KG
11366
v. 335

June. 2. 1896

Corr. from R. Al.

R + above

June 2, 1896

10 35 21

:97 <

(1.95)

36 42

1.93 <

below

40 0

1.62 <

V

41 assumed.

(1.63)

~~21~~ 45

49.0 -

68.0 -

4(153 48 <

18.4 51.6 <

1.64 <

10 38 27 <

+14

70.0 100.6 <

M = 1.79

10 38 41 <

Index L + below

~~(1.67)~~

16.2 51.8 <

44 30

68.0

21.1 46.4 <

1.70 <

67.5 98.2

June. 2. 1896

Corr. from R! A1.

R + above

292.5

10 35 21 336.7 44.2

292.8

336.4 43.6 1.97

87.8

294.6 (1.95)

36 42 336.6 42.0

289.0

336.5 47.5 1.93

89.5

Index L + below

16.5

40 0 68.9 52.4

20.5

69.6 49.1 1.62

101.5

V

41 assumed. 19.0 (1.63)

~~21~~ 45 68.0 49.0

4 (153 48

10 38 27 18.4 51.6 1.64

+14 70.0 100.6 M = 1.79

10 38 41

Index R + below

16.2 ~~(1.67)~~

44 30 68.0 51.8

21.1 46.4 1.70

67.5 98.2

44 00 June 2. 1896

21.0
49 50 69.3 48.3′ (1.71)
20.4 49.2′ 1.72′
69.6 97.5′
Index R + above
110.3 49.6′
47 50 159.7
111.8 46.3′ 1.76′
158.1 95.9′
VI
110.8 (1.70)
49 25 215 158.3 47.5′
4 | 31 35′ 107.0 53.6′ 1.63′
10 47 54′ 160.6 101.1′ (M = 1.70)
+14
10 48 8′

ι Librae 2.5 θ Librae
10 56 ι Librae 4.5 φ Ophiuchi Wols.

ι Librae 2.5 θ Librae
10 55 ι Librae 4 φ Ophiuchi Sawyer obs.
Index R + above
h 108.0
10 57 54 159.2 51.2′
109.0 51.0′ 1.60′
160.0 102.2′

June 2. 1896.

10 57 54

110.9 49.2c (1.60)
10 59 20
160.1
107.3 53.4c 1.59c
169.7 102.6.
L + below
197.9 53.7c
11 1 35
251.6
203.9 46.5c 1.65c
250.4 100.2c

203.3 46.7c VII (1.70)
206
250.0
11 4 37
201.3 49.8c
250.7 96.5c 1.75c

4 (44 3 26c.
11 0 52c
+14
11 1 6c

L. + below (M = 1.65)

198.0
252.4 54.4c
11 5 0
199.5 52.9c 1.48c
252.4 107.3c

(1.54)
201.3 49.9c
6 22
251.2
199.4 52.6c 1.60c
252.0 102.5c
R + above
286.4
9 7
239.3 52.9c
288.0 52.0c 1.54c
340.0 104.9.

June 2. 1896.

10 30 — 179 — 289.0 — (1.52)
4 | 30 59 — 339.3 — 50.3
11 7 45 — 285.3 — VIII
+14 — 341.4 — 56.1 — 1.50
11 7 59 — 106.4 — M = 1.53

---

13 15 — 286.8 — 56.3
343.1
287.5 — 52.5 — 1.45
340.0 — 108.8

14 55 — 287.6 — 53.5 — (1.44)
341.1
287.5 — 55.4 — 1.44
342.9 — 108.9
L + below

17 30 — 13.5 — 61.5
75.0
16.0 — 56.4 — 1.24
72.4 — 117.9

19 33 — 73 — 19.5 — 52.1 — (1.30)
71.6 — IX
4 | 25 13 — 14.6 — 60.4 — 1.36
11 16 18 — 75.0 — 112.5
+14
11 16 32 — M = 1.37

June 2, 1896
L + below

13,6
11 29 10 76,2 62.6c
17,2 56.3c 1.22c
118.9c
73,5

30 43 14,6 (1.18)
72,0 57.4c
10,6 65.4c 1.13c
122.8c
76,0

Index R + above
104,5
33 25 168,6 59.1c
106,4 57.0c 1.28c
116.1c
163,4

107,2 (1.26)
11 34 38 162,8 55.6c X
20c
4 (127 56c 102,0 62.8c 1.23c
11 31 59c 118.4c
+1 14 164,8 (M = 1.22)
11 32 13c

201,9
40 45 166,4 64.5c
104,9 60.4c 1.09c
165,3 124.9c

41 assumed. 105,0 (1.11)
~~21~~
35 162,8 57.8c
101,8 64.9c 1.13c
122.7c
166,7

40 45
41 30

June 2 1896
L + below

Mr. Sawyer is quite certain that
he took a 9 for a 6 162.4
∴ Assume
11 43 15 258.0 95.6s
65.6 192.4
252.0
564 196.5 166.5 86.4s −0.04s
1220 252.9 252.9 182.0s
1.15 178.0s

Sawyer's watch 167.8
45 0 used up to this 253.4 85.6s XI −(0.04)
point 55.6 197.5 253.4 162.2 96.8s
~~4 10 3 5s~~
11 42 39s 66.8 192.2 259.0 259.0 182.4s −0.05s
+14s 155 114 122.4 177.6s
11 42 53s

∴ Mr. Waites' watch used after this.

At 11h 52m 6.0s by A. & D. 95 h
Mr. Waites' watch was 3m 6.0s ~~fast~~.
slow.

Correction to Mr. Waites' watch throughout
the bal. of obs. was 190.7 + 11 secs.
~~Assume~~

11 52 10 258.5 67.8s
195.4 58.8s +1.00s
254.2 126.6s

(1.05)
196.5
53 24 255.5 59.0s
192.0 67.5s +1.05s
259.5 126.5s

June 2, 1896.

Rt. + above, XII.

282.0
11 55 35 345.0 63.0c
284.0 60.0c ×1.13c
344.0 123.0c

(1.14)

285.4
56 58 342.4 57.0c
.4 (128 47c 127 282.1 64.8c ×1.15c
11 54 32c 346.9 121.8c M = 1.10
+11c
11 54 . 43c

279.8
12 03 25 347.2 67.4c
284.0 60.9c ×1.01c
344.9 128.3c

(1.05)

283.5
04 45 344.0 60.5c
282.4 64.4c ×1.09c
346.8 124.9c

June 2, 1896.

Left + below. ~~XIII~~.

9.0
12 07 00 82.1 73.1c
13.2 62.1c +0.87c
75.3 135.2c

(0.84)

11.5
08 35 77.8 66.3c
4 23 45c 225 8.9 71.3c +0.82c
12 5 56c 80.2 137.6c M = 0.94
+11
12 6 7c

4.4
12 09 57 80.4 76.0c
11.3 66.2c +0.73c
77.5 142.2c

(0.79)

14.5
11 11 76.0 61.5c
9.2 74.8c +0.85c
84.0 136.3c

June 2, 1896.

Rt. + above. XIV.

97.9
12 13 15 173.7 75.8 c
104.8 63.8 c +0.78 c
168.6 139.6 c

(0.82)

103.4
14 46 167.3 63.9 c
69 99.0 71.3 c +0.87 c
4(49 9 c 170.3 135.2 c M = 0.80
12 12 17 c
+11 c
12 12 28 c

99.5
23 30 173.4 73.9 c
102.8 66.1 c +0.7$\overset{7}{8}$ c
168.9 140.0 c

(0.76)

102.4
25 00 169.6 67.2 c
97.7 73.3 c +0.76 c
171.0. 140.5 c

June 2, 1896.

Left + below. XV.

187,0
12 27 22 261,0 74.0 <
194,3 65.7 < 0.78 <
260.0 139.7 <

193,4 =4 (0.80)
28 32 259,0 65.6 <
4(24 24 < 189,2 72.7 < 0.81 <
12 26 6 < 261,9 138.3 < $\mathfrak{M}$ = 0.78
+11 <
12 26 17 <

189.8
29 50 263,5 73.7 <
192,1 66.3 < 0.77 <
258,4 140.0 <

194.5 (0.78)
30 54 259.4 64.9 <
187,1 74.9 < 0.78 <
262,0 139.8 <

June 2, 1896.

Rt. & above. XVI

276.8
12 33 00 353.2 76.4″
282.8 64.4″ 0.76″
140.8″
347.2

(0.74)

280.8
34 24 347.0 66.2″
4(12 4-8 8″
276.1 76.0″ 0.73″
12 3X2 17 2″
352.1 142.2″ M = 0.76
+ 11
12 32 13″

276.5
12 43 02 350.9 74.4″
280.9 67.3″ 0.74″
141.7″
348.2

(0.72)

279.9
45 15 347.5 67.6″
274.9 75.7″ 0.71″
143.3″
350.6

Davidson, R. S.

June 2, 1896.

Left + below. XVII

5.0
12 47 14 85.6 80.6 c
11.8 67.8 c +0.61 c
79.6 148.4 c

(0.56)

8.8
48 32 79.9 71.1 c
4(24 3 c 4.4 82.2 c +0.51 c
12 46 1 c 86.6 153.3 c M = 0.64
+11
12 46 12 c

2.1
49 34 87.2 85.1 c
10.1 69.9 c +0.48 c
80.0 15~~4~~.0 c
5

(0.50)

9.9
50 36 79.4 69.5 c
4.1 82.6 c +0.53 c
86.7 152.1 c

June 2, 1896.

Rt. & above. XVIII,

97.9
12 52 41 174.8 76.9 ✓
101.1 67.7 ✓ +0.68 ✓
168.8 144.6 ✓

(0.62)
98.8
53 56 169.6 70.8 ✓
4(206 47 ✓ 167 95.1 79.6 ✓ +0.57 ✓
12 51 42 ✓ 174.7 150.4 ✓ M = 0.56
+11
12 51 53 ✓

93.9
13 02 23 175.2 81.3 ✓
98.4 74.1 ✓ +0.47 ✓
172.5 155.4 ✓

(0.48)
99.2
03 51 172.8 73.6 ✓
93.9 80.2 ✓ +0.50 ✓
174.1 153.8 ✓

June 2, 1896.

Left + below. ~~XIX~~,

186.9
13 05 56 266.4 79.5✓
191.8 69.1✓ +0.60✓
260.9 148.6✓

189.9 (0.56)
07 16 258.9 69.0✓
4(19 26✓ 20✓ 183.1 83.8✓ +0.52✓
13 4 52✓ 266.9 152.8✓ (M = 0.52)
+11
13 5 3✓

182.6
13 08 24 268.1 85.5✓
190.2 67.1✓ +0.52✓
257.3 152.6✓

(0.57)
193.5
09 28 258.2 64.7✓
184.6 83.2✓ +0.62✓
267.8 147.9✓

June 2, 1896.

Rt. + above. XX.

274.8
13 11 29 354.2 79.4<
279.1 73.3< +0.52<
352.4 152.7<

(0.52)
278.1
12 57 350.3 72.2<
4 | 42 18 108 274.2 80.2< +0.53<
13 10 34< 354.4 152.4< (M = 0.54)
+11
13 10 45<

273.4
25 38 350.4 77.0<
276.0 72.5< +0.58<
348.5 149.5<

(0.45)
277.5
27 01 351.2 73.7<
268.8 89.3< +0.32<
358.1 163.0<

June 2, 1896.

Left + below. XXI.

6.4
13 29 51 84.8 78.4c*
2.1 86.2c +0.29c
164.6c
88.3
±
(0.30)
4.1
30 49 86.5 82.4c
4 (11 3 19c 79 5.1 81.9c +0.30c
13 28 20c 87.0 164.3c M = 0.38
+11
13 28 31c

5.9
31 53 85.2 79.3c
4.0 84.1c +0.32c
88.1 163.4c

4.7 (0.38)
32 44 84.6 79.9c
6.1 77.8c +0.43c
83.9 157.7c

June 2, 1896.

Rt. & above. XXII.

90,6
13 34 36 178,2 87.6s
98,5 75.5s +0.32s
174.0 163.1s

(0.34)

99,0
35 43 173,2 74.2s +0.35
4 14 56s 92,2 $\overset{8}{\cancel{7}}7.3$s ~~0.74~~
13 33 44s 179,5 $1\overset{}{\cancel{7}}1.5$s (M = 0.36)
+11 6
13 33 55s

93,1
44 30 176,0 82.9s
94,4 81.1s +0.30s
175,5 164.0s

95,7 (0.31)
45 33 172,5 76.8s
91,2 86.6s +0.32s
177,8 163.4s

June 2, 1896.

Left + below. ~~XXIII~~

187.1
13 47 58 263.2 76.1c
184.2 81.7c 0.42c
265.9 157.8c

184.7 (0.42)
48 49 266.1 81.4c
4 (26 50c 170 186.9 76.9c 0.41c
13 46 42c 263.8 158.3c M = 0.36
+11
13 46 53c

187.1
50 01 263.0 75.9c
185.4 80.5c 0.45c
265.9 156.4c

185.2 (0.40)
51 08 269.2 84.0c
187.8 77.1c 0.36c
264.9 161.1c

June 2, 1896.

Rt. + above. XXIV.

271.1

13 53 54 350.5 79.4< 0

271.2 84.8< 0.3~~7~~

356.0 16~~3~~.2<

4

(0.30)

272.5

54 56 356.8 84.3< 0

4 9 59< 119 274.2 79.8< 0.3~~7~~

13 52 30< 2, 354.0 16~~3~~.1<

+11 4 M = 0.35

13 52 41<

274.6

14 04 25 355.1 80.5<

272.3 82.8< 0.32<

355.1 163.3<

(0.32)

271.5

05 28 357.2 85.7<

276.2 76.7< 0.33<

352.9 162.4<

June 2, 1896.

Left + below   ~~XXV.~~

6.0
14 07 48   86.4   80.4 <
0.2   85.7 <   0.26 <
85.9   166.1 <

(0.26)

1.3
08 45   14i   87.1   85.8 <
4 (26 26 <   2.1   80.9 <   0.25 <
14 6 36 <   83.0   166.7 <   M = 0.29
+11
14 6 47 <

2.4
09 54   86.8   84.4 <
0.8   85.3 <   0.20 <
86.1   169.7 <

(0.18)

0.3
10 48   89.0   88.7 <
5.6   83.1 <   0.16 <
88.7   171.8 <

June 2, 1896.

Rt. + above. ~~XXVI.~~

97.2
14 12 57 171.7 74.5 <
94.8 82.7 < 0.43 <
177.5 157.2 <

(0.36)
234 93.1
14 15 177.3 84.2 <
4 (47 54 95.2 79.9 < 0.30 <
14 11 58 < 175.1 164.1 < (M = 0.27)
+11
14 12 9 <

A. + D. 958. B. 394.

~~14~~ ~~26.2~~ ~~14~~ ~~25~~ ~~0.0~~
14 29 56.2 15 26 0.0
30 56.2 27 0.0

June 4. 1896 (Thursday.)

Σ 2166 Wobs

17 22 +11.5

13 5

4 17

7 43

17 22

13 15

4 7

7 53

Pos. Ang. 290° Dist. 28". Mags 5.7, 7.6

Rt. and below

301.0 < Bts. dis.

8 15 349.9 48.9<

294.0 59.5< 1.45

353.5 108.4<

293.2 (1.44)

8 16 354.5 61.3<

299.9 48.2< 1.43

348.1 109.5<

Lt. and above

28.~~7~~8

8 19 83.8 55.0<

26.1 57.7< 1.36

83.8 112.7<

June 4. 1896

25.8
8 20 86.0 60.2 < (1.34)
P. 17 30 28.0 54.0 < 1.32
114.2 <
82.0 M = 1.39

The star meas. above is probably the correct one as it seems to be practibly about right in Dec. and H. A. as well as in Mag and Dist. of components. The Meas. of this star was attempted on June 1 (See. R. 81 Page 203) but this star could not be found then for some reason and the star which was meas. seemed to have too great a dist. between components, Prob. star meas. on June 1. was wrong.
See next page.

Σ 2202 61 Ophiuchi
17 38 + 2.6
13 38
4
8

Pos. Ang. 95° Dist. 20" Mags. 5.4, 5.7
Left + above

188.8 < Bts. dis.
8 37 280.2 91.4 <
184.0 100.3 < −0.22
284.3 191.7 <
1~~8~~68.3

June 4. 1896

181.5 (− 0.18)

8 38 285.1 103.6

190.0 83.0 − 0.13

186.6

273.0 173.4

Rt. + below.

281.1

8 39 8.3 87.2

270.8 109.2 − 0.31

196.4

20.0 163.6

269.8 (− 0.32)

8 41 17.0 107.2

4 (15 5 275.8 90.9

8 38 45 197.9 − 0.34

6.7 162.1 (M = − 0.25)

The circle setting on this star confirms ~~Σ 2166~~ the star assumed to be Σ 2166 as being the right one.

Selection of Comp. Stars for var. in Urs. min. Pr. obs.

15 50 +78.2

14 10

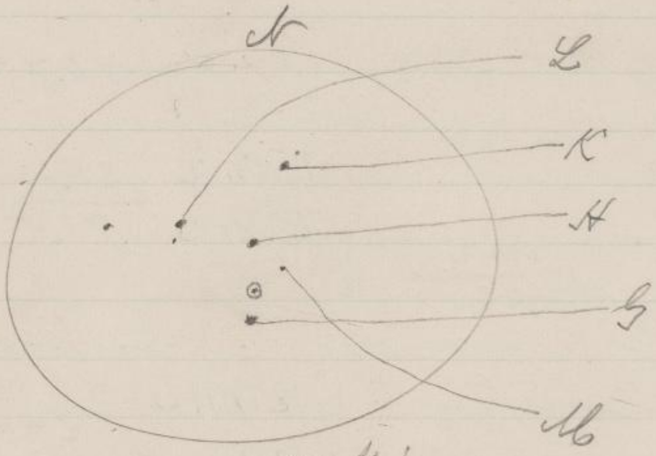
1 40

10 20

June 4. 1896.

Provis. Selection.

				1855.			
A	+78°	560	7.2	15h 23m 8s.		+78°	54.6
B	+79	470	8.0	15	40 4.	+79	40.2
C	+78	518	8.3	15	34 43.	+78	48.9
D	+78	521	8.7	15	38 36.	+78	25.8
E	+78	519	9.0	15	36 33.	+78	47.8
F	+78	511	9.5	15	23 52.	+78	41.6
G	+79	467	9.4	15	35 18.	+79	6.0



Eye piece used in making the above sketch was the large one belonging to West Equatorial.

(ι Librae) 2 (θ Librae)
10 9 (ι Librae) 4 (φ Ophiuchi) W. obs.

(ι Librae) 2.5 (θ Librae)
10 8 (ι Librae) 4 (φ Ophiuchi Sawyer obs.

June 4. 1896.
Set on Capilus.
15 00 — 13.
15 15
15

Above

184.0 ⟨Comp. Dis
11 00 218.8 34.8 ✓
185.3
219.8 34.5 ✓
69.3 ✓ 2.53 ✓

183.0 36.7 ✓
11 1 219.7 (2.50)
183.2 34.8 ✓
218.0 71.5 ✓ 2.46 ✓.

Below

277.0
11 5 306.4 29.4 ✓
276.2
307.5 31.3 ✓
60.7 ✓ 2.24 ✓

274.6
11 8 308.6 34.0 ✓ (2.74)
4(14
275.0 32.0 ✓
11 3 30 307.0. 66.0 ✓ 2.64 ✓

(2.62)

June 4, 1896.
Below

276.1 30.9✓
11 11 307.0
275.8 32.0✓
307.8 62.9✓ 2.75✓

276.0 33.5✓
11 13 309.5 (2.74)
277.2 30.3✓
307.5 63.8✓ 2.72✓

Above

183.6 36.4✓
11 16 220.0
184.7 34.1✓
218.8 70.5✓ 2.49✓

184.0 33.5✓
11 19 217.5 (2.53)
184.6 34.5✓
219.1 68.0✓ 2.57✓

4/19
11 14 45

M = 2.64

~~Comp. Star in above meas'ts of Iapetus~~
The comp. star in above meas'ts on Iapetus was S.D. -13° 4003 (9.0). Observer remembers this with much certainty. It was also the only comp. star selected and on chart which could have been used. Mr. Sawyer also thinks he remembers it with much certainty.

1896phae.proj..133S

June 5. 1896 (Friday)

Σ 30' 16,17 Draconis
16 33 +53.2
13 25
3 8
8 52

Pos. Ang 200 Dist 1.5'' Mags. 5.5, 5.7

Above

15.9 (Wrong Star.
8 19 78.2'' 94.1
87.1'' 12.9 Dec. found to be
165.3'' 100.0 wrong.)

11.9
8 20 89.0'' 100.9
77.9'' 16.1
166.9'' 94.0

Below

107.0
8 21 80.0'' 187.0
91.4'' 101.5
171.4'' 192.9

~~8~~ ~~9~~ 104.0
8 22 89.0'' 193.0
8 20 30 80.2'' 102.8
169.2'' 183.0

Prin. component is double having a companion somewhat fainter than itself

June 5. 1896

(but yet pretty ~~bright~~) at pos. ang. 95°
dist. 15". This makes meas. difficult
on account of closeness of companion.
The meas. ~~made~~ attempted is the dif. in brightness
~~of~~ between prim. component and distant companion

ι Librae

8 30 Twilight strong and cloud in this region.

Σ 2063 H IV 62
16 28 +45.9
13 45
2 43
9 17

Pos. Ang 190° Dist 15" Mags. 5.5, 8.5
Below

309.0
8 38 337.8 ∠ Btr. Dis. 28.8
307.7 35.1 2.72
342.8 63.9

(2.74)
306.0
8 39 340.2 34.2
310.0 28.4 2.76
338.4 62.6

June 5. 1896.

Above

40.9
8 40 69.2 28.3<
39.0 31.7< 2.86
60.0<
70.7

(2.86)

39.1
8 42 73.8 34.7<
4(15 9 42.2 25.3< 2.86
8 39 45 60.0<
67.5 (M = 2.80)

Reexam. of comp. Stars for Variable in Urs: Min. (Comp. Star selected last night)

15 50 +78.2
14 00
1 50

Clouds already in this region

Meas. for diff. in brightness between comp. stars of Capella

15 00 -13
14 10
50

Clouds thick

June 5. 1896.

8 30 ι Librae 2 θ Librae Wohs.
This est. was made by getting a general averageness through slight cloudiness but ι Librae thought to be certainly a little btr. than θ Librae to-night.

8 50 Y 3 ι, ι 4 K Davidson obs.

9 33 Too cloudy to continue

June 9. 1896. (Tuesday)

Rather cloudy.

Σ 2166.   L. obs.

17 22 +11.5
13 40
3 42
8 18

Pos. Ang. 280° Dist 30" Mags. 5.3; 7.8

Rt. + below

293.5 ∠ Btr. Dis.
8 21 353.9 60.4 1.11.
Cloudy 63.4
123.8
292.7
356.1

(1.17)

292.6
8 23 353.8 61.2
295.3 57.2 1.23.
118.4
352.5

L. + above

Btr. Dis.

June 9. 1896

24.8 < Btw. Dis.

8 25 87.8 63.0

27.0 54.7 1.24

81.7 117.7

27.0 (1.22)

8 26 85.0 58.0

4 | 15 24.2 61.3 1.21

8 23 45 85.0 119.3

(M = 1.20)

Σ 36′ 39 Draconis

Btst. component and dist. companion,

18 22 + 58.8

14 5

4 17

7 43

Pos. Ang. 25.0 Dist. 1.5′ Mags. 4.8, 7.5

Below

220.3

248.5 < Btw. Dis.

8 40 28.2

219.0 28.2 3.00.

247.2 56.4

(3.04)

221.9

8 41 248.9 27.0

220.3 27.6 3.07.

247.9 54.6

June 9 1896.

Above

306.1
8 44 344.9 38.8<
309.0 31.8< 2.49
340.8 70.6<

(2.58)

308.4
8 45 339.3 30.9<
8 42 30 307.8 33.9<* 2.68
341.7 64.8< (M = 2.81)

Region of Nova Cen. with Phot. U.

Too much cloud in this region.

Meas. of Iapetus with Phot. T.

15 ~~0~~ 0 −13.0
14 30
30

Region of Iapetus identified but Iapetus not seen prob. partly on account of bad atmos. condition
Sky cleared a little tried for Iapetus again also tried to meas. comp. stars
10 00 but heavy fog began to come in which prevented further work. Sky thickly cloudy and foggy now.
No stars visible

June 10 1896 (Wednesday)

Σ 2166
17 22 +11.5
13 30
3 52
8 8

Pos. Ang. 285° Dist. 25" Mags. 5.5, 7.6

R + below

114.8 ∠ Btw. Wis.
8 3 174.~~7~~0 59.2 c
119.5 54.2 c 1.34 c
173.7 113.4 c

(1.36) c

119.7
8 5 171.2 51.5 c
114.2 60.5 c 1.37 c
174.7 112.0 c

L. + above.

204.0
8 7 263.2 59.2 c
208.3 50.8 c 1.42 c
259.1 110.0 c

(1.38) c

207.0
8 8 261.1 54.1 c
206.0 59.2 c 1.34 c
265.2 113.3 c

4(23
8 5 45 c

(M = 1.37) c

June 10, 1896.

Σ 34′ 53 Ophiuchi
17 29 +9.7
13 50

3 39
8 21

Pos. Ang 200° Dist. 35′ Mags 5.2, 7.6

R. + above

		212.3	< Btw. Dis.	
8	19	257.0	44.7 c	
		212.4	42.8 c	1.98 c
		255.2	87.5 c	
		213.8		(2.04) c
8	20	255.0	41.2 c	
		213.0	42.0 c	2.10 c
		255.0	83.2 c	

L. + below

		300.8		
8	22	347.8	47.0 c	
		298.0	52.0 c	1.68 c
		350.0	99.0 c	
		302.0		(1.69)
8	23	347.2	45.2 c	
8 21	0 c	350.2	52.9 c	1.70 c
		353.1	98.1 c	

(M = 1.86)

June 10, 1896

Region of Saturn.

~~Sat. on Iapetus~~

15 00 −13.0
14 15
45

meast. of Comp. Star (for Iapetus] B.D. −14° 6114 (9.0) with B.D. −14° 6123 (7.8)

Index Above

Instr. dis. > 268.7 47.3
9 1 316.0
274.2 37.8
312.0 85.1 2.05

272.9 38.3
9 2 311.2 (2.06)
268.4 46.4
314.8 84.7 2.06

Below

357.4
9 5 46.5 − 49.1
1.6 41.3
42.9 90.4 1.90

2.0
9 7 41.3 39.3
4)15 (1.94)
358.0 48.1
9 3 45 46.1 87.4 1.98

4)7.99
2.00

June 10. 1896.

Below

359.0 46.2<

9 10 45.2

2.4

41.6 39.2<

85.4< 2.04<

2.8

9 12 42.4 39.6<

(2.02)

357.9

45.0 47.1<

86.7< 2.00<

Above.

87.4

9 15 137.4 50.0<

92.0

134.4 42.4<

92.4< 1.85<

90.6 41.1< (1.88)

9 17 131.7

9 13 30<

88.0

137.2 49.2<

90.3< 1.95<

47.80

M = 1.95<

June 10. 1896.
Meast. of Japetus.. Phot. T. H. [illegible]

Above

14.6 < Comp. Star Dis.
9 44 14.4c 29.0
4.38c 15.9c 14.1 Comp. Star is B.D.
30.3c 30.0 −13° 3994 (7.5)

14.2 (4.35)c
9 46 31.0 16.8c
14.7 14.4c 4.32c
31.2c
29.1

Below

103.9
9 47 120.0 16.6c
103.0 17.2c
33.8c 4.14c
120.2

102.3 (4.13)
9 51 121.0 18.7c
9 47 30c 104.6 15.4c 4.12c
34.1c
120.0
M = 4.24c

105.1
9 53 120.6 15.5c
103.4 17.7c
33.2c 4.18
121.1

June 10 1896

103.6 (4.20)
9 55 120.2 16.6<
104.5 16.0< 4.22
120.5 32.6<

Above
193.5
9 58 210.4 16.9<
~~192.5~~ 193.0 17.0< 4.13
210.0 33.9<

193.1 (4.16)
10 00 210.85 17.4<
9 56 30< 194.2 15.8< 4.18
210.0 33.2< M = 4.18<

Comp. Star in above meas'ts. was B.D.
−13° 3994 (7.5)

(ι Librae) 2.5 (θ Librae)
10 13 (ι Librae) 4.5 (φ Ophiuchi) } W obs.
(γ Librae) 1.5 (ι Librae)

(ι Librae) 2.5 (θ Librae)
10 12 (ι Librae) 4.0 (φ Ophiuchi) } Sawyer obs
(γ Librae) 1.5 (ι Librae)

(θ Librae) 2.5 (φ Ophiuchi)
10 15 (γ Librae) 4.0 (θ Librae) } W obs.

June 10, 1896

(γ Librae) 4.0 (θ Librae) } Sawyer obs
10 18 (θ Librae) 1.5 (φ Ophiuchi)

Meas. of Titan with same Comp. Star as in case of Iapetus Longer Lf. + above

Comp. Star first → 162.2

10 48 ~~6~~75.8 238.0 Comp. Star is B.D.
+0.70 67.9 167.7 −13° 3994 (7.5)
143.7 235.6

167.0 +(0.67)
10 50 237.3 70.3
164.2 76.3 +0.64
240.5 146.6

Rt Below
257.4
10 52 326.0 66.6
258.0 69.8 +0.85
327.8 136.4

+(0.81)
256.1
10 54 327.8 71.7
255.9 68.4 +0.77
324.3 140.1

10 51 0

M = +0.74

June 10. 1896.

L + above

257.6
10 55′ 327.4 69.8″
257.5 68.8″ - 0.80
326.3 138.6″

258.5 -(0.82)″
56 326.0 67.5″
256.1 69.2″ - 0.84
325.3 136.7″

R + below

344.8
58 56.4 71.6″
345.7 73.1″ - 0.68
58.8 144.7″

344.0 - (0.62)″
10 59 58.9 74.9″
343.0 76.1″ - 0.56
10 57 0″ 59.1 151.0″

Comp. Star is btr. than Titan. M = 0.72″

June 10. 1896

Meas. t. of diff. in brightness between ~~of~~ S. D.
−13° 3994 (7.5) and −12° 4141 (A.0)
These are comp. Stars for Iapetus.
Above

247.0
11 6 336.4 < 3994 dir.
89.4 <
250.9 81.4 < 0.17
332.3 17 0.8 <

249.0 (0.12) <
11 7 335.1 86.1 <
246.0 90.5 < 0.06
336.5 17 6.6 <

337.8
11 11 68.6 90.8 <
342.4 79.8 < 0.12 < ~~0.01~~
62.2 17 0.6 <
~~17 9.4~~

(0.15)
339.4 (~~0.06~~)
11 12 62.0 82.6 <
~~332.9~~ 336.0 90.9 < 0.12
17 9 0 <
66.9 17 3.5 <

M = ~~0.09~~ 0.14

June 10. 1896

335.3
11 14 65.8 90.5
337.4 84.9
62.3 175.4 0.09

336.1 (0.06)
11 15 64.7 88.6
337.0 90.0 0.03
67.0 178.6

Above

63.4
11 18 157.8 94.4
69.0 87.1
156.1 181.5 −0.03
178.5

66.8 −(0.06)
11 20 156.3 89.5
4(6 7 64.5 95.9
11 16 45 160.4 185.4 − 0.10
174.6

M = 000

June 10. 1896

Reexamination of Comp. Stars.
for Var. in Urs. min. Fr. Obs.

15	50	+78.2
17	5	
	~~45~~	
1	15	

Selection made on June 8. 1896. (R. 82. p. 25.) is probably about as good as can be made.

(c Librae) 2.5 (θ Librae) Fr. Ho.
11 45 (i Librae) 4 (φ Ophiuchi. " "

Region a little low.
There seems to be no change in c Librae from the estimate earlier in the evening.

June 11. 1896 (Thursday) Wobs

Σ 2308 40, 41 Draconis
18 9. +80.0
13 35
4 34
7 26
18 9
13 55
4 14
7 46

8 18 So thickly cloudy that star cannot be found although bright.

Σ 2348 190 Draconis B
18 31 +52,2
14 5
4 26
7 34

8 50 Sky all thickly cloudy with no chance for work.

June 12. 1896. (Friday)

Σ 2308   40, 41 Draconis
18   9   + 80.0
13   40

4   29
~~8   31~~
18   9
13   40

4   29
7   31

Pos. Ang. 230° Dist 2.0" Mags 5.5, 6.2

Index L + above.

21.0
8   6   92.2 < Btw. Dis.   71.2 <
16.0   80.5 <   0.54
96.5   151.7 <

(0.46) <

12.0
8   8   98.9   86.9 <
18.2   74.0 <   0.37
92.2   160.9 <

Rt. + below

112.9
8   10   180.5   67.6 <
101.8   87.2 <   0.48
189.0   154.8 <

June 12. 1896

101.0
187.9 86.9 (0.47)
110.9 69.1 0.46
180.0 156.0

8 11
4 (35'
8 8 45'

M = 0.46

Σ 36' 39 Draconis.
18 22 + 58.8
14 00
4 22
7 38

Pos. Ang. 25° Dist 1.5' Mag. 4.5, 7.5

The brt. comp. has a fainter comp. pretty close to it Pos. ang. of close comp. 10° Dist. 4' Mag. 7.4

The dif. of mag. meas. is that between brtt. comp. and distant comp.

Index above

125.8 ∠ Bk. Dis.
165.0 39.2
131.0 28.2 2.59
159.2 67.4

8 24

June 12. 1896.

132.0 (2.59) <
8 26 159.7 27.7 <
125.2 39.7 < 2.59
164.9 67.4 <
Index below
218.8
8 28 253.3 34.5 <
221.0 27.9 < 2.77
248.9 62.4 <

221.0 (2.76) <
8 29 248.7 27.7 <
4 (27) < 216.5 35.6 < 2.74
8 26 45 < 252.1 63.3 <
(M = 2.68) <

S Cygni
20 8 +57.2
14 50
5 18
6 42

20 8
15 40
4 28
7 32
20 8
16 15
3 53
8 7

June 12. 1896.

20 8
16 43
3 15
8 75

Experimented throughout evening with Phot. U on region of P Cygni after the twilight had passed.

Troubled by clouds.

June 16, 1896 (Tuesday)

W obs.

Σ 36′ 39 Draconis.
18 22 +58.8
14
4 22
7 38

Pos-Ang. 25.0 Dist 1.5′ Mags. 4.5, 7.3
This is the star which was taken on June 12. The prim. star has a rather brt, close companion meas made between ~~Btr. Comps.~~ brightest component and dist. companion.

Above

314.7 ∠ Bh, Dis.
8 1.0 ~~350.0~~ 344.0 29.3
309.7 30.3
340.0 59.6 -2.87

305.1 -2.68
8 13 342.9 37.8
307.5 32.5
340.0 70.3 2.50

June 16. 1896
Below

41.1
8 15 72.3. 31.2
35.0 38.8
73.8 70.0 - 2.51

37.8 - 2.60
8 16 72.8 35.0
39.8 29.4
4 (14 69.2 64.4 - 2.70
8 13 30
Mean = - 2.64

Σ 2308 40, 41 Draconis.
18 9 + 80.0
14 20
3 44
8 16

Clouds.
Pos. Ang. 240° Dist. 20' Mags. 5.5, 6.1.
Index Rt. + below.

29 102.5 < B Ui. Dra.
8 30 189.0 86.5
109.5 71.3
180.8 157.8 - 0.42

113.0 - 0.42
8 30 182.8 69.8
180.8 87.7
188.5 157.5 - 0.43

June. 16. 1896
L. + above.

193.1
8 31 275.8 82.7
198.3 68.0
266.8 150.7 -056

196.4 -0.52
8 33 268.8 72.4
4 (123 180 194.0 83.0
8 30 45 277.0 155.4 -0.47

Observation taken through some cloud.
mean = -0.47

Set on H. P. ~~3176~~ 3147 4 obs.
in order to adjust Phot. U,
~~18~~ ~~41~~
18 33 + 38.8
14 50
3 43
8 17

Adjust Phot. on Alpha Lyre.
Set on region of S. Cygni.
20 8 + 57.2
15 8
5
7 0

All Cloudy

June 16. 1896.

9 30 Too cloudy for work

Stellar Variable. St. sto.

20 31 +17.4
17 55
-2 36
9 24

Watch used was 21. secs. fast.

Index st.

97.7< comp. star dis.
12 20 50 185.5 87.8<
103.1 71.9< +0.39<
175.0 159.7<

(0.41)

107.1
22 52 179.8 72.7<
99.1 85.0< +0.43<
184.1 157.7<

June 16, 1896.

Index left. C1

183.2
12 26 11 274.9 91.7<
190.5 77.7< +0.20<
268.2 169.4<

(0.33)

192.9
27 22 265.2 72.3<
4 (17 15 75 183.0 83.6< +0.46<
12 24 18.8 266.6 155.9< M = 0.37
-21.
17 23 57.6

183.0
28 35 274.2 91.2<
193.9 75.2< +0.26<
269.1 166.4<

193.0
29 39 263.2
191.0 (0.35)
277.9

70.2<
86.9< +0.44<
157.1<

June 16, 1896.

Index rt.

C2

12 31 31

275.0
4.1
283.5
350.5

89.1″
67.0″ +0.46″
156.1″

(0.44)

283.1
352.8
275.4
4.2

69.7″
88.8″ +0.41″
158.5″

M = 0.40

32 22
4 | 122 7
12 30 31.8 ✓
-21.
17 30 10.2 ✓

(2)

Somewhat cloudy during above series.
Stopped by clouds.

June 17. 1896 (Wednesday.)

7 30 Cloudy.

8 00 " "

8 30 " "

9 00 " "

9 10 " "

No chance for any work, all cloudy.

June 18. 1896. (Thursday).

Σ 2308. 40. 41 Drac.   G. obs.

Pos. Ang. 240°. Dist. 20.″ Mag. 5.5 6.2

18 9 +80°.0
14 0
−4 9
7 51

Index right & below.

287.0 < both. dis.
8 8 359.8 72.8<
280.9 86.9<
7.8 159.7< 0.39<

280.2 (0.39)<
8 11 5.3 85.1<
286.7 74.5<
1.2 159.6< 0.39<

Index left & above.

16.0
8 15 96.3 80.3<
14.0 85.5< 0.27<
96.5 165.8<

June 18. 1896.

8 17
45.1
8 12 45

15.0
98.0
18.8
94.0

83.0.
75.2.
158.2.

(0.34).
0.42.
M = 0.36.

Σ 36'. 39 Draconis.
Same stars as on June 16.
18 22 ~~+56.8~~ +58.8
14 21
−4 1
7 59
Index below.

8 25

43.3
72.5
38.0
75.7

29.2.
37.7.
66.9.

2.61

8 28

42.0
76.5
41.8
70.1

34.5.
28.3.
62.8.

(2.68)
2.76

June 18. 1896.

Index obsn.

310.2

8 31 342.0 31.8<

310.6 30.5<

62.3< 2.77<

341.6

308.6 (2.66)

8 35 344.9 36.3<

4 (11 9 308.1 32.1<

8 29 45 340.2 68.4< 2.56<

M = 2.67

Region of S Cygni. St. obs.

Phot. U.

20 8 +572

18 45

−5 23

6 37

9 36 p 1 (33 Cygni), (33 Cygni) 2.5 g

(33 Cygni in auxilliary telescope and

~~9 36~~ with unsilvered glass.)

~~Cor~~ moon at the 1/4.

June 18. 1896.

10 0 p 3 (23 Cygni). (23 Cygni) 1 q.

10 18 r 1.5 (star x). (star x) 1.5 s.

~~8 3~~

10 27 s 3 (star y). (star y) 1 t.

t thought to be seen but not steadily.

ι Librae W. obs.

10 35 (θ Librae) 1 ι, ι 2.5 (φ Ophiuchi,)

θ Librae seems at this time slightly btr, that iota, but iota is a little lower and ~~near the~~ nearer the moon. Besides there is some fog, which may possibly account for it. Observation difficult.

Iapetus, Phot. T. W. obs.

15 0 −13.0
16 50
+1 50

June 18. 1896.

Index left & above.

263.0 < comp. * dis.

11 42 279.2 16.2<

261.8

278.4 16.6< / 32.8< 4.21<

262.2 15.8< (4.28)

278.0

262.9 15.1<

278.0 30.9< 4.34<

262.8 15.2<

278.0

262.0 15.8<

277.8 31.0< 4.33<

261.9

12 0 277.8 15.9< (4.30)

2.(23 42 10<

11 51

262.2

278.0 15.8< / 31.7< 4.28<

M = 4.29

June 18. 1896.

Index right + below.

351.9
12 5 8.0 16.1.
351.0
8.8 17.8.
33.9. K.13.

351.5
9.0 17.5. (4.14)
351.8
8.0 16.2.
33.7. K.15.

352.0
7.9 15.9.
351.0
8.5 17.5.
33.4. K.17.

352.1 17.4. (4.14)
12 18
9.5
2(23
351.3 16.9.
12 11 30
8.2 34.3. K.11.

Comp. star in above meas'ts is S D.
−13° 3994 [7.5]

M = 4.14

June 19. 1896.

At 12h ~~45m~~ 35m last night, the moon having set and the sky being some clearer. the following comparison was made.

W. M.

12 45 (γ Librae) 2 (ι Librae). (ι Librae) 1 (ψ Oph.), (although somewhat difficult)

The above is considered much better than the comp. on p. 61 ~~(although somewhat difficult)~~ as the conditions were better. W.

June 19. 1896. (Friday)

	A. + D. 9 s. 8.			B. 39 s.	
7	29	18.2	7	30 ~~29~~	0.0
	30	18.2		31 ~~29~~	0.0

Resp. Jup. IV. Phot. R. Hooke. Lt. J. Jordan rec. Comp. with sat on same side = sat II.

7	56	37.	7ʰ	—	53 55.	214.1 (214.1)
	56	53.	7	56	11. ≠	254.0
	56	57.			15.	211.2.
	57	7.			25.	254.1
	57	16.			34.	217.7
	57	20.			38	259.3.
	57	25.			43	214.1
	57	45.		57	03	254.8
	57	54.			12	207.7
	58	5.			23	257.0
	58	13.			31	213.8
	58	23.			41	259.0
	58	31			49.	212.5
	58	36.			54.	256.2
	58	45.	7	58	03.	212.0
	58	52.			10	258.1
	59	5.			23	210.0.
	59	12.			30	261.8
	59	19			37	207.0

June 19. 1896.

7 59 32.✓ 7 58	50	262.0		
59 37.✓	55	209.3		
59 42.✓ 7 59	60.	265.2 →		
	10	207.0	55.9✓	
	16.	262.9	57.1✓	
(7 59 20.)✓	23	206.1	113.0✓	
8 0 2.✓	30	263.2	56.5✓	1.3
	38	204.8	58.4✓	
(7 59 52.)	49.	263.2	57.0✓	
8 0 34.✓	55.	205.0	115.4✓	
8. 0	04	262.0	57.7✓	1.3
	.12	205.0	57.2✓	
(8 0 22.✓)	.19	262.2	59.1✓	
8 1 4.✓	.25	203.9	116.3✓	
	.30	263.0	58.2✓	1.3
	.39	206.9	55.1✓	
(8 0 55.✓)	.50	262.0	60.6✓	
8 1 37.✓	.59	206.2	115.7✓	
1	.16.	266.8	57.8✓	1.3
	.20	204.3	65.0✓	
(8 1 42.✓)	.40	269.3	62.7✓	
8 2 24.✓	.51	203.8	127.7✓	
	.59	266.5	63.8✓	1.0
2	.11	200.0	62.9✓	
(8 2 24.✓)	.19	262.9	60.0✓	
8 3 6.✓	.28	203.0	122.9✓	
	.38	263.0	61.4✓	1.1
	.50	204.0	60.8✓	
(8 3 4.✓)	.55	264.8	66.8✓	
3	.11	199.4	127.6✓	
8 3 46.✓	.19	266.2	63.8✓	1.0

June 19. 1896.

8^h 3^m 25. 199.3 64.6 ✓

✓33 263.9

(8 3 36) 40 199.2 68.8 ✓

8 4 18. ✓ 133.4 ✓

.48 268.0 66.7 ✓ 0.9

56 201.0 66.2 ✓

(8 4 8.✓) 05 267.2. 69.9 ✓

8 4 50. ✓ .11 199.6 136.1 ✓

68.0 ✓ 0.9

8. 4 .20 269.5

34 199.6 65.4 ✓

(8 4 48.✓) 43 265.0 70.2 ✓

8 5 30. ✓ 55 196.0 135.6 ✓

59. 266.2 67.8 ✓ 0.9

8 5 09 198.7 69.1 ✓

18. 267.8. 72.2 ✓

(8 5 23.) ✓ 28. 200.8 141.3 ✓

8 6 ✓ 36 273.0 70.6 ✓ 0.7

44 199.0 70.0 ✓

(8 6 2.✓) 53 2690 67.9 ✓

8 8 6 44. ✓ 15 198.9 137.9 ✓

68.9 ✓ 0.8

18 266.8

26 201.1 69.6 ✓

35 270.7 68.8 ✓

(8 6 38.) 41 201.0 138.4 ✓

8 7 20. ✓ .44 269.8 69.2 ✓ 0.8

.38 202.8 69.0 ✓

8. 7 .09 271.8 66.7 ✓

(8 7 12.) ✓ 17 202.0 135.7 ✓

8 7 54. ✓ 26 268.7 67.8 ✓ 0.9

34 195.8 74.9 ✓

✓ 42 270.7 68.2 ✓

(8 7 50.) 143.1 ✓

8 8 32. ✓ 50 201.0 71.6 ✓ 0.7

June 19. 1896.

8. 8	10	269.2		
	12	198.0	69.8 ✓	
(8 8 29.)	22	268.8	68.7 ✓	
	34	203.8	138.5 ✓	
8 9 11.	49	268.5	67.2	0.9
8 .9	2	199.0	68.8 ✓	
	17	267.8	66.3 ✓	
(8 9 28.)	42	200.8	135.1 ✓	
8 10 10.	50	267 1	67.6 ✓	0.9
	.54	195.3	71.4 ✓	
8 10	.05	266.7	72.5 ✓	
			143.9 ✓	
(8 10 8.)	12	197.7	72.0 ✓	0.7
8 10 50.	23	270.2		
	35	199.3	68.7 ✓	
	41	268.0	72.4 ✓	
(8 10 51.)	~~51~~	~~203.7~~	141.1 ✓	
8 11 33.	59.	199.9	70.6 ✓	0.7
8 11	10	272.3 ⟷		
	.18	199.8	70.4 ✓	
(8 11 35.)	31	270.3	66.1 ✓	
	41	202.0	136.5 ✓	0.8
8 12 17			68.2	
	49	268.1		
	59	197.3	73.6 ✓	
8 12	10	270.9	66.0 ✓	
			139.6 ✓	
(8 12 12.)	14	200.2	69.8 ✓	0.8
8 12 54.	27	266.2		
	38	203.9	61.9 ✓	
(8 12 55.)	49	265.8	67.8 ✓	
8 . 13	1.	201.1	129.7	
8 13 37.	12	268.9	64.8 ✓	1.0
	22	201.5	66.5 ✓	
	32	268.0		

June 19. 1896.

66.5
(8 13 59.) 12. 202.0 65.0
131.5
8 ~~14~~ 15 41. 20 267.0 65.8 0.9

30 199.5
66.5
(8 18 43.) 41 266.0 70.0
136.5
8 ~~21~~ 19 25. 47 200.0 68.5 0.8
21 55 270.0
22 03 197.9
69.9
(8 22 22.) 13. 267.8 62.8
132.7
8 23 4. 30 202.8 66.4 0.9
40 265.6

49 199.6 66.4
(8 23 2.) 58 266.0 67.6
134.0
23
8 23 44. 05 200.9 67.0 0.9
14 268.5

23 200.7 65.1
64.5
32 265.8 129.6
(8 23 36.) 40 200.8 64.8 1.0
8 24 18. 48 265.3

Limit of Visibility.

8 24 51 222.0 31.2
25 06 253.2 26.1
(8 25 13.) 19 221.7 57.3
8 25 55. 37 247.8 28.6 3.0

F Jupiter probably seen a little late on account of very strong twilight. — Also rather low.

Observations somewhat difficult on account of strong twilight.

June 19. 1896.

A + B 958. B. 394.

8 45 18.5 8 46 0.0

46 18.5 47 0.0

Observer ought properly to have taken the Limit of Vis. before the eclipse ~~by~~ but batteries had been charged and not connected so that he only had time to prepare for eclipse.

Circumpolar Variables.

S Cygni.

20 57 ~~+7~~ +57.2

15 25

-5 32

6 28

15 40

-5 17

6 43

Clouds.

20 8 +57.2

15 47

-4 21

7 39

June 19. 1896.

9 . 46 g 2 Var. Var. 3 br in lar. tel. Wr. do.
Est. 9.7

Clouds.

m. P. XXI. Phot. R. Wr. do.

3 31 +62.8
16 10

12 39
11 21

16 20

+12 49
~~0 14~~

16 30

Index to right, + below.

10 30 172.0 ~~173.7~~ 119.1 < Var. dis.
120.2
170.8

52.9
50.6
103.5 -1.57

June 19. 1896.

121.0 — −(1.60)
170.7 — 49.7
120.8 — 51.2 — −1.63
172.0 — 100.9

Index left + above.

210.9
259.7 — 48.8
211.8 — 49.2 — −1.71
261.0 — 98.0

210.3 — −(1.65)
260.2 — 49.9
10 55 — 208.0 — 53.0 — −1.59
10 42 30 — 261.0 — 102.9

(M = 1.62)

Variable is the brtr.

S Boötis. — Fr. obs.

14 16 +54.6
17 10
+2 54

11 10 £ 1.5 Var. Var. 3.5 g in lar tel.
Same in finder.
Est 9.4

June 20 1896 (Saturday)

Σ 2348 190 Draconis B
18 31 + 52.2
14 20
4 11
7 . 49

Pos. Ang. 270° Dist. 20" Mags. 5.8, 8.5
Index Left + above.

222.8 ∠ Btr. Dis.
8 9 247.2 24.4 <
224.5 19.7 < 3.55 <
244.2 44.1 <

(3.48)

222.8
8 10 245.9 23.1 <
224.2 23.6 < 3.42 <
247.8 46.7 <

Rt. + below.
310.3
8 12 337.9 27.6 <
312.2 24.5 < 3.18 <
336.7 52.1 <

(3.24)

8 13 ± 313.1
8 11 0 ± 335.3 22.2 <
311.0 27.0 < 3.31 <
338.0 49.2 <

M = 3.36

June 20. 1896.

Σ 2420 ο Draconis.

18 49 +59.2
14 40

4 9
7 51

Pos. Ang. Dist Mags.

Index Rt + above

~~132.0~~ < Blu. Dis.
8 29 ~~156.0~~
~~135.9~~
~~155.0~~

~~136.0~~
8 30 ~~155.0~~
~~131.9~~
~~157.3~~

Left + below.

~~232.2~~
8 31 ~~247.8~~
~~223.9~~

Reject above. Images must be reversed a dif. way

June 20. 1896.

Pos. Ang. 320° Dist 25" Mags. 4.7, 7.8

Index L. + below

223.0

8 33 242.2 19.2 <

223.9 22.2 < 3.69 <

246.6 41.4 <

223.8 (3.56)

34 245.1 21.3 <

221.8 20.0 < 3.44 <

246.8 46.3 <

Rt. + above.

312.7 2

35 Ao. 336.9 ~~376.9~~ ~~1~~4.2 <

312.0 24.1 <

336.1 48.3 < 3.35 <

311.8 (3.31)

36 336.1 24.3 <

311.0 25.7 <

8 34 30 < 336.7 50.0 < 3.27 <

M = 3.44

β Lyra Phot R.

18 46 + 33.2

15 60

3 46

8 14

~~M~~

June 20. 1896.

Index to Rt.
224.6 < Btw. Dis.
8 50 244.8 20.2<
223.0 23.0<
246.0 43.2< 3.60<

224.0 21.1< (3.66)
8 51 245.1
225.0 19.9<
244.9 41.0< 3.71<

Left.
~~343.8~~ 313.8
8 53 336.9 23.1<
311.7 26.1<
337.8 49.2< 3.31<

310.0 27.2< (3.30)
8 54 337.2
313.5 22.7<
336.2 49.9< 3.28<
1.90
M = 3.48<

8 52 00<

~~312.~~

June 20. 1896.
Same again. Index Left
312.2 24.9 <
9 7 337.1
311.2 26.6 <
337.8 51.5 < 3.21 <

311.5 26.3 < (3.30)
9 337.8
314.2 21.1 <
335.3 47.4 < 3.39 <
Right.
1 44.2 21.6 <
10 65.8
42.0 27.9 <
~~64~~ 69.9 49.5 < 3.29 <

42.2 27.0 < (3.28)
12 69.2
43.2 22.7 <
9 9 30 < 65.9 49.7 < 3.28 <
1.17
M = 3.29 <

June 20, 1896.

M. B. 441

3 31 +62.8

15 45

12 14

Rt. + below

119.7 ⟨ Var. Dis.

9 36 170.8 ⟨

122.0 51.1 ⟨

170.1 48.1 ⟨ 99.2 ⟨ −1.68 ⟨

123.1 45.9 ⟨ −(1.68)

9 37 169.0

118.8 53.2 ⟨

172.0 99.1 ⟨ −1.68 ⟨

Left + above

210.2

9 39 260.0 49.7 ⟨

214.0 47.0 ⟨

261.0 96.7 ⟨ −1.74 ⟨

212.2 44.9 ⟨ −(1.72)

42 257.1

210.0 53.0 ⟨

4 | 154 ⟨ 263.0 97.9 ⟨ −1.71 ⟨

9 38 30 ⟨ 2.41

M = −1.70 ⟨

June 20. 1896.

Same again

Left + above

209.0 54.0 <
9 44 263.0

211.0 46.8 <
257.8 100.8 < – 1.64 <

212.0 46.5 <
47 258.5 – (1.66)

210.8 52.1 <
262.9 98.6 < – 1.69 <

Rt. + below

~~48~~ 298.0 55.6 <
48 353.6

~~302.2~~ 300.1 50.9 <
351.0 106.5 < 1.50 <

302.8 48.3 <
52 351.1 – (1.54)

4 (191 <
298.1 54.7 <
9 47 45 < 352.8 103.0 < – 1.58 <

2.41

M = 1.60 <

June 20. 1896.

Region of T Cephei

21 6. +68.1
16 20

~~44~~
4. 46
7 14

In order to settle question satisfactorily it would seem necessary to refer to Books by daylight and perhaps to ~~a~~ arrange / to take transits.

Var. in Urs. Min.

15 50 +78.2
16 50

1 00

Index to Rt.

20.0 ∠ Comp. Star dis.
10. 50 92.6 72.6∠
20.5 71.2∠ 0.70∠
91.7 143.8∠

(0.70)∠

20.9
53 90.3 69.4∠
16.7 74.5∠ 0.70∠
91.2 143.9∠

June 20.1896.

Left.

110.6

10 55 180.1 69.5 <

111.8 66.4 < 0.86 <

135.9 <

178.2

(0.86) <

114.0

10 57 178.9 64.9 <

109.2 70.8 < 0.86 <

4(15 <

10 53 45 < 180.0 135.7 <

M = 0.78 <

June 22. 1896. (Monday).

Σ 2420. o Draconis. Lv. obs.

18 49 +59.2
18 20
−8 29
7 31

Pos. Ang. 330°. Dist. 30". Mag. 4.5, 7.8
Index left & below.

A 18	228.0 287.2 224.3 286.5	23.2 < 22.2 < 45.4 <	3.49 <
	223.2 285.7 221.2 287.6	22.5 < 26.4 < 48.9 <	(3.40) 3.32 <

Index right & above.

313.0 339.8 311.8 336.3	26.4 < 24.5 < 50.9 <	3.24 <

June 22. 1896.

313.4 (3.25)
8 21 336.9 23.5
8 17 30 310.6 26.7 326
337.3 50.2 (M = 3.32)

H. S.

Σ 44'

19 31 +59.8
14 45
-4 46
7 14

Pos. Ang. 280°. Dist. 75." mags. 5.5. 7.7.
Index right & below.

300.0
8 26 350.0 50.0
300.0 49.3 1.67
348.3 99.3

Clouds. thick.

(1.62)

297.4
348.5 51.1
298.0 52.1 1.58
350.1 103.1

June 22. 1896.

31.0
83.3 52.3<
31.2 48.6< 1.63<
79.8 100.9<

Clouds. thick

(1.66)

32.0
78.2 46.2<
30.1 52.7< 1.68<
82.6 98.9< (M = 1.64)

9 17
2(17 43
8 51.5<
10

Troubled by clouds, especially in last set. Delayed by thick clouds.

Σ 83' β Cygni. Sr. obs.
19 26 +27.7
15 85
-3 41
8 19
16 1
3 25
8 35

Clouds thick.

June 23.1896 (Tuesday)

Σ 2348   199 Draconis B.
18   31   + 52.2   W. obs.
14   20
4   11
7 . 49

Pos. Ang. 270° Dist. 25" Mags. 5.8, 8.4
Index Rt. + below
133.7 ∠ Btw. Dis
8   6   158.0   24.3<
130.7   28.6<   3.14<
159.3   52.9<

(3.19)
131.2
7   159.0   27.8<
133.7   23.1<   3.24<
156.8   50.9<

Left + above
222.0
9   249.0   27.0<
219.7   28.6<   3.03<
248.3   55.6<

(3.18)
222.0
10   246.2   24.2<
8   8   00<   222.9   24.3<   3.34<
~~246.9~~ 247.2   48.5<

M = 3.18

Taken through more or less cloud.

June 23. 1896..

Σ 2420 o Draconis

18 49 +59.2

14 49.

4 0

8

Pos. Ang. 320° Dist 30" Magt. 4.5, 7.7

L. + below

41.0 < Bt. ~~Dis~~

8 33 69.0 28.0 <

41.8 $2\overset{6}{\cancel{8}}.2$ < 3.09 <

68.0 $5\underset{4}{\cancel{6}}.2$ <

43.9 (3.18)

34 66.3 22.4 <

40.7 27.8 < 3.26 <

68.5 50.2 <

Rt. + above

131.0

35 158.3 27.3 <

134.0 23.0 < 3.26 <

157.0 50.3 <

134.8 (3.28)

36 157.0 22.2 <

8 34 30 132.2 26.9 < 3.31 <

159.1 49.1 <

(M = 3.23)

June 23. 1896.

X Cygni. Phot. R. W.obs

19 41 +33.4
15 15
4 26
7 34

Moon rather too bright to see Var. in Phot.

U. Cephei Phot. T. W. obs.
0 30 +81.7
24 30
15 50
8 40

Taken with watch 15" fast as comp. with Bond 394

R + above
183.0 < Var. Dis.
9 40 0 234.1 51.1 <
183.9 52.2 < -1.58 <
236.1 103.3 <

-(1.62)
183.3
41 40 237.6 54.3 <
186.0 46.1 < -1.65 <
232.2 100.4 <

June 23. 1896.

277.7
9 44 15 326.0 48.3
274.4 53.4 −1.61
327.8 101.7

275.5 I −(1.62)
45 57 202 327.6 52.1
4 | 11 52 277.0 48.9 −1.63
9 42 58 325.9 101.0 (M = 1.62)

276.8
47 37 326.9 50.1
274.0 52.2 −1.58
326.2 103.3

274.1 −(1.58)
49 19 327.1 53.0
274.5 50.7 −1.57
325.2 103.7

R. + above
7.9
52 3 53.5 45.6
3.7 53.2 −1.69
56.9 98.8

June 23. 1896.

		6.2		-(1.78)
9 53 30		54.7	48.5<	
4(202 29	149	8.4	43.1<	1.87< II
9 50 37.2<		51.5	91.6<	(M = 1.68)
		7.2		
9 55 3		53.0	45.8<	
		5.8	48.8<	-1.79<
		54.6	94.6<	
		4.4		-(1.77)
56 26		54.8	50.4<	
		7.9	45.9<	-1.75<
		53.8	96.3<	
		L. + below		
		97.4		
59 34		142.1	44.7<	
		95.2	48.6<	-1.83<
		143.8	93.3<	
		94.0		-(1.83)
10.				
~~9~~ 1 10		144.3	50.3<	
4(232 13<		98.1	43.0<	-1.83< III
9 58 3.2<		141.1	93.3<	(M = 1.80)

June 23. 1896.

96.6
10 3 3 140.6 44.0<
94.2 50.3< −1.80<
144.5 94.3<

93.8 −(1.77)
4 53 145.8 52.0<
97.9 44.6< −1.74<
142.5 96.6<

Rt. + above

186.3
7 45 235.0 48.7<
182.7 53.8< −1.60<
236.5 102.5<

183.5 −(1.62)
10 9 34 236.4 IV
4 (25 15 15 52.9<
10 6 18.8< 186.2 47.5< −1.65<
233.7 100.4<

M = 1.70

188.1
12 14 ~~231.6~~ 232.5 44.4<
181.0 55.0<
236.0 99.4< −1.67<

183.4 −(1.68)
14 29 232.6 49.2<
183.6 49.4< −1.69<
233.0 98.6<

June 23. 1896
L. + below

275.2
10 17 16 326.0 50.8″
273.4 55.6″ −1.50″
329.0 106.4″

273.9 −(1.50) ~~VX~~
19 29 205 328.4 54.5″
275.0 51.6″ −1.57″
4 | 23 28″
10 15 52″ 326.6 106.1″ (M = 1.57)

Watch 15″ fast of Bond 394

Later part of meas. made through some light cloud

Σ 2806
β Cephei

21 27 +70.0
17 5
4 22
7 36

Pos. Ang 250° Dist 12 Mags. 3.0, 8.2

Rt. + below

139.5 ∠ Btw. ~~Dis.~~
10 44 Clouds.? 150.0 10.5″
136.3 17.6″ 4.55″
153.9 28.1″

44

June 23, 1896.

137.0 (4.60)
10 45 153.0 16.0 <
138.8 11.1 < 4.64 <
27.1 <
149.9.

L. + above
229.0
47 240.0 11.0 <.
228.0 14.0 < 4.80 <
25.0 <
242.0

227.4 (4.78)
242.~~6~~5 15.1 <
48
10 46 00 228.6 10.4 < 4.76 <
25.5 <
239.0 (M = 4.69)
Σ 2873 180 Cephei B.
22 3 + 82.2.
17 20
4 43
7 17

Pos. Ang. ~~160~~ 70° Dist. 11" Mags. 6.4, 7.1
Clouds.

Index L. + above.
~~191.4~~ < Bt. Dis.
57 279.2

June 23. 1896

282.2 ∠ Btw. ~~Dis~~
10 58 3.3 81.1 <
279.9 87.6 <
7.5 168.7 < 0.21 <

277.3 (0.22)
10 59 5.7 88.4 <
~~285.3~~ 283.0 79.5 < 0.23 <
2.5 167.9 <
Rt + below
~~8.8~~
~~11 1~~ ~~94.9~~
~~7.2~~
~~98.2~~

~~9.1~~

Observer thinks he read circle wrong way in above est.

Rt + below
10.1
11 3 101.2 91.1 <
7.9 83.3 < 0.11 <
91.2 174.4 <

8.8 (0.10)
11 4 92.0 83.2 <
4|44 4 11.9 91.6 < 0.10 <
11 1 00 103.5 174.8 <
(M = 0.16)

June 26. 1896 (Friday)

Σ 2487 η Lyrae
19 10 +39.0
14 45
4 25
7 35

Pos. Ang. 80° Dist. 28" Mags. 4.8 8.2
3
Index Rt. + below

8 12
223.0 < Bt. Dis.
245.2
226.3 22.2
242.0 15.7
37.9 -3.89 8

13
224.7 -3.82
243.1 18.4
223.9 22.0
245.9 40.4 -3.75

Left + above. Mean -3.80

15
313.0
335.1 22.1
316.0 17.0
333.0 39.1 -3.82

16
314.9 -3.79
333.0 18.1
312.9 22.1
335.0 40.2 -3.76

8 14 00 8

June 26. 1896.

Σ 2348 190 Draconis B
18 31 + 52.2
15 10

3 21
8 39

Pos. Ang. 265° Dist 25 Mags. 5.7, 8.2
Index L. + above

43.9 < Bh. Dis
8 31 66.8 22.9
41.0 29.8
70.8 52.7 − 3.15

41.8 − 3.24
32 67.0 25.2
42.0 23.7
65.7 48.9 − 3.32
Rt. + below Mean = − 3.40
134.0
34 155.2 21.2
132.0 24.0
156.0 45.2 − 3.50

− 3.56
133.3
35 156.3 23.2
8 33 00 133.5 19.3
154.8 42.5 − 3.63

June 26. 1896.

W Delphini
~~W. Del. Fini~~ (Nell's Var.) W obs.

20 31 +17.8
15 16
5 15
6 45

Watch 8" fast of Bond 394.

Comp. * is a Rt. + above.

195.0 < Comp. slow des.

~~9~~ 8 49 35 225.4 30.4 <
195.4 32.9 < 2.74 <
228.3 63.3 <

13.5 (2.73)
59 39 45.2 31.7 <
13.4 32.2 < 2.72 <
45.6 63.9 <

Eye peice removed and replaced.

L. + below
46.9
9 5 45 78.0 31.1 <
48.5 30.3 < 2.81 <
78.8 61.4 <

June 26. 1896.

48.5
9 7 34 — 79.5 — 31.0 < — (2.80)
36 2 33 < — 15 — 49.1 — 30.9 < — I
61.9 < — 2.79 <
9 0 38.2 < — 80.0
− 8
9 0 30 — (M = 276)
− 0 38 30 — 12.03

48.3
9 11 52 — 79.0 — 30.7 <
49.8 — 31.4 <
62.1 < — 2.78 <
81.2

47.2 — (2.76)
13 52 — 80.1 — 32.9 <
48.9 — 30.0 < — 2.75 <
62.9 <
78.9

Rh. + above
140.2
17 00 — 168.9 — 28.7
Clouds.

135.2
28 46 — 168.8 — 33.6 <
137.6 — 33.1 < — 2.62 <
66.7 <
170.7

June 26, 1896.

137.7 (2.68)

9 25 34 171.1 33.4c

4(80 4c

9 20 1 139.5 29.9c 2.74c

−8 169.4 63.3c

9 19 53 II

−0 9 7 (M = 2.72)

11.99

Clouds.

138.5

9 31 8 169.3 30.8c

138.0 34.9c

65.7c 2.65c

172.9

~~134.7~~ 136.8 (2.70)

33 49 168.2 31.4c

138.6 31.9c

63.3c 2.74c

170.5

L + below

228.1

37 29 257.8 29.7c

226.9 33.7c

260.6 63.4c 2.73c

228.2 (2.66)

9 43 27 233 263.3 35.1c

4(147 53c 229.5 32.5c

9 36 58.2c 262.0 67.6c 2.59c III

−8

9 36 50 (M = 2.68)

−0 2 10 11.95

June 26. 1896.

224.0
9 52 27 261.5 37.5 <
228.2 34.9 < 2.43 <
72.4 <
263.1

(2.43)
227.0
9 56 36 264.1 37.1 <
228.0 35.1 <
72.2 < 2.43 <
263.1

Pt + above
317.0
10 2 0 353.1 36.1 <
317.9 33.1 <
69.2 < 2.53 <
351.0

(2.61)
137.8
10 4 23 14 237 170.0 32.2 <
4 (39 57 26 < 26 137.6 32.4 <
64.6 < 2.69 < IV
9 59 21.5 < 170.0 (M = 2.52)
− 8 11.89
9 59 14
10 20 14
~~9~~ 10 7 53 139.7
171.0 31.3 <
138.0 30.8 <
62.1 < 2.78 <
168.8

(2.60)
137.3
9 15 171.8 34.5 <
135.5 38.4 < 2.81 <
72.9 <
173.9

June 26. 1896
L + below

223.9
13 37 263.0 39.1<
228.6 33.9< 2.41<
262.5 73.0<

(2.32)

223.2
10 18 3 265.6 42.4<
4(48 48< 226.0 36.0< 2.24 V <
10 12 12< 262.0 78.4<
-8
10 12 4
+0 33 4

(M = 2.46)

Clouds
11.73

222.9
10 25 9 264.5 41.6<
~~228.8~~ 225.1 38.0< 2.21<
263.1 79.46<

(2.30)

225.2
261.9 36.7<
27 43 227.2 37.3< 2.38<
264.5 74.0<

Rt. + above

316.0
31 12 351.0 35.0<
317.9 33.0< 2.07<
350.9 68.0<

(2.52)

82

137.0
10 33 18 170.0 33.0< 2.47<
4(117 22 134.8 38.2< ~~VI~~
10 29 20.5 -8.5 173.0 71.2< 11.68
10 29 12 +0 50 12

(M = 2.41)

June 26. 1896.

	136.0		
10 35' 33	170.1	34.1 <	
	136.9	36.0 <	2.50 <
	172.9	70.1 <	
	137.2		(2.58)
38 43	169.8	32.6 <	
	137.3	33.1 <	2.65 <
	170.4	65.7 <	
	L + below		
	45.4		
40 2	82.6	37.2 <	
	46.7	34.8 <	2.44 <
	81.5	72.0 <	
	46.0		(2.39)
10 42 17	82.8	36.8 <	
4(156 35	44.6	38.3 <	2.34 < VII
10 39 8.8 – 8^s	82.9	75.1 <	(M = 2.48)
10 39 1			11.75
+1 * 0 1			
	47.8		
48 13	82.7	34.9 <	
	44.4	37.4 <	2.43 <
	81.8	72.3 <	
	45.8		(2.44)
49 8	80.9	35.1 <	
	44.8	36.9 <	2.44 <
	81.7	72.0 <	

June 26. 1896
Rt + above

134.5
51 38 173.2 38.7<
134.9 37.4< 231<
172.3 76.1<

(2.28)
135.0
5 3 0 119 173.4 38.4< 2.24<
4(201 5 9< 134.0 40.1< XIII
10 50 29.8< −8s 174.1 78.5< (M = 2.36)
10 50 22
+1 11 20 11.63

131.0
10 57 34 178.0 47.0<
132.5 39.4< 2.01<
171.9 86.4<

134.0 (2.02)
10 59 43 175.0 41.0<
131.1 45.0< 2.02<
176.1 86.0<

Lt + below
219.0
11 3 29 268.0 49.0<
224.4 39.5<
263.9 88.5< 1.95<

(1.92)
129 217.8
11 5 23 263.5 45.7< 1.89<
4(246 9< 221.9 45.2< IX
11 1 32.2< −8s 267.1 90.9< 11.24
11 1 24 (M = 1.97)
+1 22 26

June 26. 1896

218.7
7 26 269.8 51.1 <
222.0 43.6 <
265.6 94.7 < 1.79 <

222.2 (1.84)
9 28 265.0 42.8 <
220.1 48.4 <
268.5 91.2 < 1.88 <

Rt. & above
312.1
11 34 358.9 46.8 <
313.8 40.2 <
354.0 87.0 < 2.00 <

313.0 (1.92)
12 45 356.4 43.4 <
4 (41 13 < 310.4 49.5 <
11 10 18.2 359.9 92.9 < 1.84 X
-7 < (1.15
11 10 11 (M = 1.88)
+1 31 11

Watch 7" fast of Bond 391.

308.7 Clouds.
24 18 -7 358.9 50.2 <
24 11 314.0 44.8 <
358.8 95.0 < 1.78 <

24 11

~~24 18~~

June 26, 1896

Watch 30s fast

312.2 Clouds (1.52)

11 26 20 368.9 56.7 c

25 50 309.6 60.1 c 1.26 c

369.7 116.8 c

XI

Left + ~~above~~ Below

41.6

28 20 88.8 47.2 c

27 50 40.9 47.3 c 1.80 c

88.2 94.5 c

(1.76)

29 0 37.3

29 30 89.7 52.4 c

42.4 45.5 c 1.71 c

4 28 28 c 87.9 97.9 c (M = 1.64)

11 27 7 k 10.91

5

4 26 ~~8~~1 1.71

11 26 42.8 c

+1 47 43

June 26, 1896.

38.0
11 31 05 89.6 51.6<
41.9 47.8<
89.7 99.4< 1.67<

41.3 XII, (1.74)
32 03 87.9 46.6<
39.8 47.8<
87.6 94.4< 1.80<

Indep't. + above.
126.8
33 25 179.5 52.7<
127.8 51.8< 1.55.
179.6 104.5<

128.2 (1.56)
35 02 175.2 47.0<
126.1 56.2<
182.3 103.2< 1.58<

4 (11 35<
11 32 53.8< 215
-30

11 32 24
+1 53 24

M = 1.65
10.92

June 26, 1896.

	123.3		
11 43 10	188.0	64.7 <	
	127.9	60.1 <	
	188.0	124.8 <	1.09 <
	1		

(1.24)

XIII

	127.5		
44 23	175.6	48.1 <	
	121.3	63.4 <	
	184.7	111.5 <	1.38 <

Index left + below.

	215.3		
46 58	274.9	59.6 <	
	214.0	56.8 <	1.27 <
	270.8	116.4 <	

(1.23)

	217.8		
48 02	274.1	56.3 <	
	210.8	64.0 <	1.19 <
	274.8	120.3 <	

(M = 1.24)

10.51

4 (22 33

11 45 38.2

-30

11 45 8

+2 6 8

153

June 26, 1896.

218.5
11 49 22 277.0 58.5 <
218.5 51.5 <
270.0 110.0 < 1.42 <

217.0 ~~XIV~~, (1.34)
50 20 272.8 55.8 <
215.1 60.8 <
275.9 116.6 < 1.27 <

Indep. st., + above.

308.9
52 00 357.0 48.1 <
304.9 60.3 <
5.2 108.4 < 1.45 <

(1.46)

305.2
53 20 4.5 59.3 <
4 20 5 2 310.3 48.0 < 1.48 <
11 51 15.5 358.3 107.3 <
−30 M = 1.40
11 50 46 (0.6)
+2 11 46

June 26, 1896.

310.2
11 54 46 359.8 49.6<
304.8 61.2< 1.40<
6.0 110.8<

(1.42)

303.5
55 41 6.3 62.8<
311.9 46.2< 1.44<
358.1 109.0<

XV

Index left + below.

35.0
57 45 93.0 58.0<
34.0 62.5< 1.18<
96.5 120.5<

(1.22)

34.0
58 48 95.1 61.1<
4 (27) 0< 37.0 55.8< 1.26<
11 56 45< 92.8 116.9<
−30
11 56 15
+ 2 17 15

M = 1.32
10.59

June 26, 1896.

12 08 12

36.1
95.1
35.4
93.6

59.0<
58.2<
117.2<

1.25<

(1.2~~8~~4)

09 21

34.1
93.0
34.7
93.8

58.9<
59.1<
118.0

~~XVI~~

1.284

Indep't. + above.

11 23

126.0
182.8
119.9
183.3

56.8<
63.4<
120.2<

1.19<

(1.16)

12 29

120.7
186.6
126.0
182.6

65.9<
56.6<
122.5<

1.14<

M = 1.20
(0.4)

4 (41 25

12 10 21.2
-30

12 9 51
+2 30 51

June 26, 1896.

126.8
12 13 23 180.3 53.5<
117.7 66.5< 1.19<
184.2 120.0<

(1.1~~x~~ 5)

123.5
14 15 190.0 665<
126.6 ~~XVII~~ 57.1< 1.16<
183.7 123.6<

Indep left + below.

216.2
16 03 278.3 62.1<
212.2 65.7< 1.03<
277.9 127.8<

(1.02)

211.7
17 17 278.1 66.4<
213.8 61.7< 1.02<
4 (20 58< 275.5 128.1<
12 15 14.5< $\mathfrak{M}$=1.08
-30 10.35
12 14 44
+2 35 44

June 26, 1896.

12 24 00

212,7
276,7
210,2
279,1

64.0<
68.9<
132.9<

0.92<

(0.96)

25 03

212,3
279,1
215,1
278,0

66.8<
62.9<
129.7< XVIII.

0.99<

Indep rt. + above.

26 44

308,1
2,1
302,0
10,4

54.0<
68.4<
122.4<

1.14<

(1.06)

27 50

302,5
12,0
303,4
3,4

69.5<
60.0<
129.5<

0.99<

4 23 37< 217

12 25 54.2<
−30

12 25 24
+2 46 24

(M = 1.04)
1.028

June 26, 1896.

306.0
12 29 15 2.8 56.8<
301.4 71.0<
12.4 127.8< 1.03<

(1.04)

303.2
30 11 12.0 68.8< ~~X I X~~
304.3 58.0<
2.3 126.8< 1.05<

Index left + below.

33.0
32 10 93.0 60.0<
29.8 70.2<
100.0 130.2< 0.97<

(1.00)

33.4
33 35 98.2 64.8<
32.9 62.6< 1.03<
95.5 127.4<

(M = 1.02)
10.29

4 | 125 11
M 31 17.8
-30
12 30 48
+2 51 40

June 26, 1896

35.3
12 34 48 96.0 60.7
29.6 68.4
98.0 129.1 1.00

(1.00)

32.0
35 59 95.6 63.6
32.1 65.8
97.9 129.4 0.99

Index rts. & above.

121.8
39 00 183.7 61.9
118.4 69.3 0.95
187.7 131.2

(0.88)

116.9
40 12 188.5 71.6
4(149 59 119 121.2 66.3 0.82
12 37 29.8 −30s 187.5 137.9
12 37 0
+2 58 0

(M = 0.94)
10.21

June 26, 1896.

121.0
12 41 32 187.2 66.2 c
118.8 70.3 c
189.1 136.5 c 0.84

(0.86)

116.9
42 35 187.6 70.7 c
122.2 64.4 c XXI
186.6 135.1 c , 0.87

Index left + below.

211.2
44 33 281.1 69.9 c
205.5 78.5 c 0.61
284.0 148.4 c

(0.66)

207.2
45 45 283.0 75.8 c
4 14 25 213.2 67.7 c 0.70 c
(145) 280.9 143.5 c
12 43 36.2
12 43 6 M = 0.76
+ 3 4 6 10.03

June 26, 1896.

205.9
13 00 21 281.7 75.8″
205.3 77.2″ 0.52″
282.5 153.0″

(0.56)

207.0
01 53 283.9 76.9″
208.3 71.8″ 0.60″
280.1 148.7″ XXII.

Indep st. + above.

301.1
13 04 10 7.5 66.4″
299.0 73.2″ 0.78″
12.2 139.6″

(0.88)

297.9
05 30 7.8 69.9″
304.9 60.5″
5.4 130.4″ 0.97″

4(11 54 234
13 2 58.5
13 2 28
+3 23 28

(M = 0.72)
9.99

June 26, 1896.

304.1
13 07 00 9.0 64.9 c
298.4 69.9 c 0.88 c
8.3 134.8 c

(0.87)

298.9
08 02 10.4 71.5 c ~~XXIII~~.
301.1 64.4 c
5.5 135.9 c 0.86 c

Indep left & below

30.5
12 20 101.0 70.5 c
28.3 71.4 c 0.74 c
99.7 141.9 c

(0.73)

25.0
13 58 99.9 74.9 c
4(41 20 c 30.4 67.6 c 0.72 c
13 10 20 c 98.0 142.5 c
13 9 50

M = 0.80
(0.0)

+3 30 50

June 26, 1896.

31.7
13 15 33 98.1 66.4 <
25.0 76.6 <
101.6 143.0 < 0.71 <

(0.72)

27.2
16 48 101.8 74.6 < XXIV.
32.2 66.9 <
99.1 141.5 < 0.74 <

Indepnt + above.

118.9
18 40 187.1 68.2 <
113.9 77.9 < 0.65 <
191.8 146.1 <

(0.66)

115.7
20 25 191.7 76.0 <
~~20~~ 118.2 69.4 < 0.67 <
187.6 145.4 <

4(71 26

13 17 5/.5 206

M = 0.69

13 17 22

9.96

+3 38 22

June 26, 1896.

119.0

13 30 19 190.0 71.0 c

112.5 80.1 c 0.55 c

192.6 151.1 c

(0.62)

120.2

31 41 192.1 71.9 c ~~XXV~~.

118.4 71.7 c 070 c

190.1 143.6 c

Indep left + below

100.7

35 20 → 205.9

~~33 40~~ ~~211.0~~ 104.3

101.8 101 2

Prot. 203.0 $\overset{2}{+}03.0$ 205.5 – [illegible]

360.

155.5 0.49

(0.56)

28.1

37 45 102.9 74.8

4 (15 5 c 185 30.6 72.9 0.62

13 33 46.2 c 103.5 147.7

13 33 16 ($\mathfrak{M} = 0.59$)

+3 54 16

9.86

June 26, 1896.

Clouds.

28.8
13 39 51 102.5 73.7<
29.4 70.4<
99.8 144.1< 0.69<

(0.69)

29.1
41 32 99.2 70.1< 0.69<
26.3 74.0< XXVI.
100.3 144.1<

Indep st. & above.

114.4
44 04 189.3 74.9<
117.9 74.6< 0.58<
192.5 149.5<

(0.60)

117.0
45 53 194.1 77.1<
4)171 20< 20 120.4 70.3<
13 42 50< 190.7 147.4< 0.63<
13 42 20 (M=0.64)
+4 3 20 9.91

June 26, 1896.

111.0
13 ~~54~~ 55 ~~42~~ 15 → 193.3
~~195.0~~ 82.3
120.2 73.0 0.47
193.2 155.3

(0.4~~5~~4)

115.2
13 56 22 192.5 77.3 ~~XXVIII~~
113.1 81.0
194.1 158.3 0.41

Indep. left + below.

27.0
14 08 40 102.9 75.9
28.0 74.1 0.58
102.1 150.0

(0.58)

27.0
10 05 101.2 74.2
4 | 10 22 27.9 75.9 0.5~~8~~7
14 2 35.5 103.8 150.1
1~~2~~4 2 6
~~1~~4 23 6

(M = 0.54)
9.78

June 26, 1896.

26.1
14 11 48 99.4 73.3<
28.4 71.8< 0.67<
100.2 145.1<

(0.60)

27.9
13 00 100.5 72.6<
24.1 80.0< ~~XXVIII~~
104.1 152.6< 0.52<

Indep st. + obs.

116.9
15 26 189.4 72.5<
117.0 75.5< 0.61<
192.5 148.0<

(0.~~44~~ 50)

113.3
17 09 192.2 78.9<
4(17 23 83 111.9 81.1< 0.38<
14 14 20.8< 193.0 160.0<
-40
14 13 51
14 34 57

(𝔐 = 0.55)
9.82

June 26, 1896.

~~310.8~~

~~14 48~~

~~130.0~~
115.1
14 51 32 194.9 79.8 <
114.0 83.8 < 0.31 <
197.8 163.6 <

XXIX

113.0 (0.31)
52 46 195.9 82.9 <
114.2 80.7 < 0.31 <
194.9 163.6 <

Indep left + below.
203.2
55 30 285.5 82.3 <
203.3 85.7 < 0.23 <
289.0 168.0 <

205.9 (0.20)
56 50 290.8 84.9 <
4 (16 38 201.5 86.8 < 0.16 <
14 54 9.5 288.3 171.7 <
14 53 40 (M = 0.26)
+5 14 40 9.53

June 26, 1896.

202.1
14 58 20 286.0 83.9c
202.0 88.7c 0.14c
290.7 172.6c

(0.21)

204.1
59 32 285.2 81.1c
203.8 84.3c 0.28c
288.1 165.4c XXX

Indep st. & above.

295.0
15 01 40 15.9 80.9c
290.9 88.4c 0.20c
19.3 169.3c

(0.28)

293.5
02 59 17.1 83.6c
4 2 31 15″ 296.8 78.9 0.35
15 0 37.8c 15.0 161.8
15 0 8
+5 21 8

(M = 0.24)
9.51

Watch 30s fast.

Posted to here.

June 27. 1896. (Saturday)

Σ 2348   190 Draconis B
18 31   +52.2
14 45   Wobs.
3 46
8 14

Pos. Ang. 270° Dist. 25″ Mags. 5.7, 8.2
Index Rt + below.

313.8 < Bt, Dis.
8 15   335.2   21.4 <
311.0   26.1 <   3.39 <
337.1   47.5 <

7
(3.36)

311.0
17   336.9   25.9 <
312.2   22.4 <   3.35 <
334.6   48.3 <

L. + above

42.8
19   67.0   24.2 <
40.2   28.7 <   3.14 <
68.9   52.9 <

(3.20)

42.1
20   68.5   26.4 <
4(71   42.2   23.6 <   3.27 <
8 17 45 <   65.8   50.0 <   (M = 3.28)

Some cloud in this region

June 27. 1896.

Σ 2486 6 Cygni B Wolo.
19 9 δ + 49.6
15 9
4 0
8

Pos. Ang. 220° Dist. 10" Mags. 6.2, 6.4.
Index ~~L~~ above A.

197.5 B l., Rio.
8 31 274.5 77.0
192.9 80.3 0.43
273.2 157.3

(0.38)
192.8
33 276.0 83.2
196.1 78.7 0.34
274.8 161.9

Below A.
284.6
35 1.2 76.6
281.1 85.8 0.33
6.9 162.4

(0.28)
278.5
36 5.6 87.1
281.2 80.8 0.23
2.0 167.9

4 | 15
8 33 45

(M = 0.33)

June 27. 1896

Exper. with dif. forms of eye pieces for a few min. in order to see which could be used with Phot. H. Trouble somewhat by clouds in preceding observations. Sky now pretty clear except low down. Moon due in 1/2 h. but will look for faint comp. Stars for S Cygni with Phot. G.

20 8 +57.2
15 40

4 28
7 32

9 15 (δ Librae) 2.5 (ι (Librae)
(ι Librae) 1.5 (θ Librae) Wols.

9 16 (δ Librae) 3 (ι Librae)
(ι Librae) 1 (θ Librae) Sawyer obs.

June 27. 1896

Comp. Stars for δ Cygni. with Phot. T. W. obs.

Above Star p comp. with star a

p 149.0
9 26 160.9 11.9 <
149.2 11.6 < 4.94 <
160.8 23.5 <

149.9 (4.96)
28 161.3 11.4 <
149.5 11.5 < 4.99 <
161.0 22.9 <

Below
239.4
31 250.0 10.6 <
239.0 12.9 < 4.94 <
251.9 23.5 <

(4.85)
238.0
33 250.5 12.5 <
239.0 13.0 < 4.76 <
9 29 30 < 252.0 25.5 <
(M = 4.90)

q Below Star q comp. with star a
240.0
36 249.9 9.9 <
240.0 10.0 < 5.30 <
250.0 19.9 <

36 June 27, 1896

Below

(5.41)

240.0

9 38 249.2 9.2 <

241.7 8.8 < 5.52 <

250.5 18.0 <

Above

150.2

43 159.4 9.2 <

151.7 8.3 < 5.58 <

160.0 17.5 <

151.3 (5.58)

44 160.0 8.7 <

4 (16 1 151.0 8.7 < 5.59 <

9 40 15 159.7 17.4 < (M = 5.56)

o 145.3 Star o comp.

48 161.5 with star a

145.0 16.2 <

160.2 15.2 < 4.30 <

31.4 <

146.0 (4.28)

50 164.3 18.3 <

148.0 13.5 < 4.27 <

31.8 <

161.5

June 27. 1896

Below

	236.5		
9 53	252.0	15.5 <	
	238.0	14.9 <	4.37 <
	252.9	30.4 <	
			(4.28)
	238.6		
54	252.8	14.2 <	
4)20 5	235.7	18.8 <	419 <
9 57 10	254.5	33.0 <	
			M = 4.28
m.	233.6	Star m comp.	
9 56	253.8	with star d	
	237.0	20.2 <	
	250.6	13.6 <	4.14 <
		33.8 <	
	235.0		(4.205)
57	252.1	17.1 <	
	238.3	13.5 <	4.36 <
	251.8	30.6 <	
	Above		
	226.8		
59	241.6	14.8 <	
	226.8	15.2 <	4.40 <
	242.0	30.0 <	
			(4.35)
	226.0		
10 01	242.6	16.6 <	
4)23 2	227.0	14.8 <	
9 58 0 <	241.8	31.4 <	4.30 <
			(M = 4.30)

June 27. 1896.

Above

m.

323.6 Star m comp.

10 1 343.8 with star a

322.5 20.2<

345.6 23.1< 3.59<

43.3<

323.0 (3.60)

3 345.2 22.2<

323.0 21.0< 3.60<

344.0 43.2<

Below

55.4

5 73.3 17.9<

55.0 19.2< 3.93<

74.2 37.1<

54.8 (3.92)

7 75.0 20.2<

10 4 0< 55.8 17.3< 3.91<

73.1 37.5< (M = 3.76)

Moon rose during observation causing them to be made with some difficulty. As moon was low however and in some cloud succeeded in finishing series.

June 27, 1896

Transit of star through finder in order to determine the value of feild.

10 23 10

30 24

Σ 2873 180 Cephei B
+87.2 W.obs.

22 3
~~17~~ 23
~~5~~ 40
~~8~~ 20
22 3
17 23
4 40
7 20

Pos. Ang. 70° Dist. 14" Mags. 6,2, 70
Indep Rt. + below /
9.6 < Bk, Dis.
10 46 101.5 91.9 <
16.2 75.8 <
92.0 167.7 < 0.23 <

(0.20)

16.2
48 94.8 78.6 <
8.2 93.0 < 0.16 <
101.2 171.6 <

June 27. 1896.

L + above

102.0
10 49 191.3 89.3 <
107.5 75.6 < 0.29 <
183.1 164.9 <

108.4 (0.30)
51 183.2 74.8 <
10 48 30 < 102.2 88.6 < 0.32 <
190.8 163.4 < (M = 0.25)

Σ 2894 P. XXII 65°
22 13 + 37.2
17 43
4 30
7 30
Pos. Ang. 200° Dist. ~~15~~ 13" Mags 6.0, 8.4 Web
Index L + below
305.0 < Bla. Dis.
11 7 344.8 39.8 <
307.1 37.0 < 2.29 <
344.1 76.8 <

304.0 (2.26)
8 342.0 38.0 <
303.7 40.7 < 2.23 <
344.4 78.7 <

June 27, 1896
Rh + above

35.2
11 9 73.0 37.8<
37.2 37.0<
74.2 74.8< 2.35<

(2.34)
36.0
10 73.3 37.3<
11 8 30< 35.2 38.5<
73.7 75.8< 2.32<
(M = 2.30)

June 29. 1896. (Monday)

~~S Cygni.~~

~~20 8 +57.2~~
~~16 0~~
~~4 8 east~~

~~Measurement of faint comp stars with Phot T. Wicks.~~

Exp. the early part of the evening with Phot R. on East balcony mounted on horizontal stand with small objective in end of photometer and rectangular prism in front of same, making it a polarizing telescope: exp in setting + adjusting on α and β Lyrae.

S Cygni.

20 8 +57.2
16 0
4 8 east

Measurement of faint comp stars with Phot T. Wick

June 29.1896.

Index above
star p comp with star a

327.4 < comp star dis
9 33 338.0
328.3 10.6 ✓
337.4 9.1 ✓
19.7 ✓ 5.32 <

327.9
9 35 337.4 9.5 ✓
326.9 10.5 ✓
337.4 20.0 5.29 <
5.30 <

Index below.

~~58.9~~
~~70.9~~ 0

76.3
9 ~~38~~ 40 86.5 10.2 ✓
74.6 13.2 ✓
87.8 23.4 ✓ 4.95 <

75.7
9 43 86.3 10.6 ✓
73.7 11.7 ✓
85.4 22.3 ✓ 5.05 <
5.00 <

4)151(
9 37.75

M = 5.15 ✓

June 29. 1896.

star of comp with star a.

Index below

76.8 = comp star dis
9 46 85.2 8.4 ✓
76.4 9.5 ✓
85.9 17.9 ✓ 5.53 <

77.8
86.1 8.3 ✓
76.7 7.7 ✓
84.4 16.0 ✓ 5.78 <
5.66 <

Index above

166.5
174.8 8.3 ✓
166.5 9.7 ✓
176.2 18.0 ✓ 5.52 <

166.7
9 53 175.7 9.0 ✓
9 49 30 167.2 7.7 ✓
174.9 16.7 ✓ 5.68 <
5.60 <
M = 5.63 <

June 29. 1896.

Star o comp with star a

I index above

162.8 comp star dis
9 56 178.4
163.5 15.6 ✓
178.5 15.0 ✓
30.6 ✓ 4.36 ✓

163.2
179.2 16.0 ✓
164.6 13.7 ✓
178.3 29.7 ✓ 4.42 ✓
4.39 ✓

I index below.

253.7
270.1 16.4 ✓
251.7 18.5 ✓
270.2 34.9 ✓ 4.07 ✓

251.8
10 2 270.4 18.6 ✓
9 59 0 254.0 15.0 ✓
269.0 33.6 4.15 ✓
4.11 ✓
M = 4.25 ✓

June 29. 1896.

Star m comp. with star a

Index below

253.3 ← comp star dis
10 3 270.2
253.9 16.9 ✓
269.7 15.8 ✓
32.7 ✓ 4.21 ✓

252.4
270.8 18.4 ✓
254.2 15.4 ✓
269.7 33.8 ✓ 4.14 ✓
4.18 ✓

Index above
343.5
357.2 13.7 ✓
342.6 14.3 ✓
356.9 28.0 ✓ 4.55 ✓

342.1 14.0 ✓
10 10 356.1
10 7 30 342.6 14.9 ✓
357.5 28.9 ✓ 4.48 ✓
4.52 ✓
mean 4.35 ✓

June 29. 1896

Star m comp. with star a

Index above.

340.1 < comp star dis

10 12 360.0

339.0 19.9 ✓

361.0 22.0 ✓

41.9 ✓ 3.67 <

338.2

360.7 22.5 ✓

340.1 20.1 ✓

360.2 42.6 ✓ 363 <

3.65 <

Index below.

71.0

90.0 19.0 ✓

70.3 20.9 ✓

91.2 39.9 ✓ 3.77 <

69.5

10 18 91.0 21.5 ✓

10 15 0 71.7 17.2 ✓

88.9 38.7 ✓ 3.43 <

3.60 <

M = 3.72

June 29. 1896.

8 Urs. Maj.

12   34   +61.7
17   20
4   46

Measurements of faint comp stars with Phot. T.   W: obs.

star l comp with star k

Index left and above

217.5 < star k dis   88.4 <
11   5   305.9   81.9 <   0.18
219.6   170.3 <
301.5

(0.10)

219.3
303.5   84.2 <
213.0   93.9 <   0.03
306.9   178.1 <

Index to right below
307.9   89.4 <
37.3   79.5 <
311.1   168.9 <   0.21
30.6

June 29, 1896.

11 13

11 9 00

311.2 (0.18)

29.1 77.9<

304.2 93.5< 0.16

37.7 171.4<

M = 0.14

Star n comp. with star k

I index to right and below.

11 16

306.9 < star k dis

24.2

322.3 77.3<

21.1 58.8< 0.85

126.1<

6

319.6 5 0.98

18.5 ~~6~~8.9<

315.2 66.1< 1.08

21.3 1~~3~~5.0<

2

I index to left and above

~~47.9~~

110.2 62.3

~~52.7~~ ~~54.3~~

107.0 ~~116.6~~

June 29, 1896.

		~~48.1~~		
11	22	~~109.7~~	~~61.6~~	
		~~47.1~~	~~67.8~~	
		~~114.9~~	~~129.4~~	
		48.4		
		109.8	61.4<	
		49.2	60.2<	1.16
		109.4	121.6<	
		51.3		(1.16)
11	26	110.5	59.2<	
11	21 0	50.6	62.1<	1.16
		112.7	121.3<	
				M = 1.06

Moon too bright for any fainter star with Phot T.

Further exp with horizontal Phot. R. on east balcony.

June 30. 1896 (Tuesday)

Σ 2404   78 Tauri Pon. B.
Wols.

18 45   + 10.8
15 00
~~75~~
~~6 15~~
– 3 45
1 15

Pos. Ang 200° ~~Dist~~ 3"   Mags. 6.3, 7.1
Phot. H O   Rt. + ~~above~~ below

7.0
8 14   73.0   66.0 <
182.0   65.5 <   0.95 <
247.5   131.5 <

(0.98)

188.9
16   245.8   56.9 <
4.3   72.3 <   1.00 <
76.6   129.2 <

L. + above

274.8
17   340.7   65.9 <
95.3   57.2 <   1.13 <
156.5   123.1 <

(1.12)

100.0   Images very
19   156.2   56.2 <   67.7 <   blurry.   1.11 <
8 16 30 <   274.5   123.9 <   Observation
(M = 1.05)   ~~343.1~~ 342.2   very difficult.

June 30.1896

Phot. R. ≷ 44′ Wols.

19 31 + 59.8
15 31
4 00
8 00

~~Images very blurry, obs. very difficult.~~

Pos. Ang. 290° Dist. 75″ Mags. 5.2, 7.3
Index L. + above

152.5 < Btw. Div.
8 40 194.2 41.7c
148.0 51.5c
93.2c 1.83c
199.5

(1.54)

149.4
42 199.2 49.8c
151.2 42.9c
92.7c 1.84c
194.1

Rt. + below

~~238.7~~ 236°.0
44 286.2 51.2c
233.8 55.0c
106.2c 1.57c
288.8

(1.50)

231.9
45 ~~290.8~~ 287.2 55.3c
4(11 234.8 51.2c
106.5c 1.50c
8 42 45c 286.0

(M = 1.67)

June 30. 1896.
Set on Iapetus. W. obs.
15 00 − 14
15 45 Phot. I.
45
24 15

Rt. + above
282.1 18.8 ✓
9 40 300.9
278.8 22.7
301.5 41.5 ✓ 3.69

278.3 23.9 ✓ (3.62)
41 302.2
281.6 20.1 ✓
301.7 44.0 ✓ 3.56
L. + below
11.9 20.1 ✓
45 32.0
12.0 19.7 ✓
31.7 39.8 ✓ 3.78

13.5 19.3 ✓ (3.74)
47 32.8
4 13 11.7 21.8 ✓
9 43 15 33.5 41.1 ✓ 3.71 I

(M = 3.68)

June 30. 1896.
L + below.
12.4 18.9 ✓
9 50 31.3
12.8 21.0 ✓
33.8 39.9 ✓ 3.77 <

12.1 20.3 ✓
53 32.4 (3.80)
13.0 18.6 ✓
31.6 38.9 ✓ 3.83 <

Rt + above
101.0 21.6 ✓
56 122.6
100.2 21.5 ✓
121.7 43.1 ✓ 3.60 <

100.5 21.5 ✓
59 122.0 (3.63)
9 54 30 101.3 20.5 ✓
121.8 42.0 ✓ 3.66 < II
(M = 3.72)

Meas. very dif. on account of faintness of Sat. and prox. of Saturn. Obliged to make meas. rather near edge of field putting Sat. a little out side of field as much as possible.

June 30 1896.

Meas. of faint Comp. Stars. for S. Urs. Majoris with Phot. J. Stab.

12 34 +61.7
17 00
4 26

Star e comp. with Star g
Lf + above

86.1
10. 22 138.~~8~~0 < Star g dir.
83.9 51.9
136.7 52.8
104.7 1.54

84.6
23 138.0 53.4
81.6 54.5
136.1 107.9 1.47
Rt. + below 1.50

167.5
25 230.0 62.5
169.2 60.1
229.3 122.6 1.14

June 30, 1896

169.8
10 26 228.5 58.7 ✓
10 24 0 167.8 62.2 ✓
230.0 120.9 ✓ 1.17 ✓
1.16
1.33 mean.

Star n comp. with star 5
Rt. + below
179.5 41.6 ✓
29 221.1
178.6 42.4 ✓
221.0 84.0 ✓ 2.08 ✓

178.5 43.1 ✓
30 221.6
179.0 41.0 ✓
220.0 84.1 ✓ 2.08 ✓
L. + above 2.08
270.8 39.1 ✓
33 309.9
269.0 44.0 ✓
313.0 83.1 ✓ 2.10 ✓

269.8 41.4 ✓
35 311.2
4(127 270.0 40.0 ✓
10 31 45 310.0 81.4 ✓ 2.14 ✓
2.12
mean 2.10

June 30, 1896
Star q comp. with g

L. + above

		279.5	22.5 ✓	
10	42	302.0		
		281.0	18.9 ✓	
		299.9	41.4 ✓	3.69 ✓
		279.3	23.6 ✓	
	43	302.9		
		279.0	22.5 ✓	
		301.5	46.1 ✓	3.45 ✓
				3.57

Rt + below

		10.0	21.0 ✓	
	45	31.0		
		9.9	22.9 ✓	
		32.8	43.9 ✓	3.56 ✓
		12.3	21.2 ✓	
	46	33.5		
10	44 0	11.0	20.0 ✓	
		31.0	41.2 ✓	3.70 ✓
				3.63
				3.60 mean.

June 30 1896.

Star p with g
R. + above

7.6
34.0 26.4 ✓
8.2
36.4 28.2 ✓
54.6 ✓ 3.07 ✓

6.5 26.8 ✓
33.3
6.5 24.5 ✓
31.0 51.3 ✓ 3.22 ✓
3.14

L + below

~~95.8~~ 100.0
~~121.9~~ 124.6 24.6
96.8
124.5 27.7
52.3 3.17 ✓

95.0
125.5 30.5 ✓
97.6 25.3 ✓
122.9 55.8 ✓ 3.02 ✓
3.10

mean = 3.12

June 30 1896.

Stan. O comp. with g L + above

93.1 32.9 ✓
126.0
96.4 26.9 ✓
123.3 59.8 ✓ 2.87 ✓

95.2 28.8 ✓
124.0
92.8 33.7 ✓
126.5 62.5 ✓ 2.77 ✓
2.82

L + below

183.1 30.8 ✓
213.9
184.1 30.2
214.3 61.0 ✓ 2.82 ✓

184.0 31.0 ✓
215.0
185.0 29.9 ✓
214.9 60.9 ✓ 2.83 ✓
2.82

mean 2.82

June 30 1896

Star m. comp with 9 R + above

174.4	49.8 ✓	
224.2		
176.0	47.5 ✓	
223.5	97.3 ✓	1.72 ✓
179.2	41.4 ✓	
220.6		
176.5	47.3 ✓	
223.8	88.7 ✓	1.95 ✓
		1.84

L + below

271.0	43.3 ✓	
314.3		
266.0	48.0 ✓	
314.0	91.3 ✓	1.88 ✓
266.0	47.9 ✓	
313.9		
265.7	47.3 ✓	
313.0	95.2 ✓	1.78 ✓
		1.83
		1.84 mean

June 30. 1896
Σ 1744 ζ Ur. Mag. Wsh
13 19 + 55.6
18 19
5
7 00

Pos. Ang. 140° Dist. 14" Mags. 2.2, 4,3
Index Rt + above
235.5 < Bt. Dis
11 31 288.0 52.5<
232.0 60.3< 1.35<
112.8<
292.3

(1.3~~2~~3)
235.7
32 290.7 55.0<
232.0 59.9< 1.31<
114.9<
291.9
L. + below
320.4
33 23.3 62.9<
327.3 54.8< 1.24<
117.7<
22.1

(1.33)
327.0
34 21.9 54.9<
11 32 30 324.0 55.1< 1.42<
110.0<
19.1
(M = 1.3~~2~~3)

June 30 1896.

Phot. R   Σ 1821 κ Bootis   Wob

~~12~~
14   9   +52.4
18   30
4   21

Pos. Ang. 240° Dist. 12" Mags. 5.2, 7.4

Index L. + above

57.6 < Bk. Dis
11 41   110.3   50.7 <
64.9   38.0 <   1.95 <
88.7 <
102.9

(1.94)

64.0
42   105.3   41.3 <
59.5   48.4 <   1.92 <
89.7 <
107.9

Rt. + below

149.0
44   196.1   47.1 <
152.0   36.9 <   2.08 <
84.0 <
188.9

(2.06)

153.9
45'   189.5   35.6 <
11 43 0   148.0   49.5 <   2.05 <
85.1 <
197.5

(M = 2.00)

July 1. 1896. (Wednesday.)

Phot R. Σ 2487 η * Lyrae Wobs.

19 10 + 39.0

15 10

4 00

8 00

Pos. Ang. 110° Dist. 25" Mags. 4.0, 7.8

Indiff Rt. + below

340.2 < Bts, ~~Dio~~,

8 15 3.2 23.0<

344.1 17.1< 3.76<

1.2 40.1<

343.1 (3.72)

16 1.0 17.9<

341.0 23.9< 3.67<

4.9 41.8<

L. + above.

73.0

18 92.5 19.5<

75.1 15.1< 4.09<

90.2 34.6<

75.0 (4.00)

19 90.8 15.8<

8 17 0< 72.2 21.8< 3.91<

94.0 37.6<

(M = 3.86)

July 1. 1896.

Phot. R. Σ 2486 6 Cygni B Hobs.

19, 9 +49.6
15 20

3 49
8 11

Pos. Ang. 220° ~~Dist.~~ 10" Mags. 6.2, 6.6
Index Rt. + below A.

37.0 ∠ Btw. ~~Dis~~
8 26 127.7 90.7 <
47.0 74.1 <
121.1 164.8 < 0.29 <

44.2 (0.26)
27 122,2 78.0 <
39.2 90.3 <
129.5 168.3 < 0.22 <

L. + above B.

130.1
29 215.0 84.9 <
129.9 84.6 <
214.5 169.5 < 0.20 <

132.5 (0.28)
30 211.0 78.5 <
8 28 0 < 130.8 82.0 <
212.8 160.5 < 0.37 <

(M = 0.27)

July 1. 1896.

H.obs.

Phot. T. R. Σ 44'

19 31 +59.8
15 31

4 00
8 00

Pos. Ang. 290° Dist. 75" Mags. 5.2, 7.0

Indy Rt. + below

60.2 ∠ Btw. Div.

8 43 105.9 45.7 <
58.7 51.3 < 1.73 <
110.0 97.0 <

(1.74)

58.8
44 108.8 50.0 <
60.3 46.7 < 1.74 <
107.0 96.7 <

L + above

~~12~~ 147.5
46 197.2 49.7 <
151.1 45.0 < 1.79 <
196.1 94.7 <

(1.80)

149.3
47 196.2 46.9 <
148.3 46.8 < 1.82 <
8 45 0 = 195.1 93.7 <

(M = 1.77)

July 1. 1896. Phot. T.

Meas. of faint Comp. stars for S. Urs. Maj. ½. rts.

12 34 +61.7
15 55
3 21

Star e comp. with g Index L. + above

242.0 & Comp dis
9 6 295.8 53.8
242.6
299.4 56.8 1.40
$\overline{110.\cancel{8}_6}$ ~~1.44~~

244.0
8 297.5 53.5 (1.42)
242.9 55.1
298.0 $\overline{108.6}$ $\underline{1.45}$
Rt. + below ~~1.43~~

It is evident that 2 } $\overset{3}{\cancel{2}}28.0$ 62.0
10 3 was called 2. } 30.0
in reading circle } $\overset{3}{\cancel{2}}24.9$ 66.0
(See next star also) 30.9 $\overline{128.0}$ 1.02

$\overset{3}{\cancel{2}}26.1$ 65.2
12 31.3
9 9 0 $\overset{3}{\cancel{2}}28.2$ 62.3
30.5 $\overline{127.5}$ $\underline{1.03}$
~~1.02~~
~~Mean. 1.24~~
(M = 1.23)

July 1. 1896.

Star n comp with 9

R + below

339.3 < Comp. dis

9 15 22.6 43.3″

341.1

19.0 37.9″

81.2″ 2.16″

341.0 38.1″ (2.16)

17 19.1

338.6 43.5″

22.1 81.6″ 2.15″

2.16″

L + above

71.0 40.0″

19 111.0

70.0 40.2″

110.2 80.2″ 2.19″

9 20 69.9 38.4″

108.3 (2.12)

4) 71

67.7

9 17 45 114.6 46.9″

85.3″ 2.04″

2.12″

2.14″ mean.

July 1 1896

Star m comp with g L + above

9 24 68.2 44.1'
112.3
69.5 41.0'
110.5 85.1' 2.05'

25 69.7 41.7'
111.4
68.0 45.8'
113.8 87.5' 1.98'

R + below 2.02'

27 157.8 47.2'
205.0
159.5 46.5'
206.0 93.7' 1.98'

9 29 160.5 39.4'
4|25 199.9
9 26 15 157.8 44.8'
202.6 84.2' 2.07'

2.02'

2.02 screen.

δ Lac o comp with g July 1 1896

Rt.

	167.0	27.3 <	
32	194.3		
	168.0	27.7 <	
	195.7	55.0 <	3.06 <
	165.0	32.0 <	
34	197.0		
	168.2	23.2 <	
	191.4	55.2 <	3.05 <
			3.06 <

Left

	256.1	28.7 <	
58	284.8		
	254.0	30.0 <	
	284.0	58.7 <	2.91 <
	255.0	28.3 <	
59	283.3		
	254.6	30.2 <	
	284.8	58.5 <	2.92 <
			2.92 <
			2.99 < mean.

4(183

9 45 45

July 1. 1896.

Star p comp with 9 R + below

168.8 24.2

33 193.0

168.0 29.8

197.8 54.0 3.10

167.9 28.4

37 196.3

169.4 23.6

193.0 52.0 3.18

L + above 3.14

258.0 24.0

54 282.0

255.3 28.1

283.4 52.1 3.18

256.5 27.3

56 283.8

257.9 26.1

284.0 53.4 3.17

3.175

3.14 mean.

4 | 182

9 45 30.

July 1. 1896.

Star q comp with g Rt + below

169.4
42 193.5 24.1 <
172.3
190.5 18.0 <
42.1 < 3.65 <

170.0 20.9 <
44 190.9
169.4 22.2 <
192.2 43.1 < 3.57 <

L + above 3.61 <

48 260.0 20.1 <
280.1
259.0 21.0 <
280.0 41.1 < 3.71 <

259.1 22.0 <
30 281.1
9 46 0 259.9 20.4 <
280.3 42.4 < 3.64 <

3.68 <

3.64 < mean.

July 1 1896

Meast of Ft. Comp. Stars for R. Urs. Majs: with Phot. F.

10 32
17 10
6 38

+69.3
St.-obs.

Star t comp. with h Left

10 35

81.4
99.5 18.1
81.8
96.9 15.1
33.2 4.18

82.0
95.1 13.1
84.0
97.5 13.5
26.6 4.67
(4.42)

R

174.5
187.2 12.7
172.8
189.2 16.4
29.1 4.47

50

10 42

~~192.0~~
~~172.8~~
~~191.0~~
~~174.3~~

169.0
189.0 20.09
171.0
169.5 18.5
38.5
(m = 42.9)

F
3.85
4.16
~~4.28 mean.~~

July. 1. 1896

Star S comp with h

Rt + below

10 44 172.9 19.1″

192.0

168.9 19.1″

188.0 38.2″ 3.87″

171.0 13.6″

184.6

171.0 20.3″

191.3 33.9″ 4.13″

L + above (4.00)″

260.0

279.1 19.1″

261.0 19.0″

280.0 38.1″ 3.88″

260.5 26.7″

282.2

53

10 48 30 260.8 14.5″

279.3 40.2″ 3.76″

3.82″

mean = 3.91″

July 1. 1896.

Stáiz comp. with h L + above

257.2 23.2
10 57 280.4
259.0 22.6
281.6 45.8 3.47

258.3 25.5
283.8
260.0 21.5
281.5 47.0 3.41
(3.44)

Rt. + below

347.2 26.8
14.0
347.0 25.0
12.0 51.8 3.19

348.9 24.4
11 2 13.3
10 59 30 348.0 25.8
13.8 50.2 3.26
3.22
mean = 3.33

July 1, 1896.

Star q. comp. with ♄ R + above

346.0

11 6 ~~11.8~~ 13.0 27.0<

344.2

12.8 28.6< / 55.6< 3.03<

345.0 31.9<

16.9

347.0 27.5<

14.5 59.4< 2.88< / (2.96)<

L + below

76.2 28.3<

104.5

76.0 29.8<

105.8 58.1< 2.93<

74.4 31.0<

11 105.4

11 8 30

74.3 31.7<

106.0 62.7< 2.76<

2.85<

mean = 2.90<

July 1, 1896.

Star p comp with R l + below

73.0 38.0
11 15 111.0
67.8 41.2
109.0 79.2 2.22

69.0 41.4
110.4
73.8 33.6
107.4 75.0 2.35
(2.26)

R + above

165.0 31.5
196.5
158.0 42.3
200.3 73.8 2.37

162.0 38.0
11 23 200.0
11 19 0 166.5 29.0 2.61
195.5 67.0 2.50
2.39 mean

Obs. tonight of faint est. comp. stars made with very much difficulty on account of haze and light in sky.

This was especially the case with the faintest comp. stars for R Urs. Mag. especially as the region was a little lower than in the case of S Urs. Mag.

July 1. 1896

Both regions however were difficult of observation.

July 2. 1896. (Thursday)

Σ 2585 : 3 Sagittae :

19 43 +18.8
15 50
+3 53
8 7

abandoned

β Lyrae ~~mounted on east~~ measured with Phot. R mounted horizontally on East balcony. Prism in front. Cram obs-

9 21
240.6 < β ha.
289.1 48.5
240.6
282.5 41.9
90.4 1.90

9 25
241.2 44.0 +.98
285.2
243.3
284.0 40.7
84.7 2.06
1.98

July 2, 1896.

240.0 44.3
9 27 284.3
~~236.0~~ rej.
240.4
285.9 45.5
89.8 1.92

235.2 51.3
9 35 286.5
4(108
9 27 0 242.0
282.4 40.4
91.7 1.87
1.90
Mean = 1.94

Measurement of faint comp. stars for R. Urs. Maj. with Phot. T: W. obs

10 32 +69.3
16 47
6 15

July 2. 1896.

Star r comp. with star h.
Index to left and above

260.4 ∠ comp star dis
279.8
258.4   19.4 ✓
10 3 281.4   23.0 ✓
42.4 ✓   3.64 ✓

257.8
282.4   24.6 ✓
261.5   17.7 ✓
279.2   42.3 ✓   3.64 ✓
3.64

Index to right and below
349.3
13.9   24.6 ✓
348.3   24.4 ✓
12.7   49.0 ✓   3.32 ✓

347.0
11.9   24.9 ✓
348.9   24.7 ✓
10 8 13.6   49.6 ✓   3.29 ✓
10 5 30
3.30

mean = 3.47

July 2, 1896.

star S comp. with star h.

I index to right and below

349.5
7.9 < comp star dis
350.0 18.4 ✓
9.0 19.0 ✓
37.4 ✓ 3.92 ✓

350.7
10.0 19.3 ✓
351.3 18.7 ✓
10.0 38.0 ✓ 3.88 ✓
3.90

I index to left and above

80.8
99.0 18.2 ✓
79.7 19.9 ✓
99.6 38.1 ✓ 3.88 ✓

79.8
98.2 18.4 ✓
80.6 18.8 ✓
10 15 99.4 37.2 3.93 ✓
3.90

mean 3.90

July 2, 1896.

star & comp with star fr
Index to left and above.

~~79.3~~ 82.0
97.2 ← comp star dis
84.2 15.2 ✓
96.5 12.3 ✓
27.5 ✓ 4.59 ✓

83.2
96.5 13.3 ✓
83.1 13.7 ✓
96.8 27.0 ✓ 4.63 ✓
4.61

Index to right and below

172.7
186.4 13.7 ✓
173.9 13.7 ✓
187.6 27.4 ✓ 4.60 ✓

175.2 11.8 ✓
187.0 12.4 ✓
175.6 24.2 ✓
10 30 188.0 4.87 ✓
4.74
Mean 4.68

July 2. 1896.

star of comp with star h.
Index to right and below

170.7 < comp star dis
195.2 24.5 ✓
167.5 28.5 ✓
196.0 53.0 ✓ 3.16 ✓

166.9
195.4 28.5 ✓
167.6 24.6 ✓
192.2 53.1 ✓ 3.16 ✓
3.16

Index to left and above

260.6
283.9 23.3 ✓
258.0 26.5 ✓
284.5 49.8 ✓ 3.26 ✓

259.0
283.5 24.5 ✓
258.6 25.3 ✓
10 40 283.9 49.8 ✓ 3.26 ✓
3.26
mean 3.21

July 2, 1896.

star p comp with star h.
Index to left.

256.2 < comp star dis.
285.9
249.9 29.7
291.2 41.3
71.0 2.47

252.8
290.0 37.2
256.0 32.5
288.5 ~~280.2~~ = 69.7 2.52
2.50

Index to right.

340.2 39.8
20.0 32.8
343.6 72.6 2.42
16.4

344.0
17.4 33.4
339.1 40.9
20.0 74.3 2.37
2.40
mean 2.45

10 50

July 2. 1896.

β Lyrae again, with Phot. R. and prism on end, used as a horizontal photometer. East Balcony. Crane obs.

~~59.7~~
~~106.4 ∠ β do~~ rej. wrongly adjusted.

Button above.

~~107.0~~ 61.8 45.2°
11 21 107.0
65.5 43.0°
108.5 88.2° 1.96°

~~60.8~~
~~11 25~~ ~~107.2~~ rej. images do
~~60.4~~ not reverse well
~~105.0~~

Readjusted.

62.3 43.2°
11 32 105.5
65.3 43.5°
108.8 86.7° 2.00°
1.98°

July 2. 1896.

60.6 45.6
11 39 106.2
58.4
107.6 49.2
94.8 1.79

60.8
11 43 110.1 49.3
4(13 5 63.3 44.4
11 ~~2~~ 33 45 107.7
93.7 1.82
1.80

Mean = 1.89

July 9. 1896. (Thursday).

Saturn

14	43	−13.3
15	0	−~~14.0~~
15	~~30~~ 37	
~~0~~	~~30~~	
0	54	

Showed visitors Saturn, rings and
8 15 satellites.

Seeing very fine

W. suspects at times a division in outer ring at ansae, especially at preceding one, but is not absolutely sure of it.

$16^h\ 11^m\ 0^s$

$\underline{4.5}$

$4^s.5$

21

$\underline{38.5}$

$17^s.5$

July 9. 1896.

$16^h\ 12^m\ 2^s.5$
20.0
$17^s.5$

Measurement of Iapetus with Phot. T
W. obs.

Diaphragm inserted in front of field lens of eye piece.

Comp. Star = BD − 12° 4141 (9.0)

Index to right and above.

157.0 < comp star dis.
9 13 185.4 28.4
155.7
183.7 28.0 / 56.4 3.00

155.9 30.0
9 15 185.9
155.5
184.3 28.8 / 58.8 Cloudy 2.91

Index to left and below

246.4
9 29 274.2 27.8
246.3
272.1 25.8 / 53.6 3.11

Reject this group. Diaphragm gives trouble.

July 9. 1896.

245.3 28.7
9 30 274.0 $\frac{22.9}{51.6}$ 28.7 3.20
249.0 gave trouble
271.9 and was taken

Diaphragm out in following sets.

277.2
9 31 303.5 26.3 26.3

275.6 28.3
303.9 $\frac{28.3}{54.6}$ 3.07

276.4 (3.04)
9 33 303.7 27.3
274.7 29.0
303.7 $\frac{29.0}{56.3}$ 3.00

Index to right and above

6.3 25.3
9 36 31.6
7.0 25.1
32.1 $\frac{25.1}{50.4}$ 3.25

7.0 22.6 (+ 3.28)
9 38 29.6
6.8 26.8
14 3~~4~~.5 32.6 ~~50.4~~
49.4 3.30

Mean = (+ 3.16)

July 9, 1896.

Another group taken.

		5.6				
9	39	~~32.6~~	32.6	27.0		
		4.7		24.7		
		31.4		51.7	3.20	
		7.4		23.6		(+3.26)
9	40	31.0				
		6.9		25.4		
		32.3		49.0	3.32	

Index to left and below

		96.0	27.0		
9	42	123.0			
		96.9	26.3		
		123.2	53.3	3.13	
		95.9	27.1		(+3.12)
9	45	123.0			
		96.4	26.6		
14	42 = Gr. M.T.	123.0	53.7	3.11	

Mean = +3.1~~0~~

July 9, 1896.

measurement of faint comp. stars for
T Urs. maj: Phot. T: W: obs

12 33 +60.4
17 30
5 0

again

12 33 +60.4
18 3
5 30

p comp with star k
Index above

246.0
289.4 ∠ comp star dis.
10 44
244.6 43.4
288.5 43.9
87.3 4.99

July 9. 1896.

244.0 46.7
290.7 1.94
246.4 41.6
288.0 88.3 1.96

Index below
334.4 44.5
18.9
335.0 47.5
22.5 92.0 1.86

337.0 45.8
10 1 58 22.8 1.92
10 337.9 41.8
47.5 19.7 87.6 1.98
Mean = ±1.95

Stopped by moisture on lens

Index below
0 comp with star k.
154.0 46.3
200.3
154.6 47.1
201.7 93.4 1.82

July 9. 1896.

152.9 48.4
201.3 1.74
151.9 51.1
203.0 99.5 1.67

Index above
239.9 55.7
295.6
242.3 46.8
289.1 102.5 1.60

243.5 46.6 +1.54
11 . 6 290.1
11 8.5 238.0 60.6
298.6 107.2 1.48
means +1.64+

n comp. with star k.
Index above
236.2 ← comp star
11 7 298.0 61.8
242.8 47.2
290.0 109.0 1.44

241.4 49.5 1.40
290.9
237.2 62.4
299.6 111.9 1.37

July 9. 1896.

Index below

~~327.0~~

15 Prisms struck: new star

h 11

154.0 49.0
203.0
151.4 √54.0
205.4 103.0 1.52

1.45

147.4 √59.8
207.2
332.4 √51.6
24.0 111.4 1.39

Mean = + 1.44

r comp with star k.
Index below

11 35 Clouds

12 15 Still cloudy and growing worse: clouds prevented completion of series.

July 9. 1896.

~~Index~~

Troubled throughout evening - especially during latter part of same - by moisture on optical parts of instrument.

Troubled also by prisms hitting against inner end of tail piece.

12 20 apparently no chance for work on β Lyrae.

12 37 Prism of auxiliary telescope on west balcony covered with moisture.

[illegible] time.

July 10, 1896. (Friday)

Cleaned achromatic prisms and optical parts of Phot T. in twilight.

~~Σ 46′ : 16 Cygni ; Phot ~~St~~ R : W obs~~

~~19 38 + 50.2~~
~~15 58~~
~~3 40~~

~~Σ 45′ : 151 Aquilae B ; Phot ~~St~~ R W : obs~~

~~19 36 −8.6~~
~~15 56~~
~~3 40~~

Abandoned as Phot R. is mounted on horizontal stand.

Σ 2492 : 23 Aquilae ; Phot St. W obs

19 12 + 0.8
1.6 2
3 10

July 10, 1896.

abandoned: seeing too bad for close double: faint companion most of the time invisible.

Σ2486: 6 Cygni β: Phot. H: W. obs.

19 8. +49.6
16 8
3 0

Position angle = 220° : Distance = 10"
magn = 6.1 and 6.4

Index to right and ~~below~~ above. A.

~~264.8~~

174.4 < brighter dir.
263.1 88.7
177.1 81.2
258.3 169.9 − 0.19

178.3 − 0.18
258.2 79.9
171.7 91.1
262.8 171.0 − 0.17

Mean = −0.18

July 10, 1896.

Index to left and below B.

87.2
174.5 87.3
91.9 76.5
168.4 163.8 — 0.31

82.7 — 0.18
167.4 84.7
83.7 92.0
175.7 176.7 — 0.06

8 49 Sky somewhat hazy

Measurement of faint comp. stars for T. urs. maj. with Phot T. W obs.

12 33 +60.4
16 30
3 57

July 10, 1896.

p comp. with f
Index above

~~69.6~~ ← ~~comp star~~ dis.
~~4~~ ~~22~~ ~~88.4~~ → It is not certain ~~that~~ he reversed images.
70.4
9 23 87.0 ← comp star dis.
69.7 16.6 ✓
89.2 19.5 ✓
36.1 ✓ 4.00
Clouds
69.5
88.9 19.4
66.9
87.2 20.3
39.7
3.79
3.90

Index below.
160.0 18.8
178.8
157.6 23.1 3.67
180.7 41.9

158.5 23.2
9 30 181.7
14 26.5 160.0 18.0
178.0 41.2
3.70
3.68
3.79 mean.

July 10, 1896.

m comp with f.
Index below.

157.0 & comp strain dis.
9 25 180.2 23.2
157.9 25.0
182.9 48.2 3.35

156.7 24.8
181.5
157.4 21.3
178.7 46.1 3.45
3.40

Index above.

246.4
270.7 24.3
247.0 24.0 Clouds.
271.0 48.3 3.35

248.7 25.3
9 45 274.0
14 . 40.0 244.9 25.2
270.1 50.2 3.26
3.30
3.35 mean.

July 10. 1896.

O comp with f
Index below.

159.7 – comp star dis.
9 38 178.8 19.1
158.2
181.4 23.2
42.3 3.64

156.8 26.1
182.9
159.9
179.2 19.3
45.4 3.49
3.56

Index above.
~~247.8~~ 248.0
269.0 21.0
247.0
273.5 26.5
47.5 3.39

246.9 23.8
9 42 270.7
14 40 246.7 23.1
269.8 46.9 3.41
3.40
3.48 Mean.

July 10. 1896.

r comp with f.
I ndex to left and above

248.2 20.6
9 52 268.8
251.2 15.2
266.4 35.8 4.01

249.7 15.8
265.5
251.0 18.9
269.9 34.7 4.09
4.05

I ndex to right and below

338.6 21.1
359.7
340.4 16.3
356.7 37.4 3.92

341.4 14.0
9 57 355.4
337.7 19.8
14 045 357.5 33.8 4.14
4.03

Clouds 4.04 mean.

July 10. 1896.

η comp with f

I index to right and below.

340.0 ∠ comp star dis.

10 0 356.2 16.2

340.0 16.0

356.0 32.2 4.25.

340.0

357.7 17.7

339.2 18.4 4.00

357.6 36.1 ~~3.99~~

4.12

I index to left and above.

69.2

88.5 19.3

72.9 14.1

87.0 33.4 4.17

70.2 16.4

10 6 86.6

10 3 69.0 20.1

~~87.7~~

89.1. 36.5 3.97

4.07

4.10 mean.

July 10, 1896.

S comp with f.
Index to left and above

73.0 13.4
10 22 86.4
71.4 14.8
86.2 28.2 4.54

70.7 15.9
2 86.6
71.7 14.6
86.3 30.5 4.37
4.46

Index to right and below

160.3 15.3
175.6
162.2 14.8
177.0 30.1 4.40

161.8 16.8
10 27 178.6
15 24.5 161.3 15.0
176.3 31.8 4.27
4.34
4.40 mean.

Measurements throughout preceding series made very great difficulty especially on the faint stars.

Much southern cloud and haze. con-

July 10, 1896.

tinually varying somewhat.

10 40 Tried Phot. R. mounted horizontally on β Lyrae but clouds too thick for observation.

11 45 Tried continuously up to this time to get settings on β Lyrae but clouds prevented: and it is now growing thicker.

July 11. 1896. (Saturday)

Σ 2585. ξ Sagittar. Dr. obs.

19 43 +18.8
15 31
-4 12
7 48

Index right & below.

299.1
8 15 318.0 18.9
296.9
320.5 23.6 / 42.5 - 3.63

296.8 23.1 - 3.72
319.9
301.0 16.1
317.1 39.2 - 3.81

Index left & above. Mean = - 3.80

212.2
227.6 15.4
209.3 21.7
231.0 37.1 - 3.93

July 11. 1896.

210.2
8 27 230.9 20.7 − 3.86
210.9 19.1
229.8 39.8 − 3.78

Measmt. of Faint Comp. Stars for T Urs. Maj. with Phot. T. (Gr. sts.

12 33 +60.4
16 15
+3 42

p compared with f.
Index above.

70.1
8 v-8 87.3 17.2
69.8 17.2
87.0 34.4 4.10

68.3 19.7
88.0
69.9 18.0
87.9 37.7 3.90
4.00

July 11. 1896.

Index below.

159.0
181.5 22.5
158.2 20.8
179.0 43.3 3.59

158.9
9 14 178.9 20.0
159.7 21.6
9 06 181.3 41.6 3.68

3.64

S compared with f. 3.82 mean.

Index right of below.

162.0
9 20 176.8 14.8
161.2 16.7
177.9 31.5 4.30

162.4 14.8
177.2
161.9 14.3
176.2 29.1 4.47

4.38

July 11. 1896.

Index left + above.

251.1 15.6

266.7

250.5 16.7

267.2 32.3 4.24

250.3 15.6

9 36 265.9

249.9 16.1

14 25 266.0 31.7 4.28

4.26

4.32 mean.

r compared with f.

Index left + above.

249.5

9 42 268.6 19.1

249.7 18.5

268.2 37.6 3.91

249.3 18.8

26.81

249.5 17.8

267.3 36.6 3.96

3.94

July 11. 1896.

Index right & below.

339.9
Wrong ~~356.9~~ 357.2 17.3
338.0 20.5
358.5 37.8 3.89

10 5
107
10 535

338.8 18.7
357.5
338.9 18.1
357.0 36.8 3.95
3.92 ~~two~~
3.93 mean.

q compared with f.
Index right & below.

10 14

341.0 16.1
357.1
338.5 19.7
358.2 35.8 4.01

161.8 16.9
178.7
161.5 17.9
179.4 34.8 4.08
4.04

July 11. 1896.

Index to left and above.

249.1 19.6
268.7
249.9 20.7
270.6 40.3 3.75

249.5 21.1
10 33 270.6
47 250.6 17.8
15 235 268.4 38.9 3.83
3.79
3.92 mean.

n comp with f
~~245.9~~
~~10~~ ~~48~~ ~~272.6~~

Index to left and above.

245.9 26.7
10 48 272.6
242.9 33.3
276.2 60.0 2.86

243.8 31.1
274.9
247.2 23.4
270.6 54.5 3.08
2.97

July 11, 1896.

Index to right and S below

337.0 22.1
359.1

334.6 28.3
362.9 50.4 3.25

333.4 29.6
363.0

337.7 22.3
360.0 51.9 3.20

3.22

3.10 mean.

10 55

103

10 51.5

o comp with f
Index to right and below

337.5
~~338.8~~ 22.0
359.5
335.3 26.2
361.5 ~~53.2~~
48.2 3.35

11 0

335.6 25.3
360.9
337.9 20.7
358.6 46.0 3.46

3.40

July 11, 1896.

Index to left and above.

	:67.2		22.2	
	89.4			
	:·63.9		28.8	
	·92.7		51.0	3.23
	:67.3		23.7	
11 ~~8~~ 6	91.0			
16 03	:~~68.9~~	67.3	22.0	3.47
	89.3		45.7	3.35
55.5				3.38 mean.

~~Index to right and below~~

Troubled some by haze and auroral light ~~on~~ in latter part of series.

β Lyrae with Phot. R. as horizontal telescope on west balcony

Cram obs.

	151.0 < β dis.			
11 40	200.9 ~~< β dis.~~		49.9 >	
	148.0		54.7 >	
	202.7		104.6 >	1.54 >

11 40

July 11, 1896.

150.1 Rejected image not
200.5 reversed before second
148.5 readings.
202.0

~~11 44~~

149.6 Rejected, image not
198.6 reversed before second
150.2 readings
198.6

~~11 49~~

147.1
11 53 203.0 55.9 >
150.0
203.5 53.5 > / 109.4 ~~1.43~~ 1.43 > / 1.48 >

153.9 ~~44.7~~ 44.7 >
12.01 198.6
146.5
~~207.0~~ 200.7 54.2 > / 98.9 > 1.68 >

146.0 56.5 >
12.05 202.5
146.0 50.0 > / 106.5
196.0 1.50 > / 1.59 > / 1.54 mean >

11 54 >
4(47 39
11 54.8

18.0
3.9
21.9

12 10 Some aurora throughout evening, growing brighter now: consists of three arches, of which the central one is the brighter and is to west of the north point of the horizon: few streamers

July 11, 1896.

in the most western one, more in the central one and brighter at the present time: a moment later the most brilliant streamers are in the western arch

Wenrich ~~Wm M.~~ obs

		150.3	∠ B dis.	
12	20	202.3	52.0 >	
		155.8	42.2 >	
		198.0	94.2 >	1.20 >
		330.0	44.3 >	
12	40	14.3		
		323.7	53.6 >	
		17.3	97.9 >	1.71 > 1.76 >
		313.0	65.4 >	
12	48	18.4		
		330.0	40.4 >	
		10.4	105.8 >	1.52 >
		328.0	47.6 >	
12	56	15.6		
12	41 >	329.8	54.2 >	
		24.0	101.8 >	1.61 > 1.56 > 1.66 mean. >
	4(164			
12	41.0			

July 11, 1896.

+. ~~23.0~~

321.5 ∠ B dis. Crami: obs.

1 01 23.0 61.5 >

323.0

22.6 59.6 >

121.1 > 1.17 >

322.1

1 05 21.8 59.7 >

24.25

327.83 56.4 >

116.1 > 1.28 >

1.22 >

144.4

1 10 196.8 52.4 >

145.8

202.0 56.2 >

108.6 > 1.45 >

146.8

1 15 199.0 52.2 >

1 7 >

146.0

4)31 196.8 50.8 >

13 7.8 103.0 > 1.58 >

1.52 >

1.37 becom. >

July 11, 1896.

Wennich. obs.

		149.0	< B dis	
1	~~23~~ 23	198.2		
		151.9	49.2 >	
		198.9	47.0 >	
			96.2 >	1.75 >
		155.8	43.9 >	
1	28	199.7		
		148.7	47.5 >	
		196.2	91.4 >	1.66 >
				1.62 >
		147.6	53.3 >	
1	35	200.9		
		153.2	44.2 >	
		197.4	97.5 >	1.72 >
		152.7	42.7 >	
1	38	195.4		
1	31 >	144.2	52.8 >	
	×(124	197.0	95.5 >	1.77 >
13	31.0			1.74 >
				1.76 mean. >

July 11. 1896.
Eran obs.

144.0
1.45 202.2 58.2 >
143.8
197.8 $\frac{54.0}{112.2}$ > 1.37 >

14$\overset{5}{2}$.2 55.6 >
1.53 200.8
146.8
203.6 $\frac{56.8}{112.4}$ > $\frac{1.36}{1.36}$ >

145.0 52.8 >
2.00 197.8
143.3
200.3 $\frac{57.0}{109.8}$ > 1.42 >

140.2 66.6 >
2 08 206.8
1 56 > 142.0 61.2 >
47 46 203.2 $\frac{61.2}{127.8}$ > 1.03 >
13 56.5 226
1.22 >
1.29 mean. >

July 11. 1896.

Weinrich obs

153.6 38.9 >

2 13 192.5

154.9 36.3 >

191.2 75.2 > 2.34 >

154.0 40.2 >

2 17 194.2

146.0 55.4 >

201.4 95.6 > 1.77 >

2.06 >

153.5 38.0 >

2 22 191.5

146.5 45.0 >

191.5 83.0 > 2.11 >

148.9 48.8 >

2 27 197.7

2 20 > 148.0 44.2 >

192.2 93.0 > 1.83 >

4(79

14 19.8

1.97 >

2.02 mean. >

July 13. 1896. (Monday).

Σ 2585 ζ Sagittae. W. obs.

19 43.4 +18.8
15 50.

− 3 53.
8 7

Cloudy

$9^h.25^m$. Thickly cloudy no chance for work.

July 14, 1896. (Tuesday.)

Σ 2675; κ Cephei: Phot H: W: obs.

20 13 +77.3
16 0
-4 13
7 47

Index to right and below.

120.2 < brighter dis.
8 14 139.4
298.3 19.2 >
320.4 22.1 > 3.70 >
41.3 >

3.72

298.6
318.6 20.0 >
300.3 20.3 > 3.75 >
320.6 40.3 >

Index to left and above.

30.5
50.0 19.5 >
208.1 23.5 > 3.61 >
231.6 43.0 >

3.69

Mean: 3.70

July 14. 1896.

209.9
8 19 231.2 21.3 >
29.9 18.7 >
48.6 40.0 > 3.77 >

Position angle = 110° Distance = 8"
magn. = 4.0 and 8.2

Measurement of faint comp. stars for T. Cephei: Phot T : W. obs.

21 5 +68.1
16 15
-4 20
7 10

I comp with m.
Index above.

247.0 < m dis.
9 23 269.4
246.3 22.4 >
270.7 24.4 > ~~30.4~~ ~~3.15~~
46.8 > ~~52.8~~
3.42 >

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245.6
~~275.9~~ 272.3 26.7 >
248.6 21.7 > 3.34 >
270.3 48.4 > 3.38 >

Index below.
336,0
1.8 25.8 >
333.9 28.3 > 3.10 >
2.2 54.1 >

336.6
9 30 1.4 24.8 >
14 26.5 337.2 24.4 > 3.31 >
49.2 > 3.20 >
~~1.7~~ 1.6
mean = 3.29 >

Index below
S comp with m
330.7 < m dis.
9 32 8.0 37.3 >
336.0 27.4 > 2.69 >
3.4 64.7 >

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334.0
4.2 30.2 >
331.0 34.9 > 2.67 >
5.9 65.1 > 2.68 >

Index above.

65.5
92.7 27.2 >
64.9 27.0 > 3.09 >
91.9 54.2 >

65.3
9 39 91.0 25.7 >
62.2 31.5 > 2.97 >
9 43.5 93.7 57.2 > 3.03 >
Mean = 2.80 >

Index above.
p comp. with m.

This set re- ~~57.8~~ jected as method used in re-
9 51 versal of im- ~~101.7~~ ages brought comp. star
near other ~~52.0~~ star: other method of re-
versal used ~~98.0~~ in following sets.

52.2
106.1 53.9 >
56.7 46.8 > 1.64 >
103.5 100.7 >

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55.5
104.0   48.5 >
53.9   52.8 >   1.62 >
101.3 >   1.63 >
106.7

Index below.

9   145.2
195.0   49.8 >
145.2   48.0 >   1.71 >
97.8 >
193.2

143.0
9   59   195.1   52.1 >
54.1 >
142.9   106.2 >   1.51 >
9   55   197.0   1.61 >
mean = 1.62 >

L comp with M
Index ~~below~~ to left and below
150.0   L m dis.
10   2   188.0
146.7   38.0 >
193.0   46.3 >   2.07 >
84.3

146.3
194.2   47.9 >>
150.9   37.1 >   2.05 >
85.0 >   2.06 >
188.0

July 14, 1896.

Index to right and above

59.2
97.2   38.0 >
55.5   47.5 >
103.0   85.5 >   2.04 >

57.6
10   9
102.3   44.7 >
60.4   36.8 >
10   5.5
97.2   81.5 >   2.15 >

2.10 >

Mean = 2.08 >

95 comp with m.
Index to right and above

59.2 - m dis.
10   12
97.8   38.6 >
55.0   48.5 >   1.99 >
103.5   87.1 >

52.8
103.7   50.9 >
60.6   38.4 >
99.0   89.3 >   1.93 >

1.96 >

July 14. 1896.

Index to left and below.

142.7
195.6 52.9 >
150.5 36.0 >
88.9 > 1.94 >
186.5

149.2
10 22 186.7 37.5 >
143.5 50.3 >
10 17.0 87.8 > 1.97 >
193.8

1.96 >

mean = 1.96 >

β Lyrae with Phot. R on West Balcony, mounted as horizontal telescope.
W. obs.

333.1
11.9 38.8 >
11 0 332.1 43.3 > 2.13 >
82.1 >
15.4

331.5
16.4 44.9 >
335.3 36.7 > 2.15 >
81.6 >
12.0 2.14 >

July 14.1896.

334.2
12.8
331.4
16.2

38.6 <
44.8 <
83.4 <

2.10 >

330.2
14.7
332.7
14.9

44.5 <
42.2 <
86.7 <

2.00 >
2.05 >
mean = 2.10 >

11 10
11 05 >

Crater obs.

326.0
14.2
326.1
16.2

52.2 <
50.1 <
102.3 <

1.60 >

11 15
~~11 15~~

327.0
16.2
325.2
16.2

49.8 <
50.4 <
100.2 <

1.65 >
1.62 >

327.9
15.8
Adjusted images.
327.2
16.9

47.1 <
49.1 <
96.2

1.75 >

July 14.1896.

11 27
11 21 >

325.8
14.9
327.4
16.1

49.1 <
48.7 <
97.8 <

1.71 >
1.73 >
mean = 1.68 >

W. obs.

11 30

329.0
13.2
334.4
12.8

44.2 <
38.4 <
82.6 <

2.12 >

11 33

334.5
13.3
330.2
14.9

38.8 <
44.7 <
83.5 <

2.09 >
~~2.10~~ ×
2.10 >

11 35

331.7
15.2
332.2
11.9

43.5 <
39.7 <
83.2 <

2.10 >

11 37
11 34 >
15
33.5

332.9
10.7
330.3
15.3

37.8 <
45.0 <
82.8 <

2.11 >
2.10 >
mean = 2.10

Cram obs.

11 39

327.0
16.0
325.2
16.6

49.0 <
51.4 <
100.4 <

1.65 >

July 14. 1896.

326.0
14.3
325.0
15.8

48.3 <
50.8 <
99.1 <

1.68 >
1.66 >

326.0
15.9
328.0
16.0

49.9 <
48.0 <
97.9 <

1.71 >

11 47
11 43 >

328.8
17.0
328.0
16.2

48.2 <
48.2 <
96.4 <

1.75 >
1.73 >

mean = 1.70 >

Posted to here: