1928phae.proj.1261S

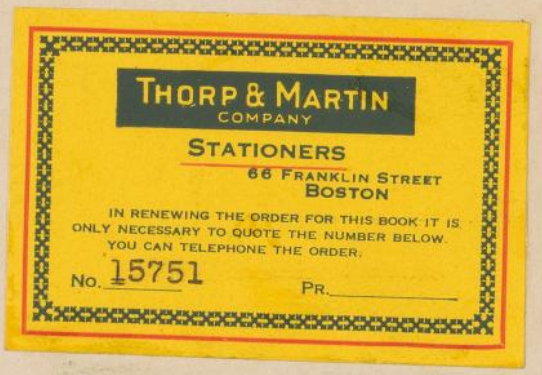
KG
11366
259

60

F
Schilt μφ

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1928phae.proj.12613

Schilt sup

Pole plates (MC) and miscellaneous
experiments

T.a.o.l.v.s.q.

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-4
90
04
+2
4
4

7

4
3
3
3
8
5
0
6
4
5
0

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1928phae.proj.120.S

No diaphragm 4.55

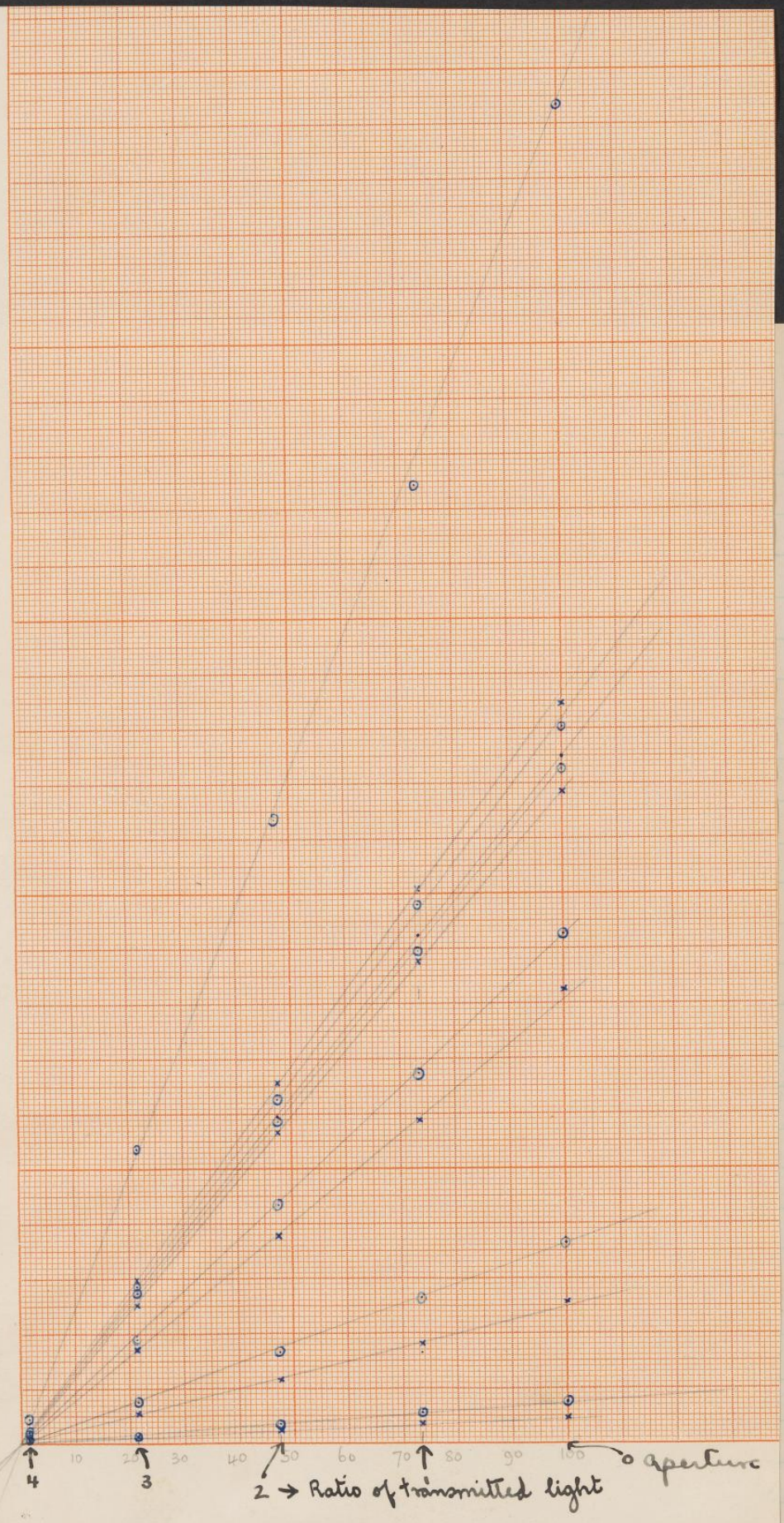
Ross B (S. Africa)

RH 89 Measured with Schilt microphotometer

Star	* largest Image 1	2	3	4	Clear	Cl-1	Cl-2	Cl-3	Cl-4
1	15.67	13.88	12.15	14.30	19.20	3.53	5.32	7.05	4.90
2	17.70	16.49	15.48	15.76	18.80	1.10	2.21	3.32	3.04
3	16.86	15.60	14.58	15.18	18.60	1.74	3.00	4.02	2.42
4	17.94	17.06	16.58	16.21	18.75	0.81	1.69	2.17	2.54
5	17.86	17.33	16.57	16.60	18.84	0.98	1.51	2.27	2.24
6	out of range					..	..	..	..
7	out of range					..	..	..	..
8	17.10	15.99	15.00	15.30	18.27	1.17	2.28	3.27	2.97
9	out	of	range			..	..	..	..
10	10.10	8.14	7.89	10.53	18.47	8.37	10.33	10.58	7.94
11	15.08	13.64	12.22	13.36	18.19	3.11	4.45	5.97	4.83
12	16.54	15.41	14.56	14.71	18.09	1.55	2.68	3.53	3.38
13	16.19	15.24	14.72	14.81	17.84	1.65	2.60	3.12	3.03
14	14.05	12.53	11.94	13.59	17.67	3.62	5.14	5.73	4.08
15	7.00	6.06	6.15	8.39	17.44	10.44	11.38	11.29	9.05
16	16.57?	15.89	15.76	15.74	17.44	0.87?	1.55	1.68	1.70
17	16.17?	15.99	15.53	15.56	17.32	1.15?	1.33	1.79	1.76
18	15.60	14.51	14.11	14.60	17.24	1.64	2.73	3.13	2.64
19	9.36	7.92	7.94	10.37	17.22	7.86	9.30	9.28	6.85
20	14.39	12.95	12.44	13.39	17.19	2.80	4.24	4.75	3.80
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									

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Test of relative transmission of various apertures on the grp

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May 14. RH 89 repeated. Tests of diaphragms

No plate			Dark (4.24)
Diaphragm	0	28.56	4.22
	1	21.68	4.23
	2	15.59	4.25
	3	9.60	4.22
	4	4.66	4.26
Clear (near 105)			(4.21)
Diaphr.	0	16.49	4.19
	1	13.18	4.21
	2	10.10	4.23
	3	6.93	4.22
	4	4.39	4.19
Clear (near 35)	D 0	17.32	(4.30) 4.30
	1	14.10	4.31
	2	10.59	4.30
	3	7.13	4.30
	4	4.50	4.29
Clear (near 38)	D 0	17.76	(4.32) 4.40
	1	14.41	4.30
	2	10.86	4.30
	3	7.28	4.30
	4	4.49	4.28
Clear (near 85)	D 0	16.14	(4.32) 4.30
	1	13.11	4.32
	2	9.99	4.32
	3	6.82	4.34
	4	4.52	4.30
Clear (near 80)	D 0	16.82	(4.34) 4.35
	1	13.56	4.36
	2	10.25	4.36
	3	7.02	4.34
	4	4.52	4.30

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D	Image 1	2	3	O
0	12.80	12.58	..	13.82
1	9.62	9.10	8.79	10.32
2	6.32	5.88	5.83	6.79
3	2.90	2.74	2.85	3.16
0	11.58	11.02	..	13.32
1	8.70	8.41	7.42	10.08
2	5.89	5.38	4.62	6.50
3	2.61	2.32	2.03	2.87
0	0.88	0.47	..	13.17
1	0.61	0.25	0.03	10.01
2	0.41	0.11	0.01	6.55
3	0.20	0.01	−0.02	2.81
0	6.04	4.76	..	12.98
1	4.40	3.37	1.98	9.82
2	2.84	2.18	1.24	6.33
3	1.28	0.98	0.59	2.77

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Diaphragms

0	1	2	3	4	0/1	0/2	0/3	0/4	[0]	[1]	[2]	[3]	[4]
					1.39	2.15	4.54	5.80					
24.32	17.44	11.35	5.36	0.42	[.1445]	[.3310]	[.6568]	[.7628]	1.3860	1.2415	1.0550	.7292	$\bar{1}$.6232
					1.37	2.09	4.53	6.82					
12.28	8.97	5.89	2.72	0.18	[.1364]	[.3194]	[.6546]	[.8339]	1.0892	.9528	.7701	.4346	$\bar{1}$.2553
13.02	9.80	6.29	2.83	0.20	1.33	2.07	4.60	6.50					
13.44	9.09	6.54	2.96	0.17	1.33	2.06	4.40	7.90					
11.82	8.79	5.67	2.50	0.20	1.35	2.09	4.73	5.90					
12.48	9.22	5.91	2.68	0.18	1.35	2.11	4.65	6.94					
3.64	2.63	1.65	0.77	0.06	1.38	2.20	4.74	6.09					
2.59	1.80	1.15	0.52	0.06	(1.44)	(2.25)	(4.98)	..					
0.76	0.54	0.35	0.12	0.00	(1.41)	(2.07)	(6.30)	.					
0.47	0.33	0.25	0.14	0.01	(1.43)	(1.88)	(3.37)						
9.26	6.74	4.38	1.90	0.17	1.37	2.13	4.87	..					
8.25	5.87	3.78	1.71	0.14	1.40	2.18	4.82						
					13.27	19.08	41.88	59.5					
					1.36	2.12	4.65	65.6					

Ratio in transmission for diaphragms 0, 1, 2, 3 (4)

$= 1 : \overline{1.36}^{-1} : \overline{2.12}^{-1} : \overline{4.65}^{-1} : \overline{65.6}^{-1}$

$= 1 : .735 : .472 : .215 : .015$

$= 100 : 73.5 : 47.2 : 21.5 : 1.5$

2	8.05	4.20
3	5.96	4.27
4	4.39	4.25

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1928phae.proj.1265S

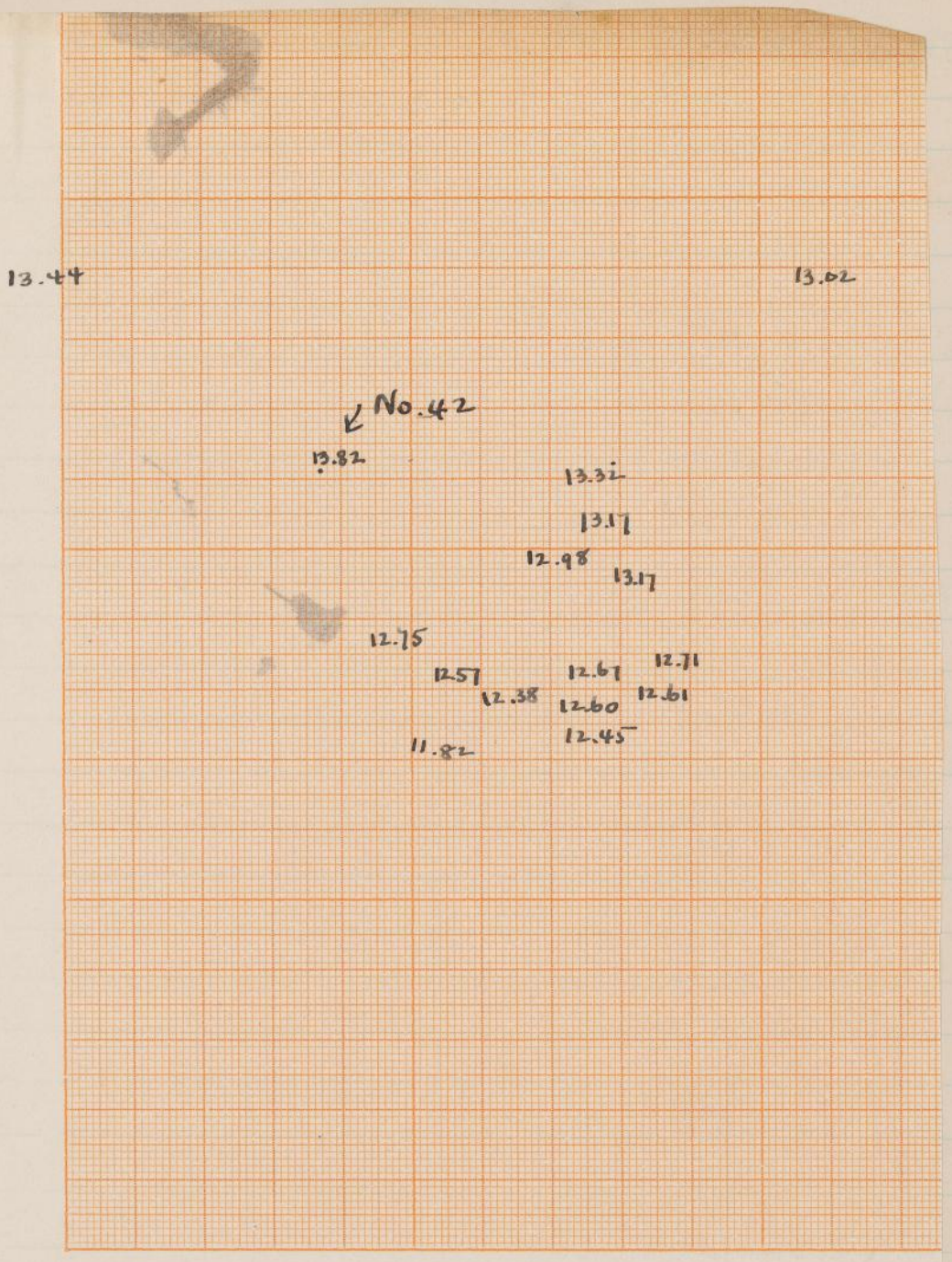
RH 89

			Dark
No. 55	Do	7.80	(4.16) 4.16
Image 1	1	6.79	4.14
	2	5.81	4.15
	3	4.93	4.18
	4	4.22	4.18
Image 2	DO	6.73	(4.14) 4.14
	1	5.94	4.12
	2	5.29	4.14
	3	4.66	4.14
	4	4.20	4.15
No. 54	Do	4.93	(4.17) 4.16
Image 1	1	4.71	4.18
	2	4.52	4.17
	3	4.29	4.18
	4	4.17	4.16
Image 2	DO	4.59	4.12 4.10
	1	4.45	4.12
	2	4.37	4.15
	3	4.26	4.11
	4	4.13	4.13
No. 82	DO	13.46	4.20 4.19
Image 1	1	10.94	4.21
	2	8.58	4.21
	3	6.10	4.19
	4	4.37	4.21
Image 2	DO	12.50	4.25 4.22
	1	10.12	4.25
	2	8.03	4.26
	3	5.96	4.27
	4	4.39	4.25

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1928phae.proj.126:5

8



RH 89

Distribution of "clear film" readings

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1928phae.proj.126.13

Star	Reduction from all pg. mags.					Mean curve		
	D_{01}	D_{02}	D_{13}			D_0,	D_{02}	D_{13}
40	3.18	3.24	3.10	3.17		3.79	3.79	3.66
41 (Std)	5.35	5.35	5.35	5.35	5.35	5.35	5.35	5.35
42	6.91	7.04	7.04	7.00	7.13	6.16	6.30	6.38
46	6.00	6.10	6.14	6.08	6.37	5.85	5.90	5.95
47	2.29	2.26	2.20	2.25	(1.51)	3.03	3.08	..
48	4.02	4.04	3.93	4.00	4.15	4.63	4.54	4.35
83	4.33	4.34	4.31	4.33	4.37	4.90	4.84	4.70
84	6.02	6.04	6.21	6.09	6.38	6.27	6.17	6.23
85	5.17	5.15	5.07			5.66	5.57	5.40
86	5.03	5.01	4.92			5.56	5.47	5.30
87	5.91	5.94	6.00			6.35	6.25	6.17
88	6.03	6.18	6.10			6.56	6.51	6.28
89	4.53	4.40	4.34			5.10	4.93	4.75
90	6.06	6.18	6.24			6.67	6.51	6.32
91	4.21	4.18	4.18			4.85	4.74	4.57

RH 89 Comparison of results by two methods

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Star	Tot.	Image 1 D_0	$D_{0\,red}$	200 −	m	Red. m		Image 2 D_0	$D_{0\,red}$	200 −	m	Red. m		Image 3 D_1	D_0	$D_{0\,red}$	200 −	m	Red. m
40	(13.8)	2.94	3.96	160	97	3.79	24	2.01	2.71	173	73	3.79	42	66	0.88	1.19	188	31	3.66
41	(13.8)	10.19	137	63	253	5.35	26	9.10	123	77	229	5.35	29	55	7.75	105	95	200	5.35
42	(13.8	12.80	173	27	334	6.16	10	12.58	170	30	324	6.30	21	31	11.95	162	38	303	6.38
46	~~11.58~~ 13.3	11.58	162	38	303	5.85	29	11.02	154	46	284	5.90	24	53	10.10	141	59	260	5.95
47	13.2	0.88	10	190	21	3.03	19	0.47	7.1	193	2	3.08			0.04	0.6	199	..	
48	13.0	6.04	93	107	181	4.63	33	4.76	72	128	148	4.54	48	81	2.70	42	158	100	4.35
83	12.8	7.07	110	90	208	4.90	30	5.86	91	109	178	4.84	43	73	4.10	64	136	135	4.70
84	13.2	11.60	~~16~~	24	345	6.27	34	10.91	165	35	311	6.17	23	57	10.30	156	44	288	6.23
85	12.6	9.66	154	46	284	5.66	33	8.55	136	64	251	557	46	89	6.82	108	92	205	5.40
86	12.4	9.23	149	51	274	5.56	33	8.09	130	70	241	5.47	46	79	6.35	102	98	195	5.30
87	12.7	11.36	178	22	353	6.35	34	10.64	168	32	319	6.25	37	71	9.71	153	47	282	6.17
88	12.7	11.61	182	18	374	6.56	29	11.18	176	24	345	6.51	52	81	10.00	158	42	293	6.28
89	12.6	7.71	122	78	228	5.10	41	6.10	97	103	187	4.93	47	88	4.22	67	133	140	4.75
90	12.6	11.63	184	~~46~~ 16	385	6.67	40	10.16	~~161~~ 176	24	345	6.51	48	88	10.42	160	40	297	6.32
91	12.45	6.69	107	93	203	4.85	35	5.33	85	115	168	4.74	46	81	3.52	56	144	122	4.57

+282 +306 +335

RH 89 Reduction by mean curve

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Star	Image 1 D_0	rel. m	m	Image 2 D_0	rel. m	m	Image 3 D_1	rel. m	m
40	2.94	2.56	~~3.94~~ 2.83	2.01	1.84	2.48	0.88	0.82	1.90
41	10.19	5.08	5.35	9.10	4.71	5.35	7.75	4.27	5.35
42	12.80	6.64	6.91	12.58	6.40	7.04	11.95	5.96	7.04
46	11.58	5.73	6.00	11.02	5.46	6.10	10.10	5.06 ~~5.49~~	6.14
47	0.88	0.82	1.09	0.47	0.41	1.05	0.04	0.00	1.08
48	6.04	3.75	4.02	4.76	3.34	~~3.98~~ 4.04	2.70	2.40	3.48
83	7.07	4.06	4.38	5.86	3.69	4.34	4.10	3.10	4.18
84	11.60	5.75	6.02	10.91	5.40	6.04	10.30	5.13	6.21
85	9.66	4.90	5.17	8.55	4.51	5.15	6.82	3.99	5.07
86*	9.23	4.76	5.03	8.09	~~3.43~~ 4.37	5.01	6.35	3.84	4.92
87	11.36	5.64	5.91	10.69	5.28	5.94	9.71	4.92	6.00
88	11.61	5.76	6.03	11.18	~~3.75~~ 5.54	~~.99~~ 6.18	10.00	5.02	6.10
89	7.71	4.26	4.53	6.10	3.76	4.40	4.22	3.14	~~4.22~~ 4.34
? 90	11.63	5.79	~~5.96~~ 6.06	10.16	5.08	~~5.72~~ 5.54 6.18	10.42	5.16	6.24
91	6.69	3.94	4.21	5.33	3.52	4.16	3.52	2.89	~~3.97~~ 4.18
Correction to ~~86~~ 41 (assumed 5.35)		~~+1.41~~ +0.27			+0.64			+1.08	

RH 89 Reduction by internal curve

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Identification of stars on RH 89

No.		R.A.	Dec.	m
40	αOri	5 49.8	+7 23	2.27
41	520ri	5 42.6	+6 25	5~~3~~.5
42	HD 38108			7.13
46	HD 35666			6.37
47	γOri	5 19.8	+6 16	1.51
48	AOri	5 25.4	+5 52	4.15
83	wOri	5 33.9	+4 4	4.37
84	~~HD 35666~~ 35242			6.38 ~~7.58~~
85	n_2Ori	5 29.0	+3 +2	5.38
86	n_1Ori	5 26.0	+3 13	5.35
87	HD 35762			6.44
88	HD 34959			6.24
89	mOri	5 17.6	+3 27	4.82
90	HD 36133			7.3
91	ψOri	5 21.6	+3 0	4.47

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9

(Dn - Dark)

Image 3	Clear Dn3
D3	
0.19	
4.46	
1.57	
5.82	
2.85	18.09
7.12	14.59
	11.06
	7.43
2.03	17.80
6.51	14.56
	10.98
	7.35
-0.02	17.46
4.27	14.30
	10.84
	7.10
0.59	17.30
4.91	14.14
	10.73
	7.09
0.91	17.06
5.22	13.90
	10.65
	7.15
2.21	17.52
.56	14.35
	10.88
	7.32
.48	16.95
86	13.78
	10.56
	7.17
33	16.77
12	13.60
	10.47
.11	7.10
50	17.06
	13.89
	10.66
21	7.21
0	17.10
	13.99
	10.74
16	7.30
5	17.00
	13.82
	10.57
0	7.24
	16.99
9	13.74
	10.59
	7.23
	16.85
	13.67
	10.54
	7.19

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(Dn - Dark)

Page 3	Clear
D 3	D 3
0.19	
4.46	
1.57	
5.82	
2.85	18.09
7.12	14.59
	11.06
	7.43
2.03	17.80
6.51	14.56
	10.98
	7.35
-0.02	17.46
4.27	14.30
	10.84
	7.10
0.59	17.30
4.91	14.14
	10.73
	7.09
0.91	17.06
5.22	13.90
	10.65
	7.15
2.21	17.52
.56	14.35
	10.88
	7.32
.48	16.95
86	13.78
	10.56
	7.17
33	16.77
12	13.60
	10.47
.11	7.10
50	17.06
	13.89
	10.66
21	7.21
0	17.10
	13.99
16	10.74
	7.30
5	17.00
	13.82
0	10.57
	7.24
9	16.99
	13.74
	10.59
	7.23
	16.85
	13.67
	10.54
	7.19

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Reduction curve
RH 89
(See BR 60 p 9 for material)

9

...es are (D_n - Dark)

...wage 3		Clear Day
D 2	D 3	
0.41	0.19	
.68	4.46	
3.51	1.57	
1.76	5.82	
5.83	2.85	18.09
10.10	7.12	14.59
		11.06
		7.43
4.62	2.03	
7.10	6.51	17.80
		14.56
		10.98
		7.35
0.01	-0.02	
.30	4.27	17.46
		14.30
		10.84
		7.10
24	0.59	
56	4.91	17.30
		14.14
		10.73
		7.09
99	0.91	
30	5.22	17.06
		13.90
		10.65
		7.15
95	2.21	
30	6.56	17.52
		14.35
		10.88
		7.32
26	1.48	
4	5.86	16.95
		13.78
		10.56
		7.17
1	1.33	
0	5.72	16.77
		13.60
		10.47
1	2.11	7.10
	6.50	17.06
		13.89
		10.66
	2.21	7.21
	6.60	17.10
		13.99
		10.74
		7.30
	0.96	
	5.35	17.00
		13.82
		10.57
	2.30	7.24
	6.69	16.99
		13.74
		10.59
	0.75	7.23
	5.15	16.85
		13.67
		10.54
		7.19

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The ink figures are (Dn − Dark)

Measures of RH 89, central portion

Star		Dark	Image 1				Image 2				Image 3				Clear Day
			D0	D1	D2	D3	D0	D1	D2	D3	D1	D2	D3		
			2.94	2.13	1.39	0.65	2.01	1.46	0.95	0.43	0.65	0.41	0.19		
40		4.27	7.24	6.40	5.66	4.92	6.28	5.73	5.22	4.70	4.92	4.68	4.46		
			10.19	7.36	5.05	2.16	9.10	6.62	4.31	2.03	5.19	3.51	1.57		
41		4.25	14.44	11.61	9.30	6.41	13.35	10.87	8.56	6.28	10.04	7.76	5.82		
			12.80	9.62	6.32	2.90	12.58	9.10	5.88	2.74	8.79	5.83	2.85		18.09
42	13.82 10.32 6.79 3.46	4.27	17.07	13.89	10.59	7.17	16.85	13.37	10.15	7.01	13.06	10.10	7.12		14.59 11.06 7.43
			11.58	8.70	5.89	2.61	11.02	8.41	5.38	2.32	7.42	4.62	2.03		
46	13.32 10.08 6.50 2.87	4.48	16.06	13.18	10.37	7.09	15.50	12.89	9.86	6.80	11.90	9.10	6.51		17.80 14.56 10.98 7.35
			0.88	0.61	0.41	0.20	0.47	0.25	0.11	0.01	0.03	0.01	−0.02		
47	13.17 10.01 6.55 2.81	4.29	5.17	4.90	4.70	4.49	4.76	4.54	4.40	4.30	4.32	4.30	4.27		17.46 14.30 10.84 7.10
			6.04	4.40	2.84	1.28	4.76	3.37	2.18	0.98	1.98	1.24	0.59		
48	12.98 9.82 6.33 2.77	4.32	10.36	8.72	7.16	5.60	9.08	7.69	6.50	5.30	6.30	5.56	4.91		17.30 14.14 10.73 7.09
			7.07	5.16	3.33	1.49	5.86	4.21	2.72	1.23	3.02	1.99	0.91		
83	12.75 8.59 6.34 2.84	4.31	11.38	9.47	7.64	5.80	10.17	8.52	7.03	5.54	7.33	6.30	5.22		17.06 13.90 10.65 7.15
			11.60	8.74	5.73	2.53	10.91	8.17	5.36	2.40	7.55	4.95	2.21		
84	13.17 10.00 6.52 2.97	4.35	15.95	13.09	10.08	6.88	15.26	12.52	9.71	6.75	11.90	9.30	6.56		17.52 14.35 10.88 7.32
			9.66	7.08	4.62	2.05	8.55	6.26	4.12	1.82	5.01	3.26	1.48		
85	12.57 9.40 6.18 2.79	4.38	14.04	11.46	9.00	6.43	12.93	10.64	8.50	6.20	9.39	7.64	5.86		16.95 13.78 10.56 7.17
			9.23	6.79	4.51	1.98	8.09	5.86	3.84	1.71	4.67	3.81	1.33		
86	12.38 9.21 6.08 2.61	4.39	13.62	11.18	8.90	6.37	12.48	10.25	8.23	6.10	9.06	7.50	5.72		16.77 13.60 10.47 7.10
			11.36	8.47	5.58	2.53	10.69	7.92	5.20	2.36	7.13	4.69	2.11		
87	12.67 9.50 6.27 2.82	4.39	15.75	12.86	9.97	6.92	15.08	12.31	9.59	6.75	11.52	9.08	6.50		17.06 13.89 10.66 7.21
			11.61	8.70	5.70	2.60	10.18	8.38	5.49	2.51	7.34	4.85	2.21		
88	12.71 9.60 6.35 2.91	4.39	16.00	13.09	10.09	6.99	15.57	12.77	9.88	6.90	11.73	9.24	6.60		17.10 13.99 10.74 7.30
			7.71	5.46	3.61	1.56	6.10	4.45	2.89	1.30	3.10	2.07	0.96		
89	12.61 9.43 6.12 2.85	4.39	12.10	9.85	8.00	5.95	10.49	8.84	7.28	5.69	7.49	6.46	5.35		17.00 13.82 10.57 7.24
			11.63	8.61	5.71	2.59	10.16	8.36	5.41	2.51	3.71	4.96	2.30		
90	12.60 9.35 6.20 2.84	4.39	16.02	13.00	10.10	6.98	15.55	12.65	9.80	6.90	12.10	9.35	6.69		16.99 13.74 10.59 7.22
			6.69	4.80	3.17	1.42	5.33	3.81	2.50	1.10	2.58	1.71	0.75		
91	12.45 9.27 6.14	4.40	11.09	9.20	7.57	5.82	9.73	8.21	6.90	5.50	6.98	6.11	5.15		16.85 13.67 10.54 7.19

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10

Reductions

MC 17326 Reading minus dark

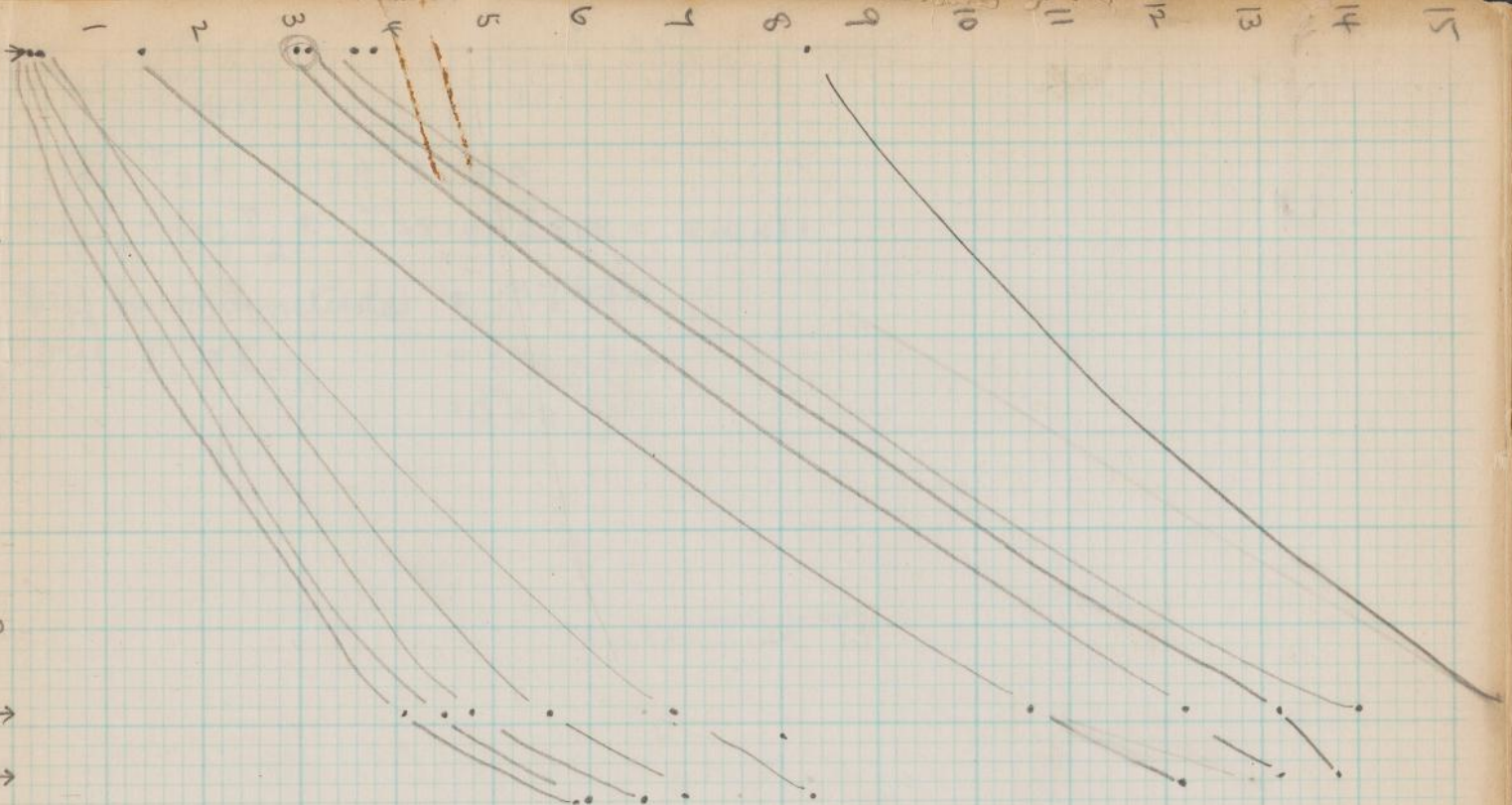
(m)	Star No.	Center	1R	~~1L~~ ~~2R~~	Mean1	2R	2L	Mean2	Rel. Der. m	Diff
6.49	5	0.21 ✓	3.11	3.16	3.14 ✓	4.02	3.62	3.82 ✓	0.3	(6.5) 0
7.11	6	0.32 ✓	4.14	4.50	4.32 ✓	5.60	5.80	5.70 ✓	1.2	7.4 +3
7.31	7	0.44 ✓	4.40	4.46	4.43 ✓	5.78	6.10	5.94 ✓	1.5	7.7 +4
8.23	8	0.66 ✓	7.52	8.00	7.76 ✓	8.88	9.45	9.16 ✓	1.7	7.9 -3
8.83	9	2.41 ✓	8.54	8.37	8.46 ✓	9.75	9.26	9.50 ✓	3.2	9.4 +6
9.02	10	2.69 ✓	9.40	10.47	9.93 ✓	10.35	11.02	10.68 ✓	3.5	9.7 +7
9.55	11	3.36 ✓	10.83	10.77	10.80 ✓	11.62	11.56	11.59 ✓	3.9	10.1 +6
9.86	12	4.37 ✓	11.06	11.57 ✓	~~11.06~~ 11.32 ✓	~~11.57~~		~~11.57~~	4.4	10.6 +8
10.30	13	4.97							4.8	11.0 +11
10.65	14	5.92							~~4.8~~ 5.2	~~11.0~~ 11.4 +7 +11
13.34	23	10.67							5.3	11.5 +9
									5.5	11.7 +11
									7.8	12.0 +7

For grating constants:—

Star	Center	M1	M2	M1 − C	M2 − C	M2 − M1	mag.
5	0.47	3.52	3.89	3.05 ~~3.42~~	3.42 ~~0.37~~	0.37	6.46
6	1.10	4.17	4.79	3.07 ~~3.69~~	3.69 ~~0.62~~	0.62	7.10
7	1.28	4.22	4.88	2.94 ~~3.60~~	3.60 ~~0.44~~	0.44	7.28
8	(1.54)	5.44	5.90	—	~~0.36~~	0.36	(7.54)
9	2.98	5.67	6.06	(3.69)	(3.08)	(0.39)	(8.98)
10	3.19	6.23	6.67	3.04	3.48	0.44	9.19
11	3.64	6.72	7.30	3.08	3.66	~~0.58~~	9.64
12	4.19	~~9.08~~	—	2.89			
				18.07	17.85	3.20	
				3.01	3.57	0.46	

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Schulz
MC17340
Material, 1 & 3 images

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1928phae.proj.126:5

$$I_2 = \frac{\left(\sin \frac{1}{5.53} 2\pi\right)^2}{(2\pi)^2} = \frac{\sin^2 65^\circ}{40} \frac{0.82}{40} = 0.0205$$

$I_0 : I_2 = 0.179 : 0.0205$

$\log I_0 - \log I_2 = \bar{1}.2529 - \bar{2}.3118 = 0.9411$

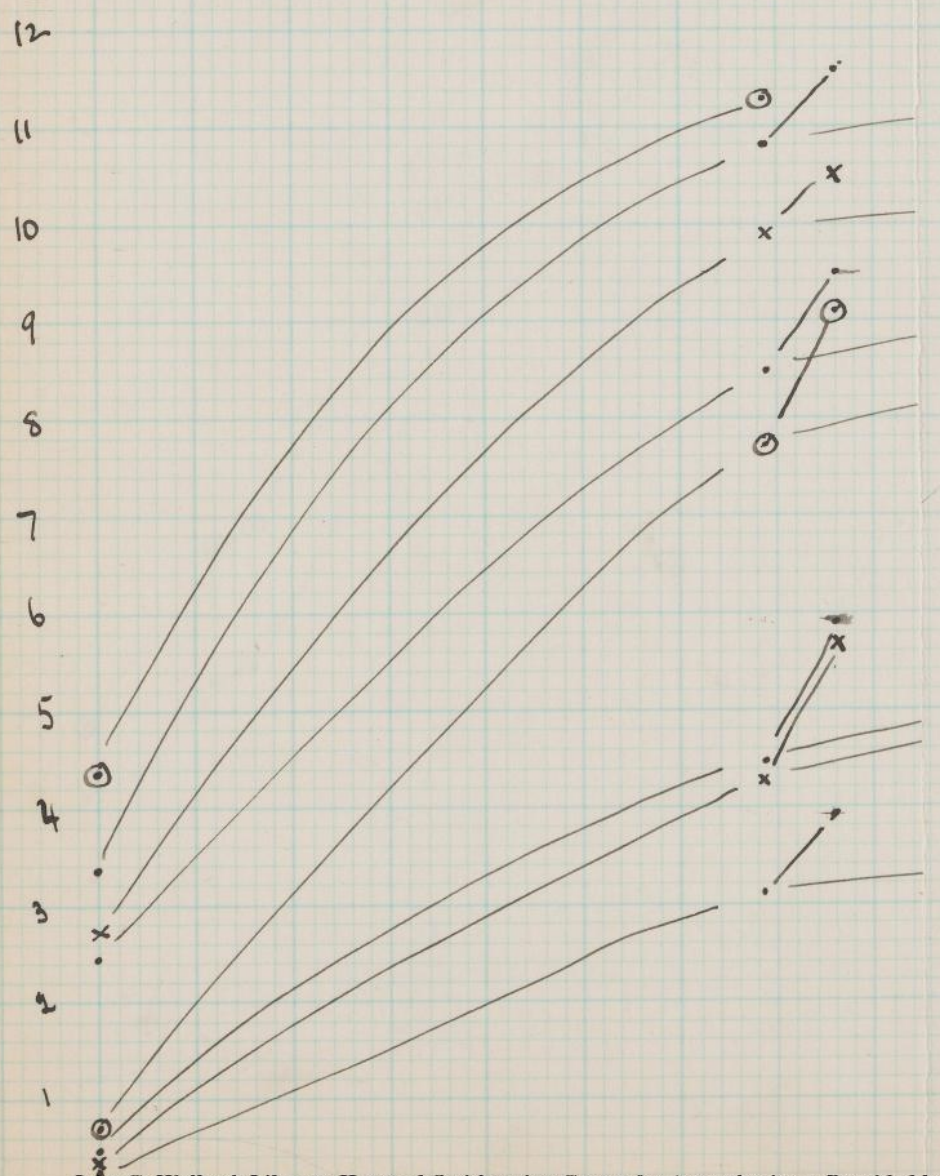
Diff. in magnitudes = 3.7644

Diff. I_1 to I_2 = 3.76 − 3.42

$= 0^m.34$

A

Material B



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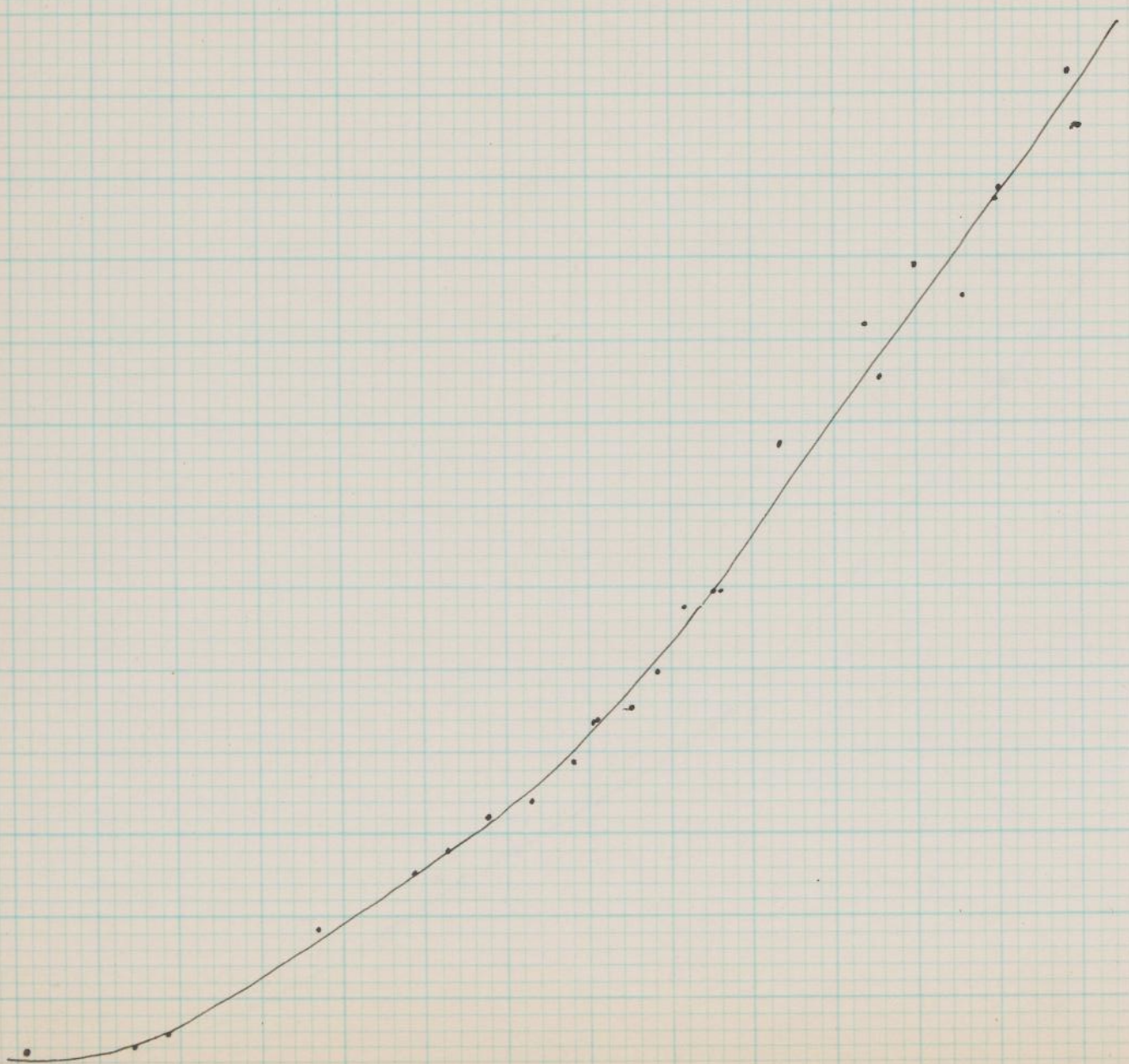


Figure 2
Curve from the polar sequence (material A)

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1928phae.proj.12618

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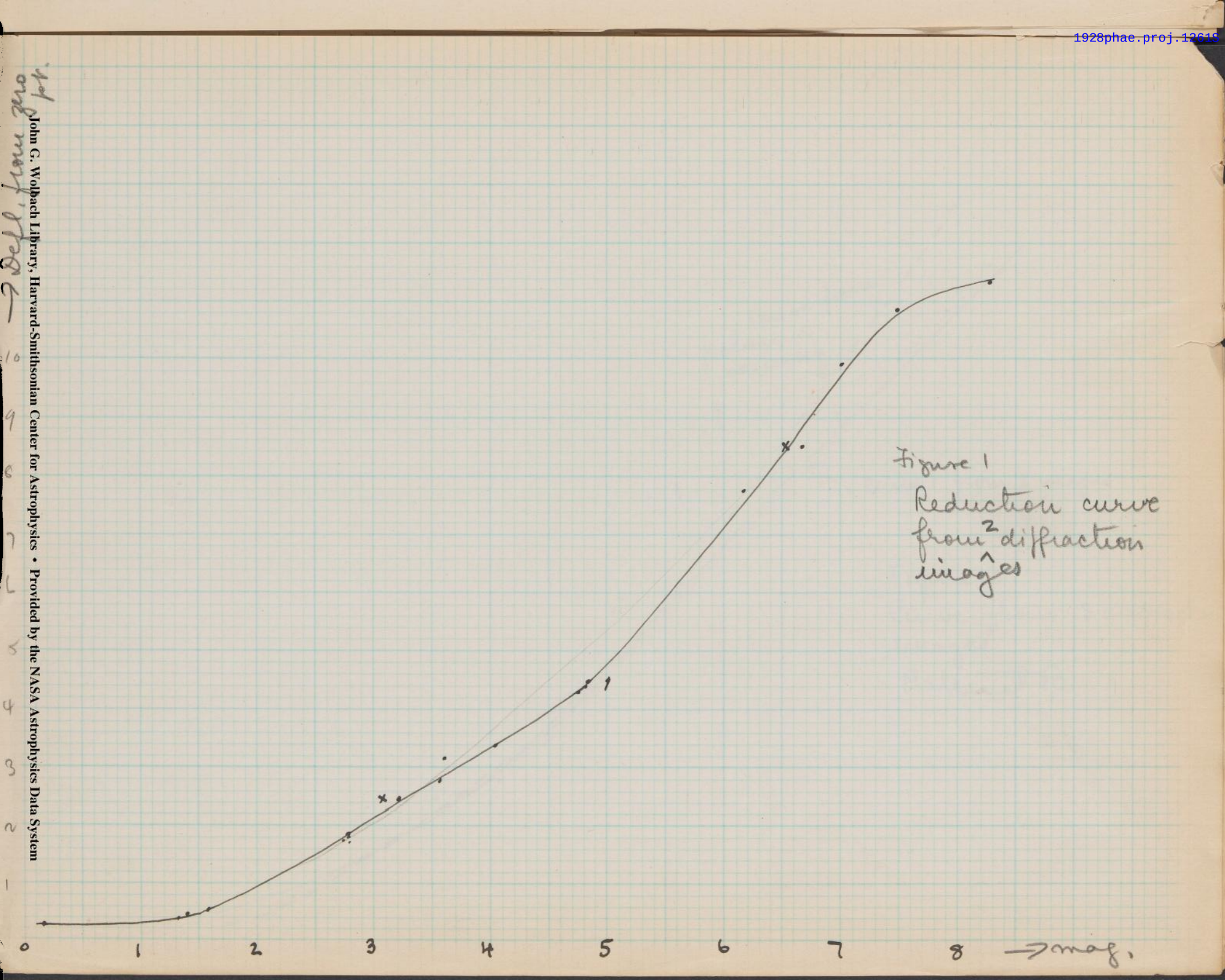


Figure 1
Reduction curve from ^{2} diffraction images

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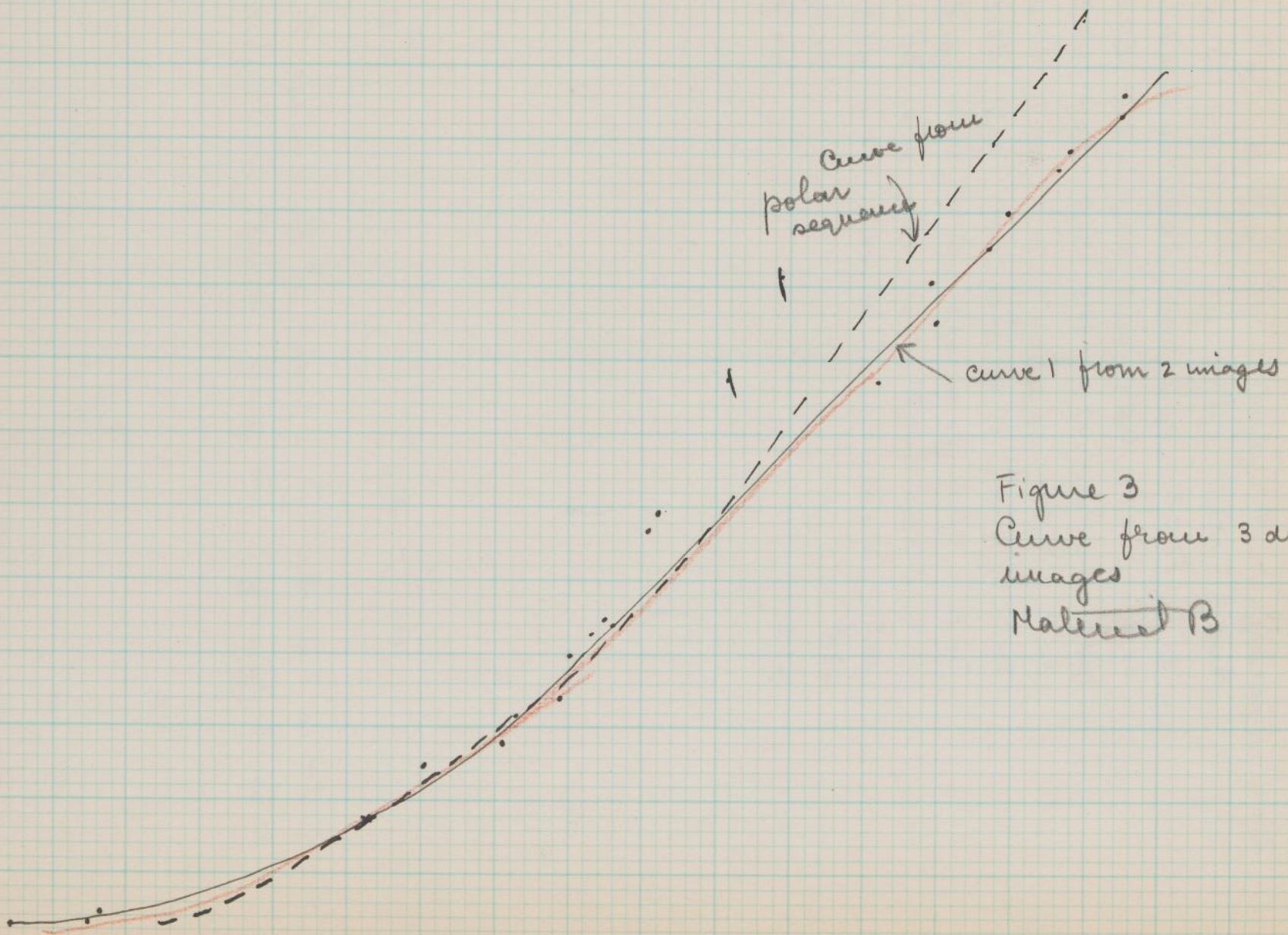


Figure 3
Curve from 3 diffraction
images
Natural B

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Measures . Preliminary trial of MC plate

MC 17326 Pole, diffraction images. No diaphragm/plate No. up

	Star No.	Central	1 right	2 R	1 L	2 L	Clear	Dark
6.46	5	3.55	6.45	7.36	6.40	6.96	15.95	3.34
7.12	6	3.72	7.54	9.00	7.90	9.20	17.22	3.40
7.38	7	3.84	7.80	9.18	7.86	9.50	16.50	3.40
8.32	8	4.06	10.92	12.28	11.40	12.95	15.65	3.40
8.93	9	5.86	12.09	13.20	~~13.90~~ 11.82	12.71	14.64	3.45
9.11	10	6.14	~~14.30~~ 12.85	13.80	13.92	14.47	15.30	3.45
9.77	11	6.85	14.32	15.11	14.26	15.04	16.55	3.49
10.08	12	7.86	14.55	15.06	→		16.42	3.49
10.52	13	8.49						3.52
10.92	14	9.44						3.52
	15							
	16							
	17							
	18							
	19							
	20							
	21							
	22							
13.59	23	14.19					15.16	3.52

It appears to be possible to establish a satisfactory reduction curve using the diffracted images

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MC 17340 · Reductions

Star	Center	1 R	1 L	Mean	2 R	2 L	Mean	3 R	3 L	Mean
a	0.22	4.84	4.84	4.84	6.58	6.71	6.65	8.45	8.01	8.23
b	11.82	..	..	..			..			..
c	11.32			..			..			..
d	0.17	4.54	4.93	4.74	6.02	5.92	5.97	8.62	9.39	9.00
e	0.27	5.59	..	5.59	7.07	..	7.07	8.92	..	8.92
f	3.58	14.01	13.68	13.84	..	..	..	..	..	..
g	0.12	4.15	4.34	4.24	5.91	6.04	5.98	8.59	8.26	8.42
h	0.30	6.81	7.19	7.00	8.32	8.80	8.56	10.77	11.09	10.93
i	0.22	6.85	6.81	6.83	8.41	8.42	8.42	10.95	11.02	10.98
j	2.94	12.29	12.52	12.40	13.22 ~~8.41~~	14.02	13.62	..	..	..
k	3.08	12.52	12.75	12.63	14.62	14.06	14.34	..	..	..
l	1.42	10.62	10.62	10.62	12.94	11.72	12.33	15.08	15.22	15.15
m	8.32	16.02	16.02	16.02	–	..	..	..	..	..
n										
o										
q										

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MC 17340. Pole at $8^h 30^m$, Pl. No. down. No Diaphragm

Star	x	y	Center	1R	2R	3R	1L	2L	3L	Dk.	Cl.
For ident.	15.65	7.5	unmeasurable								
							7.37	7.69	9.17	3.30	15.92
										3.33	15.63
										3.35	12.67
vol							*				
out of field							2				
							*	13.32	15.15	3.45	20.96
Pla							ive.				
								—	—	3.64	21.65
										3.56	21.64
a								10.49	11.79	3.78	
b										3.78	20.36
c											21.20
d								9.70	13.17		21.70
e								hand effect ?)			
f											21.30
g								9.82	12.04		21.25
h								12.58	14.89		21.06
i								12.20	14.80		21.17
j								17.82	—		21.34
k								17.84	—		21.49
l								15.50	19.00		
m											
n								2.07	7.32		
o								3.52	16.90		
g = p											
q								0.82	18.04		

Cl. 59

Missing

* defect in film

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MC 17340. Pole at $8^h 30^m$, Pl. No. down, No Diaphragm

Star	x	y	Center	1R	2R	3R	1L	2L	3L	Dr.	Cl.
For ident.	15.65	7.5	unmeasurable								
	29.25	14.9	3.40	6.17	7.60	8.90	6.37	7.69	9.17	3.30	15.92
	28.20	14.1	10.29							3.33	15.63
	~~24.45~~	13.6	9.37							3.35	12.67
			3.70	6.94	8.00	8.29	5.80*				
out of field	29.25	14.9	3.80	8.10	9.56	12.05	9.52				
	24.20	13.7	3.74	10.52	15.27	16.50	12.70*	13.32	15.15	3.45	20.96
Plate reset nearer to ~~obj~~ objective.											
	20.72	3.80	6.44	17.03	—	—	17.16	—	—	3.64	21.65
	23.38	4.70	10.00							3.56	21.64
			6.88	15.35			16.00				
a	26.19	0	4.00	8.62	10.36	12.13	8.62	10.49	11.79	3.78	
b	24.70	0	15.60							3.78	20.36
c	22.5	2.20	15.10								21.20
d	14.81	10.50	3.95	8.32	9.80	12.~~09~~ 40	8.71	9.70	13.17		21.70
e	14.54	7.20	4.05	9.37	10.85	12.70	(Eberhard effect?)				
f	13.42	7.70	7.36	17.79	—	—	17.46				21.30
g	25.40	12.27	3.90	7.93	9.69	12.37	8.12	9.82	12.04		21.25
h	24.22	14.0	4.08	10.59	12.10	14.55	10.97	12.58	14.89		21.06
i	19.50	12.55	4.00	10.63	12.19	14.73	~~11.57~~ 10.69	12.20	14.80		21.17
j	13.30		6.72	16.07	17.00	—	16.30	17.82	—		21.34
k	13.50	8.50	6.86	17.00	18.40	—	17.23	17.84	—		21.49
l	12.65	7.30	5.20	14.40	16.72	18.86	~~15.02~~ 14.40	15.50	19.00		
m	23.76	5.10	12.10	18.80	—	—	19.80				
n	11.40	0.3	3.75	5.19	6.07	7.56	4.78	6.07	7.32		
o	27.0	14.5	4.56	11.98	13.34	17.18	12.30	13.52	16.90		
g = p		12.2	3.89	remeasured							
q	21.0	5.0	7.60	16.24	16.87	18.39	16.~~56~~ 37	16.82	18.04		

* defect in film

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	RA 1900		Dec. 1900		Star
	3h	59.5	+14.7		657 +14°927
6.22	4	2.0	+14	54	
	3	56.5	+2.4		
					+2° ~~825~~
	4h	1m	+13		648
6.00	4	3.4	+13	8	+13° ~~828~~
5.99	4	6.0	+5	16	45 Jan
5.63	4	8.2	+7	28	46 Jan
5.76	4	8.5	+9	1	47 Jan
	4	5.5	+9.9		
6.20	4	8.1	+9	58	+9°549
5.10	4	9.2	+9	46	HR 1315
4.15	4	10.1	+8	39	μ Jan
5.87	4	14.3	+13	48	h Jan
4.86	4	14.1	+15	23	γ Jan
		11.4	+20	20	
4.88	4	~~14.9~~	~~+14~~	~~52~~	ω Jan
5.55	4	14.9	+14	62	58 Jan
5.84	4	16.4	+13	50	60 Jan
4.93	4	17.2	+17	18	δ Jan
5.12	4	18.4	+9	14	ν Jan
	4	15.0	+16.4		
5.74	4	17.7	+16	32	+16°586
4.98	4	18.4	+17	13	64 Jan
4.30	4	19.7	+17	42	68 Jan
4.74	4	20.6	+15	23	71 Jan
5.94	4	20.9	+14	29	π Jan
	4	21.0	+1.1		
5.45	4	23.4	+1	9	+1°757
	4	19.5	+10.9		
5.79	4	22.0	+10	59	+10°577
5.26	4	23.2	+12	49	b Jan
5.04	4	22.8	+15	44	θ_1 Jan
3.90	4	22.9	+15	39	θ_2 Jan
	4	24.4	+15	25	80 Jan
5.98	~~4~~	~~19.7~~	~~+17~~	~~42~~	~~68 Jan~~
4.63	4	22.8	+18	58	ε Jan
5.77	4	25.0	+13	31	83 Jan

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Measures of BB 212, diaphragm 1. all stars bright enough

Image	Read.	Clear	Dark	Zone	Read −Dark	Clear −Dark	
1	15.68	17.29	3.35	8	12.33		
3	15.22	17.77	3.38	8	11.84		
4	14.84	17.37	3.39	6	11.45 ✓		
12	15.03	17.12	3.37	6	11.66 ✓		
13	14.28	16.97	3.39	6	10.89 ✓		
15	13.74	17.06	3.37	5	10.37 ✓		
16	15.09	16.89	3.39	5	11.70 ✓		
17	11.40	17.12	3.40	5	8.00 ✓		
18	6.91	17.30	3.40	5	3.51 ✓		plate dirty
23	14.60	16.98	3.40	5	11.20 ✓		
24	9.89	17.24	3.40	5	6.49 ✓		
25	11.81	17.41	3.40	7	8.41		
26	13.29	17.19	3.42	5	9.87 ✓		
29	14.36	17.00	3.40	4	10.96 ✓		
34	10.52	17.06	3.40	5	7.12		
36	11.79	16.61	3.41	4	8.48 ✓		plate dirty
37	14.92	17.05	3.41	5	11.51 ✓		
38	11.18	16.40	3.42	5	7.76 ✓		
40	7.66	17.13	3.42	5	4.24 ✓		
42	9.68	16.88	3.43	4	6.25 ✓		
43	14.27	16.99	3.44	4	10.83 ✓		
44	14.02	18.19	3.44	6	10.98 ✓		
46	14.28	16.93	3.44	4	10.84 ✓		
47	12.50	16.93	3.45	4	9.05 ✓		
50	9.71	16.68	3.45	4	6.26 ✓		
51	4.39			4	0.94 ✓		
54	10.12	16.60	3.46	4	6.66 ✓		
55	9.56	17.48	3.46	5	6.10 ✓		
56	13.90	17.08	3.48	3	10.42		

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	4	26.5	+5.3		
5.78	4	28.8	+5	21	+5°679
5.20	4	32.1	+0	48	49 Eri
4.89	4	28.2	+14	38	f Tau
4.46	4	30.2	+9	57	d Tau
2.24	4	30.2	+16	19	α Tau
	4	31.0	+7.6		
5.83	4	33.6	+7	40	+7°681
4.38	4	32.6	+12	19	c Tau
5.35	4	34.5	+12	0	q3 Tau
	4	36.5	+10.9		
5.43	4	38.9	+10	58	+10°621
	4	38	+11.5		
5.43	4	40.5	+11	31	+11°646
3.81	4	44.4	+6	47	π3 Ori
4.35	4	45.1	+8	44	π2 Ori
5.40	4	45.5	+18	40	i Tau
4.74	4	49.4	+10	0	π1 Ori
3.61	4	45.9	+5	26	π4 Ori
3.70	4	49.0	+2	17	π5 Ori
	4	43	+0.2		
6.68	4	45.6	+0	59	+0°871
5.73	4	53.4	+1	33	π6 Ori
5.23	4	44.3	+11	16	g Ori
4.93	4	33.5	+15	43	o2 Tau
	4	44.5	+14	0	
6.54	4	46.9	+14	5	+14°777
	4	48	+13	3	
5.28	4	50.7	+13	21	+13°740
	5	18.6	+17	17	
5.70	~~3~~	~~34.8~~	~~+25~~	~~0~~	111 Tau
5.60	5	1.5	+18	30	m Tau
5.14	5	21.3	+17	53	115 Tau
	5	00	+8	3	
5.75	5	2.5	+8	22	+8°856?
	5	1.5	+9.6		
5.48	5	3.8	+9	42	+9°743
	5	08.0	+11.2		
5.50	5	10.5	+11	14	+11°756
5.87	5	14.0	+2	30	21 Ori
	5	14	+8.3		
5.52	5	16.4	+8	20	+8°933

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AB 2.12 continued

				Zone	Read - Dark
60	14.75	16.89	3.48	4	11.27 ✓
61	12.90	17.69	3.49	6	9.41 ✓
65	10.72	16.53	3.48	3	7.24 ✓
66	8.32	16.14	3.42	3	4.90 ✓
67	3.70	16.46	3.44	4 plate	0.26 dirty ✓
69	13.80	16.85	3.45	3	10.35 ✓
70	8.32	16.65	3.45	2	4.87 ✓
71	12.09	16.55	3.47	2	8.62 ✓
78	13.50	16.29	3.47	2	10.03 ✓
79	13.17	16.06	3.46	1	9.71 ✓
82	5.48	16.05	3.45	3	2.03 ✓
83	8.30	15.40	3.45	2	4.85 ✓
86	12.79	16.68	3.45	4	9.34 ✓
88	10.10	15.89	3.45	1	6.65 ✓
89	4.70	16.72	3.45	3	1.25 ✓
90	4.90	17.56	3.45	5	1.45 ✓
92	15.85	18.06	3.45	6	12.40 ✓
93	16.02	17.79	3.46	5	12.56 ✓
100	12.21	15.60	3.44	0	8.77 ✓
102	12.73	16.61	3.45	1	9.28 ✓
103	13.52	16.51	3.46	2	10.06 ✓
104	14.35	16.42	3.50	2	10.85 ✓
110	9.58	16.66	3.48	3	6.16 ✓
113	13.68	16.56	3.45	4	10.23 ✓
114	11.95	16.61	3.45	3	8.50 ✓
117	13.90	16.62	3.45	3 on fine scratch	10.45 ✓
118	13.99	16.75	3.49	2	10.50 ✓
121	13.70	16.79	3.50	3	10.20 ✓
127	15.51	18.00	3.50	6	12.01 ✓
128	13.73	16.40	3.45	4	10.28 ✓

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5.33	5	27.6	+18	29	120 Jau
4.82	5	17.6	+ 3	27	m Ori
4.56	5	19.6	+1	45	25 Ori
1.51	5	19.8	+6	16	γ Ori
Ma					
6.08	5	26.3	+18	32	119 Jau
	5	19.5	+15.8		6
5.51	5	22.0	+15	48	+15°827
4.47	5	21.6	+3	0	ψ Ori
7.11 / 4.95	3	49.2	-3	14	w Eri
5.13	3	56.5	-1	50	36 Eri
	4	6.5	-1.5		-1°870 600
6.22	4	8.6	-1	24	
5.29	4	18.7	-3	58	ξ Eri
	4	25.5	-3.5		
5.89	4	27.6	-3	25	-3°809
5.45	4	32.6	-2	40	c Eri
3.93	4	31.3	-3	33	ν Eri
	4	29.0	-3.9		-3°822
4.06	4	40.5	-3	26	μ Eri
	4	39	-3.2		
6.35	4	41.4	-3	8	-3°884
	4	41.5	-5.9		
6.56	4	43.6	-5	50	-5°1044
4.73	4	48.0	-5	37	ω Eri
5.44	4	51.4	-5	20	ι Eri
4.76	4	56.6	-7	20	65 Ori
3.00		2.9	-5	13	
~~0.29~~	5	~~8.7~~	~~-8~~	~~19~~	β Ori
	5	3.8	+4	35	
5.65	~~6~~	~~6.0~~	~~+19~~	~~49~~	68 Ori
	4	58	-3.2		
5.86	4	59.9	-3	11	-3°998
	5	12	-1.5		-1°859
6.25	5	14.6	-1	31	
	5	16	-0.3		
5.47	5	18.6	-0	15	-0°936
3.22	5	19.4	-2	29	η Ori
	5	25.5	-0.7		-1°939 5
5.11	5	27.7	-1	40	
	5	25.7	-0.8		-1°939
6.29	5	28.1	-1	48	

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AB 212 continued

				Zone	Decl-Dlik
132	13.50	16.50	3.42	5	10.08 ✓
135	9.84	17.60	3.46	6	6.38 ✓
138	9.07	17.79	3.47	6	5.60 ✓
139	3.44	16.90	3.44	5	0.00 ✓
141	12.03	17.09	3.44	5	8.59 ✓
142	14.03	16.71	3.45	5	10.58 ✓
146	8.10	16.10	3.46	6	4.64 ✓
a	13.51	19.18	3.48	11	10.03
c	12.49	18.71	3.48	10	9.01 ✓
d	16.70	18.70	3.49	8	13.21 ✓
h	14.41	18.73	3.49	9	10.92 ✓
j	15.42	18.67	3.50	8	11.92 ✓
k	15.40	18.50	3.50	8	11.90 ✓
l	5.58	18.64	3.50	8	2.08 ✓
m	17.01	18.49	3.50	8	13.51 ✓
o	6.13	18.60	3.50	8	2.63 ✓
p	17.49	18.59	3.50	8	13.99 ✓
s	17.88	18.66	3.50	9	14.38 ✓
t	11.27	18.86	3.49	9	7.78 ✓
u	14.95	18.79	3.49	9	11.46 ✓
w	13.92	19.03	3.49	9	10.43 ✓
x	3.89	19.02	3.49	9	0.40 ✓
y	16.46	19.09	3.49	8 to 9	12.97 ✓
z	16.96	18.40	3.50	8 to 9	13.46 ✓
200	16.45	18.06	3.49	7	12.96 ✓
201	14.69	18.28	3.49	7	11.20 ✓
202	4.09	18.05	3.47	8	0.62 ✓
203	17.54	18.35	3.50	8	14.04 ✓
204	12.78	18.35	3.41	8	9.37 ✓
205	16.30	18.25	3.43	9	12.87 ✓

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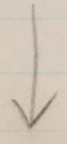
1928phae.proj.125.s

	5 26.0	−0.3		−1°943
5.18	5 28.5	−1	14	
1.51	5 31.1	−1	16	ε Ori
	5 33.5	−1.2		−1°1004
4.83	5 35.8	−1	11	
1.81	5 35.7	−2	0	30 Ori
3.64	5 33.7	−2	39	σ Ori
	5 28.5	−3.4		
6.21	5 30.6	−3	19	−3°1146
	5 30.5	−4.9		
6.10	5 32.9	−4	52	−4°1196
	5 28.0	−6.1		
4.45	5 30.1	−6	5	−6°1234
(2.87)	5 30.5	−5	59	ι Ori
	5 30.5	−6.0		
5.53	5 32.5	−6	0	−6°1262
		+14	15	
5.41	5 28.2	~~+3~~	~~+3~~	350 Ori
4.70	5 35.5	+16	29	126 Tau
5.53	5 31.3	+16	59	122 Tau
	5 24	+17.0		
5.47	5 26.4	+16	59	+16°794
5.86	5 41.0	+15	47	129 Tau
4.29	5 29.3	+9	25	φ_1 Ori
5.53	5 31.3	+16	59	φ_2 Ori
	5 29.5	+8.9		
5.92	5 31.9	~~+8~~	53	+8°1016
4.15	5 25.4	+5	52	A Ori
	5 30.5	+8.4		
7.82	5 32.9	+8	26	+8°1034
5.35	5 26.0	+3	13	π_1 Ori
5.38	5 29.0	+3	42	π_2 Ori
4.37	5 33.9	+4	4	ω Ori

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				Zone	Reading − Dark
206	12.58	18.21	3.42	8	9.16 ✓
207	3.40	18.35	3.40	9	0.00 ✓
208	10.18	18.49	3.44	9	6.64 ✓
209	3.39	18.38	3.39	9	0.00 ✓
210	4.39	18.60	3.42	9	0.97 ✓
211	17.40	18.70	3.43	9	13.97 ✓
212	17.52	18.43 ~~17.13~~	3.47	10	14.05 ✓
213	6.42	18.36	3.42	10	3.00 ✓
214	3.52	20.14	3.44	10	0.08 ✓
220	15.69	18.60	3.42	11	12.27 ✓
222	12.77	16.58	3.41	5	9.36 ✓
223	8.80	16.72	3.40	6	5.40 ✓
224	14.38	16.80	3.41	6	10.97 ✓
225	13.50	16.79	3.41	6	10.09 ✓
226	—				—
227	—				—
228	—				—
229	—				—
230	14.39	16.61	3.40	7	10.99 ✓
231	6.71	16.39	3.42	5	3.29 ✓
232	12.22	16.22	3.40	6	8.82 ✓
233	14.29	16.46	3.42	6	10.87 ✓
234	6.53	16.69	3.40	6	3.13 ✓
235	14.20	16.39	3.40	6	10.80 ✓ ?
236	12.26	17.53	3.40	6	8.86 ✓
237	13.69	17.36	3.40	6	10.29 ✓
238	8.32	17.27	3.40	7	4.92 ✓



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5.34	4	13.8	+20 55	53 Jan
	4	15	+20.7	
5.87	4	17.6	+20 45	+20°751
5.32	4	13.6	+21 32	56 Jan
	4	29.5	+20.4	
5.71	4	32.4	+20 30	+20°785
	4	19.5	+21.3	
5.88	4	22.1	+21 24	+21°647
4.54	4	20.3	+22 35	v Jan
5.29	4	21.3	+22 46	72 Jan
4.21	4	36.2	+22 46	τ Jan
4.84	4	57.1	+21 27	ι Jan
5.78	5	2.0	+21 84	105 Jan
5.63	4	52.0	+24 54	k Jan
5.33	5	2.0	+24 8	103 Jan
2.83	5	31.7	+21 5	J Jan
				A Jan
				X Jan
?	5	39.5	+23.0	
	5	41.5	+23.3	
				+23°1077
3.9				Merope
4.04				Electra
5.4				Celaeno
2.89				Alcyone
				Pleione
				Atlas
5.16	3	58.4	+5 9	40 Jan

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BB262 original setup

					Zone	
	239	12.60	17.67	3.49	7	9.11 ✓
	240	14.40	17.09	3.48	6	10.92 ✓
	241	11.56	17.57	3.47	7	8.09 ✓
	242	13.91	16.98	3.47	5	10.44 ✓
	243	14.92	17.24	3.49	6	11.43 ✓
	244	8.29	17.42	3.46	7	4.83 ✓
	245	12.33	17.52	3.46	7	8.87 ✓
	246	5.86	16.92	3.47	6	2.39 ✓
	247	10.17	17.32	3.47	5	6.70 ✓
	248	14.70	17.10	3.47	6	11.23 ✓
	249	15.24	17.26	3.47	6	11.77 ✓
	250	8.92	17.24	3.46	7	5.46 ✓
*	251	3.47	16.72	3.40	1	0.07 ✓
	252	12.78	17.75	3.46	8	9.32
	253	—			..	
	254	—			..	
	255	10.32	18.27	3.46	10	6.86 -
	256	14.78	18.08	3.50	10	11.28 -
*	257	4.27	18.00	3.43	11	0.84 ✓
*	258	3.64	18.10	3.44	11	0.20 ✓
*	259	10.01	17.17	3.42	11	6.59 ✓
	260	—				
	261	—				
	262	—				
	263	—				
	264	3.40	17.95	3.40	11	0.0 ✓
	265	6.72	18.03	3.40	11	3.32
	266	3.75		3.40	11	0.35
	267					
	268	11.74	16.90	3.42	11	8.32 ✓

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3.94	3	57.8 (56)	+5 (+7.8)	43	√ Jan
5.76	3	58.5 (54)	+7 (+10)	55	47°592
5.63	3	56.4	+9	43	+9°528
var.	3	55.1 (52)	+12 (+5)	12 (50)	λ Jan
6.02	3	51.7	+5	45	+5°564
5.60	3	46.6	+6	15	31 Jan
4.86	3	42.8 (47)	+10 (+13)	50	e Jan +13°1036
6.04	3	50.9	+22	12	32 Jan
5.96	3	57.2	+22	54	33 Jan

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				Zone	
269	5.69	16.97	3.41	7	2.28 ✓
270	14.29	16.66	3.44	7	10.85 ✓
271	13.68	16.98	3.46	7	10.22 ✓
272	4.02	17.25	3.43	7	0.59 ✓
273	15.51	17.40	3.43	8	12.08 ✓
274	13.76	17.83	3.43	8	10.33 ✓
275					—
276	9.16	17.52	3.43	9	5.73 ✓
277	15.60	17.69	3.43	8	12.17 ✓
278	14.63	17.38	3.43	9	11.20 ✓
279	14.82	17.48	3.43	9	11.39 ✓

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Ross A

RH 326. Twelve exposures at $15^h 30$, +38.0
Diaphragm 2. Plate with ink numbers upright

Star		Reading	Clear	Dark	Volts	Reading − Dark	Clear − Dark	From HDC m 7.77	From HDC Class F2
5		584	925	096	510	488	829	6.90 ↓	A0 ↓
10		509	907	097	510	412	810	↓	↓
13		563	950	099	510	464	851	8.0	A0
14		447	950	100	510	347	850	5.67	K0
								5.22	K0
15		273	954	100	510	173	854	5.51	G5
16		323	957	100	510	223	857	3.93 ↓	A0 ↓
17	✓	213	965	100	510	113	865	↓	↓
18	✓	136	933	100	510	36	833	2.31	A0 ✓
19	✓	Another star in way ...				..			
20	✓	432	934	100	510	332	834	6.73	K0p
21		243	950	101	510	142	849	4.88	A2
22	✓	613	954	101	510	512	853	7.44	K5
23	✓	582	957	102	510	480	855	7.44	K0
24		517	953	102	510	415	851	7.16	A0
25	✓	491	949	103	510	488	846	6.67	A0 ✓
26	✓	511	970	103	510	408	867	5.31	F0
27	✓	357	962	103	510	254	859	7.67	F5
28	✓	404	975	103	510	301	872	6.11	K5
29	✓	569	964	104	510	465	860	7.94	K0
30		521	981	104	510	417	877	6.54	B9
31		423	960	103	510	320	857	6.47	F5
32		442	950	103	510	339	847	6.37	G0
33		547	981	103	510	444	878	var.	F5
34	✓	660	914	105	510	555	809	7.47	A0 ✓
35	✓	556	980	105	510	451	875	7.60	A2 ✓
36	✓	482	951	105	510	377	846	6.25	A0 ✓
37	✓	607	943	106	510	501	837	8.19	M0

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RH 326

Star	Reading	Clear	Dark	Volts	Reading - Dark	Clear - Dark	Mag.	Class
38 ✓	574	967	106	510	468	861	7.45	K0
39 ✓	600	959	107	510	493	852	7.68	A2 ✓
40	364	987	108	510	256	879	6.24	A0
41 ✓	487	934	108	510	379	826	6.06	K5
42 ✓	584	995	107	510	477	888	6.94	K5
43	500	989	107	510	393	882	6.20	B9
44 ✓	428	987	107	510	321	880	..	
45 ✓	474	972	108	510	366	866	5.46	K5
46 ✓	535	976	108	510	427	868	5.88	A3 ✓
47 ✓	727	981	108	510	619	873	7.68	A2 ✓
43a ✓	410	981	107	510	303	874	4.55	A2 ✓
49 ✓	570	954	108	510	462	846	6.44	G5
50	605	962	108	510	497	854	7.45	F2
Two stars? 51	508	950	107	510	401	843	8.44	K2
52 ✓	450	990	108	510	342	882	6.00	A0 ✓
53 ✓	569	987	106	510	463	881	7.71	K0
54 ✓	482	967	107	510	375	860	6.88	A0 ✓
55 ✓	450	987	108	510	342	879	6.98	K0
56 ✓	344	980	107	510	237	873	5.42	G5
57	472	998	108	510	364	890	6.87	B9
58 ✓	541	963	108	510	433	855		
59 ✓	292	~~970~~	~~105~~	510	187	865	4.28	F5
60 ✓	528	947	105	510	423	842	5.89	A0 ✓
61 ✓	616	950	108	510	508	842		
62 ✓	639	957	108	510	531	849	6.06	K0
63 ✓	569	939	108	510	461	831		
64 ✓	504	928	108	510	396	820	3.80	A2

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RH 326

Star		Reading	Clear	Dark	Volts	Reading -Dark	Clear -Dark	
66	✓	658	957	108	510	550	849	
67	✓	588	953	108	510	480	843	6.16 Fo
68	✓	716	976	109	510	607	867	
69	✓	582	952	109	510	473	843	6.12 Bq
70		449	987	109	510	340	878	
71		450	980	108	510	342	872	
72		309	997	108	510	201	817	
73	✓	581	942	109	510	372 Faint Star	833 ?	6.81 Ma
74	✓	416	939	109	510	307	830	
75		218	915	107	510	111	808	5.44 } Fo 4.57 }
76		439	932	108	510	331	824	

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RH 326: Settings on successive images of selected stars.
Image No. Ruled image (measured on previous

Star (1)	2	3	4	5	6	7	8	9	10	11	12
1	—	219	248	277	311	326	327	325	300	265	218
1 Dark		110	139	168	202	217	218	216	192	156	109
	—	919	968	960	967	967	977	970	973	959	979
Clear-Dark		810	859	851	858	858	868	861	864	850	870
59	281	282	249	196	140						
187	192	173	140	87	31						
	980	960	970	979	996	—	—	—	—	—	—
865	837/14	851 6	861	870	887						
16	~~333~~	337	372	410	410	416?	410	370	319	210	—
223	205 9	227 49	263	301	301	307	301	261	210	101	—
	964	952	937	950	954	934	956	949	946	950	
857	860	840	828	841	845	825	847	840	837	841	—
17	228	230	290	296	308	310	297	269	224	156	—
113	120	122	182	188	200	202	199	161	118	48	
	959	942	942	957	940	932	932	917	936	938	—
865	851	834	884	849	832	824	824	809	828	830	—
43a	356	399	389	379	320	260	166				
303	248	291	281	271	202	158	58	—	—	—	—
	960	965	940	911	926	934	949				
874	852	857	832	803	818	826	841				
—	653	610	551	443	—	—		—	—	—	—
	545	502	443	335							
	921	931	923	939	—	—	—	—	—	—	—
	813	823	815	831							
18	137	148	150	160	169	176	179	168	144	122	—
36	029	040	042	052	061	068	071	060	036	014	
	905	931	909	950	922	924	933	899	900	910	—
833	797	823	802	842	814	816	825	791	792	802	
7	—	249	286	290	343	338	340	346	338	286	202
	..	141	178	182	235	230	232	238	230	178	94
	—	934	943	962	939	957	913	939	927	917	926
	..	826	835	854	831	849	805	831	819	807	818
—	.. —	—	—	—	253	252	316	366	376	404	
	..				144	143	207	257	267	295	
	—	—	—	—	932	952	934	942	942	947	—
	—				823	843	825	833	833	838	
<	—	—	—	—	—	470	495	540	626	—	646
	—	—	—	—	—	361	386	431	517	..	537
						909	937	941	940	—	942
						800	828	832	831	..	883
—	—	—	—	293	300	282	346	355	350	354	343
	—	—	—	184	191	173	237 226	246	241	245	254
	—	—	—	909	920	927	838	932	941	925	909
				800	811	818	817	823	832	816	800
36	496	512	510	512	507	459	437	332			
377	388	404	402	404	399	351	329	224	—	—	—
	921	940	943	946	954	952	930	926			
846	813	832	835	838	846	844	822	818			
—	—							298	262	311	344
	—							190	154	203	236
	—							943	944	937	950
	?	?						835	836	829	842
27	385	350	286	300	382	380	361	344	298	292	
254 ~~347~~	277	242	178	192	274	272	253	236	190	114	
	949	952	929	948	950	949	957	964	947	939	—
859	841	844	821	840	842	841	849	856	839	831	—
28	373	422	412	410	422	419	396	353	290		
301	264	313	303	301	313	310	287	244	181	—	—
	950	959	969	971	962	959	963	949	970		
872	841	850	860	862	853	850	854	840	861		

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pages) is No. 1

Dark volts	
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510	No. 6 diaphragm too small.
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Plates moved

Star	1	2	3	4	5	6	7	8	9	10	11	12
~~80~~		~~630~~										
~~80~~	~~641~~	~~641~~										
		~~954~~										
	~~947~~	~~947~~										
80	~~414~~	~~447~~	~~396~~	—	~~357~~	~~250~~	—	—	—	—	—	—
	304	337	286		247	240?						
	~~940~~	~~960~~	~~937~~	—	~~960~~	~~950~~	—	—	—	—	—	—
	830	850	827		850	840						
81	~~343~~	~~309~~	~~330~~	~~298~~	~~290~~	~~216~~	—	—	—	—	—	—
	234	200	221	189	181	107						
	~~956~~	~~950~~	~~967~~	~~979~~	~~962~~	~~960~~	—	—	—	—	—	—
	847	841	858	870	853	851						

Rough distance correction from Hub plate

Differences, image & image. Hundredths of a magnitude

	1	2	3	4	5	6	7	8	9	10	11
1	~~-42~~ 0	$-$									
2	-12	0									
3	-5	-5	0								
4	-40	-11	0	0							
5	-34	-24	-14	-8	0						
6	-68	-38	-29	-28	-2	0					
7	-71	-122	-42	-25	-31	-13	0				
8	144	-88		-54	-38	-62		0			
9		-267	-102	-56		-133		-18	0		
10		-294		-246	-92			-38			
11				-170		2264					
12								-92			

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Dark Volts.

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RH 326 Identifications (numbers in parentheses read from BD chart)

			(15 55.5)	(+30.3)				
✓	1	ι CrB	15 57.4	+30 7	4.91	A0	7 ✓	e(4)d
			(15 49 ✓)	(+29.9)				
✓	2	142796	15 51.4	+29 49	7.66	A0	5(8)6 ✓	e
✓	3	139389	15 32.8	+30 19	6.94	F5	2(3)3 ✓	i(4)h
✓	4	η CrB	15 19.1	+30 39	6.64	G0	2 ✓	l3k
			(15 41.8)	(+28.9)	6.14	S		
✓	5	141352	15 43.6	+28 46	7.77	F2	4 ✓	f
			(15 42.5)	(+28.6)				
✓	6	R CrB	15 44.45	+28 28	var.		4 ✓	f
✓	7	β CrB	15 23.7	+29 27	4.00	Fop	1 ✓	k3j
✓	8	~~χ~~ ζ Boo	15 10.3	+29 32	5.26	A0	4(5)3 ✓	m
			(14 48.5)	(+30.7)				
✓	9	131764	14 50.4	+30 28	7.18	F2	7(5)6 ✓	q
			(14 57.0)	(+28.8)				
✓	10	133330	14 58.8	+28 40	6.90	A0	6(4) ✓5	
			(14 43.8)	(+29.2)				
✓	11	130917	14 45.7	+29 1	5.72	A2	7 ✓	
✓	12	ε Boo	14 40.6	+27 30	3.70	K0	9(2) ✓8	
			(14 46.5)	(+27.1)				
✓	13	131453	14 48.6	+26 53	8.0	A0 ✓	7 ✓	
✓	14	ψ Boo	15 0.2	+27 20	5.67	K0	6(2)5	
✓	15	ε CrB	15 53.4	+27 10	5.22	K0	5(2)6	
✓	16	δ CrB	15 45.4	+26 23	5.51	G5	4(6) ✓5	
✓	17	γ CrB	15 38.5	+26 37	3.93	A0	2(1)3 ✓	
✓	18	α CrB	15 30.5	+27 03	2.31	A0	1(8) ✓2	
			(15 12.1)	(+27.4)				
✓	19	136176	15 14.1	+27 12	7.05	F8	3(3)2	
✓	20	b Boo	15 4.1	+26 41	6.73	Kop	4 ✓	
✓	21	π Ser	15 57.9	+23 4	4.88	A2	8 ✓	
			(15 21.5)	(+25.6)				
✓	22	137853	15 23.3	+25 26	7.44	K5	2 ✓	
			(15 14.5)	(+25.5)				
✓	23	136643	15 16.7	+25 20	7.44	K0	3 ✓	
			(15 15.6)	(+24.8)				
✓	24	136754	15 17.3	+24 42	7.16	A0	3 ✓	
			(15 9.5)	(+26.2)				
✓	25	135679	15 11.3	+26 1	6.67	A0	2 ✓	
✓	26	c Boo	15 2.9	+25 16	5.31	F0	4 ✓	
			(15 3.0)	(+25.3)				
✓	27	134495	15 5.1	+25 3	7.67	F5	5 ✓	
✓	28	ω Boo	14 57.7	+25 24	6.11	K5	5 ✓	
			(14 49.5)	(+25.0)				
✓	29	131972	14 51.6	+24 48	7.94	K0	6 ✓	
			(14 43.5)	(+25.4)				
✓	30	130870	14 45.5	+25 9	6.54	B9	8 ✓	

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✓	31	130603	(14 42.0) 14 44.0 (14 43.8)	(+25.0) +24 47 (+24.5)	6.47	F5	8 ✓
✓	32	130948	14 45.8 (14 43.0)	+24 20 (+23.7)	6.37	G0	8 ✓
✓	33	130818	14 45.2 (15 23.8)	+23 27 (+24.3)	Var	F5	9 ✓
✓	34	138266	15 25.9 (15 23.5)	+24 6 (+24.4)	7.47	A0	4 ✓
✓	35	138214	15 25.6 (15 7.0)	+24 11 (+23.6)	7.60	A2	3 ✓
✓	36	135263	15 9.1 (15 5.5)	+23 22 (+22.9)	6.25	A0	5 ✓
✓	37	134963	15 7.6 (14 54.5)	+22 43 (+22.6)	8.19	M6	6 ✓
✓	38	132879	14 56.4 (15 5.2)	+22 27 (+22.1)	7.45	K0	7 ✓
✓	39	134869	15 7.1 (14 50.5)	+21 55 (+22.2)	7.68	A2	6 ✓
✓	40	132845	14 52.5	+21 57 +21 17	6.24	A0	8 ✓
✓	41	ρ Ser	15 49.9 (15 48.2)	~~59 53~~ (+20.7)	6.06	K5	8 ✓
✓	42	142574	15 50.2 (15 49.5)	+20 36 (+19.1)	6.94	K5	9 ✓
✓	43	142763	15 51.2	+18 55	6.20	B9	10 ✓
✓	43a	ι Ser	15 37.1	+20 0	4.55	A2	7 ✓
	44	η Ser					11 ✓
✓	45	κ Ser	15 44.2	+18 27	5.46	K5	9 ✓
✓	46	τ^7 Ser	15 37.4 (15 34.8)	+18 47 (+19.2)	~~5.46~~ 5.88	A3	9 ✓
✓	47	139939	15 35.9 (15 16.2)	+19 0 (+19.4)	7.68	A2	8 ✓
✓	48	136923	15 18.2 (15 12.0)	+19 17 (+21.1)	8.07	K0	7 ✓
✓	49	136138	15 13.9 (15 5.0)	+20 57 (+20.6)	6.44	G5	6 ✓
✓	50	134852	15 7.0 (15 6.2)	+20 27 (+19.8)	7.45	F2	7 ✓
✓	57	135080	15 8.2 (15 1.0)	+19 28 (+19.0)	8.44	K2	8 ✓
✓	52	134064	15 2.8 (14 57.0)	+18 50 (+19.6)	6.00	A0	9 ✓
✓	53	132296	14 53.2 (14 43.5)	+19 23 (+20.5)	7.71	K0	10 ✓
✓	54	131965	14 47.5 (14 46.8)	+20 43 (+19.7)	6.88	A0	10 ✓
✓	55	131511	14 48.9	+19 34	6.98	K0	10 ✓
✓	56	ξ Boo	14 46.8 (14 43.0)	+19 31 (+20.1)	5.42	G5	10 ✓
✓	57	130767	14 44.9	+19 56	6.87	B9	10 ✓
	58						12 ✓
✓	59	γ Ser	15 51.8	+15 59	4.28	F5	12
✓	60	τ^8 Ser	15 40.2	+17 34	5.89	A0	10 ✓
	61						9 ✓

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							Zone
✓	62	ζ^3 Ser	15	31.0	+18	0	7.06 K0	9
	63							11 ✓
✓	64	β Ser	15	41.6	+15	44	3.80 A2	12 ✓
✓	65	ζ^6 Ser	15	36.4	+16	21	6.75 G5	11 ✓
	66							10 ✓
✓	67	ζ^5 Ser	15	31.9	+16	27	6.16 F0	10 ✓
	68							10 ✓
✓	69	ζ^2 Ser	15	27.6	+16	24	6.12 B9	10 ✓
	70							12 ✓
	71							13
	72							14
✓	73	ζ^1 Ser	15	21.2	+15	47	6.81 Ma	11
	74							
✓	75	δ Ser	15	30.0	+10	53	5.44 } F0 4.51 }	
	76							
✓	77	λ Ser	15	41.6	+7	40	4.98 G0	
✓	78	α Ser	15	39.3	+6	44	3.75 K0	
	79							
✓	80	χ Ser	15	37.1	+13	10	5.26 A0p	13
	81	q Ser						13
✓	101	μ_1 Boo	15	20.7	+37	42	4.75 F0 } 7.67 K0 }	9 ✓
✓	102	μ_2	15	20.7	+37	41	↓	9 ✓
✓	103	δ Boo	15	11.5	+33	41	4.54 K0	8 ✓

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Ross A

RH 325 Out of Focus Plate at 15^h 30 +28

Diaphragm 2 No. up

Star	1	2	3	4	5	6	7	8	9	Clear	Dark
1	514	402	300	220	131	100	192	367	503	920	043
(Reading) −(Dark)	471	359	257	177	88	57	149	324	460	877	—
2	—	—	806	812	732	634	542	644	760	927	046
	—	—	760	766½	688½	588	496½	598	714	881	—
3	862	828	760	680	531	380	400	640	667	956	046
	816	782	714	634	485	334	354	594	621	910	—
4	653	566	456	330	204	150	252	524	534	934	044
	609	522	412	286	160	106	208	480	490	890	—
5	—	—	891	802	778	671	639	702	760	967	047
	—	—	844	755	731	624	592	655	713	920	—
6	825	781	721	612	466	321	310	574	621	967	047
	778	734	674	565	419	274	263	527	574	920	—
7	244	184	132	093	072	060	138	379	361	947	043
	201	141	89	50	29	17	95	336	318	904	—
8	595	503	398	291	177	132	229	509	554	928	043
	552	460	355	248	134	89	186	466	511	885	—
9	828	804	774	720	629	509	471	611	690	882	042
	786	762	732	678	587	467	429	569	648	840	
10	866	836	761	718	602	459	413	599	704	862	045
	821	791	716	673	557	414	368	554	659	817	
11	675	630	542	443	311	219	242	462	595	872	044
	631	586	498	399	267	175	198	418	551	828	
12	142	109	086	069	052	052	062	230	—	828	042
	100	67	44	27	10	10	20	188	—	786	
13	808	792	752	666	552	484	599	492	—	875	045
	763	747	707	621	507	439	554	647	—	830	
14	698	629	534	439	284	189	274	490	597	879	043
	655	586	491	396	241	146	231	447	554	836	

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Diaphragms exactly the size of image 6.

	Volts
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6	5 10
6	5 10
4	5 10
7	5 10
7	5 10
3	5 10
3	5 10
2	5 10
5	5 10
4	5 10
42	5 10
5	5 10
	5 10

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RH 325 out of focus

Star	1	2	3	4	5	6	7	8	9	Clear	Dark
15	646	549	441	336	208	141	171	109 (4?)	528	944	043
	603	506	398	293	165	98	128	366 (?)	485	901	—
16	649	547	446	329	208	147	190	426	488	940	043
	606	504	403	286	165	104	147	383	445	897	—
17	227	174	120	084	060	049	089	290	307	939	042
	185	132	78	42	18	7	47	248	265	897	—
18	063	057	049	042	040	040	060	129	127	936	040
	23	17	9	2	0	0	20	89	87	896	—
19	862	821	782	737	589	449	452	690	706	918	046
	816	775	636	691	543	403	406	584	660	872	—
20	940	860	816	777	719	600	430	410	609	702	043
	817	773	734	676	557	387	367	566	659	897	—
21	—	—	—	—	—	106	122	284	459	938	044
	—	—	—	—	—	62	78	240	415	894	—
22	—	899	876	860	738	606	547	700	732	929	046
	—	853	830	814	694	560	501	654	686	883	—
23	—	919	867	839	760	643	560	686	777	910	046
	—	873	821	793	714	597	514	640	731	864	—
24	900	883	836	777	671	502	441	630	728	929	046
	854	837	790	731	625	456	395	584	682	883	—
25	849	812	758	694	570	398	412	592	694	909	046
	803	766	712	648	524	352	366	546	648	863	—
26	604	510	420	314	199	176	172	427	529	893	046
	558	464	374	268	153	130	126	381	483	847	—
27	—	—	852	827	740	644	551	650	756	884	045
	—	—	807	782	695	599	506	605	711	839	—
28	779	748	668	588	492	302	294	517	617	890	044
	735	704	624	544	448	258	250	463	563	846	—
29	—	859	821	784	700	596	486	582	730	899	046
	—	813	775	738	654	550	440	536	684	853	—

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1928phae.proj.12:13

Dan Valto

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42 5 10

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46 5 10

43 5 10

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46 5 10

6 5 10

46 5 10

6 5 10

5 5 10

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6 5 10

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1928phae.proj.12606

RH 325 out of focus

Star	1	2	3	4	5	6	7	8	9	Clear	Dark	V
15	646	549	441	336	208	141	171	109 (4?)	528	944	043	
	603	506	398	293	165	98	128	366 (?)	485	901	—	
16	649	547	446	329	208	147	190	426	488	940	043	
	606	504	403	286	165	104	147	383	445	897	—	
17	227	174	120	084	060	049	089	290	307	939	042	
	185	132	78	42	18	7	47	248	265	897	—	
18	063	057	049	042	040	040	060	129	127	936	040	
	23	17	9	2	0	0	20	89	87	896	—	
19	862	821	782	737	589	449	452	690	706	918	046	
	816	775	636	691	543	403	406	584	660	872	—	
20	940	860	816	777	719	600	430	410	609	702	043	
	817	773	734	676	557	387	367	566	659	897	—	
21	—	—	—	—	—	106	122	284	459	938	044	
	—	—	—	—	—	62	78	240	415	894	—	
22	—	899	876	860	738	606	547	700	732	929	046	
	—	853	830	814	694	560	501	654	686	883	—	
23	—	919	867	839	760	643	560	686	777	910	046	
	—	873	821	793	714	597	514	640	731	864	—	
24	900	883	836	777	671	502	441	630	728	929	046	
	854	837	790	731	625	456	395	584	682	883	—	
25	849	812	758	694	570	398	412	592	694	909	046	
	803	766	712	648	524	352	366	546	648	863	—	
26	604	510	420	314	199	176	172	427	529	893	046	
	558	464	374	268	153	130	126	381	483	847	—	
27	—	—	852	827	740	644	551	650	756	884	045	
	—	—	807	782	695	599	506	605	711	839	—	
28	779	748	668	588	492	302	294	517	617	890	044	
	735	704	624	544	448	258	250	463	563	846	—	
29	—	859	821	784	700	596	486	582	730	899	046	
	—	813	775	738	654	550	440	536	684	853	—	

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1928phae.proj.126:6

	Volts
43	5 10
3	5 10
42	5 10
0	5 10
46	5 10
43	5 10
4	5 10
6	5 10
46	5 10
6	5 10
46	5 10
6	5 10
5	5 10
4	5 10
46	5 10

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1928phae.proj.1269S

Star	1	2	3	4	5	6	7	8	9	Clear	Dark
30	825	776	740	681	586	440	259	512	644	884	046
	779	730	694	635	540 562	394	313	466	598	836 891	—
31	797	786	736	660	416	344	500	604	~~891~~	~~876~~	046
	751	740	690	614	516	370	298	454	558	845	—
32	784	743	704	603	490	361	290	445	590	875	046
	738	697	658	557	444	315	244	395	444	829	—
33	—	—	785	775	720	621	532	556	636	866	046
	—	—	739	729	674	575	486	510	590	820	—
34	—	930	864	814	737	610	549	636	739	944	047
	—	893	817	767	690	563	502	589	692	897	—
35	—	—	882	833	771	630	560	640	756	946	047
	—	—	835	786	724	583	513	593	709	899	—
36	815	766	691	610	477	299	256	502	627	899	044
	771	722	647	566	433	255	212	458	583	855	—
37	~~748~~	—	—	—	828	771	627	650	740	929	047
	—	—	—	—	781	724	580	603	693	882	—
38	—	842	840	802	717	624	480	529	690	919	048
	—	794	792	754	669	576	432	481	642	871	—
39	—	~~826~~	888	859	781	700	547	597	719	929	047
	—	—	841	812	734	653	500	550	672	882	—
40	790	782	738	668	556	411	285	409	544	898	047
	743	735	691	621	509	364	238	362	497	851	—
	760	741	700	647	522	390	252	391	530	858	032
	738	709									
			668	615	490	358	230	359	498	826	—
41	819	780	721	621	509	348	206	362	550	919	032
	787	748	689	589	477	316	174	330	518	887	—
42	880	854	813	769	690	530	510	382	559	936	035
	845	824	778	734	655	495	475	347	524	901	—
43	806	779	698	651	500	357	262	209	441	927	037
	769	742	661	614	463	320	225	172	404	890	—
43a	466	377	288	216	129	079	052	163	368	917	037
	429	340	251	179	92	42	15	126	331	880	—

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1928phae.proj.126.s

	Volts
6	510
6	510
6	510
6	510
7	510
7	510
4	510
7	510
8	510
7	510
7	510
2	510
2	510
5	510
	510
7	510

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1928phae.proj.1266S

Star	1	2	3	4	5	6	7	8	9	Clear	Dark
44	—	—	—	—	—	—	230	202	370	912	038
	—	—	—	—	—	—	192	164	332	874	—
45	756	704	611	529	379	243	128	222	384	912	034
	722	670	577	495	345	209	094	188	350	878	—
46	763	729	656	579	444	303	149	229	420	917	037
	729	692	619	542	407	266	112	192	383	880	—
47	—	—	878	852	797	730	553	502	638	933	040
	—	—	838	812	757	690	513	462	598	893	—
48	864	853	791	760	650	494	337	397	569	914	040
	824	813	751	720	610	454	297	257	529	894	—
49	849	804	760	687	602	423	253	412	571	889	040
	840	764	720	647	562	383	213	372	531	849	—
50	889 →	849 →	823 →	749 →	634 →	431 →	479 →	632 →		927	041
	—	848	808	782	708	593	390	438	591	886	—
(2) 51	851 →	817 →	753 →	662 →	539 →	340 →	304 →	441		900	041
	—	810	776	712	621	498	299	261	400	859	—
52	783	740	—	599	487	330	176	217	410	902	040
	743	700	—	559	447	290	136	177	370	862	—
53	✓	867	840	825	780	671	510	422	487	900	042
	—	825	798	783	738	629	468	380	445	858	—
54	856	839	798	780	709	585	390	394	516	893	042
	814	797	756	738	667	543	348	352	474	851	—
55	821	809	771	754	660	531	344	310	459	898	042
	779	757	729	712	618	489	302	268	417	856	—
56	629	571	501	407	299	186	100	124	310	881	042
	587	529	459	355	257	144	58	82	268	839	—
57	839	830	796	767	684	569	392	309	459	893	042
	797	788	754	725	642	527	350	267	417	851	—
61	847	840	781	719	594	388	450	578	—	926	044
	803	796	737	675	550	344	406	534	—	882	—

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1928phae.proj.125.s

	Volts
	510
	510
	510
	510
	510
	510
	510
	510
	510
	510
	510
	510
	510
	510
	510

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1928phae.proj.126:S

Star	1	2	3	4	5	6	7	8	9	Clear	Dark
100	391	306	219	153	099	061	062	180	298	912	040
11	351	266	179	113	59	21	22	140	258	872	–
101	462	379	275	200	130	073	084	223	331	949	042
	420	337	233	158	88	31	42	181	289	907	–
102	879	851	814	736	639	492	349	489	602	953	044
	835	807	770	692	595	448	305	445	558	909	–
103	306	242	172	119	069	052	130	324	373	821	042
	264	200	130	77	27	10	88	282	331	779	–

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1928phae.proj.126.s

Volts

5 10

5 10

5 10

5 10

From the plot of the zone corrections we obtain the following provisional limits to the out of focus regions for magnitude work

Image	Focal setting	Distance from center (cm) cannot be safely used
1	$11\frac{5}{8}$	
2	$10\frac{5}{8}$	5
3	$9\frac{5}{8}$	8
4	$8\frac{5}{8}$	11
5	$7\frac{5}{8}$	13
6	$6\frac{5}{8}$	13
7	$5\frac{5}{8}$	
8	$4\frac{5}{8}$	
9	$3\frac{5}{8}$	

focus is between 8 and 9 ; ∴ at 4:

In general the whole plate can safely be used out of focus up to 8 cm from center.

This of course applies only to magnitude spacing of focal images and consequent distortion of scale. The safe area for vignetting is not yet considered.

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1928phae.proj.126:S

50 Sunday July 1, 1928 9

RH 282 Ross A out of focus, 8 exposures on Corona Borealis centered as RH 326. aperture 2 inches

Star	1	2	3	4	5	6	7	8	9 Clear	Cl	Dk
1	–	–	–	–	–	–	087	233	426	1100	025
	–	–	–	–	–	–	62	208	401	1076	–
3	1062	1049	1030	968	811	597	379	633	696	1129	032
	1030	1017	998	936	779	565	347	601	664	1097	
4	914	850	755	600	411	220	127	438	476	1149	035
	879	815	720	565	376	185	92	403	441	1114	
6	1006	971	909	829	609 defect	489	304	476	518	1156	035
	1071	936	874	794	(574)	454	269	441	543	1121	
7	519	402	308	189	106	052	049	260	264	1140	030
	489	372	278	159	76	22	19	230	234	1110	
8	888	999	681	561	373	192	104	394	520	1120	035
	853	764	646	526	338	157	069	359	485	1085	
9	–	1056	1003	972	878	762	530	576	731	1109	040
	–	1016	963	932	838	722	490	536	691	1069	
10	1109	1072	1051	990	884	690	459	563	747	1139	044
	1065	1028	1007	946	840	646	415	519	703	1095	
11	957	913	828	739	593	388	207	289	557	1130	041
	916	872	787	698	552	347	166	248	516	1089	
12	361	286	207	141	092	058	043	091	–	1139	040
	327	246	167	101	52	18	23	51	–	1099	
14	1019	952	883	746	580	344	180	304	650	1143	043
	976	909	840	703	537	301	137	261	607	1100	
15	–	–	–	–	445	292	167	299 dirt	516	1118	041
	–	–	–	–	401	251	126	258	465	1077	
16	–	829	719	601	429	282	183	411	504	1162	042
	–	787	677	559	387	240	141	369	462	1120	
17	475	396	283	199	121	062	050	250	287	1171	040
	435	356	243	159	81	22	10	210	247	1131	

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1928phae.proj.1261S

~~Aperture~~ Diaphragm 1/2. measures exactly as for RH 326. Diaphragm same size as Image 6

Volts	m	(Image 1 is most out of focus) Class
520	4.91	A0
520	6.94	F5
520	6.64	G0
520	var.	
520	4.00	F0p
520	5.26	A0
520	7.18	F2
520	6.90	A0
520	5.72	A2
520	3.70	K0
520	5.67	K0
520	5.22	K0
520	5.51	G5
520	3.93	A0

Red checks refer to images within 6 cm of center of plate (not necessarily plate center)

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1928phae.proj.120:S

RH 982 (continued)

Star	1	2	3	4	5	6	7	8	9	Clear	
18	128	099	069	053	043	038	040	106	088	1170	04
	88	59	29	13	3	−2	0	66	48	1130	
19	—	1147	1041	974	871	682	424	613	762	1167	04
	—	1100	994	927	824	635	377	566	715	1120	
20	—	1090	1052	993	918	671	446	579	774	1174	04
	—	1041	1003	944	869	622	397	470	725	1125	
21	—	—	—	—	—	—	—	302	381	1090	04
	—	—	—	—	—	—	—	254	333	1042	
26	899	830	737	589	436	239	128	319	497	1108	04
	851	782	689	541	388	191	80	271	349	1060	
40	1052	1011	970	889	813	674	479	311	502	1120	04
	1003	962	921	840	764	625	430	262	453	1071	
43	—	—	—	—	619	(550)	339	443 dist		1132	05
	—	—	—	—	—	569	500	289	393	1082	
43a	754	676	551	437	305	192	115	191	376	1058	04
	706	628	503	389	257	144	67	143	328	1010	
45	—	—	880	783	691	510	340	362	500	1140	05
	—	—	830	733	661	460	290	312	450	1090	
46	1012	991	931	847	752	571	450	322	480	1120	05
	962	941	881	797	702	521	400	272	430	1070	
48	681	1058	1012	954	903	758	620	453	681	1090	05
	—	1007	961	903	852	707	569	401	630	1039	
52	995	973	913	845	762	618	461	306	552	1119	05
	944	922	862	794	711	567	410	355	501	1068	
56	964	889	824	681	584	389	256	149	269	1154	05
	913	838	773	630	533	338	205	98	218	1103	
100	712	623	506	378	261	160	098	227	400	1108	05
	662	573	456	328	211	110	48	177	350	1058	
101	753	632	520	429	315	156	112	210	401	1045	05
	703	582	470	379	265	106	62	160	351	995	

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1928phae.proj.126:S

	Dark	Volts	m	Class
	040	5+~~8~~ 20	2.31	A0
	047	520	7.05	F8
	049	520	6.73	K0p
	048	520	4.88	A2
	048	520	5.31	F0
	049	520	6.24	A0
	050	520	6.20	B9
	048	520	4.55	A2
	050	520	5.46	K5
	050	520	5.88	A3
	051	520	8.07	K0
	051	520	6.00	A0
	051	520	5.42	G5
	050	520	4.75	F0
	050	520	7.67	K0

Very near 102 with this diaphragm

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1928phae.proj.1263S

Star	1	2	3	4	5	6	7	8	9	Cl	D
103	673	548	440	323	202	117	981	259	384	1080	05
	623	498	390	273	152	67	31	209	334	1030	
a	870	798	700	564	373	209	122	341	442	1109	05
	820	748	650	514	323	159	72	291	392	1059	
b	529	419	314	214	123	072	060	208	226	1140	05
	479	369	264	164	73	22	10	158	176	1090	
c	~~449~~	1060	1042	1012	947	790 583	329 ?	dist	682	1130	05
	1010	992	962	897	740	483	269	—	632	1080	
d	1072	1044	979	905	812	603	410	532	662	1130	05
	1017	989	924	855	757	548	355	477	607	1085	
e	—	—	—	—	—	535	345	407	618	1138	05
	—	—	—	—	—	481	291	353	564	1084	
g	990	966	879	784	634	453	232	360	669	1142	05
	936	912	825	730	580	399	178	306	615	1088	
h	771	690	684	—	—	—	—	—	—	H47	05
	717	636	630	—	—	—	—	—	—	1093	
k	252	201	156	—	—	—	—	—	—	303	05
	198	147	102	—	—	—	—	—	—	249	
Dark Squares			595 544	122 071						900 849	05

Plate inverted (numbers now upside down, numb

100	730	650	494	383	273	169	109	204	336	1090	05
	677 673	597	441	330 328	220 211	116 110	56 48	151 177	283 330	1937	
103	881	566	457	343	232	132	086	238	395	1090	05
	620 623	513 498	404 390	290 273	179 152	79 67	033 31	185 209	342 334	1037	
43a	736	667	547	411	291	169	097	149	380	1116	05
	684 706	615 625	495 503	359 359	239 251	117 144	45 67	97 142	328 328	1064	
18	144	100	080	064	053	049	056	096	110	1129	05
	92 88	48 59	28 29	12 13	1 3	-3 -2	-2 0	44 66	58 48	1077	
7	529	421	326	209	128	072	070	294	309	1140	05
	477	369	274	157	76	20	18	242	257	1088	

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	Dk	Volts	
	050	520	faint star very near
			4.54 KO
	050	520	
	050	520	
	050	520	
	055	519	
	054	519	
	054	519	
	054	519	corner of plate fogged
	051	519	Plate inverted, Clear = 900

On plotting the zone corrections it appears that the following are the limits of safe out of focus work:

Image	Focal setting	Limit (radial) cm
1		3
2		3
3		3
4		3
5		5
6		6

The whole plate might be used out to 3 cm.

See note on p. 49. This applies only to scale from out of focus images

Differences for inversion of plate

(plate down)

Stair	Mean (6)	Image 1	2	3	4	5	6	7	8	9	Cl.
100	+6	+15	+22	-15	+2	+9	+6	+8	-26	-67	-21
103	+14	-3	+15	+14	+17	+27	+12	+2	-24	+8	+7
43a	-19	-22	-13	-8	-30	-18	-27	-22	-46	0	+54
18	+2	+4	+9	-1	-1	-2	-1	+2	+22	-10	-87
7	-4	-12	-3	-4	-2	0	-2	-1	+12	+23	-22

These differences do not run smoothly across the plate. They are very small when converted into magnitudes. See reduction sheets

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1928phae.proj.126.S

RA 329. Pole. Numbers up. Diaphragm 2

Star	1	2	3	4	5	6	Clear	Dk	Volts
1	~~626~~ —	696	672	634	629	630	960	046	520
2	—	—	—	—	—	—	—	—	—
3	549	530	516	507	492	498	938	049	510
4	—	172	170	176	163	177	917	047	510
5	696	711	683	670	665	668	936	049	510
6	284	286	283	282	270	271	907	047	510
7	565	567	567	520	519	494	941	049	510
8	530	513	480	492	468	478	917	049	510
9	605	614	603	590	564	558	944	050	510
10	332	352	340	327	309	320	922	048	510
11	—	—	579	582	590	592	942	049	510
12	338	314	307	309	303	300	960	049	510
13	450	400	406	379	350	352	942	049	510
14	414	402	393	383	379	390	951	048	510
15	270	267	250	252	257	252	924	048	510

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Measured by CHP, FC recording.

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RH 329

Star	1	2	3	4	5	6	Clear	Dk	Volt
16	—	—	—	—	328	328	910	050	510
17	—	—	—	—	—	—	—	—	—
18	266	247	242	249	267	279	952	049	510
19	—	—	529	542	519	554	932	050	510
20	—	—	410	427	422	417	888	050	510
22	381	360	396	380	380	380	932	049	510
23	634	622	618	621	—	596	931	052	510
23a	650	640	631	609	—	590	931	052	510
24	506	497	493	472	468	464	930	051	510
28	434	404	400	390	390	390	941	050	510
29	571	532	516	539	527	539	960	050	510
34	182	179	174	170	170	168	954	049	510
36	261	262	274	264	270	281	952	050	510
37	160	152	160	157	161	163	969	049	510
38	586	561	567	549	538	563	959	051	510

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1928phae.proj.1265

RH 329

Star	1	2	3	4	5	6	Clear	Dk	Vol
39	415	395	392	394	392	394	980	049	510
40	364	364	341	339	341	344	976	049	510
41	398	372	376	367	364	380	959	050	510
42	292	283	300	269	264	270	972	050	510
43	401 ~~410~~	384	360	372	368	383	958	050	510
44	527	500	490	482	470	489	983	054	510
44a	077	071	074	070	068	066	968	050	510
45	567	572	563	571	579	572	964	054	510
46	610	610	610	611	590	590	953	056	510

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1928phae.proj.126:S

Vol
510
510
510
510
510
510
510
510
510
10

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1928phae.proj.126:6

Star	1	2	3	4	5	6	Clear	Dk	Volt
89	—	—	—	—	—	—	—	—	—
90	(297)	354	359	351	377	382	932	056	510
91	572	578	580	600	602	660			
92	391	392	400	385	401	422			
93									

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1928phae.proj.126:S

70 RN 35 8 Numbers up. Diaphragm 2
Figures up. Images numbered from above.
~15h30, declinations on plate cover

Star	1	2	3	4	5	6	7	8	9	10
A										
B		Out of range of jug								
C										
D										
E	—	131	103	091	102	092	100	—	—	—
	—	816	810	823	816	829	837	—	—	—
		100	072	060	071	061	069			
F	—	362	318	281	—	—	—	—	—	—
	—	831	800	821	—	—	—	—	—	—
		331	287	250						
G	059	060	081	073	052	059	076	110	—	—
	820	820	852	807	849	840	833	828	—	—
	030	031	050	044	023	030	047	081		
H = 44	194	124	143	183	194	261	—	-	-	-
~~RN 8 12~~	826	818	811	850	832	809	-	-	-	-
	104	94	113	153	164	231				
I	057	042	—	—	—	—	—	—	—	—
	832	810	—	—	—	—	—	—	—	—
	27	12								
J = 1	090	074	054	053	062	063	059	057	059	090
4.91 RO	810	800	792	797	831	830	829	807	828	800
	60	44	24	23	32	33	29	27	29	60
K = 15	110	096	093	093	078	077	071	076	087	194
5.22 KO	826	842	790	823	838	809	820	824	853	819
	79	65	62	92	47	46	40	45	56	103

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1928phae.proj.12.28

Ink figures refer to RH 325 eta and ink magnitudes are from P. 36

11	Clear	Dark	Volts
		031	520
		031	520
		029	520
		030	520
		030	520
		030	520
		031	520

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1928phae.proj.12:6

Stat	1	2	3	4	5	6	7	8	9	10	11	Clear	Da
M	049	044	046	062	088	–	–	–	–	–	–		03
~~5.51 G5~~	838	832	809	830	829	–	–	–	–	–	–		
	19	14	16	32	58								
N	133	112	102	112	113	119	–	–	–	–	–		03
	834	812	808	794	795	831	–	–	–	–	–		
	101	80	70	80	821	87							
O = 16	109	105 276	116 288	129	099	094	098	102	134	–	–	–	03
5.51 G5	806	849	752	819	822	850	802	818	808	–	–		
	77	73	84	97	67	62	66	70	102				
P	101	091	081	099	–	–	–	–	–	–	–		03
	828	808	820	814	–	–	–	–	–	–	–		
	69	58	48	67									
Q1	056	049	045	049	058	–	–	–	–	–	–		03
	819	807	813	819	801	–	–	–	–	–	–		
	23	16	12	16	25								
Q2	288	302	329	342	349	–	–	–	–	–	–		03
	819	807	813	819	801	–	–	–	–	–			
	255	269	296	309	316								
R = 17	056	079	069	081	068	069	061	049	042	052	–		03
3.93 AO	838	831	879	810	828	829	852	816	815	780	–		
	025	048	038	050	037	038	030	018	011	021			
S	067	069	072	098	101	109	094						03
	824	791	804	839	824	827	822						
	034	036	039	065	068	076	061						
T = 18	036	039	041	049	044	048	039	035	031	032	–		03
2.31 AO	811	803	827	829	844	832	819	809	809	810			
	004	007	009	017	012	016	007	003	-001	000			
T'	060	051	–	–	–	–	–	–	–	–	–		03
	811	821	–	–	–	–	–	–	–	–	–		
	026	017											

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1928phae.proj.1206

Dark	Volts
030	520
032	520
032	520
032	520
033	520
033	520
031	520
033	520
032	520
034	520

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1928phae.proj.12.16

Star	1	2	3	4	5	6	7	8	9	10	11
U	482	—	457	479	466	449?	457	482	561	—	—
	839	—	819	839	803	762	820	806	820	—	—
	446		421	443	430	413 ?	421	446	525		
V_1	440	467	444	437	414	406	379	386	467	—	—
	839	814	819	833	803	762	820	806	820	—	—
	404	431	408	401	378	360	343	350	431		
~~V~~ V_2	473	481	475	480	419	430	414	427	476	—	—
	839	814	819	833	803	762	820	806	870	—	—
	437	445	439	465	383	394	378	391	440 ~~395~~		
W =7	056	069	081	102	118	102	086	060	040	042	—
4.00	819	814	828	832	829	821	814	809	811	822	—
Fop	025	038	050	071	087	071 ~~63~~	055	029	009	01	
X	069	083	119	127	147	148	—	—	—	—	—
	789	842	849	798	819	821	—	—	—	—	—
	035	049	085	093	113	114					
X'	356	331	343	366	392	—	—	—	—	—	—
	789	842	849	798	369	—	—	—	—	—	—
	320	295	307	330	356						
Y =4	196	157	179	202	206	228	208	167	120	089	—
6.14	803	781	789	796	789	786	778	772	780	768	—
GO.	159	120	142	165	169	191	171	130	83	52	
Z_1	230	269	289	—	—	—	—	—	—	—	—
	781	795	810	—	—	—	—	—	—	—	—
	191	230	250								
Z_2	469	456	437	—	—	—	—	—	—	—	—
	781	795	810	—	—	—	—	—	—	—	—
	430	417	399								
alpha	172	106	123	150	158	150	118	081	—	—	—
	777	806	812	791	780	784	760	767	—	—	—
	134	68	85	112	120	112	80	43			

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1928phae.proj.12.16

Dark	Volts
036	520
036	520
036	520
031	520
034	520
036	520
037	520
039	520
039	520
038	520

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1928phae.proj.12636

Star	1	2	3	4	5	6	7	8	9	10	1
Beta=8	162	190	170	187	207	194	152	144	082	078	
	781	789	800	793	777	782	770	754	748	777	
	128	156	136	153	173	160	118	110	48	44	
Gamma	514	469	530	482	474	476	—	—	—	—	
	780	807	787	781	783	799	—	—	—	—	
	475	430	491	443	435	437					
Delta	446	441	420	3 499	—	—	—	—	—	—	
	780	807	787	781	—	—	—	—	—	—	
	407	402	381	375							
Zeta=26	139	182	184	190	132	134	118	079	090	—	
5.31 FO	767	791	790	762	762	777	764	770	799	—	
	100	143	145	151	93	95	79	40	51		
Eta=14	184	214	211	209	233	183	173	149	103	136	
5.67 KO	769	785	774	779	760	758	774	767	774	764	
	145	175	172	170	194	144	134	110	64	97	
Theta=28	229	219	249	286	229	217	189	171	177	—	
6.11 K5	786	781	761	734	767	759	763	771	783	—	
	190	180	210	247	190	178	150	132	138		
Iota	236	254	202	220	212	211	187	171	—	—	
	772	772	779	754	767	740	730	770	—	—	
	197	215	163	181	173	172	148	132			
Capa	214	—	—	—	—	—	—	—	—	—	
	772	—	—	—	—	—	—	—	—	—	
	175										
Lamma	378	442	381	360	—	—	—	—	—	—	
	787	802	809	759	—	—	—	—	—	—	
	339	403	342	321							
Mu	179	221	216	187	174	153	139	139	150	—	
=11	803	803	767	772	761	770	768	769	789	—	
5.72 A2	140	182	177	148	135	114	100	100	111		

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Clear
Dark Velo

11			
		034	5-20
		039	5-20
		039	5-20
		(039)	
		039	5-20
		039	5-20
		039	5-20
		(039)	
		039	5-20
		039	5-20

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R. H 92 Orion, Number up Image 2, measured

Star	D_0	D_2	Clear	Dark	Volts	No. on AB 212	H.D.	B.D.
13	1009	880	1068	067	510			
	942	813	1001	–				
14	751	660	1051	067	510			
	684	593	984	–				
15	196	178	1052	067	510			
	129	111	985	–				
16	1047	916	1069	068	510			
	979	848	1001	–				
17	1100	963	1060	068	510			
	1032	895	992	–				
18	949	831	1067	069	510			
	880	762	998	–				
19	379	339	1033	066	510	231		
	313	273	967	–				
25	1088	954	1072	070	510			
	1018	884	1002	–				
26	1052	922	1027	070	510			
	982	852	957	–				
27	627	557	1090	069	510	121		
	558	488	1021	–				
28	1011	890	1048	070	510			
	941	820	978	–				
29	1090	961	1058	071	510			
	1019	890	987	–				
30	1180	974	1064	072	510			
?	1108 701	902	992	–				
31	702	622	1069	072	510	118		
	629	550	997	–				

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D_0 is larger than Image 2, D_2 is smaller
Asterisk means image too large for field

Magnitudes from Zone

D_0	D_2
(7.35)	(7.20)
5.46 ~~6.02~~	5.42
2.72	2.82
7.67	7.54
820	801
675	670
385	387
808	790
775	757
485	485
732	725
808	795
?? 798	809
519	520

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RH92 (cont.)

Star	D_0	D_2	Clear.	Dark	Volts	No. on AB212 m	
32	959	844	1060	070	510	116	
	889	774	990	–			
33	744	664	1059	071	510	117	5.75
	673	593	988	–			
34	748	665	1038	071	510	128	5.52
	677	594	967	–			
35	820	727	980	070	510		
	750	657	910 ?	–			
39	1072	938	1070	073	510		
	999	865	997	–			
40	195	176	1062	072	510		
	123	104	990	–			
41	767	677	1029	072	510		
	695	605	957	–			
42	1052	927	1029	072	510		
	980	855	957	–			
43	1008	886	1027	072	510		
	936	814	955	–			
44	962	850	978	072	510		
	890	778	906	–			
45	1034	911	1014	072	510		
	962	839	942	–			
46	913	806	1013	072	510		
	841	724	941	–			
47	* 100	097	993	070	510	139	1.51
	(30)	27	923	–			
48	404	367	1010	070	510	234	4.15
	334	297	940	–			
49	959	849	988	071	510		
	888	778	917	–			

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Magnitude D_0	D_2
682	681
541	544 / 539
542	544
583	583
788	770
278	280
552	550
770	761
728	720
685	684
752	744
644	635
160	165
393	401
682	682

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1928phae.proj.126.s

 RH92 (cont.)

Star	D_0	D_2	Clear	Dark	Volts
50	951	827	982	071	510
	880	756	911	–	
57	986	853	954	072	510
	914	781	882	–	
61	712	620	961	071	510
	641	549	890	–	
62	1020	888	944	072	510
	948	816	872	–	
64	1034	902	970	072	510
	962	830	898	–	
65	987	870	953	072	510
	915	798	881	–	
66	1010	884	980	072	510
	938	812	908	–	
67	1000	877	956	072	510
	928	805	884	–	
71	927	809	954	073	510
	854	736	881	–	
72	823	722	937	070	510
	753	652	867	–	
73 v	879	774	938	071	510
	808	703	867	–	
75 +	1062	933	994	072	510
	990	861	922	–	
76	1049	921	997	072	510
	977	849	925	–	
77	1029	904	989	072	510
	957	832	917	–	
78	1057	929	970	072	510
	985	857	898	–	

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1920phae.proj.120.S

No. on AB 212	Magnitude from D_0 ↑	D_2 ↑
	676	673
	707	688
	11 ϕ	
	526	518
	737	720
	752	735
	708	702
	729	719
	717	711
	652	644
	585	580
	618	617
	780	766
	767	752
	746	737
	776	762

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1928phae.proj.126.s

RH 92 (Cont.)

Star	D0	D2	Clear	Dark	Volts
79	1030	901	949	072	510
	958	829	877	-	
80	1034	910	979	072	510
	962	838	907	-	
81	927	818	971	072	510
	855	746	899	-	
82	1049	921	972	072	510
	977	849	900	-	
83	494	447	973	070	510
	424	377	903	-	
84	944	832	986	070	510
	874	762	916	-	
85	735	654	956	070	510
	665	584	886	-	
86	689	597	920	070	510
	619	527	850	-	
87	919	810	948	071	510
	848	739	877	-	
88	937	827	989	072	510
	865	755	917	-	
89	550	482	964	071	510
	479	411	893	-	
90	970	857	962	072	510
	898	785	890	-	
91	486	436	957	070	510
	416	366	887	-	
93	990	880	978	072	510
	918	808	906	-	
96	797	706	988	072	510
	725	634	916	-	

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No. on AB 212	m	Magnitude from D_0	Magnitude from D_2
		747	732
		752	742
		655	652
		767	752
238	4.37	430	436
		671	669
237	5.38	537	537
236	5.35	514	507
148		648	648
133		662	662
135	4.82	451	452
		691	691
146	4.47	427	431
		710	713
122		569	569

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1928phae.proj.126.s

Rh92 (Cont.)

Star	D_0	D_2	Clear	Dark	Volts
97	949	834	974	072	510
	877	762	902	–	
101 ✓	933	827	939	070	510
	863	757	869	–	
102 ✓	854	764	923	071	510
	783	693	852	–	
103 ✓	945	833	940	073	510
	872	760	867	–	
104 ✓	767	677	952	073	510
	694	604	879	–	
105	864				
	791				
105	879	776	964	092	510
	787	694	872	–	
106	998	879	956	094	510
	904	785	862	–	
107	538	484	980	094	510
	444	398	886	–	
108	930	820	990	095	510
	835	725	895	–	
109	961	849	994	095	510
	866	754	899	–	
112	1009	884	937	091	500
	918	793	946	–	
113	703	620	941	090	500
	613	530	851	–	
114	986	867	940	090	500
	896	777	850	–	
115	965	852	923	091	500
	874	761	832	–	

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AB212

119

				Magnitudes from D_0	Magnitudes from D_2
				↑ 672	↑ 669
+	6.56	+2°1040	HD 37958	651	654
	~~8.~~	+1°1095		602	610
	7.5	+1°1088	HD 37606	670	666
	5.50	+1~~K~~°1032	HD 36166	552	551
				604	602
				697	691
				437	438
				637	640
				664	660
				709	699
				513	509
				690	683
				670	669

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1928phae.proj.126.s

Rtq2 (cont.)

Star	D_0	D_2	Clear	Dark	Volts	AB212
116	924	815	942	091	500	
	833	724	851	-		
117	993	879	930	090	500	
	903	789	840	-		
118 ✓	938	830	942	090	500	+0°1138
	848	740	852	-		
119 ✓	921	816	950	091	500	+1°1058
	830	725	859	-		
120 ✓	1005	886	953	091	500	+1°1047
	914	795	862	-		
121 ✓	967	854	950	092	500	+1°1026
	scratch 875	762	858	-		
122 ✓	881	780	960	094	500	+1°1021
	797	686	866	-		
123	1039	916	989	093	500	
	946	823	896	-		
124	1006	889	972	094	500	
	912	795	878	-		
125	955	845	998	094	500	
	861	751	904	-		
126	940	830	970	095	500	
	845	735	875	-		
127	964	848	950	096	500	
	868	752	854	-		
128 ✓	886	787	939	096	500	+0°1152
	790	691	843	-		
129 ✓	959	847	947	096	500	-0°1034
	863	751	851	-		
130 ✓	973	860	935	098	500	-0°1014
	875	762	837	-		

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			Magnitudes pr. D_0	D_2
12			637	640
			697	694
8			647	648
3	6.30	HD 36741	635	635
			707	700
6	7.4	HD 36013	671	671
	6.20	HD 35912	602	602
			736	730
			705	700
			660	659
			646	644
			665	660
	6.13	HD 37788	606	609
	7.9	HD 37370	661	659
	—		671	669

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1928phae.proj.126.s

 RH92 (cont.)

Star	D_0	D_2	Clear	Dark	Volts	No. on AB3212
130 ✓	1000	883	951	099	500	
	901	784	852	-		
132 ✓	1092	876	946	099	500	
	993	777	847	-		
133* ✓	164	156	936	099	500	
	065	057	837	-		
134 ✓	961	852	950	099	500	
	862	753	851	-		
135	846	749	960	100	500	
	746	649	860	-		
136	629	762	978	100	500	201
	529	662	878	-		
137 ft	792	696	984	100	500	
	692	596	884	-		
138	1027	950	992	101	500	
	926	849	891	-		
140	991	863	961	102	500	
	889	761	859	-		
141	930	816	950	101	500	
	829	715	849	-		
142 ✓	599	538	941	100	500	
	499	438	841	-		
143* ✓	140	133	929	099	500	207
	041	034	830	-		
144 ✓	869	769	924	101	500	-1°1004
	768	668	823	-		
145 ✓	847	752	952	101	500	-1°1276
	746	651	851	-		
146 ✓	729	652	950	102	500	206
	627	550	848	-		

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1928phae.proj.126.s

		Magnitude from D_0	Magnitude from D_2
−0°1013	—	696	690
−0°1015	—	693? 783	683
−0°893	2.14 ~~8.7~~ 50m ~~HD 36726~~	220	229
−0°960	6.56 HD 35971	660	660
		580	576
		470	473
		551	545
		717	732
		682	669
		632	630
		459	464
2.51		182	185
4.83	HD 37756	587	584
		580	580
5.18		517	520

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RH 92 (cont.)

Star	D_0	D_2	Clear	Dark	Volts	No. on #3 212
147 ✓	949	840	960	102	500	−0° 970
	847	738	858	–		
148	920	817	942	103	500	
	817	714	839	–		
149	950	840	981	104	500	
	846	736	877	–		
151	946	821	979	104	500	
	842	717	875	–		
152	1003	879	972	105	500	
	998	774	867	–		
153	837	736	967	106	500	
	731	630	861	–		
154 *	148	140	920	102	500	209
	046	038	818	–		
155	333	300	928	102	500	210
	231	198	826	–		
156	684	607	943	103	500	204
	581	504	840	–		
157	770	869	950	104	500	205
	664	765	846	–		
159	987	871	977	104	500	
	883	767	873	–		
161	924	823	1004	106	500	
	818	717	998	–		
162	972	867	1041	109	500	
	863	758	932	–		
187	781	697	1020	105	500	y −4° 1056
	676	592	915	–		
188	654	584	1026	106	500	w −4° 1044
	548	478	920	–		
189	226	209	1020	104	500	x −5° 1162
	123	105	916	–		

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1928phae.proj.12:S

		Magnitudes D_0	D_2	
6.93		647	655	
		625	630	
		647	653	
		645	634	
		787	690	??
		573	566	
1.81	JOri	190	195	
3.54	σOri	250	255	
5.11		497	495	
		590	587	
6.29		(538)	672	readings reversed?
		680	678	
		625	630	
		662	664	
5.65		542	544	
4.76		480	481	
3.00		272	276	

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Rh92 (Cont.)

Star	D0	D2	Clear	Dk	Volts	
180	619	530	1011	108	500	−6°1388
	511	422	903	–		
181	645	568	992	107	500	−7°1167
	538	461	885	–		
195	619	541	969	107	500	−7°1132
	502	434	862	–		
200	638	560	989	106	500	−7°1064
	532	454	883	–		
2034	110	107	982	104	500	−8°1063 β Ori
	06	03	878	–		
207	750	650	1048 ~~1202~~	108	500	−8°1040
	642	542	940	–		

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Map. from D_0	Map. from D_2
465	456
475	473
465	462
472	470
5.27	5.15

Ori

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1928phae.proj.126:S

Mc plates. grating constants from NP sequence stars. All stars in 5 inner zones computed from spacing, in red

Plate	C to 1st order	2nd order	3rd order	1st to 2nd	1st to 3rd
Mc 17364 } 1921	3.69	3.91	4.49	(0.22)	(0.80)
	3.51 ±5	3.94 ±6	4.58 ±2	0.47 ±2	1.20 ±8
Mc 17369 } April 1	3.69	3.91	4.49	(0.22)	(0.80)
	3.46 ±7	3.98 ±18	4.62 ±4	0.49 ±12	1.17 ±11
Mc 17326 1921 March 29	3.71	3.92	4.49	(0.21)	(0.78)
	3.15	3.50	4.29	0.33	1.10
Mc 17351 } 1921 Mch	3.69	3.89	4.49	(0.22)	(0.82)
	3.18				
17352 } 30					
17357 } 1921					
17363 } Mch 30					
14424	3.64	3.89	4.49	(0.25)	(0.85)
	3.41	3.98	4.63	0.58	1.20

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1928phae.proj.1263S

Magnitudes of the NP Sequence: from Trans. I.A.U., 2, 71, 1922

Star	m	C.I.	Star	m	C.I.	Star	m
15	2.55	0.47	16	11.58	0.36	32	16.75
1 ✓	4.40	0.03	17	11.88	0.58	16s	16.86
2 ✓	5.24	−0.04	9r	11.95	"	33	17.06
3 ✓	5.78	0.22	18	12.28	0.38	17s	17.19
4 ✓	5.91	0.07	10r	12.61	0.58	34	17.24
5 ✓	6.46	0.01	7s	12.62	0.58	35	17.63
2s ✓	6.47	0.17	19	12.68	0.44	36	17.78
3s ✓	6.64	0.29	20	12.98	0.46	18s	17.94
1r	6.69	1.60	11r	13.22	1.15	37	18.01
6 ✓	7.12	0.06	21	13.34	0.85	19s	18.16
7 ✓	7.38	−0.17	22	13.46	0.62	38	18.20
2r	7.93	1.61	23	13.59	0.59	39	18.58
8 ✓	8.32	0.19	12r	13.78	1.31	20s	18.66
9 ✓	8.93	0.10	24	13.92	0.61	21s	18.65
3r	8.96	1.39	25	14.10	0.52	22s	18.75
10 ✓	9.11	0.05	8s	14.49	0.72	23s	18.70
4r	9.18	0.91	26	14.61	0.92	40	18.87
11 ✓	9.77	0.21	9s	14.73	0.99	24s	18.88
12 ✓	10.08	0.31	27	14.89	0.64	25s	18.84
5r	10.16	1.53	10s	15.28	0.76	26s	18.89
4s	10.31	0.48	11s	15.30	0.95	41	19.02
13 ✓	10.52	0.15	28	15.31	0.77	27s	19.08
6r	10.53	1.29	12s	15.35	0.68	42	19.18
14	10.92	0.36	13s	15.51	0.97	28s	19.23
7r	10.96	1.09	29	15.87	0.66	29s 30s 43	19.28 19.52 19.53
5s	11.07	1.01	14s	16.02	0.97	31s 32s	19.49 19.56
15	11.27	0.39	30	16.19	0.75	44 33s	19.59 19.68
6s	11.36	0.64	31	16.40		34s 45	19.70 19.80
8r	11.44	0.98	15s	16.57		35s 36s 37s 38s	19.86 19.48 19.05 19.82 20.10

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6.53

7.24

7.18

8.34

9.15

9.79

10.13

10.46

10.94

10.59

10.67

7.37

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1928phate.proj.1263S

Pole Plates. MC 17364 ($15^h 0^m$, +90.0) Diaphragm 1. Number down

m	Star	Dark	C	1L	2L	3L	4L	1R	2R	3R	4R	Cl.
5.78	3	3.04*	3.06	3.71	4.50	5.82*	7.89*	3.72	4.34	5.63	8.10	15.90
		0.00*	0.02	0.67	1.46	2.78	4.85	0.68	1.30	2.59	5.06	12.86
5.91	4	3.06	3.11	4.58	4.79	5.92	8.67	4.19	4.66	5.72	8.45	15.10
		0.00	0.05	1.52	1.73	2.86	5.61	1.13	1.60	2.66	5.39	12.04
(6.49) 6.46	5	3.07*	3.20	5.88	6.91	9.27	—	6.00	7.32	9.50	—	16.06
		0.00	0.13	2.81	3.84	6.20	—	2.93	4.25	6.43	—	12.99
(7.11) 7.12	6	3.10*	3.36	7.88	9.60	11.14	—	8.01	9.56	11.43	—	16.40
		0.00	0.26	4.78	6.50	8.04	—	4.91	6.46	8.33	—	13.30
(7.31) 7.38	7	3.09*	3.32	8.29	9.46	11.20	—	8.16	9.32	11.30	—	16.19
		0.00	0.23	5.20	6.37	8.11	—	5.07	6.23	8.21	—	13.10
(8.23) 8.32	8	3.10*	4.30	11.26	12.30	13.46	—	11.32	12.39	13.60	—	16.00
		0.00	1.20	8.16	9.20	10.36	—	8.22	9.29	10.70	—	12.90
(8.83) 8.93	9	3.11	5.42	12.82	13.46	14.54	—	13.07	13.75	14.71	—	16.19
		0.00	2.31	9.71	10.35	11.43	—	9.96	10.64	11.60	—	13.08
(9.02) 9.11	10	3.16	5.00	13.29	13.82	14.77	—	13.29	14.01	15.08	—	16.48
		0.00	1.84	10.13	10.66	11.61	—	10.13	10.85	11.92	—	13.32
(9.55) 9.77	11	3.19	6.12	14.08	14.59	15.28	—	14.19	14.73	15.59	—	16.16
		0.00	2.93	10.89	11.40	12.09	—	11.00	11.54	12.40	—	12.97
(9.86) 10.08	12	3.20	6.64	14.52	14.94	15.78	—	14.51	14.98	15.57	—	16.43
		0.00	3.44	11.32	11.74	12.58	—	11.31	11.78	12.37	—	13.23
(10.30) 10.52	13	3.23	7.42	15.04	15.60	—	—	14.94	15.40	—	—	16.20
		0.00	4.19	11.81	12.37	—	—	11.71	12.17	—	—	12.97
(10.65) 10.92	14	3.23	9.00	15.50	15.96	—	—	15.39	15.79	—	—	16.68
		0.00	5.77	12.27	12.73	—	—	12.16	12.56	—	—	13.45
	a	3.21	7.78	15.23	dust	—	—	15.02	15.70	—	—	16.64
		0.00	4.57	12.02	—	—	—	11 10.81	12.49			13.43
	b	3.26	8.17	15.17	15.90	—	—	15.46	15.78	—	—	16.49
		0.00	4.81	11.91	12.64	—	—	12.20	12.52	—	—	13.23
7.93	c	3.27	3.59	9.21	10.20	—	—	9.20	10.20	—	—	16.61
	2r	0.00	0.32	5.94	6.93			5.93	6.93	—	—	13.34

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Interpolation from smooth curve

8.17

~~8.20~~

8.20

~~8.29~~

8.20

8.29

8.41

7.96

8.75

10.01

8.37

11.13

10.31

10.83

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Star	Dark	C	1 L	2 L	1 R	2 R	Clear
d	3.27	4.27	12.10	12.98	12.16	12.94	16.72
	0.00	1.00	8.83	9.71	8.89	9.67	13.45
e = 4r 9.18	3.27	4.30	12.37	12.99	12.31	13.05	16.68
	0.00	1.03	9.10	9.72	9.04	9.78	13.41
f	3.25	4.28	12.40	13.11	12.44	13.20	16.68
	0.00	1.03	9.15	9.86	9.19	9.95	13.43
g	3.24	4.38	12.89 star near	13.40	12.81	13.54	16.57
	0.00	1.14	9.65	10.16	9.57	10.30	13.33
h	3.26	4.60	12.90	13.60	12.89	13.64	16.32
	0.00	1.34	9.64	10.34	9.63	10.28	13.06
j	3.20	4.00	10.19	10.60	10.06	10.86	16.57
	0.00	0.80	6.99	7.40	6.86	7.66	13.37
k	3.20	5.05	12.55	13.78	12.74	13.67	16.60
	0.00	1.85	9.35	10.58	9.54	10.47	13.40
l	3.21	6.40	13.64	14.37	13.50	14.46	16.43
	0.00	3.19	10.43	11.16	10.29	11.25	13.22
m	3.23	4.48	10.06	10.86	10.00	10.89 ink near	16.18
	0.00	1.25 star near	6.73	7.63	6.67	77.66	12.95
o	3.20	9.60	15.10	15.51	15.14	15.40	16.07
	0.00	6.40	11.90	12.31	11.94	12.20	12.87
p	3.22	7.00	13.44	14.09	13.44	13.89	15.90
	0.00	3.78	10.22	10.87	10.22	10.67	12.68
q	3.29	8.64	14.25	14.60	14.20	14.60	15.74
	0.00	5.35	10.96	11.31	10.91	11.31	12.45
Check							
3	3.28	3.30	3.88	4.33	3.96	4.29	15.90
		(0.02)	(0.67)	(1.40)	(0.68)	(1.38)	(12.86)
	0.00	0.02	0.60	1.05	0.68	1.01	12.62
4	3.28	3.36	4.63	5.11	4.49	4.91	15.36
	(0.00)	(0.05)	(1.52)	(1.73)	(1.13)	(1.66)	(12.04)
	0.00	0.08	1.35	1.73	1.21	1.63	12.08
5	3.28	3.35	5.97	6.72	6.09	7.40	
	(0.00)	(0.13)	(2.81)	(3.84)	(2.93)	(4.25)	(12.99)
	0.00	0.07	2.69	3.44	2.81	4.12	

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NC 14424 Pola Number down Diaphragm 1

Star Polar Seq.		Dark	C	R1	R2	R3	L1	L2	L3	Clear	Volts
6.46	5	3.30	3.30	3.41	3.54	—					
			0.00	0.11	0.24						
7.12	6										
7.38	7	3.30	3.31	3.76	3.80	~~3.~~	3.66	3.82	—	9.81	4.50
			0.01	0.46	0.50		0.36	0.52		6.51	
8.32	8	3.30	3.32	3.82	4.21	4.97	3.90	4.39	5.04	10.83	4.50
			0.02	0.52	0.91	1.67	0.60	1.09	1.74	7.53	
8.93	9	3.30	3.35	4.50	4.90	5.83	4.44	5.00	5.98	9.69	
			0.05	1.20	1.60 scratch	2.53	1.14	1.70	2.68	6.39	
9.11	10	3.30	3.37	4.78	5.52	6.41	4.84	5.40	6.33	9.51	
			0.07	1.48	2.22	3.11	1.54	2.10	3.03	6.21	
9.77	11	3.32	3.50	5.91	6.37	7.22	5.98	6.31	7.37	9.83	
			0.18	2.59	3.05	3.90	2.66	2.99	4.05	6.51	
10.08	12	3.33	3.53	6.31	6.89	7.69	6.25	6.89	7.60	9.74	
			0.20	2.98	3.56	4.36	2.92	3.56	4.27	6.41	
10.52	13	3.31	3.53	6.82	7.27	8.10	6.74	7.52	8.11	9.74	
			0.22	3.51	3.96	4.79	3.43	4.21	4.81	6.43	
10.92	14	3.33	3.73	6.95	7.67	8.29	7.02	7.59	8.24	9.49	
			0.30	3.62	4.34	4.96	3.69	4.26	4.91	6.16	
11.58	16	3.33	4.19	7.89	8.40	—	7.94	8.51	—	9.64	
			0.86	4.56	5.07	—	4.61	5.18		6.31	
12.68	19	3.35	5.27	8.89	—	—	—	—	—	9.52	
			1.92	5.54						6.17	
12.98	20	3.34	5.66	—	—	—	—	—	—	9.56	
			2.32							6.22	
13.54	23	3.36	6.22	—	—	—	—	—	—	9.60	
			2.86							6.24	

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14.

14.6

14.

15.

15.8

16.

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Polar	Dark	C	R1	R2	R3	L1	L2	L3	Cl
14.10 25	3.35	7.02							9.62 + diffr 1 of 19
		3.67							6.27
14.61 26	3.36	7.51							9.70
		4.19							6.34
14.89 27	3.34	7.93							9.50
		4.59							6.16
15.31 28	3.34	8.17							9.56
		4.73							6.22
15.87 29	3.35	8.69							9.56
		5.34							6.21
16.19 30	3.36	9.11							9.53
		5.75							6.17
Subs. stars									
0	3.35	?*	3.94	4.24	5.34	4.09	4.39	5.16	9.80
			0.59	0.89	1.99	0.74	1.04	1.81	6.45
1	3.35	4.21	8.57			8.57			10.00
		0.86	5.22			5.22			6.65
2	3.34	4.50	8.55			8.46			9.90
		1.16	5.21			5.12			6.56
3	3.35	3.98	8.34			8.26			9.82
		0.63	4.99			4.91			6.47
4	3.36	3.55	6.32	7.33		6.67	7.50	–	9.94
		0.19	2.96	3.97		3.31	4.14		6.58
5	3.38	4.56	8.84			8.96			9.78
		1.18	5.46			5.58			6.40
6	3.37	3.96	7.73	8.34		7.79	8.60		9.94
		0.59	4.36	4.97		4.42	5.23		6.57
7	3.38	3.46	4.69	5.11	6.21	5.02	5.79	6.32	9.74
		0.08	1.31	1.73	2.83	1.64	2.41	2.94	6.36

10.06

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Star	Dk	C	R1	R2	R3	L1	L2	L3	Cl
10	3.40	4.02	7.98						9.39/108 is dpl
		0.82	4.58						
11	3.35	3.94	7.44	7.94	–	7.10	7.80	–	9.30
		0.59	4.09	4.59		3.75	4.45		5.95
	3.35	3.70	6.66	7.82	–	6.82	7.67	–	9.42
12		0.35	3.31	4.47		3.47	4.32		6.07
13	3.39	4.67	7.90			7.82			9.02
		1.28	4.51			4.43			5.63
15	3.37	3.98	6.69	7.44		6.69	–		8.51
		0.61	3.32	4.07		3.32			5.14
17	3.38	4.01	7.81	8.37		7.67	8.27	–	9.40
		0.63	4.43	4.99		4.29	4.89		6.02
18	3.40	4.51	8.50			8.40			9.09
		1.11	5.10			5.00			5.69
19	3.40	3.59	7.10	7.86		7.11	7.86		9.22
		0.19	3.70	4.46		3.71	4.46		5.82
21	3.41	4.29	7.30	8.02		7.21	8.00		9.17
		0.88	3.89	4.61		3.80	4.59		5.76
22	3.42	3.99	6.88	7.89		7.02	7.63		9.40
		0.57	3.46	4.47		3.60	4.21		5.98
23	3.43	4.90	8.00	~~7.99~~		7.99			9.19
		1.47	4.57			4.56			5.76
24	3.43	3.46	4.35	4.82		4.58	4.76		8.98
		0.03	0.92	1.39		1.07	1.33		5.55
25	3.42	3.88	6.97	7.57		7.10	7.50		9.02
		0.46	3.55	4.15		3.68	4.08		5.60
26	3.44	3.64	5.83	6.52		6.00	6.53		9.60
		0.20	2.39	3.08		2.56	3.09		6.16
27	3.43	3.70	5.94	6.22	7.40	6.01	6.41 ~~6.65~~	7.57	9.64
		0.27	2.51	2.79	3.97	2.58	2.98	4.08	6.21

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Star	Dk	C	1R	2R	3R	1L	2L	3L	Cl	
28	3.44	3.57	6.31	6.85	7.77	6.29	6.91	7.99		
		0.13	2.87	3.41	4.33	2.85	3.47	4.55		
29	3.42	4.09	7.71	8.27		7.81	8.41		9.58	
		0.67	4.29	4.85		4.39	4.99		6.16	
30	3.44	3.83	6.42	6.93		6.50	7.02		9.32	
		0.39	2.98	3.49		3.06	3.58		5.88	
31	3.43	3.56	5.32	5.70		5.33	5.68		9.89	
		0.13	1.89	2.27		1.90	2.25		6.46	
32	3.43	4.00	7.29	7.88		7.30	7.86		9.94	
		0.57	3.86	4.45		3.87	4.43		6.51	
33	3.45	4.10	6.98	7.61		6.85	7.52		10.70	
		0.65	3.53	4.16		3.40	4.07		7.25	
34	3.46	3.93	6.92	7.36		6.82	7.40		9.94	
		0.47	3.46	3.90		3.36	3.94		6.48	
35	3.46	4.29	7.39	8.06		7.48	7.90		9.93	
		0.83	3.93	4.60		4.02	4.44		6.47	
36	3.48	4.07	7.38	7.86		7.34	7.90		10.08	
		0.59	3.90	4.38		3.86	4.42		6.60	
38	3.48	3.52	4.53			4.62			9.66	
		0.04	1.05			1.14			6.18	
39	3.49	3.60	5.81	6.46		5.82	6.22		9.13	
		0.11	2.32	2.97		2.33	3.73		5.64	
40	—									
41	3.49	3.66	6.80			6.84			8.99	
		0.17	3.31			3.35			5.50	
42										
43	3.50	3.90	7.12	8.00		7.37	7.99		9.14	4.50
		0.40	3.62	4.50		3.87	4.49		5.64	

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MC 14424 2nd measures

Polar Seq	Dark	C	R_1	R_2	R_3	L_1	L_2	L_3	Clear	note
5.91 4	2.79	2.80	2.90	2.90	3.00	2.85	2.88	2.96	9.96	(below mag) 5.01
		0.01	0.11	0.11	0.21	0.06	0.09	0.17	7.17	
5	2.80	2.80	2.90	3.00	3.18	2.94	3.10	3.30	8.78	
		0.00 ✓	0.10	0.20	0.38	0.14	0.30	0.50	5.98	
6	2.80	2.80	3.00	3.20	3.49	3.09	3.17	3.50	9.45	
		0.00 ✓	0.20	0.40	0.69	0.29	0.37	0.70	6.65	
7	2.79	2.80	3.13	3.40	3.89	3.11	3.41	3.93	10.15	5.01
		0.01 ✓	0.34	0.61	1.10	0.32	0.62	1.14	7.36	
8	2.80	2.83	3.50	3.83	4.66	3.58	3.88	4.60	9.67	5.00
		0.03 ✓	0.70	1.03	1.86	0.78	1.08	1.80	6.87	
9	2.80	2.84	4.12	4.66	5.50	4.12	4.66	5.60	9.55	5.00
		0.04 ✓	1.42	1.86 (scratch)	2.70	1.32	1.86	2.80	6.75	
10	2.81	2.86	4.42	5.50	6.10	4.42	4.95	6.02	9.38	
		0.05 ✓	1.61	2.69	3.29	1.61	2.14	3.21	6.57	
11	2.84	3.04	5.58	6.09	7.19	5.52	6.03	7.14	9.61	
		0.20 ✓	2.74	3.25	4.35	2.68	3.19	4.30	6.77	
12	2.90	3.13	6.09	6.61	7.52	6.01	6.58	7.43	9.57	5.00
		0.23 ✓	3.19	3.71	4.62	3.11	3.68	4.53	6.67	

Continued Book 61 p.3

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10
20

(m)
6.46
7.12
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at 15h 30

MC 1736q Pole. Number down. Diaphragm 1

(m)	Star	C	R1	R2	R3	L1	L2	L3	Clear	DK	Volts
6.46	5	3.62	6.59	7.79	9.18	6.59	7.41	9.47	15.59	3.46	
		0.16	3.13	4.33	(5.62)	3.13	(3.95)	6.01	12.13		
7.12	6	4.17	9.72	11.08	12.60	9.71	11.06	12.56	16.61	3.49	4.49
		0.68	6.23	7.59	9.11	6.22	7.57	9.07	13.12		
7.38	7	4.06	9.99	11.27	12.60	9.86	11.08	12.59		3.48	4.49
		0.58	6.51	7.73	9.12	6.38	7.61	9.11			
8.32	8	5.47	11.89	12.95	13.83	11.92	12.53	13.61	16.00	3.52	4.49
		1.95	8.37	9.23	10.31	8.40	9.01	10.09	12.48		
8.93	9	6.52	13.47	13.96	14.92	13.49	13.94	14.72	16.34	3.56	4.49
		2.96	9.91	10.40	11.36	9.93	10.38	11.16	12.78		
9.11	10	6.80	14.42	14.83	15.72	14.38	15.04	15.92	17.08	3.59	4.49
		3.21	10.83	11.24	12.13	10.79	11.45	12.33	13.49		
9.77	11	8.11	15.27	15.68	16.41	13.39	15.76	star	17.14	3.60	4.49
		4.56	11.67	12.08	12.81	11.79	12.16	here	13.54		
10.08	12	8.60	15.73	16.26	–	15.89	16.14	–	17.32	3.61	4.49
		4.99	12.12	12.65	–	12.28	12.55	–	13.71		
10.52	13	9.57	16.18	16.54	–	16.08	16.53	–	17.25	3.60	4.49
		5.97	12.58	12.94	–	12.48	12.93	–	13.65		
10.92	14	10.90	–	–	–	16.31	16.43	–	17.09	3.60	
		7.30	–	–	–	12.61	12.83	–	13.49		
	015	10.89	16.41	–	–	16.46	–	–	17.12	3.62	4.49
		7.27	12.79	–	–	12.84	–	–	13.50		
11.58	16	12.20	16.57	–	–	16.71	–	–	17.15	3.63	4.49
		8.57	12.88	–	–	13.08	–	–	13.52		
12.68	19	14.61	–	–	–	–	–	–	17.21	3.64	4.49
		10.97	–	–	–	–	–	–	13.57		
12.98	20	17.10	is	this	image	a	defect?		Cannot	see it	
		–									
13.59	23	15.90	–	–	–	–	–	–	17.06	3.65	4.49
		12.25	–	–	–	–	–	–	13.41		
14.10	25	16.21	–	–	–	–	–	–	17.29	3.64	4.49
		12.57	–	–	–	–	–	–	13.65		
14.61	26	16.38	–	–	–	–	–	–	17.14	3.64	4.49
		12.75	–	–	–	–	–	–	13.50		
6.47	2s	3.82	7.33	8.81	10.87	7.24	8.85	10.82	17.14	3.61	4.49
		0.21	3.72	5.20	7.26	3.63	5.14	7.21	13.53		
7.93	2n	4.53	10.40	11.26	12.92	10.46	11.02	12.88	16.85	3.62	4.49
		0.91	6.78	7.50	9.30	6.74	7.40	9.26	13.23		
8.96	3n	6.07	13.20	13.60	14.72	13.04	13.60	14.68	16.60	3.65	4.49
		2.42	9.55	10.05	11.07	9.39	9.95	11.03	12.95		
9.18	4n	5.19	13.12	13.94	15.40	13.30	13.89	15.20	17.02	3.64	4.47
		1.55	9.48	10.30	11.76	9.66	10.25	11.56	13.38		
10.16	5n	9.04	15.64	16.10	16.59	15.74	16.02	16.64	17.20	3.65	4.47
		5.39	11.99	12.45	12.94	12.09	12.37	12.99	13.55		
10.31	4s	10.00	15.74	15.94	15.81 →	16.04 →	12.38		16.90	3.66	4.47
		6.34	12.08	12.28		12.15			13.24		
10.53	6n	10.55	15.78	16.09	~~15.88~~	15.88	16.21	–	16.88	3.68	4.47
		6.87	12.10	12.41		12.20	12.53		13.20		
11.36	6s	11.99	–	–	–	–	–	–	17.21	3.68	4.47
		8.32	–	–	–	–	–	–	13.53		
10.96	7n	10.89	16.26	–	–	16.30	–	–	17.14	3.67	4.47
		7.22	12.59	–	–	12.63	–	–	13.47		
11.64	8n	11.72	–	–	–	–	–	–	17.24	3.67	4.47
		7.05	–	–	–	–	–	–	13.57		
11.95	9n	12.82	–	–	–	–	–	–	16.98	3.67	4.47
		9.15	–	–	–	–	–	–	13.31		
12.61	10n	14.29	–	–	–	–	–	–	17.03	3.68	4.46
		10.61	–	–	–	–	–	–	13.35		
13.22	11n	15.06	–	–	–	–	–	–	17.17	3.68	4.46

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Star	C	R1	R2	R3	L1	L2	L3	Clear	Dk	Volts
a	9.27 5.58	15.94 12.25	–	–	16.00 12.29	–	–	17.17 13.48	3.69	4.47
b	9.74 6.06	12.52	–	–	16.20 12.22	–	–	15.90 13.44	3.68	17.12
d	5.30 1.63	13.06 9.39	13.80 10.13	15.15 11.48	13.04 9.37	13.90 10.23	15.10 11.43	17.10 13.43	3.67	4.47
f	5.41 1.71	13.13 9.43	13.85 10.15	15.37 11.67	13.38 9.31	13.90 10.20	15.22 11.52	16.95 13.25	3.70	4.46
g	5.68 1.98	13.69 9.99	14.46 10.76	15.61 11.91	13.69 9.99	14.19 10.49	15.62 11.92	17.18 13.48	3.70	4.46
h	5.39 1.72	13.64 9.93	14.40 10.63	+	13.57 9.90	14.39 10.72	–	16.99 13.32	3.67	4.46
j	4.52 0.86	10.90 7.24	11.38 7.72	13.71 10.05	10.70 7.04	11.59 7.93	13.69 10.03	17.04 13.34	3.66	4.46
k	5.52 1.86	13.27 9.61	14.04 10.98	+	13.27 9.61	14.30 10.64	–	17.16 13.50	3.66	4.46
l	6.70 2.93	14.40 10.73	15.11 11.44	–	–	14.14 10.47	15.04 11.37	17.07 13.40	3.67	4.46
m	5.38 1.73	10.84 7.19	11.60 7.95	13.48 9.83	10.48 7.20	11.48 7.83	13.40 9.75	16.41 12.76	3.65	4.46
o	10.96 7.31	15.34 11.69	–	–	15.30 11.65	–	–	16.16 12.51	3.65	4.46
p	8.08 4.40	13.95 10.27	14.10 10.42	15.07 11.39	13.99 10.33	14.16 10.48	15.17 11.49	16.20 12.52	3.68	4.46
q	9.40 5.71	14.79 11.10	–		14.77 11.08	–	–	16.38 12.69	3.69	4.46
r	7.07 3.38	13.40 9.71	14.05 10.36	15.25 11.56	13.49 9.80	14.09 10.40	15.05 11.36	16.58 12.89	3.69	4.46

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at 12h00

NC 17326, Pole, number ~~11 up~~ up. Diaphragm 1.

Means

Star	C	R1	R2	R3	L1	L2	L3	Cl	Dk	Volts	1	2	3
05	3.11	7.18	8.72	10.20	7.39	8.96	10.98	16.71	2.61		4.68	6.23	8.23
	0.50	4.57	6.11	8.19	4.78	6.35	8.27	12.10 ✓	—				
6	3.85	10.10	11.92	13.49	10.43	11.98	13.69	18.12	2.63		7.64	9.32	10.9
	1.22	76.47	9.29	10.86	7.80	9.35	11.06	15.49 ✓	—				
7*	3.62	10.00	11.64	13.10	9.98	11.52	13.12	17.50	2.62		7.37	8.96	10.49
	1.00	7.38	9.02	10.48	7.36	8.90	10.50	14.88 ✓	—				
8*	5.20	12.61	13.34	14.50	12.64	13.50	14.50	16.71	2.63	4.55	10.00	10.79	11.82
	2.57	9.98	10.71	11.77	8.01	10.87	11.87	14.98 ✓	—				
9	6.09	13.84	14.44	15.29	18.79	14.31	15.32	16.74	2.65	4.55	11.16	11.72	12.60
	3.34	11.19	11.79	12.54	11.14	11.66	12.67	14.09 ✓	—				
10*	8.13	15.39	15.85	16.50	15.40	15.87	16.56	17.46	2.68	4.55	12.72	13.18	13.85
	5.45	12.71	13.17	13.82	12.72	13.19	13.88	14.88	—				
11	9.87	16.23	16.67	17.30	16.27	16.79	17.20	17.96	2.69	4.54	13.56	14.06	14.56
	7.18	13.54	13.98	14.61	13.58	14.10	14.51	15.27 ✓	—				
12	11.14	16.73	17.05	17.47	16.82	16.97	17.50	17.79	2.69	4.55	14.08	14.32	14.80
	8.45	14.04	14.36	14.78	14.13	14.28	14.81	15.10 ✓	—				
13	11.97	17.09	17.20	17.60	17.07	17.39	17.78	17.80	2.71	4.55	14.37	14.58	14.98
	9.26	14.38	14.49	14.89	14.36	14.68	15.07	15.09 ✓	—				
14*	12.55	17.02	17.31		16.90	17.24		17.42	2.71	4.55	14.25	14.56	
	9.84	14.81	14.60	—	14.19	14.53		14.71 ✓	—				
015	12.70	17.19	—	—	17.00	—	—	17.40	2.72	4.55	14.38		
	9.98	14.47			14.28			14.68 ✓	—				
16*	13.95	17.29	—	—	17.20	—	—	17.42	2.72	4.55	14.52		
	11.23	14.57			14.48			14.70 ✓	—				
19*	15.77	—	—	—	—	—	—	17.68	2.72	4.55			
	13.05							14.96	—				
20*	15.81	—	—	—	—	—	—	17.58	2.73	4.55			
	13.08							14.85	—				
021	16.21	—	—	—	—	—	—	17.60	2.24	4.55			
	13.47							14.86	—				
23*	16.60	—	—	—	—	—	—	17.67	2.25	4.55			
	13.85							14.92	—				
25*	17.46	—	—	—	—	—	—	17.79	2.26	4.55			
	14.70							15.03 ✓	—				
2R	6.50	13.53	13.77	14.59	13.20	13.59	14.63	17.34	2.26	4.55	10.60	10.98	11.85
	3.74	10.77	11.01	11.83	10.44	10.83	11.87	14.58 ✓	—				
4R	8.85	15.19	—	16.21	15.19	15.35	16.17	17.22	2.78	4.55	12.41	12.57	13.4
	5.07	12.41		13.43	12.41	12.57	13.39	14.44 ✓	—				
5R	10.92	16.29	16.52	17.20	16.52	16.79	17.17	17.78	2.80	4.55	13.61	13.86	14.38
	8.12	13.49	13.72	14.40	13.72	13.99	14.37	14.98 ✓	—				
6R	11.93	16 95	17.09	17.53	17.10	17.19	17.53	17.67	2.80	4.55	14.22	14.34	14.73
	9.13	14.15	14.29	14.73	14.30	14.39	14.73	14.87 ✓	—				
7R	13.09	17.40	—	—	17.29	—	—	17.90	2.80	4.55	14.54		
	10.29	14.60			14.49			15.10 ✓	—				
8R	14.09	17.49	—	—	17.43	—	—	17.92	2.81	4.55	14.66		
	11.28	14.68			14.62			15.11 ✓	—				
9R	14.95	—	—	—	—	—	—	17.90	2.81	4.55			
	12.14							15.09 ✓	—				
10R	15.94	—	—	—	—	—	—	17.62	2.81	4.55			
	13.13							14.81	—				
11R	16.26	—	—	—	—	—	—	17.90	2.81	4.55			
	13.45							15.09 ✓	—				
A	12.20	16.83	17.10	—	16.81	17.02	—	17.65	2.82	4.55	14.00	14.24	
	9.38	14.01	14.28		13.99	14.20		14.83 ✓	—				
B	12.60	16.99	17.44	—	16.99	17.16	—	17.61	2.83	4.55	14.16	14.47	
	9.77	14.16	14.61		14.16	14.33		14.78 ✓	—				
D	7.84	15.00	15.29	16.07	14.79	15.29	16.02	17.26	2.83	4.55	12.06	12.46	13.22
	5.01	12.17	12.46	13.24	11.96	12.46	13.19	14.43 ✓	—				

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Star	C	R1	R2	R3	L1	L2	L3	Cl	Dk	Volts	Means 1	2	3
F	8.11	15.07	15.54	16.18	15.12	15.33	16.26	17.29	2.82	4.55	12.28	12.62	13.40
	5.29	12.25	12.72	13.36	12.30	12.51	13.44	14.47 ✓	-				
G	8.59	—	15.85	16.52	15.39	16.99	16.69	17.61 ✓	2.84	4.55	12.55(1)	13.08	13.77
	5.75		13.01	13.68	12.55	13.15	13.85	14.77	-				
H	8.90	15.52	15.87	16.74	15.45	15.97	16.61	17.59	2.85	4.55	12.64	13.08	13.83
	6.06	12.68	13.03	13.90	12.61	13.13	13.77	14.75 ✓	-				
J	5.44	13.06	13.44	15.31	13.21	13.64	15.25	17.79	2.84	4.55	10.28	10.70	12.44
	2.60	10.22	10.60	12.47	10.37	10.80	12.41	14.95 ✓	-				
K	8.22	15.27	15.71	16.74	15.16	15.71	16.70	17.61	2.86	4.55	12.36	12.85	13.86
	5.36	12.41	12.85	13.88	12.30	12.85	13.84	14.75 ✓	-				
P	6.86	13.90	14.41	15.37	13.82	14.39	15.41	16.60	2.86	4.55	10.99	11.54	12.53
	4.00	10.04	11.55	12.51	10.94	11.53	12.55	13.84 ✓	-				
Q	8.11	14.83	~~14.19~~	15.81	14.70	15.29	16.07	16.77	2.87	4.55	11.90	12.43(1)	13.08
	5.25	11.97	~~3.89~~	12.95	11.84	12.43	13.21	13.91 ✓	-				
R	4.80	12.54	13.09	14.82	12.50	13.12	14.89	16.59	2.87	4.55	9.65	10.24	11.98
	1.93	9.67	10.22	11.95	9.63	10.25	12.02	13.72 ✓	-				
S	4.53	12.19	13.09	14.94	12.10	13.10	15.00	16.79	2.87	4.55	9.28	10.22	12.10
	1.66	9.32	10.22	12.07	9.23	10.23	12.13	13.92 ✓	-				
T	4.88	12.17	13.19	14.90	12.09	13.37	15.29	16.74	2.86	4.55	9.27	10.37	12.24
	2.02	9.31	10.23	12.04	9.23	10.51	12.43	13.88 ✓	-		~~12.13~~	~~13.28~~	~~15.10~~
~~Z~~													

For study of effect of fog, see folder.

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Pole at $12^h 24^m$

NC 17357 | Number down. Diaphragm 1

June 11; microphotometer just reassembled.

Star	C	R1	R2	R3	L1	L2	L3	C	Clear	Dk	Volts
4	out of	field									
5	4.54	9.23	10.85	12.11	9.36	11.06	12.10	4.52	16.35	3.10	4.55
	1.44	6.13	7.75	9.01	6.26	8.96	9.00	1.42	13.25	–	
6	5.61	10.29	12.00	12.81	10.54	12.08	12.70	5.49	15.38	3.10	4.55
	14.51	7.19	8.90	9.71	7.44	8.98	9.60	4.39	12.28	–	
7	5.39	10.60	12.18	12.76	10.71	12.22	13.09	5.22	15.90	3.10	4.55
	14.29	7.50	9.08	9.66	7.61	9.12	9.99	2.12	12.70		
8	8.94	14.09	14.83	15.39	14.12	14.67	15.39	8.72	16.49	3.12	4.55
	5.82	10.97	11.71	12.27	11.00	11.55	12.27	5.60	13.37		
9	10.50	15.09	15.50	16.01	15.63	15.49	15.88	10.58	16.47	3.14	4.55
	7.36	11.95	12.36	12.87	11.89	12.35	12.74	744	1333		
10	10.56	14.48	14.92	–	14.50	14.88	–	10.38	15.92	3.14	4.55
	742	11 34	11 78	–	1136	11 74		724	1268		
11	11.23	14.65	14.90	–	14.78	14.99	–	11.20	15.58	3.15	4.55
	808	1150	1175		1163	1184		805	1243		
12	11.52	14.92	15.19	–	14.94	15.19	–	11.64	15.54	3.16	4.55
	836	1176	1203		1178	1203		848	1238		
13	13.40	–	–	–	–	–	–	13.36	15.72	3.18	4.55
	1022							1018	1254		
14	13.18	–	–	–	–	–	–	13.18	15.76	3.17	4.55
	1001							1001	1259		
16	13.87	–	–	–	–	–	–	13.89	15.90	3.19	4.55
	1068							1070	1271		
19	14.90	–	–	–	–	–	–	14.88	15.80	3.22	4.55
	1168							1166	1258		
20	15.18	–	–	–	–	–	–	15.20	15.79	3.23	4.55
	11.95							11.97	12.56		
23	15.20							15.20	15.88	3.21	4.54
	11 99							1199	1267		
25	15.39							15.35	15.80	3.22	4.55
~~27~~	12.17							1213	1256		
28											
29											
30		too faint									
26	15.60	–	–	–	–	–	–	15.60	15.87	3.23	4.55
	1237							1237	1254		
27	15.70	–	–	–	–	–	–	15.70	15.86	3.23	4.55
	1247							1247	1263		
C	8.57	13.12	13.40	13.89	12.84	13.24	13.84	15.48	8.14	3.19	4.55
	538	993	1021	1070	965	1005	1065	495	1229		
e	10.47	14.27	14.50	–	14.30	14.40	–	15.50	10.30	3.20	4.55
	727	1107	1130		1110	1120		700	1230		

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Pole at $23^h 49^m$

MC 14427 Number down, Diaphragm 1

June 13

Star	C	R_1	R_2	R_3	L_1	L_2	L_3	C	Clear	Dk	Volts
5	—	—	—	—	—	—	—	—	770	214	462
6	—	—	262	309	—	271	314	—	817	214	460
7	214	247	287	331	(250)	280	326	—	799	214	456
8	215	297	350	421	292	352	426	215	799	212	455
9	216	361	418	540	384	426	524	216	811	213	455
10	219	430	489	562	419	478	566	220	866	216	455
11	226	489	550	618	576	529	620	228	814	215	455
12	233	537	585	660	525	587	669	237	835	217	455
13	265	600	650	738	581	638	724	252	839	218	455
14	258	633	700	762	631	686	766	270	847	216	455
16	305	718	778	—	722	764	—	310	849	218	455
19	410	—	—	—	781	—	—	409	861	217	455
20	456	—	—	—	—	—	—	462	856	216	455
23	542	—	—	—	—	—	—	532	850	217	455
25	618	—	—	—	—	—	—	614	845	218	455
26	662	—	—	—	—	—	—	666	862	219	455
27	692	—	—	—	—	—	—	690	860	219	455
28	710	—	—	—	—	—	—	712	844	219	455
29	753	—	—	—	—	—	—	757	834	219	455
30	800	—	—	—	—	—	—	800	844	220	455
2 R	220	309	326	424	300	320	400	219	842	220	455
3 R	229	390	437	540	389	438	490	229	790	219	455
4 R	227	457	469	571	429	467	582	230	839	219	455
5 R	261	540	570	654	529	577	647	250	800	218	455
6 R	259	594	610	700	572	618	711	267	814	218	455
7 R	270	635	681	—	630	670	—	272	839	219	455
8 R	312	689	717	—	697	740	—	307	827	219	455
9 R	382	—	—	—	730	—	—	352	822	219	455

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Star	C	R_1	R_2	R_3	L_1	L_2	L_3	C	Clear	Dk	Volts
11 R	446 226	—	—	—	—	—	—	446 226	831 611	220	455
12 R	557 337	—	—	—	—	—	—	557 337	850 630	220	455

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June 13 MC 7664 Number Down

Star	C Q2	R1	R2	R3	L1	W2	W2	C	Clear	DK	Volts
5	2.79	3.87	4.96	5.58	3.90	5.20	5.75	2.80	7.82	2.48	5.63
	1.31	1 34	2 48	3 10	1 42	2 72	3 27	32	5 34		
6	3.09	4.90	6.12	6.59	4.62	6.08	6.60	3.12	8.98	246	5.64
	63	2 44	3 66	4 13	2 16	3 62	4 14	66	6.52		
7	2.70	4.67	5.70	6.20	4.64	5.61	6.20	2.70	9.10	246	
	24	2 16	3 24	3 74	2 18	3 15	3 74 Scratch	24	6 64		
8	4.20	6.00	7.26	7.50	5.82	7.24	7.69	4.20	8.57	2.50	5.64
	1 70	3 50	4 76	5 00	3 33	4 74	5 19	1 70	6 07		
9	5.00	5.64	7.90	8.17	6.88	7.90	8.13	5.02	8.90	2.50	
	2 50	3 14	5 40	5 67	(dust)	5 40	5 63	2 52	6 40		
11	5.70	7.30	8.22	8.28	7.20	8.17	8.30	5.70	8.85	2.52	2.64
	3 18	4 78	5 70	5 86	4 68	5 65	5 78	3 18	6 33		
12	6.27	7.69	8.36	8.52	7.60	8.20	8.51	6.30	8.82	2.52	2.64
	3 75	5 17	5 84	6 00	5 08	5 68	5 99	3 78	6 30		
13	7.00	7.96	8.5	✗	8.1	8.5		7.00	9.06	2.52	
	4 48	5 44	5 98		5 58	5 98		4 48	6 54		
14	6.96	8.40	8.69		8.10	8.50		6.97	8.91	2.50	
	4 46	5 90	7 19		5 60	6 00		4 47	6 41		
Schmidt 15	7.28	8.48	8.81		8.10	8.30		7.27	8.70	2.52	
	4 76	5 96	6 29		5 58	5 78		4 75	6 18		
16	7.84	8.67			8.66			7.84	9.09	2.52	
	5 32	6 15			6 08			5 32	6 51		
17	8.10	8.78			8.78			8.10	9.02	2.52	5.65
	5 58	6 26			6 26			5 58	6 50		
19	8.10							8.06	9.01	2.51	
	5 59							5 55	6 60		
20	8.40							8.40	9.06	2.52	5.65
	5 88							5 88	6 54		
23	8.46							8.46	9.17	2.52	5.67
	5 93							5 93	6 64		
25	7.86							7.84	9.00	2.53	
	5 33							5 31	6 47		
26	8.70							8.68	9.10	2.53	
	6 17							6 15	6 57		
27	8.78							8.76	9.03	2.53	
	6 25							6 23	6 50		
28	too ff										
29	too ff										
30	too ff										
	(dust)										
a	7.30	8.00	8.70	8.85	8.10	8.51	8.80	7.30	9.08	2.52	5.69
	4 78	5 48	6 18	6 33	5 58	5 99	6 28	4 78	6 56		
b	7.41	8.07	8.76	—	8.45	8.76		7.41	9.03	2.53	5.69
	4 88	5 54	6 23		5 92	6 23		4 88	6 50		
~~c~~ d	5.80	6.99	8.16	8.40	7.03	8.20	8.43	5.81	9.10	2.52	5.68
	3 28	4 47	5 64	5 88	4 51	5 68	5 91	3 29	6 58		
~~d~~											
e	7.04	8.01	8.77	8.80	8.10	8.76	—	7.04	9.22	2.52	5.69
	4 52	5 49	6 25	6 26	5 58	6 24		4 52	6 70		
f	5.88	7.28	8.16	8.39	7.52	8.20	—	5.88	9.14	2.51	5.68
	3 37	4 77	5 65	5 88	5 01	5 69		3 37	6 63		

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Star	C	R_1	R_2	R_3	H_1 (dust)	H_2	H_3	C	Cl	DR		Volts
g	5.86	7.36	8.12	8.40	7.40	7.99	8.40	5.87	9.10	2.49		5.69
	3 37	4 87	5 63	5 91	4 91	5 60	5 91	3 38	6 61			
h	6.40	7.83	8.60	8.72	7.72	8.61	8.70	6.42	9.32	2.49		
	3 91	5 34	6 11	6 23	5 23	6 12	6 21	3 93	6 83			
i												
j	5.30	6.90	8.06	8.19	6.93	8.08	8.30	5.31	9.32	2.46		5.68
	2 84	4 44	5 60	5 73	4 47	5 62	5 84	2 85	6 86			
k	6.50	7.61	8.62	8.80	7.76	8.62	8.84	6.52	9.37	2.46		
	4 04	5 15	6 16	6 34	5 24	6 16	6 38	4 06	6 91			
^	3.69	5.62	7.18	~~5.58~~	5.58	7.28		3.56	9.03	2.42		5.68
	1 27	3 20	4 76		3 16	4 86		1 14	6 61			
r	4.20	6.67	7.40	7.60	7.19	7.47	7.82	4.18	9.05	2.44		
	1 76	4 23	4 96	5 16	(dust)	5 02	5 38	1 74	6 61			
(rear r) W	6.28	7.95	8.23		7.87	8.17		8.23	8.92	2.41		5.68
	3 87	5 54	5 82		5 46	5 76		3 82	6 51			
4o	6.78	8.00	8.50		8.06	8.55		6.80	9.06	2.43		
	4 35	5 57	6 07		5 63	6 12		4 37	6 63			
6N	7.41	8.29	8.78		8.36	8.77		7.41	9.14	2.46		
	4 95	5 83	6 32		5 90	6 31		4 95	6 68			
5N	6.80	8.40	8.52	8.63	8.38	8.55	8.69	5.80	9.10	2.47		5.68
	4 33	5 93	6 05	6 16	5 91	6 08	6 22	3 33	6 63			

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No Down Yellow Plate

June 14 MC 7726

Star	C	R_1	R_2	R_3	R_4	W_2	W_3	C	Cl	DK / 1.5	Volts
5	li 1.50	3.19	3.70	3.71	3.72	3.60	4.44	1.50	9.30	5.38	5.38
	li .000	1.69	2.20	2.21	2.22	2.10	2.94	0.00	7.80	1.50	
6	1.50	3.57	4.40	5.30	3.60	4.00	5.00	1.50	8.56	5.70	5.20
	li .000	2.07	2.90	3.80	2.10	2.50	3.50	0.00	7.06		
7	1.50	3.98	4.42	5.28	3.97	4.42	5.42	1.51	8.53	1.50	5.18
	.000	2.48	2.92	3.78	2.47	2.92	3.92	0.01	7.03		
8	1.61	5.33	5.83	6.37	5.40	5.90	6.65	1.62	8.59	1.50	5.15
	.011	3.83	4.33	5.22	3.90	4.40	5.15	0.12	7.09		
9	1.83	6.49	7.12	7.60	6.45	7.03	7.54	1.82	8.80	1.49	5.14
	.034	4.14 5.00	5.63	6.11	4.96	5.54	6.05	0.33	7.31		
11	224	7.30	7.59		7.32	7.64		2.20	8.70	1.50	5.14
	.074	5.80	6.09		5.82	6.14		0.70	7.20		
12	2.40	7.60	7.89		7.68	7.89		2.44	9.00	1.49	
	.091	6.11	6.40		6.18	6.40		0.95	7.51		
13	312	8.20			8.20	8.10		160	9.04	1.50	
	162	6.70			6.70	1.60			7.54		
14	360				3.57			3.57	8.96	1.49	
	211							2.08	7.47		
15	4.16							4.12	8.90	1.47	5.12
	2.69							2.65	7.43		
16	5.33							4.68	9.20	1.47	
	3.86							3.21	7.73		
17	4.60							4.60	8.95	1.48	
	3.12							3.12	7.47		
18											
19	6.70							6.70	9.05	1.49	5.11
	5.21							5.21	7.56		
20	6.68							6.70	8.99	1.48	
	5.20							5.22	7.51		
22	7.42							7.45	9.05	1.50	
	5.92							5.95	7.55		
25	too ff										
26	too ff										
27	too ff										
28											
29											
30	too ff										
3r	in streak (cannot read N)										
5r	165	6.18	6.40	7.20	5.92	6.30	7.10	1.72	8.80	146	5.13
	1.19	4.72	4.94	5.74	4.46	4.84	5.64	0.26	7.34		
2r	1.42	2.68	3.18	3.90	2.78	3.15	3.90	1.45	8.80	143	
	−0.01	1.25	1.75	2.47	1.35	1.72	2.47	0.02	7.37		
7r	2.79	7.87			7.82			2.73	9.10	149	5.11
	1.30	6.38			6.33			1.24	7.61		
8r	3.28	8.31			8.34			3.30	9.09	149	
	1.84	6.82			6.85			1.81	7.51		
9r	3.90							3.90	8.99	146	5.11
								2.44			

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June 14

Number Down Yellow Plate
MC7726

Star	C	R_1	R_2	R_3	W_1	W_2	W_3	C	Cl	DK		Volts
11r	5.90 4.46							5.90 4.46	8.97 7.53	1.44		
6r	2.74 0.80	6.91 5.47	7.44 6.00		7.07 5.53	7.46 6.02		2.73 0.79	8.69 7.25	1.44		5.10
12r	6.67 5.20							6.66 5.19	9.06 7.53	1.47		
4r	2.48 0.98	5.10 3.60	5.72 4.22	6.66 5.16	5.10 3.60	6.12 4.62	6.71 5.21	2.50 1.00	8.76 7.26	1.50		5.11
a	2.76 1.30	8.10 6.64						2.75 1.29	9.18 7.72	1.46		5.10
b	3.24 1.88								8.93 7.47	1.46		
c												
d	1.55											

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June 16 '28 Number Up MC 7696

Star	C	R_1	R_2	R_3	H_1	H_2	H_3	C	Cl	DK	Volts
5	150	3.12	3.25	3.90	3.16	3.40	3.90	1.52	5.84	147	5.20
	3	1 65	1 78	2 43	1 69	1 93	2 43	5	4 37		
6	157	3.68	3.90	4.19	3.69	3.87	4.28	160	5.53	147	5.20
	10	2 21	2 43	2 72	2 22	2 40	2 81	13	4 06		
7	161	3.77	3.96	4.32	3.73	3.96	4.30	166	5.10	1.51	5.20
	10	2 26	2 45	2 81	2 22	2 45	2 79	15	3 59		
8	1.90	4.63	4.80	5.10	4.59	4.80	5.12	1.94	5.67	155	5.20
	35	3 08	3 25	3 55	3 04	3 25	3 57	39	4 12		
9	2.30	5.20	5.28	—	5.12	5.33	—	2.32	5.62	155	
	75	3.65	3 73		3 57	3 78		77	4 07		
10(?)	2.59	5.33			5.35			2.60	5.90	1.55	
	1 04	3 78			3 75			1 65	4 35		
11	3.08							3.10	5.80	155	5.20
	1 53							1 65	4 25		
12	3.29	5.54			5.50			3.30	5.90	156	
	1 73	4 03			3 94			1 74	4 34		
13	3.80							3.81	5.97	156	
	2 24							2 25	4 41		
14	3.92							3.88	6.00	156	
	2 36 dust							2 32	4 44		
015	3.93							3.91	5.90	1.55	
	2 38							2 36	4 35		
16	4.36							4.34	5.84	156	5.20
	2 80							2 78	4 28		
19	5.06							5.06	6.00	156	
	3 50							3 50	4 44		
20	5.09							5.10	6.00	156	
	3 53							3 54	4 44		
021	3.12							5.15	5.93	156	5.20
	3 56							3 59	4 37		
23	? li										
25	two li										
27	? li										
4	155	2.08	2.15	2.47	2.29	2.10	2.61	155	4.76	152	
	3	56	63	95	77	58	109	3	3 18		
3	li 155	1.82	1.99	2.31	2.00	1.98	2.38	152	4.66	153	5.20
	2	29	46	78	47	45	85	-1	3 13		
1r	150	1.72	1.79	2.09	1.70	1.76	2.01	152	4.76	152	5.20
	-2	20	27	57	18	24	49	0	3 18		
2r	160	3.37	3.60	3.98	3.30	3.63	3.91	160	5.50	152	
	8	1 85	2 08	2 46	1 78	2 11	2 39	8	3 98		
3r	184	4.36	4.54	4.89	4.37	4.56	4.93	184	5.78	152	5.20
	32	2 78	3 02	3 37	2 85	3 04	3 41	32	4 26		
4r	200	4.51	4.61	—	4.50	4.76	—	200	5.50	153	
	41	2 98	3 08		2 97	3 23		41	3 97		
5r	259	5.18	5.22	5.50	5.12	5.28	—	2.60	5.46	155	5.19
	1 04	3 63	3 67	3 95	3 57	3 73		1 05	4 35		
6r	2.75							2.79	5.60	150	5.20
	1 25							1 29	4 10		
7r	3.39							3.40	5.83	152	
	1 87							1 88	4 31		
8r	3.73							3.73	5.63	153	5.19
	2 22							2 20	4 10		

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Star	C	R_1	R_2	R_3	h_1	h_2	h_3	C	Q	OK	Volts
qr	430 274							427 271	592 436	156	
10r											
11r	499 341							506 342	585 427	158	518
12r	189 30							187 28	590 431	159	
a	348 188							346 186	585 425	160	517
b	380 221							380 221	580 421	159	
c											
d	220 60	480 320	498 338		480 320	491 331		221 61	564 409	160	517
e											
f	180 20	409 249	424 264		410 250	425 265		182 22	490 330	160	
g	248 88				494 334			249 89	551 391	160	517
h	240 80							240 80	430 270	160	517
h2	222 062	455 295			463? 303			221 61	500 340	160	
l?	230 70							224 64	477 317	160	516
m	170 10							169 9	446 286	160	516
o	293 132							295 134	478 317	161	515
p	217 55	490 328	510 348		490 328	512 350		218 56	590 428	162	
q	245 82	517 349	530 367			510 347	522 259	247 84	590 407	163	515
N	220 56	497 328	510 346		496 334	519 356	~~373~~	223 59	566 402	164	
s	220 56							222 58	460 296	164	515

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July 22 Found up Charger off

Rh 91 Pole at $7^h 54^m$. Number down, markings up, diaphragm 2.

Star	Read.	Clear	Dk	Volts	Read - Blank	m (n.p.s)	
1	083	730	078	510	005	4.40	
4	149	741	077	510	072	5.91	
5	170 ~~152~~	714	078	510	092	6.46	
6	251	748	078	510	173	7.12	
7	266	773	080	510	186	7.38	
8	388	778	080	510	308	8.32	
9	439	764	080	510	359	8.93	
10	463	769	081	510	382	9.11	
12	534	738	082	510	452	10.08	
13	589	768	083	510	506	10.52	
14	637	751	083	510	524	10.92	
2r	376	735	083	510	293	7.93	
2s	194	773	083	510	111	6.47	
3r	447	787	084	510	363	8.96	
4r	441	759	084	510	357	9.18	mots. low: of background
5r	561	772	086	510	475	10.16	
6r	589	762	086	510	503	10.53	
7r	620	782	087	510	533	10.96	
16	649	772	086	510	563	11.58	
9r	665	756	086	510	579	11.95	

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Reductions B 53002

(Reading − Dark)

Star	C	1	2	3
a	324	984	1081	–
b	433	1052	–	–
c	740	–	–	–
d	746	–	–	–
e	715	–	–	–
f	880	–	–	–
g	885	–	–	–
h	925	–	–	–
k	1037	–	–	–
l	1082	–	–	–
m	omit	–	–	–
n	omit	–	–	–
o	1125	–	–	–
p	1192	–	–	–
var.	776	–	–	–
1	035	531	569	787
2	077	706	734	966
3	093	698	704	932
4	147	803	885	1098
5	193	813	899	1121
6	081	713	747	992
7	124	744	816	1046
8	086	659	691	937
9	248	875	974	–
10	167	728	780	1011
11	093	719	732	981
12	242	795	1013	1118

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(The images on this plate differ greatly in shape and symmetry.)

B53002 Sequence for V Ara and 12 comp stars for scale. Number up. Images numbered from above

Star	3	2	1	C	1	2	3	Cl	Dk	V
a	–	1208	1096	424	1072	1154	–	1319	100	510
b	–	–	1162	534	1144 diffct	–	–	1312	101	510
c	–	–	–	841	–	–	–	1303	101	510
d	–	–	–	847	–	–	–	1334	101	510
e	–	–	–	816	–	–	–	1280	101	510
f	–	–	–	931	–	–	–	1271	101	510
g	–	–	–	986	–	–	–	1308	101	510
h	–	–	–	1027	–	–	–	1320	102	510
k	–	–	–	1140	–	–	–	1310	103	510
l	–	–	–	1185	–	–	–	1312	103	510
m	–	–	–	1010?	–	–	–	1312	103	510
n	–	–	–	1163 ink	–	–	–	1328	103	510
o	–	–	–	1230 dirt?	–	–	–	1298	105	510
p	–	–	–	1280	–	–	–	1297	105	510
var	–	–	–	880	–	–	–	1271	104	510
1	912	685	615	138	653	660	869	1311	103	510
2	1090	851	813	181	807	824	1051	1300	104	510
3	1031	814	736	196	866	800	1039	1320	103	510
4	1197	986	916	252	900	990	1209	1310	105	510
5	1211	1000	953	298	882	1008	1240	1287	105	510
6	1078	882	844	186	792	823	1116	1311	105	510
7	1170	920	840	228	855	891 dirt	1129	1321	104	510
8	1060	790	747	189	777	798	1019	1336	103	510
9	–	1111	939	354	1023	1049	–	1305	106	510
10	1103	895	828	273	840	876	1131	1309	106	510
11	1074	849	841	200	811	829	1101	1291	107	510
12	1202	–	–	350	903	1021	1238	1301	108	510

Left rep charger on

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P 2389 Pole at 19h 51m Numbers up. Diaphragm

Star	Image 1 D_0	Image 1 D_2	Image 2 D_0	Image 2 D_2	Image 3 D_0	Image 3 D_2	Image 4 D_0	Image 4 D_2	Dark	Volts
N P.L.	009 ✓	001	009 ✓	002	012 ✓	006	017	008	004 *	520
P. Mag. 2.55		719 *		690 **		660 +		667		
	005 ✓	-003 718	005 ✓	-002 688	008 ✓	002 654	013 ✓	004 659	–	
2 5.24	319	267	333 ✓	279	339	231	359 ✓	302	010	510
	another star	703		720 *		709 *		666 +		
	(309) ✓	257 436	323 ✓	269 441	329 ✓	221 478	349 ✓	292 364	–	
3 5.78	460	387	454	384	460	390	488 ✓	412	012	510
		697		691 **		690		672 +		
	448 ✓	375 310	442 ✓	372 307	448 ✓	378 300	476 ✓	400 260	–	
1 4.40	155 ✓	125	168	139	165	138	169 ✓	140	011	510
		714 *		697 **		677		669 +		
	144 ✓	114 589	157 ✓	128 558	154 ✓	127 539	158 ✓	129 529	–	
4 5.91	508 ✓	428	525	447	520	442	526	447	016	510
	~~492~~	712 *		712		697 **		672		
	492 ✓	412 284	509 ✓	431 265	504 ✓	436 255	510 ✓	431 225		
5 6.46	617 ✓	522	610	519	622	532	639 ✓	546	017	510
		710 *		673		703		666 +		
	600 ✓	505 188	593 ✓	502 154	605 ✓	515 171	622 ✓	529 120		
6 7.12	711	603	687	584	701 ✓	598	711	609	019	510
		696		690 **		674 +		679		
	692 ✓	594 93	668 ✓	565 106	682 ✓	579 76	692	590		
8 8.32	781 ✓	662	811	690	–	–	–	–	020	510
		708 *		652		–		–		
	761 ✓	642 46	791 ✓	670 62						
1 N 6.69	618	526	638	545	619 ✓	527	610	518	020	510
		692		688 **		668 +		641		
	598 ✓	506 166	618 ✓	525 143	599 ✓	520 141	590 ✓	498 123		

* This reading refers to right cross hair Central one is off the scale. Their diff. is 30 mm

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1928phae.proj.1215

Red check = used for image order correction

pr. 0 (larger Hap image) and 2 (smaller Hap image)

Images measured in the order in which they were taken

Do Reduced galv: diff. (-712)	Mean	D_1	D_2	D_3	D_4	Mean	Zones
~~010~~ ~~251~~ ~~005~~ ~~000~~ ~~010~~	~~008~~	262	262	275	285 ✓		2, 3, 4, 6
		+3	10	23	21		
		257	250	252	265	256	+1
004 001 -004 003	001	265	252	252	264	256	
..		519	524	527	535 ✓		5, 4, 4, 4
		5	+3	2	21		
		506	525	525	515	518	-6
.. 328 331 309	323	514	527	525	514	520	
		576	574	576	590 ✓		4, 3, 4, 5
		6	9	10	18		
		562	563	566	573	567	-11
~~460~~ ~~458~~ ~~461~~ 431 436 426 432	431	570	565	566	592	569	
		442	448	446	449 ✓		3, 2, 2, 3
		0	6	16	19		
		434	440	430	431	434	-6
144 150 131 128	139	442	442	430	430	436	
		593	603	601	604 ✓		3, 1, 2, 4
		0	0	6	18		
		585	601	595	587	594	+3
492 509 493 478	493	593	603	595	586	595	
		653	646	657	668 ✓		2, 3, 4, 6
		1	18	4	21		
		644	616	653	648	640	-6
599 569 598 597	591	652	618	653	647		
		732	710	714	732 ✓		2, 3, 5, 7
		7	10	17	15		
		717	698	697	718	708	-4
686 658 668 674	673	725	700	697	717		
		820	865				2, 3
		2	27				
		810	836			823	-9
761 776	768	818	838				
~~761~~		652	666	651	646 ✓		3 5 7 9
		9	11	20	32		
		635	653	631	615	634	-35
		643	655	631	614		
		~~5344(8)~~					
		4404(8)	4362(8)	4349(8)	4344(8)		

Subtract Corrections to images

	D_1	D_2	D_3	D_4
(NPS)	+008	+002	0	-001
all sta	+016	+006	0	+002

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Star	D_0	D_2	D_0	D_2	D_0	D_2	D_0	D_2	Dark	Volts
2	773	654 *	802	681	749	640 **	—	—	021	510
7.93	~~752~~	719		697		690		—		
	752 ✓	633 65	781 ✓	660 16	728	619 50				
2 A	620	529	611	522	602	514	639	549	020	510
6.47		699		672		667 †		669		
	600 ✓	509 170	591 ✓	502 150	582 ✓	494 150	619 ✓	529 120	-	
10	731 ✓	606	721 ✓	604	687 ✓	574	698 ✓	589	022	510
		715		710		709		701		
	709 ✓		699 ✓		665 ✓		676 ✓			
10 a	740	620	734	620	710	606	702	599	023	510
		719		709		678		688		
	717 ✓		711 ✓		687 ✓		679 ✓			
11	722	617	681 ✓	580	674	574	670 ✓	569	025	510
		674		689		657		640		
	697 ✓		656 ✓		649 ✓		645 ✓			
12	665	560	650	550	624	530	640 ✓	548	025	510
		722		719		670		697		
	640 ✓		625 ✓		599 ✓		615 ✓			
13	461 ✓	390	457	389	461	396	471 ✓	401	025	510
		731		697		672		661		
	436 ✓		432 ✓		436 ✓		446 ✓			
17	541	451	539	452	546	463	552	471	027	510
		710		710		708		680		
	514 ✓		512 ✓		519 ✓		525 ✓			
18	704	584	674	573	679 ✓	580	670 ✓	569	027	510
		698		699		686		664		
	677 ✓		647 ✓		652 ✓		643 ✓			
19	537	449	535	450	542	460	550 ✓	469	025	510
		709		710		716		685		
	512 ✓		510 ✓		517 ✓		525 ✓			

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Reduction of Images with D_0 (Reading Corr. for film Diff)

Same with subtracted readings

1	2	3	4	1	2	3	4	Zones	Mean
				808	..	777	..	1 1 3 5	
				+3		10			
				803 811	..	767 767	..		785 −8
				653	646	642	666 ✓	2 3 5 7	
				6	18	22	20		
				639 647	626 628	620 620	647 646		633 −14
780	766	730	740	754	740	705	716 ✓	10 9 8 8	
+1	+1	+2	+5	1	1	2	5		
779	765	728	735	745 753	737 739	703 703	712 711		724
791	782	755	744	757	756	726	729 ✓	8 7 7 8	
−3	2	16	13	+3	2	16	13		
794	780	739	731	752 760	752 754	710 710	707 706		730
769	720	714	710	740	696	689	687 ✓	7 8 9 10	
17	10	24	31	17	10	24	31		
752	710	690	679	715 723	684 686	665 665	657 656		680
705	691	670	683	687	677	652	664 ✓	8 7 7 8	
−4	−3	+19	+6	+4	+3	19	6		
709	694	651	677	683 691	680 680	633 633	659 658		664
582	580	582	587	571	569	571	576 ✓	7 7 7 8	
−8	+6	+18	+23	+8	6	18	23		
590	574	564	564	579 571	563 561	553 553	553 554		
618	617	622	624	605	604	607	611 ✓	9 11 12 14	
−1	−1	+2	+14	+1	+1	2	14		
619	618	620	610	606 598	605 603	605 605	597 598		
645	715	720	710	716	689	691	685 ✓	6 6 7 8	
+6	+6	+12	+22	6	6	12	22		
639	709	708	688	702 710	681 683	679 679	664 663		
617	615	619	623	605	604	608	611 ~~597~~ ✓	8 7 6 6	
+1	+1	−1	+12	1	1	+1	12		
616	614	620	611	596 604	601 603	609 609	600 599		

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RH 389 Pole out of focus

Star	D_0	D_2	D_0	D_2	D_0	D_2	D_0	D_2	Dark	Volts
19a	594	505	609	519	610	520	628	520	028	510
		706		663		679		648		
	566		581		582		600			
20	378	319	383	326	407	339	442	362	022	510
		677		661		626		650		
	350		355		379		414			
21	571	487	567	482	598	500	603	500	028	510
		656		656		630		656		
	543		539		570		575			
22	559	469	549	462	539	459	560	479	028	510
		732		708		713		700		
	531		521		511		532			
23	—	—	519	412	528	432	517	430	029	510
		—		742		736		729		
	—		490		499		488			
24	398	338	389	332	403	343	436	372	028	510
		711		705		693		672		
	370		361		375		408			
25	719	600	691	580	694	589	710	606	029	510
		727		711		723		710		
	690		662		665		681			
26	723	589	—	—	698	584	709	600	030	510
		722	—	—		710		728		
	693		—		668		679			
27	603	491	594	493	582	491	595	506	030	510
		733		739		717		708		
	573		564		552		565			
28	520	444	557	476	582	499	589	500	030	510
		710		649		696		672		
	490		527		552		559			

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Image

Reduction from subtracted readings

1	2	3	4	I_1	I_2	I_3	I_4	Zone
647	660	661	675	632	640	641	654 ✓	6 7 8 9
3	22	15	29	3	22	15	29	
644	638	646	646	621 629	616 618	626 626	626 625	
				535	538	550	562 ✓	7 8 10 11
				16	23	38	28	
				511 519	513 515	512 512	535 534	
				619	614	634	637 ✓	7 9 10 11
				25	25	36	25	
				586 594	577 588	598 598	613 612	
				614	610	605	615 ✓	7 6 5 6
				+8	2	0	6	
				614 622	606 608	605 605	610 609	
				-	595	599	594	12 10 9 7
					+17	+10	+5	
					610 612	609 609	600 599	
				543	540	545	559 ✓	5 5 6 7
				1	3	9	18	
				534 542	535 537	536 536	542 541	
				732	701	705	721 ✓	8 6 5 5
				+6	0	+4	1	
				730 738	699 701	709 709	721 720	
				707	-	710	720	10 8 7 6
				+4		1	+7	
				703 711	-	709 709	728 727	
				635	630	624	632 ✓	9 8 6 5
				+9	+12	+2	2	
				636 644	640 642	626 626	631 630	
				595	612	624	628 ✓	4 5 7 8
				1	28	6	18	
				586 594	582 584	618 618	611 610	

(14944(6) 14997(25) 14956(25) 15014(25))

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Star	D_0	D_2	D_0	D_2	D_0	D_2	D_0	D_2	Dark.	Falte
29	669	568	649	552	647	553	652	552	030	510
		694		684		680		641		
	639		619		617		622			
30	641	548	634	554	619	528	633	537	030	510
		699		691		676		646		
	611		604		589		603			
31	672	572	636	539	—	—	—	—	031	510
		674		658		—		—		
	641		605							
33	—	—	689	563	688	572	682	574	031	510
		—		734		736		733		
			658		657		651			
34	489	406	481	404	478	403	500	427	030	510
		734		730		737		715		
	459		451		448		470			
35	709	580	719	602	671	566	702	598	030	510
		711		734		703		729		
	679		689		64		672			
36	629	517	620	520	630	534	638	542	030	510
		730		734		724		732		
	599		590		600		608			
37	600	503	603	510	600	510	611	522	031	510
		738		747		731		705		
	569		572		570		581			
38	—	—	—	—	173	139	169	140	030	510
		—		—		733		726		
					143		139			
39	583	499	557	470	—	—	—	—	030	510
		643		634		—		—		
	553		527							

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1928phae.proj.176.S

Reduction from subtracted readings

I_1	I_2	I_3	I_4	Zones
677	667	666	669 ✓	5 6 8 10
18	13	14	40:	
651	652	652	630:	
659	654	652	629:	
662	656	646	655 ✓	5 6 8 10
6	10	17	29	
648	644	629	626	
656	646	629	626	
~~683~~	657	–	–	8 10 12 ..
17	24	–	–	
658	631			
666	633	–	–	
–	700	699	692	11 9 7 6
	9	10	8	
	707	709	701	
–	709	709	700	
580	577	576	586 ✓	8 6 5 3
9	8	11	1	
581	583	587	588	
589	585	587	587	
719	730	684	712 ✓	9 7 6 4
-1	9	-4	7	
710	737	680	720	
718	739	680	719	
652	646	654	659 ✓	9 7 5 4
8	9	5	9	
652	653	659	669	
660	655	659	668	
634	635	634	640 ✓	7 5 3 2
+9	+15	+8	-3	
637	648	642	647	
643	650	642	637	
–	–	4483	438	12 10 9 7
		9	6	
		452	445	
–	–	452	444	
624	611	–	–	9 10 .. ..
31	36			
585	573			
593	575			
19284(31)	19026(31)	18805(31)	18880(31)	
~~20166(32)~~				

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1928phae.proj.126.s

Star	D_0	D_2	D_0	D_2	D_0	D_2	D_0	D_2	Dark	Volts
40	618 ✓	530	589 ✓	500	—	—	—	—	030	510
		680		619		—		—		
	588 ✓		559 ✓		— ✓		-			
41	597 ✓	512	616 ✓	530	573 ✓	500	—	-	030	510
		677		657		629		—		
	567		586 ✓		543		-	-		
42	600 ✓	520	582 ✓	501	—	—	—	—	031	510
		667		629		-		-		
	569		551 ✓							
44	622 ✓	537	627 ✓	541	599 ✓	518	—	-	032	510
		697		679		631		-		
	590		595 ✓		567					
45	646 ✓	556	621 ✓	537	—	—	-	—	031	510
		671		634		-		—		
	615		590 ✓							
47	—	—	589 ✓	487	572 ✓	479	573 ✓	480	043	510
		—		700		712		719		
			546		529 ✓		536			
46	639 ✓	534	643 ✓	540	642	543	658 ✓	557	043	510
		709		696		699		700		
	596		600		599		615			
48	704 ✓	587	702 ✓	591	683 ✓	576	703 ✓	594	046	510
		708 ✓		703		735		718		
	658		656 (No. 3)		637 (No. 4)		657			
49	—	—	440	359	450	377			048	510
		—		734		728				
			392 ✓		402 ✓					
50	570 ✓	480	594 ✓	504	599 ✓	509	585 ✓	500	050	510
		729		728		703		707		
	520		544		549		535			

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Image (D_0)

1	2	3	4
666	645	-	-
15	40	-	-
651	605	-	-
651	665	635	-
16	25	36	-
635	630	599	-
653	641	-	-
20	36	-	-
633	605	-	-
670	673	652	-
6	16	36	-
664	657	616	
688	669	-	-
18	35	-	-
670	634	-	-
-	645	635	636
-	5	0	-3
-	640	635	639
681	685	684	699
2	7	6	5
679	678	678	694
745	744	723	744
2	4	-5	-3
743	740	728	747
-	-	573	577
-	-	-9	-7
-	-	582	579
635	648	652	642
-7	-7	5	2
642	655	647	640

Images (subtracted readings)

D_1	D_2	D_3	D_4	
645	628	—	—	7 9 11 ..
14	40	—	—	
623	586			
631	588	—	—	
632	643	619	—	6 8 10 11
16	25	36		
608	616	583		
616	618	583	—	
634	623	—	—	7 9 11 ..
20	36			
606	585			
614	587	-	—	
645	650	633	—	6 7 9 11
6	16	36		
631	632	597		
639	634	597	—	
664	645	—	—	7 9 11 ..
18	35			
638	608			
646	610	—	—	
—	621	610	611	10 9 7 5
	5	0	+3	
	614	610	615	
	616	610	614	
646	653	652	~~653~~ 664 ✓	7 5 3 1
2	7	6	5	
636	644	646	660	
644	646	646	659	
700	697	698	681 ✓	8 6 4 2
2	4	+5	+3	
690	691	703	685	
698	693	703	684	
-	-	553	557	11 9 8
		+9	+7	
		562	5685	
		562	564	
609	620	623	616 ✓	7 5 3 2
+7	+7	5	2	
608	625	618	615	
616	627	618	614	
21242 (34)	20992 (34)	20772 (34)	20837 (34)	

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RH 389

Star	D_0	D_2	D_0	D_2	D_0	D_2	D_0	D_2	Dark	Volts
51	–	–	–	–	464	389	→	→	051	510
		–		–		740	→	→		
	–		–		–		413			
52	474	394	477	402	470	400	464	397 ???	054	510
		734		729		723		839		
	420		423		416		410			
53	619	502	630	540	646	555	653	565	056	510
		649		682		676		667		
	563		574		590		597			
54	469 ✓	400	461 ✓	399	492 ✓	427	504 ✓	435	056	510
		674		668		657		640		
	413		405		436		448			
55	474	410	466	402	–	–	–	–	056	510
		662		639		–		–		
	418		410		–		–			
56	645	544	630	539	661	569	640	551	058	510
		782		670		680		649		
	587		572		603		582			
57	471	409	482	420	480	418	–	–	057	510
		672		668		642		–		
	414 ✓		425 ✓		423 ✓		–			
58	331	283	350	302	358	307	350 ✓	300	059	510
		737		708		702		678		
	272 ✓		291 ✓		299 ✓		291 ✓			
59	(244)	(282)	299	259	308	268	330	287	060	510
		791		683		680		670		
	222 ✓		239 ✓		248 ✓		270 ✓			
60	610	519	577	491	587	501	608	520	061	510
		720		681		668		673		
	549		516		526		547			

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D_0 Reduced images

Subtracted D_0

1	2	3	4	D_1	D_2	D_3	D_4	
							562	- - - 9
							+13	
							576 575	
				564	566	562	560 ✓	10 8 6 5
				+10	+7	+4	+12 ??	
				566 574	571 573	566 566	573? 572?	
				630	636	646	652 ✓	3 4 6 7
				28	14	16	20	
				~~603 594~~	620	630	633	
				602	622	630	632	
585	581	596	601	562	558	571	576 ✓	5 7 8 10
17	20	24	33	17	20	24	32	
568	561	572	568	537 545	536 538	547 547	545 544	
				564	560	—	—	8 10 12 —
				22	33			
				534 542	525 527			
				643	636	655	642 ✓	4 5 7 8
				14	19	15	28	
				621 629	615 617	640 640	615 614	
				562	567	566	—	7 8 10 —
				17	20	32	—	
				537 545	545 547	534 534	—	
528	535	538	535	500	509	573	509 ✓	7 6 5 5
-10	2	1	16	+10	2	1	16	
538	533	537	519	502 510	505 507	512 512	494 483	
504	514	517	528	477	484	488	499 ✓	6 6 8 9
+10	+13	+15	19	10	13	15	19	
494	501	502	509	459 467	469 471	473 473	481 480	
661	638	641	660	623	606	612	622 ✓	7 6 6 7
-4	14	20	17	+4	14	20	17	
665	624	621	643	619 627	590 592	592 592	606 605	
				25196(41)	24912(41)	24732(41)	24777(41)	

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Star	D_0	D_2	D_0	D_2	D_0	D_2	D_0	D_2	Dk	Volts
61	670	571	664	505	661	566	683	588	063	510
		687		687		675		674		
	607		601		598		620			
62	604	520	604	522	573	494	—	-	063	510
		646		671		618		-		
	544		544		513					
63	741	619	717	607	683	574	685	581	065	510
		797		739		699		707		
	676		652		618		620			
64	549	469	509	432	507	433	517	441	066	510
		733		718		714		708		
	483		443		441		451			
65	700	588	680	575	650	553	650	555	068	510
		798		757		719		704		
	632		612		582		582			
69	635	542	631	542	640	549	679	584	070	510
		693		697		680		714		
	565		561		570		609			
70	703	601	682	581	731	629	778	666	070	510
		687		699		709		?		
	633		612		611		708			

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Subtracted D₀

ϑ_1	ϑ_2	ϑ_3	ϑ_4	
659	654	652	667 ✓	6 7 8 9
12	12	17	17	
639	640	635	651	
647	642	635	650	
619	619	606	–	8 9 11 12
29	18	40:		
582	599	566		
590	601	566	–	
716	692	667	668 ✓	11 10 9 8
+30:	+12	6	3	
788	702	681	666	
746:	704	661	665	
592	574	573	577 ✓	10 9 8 7
+9	+3	0	2	
593	575	573	576	
601	577	573	575	
677	662	642	642 ✓	12 10 9 9
+30:	+19	+3	4	
599:	679	645	639	
707:	681	645	638	
631	630	635	660 ✓	8 9 10 11
9	7	14	0	
614	621	621	661	
622	623	621	660	
683	662	701	–	
11	46	2		9 10 11 ..
664	674	699		
672	676	699		
~~29109(47)~~	28139(46)	27867(46)	27965(46)	
28519(46)				
752	262	0	98	Diff.
016	006		002	

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RH478 Pole through 70 mesh wire gauge. Numbers up. No diaphragm.

No.	Center	Vertical 2 Corners	Vertical 1 b	Vertical 1 c	Vertical 2 d	Horizontal 2	Horizontal 1	Horizontal 1	Horizontal 2
1s	057	–	078	078	–	–	090	090	
		233	235	243	227				
	017	193	195	203	187	038	038	050	050
	017	Vu 038	Vd	Hu 050	Hd	194 a	190 b	c	d
1	102	277	276	291	296	471	489	483	485
	057	232	231	247 251		426	444	438	443
	057	232		249		435	440		
2	206	430	418	435	436	552	548	572	566
	158	382	370	387	388	504	500	524	518
	158	376		388		502		521	
3	311	491	498	491	510				
	262	442	449	442	461				
	262	446		452					
4	330	518	503	510	520				
	280	468	453	460	470				
	280	460		465					
5	417	547	560	541	556				
	365	495	508	489	504				
	365	502		496					
6	456								
	403								
	403								
7	438								
	385								
	385								
2s	311	494	485	497	505				
	258	441	432	444	452				
	258	436		448					

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Reduction for screen

	c	h	v	d	Diff c-h	Diff c-v	Diff c-d
Clear OK							
581 040							
	022	150	193	308	128	171 ?	286
599 045							
	208	332	339	463	124	131	255 ?
607 048							
	289	416	423	581	127	134	292
596 049							
	346	470	476	-	124	130	-
603 050							
	356	482	489	-	126	133	-
603 052							
	408	550	538	-	142	130	-
600 053							
583 053							
581 053							
	343	461	471	-	118	128	

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1928
June 6

NC 17357 Pole at $10^h 30^m$. Number down. Diaphragm 1

Star	C	R1	R2	R3	L1	L2	L3	C Dk	Dk Volts		
1.	out of rep field										
2	off plate										
3	off plate										
4	out of rep field										
5 ✓	2.62 0.11	5.60 3.09	7.22 4.71	9.94 7.43	5.65 3.14	7.12 4.61	10.05 7.54	2.52 0.01	19.33 16.82	2.51	4.55
6 ✓	2.61 0.06	7.61 5.06	8.95 6.40	11.94 9.39	7.62 5.07	8.91 6.36	11.84 9.29	2.57 0.02	19.09 16.54	2.55	4.55
7 ✓	2.69 0.11	7.88 5.30	9.32 6.74	11.92 9.34	7.88 5.30	9.30 6.72	12.40 9.82	2.74 0.16	19.30 16.72	2.58	4.55
8 ✓	3.21 ink 0.60	12.58 diff 7.67	13.57 10.96	15.91 13.30	12.64 10.03	13.58 10.97	16.14 13.53	3.19 ink 0.58	19.39 16.78	2.61	4.55
9	4.38	14.69	15.85 13.24	17.63 15.02	14.93 12.32	15.64 13.03	17.71 15.10	4.14 1.53	19.62 17.01	2.61	4.55
10	3.96 1.33	15.20 12.57	15.87 13.24	—	15.30 12.67	16.14 13.51	17.82 15.19	3.94 1.81	19.67 17.04	2.63	4.55
11 ✓	5.62 2.95	16.61 13.95	17.63 14.96	—	16.60 13.93	—	—	5.46 2.79	19.64 16.97	2.67	4.55
12 ✓	6.21 3.53	17.09 14.41	18.02 15.34	—	17.28 14.60	17.99 15.31	—	6.27 3.59	19.47 16.79	2.68	4.55
013? ✓	8.02 5.34	17.96 15.28	—	—	18.12 15.44	—	—	7.94 5.26	19.46 16.78	2.68	4.55
14 ✓	9.47 6.79	—	—	—	—	—	—	9.49 6.81	19.38 16.70	2.68	4.55
16	10.14 7.46	—	—	—	—	—	—	10.20 7.52	19.71 17.03	2.68	4.55
2r ✓	3.13 ?0.43	10.68 7.98	11.94 9.24	14.21 11.51	11.09 8.39	11.79 9.09	14.34 11.64	3.11 0.41	19.60 16.90	2.70	4.55
3r	4.81 4.50?	13.31 10.62	13.99 11.30	16.36 13.67	13.14 10.45	14.08 11.39	16.82 13.13	4.50 1.81	18.90 16.21	2.69	4.55
4r ✓	4.56 1.80	15.04 12.34	16.12 13.42	—	15.18 12.48	16.06 13.36	—	4.60 1.90	19.56 16.86	2.70	4.55
5r ✓	6.79 4.08	16.80 14.09	—	—	16.92 14.21	—	—	6.76 4.05	19.19 16.48	2.71	4.55
6r ✓	~~8.02~~ 7.52	—	—	—	17.94 15.22	—	—	7.50 4.68	19.66 16.94	? 2.72 assumed	?
7r ✓	9.49 6.76	—	—	—	—	—	—	9.47 6.74	19.68 16.95	2.73	4.55
8r ✓	11.38 8.65	—	—	—	—	—	—	11.40 8.67	19.46 16.73	2.73	4.55
9r ✓	13.01 10.26	—	—	—	—	—	—	13.01 10.26	19.58 16.83	2.75	4.55
a	star closely adjacent										
b ✓	9.37 6.65	—	—	—	—	—	—	9.29 6.57	19.60 16.88	2.72	4.55
d ✓	4.51 1.76	14.66 11.91	15.68 12.93	17.79 15.04	14.80 12.05	15.56 12.81	17.72 14.97	4.52 1.87	19.49 16.74	2.75	4.55
f ✓	4.80 2.08	15.44 12.72	16.49 13.77	—	15.42 12.70	16.34 13.62	—	4.68 1.96	19.63 16.91	2.72	4.54
g ✓	4.78 2.02	15.34 12.58	16.53 13.77	—	15.50 12.74	16.71 13.95	—	4.76 2.00	19.34 16.58	2.78	4.54
h ✓	5.65 2.87	—	—	—	—	—	—	5.57 3.79	19.71 16.93	2.78	4.54

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Star	C	R1	R2	R3	L1	L2	L3	C	Clear	Dark	Volts
j ✓	3.67	12.80	14.02	17.50	12.70	14.02	16.79	3.59	19.74	2.76	4.54
	0.91	10.04	11.26	14.74	9.94	11.26	14.03	0.83	16.98		
k ✓	5.84	16.42	17.56	—	16.04	defect	-	5.68	19.35	2.81	4.54
	3.03	13.61	14.75		13.23			2.87	16.54		
l ✓	6.67	—	—	—	—	—	—	6.76	19.31	2.80	4.54
	3.87							3.96	16.51		
m ✓	3.66	11.50	13.62	-	11.69	13.69	—	3.67	19.60	2.80	4.53
	0.86	8.70	10.82		8.89	10.89		0.87	16.80		
n	6.61	—	—	-	—	—	-	6.50	18.82	2.76	4.53
	3.85							3.74	16.06		
o ✓	8.99	-	-	-	—	—	-	8.90	19.44	2.80	4.54
	6.19							6.10	16.64		
p ✓	5.08	15.39	16.67	—	15.76	16.71	—	5.07	19.54	2.82	4.54
	2.26	12.57	13.85		12.94	13.89		2.25	16.72		
q ✓	6.59	—	—	-	—	—	-	6.60	19.72	2.83	4.54
	3.76							3.77	16.89		
r ✓	4.53	14.31	15.90	—	14.45	15.96	—	4.70	19.77	2.80	4.53
	1.73	11.51	13.10		11.61	13.16		1.90	16.97		
s	5.02	15.30	16.99	—	14.79	16.85	—	5.04	19.47	2.84	4.53
	2.18	12.46	14.15		11.95	14.01		2.20	16.53		
t	out of rep field										
u	out of rep field										
v	out of rep field										
w	2.98	5.99	7.62	—	6.02	7.21	—	2.87	18.49	2.79	4.53
(plate moved)	0.19	3.20	4.83		3.23	4.42		0.08	15.70		

✓ qualifies star on total deflection

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Spacing of images.

MC 17351

Pole Star		1R	2R	3R	1L	2L	3L	0
Comp.	n	4924	4791	4576	5327	5548	5774	
	n+1	5233	5199	5165	5321	5357	5392	5288
5 (n+1)		6240 (0)	6205 (1R)	6171 (2R)	6135 (3R)	6294 (1L)	6330 (2L)	6366 (3L)

MC 17326

Pole	n	6179	5972	5749	6601	6822	7045	
Comp.	n+1	6512	6473	–	6678	6632	6668	6549
5	n+1	7461	7428	7392	7549	7588	7623	7513
Comp	n+1	7548	7511	–	7618	7653	–	7583

MC 14424

No. 5	n	4458	4249	–	4865	5065	–	(4658)
Comp 1	n+1	4746	4709	4677	4815	4849	4986	4781
2	n+1	4510	4477	–	4578	4613	–	4544
3	n+1	4362	4327	–	4433	4468	–	4397

MC 17364

		L3	L2	L1	C	R1	R2	R3
Pole	n	4430	4227	4013	3806	3590	3376	3165
Comp	n+1	4062	4026	4190	3955	3920	3887	3852
5	n+1	3975	3940	3904	3866	3832	3796	3761
Comp	n+1	–	4078	4042	4006	3970	3935	–

MC 17369

Pole	n	5006	4801	4590	4381	4168	3952	3743
Comp.	n+1	–	4293	4260	4222	4188	4154	4116
5	n+1	4025	4190	4154	4117	4084	4047	4012
Comp.	n+1	–	3837	3798	3764	3731	3699	

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	MC 17351	17326	14424	17364	17369
	(193)	(207)	209	203	209
	215	223	200	214	206
	221	221	200	213	213
	226	223	207	210	209
	662	667	816	214	211
a	220.7 ± 4	222.3 ± 1	204	211	205
				1265	1263
				210.8	210.5
	34	39	37		
	34	36	34	35	38
	36	37	37	33	34
	35	33	35	35	34
	33	36	34	35	36
	35	39	33	36	33
	34	35	34	36	35
	36	36	34	36	37
	36	37	35	35	33
	36	37	35	36	37
	349	35	35	34	36
b	34.9 ± 0.9	35	36	38	35
		435	34	36	32
		36.2 ± 1.2	453	35	33
			34.8 ± 1	424	34
				35.3 ± 1	39
					526
					15 195.3
					5 35.1 ±
log a	2.3438	2.3470	2.3096	2.3238	2.3242
log b	1.5428	1.5587	1.5416	1.5478	1.5453
log(d+l)/d	0.8010	0.7883	0.7680	0.7760	0.7779
(d+l)/d	6.324	6.142	5.862	5.970	5.997
		3.15	3.41	3.51	3.49

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Remeasured

MC 17351

	L3	L2	L1	C	R1	R2	R3
Pole	19116	~~18894~~ 17024	14947	12821	10759	08632	06531
	18894	16830	14731	12612	10533	08416	06303
Comp.	15421	15070	14715	14352	14011	13652	(13329)
	15210	14865	14480	14143	13799	13451	(13131)

MC 17369

Pole	20840	18780	16655	14494	12433	10349	08269
Comp.	17100	16759	16408	16050	15706	15361	15013

MC 17364

Pole	19786	15670	13537	11426	09300	07199	05040
Comp	10859	10585	10230	09885	09529	09177	08843

MC 14424

No. 5	08782	06731		04624	02581	00562	–
Comp	04492	04129	03770	03431	03072	02742	02400

MC 17326

Pole	08629	06590	04475	02267	00203	98075	95953
Comp	04886	04543	04182	03838	03482	03134	02809

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6 | 12585
2098

	L3-L2	L2-L1	L1-C	C-R1	R1-R2	R2-R3	L3-R3	L2-R2	L1-R1
Mean (i) $\frac{12592}{6}$ = 2099 (ii) 2097	2092	2077	2126	2062	2127	2101	12585	8392	4188
	(2078)	(2088)	(2128)	(2070)	(2122)	(2106)	2098	2098	2094
n = 2098	2064	2099	2129	2079	2117	2113			
	351	355	363	341	359	323	2092	1418	704
Mea (i) $\frac{2081}{6}$ = 34.7	(343)	(370)	(350)	(342)	(354)	(322)	349	354	352
(ii) $\frac{2102}{6}$ = 35.1	335	385	337	344	348	320			
(iii) 352									
Mean (i) $\frac{12671}{6}$ = 211.2	2060	2125	2161	2061	2084	2180	12671	8431	4222
(ii) 2110							2112	2108	2111
$\frac{2077}{6}$ = 34.6	341	351	348	344	345	348	2087	1398	702
350							348	350	351
Mean = $\frac{12746}{6}$ = 2124	2116	2133	2111	2126	2101	2159	12746	8471	4237
ii = 2120							2124	2118	2118
(i) $\frac{1762}{5}$ = 352	274	355	365	356	352	334	(i) 2016	1408	711
(ii) 357							353	352	356
(i) $\frac{8222}{4}$ = 2056 (ii) 2062	–	2053	2107	2043	2019	–	–	8220	4050
2059								2055	2025
352 = $\frac{2112}{6}$	363	359	339	359	350	342	2092	1387	698
(ii) 348							349	347	349
$\frac{12676}{6}$ = 2115 2112 2114	2039	2165	2158	2064	2128	2122	12666	8515	4222
							2111	2129	2111
(ii) $\frac{2077}{6}$ = 346 349	343	361	344	356	348	325	2077	1409	700
							346	352	350

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Variable Star field 16h 59, -38.7

	MF 10606	10448	10584	18480	8497	Why marked
Var. Obj?						
1	no Change					
2	Same	Same	Same	? elongated		
3	faint	–	–	–		
4	–	–	–	ft		
MF 10448	10606					
5	–	–	–	–		
6	–	–	–	–		
7	–	–	–	–		
8	–	–	–	–		
9	–	–	–	–		
10						
11	–	–	–	–		
12	–					
13	–					
14	–					
15						
16						
17						
18						
19						
20						
21						
22	not large enough var.					
23	Slightly br on MF 10606					
24						
25						
26						
27						



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1928phae.proj.12613

doubtful var
variable

defect on glass side of plate
not
-
-

two stars, very close. Var?

---

var?
-
-

-

-
var

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1928phae.proj.12618

No.							
50	Discovered	between	NF 10606	and	8497.	Ft on	10448
51	"	"	"	"	"	"	Ft on 10448
52	"	"	"	"	"	"	Ft on 10448
53	"	"	"	"	"	"	Ft on 10448
54	"	"	"	"	"	"	10480
55	"	~	10584		10606	Ft	8497
56	Discovered	while	testing	No. 55			10584
57	"	on	10606	and	10584		
58	"	"	"		"		
59	"	"	10606	and	10502		10502
60	"	"	10480	and	10606		10480
61	"	"	10606	and	10502		10606
62			10606		10502		10502

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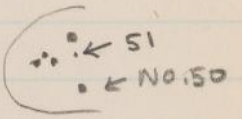
1928phae.proj.1261

Br on 10606

Br on 10480 Too fr on print, mkd on 10448

10480

10502 , inp the star marked on the chart. Doubtful.



10606 very faint indeed } perhaps not var?

10480 np of pair } these 2 are close together and

10448 sf of pair } perhaps only one varies.

10584 } only seen on this plate. Does not look like

10584 } a defect

8497 nf of two

10606 nf of two

10502 there is a faint star np; only seen on plate

10606 } where 61 is faint

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1928phae.proj.126.ts

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