KG
11366
u406

1001phae_proj_1410

A3

Fundamental Stats.
Circle Readings.

From Apr. 11. 1881 to Sept. 1. 1881.

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A31

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1981phae.proj.14108

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1981phao.proj.14108

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1881phae.proj.1410B

Apr. 9 11, 1881

ε Leonis

9 38 59

+24 20

B	B	
45 0 7.1	1 24.0	
13.0	29.9	
30.9	46.8	
22.0	38.2	
7 30	138 9	
45 18.25	46 34.72	

C = 18 5.5

α Leonis

10 1 56

+12 33

B	B	B
30 1 16.9	2 39.3	39.7
24.6	47.3	47.9
43.5	6.0	6.2
31.0	53.7	54.0
11 6 0	2063	2078
31 29.00	32 51.58	51.70

3 Leonis

10 9 57

+24 1

B	B	
0 3 51.0	0 8.0	
57.7	13.9	
14.8	31.2	
4.9	22.1	
84	752	
4 2.10	5 18.80	

Y' Leonis

10 13 18

+20 27

B	
35 2 57.6	
59.0	
15.1	
5.3	
110	
38 2.75	

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2

Apr. 11, 1881
in Hrs. Mg'.
10 15 7
+4 2 6

	B	
55	3 46.0	0 8.7
	51.2	11.7
	8.7	30.9
	59.2	21.9
	2251	732
	58 56.28	0 18.30

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Apr. 16, 1881

α Leonis

10 1 56

+12 33

		B	B	R	R	B
30	1	17.4	2 41.7	41.2	41.2	41.1
		25.5	~~25.~~ 49.6	49.9	49.8	49.7
		44.3	~~44~~ 83	8.2	8.2	84
		32.3	55.9	55.9	56.4	56.7
		11 95	1.50	152	156	154
31		29.88	32 53.75	53.80	53.90	53.85
			53.80	53.85		

ζ = 18 5.7

ζ Leonis

10 9 5.7

+24 1

	B	B
30 3	50.8	0 15.2
	57.3	21.4
	15.1	39.4
	5.1	30.9
	83	1069
34	2.08	35 26.72

ε Urs. Maj. Bode.

12 48 42

+56 37

		B	B
30	0	4.7	5.0
		7.1	6.4
		24.5	24.5
		15.6	15.7
		519	516
30		12.98	12.90

α Androm

0 2 8

+28 25

	R	R
35	4 14.7	15.0
	21.0	21.1
	35.6	35.6
	27.1	27.2
	984	989
39	24.60	24.72

A7 +C

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Apr. 16, 1881

C = 18 5.7

ν' Leonis

10 13 18

+20 27

	B	B
35° 2	47.1	4 10.0
	55.0	17.9
	17.0	35.3
	1.8	24.9
	09	881
38	0.22	39 22.02

μ Urs. Maj.

10 15 7.0

+4 2 6

	B	B
55° 4	21.1	55.3
	26.9	1.1
	45.9	20.0
	35.8	9.2
	1297	256
59.	3242	0 6.40

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1881phae.proj.1410B

Aull 67/17 1881

(m)

1 43 16
+10 42

R
5 1 340
426
588
488
1843
6 46,05

Seeing very good
Appearance

γ Orionis

5 34 35

R R

0 4 84 89
183 183
361 367
236 238
864 877
4 21,60 21,92

C = 6 16 6.48

2 [illegible]

4 28 59
+1646

R R

45 - 25 71 573
50 48
220 222
108 112
349 355
48 8,72 8,88

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1881phae.proj.1410B

ζ Aurigae

(4) 5 49 7

+32 58

	R	R
5 2	08	1.3
	0.3	7.1
	250	248
	15.6	15.7
	487	489
7	1218	1222

7

Rj 18 5

β Tauri

5 1 39

+28 30

	R
30 3	569
	4.2
	19.1
	11.2
	314
34	7.85

Chf.

μ Gem.

6 11 39

+22 34

	R	R
35 4	47.1	47.3
	56.4	56.8
	11.2	11.3
	2.3	2.2
	2370	2376
39	59.25	59.40

α Cam Maj

~~35~~

6 39 49

	R	R
35 3	44.0	44.1
	56.2	56.1
	12.8	12.8
	0.2	0.3
	2332	2333
38	58.30	58.32

Rj 15 V

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Aug 17 1881 C = #14 #68

α Can Maj

6 53 52
+28 45
~~50 0~~ K R
50 0 53,2 53,8
5 2 5 2
22,2 22,4
9,8 10,1
304 315
51 7,60 7,88

β Can Min

7 20 35
+4 32
R
30 220,2
308
474
357
1340
32 33,50

Orion

7 07 57
+28 19
R R
4 0 35,2 35,7
42,4 42,2
57,8 58,2
49,5 49,6
1849 1857
45 41 6,22 46,42

α Aqr

8 22 23
−22 57
R R
0 1 41,1 41,5
5 27 5 31
10,8 10,9
58,8 58,8
2234 2243
1 55 85 56,08

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1881phae.proj.1410B

ζ Gem
7 26 52
+32 9

R

5 5 0 28.0
33.8
32.4
43.3
13.75
55 34.38

ζ Can Min
7 8 25.8
+5 8 2

R

30 2 18.6
24.9
40.8
49.8
12.91
32 32.28

C = 18 6.9
σ Sagittarii B obs.
18 47 46
-26 27

B B

40 4 49.7 49.2
0.5 0.3
18.1 18.3
3.2 3.5
11.5 11.3
45 2.88 2.82

λ Aquilae
18 59 56
-5 3

B B R

5 2 4.9 3 18.9 18.5
13.5 27.9 28.0
30.2 44.7 44.8
17.2 32.1 32.2
6.58 36 35
7 16.45 8 30.90 30.88

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1881phae.proj.1410B

Aper. 17. 1881

β Lygni

19 25 50

+27 42

		B	B	B
20	1	58.1	36.9	7.3
		3.1	12.4	12.3
		18.4	27.2	27.7
		9.0	17.6	18.2
		286	641	655
	22	7.15	23 16.02	16.38

α = 18 6.9

χ Aquilæ

19 40 30

+10 19

		B	B	R	R
45	0	22.9	1	20	1.3	1.8
		300		9.1	8.9	9.0
		461		25.5	25.8	24.7
		357		15.0	14.8	14.6
		1347		516	508	501
	45	3364	46	1290	1270	1252

Chf.

43 ∼ e

θ Aquilæ

20 54

−1 11

		B	B	R	R	B
10	4	3.1	0	18.5	18.0	18.3	18.6
		11.5		25.3	25.5	25.7	25.5
		29.3		43.0	43.5	43.3	43.2
		16.4		31.0	31.2	31.8	~~30.8~~ 31.0
		603		1178	382	1191	383
	14	15.04	15	29.45	29.55	29.77	29.57
				29.51		29.66	

α² Capricorni

20 11 20

−12 55

		B	B	R	B
45	2	56.1	4	11.9	11.0	11.4
		5.2		24.0	20.0	20.9
		24.1		38.9	40.0	40.0
		9.3		24.7	25.0	24.2
		347		975	960	965
	48	8.68	49	2438	2400	2412

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Aper. 17. 1881

α Aquilæ

19 44 53

+8 33

		B	B	R	R	B
30	0	35.6	1 54.1	56.8	57.1	57.2
		44.1	54.7	54.7	56.0	56.3
		59.7	21.1	21.3	21.5	21.3
		48.4	9.5	9.8	9.6	9.7
		1878	304	336	342	345
	30	46.95	32 8.35	8.40	8.55	8.62
			8.49	8.47		

C=18 6.9

β Aquilæ

19 49 22

+6 6

		B	B	B
55	2	14.9	3 25.0	24.8
		24.3	34.7	34.3
		39.1	49.7	49.1
		27.6	37.9	38.0
		1059	1473	1462
57		26.48	58 36.82	36.55

γ Cygni

20 17 53

+39 52

		B	B	B
10	2	2.7	3 22.2	22.8
		7.7	27.0	27.9
		23.9	43.7	44.1
		14.7	34.4	34.7
		490	1273	1295
12		1225	13 31.82	32.38

α Cygni

20 37 18

+44 51

		B	B	R	R	B
10	3	42.4	4 34.9	34.8	34.9	35.3
		46.0	37.7	39.1	39.3	38.6
		2.0	54.6	54.7	54.6	~~35~~ 54.2
		52.6	45.5	45.7	45.6	45.2
		2030	1737	1743	1744	1733
13		50.75	14 43.42	43.58	43.60	43.32

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Apr. 17. 1881

ε Cygni

20 41 19

+33 31

	B	B	B
30 3	10.8	4 20.5	20.9
	14.8	25.1	25.3
	32.1	41.9	42.1
	23.2	33.4	33.3
	8 09	12 09	12 16
33	20.22	34 30.22	30.40

C = 18 6.9

ζ Cygni

21 7 47

+29 44

	B	B	B
20 0	3.5	1 23.1	23.7
	9.5	28.9	28.6
	23.5	43.4	43.1
	14.7	34.4	33.9
	5 12	12 98	12 93
20	12.80	21 32.45	32.32

β Cephei

21 27 6

+70 2

	B	B	B
0 3	45.4	56.5	16.3
	46.5	57.6	17.1
	2.0	13.3	33.1
	54.9	6.0	26.2
	20 88	13 4	9 27
3	52.20	4 3.35	23.18

	B
3 3	7 0
	4 57
	6 0
	5 27

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Apr. 17. 1881

α Cephei

21 15 41

+62 4

		B	B	B
0	0	29.8	26.0	47.0
		29.9	26.2	47.8
		45.7	42.0	2.9
		39.0	35.0	55.9
		144.4	129.2	213.6
	0	36.10	32.30	53.40

C = 18 6.9

β Aquarii

21 25 11

−6 6

		B	B
5	4	3.0	0 16.5
		10.2	23.4
		28.5	42.3
		15.3	29.0
		57.0	111.2
	9	14.25	10 27.80

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1881phae.proj.1410B

Apr. 17/18, 1881

C = 1.8 5.4

⊙

1 46 59
+11 3

	B	B
45 1	14.0	15 3 37.1
	21.8	44.5
	38.4	1.4
	27.7	50.4
	1019	1934
46	25.48	18 48.35

α Cephei L.C.

21 15 41
+117 56

	B	B	B	B
10 4	18.9	3 42.8	3 28.4	41
	23.3	46.0	33.8	9.1
	34.0	58.4	43.9	19.0
	24.2	49.8	35.0	11.0
	1004	1990	1411	435
14	25.10	13 49.75	35.28	10.88

Both limbs in δ & R.A.
Seeing very fine.

β Cephei L.C.

21 27 6
+109 58

	B	B	B	B
10 0	22.5	4 58.9	38.6	7.7
	26.3	4.5	43.5	12.2
	38.0	16.4	53.1	24.2
	31.0	9.5	47.3	14.9
	1178	293	1845	590
10	29.45	7.32	46.12	14.75

ε Leonis

9 38 59
+24 20

	B	B	R	R	B
45 0	8.0	2 23.3	22.9	22.8	23.1
	14.1	29.5	29.8	30.0	29.8
	31.0	45.8	46.2	45.9	46.0
	21.1	36.7	37.5	37.5	38.4
	742	153	164	162	155
45	18.55	47 33.82	34.10	34.05	33.88
			33.85	34.07	

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Aper. 18, 1881 @ = 18 5.4

α Hydrae
9 21 38
−8 8

	B	B
10 2	19.2	3 37.0
	27.7	45.7
	48.3	6.0
	3 3.8	52.2
	1290	2009
12	32.25	13 50.22

θ Urs. Maj.
9 24 45
+53 2 14

	B
50	1 39.0
	43.6
	59.5
	57.4
	1935
51	48.38

α Leonis
10 1 56
+12 33

	B	B	R	R	R
30	1 25.7	2 38.2	37.9	38.0	38.2
	34.3	47.9	48.1	48.8	47.7
	52.2	5.0	5.1	4.9	4.9
	39.7	52.5	52.2	52.8	51.8
	1519	36	33	45	27
31	37.98	32 50.90	50.82	51.12	50.68
		50.79	50.97		

~~γ' Leonis~~ γ Leonis
10 9 57
+24 1

	B	B	R
3	54.1	0 12.0	12.6
	1.1	18.7	19.5
	17.5	34.9	35.1
	7.9	26.4	26.0
	206	920	932
4	5.15	5 23.0	23.30

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Apr. 18, 1881 C = 18 5.4

γ' Leonis

10 13 18

+20 27

	B
35	25 4.6
	2.6
	18.3
	8.4
	23.9
38	5.98

μ Urs. Maj

10 15 7

+42 6

	B	B	R	R	B
55	0 47.0	0	7.9	7.8	8.0	8.1
	53.0		12.0	12.4	12.8	12.1
	9.9		30.8	30.8	30.3	30.2
	0.5		21.9	21.6	21.3	21.1
	23 0.4		7.26	7.26	7.24	7.15
58	57.60	0	18.15	18.15	18.10	17.88

λ Urs. Maj.

11 25 0

+45 9

	B	B	R	R
55	1 8.6	2	23.3	23.1	22.8
	12.5		28.1	27.9	28.3
	28.2		43.1	43.7	43.6
	20.2		34.9	34.8	34.7
	69 5		1294	1295	1294
56	17.38	57	32.35	32.38	32.35

δ Leonis

11 7 40

+21 11

	B	B
50	3 52.4	0 7.8
	0.7	14.6
	15.0	29.3
	6.3	21.2
	14.4	7.29
53	3.60	18.22

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Apr. 18, 1881

μ Urs. Maj.

10 57 32

+57 2

B B

0 3 43.0 4 18.2

46.9 21.4

2.4 37.2

53.2 27.3

20 55 10 41

3 5 1.38 4 26.02

Rej. last δ

C=18 5.4

α Urs. Maj.

10 56 45

+62 24

B B B

40 2 41.2 25.6 50.9

6.9 28.5 53.0

23.0 44.5 9.1

15.0 34.0 1.3

49.0 13 56 23 43

42 12.25 33.90 58.58

C=17 65.4

σ Sagittarii

18 47 46

-26 27

B B R R B

25 3 35.9 4 46.9 46.8 47.5 47.1

47.1 57.9 58.8 58.2 58.0

4.4 15.1 15.4 15.1 14.5

50.0 0.9 0.7 1.0 1.2

19.74 0.8 1.7 1.8 0.8

28 49.35 0.20 0.42 0.45 0.20

0.20 0.43

C=17 65.4

ζ Aquilæ

18 59 57

+13 41

B B R R B

20 2 2.6 4 8.6 8.3 9.0 8.8

10.3 16.1 17.0 17.2 16.6

20.2 33.1 33.3 33.2 33.0

14.7 20.2 20.2 20.2 19.3

548 780 388 396 377

22 13.70 24 19.50 19.70 19.90 19.42

19.46 19.80

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1881phae.proj:1410B

see note in Ch. vocab.

Aper. 18, 1881 O=18 5.4

β Cygni O=18-5.4

19 25 50

+27 42

		B	B	R	R	B
20	1	47.0	3 8.1	8.0	8.5	8.7
		51.9	13.2	13.8	14.4	13.3
		6.1	27.6	27.8	27.8	27.8
		57.4	18.6	19.3	19.2	18.3
	2	2 4	27.5	28.9	29.9	28.1
21	5	56.0	23 16.87	17.22	17.47	17.02
			16.95	17.34		

γ Aquilæ

19 40 30

+10 19

		B	B	R	R	B
40	4	30.2	0 52.6	52.8	53.2	52.5
		38.8	0.4	0.6	0.2	0.4
		54.9	16.0	15.7	15.7	15.9
		42.8	5.0	5.1	5.6	4.5
		16.67	14.0	14.2	14.7	13.3
44	4	1.68	46 3.50	3.55	3.67	3.82
			3.41	3.61		

α² Capricorni

20 11 20

-12 55

		B	B	B
55	3	32.0	4 5.4	5.7
		40.6	14.7	14.5
		58.9	32.5	33.0
		44.1	16.3	17.7
		17.56	6.89	7.09
58		43.90	59 17.22	17.72

γ Cygni

20 17 53

+39 52

		B	B	B
10	2	5.9	3 23.1	23.1
		10.7	27.9	28.2
		26.2	43.0	43.3
		16.2	33.7	33.6
		5.90	12.77	12.82
12		14.75	13 31.92	32.05

lost 1 rob 2 w.

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1881phae.proj.1410B

Apr. 18. 1881

α Aquilæ

19 44 5⁻3

+8 33

B	B	R	R	B
30 0 34,5	1 56,2	56.3	56.8	56.8
43.3	4,7	5.1	5.3	4.9
58.3	19,9	19.7	19.9	20.0
46.0	8,0	8.0	8.1	7.8
1821	288	291	301	295
30 45,52 32	7.20	7.27	7.52	7.37
	7.29	7.40		

c=18 5.4

Θ Aquilæ

20 5⁻4

−1 11

B	B	R	R	B
10 3 56.3	0 20,0	19.9	19.9	20.0
4.6	27,0	27.4	27.6	26,9
21.1	44,3	44.7	44.3	44,3
8.3	31,5	32.1	34.8	31,9
303	28	41	36	27
14 7.58	15 30,70 ~~31.37~~	31.02	30.90	30.68
	30.69	30.96		

α Cygni

20 37 18

44 5⁻1

B	B	R	R
10 3 27.2	4 41,0	40.9	41.0
31.2	44,0	44.9	44.9
46.0	59,7	59.3	0.2
36.8	50,0	~~48.8~~ 50.2	50.1
1412	347	353	362
13 35,30 14	48.68	48.82	49.05
	48.68	48.93	

ε Cygni

20 41 19

+33 31

B	B	B
30 3 53.4	32.1	32.2
57.4	36.5	36.4
14.5	53.1	52.4
4,5	43.0	53.2
98	1647	1742
34 2,45	41,18	43,55

last A+1

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1881phae.proj.1410B

Apr. 18, 1881

ζ Cygni

21 7 47

+29 44

	B	B	B
20 0	3.3	19.3	19.5
	9.0	25.6	25.3
	22.7	39.0	39.1
	13.7	28.8	29.5
	487	1127	1134
20	12,18	28,18	28,35

C = 18 5.4

α Cephei

21 15 41

+62 4

	B	B	B	B
0 0	8.8	44.1	124.1	55.0
	8.3	44.1	24.0	54.9
	23.0	59.7	89.4	10.0
	16.0	51.5	32.4	2.6
	561	1994	1199	.25
0	14,02	49,85	29,98	0,62

ε Pegasi

21 38 14

+9 19

	B	B	B
40 4	9.0	0 25.3	25.1
	16.8	31.9	31.7
	31.8	47.0	46.7
	19.1	36.1	36.2
	767	1403	1397
44	19,18	45 35,08	34,92

C = 18 5.4

α Pegasi

22 58 44

+14 33

	R	R
30 — 0	+9,2	87
	18.4	18.0
	31.7	31.6
	19.5	19.6
	758	749
30	18,95	18,72

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1881phae.proj.1410B

Apr. 18, 1881

β Aquarii

21 25 11

−6 6

B

5 4 11.9 ~~0 3~~

19.7

36.5

23.5

9.6

9 22.90

C = 18 5.4

β Cephei

21 27 .6

+70 2

B B B B

0 3 24.1 41.2 4 4.8 24.4

24.7 41.9 5.2 25.0

39.3 56.3 20.1 40.0

32.6 49.8 12.8 32.8

120.7 189.2 42.9 122.2

3 30.18 47.30 4 10.72 30.55

C = 18 0.4

Mercury

0 2 2 4

−0 33

B B

33 2 28.3 3 48.2

36.9 57.1

52.9 13.1

40.0 5.97

15.81 17.81

37 39.52 38 44.52



S. for Center

R.A. II Limb.

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1881phae.proj.1410B

Apr. 18/19, 1881 C = 18 0.4

⊙

1 50 42
+11 24

	B	B
25 0	20.8	55 2 44.6
	28.2	51.8
	44.3	7.8
	32.6	56.9
	1259	2211
25	31.48	57 55.28

Both limbs in δ of R.A.
Seeing moderately good.

ε Can. Maj.
6 53 52
−28 48

	B	B	B
50 0	48.8	2 6.5	6.0
	0.1	17.8	18.0
	16.6	34.0	34.0
	3.3	22.2	21.6
	88	805	796
51	2.20	52 2 0.12	19.90

δ Can. Maj.
7 3 28
−26 12

	B	B	R	R	B
10 4	42.2	1 1.0	0.7	1.0	1.3
	54.1	12.1	12.6	12.0	11.9
	12.0	29.9	29.9	30.2	29.9
	57.0	16.1	16.6	16.8	15.8
	2253	19.1	19.8	20.0	18.9
14	46.32	14.77	14.95	15.00	14.72
		14.75	14.98		

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1881phae.proj.1410B

c = 18 - 0,4

γ Gem

6 30 43

+16 30

	R	R
30 4	15,1	15,7
	23,2	23,6
	40,9	41,3
	29,7	29,8
	1089	1104
34	27,22	27,60

2 Cam May

6 39 49

−16 33

	R	R
35 1	26,8	27,2
	38,1	37,6
	54,9	55,1
	42,6	42,2
	1624	1621
36	40,60	40,52

− Cam. Min.

7 20 35

+8 32

	B	B	B
30 2	16,7	3 37,2	37,3
	26,7	46,8	46,4
	43,6	3,5	3,1
	31,8	51,2	50,8
	1188	1987	1976
32	29,70	33 49,65	49,40

α_2 Geminor.

7 26 52

+32 9

	B	B	B
55 0	28,8	1 53,4	53,6
	35,0	59,4	59,6
	53,2	17,4	17,5
	43,2	7,7	7,3
	1602	179	180
55	40,05	56 44,75	45,00

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1881phae. proj. 1410B

Apr. 19, 1881 C = 18 0.4

α Canis. Min.

7 32 58

+5° 32

	B	B	B
30 2	14.0	3 32.0	32.0
	24.3	42.5	42.4
	40.2	58.5	58.3
	29.5	47.1	46.9
	1080	1801	1796
32	27.00	33 45.02	44.90

β Geminor.

7 37 55

+28 19

	B	B	B
45° 0	38.7	1 42.4	42.7
	44.4	48.7	49.1
	0.0	4.0	4.1
	52.2	55.0	55.0
	1953	2101	2109
	48.82	52.52	52.72

θ Urs. Maj.

9 24 45

+52 14

	B		
50 1	38.0	1'	
	42.7		
	58.8		
	50.0		
	1895		
51	47.38		

β Cephei L.C.

21 27 6

+70 9 58

	B	B	B
10 0	6.1	4 42.3	14.4
	10.3	47.4	20.0
	22.9	59.0	31.2
	15.4	50.2	23.3
	547	1989	879
10	13.68	9 49.72	21.98

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1881phae.proj.1410B

Apr. 19. 1881 C=18 0.4

15 Aquæ

8' 2 23

−23 57

R	R
24.7	24.8
36.1	36.1
54.0	54.6
41.5	41.6
156 3	157 1
39.08	39.28

α Hydræ

9 21 38

−8 8

B	B
10 2 20.3	3 36.0
28.9	44.1
49.0	4.0
35.0	49.5
1332	1936
33.30	48.40

ε ~~Leonis~~

~~ε Leonis~~ 9 38 59

+24 20

B	B	R	R	B
45 0 14.0	1 25.6	25.8	25.7	26.0
19.7	31.9	32.6	33.1	32.0
36.6	48.0	48.7	48.0	48.2
28.0	39.1	39.8	39.3	39.7
983	252	269	261	259
45 24.58	46 36.30	36.72	36.52	36.48
	36.39	36.62		

α Leonis

10 1 56

+12 33

B	B	R	R	B
30 1 15.7	2 38.1	37.8	38.0	38.1
24.6	47.0	47.6	47.6	47.1
42.1	4.1	4.2	4.3	4.1
29.9	51.7	51.9	51.8	51.9
1123	2009	15	17	12
31 28.08	32 50.22	50.38	50.42	50.30
	50.26	50.40		

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1881phae.proj.1410B

Apr. 19. 1881 $C = 18\ 0.4$

ζ Leonis

10 9 57

+24 1

B	B	R	
0 3 40.0	0 12.5	12.2	
47.5	18.7	19.3	
3.0	34.5	34.9	
53.7	26.2	26.1	
2042	919	925	
3 51.05	22.98	23.12	

γ' Leonis

10 13 18

+20 27

B	
30 2 58.8	
6.6	
22.0	
12.2	
396	
33 9.90	

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1881phae.proj.1410B

Apr. 19. 1881
pr Mrs. May'
10 15 7
+4 2 6

			B	B	R	R	B
55	0	46.3	0	0 9.2	9.2	9.2	9.3
		51.9		13.3	13.4	13.7	13.2
		9.1		31.1	31.3	31.2	31.3
		59.9		22.0	22.7	22.3	22.1
		22 7 2		75 6	76 6	76 4	75 9
58		56.80	0	18.90	19.15	19.10	18.98

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1881phae.proj.1410B

Apr. 19, 1881
C = 18 0.4

⊙

1 54 26
+11 44

B
35 1 48.0
55.0
11.6
59.6
23 42
36 58.55

Lower limb in S, 2nd in R.A.
Seeing excellent.

C = 18 0.4
C = 18 10.4
α Cephei L.C.
21 15 41
+1 17 56

B B B B
10 4 19.0 3 55.7 17.0 5 25
24.8 1.0 22.9 5 96
36.3 12.9 33 5 90
27.9 3.7 25.3 04
1080 133 990 15
14 27.00 13 3.32 24.75 3.75

β Cephei L.C.
21 27 6
+109 58

B B
5 4 47.9 21.9
52.7 26.3
5.9 39.8
57.4 30.9
2239 1189
9 55.98 29.72

Last A+1

ε Leonis
9 38 59
+24 20

B
45 0 10.2
15.7
34.1
25.0
8 50
45 21.25

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1881phae.proj.1410B

Apr. 20, 1881

C set at 18 10.4

α Hydrae

9 21 38

−8 8

B B

10 2 55.1 3 38.0
1.8 46.1
24.6 8.3
11.0 54.9
325 2073
13 8.12 13 51.82

θ Urs. Maj.

9 24 46

+52 14

B B

50 2 37.1 55.0
40.7 59.4
58.1 16.8
50.5 9.1
1864 203
52 46.60 53 5.08

Lost 1rst 2 w

α Leonis

10 1 56

+12 33

B B

30 1 11.3 2 44.1
18.7 57.4
38.7 11.0
27.4 58.9
961 1654
31 2402 32 41.35

ζ Leonis

10 9 57

+24 1

B B

0 3 54.0 0 7.3
0.5 12.7
18.0 31.0
8.6 22.5
211 735
4 5.28 5 18.38

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1881phae.proj.1410B

Apr. 20, 1881

O = 18 0.4

c set at 18 10.4

χ' Leonis

10 13 18

+20 27

B	
35 2	42.2
	49.6
	6.9
	57.0
	2157
37	53,92

μ Urs. Maj.

10 15 7

+42 6

B	B
54 3	48.1 4 5 9.5
	52.4 4.9
	11.9 23.1 3.5
	2.7 13.5
	2351 410
57	58,78 59 10.25

λ Urs. Maj.

11 2 51.0

+45 9

B	B
55 1	8.2 2 17.0
	13.0 21.0
	29.3 37.7
	21.3 29.7
	718 1054
56	17.95 57 26.35

δ Leonis

11 7 40

+21 11

B	B
50 4	46.0 0 10.2
	54.0 16.7
	9.4 33.0
	1.0 24.0
	2304 839
54	57,60 55 20.98

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1881phae.proj.1410B

Apr. 20, 1881

β Urs. Maj.

10 54 32

+57 2

	B	B
0 3	51.7	4 19.4
	54.2	22.0
	11.3	39.4
	2.0	30.4
	239 2	11 12.
3	59.80	4 27.80

O = 18 0.4

C set at 18 10.4

α Urs. Maj.

10 56 15

+62 24

	B	B
40 1	55.8	2 28.6
	57.6	30.5
	14.9	47.7
	7.8	40.6
	161	1474
42	4.02	42 36.55

σ Sagittarii

18 47 46

-26 27

	B	B	R	R	B
25 3	27.0	4 50.0	49.2	50.0	50.3
	37.2	09	0.8	0.8	0.2
	54.9	18.0	18.7	18.4	18.0
	41.1	44	45.0	45.2	42
	1602	136	137	144	127
28	40.05	30 3.40	3.42	3.60	3.17
		3.29	3.51		

λ Aquilæ

18 59 56

-5 3

	B	B	R	R	B
5 2	56.4	3 31.9	32.4	32.3	32.8
	47	40.6	40.8	40.5	40.4
	9.20	58.1	58.2	58.1	58.0
	9.4	44.6 5.4	46.3	46.3	45.8
	325	160	177	172	170
8	8.12	8 44.00	44.42	44.30	44.25
		44.12	44.36		

A₃ + C

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1881phae.proj.1410B

Apr. 20, 1881

χ Aquilæ

19 40 30

+10 19

B	B	R	R	B	
40 4 36.9	0 49.2	49.9	50.1	49.2	30
44.7	56.3	56.8	57.2	56.5	
0.2	13.0	13.2	13.0	12.9	
49.4	2.9	3.0	3.0	3.0	
19 12	14	29	33	46	
44 47.80	46 0.35	0.72	0.82	0.40	
	0.37	0.77			

0 = 18 0.4

C set at 18 10.4

α Aquilæ

19 44 53

+8 33

B	B	R	R	B	
0 41.9	1 58.4	58.4	58.4	57.9	
49.1	6.4	6.3	6.8	5.9	
4.4	21.9	22.2	22.5	21.9	
57.1	11.0	10.7	10.4	10.2	
2095	380	376	381	359	
30 52.38	32 9.50	9.40	9.52	8.97	
	9.24	9.46			

α² Capricorni

20 11 20

−12 55

B	B	R	R	B	
55 3 18.1	4 6.5	6.3	6.8	7.0	10
27.4	15.9	15.8	15.8	15.3	
46.0	34.3	34.8	34.7	34.0	
30.8	19.1	19.7	19.6	19.0	
1323	358	366	369	353	
58 33.08	59 18.95	19.15	19.22	18.82	12
	18.88	19.18			

Lost 1 rob 2 w

χ Cygni

20 17 53

+39 52

B	B	R	R	B	
2 43.3	3 22.8	22.6	22.9	22.3	
47.1	26.8	26.8	27.0	26.3	
3.6	42.5	42.4	42.0	42.4	
54.9	33.8	33.8	34.1	34.5	
2089	59	56	60	55	
5 22.22	13 31.47	31.40	31.50	31.37	
	31.42	31.45			

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Apr. 20, 1881

β Aquilæ

19 49 22

+6 4

		B	B	R	R	B
55	3	5.9	33.1	32.8	33.1	33.2
		15.1	42.2	42.2	42.0	42.1
		29.7	56.7	56.8	56.4	56.3
		18.7	45.4	46.2	46.4	45.7
		69.4	174	180	179	173
58		17.35	44.35	44.50	44.98	44.82
			44.59		44.74	

θ Aquilæ

20 5 4

−1 11

		B	B	R	R	B
10	4	20.0	0 19.5	19.0	19.6	19.4
		28.0	26.0	25.9	26.0	25.4
		44.8	43.4	43.8	43.6	43.6
		32.6	31.8	31.8	32.4	31.4
		1254	07	05	16	398
14	3	13.35	15 30.17	30.12	30.40	29.95
			30.06		30.26	

Lost 1st wire

α Cygni

20 37 18

+44 51

		B	B	R	R
10	3	32.1	4 50.6	51.1	51.9
		35.6	54.5	54.8	54.8
		50.6	10.0	9.7	10.1
		42.6	1.5	1.5	0.8
		1609	366	371	376
13		40.22	14 59.15	59.28	59.40
			59.15		59.34

ε Cygni

20 41 19

+33 31

		B	B	R	R	B
30	3	5.2	4 18.9	18.7	19.1	19.3
		8.9	22.4	22.3	23.0	22.3
		26.0	39.0	39.7	39.1	39.0
		16.4	30.9	30.3	30.1	30.2
		565	312	310	313	308
33		14.12	34 27.80	27.75	27.82	27.70
			27.75		27.78	

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Apr. 20, 1881

ζ Cygni

21 7 47

+29 44

	B	B	R	R	B
20 0	12.0	21.9	21.6	21.4	21.9
	17.5	27.0	27.3	27.2	27.3
	32.1	41.2	41.1	41.2	41.0
	23.6	32.0	32.6	32.6	32.5
	855	21	26	24	27
20	21.38	21 30.52	30.65	30.60	30.67
		30.59	30.63		

Cst at 18 10.4

α Cephei

21 15 41

+62 4

	B	B	B
0 0	33.7	55.9	128.2
	32.3	55.1	27.9
	48.0	11.4	43.9
	41.4	4.1	36.3
	1554	165	1363
0	38.85	1.62	134.08

ε Pegasi

21 38 14

+9 19

	B
40 4	7.0
	14.5
	30.3
	18.3
	701
44	17.52

η Pegasi

22 37 20

+29 35

253	366	363
	421	415
	56.0	56.2
	47.7	477
	1824	1817
28	4560	4542

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1881phae.proj.1410B

Apr. 20, 1881

β Aquarii

21 25 11

−6 6

		B
5	4	11.3
		18.9
		36.7
		23.9
		908
	9	22.70

Mercury

0 32 46

+0 36

		B		B
25	3	9.1	4	39
		17.3		489
		35.0		57
		24.1		548
		855		2089
	28	21.38	29	5222

C set at 18 10.4

β Cephei

21 27 6

+70 2

		B	B		B
0	3	24.8	52.9	4	15.0
		25.0	53.1		14.8
		39.7	8.3		30.2
		33.4	2.0		24.3
		1229	2363		843
	3	30.72	59.08	4	21.08

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1881phae.proj.1410B

Aper. $\frac{20}{21}$, 1881 Csel at 18 10.4

⊙

1 5 8 10
+12 4

	B	B
40	4 29.8	15 2 8.0
	35.8	14.0
	53.7	32.4
	42.5	22.0
	1618	767
14	40.45	17 19.18

Both limbs in S & R.A.
Seeing quite unsteady.

wilsem.
6 15 39
+22 34

30	0 24.1
	99
	279
	221
	674
30	16.85

ζ Cephei L.C.
21 15 41
+117 56

	B	B	B	B
10	4 29.5	11.6	3 26.5	55.9
	36.3	18.4	32.5	2.1
	49.4	31.9	46.0	15.1
	39.9	22.9	36.5	6.2
	1551	848	1415	193
14	38.78	21.20	13 35.38	4.82

α = 17 90.
15 Argus
8 2 23
-23 57

A. R. only.

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1881phae.proj.1410B

α Cam Mu
7 02 58 +5 32

	R	R
30 2	12.9	13.1
	22.8	22.9
	40.4	40.1
	30.7	30.3
	106.8	106.4
32	267.0	266.0

β Leon.
11 37 55 +20 19

	R	R
45 1	41.0	41.3
	47.3	47.6
	4.3	4.6
	56.1	56.0
	208.7	191.1
46	521.8	477.8

C set at 17 90.0

α Hydrae
9 21 46 −8 9

	B	B
10 3	3.0	52.8
	10.9	0.7
	34.4	24.3
	20.1	10.4
	68.4	78.2
13	171.0	141.9.5

θ Urs. Maj.
9 24 57 +52 13

50 2	43.5
	48.8
	6.9
	58.8
	218.0
52	54.50

A3 + C

88888

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Apr. 21, 1881. C set at 17 90.0

β Cephei L.C.

21 27 5⁻

+10 9 5·7

		B	B	B	B		B	B	B
10	0	4.54	34.1	18.6	2.0	5⁻4	34.1	18.6	2.0
		9.0	39.8	24.1	7.3		39.8	24.1	7.3
		23.9	53.8	38.5⁻	22.3		53.8	38.5	22.3
		15.8	45.3	29.5⁻	29.6		45.3	29.5⁻	29.6
		532	1730	1107	612				
	10	13.30	43.25	27.68	15.30				

ζ Leonis

10 9 57

+24 1

		B	B
0	3	47.0	0 4?
		54.3	9.8
		12.7	29.3
		3.0	20.8
		2370	641
	3	59.25	5 16.02

ζ' Leonis

10 13 18

+20 27

		B
35⁻	2	57.3
		5.0
		23.3
		14.0
		396
	38	9.90

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1881phae.proj.1410B

Apr. 21, 1881

ε Leonis

9 39 8

+24 19

	B		B
45° 0	9.9	1	19.3
	15.3		25.1
	35.0		44.2
	26.2		35.2
	864		1238
45	2160	46	3095

C set at 17 90.0

α Leonis

10 2 4

+12 33

	B		B
30 2	14.4	2	39.3
	22.8		49.8
	43.4		8.3
	31.9		57.1
	1125		2125
32	28.12		53.12

Lost +1

μ Urs. Maj.

10 15 6

+42 6

	B		B
55° 3	49.9	0	11.6
	55.1		15.4
	45.9		36.1
	5.3		27.1
	2162		904
58	5405	0	2260

β Urs. Maj.

10 54 32

+57 2

	B		B
0 3	50.0	4	35.2
	53.1		38.3
	11.6		56.5
	3.0		47.4
	2377		1774
3	59.42	4	44.35

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1881phae.proj.1410B

Apr. 21, 1881 Clear at 17 90.0

α Urs. Maj.
10 57 25
+62 23

B	B
40 1 57 6.9	2 36 0
59.4	36 3
16.2	57.1
10.5	49.2
250	1806
42 6.25	45.15

φ Urs. Maj.
11 30
+45 8

B
55 1 52.2
57.3
15.7
7.4
126
56 3.15

γ Aquilae
19 40 30
+10 19
~~45 1 5~~ R
45 1 55.1
30
20.1
9.4
279
47 6.98

A 2 = 4

α Aquilae
19 45 3
+8 33

R	R
30 0	416 423
	56 57.3
	7.2 7.2
	56.7 57.1
	2171 2179
30	54.2 54.48

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1881phae.proj.1410B

Apr. 21, 1881 C set at 17 90.0

δ Leonis

11 7 40

+21 11

	B	B
50 3	58.5	0 8.4
	6.5	14.9
	23.7	32.4
	14.7	24.4
	434	801
53	10,85	55 20,02

γ Cassiop. L.C. B Obs

0 49 25

+119 56

	B	B
10 3	22.0	22.0
	25.9	25.8
	38.9	38.1
	28.9	29.1
	1157	1150
13	28.92	28.75

β Aquilæ

19 48 22

+6 6

R R

55 3	29,8	30,0
	40,1	39,8
	55,4	55,4
	45,0	45,1
	1703	1703
58	42,58	42,58

Sol-A+1

α Aquilæ

20 5 4

−1 11

R R

15 0	16,7	16,2
	24,9	24,8
	43,3	43,4
	31,2	30,7
15	1159	1151

A-2c

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1881phae.proj.1410B

23 18 1.0
Thu ~~23~~ 1881 C = ~~17 900~~

α Cephei L.C.
21 15 41
+117 56

	B	B
10 3	23.8	9.0
	26.2	13.9
	41.7	27.2
	32.4	18.1
	126.1	68.2
13	31.52	17.05

α Hydrae
9 21 46
− 8 9

	B	B
10 2	55.0	3 33.4
	2.5	41.0
	28.6	6.5
	14.8	53.0
	409	1939
13	10.22	48.48

Lost A+1

ζ Leonis
10 9 57
+24 1

	B	B
0 3	47.0	0 4.1
	53.4	9.7
	13.0	29.9
	3.8	21.3
	2372	650
3	59.30	516.25

χ' Leonis
10 13 18
+20 27

	B
35 2	47.5
	54.8
	13.9
	3.7
	2399
37	59.98

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1881phae.proj.1410B

Apr. 23, 1881 C = 18 1.0

β Cephei L.C. α Leonis

21 27 5 10 2 4

+10 9 57 +12 33

	B	B	B	B		B	B
10 0	13.4	4 53.1	26.6	6.8	30 1	55.5	2 40.1
	17.0	57.5	30.3	10.7		3.4	48.0
	32.3	12.4	45.4	26.1		25.0	9.4
	24.7	3.8	37.1	17.3		13.1	56.9
	874	68	1394	609		370	2144
10	21.85	1.70	9 34.85	15.22	32	9.25	32 53.60

Lost A+1

μ Urs. Maj. β Urs. Maj.

10 15 7 10 54 82

+4 26 +57 2

	B	B		B	B
55 3	53.4	0 10.1	0 3	37.4	4 24.0
	58.1	13.7		39.8	26.1
	19.1	35.4		59.0	45.7
	10.0	26.9		50.2	36.5
	206	861		1864	1323
59	5.15	0 21.52	3	46.60	4 33.08

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1881phae.proj.1410B

Apr. 23, 1881

2 Urs. Maj.

10 56 25-

+6 2 23

	B	B
40	1 53.7	2 36.9
	55.8	39.0
	1 55.0	38.0
	6.7	50.1
	1 1 2	1 4 4 0
42	2 8.0	46.00

C = 18 1.0

φ Urs. Maj.

11 3 0-

+5 4 8

	B
55	1 41.9
	46.0
	5.4
	56.9
	2 1 0 2
56	52.55

ζ Aquarii

19 40 30

+10 18

	R	R
45	0 1 32	13.2
	2 5 2	2 4 1
	3 9 8	3 9 9
	2 9 9	30.1
	10 4 1	1033
45	26.02	25.82

θ Aquarii

20 5 4

-1 1 1

	R	R
15	0 16.8	17.0
	24.9	25.3
	45.1	45.2
	32.6	32.9
	11 9 4	12 0 4
15	29.85	30.10

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1881phae.proj.1410B

Apr. 23, 1881 C=18 1.0

δ Leonis

11 7 40

+21 11

		B	B
50	3	52.8	0 12.6
		0.5	19.0
		18.2	37.1
		9.4	28.6
		209	973
54		5,22	50 24,32

γ Cassiop. A.C. Bob,

0 49 25

+119 56

		B	B
10	3	21.4	21.5
		24.8	24.9
		37.7	37.4
		29.0	28.7
		1129	1125
13		28,22	28,12

α Capricorni

20 11 20

−12 5 5

		R	R
5	3	54.6	54.3
		4.7	4.6
		25.7	25.4
		11.8	11.1
		36.3	35.7
9		9,08	8,92

γ Cygni

21 7 47

		R	R
20	1	4.7	4.7
		10.9	10.9
		27.2	27.4
		19.4	19.4
		62.2	62.4
21		15,55	15,60

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1881phae.proj.1410B

Aug 23/1881 C = 1t 1,0

α Caphi

21 15 41/02
+62

	R	Q
0 0	5-12	1284
	5-21	288
	102	47.2
	4.1	41.2
	2376.	1456
0	59.40	1 36.40

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1881phae.proj.1410B

40 4

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1881phae.proj.1410B

Aug 24 1881

☉

2 9 25
+13 4

		R
40	4	333
		40.7
		27
		57.4
		1881
	44	47.02

C = 18 10

β Tauri

~~α Orionis~~

5 - 15 35
+28 30

	R	R
30 - 4	4.0	3.4
	10.6	10.5
	34.5	35.2
	25.9	26.1
	750	755
34?	18.75	18.88

α_2 Capricorni

20 11 20
-12 55

	B	B
55 4	10.3	11.0
	22.5	22.6
	52.0	52.0
	35.1	34.9
	1199	1205
59	29.98	30.12

γ Cygni

20 17 53
+39 52

	B	B
10 2	2.0	3 19.3
	9.2	27.5
	36.3	53.5
	25.2	43.0
	727	1433
12	18.18	13 35.82

A-1

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1881phae.proj.1410B

Apr. 24, 1881

β Aquilæ

19 49 22

+6 6

B	B
55 2 11.3	3 30.2
29.9	42.5
48.9	7.8
35.8	55.0
1189	1955
57 29.72	58 48.88

C = 18 1.0

θ Aquilæ

20 5 4

−1 11

B	B	R	R	B
10 4 0.5	6 12,3	11.6	11.8	11.4
12.5	22,3	22.2	22.2	22.1
41.1	57.0	50.8	51.1	50.6
25.4	35.9	36.6	36.6	36.6
795	15	12	17	07
14 19.88	30.37	30.30	30.42	30.17
	30,27	30,36		

α Cygni

20 37 18

+44 51

B	B	R	R
10 3 24.1	4 35.4	35.2	35.8
31.3	43.1	43.2	43.6
57.1	8.0	8.8	8.5
46.5	57.0	57.8	58.1
1590	35	50	60
13 39.75	50.88	51.25	51.50
	50.88	51.37	

ε Cygni

20 41 19

+33 31

B	B	R	R	B
30 3 1.1	4 14.0	14.9	15.3	15.3
8.7	23.1	23.0	23.2	22.9
35.4	48.6	49.2	48.9	49.3
24.7	38.6	39.0	38.8	38.5
699	55	61	62	60
33 17.48	31.38	31.52	31.55	31.50
	31,44	31,54		

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1881phae.proj.1410B

Aper. 24.1881 C = 18 1.0

ζ Cygni

20 7 47
+29 44

	B	B	R	R	B
15 0	57.8	1 31.0	31.0	31.1	31.4
	0.7	40.1	40.2	40.3	40.2
	25.0	4.1	3.8	4.2	4.1
	14.3	54.2	54.3	54.0	54.0
	318	294	293	296	297
16	7.95	47.35	47.32	47.40	47.42
		47.38	47.36		

α Cephei

21 15 41
+62 4

	B	B	B	B
55 4	58.7	38.9	1 24.9	40.4
	2.7	42.3	28.5	44.7
	28.0	8.8	54.2	10.2
	19.0	0.1	45.9	2.1
	484	2101	1535	1574
0	12.10	52.52	1 38.38	39.35

Mercury

0 55 26
+3 8

	B	B
55 1	27.1	2 47.9
	40.1	0.7
	4.4	24.9
	52.2	13.0
	1838	265
56	45.95	58 6.62

δ Cassiopeæ

1 17 55
+59 36

	B	B	B
25 3	11.1	7.0	19.8
	16.3	12.1	25.5
	41.4	37.0	50.1
	31.1	26.1	40.0
	999	822	1354
28	24.98	20.55	33.85

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1881phae.proj.1410B

Apr. 24, 1881 C = 18 1.0

β Aquarii
21 25 11
−6 4

	B
5 3	56.5
	8.0
	36.0
	21.6
	1821
8	45,52

β Cephei
24 27 4
+72 02

	B	B	B	B
0 3	31.5	52.7	4 10.2	22.9
	36.2	57.2	14.9	27.5
	1.7	22.8	40.6	52.9
	53.2	13.9	32.0	44.4
	1826	1466	977	1477
3	45,65	36.65	4 2442	36,92

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1881phae.proj.1410B

Apr. 24/25, 1881

⊙

2 13 11
+12 24

	B	B
25	0 5.4	55 2 36.8
	16,2	48.5
	4.8	14.4
	2.3	0.7
	9 4 0	10 0 4
25	23.50	57 25.10

Both limbs in δ + R.A.
Lost 1st + 2 w. of 1st limb
Seeing moderately good

C = 18 1.0
α Leonis
10 2 4
+12 33

B	B
30 1 52.6	2 51.4
3.9	2,9
30.6	29.3
16.2	15.9
4 3 3	3 9 5
32 10.82	33 9.88

Lost A +1

μ Urs. Maj
10 15 7
+42 6

B	B
55 3 42.0	0 5.1
50.5	12.0
16.8	38.5
6.0	27.9
2 3 5 3	8 3 5
58 58.82	0 20.88

β Urs. Maj.
10 52 32
+57 2

B	B
0 3 41.6	4 36.0
48.2	42.3
12.8	6.6
2.2	55.9
22 4 8	20 0 8
3 56,20	4 50,20

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1881phae.proj.1410B

Apr. 25, 1881

ζ Leonis

10 ~~3~~ ~~18~~ 3 57

+24 ~~27~~ 1.

	B	B
0 3	46.8	0 3.9
	57.0	13.1
	21.3	37.6
	10.9	27.1
	160	817
4	4.00	5 20.42

C = 18 5.3

γ' Leonis

10 13 18

+20 27

	B
35 2	43.9
	54.4
	18.9
	7.8
	1250
38	1,25

α Urs. Maj.

10 56 25

+62 23

	B	B	B
40 1	50.3	2 29.0	41.0
	56.0	34.3	47.0
	21.0	59.0	11.9
	11.9	50.1	2.3
	19.2	1724	2222
42	4.80	43.10	55.55

β Urs. Maj.

11 3 0

+45 8

	B
5 1	2.0
	9.8
	34.3
	24.3
	704
6	17.60

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1881phae. proj. 1410B

Apr. 25, 1881

δ Leonis

11 7 40

+21 11

B B

50 3 50.1 8.4

1.3 19.0

23.2 41.8

13.5 32.5

281 1017

54 7.02 25.42

C = 18 5.3

χ Aquilæ

19 40 30

+10 19

B B

45 0 45.1 45.9

55.8 55.4

19.1 19.0

8.0 8.3

80 86

4.6 2.00 2.15

C set at 18 5.3

O = 17 98.2

ε Cygni

20 41 19

+33 31

B B R R B

30 2 58.3 4 18.0 18.8 19.0 18.5

5.1 25.2 26.0 26.0 25.3

28.0 48.4 48.7 48.7 48.0

19.4 39.8 39.3 39.3 39.8

508 1314 1328 1330 1316

33 12.70 34 32.85 33.20 33.25 32.90

α Cephei

21 15 41

+62 4

B B B

0 0 14.6 17.4 29.9

17.4 10.3 33.0

39.0 32.3 54.7

32.7 25.9 48.2

1037 759 1658

2592 18.98 41.45

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1881phae.proj.1410B

Apr. 25, 1881 C=18 5.3

	~~α^2 Capricorni~~	θ Aquilæ	α^2 Capricorni
	~~21 11 20~~	20 3 4	20 11 20
		−1 11	−12 5.5
	B	B R R B	B B R R B
10 4	0.0	0 13.0 11.7 12.3 12.6	5.5 2 46.1 4 2.5 2.2 2.7 3.0
	10.9	22.3 22.2 22.2 22.0	57.3 14,0 13.9 14.2 14.2
	34.5	47.0 46.8 46.9 46.3	24.0 39.1 39.1 39.0 39.3
	22.6	34.5 36.2 34.3 34.0	9.0 25.5 25.3 25.7 25.5
	680	1168 1169 1157 1149	164 811 805 816 820
	1700	29,20 29.22 28.92 28.72	58 4.10 59 20,28 20,12 20,40 20,50

β Aquarii

	21 25 11
	−6 6
	B
5 4	21.9
	32.1
	37.6
	43.2
	1538
9	38,45

β Cephei

	21 27 6
	+70 2
	B B B
0 3	42.8 56.9 9.9
	46.7 0.5 12.8
	8.0 22.2 34.8
	1.0 15.3 27.0
	2185 349 845
3	54,62 48,72 21,12

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1881phae.proj.1410B

Apr. 27, 1881

α Cephei

21 15 41

+62 4

	B	B	B	B
0	27.2	30.8	24.0	48.0
	28.2	52.2	25.7	49.8
	51.3	15.3	48.3	13.0
	43.9	8.4	42.1	5.9
	1506	67	1401	2367
0	37.65	2' 1.68	35.02	59.18

C = 18 5.2

β Aquarii

21 25 11

−6 6

	B
5 3	55.7
	3.9
	29.0
	15.7
	443
9	11.08

α Aquarii

21 59 40

−0 54

	B	B
55 3	11.4	40.0
	21.0	50.0
	45.3	14.3
	33.0	2.1
	1107	2264
58	27.68	56.60

γ Cor

0 49 25

+60 4

	B	B	B
0 1	19.2	30.8	1.6
	21.7	33.1	4.2
	46.0	57.4	28.4
	36.4	47.8	18.0
	1233	1691	522
1	3.082	42.28	13.05

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1881phae.proj.1410B

Apr. 27, 1881 C = 18 5.2

β Cephei ε Pegasi

21 27 4 21 38 21

+70 2 +9 20

	B	B	B	B		B	B	R	R	
0 3	9.1	36.8	−4 9.9	4260	40	43.5	0 183	18.0	18.6	18.0
	11.7	39.5	− 13.3	291		13.0	27,0	26.2	26.4	26.7
	34.0	2.0	− 35.8	570		35.1	49.7	49.8	49.8	49.6
	27,0	55.1	− 28.5	442		23.7	388	39.8	39.0	38.7
	818	1934	875	1563		753	1338	1338	1340	1332
	20,45	4835	−4 21,88	39.08	44	18,82	45 33,45	33,45	33,50	33,30

Rij

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1881phae.proj.1410B

Apr. 27/28

C = 18 5.3

①

2 24 32
+14 21

α Leonis
10 2 4
+12 33

	B	B		B	B
25	B 3.0	0 0 18.2	30	1 21.2	2 31.5
	11.5	25.8		28.8	40.0
	37.4	52.6		58.5	9.3
	26.0	39.7		45.1	54.9
	779	1363		1536	1957
28	19.48	30 34.08	31	38.40	32 48.92

Both limbs in δ & R.A.
A₃ o C for 2nd limb
Seeing very fine indeed.

μ Urs. Maj.
10 15 7
+42 6

	B	B
55 4	7.0	0 2.9
	12.7	7.9
	41.9	27.0
	29.5	25.1
	911	729
59	22.78	0 18.22

β Urs. Maj.
10 54 32
+57 2

	B	B
0 3	37.0	4 18.3
	40.8	22.8
	8.0	49.9
	56.4	38.2
	2022	1292
3	50.55	4 32.30

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1881phae..proj.1410B

Aper. 28, 1881 C = 18 5.3

ζ Leonis
10 9 57
+24 1

B	B
0 3 57.1	0 29
59.0	8.9
26.2	3.6.8
14.1	25.5
304	741
4 7.60	5 18.52

γ Leonis
10 13 18
+20 27

B	B
35 2 49.2	4 4.7
56.9	12.9
24.0	39.9
12.1	26.6
1422	841
37 35.55	39 21.02

α Urs. Maj.
10 56 25
+62 23

B	B	B
40 1 46.3	2 15.6	41.2
49.0	18.6	44.8
16.3	45.6	11.8
6.2	35.6	1.8
2378	1154	2196
41 59.45	42 28.85	54.90

φ Urs. Maj.
11 3 0
+45 8

B	B
55 1 8.6	2 20.5
13.5	25.4
40.7	52.6
29.9	42.0
927	1405
56 23.18	57 35.12

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1881phae.proj.1410B

Apr. 28, 1881 C = 18 5.3

δ Leonis

11 7 40

+21 11

	B		B
50 3	34.6	0	9.0
	3.2		16.7
	28.0		42.8
	17.9		32.0
	43.7		100.5
54	10.92	55	25.12

δ Cassiop. L.C.

B obs. 12 17 5.5

+120 24

	B
4.5 0	59.0
	3.1
	24.4
	12.1
	38.6
46	9.65

ε Pegasi

21 38 14

+9 19

	R	R
40 4	10.0	10.3
	19.4	19.3
	39.2	39.6
	27.0	27.9

2 Aq

α Aquarii

21 5 34

−0 14

	R	R
55 3	34.2	34.8
	44.0	43.9
	5.3	5.4
	53.3	53.9

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1881phae.proj.1410B

ζ Cygni

21 +11?

+29 44 R 2

20 1 18 4 19.0

25.8 25.6

43.8 44.1

35.0 35.0

ε Cephei

21 15 41

+62 4

R R

00 58.5 33.2 33.6

59.1 34.8 35.0

19.2 34.8 55.0

11.9 48.2 47.4

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1881phae.proj.1410B

Aug 30 1881 C=17 945

α Cephei

21 15 41

+62 4

	R	R
0 0	526	257
	58.0	31.1
	179	508
	10.2	43.7
	225	1553
01	5.62	38.82

β Aquarii

21 25 11

−6 6

	R
5 4?	03
	8.2
	25.2
	18.0
	557
9?	13.92

α Pegasi

22 58 44

+14 33

R
14.6
22.5
43.1
31.3
1115
27.84

A_6 + C

α Androm.

0 2 8

+28 25

	R	R
35 3	14.8	15.2
	21.3	21.4
	39.2	39.3
	30.8	31.1
	1061	1070
38	26.52	26.75

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1881phae.proj.1410B

β Cephei

21 27 6

+70 2

R	R
6 40 32	4 31,0
63	33,2
25,5	52,1
18,0	45,4
540	1617
4 13,50	40,42

ε Pegasi

21 38 14

+9 19

R	R
* 0,1	0,4
9,6	9,8
28,8	29,0
17,6	17,4
561	566
— 14,02	14,15

γ Pegasi

0 70

+14 31

R	R
30 3 36.8	37.2
45,3	44.8
6,5	6,1
53.6	54.1
2022	2022
33 50,55	50,55

γ Cassiop.

0 49 25

+60 4

R	R
43.8	43.6
44.8	45,3
5.9	6,2
57.1	57.5
2116	2126
5290	53,15

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1881phae.proj.1410B

Apr 30/31, C = 1798.5

① σ_2 3 5 58
+15 16
R
30 3 35.3
43.8
~~53.1~~ 50.8
~~47.8~~ 53.2
~~53.2~~
1981
33 49.52

Doing tolerably.
Reflections in ✓
Both limbs in R.A.

Mayl
2 Tauri
4 28 59
+16 16
R R
30 2 58.3 58.8
57.2 57.2
3.22 3.25
17.8 18.2
53.5 54.7
33 13.38 13.68

C = 1798.5

γ Geminum
6 30 43
+16 10
R R
30 4 16.0 16.5
25.9 26.4
50.3 50.3
35.8 35.3
12 80 12 85
34 32.00 32.12

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1881phae.proj.1410B

β Tauri

δ = 1839

+28 30

		R	R
30	3	58.8	586
		57.2	576
		26.3	266
		17.0	16.8
		47.3	476
	34	1182	1190

ζ Orionis

δ = 5 34 39

−2 0

		R	R
0	4	49	✱5.0
		156	176
		39.5	39.8
		25.4	256
		857	860
	4	2142	2150

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1881phae.proj.1410B

May ½, 1881 C = 17 80.0

⊙

2 39 48
+15 34

B B
10 4 55.0 45 29.2
4.0 17.0
27.6 40.0
14.5 28.2
41.1 94.4
15 10.28 47 23.60

Both limbs in S. + R.A.
Seeing very fine.
Lost A_ of 2nd limb.

α Cephei
21 15 41.1
+62 4

B B B B
0 0 10.5 47.0 18.5 45.0
11.9 47.5 19.9 46.0
33.9 9.5 42.1 8.0
26.4 2.4 35.6 1.5
82.7 22.64 116.1 220.5
0 20.68 56.60 29.02 55.12

α Aquarii
21 59 34
−0 57

B B
55 2 27.9 3 38.8
34.6 48.1
0.0 11.4
47.7 58.9
172.2 217.2
57 43.05 58 54.30

β Cassiop.
0 2 44
+58 29

B B B
35 0 23.6 1 3.4 46.3
25.2 6.8 49.0
46.4 27.3 10.5
38.0 18.2 2.1
133.2 54.7 227.9
35 33.30 36 13.68 56.98

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1881phae.proj.1410B

May 2, 1881 $\quad e = 17\ 80.0$

β Cephei

20 27 6

+70 2

	B	B	B
0 3	24.0	47.1	15.9
	25.6	49.5	17.4
	47.8	11.1	39.9
	40.1	3.5	32.9
	137.5	231.2	106.1
3	34.38	57.80	26.52

ε Pegasi

21 38 14

+9 19

	B	B
40 4	48.0	0 24.4
	58.0	32.8
	19.7	55.0
	7.2	44.4
	129	156.6
45	3.22	39.15

~~Last +1~~

γ Pegasi

0 7 0

+14 31

	B	B
30 3	34.0	54.0
	42.2	2.4
	5.5	25.3
	52.2	11.9
	173.9	336
33	48.48	348.40

Last 1st W

χ Cassiop.

0 49 25

+60 4

	B	B	B
0 0	30.8	1 17.8	39.4
	31.9	19.1	41.3
	54.4	42.2	4.6
	45.1	31.9	54.0
	162.2	111.0	199.3
0	40.55	1 27.75	49.82

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1881phae.proj.1410B

May 2, 1881 C = 17 80.0

δ Cassiop. Mercury

1 17 6-5- 1 46 6-5-

+59 36 +8 54

		B	B	B			B	B
25-	3	3.5-	44.1	15.3	10	0	37.9	1 42.4
		6.3	47.3	17.7			46.4	51.5
		27.1	8.0	38.6			8.1	13.2
		18.0	59.0	29.9			57.2	2,3
		549	2184	1015			2096	2294
	28	13.72	54.60	25.38		10	52.40	11 57.35

Center both fields R.A.

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May 2/3, 1881 C=17 80.0

⊙

2 43 38
+15 52

B Urs. Maj.
10 54 32
+5 7 2

B		B		B	
55 2	10.1	25 4	38.8	0 3 55	0.3 43.0
	17.8		47.0		54.3 47.0
	42.0		10.0		16.9 9.0
	29.1		57.4		7.0 59.2
	99.0		2132		85 2182
57	24.75	29	53.30	4	2.12 54.55

Both limbs in 5 of R.A.
Seeing very poor.

B Cassiop. L.C. Bobs.
0 2 44
+12 1 31

B	B		B	B
35 4	11.4	10.9	10 3	22.0 21.8
	16.0	16.0		24.9 25.0
	30.9	30.6		41.3 41.3
	23.1	22.6		32.0 31.2
	814	801		1202 1193
39	20.35	20.02	13	30.05 29.82

γ Cassiop. L.C. Bobs.
0 49 25
+119 57

Rej extra taps which precede 5

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1881phae.proj.1410B

May 3, 1881 C = 17 80.0

ζ Ursæ Majoris

10 56 28
+62 23

	B	B	B
40	1 53.2	2 33.1	57.9
	55.8	35.6	54.0
	18.8	38.3	17.0
	10.1	49.6	8.7
	79	1766	116
42	1.98	44.15	2.90

δ Leonis

11 7 40
+21 11

	B	B
50	8 52.9	0 12.4
	1.5	19.9
	22.0	40.3
	13.6	31.8
	300	1044
54	7.50	35 26.10

δ Cassiopeiæ L.C. Bds.

1 17 55
+170 24

	B	B
45	2 39.6	39.6
	42.7	42.2
	57.8	57.9
	48.9	48.9
	1890	1886
47	47.25	47.15

ϑ Cygni

21 7 47
+29 44

	R	R
20	1 47	15.0
	2B	25.6
		43.8 44.6
		3 52 3 50
		1230. 1237
21		3075 3092

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1881phae.proj.1410B

May 31/81 C = 17 8.0

ζ Cephei
21 15 41
+62 4

		R	R	R
0	0	58.5	33.2	33.6
		59.1	34.8	35.0
		19.2	54.8	55.0
		11.9	48.2	47.4
		287	1710	1710
	1	7.18	42.75	42.75

ε Pegasi
21 38 14
+9 19

		R	R
40	4	10.0	10.3
		19.4	19.3
		39.2	39.6
		27.0	27.9
		956	971
	44	23.90	24.28

C = 18 5.0

γ Cassiop.
0 49 55
+60 4

		B	B	B	B
0	0	29.8	56.4	30.9	494
		31.0	58.5	32.3	510
		52.1	19.2	52.6	11.7
		43.2	10.9	44.4	3.1
		1561	250	1602	2352
	0	39.02	1 6.25	40.05	58.80

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1881phae.proj.1410B

May 3, 1881
α Aquarii
21 59 34
−0 52

		R	R
55	3	34.2	34.8
		44.0	43.9
		5.3	5.7
		53.3	53.9
		1968	1983
58		49.20	49.58

C = 17 80.0
BCorr.
0 44
+58 29

		R		R	R
30	5	9.4	35	1 20.2	15.8
		1.4		22.0	22.1
		21.2		41.9	42.1
		13.2		88.9	33.4
		35.2		1178	1174
32		8.80	36	29.45	29.35

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1881phae.proj.1410B

May 3/4, 1881

⊙

2 47 29
+16 9

C = 18 5.0

β Urs. Maj.
10 54 82
+5.72

B	B	B	B
40 0.2.1	10 2 28.2	0 3 34.2	4 24.4
7.8	35.3	38.0	28.3
30.5	57.7	59.0	49.2
18.8	45.9	49.2	40.2
592	1671	1804	1421
40 14.80	12 41.78	3 45.10	4 35.52

Both limbs in δ + R.A.,
Seeing very good.

C = 18 55.0

δ Leonis
11 7 40
+21 11

B	B
50 3 53.3	0 10.2
1.8	20.3
21.4	39.9
12.4	31.1
289	1015
54 7.22	55 2538

C = 17 95.0

β Cassiop. L.C. B.Ls
0 2 44
+121 31

B	B
40 0 35.1	35.0
39.2	39.1
53.1	53.1
45.4	46.1
1728	1733
40 43.20	43.32

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1881phae.proj.1410B

May 4. 1881 C = 18 5.0

α Urs. Maj.
10 56 25
+62 23

B	B
40 1 44.0	17.9
47.1	21.5
8.6	42.6
0.2	34.1
21 9 9	11 6 1
41 54 9 8	42 29.02

φ Urs. Maj.
11 3 0
+45 8

B	B.
55 1 22.4	2 18.9
27.8	25.0
47.8	45.1
39.0	35.7
13 7 0	12 4 7
56 34.25	57 31.18

γ Cassiop. L.C. Obs.
0 49 25
+119 56

B	B
10 4 4 9.9	49.8
54.8	54.3
10.1	10.1
0.3	~~54.3~~ 0.3
23 5 1	17 4 5
14 58 7 8	43 6 2

δ Cassiop. L.C. Obs.
1 17 55
+120 24

B	B
45 2 32.1	32.1
36.6	36.9
50.8	51.0
42.2	42.8
16 1 7	16 2 3
47 40.42	40.58

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1881phae.proj.1410B

May 21 1881 C = 189.7

ε Pegasi

21 38 14

R + R' 19

	R	R'
45	147	170
	253	253
	448	445
	346	350
	1219	1218
45	30.48	30.45

ε Aquarii

21 59 34

	R	R'
55	203	204
	301	306
	516	516
	387	384
	1407	1410
57	35.18	35.25

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1881phae.proj.1410B

May 4, 1881 C = 17 9 50

β Cassiop.

0 2 44

+58 29

	B	β B	B	R
35 U	26.8	28.0	43,6	43.1
	28.5	29.6	45,2	45.6
	47.1	49.0	5,0	4.9
	38.4	40.4	56,5	56.2
	1408	1470	2103	2098
35	35,20	36 36,75	52,58	52,45

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1881phae.proj.1410B

May 4/5. 1881 ☉ C = 17 91.3

2 51 20 B Urs. Maj.
+16 24 10 52 30
B B +5 7 2
B B

D 2	43.9		B		B	B
	51.4	55 0	6.9	0 3	34.4	4 33.0
	13.2		13.6		38.7	37.0
	08		36.3		0.7	59.4
			23.0		50.4	49.2
	2293		798		1842	1786
22	57.32	55	19.95	3	46.05	4 44.65

Both limbs in δ + R.A.
Seeing pretty fair.

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1881phae.proj.1410B

May 5, 1881 C=17 91.3

α Urs. Maj.

10 56 25

+6 2 23

B B B

40 1 32.1 2 39.1 51.2

35.2 42.5 55.2

57.1 4.4 17.1

49.0 55.9 8.3

1734 2119 118

41 43.35 42 52.98 43 2.95

δ Leonis

11 7 40

+21 11

B B

50 3 50.3 0 16.2

59.3 24.0

19.8 43.9

11.0 35.1

204 119.2

54 5.10 55 29.80

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1881phae.proj.1410B

May 7, 1881

β Urs. Maj.

10 54 32

+57 2

	B	B
0 3	37.4	4 33.1
	41.3	37.2
	3.3	57.2
	54.7	49.3
	1967	1788
3	49.18	4 44.70

c = 17 91.3

α Urs. Maj.

10 56 28

+62 23

	B	B	B
40 1	37.8	2 15.9	36.3
	40.5	19.3	38.6
	3.0	41.7	1.5
	54.9	33.2	52.8
	1962	1101	1892
41	49.05	42 27.52	47.30

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1881phae.proj.14109

May 7, 1881 ☾ = 17 91.3

δ Leonis

11h 7 40

+21 11

	B	B
50 3	49.9	0 11.1
	57.5	18.2
	18.9	40.1
	10.1	31.9
	164	1013
54	4.10	55 25.32

γ Urs. Maj; B obs.

13 42 46

+49 55

	B	B
10 1	40.0	40.1
	43.3	43.5
	4.9	4.9
	56.5	56.8
	2047	2053
11	51,18	51,32

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1881phae.proj.1410B

May 9. 1881

B Urs. Maj

10 54 32

+57 2

	B	B
0 ~~X~~ 3?	26.4	29.7
	30.3	33.9
	56.6	0.5⁻
	44.8	47.9
	1581	1720
3?	39.52	43.00

C = 17 91.3

α Urs. Maj.

10 56 25⁻

+62 23

	B	B
40	35.2	32.9
	38.5⁻	36.0
	0.5⁻	2.2
	56.0	52.2
	1902	1833
41	47.55	42 45.82

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1881phae.proj.1410B

May 9. 1881 C = 17 91.3

δ Leonis

11 7 40

+21 11

		B	B
50	3	46.1	0 10.0
		54.9	17.0
		19.7	42.1
		9.6	33.4
		103	1025
	54	2,58	55 2562

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1881phae.proj.1410B

84 Aug 9/10 1881

☉

3 10 45
+17 47

		B	B
0	1	37.7	30 43.9
		43.9	9.8
		15.7	41.4
		3.0	29.1
		2197	842
	1	54.92	34 21.05

Both limbs in δ + R.A.
Seeing pretty good

γ Androm.
1 56 29
+41 45

		B	B
15	3	58.5	0 15.1
		4.2	20.5
		31.7	48.0
		20.2	37.0
		1546	1206
19		13.65	20 30.15

C = 17 95.6

γ Cassiop. L.C. B obs.
~~12~~ 0 49 25
+119 56

		B	B
10	3	14.6	14.9
	~~10~~3	20.6	20.9
	1~~5~~6	44.2	43.8
		29.9	29.6
		1093	1092
	13	27.32	27.30

α Arietis
2 0 21
+22 53

		B	B
10	0	52.6	21.1
		0.6	28.2
		25.0	53.3
		14.5	43.4
		327	1460
	11	8.18	36.50

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1881phae.proj.1410B

May 10, 1881 C = 17 95.6

ε Virginis
12 56 9
+11 37

	B	B
25	10.5	10.2
	19.0	19.0
	49.3	49.5
	34.7	34.5
	1135	1132
28	28,38	28,30

δ Cassiop. L.C. B. ob
1 17 55
+120 24

	B	B
45	50.4	50.2
	56.2	56.3
	20.1	19.9
	5.2	4.8
	119	112
46	2,98	2,80

Mercury
2 45 48
+15 12

	B	B
50	10,0	4 29.6
	19.6	39.4
	47.5	7.0
	32.4	51.4
	1095	1874
53	27,38	54 46.85

Center in δ & R. A.

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1881phae.proj.1410B

May 10/11, 1881

⊙

3 14 39
+18 3

B B

45 1 32.9 15 3 47.9
41.2 57.4
9.5 24.2
54.5 9.8
1981 193
46 49.52 19 4.82

Both limbs in δ & R.A
Last 1rst w. of 2nd limb
Seeing very fine.

C=17 95.6
η Pegasi
22 37 20
+29 35

B B

25 3 29.3 4 41.9
36.9 49.7
6.6 16.9
52.9 5.0
1857 2355
28 46.42 29 58.88

C=17 97.6
γ Cassiop
0 49 25
+60 4

B B B B

0 0 30.0 115.4 41.0 2 0.0
33.1 18.2 44.4 3.0
5.0 50.0 16.5 35.0
50.9 36.0 2.7 21.2
1990 1196 1046 592
0 44.75 1 29.90 26.15 14.80

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1881phae.proj.1410B

May 11, 1881

α Andr

0 2 8

+28 25

R R

5 4 36.1	36.1	
	43.6	44.1
	12.8	13.2
	59.1	59.7
	22.16	21.31
39	55.40	53.28

Reg 1st S

γ Pegasi C=17 95.6

0 7 0

+14 31

R R

30 2	56.3	56.8
	5.9	6.1
	38.1	38.8
	20.9	21.0
	6.12	6.27
33	15.30	15.68

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1881phae.proj.1410B

May 11/12, 1881

⊙

3 18 34
+18 18

		B		B
30	1	5.8	0 3	52.9
		14.4		2.6
		47.1		35.0
		30.6		16.7
		9.9		4.2
31		24.8	34	11.80

Both limbs in δ + R.A.
Seeing quite unsteady.

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1881phae.proj.1410B

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1881phae.proj.1410B

May $\frac{12}{13}$, 1881

⊙

3 22 30
+18 32

	B		B
15 1	115	45 3	44.3
	20.9		56.7
	49.0		24.5
	35.0		8.6
	1164		13.1
16	29.10	49	3.28

Seeing very fine
Both limbs in δ & R.A.
Lost some wires of
A+1 of first limb.

C = 17 97.6
δ Cassiop. L.C. B Hs.
1 17 55
+120 24

	B	B
45 0	54.9	54.9
	1.0	1.4
	25.3	24.8
	11.4	11.1
	326	322
46	8.15	8.05

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1881phae.proj.1410B

May 13, 1881 C = 17 97.6

H Mrs. Maj. Bds.

13 42 46

+49 55

		B	B
10	1	40.3	40.1
		45.4	45.9
		14.5	14.5
		1.0	1.1
		2212	2216
	11	55.30	55.40

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1881phae.proj.1410B

92

May 22 1881 C=17 ** ??

⊙ ?

3 58 18.0

+20 30

~~B~~ ~~B~~

R

4 5 – 4 41.2

49.8

13.8

1.4

26.22

56.55

49

Sonne rückt in δ

Sehr regnerisch.

C=17 90.2

δ Cassiop

1 17 55

+59 04

B B B

25 3 11.3 588 220

14.0 55.8 25.4

39.0 20.9 49.7

27.6 9.8 88.2

9.9 2.03 13.53

Stet.

28 22.98 29 5.08 33.82

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1001phae.proj.1410B

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1881phae.proj.1410B

May 22/23, 1881

⊙

4 2 19
+20 42

B

5" 2 48.1
5"5.8
21.4
9.1
144
8 3,60

Upper limb in δ
2nd limb in R.A
Seeing pretty fair

C = ~~90~~ 17 90,2

B Leonis
11 42 53
+15" 15"

B

50 0 5.9
15.0
45.1
27.0
930
50 23,25"

δ Corvi
12 23 37
-15 50

B

50 4 26.2
40.8
9.8
53.2
1920
54 48.00

β Corvi
12 28 2
-22 44

B B

45" 2 12,3 3208
24.1 330
54.9 31
37.0 454
1283 1623
47 32,0 48 40,58

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1881phae.proj.14110B

May 23, 1881 C = 17 90.2

γ Urs. Maj.
11 47 36
+54 21

	B
40 3	18.9
	24.9
	53.0
	38.4
	38.5
	1737
~~Reg. 2nd~~	
43	43.42

β Cassiop. L.C.
0 24 44
+121 31

B	B	B
40 0	17.8	36.9 50.4
	24.3	45.1 58.2
	45.9	6.2 19.0
	32.6	52.8 5.3
	1206	2010 129
	30.15	50.25 3.22

γ Virginis
12 35 32
−0 47

B	B
50 1	38.0 250.8
	48.7 2.4
	19.0 32.0
	1.7 15.3
	2274 405
51	56.85 53 10.12

preceedy star

ε Urs. Maj.
12 48 42
+56 37

B
25 3 27.0
32.5
0.1
45.9
1655
28 41.38

Last wires after 48

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1881phae.proj.1410B

May 23, 1881
δ Cassiop. L.C.
1 17 5 5
+120 24

	B	B
45° 2	19.4	0 55 1
	26.2	1.1
	48.2	23.9
	34.0	9.4
	1280	295
47	32.00	45 7.38

~~A -1 1 23~~
A -1 1 5 4 3

C = 17 90.2
δ Cassiop. U.C.
1 17 5 5
+120 24

	B
25° 3	22.8
	26.6
	51.8
	39.7
	1409
28	35.22

A +1 5 4 3 2 1

Reject A -1
Lost some of middle wires of A

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1881phae.proj.1410B

May $\frac{23}{24}$, 1881

☉ $4^h\ 6^m\ 21^s$

$+20\ 53$

B	B	B
5 +0	34.9	25 33.8
	43.6	12.6
	9.3	38.1
	569	25.1
	2047	796
55	51.18	28 19.90

Both limbs in δ + R.A.
Lost +1 1rst limb
Seeing moderate.

☉ = 17 90.2

☉ = 17 90.2

Mercury

$4\ 40\ 38$

$+23\ 34$

B	B	
30 0	47.4	44.0
	55.2	52.5
	21.4	18.8
	9.0	5.6
	130	09
31	325	320.22

Center in δ + R.A.

β Cassiopeiae

$0\ 42\ 44$

$+121\ 31$

B	B	
40 0	7.0	4 0.1
	13.8	9.0
	35.5	29.9
	22.9	16.1
	792	551
40	19.80	44 13.78

δ Coronae

$12\ 23\ 37$

$-15\ 50$

B	
50 4	26.9
	40.3
	9.0
	57.0
	1872
54	46.80

Rej. 2nd δ

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1881phae.proj.1410B

May 24. 1881

C = 18 2.0

β Leonis

11 42 53

+15° 15'

B	B
50 0 0.7	1 25.0
10.2	35.1
40.1	4.2
23.0	48.0
7 40	17 23
50 18.50	51 43.08

γ Urs. Maj.

11 47 35

+54 21

B
40 3 50.6
57.6
24.9
10.0
14 31
44 6 35.78

Lost 1st 2 w.

β Corvi

12 28 2

−22 44.1

B	B
45° 2 36.7	3 18.8
49.0	31.4
19.4	1.3
1.3	44.0
22 64	15 55
47 56.60	48 38.88

γ Virginis

12 35° 32

−0 47

B	B
50 152.6	2 54.0
4.1	5.9
33.3	35.5
16.0	18.2
460	536
52 11.50	53 13.40

preceeding star.

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1881phae.proj.1410B

May 24, 1881

κ Cassiop. A.C.

0 49 25

+ 19 57

B B

10 4	24.2	3 45.0	2 59.4
	31.9	52.9	6.0
	54.0	14.9	28.5
	39.4	0.2	14.2
	1495	2330	481
14	37.38	13 58.25	12.02

c = 18 2.0

ε Virginis

12 57 9

+ 11 37

B B

25	3 8.8	4 22.5	
	19.5	34.1	
	48.4	2.3	
	32.3	47.0	
	1090	1659	
28	27.25	29 41.48	

c = 18 2.0

α Pegasi

22 58 44

+ 14 33

B B

25 4	58.2	58.4
	9.4	9.8
	35.9	36.1
	19.2	18.6
	627	629
30	15.68	15.72

c = 17 91.6

γ Pegasi

0 7 0

+ 14 31

R R

30 3	21.7	21.8
	31.4	31.4
	58.6	58.8
	42.9	43.1
	1546	1554
33	38.65	38.85

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1881phae.proj.1410B

May 24, 1881

δ Cassiop. L.C.

1 17 55

+120 24

	B	B	B	B
45	2 3.0	34.5	1 12.0	0 45.8
	10.1	41.7	18.5	52.0
	31.6	2.8	40.0	14.2
	17.8	49.4	26.8	0.7
	625	1884	973	2327
47	1562	4710	46 24.32	45 58.18

C = 18 2.0

η Pegasi

22 37 20

+29 35

	B	B
25	3 24.2	4 35.2
	33.8	44.9
	57.3	9.0
	44.7	55.6
	1600	2047
28	40.00	29 51.18

χ Cassiop.

0 49 25

+60 4

	B	B	B	B
00	40.4	2 11.1	46.3	2 10.3
	44.4	15.5	50.6	14.4
	10.1	40.8	17.0	40.0
	58.3	28.7	4.3	27.9
	1532	961	2382	926
0	38.30	2 24.02	59.55	2 23.15

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1881phae.proj.1410B

May $\frac{24}{25}$; 1881 $\odot = 17\ 91.3$

$\odot$ 4 10 24

+21 B 4 B

40 4 55.9 ~~45~~ 15(?) 2 27.8

4.7 35.4

30.3 2.5

18.2 30.7

491 1766

45 12.28 17? 44.15

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1881phae.proj.1410B

May $\frac{25}{26}$, 1881

⊙

4 14 27

+21 14

B 55(?) B

30 4 34.0 5 1 42.2

42.6 50.9

6.2 13.8

54.2 2.3

1970 2292

34 49.25 56 57.30

c = 17 91.43

β Leonis

11 42 53

+15 15

B B

50 0 2.8 1 16.0

11.1 26.0

40.1 54.8

23.3 37.5

773 1343

50 19.32 51 33.58

Both limbs in δ & R.A.

Seeing Moderate.

ε Corvi

12 3 54

-21 56

B B

0 0 18.2 1 35.9

30.6 48.3

1.1 18.2

43.0 0.6

1529 2230

0 38.22 1 55.75

δ Corvi

12 23 37

-15 50

B B

50 4 25.6 0 47.1

39.0 59.9

6.9 29.2

49.9 11.0

1814 272

54 45.35 56 6.80

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1881phae.proj.1410B

May 26, 1881

χ Urs. Maj.

11 47 35

+54 21

B	B
40 3 19.9	4 31.5
25.9	38.2
52.0	4.8
88.1	50.5
1359	1850
43 33.98	44 46.25

@ = 17 9.3

β Cassiop. L. C.

0 2 44

+121 31

B
40 0 14.9
21.1
~~42~~ 4.0
29.3
1073
40 26.82

β Corvi

12 28 2

-22 44

B	B
45 2 5.4	8 20.2
17.6	32.1
47.2	1.4
29.6	43.5
99.8	1572
47 24.95	48 39.30

χ Virginis

12 35 30

-0 47

B
50 1 50.3
1.1
29.8
13.0
342
52 8.55

Leg.

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1881phae.proj.1410B

May 26, 1881

γ Cassiop. S.C.

0 49 28

+11 9 56

B B B

10 4 24.4 59.1 6.2

31.6 6.0 13.1

52.4 27.4 84.8

38.8 13.5 20.1

1472 460 742

14 36.80 15 11,50 18,55

c = 17 91.3

ε Virginis

12 56 9

+11 37

B B

25 3 12.4 4 33.1

23.0 43.7

50.5 11.1

34.7 55.7

1206 2036

28 30,15 29 5 0,90

δ Cassiop.

1 17 55

+59 36

25 2 59.3 4 16.4

3.7 21.0

29.0 46.9

16.9 35.0

489 1193

28 12,22 29 29,82

Sod –

last $A_5 + A_9 + A_{-1}$ |

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1001phae.proj.14108

May 26, 1881 C = 17 91,3

δ Cassiop L.C

1 17 57 5⁻

+120 24

B B B B

45⁻ 2 2 2,9 0.0 1 1.1 50.9

29.0 6.0 7.2 56.8

49.5⁻ 26.3 27.9 17.4

36.4 13.3 14.4 4.2

1378. 456 506 93

47 34,45 11,4046 12,65 2,32

χ Cassiop B obs.

0 49 25⁻

+60 4

B B

0 1 46.9 46.6

49.8 49.4

16.4 16.2

4.0 3.8

2371 2360

1 59,28 59,00

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1881phae.proj.1410B

May $\frac{26}{27}$, 1881 C=17 91.3

⊙

4 18 30

+21 24

	B	B
20 4	200	55 1 43.1
	288	50.3
	30	16.3
	420	5.0
	1538	2347
24	38.45	56 58.68

Both limbs in δ & R.A.

Seeing very fine indeed

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1881phae.proj.1410B

May 30, 1881 C = 17 91.2

γ Cassiop. Bobs.
U 49 25
+60 4

	B
0 1	46.3
	50.0
	20.6
	5.7
	26
2	0.65

δ Cassiop. Bobs.
1 17 55
+59 36

	B
25 4	13.1
	19.3
	48.7
	34.1
	11 52
29	28.80

Rej. rattle between R.A. & δ.
A_-1 only. lost A_+1 & A.

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1881phae.proj.1410B

May 31, 1881 $\odot = 17\ 91.2$

γ Cassiop. B obs.

0 49 25
+60 4

	B	B
0 1	47.5	47.0
	52.3	52.8
	22.5	22.6
	7.6	7.5
	99	99
2	2,48	2,48

δ Cassiop. B obs

1 17 55
+59 36

	B	B
25 4	3.2	3.7
	9.3	9.3
	38.7	38.4
	23.8	23.9
	750	753
29	18,75	18,82

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1881phae.proj.1410B

June 1. 1881 ☉ =

Androm. B. obs.

1 56 29

+41 45

		B	B
20	0	14.1	14.4
		23.6	23.5
		52.8	53.0
		39.0	39.0
		1295	1299
	20	32,38	32,48

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1881phae.proj.1410B

June 4, 1881

γ Cassiop. L.C. B. Obs

12 49 25

+1 19 56

B

10 2 59.9
7.1
26.4
14.7
48.1
13 12.02

C = 17 91.2

δ Cassiop. L.C. B. Obs

1 17 55

+1 20 24

B

45 0 41.4
48.2
7.4
55.9
21 29
45 53.22

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1881phae.proj.1410B

June 5, 1881

β Arietis B. obs

1 47 58

+20 13

		B	B
50	1	48.0	48.4
		59.0	59.0
		24.0	24.0
		11.4	11.1
		224	225
	51	5.60	5.62

Rej: 1st & 6th.

C = 17 91.2

γ Androm. B. obs

1 56 29

+41 45

		B	B
20	0	19.0	19.0
		26.8	26.8
		53.3	53.2
		41.9	41.2
		1410	1402
	20	35.25	35.05

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1881phae.proj.1410B

June 6, 1881

δ Cassiop. L.C. B. Obs

1 17 55

+120 24

		B	B	B
40	4	30.6	45 0	55.4	55.4
		26.8		3.9	3.7
		53.3		25.5	25.1
		41.2		10.1	11.0
				349	352
			46	8.72	8.80

C = 17 89.1

η Urs. Maj. B. Obs.

13 42 46

+49 55

		B	B
10	1	28.8	28.9
		35.0	35.8
		1.1	1.2
		48.7	48.3
		1736	1742
	11	43.40	43.55

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1881phae.proj.1410B

June 11. 1881

γ Cass. L.C. B Obs.

12 49 25

+119 56

	B	B
10 4	20.8	20.2
	28.0	27.8
	45.1	45.0
	34.2	34.0
	1281	1270
14	32.02	31.75

C = 17 89.1

ε Virginis B Obs.

12 56 9

+11 37

	B	B
25 4	28.2	28.2
	38.8	39.2
	3.0	2.8
	50.6	51.1
	1806	1813
29	45.15	45.32

δ Cass. L.C. B. Obs

1 17 55

+120 24

	B
45 0	56.0
	2.1
	18.4
	9.2
	257
46	6.42

η Urs. Maj. B. Obs.

13 42 46

+49 55

	B	B
10 1	39.0	39.7
	44.0	44.6
	6.0	6.2
	57.4	58.0
	2064	2085
11	51.60	52.12

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1881phae.proj.1410B

June 14, 1881

δ Cassiop. B. Obs.

1 17 55

+ 59 36

	B	B
25 4	8.0	8.5
	12.2	12.1
	38.2	38.2
	25.4	25.3
	838	841
29	20,95	21,02

C = 17 89.1

β Arietis B. Obs.

1 47 58

+ 20 13

	B	B
50 1	43.6	44.0
	52.4	52.~~2~~
	19.3	19.3
	6.1	6.3
	14	18
52	0,35	0,45

Lost A_{+1} & A_{16}

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1801phae.proj.14109

June 14, 1881 C = 17 89.1

χ Androm. B. Cls.

1 56 29

+41 45

		B	B
50	0	15.6	15.3
		21.4	21.0
		49.0	49.1
		37.0	36.6
		1230	1220
	50	30.75	30.50

Rattle precedes δ

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1881phae.proj.1410B

June 14/15, 1881 C = 17 89.1

⊙ B. Abs.

5 36 44
+23 21

	B	B
5 4	49.7	49.5
	58.8	58.5
	24.4	24.2
	11.3	10.5
	242	227
10	6,05	5,68

1rst limb in R.A.
Lower limb in δ
(Apparent upper limb in instrument.)
Seeing pretty fair

γ Cass. L.C. B. Abs

0+2 49 25
+119 56

	B	B
10 2	52.8	52.4
	0.3	0.4
	24.7	24.4
	8.4	8.1
	262	253
13	6,55	6,32

A_6 + C.

β Arietis B. Abs.

1 47 38
+20 13

	B	B
50 1	46.1	45.8
	56.5	56.8
	21.8	22.0
	7.5	7.2
	119	118
52	2,98	2,95

γ Androm. B. Abs.

1 56 29
+41 45

	B	B
20 0	19.7	19.1
	27.4	27.1
	53.7	53.8
	40.0	40.2
	1408	1402
20	3520	3505

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1881phae.proj.1410B

June 15, 1881 C = 17 89.1

ε Virginis B. Obs. δ Cassiop. B. Obs.

12 56 9 1 17 55

+11 37 +59 36

	B		B	B
25	4 31.2	25	4 8.8	8.3
	43.0		14.8	14.8
	14.3		40.1	40.0
	55.0		26.5	25.9
	14 3.5		9 0 2	8 9 0
29	35.88	29	22.5	22.5

A+13 +C

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1881phae.proj.1410B

June $\frac{15}{16}$, 1881

C = 17 88.2

⊙ B. Obs

5h 40 52

+23 23

	B	B
5h 5h 2	47.2	46.9
	57.8	57.5
	21.9	21.7
	8.2	9.0
	151	151
5 8	3.78	3.78

1st limb in R.A.
Lower limb in δ
Seeing poor

γ Cass. L.C. B. Obs

0 49 25

+119 56

	B	B
10 2	5h 3.0	5h 3.1
	3.0	2.4
	20.0	24.3
	8.5h	8.6
	295	284
13	7.38	7.10

A_3 + C Clouds.

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1881phae.proj.1410B

June 16, 1881 ☾ = 17 88.2

α Virginis
13 18 49
−10 32

	B	B
35 2	13.6	13.4
	25.7	25.1
	57.1	57.0
	37.0	37.1
	1334	1328
37	33,35	33,20

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1881phae.proj.1410B

June 16/17, 1881

⊙ B. Obs.

5° 45 2

+23 25

	B	B
55° 1	0.8	0.3
	11.2	11.3
	35.2	35.1
	22.3	22.3
	695	690
56	17.38	17.25

C = 17 88.2

ε Virginis B. Obs.

12 56 9

+11 37

	B	B
25° 4	28.0	28.1
	40.3	40.4
	9.1	9.3
	52.2	51.2
	1896	1890
29	47.40	47.25

~~Upper~~ Lower limb in δ

1st limb in R. A.

Seeing poor

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1881phae.proj.1410B

June 17, 1881

C = 17 88.2

		γ Cass.	B.	Obs.			δ Cass.	B. Obs.
		0	49	25			1 17	5 5
			+60	4				+59 34
			B	B			B	B
0	1		45.6	45.9	25	4	5.7	5.9
			51.3	51.3			12.9	12.6
			19.0	19.2			39.4	39.3
			5.9	5.8			25.6	25.8
			18	22			836	836
	2		0.45	0.55		29	20,90	20,90

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1881phae.proj.1410B

June 17/18, 1881

δ Cass. S.C. B. Obs.

1 17 55

+1 20 24

		B	B
45	1	49.5	49.3
		58.8	58.8
		22.5	22.9
		6.8	6.7
		176	177
	47	440	442

ζ = 17 88.2

η Urs. Maj. B. Obs

13 42 46

+49 55

		B	B
10	1	25.8	25.8
		32.9	32.6
		2.0	2.0
		47.9	48.1
		1686	1685
	11	4215	4212

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1881phae.proj.1410B

June 18, 1881 C = 17 58.2

N Bootis B. Obs.

13 48 5⁻5⁻

+19 0

	B	B
5⁻0	46.9	47.0
	58.0	58.1
	29.0	28.8
	12.4	12.5⁻
	1463	1464
6	36.58	36.60

Last $A_{2 \text{ or } 3}$ to A_{5^-}

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1881phae.proj.1410B

June 19. 1881

α Cassiop. B. Obs.

0 49 25⁻

+60 4

	B	B
0 1	44.9	44.8
	50.8	50.9
	18.9	20.0
	6.4	6.0
	.20	17
2	0.50	0.42

C = 17 88.2

δ Cassiop. B. Obs.

1 17 65⁻

+59 36

	B	B
25⁻ 4	4.4	4.7
	12.3	11.7
	39.5⁻	39.9
	25.3	25.5⁻
	815	818
29	20,38	20,45

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1881phae.proj.1410B

June 19, 1881 C = 17 88.2

β Arietis B. Obs. γ Androm. B. Obs.

1 47 58 1 56 29

+20 13 +41 45

		B	B			B	B
50	1	33.3	33.1	20	0	12.8	12.4
		45.1	45.1			21.4	21.1
		13.6	14.0			51.2	51.3
		59.7	59.6			38.0	38.0
		2117	2118			1234	1228
51.		52.92	52.95	20		30.85	30.70

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1881phae.proj.1410B

June $\frac{20}{21}$, 1881 ☉ = 17 88.2

⊙ B Obs. ε Virginis B. Obs.

6 1 41 12 56 9

+23 27 +11 37

		B		B	B
50	3	11.1	25	4	19.3 19.7
		23.2			32.3 32.2
		51.2			3.7 3.7
		37.4			44.9 45.2
		1229			1602 1608
	53	30,72		29	40,05 40,20

Both limbs in ☉ R.A

Lower " " ☌

Seeing poor.

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1881phae.proj.1410B

June 21, 1881 $\odot = 17\ 88,2$

	γ Cassiop. B. Obs.			δ Cassiop. B Obs.	
	0 49 25			1 17 55	
	+60 4			+59 36	
	B	B		B	B
0	42,3	42.6	25 4	8.9	9.0
	48.9	48.8		16.4	16.1
	15.1	15.0		41.9	41.5
	2.9	3.0		28.9	29.2
	2292	2294		961	958
1	57,30	57,35	29	24.02	23.95

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1881phae.proj.1410B

June $\frac{22}{23}$, 1881 $\odot = 17\ 85;6$

⊙ B. Obs

6 10 0

+23 26

B

50 4 12.4
24.5
49.1
36.5
1225
54 30.62

Lower limb in δ
Both limbs in R.A
Seeing pretty fair.

γ Cass. B. Obs,

0 49 25

+60 4

B B

0 1 42.7 42.9
49.1 48.9
15.5 15.7
2.8 2.9
2301 2304
1 57.52 57.60

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1881phae.proj.1410B

June 23, 1881 C = 17 85.6

δ Cassiop. B. Obs.

117 55
+ 59 36

	B	B
25 4	4.0	45.
	11.5	11.7
	37.2	36.2
	24.7	25.0
	774	774
29	19.35	19.35

Lost 1m.6 W.

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1881phae.proj.1410B

June $\frac{24}{25}$, 1881 C = 17 85.6

⊙

6 18 19

+23 23

B

5'5" 2 1.2

13.0

39.8

27.0

8 10

57 20.25"

Both limbs in R.A.

Lower limb in S

Seeing moderate

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1881phae.proj.1410B

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1881phae.proj.1410B

June $\frac{27}{28}$, 1881

⊙ of B. Obs.

6 30 46

+ 23 16

B

0	4	10.8	~~45 4 4.3~~
		19.9	
		48.3	
		35.0	
		11 40	
	4	28.50	

Lower limb in δ

Both limbs in R.A.

Last wires of ⊼ in 2nd limb were interfered with by clouds; lost also ⊼ 1, 4 of 2nd limb.

Seeing very good.

@ = 17 85.6

γ Cassiop. B. Obs.

0 49 25

+60 4

B B

0	1	37.1	36.9
		41.1	41.4
		12.2	12.3
		57.1	56.8
		2075	2074
	1	51.88	51.85

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1881phae.proj.1410B

June 28, 1881 @ = 17 8 5.6

δ Cassiop. B. Obs.

1 17 55

+59 36

		B	B
25	4	2.0	2.0
		7.6	7.4
		37.9	37.3
		21.6	21.4
		69 1	68 1
	29	17.28	17.02

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1881phae.proj.14410B

June 29, 1881

γ Cassiop. B. Obs.

0 49 25 +60 4

B B

0 1 44.4 45.0

52.0 52.0

22.8 23.0

7.2 6.3

64 63

2 1,60 1,58

c = 1.7 83,8

δ Cassiop. B. Obs.

1 17 55

+59 36

B B

25 3 59.7 59.7

7.6 7.9

37.5 37.3

21.2 21.7

660 666

29 16,50 16.66

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1881phae.proj.1410B

June 29, 1881 C = 17 83.8

β Arietis B. Obs. γ Andromm. B. Obs

1 47 58 1 56 29

+ 20 13 + 41 45

	B	B		B	B
50	1 33.8	33.3	50 0	10.9	11.0
	46.3	46.1		20.4	20.6
	16.6	16.4		52.4	52.2
	59.9	59.9		36.2	36.0
	2166	2157		1199	1198
51	54.15	53.92	50	29.98	29.95

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1881phae.proj.1410B

June $\frac{29}{30}$, 1881

⊙ B. Obs.

6 39 3

+23 9

B

10 1 55,6

8.2

37.1

19.8

607

12 15,8

Lower limb in S

1st+ limb in R.A. — Lost A_7 and A_{-1} 345, clouds.

Seeing pretty steady.

No rattle preceeds or follows.

$\odot = 17\ 83.8$

Comet 1881 b B. Obs.

R.A. only

$6^h\ 14^m\ 25^s$

$+111^\circ\ 22'$

A_{-1} 54321 A_9 8 (65 2 ?) ~~A4~~

(A_{+1} 43 ?)

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1881phae.proj.1410B

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1881phae.prj.1410B

July 1, 1881

f Draconis B. Obs

17 32 30

+68 13

	B	B
50 2	5.0	38.4
	12.6	45.5
	42.0	15.2
	28.9	1.5
	885	1006
52	22.12	53 55.15

For Comet determination

C = 17 84.8

36 Camelop. B. Obs.

6 0 54 L.C.

+65 44 114 16

	B
50 2	49.0
	59.1
	23.7
	7.0
	188
53	4.70

Rej. 1st " w of A-1

For Comet determ.

Comet 1881 b. B Obs, δ Cassiop. B. Obs.

6 22 52 L.C.

+109 19

	B	B
45 0	55.4	40 4 41.6
	3.8	52.7
	29.2	17.2
	14.4	1.7
	428	332
46	~~10.70~~ 10.70	44 58.30

1 17 55

+59 36

	B	B
25 4	4.0	3.5
	~~32.0~~ 11.2	11.0
	~~57.3~~ 38.5	38.0
	~~45.9~~ 23.7	24.1
	774	766
29	19.35	19.15
	19.25	

Perhaps rej. last tap of 2nd δ

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1881phae.proj.1410B

July 1, 1881

22 H. Camel. B. Obs.
6 5 46 L.C.
+69 22 10 38

		B	B
25	4	30.4	3 10.5
		40.4	20.8
		5.1	45.2
		49.0	28.7
		249	252
	29	46.22	28 26.30

For Comet determ.

β Arietis B. Obs.
1 47 58
+20 13

		B	B
5	0 1	35.3	35.7
~~35~~	~~3~~	47.8	47.7
		15.6	15.7
		0.4	0.8
		2191	2199
	51	54.78	54.98

C = 17 84.8

36 Draconis B Obs
18 13 16
+64 21

		B
40	3	18.1
		25.7
		54.1
		39.6
		175
	43	34.37

For Comet determ.

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1881phae.proj.1410B

July ½, 1881 c = 17 84.8

O − B Obs.

6 47 19
+23 0

B

15 4 34.4
47.0
14.1
59.1
21 46
19 53.65

Both limbs in R.A.
Rej. A 7 + 8 on 1st limb &
A 8 on 2nd limb.
Lower limb in S
Seeing poor.

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1881phae.proj.1410P

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1881phae.proj.1410B

July 2/3 1881

W. A. R. Res.

⊙ $6^h\ 5^m\ 12^s$ +22 5 6

C = 17 84.8

γ Cassiop. B. Obs.

0 49 25

+60 4

	B	B
5 0 2	46.2	
	53.2	
	23.0	
	6.8	
	92	
	53 230	
0 1	38.7	37.9
	44.5	44.9
	16.2	15.9
	59.2	58.9
	2186	2176
1	54.65	54.40

Upper limbs in S

II. Limbs in Red

Types

W 1 2 3 4

L 1 2 3 4 5 6 7 8

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1881phae.proj.1410B

July 3, 1881 C = 17 84.8

δ Cassiop. B. Obs.

1 17 55

+59 36

	B	B
25 4	0.0	0.2
	7.6	7.9
	38.0	37.8
	21.2	21.0
	668	669
29	16.70	16.72

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1881phae.proj.1410B

July $\frac{3}{4}$, 1881 ⊙ C = 17 84.8

6 55 34
+22 50

B

B	B	B
55 3 82.2	30 0 35.7	25 4 39.0	25 3 5.8
44.1	46.4	49.1	15.6
13.6	15.9	15.9	41.4
57.0	0.7	58.8	25.0
2069	2187	1628	878
58 51.72	30 54.68	29 40.70	28 21.95

Both limbs in δ + R.A.
Seeing moderately good.

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1881phae.proj.1410B

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1881phae.proj.1410B

July $\frac{4}{5}$, 1881

C = 17 84.8

☉ 6 59 41

+ 22 45

f Draconis B. Obs

17 32 29

+ 68 12

	B	B		B	B
0	3 47.2	35 1 11.6	50	2 1.0	.3 33.3
	59.0	15.0		8.2	40.3
	38.0	43.0		39.2	11.3
	131	28.2		24.3	58.1
	273	978	52	18.48	53 50.78
4	6.82	36 24.45			

N.B. C was set by mistake at 16 84.8

Both limbs in δ & R.A.

Lost 1st ⁄ 2 w. of 1st limb.

For Comet compar.

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1881phae.proj.1410B

July 5, 1881 C = 17 84.8

36 Draco. B Cl.

18 13 16

+64 21

R. A. Only —

Clouds.

A_{+1} 5 A A_{-1} 1

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1881phae.proj.1410B

July 6, 1881

Comet Comp ar. B.Cls
36 Camelop. L.C.
6 0 54
+11 4 16

	B
50 3	1.9
	11.3
	36.7
	20.1
	7 0 0
	17.50

C = 17 84.8

Comet Comp ar. B.Cls
22 H. Camelop. L.C.
6 5 46
+11 0 38

	B	B
25 4	24.9	25 3 6.9
	34.0	16.0
	0.1	42.6
	42.8	25.5
	16 1 8	9 1 0
	40.45	22.75

Com
Comet (b) 1881 B. Cls.
(7 U.C) 19 21 0
+10 2 8

	B
55 0	22.1
	30.0
	57.8
	43.5
	1 5 3 4
	38.35

Very indistinct.
Rej: a taf which
proceeds last
Rattle.

Comet Comp ar. B.Cls
Stars in R.A. only, for time

Gr. 25 33 — 18 12 0

η Serpentis — 18 15 13

109 Herculis — 18 18 41

Rej: { ν Serpentis pr. — 18 50 22
{ ε Aquilæ — 18 54 17

ω Aquilæ — 19 12 18

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1881phae.proj.1410B

July 6, 1881 — Comet Comp. ar. B. Obs. 23 H. Camelop. L.C.

6 25 5.5

+100 19.1

	B	B
45 3	26.9	45 2 12.5
	33.4	20.0
	1.8	48.1
	47.2	32.8
	1693	1134
	42.32	28.35

C = 17 84.8 — Comet Comp. ar. B. Obs. 24 H. Camelop. L.C.

6 42.43

+ 102 5.2

	B	B
15 0	5.0	10 3 26.9
	13.2	36.6
	41.7	3.9
	26.8	48.0
	867	1754
	21.67	43.85

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1881phae.proj.1410B

July 6/7, 1881 C = 17 84.8

⊙ B. Obs.

7 7 54

+22 32

B

45 2 55.8

7.1

35.3

20.3

585

48 14.62

Both limbs in R.A.

Lower limb in δ

Seeing very good.

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1881phae.proj.1410B

July 7/8, 1881

⊙ B. Obs.

7 11 57

+22 25

	B
50 4	40.8
	53.4
	22.1
	6.5
	28
55	0.70

C = 17 84.8

Y ~~Androm~~ Cass. B. Obs.

0 49 25

+60 4

	B	B
0 1	51.1	57.1
	58.0	58.3
	29.0	29.4
	13.0	12.4
	1511	1512
x²	87.78	87.80

Both limbs in A.R.
Lower limb in δ
Seeing moderate.

δ Cass. B. Obs.

1 17 55

+59 36

	B	B
25 4	1.7	1.8
	9.2	9.2
	39.9	39.1
	23.1	23.0
	739	731
29	18.45	18.28

Lost 1st W.

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1881phae.proj.1410B

July $\frac{8}{9}$. 1881 C = 17 84.8

⊙ B.

7 16 5

+ 22 18

B

0 1 49.9

2.3

31.1

16.2

39.5

2 9.88

Both limbs in R.A

Rej. first taps of 1rst limb.

A_2 + C of 1rst limb were taken

Lower limb in δ

Seeing very fine.

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1881phae.proj.1410B

July 10 1881 C = 17 84.8

χ Cassiop. B. Obs.

0 49 25

+60 4

	B	B
0 1	35.5	35.1
	41.6	41.4
	15.5	15.4
	57.2	57.5
	2098	2094
1	52,45	52,35

Lost A+1

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1881phae.proj.1410B

July $\frac{11}{12}$, 1881 C = 17 68.8

⊙ B.Obs.

7 28 18

+21 54

B

25 0 38.5

49.7

19.7

4.4

1123

28.08

Both limbs in R.A

Lost $A_{4\,5}$ of 2nd limb

Lower limb in δ

Seeing fair.

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1881phae.proj.1410B

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1881phae.proj.1410B

July $\frac{12}{13}$ 1881

☉ B. Obs.

7 32 22
+21 45

B

30 4 32.2
45.0
14.5
59.0
2107
34 5268

Both limbs in R.A
Lower limb in S
Seeing very fine.

C = 17 68.8

ε Urs. Maj. B Obs

12 48 42
+56 37

B

25 4 27.8
35.8
9.0
50.7
1833
29 4582

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1881phae.proj.1410B

July 13, 1881 C = 17 68.7

δ Gassniſs, B Obs.

1 17 55

+59 36

B B

25 3 58.9 58.5

5.3 5.2

37.1 37.9

20.3 19.6

616 612

29 15 40 15 30

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1881phae.proj.1410B

July $\frac{13}{14}$, 1881

⊙ B Obs.

7 36 25

+21 36

B

40 3 34.1

46.8

18.0

0.3

2192

43 5480

Both limbs in R.A.

Lost A_{+1} 1234 & A (7 or 8) of 1st limb.

Lower limb in δ

Seeing fine.

C = 17 68.8

γ Cassiop. B. Obs.

0 49 25

+60 4

B B

0 1 31.3 31.4

40.9 40.6

12.0 11.4

54.7 54.7

1989 1981

1 49.72 49.52

Lost A_{+1} & A_6

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1881phae.proj.1410B

July 14, 1881 C = 17 68.8

δ Cassiop. B. Obs.

1 17 55

+ 59 36

	B	B
25 3	58.0	57.9
	7.8	7.6
	37.3	37.2
	20.1	20.4
	632	631
29	15,80	15,78

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1881phae.proj.1410B

July 14/15. 1881 C = 17 68.8

☉ B. Obs.

7 40 28

+21 27

B

20 3 1.9

16.7

45.2

30.2

9 40

23 23,50

Both limbs in P.A.

Lower limb in S

Seeing unsteady.

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1881phae.proj.1410B

July $\frac{15}{16}$, 1881 C = 17 68.8

⊙ B. Obs.
7 44 30
+21 17

B

O 2 55.5
9.3
38.4
23.0
662
3 16.55

Both limbs in R.A.
Lower limb in δ
Seeing fairly fair.
Lost A_{+1} of 1st limb
Rej Extra tap after A_{+1}, A_{-1} of 1st limb.

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1881phae.proj.1410B

July 17. 1881

Cassiop ~~49 25~~ B. Obs

		B	B
0	49 26		
	+60 4		
0	1	37.2	36.8
		46.2	46.6
		16.5	16.9
		0.1	0.0
		2200	2203
	1	55.00	55.08

Seeing very poor indeed,

C = 17 68.8

δ Cassiop. B. Obs.

		B	B
	1 17 55		
	+59 36		
25	3	56.81	55.9
		5.8	6.0
		35.0	34.5
		18.6	18.7
		555	551
	29	13.88	13.78

Seeing very poor, indeed.

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1881phae.proj.1410B

July $\frac{19}{20}$. 1881 C = 17 66.8

⊙ B. Obs

8 0 34

+ 20 34

	B
45 0	44.3
	58.1
	27.8
	12.1
	14 23
45	35 58

Both limbs in R.A.

Lower limb in δ

Seeing fine.

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1881phae.proj.1410B

July 20, 1881

⊙ B. Obs.

8 4 33

+20 22

B

55 2	26.3	
	40.3	
	11.0	
	53.6	
	19 12	
57	47.80	

Both limbs in R.A.
Lower limb in δ
Seeing good.

C = 17 66.8

ε Urs. Maj. B. Obs.

12 48 42

+56 37

B B

25 4	23.9	24.2
	33.2	32.9
	4.2	4.1
	46.8	46.5
	1681	1677
29	42.02	41.92

A_5 + C

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1881phae.proj.1410B

July $\frac{24}{25}$, 1881

⊙

8 20 26

+19 32

B

45 2 20.5

34.1

6.3

48.4

16 9 3

47 42.32

Both limbs in R.A.

Lower limb in S

Seeing pretty good.

☾ = 17 66.8

ε Urs. Maj. B. Obs.

12 48 42

+56 37

B

25 4 28.0

37.9

14.5

52.0

19 24

29 48.10

A 7 & C. Clouds.

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1881phae.proj.1410B

July 27/28 1881

⊙ ☽ B. Obs.

8 3 2 14.

+18 5 2

B

— 3 8.3

21.8

54.1

34.3

11 8.5

? 2.962

Both limbs in R.A.

Lower limb in δ

Seeing poor

17 66.8

c = ~~18~~ 6

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1881phae.proj.1410B

July $\frac{31}{\text{Aug.} 1}$, 1881

$\odot$ B. Obs.
8 47 50
+17 53

	B
25 1	49.1
	0.0
	31.3
	13.0
	33.4
27	8.35

1st limb in R.A.
Lower " " δ
Seeing poor

ϵ Ursa Maj.
12 48 42
+56 87

	B	B
25 4	26.7	26.4
	34.0	33.9
	6.3	6.2
	47.3	47.4
	17 43	17 39
29	43.58	43.48

ζ = 17 65.5

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1881phae.proj.1410B

Aug 8/9, 1881 C=17 65;7

⊙ W.A.R. Obs.

9 18 32

+15 42

R. A. Only

A_{+1} 4 5 + A_{-1} of 1st limb

all of 2nd limb.

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1881phae.proj.1410B

Aug 9 1881

ζ Tauri

4h 29m 01

+16° 16'

A.R. 9 m.

c = 17 6s:7

ζ Aurigæ

5h 8m 01

+41° 13'.

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1881phae.proj.1410B

Aug. 10, 1881 C = 17 65 7

α Cah. Maj.

6 39 54

δ −16 33

R. A. only

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1881phae.proj.1410B

Aug. $\frac{10}{11}$, 1881 $\odot = 17\ 65.7$

$\odot$

9 26.7

+15 6

R. A. Only

Both limbs.

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1881phae.proj.1410B

Aug. 20, 1881 C=17 64.7

α Lyrae

18 32 57

+38 41

B

30 1 34.3

53.2

48.9

40.3

1767

31 44.18

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1881phae.proj.1410B

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1881phae.proj:14410B

Aug. 21 1881

C = 17 64.7

D 10 32 8.

+1855

R

0 0 15.0
30.3
26.3
24.6
96.2
0 2 40.5

Upper limb in S
Both limbs in R.A.

C = 17 62.7

B Persei Min Lb.

17 51 0 +10 52

A R. only.

A 2 & C

δ Persei

3 34 33

+47 34

B B R

45 3 1.5 4 5.8 5.8
18.2 22.5 22.2
17.2 21.9 22.0
5.5 10.0 10.2
424. 602 602
48 10.60 49 15.05 15.05

β Persei Min. L.C.

3 20 S-2 +107 45

15

B B

25 4 57.3 29.0
21.0 3.1
18.8 0.8
2.4 44.0
3 95 1969.
30 9.88 49.22

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1881phae.proj.1410B

Aug 21, 1881

ν Eridani 0 1

2 56 8 + 33 8

B R

35 0 10.9 10.9
24.1 23.6
24.0 23.2
19.1 19.9
78.1 77.6

A6 20, Last wild ±?
35 19.5-2 19.40 -1

C = 17 62.7

α Persei

3 15 37 +49 26

B B R R B

45 1 5.4 2 20.0 20.6 19.9 19.9
22.5 37.0 37.8 38.5 37.7
23.1 37.8 37.6 37.2 37.3
10.0 24.1 25.2 25.4 25.1
61.0 118.9 121.2 121.0 120.0
46 15.25 47 29.72 30.30 30.25 30.00
29.86 30.27

ε Eridani

3 37 27.

-1.0 1.0

B B R

20 1 9.5 2 14.8 14.5
18.7 23.9 24.3
20.3 25.1 25.2
15.0 20.0 20.8
63.5 83.8 84.8
21 158.8 22 209.5 212.0

τ Tauri

3 40 29

+23.44

B B R R B

25 3 23.9 4 47.3 47.3 47.9 47.3
41.2 4.3 5.6 5.4 4.3
39.0 2.8 2.7 2.9 2.7
31.3 55.1 55.8 55.7 55.2
135.4 22 39.5 23.4 24.9 29.5
28 33.85-29 57.38 57.85 57.98 57.38

Lost A, and A1
+1

A2 & C

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1881phae.proj.1410B

Aug. 21, 1881

ζ Persei

3 ~~34~~ 46 ~~53~~ 44

+31 32

		B	B	R	R	B
40	0	6.1	22.1	22.2	22.6	22.3
		22.8	39.0	39.6	39.0	39.0
		20.3	37.3	37.4	37.2	37.0
		12.9	29.0	29.1	29.1	28.7
		6 21	1274	1283	79	70
40		15.52	31.85	32.08	31.98	31.75
			31.80	32.03		

C = 17 62.7

Y, Eridani

3 52 32

−13 51

		B	B	R	R	B
0	1	16.02	40.1	39.9	40.3	40.1
		26.0	51.2	51.0	51.2	51.0
		26.3	51.2	50.6	51.2	51.1
		24.5	49.3	49.0	49.2	49.2
		928	1918	1905	1919	1914
1		23.20	2 47.95	47.62	47.96	47.85
			47.90	47.80		

ζ Aurigæ

5 7 5 9 +45 22

A R

End of book

β Tauri

5 18 50 +28 30

	R	R
40	1 38.9	39.0
	56.4	56.0
	53.0	52.3
	46.3	46.6
	1946	1939
	48.65	48.48

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1881phae.proj.14110B

i Aurigae
4 49 9 +32 59

	R	R
10	25.7	25.4
	43.4	43.8
	39.5	39.2
	30.8	31.0
	139.4	139.4
13	349.8	348.5
	34.91	

β Eridani
5 2 3 − 5 14

	R	R
25	29.0	29.0
	41.2	41.1
	39.4	39.2
	36.7	36.1
	146.3	145.4
26	365.8	363.5

δ Orionis
5 21 59 − 0 23

	R
30	4 31.2
	45.3
	43.3
	38.7
	158.5
34	396.2

β Orionis
5 54 39 − 2 0

	R	R
60	1 41.8	45.7
	58.2	58.8
	56.1	53.8
	58.2	53.6
	213.3	213.9
51	533.2	534.8

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1881phae.proj.1410B

Aug. 21, C = 17 62.7

κ Orionis

5 42 10

−9 43

		B	B	R	R	B
50	41	33.9	0 0,3	59.9	0.4	0?
		44.8	10.0	9.6	9.8	9.8
		43.3	9.9	10.2	10.3	10?
		39.0	6.6	6.6	6.8	7.2
		1610	268	263	283	274
	54	40.25	55 6.70	6.58	6.85	6.85
			6.78		6.71	

Lost A_{+1}

α Orionis

5 48 47

+7 23

		B	B	R	R	B
45	3	25.0	4 33.9	33.7	34.0	33.9
		40.1	49.2	49.6	49.2	49.3
		37.2	46.2	46.8	46.1	46.1
		34.4	43.0	43.3	43.0	43.5
		1367	1723	1734	1733	1728
	48	34.18	49 43.08	43.35	43.32	43.20
			43.14		43.34	

α Can. Maj.

6 39 57

−16 33

		B	B	R	R	B
40	3	48.0	0 5.1	4.6	5.0	5.5
		59.8	16.0	16.1	15.6	15.5
		59.3	14.9	15.4	15.3	14.3
		58.1	16.0	15.8	15.0	16.1
		2252	520	519	509	514
	43	56.30	45 13.00	12.97	12.72	12.85
			12.92		12.85	

ε Can. Maj.

6 53 59

−28 49

		B	B	R	R	B
55	3	3.0	4 19.9	19.7	20.2	19.9
		16.3	35.0	35.6	34.8	34.6
		17.4	34.9	34.2	34.2	34.0
		15.6	31.8	32.3	31.8	32.0
		543	14	18	10	05
	58	13.58	59 30.35	30.46	30.25	30.12
			30.22		30.35	

Lost A_1 & A_7

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1881phae.proj.1410B

C = 1766.5 Aug. 21, 1881

δ Gem

6h 15m 49 +22 34

	B	B	R	R	B
35.2	29.6	3 48.3	48.7	48.0	48.3
	47.4	5.9	6.3	6.4	6.0
	40.9	1.9	1.9	1.9	1.9
	37.3	56.0	55.8	56.0	55.4
	1582	321	327	323	316
37	39.55	38 58.02	58.18	58.08	57.90
			57.96	58.13	

γ Geminor.

6 30 54

+16 30

	B	B	R	R	B
40 1	46.9	3 9.7	8.8	9.2	9.0
	0.0	23.2	22.8	23.7	22.9
	56.3	19.7	19.9	20.1	19.5
	53.6	16.1	15.9	16.3	15.1
	2168	687	674	693	670
41	54.20	43 17.18	16.85	17.32	16.75
			16.97	17.09	

δ Can. Maj.

7 3 36

−26 12

	B	B	R	R	B
20 2	5.0	3 26.0	25.9	25.9	25.6
	17.9	38.9	39.8	39.3	38.8
	17.5	35.9	36.6	36.7	36.5
	16.2	37.1	37.8	37.8	37.2
	566	209	221	217	201
22	14.15	23 35.22	35.52	35.42	35.02
			35.12	35.47	

β Can. Min

7 m 45

+ 28 3

	B	B	R	R	B
40 0	2.5	1 27.1	26.8	27.1	27.0
	17.2	42.0	41.7	41.8	42.0
	12.9	39.1	39.3	39.7	39.8
	11.6	36.2	36.7	36.7	36.5
	472	1444	1445	1453	1453
40	11.85	4 36.10	36.12	36.32	36.32

2 shows for each ✓

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1881phae.proj.1410B

Aug. 21, 1881

α^2 Geminor.

7 27 0

+32 9

		B	B	R	R	B
0	3	14.2	4 30.0	29.8	30.0	30.1
		31.9	48.1	49.1	49.1	48.6
		29.1	46.1	46.0	46.0	46.0
		20.8	36.8	36.6	36.7	36.7
		960	1610	1615	1620	1614
	3	24.00	4 40.25	40.38	40.50	40.35
			40.30	40.44		

C = 17 ~~62.7~~ 66.5

α Can. Min.

7 33 7

+5 32

		B	B	R	R
35	4	39.1	1 14.0	14.0	13.8
		55.2	29.2	29.7	29.1
		51.8	26.1	26.2	26.5
		48.0	23.8	23.8	23.9
		1941	931	937	933
39		48.52	41 23.28	23.42	23.32

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1881phae.proj.1410B

Aug 21, 1881. C = 17 66.5

β Geminor.

7 38 5

+28 1.9

		B	B	R	R	B
50	B	16.1	4 34.0	33.8	34.1	34.0
		33.9	52.8	53.1	52.8	52.3
		31.0	49.0	48.1	48.5	48.6
		23.6	41.6	41.6	41.7	41.4
		1046	1769	1766	1771	1763
33		26 15 54	44.22	44.15	44.28	44.08

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1881phae.proj.1410B

Aug. 21/22, 1881

C=17 66.5⁻

C=17 67.8

⊙

10 7 10

+11 35

B

20 0 55.2

10 2

9 0

4 8

19.2

21 4.80

Upper limb in ☌

I limb A A 1

II limb A A'_1

ζ Draconis

14 1 9

+64 57

B B B

15 0 41.2 1 19.1 44.9

2.6 41.5 6.9

4.5⁻ 43.3 8.6

47.6 25.8 51.1

215 9 129 7 231 5

15 53.98 32.42 57.88

ζ² Libræ

14 44 20

-15⁻ 33

B B R R B

40 3 34.6 0 2.3 1.9 2.2 8.3

48.4 16.4 16.3 16.0 17.1

52.0 21.0 20.9 20.0 20.4

50.9 18.4 18.6 18.1 18.5⁻

18 56 18.1 17.7 16.3 18.6

43 46.40 14.52 14.42 14.08 14.65

14.58 14.25

β Ursæ Min.

14 51 0

+74 38

B B B B B

30 4 2.9 29.0 41.9 59.9 20.2

28.1 53.9 6.8 25.0 44.2

28.0 53.6 7.2 24.5⁻ 48.4

9.3 35.1 47.9 6.6 26.5⁻

683 1816 238 560 1343

17.08 42.90 55.95 14.00 33.58

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1881phae.proj.14110B

Aug. 22, 1881 C = 17 6 28

α Bootis

14 10 16

+19 48

		B	B	R	R	B
20	3	38.8	45 7.0	56.7	57.6	56.9
		56.2	15.0	15.0	15.7	14.5
		57.7	15.8	15.7	15.7	16.1
		50.3	7.3	7.6	7.6	6.9
		2030	351	350	356	344
	23	50.75	8.78	8.75	8.90	8.60
			8.69	8.82		

γ Bootis

14 27 18

+38 50

		B	B	R	R	B
20	2	16.5	3 30.0	30.1	30.0	30.1
		38.8	52.2	52.8	52.5	52.3
		41.2	53.6	53.1	53.0	52.8
		26.2	39.0	39.0	39.2	39.0
		1227	151	150	150	148
	22	30.68	43.78	43.75	43.75	43.70
			43.74	43.75		

β Bootis

14 57 29

+40 52

		B	B	R	R	B
20	0	25.0	1 41.8	41.6	41.2	41.3
		45.3	2.8	2.3	2.2	3.0
		47.1	4.2	3.9	4.9	2.9
		33.9	57.2	50.9	50.3	60.2
		1513	2200	187	186	174
	20	37.82	22 55.00	54.68	54.65	54.35
			54.67	54.67		

δ Bootis

15 10 44

+33 46

		B	B
25	2	33.1	51.0
		53.9	1.8
		54.4	12.8
		42.5	0.1
		1839	157
	27	45.94	28 3.92

A 3 α c

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1881phae.proj.1410B

Aug 22, 1881

γ^2 Ursa. Maj.

15 20 52

+72 15

	B	B	B	B
55 2	4.8	35.8	3 5.9	24.5
	28.4	59.9	29.8	48.3
	27.6	57.9	28.1	46.9
	12.0	42.1	12.0	30.5
	728	1957	758	1502
57	1820	48.92	1895	37.55

α Cor. Bor.

15 29 41

+27 7

	B	B	R	R	B
0 4	46.6	10 3.4	3.2	3.7	3.3
	8.2	~~25.8~~	25.4	25.0	25.3
	7.9	23.3	24.6	24.6	23.9
	59.5	16.5	16.7	16.3	17.0
	22	685	699	696	695
5	0.55	17.12	17.48	17.40	17.38

Note!

Seen under microscope for this [illegible]

measured along ab

β Scorpii

15 57 34

−19 29 R

	R	R
35 4	23.6	23.4
	38.8	38.8
	42.3	42.7
	34.2	34.2
	1419	1421
39	35.48	35.52

δ Ophiuchi

16 8 9 − 3 2 3

	R	R
35 4	23.6	23.2
	40.5	40.2
	42.1	41.8
	34.1	34.8
	1403	1400
39	35.08	35.00

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1881phae.proj.1410B

Aug. 22, 1881

α Serpentis

15h 38 27

+6 48

	B	B	R	R	B
20-3	22.1	4 44.9	44.6	43.9	44.1
	40.6	3.0	2.7	2.8	3.0
	41.0	4.6	4.4	8.7	3.9
	35.9	58.0	57.7	58.0	57.7
	13.96	3.05	2.94	2.84	2.87
23	34.90	24 57.62	57.35	57.10	57.18
		57.40	57.22		

C = 17 67.8

δ Scorpii

15h 53 21

−22 17

	B	B
5	2 57.2	8 41.0
	12.8	57.0
	17.1	1.6
	11.3	54.5
	3.84	2.141
28	9.60	53.52

ζ Scorpii

16h 22m 10 −26 10

	R
200	45
	20.2
	24.2
	18.3
	6.75
0	16.88

β Herculis

16h 25m +21 45

	R	R
252	6.76	5.77
	19.7	19.7
	19.4	19.1
	9.9	9.6
	4.66	4.61
28	11.65	11.52

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1881phae.proj.1410B

Aug 22 1881

3 Ophiuchi

16 30 89 −10 20

	R	R
300	349	353
	488	484
	529	528
	456	448
	182.0	1813
30	4550	45,32

2 Herculis

16 28 51

+39 09

	R	R
0	249,3	486
	13,2	13,0
	12,6	12,8
	58,7	58,9
	138	133
3	3,45	3,32

η Tauri

3 40 29 +23 44

	R
25-2	813
	527
	518
	431
	1789
27	44,72

χ Persei

3 46 44 +31 32

	R	R
40	0 7,6	7,7
	280	288
	269	287
	177	170
	822	826
40	20,55	20,65

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1881phae.proj.1410B

Aug. 22 1881

β Arietis B. Ws.

1 48 9

+20 14

B B

55 4 18.0 18.1

37.3 37.0

36.3 36.0

27.2 26.9

1188 1180

59 29.70 29.50

C = 17 67.8

S Persei

3 34 30

+47 24

R

45 2 50.2

11.6

11.0

57.9

207

48 5.18

J. Eridani

3 54 32 −13 51

R

0 2 38.6

52.9

55.2

50.0

1967

3 49.18

A4 C

C Aurigæ

4 49 19 +32 55 9

R R

10 3 30.5 31.2

51.5 51.8

49.8 49.8

38.2 38.4

1700 1712

42.50 42.80

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1881phae.proj.1410B

Aug 22 1881 C=17.678

B Eridani

5 23 - 5 14

	R	R
25	35,7	35,8
	50,3	50,1
	51,2	51,0
	45,1	45,0
	1823	1819
25	4558	4548

ε Aurigæ

5 7 59 +43 52

ζ Orionis

5 25 59 -0 23

	R
35	0 49,2
	46
	50
	58,9
	2377
35	59,42

ι Orionis

5 29 40 -5 57

	R	R
10	0 17,0	17,2
	31,0	31,6
	32,3	32,6
	25,8	25,8
	1061	1072
10	2652	2680

Rej 1 S

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1881phae.proj.1410B

β Orionis

5 - 8 0 2 — 5 20

R R

30 2 331 332

460 462

478 478

398 399

1667 1671

32 41.68 41.78

ζ Orionis

5 18 44 +6 10

R R

55 2 1.3 1.4

20.2 19.6

19.2 18.4

13.6 13.2

543 626

57 13.58 15.65

Lond A+1

ζ Orionis

5 84 38 — 2 0

R R

10 1 388 386

543 546

543 540

488 490

1962 1964

11 49.05 49.10

κ Orionis

5 42 10 — 9 43

R R

50 3 414 410

544 558

566 564

487 487

2011 2019

53 50.28 50.48

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1881phae.proj.1410B

Aug 2 21h 81 C = 17 47.8

2 Orionis

5 48 47 +7 23

	R	R
45-3	25,4	26,1
	41,4	44,2
	44,5	43,2
	37,8	38,0
	149,1	131,5
48	37,28	32,88

μ Gem.

6 15 49 +22 34

	R	R
352	29,9	30,2
	51,1	51,0
	49,0	49,1
	40,0	40,1
	170,0	170,4
37	42,50	42,60

ε CMa. Maj

6 53 59 -25 49

	R	R
55-3	29	32,1
	20,4	21,1
	22,4	22,3
	17,8	17,3
	63,5	92,8
58	15,88	23,20

S CMa Maj

7 3 36 -26 12

	R	R
20	23,0	33
	18,4	19,0
	21,8	21,6
	17,4	17,8
	60,6	61,7
22	15,15	15,42

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1881phae.proj.1410B

J Lem.
6 30 54

	R	R
40 1	436	443
	1.0	1.1
	0.1	5.6
	~~5.5~~ 0.0	5.8
	21 50	21 88
41	53.75	54.70

2 Cam. Maj
6 39 57 −16 33

	R
40 3	57.6
	11.8
	13.6
	9.2
	31 3
44	7.82

α^2 Geminor
7 27 3
+32 9

	B	B	R	R	B
0 3	37.8	4 41.0	40.9	40.9	40.9
	58.5	3.0	3.1	3.9	3.2
	57.2	2.1	1.6	1.3	1.6
	46.0	50.0	49.7	50.2	60.9
	1995	2161	2153	2163	2166
3	49.88	54.02	53.82	54.04	54.15

(5)

Last Prob W.

2 Cam. Min
7 33 7
+5 32

	B	B	R	R	B
40 0	6.0	1 9.5	9.0	9.3	9.2
	24.4	27.9	28.1	24.7	28.0
	2.3	26.3	26.4	27.6	26.2
	19.9	22.5	22.8	22.7	22.5
	726	862	863	873	859
40	18.15	41 21.55	21.56	21.82	21.48

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1881phae.proj.11410B

Aug. 22, 1881 C = 17 67.8

B Geminor.

7 38 5

+28 19

B

50 3 24.9

47.0

43.0

35.4

1503

53 37.58

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1881phae.proj.1410B

Aug 23 1881 C - 17.

α Aurigæ

5 7 59 +45 52

R R

45 4 45.7 45.2
57.3 57.5
6.2 6.2
57.4 57.7
2306 2306
19 57.65 57.65

Chi.

66 K Orionis

5 42 10 -9 43

R R

50 38 2.8 3.22
46.3 46.3
47.2 47.3
40.6 40.5
16.64 16.63
53 41.60 41.58

α Orionis

5 46 44 +7 23

R R

45 45 7.3 5.80
15.8 16.2
15.2 15.4
11.0 10.6
3.93 4.05
50 9.82 10.12

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1881phae.proj.1410B

Aug. $\frac{24}{25}$, 1881 $\quad c = 17\ 66.1$

⊙ B. Obs.

10 18 12

+10 34

B.

50 3 54.1

12.6

9.0

3.9

196

54 4.90

Both limbs in R.A.

Lower limb in δ

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1881phae.proj.1410B

Aug. 25/26, 1881 ☉ = 17 66.1

☉	B.	Obs.
	10 21	5-2
	+ 10	13
	B	B
40 2	52.2	15 0 51.9
	7.6	7.7
	5.1	5.1
	1.0	1.3
	59	60
43	1.48	16 1.50

1st limb in R.A
Both limbs in δ
Seeing unsteady

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1881phae.proj:11410B

Aug. $\frac{26}{27}$. 1881

⊙ B. Obs

10 25 31

+9.52

B	B
35° 0 47.9	5° 0 1.3
2.8	16.3
2.3	15.9
57.9	10.9
2309	444
35 57.72	5 11.10

1st limb in R.A.
Both limbs in δ
Seeing poor.

C = 17 66.1

n Urs. Maj. B. Obs

13 42 52.0

+49 54

R.A. only

Seeing very poor and lost sight of star before δ. lost. Δ+1

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1881phae.proj.1410B

Aug. 28/29, 1881

⊙ B. Obs

10 32 49
+9 9

B B

15 3 20.1 45 2 30.5
37.0 47.1
38.0 47.2
32.0 41.3
127.1 166.1
18 31.78 47 41.52

1rst limb in R.A.
Both limbs in δ
Seeing poor.

c = 17 66.1

n Urs. Maj. B. Obs.
13 42 52
+49 54

R.A only

Lost A_{+1} A_{-1}

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1881phae.proj.11410B

Aug 29/30 1881

C = 17 67.7

⊙ R. Obs.

10 36 27

+8 48

B B

-5 3 11,3 40 35.4

289 52.2

281 52.3

223 47.8

906 1877

8 22 65 40 46.92

Both limbs in δ + R.A.

Seeing very bad.

α Bootis

14 10 16

+19 48

B B R R B

20 3 42.0 0 0.9 0.2 59.8 0.0

57.1 15.7 15.9 16.1 16.0

58.0 16.3 16.9 17.2 16.3

52.8 11.4 10.8 11.0 11.1

2099 38 38 41 34

23 52.48 25 10.20 10.20 11.02 10.10

10.15 10.61

β Bootis

14 57 29

+40 52

B B R R B

20 0 27.0 1 46.0 45.4 46.0 46.6

48.2 7.8 7.7 7.6 7.5

49.5 7.9 8.5 8.7 7.9

35.1 54.3 53.8 54.1 54.0

1598 360 354 364 360

20 39.95 21 59.00 58.85 59.10 59.00

59.00 58.97

δ Bootis

15 10 44

+33 46

B B R R B

25 1 55.8 2 42.6 41.4 41.5 42.1

15.2 2.1 2.4 2.5 2.0

16.5 2.5 2.5 2.4 2.4

3.1 49.3 49.7 49.7 50.0

306 165 160 161 165

27 7.65 54.12 54.00 54.02 54.12

54.12 54.01

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1881phae.proj.1410B

Aug. 30, 1881 C=17 67.7

γ Bootis

14 27 18

+38 50

		B	B	R	R	B
20	2	20.0	37.4	37.4	37.0	37.3
		40.9	58.4	58.6	58.7	58.6
		39.4	57.9	58.0	58.2	57.3
		27.9	44.9	45.2	45.1	45.0
		1282	390	392	390	382
22		32.05	23 49.75	49.80	49.75	49.55
			49.65	49.78		

ε Bootis

14 39 49

+27 35

		B	B	R
35	2	36.1	38.0	37.0
		35.1	57.0	57.6
		54.9	56.8	57.3
		45.8	47.3	47.6
		1919	1991	1995
37		47.98	49.78	49.88

γ² Ursæ Maj.

15 20 52

+72 15

		B	B	B	B
55	2	14.5	37.0	31.8	15.0
		38.7	1.3	26.2	39.0
		39.0	2.0	26.3	39.1
		20.0	42.1	7.1	19.9
		1122	2024	614	1130
57		28.05	50.60	58 15.35	28.25

α Cor. Bor.

15 29 41

+27 7

		B	B	R	R	B
50		7.1	1	14.6	14.1	14.3	13.9
		26.3		38.0	33.2	33.2	32.2
		26.1		38.8	33.6	33.7	33.3
		19.7		25.1	24.7	24.8	24.0
		772		265	256	260	234
5		19.30		26.62	26.40	26.50	25.85
				26.24	26.45		

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1881phae.proj.11410B

Aug. 30, 1881 C = 17 67.7

α Serpentis

15 38 27
+6 48

	B	B	R	R	B
20 3	28.14	439	43.5	43.6	43.6
	44.3	06	0.6	0.5	1.0
	45.0	0.2	0.8	0.7	0.9
	40.2	54.8	55.2	55.0	54.9
	1576	2195	2201	2198	2204
23	39.40	24 5488	5502	5495	55.10

δ Scorpii

15 53 21
−22 17

	B	B	R	R
25 2	21.9	3 37.2	36.1	36.0
	34.0	49.8	50.0	50.2
	38.1	53.4	53.7	53.7
	33.1	46.2	46.0	48.1
	1271	1886	1878	1880
27	31.78	4715	4695	47.00

β Ursae Minoris

15 8 52
−8 20

	B	B
30 1	28.4	2 36.4
	38.2	46.9
	41.0	49.0
	33.8	42.2
	1414	1745
31	35.35	32 43.62

β Herculis

16 25 +21 45

	R	R
25 2	588	581
	17.4	17.7
	17.9	17.4
	8.4	9.1
	428	426
28	10.70	10.65

$A_3 \sim C$

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1881phae.proj.1410B

30

Aug. ~~29~~, 1881 C = 17 67.7

β¹ Scorpii

15 58 34

−19 29

	B	B	R	R	B
35 4	29.0	0 39.0	38.2	38.4	38.9
	42.0	51.0	51.0	51.4	51.2
	45.0	54.0	55.0	55.2	54.3
	40.5	50.9	51.5	51.6	51.3
	1565	1949	1957	1966	1957
39	39.12	40 48.72	48.92	49.15	48.92

η Draconis

16 22 23

+61 47

	B	B	B	B
25 0	0.8	24.2	1 15.9	32.0
	22.2	45.3	37.0	53.3
	24.1	48.0	39.5	55.4
	7.9	31.4	22.8	38.5
	5504	489	1152	1792
25	13.75	37.22	26 28.80	44.80

β Tauri

5 18 50

+28 30

	B	B
40 1	42.7	2 6.0
	1.0	14.0
	59.7	12.5
	52.0	4.4
	2156	369
41	53.90	42 9.22

δ Orionis

5 25 57

−0 20

R. A. only

Lost 1st & 3 wires.

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1881phae.proj.1410B

Aug 30 1881 C — 17.677

			α^2 Geminor.								α Can. Min.									
			7 27 3								7 33 7									
							+32 9											+5 32		
			B	B		K	R	B			B	B		R	R	B				
0	3	21.3	4	40.9	40.0	39.9	40.5		35	4	52.3	1	8.0	8.1	8.6	7.9				
		40.9		0.1	0.2	0.1	59.9				10.3		24.1	24.6	24.8	24.0				
		39.9		58.9	59.0	59.1	58.6				8.6		23.9	23.7	23.8	24.0				
		29.0		47.0	47.0	46.4	46.8				3.2		19.1	19.1	19.4	19.0				
		1311		2069	2062	2055	2058				144		751	755	766	749				
3		32.78	4	51.72	51.55	51.38	51.45		40	3	6041		18.78	18.88	19.15	18.72				

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1881phae.proj.1410B

Aug. 30, 1881

β Geminor

7 38 5

+28 19

		B	B	R	R	B
50	3	17.3	4 41.0	41.8	42.0	41.9
		37.3	2.3	1.8	2.2	2.3
		35.9	59.8	59.9	57.9	51.8
		26.8	49.6	50.0	49.7	49.1
		1173	2127	2135	2138	2051
53		29.32	54 53.18	53.38	53.45	51.28

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1881phae.proj.4410B

Aug. 30/31. 1881 C = 17 · 66.9

⊙

10 40 68
+8 26

B B
25 4 5-2,8 0 2 16.4
8'0 31.4
8,9 32.8
2,7 26.5
1.24 1071
30 3,10 32 26,78

Both limbs in δ + R.A
Lost A_{+1} 1st limb
Seeing moderately good.

α Boötis B. Obs.

14 10 16
+19 48

R. A. Only.

γ Draco.

17 53 52
+57 31

B B R R B
40 1 52.7 3 52,9 52.8 52.9 53.2
16.7 18.5 17.6 17.3 16.9
17.9 18.0 18.4 18.6 18.5
2.0 1,1 1.4 1.7 1,5
293 295 302 305 301
42 7,32 44 7.38 7.55 7.62 7.52
7.45 7.58

δ Urs. Min

18 10 21
+86 37

B B B
35 1 28.5 31.8 54.0 50,5
54.7 57.4 19.9 16.5
55.0 57.4 19.9 16.0
36,2 39.3 1,3 58.0
1744 1859 351 210
36 43.60 46.48 378.76 375.25

A_{3_0} to 7_0

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1881phae.proj.1410B

Aug 31 C = 17 6.9

β Draconis
17 27 45
+52 24

B	B
45 3 28.6	4 43.9
52.3	7.1
55.1	9.9
37.2	52.2
1732	2331
48 43.30	49 58.28

α Ophiuchi
17 29 27
+12 39

B	B	R	R	B
30 3 3.9	4 4.9	5.1	4.8	5.1
23.7	24.1	25.0	24.4	24.1
22.8	23.9	23.9	23.8	22.8
15.0	15.2	16.2	15.6	15.1
654	681	692	686	671
		1730		
33 16.35	34 17.02	~~16.55~~	17.15	16.78
	16.90	~~16.85~~		17.22

η Serpentis
18 15 13
−2 56

B	B	B	R	B
5 1 44.9	3 8.9	9.0	8.7	9.0
0.0	24.8	25.5	26.4	25.2
2.9	26.9	27.0	27.1	27.2
56.4	21.3	21.4	21.8	21.0
2242	19	29	30	24
6 56.05	8 20.48	20.72	20.75	20.60
	20.54	20.73		

α Lyrae
18 32 57
+38 41

B	B	R	R	B
30 1 28.0	2 32.7	32.7	32.7	32.8
50.8	55.9	55.9	55.9	55.3
49.5	54.0	54.4	54.2	54.3
37.0	41.7	41.8	42.0	41.5
1653	1843	1848	1848	1839
31 41.32	32 46.08	46.20	46.20	45.98

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1881phae.proj.14410B

Aug. 31/32, 1881

⊙

10 43 43

+8 4.

	B	B
50	44.5	20 4 2.3
	20'	19.7
	2.5	20.0
	57.1	14.0
	2241	560
51	56.02	24 14.00

Both limbs in δ & R.A.
Seeing very fine indeed.

c = 17 66.9

B Draconis

17 27 45 +52 24

3

	B
45	8 36.3
	59.0
	1.4
	45.3
	2020
48	50.50

Rej. 2nd ∫

η Serpentis

18 15 13

-2 56

	B	B	R'	R	B
5	1 48.4	3 17.4	16.7	17.2	17.4
	4.0	33.6	33.2	33.7	33.1
	7.8	36.2	36.1	36.3	36.1
	0.9	29.2	29.2	30.0	29.5
	1.1	36.4	35.2	1172	1159
	7 0.28	8 29.10	28.80	29.30	28.98
			29.04	29.07	

α Lyra

18 32 57

+38 41

	B	B	R	R	B
30	1 12.1	33.8	33.3	33.4	33.7
	35.0	57.0	57.3	56.6	56.5
	34.4	56.3	56.2	55.8	55.9
	21.4	42.7	43.2	43.3	43.3
	1029	298	300	1891	1894.
31	25.72	47.45	47.50	47.28	47.35
		47.40	47.39		

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1881phae.proj.1410B

Sept. 1, 1881

ε Ophiuchi.

17 29 27 +12 39

		B	B
30	3	5.28	
		11.7	
		11.5	
		4.0	
		20.0	
	34	5.00	

C = 17 66.9

γ Draconis

17 53 52

+57 01

		B	B	R	R	B
40	1	34.0	2 584	57.9	58.0	58.2
		57.5	21.9	21.9	22.0	21.7
		59.2	23.4	24.1	24.1	23.7
		43.3	6.5	6.7	6.7	6.9
		19.40	2508.2	2906	2908	2900
	41	48.50	7258.5	7265	7270	7250
			12.54	12.65		

Az ν C

ζ Aquilæ

19 00 00

+13 42

		B	B	R	R	B
30	0	8.2	1 30.8	30.3	30.3	30.3
		25.5	48.4	48.2	47.9	47.9
		26.2	48.0	47.9	47.8	48.0
		19.5	40.8	41.6	42.2	41.8
		7.94	9.0	8.0	16.82	16.80
	30	19.85	42.50	42.00	42.05	42.00
			42.12	42.02		

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1961phie.proj.14108

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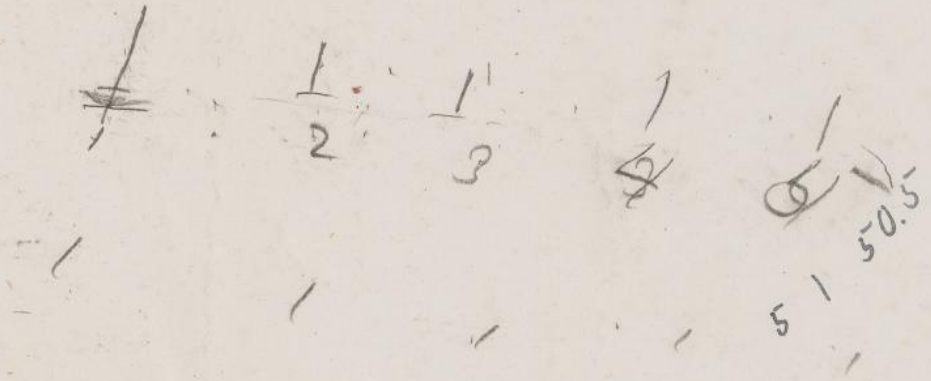
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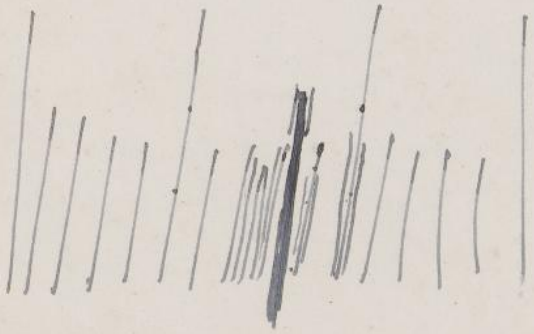
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1881phae.proj.1410B



180 00
75 33
104 27
104 24
65
41





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