

KG
11365
239

K.28

V.2.

Zones

1864 Oct 5th -

Sold by T. Groom & Co., Stationers, India Building, 82 State St., Boston.

KG 11365.239

KG 11365.239

Zero Determined

1864

		No. Det.
Sept. 27 th	263° 41'	1
Oct 5	38.5	2
Nov. 1	41	1
— 2	49	1
— 16	57	
— 25	50	

8.8	19	15 44.4	1 23 5	+1.1 +7.37"
8.6	19	19 9.94	+1° 29' 24.6"	
8.2		19 31.72	31 8.8	Also dist at 12mm
9.0		22 53.96	31 4.5	
8.5		34 0.21	+1.1 26 44.1	12.1
8.0		34 0.33	+1.02 21 50.8	14.8
8.8		34 42.96	26 57.5	
8.9		45 43.88	+0.78 23 16.4	Last Star in Zone?
8.8		59 8.74	23 59.6	
8.7	20	0 10.05	31 11.1	
8.8		9 15.91	22 19.0	
8.4		19 50.32	28 41.2	
9.2		23 25.17	25 39.1	
9.0		24 10.90	25 12.8	
9.0		34 11.37	30 24.8	
7.8		40 43.91	20 20.2	
8.0		46 7.45	27 34.0	

19	13	53.4	57.4
14		56.2	60.3
15		10.7	14.8
15		42.9	47.2
15			18.3
16		22.8	27.3
16		44.1	48.4
17		3.8	8.0
17		20.9	25.1
17		31.4	35.9
17		48.7	52.9
18		32.9	37.1
18		54.7	59.2
19		9.1	13.2

19	13	54.0	58.4
14		57.0	61.2
15		11.3	15.6
15		43.7	47.8
15		44.7	49.0
16		6.7	10.8
16		23.6	27.7
16		44.6	48.8
17		4.4	8.5
17		21.6	25.7
17		32.2	36.5
17		49.3	53.6
18		33.7	37.8
18		55.5	59.7
19		9.8	14.0

1864 Oct 5th

JWS. ob.

Am. rev.

W' set at $173^{\circ}40'$ by ob. $173^{\circ}38'39''$

Telescope East of Pier

1864 Nov 27th

JWS. ob.

Am. rev.

W' set at $173^{\circ}51'$

Telescope E. of Pier

9.3	8 37
10.0	7 32
10.5-	9 36
9.0	2 56
10.0	10 34
11.0	5 8
10.0	0 49
13	
11.0	4 57
10.0	9 5-
10.3	1 32
11.0	4 55
10.3	5 25
8.5-	7 11
8.0	9 15-

9.4	9.3	9.8
	10.0	7 57
	10.5-	9 59
8.8	9.0	3 22
? 9.5	9.5-	10 58
9.5	10.5-	7 39
		5 8
	10.0	1 15-
	13	
	11.0	5 26
	10.0	9 30
	10.5-	1 59
	11.0	5 21
	10.5	5 50
9.0	8.5-	7 37
8.6	8.0	9 42

Star?

19	31.1	35.3
	~~D.D.~~	
20	4.0	7.9
20	45.3	49.5
21	10.0	14.0
21	31.1	35.3
21	56.7	61.0
22	6.9	11.1
	~~D.D.~~	
22	40.0	43.9
22	52.6	56.8
23	23.8	28.0
23	57.9	62.0
24	18.8	22.9
	~~D.D.D.B~~	
24	57.4	54.7
25	16.2	20.5
25	30.8	35.1
25	53.0	57.0
25	54.6	58.7
26	32.5	36.7
26	43.7	47.5
	~~D.~~	
27	18.0	22.3
	40.6	44.8
28	30.7	34.8
	52.4	56.7
29	36.3	40.5
30	12.6	16.8
	~~D.~~	
30	29.4	33.5
30	—	45.5
31	19.1	23.2
31	42.0	46.3
32	18.3	22.5
33	12.4	16.6
33	50.8	—
33	59.1	—
19 33	—	63.6

19	31.6	35.8
	~~B.D.~~	
20	4.4	8.6
20	45.9	50.2
21	10.5	14.7
21	31.6	35.9
21	57.3	61.5
22	7.3	11.7
	~~D.D.D.~~	
22	40.4	44.5
22	53.2	57.4
23	24.3	28.6
23	58.3	62.7
24	19.4	23.6
	~~D.~~	
24	51.0	55.3
25	16.9	21.1
25	37.5	35.4
25	53.4	57.5
25	55.1	—
26	3	37.2
26	44.2	48.4
	~~D.~~	
27	18.7	22.9
27	41.2	45.3
28	20.6	24.8
28	30.8	35.1
28	53.1	57.4
29	36.9	41.1
30	13.2	17.3
	~~D.B~~	
30	29.8	34.0
30	41.9	45.9
30	53.5	57.7
31	19.5	23.8
31	26.4	24.4
31	42.4	46.6
32	18.6	22.8
33	12.9	17.2
33	30.1	34.3
33	57.2	55.6
33	59.7	—
33	—	64.0

comp?

9.3 10 22
 2D

9.0 9.56
 9.0 4 43
 10.0 7 52
 11.0 6 10
 10.5 6 26
 10.5 5 5

B D

10.3 10 53
 8.5 10 53
 9.5 3 40
 10.5 3 45
 10.0 6 43

2B 2B

9.5 2 19
 9.7 10 35
 9.7 9 48
 10.0 4 48
 10.0 10 52 ns
 10.7 1 39
 9.5 9 39

B

9.3 10 40
 10.2 9 58
 10.5 3.47
 9.3 6.25
 11.0 7 16
 10.0 9 21

D

10.5 10 19
 10.0 3 0
 9.3 7 39
 9.5 1 14
 10.5 8 22
 9.2 9 47
 9.5 3 38 2L
 8.5 6 32 2L
 8.5 1 36 1L

comp 8 fall 12 11 mag

9.5 9.3 10 48
 B D

9.4 9.0 10 22
 9.1 9.2 5 9
 10.3 8 18
 11.0 6 35
 10.3 6 51
 10.2 5 29

2D 2D

10.2 11 18
 9.0 8.7 11 21
 9.5 10.0 9 4
 10.8 4 10
 10.2 7 7

B

10.3 2 45
 11 0
 10.2 10 14
 10.5 5 13
 10.0 11 18 2L ns
 10.3 2 3 1L
 9.8 10 4

9.5 11 5
 10.3 10 25
 10.7 10 58
 10.7 4 11

9.3 10.0 6 47
 10.3 9 40

9.5 10.0 9 46

2B

10.2 10 43
 3 28

9.0 10.0 10 23
 9.5 10.3 1 38

10.7 8 45
 9.3 9.0 10 12

9.5 10.5 8 30
 10.2 2 49

8.5 9 0 6 55
 8.0 9 0 2 2

comp 8 7

34 43.6 48.0
B.D

35 33.1 37.4
35 34.8 39.1
36 4.5 8.5 L
37 21.0 25.2
38 12.7 16.8 L
39 0.2 4.5
39 8.1 12.5
39 25.4 29.6
39 ~~25.2~~ 25.3
40 2.4 6.7

Examine here

D.
40 59.3 63.5
41 26.2 30.4 LL
42 17.3 21.4
42 19.5 23.7

D.D.B
43 28.4 32.5 L
43 52.6 56.8 L
44 49.0 53.1
45 43.2 47.3

19 34 44.4 48.5
B.B

35 33.7 37.9
35 35.3 39.6
36 1.4 8.9
36 33.8 38.2 *Some doubt about record here*
37 21.7 25.7
38 13.1 17.5
38 45.4 49.8
39 0.8 5.0
39 8.7 12.8
39 25.9 30.0
39 — 35.8
40 3.0 7.2

D.D
40 59.7 64.1
41 26.8 30.9
41 41.1 45.3
42 — 5.7
42 17.8 21.9
42 20.0 24.2

D
43 — 4.9
43 28.8 33.0
43 53.0 57.1
44 30.9 35.0
44 49.4 53.7
19 45 43.5 47.8

9.2 3 44
 BB
 9.5 2 16
 10.26
 10.7 5 39
 10.3 5 50
 9.8 7 27
 10.0 8 39
 10.5 10 12
 10.3 1 45
 10.5 10 30 may cl
 9.5 4 27
 D

9.8 4 30
 10.3 7 14
 10.5 9 18
 10.8 8 19
 BB
 11.3 8 38
 9.5 5 26
 9.3 5 31
 9.5 3 0
 clouds

Go on to next zone

8.8 4 13
 BB
 9.4 9.8 2 43
 9.5 10.0 10 51
 10.0 6 4
 10.2 4 42
 10.0 6 15
 9.5 9.7 7 52
 10.5 5 8
 10.0 9 5
 10.0 10 34
 9.5 10.2 2 10
 10.0 10 56 il
 9.1 4 54
 DD

9.5 10.2 4 55
 10.0 7 29
 11.0 9 41
 10.5 9 23 il
 9.7 9 42
 10.0 8 45
 D

8.5 9.0 5 21
 8.4 10.2 5 56
 8.9 9.0 2 27

10.5 10 8 il
 9 2
 9.0 5 21
 10.2 5 56
 9.0 2 27

8.5 19 43 53.6 + 1 25 40

8.4 44 50.0 1 25 45

8.9 45 43.88 1 23 16.4

8.8 59 8.74 1 23 59.6

8.8 20 9 15.91 1 22 19.0

- 8.4 19 50.32 1 28 41.2 LL

+ 9.2 23 25.17 1 25 39.1

9.0 24 10.90 1 25 12.8

- 9.0 34 11.37 1 30 24.8

7.8 40 43.91 1 20 20.2

8.0 46 7.45 1 27 34.0

~~21 23 16.73 1 31 14.0~~

9.3 21 12 36.74 1 25 37.2

9.0 17 59.68 1 22 7.6

8.0 18 39.77 1 27 49.9

Catalogue observed here a little beyond zone

AR obs. at Cambridge

(Circuit weak
rec'd bad at first)

19 42 17.8 22.0

48.4 52.7

57.8 62.2

43 28.5 32.8

52.6 56.8

44 26.6 —

44 30.7 34.9

44 49.0 53.2

45 1.6 6.0

45 33.2 37.4

46 28.6 —

46 40.1 44.3

46 42.4 46.5

47 20.7 25.0

47 24.4 28.7

19 47 44.5 48.6

Doubtful if 2 min 40 sec

Catalogue

19 42 17.8 22.0

19 42 17.8 22.0

19 42 17.8 22.0

43 28.5 32.8

43 30.1 34.4

43 52.6 56.8

44 26.6 30.9

44 — 34.7

44 49.1 53.3

44 57.2 61.5

45 33.2 37.4

46 28.7 32.9

46 40.0 44.2

46 —

47 21.2 25.3

47 — 29.0

19 47 44.6 48.9

Nov 12th 1864
 J.H.S. Obs.
 AM. Recorder

W' 3 53 41
 3 53 38

Telescope E. of Pier

10.	9 19	
10.3	10 28	
10.5	6 59	
10.3	8 40	
8.5	5 27	
11.0	7 56	2l
10.8	8 41	ns
8.5	5 34	
9.7	0 47	
9.0	3 3	
11.0	9 21	2l
10.0	5 16	
10.0	10 7	ns
10.0	3 26	
10.2	2 16	
9.7	7 2	

catalogue

~~Nov 15 1864~~

~~AM. Recorder~~

~~W'~~

1864 Nov 19th
 J.H.S. Obs.
 AM. Recorder

W' 173° 51' set

Telescope E. of Pier

The magnitudes are not
 given early in the season
 of twilight.

(9.5)

8.5

8.4

8.9

10.0

10.0

10.25

9 23

6.9

10.3

8 40

10.5

9 23

6 15

1 3 2

3 45

10 1

5 58

4 8

2 58

7 45

*See beginning of last
 zone.*

D.

48 32.0 36.2
 48 39.5 43.8
 49 34.9 39.0
 50 2.0 6.1
 50 29.3 33.5
 50 52.6 56.7

10.

51 5.2 9.5
 51 20.0 24.3
 51 39.0 43.3
 52 3.1 7.3
 52 4.1 8.3

D.

52 55.6 59.6
 53 31.2 —
 53 35.1 39.3
 53 58.8 63.1
 54 24.6 28.7
 54 35.7 39.8
 54 37.0 41.2

10.00.

55 24.6 28.9
 55 35.0 38.9
 56 21.4 25.6
 56 33.6 37.9
 56 34.3 38.5
 56 59.5 63.8
 57 26.4 30.5
 57 50.8 54.9
 57 — 59.7
 58 6.2 10.4
 58 44.6 48.8
 59 8.1 12.4
 59 20.0 24.2

D.D.

19 59 51.3 55.6
 20 0 9.0 13.0
 0 38.5 42.6

19 48 32.2 36.4
 48 39.7 43.0
 49 35.0 39.4
 50 2.3 6.3
 29.6 33.8
 52.7 57.1

51 5.5 9.6
 20.3 24.4
 39.3 43.4
 52 2.8 7.4
 3.4 7.7
 26.7 29.3
 30.0 31.6
 55.7 60.0

53 30.5 34.9
 53 — 39.4
 53 59.0 63.2
 54 24.6 28.9
 54 35.8 40.0

D.

55 24.5 28.8
 34.9 39.0
 56 21.6 25.7
 34.0 38.3
 34.7 39.0

57 14.5 18.7
 57 21.5 30.8
 57 51.1 55.3
 57 — 60.0
 58 6.6 10.9
 58 45.0 49.2
 59 0.7 4.9
 59 8.5 12.7
 59 20.4 24.6

D.D.

19 59 48.4 52.8
 19 59 51.5 55.7
 20 0 38.8 42.0

9.8 2 56
 10.0 0 16
 10.5 6 38
 9.8 6 0
 9.5 5 7
 9.5 4 29

B

9.3 6 16
 9.2 7 47
 11.0 9 30
 11.0 7 23
 9.7 20 40

D

10.0 7 13
 10.2 10.41 2L
 10.2 9 49 ns
 10.7 6 32
 10.3 6 30
 8.8 10 30
 10.3 7 48 ns

BB

10.0 4 16
 9.2 3 7
 10.2 6 55
 11.0 4 29
 10.7 4 38
 9.0 11 9
 10.5 5 56
 8.7 4 47
 10.0 7 43
 9.2 8 13
 10.8 5 31
 9.0 3 47
 10.0 5 33

DD

8.8 0 39
 8.8 11 5
 10.0 7 3

9.5

3 43

~~4 52~~

7 19

6 47

5 50

5 11

9.5

6 58

8 30

10 12

double comp 8 pre 15° angle

7.51 8.3

 $\begin{pmatrix} 7.37 \\ 10.32 \end{pmatrix}$

7 54

0 26 very bright

10 29 1L

7 14

7 12

11 11

8 30

ABL

D

4 57

3 49

7 37

5 10

5 19

9 58

6 37

5 29

8 26

1L

8 55

6 15

4 52

4 30

6 15

9 9

5 30

7 12

7 45

9.3

9.2

9.2

8.8

9.0

8.7

10.0

10.3

9

1	13.1	17.0
1	32.2	36.5
1	43.4	47.6
2	2.7	6.9 $\angle$
2	24.3	28.7
2	42.6	46.7
2	44.5	48.6
B.		
3	23.7	27.9
4	20.9	
4	—	25.0
4	—	49.9
5	5.9	10.1
5	17.4	21.6
5	53.8	58.2
5	56.9	61.0
B.D.		
6	22.1	26.3
6	57.6	61.7 $\angle$
8	12.3	16.5 $\angle$
8	30.3	34.5 $\angle$
9	14.8	19.0
9	22.0	26.0
B.D.D.		
9	55.7	59.9 $\angle$
10	50.4	~~54.7~~ $\angle$
11	0.0	4.3
11	4.1	5.2
11	—	52.0
B.		
13	18.2	22.5 $\angle$
13	24.5	28.7
13	44.4	48.8
13	59.4	63.5
14	5.1	9.3
D.		
14	28.0	32.2
14	51.6	55.7
15	23.2	27.4
20	36.1	40.2

20	1	13.3	17.5
	1	32.5	36.8
	1	43.8	48.0
	2	3.0	7.2
		13.2	17.5
		24.5	28.7
		42.8	47.0
		44.5	48.8
B.			
	3	16.1	20.6 $\angle$
		24.0	28.0
	4	21.4	~~25.5~~
		—	25.5
	4	46.1	50.4
	5	6.1	10.3
	5	17.7	21.8
	5	54.1	58.4
	5	57.1	61.3
D.			
	6	22.3	26.5
	6	57.6	61.9
	8	36.7	40.9
	8	12.5	16.8
	8	28.3	32.4
	8	30.5	34.8
	9	12.1	16.4
	9	15.0	19.3
	9	22.2	26.5
	9	55.9	60.2
	10	50.5	54.7
	11	0.3	4.5
	11	1.4	5.5
	11	48.0	52.2
B.D.			
	12	20.8	25.2
	13	18.5	22.7
	13	24.7	28.9
	13	44.7	49.0
	13	59.7	63.9
	14	5.4	9.6
	15	23.6	27.9
20	15	36.3	40.5

10.5 7 31

9.5 5 25

9.8 10 2

10.8 5 12

9.3 1 5

10.5 9 40

10.2 7 21

B

10.2 9 44

10.2 6 41

9.7 1 14

10.0 1 0

9.8 7 29

10.0 8 57

9.5 2 20

10.5 8 38

B D

10.5 0 59

11.0 8 56

10.8 10 11

9.7 5 2

8.8 2 12

10.0 6 46

B D D

11.0 7 45

10.0 8 20

9.7 3 16

10.2 7 20

9.8 3 33

B

9.5 6 40

10.2 10 40

10.5 3 51

10.5 9 16

10.0 2 27

D

11.0 7 30

11.0 5 25

10.7 1 21

9.8 9 3

9.5

9.4

9.3

9.5

10.7 8 14

9.7 6 7

10.0 10 44

10.2 5 53

10.5 3 53

10.0 1 49

8 10 21

8 2

B 0 21

9.8 10 35

7 23

1 56

1 45

9.8 8 8

10.0 9 40

9.7 3 0

10.8 9 18

D

10.8 1 41

10.5 7 37

10.5 3 0

10.3 10 52

9.5 3 35

9.5 3 45

10.0 6 24

10.5 2 53

10.8 7 30

10.7 8 28

10.0 9 1

10.0 3 57

10.0 8 1

9.5 4 16

10.5 4 2

9.5 7 23

7.7 11 23

4 35

9 51

9.5 3 9

10.3 6 5

10.3 11 2

9.3 9 45

doubt 12th day X fall 25th

doubt comp 25 fall

pre two

Catalogue
Omit 1 wire on rep.Omit 2 wire
Omit 2 "
Omit 1 of "

15	56.0	60.2
16	34.8	39.1
16	49.6	—
16	55.9	60.0
17	9.1	13.4
17	38.9	43.2
18	2.4	6.7
	0.0	
18	55.9	50.0
18	48.2	52.4
19	11.9	16.2
19	29.1	33.3
19	49.2	53.4
20	9.0	13.2
20	27.4	31.6
	0	
21	28.9	23.2
21	23.9	28.3
	43.8	48.0
22	18.4	22.8
	42.7	47.0
23	12.6	17.0
	17.0	21.1
	23.7	27.8
	40.7	45.0
24	10.0	14.2
25	13.2	17.4
25	14.3	18.3
	D.	
25	52.5	—
26	3.1	7.4
27	12.6	16.7
27	19.9	24.1
27	55.6	—
27	59.5	63.8
28	15.1	19.2
20 28	37.5	41.7

20 15	56.3	60.5
16	35.2	39.5
16	50.0	54.2
16	56.2	60.5
17	9.3	13.6
17	39.5	43.7
18	2.7	6.9
	0.13	
18	46.1	50.4
18	48.6	52.6
19	12.2	16.5
	29.5	33.7
19	—	52.9
	49.6	53.7
20	12.2	13.5
20	27.8	31.8
21	19.3	23.3
21	24.2	28.5
21	43.9	48.3
22	18.6	22.9
22	43.1	47.3
23	12.9	17.2
23	—	21.5
23	23.9	28.1
	40.9	45.0
24	10.3	14.5
24	33.3	37.7
25	13.5	17.7
25	14.6	18.9
	B	
25	52.8	57.0
26	3.5	7.6
26	35.0	39.2
27	13.1	17.2
27	55.8	60.0
28	0.0	4.1
28	15.4	19.6
20 28	37.9	42.2

9.5 10 13
 10.8 9 29
 9.7 7 10 2 l
 10.8 9 22
 10.3 1 50
 10.5 9 34
 10.0 7 21

B D

10.7 1 50
 10.0 8 44
 9.8 6 16
 9.7 9 35
 10.0 9 16
 8.5 8 29
 10.7 4 48
 10.5 8 16

B

9.2 9 7
 9.3 7 17 ns
 10.0 0 39
 10.0 2 37
 10.0 9 0
 10.0 2 1 2 l
 10.0 1 20 ns
 9.0 5 30
 10.3 6 1
 9.3 5 8
 10.5 6 5
 10.2 8 38

D

11.0 5 59 2 l
 10.8 1 31
 10.3 3 56
 10.2 9 30
 10.2 6 26 2 l
 9.3 6 30
 10.8 4 39
 8.3 2 25

22

9.2 10.55
 10.2 10 10
 10.2 7 52
 10.3 10 2
 9.7 2 33
 10.0 10.15
 9.3 8 1

A B

2 33
 9 25
 9.8 6 58
 9.5 10 16
 10 9 57 1 l
 8.5 9 10
 10.2 5 30
 10.3 8 56 1 l
 10.0 8 57

A

9.5 9.3 9 47
 9.5 9.3 7 58
 9.8 1 23
 10.0 3 18
 9.5 9 43
 2 45
 2 3 1 l

Catalogue

9.5

9.2

Catalogue 9.0

8.8 6 13
 10.0 6 45
 9.5 5 51
 10.2 4 21
 9.8 9 20

10.3 6 40
 10.2 2 44
 10.5 1 5
 10.3 4 40
 10.2 7 9

9.0

9.5 7 13 2 l
 10.2 5 22
 8.3 8 38

29	8.6	12.7
29	19.2	23.2
29	38.4	42.8
29	—	45.7
30	11.6	15.7

B.B

30	38.5	42.7
30	39.9	44.2
31	12.1	16.4
31	17.3	21.6
31	36.6	40.9
31	46.5	50.8

32	34.7	
32	39.3	43.5
32	57.0	61.2
33	49.4	53.6

B.D

34	10.3	14.6
34	38.8	
34	48.5	52.8

35	20.6	24.5 L
36	1.1	5.4

36	10.5	
----	------	--

36 16.0 ² ~~what~~
Probably circuit mistake

37	2.7	6.8
37	14.2	18.3 L
37	42.2	46.4
38	3.1	7.3
38	18.1	22.2

D.D.D

38	54.3	58.4
39	22.7	27.0
39	58.3	62.5
40	43.1	47.2
41	18.6	22.9
41	51.8	56.1
42	6.2	10.4
42	12.0	16.0
42	29.5	33.7

B.D

20 29	8.9	13.1
29	—	23.7
29	38.9	42.8
29	41.9	46.3
30	11.8	16.1

30	38.8	42.9
30	40.3	44.4
31	12.4	16.4
31	17.7	21.9
31	37.0	41.2
31	46.7	50.8

32	35.1	39.3
32	39.9	43.8
32	57.4	61.6
33	49.5	53.8

34	10.6	14.9
34	35.0	39.3
34	49.0	53.2

35	20.9	25.0
35	37.8	42.1
36	1.4	5.6
36	1.8	11.0

D.B.B

36	53.5	57.2
37	3.1	7.3
37	—	18.7
37	24.4	28.7
37	42.5	46.8
38	—	7.6
38	18.0	22.4

B

38	54.7	58.9
39	23.1	27.3
39	58.7	63.0
40	43.3	47.7
41	19.1	23.2
41	52.0	56.3
42	6.5	10.6
42	12.0	16.2
20 42	29.8	34.0

11.0 9 1
 11.0 3 0
 10.0 2 10
 11.0 1 54 1L
 10.7 6 25
 BB

9.8 5 0
 10.0 3 38 ms
 10.7 6 10
 10.7 4 30
 10.0 6 43
 11.0 3 35
 10.7 7 31 2L
 10.5 8 35
 9.0 10.8
 11.0 8 23

BB

8.7 10 17
 10.5 8 3
 9.2 9 53
 11.0 9 2
 9.3 1 47
 9.5 7 55 1L
 D

11.0 3 0
 11.2 9 37
 10.2 7 10
 10.5 10 19
 10.0 3 50

DD

10.2 8 25
 11.0 5 38
 9.2 8 36
 7.5 0 11
 10.7 3 16
 9.8 2 35
 9.3 8 57
 10.5 5 55
 9.7 5 55
 BB

Catalogue
 Examine wire

Catalogue

10.8 9 45
 10.7 3 43 1L
 9.3 2 53
 10.0 2 38
 10.5 7 6

10.0 5 42
 10.3 4 21
 10.0 6 50
 10.0 5 11 ms
 9.5 7 25 (doublet)
 10.7 4 16
 8 15
 9 18 ms

9.0 9.0 10 48
 11 0 9 36
 8.5 10 59

10.5 8 45

9.8 10 36

10.7 9 45

9.4 11.0 2 31
 9.3 2 28
 9.7 8 37
 BB

10.8 3 15

11.0 3 45

10.8 10 26 doubt

9.0 0 26

10.3 7 54

11 0 1L ms

10.0 4 32

B

10.5 9 6

11.0 6 18

9.7 9 16

9.0 0 55

10.3 3 59

9.8 3 17

9.3 9 40

10.3 6 28

9.5 9.8 6 28

D

20 42 55.0 59.3

43 14.5 18.7

43 27.2 31.5

43 37.1 41.3

43 50.1

43 54.4 58.7

44 8.5 12.7

5.13

~~44 33.2 36.4~~

44 34.3 38.6

44 44.5 48.8

45 6.9 11.4

45 14.2 18.5

Probably nothing

20 42 55.3 59.6

43 14.9 19.1

43 27.7 31.9

43 37.5 41.7

43 50.3 54.6

43 — 58.9

44

44 34.6 38.8

44 44.8 49.0

45 7.4 11.7

45 14.5 18.7

46 7.1 11.3

10.0	1 34	
9.8	10.5-	
9.3	6 0	
9.5	4 30	
9.7	7 11	2L
9.5	3 30	
10.5	3 57	

2B

9.7	10 50	
10.0	6 41	
10.7	7 27	
11.0	7 30	
8.0	7.22	
10.0	2 39	
10.7	9 44	1L
10.5	7 12	
10.0	2 42	
10.5	3 53	

2

9.8	6 53	
10.2	5 53-	
10.0	6 18	
9.3	10 17	
10.3	9 40	
10.2	5.53-	
10.5	3 50	
10.2	11 0	
10.0	3 11	

9.3	3 36	
10.0	10.50	
9.7	10 18	
11.0	5 59	

9.8	6 46	2L
10.0	7 58	1L

B

10.2	9 48	
9.7	11 27	
9.7	9 50	
10.2	8 31	

10.5-	2 16	
9.5	9.3	10 47
9.0	9.3	6 42
9.4	9.7	5 12
10.0	7 52	
10.3	4 13	2L
4 39	ANL	
	Flu	
9.5-		Flu
10.2	7 24	
10.5	8.7	
10.8	8 4	
8.7	8 4	

11.0 530

213

10.5 50

8.3 546

10.3 222

11.0 929

10.0 919

10.0 1012

1313

10.2 42

10.0 1035

10.3 332

10.0 1018

9.5 928

10.5 54

8.8 932

10.7 741

10.5 820

93+ 10

1322

10.0 412

10.8 910

11.0 840

10.3 411

10.5 958

10.0 321

11.0 522 12

9.5 947

10.2 337

9.8 620

11.0 258

10.7 021

10.5 658

13

10.3 842

11.0 1044

8.3 1025

9.7 724

11.0 730 21

9.8 1053 12

Q

10.8	5	0	
9.0	6	1	
8.5	11	9	
9.3	5	34	
11.0	3	38	mid of pair doubt
10.5	5	2	1l
10.3	2	39	

DB

10.2	9	48	
10.0	1	38	
8.3	7	11	begin next zone
9.2	7	53	
10.0	6	0	2l 1st not good
9.3	9	39	
11.0	5	1	

10.5	4	42
10.0	3	18
10.0	5	28

B

10.5	6	30
8.8	2	0
8.0	10	7
8.5	7	42

End

		20 54 23.20	+ 1° 38' 44.7"	+ 14° - 2' 51"
6 44		21 1 7.35	1 40 56.9	
1 2		2 9.14	1 36 10.8	✓
3 45		5 53.79	1 41 6.0	✓
6 25		12 18.73	1 31 14.0	✓
4 52		27 11.10	1 44 2.3	
0 34.		27 45.61	1 39 31.8	
0 19		28 4.53	1 37 59.4	Minute of Dist. ?
4 38		32 42.45	1 38 18.9	
0 12		32 54.08	1 31 52.0	
Does not exist.		~~40 54.94~~	~~1 39 54.7~~	(Catalogue)
14 24	9.5	47 18.1	1 31 48.	
3 44	9.5	51 2.6	1 37 50	
1 34	9.4	52 37.32	1 34 38.4	Schjellerup.
3 40	9.3	50 16.5	1 33 4.	
15- 36	9.4	~~22 11 54.1~~	1 37 5.	
19 44	8.0	31 36.	+ 1° 26' 6.1	et Schjell.
20 53	44.1	48.4		
54	17.8		20.67 Orii 1854.7	
54	21.6	25.7		
54	37.2	41.4		
55	26.0	30.3		
55	40.5	44.6		
55	53.5	57.7		
56	2.8	6.9		
B				
56	29.9	34.4		
56	44.1	48.3		
56	58.4	62.6		
57	7.0	11.1		
57	35.2	39.4		
58	17.5	22.0		
58	54.1	58.1		
59	15.3	19.4		
59	27.4	31.6		
20 59	39.3	43.4		

1864 Nov 2nd
 JHS ob
 Am ric

H¹ 353° 40' set
 " 353 40 determined

Telescope E. of Pier.

85

10.2 6 4

8 34

10.0 4 19

2L

5 53

8 3 8 35

85

8 35

10.3 5 44

9.4

5 20

10.0 8 37

3 47

10.2 8 35

10.0 5 20

1 34

9.7 3 15

4 38

B

9.5 1 35

9.5

9.8 4 40

10.0 5 18

2 not good

10.3 6 59

D

10.5 10 1

11.3 10 32

10.8 5 0

10.8 6 1

9.0 8 41

9.3 8 21

B6

9.1

9.5

BB		
0	7.5	11.7
0	58.3	—
1	5.5	9.6
1	7.8	12.0
1	51.8	56.3
2	6.3	10.5
B29		
2	34.4	38.6
3	0.8	5.3
3	41.0	45.3
3	46.7	50.9
5	52.4	56.5
6	7.8	12.1
6	34.4	38.5
6	42.3	46.4
B0		
7	8.3	12.4
7	56.0	60.1
8	12.0	16.2
8	36.3	40.5
9	46.8	51.0
B		
10	26.1	~~27.7~~
10	—	30.7
10	33.3	37.6
10	~~43.1~~	43.1
11	7.3	11.3
11	58.9	63.0
12	17.5	21.8
12	54.0	58.1
12	56.2	60.1
14	10.7	15.2
14	23.9	28.1
14	50.7	55.0
B		
15	~~23.4~~	23.4
15	27.2	31.4
15	37.6	41.7
21/16	7.5	11.7

B B

9.7 6.44
 10.2 238
 9.0 10 48
 9.0 6 4
 11.0 1 29
 10.0 7 13

Endemic Wm
 Catalogue 9.0
 Examine magnitude

B D

11.0 10 21
 11.5 4 20
 10.5 3 46
 9.2 3 55
 8.8 11 0
 9.5 5 15
 10.5 4 41
 9.3 7 53

ms

Catalogue

9.0

9.5

B

10.8 9 1
 9.5 5 17
 11.5 9 29
 9.3 7 39
 10.5 6 53

D

9.8 5 22 ~~22~~
 9.8 3 29 12
 6 10
 10.0 0 50 12
 9.3 10 22
 11.2 8 7
 8 7 1.5
 10.3 10 6
 10.3 2 22 ms
 11.2 1 41
 10.0 9 21
 10.7 6 43

9.5

8.8

B

10.0 6 10 12
 10.0 9 7
 9.5 2 31
 8.5 9 55

8.5

16	28.4	32.6
16	42.7	47.2
17	17.0	21.1
17	32.7	37.0
17	54.8	55.9
D		
18	28.1	32.4
	53.6	57.9
19	17.6	21.6
	58.0	62.7
20	38.0	42.2
	44.3	48.4
21	10.2	14.4
	41.3	—
2	50.0	54.2
22	24.9	29.1
	57.3	55.6
23	12.0	16.1
23	17.8	21.9
23	58.6	62.8
24	8.6	12.6
24	51.2	55.6
25	33.0	37.3
D		
25	52.7	57.0
26	38.0	42.3
26	49.7	53.9
27	9.7	13.9
27	19.9	24.1
27	39.2	—
27	44.1	48.4
D		
28	3.3	7.5
28	25.4	29.8
28	51.9	46.1
28	[59.7]	63.6
29	5.4	9.6
29	26.8	28.8
D		

10.8 3 1

11.0 1 10

9.5 5 38

10.0 8 32

11.3 8 5

comp 30° A fall 9.5

D

10.0 4 51

10.3 8 56

11.3 5 31

9.3 10 53

9.5

10.3 1 39

10.8 8 3 ns

11.0 5 17

11.2 7 9 2 l

11.0 2 49

11.0 6 22 ns

10.5 10 5

9.5 10 49

9.2 10 12 ns

9.5

10.3 7 42

9.5 10 25

11.3 8 45 d.d. [should be 10.5] 7/15.

11.3 7 39

B D

10.5 3 20

9.7 6 37

9.5 11 3

8.5 10 53

Catalyze 8.3

10.7 8 40

10.0 4 3 2 l

9.2 9 25

9.2
8.7

B B

9.0 7 50

10.3 9 41

11.0 10 51

9.5 10 6

1 wrong Exam significant
of these two

9.7 6 26

10.0 10 20

9.3

D

30	15.3	19.8
30	38.3	42.5
31	7.3	11.7
31	23.8	28.0
31	32.1	41.3
31	46.0	50.0
D.		
32	18.3	22.4
32	29.2	33.4
32	31.7	35.7
32	41.2	45.3
32	52.9	57.1
33	43.8	48.0
34	26.7	30.8
34	52.3	56.6
35	24.7	29.0
36	15.6	19.6
36	27.6	31.8
D.		
36	57.2	61.4
37	0.1	4.3
37	28.2	—
37	32.8	36.9
37	57.5	61.6
38	24.7	28.9
38	38.7	42.8
39	1.4	5.5
39	17.2	21.5
D.		
40	32.3	36.6
40	42.2	46.3
41	19.2	23.2
41	20.5	24.6
41	—	31.3
41	43.1	47.4
42	0.7	5.0
42	10.9	15.1
D.		
21 42	27.2	31.7

11.0 5 30

10.0 7 30

10.5 6 33

9.7 7 30

10.2 10 48

10.0 4 2

B

10.0 7 46

10.3 9 15

9.8 11 6

7.0 8 9

8.7 7 41

10.7 8 49

9.5 6 46

10.7 3 53

10.1 9 57

11.0 8 14

10.0 9 11

B

10.2 5 1

10.3 5 30 ns

10.5 8 1 2 l

10.7 6 42

11.5 9 57

10.3 10 47

9.2 11 1

10.0 8 37

9.8 9 49

B

11.0 4 50

10.8 4 48

10.2 8 20

9.2 9 55

10.0 8 37 m l

10.0 10 31

10.5 5 32

11.0 7 30

B

10.3 4 10

B
Catalogue
"9.4
5.0
8.0

9.3

Catalogue 9.2

9.0

43	50.5	54.6
44	19.0	23.2
44	26.1	30.4
45	14.7	[18.8]
45	23.7	27.8
46	19.0	23.2
	D.	
47	10.5	14.7
47	17.3	21.7
47	55.6	*
48	5.8	9.7
48	39.7	44.1
49	2.1	6.3
49	26.3	30.6
49	—	50.8
	B	
50	15.0	19.4
50	20.3	24.7
50	36.3	40.5
51	1.5	5.6
51	54.0	58.4
52	36.6	40.8
52	26.2	30.3
52	31.5	35.7
53	48.6	52.9
	D.	
54	27.3	—
54	—	32.0
54	43.5	47.7
55	7.4	11.7
55	20.0	24.1
55	47.2	51.2
56	7.3	11.3
56	15.6	20.0
56	36.6	40.8
56	59.7	63.8
57	28.9	33.0
57	39.7	44.0
58	0.4	4.5
	B	

10.5 9 20

11.0 7 35

10.5 8 28

10.3 9 57 2 bad

10.3 4 46

9.5 10 46

D

10.0 7 6 double & nearly 13mag

9.5 1 45

Bf

9.5

10.7 7 23

Examine more

10.0 10 10

10.3 2 32

10.2 8 0

9.3 10 36

9.5

9.5 5 0 1L

B

10.0 1 42

10.0 2 58 ns

9.5 7 54

9.3 7 45

Bf

9.3

9.5

9.5 10 23

9.5 4 22

Bf Schjellenger

9.4

11.0 4 24

10.7 4 8

10.5 3 0

D

10.0 10 3 2L

10.5 2 33 1L

10.8 7 57

10.5 9 58

9.7 8 2

9.7 6 22

10.0 9 48

9.5 2 45

9.3

9.5 2 3

11.0 9 2

11.0 5 27

10.8 9 28

11.5 6 49

B

58	24.1	28.6
59	1.5	5.6
59	38.0	42.3
21 59	51.4	55.6
22 0	13.5	17.7
0	25.8	30.2
1	4.3	8.6
1	17.7	22.0
2	16.1	20.5
D.		
2	33.5	38.0
3	46.7	48.7
3	47.4	51.6
4	55.0	59.3
5	35.5	39.8
5	44.1	48.3
D.B		
7	17.5	21.7
7	46.7	45.8
8	15.0	19.1
8	58.3	62.5
9	16.6	20.9
9	18.3	22.5
9	30.9	35.3
B		
11	49.0	53.2
13	47.0	51.1
14	0.7	5.0
14	24.1	28.4
14	49.5	53.6
14	55.7	59.8
15	19.0	1
15	54.7	58.9
16	1.0	5.5
16	12.4	16.6
16	44.3	48.3
16	48.8	53.0
22 17	36.3	40.5
D.D.P		

Star missing
in AR column
here

10.2 10 18
 9.2 6 32
 9.7 4 20
 10.3 7 32
 11.2 1 50
 11.5 8 44
 11.0 2 21
 11.8 9 52
 9.3 9 41

2

9.2 5 18
 11.0 10 25
 9.5 6 26
 11.0 8 35
 11.0 1 17
 9.5 5 8

13

11.0 3 59
 10.2 5 2
 10.0 4 10
 11.0 4 10
 10.5 4 40
 10.0 8 20
 9.7 10 43

13

9.5 6 51
 2 11
 1 59

11.0 9 9
 9.7 2 0
 10.0 18 14
 9.8 6 0

11.0 2 20

9.5 9 37

10.5 5 26

10. 9 16

10.7 9 14

9.5 3 14

11.0 9 34

2 2 2

8.8

9.5

9.5

ns

9.3

9.4

2d. S. d.

Doubt some where here

9.5

18	51.0	55.1
19	3.7	7.9
20	6.2	10.4
20	42.8	47.1
21	24.5	28.6
21	41.5	45.5
	AB. 5.	
22	17.5	21.8
22	40.2	44.4
22	42.5	46.5
23	39.3	43.5
24	18.6	23.0
24	54.0	58.2
~~26~~	13	
26	10.7	14.9
27	48.3	52.5
28	4.9	8.9
28	44.7	48.9
29	35.8	40.0
29	49.3	53.8
30	7.9	11.8
30	16.2	20.4
31	35.5	39.7
31	52.9	57.0

23 32.2?

9.2 7 8

10.5 10 59

11.0 6 47

9.7 0 50

10.7 3 30

11.5 3 39

~~2132~~

11.5 4 39

9.8 2 45

11.0 4 47

9.8 7 15

10.3 1 33

10.7 4 31

B

9.5 8 15

9.3 9 57

10.0 9 50

10.5 9 19

10.2 10 1

11.0 8 30

11.0 5 30

10.7 7 17

8.3 5 49

10.0 3 43

9.5

9.5

Latitude 48.0

8.0	20	46	7.45	+1	24	34.0	✓
	21	12	36.74	1	25	37.2	✓
		17	54.68	1	22	7.6	✓
		18	39.77	1	27	49.9	✓
		25	57.70	1	23	28.7	✓
		28	47.88	1	29	53.7	✓
	22	3	6.75	1	29	9.7	✓
		20	16.29	1	22	28.9	✓
		23	28.08	1	20	12.5	✓

Catalpa abis

20	43	27.6	31.7
	43	37.4	41.6
	43	54.8	58.9
	44	44.9	49.0
	45	7.5	11.6
	46	7.0	11.3
	46	29.9	34.2
	46		56.4
		11.8	16.2
		42.4	46.6
		59.5	63.8
		13.8	18.1
		32.5	36.8
	49	57.4	61.4
	50	23.3	27.6
	51	6.2	10.4
	51	17.3	21.6
	51	30.4	34.4
	51	44.0	48.1
	52	41.8	46.0
	53	37.4	41.6
	53	42.2	47.1

20	43	27.5	31.8
		37.4	41.6
		54.7	58.9
		B	
	44	44.9	49.2
	45	7.5	11.6
	46	7.0	11.3
	46	29.9	34.2
	46	52.1	56.4

	47	11.8	16.2
	47	42.3	46.6
	47	59.6	63.8
	48	13.7	18.1
	48	32.6	36.8
		D	
	49	57.6	61.4
	50	23.3	27.6
	51	6.2	10.4
	51	17.3	21.6
	51	30.2	34.4
	51	44.0	48.1
	52	41.8	46.0
	53	37.4	41.6
	53	42.2	47.1

1864 Nov 16th

T.H.S. Obs

Am Pac

w' 83° 50' set

83° 57' observed. 353° 50' set
Telescope East of Pier1864 Nov 25th

T.H.S. Obs

Am recorder

w' 83° 50' observed

353° 50' set

9.2 6 15

10.2 4 43

10.2 3. 45

D D

10.5 6 56

11.0 7 41

8.8 7 38 ✓

10.7 7 28

9.7 2 56

B

10.2 4 8

10.0 7 10

10.8 6 11

10.5 6 35

10.0 10 31

D

11.0 6 14

11.2 4 9

10.0 3 29

10.5 3 56

9.7 3 50

10.2 10 31

10.2 7 4 21

10.2 8 16 12 ms

B B

9.0
9.4

9.2 6 33

9.8 5 0

10.0 4.2

10.3 7 15

7.59

8.0

8.0 7 56

10.5 7 46

9.5

9.5 3 16

D

9.7 4 26

9.5 7 27

10.2 6 30

9.7 6 52

9.3 10 50

D D

10.0 6 30

11.0 4 26

10.5 9 36

9.5 3 45

10.2 4 13

9.5

9.3 4 7

10.3 5 4

9.5 10 50

11.0 6 31

9.5 7 21

9.5 8 33

B

39.8 44.0

56.1 60.4

22.8 27.1

38.0 42.2

56 59.5 63.7

57 12.1 16.5

27.5 31.7

B D

58 5.2

2.7 6.8

35.6 39.9

59 2.6 7.1

48.5 52.8

49.9 54.1

21 0 19.5 23.7

38.6 42.7

B D

11.3 15.4

20.9 25.1

36.2 40.4

2 14.7 19.1

53.2 57.4

3 26.3 30.6

4 8.0 12.2

B D

43.0 47.1

5 7.6 11.7

27.1 31.3

6 0.7 4.8

2.5 6.6

38.2 42.5

— 47.9

B

7 17.8 22.1

8 6.3 10.5

22.9 27.1

9 34.7 —

48.9 52.9

57.3 55.5

21 10 15.0 19.4

20 54 39.9 44.0

54 56.1 60.5

55 22.9 27.1

55 38.0 42.1

56 59.5 63.8

57 12.1 16.4

57 27.5 31.7

B D

58 1.1 5.3

58 2.7 7.0

58 35.7 40.0

59 2.8 7.0

59 48.7 52.9

59 50.0 54.2

21 0 19.5 23.7

0 38.6 42.7

B D

1 — 15.7 *ex am*

1 21.0 25.2

1 36.2 40.5

2 14.9 19.1

2 53.2 57.4

3 26.2 30.6

4 8.0 12.3

B B B

4 31.4 35.5

4 43.0 47.2

5 7.6 11.8

5 27.1 31.3

6 0.7 4.7

6 2.6 6.5

6 38.4 42.7

6 48.0 48.0

B D

7 18.1 22.3

8 52.6 56.4

8 23.0 27.2

8 34.9 39.3 *examine moment*

9 42.1 46.4

9 54.4 55.6

21 10 15.2 19.4

10.3 10 2
 9.5 1 43
 10.0 10 5
 10.3 8 50
 10.5 5 17
 9.0 6 0
 10.0 5 31
 B.D

10.2 9 32
 10.0 10 28
 9.7 4 19
 10.5 3 48
 10.2 10 30
 10.0 9 40
 (10) 5 20
 9.0 9 47
 D B

11.0 7 58
 10.5 8 33
 9.5 1 15
 10.2 4 27
 10.3 9 22
 10.0 8 53
 10.3 4 28
 D D M

9.7 3 36
 10.8 5 38
 10.8 4 0
 9.8 10 2
 10.5 3 51
 9.5 6 36
 10.8 8 20

B
 11.0 3 13
 10.5 7 13
 10.2 8 36
 11.0 6 10
 10.5 8 8
 9.0 10 41
 10.0 7 37

AR doubtful

1L

2L

9.5
 10.0 10 20
 9.2 2 0
 9.7 10 25
 10.2 9 5
 10.7 5 35
 8.8 8.5 6 20
 10.7 5 50
 D D

10.0 9 50
 9.5 10 46
 9.8 4 37
 10.0 4 5
 10.2 10 48
 9.5 10 1
 10.5 5 39
 9.2 10 2
 D B D

11.0 8 11
 8 53
 1 35
 10.2 4 44
 10.2 9 40
 11.0 9 11
 9.8 4 45
 B B B

9.5
 10.0 10 20
 9.5 3 34
 10.0 5 53
 11.0 4 19
 9.5 10 19
 10.0 4 10
 9.3 6 53
 10.7 8 36
 B B B

10.5 3 30
 10.7 6 35
 10.0 7 31
 9.5 8 44
 11.0 6 29
 10.5 8 25
 8.8 8 56
 9.3 7 55

NI

1L

S doubtful

NI

1L

specimen unmarked

10	38.9	42.9
11	12.7	16.9
	42.0	46.3
11	48.9	53.1
12	29.4	33.5
12	36.7	40.9
13	14.8	19.0
	32.6	37.0
	46.5	50.9
14	13.1	17.1
	29.7	33.9
	56.0	60.2
	56.5	60.7
15	—	6.0
	22.3	26.6
	—	30.6
16	—	38.1
		doublet rec
17	7.9	12.2
	(18.)	22.3
	50.5	54.6
17	59.2	63.5
18	39.2	43.3
19	24.7	29.1
	41.3	45.7
20	10.9	15.1
21	38.7	42.9
	26.4	30.8
22	0.9	5.2
	33.0	37.2
23	1.4	5.6
	13.4	17.3
	46.9	51.2
24	25.5	29.8
		doublet rec
	56.2	60.4
25	15.8	—
	19.6	23.9
	26.8	31.2

DD		
21	10	39.0
	11	43.2
	11	12.8
	11	17.0
	11	31.5
	11	35.7
	11	42.1
	11	46.4
	11	48.9
	11	53.2
	12	29.5
	12	33.6
	12	36.7
	12	41.0
	13	15.1
	13	19.3
	13	32.8
	13	37.0
	13	46.4
	13	50.6
	14	13.1
	14	17.3
	14	29.7
	14	34.0
	14	56.1
	14	60.4
	14	56.7
	14	60.9
	15	—
	15	5.1
	15	22.5
	15	—
	15	26.5
	15	30.7
	16	33.7
	16	38.0
	17	8.1
	17	12.3
	17	18.2
	17	22.4
	17	50.7
	17	54.7
	17	59.3
	17	63.5
	18	16.3
	18	22.5
	18	33.5
	18	37.3
	18	39.2
	18	43.3
	19	24.8
	19	29.1
	19	41.4
	19	45.6
	20	11.0
	20	15.4
	20	13.3
	20	17.8
	20	38.8
	20	42.9
	21	26.5
	21	30.7
	22	1.2
	22	5.3
	22	33.0
	22	37.3
	23	1.5
	23	[6.8]
	23	13.1
	23	17.3
	23	47.1
	23	51.5
	24	25.6
	24	29.9
	25	48.6
	25	52.8
	25	51.3
	25	40.5
	25	19.0
	25	24.0
	25	27.0
	25	31.1

10.5 7 45

10.3 5 15

9.2 6 16

9.0 0 28

8 55

9.2 5 47

10.3 5 20

9.8 2 55

11.0 6 0 ns

11.0 10 0

10.8 1 52

9.0 7 27

9.5 7 48 ns

10.3 7 20 1L

10.8 6 15

10.0 9 55 1L

11.0 4 59 1L

D 13 13

11.0 3 34

10.3 5 30

10.8 6 41

9.0 2 15

7.5 7 55

10.2 7 55

10.8 5 22

B D

11.0 9 19

10.5 5 45

11.0 7 2

10.8 9 25

10.5 10 19

10.7 6 50

9.2 6 7

10.2 9 20

10.2 3 50

D 13

10.5 7 20

10.0 5 0 2L

10.2 6 15 ns

10.5 4 51

Comp. X full

Catalogue

Catalogue

9.5

9.2

9.3

{ 8.0 }

Catalogue

Catalogue

9.0

8.0

D D

10.0 8 3

10.0 5 33

10.5 2 45

9.3 6 35

9.0 0 44

9.7 9 13

9.2 6 5

11.0 5 38

10.0 3 14

11.0 6 20

11.0 10 19

10.5 2 10

8.8 7 44

9.5 8 5

10.5 7 38 ns

9.5 6 34 2L

9.3 10 13

10.5 5 18

D

10.2 3 57

9.7 5 49

10.0 7 1

8.8 2 34

10.0 4 58

8.0 8 16

9.5 8 15

10.0 5 43

B

11.0 9 34 ARE doubtful

11.0 6 0 ARE doubtful

11.0 7 21

10.0 9 44

10.0 10 37

10.0 7 6 2 d [doubtful]

9.5 9.2 8 26

10.0 9 39

10.0 4 9

10.5 7 2

10.0 7 38

10.0 5 19 2L

10.0 6 35

9.7 5 8

the 9.7 146 just preceding Catalogue
146 9.7 prec Out Star

25	57.4	61.6
26	22.5	26.6
27	13.3	17.6
	28.9	33.1
	<u>57.3</u>	<u>63.5</u>
28	47.4	51.5
29	13.0	17.1
	18.7	22.9
	34.9	39.0
	54.8	58.0

31	13.0	17.2
	21.8	26.1
	37.3	41.7
32	2.2	6.5
	30.5	34.7

33	19.2	23.2
33	49.1	53.3

35	38.8	42.9
	54.7	58.9

36	59.2	63.3
37	36.7	40.9
38	27.0	31.3

38	33.4	37.8
----	------	------

40	7.4	11.6
	46.9	51.0

41	14.7	19.0
----	------	------

42	33.4	37.7
----	------	------

43	6.8	11.0
	18.8	23.2

	31.5	35.8
--	------	------

	46.3	50.5
--	------	------

45	21.1	25.2
----	------	------

47	0.4	—	rec
----	-----	---	-----

	15.7	—	rec
--	------	---	-----

21 25	57.5	61.7
-------	------	------

26	22.5	26.8
----	------	------

27	13.4	17.6
----	------	------

27	29.1	33.3
----	------	------

27	59.3	63.6
----	------	------

28	23.7	28.0
----	------	------

28	32.0	36.1
----	------	------

28	47.4	51.6
----	------	------

29	13.2	17.4
----	------	------

29	18.9	23.0
----	------	------

29	35.0	39.2
----	------	------

29	59.0	59.1
----	------	------

31	13.1	17.3
----	------	------

31	21.9	26.1
----	------	------

31	31.5	35.6
----	------	------

31	37.6	41.8
----	------	------

32	30.6	34.9
----	------	------

33	19.0	23.1
----	------	------

33	49.2	53.3
----	------	------

34	38.7	42.8
----	------	------

34	54.8	58.9
----	------	------

36	59.2	63.4
----	------	------

37	36.7	40.9
----	------	------

38	27.1	31.5
----	------	------

38	33.6	37.9
----	------	------

39	41.6	45.9
----	------	------

40	7.6	11.7
----	-----	------

40	47.0	51.1
----	------	------

41	14.8	19.1
----	------	------

42	33.5	37.9
----	------	------

43	7.0	11.2
----	-----	------

44	19.1	23.2
----	------	------

44	31.6	35.9
----	------	------

44	46.2	50.5
----	------	------

45	21.0	25.2
----	------	------

45	46.8	51.1
----	------	------

47	0.6	4.8
----	-----	-----

21 47	15.9	20.2
-------	------	------

9.2 3 26

10.0 10 30

8.5 7 29

10.0 9 10

11.0 7 17

8.8 9 58

10.3 4 18

10.2 4 48

10.0 4 38

11.0 9 10

D D

10.7 5 30

9.5 7 45

10.5 3 20

10.8 8 50

10.5 9 37

10.5 7 3

9.3 7 8

B.

10.5 4 59

10.5 10 57

9.5 3 58

10.0 7 40

9.8 3 20

9.8 2 29

10.8 8 12

10.2 8 28

9.3 0 45

D

9.7 9 40

9.3 4 35

11.0 10 27

10.0 4 46

9.7 5 44

11.0 7 0

9.5 5 10

10.3 2 22

B.D

Catalogue 9.0

8.8

Catalogue 9.0

9.0 3 55

9.3 10 47

10.5 3 46

10.0 9 28

10.3 7 53

10.3 7 24

10.3 7 30

10.0 4 35

10.2 5 5

10.0 4 53

10.7 6 20

10.7 9 39

B D

5 46

8 2

3 45

3 36

10.0 9 41

10.3 7 22

9.5 7 26

10.0 15 2

10.7 5 16

10.5 11 10

9.3 4 14

10.0 7 56

9.5 3 38

9.5 9.7 2 45

11.0 3 38

10.2 8 29

9.7 8 44

9.5 9.3 1 0

B D

9.8 0 30

9.7 9 57

9.2 4 52

10.5 10 44

9.5 5 4

9.2 5 58

10.7 7 16

10.8 8 40

9.0 5 35

9.5 2 41

D D

which notes?

inserted

seen not obs'd

B.

9.5

B.6

B.6

9.3

9.5

9.5

9.5

9.3

9.5

47 56.2 60.5
49

53 2.7 6.7
24.6 29.0
27.6 31.9
56.8 61.0

54 10.6 14.9

55 39.2 43.6

56 9.2 13.5
17.4 21.7
47.8 52.0
57 0.67 —
— 11.7

59 2.3 6.6

21 59 38.9 43.0

22 0 55.0 59.2
55.0 59

21 47 36.2 60.5
48 29.6 33.7
49 10.0 14.1
49 39.6 44.0
49 54.2 58.5
50 25.8 30.2
50 36.7 62.8
51 14.5 18.6
51 — 22.1
51 — 44.6
51 47.4 51.6

52 38.8 53.1
53 0.24 0.70
53 24.8 28.9
53 27.8 32.0
53 57.1 61.4
54 10.7 15.1
54 42.1 46.5
55 39.2 43.5

13.
56 9.4 13.5
56 17.5 21.6
56 48.0 52.2
56 53.6 57.9
57 — 11.0
57 7.6 —
58 22.4 26.8
58 57.9 61.4
59 2.5 6.7
59 10.1 14.4
59 30.1 34.4
59 39.0 43.2

21 59 38.9 43.0
22 0 33.1 37.4
0 55.0 59.4
1 47.9 52.1
2 1.9 6.2
2 28.5 32.7
2 41.2 45.5
2 49.1 53.4
3 6.7 10.5
3 40.4 44.5
4 0.7 5.0
22 5 9.4 13.7

10.0 0 56

11.0 8 59

10.7 4 38

11.0 5 10

10.5 6 30 *cl*10.5 2 30 *ns*

10.7 8 32

10.3 5 54

B

10.5 8 11

11.0 6 41

10.5 5 52

10.7 1 46

10.3 8 30

11.0 6 33

9.7 4 19

B

10.0 0 41

9.5 10 20

10.3 5 50

10.2 3 14 *2l*9.7 8 13 *1l*

10.7 2 1

9.5 3 39

10.7 1 55

10.0 9 55

B

11.2 3 45

11.0 2 20 *I doubt*

11.0 8 19

10.5 6 55

10.3 10 10

10.5 8 52

8.5 9 25

10.0 7 53

B

11.0 4 48

10.5 5 0

9.3 1 14

10.5 4 14

10.2 2 16

11.0 1 29

10.2 4 53

10.7 7 57

10.0 5 29

9.5 6 46

10.0 2 48 *1l*10.5 8 50 *1l*

10.0 6 12

10.2 8 35

10.3 8 30

11.0 7 1

10.0 6 10 *2l*

10.5 2 3

10.2 8 47

11.0 5 50

9.2 4 38

B

10.0 0 59

9.2 10 38

10.3 6 9

10.7 4 8 *doublet*8 30 *2l 1l*8 32 *1l 2l*11.2 2 76 *2l*

9.2 3 57

10.3 2 13

10.0 0 39

10.5 10 14

10.7 10 10

10.5 4 0

11.0 2 37

10.5 8 38

9.7 7 15

9.5 10 26

10.5 8 37

9.0 9 42

10.0 8 10

11.2 5 3

11.2 5 3

10.5 5 19

22	6	15.2	19.5
~~22~~	~~17~~	5.5	~~9.8~~
	7	26.8	31.1

10.3	5-33
10.2	7 6

11.3	5.31
10.5	5-51
10.3	7 22

Feeling great much worse
on account of moon

A-5 - 11⁰⁰ 15 temp

36.04

8.0	22 31 ~~20.56~~	19 36' 6.1	L. Pais
8.8	53 20.87	1 41 4.5	
8.7	23 3 38.52	1 36 9.1	L. Pais
8.0	^{12 47} 24 11.24	1 37 18.6	H. L. Pais
9.0	45 31.40	1 38 24.3	
8.5	46 12.18	1 37 41.2	
9.0	51 28.98	1 32 19.8	Zone under new observation of Landy
9.2	53 51.65	1 38 4.8	~~catalogue~~
8.8	58 14.89	1 38 57.7	
8.7	0 2 32.83	1 33 14.0	
7.8	3 44.35	1 32 58.9	Dr. Pais
8.5	10 7.17	1 37 17.2	
9.0	10 37.79	1 34 16.9	<u>Source</u>

22	27	29.1	33.6
	27	47.8	52.0
23	28	4.1	8.4
	28	44.2	48.4
	29	35.3	39.5
	29	48.8	53.2
	30	7.2	~~7.0~~
	30	15.6	19.9
		D.	
	31	34.9	39.1
	31	52.2	56.4
	33	2.6	6.9
	33	20.2	24.5
	33	41.9	46.0
	33	49.5	53.7
		OD	
	34	34.1	28.3
	34	59.7	63.7
	35	11.4	15.6
23	~~35~~	~~47.5~~	~~51.7~~

1164 Nov 22d
THS Obe
AM me

11	66	or. thin star	
10.8	95	Examine Sect.	9.5
10.2	950		
10.5	920		
10.7	102		
10.5	830		
10.5	532	20	
10.3	718		
8.3	550	Catalogue	8.0
10.0	345		
9.8	527		9.3
10.0	1019		
10.0	341		
10.0	86		
9.7	241		
10.5	90		
10.3	845		

33	47.5	51.7
	13.	
37	40.8	44.9
38	22.4	26.6
39	0.4	4.5
39	21.2	25.4
39	32.1	36.4
40	2.6	0.8
40	34.3	38.4
41	31.8	36.1
	D.	
42	5.8	10.1
42	~~13.7~~	13.2
42	38.7	53.0
43	10.4	14.5
43	22.5	26.9
44	9.2	13.5
44	52.7	57.1
45	29.3	33.6
45	55.6	59.7
45	57.6	61.8
46	10.4	14.6
46	23.4	27.5
	D.O	
47	23.1	27.5
47	37.1	41.3
48	10.9	15.0
48	31.4	35.6
48	37.2	41.4
49	4.4	8.6
49	46.3	50.2
49	55.7	59.9
50	—	15.2
	D.O	
51	10.4	14.9
51	38.0	42.3
52	0.2	4.4
23 52	35.7	40.0

10.0 1 22

B

11.2 9 18

10.0 5-6 accidental Break

9.8 7 22

9.3 3 15

9.5

11.0 4 30

11.0 9 0

10.5 7 5

9.5 1 2

A

10.0 0 59

10.0 10 53

Exam in air

9.3

9.2 1 56

9.7 7 56

9.5

9.3 1 15

10.5 9 52

10.0 4 5

9.8 1 17

10.5 10 44

10.0 8 14

11.0 5 39 no. 8 doubtful

10.5 5 58

D

10.5 1 13

10.3 6 0

9.5

9.5 10 56

11.0 3 28

11.0 2 11 8 not very good

10.0 7 8

~~11.0 11 2~~

11.2 5 50

10.0 1 7

10.2 3 18 H

BB

10.2 5 18

9.5

10.7 6 38

10.2 4 50

10.0 7 6

22	53	19.3	23.6
	53	24.6	28.9
	54	12.4	16.7
	54	31.0	35.1
	55	55.7	59.7
	56	1.8	6.5
	56	26.4	30.7
		0.0	
22	58	34.8	39.0
23	0	0.5	—
	0	4.9	9.2
	0	55.8	56.1
	0	54.8	59.1
	1	21.9	26.1
	1	45.1	49.2
		D	
2	—	11.7	
2	43.1	47.2	
3	0.0	4.2	
3	16.7	20.9	
3	37.7	41.8	
4	29.0	33.1	
4	50.5	54.8	
4	—	59.0	
5	28.3	32.7	
5	38.3	42.5	
6	4.8	8.9	
6	16.8	21.1	
6	38.1	42.3	
	B		
4	36.1	40.0	
4	—	44.3	
8	19.9	24.1	
8	20.7	24.8	
8	35.4	40.0	
9	53.0	57.2	
23	10	28.4	32.8

MR misp. here

8.5-	10 55-		
10.7	3 43	ns	
9.8	9 5-		
10.2	8 46		
10.7	7 52		
10.0	0 37		? 9.0
10.2	10 7		
	B 2 13		
9.5	6 36		9.5
11.0	5-6	ns AR d 2L	
9.3	2 50	ns	9.5
10.0	7 16		
10.0	4 49		
? (10.5-	6 52)		
10.7	6 52		
9.5-	1 44		9.5
	D		
11.0	7 27	1L	
10.5-	9 25-		
10.3	7 51		
~~10.8~~	9 40		
	5-5-6		8.7
	9 20		
10.5-	8 59		
10.5	2 37	Examine wire	
10.5-	7 29	*9 47 follows about 23	
10.5-	3 42		
10.3	10 44	Examine the leg in carefully	
9.8	7 16		
9.8	5 13		
9.7	3 52		
	B		
10.2	10 24		
11.0	10 2	1L	
9.7	2 4		
11.2	7 14		
9.8	9 30		
10.8	10 2		
10.0	1 15		

11	23.8	28.0
12	6.2	—
12	9.8	14.0
12	47.7	51.9
13	2.5	6.7
13	23.8	27.9
13	31.9	36.3
13	45.6	49.8

B D

14	26.0	30.3
14	45.6	49.9
15	10.5	7
15	20.2	24.3
15	31.9	36.3
15	54.9	59.0
16	37.8	—
16	42.2	46.4
17	1.7	5.9
17	27.2	31.4
17	42.2	46.4

D.

18	21.1	25.4
18	53.6	57.8
19	15.7	20.0
20	17.2	21.4
20	40.7	44.9
20	47.4	51.7
21	4.5	8.9
21	22.5	26.9
21	30	32.0

B

22	32.8	36.9
23	8.5	12.9
23	10.6	14.8
	30.4	34.5
	50.9	55.2
24	11.0	15.2
25	4.5	9.0
	23.3	27.5

B B D

11.0 412

9.3 103

9.0 38

9.0 354

9.3 853

9.8 835

9.5 345

9.2 857

~~9.5~~ B2

9.5 17

10.0 238

11.0 630 2l

10.0 9.7

10.0 742 dist comp & pre

10.0 541

11.0 640 2l

10.0 642 ns

9.3 35

10.0 942

10.5 629 ~~2l~~

D

10.3 830

9.8 1033

10.2 449

9.8 854

11.0 751

10.0 258

10.5 655

10.0 146

10.5 52 1l

B

9.8 950

9.5 135

9.5 945 ns

9.3 32

10.0 656

8.0 76

10.8 216

9.0 632

DB2

examined more

B6

9.2

9.0

9.5

26	35.0	39.1
26	49.0	53.2
27	18.4	22.9
27	40.6	44.8
28	3.5	7.9
28	20.8	24.9
28	37.6	41.9
28	58.4	62.4
29	+	8.9
29	24.1	28.1
	20.1	
	45.8	49.9
30	5.1	9.1
	14.3	18.5
	25.9	30.0
	31.5	35.9
31	9.0	13.2
33	6.9	11.2
	24.6	29.0
	50.1	54.5
	13.2	
35	1.1	5.1
	18.0	22.5
	32.0	36.4
35	45.6	49.7
37	29.6	

42	4.6	42.4
42	59.0	42.4
44	0.6	4.9
44	17.2	21.5
44	30.1	34.4

9.3 9 28
 9.5 9 45
 9.3 3 15
 11.0 7 47
 10.0 6 23
 9.3 9 16
 10.5 3 1
 10.0 7 15
 10.7 3 12
 10.7 9 19

B

9.7 9 30
 10.0 2 0
 9.5 2 52
 9.7 10 32
 9.7 8 16
 9.5 10 45
 10.0 6 52
 8.8 10 50
 10.0 3 32

B2

10.5 8 10
 11.0 6 23 δ doubtful
 10.5 6 3
 9.2 7 39 —
 10.0 3 20 doubtful
 9 16 12 m
 8 30

hl? Examin

gmo

clouds

clouds

9 16 11m1

8 50 21

9.5 2 50

10.2 7 38

10.0 9 57

44	30.9	35.2
23	45	30.5
	45	55.9
	46	11.3
	46	31.7
	46	33.6
	47	14.3
	47	15.2
	47	23.7
23	47	54.6

102 1022
 AB

9.0 8 14

10.5 7 10

9.2 4 33

10.0 9 32

9.7 9 13

9.3 7 45

9.4 3 45

10.5 2 31

9.8 1 49

Principal one of a series of ^{of these} group

1873 at Paris 1858 Aug 26 23 14 2.20
 31 2.03
 Apr. 4 2.00

$\frac{d}{-17.4} + 0.45''$
 -0.33

<i>Prism from</i>	8.7	22	3	6.75	+ 1° 29' 19" 7	Paris A.R. Dec.
<i>44.1</i>	9.2		20	16.29	1 22 28.9	Paris A.R. Dec.
	8.0		23	28.08	1 21 12.5	Paris A.R. Dec.
	9.2		36	15.40	1 22 46.8	Paris A.R.
<i>?</i>	9.2		36	35.43	1 22 57.5	
	9.5		59	0.89	1 26 13.8	
	6.0	<i>caubr.</i>	1	45.95	1 23 36.3	Mäster A. Picinus
	8.0	<i>caubr.</i>	2	28.76	1 24 45.6	Mäster B. 3066: Mean of H. and B.
	8.0	<i>caubr.</i>	6	47.13	1 28 14.2	<i>Piggen</i>
	8.8		13	9.60	1 20 44.8	
	8.0		14	2.08	1 26 0.0	A.R. from Paris obs. Obs'd also in Dec. 1858
	8.5		28	26.80	1 27 43.7	A.R. from Paris obs.
	6.8		29	30.15	1 21 10.5	
	8.5		37	14.97	1 23 47.8	
	8.5		38	9.38	1 20 30.7	
	7.7	<i>caubr.</i>	41	56.78	1 27 59.9	

22	3	6.1	10.4
3		40.0	44.4
4		53.7	58.0
5		9.2	13.2
7		5.2	9.4
7		26.4	30.7
8		23.0	26.9
8		47.4	51.6
		6	
10		14.2	18.5
10		38.9	43.1
10		53.6	57
10		55.7	59.9
11		48.9	53.0

1864 Phaet 1st

8.5	9 22	
10	7 50	
11	9 0	AR doubtful
10	5 4	
10	5 31	
9.8	7 4	
9.7	9 6	
9.3	7 6	

8.7

B

9.2	8 5-	
9.5	9 17	
10.0	7 31	
9.5	9 11	2 ^d of two stars prob
11.0	7 55-	

12	15.6	19.7
12	58.0	54.3
13	42.3	41.4
	D.	
14	16.8	20.8
15	45.0	49.2
16	14.4	18.6
	33.2	37.5
17	22.4	26.5
18	4.4	8.8
	B	
19	10.3	14.5
20	16.3	20.5
20	43.4	47.7
20	31.7	35.9
22	7.5	11.7
23	3.7	7.9
23	28.0	32.4
23	39.2	43.4
24	30.3	34.6
24	43.3	47.5
25	9.7	13.9
26	6.5	10.8
27	31.8	36.1
	D.	
27	47.5	51.6
28	4.7	8.9
28	—	21.2
28	48.1	52.3
29	12.5	—
29	16.4	20.5
29	42.0	47.2
22 30	2.7	6.8

10.2 4 44
 10.0 3 49
 9.0 1 45

9.5

9.5 7 41

10.7 3 20

10.5 6 30 AR lost!

9.3 6 52

10.5 6 49

9.8 6 32

9.5 6 28

B

11.0 10 2

9.2 3 28

9.2

9.5 11 3

9.7 8 52

10.5 10 30

10.0 5 33

8.5 1 15

Catalogue 8.0

10.5 6 44

11.0 9 43

9.3 9. 0

10.8

9.3 50

S m

9.3

10.5 2 55

10.2 7 41

B

10.0 4 19

10.0 8 25

9.5 3 56

Exam m

9.0

9.8 9 26

11.0 8 0 2 l

10.5 4 57

10.0 2 58

11.0 8 56

30	40.5	44.8
31	26.0	30.3
	47.4	51.5
32	1.2	5.3
32	31.0	35.2
32	52.1	56.5
33	51.9	55.9
34	0.8	4.9
	13.0	
35	8.7	13.0
35	16.3	20.7
35	36.8	40.8
36	16.1	20.2
36	35.9	40.1
37	44.9	49.2
37	58.1	62.3
38	39.7	43.9
	13.0	
39	26.9	31.0
39	56.7	61.0
41	41.6	45.7
44	3.4	7.7
44	14.2	18.7
44	58.6	62.8
46	52.9	57.2
49	8.8	13.1

11.2 1 40
 10.0 2 47
 10.2 8 40
 9.5 5 23
 10.0 10 15
 10.3 8 57
 10.3 10 10
 10.0 9 40
 B D

10.5 0 40
 10.5 9 9
 10.5 6 49
 9.2 2 50
 9.0 3 0
 10.2 8 29
 9.2 5 35
 9.3 10 27

I doubtful

Catalogue 9.2
 Catalogue 9.2

9.3
 9.3

10.0 9 18
 9.8 3 26
 11.0 5 50
 10.5 4 50
 11.0 8 40
 10.5 9 11
 10.2 7 42
 10.7 5 50

I doubtful

DD

Iceing was bad during a portion
 of this L. and it closed up at the end.

五

1864phae.proj..239S

1864phae.proj..239S

N. of Zone	A.R.	Dec.	Date 1864	Observed	Revised	Telegraph	
255 256	19 13-19 45	1° 20' - 1° 30'	Oct. 5	S	N	E	Clouded up before end of zone
252 255	19 42-21 18	1 20-130	Nov 1 st - 19 th	S	N	E	Int. failed at 20 ^h 44 ^m
253	20 52-22 32	1 30-140	Nov. 2	S	N	E	
254 258	20 43-22 7	1 20-130	Nov 16. - 25.	S	N	E	Circuit failed at 20 ^h 11 ^m
257	22 27-23 47	1 30-140	Nov 22	S	N	E	Cloudy during latter part of zone
259	22 3-22 49	1 20-130	Dec 1 st	S	N	E	Clouded up

1864phae.proj..239S