

Telescope:

IRIS 306

Frame prefix #: FR85I

Day of Week: Tue

RA offset: 3.3W

Focus: 3464

Humdty: 88 Sheet #: 1

Observers: Marcialis
Schultz WW

Date MST/UT: Oct 15/16

Dec offset: 0

Tailpiece: 17

Balance: 70

Temp O/I: 40/45

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
✓001	FS-222	300	V	4400	4:50:01	20:59:11.5	11:04:35		8:45 - Topped off dewar
				thin Oct 17/18					4:45 fill dewar topped off 6:45
✓002	Flat Field	0.4	V	7880					
✓003	"	"	V	7900					
✓004	"	"	V	7700					
✓005	"	"	V	7800					
✓006	"	1.5	B	5700					
✓007	"	"	"	5800					
✓008	"	0.3	R	9400					
✓009	"	0.25	"	7700					
✓010	"	"	"	7600					
✓011	"	0.1	I	5300					
✓012	"	0.15	"	7600					
✓013	"	"	"	7500					

Telescope:

Frame prefix #: FEB5I

Day of Week: Thur/Fri

RA offset:

Focus: 3464 Humdty: 100 Sheet #: (2)

Observers: Schultz
WW

Date MST/UT: Oct 17/18

Dec offset:

Tailpiece: 17
Balance: 70 Temp O/I:

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
✓014	Danz	0.15	N/A	803					
✓015	11	11	11	807				only 1/2 frame	Something wrong with Frame - Had to re-boot OK - second time
✓016	Flat Field	6.0	5980	6400					
✓017	11	11	11	6300					
✓018	11	0.5	8250	7000					
✓019	11	11	11	7300					
✓020	11	1.5	8600	4500					did not say integrations → only 1/2 FRAME - try again same result Reboot - OK
✓021	11	1.7	11	5200					
✓022	11	11	11	5100					
✓023	11	2.0	9180	5400					
✓024	11	11	11	5300					
✓025	DARIC	2.0	N/A	719					
✓026	11	11	N/A	759					
✓027	Flat Field	6.0	5139	6300					
✓028	11	11	11	6400					

Telescope:

Frame prefix #: FR95I

Day of Week: Thu/Fri

RA offset:

Focus:

Humdty: 100 Sheet #: 3

Observers: Schmitz
CW

Date MST/UT: Oct 17/18

Dec offset:

Tailpiece:

Balance: Temp O/I:

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
✓29	FlatField	5.0	6185	7500					
✓30	11	11	11	7300					
✓31	11	10.0	6250	6200					
✓32	11	11	11	6200					
✓33	11	50.0	6300 7.1k	6300					
✓34	11	11	11	6100					
✓35	11	60.0	6300	7800					
✓36	11	11	11	7900					
✓37		180	4060	3200					
✓38	11	300	4060	4600					
✓39	Danz	1.0	N/A	753					
✓40	Danz	1.0	N/A	773					
✓41	GO 71	5.0	V	9,124,57	74100	5:51:25.4	15:51:15		GO 71 low alt U.
✓42	11	11	R	9,28,44	4300				
✓43	11		I	9,31,15	2800			1:56	

Telescope:

Frame prefix #: FRSI

Day of Week: Thu/Fri

RA offset: 9sec W

Focus: 3564

Humdty: 100 Sheet #:

Observers: schultz
ww

Date MST/UT: Oct 17/18

Dec offset: 2min S

Tailpiece: 17

Balance: 72

Temp O/I: 22/24

4

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
✓44	60 71	10	B	3800 800	9:33:11	5:51:25.4	15:51:11		
✓45	Halley	60	V	0	9:38:15	5:58:33	20:47:41	1:58E	
✓46	11	60	V		9:43:15	5:58:33	20:47:12	1:50	
✓47	11	120	V	12000	9:45:50	5:58:33	20:47:13	1:47.5	
✓48	11	120	R	10000	9:49:15				
✓49	11	60	R	6200	9:52:31				
✓50	11	60	I	7000	9:55:09				
✓51	11	120	I	14000	9:57:54				
✓52	11	120	B	6500	10:00:57				
✓53	11	300	B	13000	10:05:04				
✓54		120	B	12000	10:12:50				10:12:50 0.15
✓55		60	V	16000	10:15:33				10:15:33
✓56		60	R	13000	10:17:15			1:12	10:17:15
✓57		60	F	8000	10:18:59				10:18:59
✓58	9617 3D	6.0	B	7000	10:34:08	4:51:38	00:18:59	0:00:08	1.18

Telescope:

 Frame prefix #: FR65 I Day of Week: Thu/Fri
 Observers: Schultz
 Date MST/UT: Oct 17/18
 WW

 RA offset: 9.0^{sec} W Focus: 3564 Humdty: 100 Sheet #:
 Tailpiece: 17
 Dec offset: 2:05 S Balance: 72 Temp O/I: 24/28

5

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
✓ 59	96737	3.0	V	7100	10:39:13				
✓ 60	"	3.0	R	5000	10:40:58				
✓ 61	"	5.0	I	3200	10:42:55				
✓ 62	G 7	120	B	9000	10:55:45	7:17:06	-17:46:09		
✓ 63	"	300	B	22000	10:59:55	7:16:51	-17:46:24	1:47	
✓ 64	"	120	V	22,000	11:07:30	:52	:31		
✓ 65	"	60	V	16000	11:13:55	:51	:32		
✓ 66	"	60	R	14000	11:16:30				
✓ 67	"	30	R	7600	11:19:25				
✓ 68	"	30	I	5700	11:21:25				
✓ 69	"	60	I	10,500	11:23:25				
✓ 70	"	180	R	22,000	11:26:27	7:16:52	-17:47:09	1:23 E	
✓ 71	"	180	V	22,000 2200	11:30:33	:53	:30		
✓ 72	"	30	V	8000 7000	11:42:55				
✓ 73	"	60	B	6000 900	11:50:40				

Telescope:

Frame prefix #: FR85I Day of Week: Fri/Sat

RA offset:

Focus:

Humdty: 69 Sheet #: 7

Observers: D. Santic Finic
Schulze Date MST/UT: Oct 18/19

Dec offset:

Tailpiece: 17

Balance:

Temp O/I: 39/42

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
✓ 76	FlatField	1.7	B	6300					4:50 filled dewar
✓ 77	"	1.7	"	6400					
✓ 78	"	0.4	V	7600					
✓ 79	"	0.4	V	7700					
✓ 80	"	0.25	R	7200					
✓ 81	"	0.25	"	7600					
✓ 82	"	0.15	I	7400					
✓ 83	"	"	"	7300					
1 ✓ 84	DARIC	1.0	M/A	747					
2 ✓ 85	"	"	"	"					
3 ✓ 86	Hartley Good	60	V	7100	4:12:06	20:14:00	-7:19:16		Topped dewar off 8:00
4 ✓ 87	"	180	V	17000	4:15:19				
5 ✓ 88	"	60	R	5600	4:20:50				
✓ 89	"	240	R	19000	4:23:29				
✓ 90	"	"	I	14000	4:29:49			243 W	

New type

Telescope:

Frame prefix #: FR85I Day of Week: Fri/Sat

RA offset: 0

Focus:

Humdty:

Sheet #: 8

Observers: D. Santini Fink
Schulze

Date MST/UT: Oct 18/19

Dec offset: 2m S

Tailpiece: 17

Balance:

Temp O/I:

Tape file
#

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
8	✓ 91 Hartley 600	240	B	8900	4:35:42	20:13:54	-7:18:20	2:49W	
9	✓ 92 FS-221	300	R	day 2400	4:58:02	23:57:54	16:46:24	0:33E	
10	✓ 93 "	300	R		5:06:02			0:25E	
11	✓ 94 "	"	"		5:14:24			0:17E	
12	✓ 95 "	"	"		5:23:19			0:08E	
13	✓ 96 "	"	"		5:31:45			0:01W	
14	✓ 97 "	"	"	4100	5:40:11			0:09W	
15	✓ 98 "	"	"		5:47:46	23:57:53	16:46:01	0:17W	Computer crashed after readout
16	✓ 99 "	"	"		5:57:36			0:26W	
17	✓ 100 "	"	"		6:06:08			0:35W	
18	✓ 101 "	"	"		6:12:28			0:41W	
19	✓ 102 "	"	"		6:18:55			0:48W	
20	✓ 103 "	"	"	4500/3000	6:25:31			0:54	
	✓ 104 "	"	"		6:32:32			1:02W	
	✓ 105 "	"	"		6:38:58			1:08W	

Frame prefix #:

Telescope:

Day of Week: Fri/Sat

RA offset:

Focus:

Humdty:

Sheet #: 9

Observers:

Date MST/UT: Oct 18/19

Dec offset:

Tailpiece:

Temp O/I:

AM

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
23 ✓	106 FS 221	300s	R		6:45:08	23:57:52	16:45:32	1:14W	
24 ✓	107 "	"	R		6:51:36			1:21W	
25 ✓	108 LAN	1.5	V	6000	7:22:20				1.12
26 ✓	109 "	"	"	10000	7:25:17	0:17:32.4	15:42:18		1.12
27 ✓	110 "	"	R	5300	7:26:51				1.13
28 ✓	111 "	2.0	R	5400	7:28:18			1:38w	1.13
29 ✓	112 "	4.0	I	5300	7:29:59				1.13
30 ✓	113 "	6.0	I	5800	7:31:52			1:42w	1.14
31 ✓	114 "	6.0	B	12700	7:33:39			1:43	1.14
32 ✓	115 "	4.0	B	9500	7:35:27				1.14
1 ✓	116 HILT 102	0.5	8520	6400	8:17:31	1:08:11.5	62:41:05	1:36W	
2 ✓	117 "	"	"	4500	8:18:46				
3 ✓	118 "	4.0	8600	6800	8:21:07			1:40W	
4 ✓	119 "	"	"		8:22:25				
5 ✓	120 "	10.0	9180		8:24:10			1:43W	

mistake
for best
should be 1

Telescope:

Frame prefix #: **FR85I**

Day of Week: **Fri/Sat**

RA offset:

Focus:

Humdty:

Sheet #: **(10)**

Observers:

Date MST/UT: **Oct 18/19**

Dec offset:

Tailpiece:

Balance:

Temp O/I:

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
6 ✓	121	HILT 102	10.0s	9180	7850	8:25:41	1:08:10.6	62:41:05	focus = 3570
7 ✓	122	"	4.0	5980	5700	8:34:13			focus → 3560
8 ✓	123	"	"	5980	6400	8:35:56		1:55W	rolled down 8:45 UT
9 H ✓	124	"	3.0	5139	7300	8:56:29		2:16W	
10 ✓	125	"	"	"	7000	8:59:47			
11 ✓	126	"	6.0	6185	10900	9:00:17		2:19W	
12 ✓	127	"	5.0	"	9300	01:43			
13 ✓	128	"	10.0	6290	9900	05:52		2:25W	tape file #13 is <u>satd.</u>
14=12 ✓	129	"	10.0	"	5400	09:09			
15 ✓	130	"	40.0	6300	4300	9:11:05	1:08:14	62:41:07	2:30W
16 ✓	131	"	60.0	"	9100	9:13:11			
17 ✓	132	"	30.0	4060	3700	9:24:01		2:43W	
18 ✓	133	"	60.0	"	5600	9:26:04			
19 ✓	134	"	15.0	4565	11000	9:31:41		2:51	
20 ✓	135	"	"	"	6500	9:33:08			

Telescope:

Frame prefix #: FR85I

Day of Week: Fri/Sat

RA offset:

Focus:

Humdty:

Sheet #: (11)

Observers:

Date MST/UT: Oct 18/19

Dec offset:

Tailpiece:

Balance:

Temp O/I:

Temp & Time	Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
22 ✓	136	Halley	60.0	4565	1200	9:49:55	5:57:05	20:52:16		
23 ✓	137	"	5min	"	2800/750	9:53:35			1:36 E	
24 ✓	138	"	"	4060	1100/700	10:00:33	5:57:05	20:51:58	1:29 E	
25 ✓	139	"	30.0	V	16000	10:11:03			1:18 E	
26 ✓	140	"	15.0	"	8300	10:13:37			1:16	
27 ✓	141	"	120	"	21000/2000	10:16:42				x hurt
28 ✓	142	"	15	R	7900/900	10:20:23				
29 ✓	143	"	120	R	21000/1600	10:22:25	5:57:02.5	20:52:02	1:07 E	x hurt
30 ✓	144	"	300	R		10:26:27			1:03 E	
31 ✓	145	"	30	B	5900	10:33:27			0:56 E	
32 ✓	146	"	120	"	16000	10:35:37			0:54 E	
✓	147	"	30	I	13000	10:41:06			:47.5	
✓	148	"	120	I	21000/2500	10:43:51			:44.5	
✓	149	"	90	8520	7300	10:52:46			0:36 E	
✓	150	"	300	8600	5300	10:57:02	5:57:00.6	20:52:12	0:32 E	

Halley's HA = 29^m 20^s at 11:00 UT

HA = 00:30:50 at 2h

Telescope:

Frame prefix #: FR85I Day of Week: Fri/Sat

RA offset:

Focus:

Humdty:

Sheet #: 12

Observers:

Date MST/UT: Oct 18/19

Dec offset:

Tailpiece:

Balance:

Temp O/I:

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
4151	Halley	300	9180	3100/900	11:04:02	5:56:59.6	20:52:13	00:25E	
4152	"	60	5980	2100	11:12:47			:17.5	
4153	"	300	"	6450/900	11:15:14			01:14E	
4154	"	300	6185	5600	11:24:53	5:56:59.4	20:52:22	0:04E	
4155	"	300	6250	2860	11:31:55			0:03W	
4156	"	300	5139	9700/900	11:38:53			10 ^{min} W	
4157	"	600	6300	2050/800	11:45:52			0:03W	
4158	"	"	6300-T	1900/800	12:06:56			0:38 W	
4159	GZ	30	R	13000	12:29:16				
4160	"	60	"	20K	12:32:27	7:18:13.9	-18:33:50	0:18 E	x hat
4161	"	15	"		35:27			0:15	
4162	"	15	V		37:35				
4163	"	60	V		39:25			0:11 E	x
4164	"	60	B		41:46			0:08 E	
4165	Dark	1 sec	—						

166 - Dark ; 167 Flat Field, , 4565

tel. TOL. { 3520 - I

Telescope:

Frame prefix #: F855I

Day of Week: Sat/Sun

RA offset:

Focus: 3456

Humdty:

Sheet #: 14

Observers: DiSanti
Finic

Date MST/UT: Oct 19/20

Dec offset:

Tailpiece: 927

Balance: 580

Temp O/I:

Exp #	Object	Exp time	Filter (slit)	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
170	DESK LAMP	.05	.25	7000					
171	Xe	.05							
172		.04							
173	He	.04							
174	He	0.1							
175	He	1.0	.01						
176	Hertley	300	1.0	Cont ~3000	2:50:32	20:07:41.2	-6:19:28	1:13 W	
177	"	720	0.25		3:01:16			1:25 W	less ~8 sec for guide check
178	"	1320	"	same	3:16:08	20:07:34.6	-6:18:22	1:39 W	less 1:04 for guide check (res. 3:22:18) Interrupt @ 3:31:25 stop?
179	"	600	"	~1100	3:42:33			2:05 W	less 25 sec (guide check) with this
180	7 Del	1 sec		~12K	4:05:50	20:38:22.6	+10:02:09	1:58 W	focus 3520
181	"	0.8		~10000	4:07:07			1:59 W	
182	"				4:09:07			2:01 W	
183	II ZW 136	600			4:29:40	21:31:42.0	+10:04:20	1:28 W	focus back to 3420 (seemably)
184	"				4:46:27		:23	1:46 W	

45 ~ 300 db/min

Telescope: 61"
 Frame prefix #: FR85I Day of Week: Sat/Sun RA offset: -2^s
 Observers: Fink / Eric Kartuchka Date MST/UT: 14/20 Dec offset: 0 Focus: Humdty: 93 Sheet #: 5
 Tailpiece: Balance: Temp O/I: 38/42

Exp #	Object	Exp time	Filter (slit)	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
✓ 185	II ZW/36	600	0.25		5:02:49	21:31:42.2	10:04:26	2:01W	
✓ 186	"	300	"	HK-9000	5:15:28			2:14W	
✓ 187	NGC 703	300	"		5:54:31	23:18:09.8	0:09:23	1:07W	
✓ 188	"	600	"		6:06:46	:10.6		1:18W	
✓ 189	"	"	"	HK-700 cont 2600	6:19:48	:10.0		1:32.5W	another happened to Mike
✓ 190	"	"	"	6300	6:34:52			1:47.5W	→ 650 Mike not away!
✓ 191	BS 718	0.15	10mm	55W	8:04:29	2:27:21.2	08:23:48	0:08W	Film std F800 3580
✓ 192	"	0.15	"	73W	8:11:32	"	"	0:1	"
✓ 193	"	0.15	"	70W/70W	13:18	"	"	0:17W	"
✓ 194	BS 2047	1.0	0.25	105W/70	30:45	5:52:30.9	+20:16:10		Cop for Hally 3690
✓ 195	"	"	"	110W/70	32:26	"	"	2:49E	"
✓ 196	"	"	"	110W	41:10	"	"	2:37E	"
✓ 197	Hally	3W	"	3W	9:07W	5:55:24	+20:16:53	2:17E	
✓ 198	"	10W	"	5W	9:14:08	11:22.0	"	2:05E	7m f guide.
✓ 199	"	12W	"	58W/70	9:42:14	1:20.8	"	1:41E	925 for guide E 388

Telescope: 61"

Frame prefix #: FRPTL Day of Week: Sat

RA offset:

Focus: 3780 Humdty: 96% Sheet #: 16

Observers: Fink / Kar Kachka Date MST/UT: 1/9/20

Dec offset:

Tailpiece: 927 Balance: Temp O/I: 40/42

had trouble with balance changed to 360 f

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
✓ 200	BS 2047	0.90	0.25	6000/700	10 12 25	5 53 30.2	20 16 03	110° E	Cap Hally $\epsilon = 391$
✓ 201	"	1.00	"	700/700	15 13	" 29.2	"	107° E	Cap Hally $\epsilon = 391$
✓ 202	BS 1732	2.00	"	9800/200	10 21 13	4 46 17.0	-16 57 13	014° N	Cap Hally $\epsilon = 391$
✓ 203	"	"	"	9700	22 30 4	"	"	017° W	"
✓ 204	"	"	"	10120	59 43	"	"	018° W	$\epsilon = 392$
✓ 205	BS 2047	1.00	"	8400	42 15	5 53 30.8	+20 16 01	039° E	$\epsilon = 391$
✓ 206	"	"	"	7400	49 35	"	"	037° E	$\epsilon = 392$
✓ 207	Hally	12.00	"	3000	18 15	5 53 15.0	20 17 09	01 27° E	For 3000 10c for quick $\epsilon = 392$
✓ 208	"	"	"	2600	11 24 18	" 12.0	17 08	01° E	12c for quick. $\epsilon = 392$
✓ 209	G-6	1.80	"	3700	12 04 52	7 19 06.2	-19 15 20	0° 42° E	large moon and obj with RA
✓ 210	FF	15	"	10130	12:50	6 18	-21°	0° 23° W	
✓ 211	"	"	"	"	12:12				
✓ 212	"	"	"	"					

Telescope: 61"

best focus = 3492

Frame prefix #: FR85I Day of Week: SUN/MON

RA offset:

Focus: ~~3460~~ Humdty: 82 Sheet #:

Observers: FINK, DiSANTI Date MST/UT: 20/21

Dec offset:

Tailpiece:

Balance: 507 Temp O/I: 41/47

17

Exp #	Object	Exp (s) time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
17 ✓	Hartley 60	1320	0.25	5000/2000	3:35:47	20:01:08.2	-5:17:33	2:09W	SIH may be 0.58 best ~ 58 582 (Guide chg) good exp. - 26. Manual align RA
18 ✓	7 Del	0.8	11	10000	4:22:27	20:38:22.4	+10:01:19	2:18W	balance → 400; play in dec. focus → 3596
19 ✓	7 Del	0.6	11	10000	28:02				
20 ✓	7 Del	0.6	11	11000	26:04			2:22W	
21 ✓	13 AQR	0.3	11	9000	37:30	21:08:46.1	-11:26:36	2:03W	
22 ✓	"	"	"	"	38:27				
23 ✓	II Zw 136	300	11	H2 ~ 8000	49:04	21:31:42.6	+10:03:37	1:52W	
24 ✓	"	600	11	H2 ~ 13,000	58:54			2:01W	
25 ✓	"	600	11	"	5:10:30			2:13W	
26 ✓	"	600	11	"	5:22:00			2:25W	
27 ✓	"	600	11	"	5:34:35			2:37W	
28 ✓	"	600	11	9000	5:51:47				
29 ✓	NGC 7603	300	11		6:15:06	23:18:09.3	+0:09:01	1:32W	
30 ✓	"	600	11		6:32:36			1:39	
31 ✓	"	1200	11	~ 3200	6:37:35			1:53	

Telescope: 61"

10% at 9:47 UT (18)

Frame prefix #: FR55I

Day of Week: Su/Mo

RA offset:

Focus: 3492

Humidity: 75% Sheet #:

Observers: D. S. M., M. K. S.

Date MST/UT: 20/21 Oct

Dec offset:

Tailpiece: 17

Balance: 507

Temp O/I: 40/44

39/43 at 9:47 UT

Exp #	Object	Exp time	Filter (slit)	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)	
32 ✓	228	NBC 7603	600	0.25	6100	7:03:37	23:19:09.7	+0:09:04	2:20W	
33 ✓	229	"	600	0.25	7700	7:16:28	"	"		Polar taprol off (~ 7:30 UT)
34 ✓	230	BS 714	0.15	1.00	7400/500	7:49:00				1.14
35 ✓	231	"	0.15	1.00	8000/350	7:51:51				1.14
36 ✓	232	DARK	0.15	1.00	730	7:53:43				Dark slide in
37 ✓	233	BS 714	0.15	1.00	9160/700	7:56:17	2:27:21.4	+08 22 CT		1.13 at 9:12 HA = 1' 10" W
38 ✓	234	BS 2047	0.2	0.25	6000	9:23:35	5:53:29.9	+20:15:44	1:54E	New focus 3440 (best) Focus → 3535
39 ✓	235	"	0.3	0.25	11000	9:25:27			1:52E	1.13
40 ✓	236	HALLEY	1800	"	7500/1000	9:36:45	5:53:30.3	+21:00:44	1:41E	Focus back → 3422 (less 30 sec - guide check)
✓	237	BS 2047	0.2	"	6000	10:12:55	5:53:30.6	+20:15:44	1:05E	Focus → 3520 Halley Comp
✓	238	"	0.3	"	9000	10:14:17			1:03E	1.05
✓	239	"	"	"	7500	10:15:34			1:02E	1.05
✓	240	BS 1532	2.0	"	13000	10:22:00	4:40	-16:04	0:20W	S-Z Comp.
45 ✓	241	"	0.8	"	11000	10:23:28			0:22W	
✓	242	"	"	"	12000	24:40			0:23W	

Telescope:

Frame prefix #: FR85I Day of Week: Su/Mon

RA offset:

Focus:

Humdty:

Sheet #: 19

Observers: FINK, DISANTIS Date MST/UT: 20/21 Oct

Dec offset:

Tailpiece:

Balance:

Temp O/I:

Tape file #

Exp #	Object	Exp time	Filter Slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
47 ✓	243 BS 2047	0.2	0.25	6400	10:43:30	5:53:30	+20:15:44	0:34 E	topped off dewar (1.03)
48 ✓	244 "	0.3	"	9300	44:54			0:33 E	(1.03)
49 ✓	245 HALLEY	1800	"	7500/1000	10:56:20	5:53:24	+21:00:59	0:21 E	focus back → 3416 loss 45 sec (guide check)
50 ✓	246 BS 2047	0.2	0.25	5000	11:30:47			0:13 W	focus → 3517 (1.02)
51 ✓	247 "	0.3	"	6300	11:32:15			0:14.5 W	(1.02)
New tag 1 ✓	248 G-Z	1800	"	3500	11:58:33	7:19:58.5	-19:57:44	0:45 E	focus → 3416 loss 23 min (guide check)
2 ✓	249 "	900	"	5000/1500	12:30:44	7:20:00.1	-19:58:48	0:13 E	tracking quite good both RA & dec
3 ✓	250 Flat Field	15	"	10000+			"		
4 ✓	251 "	"	"	"					
5 ✓	252 "	"	"	"					