Schlesinger Observing Records
Parallax Plates 1-561 -
Most of this data repeated in
large book of Sch. records.

BSC

1 - 10,000

HD

1 - 224,000

GC

1

BD

listed by S

D.M. mag = 5.8	{ 18^h 32-58 / 33°-23.1 }	Star 80 / Plate 445	{ Potsdam Zone, page 161. / Astrophotographic.	
4.2	19^h-52^m-33^s / 34-49.1	Star 317 (Centre Star) / Plate 613		page 285
	Also on	Plate 454 (no 39)		page 187
	" "	Plate 453 (no 721		" 184

1903 May 15 – Tel. W of Piev.

Decl. -19° 20' R.A. 15h 59m

Exposure 1 Began 16h 12m ended 16h 14m

2 " 16h 16m " 16h 19m

3 " 16h 21m " 16h 25m Partly cloudy

4 " 16h 27m " 16h 33m

5 " 16h 36m " 16h 46m

Plate I

Decl. 12° 40' R.A. 17h 30m. = B.D +12° 3757 = α Ophiuchi

Exposure 1 Began 18h 7m ended 18h 9m

2 " 18h 10m " 18h 13m

3 " 18h 15m " 18h 19m

4 " 18h 21m " 18h 27m

5 " 18h 33m " 18h 43m

6 " 18h 45m " 18h 49m Without guiding

7 " 18h 51m " 18h 55m } V. bad seeing

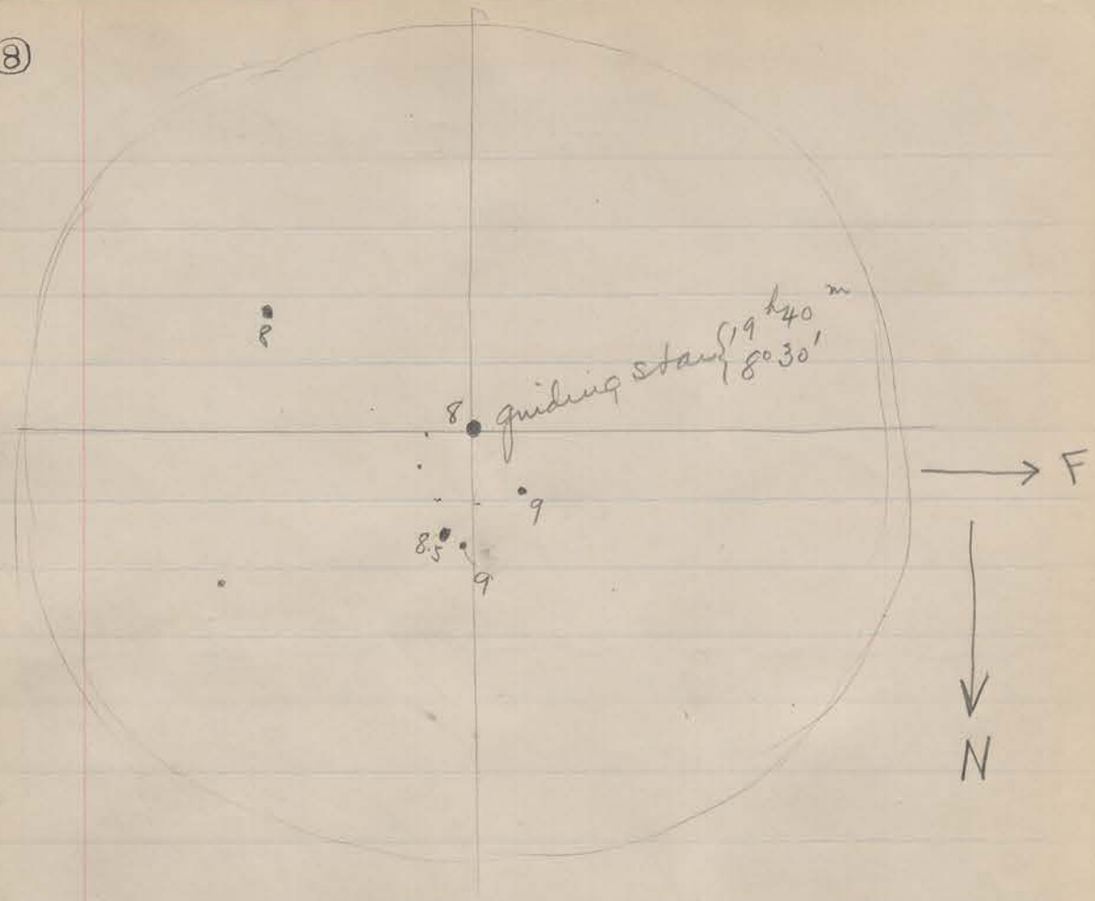
guiding only in R. A.

Plate II

Sky thick

Used ~~Lens~~ color screen.

This plate showed two, possibly three stars. Only one image of each.

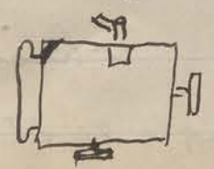


The dist bet guiding star and 8.5 star to the N. = 24′ 4″ = 18′

Guiding Star
19^h40^m $\delta = +8° 30'$ Mag = 8.0

Plate 3. Exposure of 30 minutes on Cram. S.D. Seeing: images sharp but unsteady.
(Begun 18^h35^m)
Clock poorly rated: necessary to correct plate twice in order to put guiding screw in middle ~~at end~~ of its run.

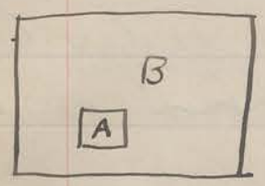
Plate 4 Exposure of 10 minutes on the same region. Stopped By day-light. Begun 19^h24^m
Seeing very good.
Film is scratched from Upper ~~Right~~ Left hand corner as plate is in holder on telescope



1903 May. ~~April~~ 23 (Act. Time) Seeing 1, 2

19h-40 } Same region as previous
+8-30 } night.

Plate 5. Three Exposures, Region at 3h E
30m, 10m and 5m resp.
with Small color screen, F = ~~35~~ 348



B = 8x10 piece of clear glass
A = Color screen pasted
to Sky side of glass.

Plate 6. 8 x 10 Color Screen, Same
field. 30m 10m x 5m
Iris is not well seen on 10m
exposure :. poor guiding.

Seeing not so good on
this plate, 2, 2; rather bad on
5 min. exposure which ended
at 7h 17, i.e. hour angle east = 0h 32m

3
re 2 19h 40m. +8° 30'
te 7 Emulsion 4859 Seeing excellent
(1) 15m thro' clouds at first
(2) 10m clear

8 Same emulsion 4859, Same region
(1) 10m clear seeing not so good.
(2) 5m
(3) 2m

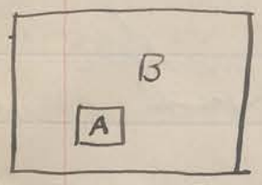
9 Same Emulsion 4859 Same Region
(1) 5m
(2) 2m
(3) 1m
4 30s

te 10 Emulsion 4333, Same region.
(1) 5m (2) 30s (3) 1m Sky quite light.
Seeing only fair on this plate

May.
1903 ~~April~~ 23 (Sid. Time) Seeing 1

19h-40 } Same region as previous
+8-30 } night.

Plate 5. Three Exposures, 1
30m, 10m and 5m
with Small color screen, F=8



B = 8x10 piece of clear
A = Color screen pasted
to Sky side of g

Plate 6. 8 x 10 Color Screen, Sa
field. 30m 10m x 5m

Wire not well seen on 10m
exposure :. poor guiding.

Seeing not so good on
this plate, 2, 2; rather bad on
5 min. exposure which ended
at 7h17, i.e. hour angle east = 0h32m

1903
June 2 19h40m +8°30'

Plate 7 Emulsion 4859 Seeing excellent
(1) 15m thro' clouds at first
(2) 10m clear

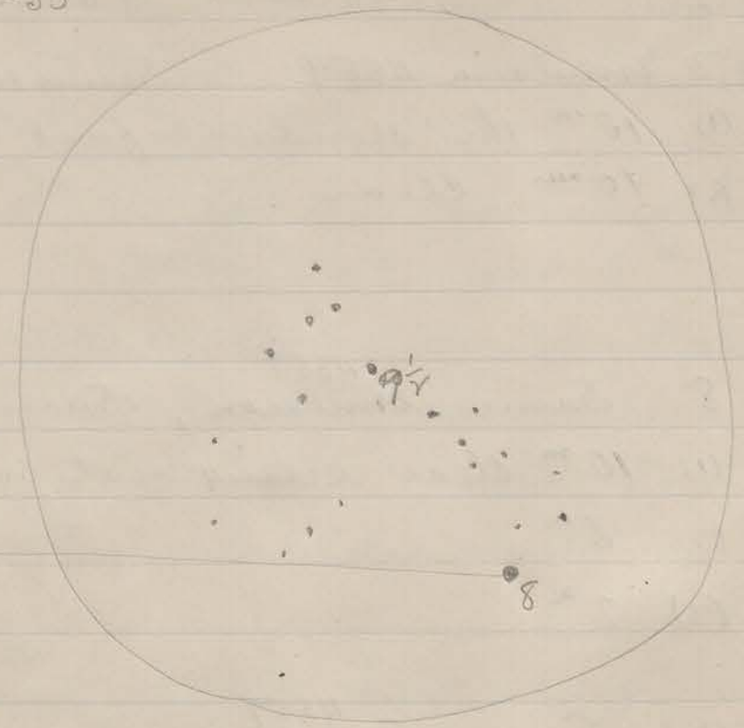
Plate 8 Same emulsion 4859, Same region
(1) 10m clear seeing not so good.
(2) 5m
(3) 2m

" 9 Same Emulsion 4859 Same Region
(1) 5m
(2) 2m
(3) 1m
4 30s

Plate 10 Emulsion 4333, Same region.
(1) 5m (2) 30s (3) 1m Sky quite light.
Seeing only fair on this plate

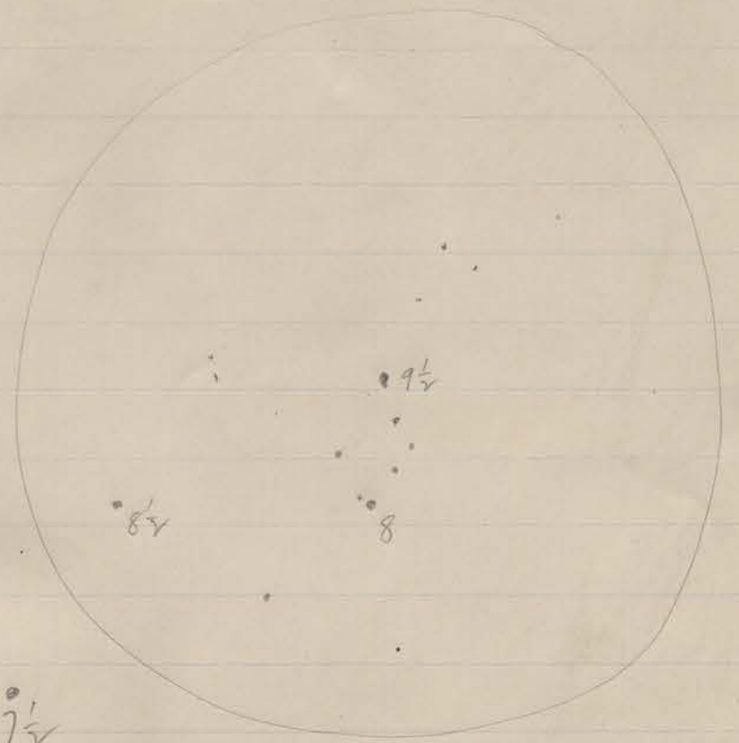
(12)

$12^h - 4^m$
$8° - 53'$



$15^h - 19^m$
$+ 8° - 36'$

(13)



Sunday 1903 June 27 Plate 11

{Emulsion 4033 / Cramer Inst. Iso.} $15^h 49^m$ $+8°36'$

Seeing, Very excellent.

Moonlight.

Guiding Star → • 11½ mag. • 9th mag

Exposure	No.	Began	Ended	Focus	
	No.1	$15^h 15^m$	$15^h 15^m$	36.0	
	No.2	$15^h 20^m$	$15^h 25^m$	35.1	
	No.3	$15^h 33^m$	$15^h 38^m$	34.0	Temp. 65°
	No.4	$15^h 45^m$	$15^h 50^m$	36.9	
	No.5	$15^h 53^m$	$15^h 58^m$	38.1	
	No.6	$16^h 2^m$	$16^h 7^m$	38.9	

Exposures are in this order

34.0 35.1 36.0 36.9 38.1 38.9

(about twice actual Scale)

Plate 17

19h40
+ 8°30'

Seed 26 X

(1) Focus = 1 3/8 + 1 3/8 + 1/4 + Division 4.0

(2) " = " " " " ~~+ about~~ 7/8" ✓

Moved eyepiece to right between the two exposures. Image apparently ½ inch wide.

Exposure No.1 17h3m 17h8m

No.2 17h13m 17h18m

1.375
0.25
0.35

∴ No.1 = usual focus + 1".98 inches
∴ " 2 " " 2.87 "

Plate 18

19h40m
+ 8°30'

Seed 26 X

3

Usual focus + 1".35 (1) Focal reading = 4.0 + 1.0 inch, One min

U.F + 1".05 (2) " " 4.0 + 0.7 inch " "

U.F + 0.70 (3) " " 4.0 + 0.35 " " "

U.F + 0".34 (4) " " 3.9.9 Three "

~~(5)~~ Exposures arranged thus

(1) (2) (3) 4

Seeing not so good

Exposures 1-3 showed a large image for the guiding star, with a violet core changing to blue for exposure (3). Exposure (4) showed a smaller image with an orange red core.

- (Usual focus = 3".65

(18)

Plate 14   1903 June 8 / 7

Bramer S.D 4333

Altair. 5^m & 10^m about 4 mm apart.

Plate 15   1903 June 7

Broken

α Pegasi 5^m and 8^m about 5 mm apart

Plate 15 stopped by daylight.

(19)

Lalande 39866 (8.4)

1900 { 20^h-34^m-33^s + 3.04
+4°37'00" +12.57

1855 { 20^h-32^m-16^s
4°-27'.6

45 / 3.0 / 135 / 180 / 13.68 =

12".57 / 3.14 / 9'.4

[illegible] 2^m 17^s

7

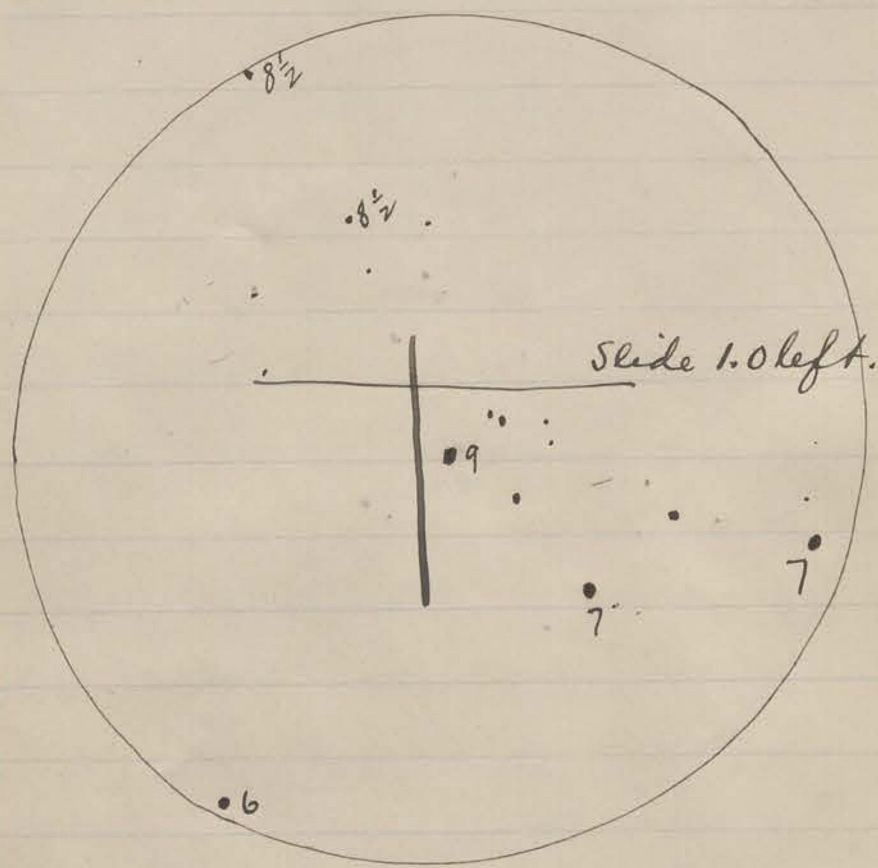
(20)

Lamont 18180 9^{th} mag.

.45	^{m}45
.09	0.049
$+4'.05$ / 4	2.2^m

1900 { $18^h 53^m$ / $+5°49\frac{1}{2}'$ }

1855 { $18^h 50.8^m$ / $+5°45'$ }



(21)

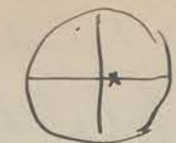


Plate 16 Altair

1903 June 11 Scale, left 4.5'

Focus = 4.90 Telescope west

~~Exposure~~ Exp.	~~Began~~	~~Ended.~~	Interrupted	Scale left. 4.5
No. 1	$18^h 30^m$	$18^h 40^m$	five minute exposure	4.0
No. 2	$18^h 42^m$	$18^h 52^m$.	10 " "	3.5
No. 3	$18^h 57^m$	$19^h 7^m$	10 " "	2.9

Seeing good only at intervals.

On developing I found that brighter stars show a 4^{th} image (1^{st} in time); this was of about 2^m and was interrupted by the failure of illumination.

(22)

Plate 17

Altair

1903 June 11

Telescope West

Seeing v. bad: except occasionally

Cramer Iso. I. 4333

Exp.	Began	Ended		Scale left
No. 1	19h 25m	19h 35m	10m Exp.	3.0
2	19h 40m	19h 50m	10m Exp.	3.5
3	19h 53m	19h 58m	5m "	4.0

I II III

Plate 18

Altair

1903 June 11

Telescope W

(23)

Temperature = 41°

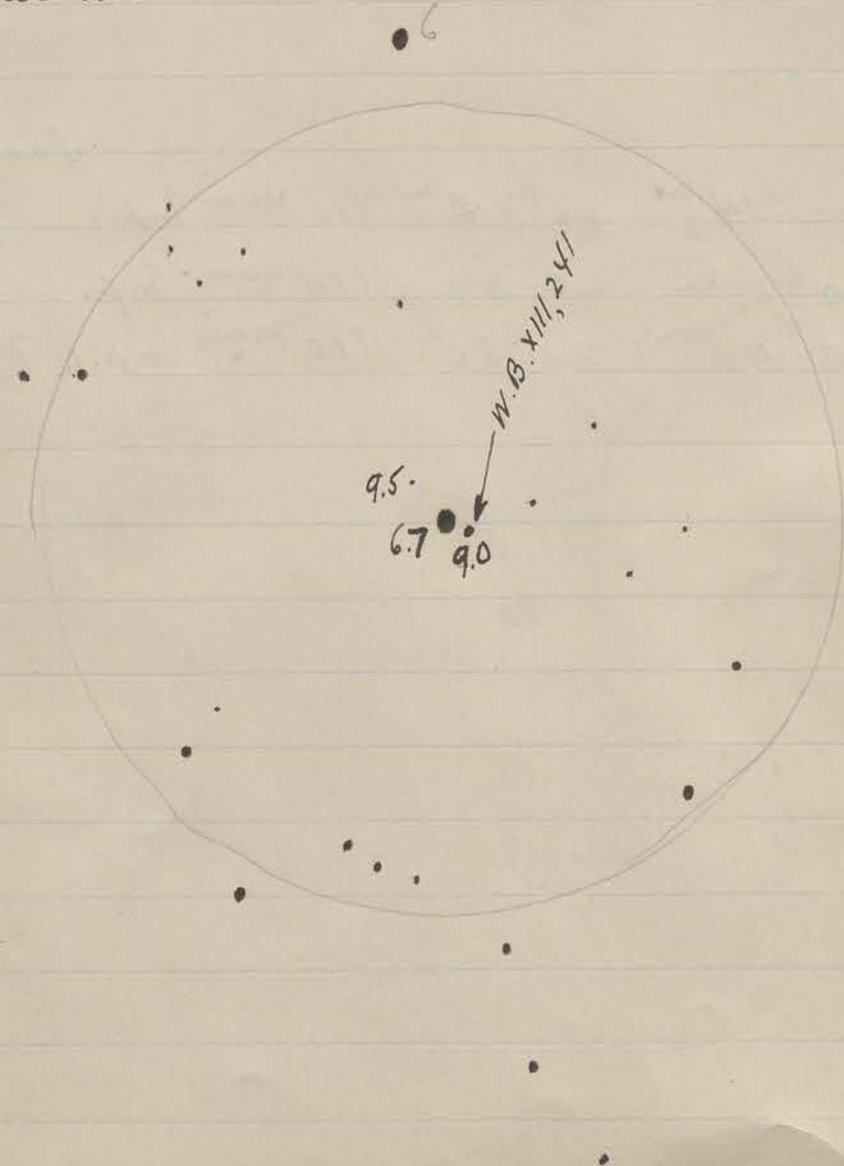
Cramer I. I 4333

				Scale left.
No 1	20h14m	20h24m	(10 min Exp)	4.0
2	20h27m	20-37	(10 min. Exp.	3.5
3	20-40m	20h50s	(10 min Exp.)	2.5 ~~3.0~~

Weisse Bessel XIII, 241   mag 9, (= Porter 167)
A.J. 268

~~Graner I.I. 4333~~

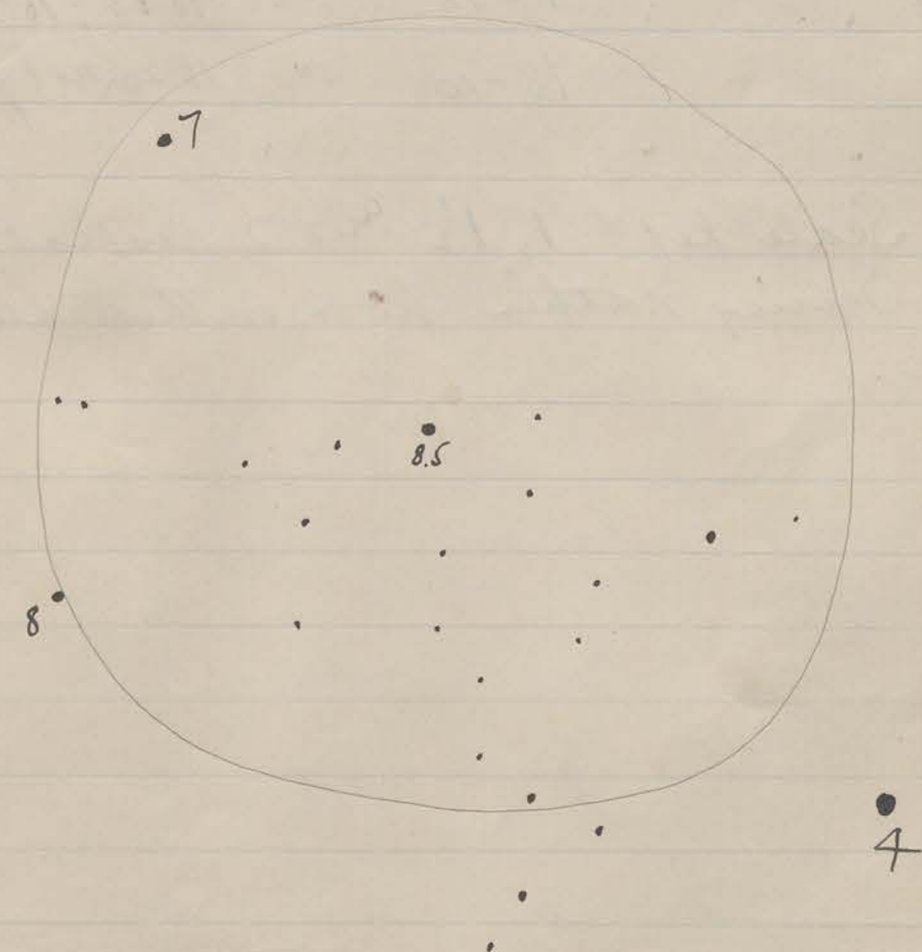
1900 $\begin{cases} 13^h 14^m 55^s \\ +35° 39'.4 \end{cases}$



Lalande $2537\overset{2}{8}$ mag = 8.5, (= Porter 172)

~~Grama~~

1900 $\begin{cases} 13^h 40^m 4^s \\ +15° 26'.0 \end{cases}$



1903 June 14 (26)

Plate 19

Cramer I. I 4333

Lamont 18180 { 18h-53m / 5°-49½' } 9.0 mag. Tel W

1° Exposure	began	17h 3m	ended 17-20	; 5m ± through clouds.
2° "	"	17-58	" 18-08	; 10m (Sky
		18-10	" 18-20	(not quite clear)
3° "	"			

Scale left 1, 1½ and 2 respect only!

Seeing rather poor on this plate.

(27)

Plate 20 Same region as {Plate 19}

Cramer I. I. 4333

				Scale
Tel. W	Began 18-37,	Ended 18-37	: 5 min	left 1.0
Tel W	Began 18-38,	Ended 18-43	: 5 min.	" 1.5
Tel E	" 19-08,	" 19-11	3 min	" 2.0
Tel E	" 19-17,	" 19-21	9 min	" 2.5
Tel. W	" 19-34,	" 19-39	5 "	3.0
Tel W	" 19 41,	" 19-46	5 "	3.5

Seeing very fair.

Plate 21 Cramer S. I. 4859

Altair : Guiding star → * 8$^{th}_{\frac{1}{2}}$ mag

* 10th mag

					Scale LEFT
1° Exposure	Tel	W	fr $20^h 07^m$ to $20^h 12^m$	= 5m.	4.0
2° "	"	W	" $20^h 13^m$ " $20^h 18$	= 5m	3.8
3° "	"	W	$20^h 24^m$ – $20^h 29$	= 5m	0.6
4° "	"	W	$20^h 29$ – $20^h 34$	= 5m	1.0
5° "	"	W	20-38 – $20^h 43$	= 5m	2.5

Seeing poor on this plate

Do not measure definitely any plates prior to 22

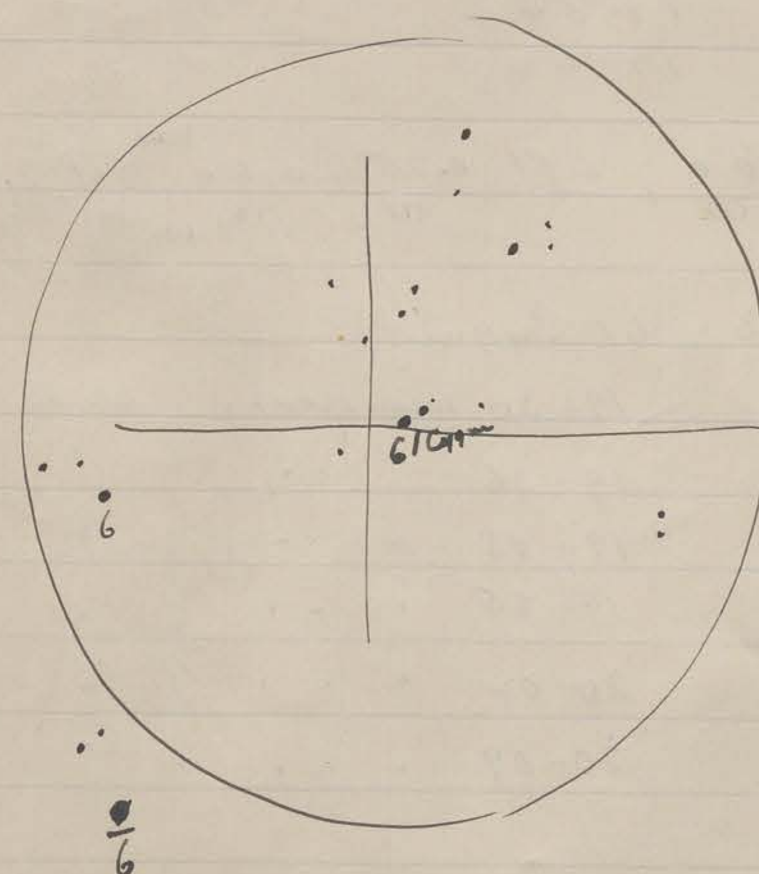
61 Cygni

pr { 1900 { $21^h 02^m 25^s$ $+2^s.68$
+38.° 15.'4 +17".56

1855 { $21^h 00^m 24^s$
38° ~~04.5~~ 02.2

4) 2.68
67 –
= $2^m 1^s$

4) 14.56 4) 17.56
3.64 4.39
10.92 13.2



Put 61 Cygni just a trifle above "decl. cross-wire"

1903 June 16 (30)

Plate 221 61 Cygni

10	5 min	$18^h 32^m$ = mean of exposure	V. bad seeing.
20	5 "	18-38 " "	better "
30	5 "	18-44 " "	still " "
40	5 "	18-54	
50	5 "	19-02	
60	5 "		

Slide Left 0.0 (1), Left. 0.25 (2), 0.60 ~~(3)~~, 3.4 (4), 3.8 (5), 4.2 (6).

Plate 23 61 Cygni

1	5 min	19-30	mean of exp.	Slide Left 4.2
2	5 min	19-36	" "	" 4.0
3	5 "	19-48	" "	" 3.7
4	5 "	19-55	" "	" 0.6
50	5 "	20-02	" "	" 0.3
60	5 "	20-09	" "	" 0.0

Seeing fair; not so good on 5° & 6°

1903 June 16 (31)

61 Cygni Plate 24 — Temp = 54°

10	20-30 = mean	5m	Slide Left.	0.0
20	20-37	5m	"	0.4
30	20-46	5m	"	~~0.8~~ 3.5
40	20-54	5m	"	3.8
~~50~~				

Seeing quite good.

1903 June 20 (32) Plate 25.

Lal. 40844 $\begin{cases} 21^h 6^m 23^s \\ +6°.41 \end{cases}$

1	19-09 mean,	5m	Slide left	8.0	Tel W
2	19-15	5m		7.8	
3	19-21	5m		7.5	
4	19-28	5m		4.5	
5	19-36	5m		3.2	
6	19-45	5m		3.0	
		5			

Seeing very fair

Plate 26 — June 20 (33)

$\alpha = 20^h 08^m + 22^m - 20^h 30^m$

$\delta = +3°-53'±$

1	20-16	5m	Slide left	3.0	Tel W
2	20-23	5m	"	3.2	"
3	20-32	5m	"	0.0	"
4	20-38	5m	"	0.2	"
~~5~~		~~5m~~	"	~~1.5~~	"
~~6~~		~~5m~~	"	~~1.7~~	"

Seeing became very bad, making guiding star almost invisible

Plate 27. 61 Cygni

1903 June 25th

1°	18-57 = mean,	5m	Tel W	Slide left	0.0
2°	19-03 mean	5m	"	"	0.2
3°	19 09 "	5m	"	"	3.0
4°	19-14 "	5m	"	"	3.2

Seeing poor on 1° better on others

Plate 28. 61 Cygni

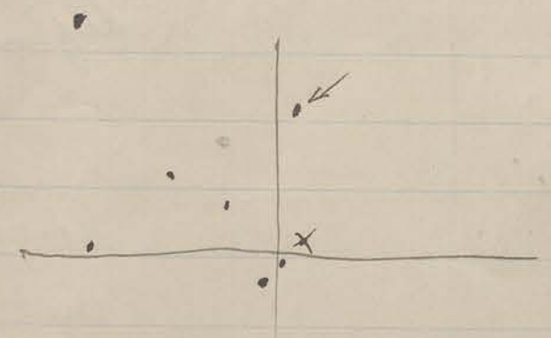
1	19-33 mean	5m	Slide left	3.2
2	19-39	5m	" "	3.0
3	19-~~44~~49	5m	" "	2.7
4	19-~~50~~53	~~5m~~ 2m	" "	0.6
~~5~~	Following star		" "	~~0.3~~
~~6~~	became dim: had		" "	~~0.0~~
	to stop.			

Plate 29 ~~61~~ 20-35 25

Region Cal. 40844 {21h 3m +7°.0

Seeing bad: light clouds

1°	20h 22	(5m)	Tel W	Slide Right	7.5	Tel W
2°	20h 29	5m	"	"	7.3	
3°	20 35	5m	"	"	7.0	
	20 43	5m	"	"	5.5	
	20 49	5m	"	"	5.3	
	20 55	5m	"	"	5.2	



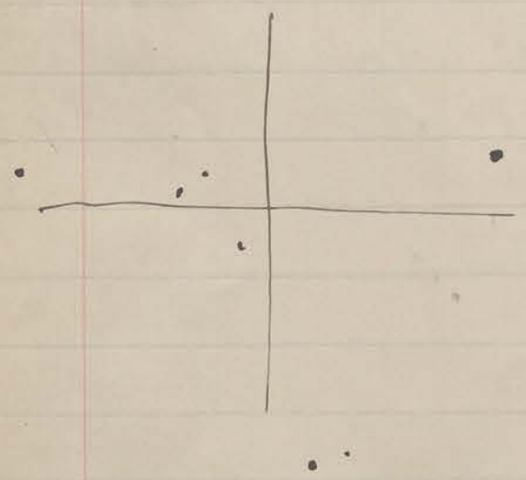
This plate was cut up for measurement on Carnegie Machine

Plate 30, 1903 June 27

Lal. 40844

I	19-15	Tel W. Scale Right	2.7	5m	
II	19-21	"	3.0	"	
III	19-27	"	3.3	"	
IV	19 35	"	0.6	"	
V	19-41	"	0.2	"	
VI	19-48	"	0.0	"	
VII					

Seeing good esp. definition.



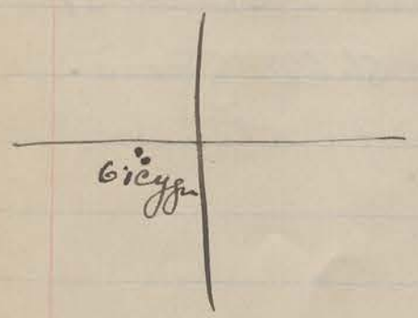
This plate was cut up on June 29 and measured on Gaertner Carey machine.

 1903 June 27

Plate 31, 61 Cygni

20h 10,	5m	Scale left	1.0.6	Tel W
20-15,	2m		1.2	Tel W
20-18	2m		1.8	W
20-21	2m		2.4	W
20-28	5m		3.0	W
20-35	5m		3 6	W

Seeing very good



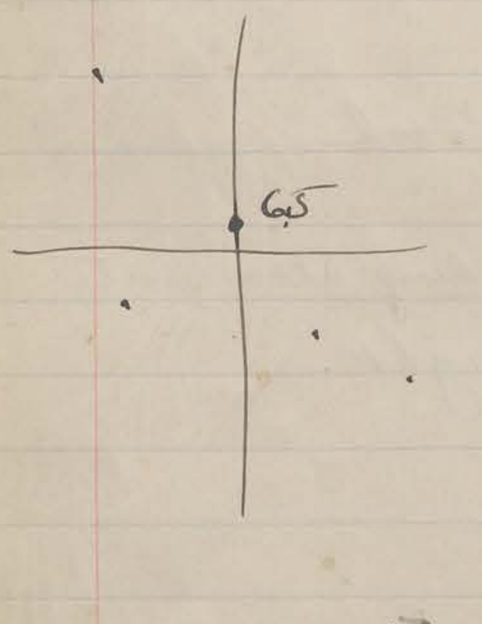
guiding star quite bright.

1903 June 27 (38) $\left\{ \begin{array}{l} 22^h 07^m = 0-25+21-42 \\ 52.^\circ 4 \end{array} \right.$

Plate 32

21-18	Tel W	Scale left	10.0	5^m
21-24	"		9.8	"
21-30	"		7.8	"
21-36	"		7.0	"

I sat on N of Tel.



Seeing not quite so excellent as for plates 30 and 31 but still good.
Temperature 68°

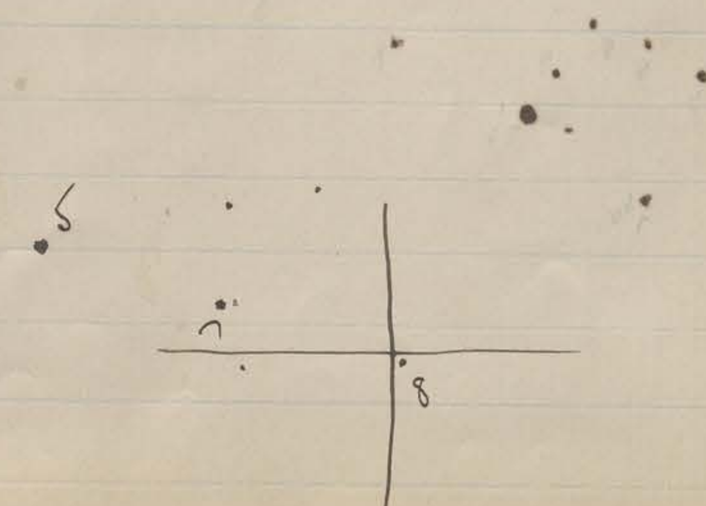
1903 June 28 (39)

Plate 33

$0^h 19^m + 16-27 = 16^h 46^m$ = 1855 16-43½
$+5^\circ 27' =$ 5° ~~28~~′ 33

					Slide:	
1°	17-08	Tel W		5^m	Left	4.0
2°	17-15	"	"	5^m	"	3.8
3°	17-24	"	"	5^m	"	0.6
					"	~~0.4~~
	July 5					
1°	$17^h 34$	Tel E		5^m	"	6.4
2°	$17^h 41$	"	"	5^m	"	7.0
3°	17-48	"	"	5^m	"	7.8

Clock driving badly.



17-57
17

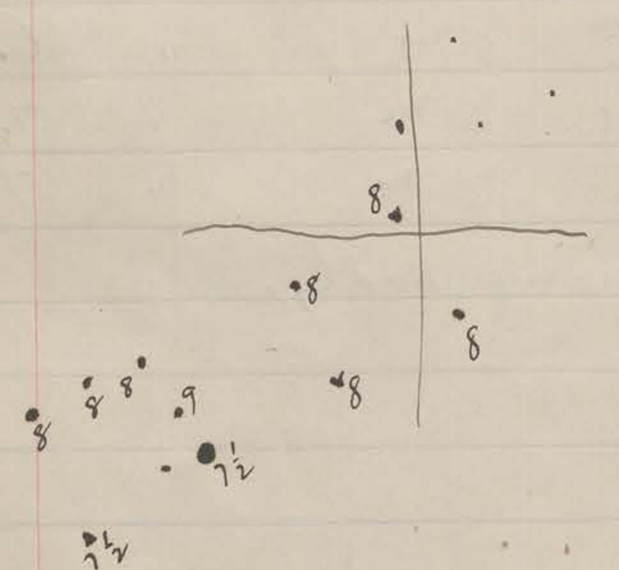
1855
17-~~47½~~ 37½
5h40

Plate 34 $17^h 40^m$
$+ 5^{\circ} 36'$

1°	$17^h 45^m$	5^m, Tel W	Right	1.0
2°	$17^h - 51^m$	5^m, Tel W	"	0.7
3°	$18 - 01^m$	5^m, Tel W		4.5

July 5

1	18-23	5m	Tel E	Right 4.6
2	18-29	"	" E	" 5.0
3	18-35	"	" E	" 6.0



July 5

Plate 35 $15^h 19^m$
$+ 8^{\circ} 50'$

Plate Backed

1°	$15^h 52$	5^m	Tel W	Slide R. 1.8
2°	$16^h 0$	5^m	" "	" R. 1.0
3	$16^h 07$	5^m	" "	" " 0.0

Plate Backed.

Plate 36 Altair in centre.

1	~~15-49~~ $16-35^m$	5^m	Slide left. 3.8
2	$16^h 42^m$	5^m	" " 2.2
3	16-49	5^m	" " 0.0

July 5, 1903

61 Cygni
Plate 37
Backed plates

Backed plate.

2.6?	Slide left.	19h 34	Tel W	5m
3.5		19h 41	"	5m
4.5		19h 48	"	5m
5.0		19h 55	"	5m

Plate 38
61 Cygni

5.0	Slide left	20h 15	Tel W	5m
4.0		20 23	"	"
3.0		20 31	"	"
2.3		20 40	"	"

Plate 39

July 5, 1903

22h 33
60 Kruger 57-04
2- 33
56

Backed plate.

Left.

3.4	5m	Schl,	21-17
2.4	10m	Schl.	21-27
1.4	10m	(Sullivan grinding)	21-33
0.7	10m	(Schl. ")	21 46
0.0	10m	(Sullivan grinding	21 58

Seeing very fair throughout the night, improving toward morning when it became excellent.

Cut up and measured on Carnegie Machine.

July 17

Plate ~~40~~ Weiss B. XIV. 810 $14^h 45^m 29^s$ $+7°13.8$

1	$16^h 4^m$	5^m	Right	3.4	Schlesinger	Tel W 7,7
2	" 11^m	5^m	"	2.5	Sullivan	" E 7.7
3	" 18^m	5^m	"	1.0	Schlesinger	E 7,7

Plates 40, 41, 42 and 43 were light struck in dark-room and ruined.

July 17

Plate ~~41~~ B B VI 25.287 δ $15^h 3^m$ $+25°18.4$

See plate 40

1°	17-00 ?	5^m	Left	10.5	Schl.	Tel E, V. bad
2°	17-11	5^m	"	9.5	Sull.	" " "
3°	17-18	5^m	"	8.0	Sch.	" " "

Exposure 1° Interrupted by bad seeing — Guiding star v. faint

Plate ~~42~~ Cal. 29 330 $16^h 1^m$ $10°57'$

See Plate 40

1	17-~~40~~ 37	5^m	Right	0.5	Schl	Tel E V. bad
2	17-40	5^m	"	1.5	Sul.	" E " "
3	17 50	5^m	"	3.0	Schl	" E " "

18-22½

July 12

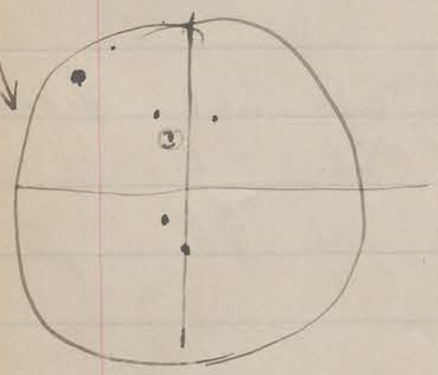
(46)

584

Plate ~~43~~ $18^h 4^m$ $S\ 4°30'$ $= -22^m + 18^h 26^m$

1	$18^h 19^m$	Left.	4.0	Sch	5^m	Tel E	6,7
2	$18^h 26^m$	"	5.0	Sul.	$4^m 20^s$	" E	6,7
3	$18^h 32^m$	"	6.0	Sch	5^m	" E	6,7
4	$18^h 5~~4~~^m$		7.0	Sch.	"	" W	6,7
5	~~18-54~~ $19^h 00$		2.0	Sul	"	" W	6,7
6	~~19-00~~ 19-07		2.8	Sch	"	" W	6,7

See plate 40



This field will be a good one to measure dist. of Eye-piece from centre.

July 12

(47)

38-40 25-25

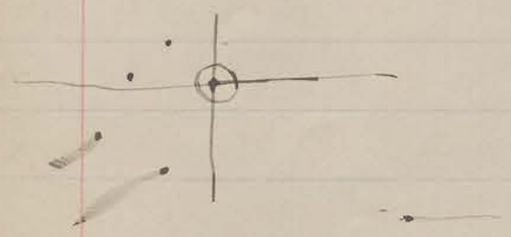
Plate ~~44~~ GR 3689 $22^h 3$ 52-39

1°	$20^h 1^m$	0.0		Sch	5^m	Tel W	6,6
2°	$20^h 8^m$	1.0	~~Left~~ Right	Sul	5^m	" W	6,6
3°	$20^h 15$	2.5		Sch	5^m	" W	6,6

I sat on N of telescope.

Plate 45 60 Krueger

1°	20-48	Left. 1.0		Sch	5^m	Tel W	8,6
2°	20-56	0.0		Sul.	5^m	Tel W	8,6
3°	21-03	2.5		Sch	5^m	Tel W	8,6

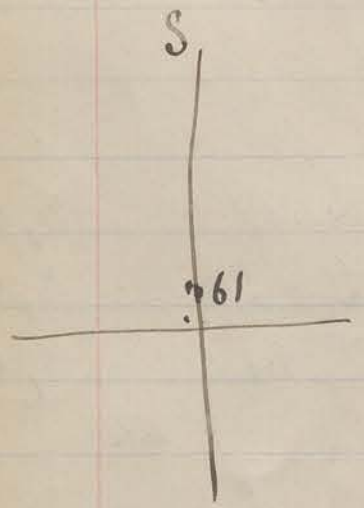


July 12, 1903 (48) 43-3,

61 Cygni

Plate 46

1	21h 43m	Left 1.3	Tel E	5m	8,6	Schl
2	49m	" 0.6	" E	"		Sul.
3	58	Right 0.5	" E	"	7,5	Schl
4	22-06	Left 2.3	" E	"	7,5	"
5	12	" 3.3	" E	"		Sul
6	19	" 4.3	" E	"		Schl.



I sat on south side of telescope.

July 19, 1903 28-30 (49)

1903 July 19

Plate 47 ✓ Fedorenko 2544 14h 5 +54° 4'

Exp. 1	16-55	5m	Tel E	Schl	Left 1.0	6,3
2	17-01	5m	" E	Sull	" 2.0	
3	17 14	5m	" E	Schl	" 3.0	

2 and 3 were somewhat interrupted by clouds.

Clouds

Plate 48 ✓ Lal. 29330 11h 4m +10°-37'

1°	18-14	5m	Tel E	Schl	Right 1.4	6,6
2°	18-22	4m50s	" "	Sull.	0.4	
3°	Clouds		" "	~~Schl~~	~~2.4~~	

Rain —

July 19, 1903

Plate 49 / Krueger 60 $22^h 23$
$57^m 04$

1	$20^h 34^m$	Sch	Tel W	5^m	11.4	left	6, 6
2	41^m	Sul	"	"	10.4	"	
3	50^m	Sch	"	"	9.4	"	

Sat. south of Tel.

Plate 50, Groombridge 3689 { $22^h 3^m$ / $52° 39'$

1	21-17	Left 4.3	Sch	Tel W	5^m	6, 6
2	24	" 5.3	Sul	Tel W		
3	30	" 3.0	Sch	Tel W		4, 3

Sat on S. side of Tel.

Plate 51 / Lal 46650 23^h-44^m
+1° 52'

		Slide		
(1)	21^h-49^m	0.0	Sch, 5^m	2, 2
(2)	21-56	1.0 Right	Sul 5^m	
(3)	22-03	2.0 "	Sch 5^m	

Plate 52   Pleiades (on Cr. 4333, Extra fast)

		Slide			
(1)	22^h-33^m	4.0 Left	Sch	5^m	6, 5
(2)	$22^h 40^m$	3.0 "	Sul	5^m	
(3)	$22^h 47^m$	2.0 "	Sch	5^m	~~6~~, 8

Alcyone in centre of plate

July 26

Plate 53 Kal 29330 $16^h 4^m$
$+10°57'$

One exposure interrupted by clouds 6m
Bad Seeing Do not use this plate. Slide 0
Tee E? Time of exposure = $18^h 0 \pm$

Plate 54

Aug 2, 1903 Plate ~~54~~ 54 14-45

B.B V1 $25°2874$ $15^h 3^m 8^s$
$+25°18'.4$

					Slide	
1	$17^h 15^m$	Sch	5m	Tee ~~W~~	Left 11.3	3,5
2	$17^h 22^m$	Sch.	5m	Tee E	" 10.3	
3	29	Sch	5m	Tee E	" 9.3	

Kal. 30044 Plate 55 $16^h 25^m 33^s$ $+4°26'.1$ 54-45

1	$17^h 50$	Sch	5m	Tee E	Left. 0.6	4,5
2	$17^h 57$	Sch	"	"	Right 0.4	
3	18-04	Sch	"	"	Left. 1.6	

45-45
45-20

1903 Aug 2 Plate 56 W.B. $17^h 20^m 41^s$
$+2°14'$
$17^h 20-47$

	Studi				
1	1.5	R	Sch	Tel E	$18^h 45^m$
2	2.5	R	Sue	" "	$18^h 52^m$
3	0.5	R	Sch	" "	18-59

Plate 57 Munich 18180 $18^h 53^m 7^s$
$+5°48.5'$

1	8.2	R	Sch	Tel E	5^m -1 (7^m thin clouds) $19\frac{1}{2}$
2	7.2	R	Sue	" E	19-50
3	9.2	R	Sch	" E	19-57

3-40 1903 Aug 2

42-20
(55)

Plate 58 $21^h 0^m 23^s$
Lal. 40 844 $+6°41'.2$ 7. following star

1	7.5	R	Sch	Tel W	$20^h 58^m$
2	6.5	"	Sue	"	$21^h 06^m$
3	8.5	R.	Sch	"	21-14

Plate 59
Lal 45792-4 $23^h 3^m 58^s$
$-2°48'$

1	Left	1.9	Sch	Tel W	21-39	7,7
2	"	0.9	Sue.	" "	21-45	
3		2.9	Sch	" "		

1903 Aug 21

21-40

(56)

Plate 60 ✓

Lal 46650 $23^h-43^m-59^s$ +1° 52' 3 — Guiding star v. bright, about 4 mag.

1	3.0	Left	Sch	Zeiss W	$22^h 16^m, 5^m$ 7, 7
2	2.0	"	Sul	"	$22^h 24^m$ "
3	4.0	"	Sch	"	22^h "

Plate 61 ✓

Groombr. 34 $0^h-12^m-40^s$ +43° 27' 3

	Left				
1	4.0	Sch	Zeiss W	22-58	(Fine 5m seeing) "
2	3.0	Sul	"	23-05	"
3	5.0	Sch	"	23-12	"

Sat on North

42-30
18-00

(57)

Plate 62 ✓

Lal. 1198 $0^h-39^m-57^s$ +10 15' 2

	Left				
1	3.6	Sch	Zeiss W	$23^h 47^m$, 5^m	fine
2	2.6	Sul	"	$23^h 50$, 5^m	Seeing.
3	4.6	Sch	"	$23^h 57'$, 5^m.	

Plate 63 Pleiades

Alcyone a little below center.

	Left				
1.	2	Sch	Zeiss W	0^h-14^m	5^m Very
0.	2	Sul	"	$0^h 21^m$	5^m bad
2.	2	Sch	"	0^h-27	5^m Seeing

Guiding star about 4 mag.

Daylight pretty strong toward end of this plate.

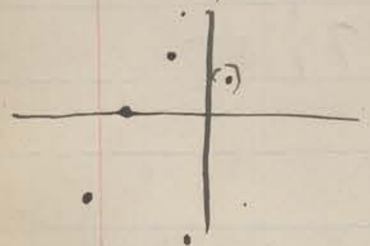
46-30
1903 Aug 6.

34 45

Plate 64 ✓ 60 Krueger 22h 23m 38

4,8
~~8,4~~

1 21-44 Left 5.7 Sch 5m
2 21-51 " 4.7 Sul 5m
3 21-57 " 3.7 Sch 5m



Sat N of telescope.

Plate 65 Lal. 1198 0h 39 ~~guiding~~ star faint, Same one as on Aug. 3

1° 2.7 Left 10m ±, Sch. Time uncertain due to interruptions by clouds Exp. ended 23h 30m
2° 1.7 Left 10m Sul. 23h 40
3° 0.7 " 10m Sch 23-52

Images diffuse throughout the night, but fairly steady.

1903 Aug. 6 13-30

Plate 66 Pleiades: Alcyone in Centre.

1 2.7 Left Sch. 5m 0h 9m
2 1.7 " Sul. 5m 0h 16m
3 0.7 " Sch. 5m 0h 23m

Tel. W throughout the ~~[illegible]~~ night.

41-30 9 Aug 1903 (60) 57

Cal. 29330 **Plate 67** ✓ $16^h 01^m 42^s$ $+10°57'.4$

1	3.9	Right	$17^h 37^m$	Sch	Tel E	Very bad, 5^m
2	2.9	"	$17^h 44^m$	Sul	"	Seeing. "
3	1.9	"	$17^h 53^m$	Sch	"	9,9 "

Li. B. XVII 322, $17^h 20-47$ ✓ **Plate 68** ✓✓

1	1,5	Right	$18^h 50$	Sch, 10^m	Tel E	9,8
2	0.5	"	$19^h 07$	Sul	10^m	
3	0.5	Left	$19^h 13$	Sch	10^m	

11 Aug. 1903 22.25 11.0 17-30 (61)

Plate 69 ✓

Cal. 45292-4 $23^h 3^m 58^s$

Drel. in fine circle reads $-2° \sout{45'00}"$ 14'30"

1	$22^h 18$	Left	1.5	Sch	Tel W	5^m 7,7
2	$22^h 25$	"	2.5	Sul	"	"
3	$22^h 3$	"	3.5	Sch	"	"

Plate 70 ✓

Cal. 46650 $23^h 43^m 59^s$

Drel - 20-20'

1	23-04	Right.	9.8	Sch	Tel W	10^m	v. bad
2	23-16	"	8.8	Sul	"	"	images but
3	2328	"	7.8	Sch	"	"	fairly steady

D.30 (62) 32 25 Plate 71 (62) 1903 Aug 11

Groombridge 3 J ✓ $0^h 42^m 40^s$

decl = 43°-56′ Sat N. of telescope

1	9.9	Right	5^m	Sch	Tel W	$23^h 54^m$	7, 6
2	8.9	"	5^m	Sul	"	$0^h 0^m$	
3	7.9	"	10^m	Sch	"	$0^h 8$	

Plate 72 ✓

1	3.5	Left.	5^m	Sch	Tel W	$0^h 37^m$ ~~44~~ grinding
2	4.5	"	5^m	Sul	"	0-44 Star N.
3	5.5	"	10^m	Sch	"	$0^h 55$ faint but fairly steady

11

Kal. 1966 $1^h 3^m 17^s$

Sat N. of telescope.

decl. read 61° 8½

2

(63) 1903 Aug. 16 23-40 12-30

Plate 73 ✓

Kal 30044. $16^h 25^m 33^s$

1	1.7	Left.	5^m	Tel E	Sch.	$18^h 18^m$	
2	2.7	"	"	"	Sul	$18^h 26^m$	6,7
3	3.7	"	"	"	Sch	$18^h 33^m$	

Drcl. reads .... tag in the way

Plate 74 ✓

Kal 30694 $16^h 47^m$

1	11.0	R.	5^m	Tel E	Sch	19-08	6, 8
2	10.0	R	5^m	"	Sul	19-15	
3	9.0	R.	5^m	"	Sch	19-23	

18

16 August 1903 (64)

50-10
32-30

Plate 75 ✓

W.B. XVII 322 20m 47s
~~Munich 18180~~ ~~18h 53m 7s~~ 17h 18m 32s.6

1	8.0 R	Sch	5m	Zeiss E	19-51	5,6
2	7.0 R	Sul	"	"	19-58	
3	9.0 R	Sch	"	"	20h06	6,6

Plate 76 ✓

Munich 18180, 18h 53m 07

1	10.0 R	Sch	5m	Zeiss E	20h 27m	8,7
2	9.0 "	Sul	"	"	20h35	
3	8.0 "	Sch	"	"	20h42	8,7

(65)

25-14 57-45
22-55 24-50
2-19

Plate 77 ✓

Kal 1966 1h 3m 17s

1	11.5 R	Sch	5m	Zeiss W	21-53	5,6
2	10.5 "	Sul	"	"	22h0	
3	9.5 "	Sch	"	"	22h07	

Position circle 270° Decl. 61° 28½'
guiding star quite bright and not the
same one as on Aug 11, 1903

Plate 78 ✓

Kal 2387 -- 1h 14m 1s

1	10.5 L.	Sch	5m	Zeiss W	23h49m	5,5
2	9.5 L.	Sul	5m	"	23h27	
3	8.5 L	Sch	5m	"	23h33	

Decl. -8° 44'

1903 aug 16. 840 (66) 4615

Plate 79

W.B II 95 $2^h 9^m 28^s$

1°	$0^h 04^m$,	10 ℓ	Sch	5^m	5, 5
2°	$0^h 11$	9 ℓ	Sul	5^m	
3°	0 18	8 ℓ	Sch.	5^m	

decl $-1-06\frac{1}{2}$? possibly $-1-16\frac{1}{2}$

Plate 80

Pleiades aeryone in centre of plate

1	$0^h 47^m$	3.2 ℓ	Sch.	5^m	5, 5
2	$0^h 49^m$	2.2 ℓ	Sul.	5^m	
3	$0^h 57$	1.2 ℓ	Sch.	5^m	

Crab-shaped nebula  dark space

16 Aug 1903 34.30 (67)

Plate 81

Lal 5761 $3^h 2^m 32^s$ bright guiding star

1	8.3 ℓ.	Sch	$1^h 45$,	5^m	5, 5
2	7.3 ℓ.	Sul	$1^h 22$	5^m	
3	6.3 ℓ.	Sch	$1^h 29$	5^m	

decl $25°-30'\frac{1}{2}$

1903 Aug 20 21-0 24-30

Plate 82 Co. I. 16h 40.6   16h 50m 08s

1 10.4 R Sch 10m 18h 14m Tel E 9,7
2 9.4 R Sul " 18h 26 "
3 8.4 R Sch " 18-38 "

Plate 83 Lal. 31055   16h 59m 51s

1 10.5 L Sch. 19h ~~17~~ 11m {30s} 7,7
2 10.0 L Sch. 19-~~30~~17 10m
3 9.0 L Sul. 19-30 10m
4 8.0 L Sch. 19-42 10m

21.0

Plate 84 Stu Rm. 2164   18h 41m 40s

1 3.5 L Sch 20h 13m ... 10m 7,7
2 2.5 L Sul 20h 26m 1.0m
3 1.5 L Sch 20h 39 9m through clouds

1903 Sept. 6.

Plate 85 Lal. 6888-9   3h 40m 12s
41° 9'

1 8.6 R 3h 00m 10m Tel W Sch Seeing = 9,5
2 9.2 3h 12m 10m " Sul
~~3 10.0 3 24m 10m " Sch~~ Clouds.

Both Exposures interrupted by clouds.

(70) 19-26

1903 Sept. 11

Plate 86 ✓ ω. B. VII 322 17-20-47

1	1.2 R	Schl	10m	19-20	Tel E	2, 4
2	2.0 R	Sul	10m	19-31	"	not quite
3	3.0 R	Schl	10m	19-43	"	clear.

Plate 87 ✓ Struve P.M. 2164 $18^h 41^m 40$

	1	2.8 L	Schl	~~19~~ 20-13	5m	Tel E	2, 3
7.15	2	4.0 L	Sul	~~19~~ 20-20	4m	"	Fine
	3	5.0 L	Schl	~~19~~ 20-27	5m	"	Seeing

Sat on N. of tel.

(71)

Plate 88 ✓ $19^h 59^{41}$

Lal 36383

One exposure by Sch. 10m thro clouds. ~~19~~ 20-45

Slide left. 9.0

Thursday Sept 17th 1903 (72)

Plate 89 ↓ Sullivan not present

Oe.A. 17315

Tel E

1	3m	Sch	Slideleft	10.5	19h33	7,7
2	5m	"	"	9.5	39	
3	5m	"		8.5	44	5,5

Guid'g star bright.

Plate 90

Str. P.M. 2164 18h41m40s

1	5m	Sch	Slide left	4.5	20-19	4,4
2	6m	"	" "	3.5	20-26	
3	5	"	"	2.5	20-33	

1903 Sept 17 (73)

Plate 91

Lal 36383 19h59-41

Plate holder set at 180° on acct of scarcity of guiding stars S. of parallax star. I: sat on ✱ S of tel.

		Left				
1	5m	Slide 5	21-22m	Sch.	Tel E	6,6
2	5m	" 4	21-34	"	"	
3	5m	" 3	21-41	"	"	

Plate 92 Star Cluster N.G.C 225

0h37 Exposure ½ hour = 30 min.

61° 15' Seeing 6, 6

Middle time = 11h0m

1903 Sept. 20 24-30 04

Plate 93 ✓ U.B XVII 322 17^h-20-47

1 2.7 R, 5^m 19-20 Sch Tel E 4,7
2 1.7 , " 19-27 Sul "
3 0.7 , " 19-34 Sch "

Plate 94 ✓

R.M. 2164 18-41-40

1 3.4 L, 5^m 20-00 Sch Tel E 4,5
2 2.4 " 20-07 Sul "
3 1.4 " 20-14 Sch "

Plate 95 ✓

Lal 36383 19-59-41

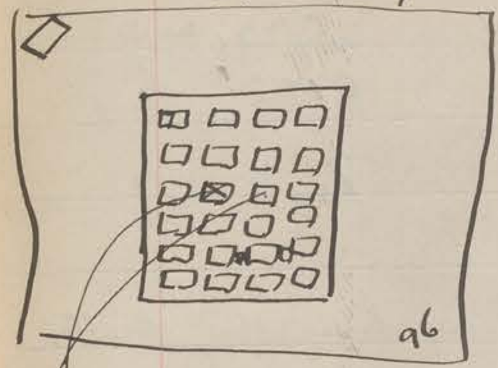
1 10 L 5^m 20^h-37, Sch Tel E 4,6
2 9 L " 20^h44, Sul "
3 8 L " 20^h50, Sch "

Wind blowing: Curtain way up.

Circle in usual position

45-40 20

Plate 96



Altair

To test absorption of a screen: 24 rectangles of various depths. White paper in upper left hand corner. Number in usual corner.

1 5.5 R 5^m Sch Tel C 21^h40^m 8,8
2 8.8 R ~~7~~ $7\frac{1}{2}^m$ Sul Tel III 21^h50^m

Comparison Star sometimes invisible, wind causing bad seeing—

Plate 97 Cluster 6940 N.G.C. 20^h30^m 27°58'

fr 22^m40 to 23-17 with a 5 min. rest.
Seeing vile. Wind prob. responsible.
Lefr. 9.8

J 2-30
29-30

Plate 98 N.G.C. 7654 $23^h 20^m$
6103'

Began $1^h 40^m$ Ended $2^h 2$ v Left 3.7
with one 5^m set
Wind still blowing; seeing, however, pretty
good except at intervals.

Plate 99 ✓

Lal. 576 3-02-32 v

1	10 L	5^m,	$2^h 48$	Sch	Tel W	6,4
v	9	"	2-55	Sull	" W	
3	8	"	3-02 v	Sch	" W	

Plate 100 ✓

Lal 6888 X0
3.~~50~~-1 v

1	10 R	5^m	$3^h 26$	Sch	Tel W	5,3
v	9	"	$3^h 33$	Sul	" W	
3	8	"	3-39	Sch	"	

Plate 101 ✓ 4-34.31

GR 864

1	10 R	5^m	Schl.	4-03	Tel W	4,3
v	9	"	Sull	4-10	"	
3	8	"	Sch.	4 17	"	

Plate 102 ✓

W.I. 5.59 v 5-26-23

4.0	L	5^m	Schl	4-45	Tel W	4.6

Daylight prevailed more.

	1903	θ Time	α R.A.		Hour Angle
103	~~3h40~~ Sept. 27	2h 0	Pleiades		
104	~~3h56~~ "	2h 31	~~Pleiad~~ 3h56	1	E ~~W~~ 1h 25
105	"	~~2h 31~~ 3h 17	4h 34		E ~~W~~ 1h 27
106	Sept. 27	19h 20	18h 41		W 0h 39
107		20 14	18h 53		W 1h 21
108		20 51	19 59		W 0h 52
109		21 35 21 47 27 23	21 0	270°	W 0h 35 0h 47 1 23
110		22h 59	61 Cygni		
111	Oct. 4	21 37	18h 53		W 2h 39
112	Sept. 27	1h 30m	Cluster 2h 36	1h 30 min exp.	
113	Oct. 4	27 11	19 59		W 2h 12
114	"	27 53	61 Cyg		
115	"	0h 38	Cluster 1h 39	60 min	
116	"	3 17	~~5h 46~~	60 min	
117	"	4 17	4 34		E 0h 47
118	"	4 49	5 26		E 0h 37
119	"	5 31	6 ~~54~~		E 1h 23
120	Oct. 11	20 10	18 41		W 1h 29
121	"	20 44	18 53		W 1h 51

				θ		α			
122	1903	Oct.	11	21	18	19	59		W 1h49
123		"	"	21	50	21	0	270°	W 0h50
124		"	"	22	30	21	24	too low	W 1h6
125		Oct.	18	0	21	clus 1h	39	60 min	
126			11	2	40	5	46	55 min	
127			11	5	35	5	26		W 0h9
128			11	6	18	6	54		E 0h36
129		Oct	18	0	20	clus 1h39		20 min	
130			18	6	4	6	54	270°	E 0h50
131		"	18	6	50	5	26		W 1h24
132			20	3	6	Pleiades			
133			"	5	34	5	26		W 0h8m
134			"	6	16	7	47		E 1h31
135			"	6	59	7	54		E 0h55
136			25	20	34	18	53		W 1h41
137			"	21h	5	19 20	59		W 1h6m
138			"	21	38	21h	0	270	W 0h38
139			"	22	17	61 Cyg			
140			"	23	40	1h39		60 min.	

141	1903	Oct 25	1	13	2h 15	60min	
142			3	40	2 12	60 min.	
143			4	51	Pleiad		
144			5	31	5 26		W 0h5m
145			6	7	6 54		E 0h47m
146			6	42	7 47		E 1h5m
147			7	18	7 54		E 0h36m
148	Oct	29	3	23	Pleiads		
149		"	4	6	clus 2h15	12m.	
150	Noo.	1	20	47	18 41		W 2h6m
151			21	28	19 59		W 1h29
152			22	25	21 0		W 1h25
153	Jupiter						
154			0	30	1h39	60 min.	
155			6	48	6 54		E 0h6m
156			7	29	7 47		E 18m
157		3	21	29	19 59		W 1h30
158			0h	0	Clus in Persens Preceding	60 min.	
159	Noo	8	1h	10	" "	5 min	

								h m
160	1903 Nov 8	6	17	7	47		E	1h 30
1	.	7	7	9	7		E	2h 0
2		8h00 8h14	8h21±	8	41	270° 10m, 10m, 1m		
3	12	21	30	1	39	30 min.		
4		0	19	2	12	62 min.		
5		1	50	5	22	60 "		
6	17	5	20	5	46	60 min.		
7		7	16	7	47		E	31
8		8	9	8	45		E	36
9		9	35	9	7		W	28
170	22	8	49	9	43		E	54
170A	26	22	47	22	3		W	44
1	22	9	50	10	14		E	24
171A	26	23	34	22	23		W	1 11
2	26	0	20	23	3		W	1 17
3		1	8	23	43		W	1 25
4		2	30	Cluster 23	19	40 min		
5		4	10	23	57	40 "		
6		7	15	7	47		E	32
7	29	6	57	7	47		E	50
8	Nov 29	7	43	7	51		E	8

179	1903 Nov. 29	8h 37m...42 ...47...56		9	43	5, 2, 5, 5 min. Dome in way of Wand ②		
180		9	53	10	57	5	E	1 4
								1 18
1	Dec. 6	23	21	22	3	← Here after all π plates are West unless marked E.		
2		0	14	22	23	E	W	1 51
3		5 35	5 48	Cluster 2	35	10m + 5m		
4		8	8	9	7		E	59
5	20	23	32	0	12		E	40
6		0	37	23	3		W	1 34
7		1	26	23	43		W	1 43
8		2	25	0	39		W	1 46
9	1904 Jan 16	2	9	2	9			0
190		2	47	3	2		E	15
1		3	30	3	40		E	10
2		4	17	4	34		E	17
3		5	9	Cluster 4	41			
4	24	2h	57m	3	2		E	5
5		11	25	11	58		E	33
6	26	10	35	13	37	60 min.		
7		12	0	11	58		W	2

198	1904 Jan 26	12	38	12	44		E	1	6
199		13	16	13	40[13]		E		24
200		14	1	13	38		W		23
1	Jan 31	3	38	~~13~~ 3	~~54~~ 56		E		18
2		4	12	4	34		E		22
3		4	56	3	2	East	W	1	54
4		5	47	5	26		W		21
5		11	54	12	~~44~~		E		50
6		12	52	13	40[13]		E		48
7		13	34	13	40[40]		E		6
8		14	11	15	3		E		52
9	Feb 4	3	20	3	2		W		18
210		4	31	3	56		W		35
1		6	15	5	26		W		49
2		7	15	Cluster 5h 44	45 min				
3		8	32	Cluster 8	45 20 min				
4	Feb 7	3	47	3	56		E		9
5		4	24	4h 34			E		10
6		12	35	11	58		W		37

217	1904 Feb. 7	13	19	13 40[40]	~~11 58~~		E		22
8	Feb 9	5	14	3	56	E	W	1	18
9		5	48	5	26		W		22
220		6	12	6	54		E		27
1		7	2	7	54		E		52
2	Feb. 14	4	22	4	34		E		12
3		5	0	5	26		E		26
4		5	36	6	54		E	1	18
5		6	19	7	54		E	1	35
6		7	32	8	45		E	1	13
7		8h 21		Cluster 8h 8h	10 min				
8		10	53	Cluster 13h 37	60 "				
9		12	15	13	40		E	1	25
230		13	8	14	21	270°	E	1	13
1		13	48	15	3		E	1	15
2		~~16~~ 14	~~47~~ 35	16	1		E	1	26
3		15	21	16	47		E	1	26
4	Mch 3	5	52	5	26		W		26
5		6	28	6	54		E		26

236	1904 Mch 3	7	0	7	47	E	47
37		7	31	7	54	E	23
38		8	7	8	45	E	38
39		8	45	9	7	E	27
r 40		11	r	11	14	E	1r
1		1r	11	cluster 8h45	30 min		
r		13	34	13	40	E	6
3		14	1r	15	3	E	51
4		14	47	16	1	E	1 14
5		15	r9	16	r5	E	56
6		15	57	16h	47	E	50
7	Mch 7	13	33	13	40 13	E	7
8		14	16	15	3	E	47
9		14	50	16	1	E	1 11
250		15	22	16	r5	E	1 3
1		16	1	16	47	E	46
r	Mch 22	7	r5	7	47	E	27
3		8	r	8	45	E	43
4			38	9h	7	E	29

				Right Asc.				
	1904	Time		Hour Angle				
255	Mch 27	9	r5	11	14		E 1	49
6		15	3	16	7		E	58
7		15	39	16	50		E 1	11
8		16	1r	16	59		E	47
9		16	43	17	r0		E	37
260	March 27	7	48	7	47		W	1
1		8	r1	8	45	270°	E	26
2		8	55	9	7		E	1r
3		9	36	10	14		E	38
4		10	18	11	0		E	4r
5		11	9	11	14		E	5
6		14	2r	16	1		E 1	39
7		14	56	16	r5		E 1	29
8		15	30	16	47		E 1	17
9		16	7	16	50		E	43
270		16	36	17	20		E	44
1	April 3	8	29	8	45 43		E	16
2		9	26	9h	43		E	17
3		9	58	10	14		E	16

	1904	Time	R.A.			
274	Apr. 3	10 37	11 0		E	23
275	3	11 16	11 14		W	2
276		14 39	16 1		E	1 22
277		15 19	16 25		E	1 6
278		15 51	16 50		E	59
279		16 21	16 59		E	38
280		16 57	17 20		E	23
281		17 26	18 41	2	E	1 15
282	Apr. 10	11 54	11 0	E	W	54
283	Apr. 17	9 55	9 35	To test collimation		
284	" 17	13 8	12 52	" " "		
285		16 - 36	17 20	16.26...5 16.33...5 16 48...2	E	44
286		17 14 (~~16 54~~)	18 41		E	1 27
287	Apr. 19	16 12	16 59		E	47
288		16 54	17 20		E	26
289		17 30	18 41		E	1 11
290	Apr. 26	10 27	9 43	5 5 10	W	44
291		11 5	11 14	5 5 10	E	9
292		12 8	13 14	10 10 5	E	1 6

	1904	Time	R.A.			
293	Apr. 26	12 52	14 52		E	2 0
294	Apr. 28	10 40	11 0		E	20
295		11 20	9 43		W	1 37
296		11 52	11 58		E	6
297		12 28	13 14		E	46
298		13 57	14 52		E	55
299		16 21	16 50		E	29
300		16 54	17 20		E	26
301		17 25	18 41		E	1 16
302		17 57	18 53		E	56
303		18 20	19 59	2	E	1 39
304	May 1	10 47	11 0		E	13
305		11 37	9 43		W	1 54
306		12 2	11 58		W	4
307		12 31	13 14		W	43
308		13 10	12 44		E	26
309		Focus Plate				
310		14 38	14 52		W	14
311		Focus Plate.				

	1904						
312	May 1	17 1	17h 20		W	19	
313		17 33	18 41		W	8	
314		18 2	18 53		W	51	
315		18 26	19 59		W	33	
316	May 15	11 57	11 58	5 5	W	1	
317		12 30	13 14		W	44	
318		13 6	12 44		E	22	
319		13 45	13 40[13]		E	5	
320		14 27	14 52		W	25	
321		16 25	Mess	53m Plate backed			
322		17 53	17 20		E	33	
323		18 21	18h 41		W	20	
324		18 50	18 53		W	3	
325	May 17	Focus Plate					
326		17 31	17 37		W	6	
327		18 2	18 41		W	39	
328		18 30	18 53		W	23	
329		19 3	19 59		W	56	
330	May 20	12 15	11 58				

	1904	time.	R.a.	
331	May 20	12 59	13 14	10 10 10
332		13 52	12 44	13 43 13 54 14 1
333		14 35	13 40[13]	10 10 10
334		15 11	13 40[40]	
335		17 46	18 41	
336		18 14	18 53	7 7 7
337		18 48	19 59	
338		19 21	21 0	
339	May 26	13 13	11 58	
340		13 40	12 44	
341		14 11	14 52	
342		14 40	13 40 40[3]	
343		15 16	14 21	
344		17 3	17 37	
345		17 39	18 41	
346		18 13	18 53	
347		18 40	19 59	
348		19 10	21 0	
349	June 4	13 45	11 58	

	1904	time	R.A.
350	June 4	14 26	14 52
351		14 55	13 40[m]
352		16 0	17 37
353		16 36	18 41
354	June 12	14 43	14 52
355		15 15	14 21
356		15 52	15 3
357		16 22	17 37
358		16 54	17 30
359		18 59	19 59
360		19 34	21 0
361		20 6	22 3
362		20 28	22 23
363	June 14		
364		19 8	19 59
365		19 5	21 0
366	June 19	14 43	14 52
367		15 17	14 21
368		16 1	17 37

		$16^h\ 37^m$	$17^h\ 37^m$
369	June 19		
370			
371		19 27	21 0
372		20 5	22 3
373		20 39	22 23
374	July 2	15 59	16 1
375	July 10	16 42	16 50
376		17 50	16 59
377		20 2	20 34
378		20 53	22 23
379		21 47	22 3
380		22 29	23 3
381	July 16	20 38	22 3
382		21 9	22 23
383		21 55	22 34
384		22 35	23 3
385	July 17	16 39	16 1
386		17 39	16 23
387		18 20	16 59

388	July 17	20h	53m	22h	23m
389		20	15	22	3
390					
391		21	31	22	34
392		22	6	23	3
393		22	48	0	26
394	July 24	17	6	16	1
395		17	47	17	20
396		18	24	17	37
397		20	23	22	3
398		21	55	22	33
399		22	49	23	43
400	July 28	17	16	17	16
401		17	56	16	4
402		18	39	17	20
403		19	33	18	0
404	July 31	17	19	17	30
405		18	1	16	4
406		18	29	17	20

E

407	July 31	19h	10m	18h	0m
408		20	40	21	0
409		21	24	21	10
410		22	8	23	8
411		22	52	23	59
412		23	38	0	43
413	Aug. 7	18	5	21	2
414		19	7	21	2
415		20	0	21	2
416		22	45	23	8
417		23	53	0	43
418		0	30	1	1
419	Aug. 13	23	3	23	8
420		23	39	0	43
421		0	26	1	1
422		1	20		
423	Aug. 14	18	2	19	9
424		20	30	21	2
425		21	21	21	54

426	Aug. 14	0h 22m	1h 1m
427	Aug 25	18 30	18 41
428		19 7	18 53
429		19 39	19 2
430		20 41	20 43
431		21 23	20 34
432		23 5	23 43
433		23 45	0 12
434		0 25	1 3
435		0 59	0 39
436		1 39	1 14
437		2 19	3 2
438	Aug. 27	18 20	18 41
439		18 56	18 53
440		19 26	19 2
441		20 0	20 34
442		20 49	22 3
443		18 31	18 41
444			

445	Sept. 4	19h 15m	18h 53m
446		19 57	19 2
447		20 44	20 34
448		21 50	22 23
449		23 56	0 12
450		0 49	1 3
451		1 56	3 2
452		2 40	3 40
453		3 10	3 56
454	Sept. 10	0 30	1 3
455	Sept. 11	19 7	18 53
456		19 40	19 2
457		20 13	20 34
458		20 50	22 3
459		21 24	22 23
460		22 36	22 34
461		0 27	1 3
462		1 47	3 2
463		2 17	3 40

464	Sept.11	$2^h 53^m$	$3^h 56^m$
465		3 25	5 26
466		3 52	5 23
467	Sept.22	19 32	19 20
468		20 12	21 2
469	Sept.24	19 51	19 20
470		20 31	21 2
471		21 52	22 2
472		22 43	22 46
473		23 34	0 43
474	Sept.25	0 04	0 31
475		0 47	1 47
476		1 50	2 7
477		3 50	3 56
478		4 23	5 26
479		5 17	6 54
480	Oct.2	20 0	20 28
481		20 46	21 14
482		21 47	21 40

483	Oct.2	$22^h 34^m$	$22^h 36^m$
484		23 6	22 59
485		23 42	23 37
486		1 18	1 47
487		1 54	2 34
488		2 32	3 2
489		3 30	3 53
490		5 4	5 19
491		5 29	5 20
492	Oct.9.	20 58	20 28
493	Oct.16	20 19	20 23
494		20 51	20 28
495		21 28	21 40
496		21 58	22 35
497		22 55	23 25
498		23 29 23 37 0 7	23 43
499		0 26	0 43
500		5 10 5 39 5 46	5 20
501		6 9	5 30

502	Oct. 16	6h	52m	6h	36m
503	Oct. 20	23	50	0	31
504		0	31	1	3
505		1	9	2	7
506		2	36	3	2
507		3	7	3	40
508	Oct. 22	23	11	23	54
509	Oct. 30	20	49	20	34
510		21	33	21	40
511		22	7	22	23
512		22	45	23	25
513		23	20	23	44
514		0	0	0	31
515		1	18	1	47
516		1	50	2	7
517		3	49	4	1
518		4	41	4	46
519		7	56	9	2
520	Nov. 6	21	6	21	14

521	Nov. 6	21h	45m	21h	24m
522		22	12	22	35
523	Nov. 17	2	27	2	37
524		3	8	4	1
525		4	36	4	46
526		5	12	5	22
527		5	43	5	26
528		6	32	6	35
529		7	0	7	47
530		7	37	7	37
531		8	14	8	45
532		8	43	9	7
533		9	22	9	2
534	Nov. 20	21	57	22	46
535		22	35	23	8
536		23	2	23	54
537		23	37	23	59
538		0	2	0	12
539		0	43	1	1

540	Nov. 20	1h 20m	0h 43m	
541		1 58	2 37	
542		2 31	3 1	
543		6 16	6 54	
544		7 2	7 37	
545		7 28	7 47	
546		7 56	8 05	5m at 7h53m and 30° at 7h59m
547	Dec. 4	23 27	23 54	
548		1 15	0 43	
549	Dec. 13	11 2	11 58	
550	Dec. 15	23 28	23 59	
551		0 29	1 3	
552		1 40	2 34	
553		2 46	3 1	
554		3 30	3 56	
555		4 24	5 22	
556		6 46	7 37	
557		7 36	8 05	
558	Dec. 17	23 45	0 12	

559	Dec. 17	0h 40m	1h 1m	
560		1 26	1 47	
561		2 33	3 1	
562				
563				
564				
565				
566				
567				
568				
569				
570				
571				
572				
573				
574				
575				
576				
577				

No ~~Clear~~ glass 11.3
11.1
11.1
11.2

Scale = 100

38.9 V. faint
34.9
40.5
42.2
39±

Scale	Photometer	
84.8	13.0	3/16 inch from clear end of
	14 ✓	sector
	10.3	
	11.9	
	13.0	
	12.5	
30.4	29.8 ✓	
	24.8 ✓	
	27.5	
	32.9	
	31.5	
	29.1	

Photometer

Clear ~~Glass~~ space : 6.0
7.0
5.5
6.2

Scale

87.2 mm 16.7 about 0.1 inch from clear
15.5 edge of glass
17.2
16.5

65.4 mm 18.0
17.1
16.4
17.2

54.3 mm 22.4
21.5
23.0
22.3

44.2 30.5
21.4
18.5
22.2
22.3
21.0

33.0 39.5
41.2
39.1

29.9 34.0
36.0
35.3

18.2 59.0 v. uncut.
60.6
60.0

Clear Space
9.0
10.0
9.6
9.9

81.6
13.5 about 5mm fr. clear edge
14.4
15.8
13.1
13.5
14.1

69.0
13.7
13.4
17.0
17.9

60.1
11.4
12.0
17.1
11.8

79.0
11.5
11.7
12.0
11.6

39.5
12.8
13.7
15.7
15.6
14.7

29.7
26.9
28.9
28.7
27.7
28.0

45.0
36.9
39.9
39.4
39.0
38.8

50.6
50.5
52.0
56.0
58.5 prob. getting dimmer

1903 Oct. 14

Absorption of Double-Wedge; measured with stellar photometer in Enlarging Room.

No obstruction

7.9	7.6
8.0	7.0
6.9	4.2
	4.1
0.7.6	0.5.72

12 mm from edge of wedge

1.52	1.44
43	51
62	42
1.52	1.46

Scale 3.0

1.55	1.60
35	61
42	53
1.47	1.58

5.0

1.94	1.89
87	91
93	85
1.91	1.88

4.0

1.72	1.54
.83	74
.67	85
1.74	1.71

6.0

3.16	3.00
3.24	2.84
2.87	2.55
2.90	2.67
3.01	2.69
2.90	2.67
3.01	2.74

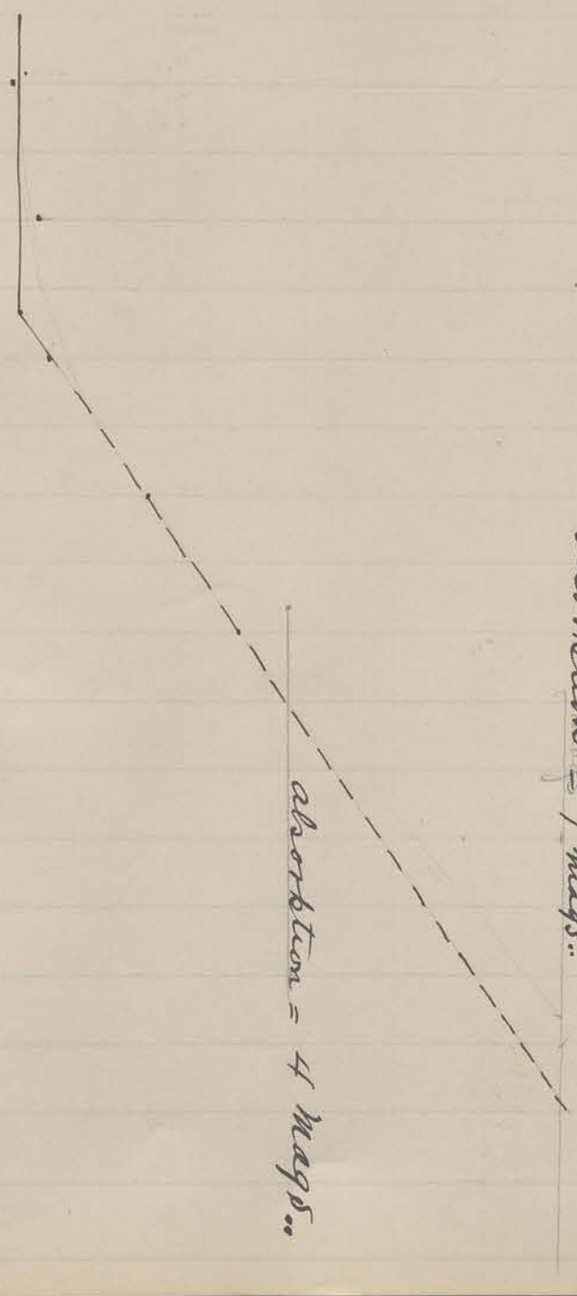
7.0

4.00	3.67
3.82	.68
3.75	.52
3.86	3.62

Means

	Photo. Scale	abs.n in Magnitudes
No obstruction,	0.6.66	0
Edge of glass,	1.50	0.9
3.0 mm { Paper Scale	1.50	0.9
4.0 " "	1.72	1.2
5.0 " "	1.90	1.3+
6.0 " "	2.88	2.4
7.0 " "	3.74	3.4

On the assumption that 1 mm of photometer scale corresponds to 0.11 of a magnitude.



Silvering Solution (1903 Feb Photo Beacon)

1º To ascertain the quantity of formalin (40% solution): Clean a white porcelain dish, ~~paint~~ rinsing with ammonia and then with tap. Pour 15 c.c. of the ammonio-nitrate of silver solution into dish and add successively 7 drops of formalin, rocking the dish in the meanwhile. Solution becomes rose-violet and an irreg deposit of silver appears in dish which passes thro' rose, violet blue and iron gray to a film of bright Silver of yellowish tinge. The silvering is complete when the solution clears and becomes charged with a flocculent precip. Insufficiency of formalin is indicated by muddiness of solution; excess by working too quickly and failing to get deposit.

2º Clean surface well with cotton, acid and ammonia; dish in wh. silvering is to be done should also be clean.

A. $AgNO_3$ (one part to 100 of distilled water) reduced in the usual way with Am.

B Formalin.

Pour A into B and then B into the A graduate: ~~Quickly; that is before~~ and then quickly into dish, before solution changes color.

NGC			
1962	5h 3?	35°45'	Good for this tel[…] Stars rather faint […]
1960	5h 29	34°51	Not v. m[…] otherwise, suita[…]
2099	5h 46	32°31	Stars quite […] = Messier 11
2168	6h 3m	24°21	Fair
2301			Few stars […]
1039			Few stars, […]
869 } 884 }			Both goo[…]
663			Fair
1528			Fair: trip soon

Half quantity

(1)				
Water	16 oz		8 oz –	32 oz
Metol	40 grains		20 gr.	80
[…]lium	40 "		20	80
[…]l	80 "		40 "	160
[…]ph.	2 oz		1 oz	4 oz

[…],	16 oz	8 oz	24 oz.
[…]da,	240 grains	120 gr.	360 gr.
[…]mide	20 "	10 gr.	30 gr.
	4)454 ✓	227 ✓	

[…] equal parts of (1) and (2)

[…]lope a second plate add […] each. E.G. If 6 oz of develope[…] […] for the first plate, pour off […]nce, add ½ oz of (1) and ½ oz of (2)

not keep too long.

Image appears in 2 or 3 seconds.

NGC
1962 5h gr 35°45' Good for this tel
Stars rather faint

Hypo 4 oz
H_2O 20 oz

Na_2SO_4 4 oz
H_2O 20 oz

Hypo 20 oz
Bisul 2 oz

1528 Fair. Imp

			Half quantity	
(1) Water	16 oz		8 oz –	32 oz
× Metol	40 grains		20 gr.	80
Hydrochinon	40	"	20	80
× Adurol	80	"	40 "	160
Sod. Sulph.	2 oz		1 oz	4 oz

(2) Water,	16 oz	8 oz	24 oz
Caustic Soda,	240 grains	120 gr.	360 gr.
Potas. Bromide	20 "	10 gr	30 gr
	4)454 ✓	227 ✓	

Use equal parts of (1) and (2)

To develope a second plate add 10% of each. E.G. If 6 oz of developer are used for the first plate, pour off one ounce, add ½ oz of (1) and ½ oz of (2)

Do not keep too long.

Image appears in 2 or 3 seconds.

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Focus = brass strip + $1\frac{3}{8}$ inches

$350 + (t - 70)0.5$

E.g. Focus = 3.50 for t = 70 F.
E.g. " = 3.40 " t = 50 F.

4.88 for 70°
4.78 " 60°
4.73 " 40
4.68 " 30