KG
11366
v.497

1979ApJ...1501..

Fundamental Stars.
Observations and Reductions.
B_2
From Mar. 11. to Apl 7. 1879

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1979phac.proj.1001.

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768

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Values of i and 15 tang i.

	i	log 15 tang i
March 16 ... March 20.	4° 59.30"	D 11731
March 23 ... April 1	4 58 33	D 11583
April 2 ... April 7	4 58 57	D 11651
	4 55 00	D 11658

From March 16 to April 7. log 15 tang i = 0.11658

" March 11 to April 7 - 1879

log 15 = 1.17609
log tang i = 8.94042
log 15 tang i = 0.11651

i = 4. 58 57

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102

ζ Orionis

h m s
5 48 37

1.17685 0.11637 0.11559
+ ° ′ 23 9.98638 9.99638
1879 Mar. 11 1.17248 0.11275

48 53.84 57.926 48 46.7
55.94 793 48.8
57.90 58.72 50.2
50.95 51.9
29063 2.00 2518 54.2
28963 2518
6.28 48 50.36
8.38 +0 24.22
10.50
12.57 14.621
14.60 1462 49 46.0
16.70 14.64 47.5
18.76 55 49.3
20.86 51.1
13159 23.00 2472 53.3
13159 2472
27.00 49 49.44
28.00 31.186 − 34.86
31.27 31.17
33.28 29 10
15587 35.38 48 50.36
15593 48 14.030 585 49 49.44
+ 24.22
− 34.86
56.08
5 48 89.10 log. 1.77144
log Gal 1.17247
2.94391
1.88587
8.94196

5 0 8 0

M 4 3.55
M 5 20.32
R 20.30
R 20.70
20.54
76.89

7. 22 58.3

564

ζ Can. Maj.

h m s
6 39 49

1. 17609 0. 11637 0.11559
° ′ 9.98162 9.98162
−16 33 1.15771 0.09799
1879 Mar. 11

40 4.30 39 57.9
6.40 8.60 59.6
8.50 8.56 2.0
10.62 3.6
4280 12.98 3090 5.9
4280 90
16.98 39 1.80
19.25 40 23.92
21.38 +
23.60 25.691
25.70 25.68 40 54.9
27.88 26.75 56.6
30.03 55.7
32.05 0.8
23122 34.35 2941 3.1
23122 2941
38.49 40 58.82
40.80 42.938 − 33.11
43.00 42.94
45.15 5150
21471 47.25 40 1.80
21469 40 25.715 40 58.82
+ 23.92
− 33.10
5708

6 39 50.69 1.75603 1.75603
1.17247 1.15771
2.92850 2.91374
1.85986 1.85986
8.93136 8.94612

4 52 48 5 253

M 59 23.65
M 0 36.07
R 36.17
R 35.97
3607
7242

16 33 15.7

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566

E Can. Maj.

h m s
6 53 52
° ′ ″
−28 48

1.17609 0.11637 0.11559
9.94266 9.94266
1.11875 0.05903

1879 Mar. 11

54	5.25		53	57.6
	7.70	10.016		56.6
	10.01	10.02		59.5
	12.35			1.9
5008	14.78		2966	4.0
	5008			2966
	19.86		53	59.32
	21.72		+	29.52
	24.00			
	26.50	28.807		
	28.85	28.81	55	2.4
	31.27	28.86		4.4
	33.49			6.4
	35.90			8.6
25826	38.17		327	10.9
	25826			327
	42.85		55	6.54
	45.38	47.70	−	37.70
	47.75	47.70		
	50.05	57.72		
23850	52.50		53	59.32
	23850	54 28.835	55	6.54
			+	29.52
			−	37.70
				6722
				1.82750
				1.11875
				2.94625
				1.88389
				8.93764
			°	′ ″
			4	57 3

M 13 33.22
M 14 49.60
R 49.97
R 49.72
mean 14 49.76
93 76.54

568

S Can. Maj.

h m s
7 3 28
° ′ ″
−26 12

1.17609 0.11637 0.11559
9.95292 9.95292
1.12901 0.06929

1879 Mar. 11

3	42.05		3	31.5
	44.39	4.6672		33.3
	46.67	46.67		34.9
	48.88			37.5
23336	51.27		1770	39.8
	23336			1770
	55.82		3	3540
	58.20		+	2968
	0.65			
	2.75	5.074		
	5.07	5.07	4	44.1
	7.40	5.08		46.2
	9.67			48.6
	12.00			50.4
58567	14.28		2416	52.3
	4567			2416
	18.98		4	48.32
	21.20	23.496	−	43.24
	23.55	23.49		
	25.75	1016		
11748	28.07		3	3540
	11748	4 5.075	4	48.32
			+	2968
			−	43.24
				7292
				1.86285
				1.12901
				2.99186
				1.92906
				8.93720
			4	56 46

M 37 31.15
M 38 56.05
R 56.10
R 56.10
56.08
84.93

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1879phae.proj.1501.

322

δ Ophiuchi.

h m s
16 8 0
° ″ 0.11637 0.11559
−3 23 9.99924
0.11561
1879 Mar. 11

	8	—		8	32.8
		—			34.7
		—			36.5
		—			38.5
		—		1830	40.5
					1830
18.27 37.80	340.12	29.53		8	36.60
4.20 37.78	37.791	31.58		+	1.21
4.13 37.75		33.62			
2.05 37.72		35.67	37.791		
−0.00 37.77		37.77	37.78		
−2.04 37.86		39.90			
4.13 37.87		42.00			
6.20 37.80		44.00			
8.28 37.77	34012	46.05			
		340.12			
12.40 37.84	189.23	50.24			
14.46 37.94	37.846	52.40	54.392		
16.54 37.83		54.37	54.29		
18.60 37.85		56.45			
20.83 37.72	27196	58.50		8	36.60
		27196			

37.818
37.811

M 50 20.50
M 20.20
20.35

472

19 Urs. Min.

h m s
16 14 18
° ″ 0.11639 0.11559
+ 76 11 9.37806
9.49445
1879 Mar. 11

14	24.8		13	5.6	13	58.5	15	43.2
	32.8			11.5		4.0		49.3
	41.3			15.4		12.6		57.8
	50.5	58.89		22.8		17.5		6.4
	58.7		853	30.0	3582	25.6	2926	15.9
	7.4			853		582		2926
	16.3		13	17.06	14	11.64	15	58.52
	24.8		+1	41.83	+0	47.25	−0	59.63
	33.4							
	5300							
14	58.89		16	44.1				
				54.3		~~1.52~~		
				1.8		1.5		
				9.9				
			3076	17.5				
				76				
			17	1.52				
			−2	2.63				
			13	17.06	14.11.64		15	58.52
			17	1.52	1			

M 17 59.20
M 18 16.72
M 49.90
M 19 8.50

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1879phae.proj.1501.

596

δ Scorpii

h m s
16 21 39
° ″
−26 10

1.17609 0.11637 0.11559
9.95304 9.95304
1.12913 0.06941

1879 Mar. 11

22	13.65		22	8.0	
	15.85	18180		9.5	
	18.05	18.18		11.0	
	20.55			12.5	
9090	22.82		550	14.0	
	9090			550	
	27.50		22	11.00	
	29.80		+	2562	
	32.05				
	34.40	36661			
	36.60	36.66	33	10.6	
	39.00	36.59		12.6	
	41.18			14.7	
	43.52			16.6	
32995	45.90		738	19.3	
	32995			738	
	51.36		23	1476	
	52.73	55012	−	38.14	
	55.00	55.01			
	57.27	7319			
27506	59.70		22	11.00	
	27506	22 36.625	23	14.76	
			+	25.62	
			−	38.14	
				6376	

16 22 1.49

1.80455
1.12913
293368
188423
895055

55 59

597

ζ Ophiuchi

h m s
16 30 30
° ″
−10 19

0.11637 0.11559
9.99292
0.10929

1879 Mar. 11

30	—		31	17.9	
	—			20.2	
	—			22.1	
	—			23.4	
	—		1086	25.0	
				1086	
	65.04	58.68	31	21.72	
7.226	0.87		− 0	1451	
	3.19				
	5.22	7230			
	7.19	7.23	31	40.0	
	9.40			41.8	
	11.47			43.5	
	13.60			45.0	
65.07	15.55		2171	46.8	
	6507			2178	
3588	19.83		31	43.42	
7.178	21.90	23970	− 0	36.21	
	24.00	23.97			
	25.95				
11985	28.17		31	21.72	
	11985		31	43.42	

31 7.202
7.209

M 35 08.60
M 36 16.92
R 16.55
R 16.32
1660
76.60

M 46 40.42
M 47 8.20
R 8.12
R 7.80

26 9 49.9

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1879phae.proj.1501.

76

9 Camel Lo. 6.

h m s
4 42 2
° ′ ″
+ 113 52

0.11637
9.96118
0.07755

1879 Mar. 11

41	46.4			41	2.3	42	27.3	43	29.9										
	50.9	56.380			8.9		31.0		33.7										
	56.7	56.38			11.5		35.3		40.0										
	1.4				15.7		40.0		45.5										
2819	6.5			592	19.8	1776	44.0	2001	51.0										
	2819				592		1776		2001										
42	16.6			41	11,84	42	35,52	43	40,02										
	21.7																		
	27.0																		
	32.0	37.14																	
	37.4	37.14																	
	42.1																		
	47.6																		
	52.2																		
3343	57.7																		
	3343																		

41 11.84 42 35.52 43 40.02

M 40 29.45 ·
M 39 43.45 ·
M 12.15 ·

80

10 Camel Lo. 6.

h m s
4 52 40
° ′ ″
+ 119 44

0.11637
9.99869
0.11506

1879 Mar. 11

52	33.8			52	7.8	53	15.0	54	2.0										
	38.0	42.16			10.4		18.0		7.0										
	42.0	42.16			15.0		21.9		9.2										
	46.4				19.8		25.4		14.2										
2108	50.6			760	23.0	1076	27.3	514	19.0										
	2108				760		1076		514										
	55.0			52	15,20	53	21,52	54	10,28										
	2.9																		
	7.1																		
	11.5	15.49																	
	15.5	15.33																	
	19.7																		
	23.7																		
	28.0																		
13794	32.0																		
	1394																		

52 15,20 53 21,52 54 10,28

M 49 25.55 ·
M 48 41.20 ·
M 48 10.20 ·

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1879phae.proj.1501.

235

E Mrs. Main.

h m s
16 58 25
o " 0.11637
+82 14 9.13078
9.24715

0.11539

1879 Mar. 11

58	6.5		55	47.3	56	54.7	58	49.1
	21.4			1.8		7.9		0.0
	37.4			11.4		20.4		11.1
	51.3	7.46		24.6		30.2		25.8
	7.6		3631	38.0	950	41.8	664	40.4
	23.4			12.31		9.50		6.64
	38.0			~~2.831~~	57	19.00	59	13.28
	53.7			631	+1	48.45	−	5.83
	7.8		56	12.62				
	2471		+2	54.83				
	1810		0	3.0				
	671			17.2				
59	7.45			83.9				
				44.7				
			1626	3.8				
				1626				
			0	32.52				
			−1	25.07				

56	12.62		57	19.00	59	13.28		
0	32.52							

3	42.30				3	40.6		
	44.60	4.6590				42.8		
	46.60	46.59				45.5		
	48.65					47.8		
23295	50.80				2263	49.6		
	23295					2263		
	55.21				3	45.26		
	57.10				+0	18.36		
	59.40							
	1.55	3.633						
	3.55	3.63			4	37.8		
	5.75	3.62				39.8		
	7.90					41.6		
	10.00					43.2		
54270	12.25				2071	44.7		
	32.70					2071		
	16.35				4	41.42		
	18.55	2.0660			−0	37.80		
	20.60	2.066						
	22.80	6.725						
10330	25.00				3	45.26		
	10330	3.4	3.625		4	41.42	+	18.36
					+	41.64		8780
					−1	37.80		5616
						5616		
						1.74943		
						1.15986		
						2.90929		
						1.83847		
						8.92918		
						~~4.52 24~~		4521

M 14 59.82.
M 15 13.25.
M 33.67.
M 47.75.

M 0 48.85.
M 1 58.00.
R 57.77.
R 57.60.
5779
6894

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598

Y Ophiuchi

h m
17 3
o " 1.17609 0.11637
− 15 34 9.98377 9.98377
1.15986 0.10014

0.11559

1878 Mar. 11

1879phae.proj.1501.

375

17 Camel L. C.

h m s
5 18 47
° ′ ″
+117 2 9.94975

0.11559

1879 Mar. 11

19	3.0	18	37.0	19	9.0	20 24.2
	7.6		39.7		14.2	
	12.1		43.2		18.3	
	16.6		46.0		22.3	
	21.2	2153	49.4	878	24.0	
	25.8		2153		878	
	30.2		18 43.06		19 17.56	
	34.4		+ 3.17		+ 3.67	
	39.2					
	19 11					
19	21.23					

		18 43.06	19 17.56

M 30 25.00
M 4.45
M 29 24.82

241

α Ophiuchi

h m s
17 29 19
° ′ ″
+12 39 9.99933

1.17609 0.11637 0.11359
9.99933 9.99933
1.16542 0.10570

1879 Mar. 11

29	35.20		29	29.2
	37.40	39506		31.0
	39.56	39.51		32.6
	41.60			34.4
19753	43.77		1630	35.8
	19753			1630
	48.00		29	32.60
	50.04		+	2380
	52.20			
	54.30	56,408		
	56.40	56.41	30	27.4
	58.55	56.39		29.1
	0.61			30.7
	2.72			32.9
50767	4.85		1552	35.1
	50767			1552
	9.10		30	31.04
	11.10	13,280	−	3464
	13.25	13.28		
	15.40	13279		
6640	17.55		29 (18)	39 32.60
	6640	29 56.400	30	31.07
	13280		+	23.80
			−	3464
				5844
17	29 20.41			1.76671
				1.16542
				293213
				287262
				8.94049
				4 59 0

M 48 30.62
M 49 45.18
R 45.15
R 45.27
45.20
74.58

12 38 40.6

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1879phae.proj.1501.

277

γ Aquilae

h m s
19 40 30
° ′ ″
+ 10 19

1.17609 0.11637 ∴ 0.11559
9.99292 9.99292
1.16901 0.10929

1879 Mar. 11

40	46.07		40	37.3	
	48.27	50322		39.0	
	50.40	50.32		40.7	
	52.34			42.2	
25161	54.63		2032	44.0	
	25161			2033	
	58.70		40	40.66	
	0.90		+	26.44	
	2.95				
	4.95	7.133			
	7.00	7.13	41	34.6	
	9.30	7.08		36.0	
	11.40			38.0	
	13.43			39.7	
6042.0	15.57		1900	41.7	
	6420			1900	
	19.65		41	38.00	
	21.70	2.3850	−	30.90	
	23.90	23.85			
	25.93	13417			
11925	28.07		40	40.64	
	11925	41 7.105	41	38.00	
			+	26.46	
			−	30.90	
				34.57.36	
	19 40 81.10			1.75404	1.75861
				1.16901	1.16901
				2.92305	2.92762
				2.12189	
				9.19884	9.19427
				5 6 18	85323
				8 58 57	

M	8	3.22	
M	9	15.55	
R		15.72	
R		15.60	
		1562	
		13240	

10 18 57.7

280

α Aquilae c = 46.791

h m s
19 44 53
° ′ ″
+ 8 33

1.17609 0.11637 0.11559
9.99675 9.99515
1.17124 0.11152

1879 Mar. 11

45	8.60		45	1.7	
	10.68	12350		3.4	
	12.75	12.75		5.0	
	14.77			6.5	
6375	16.95		247	8.1	
	6375			247	
	21.00		45	4941	
	23.22		+	2452	
	25.33				
	27.35	29468			
	29.51	29.47	45	47.9	
	31.56	29.45		50.0	
	33.60			51.6	
	35.80			53.5	
26521	37.85		2593	55.3	
	26521			2583	
	41.90		45	51.66	
	44.00	46146	−	22.20	
	46.28	46.15			
	48.25	5890			
23073	50.30			45 4941	
	23073	45 29.460		45 51.86	
				+ 24.52	
				− 22.40	
				46.98	
	19 44 53.48			1.67136	
				1.17124	
				2.84260	

M	54	13.35	
M	55	13.05	
R		13.10	
R	5	13.12	
	55	13.09	

8 32 49.8

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1879phae.proj.1501.

S

Sun c=46.802

h m s
23 29 48

° ′ ″
−3 15 0.11637
9.99930
0.11567

1879 Mar. 12

0.11559

28 55.70
57.70 59826
57.90 54.83
1.88
29913 3.95
29813
1.95
10.25
12.29
14.30 16326
16.35 16.38
18.29 16.34
20.40
22.40
14743 24.10
14693
28.70
30.80 32.850
32.85 32.85
34.92 152.68
16425 36.98
16425 29 16.360 + 47.50

30 0.2
2.0
3.8
5.4
193 7.9
193
30 3.86
−0 47.50
30 38.6

31 4.78
6.90
9.10
11.28
4526 13.20
4526
17.10
19.40
21.50
23.66
25.80
27.95
29.90
31.85
23116 34.00
23116
37.80
40.00
42.20
44.40
21100 46.60
21100

9.052
9.05

25.684
25.68

42.200

31 25.645

M 26 53.07.

M 59 45.95.

47

ℒ Cet

h m s
2 55 57

° ′ ″
+3 37

1.17609 0.11637
9.99913 9.99913
1.17522 0.11550

1879 Mar. 12

0.11559

30 24.6
26.5
28.4
30.7
1428 32.4
1428
30 28.56
+ 57.09

56 13.48
15.62
17.70
19.60
8813 21.73
8813
25.80
27.78
29.88
32.04
34.05
36.05
38.20
40.20
30637 42.27
30637
46.45
48.50
50.55
52.60
54.70
25280

17.626
17.63

34.041
34.04

50.560
50.56
68.19

56 9.9
11.6
13.2
14.8
663 16.8
663
56 13.26
+ 20.80
57 4.0
6.0
7.8
9.8
393 11.7
393
57 7.86
1 33.80
56 13.26
57 7.86
+ 20.80
− 33.80
5460
1.73719
1.17502 22
2.91221 41
1.85449
8.94226 08
° ′ ″
5 0 10
5

M 50 5.95.
M 50 17.05.
K 17.72.
K 17.67.
17.48
71.53

2 55 58.08

3 86 58.5

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375

17 Camel

h m s
5 18 44
° "
+ 62 58

0.11637
9.65754
9.77391

0.11539

1879 Mar. 12

19	7.0		18 34.3	19 34.5	20 55.8	
	11.4		38.2	37.4		
	15.9	19	41.5	42.0		
	20.1	24967	45.0	46.8		
	24.8		2077 48.7	2090 49.3		
	29.6		2077	2090		
	34.1		18 41.54	19 41.80		
	38.8		+ 4343	− 16.83		
	43.0					
	2247					
19	24967					

18 41.54 19 41.80

M 30 3.70 .
M 30 39.90 .
M 31 22.60 .

93

S Orionis

h m s
5 25 50
° "
- 0 23

1.17609 0.11637
9.99999 9.99999
1.17608 0.11636

0.11559

1879 Mar. 12

26	6.50		26	1.5
	8.55	10534		3.2
	10.47	10.53		5.0
	12.65			6.8
5267	14.60		247	8.2
	5267			247
	18.70		26	494
	20.72		+	22.04
	22.80			
	24.90	26941		
	27.00	2694	27	8.3
	28.98	27.02		
	31.80			
	33.15			
24247	35.22			
	24247			
	37.35			
	41.50	43514		
	43.48	43.51		
	45.57	5404		
21757	47.67		26	494
	21757	26 26.980	26	22.04

M 50 18.82 .
M 51 40.32 .
R 40.07 .
R 39.97 .
40.12
81.30

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1879phae.proj.1501.

2 Columbae

h m s
5 35 16

° ′	1.17609	0.11637		0.11559
−34 8	9.91789	9.91789		
	1.09398	0.03426		

1879 1879 Mar. 12

35 27.65		35 18.7		
30.00	32.550	20.5		
32.50	32.55	23.4		
34.95		25.4		
16275 37.65		1148 21.8		
16275		1148		
42.50		35 2296		
46.12		+ 29.63		
47.77				
50.10	52.612			
52.70	52.61	36 28.7		
55.10	52.57	30.1		
57.55		32.5		
0.17		34.7		
47351 2.50		1602 36.2		
47351		1602		
7.68		36 3204		
10.10	12.594	− 39.45		
12.57	12.59			
15.14	105 1/4			
6297 17.48		35 2296		
6297	35 52.590	36 32.04		
		+ 29.63		
		− 30.45		
		6908		
		~~+ 177444~~		1.83935
		~~1.09398~~		1.09398
		~~2865422~~		2933333
		~~1865446~~		1.865546
		~~9.000004~~		8.93213
		° ′ ″		
		~~5 42 40~~		45320

M M 32 10.82.
M 33 24.07.
K 24.50.
K 23.98.
24.18
7.36

K Orionis

h m s
5 42 1

° ″	1.17609	0.11637		0.11559
−9 43	9.99372	9.99372		
	1.16981	0.11009		

1879 Mar 12

42 17.40		42 18.7		
19.50	2.1614	21.9		
21.68	2.161	23.2		
23.72		25.0		
10807 25.77		1156 26.8		
10807		1156		
30.00		42 2312		
32.05		+ 15.24		
34.15				
36.30	38.359			
38.38	38.36	43 7.2		
40.50	38.36	9.4		
42.53		11.7		
44.64		13.5		
34523 46.68		570 15.2		
34523		570		
50.90		43 1140		
53.00	55120	− 33.04		
55.20	55.12			
57.20	7673			
27560 59.30		42 23.12		
27560	42 38.360	43 11.40		
		+ 15.24		
		− 33.04		
		48.28		
		1.68377		
		1.16981		
		2.85358		

M 9 33.55
M 10 35.35
K 35.67
K 35.22
10 9 35.41
1.86

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102

α Orionis

h m s
5 48 37

1.17609 0.11637 0.11559
+ ° ′ 23 9.99638 9.99658
1.17247 0.11295

1879 Mar. 12

48 54.38 48 44.2
56.40 58.476 46.2
58.60 58.87 47.5
0.50 49.3
29438 2.60 2383 50.8
29238 2.38
6.74 48 47.66
8.90 + 24.52
11.00
13.00 15.083
15.00 15.08 49 47.8
17.12 15.29 49.7
19.27 51.7
21.32 54.0
13575 23.40 2588 55.6
13575 2588
27.45 49 51.76
29.63 31.716 − 36.58
31.80 31.72
33.80 13059
15858 35.90 48 47.66
15858 49 15.185 49 51.76
+ 27.52
− 36.58
6410
5 48 39.9 1.80686
1.17247
297933
~~2.02940~~ 1.92845
~~9.04107~~ 8.94912
~~5. 4 58~~
~~6 16 22~~

M 3 57.47
M 5 22.25
R 22.10
R 22.50
2228
~~1081~~
84

7 22 58.3

597

γ Ophiuchi

h m s
16 20 20

° ″ 0.11637 0.11559
− 10 19 9.99292
0.10929

1879 Mar. 12

— —
— —
— —
— —
— —
— —
— —
— —
— —
— —
— 31 42.8
— 45.2
— 47.0
— 48.9
— 2348 50.9
— 2348
— 31 46.96
— − 39.07
16.78 8.00 31 24.78
18.88 7.82 23.68 26.70
21.04 7.86 7.893 28.90
7.893
31 46.96

M 47 11.92
M 12.20

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375

17 Camel. Lc. 6.

h m s
δ 18 44
° ″
+117 2

0.11637
9.99975
0.06612

0.11559

1879 Mar. 12

19 3.0		18 15.4	18 54.4	30 6.4		
7.7		19.0	59.2	10.6		
12.0	21.256	23.2	2.0	13.3		
16.7		26.6	5.7	16.7		
21.3		1142 30.4	3123 11.0	672 20.2		
25.9		1146	123	672		
30.5		18 2292	19 246	20 1344		
34.8		+ 5834	+ 1880	− 5218		
39.4						
1913						
19 21.256						

M 30 43.17
M 18.42
M 29 36.98

241

α Ophiuchi

h m s
17 29 19
° ″
+12 39

1.17609
9.98933
1.16542

0.11637
9.98933
0.10570

0.11559

1879 Mar. 12

29 35.68			29 40.6	
37.90	39.966		42.4	
40.00	39.97		44.4	
42.00			46.4	
19983 44.25			2205 47.7	
19983			2205	
48.32			29 44.10	
50.50			+ 1274	
52.50				
54.60	56.791			
57.00	56.79		30 32.3	
58.90	56.84		34.3	
1.00			35.9	
3.00			37.7	
5112 5.30			1797 39.5	
5112			1797	
9.50			30 3594	
11.63	13.706		− 39.10	
13.70	13.71			
15.80	13.68			
6853 17.90			29 44.10	
6853	29 56.840		30 35.94	
			+ 12.74	
			− 39.10	
			57.84	
17 22	2043		1.71466	
			1.16542	
			2.88008	
			1.81471	
			893463	
			4 55 1	

M 48 45.05
M 49 50.35
R 50.60
R 50.00
5032
65.27

12 38 40.6

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1879phae.proj.1501.

256

S Ars Min.

h m s
18 11
° ′ ″ 0.11637
+86 26 8.77310
8.88947

1879 Mar. 12

0.11559

9 9.0	9	43.6		3 47.9	4 55.0	4 55.8		
9 45.0	10	16.7						
10 19.5		52.0						
10 54.6	11	27.7						
11 29.0		1.5	11 29.13					
12 3.4	12	6.9	5.5					
12 38.4		8.7						
13 14.2		37.6						
13 48.5	13	1.25						
		46.2						
26.2.2	14	~~25.3~~		7 38.7	8 55.1	9 55.0		

11 29.13

M	52	25.87
M		30.82
M		43.55
M		46.70
M		53.67
M		59.65

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1879phae.proj.1501.

☉ Sun

h	m	s
23	33	28

°	″	
−2	32	9.99946
		0.11637
		0.11583

0.11559

1879 Mar. 13

23	45.55	
	47.47	49.540
	49.42	49.54
	51.60	
24770	53.66	
	24770	
	57.80	
	59.98	
	2.00	
	3.95	6.161
	6.03	6.16
	8.22	6.11
	10.40	
	12.50	
5545	14.57	
	5546	
	18.53	
	20.60	22696
	22.60	22.69
	24.95	13223
11348	26.80	
	11348	35 6.135

α Orionis

h	m	s
5	48	27

°	″		
+7	23	0.11637	0.11637
		9.99658	0.99638
		0.11	0.41275

0.11559

1879 Mar. 13

48	54.60		48	59.1
	56.67	58.788		1.1
	58.90	58.78		3.2
	0.80			4.6
29394	2.97		144	6.4
	29394			144
	7.00		49	2.88
	9.00		+	12.43
	11.20			
	13.28	15.296		
	15.35	15.29		
	17.38	15.33		
	19.40			
	21.45			
13766	23.60			
	13766			
	27.70			
	29.80	31890		
	31.95	31.89		
	34.00	15067		
15945	36.00		49	2.88
	15945	49 15.310	+	12.43

5 48 89.07

Obs. in RA only

R	4	17.50
R		17.35
	4	17.42

7 22 58.3

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256

S Urs. Min. L.C.

h m s
18 11 22
° ′ ″
+ 93 24

0.11637
9.99923
0.11560

0.11559

1879 Mar. 13

"Zones 9 8 7 6 5 Os in RA?"
on accl of clouds

11 3428	9	15.0	2 1928	4 37.5	6 29.7	7 51.5		
11 2946		45.0	1 4446					
11 32.51	10	23.0	1 957					
~~1+2174~~		46.8	+3494					
11 3549	11	35.5	-091					
131.74								
11 32.93								

R 6 15.65
R 5 6 4.10
R 6 54.95

564

α Cam. Mosj.

h m s
6 39 49
° ″
16 33

1.17609
9.98162
1.15771

0.11637
9.98162
0.09799

0.11559

1879 Mar. 13

40	5.18		39	58.8
	7.26	4 374		1.0
	9.30	9.36		2.9
	11.47			4.3
4681	13.66		132	6.2
	4681			132
	17.95		40	2.64
	20.04		+	23.89
	22.23			
	24.30	26507		
	26.50	26.51	40	54.9
	28.70	26.55		56.6
	30.84			58.5
	32.90			0.3
23856	35.10		2931	2.8
	23856			2931
	39.50		40	58.62
	41.60	4 3750	−	32.09
	43.70	43.75		
	45.90	5311		
21875	48.05		40	2.64
	21875	40 26.530	40	58.62
			+	23.89
			−	32.09
				5598
	6 39 50.60			1.74803
				1.15771
				2.90574
				1.85028
				8.94454
			°	′ ″
				51 47

M 59 23.90
M 60 34.85
R 35.10
R 34.38
3474
7084

16 32 758

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118

β Can. Min.

h m s
7 20 35

° ″
+8 32 1.17609 0.11637 0.11559
9.99517 9.99517
1.17126 0.11154

1879 Mar. 13

20	53.10		20	46.4	
	53.18	57.170		48.9	
	57.00	5717		50.5	
	59.30			51.9	
1.28 28585	1.37		2513	53.6	
	28585			2513	
	5.50		20	5026	
	7.50		+	2357	
	9.65				
	11.60	13812			
	13.85	13.81	21	41.9	
	16.04	13.85		43.5	
	18.00			45.3	
	20.00			47.3	
12431	22.17		2273	49.3	
	12431			2273	
	26.38		21	4546	
	28.43	30532	÷	3163	
	30.50	30.53			
	32.60	14770			
15266	34.75		20	5026	
	15266	21 13.830	21	45.46	
		-.004	+	23.57	
		13.826	−	31.63	
				.5520	
				1.74194	
				1.17126	
				2.91320	
				1.85315	
				893995	
				° ′ ″	
				4 68 38	

M 55 14.82
M 56 26.05
R 26.27
R 26.07
2613
71.31

120

α Can. Min.

h m s
7 22 58

° ″
+5 32 0.11637 0.11559
9.99797
0.11434

1879 Mar. 13

33	15.80		33	9.5	
	17.94	19922		11.2	
	19.90	19.92		13.5	
	21.94			15.1	
9961	24.03		659	16.6	
	9961			659	
	25.05		33	1318	
	30.28		+	2330	
	32.38				
	34.46	36468			
	36.49	36.47	34	8.3	
	38.55	36.49		10.3	
	40.60			12.0	
	42.60			13.9	
32821	44.80		601	15.6	
	32821			601	
	48.98		34	1202	
	57.00	53066	−	3554	
	53.00	53.07			
	55.15	7299			
26533	57.20		33	13.18	
	26533	33 36.480	34	12.02	
			+	23.30	
			−	35.54	

7 28 0.27

M 55 2.42
M 56 18.32
R 18.37
R 18.15
18.28

5 81 36.7

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570

ι Argus

h m s
8 2 24

° ′ ″ 1.17609 0.11637 0.11559
-23 57 9.96090 9.96096
1.13699 0.07727

1879 Mar. 13

2	38.80		2	28.0	
	41.00	43.298		30.0	
	43.30	43.29		31.5	
	45.49			33.4	
21649	47.90		1582	35.3	
	21649			1582	
	52.28		2	3164	
	54.50		+	29.67	
	57.80				
	59.00	1299			
	1.40	1.30	3	33.4	
	3.58	1.32		35.2	
	5.78			37.0	
	8.00			39.0	
1169	10.35		1859	41.3	
	1169			1859	
	14.86		3	37.18	
	17.00	19.348	−	35.87	
	19.30	19.35			
	21.63	12.264			
9674	23.95		2	31.64	
	9674	3 1.310	3	37.18	
			+	29.67	
			−	35.87	
				65.54	
				1.81651	
				1.13699	
				2.95350	
				1.89520	
				8.94170	
				° ′ ″	
				4 5950	

M	23	2.62
M	24	20.98
R		21.32
R		21.25
	24	21.18
		78.56

584

S Corvi

h m s
12 23 0

° ″ 1.17609 0.11637 0.11559
-15 49 9.98324 9.98324
1.15933 0.09961

1879 Mar. 13

23	53.68		23	44.7	
	55.82	57956		46.7	
	57.90	57.96		48.4	
	0.10			50.3	
28978	2.28		2421	52.0	
	28978			2421	
	6.50		23	4842	
	8.60		+	2665	
	10.70				
	12.94	15070			
	15.00	15.07	24	47.4	
	17.27	15.07		49.1	
	19.32			50.6	
	21.50			52.5	
13563	23.80		2545	55.0	
	13563			2545	
	27.97		24	5090	
	30.00	32.194	−	35.83	
	32.20	32.19			
	34.30	15015			
16097	36.50				
	16097	24 15070	23	48.42	
			24	50.90	
			+	26.65	
			−	35.83	
				6248	
				1.79574	
				1.15933	
				2.95507	
				1.89702	
				8.94195	
				° ′ ″	
				3 0 0	

M	16	51.90
M	18	10.45
R		10.92
R	18	11.00
	18	10.79
		78.89

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585

β Corvi

h m s
12 28 2

° ′ ″
− 22 44

1.17609 0.11637 0.11559
9.96488 9.96488
1.14097 0.05125

1879 March 13

28	18.40			28	13.7						
	20.65	22870			15.8						
	22.80	22.87			17.7						
	25.10				19.7						
11435	27.40			889	22.0						
	11435				8.89						
	31.70			28	17.78						
	34.00			+	22.92						
	36.05										
	38.45	40.679									
	40.67	40.68		29	10.7						
	43.00	40.73			12.5						
	45.26				14.4						
	47.38				16.7						
36611	49.60			733	19.0						
	36611				7.33						
	51.16			29	14.66						
	52.29	58590			3396						
	53.55	58.59									
	0.85	8146									
29295	3.10			28	17.78						
	29295	28	40.705	29	14.66						
				+	22.92						
				−	33.96						
					56.88						
					1.75496						
					1.14097						
					2.89593						
					1.82872						
					8.93279						
				°	′	″					
				4	53	46					

M	9	35.25	
M	10	42.72	
R		42.65	
R		42.62	
		4266	
		67.41	

172

γ Virginis

h m s
12 35 32

° ′ ″
− 0 47

1.17609 0.11637 0.11559
9.99996 9.99996
1.17605 0.11633

25	50.30			35	40.4						
	52.30	54390			42.3						
	54.40	54.39			44.7						
	56.45				46.2						
27195	58.50			2116	48.0						
	27195				2216						
	2.60			35	44.32						
	4.66			+	26.55						
	6.67										
	8.78	10.859									
	10.95	10.86		36	46.5						
	12.90	10.88			48.8						
	15.00				50.7						
	17.00				52.6						
9773	19.17			2519	53.9						
	9773				2519						
	23.30			36	50.38						
	25.29	27.374		−	39.51						
	27.30	27.37									
	29.48	141.76									
13687	31.50			35	42.32						
	13687	36	10.870	36	50.38						
				+	28.56						
				−	39.51						
					6806						
				12	85	54.87					
					1.83289						
					1.17605						
					3.00894						
					1.94057						
					8.93163						
				°	′	″					
				4	52	59					

M	14	11.00	
M	15	38.32	
R		38.22	
R		38.10	
		38.21	
		87.21	

0 47 26.2

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174

S Virginis

h m s
12 49 30
° ′ ″
+4 3 1.17609 0.11637 0.11559
9.99891 9.99891
1.17500 0.11528

1879 Mar. 13

49	42.00		49	40.5	
	57.10	58170		42.3	
	53.20	53.17		44.2	
	55.25			46.6	
26585	57.30		2210	48.0	
	26585			2210	
	1.50		49	4420	
	3.60		+	2550	
	5.60				
	7.70	9.750			
	9.75	9.75	50	42.3	
	11.85	9.65		44.0	
	13.90			45.6	
	15.90			47.5	
8775	17.95		2292	49.8	
	8775			2292	
	22.05		50	4584	
	24.02	26.130		−36.14	
	26.10	26.13			
	28.20	139 30			
13065	30.28		49	4420	
	130.65	50 9.700	50	45.84	
			+	25.50	
			−	36.14	
				61.64	
				1.78986	
				1.17500	
				2.96486	
				1.90585	
				8.94099	
			°	′ ″	
			4	59 20	

M 23 54.82.
M 25 15.30.
R 15.27.
R 15.42.
15.33
80.51

176

E Virginis

h m s
12 56 9
° ′ ″
+11 37 1.17609 0.11637 0.11559
9.99101 9.99101
1.16710 0.00738

1879 Mar. 13

56	27.62		56	20.0	
	29.62	31.722		22.0	
	31.65	31.72		24.0	
	33.80			25.7	
15861	35.92		1196	27.9	
	15861			1196	
	40.05		56	2392	
	42.35		+	24.62	
	44.37				
	46.38	48529			
	48.55	48.53	57	26.0	
	50.63	48.54		28.3	
	52.70			30.3	
	54.88			31.9	
43676	56.85		1508	34.3	
	43676			1508	
	1.10		57	3016	
	3.30	53.66	−	47.62	
	5.35	53.7			
	7.48	9709			
2683	9.60		56	23.92	
	2683	56 48.535	57	30.16	
			+	24.62	
			−	41.62	
				66.24	
				1.82112	
				1.16710	
				2.98822	
				1.93470	
				8.94648	
			°	′ ″	
			5	3 8	

M 50 52.64.
M 52 18.77.
R 18.74.
R 18.60.
18.71
86.04

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587

α Virginis

h m s
13 18 49
° ″
-10 22 1.17609 0.11637 0.11559
9.99262 9.99262
1.16871 0.00899

1879 Mean. 13

19 7.50 19 2.0
9.27 11254 3.6
11.25 1125 5.7
13.35 7.5
5627 15.40 285 9.7
5627 285
19.76 19 5.70
21.70 + 2232
23.82
25.86 28.000
28.00 28.00 19 57.9
30.00 28.03 59.7
32.17 1.7
34.30 3.5
25200 36 45 76 4.8
25200 76
40.60 20 1.52
42.68 44.816 − 33.50
44.80 4482
47.00 5607
22408 49.00 19 5.70
22408 19 28.015 20 1.52
+ 22.32
− 33.50
5582

13 18 51.83 1.74679
1.16871
2.91550
1.83308
8.91758
~~4 44 41~~ 4 43 42
~~4 43 42~~

M 58 29.95
M 59 38.20
R 37.92
R 38.00
3804
68.09

10 89. 2.5

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277

γ Aquilae

h m s
19 40 30
° ″ 1.17609 0.11637
+ 10 19 9.99292 9.99292
1.16901 0.00929

1879 Mar. 15

41 47.72 41 41.4
49.80 51.868 43.1
51.80 51.87 44.8
54.00 46.4
934 56.02 2243 48 6
25934 2243
0.20 41 44.86
2.30 + 23.72
4.28
6.55 8.546
8.53 8.54 42 32.6
10.60 8.62 39.4
12.67 41.7
14.80 43.3
7691 16.98 2069 44.9
7691 2069
21.23 42 41.38
23.30 2.536 − 32.80
25.35 2.538
27.40 7725
12688 29.60 41 44.86
12688 42 8.580 42 41.38
+ 23.72
− 32.86
6652

19 40 37.19 1.75220
1.16901
292121
1.85745
8.93624
° ′ ″
4 56 6

M 8 7.75
M 9 20.22
R 19.47
R 19.62
19.77
72.02

10 18 59.7

0.11559

280

α Aquilae

h m s
19 44 53
° ″ 0.11637
+ 8 33 9.99515
0.11152

1878 Mar. 15

+2087 2087 46 10.00 46 2.0
18.77 30.87 154.39 12.10 14.184 3.8
16.70 30.88 30.878 14.10 14.18 5.7
14.61 30.88 16.27 1.4
12.52 30.87 7092 18.45 279 9.0
7092 279
8.35 31.00 278.81 22.65 46 558
6.26 30.81 30.978 24.55 + 25.36
4.17 30.92 26.75
2.06 31.01 28.95 30.982
− 0.88 30.90 30.90 30.98
− 2.08 31.02 33.10
4.17 31.07 35.24
6.26 31.04 37.30
8.36 31.04 27884 39.40
27884
—
—
30.928 —
30.943 —
— 46 558

M 54 12.02

8 32 49.8

0.11559

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97

E Orionis

h	m	s			
5	30	4			
	°	"	1.17609	0.11658	0.11559
	-1	17	9.99989	9.99989	
			1.17598	0.11647	

1879 Mar. 16

30	22.58			30	16.5	
	24.70	26.646			18.3	
	26.62	26.69			20.0	
	28.70				22.8	
13348	30.88			1018	24.2	
	13348				1018	
	35.00			30	2036	
	37.00			+	2282	
	38.00					
	41.00	43.178				
	43.10	43.18		31	12.7	
	45.21	43.18			14.8	
	47.30				16.6	
	49.43				18.5	
38860	51.50			825	19.9	
	38860				82.5	
	56.60			31	1650	
	57.65	59.684		−	3332	
	57.70	59.68				
	1.70	8637				
29842	3.77			30	2036	
	29842	30	43.180	31	16.50	
				+	22.82	
				−	33.32	
					5614	
					1.74927	
					1.17598	
					2.92525	
					1.86249	
					8.93724	
					4 56 47	

M 43 40.40.
M 44 53.65.
R 53.75.
R 53.87.
53.76
72.86

b

α Columbae

h	m	s			
5	35	16			
	°	"	1.17609	0.11658	0.11559
	-34	8	9.91789	9.91789	
			1.09398	0.03447	

1879 Mar. 16

35	29.07			35	19.6	
	31.33	33.910			22.2	
	33.86	33.91			24.9	
	36.37				26.8	
16955	38.00			1221	28.6	
	16955				1221	
	43.84			35	24.42	
	46.33			+	29.40	
	48.70					
	51.49	53.819				
	53.86	53.82		36	23.5	
	56.30	53.81			30.3	
	58.75				32.3	
	1.40				34.0	
48437	3.70			1611	36.0	
	48437				1611	
	8.75			36	32.22	
	11.23	13.722		−	38.40	
	12.75	13.72				
	16.18	14763				
6861	18.70			35	24.42	
	6861	35	53.815	36	32.22	
	~~13602~~			+	29.40	
				−	38.40	
					6780	
					1.83123	
					1.09398	
					2.92521	
					1.87239	
					8.94718	
					53 37	

M 32 11.05.
M 33 25.80.
R 25.45.
R 25.52.
2559
74.54

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100

K Orionis

h m s
5 42 1
° ′ ″
−9 43 1.17609 0.11658 0.11539
9.99372 9.99372
1.16981 0.11030

1879 Mar. 16

42	18.75		42	11.7	
	20.77	22906		13.9	
	22.91	2291		16.6	
	25.00			17.4	
11453	27.10		776	19.0	
	11453			776	
	31.30		42	1552	
	33.35		+	2412	
	35.45				
	37.60	39644			
⊠	39.60	39.64	43	11.4	
	41.70	39.63		13.3	
	43.82			14.9	
	45.95			16.7	
35680	48.03		752	18.9	
	35680			752	
	52.18		43	1504	
	54.25	56356	−	38.40	
	56.30	5636			
	58.45				
28178	0.60	7927	42	1552	
	28178	42 39.635	43	15.04	
			+	24.12	
			−	3540	
				59.52	
~~5 48 39.02~~			1.77466		
			1.16981		
			2.94447		
			1.88930		
			8.94483		
			5 1 59		

M 9 22.50
M 10 39.90
R 40.10
R 40.00
4000
77.50

~~7 22 58.3~~

102

α Orionis

h m s
5 48 37
° ′ ″
+7 33 1.17609 0.11658 0.11559
9.99624 9.99624
1.17233 0.11282

1879 Mar. 16

48	55.60		48	48.5	
	57.60	59.718		50.0	
	59.74	59.72		51.7	
	1.75			53.7	
29859	3.90		2598	55.9	
	29859			2598	
	8.00		48	5196	
	10.06		+	2436	
	12.19				
	14.20	16330			
	16.38	16.33	49	46.4	
	18.47	16.31		48.0	
	20.50			49.7	
	22.55			51.2	
14697	24.62		2484	53.1	
	14697			2484	
	28.78		49	4968	
	30.80	32900	−	38.36	
	32.77	3290			
	35.00	15262			
16450	37.15		48	5196	
	16450	49 16.320	49	4968	
			+	2436	
			−	33.36	
				57.72	
5 48 39.02			1.76133		
			1.17233		
			2.93366		
			1.87506		
			8.94140		
			4 59 37		

M 4 3.17
M 5 18.27
R 17.97
R 18.07
18.17
75.00

7 22 58.3

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256

S Aus. Min. Lo. C.

h m s
18 11 22
° ″
+93 24

0.11658
9.99923
0.11581

0.11559

1879 Mar. 16

	9	9.4		3	6.4	4	16.3	5	0.1	
		21.6								
		32.8	3286							
		44.3								
		56.2								
	10	7.5								
		19.0								
		30.9	3096							
		43.2								
		54.2								
	11	6.3		14	3.7	15	3.9	15	42.8	
		17.6								
11 2896		29.4	2946							
		40.7								
		51.3								
	12	3.5								
		16.2								
		26.4	2684							
		38.8								
		50.3								
	13	1.7								
		12.6								
		24.8	2470							
		36.4								
		48.0								

M	6	27.22	.
M		20.12	.
M		15.47	.
M	5	27.90	.
M		23.77	.
M		22.05	.

564

2 Can. Maj.

h m s
6 39 48
° ″
−16 33

1.17609
9.98162
1.15771

0.11658
9.98162
0.09820

0.11559

1879 Mar. 16

	40	6.00						39	58.7	
		8.00	1.0242						1.4	
		10.23	10.24						3.4	
		12.40							4.8	
	5121	14.58						159	6.6	
		5121							159	
		18.75						40	3.18	
		21.00						+	24.28	
		23.00								
		25.45	27.501							
		27.53	27.50					40	58.7	
		29.75	27.42						2.5	
		31.80							4.8	
		33.98							7.5	
	24751	36.06						235	9.0	
		24751							235	
		40.30						41	4.70	
		42.40	44.610					−	37.24	
		44.65	44.61							
		46.70	54.85							
	22305	49.00						40	3.18	
		22305	40	27.460				41	4.70	
								+	24.28	
								−	37.24	
									61.52	
	6	39	50.55						1.78902	
									1.15771	
									2.94673	
									1.88986	
									8.94313	
									50 49	

M	59	21.72	.
M	0	39.27	.
R		39.12	.
R		39.57	.
		3932	
		77.60	

16 38 15.7

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566

E Can. Maj

h m s
6 53 52
° ′ ″
-28 48 9.94266

0.11658
9.94266
0.05924

0.11559

1879 Mar. 16

					54	58.6		
						1.3		
						4.0	3.50	
						6.0		
					175	7.6		
						175		
-14.13	30.49	54	44.62		55	3.50		
16.48	30.52	152.46	47.00	49.344		-33.01		
18.84	30.46	30.492	49.30	49.34				
21.14	30.43		57.62		5			
23.62	30.36	24672	54.18		54	3.50		
			24672					

30.492

M 14 39.72
M 39.85

14 39.78

568

S Can. Maj.

h m s
9 3 28
° ′ ″
-26 12 1.17609
9.95292
1.12901

0.11658
9.95292
0.06950

0.11559

1879 Mar. 16

		3	43.90			3	38.0	
			46.25	48450			39.8	
			48.40	48.45			41.9	
			50.70				44.3	
		24225	53.00			105	46.5	
			24225				2105	
			57.62			3	42.10	
			59.88			+	2466	
			2.04					
			4.39	6743				
			6.70	645		4	38.0	
			9.00	6177			40.0	
			11.38				41.6	
		13.68	13.78				43.3	
		6069	15.90			2087	45.8	
			6069				2087	
			20.55			4	41.74	
			22.75	25,100			-34.98	
			25.00	25,10				
			27.40	13355				
		12550	29.80			3	42.10	
			12550	4	6.755	4	41.74	
					-.005	+	24.66	
					6.750	-	34.98	
							5964	
							1.77554	
							1.12901	
							2.90455	
							1.84048	
							8.93593	
							4 55 53	

M 37 32.97
M 38 42.32
R 42.37
R 42.00
4223
69,26

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256

S Ars. Min.

h m s
18 11 22

0.11658
+86 36 8.77310
8.88968

0.11559

1879 Mar. 17

12 4.08	9	44.8	2 19.28	10	8.0	11	7.3	13	0.2				
12 5.06	10	20.6	1 44.46										
12 5.91		56.4	1 9.51										
12 6.24	11	31.5	34.74										
12 4.84	12	4.9	- 0.01										
12 3.49		38.3	-34.81										
12 4.69	13	14.3	-1 9.61										
12 5.76		50.1	-1 44.34										
12 5.80	14	25.3	-2 19.50										
45.92				19	57.5	20	53.8	21	43.2				
12 5.12													

M 52 58.87
M 53 2.77
M 14.97
M 39.42
M 42.30
M 43.37

257

γ Serpentis

h m s
18 15 3

° ′ ″
-2 56 1.17609 0.11658 0.11559
9.99943 9.99943
1.17552 0.11601

1879 Mar. 17

15 21.50		15 16.0					
23.68	25.680	17.8					
25.60	25.68	20.0					
27.72		21.8					
12 82 10 29.90		596 24.0					
128.40		996					
34.05		15 19.92					
36.05		+ 2.22					
38.00							
40.00	42.102						
42.06	42.10	16 8.5					
44.00	42.17	10.1					
46.20		12.0					
48.20		13.7					
37 892 50.37		596 15.3					
37892		506					
54.50		16 11.92					
56.70	56660	-29.78					
58.67	58.66						
0.63	8434						
29330 2.80		15 19.92					
29330	15 42.135	16 11.92					
		+ 22.22					
		- 29.78					
		52.00					
		1.71600					
		1.17552					
		2.89152					
		1.82995					
		893843					
		4 57 35					

M 22 39.45
M 23 47.37
R 46.72
R 47.07
47.05
67.60

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~~270~~ 269

λ Aquilae

h m s
18 59 50
° ′ ″
−5 4

1879 Mar. 17

			1.17609	0.11658		0.11559
			9.99830	9.99830		
			1.17439	0.11488		
	0	8.00		0	6.4	
		10.40	12.300		9.1	
		12.60	12.30		10.8	
		14.40			12.8	
	6150	16.20		539	14.8	
		6150			539	
		20.50		0	1078	
		22.48		+	17.94	
		24.50				
		26.60	28.653			
		28.60	28.65	1	1.8	
		30.90	28.78		4.2	
		32.70			6.2	
		34.80			7.9	
	25788	36.90		291	9.0	
		25788			291	
		41.12		1	5.82	
		43.18	45266	−	37.10	
		45.30	4526			
		47.30	5756			
	22633	49.49		0	10.78	
		12633	0 28.715	1	5.82	
				+	17.94	
				−	37.10	
					55.04	
					1.74068	
					1.17439	
					2.91507	
					1.85199	
					8.93692	
					4 56 34	

M	30	37.10
M	31	48.32
R		48.15
R		48.20
		4822
		7112

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5

Sun.

h m s
23 57 44

° ″
− 0 54

0.11658
9.99995
0.11653

0.11559

1879 Mar. 18

50 47.60
56.60 58.674
58.77 58.67
0.70
2.70
29337
6.75
8.93
11.00
13.00 15207
15.20 15.21
17.30 15.22
19.45
21.45
13686 23.88
13686
27.66
29.70 31.778
31.73 31.78
33.80 15045
15889 36.00
15889 51 15.215

51 56.4
58.2
0.1
1.7
2998 3.4
2998
51 59.96
− 44.74
51 59.66 20262

53 3.33
5.37
7.60
9.60
3740 11.70
3740
15.70
17.82
19.98
22.05
24.05
21660 32.35
21660
36.38
38.35
40.57
42.62
44.70
20262
+ 44.74

52 25.9
7.480 28.2
7.48 29.8
31.5
1484 33.0
1484
52 29.68
+ 54.36
24.067
24.07
24.00
40524
4052
4800
53 24.035

M 4 52.50.

M 37 47.15.

100

K Orionis

h m s
5 42 1

° ″
− 9 43

1.17609
9.99372
1.16981

0.11658
9.99372
0.11030

0.11559

1879 Mar. 18

42 19.60
21.25 23340
23.43 2334
25.50
11670 27.52
11670
31.70
33.75
35.88
38.00 40061
40.05 40.06
42.15 40.08
44.25
4637
36055 48.40
36055
52.60
54.82 56818
46.78 5682
58.79 8016
52 2968 28409 1.10
28409

112 11.0
12.6
14.7
16.5
730 18.2
730
42 14.60
+1 25.47
43 6.5
8.2
9.8
11.7
505 14.3
505
43 10.10
+ 29.97
42 14.60
43 10.10
+1 25.47
+ 29.97
55.50
1.74429
1.16981
2.91410
1.85661
8.94251
5 0 23

M 9 20.67.
M 10 32.67.
R 32.37.
R 32.60.
3255
71.88

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102

α Orionis

h m s
5 48 37.

0.11658
+7° 23 9.99638
0.11296

0.11559

1879 Mar. 18

48	55.20		48	49.0	
	58.00	0.150		50.8	
	0.20	0.15		52.7	
	2.25			54.8	
30075	4.40		2638	56.5	
	075			26.38	
	8.42		48	5276	
	10.50		+	2400	
	12.57				
	14.60	16727			
	16.70	16.73	49	35.2	
	18.80	16.79		36.9	
	20.85			38.5	
	23.00			40.0	
15054	26.10		1934	42.8	
	15054			1934	
	29.28		49	3868	
	31.30	33436	−	21.92	
	33.48	33.44			
	35.52	33.59			
16718	37.60		48	5276	
	16718	49 16.760	49	38.68	
			+	2400	
			−	21.92	

548 8999

M	4	2.05
M	5	2.27
R		2.05
R		2.05
	5	2.12

7 22 58.2

256

S Ors. Mem. I. C.

h m s
18 11 22

0.11658
+98 24 9.99923
0.11581

0.11559

1879 Mar. 18

9	9.0		5	48.4	
	22.2		6	45.9	
	34.1		7	26.4	
	45.1	33.60			
	56.6				
10	7.4				
	19.5				
	31.3	31.34			
	43.7				
	54.8				
11	5.9		8	6.6	
	18.2		8	42.6	
	29.0	29.02	13	55.5	
	40.2		11	2928	
	51.8				
12	3.4				
	15.2				
	27.0	27.08			
	38.6				
	51.2				
13	2.6				
	14.2				
	25.4	2538			
	36.2				
	48.5				

M	6	11.20
M	6	6.05
M	6	1.42
M	5	57.55
M		54.96
M		28.60

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564

α Can. Maj.

h m s
6 39 49
° ′ 0.11658
−16 33 9.98162
0.09820

1879 Mar. 18

40	6.35		39	55.9	
	8.75	10690		57.8	
	10.65	10.69		59.4	
	12.80			0.7	
5345	14.90		2962	2.4	
	5345			2962	
	19.20		39	59.24	
	21.57		+	28.67	
	23.40				
	25.86	27914			
	28.00	27.91	41	7.8	
	30.10	27.91			
	32.20				
	34.37				
25123	36.53				
	25123				
	40.78				
	43.00	45142			
	45.20	45.14			
	47.28	55.83			
22571	49.45		39	59.24	
	22571	40	27.910	+	28.67

6 89 58.57

M 59 16.50 .
M 16.57 .
59 16.53
3
16 88 76.8

0.11559

566

ε Can. Maj.

h m s
6 53 52
° ′ 1.17609 0.11658
−28 48 9.94266 9.94266
1.11875 0.05924

1879 Mar. 18

54	7.50		53	57.6	
	9.80	12,180		59.0	
	12.30	12.18		0.6	
	14.45			2.7	
6090	16.85		50	5.1	
	6090			50	
	21.46		54	1.00	
	23.80		+	29.95	
	26.18				
	28.62	30916			
	30.90	30.91	55	2.6	
	33.28	30.99		4.2	
	35.62			6.0	
	37.98			8.1	
27824	40.40		314	10.5	
	27824			314	
	45.15		55	6.28	
	47.42		−	35.53	
	49.80	49.81			
	52.18	61.99			
24905	54.50		54	1.00	
	24905	54	30.950	55	6.28
	49810			+	29.95
				−	35.33
					65.28

1.81478
1.11875
2.93353
1.87186
8.93833

4 57 31

M 13 28.82 .
M 14 43.10 .
R 43.17 .
R 43.55 .
4327
7445

0.11559

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568

S Can. Mag.

h m s
7 3 28
° " 1.17609 0.11658 0.11559
-26 12 9.95292 9.95292
1.12901 0.06950
1879 Mar. 18

3	44.04		3	33.8	
	46.37	48.702		35.7	
	48.70	48.70		37.3	
	51.10			39.5	
24351	53.30		1875	41.2	
	24351			1875	
	57.80		3	3750	
	0.25		+	29.60	
	2.40				
	4.85	7.109			
	7.10	7.11	4	39.6	
	9.50	7.10		41.4	
	11.80			43.0	
	13.98			44.9	
6398	16.30		2165	47.6	
	6398			2165	
	20.85		4	4330	
	23.28	25.500	-	36.20	
	25.52	2550			
	27.80	7430			
12750	30.05		3	37.50	
	12750	4 7.105	4	43.30	
			+	29.60	
			-	36.20	
				6580	
				1.81823	
				1.12901	
				2.94724	
				1.88349	
				8.93625	
				4 566	

M 37 27.72
M 38 44.25
R 44.35
R 43.97
44.19
7647

118

B Can. Main.

h m s
7 20 35
° " 1.17609 0.11658 0.11559
+ 8 22 9.99517 9.99517
1.17126 0.11175
1879 Mar. 18

20	54.50		20	43.8	
	56.67	58.674		50.6	
	58.60	58.67		52.0	
	0.80			53.8	
29337	2.80		2610	55.8	
	29337			2610	
	7.00		20	5220	
	9.00		+	2316	
	11.20				
	13.35	15359			
	15.28	15.36	21	46.5	
	17.38	15.37		47.3	
	19.55			48.9	
	21.67			50.6	
13823	23.70		2450	52.7	
	13823			2450	
	27.95		21	49.00	
	29.90	32080	-	33.64	
	32.05	32.08			
	34.20	9075			
16040	36.30				20 5220
	16040	21 15.365			21 49.00
					+ 2316
					- 3364
					6680
					1.75435
					1.17126
					2.92561
					1.86094
					8.93533
					4 5529

M 55 15.60
M 56 28.05
R 28.00
R 28.55
2820
7260

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120

α Cam. Min.

h m s
7 32 58

° ″
+ 5 32 1.17609 0.11658 0.11559
9.99797 9.99797
1.17406 0.11455

1879 Mar. 18

33 17.20		33 15.0		
19.40	2.1416	16.7		
21.37	2.142	18.8		
23.39		20.7		
10708 25.72		938 22.6		
10708		9.38		
29.70		33 18.76		
31.65		+ 19.16		
33.66				
35.67	3.7921			
37.95	3.792	34 7.6		
40.00	37.92	9.4		
42.00		11.2		
44.38		13.1		
34129 46.28		563 15.0		
34129		56.3		
50.40		34 11.26		
52.30	5.4416	− 33.34		
54.38	54.42			
56.50	7584			
27208 58.50		33 18.76		
27208	33 37.920	34 11.26		
		+ 19.16		
		− 33.34		
		52.50		
7 33 0.19		1.72016		
		1.17406		
		2.89422		
		1.83639		
		8.94209 17		
		5 0 8 9		

M 55 8.60.
M 56 17.35.
R 56 17.07.
R 56 17.20.
17.21
6861

7 31 56.7

570

ℓ Argus

h m s
8 2 24

° ″
−23 87 1.17609 0.11658 0.11559
9.96090 9.96090
1.13699 0.07748

1879 Mar. 18

2 40.25		2 31.3		
42.60	44.660	33.2		
44.60	4466	35.5		
46.95		37.2		
22330 49.00		1765 39.3		
22330		1765		
53.80		2 35.30		
55.80		+ 27.38		
58.00				
0.40	2.656			
2.60	2.65	3 33.4		
4.90	2.70	35.1		
7.20		36.8		
9.50		38.9		
2390 11.70		1857 41.5		
2390		1857		
16.18		3 37.14		
18.47	2.0740	− 34.46		
20.70	2074			
23.00	6540			
10370 25.35		2 35.30		
10370	3 2.675	3 37.14		
		+ 27.38		
		− 34.46		
		61.84		
		1.79127		
		1.13699		
		2.92826		
		1.86646		
		8.93820		
		4 57.26		

M 23 2.17.
M 24 15.72.
R 24 15.75.
R 24 15.62.
1570
7353

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584

S Corvi

h m s

12 23

o " 1.17609 0.11658 0.11559

−15 49998324 9.98324

1.15933 0.09982

1879 Mar. 18

23	54.90		23	45.0	
	57.00	59290		46.9	
	58.40	59.29		48.7	
	1.50			50.2	
29645	3.65		2431	52.3	
	29645			2431	
	7.97		23	4862	
	10.05		+	27.82	
	12.10				
	14.25	16424			
	16.40	16.42	24	39.1	
	18.60	16.45		41.9	
	20.65			43.2	
	22.80			45.0	
14782	25.00		2153	46.7	
	14782			2158	
	29.30		24	4306	
	31.48	33626	−	26.62	
	33.55	3362			
	35.75	18291			
16813	38.05		23	48.62	
	16813	24 16.435	24	43.06	
			+	27.82	
			−	26.62	
				54.44	
				1.73592	
				1.15933	
				2.89525	
				1.83746	
				8.94221	
				5 0 11	

M 16 47.55

M 17 56.65

R 56.17

R 56.17

56.33

68.78

172

γ Virginis

h m s

12 35 52

o " 1.17609 0.11658 0.11559

−0 47 9.99996 9.99996

1.17605 0.11654

1879 Mar. 18

35	51.80		35	44.0	
	53.80	55884		46.1	
	55.82	55.88		47.5	
	58.03			49.1	
27942	59.97		2375	50.8	
	27942			2375	
	4.04		35	47.50	
	6.04		+	24.80	
	8.05				
	10.25	12.273			
	12.30	12.27	36	45.7	
	14.40	12.33		47.4	
	16.43			49.1	
	18.45			51.7	
11046	20.50		2468	52.9	
	11046			2468	
	24.70		36	4936	
	26.70	28.790	−	37.06	
	28.90	28.79			
	30.75	144.67			
14395	32.90		35	47.50	
	14395	36 12.300	36	49.36	
			+	24.80	
			−	37.06	
				61.86	
				12 85 34.68	1.79141
					1.17605
					2.96746
					1.91635
					8.94889
					5 4 48

M 14 10.97

M 15 33.90

R 33.25

R 33.20

33.45

82.48

0 47 265

So Auth Rl & Can Min
Bk G8 732

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174

S Virginis

h m s
12 49 30

° ′	1.17609	0.11658	0.11559
+ 4 3	9.99891	9.99891	
	1.17500	0.11549	

1879 Mar. 18

49	50.60		49 45.7	
	52.65	54.676	47.8	
	54.65	54.68	49.5	
	56.70		51.0	
27338	58.78		2470 53.0	
	27338		2470	
	2.77		49 4940	
	4.87		+ 2174	
	7.00			
	9.00	11.104		
	11.10	11.10	50 41.5	
	13.20	11.19	43.0	
	15.28		44.7	
	17.40		46.4	
9994	19.82		2246 48.0	
	9994		2246	
	23.55		50 44.92	
	25.50	27.700	− 33.78	
	27.70	27.70		
	29.75	14238		
13850	32.00		49 4940	
	13850	50 11.145	50 44.92	
			+ 21.74	
			− 33.78	
			5552	
			~~1.74194~~	1.74445
			~~1.17500~~	1.17500
			~~2.91694~~	2.91945
			~~1.86988~~	1.86988
			~~8.95294~~	8.95043
			5 5 53	
			~~5 7 39~~	

M 23 57.27
M 25 11.70
R 25 11.32
R 25 11.12
11.38
74.11

176

E Virginis

h m s
12 56 9

° ′	1.17609	0.11658	0.11559
+ 11 27	9.99101	9.99101	
	1.16710	0.00759	

1879 Mar. 18

56	28.90		56 19.0	
	31.00	3.190	20.5	
	33.20	33.19	22.0	
	35.35		23.8	
16595	37.40		1111 25.8	
	16595		1111	
	41.40		56 2222	
	43.60		+ 2778	
	45.60			
	47.80	49892		
	50.05	49.89	57 18.0	
	52.05	50.00	20.0	
	54.02		21.8	
	56.23		23.8	
44903	58.28		1101 26.5	
	44903		1101	
	2.60		57 22.02	
	4.65	6.820	− 32.02	
	6.85	6.82		
	9.00	10001		
3410	10.90		56 2222	
	3410	56 50.005	57 22.02	
			+ 27.78	
			− 32.02	
			59.80	
			1.77670	
			1.16710	
			2.94380	
			1.88395	
			8.94015	
			4 58 46	

M 50 48.22
M 52 4.60
R 52 4.80
R 52 4.32
4.57
76.53

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587

δ Virginis

h m s
13 18 49
−0 0 32

1.17609 0.11658 0.11559
9.99262 9.99262
1.16871 0.00920

1879 Mar. 18

	19 8.70		19 0.7		
	10.80	12.880	2.4		
	12.87	12.88	4.2		
	15.10		7.0		
16440	16.93		233 9.0		
	6440		233		
	21.00		19 4.66		
	23.26		+ 24.89		
	25.23				
	27.28	29.476			
	29.50	29.47	20 0.4		
	31.60	29.63	2.0		
	33.66		3.8		
	35.70		5.4		
26528	38.07		188 7.2		
	26528		188		
	42.20		20 3.76		
	44.35	46.390	− 34.21		
	46.46	46.39			
	48.45	59.27			
23195	50.50		19 466		
	23195	19 29.550	20 3.76		
			+ 24.89		
			− 34.21		
			5910		
			1.77159		
			1.16871		
			2.94030		
			1.87390		
			8.93360		
			4 54 19		

13 18 51.91

M 58 23.75
M 59 38.57
R 59 38.60
R 59 38.47
3885
74.80

10 52 3.0

277

γ Aquilae

h m s
19 40 20
+10 0 19

1.17609 0.11658 0.11559
9.99292 9.99292
1.16901 0.00950

1879 Mar. 18

	40 48.36		40 42.2		
	50.45	52.550	43.5		
	52.53	52.55	44.5		
	54.61		45.9		
26275	56.80		2236 47.5		
	26275		2236		
	0.90		40 44.72		
	2.98		+ 24.56		
	5.19				
	7.15	9.294			
	9.20	9.29			
	11.35	9.28			
	13.53				
	15.65				
8365	17.70				
	8365				
	21.87				
	23.95	26.022			
	26.05	26.02			
	28.04	138.57			
13011	30.20		40 44.72		
	13011	41 9.285	+ 24.56		

19 40 8.29

8
M 7 3.92

10 18 59.6

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280

α Aquilae

h m s
19 44 53

° ″
+ 8 23 1.17609 0.11658 0.11559
9.99515 9.99515
1.17124 0.11173

1879 Mar. 18

45 10.80 45 1.2
12.95 14,940 3.4
14.96 14,94 5.3
17.00 6.9
7470 19.00 253 8.5
7470 253
28.28 45 506
25.47 + 2660
27.52
29.60 31667
31.60 31.67 46 0.6
33.70 31.64 2.4
35.70 4.0
37.78 5.7
28500 40.15 207 8.0
28500 207
44.10 46 4.14
46.34 48342 − 32.48
48.35 48.34
50.40 6328
24171 52.52 45 5.06
24171 45 31.655 46 4.14
+ 26.60
− 32.48
5908
19 44 53.67 1.77144
1.17124
2.94268
1.82445
8.88177

4 21 20 √

10.20
M 54 ~~4.08~~
M 55 ~~10.92~~ 2730
R 55 ~~10.77~~ 26.92
R 55 ~~10.81~~ 2702
10.83 2708
66.75

8 32 49.7

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S

Sun C=46.763

h m s
23 55 23
+ 0 30

0.11658
9.99998
0.11656

0.11559

1879 Mar 19

54	33.40		55	13.4
	35.45	37.550		45.0
	37.60	37.55		46.7
	39.65			48.0
18775	41.65		2328	49.7
	18775			2328
	45.75		55	4656
	48.00		−	52.44
	50.05			
	52.03	54.146		
	54.00	54.14		
	56.18	54.10		
	58.30			
	0.40			
48731	2.60			
	48731			
	6.50			
	8.58	10656		
	10.70	10.65		
	12.75	10820		
5328	14.75		55	4656
	5328	54 54.120	−	52.44

M 41 25.77

556

α Serpentis

h m s
15 27 24
+ 17 55

1.17609
9.97841
1.15450

0.11658
9.97841
0.09499

0.11559

1879 Mar. 19

		27	—		28	8.5	
			—			10.0	
+1736	2.51	5.10	45.15			11.4	
1519	2.54	2.55	47.40			12.2	
			—		565	14.4	
						565	
867	2.37	22.16	52.70		28	11.30	
651	2.54	2.463	55.93		−	8.87	
433	2.38		58.06				
215	2.40		0.25	2467			
− 0.00	2.40		2.40	2.47	28	39.6	
216	2.54		4.70			41.4	
434	2.56		6.90			43.1	
657	2.54		9.10			44.5	
869	2.48	2220	11.17		2150	46.4	
			2220			2150	
1301	2.39	11.61	15.40		28	43.00	
1518	2.37	2.322	17.55	19.684	−	40.57	
1735	2.32		19.67	19.68			
1952	2.28		21.80				
2175	2.25	9842	24.07		28	11.30	
			9842		28	43.00	

2.443
2.429

M 21 23.75
M 22 3.70
R 22 3.45
R 22 3.50
3.55
39.80

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b

100

α Columbae

h m s
5 35 16
° ″ 0.11658 0.11559
−34 8 9.91789
1879 Mar. 17 0.03447

36 19.7
21.6
24.0
25.5
1178 27.0
1178
36 23.56
− 29.22

36 42.4

−9.98 54.32 36 54.32 4.90
14.46 54.42 271.71 9.38
17.43 54.42 54.342 11.85 14.298
14.45 54.35 14.30 14.29
22.44 54.23 16.67
25.00 54.29 7149 19.29 36 23.56
7149

54.331
54.338

M 33 12.15
M 33 34.97
R 33 35.05
R 33 34.85
34.96
22.81

κ Orionis

h m s
5 42 1
° ″ 0.11658 0.11559
−9 43 9.99372
1879 Mar. 17 0.11030

42 47.7
49.7
51.7
53.3
2575 55.1
2575

+8.37 40.07 42 31.70 42 51.50
6.28 39.98 361.27 33.70 − 11.37
4.19 40.09 40.141 35.90
2.07 40.12 38.05 40.144
−0.00 40.20 40.20 40.14 43 12.2
2.09 40.26 42.35 13.6
4.19 40.11 44.30 15.4
6.28 40.22 46.50 16.9
8.38 40.22 36130 48.60 771 19.0
36130 771
12.56 40.14 200.60 52.70 43 15.42
14.65 40.15 40.14 54.80 56880 − 35.29
16.75 40.20 56.95 56.88
18.84 40.11 58.95
21.00 40.00 28440 1.00 42 51.50
28440 43 15.42

40.140
40.133

M 10 7.80
M 10 39.72
R 40.00
R 39.90
39.87
32.07

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102

α Orionis

h m s				
5 48 37		1.17609	0.11658	0.11559
° ″		9.99638	9.99638	
+7 23		1.17247	0.11296	

1879 Mar. 19

48	56.03		48	45.8
	58.20	0.26		47.5
	0.25	0.26		49.3
	2.32			51.0
130	4.50		2461	52.5
	130			2461
	8.55		48	49.22
	10.55			
	12.65			
	14.72	16843		
	16.87	1684	49	40.1
	18.88			42.1
	21.00			43.8
	23.10			45.6
15159	25.27		2195	47.9
	15159			2195
	29.30		49	43.90
	31.41			
	33.50			
	35.55			
	37.70		48	49.22
			49	43.90
				5468

5 48 39.98

1.17383
1.17247
2.91030
1.86094
8.95064
5 6 5

M 9 57.72
M 5 10.20
R 5 10.27
R 5 10.50
1032
7260

7 22 58.2

381

36 Camel

h m s					
6 0 40	0.11658		0.11559		
° ″					
+65 44	9.61382				
1879 Mar. 19	9.73040				

1	3.8		0	11.4	0	55.4	2	2.4
	8.5			13.7		58.7		6.2
	13.6			18.9		3.3		10.8
	18.5	23.56		23.5		7.4		15.6
	23.6			26.4	3163	11.5	552	20.2
	28.6		939	939		3163		552
	33.5		0	18.78	1	3.26	2	11.04
	38.5		+1	4.78	+	20.30	−	47.48
	43.4							
	2120							
1	2356		2	49.6				
				54.1				
				59.7		59.1		
				4.1				
			2959	8.4				
				2959				
			2	59.18				
			−1	35.62				
			0	18.78	1	3.26	2	11.04
			−2	59.18				

M 43 27.47
M 43 50.90
M 44 26.92
M 44 51.35

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383

22 H. Cancri

h m s
6 5 30
° ′ ″ 0.11658
+69 21 9.54735
9.66393

0.11559

1879 Mar. 17

5	51.1		4 46.6	5 46.9	6 49.8		
	36.9		52.0	52.5	53.6		
	2.8		56.2	56.5	58.6		
	8.5	~~27800~~	0.4	0.5	2.8		
	14.5	14.47	2608 5.6	2825 6.1	2932 8.4		
	20.2		2808	2825	2932		
	26.2		4 56.16	5 56.50	6 58.64		
	32.0		+1 1831	+ 17.97	− 44.17		
13	38.0						
	~~25~~02						
	~~27~~80		7 41.7				
6	14.47		46.0				
			51.7	51.6			
			56.2				
			2582 2.6				
			2582				
			7 51.64				

4 56.16 5 56.50 6 58.64
7 51.64

M 5 76 18.50
M 5 46.10
M 527 14.80
M 32 38.20

256

S Urs. Min. Lo. 6.

h m s
18 11 22
° ′ ″ 0.11658
+93 24 9.99923
0.11581

0.11559

1879 Mar. 17

	—		10 13.4	10 46.6	11 36.8	
	—					
10	23.3	1 9.51	11 32.81			
	36.5	3474	11 3124			
11	22.1	−001	11 32.09			
12	6.2	3481	11 3149	11 32.13		
	42.4	1 9.61	11 32.79			
13	18.0	1 4434	11 3366			
	60.3	2 19.50	11 3080			
			12 28.7	13 36.0	14 53.5	
			11 32.126			

M 5 43.45 .
M 38.47 .
M 29.82 . S just for this wire

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570

ι Argus.

h m s
8 2 24
0 " 1.17609 0.11658 0.11559
− 23 57 9.96090 9.96090
1.13699 0.07748
1879 Mar. 17

2	40.45		2	35.3	
	42.70	44982		37.7	
	45.00	44.98		40.7	
	47.20			42.0	
22491	49.56		1993	43.6	
	22491			1993	
	54.05		2	39.86	
	56.25		+	23.14	
	58.48				
	0.70	2996			
	2.79	299	3	38.7	
	5.29	3.02		36.3	
	7.60			38.7	
	9.80			41.0	
2696	12.00		1929	43.2	
	2696			1929	
	16.60		3	38.58	
	18.75	21.074	−	35.58	
	21.13	21.07			
	23.32	12665			
10537	25.57		2	39.86	
	10537	3 3.006	3	38.58	
			+	23.14	
			−	3.558	
				5872	
				1.76879	
				1.13699	
				2.90578	
				1.85564	
				8.94986	
				5 5 29	

M 23 55.2 '
M 24 17.17 "
R 24 17.35 "
R 24 17.20 "
17.24
71.72

146

α Leonis

h m s
10 1 56
0 " 0.11658 0.11559
+ 12 23 9.98950
0.10608
1879 Mar. 17

2	15.60		2	7.7	
	17.70	19876		9.3	
	19.90	19.87		11.3	
	21.98			13.5	
9938	24.20	24.10	567	14.9	
	9938			567	
	28.32		2	11.34	
	30.38		+	25.41	
	32.50				
	34.60	36733			
	36.70	36.73			
	38.90	36.77			
	41.00				
	43.00				
33060	45.20				
	33060				
	49.40				
	51.60	53680			
	53.70	5368			
	55.75	7355			
26840	57.95		2	1134	
	26840		2	36.760	+ 25.41
			+	.005	
				36.745	
			18	1 58.46	

R 53 51.52 '
R 53 51.67 "
51.59

12 33 16.7

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584

S Corvi

h m s
12 23 -

° " 2.17609 0.11658 0.11559
-15 49 9.98324 9.98324
1:15933 0.09982

1879 Mar. 19

5528	23 55.70		23 47.4		
	57.75	59.900	49.6		
	0.05	5990	51.8		
	2.00		53.4		
29950	4.00		2572 55.3		
	29950		2572		
	8.35		23 51.44		
	10.48		+ 25.49		
	12.60				
	14.70	16884			
	16.85	1688	24 49.5		
	19.00	17.03	51.7		
	21.20		53.7		
	23.30		55.7		
15196	25.48		2686 58.0		
	15196		2686		
	27.70		24 53.72		
	32.00	34.156	- 36.79		
	34.25	34.16			
	36.28	15406			
17078	38.45		23 51.44		
	17078	24 16.955	24 53.72		
		-.021	+ 25.52		
		16.934	- 36.76		
			6.28		
			1.79435		
			1.15933		
			2.98368		
			1.90069		
			8.94701		
			5 3 30		

M 16 50.12
M 18 9.47
R 18 9.70
R 18 9.87
9.68
79.56

585

β Corvi

h m s
12 28 2

" 1.17609 0.11658 0.11559
-22 44 9.96488 9.96488
1:14097 0.08146

1879 Mar. 19

	28 20.20		28 16.5		
	22.32	24.614	18.6		
	24.67	24.61	20.6		
	26.82		21.9		
12307	28.96		1012 23.6		
	12307		1012		
	32.60		28 20.24		
	35.70		+ 2225		
	38.05				
	40.27	42503			
	42.54	4250	29 3.8		
	44.80	42.48	6.0		
	46.90		7.8		
	49.20		9.6		
38253	51.47		392 12.0		
	38253		392		
	53.80	0.360	29 7.84		
	56.15	2.600	- 25.35		
	0.40	0.36			
	2.60	8497			
30180	4.85		28 20.24		
	180	28 42.490	29 7.84		
			+ 22.25		
			- 25.35		
			4760		
			1.67761		
			1.14097		
			2.81858		
			1.76072		
			8.94214		
			5 0 8		

M 9 30.87
M 10 28.67
R 10 28.50
R 10 28.37
2857
5764

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172

γ Virginis

h m s
12 35 52
° " 0.11658
−0 47 9.99996
0.11654

0.11559

1879 Mar. 19

35	52.05		35	48.9	
	54.60	56160		52.6	
	56.17	56.16			
	58.18				
28080	0.40				
	28080				
	4.30				
	6.60				
	8.85				
	10.60	12667			
	12.65	12.66	36	48.5	
	14.70	12.71		52.4	
	16.85				
	18.85				
11400	21.00				
	11400				
	25.00				
	27.20	29.264			
	29.35	29.26			
	31.40	1.45.42			
14632	33.37				
	14632	36 12.685			

12 35 84.64

M	14	15.80	.
M	15	33.30	.
R	15	33.45	.
R	15	33.75	.
		33.50	
		77.70	

0 47 25.5

174

β Virginis

h m s
12 49 30
° " 0.11658
+ 4 3 9.99891
0.11549

0.11559

1879 Mar. 19

49	50.90		49	47.6	
	52.90			49.3	
54.78	55.10	55.000		51.3	
	57.00			53.4	
27500	59.10		2564	54.8	
	27500			2564	
	3.20		49	51.28	
	5.30		+	20.23	
	7.30				
	9.50	11.524			
	11.55	11.52			
	13.62	11.50			
	15.70				
	17.75				
10372	19.80				
	10372				
	23.88				
	25.95	28.000			
	27.80	28.00			
	30.00	12.300			
14000	32.17		49	51.28	
	14000	50 11.510	+	20.23	
		+.034			
		11.544			

M	23	59.52	.
M	25	14.82	.
R	25	14.92	.
R	25	14.80	.
		14.85	
		75.33	

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176

ε Virginis

h m s
12 56 9
° ′ ″ 1.17609 0.11658 0.11559
+ 11 37 9.99101 9.99101
1.16710 0.00759

1877 Mar. 17

56	29.32		56	19.5	
	31.50	33560		21.6	
	33.65	3356		22.8	
	35.63			24.0	
16780	37.70		1129	25.0	
	16780			1129	
	42.00		56	2258	
	44.00		+	27.80	
	46.10				
	48.30	50389			
	50.40	50.39	57	18.6	
	52.40	50.38		20.8	
	54.65			22.7	
	56.80			25.0	
45350	58.85		1136	26.5	
	45350			1136	
	2.90		57	2272	
	5.10	7206	−	32.34	
	7.20	7.20			
	9.35	19076			
3603	11.48		56	2258	
	3603	56 50.385	57	2272	
			+	27.80	
			−	32.34	
				6014	
				1.77916	
				1.16710	
				2.94626	
				1.88885	
				8.94259	
				5 0 34 26	

M	50	47.45	
M	52	44.92	
R	52	4.92	
R	52	4.77	
		4.87	
		77.42	

587

ℓ Virginis

h m s
13 18 49
° ′ ″ 1.17609 0.11658 0.11559
−10 32 9.99262 9.99262
1.16871 0.00920

1877 Mar. 17

19	8.80		19	12.1	
	10.90	13020		14.2	
	13.00	13.02		16.3	
	15.20			18.5	
6510	17.20		814	20.3	
	6510			814	
	21.50		19	16.28	
	23.70		+	13.56	
	25.70				
	27.80	29.872			
	29.90	29.87	19	29.84	
	31.90	29.82		1.2	
	33.95			3.6	
	36.00			5.7	
26885	38.40		178	7.9	
	26885			178	
	42.30		20	3.56	
	44.50	46630	−	33.72	
	46.60	46.63			
	48.85	5965			
23315	50.90		19	16.28	
	23316	19 29.845	20	3.56	
			+	13.56	
			−	33.72	
				4728	
				1.67468	
				1.16871	
				2.84339	
				178061	
				893722	
				4 56 46	

M	58	38.82	
M	59	39.32	
R	59	39.05	
R	59	39.10	
		39.16	
		60.34	

10 32 8.1

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277

γ Aquilae

h m s
19 40 30

	° ′	1.17609	0.11658
+	10 19	9.99292	9.99292
		1.16901	0.00950

1879 Mar. 19

40	48.88		40	47.8	
	50.95	52.956		49.8	
	52.95	5298		51.7	
	55.10			53.5	
1478	52.00		2582	55.4	
	26478			2582	
	1.20		40	5164	
	3.40		+	18.02	
	5.55				
	7.60	9.664			
	9.70	9.66	41	43.9	
	11.73	9.66		45.6	
	13.85			47.7	
	15.95			49.1	
8698	18.10		2376	51.3	
	8698			2376	
	22.20		41	47.52	
	24.25	26362	−	37.86	
	26.38	2636			
	28.48	13932			
13181	30.50		40	51.64	
	13181	41 9.660	41	47.62	
			+	18.02	
			−	37.86	
				58.88	

19 40 81.32

	1.74726	
	1.16901	
	2.91627	
	~~1.87674~~	1.85303
	896047	893676
	~~513 0~~	45627

M 8 15.12
M 9 26.20
R 9 26.67
R 9 26.35
2641
7129

10 18 59.6

0.11559

280

α Aquilae

h m s
19 44 53

	° ′	1.17609	0.11658
+	8 33	9.99515	9.99515
		1.17124	0.11173

1879 Mar. 19

45	11.20		45	4.9	
	13.22	15.340		6.4	
	15.39	15.34		7.8	
	17.39			9.6	
7670	19.50		401	11.4	
	7670			401	
	23.65		45	8.02	
	25.70		+	23.96	
	27.80				
	29.90	31.976			
	31.95	3198	45	57.7	
	34.05	31.99		58.9	
	36.20			1.5	
	38.20			3.0	
28778	40.33		57	4.6	
	28778			57	
	44.50		46	1.14	
	46.55	48644	−	29.16	
	48.62	48.64			
	50.70	6398			
24322	52.85		45	8.02	
	24322	45 31.985	46	1.14	
			+	23.96	
			−	29.16	
				53.12	

19 44 5860

	1.72526
	1.17124
	2.89650
	1.84578
	8.94928
	5 5 5

M 54 12.70
M 55 23.12
R 55 22.40
R 55 22.92
2281
7011

8 82 49.7

0.11559

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283

β Aquilae

h m s
19 49 22
° ″ 0.11658 0.11559
+6 6 9.99753
0.11411

1879 Mar. 19

+26.76	1.46	49	40.85		49 37.3	
18.67	1.47	7.45	42.80		38.9	
16.61	1.51	1.49	44.90	44.88	40.3	40.4
14.53	1.41		46.85		42.0	
12.45	1.42	2443	49.00		2022 43.7	
					2022	
					49 40.44	
					+ 21.05	

49 40.44

1.490

M 20 52.27
M 20 51.92
52.09
0.18

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8

Sun $c = 46.763$

h m s
23 59 1

0.11559

1879 Mar. 20

58	12.48		59	15.1	0	21.00		59	38.0	2	12.68		2	5.4	
	14.40	16570		17.0		23.00	25120		40.4		14.76	16832		7.0	
	16.45	16.51		19.0		25.20	25.12		42.2		16.87	16.83		8.7	
	18.60			20.6		27.20			43.8		18.85			10.5	
8255	20.62		941	22.4	2560	29.20		2102	45.8	8416	21.00		439	12.3	
	8255			941		12560			2102		8416			439	
	24.65		59	1882		33.42		59	4204		25.00		2	8.78	
	26.80		−	45.82		35.45		−	59.68		27.25		+	24.59	
	28.90					37.51					29.25				
	30.97	32994				39.70	41.726				31.30	33368			
	33.00	32.99				41.70	41.72				33.35	33.37	3	6.5	
	35.00	33.00				43.75	41.71				35.38	33.37		8.1	
	37.15					45.95					37.48			9.8	
	39.18					48.00					39.60			11.3	
29695	41.30				37553	50.05				30031	41.70		487	13.0	
	29695					37553					30031			487	
	45.40					54.20					45.80			3 9.44	
	47.42	49504				56.27	58.314				47.90	49910		− 3637	
	49.45	49.50				58.30	58.31				50.00	49.91			
	51.60	6601				0.30	8343				51.85	6674			
24752	53.65		59	18.82	29157	2.50		59	42.04	24955	54.00		2	8.78	
	24752	58 32.995	−	45.82		29157	0 41.715				24955	.2 33.370	3	9.74	
												−2 51.66	+	2459	
													−	3637	
														6096	
														1.78504	
														1.17426	
														2.95930	
														1.90151	
														8.94221	
														5 0 11	

M 51 30.72

M 50 15.55

M 41 19.45
M 42 39.05
R 42 38.90
R 42 39.52
39.16
79.71

84

β Eridani

h m s
5 1 54
0 " 0.11658 1.17609 0.11559
5 15 9.99817 999817
0.11475 1.17426

1879 Mar. 20

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87

β Orionis

h m s
5 8 43
° ″ 1.17609 0.11658 0.11559
-8 21 9.99537 9.99537
1.17146 0.11195

1879 Mar. 20

9	1.70	8	52.2
	3.98	5.952	53.8
	5.86	5.95	55.4
	8.00		57.1
2976	10.12		2779 59.4
	2976		277.9
	14.35		8 55.58
	16.38		+ 27.04
	18.38		
	20.55	22.618	
	22.50	22.62	9 58.8
	24.70	22.62	0.6
	26.70		1.9
	29.00		3.7
20356	31.00		105 5.5
	20356		31.05
	35.10		10 2.10
	37.27	39.304	÷ 39.48
	39.27	39.30	
	41.40	4525	
19652	43.48		8 55.58
	19652	9 22.6520/57	10 2.10
			+ 27.08 4
			− 39.48 8
			66.52
5 8 44.64			1.82295
			1.17146
			2.99441
			1.93278
			8.93837
			4 57 33

M	47	4.80	
M	48	30.17	
R	48	30.50	
R	48	30.70	
		30.46	
		85.66	

8 20 37.7

91

γ Orionis

h m s
5 18 38
° ″ 0.11658 0.11559
+ 6 14 9.99742
0.11400

1879 Mar. 20

			18	—		19	13.3
				—			15.3
54.38	14.41	18.12		1.52			17.4
18.126	14.53	18.13		3.60			19.4
	12.44	18.13		5.65		864	21.0
							864
163.82	8.30	18.10		9.90		19	17.28
18.202	6.23	18.23		12.00		−	59.11
	4.15	18.15		14.00			
	2.05	18.26		16.20	18.216		
	−0.10	18.24		18.29	18.27	19	44.6
	2.07	18.23		20.30			46.2
	4.15	18.25		22.40			48.0
	6.23	18.14		24.37			49.4
	8.30	18.15		26.48		2394	51.2
		16394		16394			2394
90.76	12.35	18.15		30.60		19	47.88
18.152	14.52	18.18		32.70	34.760	−	29.71
	16.60	18.15		34.75	34.36		
	18.68	18.17		36.85			
	20.79	17180		38.90		19	17.28
				17380		19	47.88

18.160
18.174

M	13	9.70	
M	13	50.50	
R	13	50.87	
R	13	50.70	
		50.69	
		40.99	

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556

α Leporis

h m s
5 27 24
− 17 15

1.17609 0.11658 0.11559
9.98001 9.98001
1.15610 0.09659

1879 Mar. 20.

27	41.00		27	25.9	
	43.25	45390		37.5	
	45.50	45.39		39.0	
	47.60			41.4	
22695	49.60		1965	42.7	
	22695			1965	
	54.04		27	39.30	
	56.30		+	23.44	
	58.50				
	0.65	2804			
	2.75	2.80	28	30.2	
	4.90	2.69		31.9	
	7.25			33.8	
	9.35			35.5	
3524	11.50		1682	36.8	
	2524			1682	
	15.80		28	33.64	
	17.80	2000	−	30.90	
	20.05	20.00			
	22.20	12539			
10000	24.35		27	39.30	
	10000		28	33.64	
			+	23.44	
			−	30.90	
				5434	
				1.73512	
				1.15610	
				2.89122	
				1.82827	
				8.93705	
				4 66 39	

M	20	44.55	
M	21	51.80	
R	21	51.90	
R	21	51.97	
		51.89	
		67.34	

100

K Orionis

h m s
5 42 1
− 9 43

1.17609 0.11658 0.11559
9.99372 9.99372
1.16981 0.11030

1879 Mar. 20

42	19.62		42	10.3	
	21.70	23814		11.9	
	23.90	23.81		13.9	
	25.90			15.7	
11907	27.95		691	17.3	
	11907			691	
	31.98		42	1382	
	34.25		+	26.63	
	36.37				
	38.40	40778			
	40.37	4037	43	11.0	
	42.45	40.51		12.5	
	44.68			14.0	
	46.90			15.6	
36430	48.90		703	17.2	
	36430			703	
5315	53.00		43	14.06	
	55.20	57210	−	33.61	
	67.25	57.21			
	59.20	8102			
78605	1.40		42	1382	
	28605		42	40.446	
				+007	
				40.447	
			43	14.06	
			+	26.62	
			−	33.62	
				6024	
				1.77988	
				1.16981	
				2.94969	
				1.89276	
				8.94807	
				5 0 46	

M	9	18.95	
M	10	37.02	
R	10	37.22	
R	10	36.97	
		3707	
		7812	

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102

α Orionis

h m s
5 48 37
o ″ 1.17609 0.11658 0.11559
+ 7 23 9.99638 9.99638
1.17247 0.11296

1879 Mar. 20

48 52.40 48 48.6
55.55 0.57 50.2
0.60 51.8
2.60 53.6
280 4.70 2592 55.0
285 2592
8.80 48 51.84
10.90 + 2524
13.50
15.20 17.60
17.15 17.16 49 45.3
19.24 17.00 47.3 4898
21.30 48.9 48.9
23.35 50.6
15444 25.50 2449 52.8
15444 2449
28.63 49 48.98
31.76 33.854 − 31.90
33.85 33.45
35.85 3401
1727 38.03 48 5184
16927 49 17.080 49 48.98
+ 26.24
− 31.90
5714
5 48 39.96 1.75694
1.17247
2.92941
1.86923
8.93982

4 58 32

M 4 1.75
M 5 15.57
R 5 15.80
R 5 15.87
1575
7400

7 32 58.2

485

35 Draconis - L.C.

h m s
17 54 52
o ″ 0.11658 0.11559
+ 103 2 9.98867
0.10525

1879 Mar. 20

54 48.0 55 2.5 56 8.1 57 9.8
57.4 12.7 17.0 20.4
6.1 17.8 23.9 28.7
16.0 2478 28.2 32.2 36.4
24.5 1011 37.9 1194 38.2 1382 42.9
34.0 1011 1194 1382
43.0 55 2022 56 2388 57 2764
52.0 + 449 −0 59.17 −2 293
32.24 1.4
2224
55 24.71
55 20.22 56 23.88 57 27.64

M 28 19.75
M 28 1.10
M 28 45.67
M 28 39.40

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381

36 Camel

h m s
6 0 40
° ' "
+ 65 44

0.11658
9.61382
9.73040

0.11559

1879 Mar. 20

1 3.9		0 11.2	1 1.0	1 56.3
9.0		14.8	5.2	0.7
14.0		19.0	9.7	5.0
19.0	2399	22.0	14.6	9.0
24.0		946 27.6	490 18.5	244 13.4
29.0		946	490	244
34.0		0 1892	1 980	2 488
39.0		+1 5.07	+0 1419	−0 4089
2159 44.0				
2159				
1 2399		2 43.5		
		46.3		
		51.2	51.4	
		54.4		
		2572 1.8		
		2572		
		2 5144		
		−1 2745		
		0 1892	1 9.80	2 4.88
		2 51.44		

M 43 25.15
M 43 53.35
M 43 22.57
M 44 45.92

383

22 H. Camel

h m s
6 5 30
° ' "
+ 69 21

0.11658
9.54735
9.66393

0.11559

1879 Mar. 20

5 51.5		4 43.7	5 29.4	6 45.6
57.3		46.4	33.3	50.0
3.2		48.8	38.7	55.7
8.9	1489	52.0	43.0	1.0
15.0		2471 56.2	1926 48.2	2777 5.4
20.8		2471	1926	2777
26.5		4 4942	5 3852	6 5554
32.4		+1 2547	+0 3637	−0 4065
0 38.4				
1340				
6 1489		7 23.2		
		27.7		
		32.3	32.9	
		38.4		
		1648 43.2		
		1648		
		7 3296		
		−1 1807		
		4 49.42	5 38.52	6 55.54
		7 32.96		

M 6 12.17
M 6 37.10
M 7 12.65
M 7 28.37

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256

S Ves Mon Lo. C.

h m s
18 11 22
° " 0.11658
+ 93 24 9.99923
0.11581

0.11559

1879 Mar. 20

	—		12 1.7	12 40.7	13 31.8	
	—					
	—					
10	57.6	34.74	11 29 34			
11	30.5	−001	11 30.49			
12	5.4	34.81	11 30 59	11 29.73		
	39.3	1 9.61	11 29 69			
13	14.3	1 44.34	11 29 96			
	48.5	2 19.50	11 29.00			
			14 10.1	15 20.4	16 41.4	

M 5 35.87
M 33.00
M 29.45
M 26.70
M 22.77
M 17.80

259

Draconis Lo. C.

h m s
18 28 14
° " 0.11658
+ 104 20 9.97982
0.09640

0.11559

1879 Mar. 20

23	20.1		22 55.9	24 4.8	24 41.4	
	26.9		1.0	11.3	49.0	
	34.1		8.0	16.8	55.4	
	41.1	47,900	13.5	21.7	59.0	
	48.1		367 18.3	785 27.9	2712 6.4	
	54.8		367	925	2712	
	1.7		23 73 4	24 1650	24 54 24	
	8.7		+0 4056	−0 2860	−1 634	
	15.6					
	43 11					

23 7.34 24 15.70 24 54.24

M 11 6.22
M 10 38.15
M 10 23.20

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1879phae.proj.1601.

491

Gr. 2640 Le. 16.

h m s
18 85 50
0 " 0.11658 0.11539
+ 114 38 9.95856
0.07514

1879 Mar. 20

36	6.0	34 59.3	36 3.2	37 17.9	
	11.0	4.9	7.0	22.1	
	15.9	9.1	10.3	25.7	
	20.8	12.8	14.8	30.2	
	25.8	431 17.0	540 18.7	1306 34.7	
	30.8	~~432~~	540	1,306	
	35.7	431	36 10,80	37 26,12	
	40.7	345 8,62			
	45.7	+1 17.20	+0 15.02	-1 6.30	
	2324				
36	25,82				

35 8,62 36 10,80 37 26,12

M 54 32.30 -
M 53 56.55 -
M 53 17,62 -

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1879phae.proj.1501.

584

S

Sun. C=46.761

S Corvi

h m s
0 9 57

h m s
12 23 —

0 ′ ″ 0.11658
+ 1 5 9.99992
0.11650

0 ′ ″ 0.11658
−15 47 9.98324
9.09982

0.11559

0.11559

1879 Mar. 23

1879 Mar. 23

7 8.90
11.15 13.174
13.25 13.17
15.27
6587 17.30
6587
21.40
23.50
25.60
27.80 29.703
27.68 29.71
31.77 29.68
33.85
35.88
26736 37.85
26736
42.05
44.05 46.192
46.27 46.19
48.20 5936
23096 50.39
23096 9 29.695 +0 46.12

10 11.7 11 — 10 46.2
13.9 — 49.3
76.78 15.9 — 50.6
38.340 17.8 — 52.9
191 19.8 — 55.0
791 2540 55.0
10 50.80
10 1 5.82 +0 47.51
−0 46.12
344.71
38.301
191.47
38.244
10 15.82 27.04 58.95 10 50.80
27404
38.328
38.310

24 —
24 48.2
50.3
53.4
55.0
2638 55.9
2608
24 52.76
−0 34.30
24 52.76

M 6 32.20

M 39 28.05

M 18 7.95
M 18 8.45
8.20
0.25

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1879phae.proj.1601.

585

β Corvi

h m s
12 28 2

° ″ 1.17609 0.11658
-22 44 9.96488 9.96488
1.14097 0.08146

1879 Mar. 23

28	21.80		28	13.7	
	23.90	26186		15.7	
	26.18	26.18		18.1	
	28.60			20.3	
13093	31.55		900	22.2	
	13093			19900	
	34.00		28	18.00	
	37.40		+0	26.05	
	39.66				
	41.77	44.064			
	44.05	44.06	29	15.5	
	46.38	44.04		17.5	
	48.50			19.6	
	51.82			21.4	
39658	53.80		976	23.6	
	39658			976	
	57.40		29	19.52	
	59.65	1900	−0	35.47	
	1.88	190			
	4.07	8808			
950	6.50		28	18.00	
	950	28 44.050	29	19.52	
			+	26.05	
			−	35.47	
				61.52	
				1.78902	
				1.14097	
				2.92999	
				1.86717	
				893718	
				4 56 44	

M	9	39.20	
M	10	42.80	
R	10	42.77	
R	10	42.97	
		4285	
		7365	

0.11559

172

γ Virginis

h m s
12 35 32

° ″ 0.11658
−0 47 9.99996
0.11654

1879 Mar. 23

35	53.51		35	47.4	
	55.60	57.698		50.4	
	57.60	57.69			
	59.77				
28846	1.95				
	28849				
	6.00				
	8.00				
	10.15				
	12.18	14.194			
	14.20	14.18	36	50.3	
	16.20	14.17		53.9	
	18.35				
	20.30				
12775	22.47				
	12775				
	26.53				
	28.65	30650			
	30.65	30.65			
	32.65	14834			
15325	34.77				
	15325		36	14.175	

12 35 34.68

M	14	12.50	
M	15	35.02	
R	15	34.54	
R	15	34.50	
		34.70	
		82.20	

0.11559

0 47 25.7

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174

S Virginis

h m s
12 49 30
° ′ ″
+4 3 9.99891

1.17609 0.11658 0.11559
9.99591
1.17500 0.11549

1879 Mar. 23

49	52.50		49 48.4	
	54.50	56546	50.6	
	56.50	56.54	52.0	
	58.55		53.8	
28273	0.68		2604 55.7	
	28273		2604	
	4.75		49 52.08	
	6.81		+ 20.97	
	8.90			
	11.00	12920		
	13.10	1303	57 42.8	
	15.00	13.07	44.7	
	17.20		46.5	
	19.30		48.3	
11727	21.32		2323 37.0	
	11628		2393	
	25.50		50 47.86	
	27.56	29616	− 34.81	
	29.65	29.61		
	31.65	14615		
14808	33.73		49 52.08	
	14808	50 13.050	50 46.46	
			+ 20.97	
			− 33.41	
			5438	
			1.73544	
			1.17500	
			2.91044	
			1.84874	
			8.93830	
			4 57 30	

M	23	59.87	
M	25	10.80	
R	25	10.17	
R	25	10.27	
		1041	
		7259	

176

E Virginis

h m s
12 56 9
° ′ ″
+11 37 9.99101

1.17609 0.11658 0.11559
9.99101
1.16710 0.00759

1879 Mar. 23

56	30.90		56 23.7	
	32.90	35022	25.5	
	35.01	35.02	27.2	
	37.10		29.0	
17511	39.20		1366 31.2	
	17510		1366	
	43.47		56 27.32	
	45.55		+ 2456	
	47.75			
	49.85	51924		
	52.00	51.92	57 24.8	
	54.00	51.84	26.4	
	56.20		28.2	
	58.35		29.8	
46732	0.35		1408 31.6	
	46732		1408	
	4.50		57 28.16	
	6.62	8664	− 36.28	
	8.70	866		
	10.70	10368		
4332	12.80		56 27.32	
	4332	56 51.880	57 28.16	
			+ 24.56	
			− 36.28	
			6084	
			1.78419	
			1.16710	
			2.95129	
			1.89042	
			8.93913	
			4 58 4	

M	50	52.62	
M	52	10.65	
R	52	10.12	
R	52	10.20	
		1032	
		7270	

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587

α Virginis

h m s
13 18 49

° "	1.17609	0.11658	0.11559
−10 32	9.99262	9.99262	
	1.16871	0.00920	

1879 Mar. 23

19	10.38			19	2.4									13	47.6
	12.50	14.606			3.8										49.5
	14.59	14.60			5.6										51.2
	16.73				7.7										53.3
7303	18.33			2859.0										2578	57.2
	7303				285										2578
	22.81			19	5.70									13	51.56
	24.90			+	25.64									+	25.20
	27.10														
	29.20	31.299													
	31.28	31.29		20	0.8										
	33.50	31.38			2.9										
	35.50				4.8										
	37.60				6.5										
28169	39.80				229 7.9										
	28169				229										
	43.95			20	4.58										
	46.05	48.170		−	33.24										
	48.18	48.17													
	50.27	6277													
24085	52.40			19	5.70										
	24085	19	31.335	20	4.58										
				+	25.64										
				−	33.24										
					58.88										
	13 18 51.88				1.76997										
					1.16871										
					2.93868										
					1.87610										
					8.93742										
					4 56 64										

M 58 24.95.
M 59 39.42.
R 59 39.30.
R 59 38.97.
39.23
75.18

10 32 8.5

S

Sun. C = 46.761

h m s
0 13 85

	∴ 0.11658	0.11559
+	ι 289.99986	
	0.11644	

1879 Mar. 24

11	47.25	+20.65	−7.80	7.80	14	—								13	47.6
	—			7.80		—									49.5
	—					—									51.2
	—					—									53.3
	—					—								2578	57.2
	—					—									2578
	—					—								13	51.56
	—					—								+	25.20
	—					—									
	—			+	2.64	16.54	10.661	14.50							
	—			−	5.00	16.75	16.76	16.75							
	—				2.06	16.84		18.90							
	—				4.13	16.72		20.85							
	—				6.19	16.81		23.00							
	—				8.27	16.95		25.22							
					12										
	—				12.38	16.62	83.76	29.00							
	—				14.45	16.78	16.752	31.23	33.280						
	—				16.52	16.83		33.35	33.28						
	—				18.58	16.82		35.40							
	—				20.71	16.71	16640	37.42						13	51.56
								16640							

/ 16.760
16.761

M 45 8.10.

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S

Sun.

h m s
0 17 13
+ 1 52 0.11658 9.99977 0.11635

1879 Mar. 25

16	25.68			17	28.5		18	34.68			18	15.4	20.64	20.29	18	59.60		18	58.7
	27.78	29886			30.7			36.35	38.566			17.6	18.56	14.74		99.26	1.20	3354	0.5
	29.90	29.84			32.4			38.60	38.56			19.7	16.51	19.86		19.852	3.35		2.4
	32.05				34.1			40.60				21.5	19.45	19.77			5.32		4.0
14943	34.12			1619	36.2		19283	42.60			975	23.3	12.38	19.38		1677	7.30		112 5.6
	14943				1619			19283				975					1677		112
	38.30			17	3238			46.37			18	19.50	8.25	14.85		118.72	11.60		1892.24
	40.50				45.94			48.34			+	35.58	6.19	19.79		19.786	13.60		+ 1 17.69
	42.27							50.84					4.11	19.81			15.70		
	44.38	46467						53.00	55.071				2.04	19.79			17.70		
	46.50	4647						55.60	55.07								—		20 1.1
	48.75	46.41						57.17	55.08								—		—
	50.70							59.22									—		—
	52.62							1.27					6.19	19.79			25.98		—
41820	54.68						49564	3.33					8.26	19.79			28.10		—
	41820							49564									—		19 224
	56.75							7.48					12.38	19.97		59.84	32.25		
	0.88	2956						9.50	11.600				14.44	19.68		19.63	34.42		
	3.00	29.5						11.62	11.60				16.51	19.94			36.45		
	5.15	9283						13.60	11016								—		
1478	7.10			17	3238		5800	15.80			18	19.50					—		19 224
	1478	16	46.440	−	45.94			5800	18	55.075	+	35.58							

19.866
19.848

M 19 20.35.

M 52 32.00.

M 12 14.40.
M 14 6.15.
R 14 6.22.
R 14 6.12.
6.16
76.76

91

γ Orionis

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5 18 38
+ 6 14 0.11658 9.99742 0.11400

1879 Mar. 26

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484

γ Draconis L.C.

h m s
17 44 5
+ 107 48 " 0.11658 9.97870 0.09528

1879 Mar. 25

0.11559

43	16.4			41	17.0	43	3.4		44	2.5									
	23.0						9.0			5.8									
	29.7						13.2			9.6									
	36.3	4307					20.3			15.2									
	42.8					735	27.6		555	22.4									
	49.6						735			555									
	56.2					43	1470		44	11.10									
	3.4					+	2637		−	2803									
	10.2																		
	3876																		
				44	49.0														
					52.9														
					1.2		5886												
					6.0														
				2943	11.2														
					2940														
				−	46.36														
						43	14.70		44	11.10									
				44	58.86														

M 42 38.12 .
M 42 16.87 .
M 42 57.65 .

102

α Orionis

h m s
5 48 37
+ 7 ° " 1.17609 0.11658
23 9.99638 9.99638
1.17247 0.11296

1879 Mar. 25

0.11559

41	57.93					47	50.9												
	0.05	2120					54.4												
	2.05	2.12					54.3												
	4.27						57.4												
1060	6.30					2722	58.2												
	1060						2722												
	10.80					47	54.44												
	12.62					+	24.82												
	14.68																		
	16.70	18763																	
	18.70	18.76				48	45.2												
	20.80	18.77					46.8												
	22.87						48.7												
	24.90						50.4												
16887	27.03					2433	52.2												
	16887						2433												
	31.27					48	4866												
	33.80	35418				−	29.90												
	35.42	35.42																	
	37.50	3754																	
2709	39.60					47	54.44												
	1709	47	18.765			48	48.66												
						+	~~35.68~~	+ 2432											
						−	~~2940~~	− 2990											
							~~6588~~	5422											
							~~1.81677~~	1.73416											
							~~1.17247~~	1.17247											
							~~2.98924~~	2.90663											
							~~1.85156~~	1.85156											
							~~8.86232~~	8.94493											
							5 2 3												
							~~4 9 56~~												

5 48 38.87

M 6 3.12 .
M 5 13.92 .
R 5 14.37 .
R 5 14.22 .
14.17
11.05

7 28 58.2

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381

36 Camel

h m s
6 0 40
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+65 44 0.11658 9.61382 9.73040

0.11559

1879 Mar. 25

0	5.4			59	23.9	0	13.2	1	16.6
	10.4				27.3		16.9		20.1
	14.2				31.0		21.2		24.0
	20.5	25.233			35.1		24.8		28.4
	25.3			1571	39.8	1057	29.6	1224	33.8
	30.3				1571		1057		1224
	35.4			59	31.42	0	21.14	1	24.48
	40.3				+ 5381		+ 4.09		− 59.25
	45.3								
	2271								
				1	49.0				
					50.4				
					52.0				
					151.4				
					50.5				

59 31.42 0 21.14 1 24.48

M 43 31.45
M 43 58.70
M 44 31.95
M 44 44.65

256

Mles. Mon. Lic.

h m s
18 11 22
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+93 24 0.11658 9.99923 0.11581

0.11559

1879 Mar. 25

M 5 52.47
M 44.50
M 40.10
M 36.70
M 31.05
M 25.87

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259

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Draconis L. C.

h m s
18 23 14
+ 10° 20' 0.11658 0.11559
9.97982
0.09640

1879 Mean. 25

23	22.7			22	19.5	23	10.1	24	22.4										
	29.8				25.2		12.5		27.2										
	36.7				31.9		20.0		35.5										
	43.5				38.1		26.1		40.8										
	50.6			1589	44.2	979	30.2	1717	45.8										
	57.4				1589		979		1717										
	4.3			22	31.78	23	19.58	24	34.34										
	11.2			+	18.73	+	30.93	−	43.83										
45	18.4																		
	2546																		
23	50.51			25	50.2														
					25.4														
					34.3		32.0												
					37.7														
				1603	42.6														
					1603														
				25	32.06														
				−	1 41.55														
				22	31.78	23	19.58	24	34.34										
				25	32.06														

31	3.90							31	2.7										
	6.00	8.164							4.4										
	8.18	8.16							6.3										
	10.30								7.6										
4082	12.44							305	9.5										
	4082								305										
	16.70							31	6.10										
	18.90							+	19.22										
	21.00																		
	23.19	25337																	
	25.40	25.34						31	53.2										
	27.48	25.31							55.2										
	29.63								58.7										
	31.80								58.5										
22803	33.93							2845	0.7										
	22803								2845										
	38.18							31	56.90										
	40.33	42476						−	31.58										
	42.50	42.47																	
	44.62	5063																	
212.38	46.75							31	6.10										
	21238	31	25.325					31	56.90										
								+	19.22										
								−	31.58										
									50.80										
									1.70586										
									1.15783										
									286369										
									1.80638										
									8.94269										
									5 0 30										

M	11	17.47																	
M	10	58.90																	
M	10	28.90																	
M	10	7.85																	

M	57	17.87																	
M	58	21.75																	
R		21.82																	
R		22.12																	
		2190.																	
		64.03																	

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107

γ Geminor

h m s
6 30 43
+ 16° 30' 1.17609 0.11658 0.11559
9.98174 9.98174
1.15783 0.09832

1879 March 25

31	3.90							31	2.7										
	6.00	8.164							4.4										
	8.18	8.16							6.3										
	10.30								7.6										
4082	12.44							305	9.5										
	4082								305										
	16.70							31	6.10										
	18.90							+	19.22										
	21.00																		
	23.19	25337																	
	25.40	25.34						31	53.2										
	27.48	25.31							55.2										
	29.63								58.7										
	31.80								58.5										
22803	33.93							2845	0.7										
	22803								2845										
	38.18							31	56.90										
	40.33	42476						−	31.58										
	42.50	42.47																	
	44.62	5063																	
212.38	46.75							31	6.10										
	21238	31	25.325					31	56.90										
								+	19.22										
								−	31.58										
									50.80										
									1.70586										
									1.15783										
									286369										
									1.80638										
									8.94269										
									5 0 30										

M	57	17.87																	
M	58	21.75																	
R		21.82																	
R		22.12																	
		2190.																	
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51 K Cephei

h	m	s			
6	43	16			
°	′	″	0.11658		0.11559
+87	14		8.68367		
			8.80025		

1879 Mar. 20

41	42.7	2	51.40	34	40.0	35	42.5	36	43.6	44	34.10
	59.6	2	36.84								36.44
42	13.3	2	22.57								35.87
	26.6	2	8.20								34.80
	40.6	1	54.00								34.60
	56.3	1	39.79								35.09
43	9.8	1	25.57								36.31
	24.4	1	11.25								35.65
	39.6	0	56.89								36.49
	51.9	0	42.78								34.68
44	7.7		28.49	47	39.3	48	41.0	49	36.0		36.19
	21.7		14.21								36.91
	35.7	−	0.02								35.68
	51.5	−	14.17								37.33
45	5.5	−	28.45								37.05
	19.2	−	42.68								36.52
	34.7	−	56.89								37.81
	47.8	−1	11.29								36.87
46	1.4	−1	25.42								35.98
	16.7	−1	39.79								36.91
	30.7	−1	54.14								36.56
	44.4	−2	8.36								36.04
	58.6	−2	22.57								37.03
47	13.4	−2	36.92								35.48
	26.9	−2	51.20							44	34.70
											898.73
										44	35.96

M 14 20.17
M 14 23.92
M 14 29.85
M 15 15.15
M 15 18.10
M 15 20.05

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106

u Geminor

h m s
6 15 38
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+22 34

1879 Mar. 26

		1.17609	0.11658	0.11559
		9.96541	9.96541	
		1.14150	0.08199	

15	58.35		15	52.4	
	0.60	2.800		54.0	
	2.85	2.80		56.1	
	5.00			57.7	
1400	7.20		2793	59.1	
	1400			2793	
	11.80		15	56.86	
	13.93		+	24.80	
	16.13				
	18.49	20.664			
	20.62	20.66	16	48.0	
	22.80	20.66		51.0	
	25.22			52.0	
	27.37			54.0	
18598	29.62		2607	56.7	
	18598			2607	
	34.00		16	52.14	
	36.23	38.526	−	31.48	
	38.60	38.52			
	40.80	41.32			
19263	43.00		15	55.66	
	19263	18[6] 20.660	16	52.14	
			+	24.80	
			−	31.48	
				56.28	
			1.75035		
			1.14150		
			2.89185		
			1.83065		
			8.93880		
			4	57	60

M	52	53.47	
M	54	1.17	
R	54	1.12	
R	54	1.25	
		1.18	
		6771	

107

y Geminor

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6 30 43
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+16 30

1879 Mar. 26

		1.17609	0.11658	0.11559
		9.98174	9.98174	
		1.15783	0.09832	

31	3.97		30	55.3	
	6.20	8312		57.0	
	8.32	8.31		58.2	
	10.37			0.2	
4156	12.70		2927	2.0	
	4156			2927	
	16.90		30	58.54	
	19.20		+	26.96	
	21.28	3			
	23.35	2.5583			
	25.48	25.52	31	58.0	
	27.70	25.47		56.0	
	29.77			57.7	
	32.00			59.3	
22973	34.05		2873	1.3	
	22973			2873	
	38.27		31	57.46	
	40.48	42.636	−	31.96	
	42.66	4263			
	44.77	5094			
21318	47.00		30	58.54	
	21318	31 25.495	31	57.46	
			+	26.96	
			−	31.96	
				52.46	
			1.77026		
			1.15783		
			2.92809		
			1.86410		
			8.93601		
			4	55	57

M	56	7.87	
M	58	20.85	
R	58	20.95	
R	58	21.20	
		2100	
		73.13	
		133.13	

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51 H Cephei

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0.11658
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1879 Mar. 26

41	46.3	41 526	38	28.5
	57.0			
42	14.0	42 28.1	40	43.9
	26.7			
	43.6		47	43.7
43	0.4	43 5.4		
	11.5		48	54.7
		21.7		
	23.8	43 261	49	47.7
	26.3			
	28.2		50	35.7
	36.0	43 391		
	39.3			
	42.0			
	51.6	43 543		
	54.0			
	57.2			
44	6.3	44 9.0		
	8.7			
	12.0			
	19.6	44 23.2		
	23.0			
	27.1			
	36.0	44 408		
	42.3			
	44.0			
	49.1	44 579		
	57.5			
	55.2			
45	2.3	45 4.8		
	4.6			
	7.5			
	15.8	45 198	M 14	39.40
	20.4		M 14	49.75
	23.1		M 15	17.05
			M 15	20.50
	31.0	45 341	M 15	22.40
	33.8		M 15	24.92
	37.4			
	45.2	45 477		
	47.7			
	50.3			
	59.4	46 3.1		
	3.6			
	6.2			
46	14.4	46 173		
	17.2			
	20.3			
	26.6	46 299		
	30.2			
	33.0			
47 12.7 47 148	41.7	46 442		
14.8	44.2			
16.9	46.8			
26.0 47 281	57.0	47 0.0		
27.9	0.3			
30.4	2.8			

122

β Gem

h m s
7 37 55
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+28 19

0.11658
9.94465
0.06123

0.11559

1879 Mar. 26

38	14.50		38	15.0	41 463	2	57.40	44 37.70
	16.82	19.194		17.0	41 59.0	2	36.84	44 35.84
	19.30	19.19		18.7	42 14.0	2	22.57	44 36.57
	21.50			20.9	42 26.7	2	8.20	34.90
	23.85		949	23.3	42 436	1	54.00	37.60
9597	9597			949	43 04	1	39.79	40.19
	28.42		38	1898	43 115	1	25.51	37.01
	30.73		+	1887	43 261	1	11.25	37.35
	33.08				43 39.1	0	56.89	35.99
	35.48	37801			43 543	0	42.78	36.08
	37.75	3780			44 9.0		28.49	37.49
	40.22	37.90			44 23.2		14.21	37.41
	42.55				44 40.8	−	0.02	40.78
	44.83				44 51.9	−	14.17	37.73
34021	47.15				45 4.8	−	28.45	33.35
	34021				45 19.8	−	42.68	37.12
	52.00				45 34.1	−	56.89	36.51
	54.25	56610			45 47.7	−1	11.29	36.41
	56.60	56.61			46 3.1	−1	25.42	37.68
	59.00	7580			46 17.3	−1	39.79	37.51
28305	1.20		38	18.98	46 29.9	−1	54.14	35.76
	28305	38 37.850	+	18.87	46 44.2	−2	8.36	35.84
					47 0.0	−2	22.57	37.43
					47 14.8	−2	36.92	37.88
					47 28.1	−2	51.20	36.90

7 37 57.09

25) 928.03
37.12

R 8 35.35
R 35.65
35.50
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28 19 2.6

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570

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-23 57 1.17609 0.11658 0.11559
9.96090 9.96090
1.13699 0.07741 8

1879 Mar. 26

2	42.35		2	31.7	
	44.65	46874		33.3	
	46.87	46.87		35.7	
	49.00			37.5	
23437	51.50		1778	39.6	
	23437			1778	
	56.00		2	3556	
	58.25		+	2988	
	0.50				
	2.60	4953			
	4.88	4.95	3	35.9	
	7.30	4.93		37.6	
	9.60			39.7	
	11.65			41.5	
4458	13.90		1985	43.8	
	4458			1985	
	18.55		3	39.70	
	20.71	23.000	−	34.76	
	23.00	23.00			
	25.19	12987			
11500	27.35		2	3556	
	11500	3 4.940	3	39.70	
	23 00		+	29.38	
			−	34.76	
				6414	
				1.80713	
				1.13699	
				2.94412	
				1.88711	
				8.94299	
				4	
				5 0 43	

M	23	0.80	
M	24	18.62	
R	24	17.85	
R	24	1787	
		1791	
		71.11	

138

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h m s
9 21 38
° ′ ″
-8 8 1.17609 0.11658 0.11559
9.99561 9.99561
1.17170 0.11219

1879 Mar. 26

22	0.60		21	56.7	
	2.70	4760		58.4	
	4.70	476		59.9	
	6.80			1.9	
2380	9.00	8.80	3006	3.7	
	2380			06	
	18.00		22	0.12	
	15.10		+	21.20	
	17.10				
	19.30	21298			
	21.28	21.29	22	52.7	
	23.40	21.35		54.8	
	25.40			56.8	
	27.50			58.5	
19168	29.60		2830	0.2	
	19168			2830	
	33.70		22	5660	
	35.85	37.950	−	35.28	
	38.00	37.95			
	40.08	4271			
18975	42.12		22	0.12	
	18975	22 21.320	22	56.60	
		.010	+	21.20	
		21.310	−	35.28	
				5648	
				1.75189	
				1.17170	
				2.92359	
				1.86929	
				8.94570	
				5 2 35	

M	34	52.70	
M	36	6.52	
R	36	6.75	
R	36	6.85	
		6.71	
		74.01	

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142

ε Sextantis

h m s
9 38 59
° ′ ″ 1.17609 0.11658 0.11537
+24 20 9.99560 9.99560
1.13569 0.07618

1879 Mar. 26

39	20.20		39	14.3	
	22.50	24710		16.1	
	24.75	24.71		17.9	
	26.90			20.6	
12355	29.20		909	22.0	
	12355			909	
	32.75		39	1818	
	36.15		+	2460	
	38.23				
	40.55	42.762			
	42.75	42.76	40	13.1	
	45.00	42.80		15.3	
	47.28			17.7	
	49.45			19.5	
38486	51.80		868	21.2	
	38486			868	
	56.37		40	1736	
	58.75	0.900	−	3458	
	0.30	0.90			
	3.13	2561			
450	5.45		39	18.18	
	450	39 42.760	40	17.36	
			+	24.60	
			−	34.58	
				5918	
				1.77217	
				1.13569	
				2.90786	
				1.85138	
				8.94352	
				5 1 5	

M	7	43.55	
M	8	51.67	
R	8	54.55	
R	8	54.50	
		5457	
		71.02	

146

ζ Sextantis

h m s
10 1 56
° ′ ″ 1.17609 0.11658 0.11539
+12 33 9.98950 9.98950
1.16559 0.10608

1879 Mar. 26

2	17.67		2	9.9	
	19.79	21.880		12.3	
	21.95	21.88		14.1	
	23.95			15.8	
10940	26.04		701	18.0	
	10940			701	
	30.27		2	1402	
	32.45		+	24.75	
	34.63				
	36.70	38.791			
	38.88	38.79	3	12.9	
	40.85	38.75		12.8	
	43.00			13.4	
	45.20			16.2	
34912	47.32		728	18.5	
	34912			998	
	51.40		3	1456	
	53.50	55.624	−	35.79	
	55.67	55.62			
	57.70	7750			
2812	59.85		2	14.02	
	27812	2 38.770	3	14.56	
			+	24.75	
			−	~~2419~~	-35.79
				~~4894~~	60.54
			10 15	~~58.466~~	1.78204
				~~1.16559~~	1.16559
				~~285525~~	2.94763
				~~1.88795~~	1.88795
				~~9.03270~~	8.94032
				4 58 53	
				6 9 14	

M	53	32.77	
M	55	10.05	
R	55	10.00	
R	55	10.05	
		1003	
		77.26	

12 28 169

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148

ζ Leonis

h m s
10 9 57
+ 24 1 0.11658
9.96067
0.07725

0.11539

1879 Mar. 26

10	18.60		10	7.4	
	20.88	23.146		9.2	
	23.15	23.14		11.0	
	25.40			12.5	
1573	27.70		546	14.5	
	1573			546	
	31.90		10	1092	
	34.40		+	30.23	
	36.60				
	38.90	41.156			
	41.15	41.15	11	10.5	
	43.40	41.15		12.4	
	45.70			14.8	
	48.00			16.8	
37040	50.25		731	18.6	
	37040			731	
	54.60		11	1462	
	57.00	59.170	−	33.47	
	59.15	59.17			
	1.40	82.31			
29585	3.70		10	1092	
	29585	10 41.150	11	14.62	
			+	30.23	
			−	33.47	

M 26 18.72
M 27 35.12

C

γ Leonis

h m s
10 13 18
+ 20 27 1.17609 0.11658
9.97173 9.97173
1.14782 0.08831

0.11539

1879 Mar. 26

13	39.65		13	31.8	
	41.70	43.950		34.0	
	43.90	43.95		36.0	
	46.17			38.3	
21975	48.23		1801	40.0	
	21975			1801	
	52.60		13	36.02	
	54.85		+	25.48	
	57.10	1.489			
	59.40	~~1.680~~			
	1.50	1.49	14	29.8	
	3.70	1.50		32.9	
	6.90			34.6	
	8.50			36.6	
1340	10.35		1726	38.7	
	1340			1726	
	14.60		14	34.52	
	1685	19.050	−	33.02	
	19.00	19.05			
	21.30	12300			
9525	23.80		13	36.02	
	9525	14 1.495	14	34.20	
	19.050		+	25.48	
			−	32.70	
				3818	
				1.76477	
				1.14782	
				2.91259	
				1.85618	
				8.94359	

11 13 20.94

5 1 8

M 0 19.72
M 1 31.50
R 1 31.35
R 1 31.45
3153
7181

2027 0.0

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585

β Corvi

h m s
12 28 2
° ″
−22 44 9964.88

1.17609 0.11658
9.96488 9.96488
1.14097 0.08146

0.11559

1879 March 20

28	22.20		28	43.0				
	24.30	2673		45.0				
	26.80	26.49		47.5				
	28.68			49.9				
13248	31.60		2373	51.9				
	13248			2373				
	35.60		28	47.46				
	37.76			− 2.95				
	40.02							
	42.35	4459						
	44.60	4458	29	23.3				
	46.85	44.44		25.5				
	49.00			28.5				
	51.40			31.2				
40128	53.50		1420	33.5				
	40128			1420				
	57.95		29	28.40				
	0.15	2404		− 43.89				
	2.50	240						
	4.62	8889						
12.02	6.80		28	47.46				
	1202	28 44.510	29	28.40				
			+	2.95				
			−	43.89				
				46.84				
				1.67062				
				1.14097				
				2.81159				

M	10	9.62	
M	10	0.35	
R	10	0.27	
R	10	0.27	
		0.30	

172

γ Virginis

h m s
12 35 32
° ″
−0 47 9.99996

0.11658
0.11654

0.11559

1879 March 20

35	54.14				36	53.4		
	56.00							
	58.15							
	0.25							
	2.20							
	6.40							
	8.48							
	10.58							
	12.72	14731						
	14.75	14.73			36	49.7		
	16.70							
	18.75							
	21.00							
13258	23.00							
	13258							
	26.97							
	28.60	31.114						
	31.30	31.11						
	33.30							
15557	35.40							
	15557		36	14.678				

12 85 34.74

M	15	4.42	
M	15	36.60	
R	15	37.00	
R	15	36.60	
		36.73	

0.47 25.8

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174

S Virginis

h m s
12 49 30

1.17609 0.11658
+4° 3' 99989 9.99891
1.17500 0.11549

1879 March 30

2069	13.54	49	52.80		49	49.4	
1961	13.38	65114	57.97	57.116		51.0	
1676	13.82	13.6028	57.26	57.11		53.3	
1879	15.67		58.18			55.5	
1241	13.08	28558	1.27		2661	56.9	
		28558				2661	
					49	5322	
					+	20.85	
					50	42.9	
						44.9	
						46.7	
						48.9	
					2341	50.7	
						2341	
2241	13.54	6759	26.00	5	50	4682	
1456	13.57	13.518	28.05	30088	−	33.25	
1676	13.53		30.05	30.04			
1466	13.39		32.05				
2075	13.55	15044	34.29		49	5322	
		15044			50	46.82	
						5360	
					1.	72916	
					1.	17500	
					2.	90416	
					1.	84578	
					8.	94162	
					4	59 46	

13.573
13.573

M	24	2.50	
M	25	12.72	
R	25	12.65	
R	25	12.45	
		12.61	
		70.11	

0.11559

176

E Virginis

h m s
12 56 9

1.17609 0.11658
+11° 37' 99910 9.99101
1.16710 0.00759

1879 March 30

			56	31.50		56	28.4
				33.65	35.654		30.7
				35.65	35.65		32.2
				37.74			34.0
		17827		39.73		1613	36.0
		17827				1613	
				43.95		56	3226
				46.05		+	20.20
				48.25			
				60.35	52433		
				52.45	52.43	57	22.1
				54.60	52.49		24.6
				56.70			26.7
				58.75			28.8
		47190		0.90		1327	30.5
		47190				1327	
				5.10		57	2654
				7.29	9.340	−	34.08
				9.30	9.34		
				11.46	10499		
		4670	13.55			56	3226
		4670	56	52.460		57	2654
						+	20.20
						−	34.08
							54.28
						1.	73464
						1.	16710
						2.	90174
						1.	84410
						8.	94236
						5	0 17

M	50	59.00	
M	52	8.85	
R	52	6.75	
R	52	8.92	
		884	
		6784	

0.11559

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587

2 Virginis

h m s
13 18 49

1.17609 0.11658
-10 32 9.99262 9.99262
1.16871 0.60920

1879 March 30

19	10.95		19 4.1
	13.20	15.226	6.7
	15.20	15.22	8.7
	17.35		10.3
7613	19.43		422 12.4
	7613		422
	23.60		19 8.44
	25.63		+ 23.54
	27.92		
	29.98	31.998	
	31.98	31.99	20 4.0
	34.00	31.98	6.3
	36.20		8.4
	38.27		10.5
28798	40.40		415 12.3
	28798		415
	44.60		20 8.30
	46.60	48.740	- 36.32
	48.78	48.74	
	50.80	6396	
24370	52.95		19 8.44
	24370	19 31.985	20 8.30
			+ 23.54
			- 36.32
			39.86
	13 18 52.07		1.77714
			1.16871
			2.94585
			1.88400
			8.93815
			4 57 24

M	58	30.35	
M	59	46.85	
R	59	47.02	
R	59	46.87	
		4691	
		76.56	

10 32 4.1

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Sun. C = 46.743

h m s
0 42 41
+ 4 36 0.11658
9.99860
0.11518

1879 April 1.

+2.71	13.71	41 53.00		
1.63	13.63	69.03 53.00		57.240
6.37	13.87	13.806 57.30		57.24
14.50	12.92	59.42		
12.42	13.50	28620 1.48		
		28620		
6.28	13.88	41.75 5.60		
6.21	13.91	13.916 7.70		
5.4		—		
		—		
		—		
		—		
		—		
		—		
-5.29	13.96	23.25		
12.42	14.58	2871 27.00		
		14.358 —		
		—		
		—		
20.77	14.13	34.90		

14.025
13.949

Part of A in 5Ra

B Can. Min.

h m s
7 20 83
+ 8 ° " 1.17609 0.11658
9.99517 9.99517
1.17126 0.11175

1879 April 1.

20	56.55		20	47.5
	58.60	0.680		49.5
	0.70	0.28		51.3
	2.75			52.9
140	4.80		2561	54.9
	340			2561
	8.97		20	5122
	11.00		+	26.00
	13.15			
	15.30	17.308		
	17.35	17.31	21	45.0
	19.40	17.13		47.0
	21.45			49.1
	23.55			50.8
15577	25.60		2449	63.0
	15577			2449
	29.80		21	4898
	31.80	33.982	—	31.76
	33.96	33.94		
	36.05	3426		
16991	38.20		20	5122
	16991	21 17.220	21	48.98
	33982		+	26.00
			—	31.76
				5776
				1.76163
				1.17126
				2.93289
				1.87017
				8.93728
				4 56 48

M	55	13.82	
M	56	28.07	
R	56	28.02	
R	56	27.85	
		2798	
		7416	

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1879phae.proj.1501.

119

α Geminor

h m s
7 26 52

	° ″	1.17609	0.11658
	+22 9	9.92771	9.92771
		1.10380	0.04429

1879 April 1.

27	11.20		
	13.68	16.090	
	16.05	16.09	
	18.52		
8045	21.00		
	8045		
	26.90		
	28.40		
	30.75		
	33.28	35.619	
	35.60	35.62	
	38.04	35.57	
	40.40		
	42.90		
32057	45.30		
	32057		
	57.10		
	52.60	55.054	
	55.00	55.05	
	57.57	7114	
27527	0.00		
	27527	27 35.595	
	55.054		

27	0.3
	2.5
	4.5
	6.6
227	8.8
	227
27	454
+	31.06
28	4.7
	7.0
	9.2
	11.0
452	13.9
	452
28	9.02
−	8.342
27	454
28	9.04
+	31.06
−	33.44
	64.50
	1.80956
	1.10380 stl
	2.91336
	1.85224
	8.93888 stl
	8.94158
	4 57 57

7 26 59.79

0.11559

M 18 19.07.
M 19 30.37.
R 19 30.17.
R 19 30.15.
3023
71.16

82 8 72.0

120

α Can. Min.

h m s
7 32 58

	° ″	1.17609	0.11658
	+5 32	9.99797	9.99797
		1.17406	0.11455

1879 April 1

33	19.30		
	21.38	23424	
	23.40	23.42	
	25.48		
11712	27.56		
	11712		
	31.67		
	33.71		
	35.78		
	37.90	39.922	
	39.95	39.92	
	41.97	39.95	
	44.04		
	46.05		
35930	48.23		
	35930		
	52.32		
	54.38	56496	
	56.50	56.49	
	58.58	7991	
28248	0.70		
	28248	33 39.935	

33	12.9
	15.2
	17.0
	18.7
842	20.4
	842
33	1684
+	23.10
34	4.7
	6.7
	8.5
	10.3
422	12.0
	422
34	844
−	28.50
33	16.84
34	8.44
+	23.10
−	28.50
	51.60
	1.71265
	1.17406
	2.88671
	1.82536
	8.93865
	4 57 44

7 32 59.97

0.11559

M 55 5.92.
M 56 12.82.
R 56 12.75.
R 56 12.85.
1281
66.89

5 81 56.5

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122

β Geminor

h m s
7 37 55.
° ′
+28 19

1.17609 0.11658 0.11539
9.94465 9.94465
1.12074 0.06123

1879 April 1.

38	14.00		38 3.2	
	16.30	18.670	5.4	
	18.65	18.67	7.4	
	21.00		9.3	
9335	23.40		367 11.4	
9335			-367	
	28.00		38 7.34	
	30.42		+2005	
	32.70			
	35.00	37.402		
	37.50	37.40	39 5.3	
	39.75	37.38	7.4	
	43.07		9.8	
	44.38		11.7	
33662	46.80		480 13.8	
33662			480	
	51.44		39 9.60	
	53.72	56.104	-32.21	
	58.06	56.10		
	58.47	7477		
28052	0.83		38 7.34	
28052		38 37.390	39 9.60	
			+ 30.05	
			- 32.21	
			6226	
7 37 56.99			1.79421	
			1.12074	
			2.91495	
			1.85370	
			8.93875	
			4 57 48	

M 8 23.67.
M 9 35.00.
R 9 35.05.
R 9 35.15.
3507
71.40

28 18 28

284

χ Urs. Min. L. C.

h m s
19 45 14
° ′
+91 6

0.11658 0.11554
9.99992
0.11650

1879 April 1.

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570

c Argus

h m s
8 2 23
° ′ ″ 1.17609 0.11658 0.11559
-23 57 9.96090 9.96090
1.13699 0.07748

1877 April 1.

2 42.30
47.35 4.664 4.66
46.60 4.66
48.87
23332 51.20
23332
55.50
57.73
0.20
2.49 4.660
4.64 4.66
6.80 4.71
9.18
11.50
41194 13.70
4194
18.20
20.50 2.760
22.80 22.76
25.07 9.42
11380 27.30
11380 3 4.685

2 33.2
35.3
37.3
39.9
1877 42.0
1877
2 37.54
+ 27.14

3 38.4
40.6
43.3
46.3
2170 48.4
2170
3 43.40
− 38.72

2 37.54
3 43.40
+ 27.14
− 38.72
65.86
1.81862

1.13699
2.95561
1.88936
8.93375
~~4 55 30~~ 4 54 25

M 23 11.30
M 24 28.62
R 24 11.85
R 24 28.95
2881
77.51

e

Stafford's Mar -

h m s
20 16 42
° ′ ″ 0.11658 0.11559
+ 21 14 9.99990
0.11648

1879 Apr. 1.

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1879phae.proj.1501.

138

ζ Hydrae

h m s
9 21 38
° ′ ″
-8 8 1.17609 0.11658
9.99561 9.99561
1879 April-1 1.17170 0.11219

21 59.88		21 52.3		
1.85	3.992	54.7		
4.00	3.99	56.5		
6.05		58.4		
1996 8.18		2742 0.3		
1996		2822		
12.37		21 5644		
14.40		+ 2422		
16.50				
18.65	20.602			
20.60	20.72	22 467		
22.65	20.61	49.3		
24.75		51.2		
26.80		5300		
18652 28.90		2547 54.5		
18542		2547		
33.00		22 5094		
35.10	37.240	− 30.28		
37.30	37.24			
39.30	4123			
18620 41.50		21 5484		
18620	22 20.665	22 5094		
		+ 25.82		
		− 30.28		
		5610		
		1.74896		
		1.17170		
		2.92066		
		1.85181		
		8.93115		
		4 52.40		

M	34 53.57			
M	36 4.52			
R	36 4.57			
R	36 4.90			
	466			
	71.09			

142

ε Leonis

h m s
9 38 59
° ′ ″
+24 20 1.17609 0.11658 0.11559
9.95960 9.95960
1879 April-1 1.13569 0.07618

39 19.50		39 17.0		
21.80	24022	18.8		
24.03	24.02	20.5		
26.28		22.7		
12011 28.50		1034 24.4		
12011		1034		
33.00		39 2068		
35.37		+ 2140		
37.55				
39.80	4 2.082			
42.04	42.08	40 14.4		
44.38	42.06	16.5		
46.60		18.5		
48.80		20.6		
37874 51.20		927 22.7		
37874		927		
55.60		40 1854		
57.88	0.170	− 3646		
0.22	0.17			
2.40	8419			
085 4.75		39 2068		
085	39 42.085	40 1854		
		+ 2140		
		− 3646		
		5786		
		1.76238		
		1.13569		
		2.89807		
		1.83954		
		8.94147		
		4 69.40		

M	7 48.55			
M	8 57.57			
R	8 57.65			
R	8 57.75			
	57.66			
	69.11			

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146

2 Leonis

h m s
10 1 56

° ′ ″ 1.17609 0.11658 0.11559
+12 23 9989 50 9.989 50
1.16559 0.10608

1879 April 1

2 17.48		2 17.0	
19.52	21.660	18.8	
21.60	21.66	20.4	
23.80		22.4	
10830 25.90		1029 24.3	
10830		1029	
30.00		2 20.58	
32.03		+ 17.91	
34.30			
36.30	38.453		
38.62	38.45	3 8.2	
40.60	38.53	9.9	
42.70		12.0	
44.73		13.7	
34608 46.80		596 15.8	
34608		596	
51.20		3 11.92	
53.30	55400	− 33.43	
55.40	55.40		
57.50	7706		
27700 58.60		2 20.58	
27700	2 38.490	3 11.92	
		+ 17.91	
		− 33.43	
		51.34	
10 1 58.37		1.71046	
		1.16559	
		2.87605	
		1.81928	
		8.94323	
		5 0 53	

M 54 3.37		
M 55 9.52		
R 55 9.35		
R 55 9.12		
9.33		
65.96		

12 33 17.1

148

ζ Leonis

h m s
10 9 57

° ′ ″ 1.17609 0.11658 0.11559
+24 1 9960 67 9.960 67
1.13676 0.07725

1879 April 1

10 18.30		10 7.1	
20.50	22.830	9.3	
22.80	22.83	11.1	
25.15		13.2	
11415 27.40		558 15.1	
11415		558	
31.75		10 11.16	
34.05		+ 29.70	
36.30			
38.60	40.856		
40.80	40.86	11 14.7	
43.18	40.87	16.6	
45.42		18.3	
47.70		20.7	
36770 49.90		930 22.7	
36770		930	
54.37		11 18.60	
56.63	58.910	− 37.74	
58.85	58.91		
1.20	8174		
29455 3.60		10 11.16	
29455	10 40.865	11 18.60	
		+ 29.70	
		− 37.74	
		6744	
		1.82892	
		1.13676	
		2.96568	
		1.90886	
		8.94318	
		5 0 51	

M 26 20.25		
M 27 41.35		
R 27 41.32		
R 27 41.30		
41.32		
81.07		

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C

ɣ Leonis

h m s
10 18 18

1.17609 0.11658 0.11559
+ 20 27 9.97173 9.97173
1.14782 0.08831

1879 April 1

13 39.10 13 33.3
41.50 43.590 35.7
43.60 43.59 37.4
45.75 38.8
21795 48.00 1864 41.2
21795 1864
52.40 13 3728
54.60 + 28.90
56.70
59.00 1.189
1.20 1.19 14 31.3
3.40 1.17 32.8
5.60 34.7
7.80 36.5
1070 10.00 1740 38.7
13090 1740
14.30 14 34.80
16.50 16.750 − 33.62
18.75 18.75
21.00 2.34
9375 23.20 13 37.28
9375 14 1.180 14 34.80
+ 23.90
− 33.62
5752
10 13 20.99 1.76982
1.14782
2.90764
1.84689
8.93925
4589

M 0 23.15.
M 1 33.80.
R 1 33.67.
R 1 33.75.
33.74
70.29

20 27 05

156

S Leonis

h m s
11 7 40

° " 1.17609 0.11658 0.11559
+ 21 11 9.96962 9.96962
1.14571 0.08620

1879 April 1

8 1.53 7 52.4
3.70 5.940 54.4
5.90 5.94 56.2
8.17 58.4
2970 10.40 2815 0.1
2970 2815
14.75 7 5630
17.00 + 2730
19.20
21.35 2.3576
23.60 2358 8 57.1
25.78 23.63 58.8
28.00 0.8
30.20 30.10 3.0
21218 32.40 49 5.2
21218 49
36.82 9 0.98
39.00 41.322 − 37.38
41.39 4132
43.60 4726
20661 45.80 7 56.30
20661 8 23.605 6 0.98
+.005 4 27.30
23.610 − 37.38
6468
11 7 43.51 1.81077
1.14571
2.95648
1.89215
8.93567
4 55 43

M 16 23.37.
M 17 41.15.
R 17 41.62.
R 17 41.37.
41.38
78.01

21 10 57.8

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164

β Leonis

h m s
11 42 69
° ′ ″ 1.17609 0.11658
+15 16 9.98443 9.98443
1.16052 0.10101

1879 April 1

	43 15.00		43 9.4	
17.10	16.88	19.258	11.7	
	19.25	19.26	13.3	
	21.46		15.3	
9629	23.60		663 16.6	
	9629		663	
	27.80		43 13.26	
	30.00		+ 23.10	
	32.03			
	34.27	36.363		
	36.37	36.36	44 8.8	
	38.53	36.37	10.6	
	40.60		12.6	
	42.75		14.7	
32727	44.90		635 16.8	
	32727		635	
	49.26		44 12.70	
	51.28	53.482	− 36.34	
	53.50	53.48		
	55.57	72.74		
1741	57.80		43 13.26	
	26741	43 36.365	44 12.70	
		− .006	+ 23.10	
		36.359	− 36.34	
			59.44	
	11 42 86 23		1.77408	
			1.16052	
			2.93460	
			1.87233	
			8.93773	
			4 57 7	

M 12 38.97.
M 13 52.50.
R 13 53.95.
R 13 54.05.
5350
7453

15 14 88.5

0.11559

582

ε Corvi

h m s
12 3 54
° ′ ″ 1.17609 0.11658
−21 57 9.96732 9.96732
1.14341 0.08390

1879 April 1

	4 14.40		4 4.6	
	16.51	18.778	7.2	
	18.70	18.78	9.2	
	21.00		11.2	
9389	23.22		454 13.2	
	9389		454	
	27.70		4 9.08	
	29.90		+ 27.47	
	32.00			
	34.30	36564		
	36.60	36.56	5 8.0	
	38.80	36.54	10.1	
	41.00		12.0	
	43.28		13.7	
32908	46.50		594 15.6	
	32908		594	
	49.90		5 11.88	
	52.03	54.300	− 35.33	
	54.30	54.30		
	56.50	7308		
2150	58.80		4 9.08	
	27150	4 36.550	5 11.88	
			+ 27.47	
			− 35.33	
			62.80	
			1.79796	
			1.14341	
			2.94137	
			1.88281	
			8.94144	
			4 59 39	

M 22 50.20.
M 24 667.
R 24 6.52.
R 24 6.47.
655
76.35

0.11559

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584

S Corvi

h m s
12 28 37
° ′ ″ 1.17609 0.11658
-15 50 9.98320 9.98320
1.15929 0.09978

1879 April - 1

23	57.50		23	54.7	
	57.60	1.714		56.5	
	1.72	1.71		58.0	
	3.85			57.8	
857	5.90		2901	2.1	
	857			2911	
	10.00		23	58.22	
	12.30		+	20.54	
	14.45				
	16.63	18.740			
	18.73	18.74	24	45.2	
	20.95	18.79		47.4	
	23.00			49.3	
	25.30			51.2	
16866	27.30		2461	53.0	
	16866			2461	
	31.60		24	49.22	
	33.70	35880	−	30.46	
	35.80	35.88			
	38.00	3759			
17940	40.20		23	58.02	
	17940	24 18.765	24	49.22	
			+	20.74	
			−	30.46	
				51.20	
				1.70927	
				1.15929	
				2.86856	
				1.80147	
				8.93291	
				4 53 51	

M 17 6.57 .
M 18 9.75 .
R 18 10.05 .
R 18 9.90 .
9.88
63 31

585

β Corvi

h m s
12 28 2
° ′ ″ 1.17609 0.11658
-22 44 9.96488 9.96488
1.14097 0.08146

1879 April - 1

28	22.00		28	11.2	
	24.27	26.520		13.7	
	26.53	26.52		15.5	
	28.80			17.4	
13260	31.00		773	19.5	
	13260			773	
	35.35		28	15.46	
	37.65		+	28.92	
	39.90				
	42.12	44.359			
	44.45	44.39	29	12.0	
	46.70	44.38		14.9	
	48.85			16.7	
	51.18			18.6	
39950	53.30		826	20.4	
	39950			826	
	57.78		29	16.52	
	0.05	2.252	−	32.14	
	2.28	2.25			
	4.45	8877			
1126	6.70		28	1546	
	1126	28 44.385	29	16.52	
			+	28.92	
			−	32.14	
				61.06	
				1.78576	
				1.14097	
				2.92673	
				1.86487	
				8.93814	
				4 57 23	

M 9 30.52 .
M 10 47.90 .
R 10 47.62 .
R 10 47.52 .
4768
73.26

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172

γ Virginis

h m s
12 35 32
° ′ ″ 0.11658
−0 47 9.99996
0.11654

0.11539

1879 April 1.

35 53.80 35 47.3 36 5.1 36 49.3
55.90 58076 50.2 8.6 52.9
58.15 58.67
0.15
29038 2.28
29038
6.28
8.30
10.38
12.45 14.509
14.55 14444
16.60 14.50
18.60
20.70
12998 22.72
13058
26.90
28.78 30946
30.98 3094
32.97 8901
15473 35.10
15473 36 14470
30946

12 35 34.76

M 14 38.95
M 15 37.45
R 15 37.07
R 15 37.00
~~37.17~~
~~58.22~~

0 47 26.9

174

β Virginis

h m s
12 49 30
° ″ 1.17609 0.11658 0.11539
+4 3 9.99891 9.99891
1.17500 0.11549

1879 April 1.

49 52.70 49 48.6
54.80 56870 48.9
56.90 56.87 47.6
58.95 49.5
28435 1.00 2379 57.8
28435 2376
4.97 49 47.58
7.20 + 25.80
9.23
11.30 13367
13.40 1337 50 44.0
15.40 13.38 46.0
17.60 47.6
19.55 49.3
12030 21.65 2382 57.8
12030 2382
25.80 50 47.64
27.80 29.900 − 34.26
30.00 29.90 6006
31.90 14677 1.77859
14950 34.00 49 47.58 1.17500
14950 50 13.375 50 47.64 295359
+ 25.80 1.89938
− 34.26 8.94579
6006 5 2 39
1.77859
1.17500
295359
1.89938
8.94579
5 2 39

M 23 55.55
M 25 14.87
R 25 14.92
R 25 14.82
14.87
79.32

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176

ε Virginis

h m s
12 56 9
" " 1.17609 0.11658 0.11559
+11 8 9.99101 9.99101
1.16710 0.00759

1879 April 1

56	31.22		56	23.4		
	33.38	35470		26.2		
	35.45	35.47		26.8		
	37.60			29.0		
2735	39.70		1351	30.7		
	177.35			13.51		
	43.80		56	27.02		
	45.95		+	25.22		
	48.05					
	50.19	52.244				
	52.20	52.24	57	21.0		
	54.37	52.24		23.3		
	56.46			25.1		
	58.60			26.8		
47020	0.68		1251	28.9		
	47020			12.51		
	4.80		57	25.02		
	6.85	9.020	−	32.78		
	8.95	9.02				
	11.15	10449				
4510	13.35		56	27.02		
	4510	56 52.240	57	25.02		
			+	25.22		
			−	32.78		
				5800		
				1.76343		
				1.16710		
				2.93053		
				1.86694		
				8.93641		
				4 56 13		

M 50 53.15
M 52 7.17
R 52 6.90
R 52 7.10
706
7361

587

α Virginis

h m s
18 18 4.9
° " 1.17609 0.11658 0.11559
−10 82 9.99262 9.99262
1.16871 0.00920

1879 April 1

19	10.75		19	3.6		
	12.95	14.984		5.5		
	15.00	14.98		7.6		
	17.00			9.4		
7492	19.22		373	11.2		
	74.92			3.73		
	23.30		19	7.46		
	25.48		+	24.29		
	27.57					
	29.68	31.748				
	31.80	31.75	20	0.8		
	33.90	31.75		2.6		
	35.95			4.7		
	38.00			6.7		
28573	40.05		233	8.5		
	285.73			23.3		
	44.36		20	4.66		
	46.38	48.534	−	32.91		
	48.58	48.53				
	50.68	63.51				
24267	52.70		19	7.46		
	342.67	19 31.750	20	4.66		
			+	24.29		
			−	32.91		
				5720		
		18 18 52.09		1.75740		
				1.16871		
				2.92611		
				1.87262		
				8.94651		
				5 3 9		

M 58 30.25
M 59 44.97
R 59 44.70
R 59 44.82
4483
7458

10 32 4.9

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287

θ Aquilae

h m s
20 5 4
° ″ 0.11658
-1 11 9.99991
0.11649

0.11559

1879 April 1

6 24.00 | 6 16.0
26.20 28.226 | 17.8
28.27 28.22 | 19.9
30.30 | 21.6
14113 32.35 | 989 23.6
14113 | 989
36.45 | 6 1978
38.50 | + 24.90
40.60
42.60 44.681
44.70 4468 | 7 12.4
46.70 44.67 | 13.8
48.80 | 15.4
50.88 | 17.2
40213 52.90 | 777 18.9
40213 | 777
57.00 | 7 1554
59.00 1.120 | − 30.86
1.10 1.12
3.20 8934
560 5.30 | 6 19.78
560 6 44.675 | 7 15.54
+ 24.90
− 30.86

R 38 52.32
R 38 52.25
~~52.28~~

607

α² Capricorni

h m s
20 11 20
° ″ 0.11658
-12 55 9.98887
0.10545

0.11559

1879 April 1

4.23 1.47 | 13 5.70 | 13 10.6
6.35 1.35 | 4.24 7.70 | 12.5
8.48 1.42 | 1.413 9.90 | 14.3
| | 15.7
| | 705 17.4
| | 705
12.70 1.30 | 7.15 14.00 | 13 14.10
14.82 1.38 | 1.43 16.20 18.180 | − 12.68
16.94 1.26 | 18.20 18.18
19.05 1.45 | 20.00
21.24 1.26 | 9090 22.50
| 9090 | 13 14.10

1.421
1.425

20 11 21.81

R 22 17.50
R 22 17.30
17.40

12 35 8.9

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307

β Aquarii

h m s
21 25 11
° ″
-6 6

0.11658
9.99753
0.11411

0.11559

1879 April 1

25	31.12		25	22.2	
	33.25	35298		24.3	
	36.30	35.29		26.6	
	37.35			28.3	
7649	39.47		313	29.9	
	17649			13113	
	43.66		25	26.26	
	45.66		+	25.62	
	47.70				
	49.75	51882			
	51.90	51.88			
	53.98	51.87			
	56.04				
	58.05				
1694	0.20				
	46694				
	4.25				
	6.39	8464			
	8.48	8.46			
	10.60	10375			
4232	12.60		25	26.26	
	4232	25 51.875	+	25.62	

R 32 47.22
R 32 47.35
47.28

309

ε Pegasi C. = 46.743

h m s
21 38 14
° ″
+9 19

0.11658
9.99423
0.11081

0.11559

1879 April 1

38	34.18		38	24.9	
	36.40	38382		26.8	
	38.38	38.38		29.0	
	40.48			30.7	
4191	42.50		435	32.1	
	19191			14135	
	46.70		38	28.70	
	48.80		+	26.40	
	50.95				
	53.00	55089			
	55.00	55.06			
	57.22	55.60			
	59.30				
	1.35				
4580	3.48				
	45580				
	7.58				
	9.69	11818			
	11.80	11.82			
	13.98	18020			
5909	16.04		38	28.70	
	5909	38 55.095	+	21.40	

R 7 52.55
R 7 52.65
52.60

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S

Sun C. 46.762

h m s
0 46 20
° ′ ″ 0.11658
+4 57 9.99836
0.11494

1879 April 2.

0.11559

45 30.88
32.90 34950
35.00 34.95
37.00
2475 38.97
17475
43.30
46.40
47.45
49.65
3745 57.65
53.72
55.80
58.00
0.05

47 8.6 +20.71 0.91 47 39.60
10.3 16.57 0.27 1.76 41.70 43828
12.0 16.51 0.31 44 43.80 43.82
14.0 14.46 0.39 46.04
101 15.2 12.38 0.38 1914 48.00
601 21914
47 12.02 8.26 0.36 4.62 52.10
6.14 0.41 .513 54.22
4.12 0.42 56.30
+2.04 0.44 58.40 0499
-0.00 0.80 0.80 0.49
2.06 0.49 2.55
4.13 0.47 4.60
6.12 0.55 6.67
8.27 0.58 449 8.35
449
.79 —
4.73 .395 —
6.20 -16.57 0.43 17.00
8.20 18.64 0.36 17.00
10.20 —
12.50
47 12.02

449
448

M 13 29.82

M 41 20.35
M 42 33.42
R 42 33.17
R 42 33.27
33.29
7254

84

β Eridani

h m s
5 1 54
° ′ ″ 1.17609 0.11658 0.11559
-5 15 9.99817 999817
1.17426 0.11475

1879 April 2

2 13.90
15.80 17.900
17.90 17.90
19.90
3950 22.00
8950
26.15
28.30
30.38
32.38 34480
34.50 34.48
36.57 34.47
38.60
40.64
4032 42.80
31032
47.00
49.00 61.050
51.00 51.05
53.00 6895
525 55.25
25525 2 34.475

2 6.0
7.6
9.1
10.7
461 12.7
461
2 9.22
+ 25.26
3 1.3
2.7
4.5
6.5
234 8.4
2.34
3 4.68
- 30.20
2 9.22
3 4.68
+ 25.26
- 30.20
55.4
1.74084 398
1.17426
2.91510 824
1.86058 297
8.94548 473
5 2 26 5 1 55

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87

β Orionis

h m s
5 8 43
o "
−8 21

1879 April 2

		1.17609	0.11658	0.11559	
		9.99537	9.99537		
		1.17146	0.11195		

9	2.90			8	63.7		
	4.85	7.020			55.4		
	7.00	7.02			51.6		
	9.00				59.5		
3510	11.25			380	1.8		
	3510				2880		
	15.30			8	5760		
	17.45			+	26.09		
	19.50						
	21.50	23.664					
	23.63	23.66		9	52.9		
	25.80	23.71			54.9		
	27.80				56.9		
	29.95				58.7		
3298	32.05			341	0.7		
	21298				2841		
	36.20			9	56.82		
	38.38	40404		−	33.13		
	40.40	40.40					
	42.47	47.42					
202	44.57			8	57.60		
	20202	9	23.693	9	56.82		
				+	26.09		
				−	33.13		
					59.22		
5	8	44.45		1.77247			
				1.17146			
				2.94392			
				1.87668			
				8.93275			
				4 53 44			

M	47	8.90	
M	48	24.15	
R	48	24.20	
R	48	24.20	
		24.18	
		7528	

8 20 87.3

91

γ Orionis

h m s
5 18 39
o "
+6 14

1879 April 2

		0.11658			0.11559
		9.99742			
		0.11400			

18	58.50			18	53.5		
	0.62	2684			56.3		
	2.70	2.68			57.1		
	4.80				59.0		
1342	6.80			359	1.0		
	1342				2859		
	10.90			18	57.18		
	13.00						
	15.15						
	17.22	19.260					
	19.30	19.26		19	56.0		
	21.30						
	23.40						
	25.50						
8334	27.57						
	17334						
	31.70						
	33.80						
	36.05						
	38.03						
	40.14			18	57.18		
		19	19.20				

M	12	14.95	
M	14	2.17	
R	14	2.10	
R	14	1.97	
		208	
		7713	

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93

S Orionis

h m s
5 25 50
° ′ ″ 0.11658
− 0 23 9.99999
0.11657

1879 April 2

0.11559

20.69	30.17	26	9.48		25	58.4	
18.56	30.06	150.64	11.50	13600		59.7	
16.37	30.11	30.128	13.60	1360		1.4	
14.45	30.20		16.70			3.0	
12.38	30.10	6800	17.72		75	5.0	
		6800				45	
8.25	30.15		21.90		26	1.50	
			—		+	28.63	
			—				
			—				
			—				
−2.06	30.14	150.74	32.20				
4.13	30.12	30.148	34.25				
6.19	30.14		36.33				
8.26	30.14		38.45				
12.38	30.12	150.55	42.50				
13.44	30.11	30.11	44.55	4 6630			
16.57	30.19		46.70	4663			
18.57	30.13		48.70				
20.70	30.00	3315	50.70		26	1.50	
			23315				

30.128
30.128

M 50 12.17.

556

α Leporis

h m s
5 27 24
° ″ 0.11658
−17 55 9.97841
0.99499

1879 April 2

0.11559

		27	42.15		27	42.5	
			44.25	4 6496		43.5	
			46.50	46.50		45.4	
			48.80			47.8	
		3148	50.78		291	49.9	
			23248			2291	
			54.88		27	45.82	
			57.30		+	17.90	
			59.42				
			1.50	3697			
			3.70	3.69	28	33.8	
			6.87	3.76		35.9	
			8.00			37.8	
			10.20			39.7	
		3327	12.40		390	41.7	
			3927			1890	
			16.68		28	3.60	
			18.90	21038	−	8408	
			20.90	21.03			
			23.24	12753			
		519	25.47		27	45.82	
			10519	28 3.675	28	37.80	
				725	+	17.86	
					−	34.12	

M 20 54.52.
M 22 0.17.

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96

i Orionis

h m s

5 29 81

−5° 59 0.11658 9.99763 0.11421 0.11559

1879 April 2.

		29	—	30	4.5			
			—		6.5			
			—		8.8			
+1953	11.33		56.80		10.8			
12.44	11.39	22.72	58.95	444	12.8			
		11.365			444			
8.80	11.38		8.00	30	8.88			
4.22	11.35	102.34	5.13	+	249			
4.15	11.43	11.378	7.28					
2.05	11.41		9.36	11.380				
−0.20	11.47		11.47	11.38	30	37.9		
2.07	11.41		13.48		39.7			
4.18	11.35		15.50		41.5			
6.22	11.38		17.60		43.0			
8.31	11.29	1242	19.60	2067	44.6			
			10242		2067			
12.74	11.38	56.76	23.82	30	41.34			
14.53	11.42	11.352	25.95	27.964	− 2997			
16.60	11.40		28.00	27.96				
18.66	11.32		30.00					
20.81	11.24	3982	32.05		30 8.88			
			13982		30 41.34			

11.365
11.366

M	26	36.90	
M	27	18.82	
R	27	18.87	
R	27	18.72	
		18.80	
		4190	

100

K Orionis

h m s

5 42 1

−9° 43 1.17609 9.99372 1.16981 0.11658 0.11030 0.11559

1879 April 2

		42	20.70			42	12.7	
			22.70	24.792			14.7	
			24.83	24.79			16.8	
			26.83				18.7	
		2396	28.90			839	21.0	
			12396				839	
			32.14			42 ~~43~~	1678	
			36.20				+ 2474	
			37.30					
			39.44	41.524				
			41.55	41.52		43	1.7	
			43.65	41.52			3.4	
			45.60				5.0	
			47.86				6.8	
		1372	49.98			256	8.7	
			37372				256	
			52.98			43	512	
			56.23	58254			− 2360	
			58.29	58.25				
			0.40	8304				
		4127	2.37			42	1678	
			29127	42 41.520		43	5.12	
							+ 2474	
							− 23.60	
							4834	
							1.68431	
							1.16981	
							2.85412	
							1.79477	
							8.94065	
							4596	

M	9	23.45	
M	10	25.75	
R	10	25.75	
R	10	25.87	
		25.79	
		62.34	

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102

α Orionis

h m s
5 48 37

° ′ 1.17609 0.11658 0.11559
+7 23 9.99638 9.99638
1.17247 0.11296

1879 April 2

48	57.40		48 47.0	
	59.50	1560	48.6	
	1.50	156	50.0	
	3.67		51.4	
780	5.73		2495 52.5	
	7.80		2495	
	9.90		48 49.90	
	11.90		+ 28.30	
	14.00			
	16.00	18.203		
	18.28	18.20	49 46.3	
	20.30	18.19	48.1	
	22.40		49.7	
	24.50		51.7	
7383	26.56		2496 53.8	
	163 83		2496	
	30.60		49 49.92	
	32.77	34820	− 31.72	
	34.88	34.82		
	36.80	3638		
2410	38.95		48 49.90	
	17410	49 18.195	49 49.92	
			+ 28.30	
			− 31.72	
			6002	
5 48 88.73			1.77830	
			1.17247	
			2.95077	
			1.89664	
			8.94587	
			52 43	

M	3	58.85	
M	5	17.75	
R	5	17.65	
R	5	17.62	
		1767	
		78.82	

7 22 58.2

106

μ Geminor

h m s
6 15 38

° ′ 1.17609 0.11658 0.11559
+22 34 9.96541 9.96541
1.14150 0.08199

1879 April 2

15	57.70		15 49.4	
	0.50	2.150	51.3	
	2.00	2.15	53.0	
	4.40		55.2	
1075	6.65		159 57.0	
	1075		2659	
	11.00		15 53.18	
	13.40		+ 2682	
	15.58			
	17.80	20008		
	20.00	2001	16 51.8	
	22.20	19.99	53.7	
	24.54		55.4	
	26.73		57.3	
007	28.80		277 59.5	
	18007		2777	
	33.45		16 5554	
	35.58	37844	− 35.54	
	37.80	37.84		
	40.04	3999		
3922	42.35		15 53.18	
	18922	18 19.995	16 55.54	
			+ 33.18	+ 26.81
			− 35.54	− 3555
			6872	62.36
			1.83708	1.79491
			1.14150	1.14150
			2.97858	2.93641
			1.87564	1.87564
			8.89706	8.93923
			4 58 8	

M	52	52.90	
M	54	7.97	
R	54	8.02	
R	54	8.02	
		800	
		75.10	

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118

β Can. Min.

h m s
7 20 [illegible]

° ′	1.17609	0.11658	0.11559
+8 22	9.99517	9.99517	
	1.17126	0.11175	

1879 April 2

20	56.00		20	47.9	
	58.00	0.146		49.8	
	0.18	0.14		51.8	
	2.20			53.2	
073	4.35		79	55.2	
	073			2579	
	8.45		20	51.58	
	10.50		+	25.23	
	12.70				
	14.70	16.806			
	16.80	16.80	21	44.0	
	18.95	16.82		45.8	
	21.00			47.7	
	23.0			49.4	
6125	25.15		386	51.7	
	15125			2386	
	29.36		21	47.72	
	31.45	33502	−	30.91	
	33.48	3350			
	35.58	3364			
1751	37.70		20	51.58	
	16751	21 16.810	21	47.72	
			+	25.23	
			−	30.91	
				5614	
				1.74927	
				1.17126	
				2.92053	
				1.86926	
				8.93873	
				4 57 48	

M	55	13.87
M	56	26.10
R	56	26.30
R	56	26.17
		2619
		7232

120

α Can. Min.

h m s
7 32 [illegible]

° ′	1.17609	0.11658	0.11559
+5 32	9.99797	9.99797	
	1.17406	0.11455	

1879 April 2

33	18.70		33	9.0	
	20.75	22816		10.8	
	22.75	22.81		12.5	
	24.90			14.0	
1408	26.98		617	15.4	
	11408			617	
	31.10		33	1234	
	33.20		+	2708	
	35.30				
	37.42	39439			
	39.50	39.44	34	13.0	
	41.50	39.39		14.3	
	43.63			15.7	
	45.70			17.2	
8495	47.70		302	20.0	
	354795			802	
	51.72		34	1604	
	53.90	55988	−	3662	
	56.00	5598			
	58.16	7879			
2994	0.17		33	1234	
	279.94	33 39.415	34	16.011	
			+ 0	27.08	
			−	36.62	
				6370	
				1.80414	
				1.17406	
				2.97820	

M	54	50.35
M	55	22.82
R	55	22.82
R	55	23.10
		2291 ✓
		2356

5 31 56.5

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122

β Geminor

h m s
7 37 55.

° ′ ″ 1.17609 0.11658 0.11559
+28 18 9.94465 9.94465
1.12074 0.06123

1879 April 2

38 13.40 38 4.4
15.77 18.130 6.2
18.18 18.13 8.0
20.50 9.6
4065 22.80 400 11.8
9065 400
37.40 38 800
29.76 + 2884
32.05
34.50 36.818
36.86 36.82 39 12.7
39.22 36.87 14.9
41.50 16.4
43.90 18.8
6136 46.18 336 20.8
32136 836
30.90 39 1672
53.25 55.624 − 39.88
55.67 55.62
58.00 7375
2812 0.30 38 8.00
27812 38 36.845 39 16.72
+ 28.84
− 39.88
68.72
7 37 56.98 1.83708
1.12074
2.95782
1.89642
8.93860
4 57 42.

M 8 25.25.
M 9 44.20.
R 9 44.07.
R 9 43.82.
44.03
7878

2819.29

570

ι Argus

h m s
8 2 23

° ′ ″ 1.17609 0.11658 0.11559
−23 57 9.96090 9.96090
1.13699 0.07748

1879 April 2

2 41.72 2 38.0
43.90 46.116 39.8
46.00 46.11 42.0
45.40 43.5
3058 50.56 96 46.3
23058 2098
55.15 2 41.96
57.40 + 22.20
59.60
1.90 4.178
4.20 4.18 3 34.1
6.50 4.13 36.4
8.62 38.8
10.93 40.7
3760 13.30 430 43.0
3760 19.30
17.70 3 38.60
19.87 22.154 − 34.44
22.10 22.15
24.50 12.826
1077 26.70 2 49.92
11077 3 4.155 3 38.60
+ 22.24
− 34.44
5668
1.75343
1.13699
2.89042
1.83264
8.94222
5 0 11

M 23 12.50.
M 24 20.40.
R 24 20.65.
R 24 20.52.
2052
68.02

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484

Ψ Draconis

h m s 5.4
17 44 30
+72 12 9.48529
9.6p187
1879 April 2

0.11658
0.11559

44	21.4			43	43.2	45	28.3	46	11.5										
	28.3				50.8		36.9		17.5										
	35.2				55.4		39.7		23.0										
	41.7	48.533			0.9		46.0		29.5										
	48.5			275	1.2	2023	52.4	175	36.0										
	55.6				2775		2023		1175										
	2.0			43	55.50	45	40.46	46	23.50										
	8.6				+ 53.03		− 51.93		−1 3497										
	15.5																		
	4368																		

43 55.50 45 40.46 46 23.50

M 16 27.25
M 17 9.45
M 17 25.00

485

35 Draconis

h m s
17 54 52
+76 58 9.35318
9.46976
1879 April 2

0.11658
0.11559

54	58.9			53	28.2	54	23.2	55	46.1										
	8.8				35.0		31.7		54.7										
	17.4				42.6		35.7		3.7										
	26.7	36.83			47.5		43.3		9.0										
	36.0			100	56.7	1848	57.9	135	20.0										
	45.3				2100		1848		135										
	53.9			53	42.00	54	3696	56	2.70										
	3.0				+ 54.83		− 0.13		−1 2587										
	11.5																		
	33 1.5																		

				56	47.5	57	51.0												
					53.8		58.0												
					3.8		6.7		7.94										
					12.2		16.8												
				188	21.5	397	28.2												
					188		397												
				57	3.76	58	7.94												
				− 2	26.93	− 3	31.11												

53 42.00 54 3696 56 2.70
57 3.76 58 7.94

M 30 9.90
M 30 25.67
M 30 51.92
M 31 9.07
M 31 25.82

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383

22 H. Camel Lo. C.

h m s
6 5 30
o " 0.11658
+110 39 9.97116
0.08774

1879 April 2

0.11559

5 46.6
52.9
58.7
4.0
9.7 10.044
15.8
21.7
27.5
33.5
~~39.017~~
904

5 20.3
24.4
27.0
34.9
40.8
1474
1474
5 29.48
+ 4056

5 59.2
5.0
10.2
17.4
20.0
23.7
755
6 ~~1310~~
12.58
− 2.54
5 29.48 58

7 4.6
9.3
16.0
20.7
283 27.7
783
7 1566
−1 562
7 15.66

M 53 0.70
M 53 41.22
M 53 11.60

256

Ors. Min.

h m s
18 ~~17~~ 44 22
o " 0.11658
+86 36 8.77310
8.88968

0.11559

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257

η Serpentis

h m s
18 15 3
° ′ ″
-2 56

1.17609
9.99943
1.17552

0.11658
9.99943
0.11601

0.11539

15 23.50
25.50 27.580
27.50 27.58
29.70
3790 31.70
13790
36.90
37.80
39.90
42.50 44.028
44.00 44.03
46.00 44.09
48.05
50.20
3625 52.40
39625
58.40
58.60 0.600
0.70 0.60
2.60 8818
300 4.70
300 15 44.060

15 15.8
17.5
19.0
20.7
452 22.2
952
15 1904
+ 25.02
16 10.5
12.4
14.2
15.9
205 17.5
705
16 1410
− 30.04
15 19.04
16 14.10
+ 25.02
− 30.04
5506
1.74084
1.17552
2.91636
1.85303
8.93667
4 56 23

M 22 37.25
M 23 48.70
R 23 48.37
R 23 48.55
4854
71.29

489

Ø Draconis

h m s
18 22 30
° ′ ″
+71 16

0.11658
9.50673
9.62331

0.11539

22 46.2
52.4
59.1
5.4
11.7
18.3
24.7
31.0
37.5
10.63
23 11.81

22 19.5 23 3.3 24 5.8
25.2 8.7 11.4
31.1 14.4 16.4
36.8 19.6 22.4
1546 42.0 714 25.4 354 29.4
1546 714 854
22 3092 23 1428 24 17.08
+ 40.89 − 2.47 − 1 52.7

22 3092 23 14.28 24 17.08

M 12 34.57
M 12 53.00
M 13 18.67

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111

57 Cephei L.C.

h m s
6 43 16
° ' "
+82 47 9.99949

0.11658
0.11559
0.11607

1879 April 2

603

o Sagittarii

h m s
18 47 46
° ' "
-26 27 9.95198

1.17609 0.11658
9.95198 9.95198
1.12807 0.06856

0.11559

48	3.70		47	57.3
	6.00	8.226		59.4
	8.23	8.22		2.0
	10.40			4.3
4113	12.80		86	5.6
	4113			86
	17.60		48	1.72
	19.80		+	24.98
	22.00			
	24.40	26.722		
	26.30	26.72	49	1.3
	29.00	26.67		3.0
	31.35			5.0
	33.65			7.3
6050	35.90		264	9.8
	24050			264
	40.50		49	528
	42.50	45.120	−	38.58
	45.00	45.12		
	47.40	53.34		
2560	49.80		48	1.72
	22560	48 26.695	49	5.28
			+	24.98
			−	38.58
				63.56
				1.80318
				1.12807
				2.93125
				1.87812
				8.94687
				5 3 24

M	51	54.82
M	53	10.42
R	53	10.50
R	53	10.12
		10.35
		75.53

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269

λ Aquilae

h m s
18 59 50
−5° 4′ 1.17609 0.11658 : 0.11559
9.99830 9.99830
1.17439 0.11488

0 9.90 0 2.0
12.00 14.110 4.0
14.20 14.11 5.7
16.25 7.2
2055 18.20 284 9.5
7055 284
22.30 0 5.68
24.40 + 24.90
26.40
28.55 30.556
30.55 30.55 0 56.0
32.60 30.62 59.5
34.70 1.0
36.70 2.7
500 38.80 57 4.5
2 500 57
43.00 1 1.14
45.00 47.134 − 30.56
47.00 47.13
49.29 6124
3567 57.38 0 5.68
23567 0 30.585 1 1.14
+ 24.90
− 30.56
55.46
1.74398
1.17439
2.91837
1.86064
8.94227
5 0 78 13

M 30 30.40
M 31 43.00
R 31 43.12
R 31 42.72
4295
7255

271

S Draconis

h m s
19 12 21 0.11658 0.11559
+67° 27′ 9.58375
9.70033

12 57.5 12 0.3 12 37.7 13 46.9
58.4 6.0 42.5 51.2
1.9 10.0 46.0 55.7
7.1 14.2 51.8 1.0
12.6 495 19.0 2335 55.5 2810 6.2
18.0 495 2335 2810
23.2 12 9.90 12 46.70 13 56.20
28.7 +1 2.72 +0 25.92 −0 43.58
34.2
1136
13 12.62 14 38.0 12
42.0
46.6
50.8
2316 55.2
2316
14 46.32
−1 33.70
12 9.90 12 46.70 13 56.20
14 46.32

M 1 40.60
M 1 59.77
M 2 33.82
M 2 58.02

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273

τ Draconis

h m s
19 17 52
° ″
+73 8 9.46262
9.57920

1879 April 2

0.11658 0.11559

18 5.0		16 54.0	17 40.3	19 8.6	
12.2		58.7	46.6	14.1	
19.3	4022	4 9	53.3	20.7	
26.4		11.1	58.4	26.8	
33.6		261 17.4	122 3.6	35 33.3	
40.6		261	2622	1035	
48.0		17 522	17 5244	19 2070	
54.9		+1 3500	+0 4778	−0 4048	
2.0					
3620					
~~3355~~		19 54.5			
		57.6			
		7.8			
		14.6			
		368 20.3			
		368			
		20 736			
		−1 2714			
		17 5.22	175244	19 2070	
		20 7.36			

M 20 51.42
M 21 10.27
M 21 43.50
M 22 2.92

277

γ Aquilae

h m s
19 40 30
° ″
+10 19 1.77609 0.11658 0.11559
999292 9.99292
1.16901 0.00950

40 50.30		40 42.0	
52.30	5 4454	43.2	
54.40	54.45	44.8	
56.57		46.9	
2227 58.70		259 49.0	
27227		2259	
2.78		40 4518	
4.90		+ 2626	
7.00			
9.10	11.203		
11.20	11.20	41 36.5	
13.30	11.69	38.5	
15.45		40.9	
17.50		43.2	
1083 19.60		42 45.1	
10083		2042	
23.80		41 4084	
25.90	2.7940	− 29.40	
27.95	25.94		
30.00	1.4339		
3970 32.05		4045.18	
13970	41 11.445	41 40.84	
		+ 26.26	
		− 29.40	
		5566	
19 40	31.71	1.74554	
		1.16901	
		2.91455	
		1.85643	
		8.94188	
		4 59 57	

M 8 6.50
M 9 18.22
R 9 18.70
R 9 18.12
1835
71.85

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283

α Aquilae

h m s
19 44 53
+8° 23'

Obj.

β Aquilae

h m s
19 49 22
+6° 6'

1.17609 0.11658 0.11559
9.99753 9.99753
1.17362 0.11411

49 42.12
44.18 46.300
46.30 46.30
48.40
3150 50.50
23150
54.58
56.67
58.65
0.78 2.851
2.83 2.85
5.00 2.79
7.00
9.00
2666 11.15
2566
15.35
17.30 19.386
19.38 19.28
21.40 125 58
4693 23.50
9693 50 2.8 20/75

49 42.6
43.6
45.3
47.7
285 49.3
2285
49 45.70
+ 17.12
50 33.4
35.0
37.0
38.8
348 40.6
1848
50 3696
− 34.14
49 45.70
50 3696
+ 17.18
− 3408
51.26
1.70978
1.17362
2.88340
1.82633
8.94293
5 0 40

19 49 23.48

M 20 58.22
M 22 5.67
O 22 5.12
R 22 5.00
5.26
67.04

6 6 11.1

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607

α^2 Capricorni

h m s
20 11 20
° " 0.11658
-12 55 9.98887
0.10545
0.11559

1879 April-2

11 39.80		11 35.3		
42.00	44.036	36.9		
44.00	44.03	39.2		
46.20		41.4		
2018 48.18		1960 43.2		
22018		1960		
52.55		11 3020		
54.68		+ 21.72		
56.68				
58.80	0900			
0.80	890			
2.93	0.93			
5.00				
7.29				
810 9.37				
810				
13.60				
15.80	17840			
17.90	17.84			
19.90	12.187			
3920 22.08		11 39.20		
8920	12 0.915	+ 21.72		

20 11 21.84

M 21 31.82

12 54 68.9

S

Sun C = 46.744

h m s
0 49 59
° " 0.11658
+5 22 9.99809
0.11467
0.11559

1879 April-3

49 8.70		50 13.8	51 17.60	50 38.7
10.72	12.840	16.1	19.65 21.724	40.4
12.80	12.84	18.5	21.70 21.72	41.8
14.93		20.0	23.80	43.5
1420 17.00		899 21.5	862 25.87	44.7
6420		899	862	209.1
21.16		50 1798	30.00	50 41.82
23.15		- 48.50	32.05	+ 5657
25.40			34.20	
27.55	29.514		36.28 38.353	
29.50	29.51		38.35 38.35	
31.55	29.46		40.40 38.30	
33.67			42.50	
35.75			44.70	
8563 37.90			7518 46.70	
26563			34.518	
41.98			50.70	
44.03	46096		52.78 54.892	
46.04	46.09		54.98 54.89	
48.18	5843		57.00 7661	
3048 50.25		50 17.98	2446 59.00	50 41.82
23048	49 29.485	- 48.50	27446 51 38.325	+ 56.50

M 49 49.25

M 22 28.67

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S

Sun C = 46744

h m s
1 0 55

+6 30 ° ' 0.11658 9.99720 0.11378

1879 April 6

7	0	3.50			1	13.5	2	12.20			1	42.7	26	6.78			26	0.9
4		5.00	7.080			15.4		14.05	16.200			44.4		8.90	10.922			2.7
8		7.10	7.08			17.8		16.20	16.20			46.3		10.95	10.92			4.6
5		9.10				19.6		18.25				48.5		12.98				6.4
7	3540	11.20			885	22.2	3100	20.30			2318	49.9	461	15.80			231	8.5
1		3540				885		8100				2318		5461				231
2		15.00			1	17.70		24.40			1	46.36		19.20			26	4.62
7		17.50				−5400		26.40			+0	46.42		21.30			+	22.78
		19.65						28.68						23.33				
		21.75	23.706					30.70	32.742					25.35	27.406			
		23.75	23.70					32.70	32.74					27.32	27.40		26	51.2
		25.90	23.69					34.82	32.78					29.40	27.41			53.2
		27.90						36.50						31.45				56.0
		29.95						38.58						33.60				57.0
	3335	31.95					2468	41.20					6665	35.70			250	58.6
		21335						29468						24665				2750
		36.05						45.20						39.80			26	55.00
		38.30	40310					47.30	49.360					41.80	43900		−	27.60
		40.30	40.31					49.30	49.36					43.90	43.90			
		42.45	47.39					51.40	6556					46.00	5482			
2	155	44.45			1	17.70	4680	53.60			1	46.36	1950	48.00			26	46.2
0		20155	0 23.695		*	−54.00		24680	2 32.78		+	46.42		21950	26 27.405		26	55.00
																	−	27.60

M 41 37.32

M 14 18.85

M 50 19.47
M 51 25.52

93

S Orionis

h m s
5 25 30

° ' 0.11658 9.99999 0.11657

1879 April 6

0.11559

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a

ζ Orionis

h m s
5 34 39

° ′	1.17609	0.11658
−2 0	9.99974	9.99974
	1.17583	0.11632

0.11559

1879 April 6

34 56.50			34 57.0	
58.60	0.604		52.5	
0.60	0.60		54.6	
2.60			57.0	
302 4.72			239 58.8	
302			2789	
8.70			34 55.78	
11.00			+ 21.20	
13.00				
15.00	17083			
17.02	1708		35 43.0	
19.10	17.08		45.0	
21.20			46.8	
23.30			48.5	
6375 25.45			338 50.5	
15375			2338	
27.45			35 4676	
31.53	33570		− 29.68	
33.62	33.57			
35.60	34.17			
1785 37.65			34 5478	
16785	35 17.080		35 46.76	
			+ 22.30	
			− 29.68	
			51.98	
			1.71584	
			1.17583	
			2.89167	
			1.83264	
			8.94097	
			4 59 20	

M 27	21.52	
M 28	39.92	
R 28	29.37	
R 28	29.32	
	2954	
	68.02	

100

K Orionis

h m s
5 42 1

° ′	1.17609	0.11658
−9 43	9.99372	9.99372
	1.16981	0.11030

0.11559

1879 April 6

42 17.74			42 7.6	
19.90	21.992		9.8	
22.07	21.99		12.4	
24.12			14.0	
996 26.20			94 15.6	
10996			5894	
30.40			42 ~~7.28~~	
32.50			11.88	
34.62			+ 26.86	
36.68	38.742			
38.70	38.74		43 9.3	
40.80	38.74		11.1	
42.88			13.1	
45.00			15.0	
7868 47.10			156 17.1	
34868			656	
51.37			43 1312	
53.38	55490		− 3488	
55.47	55.49			
57.55	7748			
2745 59.68			42 11.88	
27745	42 38.740		43 13.12	
			+ 26.86	
			− 34.38	
			61.24	
			1.78704	
			1.16981	
			2.95685	
			1.89443	
			8.93758	
			4 57 1	

M 9	21.30	
M 10	39.90	
R 10	39.65	
R 10	39.60	
	39.72	
	78.42	

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102

χ Orionis

h m s
5 48 37

+	1.17609	0.11658
+ 23	9.99638	9.99638
	1.17247	0.11296

0.11559

1879 April 6

48 54.70
56.70 58820
58.80 58.82
0.92
4410 2.98
29410
6.86
9.24
11.40
13.38 15343
15.50 15.34
17.60 15.40
19.65
21.70
4809 23.74
13909
27.85
29.90 31.984
32.00 31.98
34.00 15080
992 36.17
15992 49 15.370

48 44.3
46.1
48.6
50.6
423 52.7
2423
48 4846
+ 26.91

49 45.7
47.7
49.6
51.1
468 52.7
2468
49 49.36
− 33.99

48 48.46
49 49.36
+ 26.91
− 33.99
6090
1.78462
1.17247
2.95709
1.89625
8.93916
4 58 5

5 48 58.67

M 4 1.75
M 5 20.50
R 5 20.52
R 5 20.47
2050
78.75

7 22 58.2

256

S Urs. Min. Lo. 6.

h m s
18 11 21

	0.11658	
+ 93 24	9.99923	
	0.11581	0.11559

1879 April 6

9 18.2
58.0
10 28.4
11 2.6 37.39
36.6
12 12.2
46.5
13 21.4
55.6
2765
60
3365

6 55.2 7 58.1 8 59.0

11 58.3 12 29.0 13 6.0

M 6 1.42
M 56 57.15
M 6 32.00
M 6 36.80
M 6 33.97
M 6 31.52

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106

μ Geminor

h m s
6 15 38
+ 22 34

1.17609 0.11658
996541 996541
1.14150 0.08199

0.11559

1879 April 6

15 47.88
57.00 59.296
58.30 59.29
1.50
4648 3.80
29648
8.20
10.46
12.67
14.80 17.102
17.00 17.10
19.30 17.12
21.60
23.80
6392 26.00
15392
30.50
32.68 34.950
34.96 34.95
37.21 154 24
2475 39.40
17475 16 17.110

15 47.3
49.2
51.3
53.3
62 55.1
2562
15 51.24
+ 25.87

16 50.8
52.7
54.4
56.6
230 58.5
2730
16 54.60
− 37.49

15 51.24
16 54.60
+ 25.87
− 37.49
63.36
1.80182
1.14150
2.94332
1.88638
8.94306
5 0 46

M 52 53.12
M 54 10.72
R 54 10.22
R 54 10.25
1040
7698

107

γ Geminor

h m s
6 30 43
+ 16 30

1.17609 0.11658
9.98174 9.98174
1.15783 0.09832

0.11559

1879 April 6

31 0.40
2.60 4.720
4.70 4.72
6.90
2360 9.00
2360
13.35
15.60
17.70
19.72 21.936
21.95 21.93
24.00 21.91
26.20
28.40
1742 30.50
19742
34.83
36.97 39.104
39.00 39.10
41.32 43.82
4552 43.40
19552 31 21.920

30 55.9
57.8
59.7
1.6
480 3.0
2980
30 59.60
+ 22.32

31 46.4
48.3
50.0
51.9
04 53.8
2504
31 50.08
− 28.16

30 59.60
31 50.08
+ 22.32
− 28.16
5048
1.70312
1.15783
2.86095
1.80154
8.94059
4 59 4

M 57 16.00
M 58 19.35
R 58 19.45
R 58 19.15
1932
63.32

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118

β Can Min

h m s
γ 20 35
+8° 32' 1.17609 0.11658 0.11559
9.99517 9.99517
1.17126 0.11175

1879 April-6

20	20 53.80		20 43.5
	55.20	57220	45.9
	57.20	57.22	47.4
	59.30		49.1
	3610 1.40		368 50.9
	28610		2368
	5.60		20 47.36
	7.67		+ 26.56
	9.73		
	11.85	13939	
	13.90	13.94	21 43.2
	16.00	13.90	45.0
	18.20		46.6
	20.20		48.5
	3545 22.30		335 50.2
	12545		23355
	26.48		21 4670
	28.50	30596	− 32.78
	30.60	30.59	
	32.65	14781	
	298 34.75		20 47.36
	15298	21 13920	21 46.70
			+ 26.56
			− 32.78
			59.34
			1.77335
			1.17126
			2.94461
			1.884774
			8.94013
			4 58 45

M 55 12.60
M 56 29.30
R 56 29.37
R 56 29.20
2929
76.69

119

α Geminor

h m s
γ 26 52
+82° 0' 1.17609 0.11658 0.11559
9.92771 9.92771
1.10380 0.04429

1879 April-6

27	7.80		26 53.4
	10.25	12670	1.9
	12.70	12.67	4.0
	15.00		6.0
	1335 17.50		188 7.5
	6335		188
	22.40		26 376
	24.90		+ 28.40
	27.37		
	29.78	32186	
	32.17	32.18	28 0.7
	34.64	32.14	3.4
	36.96		5.5
	39.45		7.4
	1967 42.00		269 9.9
	28967		269
	46.75		28 538
	49.22	51626	− 33.22
	51.68	51.62	
	54.00	6429	
	813 56.48		27 3.76
	25813	27 32.160	28 5.38
			+ 28.40
			− 33.22
			61.62
			1.78972
			1.10380
			2.89352
			1.83257
			8.93905
			4.581

γ 26 54.68

M 18 23.10
M 19 31.40
R 19 31.07
R 19 30.87
31.11
68.01

32 8 72.1

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120

α Can Min.

h m s
7 32 58

	° '	1.17609	0.11658
+5	32	9.99797	9.99797
		1.17406	0.11455

0.11559

1879 April-6

33 15.80		33 7.7	
17.90	19.974	9.7	
20.00	19.97	11.8	
22.00		13.6	
9987 24.17		81 15.3	
9987		581	
28.36		33 11.62	
30.37		+ 24.95	
32.42			
34.50	36546		
36.56	36.58	34 7.8	
38.55	36.56	9.6	
40.65		11.4	
42.70		13.4	
5891 44.50		76 15.4	
32891		576	
49.00		34 11.52	
51.00	53160	− 34.95	
53.20	53.16		
55.30	7313		
1580 57.30		33 11.62	
26580	33 36.570	34 11.52	
		+ 24.95	
		− 34.95	
		5990	
7 82 59.89		1.77743	
		1.17406	
		2.95149	
		1.89048	
		8.93899	
		4 57 58	

M	55	2.87
M	56	20.55
R	56	20.57
R	56	20.62
		2058
		7771

5 81 56.5

122

β Geminor

h m s
7 37 58

	° '	1.17609	0.11658
+28	19	9.94465	9.94465
		1.12074	0.06123

0.11559

1879 April-6

38 10.52		37 58.7	
12.96	15226	0.7	
15.15	15.23	2.7	
17.60		4.4	
2619 19.96		129 6.4	
7613		12.9	
24.50		38 2.58	
27.00		+ 31.39	
29.37			
31.65	33971		
33.90	33.97	39 6.5	
36.28	33.97	8.4	
38.69		10.4	
41.00		12.4	
3574 43.40		26 14.9	
30574		526	
48.05		39 10.52	
50.33	52712	− 26.55	
52.70	52.71		
55.00	6794		
1356 57.48		38 2.58	
26856	38 33.970	39 10.52	
		+ 31.39	
		− 36.55	
		6794	
7 37 57.90		1.83213	
		1.12074	
		2.95287	
		1.89159	
		8.93872	
		4 57 47	

M	8	22.95
M	9	40.87
R	9	40.72
R	9	41.00
		4086
		7791

28 19 3.0

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1879phae.proj.1501.

570

l Argus

h m s
8 2 23

° ′	1.17609	0.11658	0.11559
−23 57	9.96090	9.96090	
	1.13699	0.07748	

1879 April 6

2	38.75		2	31.5		
	40.98	43286		33.3		
	42.30	43.28		35.4		
	45.60			37.5		
1643	47.80		272	39.5		
21643				1772		
	52.28		2	3544		
	54.50		+	25.88		
	56.79					
	58.98	1336				
	1.40	133	3	33.3		
	3.60	1.31		36.1		
	5.90			37.7		
	8.18			39.5		
1202	10.39		381	41.5		
	1202			1881		
	14.80		3	3762		
	17.00	19350	−	36.30		
	19.40	19.35				
	21.62	12263				
4675	23.93		2	35.44		
	9675	3 1.320	3	37.62		
			+	25.88		
			−	36.30		
				62.18		
				1.79365		
				1.13699		
				2.93064		
				1.86782		
				8,93718		
				4 86 44		

M	23	9.80	
M	24	23.55	
R	24	23.55	
R	24	23.57	
		2356	
		7376	

582

E Corvi

h m s
12 3 54

° ′	1.17609	0.11658	0.11559
−21 57	9.96732	9.96732	
	1.14341	0.08390	

1879 April 6

4	10.98		4	1.8		
	13.37	15556		4.0		
	15.65	15.56		6.4		
	17.78			8.3		
2778	20.00		305	10.0		
	7778			305		
	24.32		4	6.10		
	26.60		+	27.14		
	28.77					
	30.90	33160				
	33.20	33.16	5	2.2		
	35.40	33.23		3.8		
	37.60			6.2		
	39.72			8.5		
2844	42.03		307	10.0		
	29844			307		
	46.40		5	614		
	48.65	50900	−	32.90		
	50.95	5090				
	53.10	6646				
450	55.40		4	6.10		
	25450	4 33245	5	6.14		
			+	27.14		
			−	32.90		
				6004		
				1.77844		
				1.14341		
				2.92185		
				1.87157		
				894972		
				5 5 27 23		

M	22	45.55	
M	23	59.87	
R	23	59.92	
R	23	60.05	
		5995	
		7440	

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c

Safford's Star Lo. C.

h m s
20 16 42
+21 14

1879 April 6

M 15 14.70
M 14 46.72
M 46.65
M 45.45
M 44.65
M 44.27
14 45.55

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584

S Corvi

h m s
12 23 37

° ′	1.17609	0.11658
−15 50	9.98320	9.98320
	1.15929	0.09978

0.11539

1879 April 6

23 54.0		33 46.6	
56.13	58.286	48.9	
58.30	58.28	50.6	
0.45		52.8	
4143 2.55		34 54.5	
29143		2554	
6.80		23 5108	
9.00		+ 2432	
11.10			
13.30	1.5406		
15.40	15.40	24 46.8	
17.45	15.39	48.7	
19.70		50.8	
21.90		52.8	
4865 24.00		39 54.8	
13865		2539	
28.20		24 5078	
30.20	32.514	− 3538	
32.50	32.51		
34.70	1.5079		
1257 36.97		23 50.68	
16257	24 15.395	24 50.78	
		+ 24.72	
		− 35.38	
		6010	
		1.77887	
		1.15929	
		2.93816	

M	16 52.85	
M	195 12.75	
R	198 12.82	
R	198 12.87	
	1281	
	596	

585

B Corvi

h m s
12 28 2

° ′	1.17609	0.11658
−22 44	9.96488	9.96488
	1.14097	0.08146

0.11539

1879 April 6

28 18.70		28 12.8	
20.90	23.120	15.1	
23.00	23.14	17.5	
25.30		19.5	
1560 27.70		369 22.0	
11560		869	
32.00		28 1738	
34.30		+ 2362	
36.55			
38.70	4 0.983		
40.95	4098	29 9.0	
43.20	41.02	10.7	
45.45		12.3	
47.70		13.7	
885 50.00		113 15.6	
36885		613	
54.40		29 12.26	
56.70	58.910	− 31.26	
58.95	58.91		
1.20	8265		
4455 3.40		28 17.38	
29455	28 61.000	29 12.26	
		+ 23.62	
		− 31.26	
		5488	
		1.73941	
		1.14097	
		2.88038	
		1.82230	
		8.94192	
		4 5959	

M	9 36.32	
M	10 42.80	
R	10 42.82	
R	10 42.60	
	42744	
	6642	

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172

γ Virginis

h m s
12 35 32

° ′
−0 47 0.11658 9.99996 0.11654

0.11559

1879 April 6

35 50.77		36 4.4	
52.67	54.744	6.4	
54.70	54.74	7.7	
56.80		9.5	
2372 58.78		396 11.6	
27372		396	
3.10		36 792	
5.10		+ 3.34	
7.17			
9.30	11.290		
11.40	11.29	36 41.0	
13.33	11.23	42.9	
15.38		44.3	
17.50		46.1	
1161 19.60		223 48.0	
10161		2223	
22.60		36 4446	
25.65	27.736	− 33.20	
27.77	27.73		
29.85	142.47		
3868 31.80		36 7.92	
13868	36 11.260	36 44.46	
		+ 3.34	
		− 33.20	

1335 3477

M	111 15.37	
M	15 33.77	
R	15 33.20	
R	15 33.25	

0 47 27.0

174

S Virginis

h m s
12 49 30

° ′
+4 3 1.17609 9.99891 1.17500 0.11549

0.11559

1879 April 6

49 48.30		49 39.5	
57.52	53.554	40.8	
53.60	53.55	42.3	
55.65		43.9	
1777 57.70		125 46.0	
26777		2125	
1.65		49 4250	
4.00		+ 27.54	
6.90			
7.95	10022		
10.00	10.02	50 37.9	
12.15	10.05	39.8	
1410 14.00		41.9	
16.20		43.7	
020 18.35		89 45.6	
9020		2089	
22.40		50 41.78	
24.40	26.550	− 31.74	
26.60	26.55		
28.60	140.10		
3275 30.75		49 42.50	
13275	50 10.035	50 41.78	
	+.885	+ 27.54	
	10.040	− 31.74	
		5928	
		1.77291	
		1.17500	
		2.94791	
		1.88812	
		8.94021	
		4 58 48	

M	23 51.80	
M	25 9.27	
R	25 9.17	
R	25 8.82	
	9.09	
	77.29	

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176

ε Virginis

h m s
12 56 9
+ 0 11 37

0.11658
9.99101
0.00759

0.11559

1879 April 6

56 27.90		56 41.7
29.95	32046	43.4
32.00	32.04	45.1
34.05		47.2
8023 36.33		265 49.1
16023		2265
40.67		56 45.30
42.60		+ 3.60
44.85		
46.95	48.947	
48.95	48.95	57 15.7
50.98	48.89	17.7
53.00		19.5
55.22		21.5
8052 37.30		479 23.5
44052		979
1.55		57 19.58
3.65	5.750	− 30.68
5.75	5.75	
7.80	9.779	
2875 10.00		56 45.30
2875	56 48.895	57 19.58
		+ 3.60
		− 30.68

M 51 19.77
M 52 4.00
R 52 3.95
R 52 3.85
3.93

587

α Virginis

h m s
13 18 49
−10 0 32

1.17609
9.99262
1.16871

0.11658
9.99262
0.00920

0.11559

1879 April 6

19 7.87		19 1.9
9.60	11.740	3.5
11.80	11.74	5.4
13.83		7.8
870 15.90		285 9.9
5870		285
18.95		19 5.70
22.10 22.00		+ 22.74
24.23	28.409	
26.60	2772	
28.57	28.41	19 28.9
30.50	28.47	1.1
32.60		2.9
34.60		4.6
7568 36.73		145 7.0
25568		145
40.90		20 2.90
43.10	45212	− 34.46
45.30	45.21	
47.28	56.95	
2606 49.48		19 5.70
22606	19 28.440	202.90
	+.005	+ 22.74
	28.445	− 34.46
		5720
18 18	57.14	1.75740
		1.16871
		2.92611
		1.85992
		8.93381
		4 54 27

M 58 31.27
M 59 43.97
R 59 43.57
R 59 43.55
4370
7248

10 32 45

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87

β Orionis C = 46.740

h m s
5 8 43
° ′
−8 21

1879 April

		1.17609	0.11658	0.11559
		9.99537	9.99537	
		1.17146	0.11195	

8 59.00		8 54.5	
0.97	3.052	56.2	
3.00	3.05	58.6	
5.00		0.5	
1526 7.29		422 2.4	
1526		~~2842~~	
11.40		~~56~~	
13.50		2922	
15.60		8 58414	
17.70	19749	+ 21.26	
19.70	19.68	9 19.8	
21.80	19.72	57.4	~~5252~~
23.95		52.7	
26.04		54.5	
8714 28.05		146 58.2	
17774		2646	
32.20		9 52.92	
34.28	36392	− 33.22	
36.40	36.39		
38.48	3944		
3196 40.60		8 58.44	
18196	9 19.700	9 52.92	
		+ 21.26	
		− 33.22	
		54.48	
5 8 44.87		1.78624	
		1.17146	
		2.90770	
		1.84491	
		8.93721	
		4 56 46	

M 47 13.92
M 48 23.84
R 48 23.92
R 48 23.87
23.89
69.97

8 20 37.0

90

β Tauri

h m s
5 18 39
° ′
+28 80

1877 April

		1.17609	0.11658	0.11559
		9.94390	9.94390	
		1.11999	0.06048	

18 52.50		18 44.2	
54.70	57.184	45.4	
57.20	57.18	47.2	
59.60		49.4	
3592 1.82		374 57.2	
28592		2374	
6.60		18 4748	
8.85		+ 28.46	
11.28			
13.55	15944		
15.87	15.94	19 46.0	
18.38	1595	47.6	
20.65		49.7	
22.95		51.7	
5350 25.37		490 54.0	
14350		~~2490~~	
29.98		4980 ~~5100~~	
32.36	34718	− 33.86	
34.77	3472		
37.00	15190		
2359 39.43		18 4748	
17359	19 15945	19 49.80	
		+ 28.46	
		− 33.86	
		6232	
		1.79463	
		1.11999	
		2.91462	
		1.85260	
		8.93798	
		4 57 17	

M 57 8.95
M 58 19.92
R 58 20.42
R 58 20.17
20.17
71.22

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93

S Orionis

h m s
5 25 50
-0 23

0.11658
9.99999
0.11657

0.11559

1879 Apr-7

26	5.60		25	38.8
	7.63	9.640		1.0
	9.62	9.64		2.6
	11.60			4.5
4820	13.75		131	6.2
	4820			131
	17.85		26	2.62
	19.96		+	23.50
	22.04			
	24.05	26126		
	26.05	26.12		
	28.20	26.11		
	30.30			
	32.29			
5513	34.40			
	23513			
	38.50			
	40.50	42586		
	42.57	42.58		
	44.66	5222		
1293	46.70		26	2.62
	21293	26 26.115	+	23.50

M 50 18.67

556

α Leporis

h m s
5 27 24
-17 55

1.17609
9.97841
1.15450

0.11658
9.97841
0.09499

0.11559

1879 April-7

27	35.00		27	28.9
	40.20	42384		30.6
	42.45	42.38		33.0
	44.50			34.8
1192	46.77		137	36.4
	21192			1637
	50.97		27	32.74
	53.18		+	26.96
	55.32			
	57.58	59760		
	59.70	59.70	28	32.2
	1.85	59.70		34.0
	4.05			35.5
	6.20			37.1
8730	8.45		283	38.8
	58730			1783
	12.70		28	35.66
	14.83	17036	—	35.96
	17.00	17.03		
	19.25	18941		
3518	21.40		27	32.74
	8518	27 59.700	28	35.66
			+	26.96
			—	35.96
				6292
				1.79879
				1.15450
				2.95329
				1.89437
				8.94108
				4 59 24

M 20 43.87
M 22 2.20
R 22 2.27
R 22 2.37
228
7841

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a

ζ Orionis

h m s
5 34 39
-2° 0'

1.17609 0.11658 0.11559
9.99974 9.99974
1.17583 0.11632

1879 April 7

34 55.15		34 49.8		
57.30	59.332	51.6	53.180	
59.36	59.33	53.2	53.18	
1.35		54.8		
4666 3.50		159 56.5		
29666		2659		
7.58		34 53.180		
9.60		+ 22.63		
11.70				
13.80	15.826			
15.90	15.82	35 46.7		
17.82	15.80	48.7		
19.93		50.4	50.3	
2207		52.0		
5243 24.03		18 54.0		
14243		2518		
28.20		35 50.36		
30.20	32.270	− 34.55		
32.20	32.27			
34.30	151.60			
1135 36.45		34 53.18		
16135	35 15.810	35 50.36		
		+ 22.63		
		− 34.55		
		5718		
		1.75724		
		1.17583		
		2.93307		
		1.87116		
		8.93809		
		4 57.21		

M 27 21.82
M 28 35.92
R 28 36.17
R 28 36.37
36.15
7433

100

κ Orionis

h m s
5 42 1
-9° 43'

1.17609 0.11658 0.11559
9.99372 9.99372
1.16981 0.11030

1879 April 7

42 16.60		42 9.4		
18.65	20736	11.4		
20.73	20.74	12.9	13.02	
22.80		14.6		
370 24.90		151 16.8		
10368		651		
28.10		42 13.02		
31.27		+ 2445		
33.30				
35.40	37.486			
37.50	37.48	43 8.7		
39.55	37.46	10.2		
41.62		11.9	11.9	
43.75		13.4		
6737 45.88		597 15.5		
33737		3 597		
50.00		42 11.94		
52.05	54.186	− 34.47		
54.18	54.18			
56.30	7492			
2093 58.40		42 13.02		
27093	42 37.470	43 11.94		
		+ 2445		
		− 34.47		
		5892		
		1.77026		
		1.16981		
		2.94007		
		1.88717		
		8.94710		
		6 3 34		

M 9 24.62
M 10 41.90
R 10 41.70
R 10 41.62
41.74
7712

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102

α Orionis

h m s
5 48 37

1.17609 0.11658 0.11537
+7 23 9.99638 9.99638
1.17247 0.11296

1879 April-7

48 53.33		48 45.5		
55.50	57.550	46.7		
57.57	57.55	47.6	48.7	
59.60		50.2		
3775 1.75		435 52.5		
25775		2435		
5.83		48 48.70		
7.92		+ 25.47		
10.00				
12.10	14.186			
14.17	14.18	49 41.5		
16.30	14.16	42.9	44.95	
18.35		44.9	44.9	
20.40		46.8		
3767 22.60		249 48.8		
12767		2249		
26.64		49 44.98		
28.70	30.788	− 30.81		
30.80	30.78			
32.80	148.33			
394 35.08		48 48.70		
15394	49 14.170	49 44.98		
		+ 25.47		
		− 30.81		
		5628		
5 48 38.68	6	1.75035		
		1.17247		
		2.92282		
		1.86504		
		8.94222		
		5 0 11		

M 4 42.2
M 5 17.67
R 5 17.75
R 5 17.72
17.71
73.29

7 22 58.3

256

S Mus. Min. Le. 6

h m s
18 11 21

0 ' 0.11658
+98 24 9.99923
0.11581

0.11559

1879 April-7

11 36.88	9	17.6	2. 1928	10	5.4	11	54.5	13	8.7			
11 36.46		52.0	4446									
11 36.57	10	27.0	1 9.57									
	11	27.5										
11 28.49		38.5	1001	11	36.70							
11 36.69	12	11.5	34.81									
		+	1.9									
11 35.86	13	20.2	1 4434									
11 36.00		56.5	2 1850									
				19	17.1	20	16.0	28	6.2			

M 5 44.15
M 5 35.65
M 5 30.32
M 5 8.02
M 5 5.37

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106

μ Geminor

h m s
6 15 28
+22 34

0.11658
9.96541
0.08199

0.11559

1879 April 7

15 53.70		15 44.6	
56.04	58.140	46.7	
58.06	58.14	48.7	
0.35		50.4	
4070 2.85		427 52.3	
2907 0		142.7	
7.05		15 48.54	
9.80		+ 27.46	
11.55			
13.77	16.016		
16.01	16.01	16 56.9	
18.27	15.98		
20.50			
23.70			
5414 26.50			
14414			
28.30			
31.60	33810		
33.80	33.81		
36.05	151.95		
1905 38.20		1548.54	
16905	16 15.995	+ 27.46	

M 52 52.15
M 54 14.25
R 54 14.07
R 54 14.25
14.19
82.04

107

γ Geminor

h m s
6 20 48
+16 36

1.17609
9.98174
1.15783

0.11658
9.98174
0.09832

0.11559

1879 April 7

30 58.29		30 52.2	
1.48	3600	54.2	
3.62	3.60	55.8	
5.71		58.0	
1800 7.90		297 59.5	
1800		297	
12.18		30 53.44	
14.28		+ 24.82	
16.47			
18.65	20.758		
20.72	20.76	31 49.8	
22.92	20.76	57.7	
25.00		53.4	
27.20		55.0	
682 29.40		172 57.3	
682		172	
33.60		31 53.44	
35.76	37.928	− 32.68	
37.95	37.92		
40.03	41.52		
3964 42.30		30 55.94	
18964	31 20.760	31 53.444	
		+ 24.82	
		− 32.68	
		5750	
		1.75967	
		1.15783	
		2.91750	
		1.85673	
		8.93923	
		4 58 8	

M 57 12.85
M 58 24.80
R 58 24.60
R 58 24.85
24.75
71.90

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2

Safford's Star - Lo. C.

h	m	s		
20	16	42		
	°	′	0.11658	0.11555
+21	14		9.99990	
			0.11648	

1879 April 7

Sent No 3 + last 3 wires.

M	14	47.80
M		46.10
M		44.12
M		43.80
M		42.92
M		42.40

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491

Groom. 2640

h m s
18 35 58

+65 23 0.11658 9.961966 9.773624

0.11559

1879 April 7

36 8.4		35 20.5	36 53.8	37 22.4
13.5		24.5	51.0	26.4
18.4		28.2	1.4	30.4
23.4	28.28	31.0	5.9	35.4
28.2		402 36.0	3081 10.3	47 39.9
33.3		1402	3081	47
38.3		35 2804	37 162	37 3094
43.0		+1 024	−0 3234	−1 1266
48.0				
2545				

35 28.014 37 162 37 3094

M 5 44.55.
M 6 35.52.
M 6 51.42.

111

51 H. Cephei Le. 6.

h m s
6 43 16

+92 49 0.11658 9.999948 0.11606

0.11357

1879 April 7

40 53.0			40 10.3	41 24.4	42 33.0
41 39.4	2 5140		44 26.80		
42 18.0	2 8.20		26.30		
43 1.0	1 25.51		2651		
43.0	42.78		2578		
44 25.7	− 0.02		2568		
45 8.2	−4268		2552		
51.0	−1 25.42		2558		
46 33.2			18.17		
			44 26.88		
			44 5.8	45 26.9	

44.1 26.010

M 43 56.27.
M 50.97.
M 46.10.
M 40.65.
M 34.52.

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603

σ Sagittarii

h m s
18 47 46

° ′
−26 27

1.17609 0.11658
9.95198 9.95198
1.12807 0.06856

0.11639

1879 April 7

47 59.70
2.00 4290
4.30 4.29
6.55
2145 8.90
2145
13.82
15.78
18.05
20.36 22699
22.70 22.69
25.10 22.74
27.38
29.60
2429 31.90
2042.9
36.60
38.90 45.190
41.20 41.19
43.45 45.48
595 45.80
595 48 22.715

47 58.0
0.3
2.3
3.8
112 6.8
112
48 22.2
+ 20.48

48 52.6
53.9
58.7
0.7
415 2.6
39.15
48 58.30
− 35.58

48 22.4

48 58.30
+ 20.48
− 35.58
5606
1.74865
1.12807
2.87672
1.81902
8.94230
5 0 14

M 52 15.7
M 53 7.65
R 53 7.30
R 53 7.52
7.49
6592

493

υ Draconis

h m s
18 53 52

° ′
+71 8

0.11658
9.50970
9.62628

0.11557

1879 April 7

58 4.7
11.1
17.4
23.9 3029
30.2
36.8
43.2
49.5
55.8
726

54 57.2 55 43.0 56 56.3
1.8 43.0 0.6
6.8 53.5 504 7.0
12.7 58.4 12.8
362 17.7 171 4.2 15.7
362 2671 18.0
55 7.24 55 53.82 X 4.99
53.42 57 8.71

55 7.24 55 53.42 57 8.33

M 20 31.00
M 20 51.27
M 21 21.97

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270

ε Aquilae

h m s
18 59 57
0 ' 1.17609 0.11658 0.11559
+13 41 9.98750 9.98750
1.16359 0.10408

1879 April 7

0 6.80		0 3.6	
8.95	1050	5.1	
11.17	11.05	7.0	
13.20		9.2	
525 15.30		362 11.3	
525		362	
19.48		0 7.24	
21.60		+ 26.71	
23.70			
25.80	27.94		
27.90	27.94	0 59.5	
30.05	17.66	1.7	
32.22		3.6	
34.30		5.0	
7145 36.40		167 6.9	
25145		167	
40.65		0 33.4	
42.77	4488	- 35.39	
44.90	44.88		
46.90	5593		
2442 49.20		0 7.24	
2442	0 27.950	1 3.34	
		+ 20.71	
		- 35.39	
		561'0	
		1.74896	
		1.16359	
		2.91255	
		1.84714	
		8.93459	
		4 6459	

M 46 26.55.
M 47 37.12.
R 47 36.75.
R 47 36.77.
36.88
7033

271

S Draconis

h m s
19 12 31
0 ' 0.11658
+67 27 9.58375
9.70033

1879 April 7

12 47.3	11 57.6	12 35.0	13 34.4
52.6	2.1	38.4	39.4
57.9	7.2	32.8	43.0
3.2 12.876	11.2	37.6	48.1
8.7	344 16.3	1668 43.0	186 53.7
14.3	344	1668	2186
19.6	12 6.88	12 33.36	13 43.72
24.9	+0 1.88	-0 24.60	-1 84.96
30.3			
788			
	14 37.8		
	32.9		
	36.7 37.2		
	42.0		
	364 47.0		
	1864		
	14 37.28		
	-2 28.52		
	12 6.88	12 33.36	13 43.72
	14 37.28		

M 1 40.85.
M 54.62.
M 2 29.95.
M 55.35.

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