

Telescope: 4 inch

Frame prefix #: Focus

Day of Week: Fri (TGIF)

RA offset: ✓

Focus: ✓

Humdty: 100% Sheet #: 2

Observers: people

Date MST/UT: who cares?

Dec offset: ✓

Tailpiece:

Balance:

Temp 0/I: (0)

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	Focus	.050	V	/	/	13 wide	Peak 11,600	/	Original setting
002	Focus	.050	V	/	/	18 wide	Peak 12,61	/	0.550
003	Focus	.050	V	/	/	18 wide	Peak 7,700	/	0.650
004	Focus	.050	V	/	/	50 wide	Peak 2,600	/	0.750
005	Focus	.050	V	/	/	40 wide	Peak ?	/	0.500
006	Focus	.050	V	/	/	? wide	Peak ?	/	0.400
007	Focus	.050	V	/	/	40 wide	Peak 4,900	/	.520
008	Focus	.050	V	/	/	? wide	Peak ?	/	0.580 OFF lights
009	Focus	.050	R	/	/	? wide	Peak ?, ?	/	.580
010	Focus	.100	R	/	/	? wide	peak ?	/	.880
011	Focus	.100	R	/	/	1 wide	Peak ?	/	.100 verticle window
012	Focus	1.00	R	/	/	X	X	/	0.620
013	Focus	1.00	R	/	/	/	/	/	0.580
014	"	"	"	/	/	/	/	/	.580
015	"	"	R	/	/	/	/	/	.580

FC 35m South completely out of view in guide scope. (South scope)

Temp O/I: 12

[illegible]

col 800
col 1510
660

900

Telescope:

lens RA 1^h 50^m East
DEC 35^m South

Frame prefix #: FCS88A

Day of Week: Tue/Wed

RA offset:

Focus: 3510 Humdty: 78% Sheet #:

Tailpiece: 17

Observers: Finic Schultz Date MST/UT: Jan 7/8

Dec offset:

Balance: Temp O/I: 20/25

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	Halley	3	V	2nt	1:35:18			3 ^h 19 ^m W	Filled dewar #1 5:00
002		1		1470	1:36:52				Filled dewar #2 5:15
003		0.5		7573	1:36:25				Topped off dewar #1 6:10
004		0.5	R	6461					
005		3.0	R	SAT	42:13				
006		1.0	B	5444	43:57				
007		5.0	I	SAT	45:40				3510 Focus
008		1.0	I	10480	1:47:48				3470
009		3.0			49:25	22:01:27.5	-03:55:49		
010		10.0	I		54:18				move comet in image
011		10:0	R		56:40				
012		10	V		58:22				
013		30	B		2:0:05				
014		60	6185		04:25				
015		300	6185		07:23			3 ^h 51 ^m W	

Telescope:

Frame prefix #:

Day of Week:

RA offset:

Focus:

Humdty:

Sheet #: (2)

Observers:

Date MST/UT:

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.)
016	Halley	60	6250	8000	2:14:20			3:58	
017		180			16:50			4:00.5	
018		20	9180	6400	2:24:50				Focus 3470
019		120			26:43				
020		20	8600	6600	2:32:45			4:16 W	
021		120	"		34:45				
→ 022		300	6185		38:50				out of focus!
→ 023	L ⁷⁸⁻²⁹ AN	4	V	4000	8:08:28	8:20:17	14:41:24		Focus = 3470 1.06
✓ 024		8	V	7300	11:28			0 ^h 22 ^m E	1.05
✓ 025		8	R	10600	13:52				1.05
026		6	I	8000	8:18:19				1.05
027		6	"	5400	20:00			14 ^m E	Focus 1.05
028		4	R	7520	22:32				Focus 3510 1.05
✓ 029		4	V	2700	24:15				?? 1.05
✓ 030		10	B	7100	26:55				1.05

Telescope:

Frame prefix #: FR86A Day of Week: Tue/Wed

RA offset:

Focus:

Humdty:

Sheet #:

Observers: Fink Schult Date MST/UT: Jan 7/8

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.)
✓031	LAN	10	B	2900	8:28:43			0 ^h 5 ^m 4 ^s E	1.05
✓032		4	V	9800	31:05		1		1.05
✓033	KODINA	60	V		36:26			0 ^h 4 ^m 2 ^s	
✓034	"	300	"		40:53	8:19:02.0	+18:41:19	8 ^m W	
✓035	NGC 3310	60	V		9:02:40	10:37:56.0	+53:32:52	1 ^h 48 ^m E	
✓036		180			6:15				
✓037		40	R	8800	9:12:03				
✓038		180	"		14:23				
✓039		60	B	6700	9:19:14				
✓040		240			22:09				
✓041		40	I	5000	28:14				Focus 3470
✓042		180	"		30:35				
✓043	BD +82015	210	9180	3000	10:14:14	8:14:57.5	+7:38:43	1 ^h 46 ^m W	
✓044		60	"	4300	18:37				
✓045		30	8600	5000	21:46				

Telescope:

Frame prefix #: F96A

Day of Week: Tue/Wed

RA offset:

Focus:

Humdty:

Sheet #:

Observers: Fink Schultz
Hebold

Date MST/UT: Jan 7/8

Dec offset:

Tailpiece:

Balance:

Temp O/I:

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.)
4046	BD	30	8600	5600	10:25:30			1 ^h 57 ^m	
4047		30	6250	6900	28:106			2 ^h 00 ^m	Focus 3510
4048			11	5200	29:56				
4049		20	6185	9000	32:26			2 ^h 04 ^m	
4050				8552	34:00			2 ^h 06 ^m	
4051		60	HA	3000	39:50				
4052		11	"	3800	42:25				
4053	E Dra	1.0	"	Sat					
4054		0.1	"	3800		16:23:44.8	+61:31:15		
4055	UWE 1	300	"		11:59:44	16:50:26.0	60:56:29	5 ^h 3 ^m E	
4056		300	open		12:06:39				
4057		120			12:14:03			4 ^h 48 ^m	
4058		900	HA		20:11				
4059		1400	"		12:37:40			4 ^h 25 ^m	
4060		120	open		13:10:32			3 ^h 47 ^m	

Telescope:

Frame prefix #: FRC85A

Day of Week: Tue/Wed

RA offset:

Focus:

Humidity:

Sheet # (

5

Observers: Fink Schultz

²Date MST/UT: Jan 7/8

Dec offset:

Tailpiece:

Temp O/I:

Balance:

[illegible]

Telescope: 4" f/6 refractor DEC 35" South

Frame prefix #: ER86A Day of Week: wed/thurs RA offset: 1' 10" Focus: Humdty: 62 Sheet #: 6

Observers: Fink Schult Date MST/UT: Jan 8/9 Dec offset: 3' 15" Balance: Temp O/I: 27/29

DISCONTINUED

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.)
1 ✓ 063	Halley	20	V	13000	1:27:05	22:01:17	-04:30:42	3h 15m	Dewar filled 5:30
2 ✓ 064		60		23000	31:04	22:01:17	-4:24:43	3h 19m	
3 ✓ 065		60	I	23800	35:35				
4 ✓ 066		100			38:38			3h 27m	
5 ✓ 067		60	R	28000	44:11	22:01:16	-4:24:47	3h 32m	x
6 ✓ 068		11	11	30000	44:46	22:01:56	-4:24:48	3h 36m	226 255
7 ✓ 069		30	11	14000	52:15				
8 ✓ 070		300	11		54:55				
9 ✓ 071		30	V	18000	2:03:17			3h 51m	
10 ✓ 072		300			05:32			3h 53m	
11 ✓ 073		30	B	3000	12:51			4h 0m	
12 ✓ 074		300		20000	14:50	22:01:54.0	-4:24:54	4h 2m	
13 ✓ 075		150	6185	3800	25:25				
14 ✓ 076		150	6250		30:50				
15 ✓ 077		1200	6185	6000	36:00			4:23	

Telescope:

Frame prefix #: FR86A

Day of Week: Wed/Thur RA offset:

Focus:

Humdty:

Sheet #:

Observers: Fink Schultz

Date MST/UT: Jan 8/9 Dec offset:

Tailpiece:

Balance:

Temp O/I:

2

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.)
✓ 078	Dan 2	10	N/A	850					
✓ 079	11	11	11						
✓ 080	11	11	11						
✓ 081	LAN 315	10	V	30000					Finding purposes
✓ 082	LAN 315	2	11	8000	27:10	0:09:00	-3:06:12	4 ^h 8 ^m	
✓ 083		3	11	12000	4:29:32				
✓ 084		3	R	20000	31:28			4 ^h 12 ^m	
✓ 085		3	11	26000	34:56				
✓ 086		2	11	16000	36:44				
✓ 087		1.5	I	12900	4:40:55			4 ^h 22 ^m	
✓ 088		11	11	2	42:17				
✓ 089		10	B	2000	46:54			4 ^h 28 ^m	
✓ 090		20	11	3500	49:14			4 ^h 30 ^m	
✓ 091		3	V	11600	51:58				
✓ 092	BS 718	10	6/8	14400	513:24	2:29:03	+7:52:35	2 ^h 34 ^m	

Telescope:

Frame prefix #: FR86A

Day of Week: wed/Thu

RA offset:

Focus:

Humdty:

Sheet #:

Observers: FINIK

Date MST/UT: Jan 6/9

Dec offset:

Tailpiece:

Balance:

Temp O/I:

Schulze

DISANTI

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.)
✓093	BS 719	10	6185	15000	5:15:27				
✓094		10	6250	6800	17:37				
✓095		20	"	12900	19:16			2h40m	
✓096	Plot Field	3	V	12000					
✓097	"	3	V	"					
✓098	"	2	R	"					
✓099	"	2	R	"					
✓100	"	1	I	"					
✓101	"	1	I	"					
✓102	"	15	B	10500					
✓103	"	15	B	"					Filled dewar #1 11:15
✓104		0.5	V	10000					CAMERA ⌀
✓105		11	"	10000					
✓106		"	"	10000	PROBLEM Here				Something wrong with this image
✓107		0.3	R	9000					

Telescope:

Frame prefix #: FR86A

Day of Week: Wed/Thur

RA offset:

Focus:

Humdty:

Sheet #: (9)

Observers: Fink DISANTI

Date MST/UT: Jan 8/9

Dec offset:

Tailpiece:

Balance:

Temp O/I:

Schultz KARKUSCHKA

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.)
✓108	FF	0.3	R	9000					
✓109	11	11	11	9000					
✓110		0.2	I	9500					
✓111		11	11	9500					
✓112		11	11	9200					
✓113		2.0	B	7800					
✓114		11	11	7600					
✓115		11	11	7200					
✓116		3.5	6185	8300					
✓117		11	11	8200					
✓118		11	6250	9300					
✓119		11	11	9400					
✓120		15.0	8600	8200					
✓121		11	11	8300					
✓122		8	9180	9900					

Focus: 3515 - 406400
3536 - 9500

Telescope:

17.66 5.21 5.20

10

Frame prefix #: FR86A

Day of Week: Wed / Thur

RA offset: 30 ARS

Focus:

Humdty:

Sheet #:

Observers: Fink Schu H2
DISANTI

Date MST/UT:

Dec offset: 2^m South

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.)
✓123	F V	8	9180	9900					
✓124	Dan 2	2	N/A	771					
✓125	"	"	"	759					
✓126	"			732					
✓127	KOSINA	60	V	?	15:39:46	8:18:17	18:42:53		Camera φ
✓128	"	120	"		45:20			2:18 ^m W	Top off camera 3:10 A.M.
✓129	"	"	"		48:42				Focus 3575
✓130	"	"	"		53:02			2:26 ^m W	
✓131	"	"	"		58:22			2:31	
✓132	"	"	"		11:02:09			2:35	
✓133	"	"	"		06:13				
✓134	"	"	"		09:38			2:42	
✓135	"	"	"		13:05			2:46	
✓136	"	"	"		17:03				
✓137	"				20:23			2:53 ^m W	

Telescope:

Frame prefix #:

Day of Week:

RA offset:

Focus:

Humdty:

Sheet #:

Observers: Finic DISANTI
MEBOLD SCHULTZ

Date MST/UT:

Dec offset:

Tailpiece:

Balance:

Temp O/I:

Exp #	Object	Exp time	Filter glc	Counts Object/Sky	Exp start MST UT	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
✓ 138	Kojima	120	✓		11:24:21	8:18:17.3	+18:42:53	2:57W	
✓ 139	"	"	"		11:27:18				
✓ 140	"	"	"		30:15			3:3 ^m	
✓ 141	Danz	1.0	N/A	747					
✓ 142	"	"	"	747					
✓ 143	UWE 2	90	6775	1000	12:03:35	16:54:22.3	+61	19:09	5'0 ^m E
✓ 144		900	6563		12:11:38				
✓ 145		90	6775		12:30:22			4:32 ^m E	
✓ 146		900	6563		12:50:55			4:12 ^m E	
✓ 147		"	"	1000	7:49			3:35 ^m	
✓ 148		90	6775	3500	13:25:02				
✓ 149		900	6563	6000	28:37			3:34 ^m E	
New ↓ type 1 ✓ 150	FF	0.2	6775	7500					
✓ 151		"	"	7400					
✓ 152	FF		6563	4000					

12

Sheet #:

Temp 0/I:

[illegible]

Telescope:

Frame prefix # **FR86A**Day of Week: **Thurs/Fri**

RA offset:

Focus:

Humidity: **96%**Sheet #: **(13)**Observers: **Fink, Schultz**Date MST/UT: **9/10 Jan**

Dec offset:

Tailpiece: **956**Balance: **N(42)** Temp O/I: **37/40 (oh ut)****S(34)**

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.)
9 ✓	158 Helium	0.05	.25						
10 ✓	159 "	0.2	"						
✓	160 Xenon	0.05	"						
✓	161 "	0.2	"						
✓	162 Alpha ^(rest) And	0.05	"						
✓	163 BS 8931	1.0	"	8200/800	1:10:32	23:20:44.8	-4:10:45	1:33W	
15 ✓	164 "	"	"	10400	12:30			1:35	
✓	165 Halley	120	"	14000	22:33	21:57:35.2	-4:19:10	3:18W	
✓	166 "	60	"	5500	26:33			3:22	center 2.4
✓	167 "	"	"	8700	30:18		-4:19:13	3:26	centering looks better
✓	168 "	"	"	7000	35:08		-4:19:12	3:31W	
20 ✓	169 "	300	"	15000	39:17	21:57:36.5	-4:19:24	3:35W	not quite centered behind mask
✓	170 "	"	"	11900	48:37	36.2	19:27	3:44	
✓	171 "	"	"	9500	57:41			3:54W	
✓	172 "	"	"		2:03:58		19:28	4:00	

Telescope:

Frame prefix #: FR86A

Day of Week:

RA offset:

Focus:

Humdty:

Sheet #: 14

Observers: Fink, Schultz
Karlson, DiSanti

Date MST/UT:

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.)
24 ✓ 173	Halley	60	.25	5000	20:04	21:57:34.5	-4:19:15	4:08W	
25 ✓ 174	"	"	"	8000	18:13		:11	4:14	
1 ✓ 175	"	"	"	7500	20:46		:10	4:17	Computer crashed during writing of #175
✓ 176	"	300	"		24:26	:35.8	19:25	4:20	
✓ 177	"	"	"		30:22			4:26	
✓ 178	BS 8931	1	"	4000	48:30	23:30:46.5	-4:10:24	3:22	
✓ 179	"	3	"	8000	2:50:19			3:23	
✓ 180	"	"	"	~12500	53:48			3:26	
✓ 181	Slagden	300	"		56:23	23:30:44.6	-4:10:50	3:29	
✓ 182	BS 8931	2	"	9000/700	3:19:33		-4:10:18	3:42W	
✓ 183	"	"	"	9500	22:17			3:45	
10 ✓ 184	"	"	"	10500	24:56			3:47	
✓ 185	"	"	"	9000	40:29	23:30:49.3	-4:10:12	4:03	
✓ 186	"	"	"	8500	45:36			4:08	
✓ 187	"	"	"	9500	47:11			4:10	

Telescope:

Frame prefix #:

Day of Week:

RA offset:

Focus:

Humdty:

Sheet #

15

Observers:

Date MST/UT:

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.)
✓ 188	sky	300	.25	8500	3:49:24	23:30:49.7	-4:10:42	4:12 ^W	
✓ 189	BS 8931	2	"	10000	58:20	130:51	110:00	4:12 ^W	
✓ 190	"	2	"		59:41			4:23	
✓ 191	"	2	"	5000	4:05:50			4:28	
✓ 192	BS 1855	.2	1.00	~800	31:50	5:31:14.3	-7:19:08	1:06 ^E	
✓ 193	"	"	"	"	34:49			1:08 ^E	
✓ 194	"	"	"	"	37:46			1:00 ^E	
✓ 195	SAO 144111	10	0.25	3800	58:27				
✓ 196	NGC 1816	20	"	~8000	5:01:38	4:39:52.2	-10 20 53	0 ^h 15 ^m W	
✓ 197	"	"	"	6400	03:47				
✓ 198	MKN 618	300	"		5:25:25	4:35:40.5	-10 24 46	0 ^h 44 ^m W	
✓ 199	"	600	"	8900	36:02			0 ^h 54 ^m W	
✓ 200	"	600	"	10500	48:43			1 ^h 7 ^m W	
✓ 201	"	"	"	9600	6:00:07				
✓ 202	"	"	"	5926	12:08			-1:30	"drifted out -- recent"

4:58.77

Telescope:

Frame prefix #: FR96A

Day of Week: Thu/Fri

RA offset:

Focus:

Humdty:

Sheet #: 16

Observers: Schultz
DISANT 1

Date MST/UT: Jan 9/10

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.)
✓203	MKN 618	600	0.25	9200	6:26:54			1:45	
✓204	"	11	11	4200	39:06				
✓205	SAD 149016	20	0.25	5500	7:02:10	4:39:51.7	-10:26:49	2 ^h 18 ^m W	
✓206		30	11	8900	7:05:33			2 ^h 20 ^m W	
✓207		11	11	8600				2 ^h 26 ^m W	
✓208		11	11		16:11			2 ^h 31 ^m W	
✓209		11	11	7000	7:19:09			2 ^h 34 ^m W	
✓210	FF	15	11	8800					
✓211	"	11	11	8600					
✓212	"	11	11	8600					
✓213	"	11	11	8800					Position angle 956
✓214	"			8800					Position 17
✓215				8800					
✓216				8600					
✓217				8800					

Telescope:

Frame prefix #: F886A

Day of Week: Thu/Fri

RA offset: 1.5^s old Focus 3585

Focus: 3595

Humdty:

Sheet #:

Observers: DISANTI
SCHULTZ

Date MST/UT: Jan 9/10

Dec offset: 37^s south

Tailpiece: 17

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.)
✓ 218	DARK	1.0	0.25	690					topped off decen 1:55
✓ 219	SAG 26530	6	11	8000	9:35:00	7:49:25	50:36:45	1 ^h 40 ^m	
✓ 220		11	11	8000	36:25			1 ^h 42 ^m	
✓ 221		11	11	8000	37:58			1 ^h 43 ^m	
✓ 222	MICN 79	300	11		9:50:42	7:41:33.0	49:49:47	2 ^h 04 ^m W	
✓ 223		600		8000	10:00:57				
✓ 224		11	11	8000	27:17				
50 ✓ 225		11	11	7400	35:18			2 ^h 49 ^m	
New tape 1 ✓ 226		11	11	2700	47:48	7:41:35.0	49:49:49	3 ^h 02 ^m	Tracking Rate 15:058 (drifted out front)
✓ 227		11	11	10600	11:00:50			3 ^h 14 ^m	15:056
✓ 228	SAG 26530	6		6600	19:00	7:49:29.5	50:36:50	3 ^h 24 ^m	
✓ 229	11	8		7200	21:32			3 ^h 27 ^m	
✓ 230	11	11		7300	23:18			3 ^h 29 ^m	
✓ 231		11		12000	28:30			3 ^h 34 ^m	re-centered
✓ 232	UWE 2	600			45:30	16:54:22.3	61:19:09	5 ^h 13 ^m E	RA 15:056 DEC 6005 south

Telescope: 61"

Frame prefix #: FR86A

Day of Week: Friday

RA offset:

Focus: 3216

Humdty: 52

Sheet #: 19

Observers: Fink,

Date MST/UT: 10/11

Dec offset:

Tailpiece: 98078

Balance:

Temp O/I: 40/44

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.)	
11 ✓	236	BS 8931	1.0	0.25	8500	1:09:00	23:30:44.3	-5:11:00	1:36W	Dec readout ~1° off to South.
✓	237	"	"	11	6500	1:10:16			1:37W	
✓	238	HALEY	60	"	13500	1:20:03	21:55:40.8	-4:30:38	3:22W	
✓	239	"	40	"	8600	23:23			3:25	
15 ✓	240	"	40	"	6500	25:32			3:27	
✓	241	"	40	"	7200	30:26			3:32	
✓	242	"	"	"	7200	32:14			3:34	
✓	243	"	300	"	7400	37:49	55:40.0	-4:30:57	3:39	
✓	244	"	"	"	10500 ⁽³²⁰⁾	48:32	"	30:56	3:50	
20 ✓	245	"	"	"	11000	56:44			3:58	
✓	246	"	"	"	~1300 ⁽³²⁰⁾	2:16:16	55:53.6	-4:28:59	4:18	moved out along tail
✓	247	"	600	"	~2200 ⁽³²⁰⁾	25:45	55:52.6	-4:29:01	4:27	moved nucleus closer to slit (tail)
✓	248	"	800	"	3200 ⁽³²⁰⁾	39:05			4:41	tracking quite good (tail)
✓	249	BS 8931	1.0	"	4200	3:00:26			3:27W	
25 ✓	250	"	"	"	6000	07:09			3:34	

Telescope: 61"

Frame prefix #: FR86A

Day of Week: FRI/SAT

RA offset:

Focus:

Humdty:

Sheet #: (20)

Observers: Fink Schultz

Date MST/UT: 10/11

Dec offset:

Tailpiece:

Balance:

Temp O/I:

Karkoska Mebold DiSanti

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.)
✓ 251	BS 8931	3	.25	10000	3:08:31	23:30:47.3	-4:10:35	3:35W	
✓ 252	Adj sky	300	"	(~200 above Dec)	3:11:33	23:30:46.5	11:33	3:38.5	28 1" S 4.28
✓ 253	BS 8931	3	"	11800	3:21:54			3:49	
✓ 254	"	"	"	9800	23:27			3:50	
30 ✓ 255	Adj sky	300	"		26:40			3:54	28 1" S 2.56
✓ 256	BS 8931	2	"	12000	49:56			4:17	
✓ 257	"	2	"	9600	51:11			4:18	
✓ 258	"	"	"	10600	55:21			4:22	
✓ 259	Adj sky	600	"		57:20	23:30:51.5	-4:11:11	4:24	28 1" S 3.51
✓ 260	BS 8931	2	"	5400	4:09:13	23:30:52.5	-4:09:57	4:36W	
✓ 261	"	"	"	10200	10:26			4:37	
✓ 262	"	"	"	6600	11:36			4:38.5	
✓ 263	SAO 36642	2	"	4300	21:20	0:37:57.3	+46:52:01	3:41W	
✓ 264	"	2	"	8300	23:59			3:44	
✓ 265	"	15	"	10000	29:04			3:49.5	

Telescope: 61"

Frame prefix #: FR86A

Day of Week: Fri/Sat

RA offset:

Focus: 356

Humdty: 52% Sheet #: (21)

Observers: FINK SCHULTZ
MEBOLD DISANTI
KARKOSCHKA

Date MST/UT: 10/11

Dec offset:

Tailpiece: 17

Balance:

Temp O/I: 2°C/4°C

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.)
✓ 266	Flat Field	15s	.25	9500					
✓ 267	"	"	"	9580					
✓ 268	"	"	"	9500					
✓ 269	"								
✓ 270	"								tailpiece → 17°
✓ 271	"								
✓ 272	"								
✓ 273	SAD 4157A	2	"	10000	5:47:49	7:17:06.8	44:02:56	0h 34m	
✓ 274		4	"	11400	44:27	7:17:06.8	44:02:56	0h 34m	
✓ 275		11	"	13600	45:44			0h 34m	
✓ 276	2W	1.5	"	8600	48:15			0h 39m	14 down
New tape 1 ✓ 277		11	"	9000	50:00			0h 41m	
✓ 278	M2N 376	300		3200	8:06:05			0h 51m	RA 15.058
✓ 279		600		5000	13:58	7:13:15.5	+45:42:37	0h 59m	
✓ 280	"	"	"	6000	28:08	284	"	1 13	
5 ✓ 281	"	900	"	4000	42:56	"	"	1 28	

2W 0033+45

Telescope: 61"

Frame prefix #: FR86A

Day of Week: Fri/Sat

RA offset:

Focus: 3538

Humdty: 52%

Sheet #: (22)

Observers: FINK SCHULTZ
MEBOLD DISANTI
KARKOSCHKA

Date MST/UT: 10/11

Dec offset:

Tailpiece:

Balance:

Temp O/I: 20/30C

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 ✓ 282	MKN 376	600	.25	6000	9 ^h 02 ^m 45 ^s	7 ^h 13 ^m 15 ^s	45°42'33"	1 ^m 47 ^m	
✓ 283	"	"	"	5000	15 18	"	"	2 00	
✓ 284	SAO 41579	1.5	"	6000	36 52	7 07 08	44 02 54	2 28	
✓ 285	"	2	"	12000	39 15	"	"	2 31	
✓ 286	"	1.5	"	6500	40 41	"	"	2 32	
✓ 287	"	1.5	"	7500	42 06	"	"	2 33	
288	BS 3314	0.5	"		10:06:07	8:25:44.5	-3:57:13	1:39	
289		0.8	"		07:25			1:40	
✓ 288	BS 3314	0.08	1.0	3500	14 13	8 24 56	-3 52 20	1 48	} slit width was 1mm !!!
✓ 289	"	0.2	"	8000	16 11	"	"	1 50	
✓ 290	"	0.2	"	8000	17 51	"	"	1 52	
✓ 291	SAO 14368	2.0	0.25	8000	32 51	7 54 26	62 03 56	2 37	
✓ 292	"	2.0	"	10 500	39 32	"	"	2 44	
✓ 293	"	2.0	"	11 000	40 56	"	"	2 45	
✓ 294	MKN 10	300	"	2000	349 19	7 46 26	60 57 15	3 01	

Telescope: 61"

Frame prefix #: FR86A Day of Week: Fri/Sat

RA offset:

Focus: 3558 Humdty: 53% Sheet #: 23

Observers: FINK SCHULTZ
MEBOLD DISANTI
KARKOSCHKA Date MST/UT: 10/11

Dec offset:

Tailpiece:

Balance: Temp O/I: 2°C/3°C
32/34

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.)
V 295	MKN 10	600	.25	2000	10 58 04	7 46 26	60 57 15	3 10	
V 296	"	600	"	2500	11 4 55	"	"	3 24	
V 297	"	600	"	2000	26 01	"	"	3 38	
V 298	SAO 14368	2.0	"	8000	43 18	7 54 31	62 04 09	3 48	
V 299	"	2.0	"	4600	44 56	"	"	3 49	
V 300	"	2.0	"	3500	46 16	"	"	3 51	
301	data					16 23 48.4	+61 32 41		
						16 23 43.8	+61 32 37		
✓ 301	SAO		0.25	1/50		16 56 34.7	61 29 46		
✓ 302	W 82	300	0.25	28	12:21:22	16 54 21.8	+61 19 32	4 ^h 34 ^m E	W is at the bottom
✓ 303	"	1200	"	400/70	29:34	"	"	4 ^h 26 ^m E	PA = 927 (E → N)
✓ 304	"	"	"	1020/70	13 09 20	"	"	3 ^h 42 ^m E	W is at bottom
305	Trail								

Telescope: 6"

24

Frame prefix #: FR8GA

Day of Week: Sat/Sun

RA offset:

Focus: 3450

Humdty:

Sheet #:

Observers: Fink DISANTI

Date MST/UT: Jun 11/12

Dec offset:

Tailpiece: 77

Balance:

Temp 0/I:

SCHULTZ

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.)
✓ 305	BS 8931	1.0	0.25	6500	1:04:37			1 ^h 35 ^m W	Filled dewar 4:15 P.M.
✓ 6				8100	06:3	23:30:44.6	-4:10:53	1 ^h 36 ^m W	Toppe & off dewar 5:15
✓ 7				6500	1:22:38			1 ^h 53 ^m W	changed position of occulting finger
✓ 308	Halley	60	11	13000	29:09	21:53:49.5	-4:41:45	3 ^h 36 ^m W	RA DEC
✓ 9		40		8000	31:31			3 ^h 39 ^m W	
✓ 10				8300	33:13			3 ^h 41 ^m W	
✓ 11				11000	35:10			3	
✓ 312		300			37:49	21:53:50.6	-4:41:32	3 ^h 45 ^m W	
✓ 13		300			45:09			3 ^h 53 ^m W	
✓ 14		600			2:09:35	21:53:51	-4:40:50	4 ^h 15 ^m W	moving comet head along slit
✓ 15					21:49	21:53:58.0	-4:40:27	4 ^h 29 ^m W	
✓ 16		600		50000	38:18	21:53:51.6	-4:41:25	4 ^h 46 ^m W	tail piece 9:57
✓ 17	BS 8931	1.0		6000	57:28	23:30:17.5	-4:10:22	3 ^h 28 ^m W	
✓ 18	"	11		6000	58:45				Tail
✓ 19	"	11		4900	3:03:09	23:30:42.5	-4:10:29	3 ^h 34 ^m W	Tail piece 77

Telescope:

Frame prefix #: FRS6A

Day of Week:

RA offset:

Focus:

Humdty:

Sheet #: 25

Observers: Fink Disanti

Date MST/UT:

Dec offset:

Tailpiece:

Balance:

Temp O/I:

SCHULTZ

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 ✓ 320	BS 8931	1.5	0.25	9900	3:05:37	23:30:47.0	-4:10:28	3 ^h 36 ^m	
✓ 21	"	"	"	8500	07:00			3:37	
✓ 22	SKY	600		815	08:32				1 arc minute south of STAR X=2.38
✓ 23	BS 8931	1.5		6000	22:35			3 ^h 53 ^m	
✓ 24	"	2.0		10600	25:06	23:30:47.8	-4:10:21	3 ^h 56 ^m	
✓ 325	SKY	600		835	38:50			4 ^h 09	2.95
✓ 26	BS 8931	3.0		6500	52:46			4 ^h 23 ^m	
51 ✓ 27	"	"		7800	54:06			4 ^h 25 ^m	
New tape 1 ✓ 28	SKY	600		842				4 ^h 27 ^m	3.58
✓ 29	BS 8931	4.0		7400	4:10:19	23:30:54.0	-4:09:47	4 ^h 41 ^m	
✓ 330	"	5.0		10700	19:03	23:30:55.6	-4:09:35	4 ^h 50 ^m	
✓ 331	"	"		10400	21:36	23:30:54.8	-4:09:33	4 ^h 52 ^m	
✓ 332	FF	15	0.25	9600					tailpiece = 077
✓ 333	"	"	0.25	↓					
✓ 334	"	"	0.25	↓					

Telescope:

26

Frame prefix #: FR86A Day of Week: Sat/Sun

RA offset:

Focus: 3450 Humdty:

Sheet #:

Observers: DISANTI
SCHULTZ Date MST/UT: Jan 11/12Dec offset: 50^s South

Tailpiece: 17

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.)
8	✓ 325	FF	15	0.25	9500				tailpiece = 987
	✓ 336	FF	11	11					
10	✓ 337	FF	11	11					
	✓ 338	FF	11		9400				tailpiece = 17°
	✓ 339	FF	11						
	✓ 340	FF	11						
	✓ 341	FF	11						
15	✓ 342	Dark	1.0						
12	✓ 343	BS 1855	0.2	1mm	4400	5:55:33		0 ^h 26 ^m	topped off dewar 05:45 UT
	✓ 344	"	0.3	11	8100	57:27	5:31:13.0	-7:19:23	0 ^h 28 ^m
	✓ 345		11	11	7000	58:41			0 ^h 29 ^m
	✓ 346	SAD ²⁶⁰⁷⁰	10	0.25	6200	6:15:12	6:57:10.0	54:31:25	0 ^h 40 ^m
	✓ 47	"	15	11	8800	17:36			0 ^h 38 ^m
	✓ 48	"	11	11	8700	21:12			0 ^h 34 ^m
	✓ 349	"	11	11	10100	25:04			0 ^h 30 ^m

Telescope:

Frame prefix #: FE66A

Day of Week: Sat/Sun

RA offset:

Focus:

Humdty: 40 Sheet #: 28

Observers: DISANTI
Schulze

Date MST/UT: Jan 11/12

Dec offset:

Tailpiece:

Balance:

Temp O/I: 39/42 (6.30 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.)
✓365	M31 ³⁶⁵ 10	1.5	0.25	6600					Saved
✓366	SAO 14368	2	0.25	8000	11:04:54	7:54:28.0	62:04:02	3 ^h 13 ^m	
✓367	"	"	"	8000	06:28			3 ^h 15 ^m	
✓368	"	"	"	6800	08:08			3 ^h 17 ^m	
✓369	"	"	"	6300	11:24			3 ^h 20 ^m	Written
✓369	SAO 5	2.0	.25	9200	47:17	16:56:32.6	61:29:46	5 ^h 06 ^m E	Filled down 4:25
✓370	"	"		7000	49:29			5 ^h 04 ^m E	tail piece 972
✓371	Uwe 5	300			55:50	16:50:40.0	60:56:11	4 ^h 52 ^m E	RA 15.052 DEC 0.004 South
✓372		1200			12:02:07	16:50:40.1	60:56:10	4 ^h 46 ^m	
✓373		1200			25:27	16:50:40.2	60:56:04	4 ^h 22 ^m	
✓374		600			48:25	16:50:40.6	60:55:59	3 ^h 59 ^m	RA 15.053 DEC 0.003 South
✓375	SAO	2.0		6200	15:05:59	16:56:35.8	61:29:31	3 ^h 42 ^m	
✓376	"	"		4300	12:47			3 ^h 40 ^m	
✓377	Flat Field	15	7800						
✓378		"	8000						
✓379	"	"	8000						

Telescope:

Frame prefix #: FR66A

Day of Week: Sun/Mon

RA offset: 30^S west

Focus:

Humdty:

Sheet #:

Observers: DISANTI
SCHULTZ

Date MST/UT: Jan 12/13

Dec offset: 43^N 70th

Tailpiece: 17

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.)
✓380	Halley	0.5	R	Sat	33:14			3 ^h 4 ^m	Filled during 4/10 Posit 4/57, 4/15
✓381		240	6300	Sat	1:36:50	21:52:09.5	-4:51:15	3 ^h 50 ^m	RA 15.064 DEC 0.001 South (47/42)
✓382		60		8900	43:12			3 ^h 56 ^m	
✓383		11	tilt	6200	46:21			3 ^h 59 ^m	RA 15.062 DE 0.001 North
✓384		240	tilt	Sat	46:44	21:52:06.5	-4:51:15	4 ^h 02 ^m	
✓385		0.3	I	8000	56:35			4 ^h 10 ^m	RA 15.059 DEC 0.004 North
✓386		11 ⁶	R	9700	57:59	21:52:06.2	-4:51:12	4 ^h 11 ^m	
✓387		11	V	9500	59:23			4 ^h 12.5 ^m	x y
✓388		0.6	B	5900	2:00:52			4 ^h 14 ^m	483 394
✓389		30	11	SAT	05:10	21:52:12.6	-4:49:11	4 ^h 18 ^m	595 510
✓390		1.6	V	SAT	07:41			4 ^h 21 ^m	
✓391		11	R	SAT	08:54			4 ^h 22 ^m	
✓392		11	I	SAT	10:07			4 ^h 23 ^m	
✓393		30	6185	SAT	20:20	21:52:13.6	-4:49:04	4 ^h 33 ^m	RA 15.047 DEC 0.011 North
✓394		10		9900	22:46			4 ^h 36 ^m	

new tape

Telescope:

Frame prefix #: FR86A

Day of Week: SUN/MON

RA offset:

Focus:

Humdty:

Sheet #: 30

Observers: DISANTI

Date MST/UT: Jan 12/13

Dec offset:

Tailpiece:

Balance:

Temp O/I:

SCHULTZ

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.)
✓395	Halley	120	6185	SAT	2:24:41	21:52:14.1	-4:49:00	4 ^h 38 ^m	RA 15.043 DEC 0.015 North
✓396	"	"	6250	SAT	27:56			4 ^h 41 ^m	
✓397		30	"	9400	31:00			4 ^h 44 ^m	RA 15.040 DEC 0.018 North
83.27 ✓398		10	"	3200	32:28			4 ^h 45 ^m	
84.49 ✓399		15	5980	10700	35:42			4 ^h 49 ^m	
93.68 ✓400		60		SAT	37:39	21:52:15.8	-4:48:46	4 ^h 51 ^m	RA 15.030 DEC 0.028 North
new tape ✓401		7.5	5139	10000	39:46			4 ^h 53 ^m	
✓402		30	5139	SAT	41:14			4 ^h 54 ^m	RA 15.020 moved tel 15 east
✓403		30	4565	4400	42:57			4 ^h 56 ^m	DEC 0.038 North
✓404		30	4060	1600	49:50	21:52:19.6	-4:48:17	5 ^h 3 ^m	RA 14.990 DEC 0.059 North
✓405		120	"	1700	54:22			5 ^h 07 ^m	RA 14.980 DEC 0.059
406		120	4565	5000	57:25	21:52:21.7	-4:47:47	5 ^h 10 ^m	RA 14.940 DEC 0.086 North
✓407		120	4060	1200	3:02:07	21:52:25.2	-4:47:24	5 ^h 15 ^m	RA 14.925 DEC 0.091 North
✓408	NGC 985	60	✓	10400	3:48:02	2:33:57.2	-8:50:33	1:20 W	
✓409		380	"		58:32	2:33:59.8	-8:51:33	1:30 W	marched tel 15 S

Telescope:

Frame prefix #: FR86A Day of Week: SUN/MON

RA offset:

Focus:

Humdty:

Sheet #: 31

Observers: DISANTI
SCHULTZ

Date MST/UT: Jan 12/13

Dec offset:

Tailpiece: 17

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.)
✓410	NGC 985	180	R	SATd	4:03:13	2:33:57.3	-8:51:33	1:35W	
✓411	"	60	"	10500	07:27			1:39W	
✓412	"	60	I	5000	09:44			1:40.5W	
✓413	"	240	"	15K	13:00			1:45	
✓414	"	120	B	6400	18:57			1:51	
✓415	"	420	"	15K	23:16			1:55	
✓416	NGC 1068	10	B	8500	4:41:45	2:41:58.7	-0:04:59	2h05m	
✓417		30		SAT	43:22			2h07m	
✓418		5	✓	11500	45:24			2h09m	
✓419		15	"	SAT	47:08			2h11m	
✓420		15	R	SAT	50:23			2h14m	
✓421		4	"	9500	53:39			2h18m	
✓422		5	I	7200	55:10			2h19m	
✓423		15	"	SAT	56:31			2h20m	
New tape 1 ✓424	DARK	10	N/A	643					topped down 10 P.M.

Telescope:

Frame prefix #:

Day of Week:

RA offset:

Focus:

Humdty:

Sheet #:

Observers:

Date MST/UT:

Dec offset:

Tailpiece:

Balance:

Temp O/I:

32

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.)
✓ 425	DARK	110	N/A	659					
✓ 426	NGC 1275	20	V	7100	5:28:57	3:18:55.2	41:25:58	2 ^h 08 ^m	
✓ 427		60	"	SAT	22:38			2 ^h 10 ^m	
✓ 428		4	R	SAT	25:08			2 ^h 12 ^m	
✓ 429		20	"	7500	27:14			2 ^h 14 ^m	
✓ 430		40	I	7000	30:52			2 ^h 14 ^m	
✓ 431		120	"	SAT	33:18			2 ^h 20 ^m	
✓ 432		60	B	8400	37:04			2 ^h 24 ^m	
✓ 433	V	180	"	SAT	5:39:33			2 ^h 26.5 ^m	
✓ 434	Hubble	20	B	10500	6:34:53	6:38:22.3	+8:45:08	0:02W	
✓ 435	"	60	"	SAT	39:11			:05W	
✓ 436		180	"	"	39:40			:07	
✓ 437		15	V	9500	47:36			:15W	
✓ 438		15	"	SAT	48:37			:16W	
✓ 439	↓	45	"		49:59			:18W	

Telescope:

Frame prefix #: FR86A

Day of Week:

RA offset:

Focus:

Humdty:

Sheet #: 33

Observers: DISANT

Date MST/UT:

Dec offset:

Tailpiece: 17

Balance:

Temp O/I:

SCHULTZ

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.)
✓ 440	Hubble	5	R	12300	6:53:16	6:38:23.0	+8:45:08	0:21 W	
✓ 441		15	"		54:58			:23	
✓ 442		45	"		57:01			:24.5	
✓ 443		120	"		58:51			:26.5	focus = 3568
✓ 444		5	I	11000	7:11:51			:39.5	dropped focus →
✓ 445		15	"		13:42			:41.5	
✓ 446		45	"		15:14			0:43 W	
✓ 447		120	"		17:15			:45	
85.33 ✓ 448		4	6503 (11)	10000	38:09			1:06	focus → 3573
84.54 ✓ 449		12	"		40:31			1:08	
✓ 450		36	"		42:16			1:10	
new Tape ✓ 451		120	"		44:08			1:12	
✓ 452		30	6783 (11)	6500	50:58			1:19	
✓ 453		120	"	500	53:06			1:21	
✓ 454		300	"		56:20			1:24	

6903, 6775 placed in header (+ filter slide!)

283 528 Row
272 - 527 Col

Telescope:

Frame prefix #: FR86A Day of Week:

RA offset:

Focus:

Humdty:

Sheet #: 34

Observers: DISANTI
SCHULTZ

Date MST/UT:

Dec offset:

Tailpiece: 17

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.)
✓455	BD+8 2015	30	6775	6000	8:25:02	8:14:55	+7:39:15	0h 16m	
✓456		11	11	6600	27:42			0h 19m	
✓457		0.5	6563	7000	33:26			0h 25m	
✓458				7400	34:39			0h 26m	
✓459		60	6300	4400	39:43			0h 31m	(45/42)
✓460		11		3300	41:54			0h 33m	
✓461		11	TLT	4500	44:20			0h 36m	
✓462		11	TLT	4500	46:35			0h 38m	
✓463		10	6485	7600	57:16			0h 49m	
✓464		11	11	8700	58:11			0h 50m	
✓465		15	6250	5300	9:00:42			0h 52m	
✓466		11	11	5000	02:05			0h 53.5m	
✓467		10	5980	9200	15:18			1h 0m	
✓468		11	11	8600	16:19			1h 8m	
✓469		61	5139	8900	20:28			1h 12m	

Telescope: 61¹¹

Frame prefix #: FR561A

Day of Week: Sun/Mon

RA offset:

Focus:

Humdty:

Sheet #:

Observers: DISANTI
SCHULTZ

Date MST/UT: Jan 12/13

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.)
✓470	BD+82015	4	5139	10000	9:21:47			1 ^h 13 ^m	
✓471		10	4565	6700	25:50			1 ^h 17.5 ^m	
✓472				6300	27:17			1 ^h 19 ^m	
✓473		30	4060	3600	31:23	8:14:58.8	+7:39:15	1 ^h 23 ^m	
✓474				3900	34:10			1 ^h 26 ^m	
✓475	LAN 76261	2.0	V	5300	48:05			1 ^h 34.5 ^m	1.13
✓476				5000	49:27			1 ^h 36 ^m	1.13
✓477		4.0	R	4400	52:51			1 ^h 39 ^m	1.14
✓478				4600	54:08			1 ^h 40.5 ^m	1.14
✓479		15	I	5000	57:58			1 ^h 44 ^m	1.15
✓480				4200	59:26			1 ^h 46 ^m	1.15
✓481		20	B	7600	10:04:02			1 ^h 50 ^m	1.16
✓482				10500	05:40			1 ^h 52 ^m	1.17
✓483	Flat Field	2	B	7600					
✓484		11	11	7700					

Telescope:

Frame prefix #: FR56A

Day of Week: Sun/Mon

RA offset:

Focus: 3572 Humdty:

Sheet #: 36

Observers: DISANTI
SCHULTZ

Date MST/UT: Jan 12/13

Dec offset:

Tailpiece: 17

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.)
✓485	FF	0.5	✓	9500					
✓486		11	11	7500					
✓487		0.3	R	8300					
✓488				8400					
✓489		0.2	I	8700					
✓490				8700					
83.78 ✓491		60	6300	7700					
✓492		11	11	7900					
new tape ✓493			TLT	6700					
✓494				6600					
✓495		5.0	6185	6400					
✓496				6400					
✓497		12	6250	6700					
✓498				6700					
✓499		7	5950	6800					

Telescope:

61"

Frame prefix #: FR856

Day of Week: Sun/Mon

RA offset:

Focus: 3555 Humdty: 40% Sheet #.

Observers: DISANT
SCHULTZ

Date MST/UT: Jan 12/13

Dec offset:

Tailpiece: 17
Balance: 0.001 Temp O/I: 4/45
N 422
S 341

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.)
✓ 500	FF	7	5980	6700					
✓ 501	"	"	5139	7200					
✓ 502				7300					
✓ 503		60	4565	8200					
✓ 504				8400					
✓ 505		300	4650	4600					
✓ 506		"	"	4600					
✓ 507		10	6563	6500					
✓ 508		"	"	6600					
✓ 509		0.2	6775	6500					
✓ 510		"	"						
✓ 511	DanZ	1.0	N/A						
✓ 512	"	"	"	631					
✓ 513	UNE S	90	6775	1000	12:56:38	16:50:40.0	60:56:02	3 ^W 47 ^E	
512		900	6563		13:01:01	16:50:38.8	60:56:02	3 ^W 42 ^E	RA 15.054 DEC 0.002 South

new
Tape

header says filter = 6775

515

900 "

17:06 16:50:39.2 60:56:00 3^W 26^E

High

Telescope: 4" eas

moon up

38

Frame prefix #: FR588A

Day of Week: Wed/Thur

RA offset: 1^m 25^s E

Focus:

Humdty: 86% Sheet #:

Observers: DISANTI
SCHULTZ

Date MST/UT: Jan 15/16

Dec offset: 36^s S

Tailpiece:

Balance:

Temp O/I: 32/38

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.)
650X 650 ✓ 516	Halley	8	R	8400 1300	1:35:04			4 ^h 04 ^m	filled down 5:03(MST)
✓ 517		20		SAT 1500	1:38:15	21:48:01.0	-5:58:10	4 ^h 07 ^m	topped off down 5:45
✓ 18		8	V	8600 940	1:41:27			4 ^h 10 ^m	RA 15.057 DEC 0.004 N
✓ 19		20		SAT 1100	1:43:19			4 ^h 12 ^m	
✓ 520		15	B	2300 800	45:54			4 ^h 15 ^m	
✓ 21		60		7000 1100	48:57			4 ^h 18 ^m	RA 15:055 DEC 0.006 N
✓ 22		180		SAT 1500	51:51	21:48:0.5	-5:58:03	4 ^h 21 ^m	RA 15.053 DEC 0.007 N
✓ 23		8	I	6200	57:10			4 ^h 26 ^m	RA DEC 0.009 N
✓ 24		30		SAT 1200	1:59:34	21:48:0.4	-5:57:59	4 ^h 29 ^m	RA 15.051 DEC 0.011 N
✓ 25		8	R	6600 830	2:01:48			4 ^h 31 ^m	
77.43 ✓ 26		25		1000	:03:32	21:48:01.8	-5:57:56	4 ^h 33 ^m	RA 15.048 DEC 0.013 N
82.64 ✓ 27		60		SAT 1300	2:08:39	21:48:40.7	-5:52:51	4 ^h 37 ^m	RA 15.038 DEC 0.017 N
87.84 ✓ 28		300	R	SAT 3400	2:12:46	21:48:54.4	-5:48:18	4 ^h 41 ^m	RA 15.034 DEC 0.019 N
93.05 ✓ 29		11	V	SAT 3800	19:59	21:48:55.2	-5:48:08	4 ^h 48 ^m	RA 15.020 DEC 0.028 N
New tape ✓ 1 530		600	B	SAT 2800	26:47	21:48:55.7	-5:47:55	4 ^h 55 ^m	RA 14.999 DEC 0.040 N

END

RA 14.965
0.064 N

Telescope:

4" lens

Frame prefix #: KR66A

Day of Week: wed/7km

RA offset:

1^m 25^s E

Focus:

Humdty:

Sheet #:

39

Observers: DISANTI
SCHULTZ

Date MST/UT: Jan 19/16

Dec offset:

36^T S

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.)
2 ✓	531	300	I	SAT 4400	21:38:41	21:48:59.7	-5:47:15	5 ^h 0 ^m	RA 14.952 jumped DE 0.074 a little
								END	RA 14.911 DEC 0.097 N
3 ✓	532	30	I	12200 1200	45:18			5 ^h 13.5	RA 14.885 DEC 0.117 N
✓	533	30	R	9200 1000	46:47	21:49:04.7	-5:46:16		RA 14.865 DEC 0.127 N
✓	534	30	V	9000 1100	48:47				RA 14.835 DEC 0.150 N
✓	535	60	B	2500 900	50:37	21:49:07.3	-5:45:40	5 ^h 19 ^m	RA 14.805 DEC 0.175 N
✓	536	1	N/A	770					
✓	537	1	N/A	748					
✓	538	2	V	8230	31:32:13.1			3 ^h 41 ^m	
✓	539	"	"	9000	35:30	0:58:47.7	-3:06:21	3 ^h 44 ^m	
✓	540	20	B	2600	38:09			3 ^h 47 ^m	
✓	541	"	"	2600	39:52			3 ^h 48 ^m	
✓	542	1.5	R	7700	43:30			3 ^h 52 ^m	
✓	543			7800					
✓	544	1.25	I	8900	46:24			3 ^h 55 ^m	

4" lens

RA offset:

Sheet

Balance:

Temp O/I:

Dec offset:

Balance:

Temp O/I:

4/10

Telescope:

4" lens

M^S
1 25° E

Frame prefix #: PR86A

Day of Week: Thu / Fri

RA offset:

Focus:

Humidity: 80

Sheet #: 41

Observers: DISANTI
SCHULTZ

Date MST/UT: Jan 16/17

Dec offset: 36° S

Tailpiece:

Balance:

Temp O/I: 238

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.)
800X800 ✓ 51	FFI	0.15	V	8200					Filled down S.P.M.
71.91 ✓ 52				7000					
77.11 ✓ 53		0.2	R	11700					
82.32 ✓ 54				10000					
87.52 ✓ 55		0.5	B	7800					
92.72 ✓ 56				6600					
✓ 57		0.3	I	6700					
✓ 58		0.6		5500					
1 ✓ 59	Halley	5	I	8200/5400	13:11:46			4 ^h 06 ^m	
512 ✓ 60		"	R	5400/2000	33:17			4 ^h 08 ^m	
✓ 61		7	V	6900/1300	35:00			4 ^h 10 ^m	
✓ 62		15	B	2600/1300	36:46			4 ^h 11.5 ^m	
650N ✓ 63		25	I		1:12:02	21:47:19.8	-5:55:10	4 ^h 16 ^m	RA 15.056 0.005 N
✓ 64			R		16:45	47:24.8	-5:50:09	4 ^h 20 ^m	RA 15.054 DEC 1007
✓ 65			V		19:30	21:47:35.8	-5:45:09	4 ^h 23 ^m	RA 15.054 DEC 1007

Megapixels =

3049524

Log 860 43.6

685, 178

Telescope: 4" lens

42

Frame prefix #: FR66A Day of Week: Thur/Fri RA offset:

Focus: Humdty: Sheet #:

Observers: DISANT/ schait Date MST/UT: Jan 16/17 Dec offset:

Tailpiece: Balance: N 42 S 342 Temp O/I:

tape

8

→

→

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.)
✓ 566	Halley	180	B		1:52:46	21:47:40.3	5:42:59	4 ^h 26	RA 15:040 DEC 0.011 N (709, 166)
✓ 567	"	600	R		1:52:49			4 ^h 31	RA 15:045 DEC 0.013 N
					2:00:30				15:043 DEC 0.015 N
568					2:04				15:040 0.017 N
						END			15:035 0.020
✓ 568	"	600	R		2:10:37			4 ^h 41 ^m	15:032 0.022 N
						END			15:010 0.036
✓ 569	"	600	V		2:22:50	2:22:50		4 ^h 56	14:999 0:042
						END			14:953 0.074
✓ 570	"		I		3:14:42			5 ^h 08	14:943 0.082
						END			14:793 0.174
✓ 571	LAN 315	80	I	9300	3:50:11	0:08:17.5	-3:12:49	4:03 W	283, 538 272, 527
✓ 572		"	I	8600	51:30			4:04	
✓ 573		3:5	R	9750	54:59			4:07	
✓ 574		"	"		56:23			4:09	

Telescope: 4" lens.

Frame prefix #: **FR86A**

Day of Week: Thur/Fri

RA offset:

Focus:

Humidity:

Sheet #:

43

Observers: DISANTI
SCHULTZ

Date MST/UT: Jan 16/17

Dec offset:

Tailpiece:

Balance:

Balance:

Temp O/I:

[illegible]

Telescope: 61"

44

Frame prefix #: FR86A Day of Week: Sat

RA offset:

Focus: 3860

Humidity: 52% Sheet #:

Observers: Fish, Van, Reim Date MST/UT: 18/19 Jan

Dec offset:

Tailpiece: 17

Balance: 224, 226

Temp O/I: 45/49

224, 226
S, N

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.)
✓ 581	Hally	40	6300		1:23:00				Hally in upper right corner.
✓ 582	"	"	TCT		24:47			4h 12m	
583	"	20	TCT		20:35	21:41 36.0	-05 54 47	-4h 14m	maybe track not clear
✓ 584	"	"	OI						OK - 5809 ahead
✓ 585	"	"	TCT		36:09				
✓ 586	"	"	OI		40:26				
✓ 587	"	"	TCT		44:41			4h 32m	
✓ 588	"	120	6185		50:07			4h 37m	H2O
6254 ✓ 589	"	30s	6210		53:12			4h 40m	cont.
✓ 590	"	10s	"						"
✓ 591	"	5s	6185		58:21			4h 43m	H2O
✓ 592	"	60s	"		57:10				
✓ 593	"	"	8160		.			4h 47m	continuum
✓ 594	"	"	9180		01:58				CN
✓ 595	"	10s	"		2: 04:06			4h 51m	"

Telescope:

Frame prefix #: FR86A

Day of Week:

RA offset:

Focus:

Humdty:

Sheet #: 45

Observers:

Date MST/UT:

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.)
✓ 596	Hally	10	860		21 05:25				cut.
✓ 597	"	30	6185		21 06:39			4 ^h 50 ^m W	cut
264 ✓ 598	"	30s	620		08:21				cut.
✓ 599	BD+82115	20s	620	500	02:34:12	8:14:45	-07:40:10	5 ^h 11 ^m E	
✓ 600	"	11	"	510	"	"	"	5 ^h 09 ^m	
✓ 601	"	10 ^s	6185	570	38:26	"	"	5 ^h 07 ^m	
✓ 602	"	"	570 570	780	34:57	"	"	4 ^h 05 ^m	
✓ 603	"	10 ^s	860	2100	02:45:48			4 ^h 59 ^m E	cut of ho
✓ 604	"	30 ^s	"	~360	47:58			4 ^h 58 ^m	"
✓ 605	"	30 ^s	9180	~1700	50:28			4 ^h 55 ^m	"
✓ 606	"	100s	"	~4300	52:38			4 ^h 53 ^m	"
✓ 607	"	60s	6300	3200	04:56			4 ^h 40 ^m	
✓ 608	"	60s	650	2800	5:01:36			4 ^h 43 ^m	
✓ 609	"	60s	650 Filter	2400	08:20			4 ^h 37 ^m E	
✓ 610	FF	60s	"	5700	280				

Telescope: 6" ^W

Frame prefix #:

Day of Week: Sat

RA offset:

Focus:

Humdty:

Sheet #:

46

Observers: Fink, Uwe, Reinen

Date MST/UT: 1/19/85

Dec offset:

Tailpiece: 7

Balance:

Temp 0/I:

[illegible]

Telescope: 61"

Frame prefix #: FR86 A Day of Week: Saturday

RA offset:

Focus: 3820

Humidity: 51% Sheet #: 47

Observers: Fish One, River Date MST/UT: 19/20

Dec offset:

Tailpiece: 17

Balance:

Temp O/I: 42/47

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.)
✓ 622	Hally	40s	05	1500	1:34:10	21:39:48	-06:07:47	4h 27m W	05 (3.628)
✓ 623	"	40s	05	1500	36:241	"	"	29W	05 (3.717)
✓ 624	"	10s	"	280	38:48				"
✓ 625	"	"	05	2470					
✓ 626	"	20s	"	cut	420				05
✓ 627	"	"	05	cut	46:26				
✓ 628	"	20s	"	"	1846			4h 43m	(4.473)
✓ 629	"	"	05		52:4				no E * N (4.577)
✓ 630	"	60s	"		55:19			4h 46m W	
✓ 631	"	"	05		55:20				
✓ 632	"	5s	0185	1100	57:17			4h 10m W	
✓ 633	"	"	0210	650	79:10			4h 12	(5.183)
✓ 634	"	60s	"	cut	2:00:38			4h 52	min 2' N 10s E. (2.47) (2.47)
✓ 635	"	"	0185		02:38				
✓ 636	"	120s	"		04:42				

637

"

120s - 6210

07:47

5200

Telescope: 61"

Frame prefix #: FR86 A

Day of Week: Sun

RA offset:

Focus: 3420

Humdty: 50 Sheet #:

48

Observers: Rick Uy, Rainer

Date MST/UT: 14/20

Dec offset:

Tailpiece: 17

Balance:

Temp O/I: 42/47

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.)
✓ 637	Italy	120s	620	cut	2:07:42			5:10 ^m W	
✓ 638	BD +215	30s	"	~7000	2:58:17			4:43 E	
✓ 639	"	"	"	7000	3:00:06			4:41 E	
✓ 640	"	15s	6185	17800					
✓ 641	"	12s	"	7400	64:06			4:37 G	
✓ 642	"	60s	6300	3200	08:15			4:33	
✓ 643	"	120s	"	9400	10:55			4:30	
✓ 644	"	"	7400	5700	15:19	8:14:446	+07:39:15	4:26	
9 ✓ 645	"	"	"	5900	18:13			4:23	
✓ 646	FR	60s	6300	6400	3:27	4:01:31	-12°	0h	
✓ 647	"	"	"	6200		"			
✓ 648	"	60s	05	7000	3:42	"	"		
13 ✓ 649	"	"	"	"	3:43				
✓ 650	"	9s	6185	10000	3:47				
✓ 651	"	"	"	"	3:47				

Day of Week:

Observers:

RA offset:

Dec offset:

Focus:

Tailpiece:

Balance:

Humd ty:

Temp 0/I:

Sheet #:

40

[illegible]

Telescope: 61"

Full Moon

Frame prefix #: FR86A

Day of Week: Fri/Sat RA offset:

Focus: 1 Humdty: 54 Sheet #: (50)

Observers: DISANT
SCHULTZ

Date MST/UT: 24/25 Jan Dec offset:

Tailpiece: 17
Balance:

Temp 0/I: 32/41

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.)
✓ 654	Halley	5	618S	5500/2500	11:34:10				Filled dewar 4:55
✓ 55		200	6300	12000/3500	11:37:15	21:31:12.3	-7:01:51	4 ^h 58 ^m	RR 14.986 .050 N
✓ 56		11	TLT	6300/1900	41:48			5 ^h 03 ^m	RA 14.951 .070 N
✓ 57		10	11	975/750	46:06	2:31:5.6	-7:01:17	5 ^h 08 ^m	
✓ 58		11	6300	1000/550	47:17				14.919 .092
✓ 59		10	6250	1400/550	52:14				RA 14.
✓ 660		20	6600	7600	53:14			5:15	14.849 .152 N
✓ 61	Dar2	1	N/A	715					
✓ 62	11	1		690					
✓ 63	BD+82015	20	618S	41500	2:33:30	8:14:46.5	+7:39:58	4 ^h 48 ^m	RA 15.047 .01 S
✓ 64				4400	35:20				
✓ 65		40	6250	4100	38:29				
✓ 66					40:56			4:41	
✓ 67		120	6300	2500	41:13			4:35	
✓ 668				2600	41:20			4:34	

Telescope: 61"

Full moon

Frame prefix #: FR86A

Day of Week: Fri/SAT

RA offset:

Focus:

Humdty:

Sheet #: (51)

Observers: DISANTI
SCHULZ

Date MST/UT: 24/25 JAN

Dec offset:

Tailpiece: 17

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.)
✓669	BD+82015	120	6300 TLT	2600	21:52:18	8:14:48.2	7139:44	4 ^h 30 ^m	
✓670				2500					
✓671		60	8600	4800	3:00:05			4 ^h 22 ^m	
✓672			4800		02:56			4 ^h 19 ^m	Focus 3620
✓673	Hubble	300	6185	SAT	3:42:42	6:38:22.0	+8:45:22	2 ^h 03 ^m E	Focus 3580
✓674		120		9600	50:38			1 ^h 55 ^m	
✓675		240	6250	9100	54:37				
✓676		600		Sat/ 1500	4:00:19			1 ^h 45 ^m	
✓677		45	8600	6900	19:30			1 ^h 26 ^m	Focus 3516
✓678		120		Sat/	22:02			1 ^h 23 ^m	
✓679		60	9160	4600	26:29			1 ^h 19 ^m	
✓680		300		Sat	29:29			1 ^h 16 ^m	
✓681		180	4565	6200	49:58			0 ^h 55 ^m	Focus 3505
✓682		600		13000	54:51			0 ^h 50 ^m	
✓683	BD+82015	20	4565	6200	5:23:19				typed down 10:10

Telescope: 61"

Frame prefix #: FR86A

Day of Week:

RA offset:

Focus:

Humdty:

Sheet #:

52

Observers: DISANTI
SCHULTZ

Date MST/UT:

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.)
✓ 684	BD+8 2015	20	4565	6200	5:25:58	8:14:54.5	7:38:44	1 ^h 56 ^m	
✓ 85		10	6185	5300	30:58			1 ^h 51 ^m	
✓ 86		10		7000	32:26				
✓ 87		30	6250	9200	34:20			1 ^h 47 ^m	
✓ 88		11	"	8400	36:04			1 ^h 46 ^m	
✓ 89		10	8600	6400	40:58			1 ^h 41 ^m	Focus 3515
✓ 690				5900	42:18			1 ^h 40 ^m	
✓ 91		30	9180	6600	46:26			1 ^h 35 ^m	
✓ 92				6600	48:13			1 ^h 34 ^m	
✓ 93	Dawg	1	N/A	675					
✓ 94	"	"	"	680					
✓ 95	FF	3	9180	6800					
✓ 96	"			6700					
✓ 97		2.5	8600	6700					
✓ 694		11	11	6500					

61 11

Frame prefix #: FR86A

RA offset:

Focus: 3580

Humd ty:

Sheet #: 25

Observers: DISANTI

Date MST/UT: 24/25 Jan Dec offset:

Tailpiece: 17

Balance: Temp O/I:

Temp 0/I:

Observers: DISANTI
new type SCHULTZ

[illegible]

Telescope:

4" lens

Frame prefix #: FR86A

Day of Week: Sat/Sun

RA offset:

Focus:

Humdty:

Sheet #:

54

Observers: DISANTI
SCHULTZ

Date MST/UT: 24/25 Jan

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.)
709	FF	.5	R	5000					Filled during 5AM.
710		.7		5000					
71.71 ✓ 711		1.2	V	6000					
79.57 ✓ 712		1.5		6000					
✓ 713	Halley	5	R	$\frac{11000}{4200}$	11:42:53			5 ^h 08 ^m	414,329 made for mag
✓ 714		11	V	$\frac{8700}{2500}$	45:33			5 ^h 11 ^m	417,326 ✓
Re-Exp ✓ 715		30	R	Sat $\frac{10000}{10000}$					(4.28, 160) not usable
Net Exp 800 ✓ 716		11	V	Sat $\frac{6200}{6200}$	1152:38	21:32:13.8	-71:18:48	5 ^h 17 ^m	-7:44:57 (729,168)
800 ✓ 717			V	Sat $\frac{4200}{4200}$	55:34			5 ^h 20 ^m	735,159
800 ✓ 718		10	N/A	Sat $\frac{6600}{6600}$	59:37			5 ^h 24 ^m	no filter looks ok ✓
800 ✓ 719		20	V	Sat $\frac{11500}{11500}$	2:01:13			5 ^h 25 ^m	sat
800 ✓ 720		60	R	$\frac{5800}{5800}$	04:33			5 ^h 28 ^m	part- ok ✓
✓ 721		180		$\frac{15000}{15000}$	12:52			5 ^h 36 ^m	14.499 .391 N (715,192) no good
800 ✓ 722		120		$\frac{11000}{11000}$	17:49			5 ^h 41 ^m	14.209 .591 N (687,1236) no good
800 ✓ 723	Danz	1	N/A	686					

4/3/43

[illegible]

66.09

15

files
on table