"	"	"	4-6"	"	-	-	12	"	"	#	" "

1966																					
21600	✓ G95-59	3 ^h 46 ^m 45 ^s +43° 17.6	Oct 7	06:19 - 06:49 01:25 - 01:55	30	16.5/14	7	1036	S	W	5"	F ₀	-	-	12	"	3X	#	DAD	Moon	Wind
1	✓ "	"	"	6:58 - 07:28 2:04 - 02:34	30	"	8	"	"	"	>5"	"	-	-	"	"	"	#	"	"	"
2	✓ G6-30	3 ^h 41 ^m 42 ^s +18° 17.5	"	8:23 - 8:53 3:29 - 3:59	30	14.2 /31	9	"	S	W	2.5"	"	-	-	12	3.4	"	#	WA	"	"
3	✓ VA-71	4 ^h 12 ^m 24 ^s +14° 57.0	"	9:09 - 9:39 4:15 - 4:45	30	14.8/ 5	10	"	S	"	3"	"	-	-	11.0	"	"	#	"	"	windscreen partly over obj.
4	✓ G7-17	3 ^h 58 ^m 42 ^s +18° 36.0	"	10:05 - 10:35 5:12 - 5:42	30	19.2/ 11	11	"	S	"	3"	"	-	-	10.8	"	"	#	"	"	image stable!
5	✓ HL-4	5 ^h 52 ^m 39 ^s -4° 09.2	"	10:50 - 11:12 5:56 - 6:18	22 ^m	13.1/ 33	12	"	S	"	3.5"	"	-	-	10.0	"	2X	#	"	"	Near Moon, DAWN Gd. ST. To faint for 30 ^m
6	✓ G138-59	16 ^h 39 ^m 43 ^s +10° 32.3	Oct 8	0:58 - 1:28 20:12 - 20:42	15 ^m	31.0/ 30	1	"	E	"	4"	"	-	-	18.8	59.4	3X	#	DAD	Wind!	Turb.
7	✓ NGC 702	21 ^h 21 ^m 4 ^s +46° 10'	"	1:43 - 1:48 2:52 - 2:57	5	16/5	2	"	S	"	3"	"	-	-	18.4	"	-	#	"	"	"
8	✓ G141-4	18 ^h 19 ^m 43 ^s +6° 19.0	"	2:16 - 02:46 21:25 - 21:55	30 ^m	22.6/ 0	3	"	"	"	"	"	-	-	18	"	3X	#	"	W-2!!	~10"
9	✓ G144-25	20 ^h 39 ^m 01 ^s +15° 22.6	"	03:15 - 03:45 22:24 - 22:54	30 ^m	21.7/ 4	4	"	"	"	2"	"	-	-	16.5	"	3X	#	"	"	" Turb.

1966

21610	✓ G-78-42	3 ^h 32 ^m 27 ^s +41° 32'.3	Oct 8	6:25 - 6:55 1:34 - 2:04	30	8/8
1	✓ G-37-40	3 ^h 27 ^m 33 ^s +33° 51'.8	"	7:30 - 8:00 2:40 - 3:10	30	15.2/26
2	✓ G-39-27/29	4 ^h 34 ^m 42 ^s +27° 06'.2	"	8:30 - 8:45 3:40 - 3:55	15	35/15
3	✓ NGC 7062	21 ^h 21.4 +46° 10'	Oct 9	1:49 - 1:54 21:02 - 21:07	5	16/5
4	✓ G142-52	19 ^h 44 ^m 29 ^s +11° 58'.4	"	2:21 - 2:51 21:34 - 22:04	30	22.5/1
5	✓ G-37-40	3 ^h 27 ^m 33 ^s +33° 51'.8	"	4:47 - 5:17 00:00 - 00:30	30	35.4/18
6	✓ G-78-42	3 ^h 32 ^m 27 ^s +41° 32'.3	"	5:38 - 6:08 00:51 - 01:21	30	8/8
7	✓ G-6-30	3 ^h 41 ^m 42 ^s +18° 17'.5	"	7:06 - 7:36 2:20 - 2:50	30	14.2/31
8	✓ G-7-17	3 ^h 58 ^m 42 ^s +18° 36'.0	"	7:57 - 8:27 3:11 - 3:41	30	19.2/11
9	✓ VA-71	4 ^h 12 ^m 21 ^s +14° 57'.0	"	9:00 - 9:30 4:14 - 4:44	30	14.8/5
21620	✓ HL4	5 ^h 52 ^m 39 ^s -4° 09'.2	"	10:34 - 11:04 5:48 - 6:18	30	7/0

5	103 ^h	E W 2" F	- -	15	59.4	3x #	DAD Wind, Moon, Clouds
6	"	S " 4" "	- -	"	"	#	" " "
7	"	W " 6" P	- -	135	"	#	" " Clouds
8	"	S " 2" f	- -	19.7	60.2	- #	DAD " " Clouds
9	"	" " 3" "	- -	19	"	3x #	" " "
10	"	E " 3" "	- -	17	"	#	" " "
12	"	" " 3" "	- -	16	"	#	" " "
1	"	S " 3" "	- -	15	"	#	" " "
2	"	" " 2" "	- -	14	"	#	" " "
3	"	" " 2" "	- -	14	"	#	" " "
4	"	" " 2" "	- -	13	"	2x #	" " "

11

		1966																	
21620	✓ HL4	5 ^h 52 ^m 39 ^s -4 ^p 09 ^m 12 ^s	Oct 9	10:34 - 11:04 5:48 - 6:18	30 ^m	7/0	4	12 ^h 30 ^m	S	W	2"	f	-	-	60.2	13	2x	#	DND
1	✓ G95-59		Oct 10	7:02 - 7:32 2:24 - 2:54	30 ^m	9.0/ 21	7	"	E	W	4"	Ex	-	-	60.2	10	3x	#	DND WIND
2	✓ G7-17		"	7:57 - 8:27 3:18 - 3:48	30 ^m	13.8/ 16	8	"	"	"	5"	"	-	-	"	9.4	"	#	"
3	✓ VA-71		"	9:00 - 9:30 4:22 - 4:52	30	14.8/ 5	9	"	S	"	4"	"	-	-	"	9	"	#	"
4	✓ HL-4		"	9:55 - 10:25 5:17 - 5:47		7/0	10	"	S	"	3"	Ex	-	-	"	7.5	"	#	" MOON
5	✓ G21-10	18 ^h 5 ^m 24 ^s -10 3:9	Oct 12	1:21 - 1:51 20:46 - 21:16	30	32.3/ 5	3	"	"	"	1"	"	-	-	58.9	13.5	"	#	DND
6	✓ G142-52		"	2:14 - 2:44 21:38 - 22:08	30	22.5/ 1	4	"	"	"	2"	"	-	-	"	11.5	"	#	"
7	✓ G144-25		"	3:05 - 3:35 22:30 - 23:00	30	21.7/ 4	5	"	"	"	<2"	"	-	-	"	10.4	"	#	"
8	✓ NGC 188		"	4:24 - 4:54 23:50 - 00:20	30	25.8/ 13	6	"	E	"	2"	"	-	-	"	10	"	#	" ? GUIDE STAR ELONGATED
9	✓ G37-40		"	5:31 - 6:01 00:56 - 01:26	30	35.4/ 18	11	"	"	"	2"	"	-	-	"	10	"	#	"

		1966																
21630	✓ G21-10	18 ^h 18 ^m 24 ^s -1° 3' 9"	OCT 20	00:50 - 1:20 20:46 - 21:16	30	32.3 / 5	1	103ab	S	W	2"	f	-	-	58.9	8	3x #	DAD Moon Cloud
1	✓ G21-23	18 ^h 39 ^m 5 ^s 0° 53' 4"	"	1:38 - 2:08 21:34 - 22:04	30	26.8 / 18.4	2	"	"	"	3"	f	-	-	"	7	3x #	" "
2	✓ G22-18	19 ^h 19^m 39 ^s +2° 48' 5"	"	2:27 - 2:57 22:23 - 22:53	30	26.2 / 35	3	"	"	"	3"	f	-	-	"	6.5	3x #	" "
3	✓ G144-25	20 ^h 38 ^m 11 ^s +15° 18' 8"	"	3:18 - 3:48 23:14 - 23:44	30	21.7 / 4	4	"	"	"	2"	f	-	-	"	5.5	3x #	" "
4	✓ NGC 188	00 ^h 39 ^m 24 ^s +85° 04'	"	04:27 - 04:37 00:23 - 00:33	10	7.5 / 26	5	"	N	"	2"	g	-	-	"	5.5	3x #	"
5	✓ NGC 188	00 ^h 39 ^m 24 ^s +85° 04'	"	04:40 - 04:50 00:36 - 00:46	10	7.5 / 26	6	"	N	"	2"	g	-	-	"	5.5	3x #	"
6	✓ G39-27/8	4 ^h 33 ^m 36 ^s +27° 04' 0"	"	7:45 - 8:00 3:42 - 3:57	15	35 / 15	7	"	W	"	1"	"	-	-	54	5.4	3x #	" TOUCH
7	✓ G99-10	5 ^h 25 ^m 38 ^s +2° 56' 2"	"	8:25 - 8:55 4:22 - 4:52	30	29.3 / 4	8	"	S	"	2"	"	-	-	"	5	3x #	"
8	✓ G102-22	5 ^h 39 ^m 16 ^s +12° 29' 0"	"	9:14 - 9:44 5:11 - 5:41	30	27.5 / 3.5	9	"	S	"	1.4"	"	-	-	"	5	3x #	" turbulence
9	✓ G99-33	5 ^h 45 ^m 14 ^s +8° 21' 9"	"	10:05 - 10:35 6:03 - 6:33	30	31 / 35	10	"	"	"	2"	"	-	-	"	4	3x #	"

1966

21640	G106-49	6 ^h 26 ^m 51 ^s -2° 46.4	OCT 20	5:59-6:15 6:57-7:13	16 ^m	33.5/ 30
1	G22-18	19 ^h 9 ^m 39 ^s +2° 48.5	OCT 22	2:24-2:54 22:30-23:00	30	26.2/ 35
2	N6C188	00 ^h 29 ^m 24 ^s +85° 04'	"	4:27-4:37 00:33-00:43	10	25.8/ 13
3	N6C188	00 ^h 39 ^m 24 ^s +85° 04'	"	4:39-4:49 00:46-00:56	10	25.8/ 13
4	G175-34	4 ^h 26 ^m 50 ^s +58° 53.3	"	7:30-8:00 3:36-04:06	30	29/ 13
5	G99-10	5 ^h 25 ^m 38 ^s +2° 56.2	"	8:31-9:01 4:38-5:08	30	29.3/ 25
6	G185-37	19 ^h 43 ^m 42 ^s +27° 00.8	OCT 23	00-26-00:56 20:36-21:06	30	13.3/ 22-0
7	LP71-157	18 ^h 17 ^m 42 ^s +68° 33.0	"	1:23-1:53 21:33-22:03	30	20/ 17
8	VA-C216	17 ^h 56 ^m 38 ^s +82° 44.2	"	2:16-2:46 22:26-22:56 2:47-2:50 22:57-23:00	30 3	14/ 18
9	G134-22	2 ^h 13 ^m 47 ^s +42° 44.5	"	3: ? 4:24 00: ? 00:34	30 <small>time stopped</small>	15.2/ 7

11	103ab	S W 2"	f	-	-	54	3.5	2x	#	DAD	DAWN!
11	"	S W 6"	f	-	-	51.9	11.8	3x	#	DAD (WIND)	∞ M ^{HANA} WIND
12	"	E " 4"	P	-	-	"	10.9	4x	#	"	" Clouds "
1	"	" " 5"	"	-	-	"	"	3x	#	"	" " "
2	"	" " 3"	g	-	-	57.9	10.5	3x	#	"	WIND VERY HI Wind!
3	"	S " 2"	"	-	-	"	"	3x	#	"	WIND TOO HAAA HAAA WIND!
4	103ab	S E 2"-3"	f	-	-	57.9	10.5	4x	#	WVA	Moon + Wind
5	"	W E 2"	"	-	-	"	9.8	4x	#	"	Moon
6	"	W E 2"	"	-	-	57.9	9.2	4x	#	"	"
7	"	E W 3"	"	-	-	"	8.0	4x	#	"	"

Object	1950 RA/DEC	1966 UT DATE	WT. EXP ST. EXP	EXP	Guide star
21650 ✓ G5-28	3 ^h 15 ^m 42 ^s +15° 02' 0"	Oct 23	4:50 - 5:20 1:00 - 1:30	30	20.0/8
1 ✓ LP31-60	3 ^h 05 ^m 18 ^s +73° 36'	" 9	5:58 - 6:28 2:09 - 2:39	30 Time stopped	26.0/8
2 ✓ G39-172	4 ^h 33 ^m 36 ^s +27° 04' 0"	11	6:50 - 7:20 3:02 - 3:32	30	10/10
3 ✓ G185-18	19 ^h 19 ^m 31 ^s +20° 47' 1"	Oct 25	1:03 - 1:33 2:26 - 2:56	30	18.3/13
4 ✓ G185-18	19 ^h 19 ^m 31 ^s +20° 47' 1"	"	1:43 - 2:13 22:01 - 22:31	30	18.3/13
5 ✓ LP7-157	18 ^h 17 ^m 42 ^s +68° 33' 0"	"	2:55 - 3:25 23:13 - 23:43	30	25.6/7
6 ✓ VA-C26	17 ^h 56 ^m 38 ^s +82° 44' 2"	"	3:50 - 4:20 00:08 - 00:38	30	14/18
7 ✓ G175-34	4 ^h 26 ^m 50 ^s +58° 53' 3"	"	6:38 - 7:08 2:57 - 3:27	30	29/13
8 ✓ G81-39	4 ^h 49 ^m 3 ^s +10° 38' 1"	"	7:30 - 8:00 3:49 - 4:19	30	28/21.4
9 ✓ G96-50	5 ^h 40 ^m 29 ^s +40° 56' 2"	"	8:25 - 8:55 4:44 - 5:14	30	19/35

PLATE	EMUL.	CAMERA	TEL.	SEE	TRANS.	GRATING	SECTOR	TEMP.	FOCUS	FLASH	CONFIG.	OBS.	REMARKS
8	103ab	E	W	2"	f	-	-	8.0	(579)	4X	#	N/A	None
9	"	N	W	3-4"	"	-	-	7.0	"	4X	#	"	
10	"	N	W	3-4"	"	-	-	7.0	"	4X	#	"	
7	"	S	E	4"	"	-	-	7.0	579	4X	#	DHD	Moon
8	"	"	"	"	"	-	-	6.5	"	3X	#	"	"
9	"	"	"	2"	"	-	-	5.6	"	4X	#	"	"
10	"	W	"	>1"	"	-	-	5.2	"	4X	#	"	"
11	"	E	W	2"	"	-	-	5	579	4X	#	"	"
12	"	"	"	"	"	-	-	4.6	"	4X	#	"	" SET
1	"	"	"	"	"	-	-	"	"	4X	#	"	

T	Object	1950 RA/Dec	1966 UT DATE	UT, EXP S.T. EXP.	Exp.	Guide Star
21660	G22-1	18 ^h 46 ^m 10 ^s -20° 36' 8"	Oct 26	0:45 - 1:15 21:07 - 21:37	30	7/32
1	G22-18	19 ^h 9 ^m 39 ^s +2° 48' 5"	"	1:33 - 2:03 21:55 - 22:25	30	26.2/35
2	G26-7	21 ^h 28 ^m 35 ^s -10° 0' 7"	"	2:47 - 3:17 23:09 - 23:39	30	17/11
3	G175-34	4 ^h 26 ^m 50 ^s +58° 53' 3"	"	4:43 - 5:13 1:05 - 1:35	30	29/13
4	G102-22	5 ^h 39 ^m 16 ^s +12° 29' 0"	"	8:07 - 8:37 4:30 - 5:00	30	15/5
5	G106-49	6 ^h 26 ^m 51 ^s -2° 46' 4"	"	9:40 - 10:10 6:03 - 6:33	30	33.5/30
6	G99-10	5 ^h 25 ^m 38 ^s +2° 56' 2"	"	10:32 - 11:02 6:55 - 7:25	30	29.3/25
7	G20-9	17 ^h 39 ^m 29 ^s -8° 47' 4"	Oct 27	00:10 - 00:40 20:36 - 21:06	30	23/31
8	G165-27	18 ^h 35 ^m 02 ^s -8° 18' 2"	"	00:51 - 1:27 21:23 - 21:53	30	9.8/4
9	G22-18	19 ^h 9 ^m 39 ^s +2° 48' 5"	"	1:45 - 2:15 21:51 - 22:21	30	26.2/35

PA.	CURR	CAM. M. PD	TEL	SEE	WDR	WDRG	WDRV	WDRJ	WDRK	WDRM	WDRN	WDRP	WDRQ	WDRR	WDRS	REMARKS
2	10/31	S	W	22"	F	-	-	9	57.9	4x	#	DAD			MOON	
3	"	"	"	"	"	-	-	"	"	4x	#	"		"	"	
4	"	"	"	"	"	-	-	8	"	4x	#	"		"	HAZE	
5	"	E	"	"	P	-	-	7.5	57.9	3x	#	"		"	"	
6	"	"	"	2"	P	-	-	66	"	3x	#	"		"	Cloud up! Clearing TRANS. VARIABLES	
7	"	S	"	"	F	-	-	6.5	"	4x	#	"		"	Clouds.	
8	"	"	"	"	"	-	-	6	"	4x	#	"		"	DAWN	
1	"	"	"	2"	F	-	-	11.9	57.9	3x	#	DAD		"	Twilight Moon	
2	"	"	"	"	"	-	-	"	"	4x	#	"		"	"	
3	"	"	"	"	"	-	-	10.5	"	4x	#	"		"	"	

π	Object	1960 RA/DEC	1966 UT DATE	U.T. EXP. S.T. EXP.	Exp.	Guide Star
21670	✓ G26-7	21 ^h 18 ^m 35 ^s -10° 0.7	Oct 27	3:31 - 4:01	30	17/11
1	✓ G175-34	4 ^h 26 ^m 50 ^s +58° 53.3	"	23:57 - 00:27 4:54 - 5:24	30	29/13
2	✓ G81-39	4 ^h 49 ^m 3 ^s +40° 38.1	"	5:49 - 6:19 2:15 - 2:45	30	33/28
3	✓ G96-50	5 ^h 40 ^m 29 ^s +40° 56.2	"	7:27 - 7:57 3:54 - 4:24	30	19/35
4	✓ G87-7	6 ^h 44 ^m 14 ^s +37° 34.8	"	8:15 - 8:45 4:42 - 5:12	30	19/25
5	✓ G99-10	5 ^h 25 ^m 38 ^s +2° 56.2	"	9:31 - 10:01 5:58 - 6:28	30	29.3/25
6	✓ G106-49	6 ^h 26 ^m 51 ^s -2° 46.4	"	10:45 - 11:15 7:12 - 7:42	30	33.5/30
7	✓ G20-9	17 ^h 39 ^m 29 ^s -8° 47.4	Oct 28	00:46 - 1:01	15	23/31
8	✓ G21-23	18 ^h 39 ^m 2 ^s 0° 53.4	"	1:17 - 1:33 21:47 - 22:03	16	26.8/18.4
9	✓ G142-52	19 ^h 44 ^m 29 ^s +11° 58.4	"	2:20 - 2:50 22:50 - 23:20	30	22.5/1

P.H.	U.M.L.	M.P.A.	L.F.L.	S.F.F.	L.S.P.	U.P.A.	U.P.S.	U.P.D.	U.P.F.	U.P.S.	REMARKS
4	1036G	S	W	6"	P	-	-	10	(579)	4x	# DND Moon, Haze
5	"	E	"	3"	"	-	-	9.5	"	3x	# " " "
6	"	"	"	2"	f	-	-	9	579	3x	# " " "
7	"	"	"	6"	f-P	-	-	8.5	"	3x	# " " " Wind
8	"	"	"	4"-10"	f-P	-	-	8	"	3x	# " " " !!
9	"	"	"	4"	f	-	-	7.5	"	4x	# " " "
10	"	"	"	3"	f	-	-	7	"	4x	# " " Dawn
7	"	S	"	3"	f-P	-	-	14.5	579	3x	# DND Wind! off floor!
8	"	25	"	4"	P	-	-	"	"	3x	# " " !!!
9	"	45	"	4"	P	-	-	14	"	3x	# " Wind!!! Moon

TR	Object	1950 RA/DEC	1966 UT DATE	U.T. EXP. / S.T. EXP.	GR.	GUIDE STAR
21680	✓ G27-16	22 ^h 7 ^m 1 ^s -4° 53.3	Oct 28	2:55-3:23	28	16/12
1	✓ G87-7	6 ^h 44 ^m 14 ^s +37° 34.8	"	7:42-8:12	30	19/25
2	✓ G107-69	7 ^h 27 ^m 03 ^s +48° 18.1	"	8:44-9:14	30	33.8/21
3	✓ G99-33	5 ^h 45 ^m 14 ^s +8° 21.9	"	9:51-10:21	30	21/17.5
4	✓ G144-25	20 ^h 38 ^m 11 ^s +15° 18.8	Oct 30	5:32-4:02	30	21.7/4
5	✓ G27-16	22 ^h 7 ^m 1 ^s -4° 53.3	"	4:23-4:53		16/12
6	✓ G144-25	20 ^h 38 ^m 11 ^s +15° 18.8	Nov 26	1:01-1:31	30	21.7/4
7	✓ G18-5	22 ^h 26 ^m 16 ^s +5° 33.9	"	1:54-2:24	30	31.8/2
8	✓ G128-34	23 ^h 05 ^m 58 ^s +3° 23.8	"	3:21-3:51	30	14.3/12
9	✓ G129-47	23 ^h 55 ^m 08 ^s +23° 02.2	"	4:14-4:29	15	11.8/31
						# exposures in October = 101
						# exposures in November = 4

P.A.	MAP	MAP	T	MAP	T	MAP	T	MAP	T	MAP	T	MAP	T	MAP	T	REMARKS
10	1056	S	W	4	F-P	-	-	13	(519)	3X	#	DHD	Clouds, Wind, Moon!			
11	"	E	"	24"	F-P	-	-	105	"	3X	#	"	WHAT KIND OF A PLACE IS THIS?			
12	"	"	"	3"	F-P	-	-	10	"	3X	#	"	Moon Hang -			
1	"	"	"	5"	F-P	-	-	"	"	3X	#	"	ECHH			
7	"	S	"	3"	F-P	-	-	519	3X	#	DHD	Moon, haze				
8	"	"	"	2"	"	-	-	4	"	"	#	"	"			
9	"	S	E	2"	G	-	-	445	512	3X	#	WA	Moon.			
10	"	S	E	2-4 3-2	"	-	-	430	"	"	#	"	" being variable			
11	"	S	E	2-3	"	-	-	"	"	3X	#	"	" image jumping			
12	"	S	E	2-3	f-p	-	-	430	"	"	#	"	"			
													FOG !!			

II	Object	1950 RA/DEC	1966 UT DATE	UT EXP ST EXP	EXP	Guide star
21690 ✓	G14425	20° 38' 11"	Dec 3	0:58 - 1:18	20"	21.7 / 4
		+15° 18' 8"		23:50 - 0:10		
1 ✓	G2716	22° 47' 01"	"	1:38 - 1:54	3, 3	16 / 14
		-4° 53' 3"		0:30 - 0:46	3, 3	
2 ✓	G128-34	23° 05' 58"	"	2:49 - 3:09	20"	14.3 / 12
		+31° 23' 8"		1:40 - 2:00		
3 ✓	G129-47	23° 55' 08"	"	3:19 - 3:35	4x3"	11.8 / 31
		+23° 02' 2"		2:10 - 2:26		
4 ✓	G171-10	23° 31' 26"	"	3:52 - 4:12	20"	27.0 / 25
		+43° 54' 8"		2:43 - 3:03		
5 ✓	G132-57	1° 04' 57"	"	5:04 - 5:19	15"	14.5 / 36
		33° 56' 2"		3:56 - 4:11		
6 ✓	G34-15	1° 13' 41"	"	5:43 - 6:13	30"	30.0 / 15
		+24° 04' 0"		4:34 - 5:04		
7 ✓	G156-31	22° 35' 48"	Dec 4	0:20 - 0:52	15"	29.4 / 15.7
		-15° 35' 12"		23:14 - 23:46	15"	
8 ✓	G18-51	22° 26' 16"	"	1:10 - 1:40	30"	31.8 / 2
		+5° 33' 9"		0:05 - 0:35		
9 ✓	G128-7	22° 48' 57"	"	2:05 - 2:35	30"	25.2 / 15
		+29° 23' 7"		1:00 - 1:30		

P.V.	E.M.U.L.	C.A.M.P.A.	T.E.L.	S.E.E.	T.P.A.S.	G.R.A.T.	S.E.C.T.O.R.	T.E.M.P.	F.O.C.U.S.	F.L.A.G.	C.O.N.F.	O.B.S.	REMARKS
1	10205	S	E	3"	f	-	-	-10.0	560	4x	#	W/A	
2	"	S	E	3"	f	-	-	-10.5	"	"	#	W	
3	"	S	E	3-4"	f	-	-	-11.0	546	"	#	"	seeing poor
4	"	S	E	3"	f	-	-	-11.0	"	-	#	"	
5	"	W	E	3"	f	-	-	-11.0	"	4x	#	"	
6	"	W	E	3-5"	f	-	-	-11.0	"	"	#	"	flasher shutter stuck
7	"	W	E	3-6 V.P.	-	-	-	"	"	"	#	"	image jumping flasher stuck seeing V.P.
8	"	S	E	2"	f	-	-	-7.8	546	4x	#	W/A	trans. variable?
9	"	S	E	2"	f	-	-	-9.0	"	"	#	W	seeing d. power on exp #2
10	"	S	E	2"	f	-	-	-9.0	"	"	#	"	plate sunk

TI	Object	1950 RA DEC	1966 UT DATE	UT EXP ST EXP	EXP	GUIDE
21700	✓ G130-43	0 ^h 04 ^m 47 ^s +28° 58' 7"	DEC 4	2:58 3:28	30"	32.8/ 4
1	✓ G32-67	0 ^h 13 ^m 38 ^s +19° 35' 4"	"	3:52-4:07 2:47-3:02	15"	2.0/ 21
2	✓ G144-25	20 ^h 38 ^m 11 ^s +15° 18' 8"	DEC 13	0:18-0:38 23:48-0:08	20"	21.7/ 4
3	✓ G18-51	22 ^h 26 ^m 16 ^s +5° 33' 9"	"	0:54-1:24 0:25-0:55	30"	31.8/ 2
4	✓ G128-7	22 ^h 48 ^m 57 ^s +29° 23' 7"	"	1:48-2:18 1:19-1:49	30"	25.2/ 15
5	✓ G128-24	23 ^h 05 ^m 58 ^s +31° 23' 8"	"	2:32-3:02 2:03-2:33	30"	14.3/ 12
6	✓ G129-47	23 ^h 55 ^m 08 ^s +23° 02' 2"	"	3:20-3:34 2:51-3:05	4x3"	11.8/ 31
7	✓ G171-10	23 ^h 39 ^m 26 ^s +43° 54' 8"	"	3:46-4:10 3:17-3:41	4x5"	22.0/ 26
8	✓ G156-31	22 ^h 35 ^m 48 ^s -15° 35' 2"	DEC 14	0:20-0:40 23:54-0:14	20"	29.4/ 57
9	✓ G18-51	22 ^h 26 ^m 16 ^s +5° 33' 9"	"	0:54-1:24 0:28-0:58	30"	32.0/ 1

P. H.	F N U L	C A M. P. A.	D E L	S E E	T R A N S	G R A T	S E C. T.	T E M P	F O C U S	F L A S H	C O N F.	O B S.	REMARKS
11	103 AG	S	E	23"	f	-	-	-9.0	(54.6)	4X	#	WVA	
12	"	W	E	23"	f	-	-	-9.0	54.6	"	#	"	Heavy haze
1	103a G	S	E	2"	f	-	-	-5.0	54.6	4X	#	WVA	
2	"	S	E	2"	f	-	-	-5.0	"	"	#	"	
3	"	S	E	2-3"	f	-	-	-5.0	"	"	#	"	
4	"	S	E	2"	f	-	-	-5.2	"	"	#	"	end of exp. partly obscured by window screen
5	"	S	E	2"	f	-	-	-5.3	"	OX	#	"	
6	"	W	E	2-4"	f-p	-	-	-5.3	"	4X	#	"	seeing variable image jumping
7	103 AG	S	E	2"	p	-	-	-3.6	54.1	4X	#	WVA	
7X	"	S	E	2"	p	-	-	"	"	"	#	"	Same glass. double exposed with 21703

88	object	1950 RA DEC	1966 UT DATE	UT EXP ST EXP.	EXP	Guide star	PHOLDER	FILM	CAMERA	P. POS. ANG.	T. F.	SENS.	TRANS.	SCATTERING	SCATTER	TEMP. (°C)	FOCUS	FLASH	CONFIG.	DEVELOPER	REMARKS
21710	G1287	22 ^h 48 ^m 59 ^s +29°23'7"	Dec 14	1:58-2:28 1:33-2:03	30 ^s	25.2/ 15	8	103 AG	S	E	2"	f	-	-	-4.6	(91.1)	4X	#	WVA	exp. interrupted after 13 min.	
1	G128-34	23 ^h 05 ^m 58 ^s +31°23'8"	"	3:00-3:30 2:35-3:05	30 ^s	14.3/ 12	9	"	S	E	2-3"	f	-	-	-4.9	"	"	#	"	seeing pos at end much wind & turbulence	
2	G124-47	23 ^h 55 ^m 08 ^s +23°02'2"	"	3:46-4:00 3:21-3:55	4X3 ^m	11.8/ 31	10	"	S	E	2-3"	f	-	-	"	"	OX	#	"	POG	
3	G 18-51	22 ^h 26 ^m 16 ^s 5°33'9"	Dec 15	1:47-2:17 1:26-1:56	30	32.0 / 1	11	"	S	E	2-3"	f	-	-	0.0	55.5	4X	#	WS	1st PLATE*	
4	G-129-47	23 ^h 55 ^m 08 ^s +23°02'2"	"	4:10 3:49	4X3 ^m	11.8 / 31	12	11	S	E	3-4"	f	-	-	0.0	55.5	OX	#	WS	2nd exp maybe 2 min.	
5	G-3-33	1 ^h 57 ^m 29 ^s +12°49'8"	"	5:45-6:07 5:24-5:46	4X5 ^m	34.3 / 28	7	"	S	E	3-4"	p	-	-	-0.9	"	4X	#	WVA	major jumping turbulence	
6	VA-C216	17 ^h 56 ^m 38 ^s +82°44'2"	"	6:55-7:25 2:20-2:50	30	32.5 / 25 27	8	"	S	E	3-4"	f	-	-	-1.0	"	4X	#	WS		
7	VA-C216	17 ^h 56 ^m 38 ^s +82°44'2"	"	8:03-8:33 7:42-8:12	30 ^s	32.5 / 25.	9	"	S	E	3-4"	f	-	-	-1.0	"	4X	#	WS		
8	G 146-58	10 ^h 39 ^m 52 ^s 37°46'8"	"	9:40-10:05 9:20-9:45	2X10 ^m	21.0 / 35 STR.	10	"	S	E	5-4"	p	-	-	-1.5	57.6	4X	#	WS	focus not too certain (WVA)	
9	G 45-27	10 ^h 58 ^m 42 ^s +3°16'6"	"	10:36-11:00 10:56-11:20	30	30.0 / 30	#11	"	S	E	4-5"	p	-	-	-2.0	57.6	4X	#	WS	very poor - fog guide star not vis. 80% of exposure.	

exposures in December = 30

* WILLIAM SCHIERER

POG!

PI	OBJECT	1950 RA DEC	1967 UT DATE	U.T. EXP. S.T. EXP.	EXP.	GUIDE STAR	PH LADDER	EM ULLEN IN	C.A. P. CAMERA	T E L	S E E	T R A N S	G R A T.	S E C T O R	T E M P. (°C)	F O C U S	F L A S H	C O M F I G.	OBS.	REMARKS
21720	SATURN	23 43 59 -4 07 370	JAN 11	1:55:00 2:20:00	5m	14.9, 21.5	2	103 AG	180 N	E	45'	-	-	-75	(54) 4X	#	WS.	A FIASCO, POOR GUIDING TOO LOW, WINDY		
1	G73-797	23 31 29 +6 38.8	JAN 11	5:35 4:10	4x 5m	16.8, 34	3	U	N	E	5" 10'	-	-	-45	465 3X	#	WS	POOR SEEING, QUEST TIONABLE WIND! FOCUS.		
2	G128-7	22 48 57 +29 23.7	JAN 16	7:34-8:04 2:08-2:38	30m	25.2/ 12	5	103 AG	S	E	3-4	B	-	-	-98	535 4X	#	WS		
3	G130-03	0 04 47 +28 58.7	"	8:20-8:50 3:07-3:37	30m	32.8/4	6	"	S	E	3" 10'	-	-	-14	" 4X	#	WVA	High Haze		
4	G69-47	1 02 48 +28 13.6	JAN 29	2:00-2:29 4:36-5:05	29"	11.7/ 30	1	"	S	E	2" f.p.	-	-	-10	559 4X	#	WVA			
5	G37-40	3 27 35 +33 51.8	"	2:46-2:53 5:23-5:30	7"	15.2/ 26	2	"	S	E	2	P=0	-	-	-30	" "	#	"	clouds!	
6	VAC216	17 58 38 +82 44.2	FEB. 12	0:50-1:20 4:26-4:56	30m	32.6/ 27	3	U	S	E	2-3	f	-	-	-10	910 4X	#	WVA	image jumping	
7	VAC216	" "	"	1:33-2:03 5:04-5:34	30"	32.6/ 27	4	"	S	E	2-3	f.p.	-	-	-45	" 4X	#	"	windsc. went up	
8	LP31-60	3 05 18 +73 3/4	"	2:01-3:01 6:02-6:32	30"	26.0/ 8	5	"	N	E	2-3	f	-	-	-150	" "	#	"	up, just down somewhat	
9	LP31-60	" "	"	3:23-3:53 6:55-7:25	30"	26.0/ 8	6	"	N	E	1-2	g	-	-	-170	" "	#	"	Windsc. went up seeing good & steady	

exposures in January = 6

TI	OBJECT	1950 RA DEC	1967 UT DATE	U.T. EXP SUT. EXP	EXP in in	GUIDE STAR	P. H.	EM ML AL	P. A.	T F L	S F E	T R A N.	G R A T.	S E C T.	T E M P (C)	F O L L S	F L A S H	C O N F I G	O B S	REMARKS
21730	NGC 2400 Near	7 ^h 32 ^m S +21°48'	Feb 12 1967 1967 coord.	6:12-6:25 9:43-9:56		28.4/ 7	1	103 AG	S	E	5-10	P-P	-	-	-180	54.0	OX	#	WVA	Test exposures, the seeing is FOUL!!! WIND, CLOUDS! BAD SEEING
1	G 60-55	12 ^h 58 ^m 49 ^s F 5057.1	FEB 14	9:40-10:10 11:20-11:50	30m	19.8/7	2	"	S	W	4-8	P	-	-	0	56.8	4x	#	W.S.	
2	G 3-33	1 ^h 57 ^m 29 ^s +12°49.8'	FEB 15	1:00-1:11 4:41-4:52	2x5	34.3/28	7	"	S	W	10	P	-	-	-4.5	58	3x	#	WS	
3	G 4-29	2 ^h 31 ^m 24 ^s +17°33.3'	"	1:40-2:10 5:25-5:55	30m	33/31	8	"	S	W	5-10	F	-	-	"	"	4x	#	WS	
4	G 99-33	5 ^h 45 ^m 14 ^s +18°21.9'	"	2:36-3:06 6:20-6:50	30m	31/35	9	"	S	W	2-3	F	-	-	"	"	4x	#	WS	TROUBLE WITH SLIDE AT END, BOUNCED AROUND EXTENSIVELY VA left exp.
5	G 99-10	5 ^h 25 ^m 38 ^s +2°56.2'	"	3:27-3:48 7:10-7:31	2x10	29.3/ 25	10	"	S	W	2"	F	-	-	+4.5	"	OX	#	WVA WS	
6	VA-0216	17 ^h 56 ^m 38 ^s +82°44.2'	"	4:07-4:37 7:51-8:21		32.6/27	11	"	S	W	2"	F	-	-	+3.5	"	4x	#	WS	POSSIBLE FOG FROM LIGHT AT END OF END - LIGHT FOR
7	"	9	4	4:57-5:27 8:41-9:11		"	12	"	S	W	3-4"	P	-	-	+4.0	"	4x	#	WS	LOG! POOR GUIDING THE END
8	NGC 2420	7 36.5 +21°34'	FEB 22	3:10-3:45 7:21-7:56	3 4 2 5 1 6	24.1/9.8	11	"	S	W	2-4"	P	-	-	-6	57.7	OX	#	WS	WIND! IMAGE BOVING
9	G 165-47	14 ^h 04 ^m 49 ^s +38°51.7'	Feb 24	6:24-6:46 10:44-11:06	20m	29.5/ 16	2	"	E	W	3-10"	P	-	-	-12.5	53.2	2x	#	WVA	5° FROM MOON SEEING DETERIORATING seeing very poor, windy full moon, transparency finally → 0.

TT	OBJECT	RA/DEC	1967 U.T. DATE	U.T. EXP ST EXP	EXP	GUIDE STAR	PH.	E M U L	P A	T E L	S F E E	T R A N	A R G	S F C C	T E M P O C	F O C C U S	F L A S H	C O C C	O B S	REMARKS
21740	✓ G174-1	2 ^h 27 ^m 8	Feb 25	0:41-1:11	30 ^m	28 ² / _{2.8}	3	103 AG	W	E	2 ^x	8	-	-	-16.0	532	2X	#	WVA	FULL MOON *occasional flares flasher sluggish
1	✓ G4-29	2 ^h 31 ^m 4	"	1:28-1:58	30 ^m	33 ¹ / _{3.1}	4	"	S	E	3 ^x	"	-	-	-19.0	"	2X	#	"	image jumping WIND! flasher stuck
2	✓ NGC 2420	7 ^h 33 ^m 5	"	1:4 ^m	2:45-2:49	22.5 ¹ / ₂₇	5	"	S	W	4-10	"	-	-	-18.0	"	0X	#	"	
3	✓ NGC 2420	7 ^h 33 ^m 5	"	3 ^m	2:50-2:53	12.5 ¹ / ₂₇	6	"	S	W	3-10	"	-	-	-18.0	"	0X	#	"	HA = -16 ^m
4	✓ G99-47	5 ^h 53 ^m 8	"	3:27-3:57	30 ^m	7.9 ¹ / ₁₄	7	"	W	W	3-10	"	-	-	-18.0	"	2X	#	"	flasher stuck
5	✓ G103-48	6 ^h 31 ^m 6	"	5:47-6:17	30 ^m	7.8 ¹ / ₂₉	8	"	W	E	3 ^x	"	-	-	-19.0	532	2X	#	"	flasher stuck
6	✓ G60-54	12 ^h 57 ^m 6	"	6:57-7:27	30 ^m	23 ¹ / ₁₅	9	"	S	W	3 ^x	"	-	-	-20.0	"	0X	#	"	near moon
7	✓ LP101-15	16 ^h 33 ^m 5	"	8:54-9:24	30 ^m	30.8 ¹ / ₂₈	10	"	E	W	4-10	"	-	-	-20.0	"	2X	#	"	flasher stuck
8	✓ LP7457	18 ^h 17 ^m 6	"	9:55-10:25	30 ^m	25.7 ¹ / ₅	11	"	E	W	3 ^x	"	-	-	-21.0	"	2X	#	"	"
9	✓ VA-C216	17 ^h 56 ^m 6	"	11:18-11:48	30 ^m	26.4 ¹ / ₂₃	12	"	E	W	3 ^x	"	-	-	-21.0	"	2X	#	"	"

96	OBJECT	1950 RA./DEC.	1967 U.T. DATE	UT. EXA. ST EXP.	E A P	GUIDE STAR	P.H.	E M U L	R. A.	F E L.	S E E	T R A N S.	G R A T	S E L T	T E M P C	F O C U S	F L A S H	C O D E	O B S	REMARKS. 97
π 21750	G3-33	15 ^m 57.5 +12° 50'	Feb 26	0:35 - 0:46 5:02 - 5:13	2x5 ^m	22.0/ 18	1	103 AG	V	E	1"	g	-	-	-130	53-2 4x			Wts	difficult to focus Very good seeing Full moon
1	G14-24	12 ^m 59.5 -1° 49'	"	6:55 - 7:06 11:23 - 11:34	2x5 ^m	12.9/ 32	3	"	S	W	2"	f	-	-	-150	532	OX		"	Full moon
2	G149-81	13 ^m 20.6 +24° 44'	"	7:28 - 7:51 11:54 - 12:19	4x5 ^m	11.6/ 0	4	"	S	W	2"	f	-	-	-145	"	OX	23 14	"	seeing is deteriorating
3	G166-57	14 ^m 55.5 +31° 36.4	"	8:03 - 8:13 12:39 - 12:40	4x2 ^m	25.9/ 34	5	"	E	W	3"	"	-	-	-145	"	OX	23 14	"	
4	G179-43	15 ^m 38.3 +43° 39'	"	8:29 - 8:44 0:57 - 1:12	4x3 ^m	11.1/ 17	6	"	E	W	3-5"	"	-	-	-145	"	OX	23 14	"	
5	G137-25	15 ^m 33.1 26+17° 53'	"	8:57 - 9:12 1:24 - 1:39	4x3 ^m	30.2/ 13	7	"	E	W	3-5"	"	-	-	-145	"	OX	23 14	"	
6	G66-57 = G15-4	15 ^m 00.9 +3° 58'	"	10:03 - 10:14 2:31 - 2:42	4x2 ^m	23.4/ 33	8	"	S	W	2"	"	-	-	-145	"	OX	23 14	"	
7	G137-78	16 ^m 00.7 +20° 44'	"	10:29 - 10:44 2:57 - 3:12	4x3 ^m	15.2/ 22	9	"	S	W	2"	"	-	-	-145	"	OX	23 14	"	
8	G138-25	16 ^m 22.9 +15° 48'	"	10:54 - 11:11 3:22 - 3:39	2x8 ^m	14.3/ 16	10	"	S	W	2"	"	-	-	-145	"	OX	23 14	"	
9	Sco X-1	16 ^m 17.1 -15° 31'	"	11:26 - 11:36 3:54 - 4:04	4x2 ^m	7.0/ 10	11	"	S	W	4"	"	-	-	-145	"	OX	23 14	"	

OBJECT	1967 UT DATE	UT EXP ST EXP.	E X D	GUIDE STAR	PH.	E M U L.	P. A.	F E L	S E E	T R A N S	G R A T	S E T	F E M P O C	F O C U S	F L A S H	C O N F I G	O B S.	REMARKS
π 21760 ✓ G-60-59	12 57 37 +3 45.4	FEB 28 8:42-9:12	30m	23/15	12	103 RG	S	W	1-2	P	-	-	58	54.3	31	#	US	MOON, OBJECT NOT VISIBLE, CENTERED WITH FIELD STAR AND GUIDE STAR. CENTER NOT DEFINITE. HAZE!
1 ✓ G-14-24	2 59 30 -1 049.0	" 10:47-11:12	4x5	12.9/32	1	"	"	"	1-2	P	-	-	"	"	OK	#	"	MOON HAZE!
2 ✓ G-5-7	2 54 44 +10° 35' 7	March 1 EER 29 00:49-1:12	4x5	16.1/24	2	"	"	"	1-2	G	-	-	53	54.5	OK	#	WS	Good Conditions
3 ✓ G-7-17	3 58 40 18° 36' 0	" 2:04-2:34	30m	19.2/11	3	"	"	"	"	G	-	-	7	"	OK	#	WS	
4 ✓ NGC 2420	7" 35" 5 +21° 48'	" 2:44-2:46	2m	22.5/27	4	"	S	W	2"	f-g	-	-	6.5	"	OK	#	WVA	transparency
5 ✓ NGC 2420	7" 35" 5 +21° 48'	" 2:47-2:49	2m	22.5/27	5	"	S	W	2.3"	f	-	-	6.5	"	OK	#	WVA	is decreasing & seeing is getting
6 ✓ NGC 2420	7" 35" 5 +21° 48'	" 2:50-3:00	10m	22.5/27	6	"	S	W	3"	f-p	-	-	6.5	"	OK	#	WVA	power
7 ✓ G-99-10	5 25 38 +25 62	" 3:30-3:52	4x3	14.4/4.8	7	"	S	W	3"	P	-	-	7	"	OK	#	US	trans very poor quite star after disappeared.
8 ✓ HL-4	5 52 39 -4° 09' 2	" 4:47-5:12	4x5	15.0/20	8	"	W	W	2-5"	P	-	-	9	"	OK	#	WS	very low, var. seeing & trans. not guiding
✓ 9 ✓ G-14-24	12 59 30 -1 49.0	" 6:56-7:20	4x5	12.9/32	1	"	S	W	1-2	P-f	-	-	9	54.2	OK	#	WS	

EXPOSURES IN FEBRUARY
= 36

OBJECT	1950 RA / DEC.	1967 UT DATE	U.T. / ST.	EXP. EXP	GUIDE STAR	P.H.	E M U L	R. A.	T E L	S E E	T R A N S	G R A T	S E E T	T E M P	E C C O S	F L A S H	C O N F I G.	O B S	REMARKS
II21770 ✓	G149-51 13 20.35 +24 44.1	March 5 28	7:49-8:12	4x5	11.6/20	10	KURBA	S	W	1-2"	P	-	-	-9	5/20X	#	US	Clouds!	
1 ✓	G124-25 14 17.29 -9 23.0	11	8:55-9:17 11:34-1:56	2x10	24.4/18.5	11	"	"	"	1-2"	P	-	-	-9.5	"	OX	#	US	Clouds!
2 ✓	G15-415 15 0.57 =G66-57 +3 58.1	11	10:20-10:38 2:59-3:14	4x3	23.4/33	2	"	"	"	1"	P	-	-	-9	"	OX	#	US	CLOUDS!
3 ✓	G138-2516 16 22.57 +15 48.4	11	11:30-11:50 4:12-4:32	2x8	14.3/16	12	"	"	"	1-3"	P	-	-	-10	"	OX	#	US	CLOUDS + APPROACHING D WIND
4 ✓	G3-414 21 03 15 45.8	March 3	1:21-1:39 6:08-6:25	4x3	19.2/23	1	"	"	"	2"	F	-	-	0° 58.3	OX	#	US	1st exp. 5 min of difficult to focus. Boze + frog	
5 ✓	NGC 2000 7 36.5 +21 39	March 3	2:42-2:44 7:28-7:30	2"	22.5/27	2	"	"	"	2"	Fg	-	-	0° 55.3	OX	#	W.A.	image jumpy	
6 ✓	G99-33 5 45.14 +8 21.9	11	3:12-3:42 7:59-8:20	30m	31/35	3	"	"	"	2-3"	Fg	-	-	0°	"	4X	#	US	seeing telescopic and jumpy image
7 ✓	G105-23 6 11.8 15 11.6	11	4:30-5:00 9:17-9:47	30m	32/3	4	"	"	"	2-3"	g	-	-	10.5	"	7X	#	US	image jumpy
8 ✓	G3-33 1 57.49 12 49.8	Mar 7	12:43-12:49 5:44-5:51	2x3	22/8	1	"	W	E	2-3"	F	-	-	-1° 55.0	3X	#	US	bright sky, obj. very low, exposure set from 4 to 2 3m exp.	
9 ✓	G5-7 2 54.44 +10 35.7	11	6:19-7:30 6:20-6:31	2x5	16.4/25	2	"	"	"	"	"	-	-	-35	"	3X	#	US	low, soon quitting

* exposures not fully
no good

OBTROT	1950 RA/DEC	1967 UT DATE	EXP UT/ST	EXP	GUIDE STAR	DH	PA	DEC	SEFE	TRAH	TARG	SECT	DAMP	FOCUS	PLATE	CONF	OBS	REMARKS
✓ 21780 G95-59	3 46 45 +43° 17.6	MAR 7	1:59-2:29	30m	Q.2/12	3	W	E	1-2"	G	-	-	-3	55.0	4X	#	WS	
✓ 1 G-39-27	4 38 36 +27° 04.0	"	3:00-3:30	30m	35/15	4	N	W	E	1-2"	G	-	-	4	11	4X	#	WS
✓ 2 G105-23	6 11 8 +150° 11.6	"	11:22-11:52	30m	12.1/7	5	"	W	E	2-3"	Pg	-	-	38	11	4X	#	WS. trans + seeing deteriorating
✓ 3 G103-40	6 34 39 34° 33.8	"	10:32-11:02	30m	8.8/29	6	"	W	E	3-5"	fp	-	-	4	11	4X	#	WS. trans + seeing deteriorating
✓ 4 G174-1	2 27 46 +57° 09.5	March 9	1:36-2:06	30m	28.0/2.8	7	"	W	E	2"	G	-	-	35	46	4X	#	WS. image jumpy
✓ 5 G95-59	3 46 45 +43° 17.6	"	2:29-2:59	30m	14.2/12	8	"	W	E	2"	F	-	-	11	11	4X	#	WS + HICK HAZE
✓ 6 G96-50	5 40 29 +40° 56.6	"	3:52-4:22	30m	34.8/5.5	9	"	W	E	2"	P	-	-	55	11	4X	#	WS. HAZE! WIND! IMAGE BOUNCY!
✓ 7 G47-8	6 45 41 +37° 11.3	"	4:53-5:23	30m	25.3/29	10	"	"	"	2"	P	-	-	"	"	1X	#	WS. YCCM!
✓ 8 G107-19	7 27 03 +48° 16.4	"	6:03-6:23	20m	16.1/33	11	"	"	"	2-3"	-	-	-	7.5	11	3X	#	WS. WIND HAZE
✓ 9 G15-4 =G66-57	15 05 7 +3° 58.1	"	9:33-9:48	413	23.4/33	12	"	S	W	3-5"	P	-	-	7.5	11	0X	#	WS. HIGH WIND POW seeing faint quiblet * - lens thoroughly husted!

OBJECT	RA./DEC	UT-DATE	U.T./S.T.	EXP.	GUIDE STAR	PLATE HOLDER	EMUL	P.A.	T E L	S E E	T R A N S.	G R A T	S E C T	T E M P O C	F O C U S	F L A S H	C O C K	O B S.
1121790	G-137-78 16° 0' 42" +20 44.2	1967 10/12-12/35	MARCH 9	4x5	15.2/24	1	153g	S	W	5"	P	-	-	-7	58.6	3x	#	WS
1	G-138-25 15° 24' 14"	11:00-11:17	MARCH 9	3x8	14.3/16	2	"	"	"	4"	ECLA	-	-	"	"	OX	#	WS
2	G-175-34 4° 26' 50" +58 53.3	10/10	MARCH 10	4x5	15.7/14.5	3	"	W	E	4"	P	-	-	+3	550	OX	#	WS
3	G-91-11 7 45' 16" +20° 30' 2"	"	"	2x5	33.5/29	4	"	"	"	5"	P	-	-	12.5	11	OX	#	WS
4	VAC 216 17 56' 38" +82 44.2	MARCH 11	"	30m	26.0/26	5	"	W	W	2.5"	F	-	-	+9	57.9	4x	#	WS
5	G-151-34 15 9' 11" -10° 2' 9"	"	"	30m	17.9/34	6	"	W	S	1-8"	P	-	-	7	"	4x	#	WS
6	G-47-26 7 7' 51" +38° 35' 5"	MARCH 17	"	4x5	36.2/7.2	7	"	S	E	3-7"	F	-	-	-7	54.5	OX	#	WS
7	G-96-25 7 50' 22" 30° 45.4	"	"	4x2	11/31	2	"	W	"	"	"	-	-	-18	"	OX	#	"
8	G-124-25 14 17' 29" -9 23.0	"	"	2x10	24.4/18.5	3	"	S	W	6"	F	-	-	-9	"	2x	#	"
9	G-137-25 15 35' 7" +17 52.8	"	"	10, 8	23.6/27	4	"	E	W	10"	G	-	-	-8	"	2x	#	"

WIND THICK
POSSIBLE
FAINT GAS

2nd EXP
CLODDER OUT

WIND!

FAINT GUIDE STAR
SEEING AS WORSE
IMPOSSIBLE
OBSERVING

CONDITIONS
variable seeing
FOG

INCREDIBLY VAR.
SEEING! VERY
JUMPY IMAGE!

BAD SEE.
WIND CLOUDS
IMAGES VIB

NO LIGHT
SHIELD!

WIND! BAD
SEE, faint guide
star

guide crosshair
illuminator
went out after
30 min

* guide illuminator
broule
FIXED AT 09:55 UT

plug on
crosshair illuminator
10" seeing
← consistently
during exp

* - more frost
on lens
& SNOW!

OBJECT	R.A./DEC	UT DATE	U.T./S.T.	EAP	GUIDE STAR	D. H.	EMUL	P.A.	FEL	SEE	TRANS	GRAT	SUBCT	TEMP	FOCUS	FLASH	CONFO	OBS	REMARKS
✓ π 21800	G175-34 4 ^h 20 ^m 38 ^s +58 53.3	3-18-67	2:48-3:05 8:34-8:51	3X5	10/11.7	7	103 ^{ag}	W	P	1"	g	-	-	-7	54	OX	#	WS	MOON IMAGE BOONLY
01 ✓	G81-34 4 ^h 49 ^m 03 ^s 40° 38' 1"	March 18	3:18-3:45 4:09-4:31	2X10	10-5/4	8	"	"	"	"	"	"	"	"	W	2X	#	WS	MOON IMAGE BOONLY WIND*
02 ✓	G87-7 6 ^h 41 ^m 14 ^s +37 34.8	"	4:38-5:02 10:28-10:47	4X5	28/25.3	9	"	"	"	2-3"	g	-	-	-9.5	"	OX	#	WS	seeing telescopic MOON
03 ✓	G87-26 7 ^h 6 ^m 38 ^s 38° 37.3	"	5:20-5:44 11:04-11:30	4X5	11-8/17	10	"	"	"	4-2"	g	-	-	"	"	OX	#	WS	MOON
04 ✓	G90-25 7 ^h 50 ^m 28 ^s +30 45.4	"	6:37-6:22 11:53-12:18	4X5	16/31	11	"	"	"	2"	g	-	-	-10	"	2X	#	WS	"
05 ✓	G136-103 15 ^h 27 ^m 35 ^s +17 39.4	"	8:04-8:39 1:51-2:21	30m	248/7	12	"	"	"	35"	g	-	-	-10	"	4X	#	WS	bad seeing. DEC. COUNTER OFF 10 min.
06 ✓	G138-59 16 ^h 39 ^m 43 ^s +10 32.3	"	10:01-10:31 2:48-4:18	30m	31/30	9	"	E	W	2"	g	-	-	-11.5	"	4X	#	WS	OBJECT ALMOST INVISIBLE BECAUSE OF BAD SEEING
07 ✓	G79-59 3 ^h 39 ^m 42 ^s -4° 09' 2"	MARCH 19	1:48-2:01 7:32-7:50	3X5	16.3/22	2	"	W	E	2"	g	-	-	-1°	56	OX	#	WS	MOON, HA=4" jumpy image
08 ✓	HL-4 5 ^h 52 ^m 39 ^s -4° 09' 2"	"	2:18-2:22 8:12-8:14	2m	30/20	3	"	W	E	2"	g	-	-	-2°	"	2X	#	WS	CROSSHAIR ILLUM. OUT AFTER 2 MIN. EXP *
09 ✓	G87-7 6 ^h 41 ^m 14 ^s +37 34.8	MARCH 22	4:10-4:33 10:12-10:35	4X5	28/25.3	4	"	"	"	2"	g	-	-	-15	56	OX	#	WS	MOON JUMPY IMAGE

*GROUP FROM ST. PROCOPIUS COLLEGE got something and returned
ARRIVED AT 8:30 CST. AND STAYED here 15 minutes of the
UNTIL 12AM. CST. CLOUDS AT 12:30 95%
from guide notice

OBJECL	RA/DEC	UT DATE	UT / ST	E / D	GUIDE STAR	D. HI.	EMUL	P A	T E L	S E E	T R A N	G R A T	S E L T	O C	F O C U	F L A S H	C O N F L	O B S I	REMARKS
✓ TT21810	G87-20 7 0 38 38 52.3 7 45 16 +20 30.2	MARCH 1967 22	5:03-5:25 11:04-11:28	4x5	31/23	7	1030g	S	E	2 3	F	-	-	-2	500	OK	#	WS.	MOON
✓ 1	G91-11 7 45 16 +20 30.2	"	5:14-5:55 11:46-11:57	2x5	35.5/24	8	"	W	"	2"	F	-	-	"	"	"	#	"	MOON, cloud very jumpy image
✓ 2	G66-57 15 0 57 3 58.1	"	7:08-7:33 11:10-11:35	4x5	23.4/3	9	"	S	W	2"	"	-	-	"	"	"	#	"	"
✓ 3	G137-26 15 33 71 +17 52.8	"	7:54-8:17 1:56-2:19	"	11.2/30.5	10	"	"	"	"	"	-	-	"	"	"	#	"	"
✓ 4	G179-43 15 38 18 +43 39.4	"	8:41-8:58 2:34-2:56	3x5	11.1/17	11	"	E	"	"	"	-	-	-3	"	"	#	"	MOON
✓ 5	G137-78 16 0 42 +20 44.2	"	9:37-9:53 3:40-3:58	2x5 2 1/2	15.2/24	12	"	S	"	"	"	-	-	-25	"	OK	#	"	exposure short because guide at end of track
✓ 6	G138-25 16 22 57 +15 48.4	"	10:07-10:32 4:10-4:35	4x5	14.3/16	1	"	"	"	"	"	-	-	-3	"	"	#	"	erratic drive no. too poor guiding
✓ 7	G170R 17 2 8 17 0 0.6	"	10:55-11:06 4:58-5:09	2x5	22.8/33	2	"	"	"	"	"	-	-	-25	"	"	#	WS.	CLOUDS FOG
✓ 8	G627 6 44 14 +37 34.8	MARCH 29	2:55-3:20 9:25-9:49	4x5	26/255	5	"	W	E	2 4	P	-	-	+8	578	OK	#	WS	CLOUDS FOG
✓ 9	G137-78 16 0 42 +20 44.2	"	8:00-8:26 2:30-2:56	4x5	27/16.5	6	"	E	W	2"	V.P.	-	-	+0.5	"	"	"	"	MOON, THICK FOG, many not in R.A.

↓
CLOUDS! * peculiar wavy motion in R.A. only. All right long. Little slow when 1"-3" movement.

OBJECT	RA. / DEC	U.T. DATE	U.T. / ST	E X P.	GUIDE STAR	P. H.	E M V L	R A.	T E L	S E E	T R A N S	G R I D	S P E C T	O C	A P O C C S	F L A S H	C O L O R	⊙ B S	REMARKS
TT21820 ✓	G170-12 17 ^h 2 ^m 8 ^s +17° 0.6	1967 MARCH 29	9:21-9:45 3:52-4:16	4x5	R3/17.5	7	103 ^{00g}	E	W	35"	D	-	-	+40	578 ^{00x}	#	#	US	MOON, TOMOR IMAGE, FOG
1 ✓	G141-4 18 ^h 19 ^m 43 ^s +16° 10.0	"	10:10-10:34 4:41-5:05	4x5	R3.9/21	8	"	"	"	3"	VR	-	-	"	"	"	"	"	VERY THICK FOG
2 ✓	G105-23 6 ^h 11 ^m 8 ^s +15 11.6	MARCH 30	3:11-3:38 9:45-10:12	27m	12.1/7	9	"	W	E	3"	D	-	-	+9.5	"	4x	#	"	CLOUDS OBJECT CENTERED WITH GUIDE STAR - NOT VIS. VERY LOW.
3 ✓	G87-7 6 ^h 4 ^m 11 ^s +37° 34.8	"	4:17-4:30 10:51-11:04	2x10 +1m	29/255	10	"	"	"	4"	VR	-	-	+9.0	"	2x	#	"	extended out! guide star disappeared!
4 ✓	G1216 17 56 39 +82 44.2	APRIL 3 → 4 ^h	6:15-6:43 1:03-1:35	30m	25.9/255	4	"	W	E	4"	Proj	-	-	+55	576 ^{00x*}	#	#	"	WINDY, UNSTABLE SIGN OBSERVER
5 ✓	"	APRIL 4	4:27-4:57 11:26-11:50	"	"	2	"	"	"	5-10"	g	-	-	+65	57.6 ^{00x}	"	"	"	seeing too poor to focus - focus are set very poor seeing, little 12" flares.
6 ✓	G101-15/16 16 33 30 +57 15	"	6:05-6:35 12:54-1:24	"	30.3/22	3	"	"	"	6-10"	g	-	-	+15	56.5 ^{00x}	16	"	"	bouncy image timer stopped 40 min exp. ran out of pump image.
7 ✓	G153-27 16 5 31 +10 17.6	"	7:45-8:25 2:34-3:19	(40)	21.5/248	4	"	S	W	3-8"	g	-	-	+0.5	"	4x	"	"	seeing improved
8 ✓	G17-28 16 34 33 -1 25.5	"	8:47-9:17 3:41-4:11	30	13.2/25	5	"	"	"	7"	g	-	-	0.0	"	4x	"	"	seeing returned at end of exposure
9 ✓	G20-9 17 39 29 -8 47.7	"	9:51-10:21 4:45-5:15	30	23/31	6	"	"	"	2-7"	"	-	-	"	"	"	"	"	

exposures in March = 62

*12" flaring

* - flashed 4 times previous night
 ⊙ washer illuminator
 out - must be repaired
 back at plate of lens

OBJECT	1950 RA/DEC.	UT DATE	UT. / E.R. / S.T.	E. S.P.	GUIDE STAR	P. H.	E.M. U.L.	P. A.	T. E. L.	S. E. E.	T. R. A. H.	J. S. B.	S. E. E. +	F. F. M. O.	F. O. C. U. S.	F. J. S. E.	C. O. S. T.	S. S.	REMARKS
π 21830	17 56 38	1967 APR 6	13:55-14:35	30	721	7	1030			12" F				+9	58.0	4A	#	US.	
1	11		7:57-7:27			8	"			2" 4" "				"	"	4A	#	"	
2	LP 71-15	18 ^h 17 ^m 42 ^s	3:42-4:12	"	25.7/5	9	"			12" PF				"	"		#	"	Fog, high clouds
3	"	18 ^h 17 ^m 42 ^s	8:39-9:09	"	"	10	"			12" P				"	"		#	"	
4	LP 101-15/16	16 33 30	5:07-5:37	30	30.3/22	11	"	E	W	3-6" G				+50	5240X		#	US.	No extension and on flasher.
5	"	"	6:04-6:39	"	"	12	"	"	"	2" "				+40	"	"	"	"	Jumpy angle and not working
6	G 136 103	15 21 35	7:25-7:55	"	24.8/7	1	"	S	"	2" "				+35	"	"	"	"	Very poor quality
7	G 46 49	8 52 32	4:27-4:38	215	14.5/6	2	"	E	W	2" + Fg				+105	5780X		#	"	WIND! JUMPY IMAGE
8	G 46 58	10 38 51	5:23-5:42	218	28.7/29	3	"	"	"	Fg				+95	5780X		#	"	WIND, JUMPY IMAGE, EXP. CUTS SHORT!
9	G 46 50	5 40 12	10:03-10:33	30m	39.8/5.7	4	"	"	"	12" F									PLATE IS KROSCHEL seeing awful. RIGHT - ING. *WIND SCREEN WILL NOT COME DOWN, VERY HIGH!!!

guide illuminated out during
exp + flash within 1 minute
but field moved pos 5" W
15 seconds during confusion

AAAAUUUGH!!
DOWN, VERY HIGH!!!

OBJECT	1950 RA/DEC	UT. DATE 1967	UT. / S.T.	EAP	GUIDE STAR
π 218410	6h 10m 7.27	APR. 11	11:38	318	10/33
	69-70 +48° 18.4		11:15 11:40		
1	0176-40 +44 16.9		5:27 5:47 1:38 1:08	30m	8/28
2	0122-49 +48 31.8		6:20 6:50 2:41-2:11	50m	9.8/11
3	01728 16h 34m 33s -p 25.5		7:49 8:19 3:11-3:41		14.9/26.5
4	0138-59 +10 32.3		8:44 9:14 4:05-4:35		31./30
5	0139-39 +14 31.4		10:09-10:29 5:31-5:50	20m	27/24
6	0109-35 6h 56m 30s +19° 25'6"	APR. 12	2:25-2:55 9:50-10:20	30m	26.2/13.9
7	0111 7h 45m 16s +26° 30.12		3:20-3:42 10:44-11:06	40s	33.5/29
8	0146-58 10h 38m 51s +37° 52' 5	APR. 19	5:51-6:11 13:43-14:03	20	28.7/29
9	0172-76 6h 44m 14s +37° 34' 8	APR. 20	2:14-2:34 10:11-10:30	40s	28/25.5

~~DISCARDED~~

P. H.	E. H. U. L.	D. A.	T. E. L.	S. E. L.	T. R. N.	G. R. T.	S. E. C. T.	T. E. M. P.	F. O. C. U. S.	P. L. A. S. H.	C. O. M. P. L.	G. B. S.	REMARKS
2	103								565	2X	#	WS	PLATE NO. EXPOSED TO TRANSPARENT - SEE LIST FOR LIST
3	11	11	11	2-4'	G	-	-	70.5	11	5X	#	WS	
4	11	S	11	3-4'	G	-	-	71	11	11	11	11	done over 1/4 field at end of exp.
5	11	S	W	3-5'	G	-	-	71.5	11	4X	11	11	telescope bumped toward end of exp.
6	11	E	11	3-6'	G	-	-	71.0	11	11	11	11	
7	11	S	11	3"	G	-	-	71.5	11	11	11	11	10. not within DAWN! but independent.
8	11	W	E	3-5'	F	-	-	73.5	567	4X	#	WS	variable seeing jump in image
9	11	11	11	3-5'	F-P	-	-	74.5	11	0X	#	11	clouds, not seeing
1	11	W	E	5'+fg		-	-	75	57.42X	#	11	11	MOON, but see faint guidelines
2	11	W	E	2-4'	G	-	-	75	57.0	0X	#	11	MOON blurry

* unchanged from April 11 - temp at time of frame at 11:21-16.

OBJECT	1950 R.A. DEC	U.T. DATE	U.T. / S.T.	EXP.	GUIDE STAR
π 21850 ✓ G87-26	7 ^h 6 ^m 38 ^s +38° 37' 32"	1967 APR 20	2:49:3:12	4x5	118/11
1 ✓ G50-22	8 ^h 9 ^m 12 ^s +48° 58' 8"	"	3:34-3:44 11:30-11:40	12x	214/5
2 ✓ G107-69	7 ^h 27 ^m 03 ^s +48° 18' 4"	"	4:07-4:28 12:03-12:24	2x10	10/33
3 ✓ G170-12	17 ^h 2 ^m 8 ^s +17° 0' 6"	APR 22	8:11 - 8:29	3x5	12.3/17.5
4 ✓ G10769	7 27 03 +48 18 4	APR 25	2:14 - 2:36	4x5	10/33
5 ✓ G50-22	8 9 12 +48 58 8	"	3:12-3:22 09.	10	214/5
6 ✓ G146-58	10 38 51 +37 52.5	"	3:51-4:12 HA=4:40	2x10	287/29
7 ✓ G176-11, 12	11 ^h 02 ^m 54 ^s +43° 47' 0"	"	4:51-5:24 HA=2 ^h 36 ^m 0 ^s	3x30	313/5.8
✓ 8 ✓ G146-58	10 38 51 +37 52.5	APR 27	3:43 - 4:18 12:11 - 12:46	3x8	28.7/29
✓ 9 ✓ G176-40	11 ^h 30 ^m 03 ^s +44° 16' 4"	"	4:41-5:11 1:10-1:40	30	8/28

P. H.	E M U L	P. A.	T E L.	S E E.	T R A W	G R A T	S E C T	T E M P	R O C K S	F L A S H	C O W P L	G B S	REMARKS
3	10399	W	E	2-4"	Fg	-	-	+6	570	OK	#	US	MOON
4	"	"	"	"	Fp	-	-	+45	"	"	#	"	MOON, HA=3 1/2 jumpy moon clouds
5	"	"	"	3-6"	Fp	-	-	+35	"	"	#	"	MOON, HIGH clouds, sun + jumpy seeing!
6	"	E	W	2-3"	F	-	-	+80	575	OK	#	"	FULL MOON! VERY JUMPY IMAGE! ST. CLOCK OUT
9	"	W	E	1-2"	Fp	-	-	+40	570	OK	#	"	ST. CLOCK OUT FULL MOON CLOUDS.
10	"	"	"	2-3"	F	-	-	+35	"	"	#	"	JUMPY IMAGE! MOON SEE - DETEX.
11	"	"	"	2-3"	F	-	-	+25	"	"	#	"	
12	"	"	"	1-2"	VP	-	-	+15	"	"	#	US	CLOUDS, MOON
1	"	"	"	1-1"	F	-	-	+60	56.9	3X	#	"	NO LIGHT. SHOULD SUCH SEEING YOU WOULDN'T BELIEVE!
2	"	"	"	<1-1"	Fp	-	-	"	"	"	#	"	MOON, GREAT SEEING!

OBJECT	1950 RA/Dec.	UT DATE	U.T./ST	R.A.	GUIDE STAR
✓ 21860 ✓ G-170-12	12 28 +17 0.6	1967 APR 27	2:38-2:43 4:08-4:13	Sm	23/025
✓ 1 ✓ G-087-7	6 44.14 +37 34.8	APR 28	1:56-2:18 10:28-10:50	4x5	28/055
✓ 2 ✓ G-146-58	10 38 51 +37° 52' 5"	"	3:02-3:40 11:35-12:13	3x10	28/724
✓ 3 ✓ G-45-27	10 58 42 +3° 16.6	"	4:02-4:32 12:35-1:05	3x	30/30
✓ 4 ✓ G-11-35	12° 00' 02" 8° 43.1	"	5:27-5:57 2:00-2:30	30x	10.0/7
✓ 5 ✓ G-139-39	17 25 26 +14 31.7	"	6:32-7:02 3:05-3:35	2x	17/15
✓ 6 ✓ G-141-4	18 19 43 +6 19.0	"	7:26-7:47 4:00-4:21	2x10	13/12
✓ 7 ✓ G-21-23	18 39 03 0 55.4	"	8:30-8:52 5:04-5:26	3x5	26.8/164
✓ 8 ✓ G-22-18	19 9 39 +2 45.5	"	9:13-9:31 5:42-6:05	4x5	26.2/35
✓ 9 ✓ G-145-37	19 45 47 +27 00.8	"	9:48-10:11 7:22-7:45	"	13.3/220

↑ These Sidereal times
are not correct
KMC (7/30/76)

P. HI	E M L.	D. A.	T. L.	S. E. C.	T. R. I. A. T.	G. R. I. T.	S. T. A. T.	T. E. M. O.	F. O. C. U. S.	F. I. L. T. E. R.	C. O. M. P. O. S. I. T.	D. S. S.
3	103g	B	W	2"	10/10	1	1	+6	50.9	OK	#	15.
4	"	W	E	1/2"	10	-	-	+75	"	OK	#	"
5	"	"	"	2"	g	-	-	+65	"	3x	#	"
6	"	S	"	2"	g	-	-	+55	"	4x	#	"
7	"	W	W	2"-4"	g	-	-	"	"	"	"	"
8	"	S	W	1/2"	g	-	-	"	"	"	"	"
9	"	E	W	2-3"	g	-	-	"	"	OK	#	"
10	"	S	"	2"	g	-	-	+50	"	"	#	"
11	"	"	"	"	"	-	-	"	"	"	#	15.
12	"	"	"	"	"	-	-	"	"	"	"	"

several many moti.
in R.A., estimated
out: prel. NG.

2nd exp. probably
longer than 10 min.
timer stopped.
jump image.

variable + determine
seeing and jump
image

image jump in
MOON

MOON jump in
1st exp. very poor
quality.
many motion in
MOON

↓
wavy motion in
R.A.

" " " "

brown!

exposures in April = 43

OBJECT	RA/DEC	U.T. DATE	U.T./S.T.	E D.	GUIDE STAR	P. H.	F LUM L	D. A.	F L	S E	F W	G TARR	S TARR	W 32	F 56.8	F 4K	COOL	U.S.	REMARKS
✓ 21870 G45-27	10 54 42 +3° 16'6"	1967 May 3	3:26-3:56 12:18-12:48	30m	30/30	1	103ag	S	E	3 1/4	G	-	-	+50	56.8	4K	#	U.S.	jumpy image mostly guiding
✓ 1 G11-35	12 00 02 +6 43.1	11	4:25-4:55 1:17-1:47	"	10/7	2	"	W	"	3 1/4	F	-	-	+65	"	"	#	"	AURORAL
✓ 2 G12-49	11 48 26 +4 8° 3'8"	11	6:32-7:02 3:24-3:54	"	29-3/05	3	"	"	"	2"	F	-	-	+25	"	"	"	"	!!!
✓ 3 G45-27	10 58 42 +3° 16'6"	May 5	2:18-2:48 11:18-11:48	"	30/30	4	"	S	E	2"	F	-	-	+80	56.9	"	"	"	CLOUDS! exposure interrupted because of support motion camera at
✓ 4 G63-59	11 08 52 -6 15.1	"	12:18-12:48 3:18-3:48	"	11.9/20	5	"	"	"	"	"	-	-	"	"	"	"	"	drive with set at 22.0
✓ 5 G11-35	12 00 02 +8 43.1	11	4:25-4:44 1:21-1:40	19	10.0/7	6	"	W	"	"	VP	-	-	+50	"	"	"	"	drive at 28.0 FOG-EXTINGUISHED OUT.
✓ 6 G185-37	19 43 42 +27° 00'8"	May 26	4:10-5:35 17:40-18:05	1.5	20 3/3	7	"	"	E	2-3"	"	-	-	+220	63.1	OK	#	"	jumpy image clouds MOON HAZE
✓ 7 G176-11,12	11 02 54 +43° 41'2"	June 2	14:30-14:42	3x3	31.3/58	8	"	W	E	4"+1g	"	-	-	+170	60.8	OK	#	U.S.	Drive slipped and on 3rd exp. exp. cut short at 3. * JUMPY IMAGE
✓ 8 G185-18	19 49 31 +20° 47'1"	11	17:35-18:05	30m	16 2/13	9	"	S	W	2-3" 1g	"	-	-	+150	"	4K	#	"	SOLAR RATE FINE TRANS. JUMPY IMAGE.
✓ 9 G185-37	19 43 42 +27° 00'8"	11	8:18-8:45 19:07-19:30	4x5'	20 3/3	10	"	"	"	"	"	-	-	+140	"	OK	#	"	MOON, JUMPY IMAGE SOLAR RATE.

[double exposed with π 21893]

↓ SIDEWALK CLOUD MOVED BACK 3 minutes

exposures in May = 7

* - Drive quite frequently on east side of pier.

* end of track after 25m Sidewalk drive changed from 18.5 to 22.0.

OBJECT	1950 RA/DEC	UT. DATE	UT. ST.	BAND	GOVOR STAR	P. HI	E. MUL.	P. AR.	T. EL.	S. EE.	T. RA. H.	G. RAT.	S. E. C.	T. E. M. P.	F. O. C. C. U. S.	F. L. A. S. H.	C. O. U. T.	O. B. S.	REMARKS		
✓ 1 21880	✓ G11-35	12 ^h 00 ^m 02 ^s	1967 JUN 13	13:59-16:29	30m	10.0/7	11	103	W	E	2.5	fg	-	-	+193	608	4X	#	45.	JUMP IN R.A.	
✓ 1	G165-47	+8° 43' 1"	3	14:53-15:23	11	9.8, 3	12	"	"	"	2"	fg	-	-	+178	"	"	"	"	"	"
✓ 1	G144-25	+38° 56' 7"	"	16:21-16:51	"	"	"	"	"	"	2"	"	-	-	+165	"	"	#	"	exposure stopped because of severe wavy motion in R.A. *	
✓ 3	G185-37	20 ^h 38 ^m 11 ^s	11	17:33-18:03	20m	21.7/4	1	"	S	W	2"	"	-	-	+165	"	"	#	"	extracted out after 5 min. by cirrus clouds.	
✓ 3	G185-37	+15° 18' 8"	"	18:05-18:25	20m	13.3/22	2	"	S	W	2"	VA	-	-	+21.5	599	OX	#	11	variable trans, cirrus wavy motion in R.A. 10lb. improved, but not telescope bumped at end of 1st exp.	
✓ 4	G144-25	20 38 11	"	19:17-19:37	20m	21.7/4	3	"	"	"	"	F	-	-	"	"	"	"	"	* CLOUDS COMING IN	
✓ 5	G149-81	+24° 44' 1"	14	4:50-5:12	2x10	19.5/17	4	"	W	E	2"	F	-	-	+24	604	OX	#	"	poor guiding.	
✓ 6	G185-37	19 43 42	11	6:51-7:12	2x10	13.3/22	5	"	S	U	"	"	-	-	+225	604	OX	#	"	CLOUDS	
✓ 7	G14-24	12 59 30	11	8:18-18:39	"	"	"	"	"	"	"	"	-	-	+225	608	OX	#	"	some clouds, full moon, jumpy in R.A.	
✓ 8	G144-81	-1 49.0	"	3:11-3:33	4x5	10.9/32	1	"	S	E	"	fg	-	-	+225	608	OX	#	"	CLOUDS	
✓ 8	G144-81	13 ^h 20 ^m 36 ^s	11	4:00-4:23	4x5	19.5/17	2	"	W	E	"	"	-	-	"	"	"	"	"	MOON	
✓ 9	G166-57	+24° 44' 1"	"	5:05-5:15	2x5	"	3	"	"	"	"	P	-	-	+22	"	"	#	"	exposure cut off after 2 exps because of clouds	

* JUNE 13 setup on G26-7 at 8:20 UT but 10" seeing, wavy motion in R.A. and positions. delayed exp.

exposure delayed because of clouds

* - HA = 2h 10m
 82 +15° 22'
 wavy motion as much as 3"

OBJECT	1950 RA/DEC.	UT DATE	U.T. / Mid. H.A.	EXP.	GUIDE STAR	P.H.	E.M.L.	P.A.	T.E.L.	S.E.E.	T.A.R.T.	T.A.R.G.	T.A.R.S.	T.E.M.P.	F.O.C.U.S.	F.L.A.S.H.	C.O.O.L.	O.B.S.	REMARKS	
✓ TT 21890	✓ G-185-37	19 ^h 43 ^m 42 ^s +27° 00' 8"	1967 June 22	6:19 - 6:41 8:05	4x5	13.3/22	4	030g	S	W	3-5	g	-	-	46.5	61.5	OK	#	VS	FOCUS ESTIMATED POWER SEEN FULL MOON
✓ 1	✓ G-26-7	21 ^h 28 ^m 35 ^s -10° 00' 7"	"	7:42 - 8:05	4x5	17, 3	5	"	"	"	2"	g	-	-	47.5	"	"	"	"	delay of base on done trials. FULL MOON
✓ 2	✓ G-27-18	22 7 1 -4 53.3	"	8:30 - 8:41	4x2	16/14	6	"	"	"	"	"	-	-	"	"	"	"	"	MOON
✓ 3	✓ G-129-47	23 55 08 +23° 00' 2"	"	9:09 - 9:22	4x3	11.8/31	2	"	"	"	3"	"	-	-	46.5	"	"	"	"	double, exposed on TT 21876 and filed there.
✓ 4	✓ G-165-47	14 ^h 14 ^m 49 ^s +38° 05' 7"	June 21	21:09 - 21:39	30	9.8/3	1	"	W	E	2-5	fg	-	-	42.0	61.5	4x	#	"	Jumpy image FLARING
✓ 5	✓ G-166-57	+31° 32' 14 56 14	9 th	22:00 - 22:10	3x3	23.8/32	2	"	S	"	"	"	-	-	"	"	OK	#	"	17
✓ 6	✓ G-149-81	13^h 20^m 36^s +24° 44' 1"	JULY 6	3:08 - 3:33	4x5	11.6/0 (stretch)	3	1038	S	E	3+	fg	-	-	16.0	58.0	0x	#	WVA	seeing improving
✓ 7	✓ G-165-47	14 ^h 04 ^m 49 ^s +38° 51' 7"	"	4:07 - 4:37	30 ^m	7.2/24	4	"	W	E	3-4	"	-	-	16.0	58.0	4x	#	"	seeing poor
✓ 8	✓ G-136-103	15 ^h 21 ^m 35 ^s +17° 31' 4"	"	4:53 - 5:03	10 ^m	20.5/16	5	"	W	E	3	"	-	-	15.0	"	4x	#	"	
✓ 9	✓ G-176-40	11 ^h 30 ^m 02 ^s +44° 16' 9"	JULY 12	2:59 - 3:29 16:22 - 16:52 HA = +5:05	30 ^m	8.0/28	6	"	W	E	2-3	g	-	-	22.5	61.8	4x	#	WVA	

exposures in June = 19
300 X 1
" 3:53 - 4:07 4 4
17:16 - 17:30 4 1 1/2

7 # last exp N.G.

OBJECT	1950 RA DEC	1967 UT DATE	UT/ST	EXP	GUIDE STAR
SCOX-1	16 ^h 17 ^m 04 ^s -15° 31' 2"	JULY 12	3:53-4:07 17:16-17:30	4, 4 4, 1 1/2	7/10
VA-C216	17 ^h 56 ^m 38 ^s +82° 44' 2"	"	4:38-5:14 18:31-18:37	30 ^m 5 ^m	9.5/24
LP101-15/16	16 ^h 33 ^m 30 ^s +57° 15'	"	5:34-6:10 18:56-19:32	30 ^m 5 ^m	6.5/35 star offset to reach g.s.
SCOX-1	16 ^h 17 ^m 04 ^s -15° 31' 2"	JULY 25	2:51-3:13 17:05-17:27	4x5 ^m	7.0/10
G17-28	16 ^h 34 ^m 33 ^s -10 25' 5"	"	3:26-3:56 17:41-18:11	30 ^m	14.9/26.5
LP101-15/16	16 ^h 33 ^m 30 ^s +57° 15'	"	5:05-5:40 19:20-19:58	30 ^m , 4 ^m	6.5/35 star offset to reach g.s.
SCOXR-1	16 ^h 17 ^m 04 ^s -15° 31' 2"	JULY 26	2:50-2:55 17:07-17:12	5 ^m	7.0/10
SCOXR-1	16 ^h 17 ^m 04 ^s -15° 31' 2"	"	3:05-3:10 17:22-17:27	5 ^m	2.0/10
G138-59	16 ^h 39 ^m 43 ^s +10° 32' 3"	"	3:58-4:36 18:16-18:54	30 ^m , 5 ^m	13/11
G138-25	16 ^h 23 ^m 46 ^s +15° 45' 9"	"	5:00-5:17 19:17-19:34	8 ^m , 8 ^m	14.3/16
LP101-15/16	16 ^h 33 ^m 30 ^s +57° 15'	"	5:00-5:17 19:17-19:34	30 ^m	

P.H.	F M L	P. A.	T E L	S E E	T R A N.	G R A T	S E C T.	T E M P	F O C U S	F L A S H	C O N F I G	S O B S	REMARKS
7	103 26	S	E	3"	G	-	-	22.0	(61.8)	OX	#	WVA	last exp N.G.
8	"	N	E	2"	G	-	-	21.0	"	4X	#	"	
9	"	W	E	2-3	G	-	-	21.0	"	4X	#	"	Is the guide star double, or is there permanent flaring to the west?
10	"	S	E	2"	f	-	-	25.0	58.8	4X	2.3 1.4	WVA	
11	"	S	E	2"	f	-	-	23.2	"	4X	#	"	
12	"	W	E	2"	f-p	-	-	22.5	"	4X	#	DGY	Telescope bumped on 30 ^m exp.
1	103 26	S	E	2"	P	-	-	24.4	60.5	4X	#	DGY	
2	"	S	E	2"	P	-	-	24.4	60.5	4X	#	DGY	
3	"	S	E	1"	p-f	-	-	23.0	"	4X	#	"	
4	"	S	E	1-2"	p-f	-	-	23.0	"	OX	#	WVA	

Obs. No.	RA/DEC	UT DATE	UT/AD	EXP	Guide Star	P. H.	E ML	P. H.	T E L	S 2 e	T R A NS	F R A T	S 2 C Y	T 6 m P	F 0 L S	F L A S T	C O N F I Y	Obs.	Comment		
1121920	G128-34 23 ^h 05 ^m 28 ^s +31° 23' 8"	1950	1950 3	7:40-8:15	25 ^m 5 ^m	14.3/12	3	103	as	S	W	13"	Fair	-	-	22"	60x	4X	#	BFS	
1	G13422 2 ^h 13 ^m 45 ^s +42° 44' 5"		"	8:35-8:45	10 ^m	9.8/33	4	"	S	W	4-5"	low	-	-	"	"	4X	#	BFS	Clouds terminated Exp. at 10 min.	
2	G138-59 16 ^h 40 ^m 34 ^s 10° 30' 2"		Aug 4	19:45-20:04	5 ^m , 10 ^m	32.0/26	5	"	N	E	2"	f	-	-	18°	"	4X	#	DGY	1st exp cut off because of power cut off 2nd because of guiding problems	
3	G18-51 22 ^h 26 ^m 16 ^s 5° 38' 9"		Aug 4	5:30-6:00	30 ^m X ^m	32.0/1	6	"	S	W	2"	P	-	-	"	"	4X	#	DGY	Clouds near end Telescope bumped once	
4	G138-59 16 ^h 40 ^m 34 ^s 10° 30' 2"		Aug 5	2:56-3:26 (5:01) 5:30-5:31	30 ^m	13.0/11	7	"	S	E	2-3"	P	-	-	22°	"	4X	#	DGY	Clouds near end may have guided into dome	
5	G182-36 18 ^h 01 ^m 05 ^s +37° 13' 6"		Aug 4	5:30-5:31	30 ^m	26.1/10.5	8	"	S	E	3"	f	-	-	20.8	"	4X	#	WVA	seeing variable	
6	G141-4 18 ^h 19 ^m 43 ^s +6° 19' 0"		"	6:01-6:12	2x5 ^m	22.6/0	9	"	S	E	2"	f	-	-	20.1	"	4X	#	"		
7	G18-51 22 ^h 26 ^m 16 ^s +5° 33' 9"		"	7:02-7:40	8 ^m 30 ^m	32.0/1	10	"	S	W	2"	f	-	-	20.0	59.1	4X	#	"	Image jumping telescope bumped on 8 ^m . Tel. shifted ~.5 min in 8. on 30m	
8	G129-47 23 ^h 55 ^m 08 ^s +23° 02' 2"		"	8:36-8:49	4x3 ^m	11.8/31	11	"	S	W	2"	f	-	-	19.6	"	4X	#	"		
9	G69-47 1 ^h 02 ^m 48 ^s +28° 13' 6"		"	9:04-9:34	30 ^m	11.6/29	12	"	S	W	2"	f	-	-	19.1	"	4X	#	"		

PLATE NO.

OBJECT

1950 RA/DEC

1967 UT DATE

UT/ST

EXP

GUIDE STAR

P. H.

E. L. N. L.

P. A.

T. E. L.

S. E. F. E.

T. R. A. N. S.

G. R. A. T.

S. E. F. T.

T. E. M. P.

R. O. C. K. S.

F. L. A. S. H.

C. O. N. F. E. S.

O. B. S.

REMARKS

TP21930

G3-33

1^h57^m29^s
+12°49'8"

AUG 6

9:54-10:05

2x5"

34.0/28

1

163
26

S

W

2"

f

-

-

19.0

4x

#

WVA

#

image not being
Down.

1 LP 101-18/16

16^h33^m30^s
+57°15'

8

3:40-4:20

5:30'
4'

15.1/31

3

"

N

E

2-4"

g

-

-

20.5

"

4x

#

BFI

Bombad guide
exp piece, 1st ex,
+ term. of 105 5'

2 G182-36

18^h1'3"
+37°31.6"

8

5:45-6:30

30.5'

17.1/16

4

"

N

E

3"

g

-

-

"

"

4x

#

BFI

trouble locating
field

3 G139-39

17^h25'26"
+14°31.7"

10

4:35-4:45

10'

18.7/5

2

"

N

E

4"

g

-

-

18.5

"

4x

#

BFI

run out of screw
on plate holder
on ex TP21930.

4 G139-39

17^h25'26"
+14°31.7"

10

4:45-5:30

28'

18.7/5

1

"

N

E

4"

g

-

-

"

"

4x

#

BFI

reset 10200,
PUT also run
out on 21931,
reset side drive

5 G141-4

18^h19'43"
6°19.0"

10

5:45-6:00

5.5'

5

"

N

E

4"

g

-

-

"

"

4x

#

still not
tracking corr.

6 G20-9

17^h39'29"
-8°47.4"

11

3:20-4:00

30'

23/31

1

"

S

E

4"

g

-

-

15.5

59.14x

#

BFI

7 LP 101-15/16

16^h33'30"
+57°17'

11

4:15-5:00

30'

9.9/35

2

"

W

E

3"

g

-

-

15.5

"

4x

#

BFI

8 G117-28

16^h34'33"
-1°25.5"

22

2:25-3:00

30.5'

15/20

4

"

N

E

3"

f

-

-

17.0

28.4

2x

#

BFI

Tracking with
locking well

9 G139-39

17^h25'26"
+14°31.7"

22

3:30-4:10

30'

26.7/27

3

"

N

E

3"

f

-

-

"

"

2x

#

BFI

"

Plate No	Object	R.A./Dec.	UT DATE	UT 1ST	EXP	GUIDE STAR	P. H.	E. M. V. L.	P. A.	T. B. L.	S. e. e.	T. r. o. n. s.	G. R. A. T.	S. E. C. T.	T. E. M. P.	F. O. C. U. S.	F. L. A. S. H.	C. O. N. F. I. G.	P. B. S.	REMARKS
IT 21940	G 182-36	18 ^h 1 ^m 3 ^s	AUG 22	4:40-5:20	30'	28.0/30	5	130g	N	E	3"	f	-	-	19.0	28.4	2X	#	BFS	
		+37° 31.6'			5'															
1	G 130-43	6 ^h 05 ^m 42 ^s	22	6:30-7:05	30'	12.0/31	6	"	S	W	3"	f	-	-	"	"	2X	#	BFS	
		+29° 04.7"			5'															
2	G 134-22	2 ^h 14 ^m 54 ^s	21	7:45-8:30	30'	28.3/30	1	"	S	W	3-4"	f	-	-	"	"	2X	#	BFS	
		+42° 49.5'			5'															
3	LP 71-157	18 ^h 17 ^m 36 ^s	Aug 23		30' 5"	13.0/11.5	2	"	N	E	3-4"	f	-	-	11.0	24.0	4X	#	DGY	
		+68° 33.4'		22:07 - 22:42	30' 5"															
4	G 129-47	23 ^h 56 ^m 03 ^s	"		4X3'	11.0/31	7	"	S	W	2-3"	f	-	-	"	"	0	#	DGY	Thin plate, no backing.
		23° 08.2		23:53 - 00:07																
5	G 3-33	1 ^h 58 ^m 27 ^s	"			12.5/28	8	"	S	W	1-2"	f	-	-	"	"	0	#	DGY	Thin plate, no backing.
		12° 55.0		1:00 - 1:20	3X5'															
6	G 139-39	17 ^h 26 ^m 15 ^s	Aug 25																	
		+14° 30.8		20:12 - 20:38	4X5"	27/27	1	"	S	E	1-2"	f	-	-	19.0	28.5	2X	#	DGY	Upper left esp. telescope bumped.
7	VA-C216	17 ^h 56 ^m 38 ^s	Oct 23	1:20 - 1:50	30"	14.8/19	3	103 aG	W	E	2"	g	-	-	15.0	28.4	4X	#	WVA	Clouds in right after
		+82° 44.2		21:28 - 21:58																
8	VA-C216	17 ^h 56 ^m 38 ^s	"	2:03 - 2:33	30"	14.8/19	4	"	W	E	3"	g	-	-	13.8	"	3X	#	"	Very windy more wind + 3/4 moon
		+82° 44.2		22:11 - 22:41																
9	LP 71-157	18 ^h 17 ^m 42 ^s	"	3:02 - 3:32		21.0/16	5	"	W	E	3-4"	g	-	-	"	"	3X	#	"	wind. seeing deteriorating
		+68° 33.0		23:10 - 23:40																

exposures in August = 31
 # exposures in September = 0

nitrogen burst development

Upper left esp. telescope bumped. Clouds in right after

Very windy more wind + 3/4 moon

wind. seeing deteriorating

PLATE NO	OBJECT	1950 RA/DEC	1967 UT DATE	UT/ST	EXP	GUIDE STAR
TT21950	LP 31-60	3 ^h 05 ^m 18 ^s +73°36'	Oct 23	4:27-4:57 0:35-1:05	30 ^m	23.7/ 27
1	G129-47	23 ^h 55 ^m 08 ^s +33°02'2	Dec 16	2:50-3:05	3x3 ^m	12.8/ 34
2	G3-33	1 ^h 57 ^m 29 ^s +12°49'8	"	4:20-4:40	3x5 ^m	35.0/ 25
3	G74-7	2 ^h 03 ^m 14 ^s +39°41'6	1968 Jan. 1	0240-0315	2x15 ^m	21.1/ 2
4	G66-57 =G15-4	15 ^h 00 ^m 57 ^s +3°58'1	Febr. 6	1030-1100	4x3 ^m	24.5/33
5	G138-25	16 ^h 22 ^m 57 ^s +15°48'4	"	1135-1155	2x8 ^m	15/18
6	G165-47	14 ^h 4 ^m 49 ^s +38°51'7	Feb. 10	0745-0815	30 ^m	15/12
7	G66-57 =G15-4	15 ^h 00 ^m 57 ^s +3°58'1	"	1050-1100	2x3 ^m	23.5/ 32
8	G138-25	16 ^h 22 ^m 57 ^s +15°48'4	"	1150-1210	2x8 ^m	14.6/16
9	G175-34	4 ^h 26 ^m 50 ^s +58°53'3	Feb. 11	0445-0515	4x5 ^m	27.3/25

P.H.	EFF	P.A.	EFF	EFF	TRAK	TRAK	SPLIT	TEF	FOCUS	FLA.	FOZ	OB	REMARKS
6	103 AG	E	W	3-10	g	-	-	12.8	(284)	4X	#	WA	wind - seeing very poor. QUIET.
7	11	S E	E	3"	f	-	-	-5.0	260	2X	#	EV	
8	"	S	E	3"	f	-	-	-7.5	"	2X	#	EV	Bumped tel. in center left. Image jumpy.
9	"	W	E	4"	f	-	-	-23	25.0	2X	#	EV	
10	"	S	W	3"	f	-	-	0°	24.0	0X	#	EV	
11	"	S	W	3"	f	-	-	0°	"	0X	#	EV	
12	"	S	W	4"	f	-	-	-18	23.0	0X	#	EV	
1	"	S	W	4"	f	-	-	-19°	4	0X	#	EV	
2	"	S	W	4"	f	-	-	-19°	"	0X	#	EV	
3	"	S	E	2-3"	f	-	-	-17	24.0	0X	#	EV	Image jumped 20" to west on first exposure

a lot of guiding ^{on R.A.} was necessary just before the image jumped.

PLATE NO	OBJECT	1950 RA/DEC	1967 UT DATE	UT/ST	EXP	GUIDE STAR	P.H.	F.F.	P.A.	F.E.	F.F.S.	F.R.A.	F.T.S.	F.S.T.	F.L.S.	F.L.A.	F.O.F.	F.O.	REMARKS
1121960	G 149-81	13 ^h 20 ^m 36 ^s +24° 44' 1"	Feb. 11 1968	0825-0845	20 ^m	11.6 / 0	4	103 Ag	S	W	4"	f	-	-	-17°	24.0	OX	#EV	
1	G 66-57 = G 15-4	15 ^h 00 ^m 57 ^s +3° 53' 1"	"	1050-1120	3x6 ^m	23.5 / 32	5	"	S	W	3"	g	-	-	-18°	"	4X	#EV	
2	LP 31-60	3 ^h 05 ^m 18 ^s +73° 36'	Feb. 13	0510-0540	30 ^m	25 / 16	6	"	S	E	3"	f	-	-	-13°	25.0	4X	#EV	
3	G 149-81	13 ^h 20 ^m 36 ^s +24° 44' 1"	"	0930-0950	20 ^m	11.6 / 0	7	"	S	W	3"	f	-	-	-14°	"	OX	#EV	
4	G 66-57 = G 15-4	15 ^h 00 ^m 57 ^s +3° 58' 1"	"	1030-1110	3x10 ^m	23.4 / 32	8	"	S	W	3"	f	-	-	"	"	4X	#EV	
5	G 138-25	16 ^h 22 ^m 57 ^s +15° 48' 4"	"	1150-1210	2x8 ^m	14.3 / 16	9	"	S	W	4"	f	-	-	-15°	"	OX	#EV	
6	G 175-34	4 ^h 26 ^m 50 ^s +58° 53' 3"	Feb. 14	0400-0430	4x5 ^m	27.3 / 25	10	"	S	E	2-3"	g	-	-	-10°	"	OX	#EV	
7	LP 31-60	3 ^h 05 ^m 18 ^s +73° 36'	"	0530-0600	30 ^m	25.1 / 16	11	"	S	E	2-3"	f	-	-	"	"	OX	#EV	
8	G 149-81	13 ^h 20 ^m 36 ^s +24° 44' 1"	"	0840-0900	20 ^m	11.6 / 0	12	"	S	W	3"	f	-	-	-12°	"	OX	#EV	
9	G 165-47	14 ^h 4 ^m 49 ^s +38° 51' 7"	"	0945-1015	30 ^m	14.9 / 11	2	"	S	W	3"	f	-	-	"	"	OX	#EV	

PLATE NO	OBJECT	1950 RA/DEC	1967 UT DATE	UT/ST	EXP	GUIDE STAR	P.H.	EM	P.A.	TEL	EFF	TR	REF	ST	OFF	DOWN	FL	POS	OB	REMARKS
TT 21970	G138-25	16 ^h 22 ^m 57 ^s +15°48'4"	1968 Feb. 14	1055-1115	2x8 ^m	14,3/16	3	103 AG	S	W	3"	f	-	-	-12°	25.0	OX	#	EV	
1	G74-7	2 ^h 08 ^m 14 ^s +31°41'6"	Feb. 15	0250-0310	3x5 ^m	21.1/2	4	"	W	E	2-3"	f	-	-	-6°	"	OX	#	EV	
2	G95-59	3 ^h 46 ^m 45 ^s +43°17'6"	"	0355-0425	30 ^m	16.5/14	5	"	S	E	3"	f	-	-	"	"	OX	#	EV	
3	G175-34	4 ^h 26 ^m 50 ^s +58°53'3"	"	0500-0520	4x3 ^m	27.3/25	6	"	S	E	3"	f	-	-	"	"	OX	#	EV	
4	G165-47	14 ^h 04 ^m 49 ^s +38°51'7"	"	0810-0840	30 ^m	14,9/11	7	"	S	W	3-4"	f	-	-	-7°	"	3X	#	EV	
5	G66-57 =G15-4	15 ^h 00 ^m 57 ^s +3°58'1"	"	0920-0950	3x9 ^m	23,4/31	8	"	S	W	3"	f	-	-	-8°	"	3X	#	EV	
6	G138-25	16 ^h 22 ^m 57 ^s +15°48'4"	"	1030-1050	2x8 ^m	14,3/16	9	"	S	W	3-4"	f	-	-	"	"	OX	#	EV	
7	Equator	trail	"					"	W										EV	Trail plate to align camera E-W.
8	G134-22	2 ^h 13 ^m 47 ^s +42°44'5"	Feb. 18	0240-0310	30 ^m	11,8/7	1	"	W	E	3"	f	-	-	-11°	24.0	OX	#	EV	wind
9	G95-59	3 ^h 46 ^m 45 ^s +43°17'6"	"	0350-0420	30 ^m	19,2/12	2	"	W	E	3"	f	-	-	"	"	OX	#	EV	wind

PLATE NO

OBJECT

1950 RA/DEC

1967 UT DATE

UT/ST

EXR

GUIDE STAR

P.H.

F.M.H.

P.A.

F.E.

F.F.S.

T.R.A.N.S.

A.P.S.G.

T.M.S.

L.A.S.S.

L.S.P.O.T.

F.L.A.S.H.

POSITION

NO

REMARKS

π21990	G95-59	3 ^h 46 ^m 45 ^s +43°17.6	Feb. 22	0315-0345	30 ^m	16.5/14
1	G87-8	6 ^h 45 ^m 41 ^s +37°11.3	"	0535-0605	30 ^m	25.3/29
2	VA-C216	17 ^h 56 ^m 38 ^s +82°44.2	"	0945-1015	30 ^m	26.4/25
3	G138-59	16 ^h 39 ^m 45 ^s +10°32.3	"	1130-1200	30 ^m	13.0/11
4	G95-59	3 ^h 46 ^m 45 ^s +43°17.6	Feb. 23	0250-0320	30 ^m	19.2/12
5	G99-33	5 ^h 45 ^m 14 ^s +8°21.9	"	0415-0435	20 ^m	31/35
6	G87-8	6 ^h 45 ^m 41 ^s +37°11.3	"	0540-0610	30 ^m	25.3/29
7	VA-C216	17 ^h 56 ^m 38 ^s +82°44.2	"	0820-0850	30 ^m	26.4/25
8	G138-59	16 ^h 39 ^m 43 ^s +10°32.3	"	1030-1100	30 ^m	13.0/11
9	Equator trail		"			

1	103 AG	S	E 2"	g	-	-	-12°	23.0	OX	#	EV
2	"	W	E 2"	g	-	-	-13°	"	OX	#	EV
3	"	E	W 2-3"	g	-	-	-16°	"	OX	#	EV
4	"	S	W 2-3"	g	-	-	"	"	OX	#	EV
5	"	W	E 2-3"	g	-	-	-10°	25.0	OX	#	EV
6	"	S	E 2-3"	g	-	-	"	"	OX	#	EV
7	"	W	E 3"	g	-	-	-11°	"	OX	#	EV
8	"	E	W 2-3"	g	-	-	-12°	"	OX	#	EV
9	"	S	W 3-4"	g	-	-	"	"	OX	#	EV
10		S	W								EV

PLATE NO	OBJECT	1950 RA/DEC	1967 UT DATE	UT/ST	EXP	GUIDE STAR	P.H.	F.M.H.	P.A.	F.L.C.	F.F.S.	T.R.A.N.S.	1950	1950	1950	F.L.A.S.H.	POSITION	REMARKS	
1122000	G 95-59	3 ^h 46 ^m 45 ^s + 43° 17'.6	1968 Feb. 24	0315-0345	30 ^m	19.2/12	11	103 AG	W	E	2"	g	-	-	-7° 25.0	2X	#	EV	
1	G 105-23	6 ^h 11 ^m 08 ^s + 15° 11'.6	"	0447-0517	30 ^m	32/3	12	"	S	E	2"	g	-	-	" "	2X	#	EV	
2	NGC 2281	6 ^h 46 ^m 2 ^s + 41° 14' ¹⁹⁶⁸	Feb. 25	0147-0209 43 ^m E, 31 ^m E	2x10 ^m	-	1	"	S	W	1"	f	-	-	-4.0 24.4	0X	#	WVA	Same glass. filter normal filter rotated E-W about the N-S line
3	NGC 2281	6 ^h 46 ^m 2 ^s + 41° 14' ¹⁹⁶⁸	"	0212-0223 17 ^m E, 6 ^m E	2x10 ^m	-	1	"	S	W	1"	f	-	-	" "	0X	#	WVA	
4	G 99-33	5 ^h 45 ^m 14 ^s + 8° 21'.9	Feb. 26	0400-0430	30 ^m	31/35	2	"	S	E	2"	f	-	-	-5° 25.2	1X	#	EV	
5	G 87-8	6 ^h 45 ^m 41 ^s + 37° 11'.3	"	0533-0603	30 ^m	25.3/29	3	"	W	E	3"	p	-	-	" "	1X	#	EV	
6	G 95-59	3 ^h 46 ^m 45 ^s + 43° 17'.6	March 1	0249-0319	30 ^m	19.2/12	4	"	W	E	2"	f	-	-	-7° 25.2	1X	#	EV	
7	G 105-23	6 ^h 11 ^m 08 ^s + 15° 11'.6	"	0418-0448	30 ^m	32/3	5	"	S	E	2-3"	f	-	-	" "	1X	#	EV	
8	G 87-8	6 ^h 45 ^m 41 ^s + 37° 10'	"	0525-0555	30 ^m	25.3/29	6	"	W	E	2-3"	f	-	-	-8° "	1X	#	EV	
9	G 95-59	3 ^h 46 ^m 45 ^s + 43° 17'.6	March 3	0250-0320	30 ^m	19.2/12	7	"	W	E	2-3"	f	-	-	-7 24.1	0X	#	EV	

PLATE NO	OBJECT	1950 RA/DEC	1967 UT DATE	UT/ST	EXP	GUIDE STAR	P.H.	EMULSION	P.A.	TEL	EMULSION	TRANS	APERTURE	SCALE	FOCUS	FOOT	FLASH	EXPOSURE	REMARKS
22010	G 99-33	5 ^h 45 ^m 14 ^s +8° 21'.9	Mar. 3 ¹⁹⁶⁸	0352-0412	20 ^m	31 / 35	8	103 AG	S E	2-3"	f	-	-	-	724.1	OX	#	EV	
1	G 87-8	6 ^h 45 ^m 41 ^s +37° 11'.3	"	0517-0547	30 ^m	25.3 / 29	9	"	W E	3"	f	-	-	-	8°	"	1X	#	EV
2	VA-C 216	17 ^h 56 ^m 38 ^s +82° 44'.2	"	0710-0740	30 ^m	26.4 / 25	10	"	E W	3"	f	-	-	-	9°	"	1X	#	EV
3	LP 101-15/16	16 ^h 33 ^m 30 ^s +57° 15'.1	"	0849-0925	30 ^m +4 ^m	30.3 / 22	11	"	E W	3"	f	-	-	-	10°	"	1X	#	EV
4	G 138-59	16 ^h 39 ^m 43 ^s +10° 32'.3	"	1015-1045	30 ^m	13.0 / 11	12	"	S W	3"	f	-	-	"	"	"	1X	#	EV
5	G 221-10,11	3 ^h 24 ^m 35 ^s +73° 52'.0	Mar. 4	0231-0301	30 ^m	11.0 / 19	1	"	W E	3"	f	-	-	-	1° 25.0	"	2X	#	EV
6	G 105-23	6 ^h 11 ^m 08 ^s +15° 11'.6	"	0359-0429	30 ^m	32 / 3	2	"	S E	3"	f	-	-	"	"	"	1X	#	EV wind
7	G 87-8	6 ^h 45 ^m 41 ^s +37° 11'.3	"	0505-0535	30 ^m	25.3 / 29	3	"	W E	3"	f	-	-	-	2°	"	1X	#	EV wind
8	G 221-10,11	3 ^h 24 ^m 35 ^s +73° 52'.0	Mar. 5	0246-0316	30 ^m	11.0 / 19	1	"	W E	2"	f	-	-	+4	26.0	"	2X	#	EV
9	G 109-35	6 ^h 56 ^m 30 ^s +19° 25'.6	"	0410-0440	30 ^m	28.2 / 13.9	2	"	W E	3"	f	-	-	"	"	"	2X	#	EV clouds

PLATE
No

OBJECT

1950
RA/DEC1968
UT
DATE

UT/ST

Exp

GUIDE STAR

P.H.

EMUL
AG

P.A.

TEL.

SEE

TRANS

GRAT

SECT

TEMP

FOCUS

FLASH

CONFIG

OBS.

REMARKS

PLATE No	OBJECT	1950 RA/DEC	1968 UT DATE	UT/ST	Exp	GUIDE STAR	P.H.	EMUL AG	P.A.	TEL.	SEE	TRANS	GRAT	SECT	TEMP	FOCUS	FLASH	CONFIG	OBS.	REMARKS
↑22020	✓VA-C216	17 ^h 56 ^m 38 ^s +82°44'.2	Mar. 5	0710-0740	30 ^m	26.4/25	3	103 AG	E W	4"	γ	-	-	+3	26.0	2X	#	#	EV	
1	✓G182-36	18 ^h 01 ^m 03 ^s +37°31'.6	"	0935-0955	20 ^m	22.0/27	4	"	E W	3"	γ	-	-	+2	"	2X	#	#	EV	Clouds
2	✓G221-10,11	13 ^h 24 ^m 35 ^s +73°52'.0	Mar. 7	0216-0246	30 ^m	11.0/19	5	"	W E	2"	f	-	-	-1	25.0	2X	#	#	EV	
3	✓G109-35	6 ^h 56 ^m 30 ^s +19°25'.6	"	0345-0415	30 ^m	28.2/13.9	6	"	W E	3"	f	-	-	"	"	2X	#	#	EV	
4	✓G107-69	7 ^h 27 ^m 03 ^s +70 +48°18'.4	"	0518-0548	30 ^m	9.8/35	7	"	W E	2"	f	-	-	-2	"	2X	#	#	EV	
5	✓VA-C216	17 ^h 56 ^m 38 ^s +82°44'.2	"	0702-0732	30 ^m	26.4/25	8	"	E W	2"	f	-	-	-3	"	2X	#	#	EV	
6	✓G182-36	18 ^h 01 ^m 03 ^s +37°31'.6	"	0909-0939	30 ^m	22.0/27	9	"	E W	2"	f	-	-	"	"	2X	#	#	EV	
7	✓G138-59	16 ^h 39 ^m 43 ^s +10°32'.3	"	1020-1050	30 ^m	31.0/30	10	"	E W	3"	f	-	-	"	"	2X	#	#	EV	
8	✓G170-12	17 ^h 02 ^m 08 ^s +17°00'.6	"	1120-1132	2x5 ^m	12.3/17.5	11	"	E W	3"	f	-	-	-4	"	1X	#	#	EV	
9	✓G109-35	6 ^h 56 ^m 30 ^s +19°25'.6	Mar. 17	0248-0318	30 ^m	28.2/13.9	1	"	W E	3"	f	-	-	+8	26.5	2X	#	#	EV	