KG
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Jup. Ecl. & Var. Stars. No. 9.

Measures 1877 II.

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9.04

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| | Pages. |
|---|---|
| Measures Set II of Group A. | 2 – 16 (even pages) |
| " " " " " B | 3 – 17 (odd pages) |
| " " " " " C | 20 – 34 (even pages) |
| General notes " " " C | 36 |
| New measurement Set II Group D | 38 – 48. |

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SERIES 1

Feb. 11, 1903 - Wolsbach.

| PLATE | BEGAN 8.10 | | | OBSERVER |
|---|---|---|---|---|
| | 21A | 51B | 71C | |
| 1 | 4.4 | 5.9 | — | |
| 2 | 4.7 | 6.8 | 5.8 | |
| 3 | 4.2 | — | — | |
| 4 | 4.2 | — | — | |
| 5 | 5.3 | 6.3 | 6.6 | |
| 6 | 6.3 | 4.9 | — | |
| 7 | 3.3 | 3.4 | 7.3 | |
| 8 | 3.8 | — | — | |
| 9 | 4.8 | 4.8 | 5.8 | |
| 10 | 2.5 | ~~5.8~~ 5.4 | 7.2 | |
| 11 | 7.1 | — | — | |
| 12 | 5.3 | 6.8 | — | |
| 13 | 1.4 | — | — | |
| 14 | ~~3.7~~ 3.3 | ~~7.~~ 2.7 | 6.7 | |
| 15 | 3.8 | 4.6 | 7.2 | |
| 16 | 4.4 | 5.0 | 5.7 | |
| 17 | 3.7 | 7.2 | 6.8 | |
| 18 | 4.3 | 6.3 | — | |
| 19 | 6.7 | — | — | |
| 20 | 3.5 | 6.3 | — | |
| 21 | 3.6 | 5.2 | 7.8 | |
| 22 | 5.8 | 7.4 | — | |
| 23 | ~~4.5~~ 3.8 | ~~5.8~~ 7.3 | — 5.7 | |
| 24 | 5.7 | 5.8 | 7.8 | |
| 25 | 4.5 | 5.8 | — | |

ENDED 9.07

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SERIES I

~~7h~~ March 2, 1903. Welsbach ~~Daylight~~

BEGAN 4.36

OBSERVER R W Lynn

| PLATE | 21A | 51B | 71C |
|---|---|---|---|
| 1 | 5.4 | — | — |
| 2 | — Light image | — | — |
| 3 | 4.5 | 7.5 | — |
| 4 | 3.4 | 5.3 | 6.0 |
| 5 | 2.5 | 3.2 | 6.1 |
| 6 | 2.4 | 5.9 × | 5.1 □ |
| 7 | 1.5 | 4.7 | 6.2 |
| 8 | 3.1 | 4.9 | 5.2 |
| 9 | 3.8 | 5.8 | 5.9 |
| 10 | 6.0 | 5.9 | — |
| 11 | 3.9 | 6.5 Hazy | 7.0 |
| 12 | 4.5 | — | — |
| 13 | 5.6 | 6.1 | — |
| 14 | 3.4 | 3.2 | 7.1 |
| 15 | 5.1 | 7.0 | — |
| 16 | 1.7 | 5.8 | 6.6 |
| 17 | 3.9 elongated | 6.5 | — |
| 18 | 5.9 | 7.0 | 7.8 |
| 19 | 4.7 | 5.2 | 6.5 |
| 20 | 5.9 | 6.3 | — |
| 21 | 6.1 | 7.4 | 8.0 |
| 22 | 5.8 | 8.0 | 8.1 |
| 23 | 4.5 | 6.3 | — |
| 24 | 4.8 | — | — |
| 25 | 4.9 | 5.1 | 7.3 |
| 26 | 6.5 | 7.0 | — |
| 27 | 5.9 | 7.7 Hazy | — |
| 28 | 4.2 | 4.7 | 7.0 |

ENDED 6.02

× This is 71B.

□ This is 51C.

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1903phae.proj.1774T



SERIES 2

↖ Feb. 11, 1903 - Wolfsbach

BEGAN 9.35

OESERVER Thibault.

| PLATE | 21B | 51C | 71S |
|---|---|---|---|
| 1 | 3.4 | 5.4 | — |
| 2 | 3.6 | 4.3 | — |
| 3 | 4.7 | — | — |
| 4 | — | — | — |
| 5 | 4.8 | 5.2 | — |
| 6 | 4.7 | — | 8.6 |
| 7 | 1.8 | 5.3 | — |
| 8 | 2.8 | — | — |
| 9 | 2.7 | 4.4 | — |
| 10 | 4.3 | 5.8 | — |
| 11 | 6.3 | — | — |
| 12 | 5.8 | — | — |
| 13 | 3.4 | — | — |
| 14 | 3.6 | 4.2 | — |
| 15 | 2.7 | 6.2 | — |
| 16 | 3.8 | 4.3 | — |
| 17 | 5.6 | 5.7 | 4.7 |
| 18 | 5.3 | — | 6.7 |
| 19 | 5.3 | — | — |
| 20 | 4.7 | 7.2 | — |
| 21 | 5.2 | 6.1 | 6.5 |
| 22 | 6.6 | — | — |
| 23 | 6.3 | 7.0 | — |
| 24 | 4.6 | 6.8 | — |
| 25 | 2.3 | — | — |

ENDED 10.20

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SERIES 2

~~Feb~~. March 3, 1903. Welsbach.

BEGAN 7.07

OBSERVER R. W. Fynn

| PLATE | 21B | 51C | 71S |
|---|---|---|---|
| 1 | 4.3 | — | — |
| 2 | — Light image | — | — |
| 3 | 5.9 | 6.6 | — |
| 4 | 2.9 | 4.0 | — |
| 5 | .8 | 4.9 | 2.2 |
| 6 | 3.5 | 5.9 × | — 8.4 See below □ |
| 7 | 5.5 | — Superposed on planet. | 5.7 |
| 8 | 1.9 | 3.2 | — |
| 9 | 4.2 | 3.6 | — |
| 10 | 5.7 | — | — |
| 11 | 4.6 | 5.5 | — |
| 12 | 2.9 | — | — |
| 13 | 4.1 | — | — |
| 14 | 1.7 | 2.9 | — |
| 15 | 3.7 | 8.8 | 5.2 |
| 16 | 3.9 | 5.5 | — 8.5 See below |
| 17 | 5.2 | — | 6.0 |
| 18 | 5.0 | 5.8 | 6.2 |
| 19 | 2.8 | 5.5 | — |
| 20 | 4.9 | — | — |
| 21 | 6.8 | 6.4 | — |
| 22 | 7.0 | 7.5 | 7.5 |
| 23 | 5.2 | — | — |
| 24 | 5.7 | — | — |
| 25 | 4.5 | 6.3 | 8.0 |
| 26 | 4.8 | 7.8 | — |
| 27 | 5.8 | — | — 7.4 |
| 28 | 2.7 | — 6.3 | — 7.8 |

ENDED 8.25

× This is 71C.

□ This is 51S.

71S under 6 and 16, Mar. 6, 1903. Daylight RWF

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1903phae.proj.1774T



SERIES 3

Feb. 12, 1903, Wolbach.

BEGAN 7.16

OBSERVER Thibault.

| PLATE | 21C | 51S | 71A |
|---|---|---|---|
| 1 | 4.7 | — | — |
| 2 | 3.6 | 7.7 | — |
| 3 | 5.6 | — | — |
| 4 | — | — | — |
| 5 | 3.4 | 6.8 | 7.8 |
| 6 | — | 6.6 | 6.4 |
| 7 | 3.7 | — | 5.8 |
| 8 | 1.9 | — | — |
| 9 | 2.7 | — | 7.5 |
| 10 | 4.8 | 7.7 | 5.8 |
| 11 | — | — | — |
| 12 | — | — | 7.2 |
| 13 | ~~4.7~~ 4.8 | — | — |
| 14 | 1.2 | 6.3 | 8.0 |
| 15 | 4.8 | 7.3 | 6.5 |
| 16 | 2.2 | — | 7.8 |
| 17 | 4.6 | 2.7 | 5.8 |
| 18 | ~~4.7~~ — | 4.7 | 6.7 |
| 19 | 5.6 | — | — |
| 20 | 5.4 | 7.3 | 6.7 |
| 21 | 5.2 | 4.4 | 6.3 |
| 22 | — | — | 7.7 |
| 23 | 4.0 | — | 6.3 |
| 24 | 5.6 | — | 6.7 |
| 25 | — | — | 8.7 |

ENDED 8.10

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SERIES 3

March 3, 1903. Welsbach.

BEGAN ~~8:55~~ 9:39

OBSERVER R. W. Lynn

| PLATE | 21C | 51S | 71A |
|---|---|---|---|
| 1 | ~~1.9~~ 2.5 | — | — |
| 2 | — Light image | — | — |
| 3 | 3.3 | — | — |
| 4 | 0.9 | 7.0 | 5.8 |
| 5 | 2.1 | — | 4.6 |
| 6 | 4.0 | 5.2 × | — □ |
| 7 | 2.5 | 5.1 | ~~5.0~~ 5.1 |
| 8 | 0.6 | 7.6 | — ~~Under planet image~~ Superposed on planet image |
| 9 | 1.5 | 7.7 | 6.5 |
| 10 | — | — | 6.8 |
| 11 | 1.9 | — | 8.3 |
| 12 | 1.5 | — | — |
| 13 | — | ~~7.5~~ See below | 7.8 |
| 14 | 4.0 | — | 5.9 |
| 15 | 4.9 | — | — |
| 16 | 4.0 | — | 5.5 |
| 17 | — | 4.5 | 6.9 |
| 18 | 3.9 | 4.6 | — Too dim |
| 19 | 3.9 | — | 7.5 |
| 20 | 6.7 | 8.3 | 8.7 |
| 21 | 5.3 | — See below ~~Under planet~~ | 8.8 |
| 22 | 6.5 | 6.4 | 8.0 |
| 23 | — | — | 5.9 |
| 24 | — | — | 7.8 |
| 25 | 5.3 | 6.8 | 6.8 |
| 26 | 5.8 | — | — |
| 27 | — | 7.5 | 8.3 |
| 28 | 4.8 | ~~6.5~~ 6.5 | ~~7.0~~ 6.6 |
| ENDED | 11.00 | ~~5.6~~ | |

× This is 71 S.

□ This is 51 A.

51s under 13. Mar. 6, 1903. Welsbach RWL

Error 51S under 21 is 7.5

Mar 6 1903 Welsbach

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SERIES 4

Feb. 13, 1903, Wolbach.

BEGAN 8.25

OBSERVER Thibault

| PLATE | 21S | 51A | 71B |
|---|---|---|---|
| 1 | ~~4.7~~ 5.6 | ~~5.4~~ 6.3 | ~~6.7~~ 7.4 |
| 2 | 5.3 | 6.3 | 6.8 |
| 3 | 6.7 | — | — |
| 4 | 5.4 | — | — |
| 5 | 5.2 | 6.7 | 7.3 |
| 6 | 5.7 | 6.7 | 6.0 |
| 7 | 7.6 | 4.4 | 5.3 |
| 8 | — | — | — |
| 9 | — | 5.3 | 6.4 |
| 10 | 6.0 | 4.6 | 6.4 |
| 11 | — | — | — |
| 12 | — | 6.1 | 7.6 |
| 13 | 5.4 | — | — |
| 14 | 4.7 | 5.4 | 6.7 |
| 15 | — | 5.7 | 5.7 |
| 16 | — | 5.8 | 6.7 |
| 17 | — | 4.4 | 7.8 |
| 18 | 3.8 | 4.7 | 7.6 |
| 19 | 3.7 | — | — |
| 20 | 5.4 | 5.6 | — |
| 21 | 4.2 | 3.7 | ~~7.4~~ 7.3 |
| 22 | — | 6.8 | 7.8 |
| 23 | 8.0 | 6.5 | — |
| 24 | 5.8 | 6.3 | 6.8 |
| 25 | 5.3 | 6.4 | 7.2 |

ENDED 9.10

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SERIES 4

Mar. 4, 1903. Daylight

BEGAN 3.03

OBSERVER R W Fynn

| PLATE | 21S | 51A | 71B |
|---|---|---|---|
| 1 | — | — | — |
| 2 | — | — | — |
| 3 | — | 8.6 | — |
| 4 | 5.5 | 5.7 | 6.5 |
| 5 | 5.7 | 4.2 | 4.9 |
| 6 | 7.0 | 4.9 x | 5.2 □ |
| 7 | 2.9 | 3.2 | 5.7 |
| 8 | 6.8 | ~~Superposed on plate — Under plate~~ | 5.6 |
| 9 | 7.0 | 5.2 | 7.5 |
| 10 | — | 5.7 | 6.6 |
| 11 | — | 7.0 | — |
| 12 | — | — | — |
| 13 | 6.2 | — | 7.3 |
| 14 | 7.5 | 4.6 | 5.0 |
| 15 | 2.6 | 7.8 | 7.9 |
| 16 | 7.3 | 4.6 | 7.1 |
| 17 | 2.7 Elongated | 5.7 | 8.2 |
| 18 | 2.2 | 7.4 | — Too close to a star to measure. |
| 19 | 7.4 | 6.5 | 6.3 |
| 20 | 7.1 | 7.5 | 8.2 |
| 21 | 6.8 | 7.4 | 9.2 |
| 22 | 5.0 | 6.5 | 9.3 |
| 23 | — | ~~6.9~~ 5.5 | 6.9 |
| 24 | 7.1 | 7.3 | 8.0 |
| 25 | 6.7 | 5.8 | 6.4 |
| 26 | — | — | 8.7 |
| 27 | 6.4 | 7.5 | 7.2 |
| 28 | 4.9 | 5.5 | 5.4 |

x This is 71 A.
□ This is 51 B.

ENDED 4.17

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SERIES 5

Feb. 12, 1903, Wolsbach.

BEGAN 9.35

OBSERVER Thibault.

| PLATE | 31A | 61B | 81C |
|---|---|---|---|
| 1 | — | 6.6 | — |
| 2 | 4.5 | 5.3 | 5.8 |
| 3 | 4.0 | — | — |
| 4 | 4.5 | — | — |
| 5 | 5.6 | 5.7 | 5.9 |
| 6 | 6.7 | 5.4 | — |
| 7 | 2.7 | 3.7 | 6.8 |
| 8 | 3.6 | — | — |
| 9 | 4.0 | 4.7 | 6.2 |
| 10 | 2.2 | 5.3 | 7.2 |
| 11 | 5.0 | — | — |
| 12 | 4.8 | 6.9 | — |
| 13 | 1.4 | — | — |
| 14 | 3.6 | 2.3 | 6.3 |
| 15 | 4.3 | 4.8 | 7.3 |
| 16 | 4.7 | 5.3 | 5.7 |
| 17 | 3.7 | 7.5 | 7.3 |
| 18 | 4.4 | 6.3 | — |
| 19 | 6.3 | — | — |
| 20 | 3.7 | 6.4 | — |
| 21 | 3.9 | 5.4 | 7.2 |
| 22 | 5.9 | 7.3 | — |
| 23 | 5.3 | 7.3 | 7.4 |
| 24 | 5.4 | 5.3 | 6.5 |
| 25 | 4.7 | 5.7 | — |

ENDED 10.20

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SERIES 5

March 4, 1903. Welstead

BEGAN 4.42

OBSERVER R. W. Lynn

| PLATE | 81A | 61B | 81C |
|---|---|---|---|
| 1 | 5.4 | — | — |
| 2 | 5.7 | — | — |
| 3 | 4.8 | 9.0 | — |
| 4 | 3.5 | 4.8 | 5.4 |
| 5 | 2.5 | 3.5 | 6.2 |
| 6 | 1.9 | 5.5 × | 5.2 □ |
| 7 | 0.9 | 4.7 | 6.1 |
| 8 | 3.5 | 4.4 | 5.5 |
| 9 | 3.1 elongated | 5.6 elongated | 6.1 |
| 10 | 5.6 | 5.7 | — |
| 11 | 3.3 | 6.9 | 7.1 |
| 12 | 3.7 | — | — |
| 13 | 5.7 | 6.0 | — |
| 14 | 2.4 elongated | 3.5 | 7.1 |
| 15 | 5.3 | 6.8 | — |
| 16 | 1.5 | 5.6 | 6.9 |
| 17 | 3.8 | 6.6 | — |
| 18 | 5.7 | 7.1 | 7.6 |
| 19 | 4.6 | 6.3 | 6.4 |
| 20 | 5.9 | 6.5 | — |
| 21 | 6.5 | 7.6 | 7.8 |
| 22 | 5.0 | 7.9 | 8.9 |
| 23 | ~~4.5~~ 4.2 elongated | 6.8 | — |
| 24 | ~~7.3~~ 5.5 | 6.1 | — |
| 25 | 6.0 | 5.6 | 7.5 |
| 26 | 6.5 | 5.8 | — |
| 27 | 7.1 | 6.7 | — |
| 28 | 4.5 | — | — |

ENDED 5.47

× This is 81B.
□ This is 61C.

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1903phae.proj.1774T



SERIES 6

Feb. 13, 1903, Wolbach.

BEGAN 7.20

OBSERVER Thibault

| PLATE | 31B | 31C | 31S |
|---|---|---|---|
| 1 | — | 5.8 | — |
| 2 | 3.3 | 6.4 | — |
| 3 | 4.3 | — | — |
| 4 | — | — | — |
| 5 | 5.6 | 4.6 | — |
| 6 | 5.2 | — | 7.7 |
| 7 | 1.2 | 5.4 | — |
| 8 | 3.8 | — | — |
| 9 | 4.3 | 4.8 | — |
| 10 | 3.8 | 5.7 | — |
| 11 | 6.4 | — | — |
| 12 | 5.7 | — | — |
| 13 | 3.8 | — | — |
| 14 | 3.5 | 3.6 | — |
| 15 | 3.3 | 6.3 | — |
| 16 | 4.3 | 4.7 | — |
| 17 | 5.6 | 5.7 | 4.7 |
| 18 | 5.7 | — | 6.7 |
| 19 | 4.8 | — | — |
| 20 | 4.4 | 6.8 | — |
| 21 | 4.6 | 6.4 | 6.3 |
| 22 | 6.3 | — | — |
| 23 | 5.0 | 5.8 | — |
| 24 | 4.3 | 7.1 | — |
| 25 | 2.7 | — | — |

ENDED 8.00

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SERIES 6

March 6, 1903. Daylight

BEGAN 3.03

OBSERVER R. W. Lynn

| PLATE | 31B | 61C | 81S |
|---|---|---|---|
| 1 | 4.8 | — | — |
| 2 | 6.4 | — | — |
| 3 | 5.7 | 6.4 | — |
| 4 | 3.4 | 4.4 | — |
| 5 | 1.2 | 5.5 | 8.6 |
| 6 | 3.5 | 6.5 × | 8.2 □ |
| 7 | 4.4 | — Superpose on planet under planet | 6.5 |
| 8 | 2.7 | 3.5 | — |
| 9 | 4.5 elongated | 3.7 elongated | — |
| 10 | 5.7 | — | — |
| 11 | 5.0 | 5.9 | — |
| 12 | 3.4 | — | — |
| 13 | 4.9 | — | — |
| 14 | 0.7 | 5.4 | — |
| 15 | 4.5 | 8.8 | 7.1 |
| 16 | 4.8 | 5.5 | 8.4 |
| 17 | 5.0 | — | 6.6 |
| 18 | 5.4 | 6.0 | 6.2 |
| 19 | 3.7 | 5.8 | — |
| 20 | 5.2 | 7.8 | — |
| 21 | 7.4 | 6.6 | — |
| 22 | 6.5 | 7.4 | 7.2 |
| 23 | 5.5 | — | — |
| 24 | 5.4 | — | — |
| 25 | 4.6 | 6.8 | 9.2 |
| 26 | 5.0 | 7.9 | — |
| 27 | 6.0 | — | 7.5 |
| 28 | 3.2 | 5.9 | 7.8 |

ENDED 4.13

× This is 81C.
□ This is 61S.

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SERIES 7

Feb. 13, 1903, Wolbach.

BEGAN 8.15

OBSERVER Thibault

| PLATE | 31C | 61S | 81A |
|---|---|---|---|
| 1 | — | — | — |
| 2 | 2.2 | 6.9 | 7.4 |
| 3 | 5.6 | — | — |
| 4 | — | — | — |
| 5 | 4.2 | 6.5 | 8.2 |
| 6 | — | 7.4 | 7.0 |
| 7 | 3.2 | — | 5.7 |
| 8 | 1.5 | — | — |
| 9 | 2.6 | — | 7.6 |
| 10 | 4.7 | 7.8 | 5.8 |
| 11 | — | — | — |
| 12 | — | — | 7.7 |
| 13 | 3.7 | — | — |
| 14 | 1.3 | 5.4 | — |
| 15 | 4.9 | — | 6.4 |
| 16 | 2.7 | — | 7.4 |
| 17 | 4.6 | 2.5 | 5.9 |
| 18 | — | 4.8 | 7.2 |
| 19 | 5.3 | — | — |
| 20 | 5.3 | 7.3 | 6.7 |
| 21 | 5.4 | 4.7 | 5.8 |
| 22 | — | — | 7.7 |
| 23 | 4.2 | — | 8.3 |
| 24 | 5.4 | 7.3 | 7.4 |
| 25 | — | — | — |

ENDED 8.55

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SERIES 7

March 6, 1903. Welsbach

BEGAN 4.43

OBSERVER R. W. Lyron

| PLATE | 31C | 61S | 81A |
|---|---|---|---|
| 1 | 3.8 | — | — |
| 2 | 4.5 | — | — |
| 3 | 3.5 | — | — |
| 4 | 0.7 | 7.9 | 7.0 |
| 5 | 2.4 | 7.4 | 5.5 |
| 6 | 4.0 | — × | 4.0 □ |
| 7 | 2.5 | 5.5 | 5.3 |
| 8 | 0.8 | 7.6 | — Superposed on planet image ~~Under planet~~ |
| 9 | 1.5 elongated | 8.0 | 6.6 |
| 10 | — | — | 7.9 |
| 11 | 2.5 | — | 9.0 |
| 12 | 1.3 | — | — |
| 13 | — | 7.3 | 8.1 |
| 14 | 2.9 elongated | — | 6.0 |
| 15 | 5.9 | 5.7 | — |
| 16 | 3.2 | 8.1 | 5.6 |
| 17 | — | 4.8 | 7.2 |
| 18 | 3.8 | 4.5 | — |
| 19 | 4.6 | — | 6.8 |
| 20 | 7.0 | 7.7 | 9.1 |
| 21 | 5.5 | 7.5 | 9.2 |
| 22 | 6.0 | 6.4 | 7.8 |
| 23 | — | — | 5.6 |
| 24 | — | — | 7.1 |
| 25 | 5.5 | 7.5 | 7.0 |
| 26 | 5.7 | — | — |
| 27 | — | 7.3 | 8.8 |
| 28 | 4.8 | 6.5 | 7.1 |

ENDED 5.55

× This is 81 S.
□ This is 61 A.

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SERIES 8

Feb. 13, 1903, Wolsbach.

BEGAN 9.10

OBSERVER Hubbard

| PLATE | 31S | 61A | 81B |
|---|---|---|---|
| 1 | — | 6.7 | 4.3 |
| 2 | 5.3 | 6.6 | 6.5 |
| 3 | 6.3 | — | — |
| 4 | 5.4 | 6.6 | — |
| 5 | 5.5 | 6.3 | 7.3 |
| 6 | 6.2 | 6.6 | 5.7 |
| 7 | 7.5 | 4.6 | 5.3 |
| 8 | — | — | — |
| 9 | — | 5.7 | 6.8 |
| 10 | 5.6 | 4.6 | 5.8 |
| 11 | — | — | — |
| 12 | — | 5.9 | 8.3 |
| 13 | 4.2 | — | — |
| 14 | 4.8 | 4.7 | 6.0 |
| 15 | — | 5.6 | 5.8 |
| 16 | — | 5.7 | 6.5 |
| 17 | — | 4.7 | 7.6 |
| 18 | 4.1 | 5.7 | 7.3 |
| 19 | 3.8 | — | — |
| 20 | 5.5 | 5.3 | 7.8 |
| 21 | 4.1 | 4.6 | 7.2 |
| 22 | — | 6.7 | — |
| 23 | 7.4 | 6.6 | — |
| 24 | ~~5.4~~ 5.9 | 6.2 | 6.3 |
| 25 | — | 6.4 | 7.4 |

ENDED 9.55

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1903phae.proj.1774T



SERIES 8

March 7, 1903. Daylight.

BEGAN 3.03

OBSERVER R. W. Fynn

| PLATE | 81S | 61A | 81B |
|---|---|---|---|
| 1 | — | — | — |
| 2 | — | — | — |
| 3 | ~~6~~ | 6.6 | — |
| 4 | 5.8 | 6.0 | 6.5 |
| 5 | 6.1 | 4.6 | 4.5 |
| 6 | 7.3 | 4.8 × | 5.1 □ |
| 7 | 2.9 | 3.2 | 5.7 |
| 8 | 6.5 | ~~Superposed on planet~~ — Under planet Superposed on planet | 5.5 |
| 9 | 7.0 elongated | 4.8 elongated | 7.4 |
| 10 | — | 6.1 | 8.6 |
| 11 | — | 7.2 | — |
| 12 | — | — | — |
| 13 | 6.3 | 7.0 | 7.5 |
| 14 | 7.3 | 4.6 | 5.2 |
| 15 | 3.1 | 8.6 | 8.8 |
| 16 | 7.5 | 4.3 | 7.3 |
| 17 | 2.5 | 5.8 | 8.0 |
| 18 | 1.6 | 7.6 | — Almost coincident with star; cannot measure. |
| 19 | 7.4 | 6.3 | 6.2 |
| 20 | 6.8 | 7.6 | 8.1 |
| 21 | 7.4 | 7.9 | 9.4 |
| 22 | 4.3 | 6.9 | — |
| 23 | — | 5.6 | 8.3 |
| 24 | 6.9 | 7.0 | 8.1 |
| 25 | 6.8 | 6.5 | 6.6 |
| 26 | — | — | 8.4 |
| 27 | 6.7 | 7.5 | 7.5 |
| 28 | 5.3 | 5.6 | 5.8 |

× This is 81A.
□ This is 61B.

ENDED 4.12

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SERIES I

Mar. 19, 1903, Wolbach,

BEGAN 8.25

OBSERVER Thibault.

| PLATE | 21A | 51B | 71C |
|---|---|---|---|
| 1 | 1.7 Indistinct | 7.6 | — |
| 2 | 5.1 | 6.8 | — |
| 3 | Too bright | 4.2 | 6.0 |
| 4 | 4.1 | 3.9 | — |
| 5 | 4.9 | — | — |
| 6 | 5.1 | 5.7 | 6.8 |
| 7 | 4.3 | 6.3 | — |
| 8 | 4.3 | 7.9 | — |
| 9 | 6.9 | 6.9 | 7.2 |
| 10 | 6.8 | 6.7 | — |
| 11 | 5.6 | 6.5 | 7.7 |
| 12 | 5.7 | 5.6 | 6.9 |
| 13 | 4.1 | 5.0 | — |
| 14 | 5.8 | 7.7 | 7.9 |
| 15 | 3.8 | 6.5 | — |
| 16 | 6.0 | 7.6 | 7.6 |
| 17 | 5.0 | 5.6 | 7.8 |
| 18 | 2.8 | 5.7 | — |
| 19 | 4.3 | 5.2 | — |
| 20 | 5.1 Kinnebrew | 7.5 | 7.6 |

ENDED 9.02

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1903phae.proj.1774T



SERIES I

| PLATE | BEGAN 21A | 51B | 71C | OBSERVER |
|---|---|---|---|---|
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
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| 16 | | | | |
| 17 | | | | |
| 18 | | | | |
| 19 | | | | |
| 20 | | | | |
| | ENDED | | | |

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1903phae.proj.1774T



SERIES 2

Mar. 19, 1903, Wilsbach.

BEGAN 9.08

| PLATE | 21B | 51C ~~21B~~ | 71S | OBSERVER |
|---|---|---|---|---|
| | | | | Hubrecht |
| 1 | ~~4.7 Trans~~ 5.1 | 6.2 | — | |
| 2 | 3.7 | — | — | |
| 3 | ~~Too bright~~ | 5.6 | — | |
| 4 | Too bright | 4.7 | — | |
| 5 | 4.9 | — | — | |
| 6 | 3.8 | 5.0 | 7.0 | |
| 7 | 5.3 | 7.5 | — | |
| 8 | 6.4 | — | — | |
| 9 | 6.8 | 6.3 | — | |
| 10 | 5.9 | — | — Slipped time 9.33 | |
| 11 | 4.6 | 6.7 | — Began " 9.44 | |
| 12 | 3.6 | 5.8 | — | |
| 13 | 3.0 | — | — | |
| 14 | 5.7 | 7.0 | — | |
| 15 | 5.2 | — | 7.7 | |
| 16 | 6.8 | 6.7 | — | |
| 17 | 3.9 | 6.8 | — | |
| 18 | 4.5 | — | — | |
| 19 | 3.4 | — | 7.4 | |
| 20 | 4.7 Trans | 6.6 | — | |
| 21 | | | | |
| 22 | | | | |
| 23 | | | | |

ENDED 9.59

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1903phae.proj.1774T



SERIES 2

| PLATE | BEGAN 21B | 51C | 71S | OBSERVER |
|---|---|---|---|---|
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
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| 17 | | | | |
| 18 | | | | |
| 19 | | | | |
| 20 | | | | |
| | ENDED | | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1903phae.proj.1774T



SERIES 3

Mar. 19, Wolbach.

BEGAN 10.06

| PLATE | 21C | 51S | 71A | OBSERVER |
|---|---|---|---|---|
| | | | | Shapley. |
| 1 | 3.3 | — | — | |
| 2 | 6.0 | — | — | |
| 3 | 3.3 | — | 4.8 | |
| 4 | 2.7 | 8.7 | — | |
| 5 | 5.8 | — | — | |
| 6 | 3.2 | 5.6 | 7.7 | |
| 7 | 5.8 | 7.2 | 7.3 | |
| 8 | — | 7.7 | 7.8 | |
| 9 | 5.7 | — 8.0 | 7.8 | |
| 10 | — | — | — | |
| 11 | 5.8 | 7.8 | 7.7 | |
| 12 | 5.2 | fainter than 9.4 | 7.3 | |
| 13 | — | — | 5.9 | |
| 14 | 4.8 | — | — | |
| 15 | — | 8.2 | 6.7 | |
| 16 | 5.3 | — | — | |
| 17 | 5.4 | — | ~~6.6~~ 7.3 | |
| 18 | — | — 7.3 | 5.2 | |
| 19 | — | 6.4 Smudged | 6.8 | |
| 20 | 2.8 Miscshapen | — | — | |

ENDED 10 7.38

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1903phae.proj.1774T



SERIES 3

| PLATE | BEGAN 21C | 51S | 71A | OBSERVER |
|---|---|---|---|---|
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
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| 12 | | | | |
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| 14 | | | | |
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| 17 | | | | |
| 18 | | | | |
| 19 | | | | |
| 20 | | | | |
| | ENDED | | | |

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1903phae.proj.1774T



SERIES 4

Mar. 21, 1903, Wolsbach.

BEGAN 7.06

| PLATE | 21S | 51A | 71B | OBSERVER |
|---|---|---|---|---|
| | | | | Thibaut |
| 1 | ~~5.8~~ 5.9 | 5.3 7.7 ~~7.6 5.3~~ | — ~~7.6~~ | |
| 2 | 7.5 | 7.3 | — | |
| 3 | — | 3.8 | 5.2 | |
| 4 | — 6.2 | ~~4.0~~ 5.6 | — | |
| 5 | ~~4.3~~ 7.9 | — | — | |
| 6 | 4.2 | 6.5 | 7.2 | |
| 7 | 5.9 | 5.7 | 7.3 | |
| 8 | 6.1 | ~~7.6~~ 6.5 | — | |
| 9 | — 7.5 | hidden by plant | 7.9 | |
| 10 | — | 7.7 | 7.7 | |
| 11 | 7.1 | 7.5 | 6.9 | |
| 12 | 7.8 | 6.9 | 6.6 | |
| 13 | 7.1 | 5.7 | 5.8 | |
| 14 | — | 8.3 | — | |
| 15 | 6.3 | 5.4 Thuvalapex | 7.5 | |
| 16 | — | 7.1 | — | |
| 17 | — | 6.5 | 6.9 | |
| 18 | 6.7 | 4.1 | 6.8 | |
| 19 | 4.4 Smudged | 5.3 | 6.0 | |
| 20 | 5.8 | 7.7 | 7.6 | |

ENDED 7.37

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1903phae.proj.1774T



SERIES 4

| PLATE | BEGAN 21S | 51A | 71B | OBSERVER |
|---|---|---|---|---|
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
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| 18 | | | | |
| 19 | | | | |
| 20 | | | | |
| | ENDED | | | |

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1903phae.proj.1774T



SERIES 5

Mar. 21, 1903, Wolsbach.

BEGAN 8.00

OBSERVER Hibaret.

| PLATE | 31A | 61B | 81C |
|---|---|---|---|
| 1 | 2.7 | 7.5 | — |
| 2 | 5.2 | 7.1 | — |
| 3 | Too bright | 4.6 | 5.9 |
| 4 | 3.7 | 3.9 | — |
| 5 | 3.3 | — | — |
| 6 | 5.2 | 5.8 | 6.6 |
| 7 | 4.5 | 6.1 | — |
| 8 | 4.3 | 8.0 | — |
| 9 | 6.8 | 7.2 | 7.2 |
| 10 | 6.9 | ~~6.8~~ 7.0 | — |
| 11 | 5.6 | 6.2 | 7.7 |
| 12 | 5.6 | 5.5 | 7.2 |
| 13 | 4.3 | 4.8 | — |
| 14 | 5.6 | 7.7 | 8.2 |
| 15 | 3.9 | 6.8 | — |
| 16 | 6.3 | 7.6 | 7.5 |
| 17 | 5.3 | 6.0 Plate spotty Leu | 8.2 |
| 18 | 3.2 | 5.9 | — |
| 19 | — Tu 31 | 5.3 | — |
| 20 | 6.2 Unsharp | 7.7 | 7.5 |

ENDED 8.29

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1903phae.proj.1774T



SERIES 5

| PLATE | BEGAN 31A | 61B | 81C | OBSERVER |
|---|---|---|---|---|
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
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| 10 | | | | |
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| 16 | | | | |
| 17 | | | | |
| 18 | | | | |
| 19 | | | | |
| 20 | | | | |
| | ENDED | | | |

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1903phae.proj.1774T



SERIES 6

Mar. 31, 1903, Wolsbach.

BEGAN 8.31

| PLATE | 31B | 31C | 31S | OBSERVER |
|---|---|---|---|---|
| | | | | Hubbard |
| 1 | 5.4 | 6.3 | — | |
| 2 | 4.1 | — | — | |
| 3 | 2.2 | 5.6 | — | |
| 4 | Too bright | 4.4 | — | |
| 5 | 3.8 | — | — | |
| 6 | 4.3 | 5.2 | 7.2 | |
| 7 | 5.1 | 7.6 | — | |
| 8 | 6.6 | — | — | |
| 9 | 6.9 | 6.5 | — | |
| 10 | 5.9 | — | — | |
| 11 | 4.8 | 7.2 | — | |
| 12 | 3.8 | 5.9 | — | |
| 13 | 3.4 | — | — | |
| 14 | 5.8 | 7.2 | — | |
| 15 | 5.1 | — | — | |
| 16 | 6.8 | 6.8 | — | |
| 17 | 3.8 | 7.1 | — | |
| 18 | 4.6 | — | — | |
| 19 | — Too 31. | — | 7.1 | |
| 20 | 5.8 Wurmhelm | 6.4 | — | |

ENDED 8.53

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1903phae.proj.1774T



SERIES 6

| PLATE | BEGAN 31B | 61C | 81S | OBSERVER |
|---|---|---|---|---|
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
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| 18 | | | | |
| 19 | | | | |
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ENDED

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SERIES 7

Mar. 21, 1903, Wolbach.

BEGAN 10.45 OBSERVER Thebault.

| PLATE | 31C | 61S ~~31A~~ | 81A |
|---|---|---|---|
| 1 | 3.0 | — | — |
| 2 | 6.1 | — | — |
| 3 | 3.7 | — | 4.8 |
| 4 | 3.8 | — | — |
| 5 | 5.8 | — | — |
| 6 | 3.1 | 5.7 | 7.3 |
| 7 | 5.8 | 7.6 | 7.1 |
| 8 | — | 7.6 | 7.8 |
| 9 | 5.4 | — | 7.9 |
| 10 | — | — | — |
| 11 | 6.1 | 7.9 | 7.7 |
| 12 | 5.1 | 8.8 | 6.8 |
| 13 | — | — | 6.0 |
| 14 | 5.0 | — | — |
| 15 | — | 7.7 | 6.8 |
| 16 | 5.2 | — | — |
| 17 | 5.5 | — | 7.4 |
| 18 | — | 7.4 | 5.0 |
| 19 | — | 6.2 smudged | 6.8 |
| 20 | 4.1 Heidelberg | — | — |

ENDED 11.20

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SERIES 7

| PLATE | BEGAN 31C | 31S | 31A | OBSERVER |
|---|---|---|---|---|
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
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| | ENDED | | | |

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SERIES 8

Mar. 23, 1903, Wolbach

BEGAN 7.05

OBSERVER Thibault.

| PLATE | 31S | 61A | 81B |
|---|---|---|---|
| 1 | ~~6.6~~ 6.5 | ~~7.7~~ 5.6 | — |
| 2 | 7.7 | 7.6 | — |
| 3 | ~~5.9~~ | 3.8 | 5.3 |
| 4 | 6.0 mosshafen | 5.9 | — |
| 5 | 7.3 | — | — |
| 6 | 4.4 | 6.4 | 7.0 |
| 7 | 5.9 | 6.1 | 7.7 |
| 8 | 5.9 | 6.7 | — |
| 9 | ~~7.5~~ 7 | — | 7.8 |
| 10 | — | 7.8 | 7.9 |
| 11 | 6.9 | 7.1 | 7.0 |
| 12 | 7.7 | 6.9 | 6.6 |
| 13 | 7.1 | 5.4 | 5.6 |
| 14 | — | 8.5 | — |
| 15 | 6.3 | 6.2 | 7.6 |
| 16 | — | 7.4 | — |
| 17 | — | 7.1 | 6.5 |
| 18 | 6.1 | 4.5 | 6.7 |
| 19 | — | 5.8 | 6.7 |
| 20 | 6.6 | 7.7 | 7.8 |

ENDED 7.45

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1903phae.proj.1774T



SERIES 8

| PLATE | BEGAN 31S | 61A | 81B | OBSERVER |
|---|---|---|---|---|
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
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| 19 | | | | |
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| | ENDED | | | |

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SERIES

General Notes.

| BEGAN | | OBSERVER |
|---|---|---|
| PLATE | | |
| C4086 | Sats a + b nearly overlap. | |

ENDED

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Group M Set II

3 = C 4157 Brgm 8.20

May 11, 1903 Falkirk, Hirant

| No. of images | ~~II~~ a | ~~IV~~ b | c | 5 |
|---|---|---|---|---|
| 6 | 4.3 | 5.2 | — | 6.9 |
| 11 | 4.3 | 5.3 | — | 7.1 |
| 16 | 4.7 | 5.8 | — | 7.3 |
| 21 | 4.3 | 5.7 | — | 7.3 |
| 26 | 4.9 | 5.9 | — | 7.1 |
| 31 | 4.4 | 5.6 | — | ~~6.9~~ 7.1 |
| Sum | 26.4$^{v}$ | 33.5$^{v}$ | | 42.8 |
| Mean | 4.5$^{-1}$ | 5.6$^{-1}$ | | 7.1 |

In 51-61 group (counting all images.)

| | | | |
|---|---|---|---|
| Clouds + | 6.6 | 7.7 | |
| seem to | 3 5.9 | 7.5 | } diffuse |
| have appeared | 5.8 | 7.8 | |
| this ~~group~~ ~~flatt~~ | 5 6.5 | 7.4 | |
| | 6 5.8 | 7.2 | diffuse |
| | 7 6.3 | 7.3 | |
| Sum | 36.9$^{v}$ | 44.9$^{v}$ | |
| Mean | 6.2$^{-3}$ | 7.5$^{-1}$ | |

In 71-81 group (Counting all images.)

| | |
|---|---|
| 2 | 7.8 |
| 3 | 7.6 |
| 4 | 7.6 |
| 5 | 7.9 |
| 6 | 7.7 |
| 7 | 7.4 |
| Sum | 46.0$^{v}$ |
| Mean | 7.7$^{-2}$ |

Ended 8.45

(3) − (2) 1.5$^{v}$

checked by AE

(4) − (1) 1.7$^{v}$ 1.9$^{v}$

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1903phae.proj.1774T



4 = C 5281

Begun 8.19

Electric light

May 12, 1903, ~~Helostack~~, Thraulet.

| No. of image | IV a | III 2 | II c | 5 |
|---|---|---|---|---|
| 6 | 4.0 | 2.86 | 3.2 | 2.5 |
| 11 | 4.4 | 3.0 | 3.7 | 2.9 |
| 16 | 4.9 | 3.2 | 3.8 | 3.2 |
| 21 | 4.4 | ~~3.1~~ 2.9 | 3.3 | 3.0 |
| 26 | 4.7 | 2.7 | 3.1 | 2.9 |
| 31 | — | — | No 31 on plate | |
| Sum | 22.4 | 14.4 | 17.1 | 14.5 |
| Mean | 4.5 -1 | 2.9 -1 | 3.4 +1 | 2.9 |
| | In 51-61 group (counting all images.) | | | |
| 2 | 7.1 | 5.2 | 5.4 | These images very poor - elongated & diffuse. |
| 3 | 8.3 | 6.4 | 7.0 | |
| 4 | 7.1 | 5.8 | 6.6 | |
| 5 | 7.3 | 6.2 | 6.8 | |
| 6 | 7.1 | 5.9 | 6.5 | |
| 7 | 7.4 | 5.9 | 6.7 | |
| Sum | 44.3 | 35.4 | 39.0 | |
| Mean | 7.4 -1 | 5.9 | 6.5 | |
| (3) - (2) | — | — | — | |
| (2) - (1) | 2.9 | 3.0 | 3.1 | |

Ended 8.40

Checked by AE

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1903phae.proj.17747



$5 = C\ 6035^{23}$

Begun 8.55

May 12, 1903 Electric Light ~~Mt Wilson~~, Flint Ct.

| No. of images | a IV | b III | c II | 5 |
|---|---|---|---|---|
| 6 | 7.3 | 6.3 | 7.4 | |
| 11 | 7.3 | 6.7 | 7.5 | |
| 16 | ~~7.9~~ ~~6.9~~ 7.7 | 6.9 | 7.6 | |
| 21 | 7.8 | 6.8 | 7.6 | |
| 26 | 7.6 | 6.7 | 7.5 | |
| 31 | 7.7 | 6.7 | 7.6 | |
| Sum | 45.4 v | 40.1 v | 45.2 v | |
| Mean | 7.6 -2 | 6.7 -1 | 7.5 +2 | |

These were made with small aperture during Eclipse by mistake. See record. Note made 1916

In 51-61 group (counting all images)

| | | | |
|---|---|---|---|
| 2 | 5.7 | 5.4 | 5.8 |
| 3 | 6.1 | 5.4 | ~~5.9~~ |
| 4 | 5.9 | ~~5.3~~ | ~~5.9~~ |
| 5 | ~~5.9~~ | 5.3 | ~~5.7~~ |
| 6 | 6.5 | ~~5.4~~ | ~~5.9~~ |
| 7 | 6.5 | 5.7 | ~~5.9~~ |
| Sum | 36.6 v | 32.5 v | 35.1 v |
| Mean | 6.1 v | 5.4 +1 | 5.8 +3 |

In 71-81 group (counting all images)

| | | | |
|---|---|---|---|
| 2 | 7.8 | 6.7 | 7.6 |
| 3 | 7.8 | 6.8 | 7.7 |
| 4 | ~~8.8~~ 7.8 | 6.8 | 7.7 |
| 5 | 7.8 | 6.9 | 7.7 |
| 6 | 7.9 | 6.9 | 7.7 |
| 7 | 7.9 | 6.9 | 7.7 |
| Sum | 47.0 v | 41.0 v | 46.1 v |
| Mean | 7.8 +2 | 6.8 +2 | 7.7 -1 |

Ended 9.25

| | | | |
|---|---|---|---|
| (31) - (16) | 1.7 v | 1.4 v | 1.9 v |
| (21) - (11) | 1.5 v | 1.3 v | 1.7 v |

checked by AF.

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1903phae.proj.1774T

C 60 ~~32~~ 23

0.2 ✓
0.1 ✓
0.2 ✓
0.5 ✓

6 | 0.50 ✓
.08 div. = 1 mag

0.5 | 6.00
1.7 ✓

| | a | b | c |
|---|---|---|---|
| 1 | 7.6 | 6.7 | 7.5 |
| 2 | 6.1 | 5.4 | 5.8 |
| 3 | 7.8 | 6.8 | 7.7 |

| | IV a | III b | II c |
|---|---|---|---|
| | 5.80 | 5.35 | 5.75 |
| | 4~~5~~.05 | 3~~4~~.70 | 3~~4~~.90 |
| | 3.90 | 3.40 | 3.95 |
| Sum | 13.75 | 12.45 | 13.60 |
| Mean | 4.58 | 4.15 | 4.53 |
| | +122 | +120 | +122 |
| | −53 | −45 | −63 |
| | −68 | −75 | −58 |
| | 243 | 240 | 243 |
| | | 243 | |
| | | 243 | |
| | | 9 \| 726 | |
| | | ±.81 | |

| | IV a | III b | II c |
|---|---|---|---|
| | 11.12 | 10.04 | 11.00 |
| | 8.32 | 7.48 | 7.96 |
| | 9.36 | 8.16 | 9.24 |
| | 28.80 | 25.68 | 28.20 |
| | 9.60 | 8.56 | 9.40 |
| | +1.52 | +1.48 | +1.60 |
| | −1.28 | −1.08 | −1.44 |
| | −.24 | −.40 | −.16 |
| | 3.04 | 2.96 | 3.20 |
| | | 3.04 | |
| | | 3.20 | |
| | | 9 \| 10.20 | |
| | | ±1.13 | |

? See note on opposite page.

Checked by R.W.L.

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1903phae.proj.17741



~~b = C 6691.~~

9 = C 7673

Begun 3.44

May 14, 1903 Electric Light, Thibaudet.

| No of Images | a IV | b I | c | S |
|---|---|---|---|---|
| 6 | 7.1 | 6.3 | — | 4.4 |
| 11 | 7.3 | 6.7 | — | 4.7 |
| 16 | 7.3 | 6.6 | | 4.7 |
| 21 | 7.4 | 6.7 | | 4.7 |
| 26 | 7.2 | 6.8 Very clear together images | | 4.7 |
| 31 | 7.4 Sum 43.7 v Mean 7.3 -1 | 6.7 Sum 33.8 Mean 6.8 +2 | | 4.6 |
| | In 51-61 group (counting all images) | | | 17.8 v Sum |
| 2 | — | 7.9 | | 4.6 +2 Mean |
| 3 | — | 7.7 | | |
| 4 | | 7.8 | | |
| 5 | | 7.8 | | |
| 6 | | 7.8 Sum 46.9 v | | |
| 7 | | 7.9 Mean 7.8 +1 | | |
| | | (2)-(1)=1.1 | | |

1 = C 1345

Ended 3.54

May 14, 1903, Electric Light, Thibaudet Begun 3.34

| | | | |
|---|---|---|---|
| 6 | 7.2 | 5.8 | 5.2 |
| 11 | 6.9 | 5.7 | 4.9 |
| 16 | 6.4 misshapen | 5.8 | 5.2 |
| 21 | 7.3 | 5.7 | 4.5 |
| 26 | 6.4 | 5.3 | 4.6 |
| 31 | 6.9 | 5.7 | 4.9 |
| Sum | 41.1 v | 34.0 v | 29.3 v |
| Mean | 6.8 +3 | 5.7 -2 | 4.9 -1 |
| | IV | II | III |

Ended 3.41

(3)-(2) — ~ ++++ 1. = 11

(2)-(1)

Checked by AE

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1903phae.proj.1774T



7 = C 7587

Begun 4.55

May 14, 1903, Electric light, Thirault.

| | a | b | c | S |
|---|---|---|---|---|
| 6 | 5.0 a is | 2.1 | 4.3 | 6.8 |
| 11 | 5.0 very close | 2.2 | 4.7 | 6.8 |
| 16 | 5.1 to planet. | 2.1 | 4.3 | 7.2 |
| 21 | ~~4.9~~ 5.1 | ~~2.3~~ | ~~4.4~~ 4.5 | 6.8 |
| 26 | ~~4.9~~ 4.9 | 2.5 | 4.4 | 6.8 |
| 31 | 5.2 | 2.1 | 4.6 | 6.8 |
| Sum | 30.3 | 13.2 | 26.8 | 41.2 |
| Mean | 5.0 +3 | 2.2 | 4.4 -2 | 6.9 -2 |

Du 51-61 group (Counting all images)

| | | | |
|---|---|---|---|
| 2 | 5.6 | 4.7 | 6.2 |
| 3 | 5.7 | 4.7 | 5.9 |
| 4 | 5.6 | 4.5 | 6.1 |
| 5 | 5.7 | 4.7 | 6.1 |
| 6 | 5.7 | 4.8 | 6.3 |
| 7 | 5.8 | 4.8 | 6.2 |
| Sum | 34.1 | 28.2 | 36.8 |
| Mean | 5.7 -1 | 4.7 | 6.1 +2 |

Du 71-81 group (counting all images)

| | | | |
|---|---|---|---|
| 1 2 | 8.2 | 7.1 | — |
| 2 3 | 7.4 | 5.9 | 7.7 |
| 3 4 | 7.2 | 6.0 | 7.7 |
| 4 5 | 7.3 | 6.3 | 7.8 |
| 6 7 | 7.1 | 5.9 | 7.8 |
| Sum | 37.2 | 31.2 | 31.0 |
| Mean | 7.4 +2 | 6.2 +2 | 7.8 -2 |

Ended 5.19

| | | | |
|---|---|---|---|
| (3) - (7) | 1.7 | 1.5 | 1.7 |
| (2) - (1) | 0.7 | 2.5 | 1.4 6 |

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1903phae.proj.1774t

C 758

2.4
4.0
3.x
9.5

6) 9.5
1.6 div. = 1 mag.

9.5 | 6.00 | 1.63
570
300

9.7 | 6.00 | 1.62
582
180

| | a | b | c | I a | III b | IV c |
|---|---|---|---|---|---|---|
| 1 | 5.0 | 2.2 | 4.7 | 5.15 | 3.39 | 4.96 |
| 2 | 5.7 | 4.7 | 6.1 | 4.59 | 3.96 | 4.84 |
| 3 | 7.4 | 6.2 | 7.8 | 4.66 | 3.91 | 4.91 |
| | | | Sum | 14.40 | 11.26 | 14.71 |
| | | | Mean | 4.80 | 3.75 | 4.90 |

+35 −21 −14 = 70

+36 −21 −15 = 72

−36 +21 +16 = 73, 70, 13

9 | 156 ±17

−34 +21 +14 = 69, 72, 7

9 | 148 ±1.6

−1 −2 +4 = 7

Checked by Thibault

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1903phae.proj.1774T



δ = C 75-96

Begun 7.40

May 18, 1903, Electric light, Thirault.

| | ~~II~~ a | I | c III | v |
|---|---|---|---|---|
| 6 | 5.3 5.7 | 4.8 | 3.7 | III measured Nov. 4, 1903. Electric Lt. |
| 11 | 5.7 | 5.0 | 3.8 | |
| 16 | 5.7 | 5.3 | 4.4 | |
| 21 | 5.8 | 5.3 | 4.3 | |
| 26 | 5.7 | 5.2 | 4.4 | |
| 31 | 5.8 | 5.5 | 4.7 | |
| Sum | 34.0 v | 31.1 v | 25.3 | |
| (1) Mean | 5.7 -2 | 5.2 -1 | 4.2 +1 | |

In 51-61 group (counting all images)

| | | | |
|---|---|---|---|
| 2 | 7.4 | | 5.8 |
| 3 | 7.3 | | 5.8 |
| 4 | 7.2 | hidden by | 5.9 |
| 5 | 7.3 | | 5.8 |
| 6 | 7.4 | | 5.7 |
| 7 | 7.3 | | 5.5 |
| Sum | 43.9 v | | 34.5 -3 |
| (2) Mean | 7.3 +1 | | 5.8 |

In 71-81 group (counting all images)

| | | | |
|---|---|---|---|
| 2 | | 7.9 (hidden) | 6.8 |
| 3 | | 7.9 | 7.2 |
| 4 | | 7.9 | 7.2 |
| 5 | | 7.9 | 6.9 |
| 6 | | 7.8 | 7.3 |
| 7 | | 7.9 | 7.3 |
| Sum | | 47.3 v | 42.7 |
| (3) Mean | | 7.9 -1 | 7.1 +1 |

Ended 8.00

(3)-(2)

(3)-(1) 1.6 v

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1903phae.proj.1774T



~~4 = C 7673~~

Begun 5.20 6 = c 6691

May 14, 1903, Electric Light, Thibault.

| | a IV | b V | c III | s |
|---|---|---|---|---|
| 6 | 8.0 | 6.5 | 5.5 | — |
| 11 | 7.4 | 6.7 | 5.4 | — |
| 16 | 7.6 | 6.4 | 5.5 | |
| 21 | — too faint | 8.2 | 5.5 | |
| 26 | 8.1 | 6.8 | 5.7 | |
| 31 | 7.2 | 6.1 | 5.4 | |
| Sum | 38.3 V | 40.7 V | 33.0 V | |
| Mean | 7.6 V-2 | 6.8 V-1 | 5.5 V | |

Apparently fog hurt this plate

In 51-61 group (Counting all images)

3
4
5
6
4

Ended 5.37

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1903phae.proj.1774T



10 = C 9040

7.10

May 14, 1903, Electric Lt, Thrain

| | a IV | b II | c III | v |
|---|---|---|---|---|
| 6 | 5.9 | 5.5 | 4.2 | 5.9 |
| 11 | 5.9 | 5.6 | 4.6 | 6.1 |
| 16 | 5.9 | 5.2 | 4.5 | 5.9 |
| 21 | 5.9 | 5.5 | 4.3 | 6.0 |
| 26 | 5.9 | 5.2 | 4.4 | 5.9 |
| 31 | 6.0 | 5.5 | 4.4 | 6.1 |
| Sum | 35.5 v | 32.5 v | 26.4 v | 35.9 v |
| Mean | 5.9 +1 | 5.4 +1 | 4.4 v | 6.0 -1 |

In 51-61 group (Counting all images)

| | | | |
|---|---|---|---|
| 3 | 7.3 | 6.8 | 5.8 |
| 4 | 7.0 | 6.6 | 5.3 |
| 5 | 7.3 | 6.7 | 5.8 |
| 6 | 7.0 | 6.5 | 5.6 |
| 7 | 7.3 | 6.8 | 5.7 |
| 8 | 7.2 | 6.6 | 5.6 |
| Sum | 43.1 v | 40.0 v | 33.8 v |
| Mean | 7.2 -1 | 6.7 -2 | 5.6 +2 |

Ended 7.30

(3) - (4)

(2) - (1) 1.3 v 1.3 v 1.2 v

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1903phae.proj.1774T



11 = C 10887

Begun 6.

May 14, 1903, Electric Light, Thirault.

| | a VI | v I | x | s |
|---|---|---|---|---|
| 6 | — 6 minutes late — | | — | — |
| 11 | 4.4 | 5.7 | — | 4.4 |
| 16 | 4.5 | 5.8 | — | 4.4 |
| 21 | 4.5 | 5.7 | — | 4.2 |
| 26 | 4.4 | 5.7 | — | 4.2 |
| 31 | 4.5 | 5.8 | — | 4.2 |
| 36 | 4.6 | 5.7 | — | 4.2 |
| Sum | 26.9 v | 34.4 v | | 25.6 v |
| Mean | 4.5 -1 | 5.7 +2 | | 4.3 -2 |

In 51-61 (Counting all images)

| | | |
|---|---|---|
| 2 | 5.3 | 6.4 |
| 3 | 5.3 | 6.4 |
| 4 | 5.5 | 6.6 |
| 5 | 5.4 | 6.6 |
| 6 | 5.6 | 6.6 |
| 7 | 5.3 | 6.6 |
| Sum | 32.4 v | 39.2 v |
| Mean | 5.4 v | 6.5 +2 |

In 71-81 (Counting all images)

| | | |
|---|---|---|
| 2 | 6.1 | 6.9 |
| 3 | 6.1 | 7.1 |
| 4 | 6.0 | 7.0 |
| 5 | 5.9 | 6.9 |
| 6 | 5.9 | 7.0 |
| 7 | 6.0 | 6.9 |
| Sum | 36.0 v | 41.8 v |
| Mean | 6.0 v | 7.0 -2 |

Indeed 8.20

| | | |
|---|---|---|
| (3)-(21 | 0.6 v | 0.5 v |
| (7)-(11 | 0.9 v | 0.8 v |

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$\zeta = C + 031$

Begun 8.00

May 18, 1903, Wilstach, Thiriault.

| | a | b | c | ζ |
|---|---|---|---|---|
| 6 | 5.0 | 5.7 | 7.6 | Images obscured |
| 11 | 5.6 | 6.1 | 6.8 | |
| 16 | 5.2 | 5.6 | 5.8 | |
| 21 | 5.4 | 5.8 | 5.7 | |
| 26 | 5.0 | 5.3 | 5.4 | |
| 31 | 5.3 | 5.9 | 5.3 | |
| Sum | 31.5 ✓ | 34.4 ✓ | 36.6 ✓ | |
| Mean | 5.2 +3 | 5.7 +2 | 6.1 ✓ | |
| | III | I | IV | Checked by AE |

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# Measurement Set II & Group E

C 8715 = 1

June 30, 1903, Electric Light, Thirsavet

Begun 8.53

| | a | b | c |
|---|---|---|---|
| 6 | 4.4 | 4.2 | 3.3 |
| 11 | 4.3 | ~~4.1~~ 4.2 | 3.4 |
| 16 | 4.5 | 4.2 | 3.3 |
| 21 | 4.4 | 4.1 | 3.4 |
| 26 | 3.7 | 3.6 | 2.4 |
| 31 | 3.9 | 4.0 | 3.1 |
| Sum | 25.2* 2 ✓ | 24.3 ✓ | 18.9 ✓ |
| (1) Mean | 4.2 ✓ | 4.0 +3 | 3.2 -3 |

## Du 51-61 Group (1M)

| | | | |
|---|---|---|---|
| 6 | 4.8 | 4.7 | 3.9 |
| 7 | 4.9 | 4.7 | 4.1 |
| 8 | 5.3 | 4.9 | 4.1 |
| 9 | 5.2 | 4.9 | 3.9 |
| 12 | 4.9 | 5.2 | 4.4 |
| 13 | 4.9 | 4.8 | 4.1 |
| Sum | 30.0 ✓ | 29.2 ✓ | 24.5 ✓ |
| (2) Mean | 5.0 ✓ | 4.9 -2 | 4.1 -1 |

## Du 71-81 Group (2M)

| | | | |
|---|---|---|---|
| 4 | 5.5 | 5.4 | 4.7 |
| 5 | 5.4 | 5.3 | 4.4 |
| 6 | 5.6 | 5.5 | 4.6 |
| 8 | 5.5 | 5.6 | 4.7 |
| 10 | 5.6 | 5.5 | 4.7 |
| 11 | 5.6 | 5.2 | 4.6 |
| Sum | 33.2 ✓ | 32.5 ✓ | 27.7 ✓ |
| (3) Mean | 5.5 +2 | 5.4 +1 | 4.6 +1 |
| (3) - (2) | 0.5 ✓ | 0.5 ✓ | 0.5 ✓ |
| (2) - (1) | 0.8 ✓ | 0.9 ✓ | 0.9 ✓ |

Ended 9.22

checked by AE.

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C 8715



1.4 v
1.4 v
1.3 v
4.1 v

6) 4.1
.7 div. = 1 mag.

4.1 ) 6.00 ( 1.46 v
41
190
164
260

| | a | b | c |
|---|---|---|---|
| 1 | 4.2 | 4.0 | 3.2 |
| 2 | 5.0 | 4.9 | 4.1 |
| 3 | 5.5 | 5.4 | 4.6 |

| | II a | I b | III c |
|---|---|---|---|
| | 8.13 v | 7.84 v | 6.67 v |
| | 8.30 v | 8.15 v | 6.99 v |
| | 8.03 v | 7.88 v | 6.72 v |
| Sum | 24.46 v | 23.87 v | 20.38 v |
| Mean | 8.15 v | 7.96 v | 6.79 v |
| | −2 v | −12 v | +12 v |
| | +15 v | +19 v | +30 v |
| | −12 v | −8 v | −7 v |
| | 29 v | 39 v | 39 v |
| | | 39 v | |
| | | 29 v | |
| | | 9 ) 107 v | |
| | | ±12 v | |

Checked by R.W.L.

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1903phae.proj.1774T



Begun 9.36

C 8988 = 2

June 20, 1903, Electric Light, Thirteen.

| | a | b | c |
|---|---|---|---|
| 6 | 2.7 | 2.9 | 1.1 |
| 11 | 3.2 | 2.8 | 1.2 |
| 16 | 3.4 | 2.9 | 1.3 Brighter |
| 21 | 3.4 | 2.8 | 1.4 |
| 26 | 3.7 | 3.1 | 1.2 |
| 31 | 3.7 | 2.9 | 1.4 |
| Sum | 20.1 | 17.4 | 7.6 |
| (1) Mean | 3.4 -3 | 2.9 | 1.3 -2 |

Dec 51-61 Group (1 M)

| | | | |
|---|---|---|---|
| 1 | 4.3 | 3.9 | 2.5 |
| 2 | 4.3 | 3.8 | 2.6 |
| 3 | 4.4 | 3.9 | 2.6 |
| 4 | 4.4 | 3.9 | 2.7 |
| 5 | 4.6 | 4.0 | 2.7 |
| 6 | 4.3 | 4.0 | 2.6 |
| Sum | 26.3 | 23.5 | 15.7 |
| (2) Mean | 4.4 -1 | 3.9 +1 | 2.6 +1 |

Dec 71-81 Group (2 M)

| | | | |
|---|---|---|---|
| 3 | 5.4 | 4.9 | 4.1 |
| 4 | 5.3 | 4.8 | 4.0 |
| 5 | 5.4 | 5.0 | 4.2 |
| 7 | 5.4 | 5.0 | 3.9 |
| 8 | 5.3 | 4.9 | 4.0 |
| 9 | 5.4 | 5.0 | 4.0 |
| Sum | 32.2 | 29.6 | 24.2 |
| (3) Mean | 5.4 -2 | 4.9 +2 | 4.0 +2 |
| (3) - (2) | 1.0 | 1.0 | 1.4 |
| (2) - (1) | 1.0 | 1.0 | 1.3 |

Ended 9.58

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1903phae.proj.1774T

C 8988



3.0 ✓
3.0 ✓
3.7 ✓
61 ✓

6)6.7
1.1 div. = 1 mag.

6.7)6.00 = .90 ✓
536
640
603
37

| | a | b | c | I a | II b | III c |
|---|---|---|---|---|---|---|
| 1 | 3.4 | 2.9 | 1.3 | 5.06 ✓ | 4.61 ✓ | 3.17 ✓ |
| 2 | 4.4 | 3.9 | 2.6 | 4.96 ✓ | 4.51 ✓ | 3.34 ✓ |
| 3 | 5.4 | 4.9 | 4.0 | 4.86 ✓ | 4.41 ✓ | 3.60 ✓ |
| | | | Sum | 14.88 ✓ | 13.53 ✓ | 10.11 ✓ |
| | | | Mean | 4.96 ✓ | 4.51 ✓ | 3.37 ✓ |

+10 ✓
0 ✓
−10 ✓
20 ✓

+10 ✓
0 ✓
−10 ✓
20 ✓
20 ✓
46 ✓
9)86 ✓
+.10 ✓

−30 ✓
−3 ✓
+23 ✓
46 ✓

Checked by R.W.L.

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1903phae.proj.1774T



C 8995 = 3 Begun 10.12

June 20, 1903, Electric Light, Distant.

| | a I | b II | c III | |
|---|---|---|---|---|
| 6 | ~~4.3~~ 3.3 | 2.1 | 1.1 | Apparently cloud or some other interference from Image 26 on. |
| 11 | 3.5 | 1.7 | 1.1 | |
| 16 | 3.6 | 2.6 | 0.7 | |
| 21 | 3.6 | 2.1 | 1.8 | |
| 26 | 6.6 | 4.9 | 2.5 | |
| 31 | 5.3 | 4.2 | 2.1 | |
| Sum | 25.9 | 17.6 | 9.3 | |
| (1) Mean | 4.3 +1 | 2.9 +2 | 1.6 -3 | |

Very bad

Too late to be of any use

Du 51-61 Group (1M)

| | | | |
|---|---|---|---|
| 5 | 2.4 | 2.1 | 0.9 |
| 6 | 2.8 | 2.2 | 1.1 |
| 7 | 3.2 | 2.4 | 1.1 |
| 8 | 3.8 | 2.8 | 1.4 |
| 9 | 3.6 | 2.7 | 0.8 |
| 12 | 3.3 | 2.1 | 0.8 |
| Sum | 19.1 | 14.3 | 6.1 |
| (2) Mean | 3.2 -1 | 2.4 -1 | 1.0 +1 |

Du 71-81 Group (2M)

| | | | |
|---|---|---|---|
| 2 | 5.3 | 4.9 | 3.8 |
| 3 | 5.8 | 4.8 | 3.6 |
| 5 | 5.7 | 5.3 | 4.1 |
| 7 | 5.3 | 5.6 | 4.0 |
| 12 | 5.8 | 5.4 | 4.7 |
| 13 | 5.6 | 4.9 | 3.4 |
| Sum | 33.5 | 30.9 | 23.6 |
| (3) Mean | 5.6 -1 | 5.2 -3 | 3.9 +2 |
| (3)-(2) | 2.4 | 2.8 | 2.9 |
| (2)-(1) | 1.1 | 0.5 | 0.6 |

Ended 10.44

Checked by A.E.

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1903phae.proj.17741



C 8995

1.3
2.3
2.3
6 | 5.9
1.0 div. = 1 ~~mag.~~ 1.07.
5.9 | 6.0
59
1

| | a | | b | | c | |
|---|---|---|---|---|---|---|
| 1 | ~~3.4~~ | 4.3 | ~~2.9~~ | 2.9 | ~~1.3~~ | 1.6 |
| 2 | 4.4 | 3.2 | ~~3.9~~ | 2.4 | ~~2.6~~ | 1.0 |
| 3 | 5.4 | 5.6 | ~~4.9~~ | 5.2 | ~~4.0~~ | 3.9 |

| | b | c |
|---|---|---|
| ~~4.39~~ ~~86~~ | 2.96 | 1.63 |
| ~~3.26~~ | | |
| 3.26 | 2.45 | 1.02 |
| 5.71 | 5.30 | 3.98 |
| Sum 13.36 | 10.71 | 6.63 |
| Mean 4.45 | 3.57 | 2.21 |
| -6 | -61 | -58 |
| -121 | -112 | -119 |
| +126 | +173 | +177 |
| ~~243~~ | 346 | 354 |
| 253 | 354 | |
| | 253 | |
| | 9 \| 9.53 | |
| | +1.06 | |

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1903phae.proj.1774T



C 9257 = 4 Begun 9.40 9.55

June 22, 1903, Electric Light, Thisauet.

| | a | b | c |
|---|---|---|---|
| 36 | 2.7 | | |
| 41 | 2.7 | | |
| 16 | 2.4 | | |
| 21 | 2.3 | | |
| 26 | 2.6 | | |
| 31 | — too faint | | |
| Sum | 12.7 ✓ | | |
| (1) Mean | 2.5 +2 | | |

Δm 51-61 Group (1M)

| | | | |
|---|---|---|---|
| 4 | 3.8 | | |
| 5 | 4.4 | | |
| 6 | 4.3 | | |
| 7 | 4.4 | | |
| 8 | 4.4 | | |
| 9 | 4.3 | | |
| Sum | 25.6 ✓ | | |
| (2) Mean | 4.3 -2 | | |

Δm 71-81 Group (2M)

| | | | |
|---|---|---|---|
| 2 | 5.7 | | |
| 3 | 5.7 | | |
| 5 | 5.5 | | |
| 7 | 5.6 | | |
| 8 | 5.7 | | |
| 10 | 5.9 | | |
| Sum | 34.1 ✓ | | |
| (3) Mean | 5.7 -1 | | |
| (3) - (2) | 1.4 ✓ | | |
| (2) - (1) | 1.8 ✓ | | |

Ended 10.02

Checked by O.E.

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C 9257



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C 9633 = 5 Begun 10.04.

June 22, 1903, Electric Light, Thiraucl.

| | a IV | b II | c I | |
|---|---|---|---|---|
| 2 | ~~6.7~~ 7.4 | 6.7 | 6.9 | 2 was selected in- |
| 11 | 7.6 | 6.9 | 7.1 | stead of 6, because 7 |
| 16 | 7.3 | 6.6 | 6.9 | fainter than 6. |
| 20 | 7.7 | 6.9 | 7.0 | Likewise 20 for 21 |
| 26 | — | — | — | No 26 or 31 |
| 31 | — | — | — | |
| Sum | 30.0 | 27.1 / 6.8 -1 | 27.9 / 7.0 -1 | |
| (1) Mean | 7.5 | ~~6.8~~ | ~~6.5~~ | |

Du 51-61 Group (1M)

| | | | |
|---|---|---|---|
| 3 | 8.7 | 7.4 | 7.7 |
| 5 | 9.1 | 7.5 | 7.6 |
| 6 | 8.9 | 7.6 | 7.8 |
| 7 | 8.9 | 7.7 | 7.8 |
| 8 | 8.8 | 7.7 | 7.6 |
| 9 | — | 7.4 | 7.6 |
| Sum | 44.4 | 45.3 | 46.1 |
| (2) Mean | 8.9 -1 | 7.6 -3 | 7.7 -1 |

Du 71-81 Group (2M)

| | | | |
|---|---|---|---|
| 2 | | | |
| 3 | | | |
| 4 | No stars visible. | | |
| 5 | Too faint | | Ended 10.18 |
| 6 | | | |
| 7 | | | |
| Sum | — | — | — |
| (3) Mean | — | — | — |
| (3) - (2) | — | — | — |
| (2) - (1) | 1.4 | 0.8 | 0.7 |

Checked by AE.

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C 9633



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1903phae.proj.1774T



C 9741 = 6

Begun 10.20

June 22, 1903, Electric Light, Thiaucourt.

| | a III | b I | c II |
|---|---|---|---|
| 6 | 2.7 | 4.5 | 4.4 |
| 11 | 2.5 | 4.3 | 4.2 |
| 16 | 2.8 | 4.4 | 4.3 |
| 21 | 3.2 | 4.6 | 4.6 |
| 26 | 1.5 | 3.4 | 2.6 |
| 31 | 1.7 | 3.4 | 2.7 |
| Sum | 14.1 ✓ | 24.6 ✓ | 22.8 ✓ |
| (1) Mean | $2.4^{-3}$ | 4.1 ✓ | $3.8^{\checkmark}$ |

After 21, images suddenly become much brighter & evidently later exposures with apertures were under the same conditions.

Du 51-61 Group (1M)

| | | | |
|---|---|---|---|
| 4 | 3.9 | 4.3 | 4.2 |
| 5 | 3.2 | 4.4 | 4.2 |
| 6 | 3.5 | 4.6 | 4.6 |
| 7 | 3.2 | 4.4 | 4.3 |
| 8 | 3.4 | 4.4 | 4.6 |
| 9 | 3.1 | 4.5 | 4.2 |
| Sum | 19.3 ✓ | 26.6 ✓ | 26.1 ✓ |
| (2) Mean | $3.2^{+1}$ | $4.4^{+2}$ | $4.4^{-3}$ |

Du 71-81 Group (2M)

| | | | |
|---|---|---|---|
| 4 | 4.5 | 5.7 | 5.7 |
| 5 | 4.5 | 5.7 | 5.6 |
| 6 | 4.4 | 5.6 | 5.6 |
| 7 | 4.2 | 5.6 | 5.4 |
| 8 | 4.5 | 5.7 | 5.4 |
| 9 | 4.4 | 5.8 | 5.4 |
| Sum | 26.5 ✓ | 34.1 ✓ | 33.1 ✓ |
| (3) Mean | $4.4^{+1}$ | $5.7^{-2}$ | $5.5^{+1}$ |
| (3) - (2) | 1.2 ✓ | 1.3 ✓ | 1.1 ✓ |
| (2) - (1) | 0.8 ✓ | 0.3 ✓ | 0.6 ✓ |

Ended 10.42

Checked by DC.

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C 9741

2.0
1.6
1.7
5.3

6) 5.3
0.9 div. = 1 mag

5.3) 6.0 (1.13
5.3
70
53
170

| | a | b | c |
|---|---|---|---|
| 1 | 2.4 | 4.1 | 3.8 |
| 2 | 3.2 | 4.4 | 4.4 |
| 3 | 4.4 | 5.7 | 5.5 |

| | III a | I b | II c |
|---|---|---|---|
| | 4.71 | 6.63 | 6.29 |
| | 4.62 | 5.97 | 5.97 |
| | 4.97 | 6.44 | 6.22 |
| Sum | 14.30 | 19.04 | 18.48 |
| Mean | 4.77 | 6.35 | 6.16 |
| | −6 | +28 | +13 |
| | −15 | −38 | −19 |
| | +20 | +9 | +6 |
| | 41 | 75 | 38 |
| | | 41 | |
| | | 38 | |
| | | 9 \| 154 | |
| | | ±17 | |

Checked by R.W.L.

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1903phae.proj.1774T



C 9814 = 7

Began 11.50 AM.

June 22, 1903, Electric Light, Thurman

| | a | b | c |
|---|---|---|---|
| 34 b | 3.8 | 3.8 | 3.6 |
| 34 H | 3.0 | 3.2 | 4.0 |
| 38 H6 | 2.9 | 3.6 | 3.9 |
| 40 21 | 2.7 | 2.8 | 3.9 |
| 3 26 | 3.4 3.8 | 3.7 4.4 | 4.5 |
| 4 31 | 3.4 | 3.7 | 4.2 |
| Sum | 19.0 | 21.5 | 24.1 |
| (1) Mean | 3.2 -2 | 3.6 -1 | 4.0 +1 |

This plate shows only 12 images & no new lines were selected.

Stopped here 12.34 AM.

Began 8.12 P.M.

Du 51-61 Group (1N)

| | | | |
|---|---|---|---|
| 4 | 5.6 | 6.0 5.6 | 5.6 |
| 5 | 5.4 | 6.2 4.9 | 5.4 |
| 6 | 5.5 | 6.1 5.1 | 5.7 |
| 7 | 5.5 | 6.2 4.9 | 5.4 |
| 8 | 5.4 | 6.1 5.4 | 5.3 |
| 9 | 5.5 | 5.9 4.7 | 4.9 |
| Sum | 32.9 | 30.6 | 32.3 |
| (2) Mean | 5.5 -1 | 5.1 | 5.4 -1 |

Du 71-81 Group (2N)

| | | | |
|---|---|---|---|
| 4 | 6.7 | 6.1 | 6.6 |
| 5 | 6.8 | 6.2 | 6.6 |
| 6 | 6.7 | 6.1 | 6.6 |
| 7 | 6.8 | 6.2 | 6.3 |
| 8 | 6.7 | 6.1 | 6.3 |
| 9 | 6.6 | 5.9 | 6.7 |
| Sum | 40.3 | 36.6 | 39.1 |
| (3) Mean | 6.7 +1 | 6.1 | 6.5 +1 |
| (3) - (2) | 1.2 | 1.0 | 1.1 |
| (2) - (1) | 1.3 | 1.5 | 1.4 |

Ended 8.37 P.M.

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2.5 ✓
2.5 ✓
2.5 ✓
8 2.5 ✓

6) 8 2.5
1. 4 div. = 1 mag ✓

2.5 ) 8 6.00 ✓ .71 ✓
600
595
50

| | a | b | c |
|---|---|---|---|
| 1 | 3.2 | 3.6 | 4.0 |
| 2 | 5.5 | 5.1 | 5.4 |
| 3 | 6.7 | 6.1 | 6.5 |

| | IV a | II b | I c |
|---|---|---|---|
| | 4.27 ~~4.56~~ ✓ | 4.56 ~~4.88~~ ✓ | 4.84 ~~5.20~~ ✓ |
| | 4.90 ~~5.40~~ ✓ | 4.62 ✓ | 4.83 ✓ |
| | 4.76 ✓ | 4.33 ✓ | 4.62 ✓ |
| Sum | 13.93 ✓ | 13.51 ✓ | 14.29 ✓ |
| Mean | 4.64 ✓ | 4.50 ✓ | 4.76 ✓ |
| | | | ~~0.43~~ |
| | −37 ✓ | +6 ✓ | +8 ✓ |
| | +26 ✓ | +12 ✓ | +7 ✓ |
| | +12 ✓ | −17 ✓ | −14 ✓ |
| | 75 ✓ | 35 ✓ | 29 ✓ |
| | | 75 ✓ | |
| | | 29 ✓ | |
| | | 9 (1.39 ✓ | |
| | | ±.15 ✓ | |

Checked by R.W.L.

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@ 9816 = 8 Begun 8.39

June 22, 1903, Electric Light, Thirault.

| | a IV | b | c |
|---|---|---|---|
| 6 | 3.7 | — | — |
| 11 | 3.8 | — | — |
| 16 | 3.4 | — | — |
| 21 | 3.5 | — | — |
| 26 | 3.6 | — | — |
| 31 | — | — | — |
| Sum | 18.0" | | |
| (11) Mean | 3.6" | | |

Ended 8.43

checked by AE.

No aperture exposures.

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1903phae.proj.1774T



C 10211 = 9 Begun 8.46

June 27, 1903, Electric Light, Thirault.

A + C were wrongly marked. Corrected.

| | a | c | b | a |
|---|---|---|---|---|
| 6 | 4.1 | | 4.3 | 4.7 |
| 11 | 4.0 | | 4.2 | 4.6 |
| 16 | 3.9 | from image | 4.6 | 4.8 |
| *21 | 3.7 | | 3.9 | 3.8 |
| *26 | 3.7 | | 4.1 | 4.5 |
| 31 | — | | — | — |
| Sum | 19.4 | | 21.1 | 22.4 |
| (1) Mean | 3.9 | | 4.2 | 4.5 |

* Instead of 21, the 5th image before 1 (-5, -00 to peak) was measured, 26 after ending at image 18. Hor 26, 1 was measured

Du 51-61 Group (1M)

| | | | |
|---|---|---|---|
| 8 8 | 4.2 | 4.2 | 4.8 |
| 7 7 | 4.3 | 4.5 | 5.0 |
| 6 6 | 4.6 | 5.0 | 5.2 |
| 5 5 | 4.6 | 4.9 | 4.9 |
| 4 3 6 | ~~4.8~~ 4.4 | 4.9 | 5.3 |
| Sum | 27.3 | 28.4 | 30.4 |
| (2) Mean | 4.6 | 4.7 | 5.1 |

# Via a poor image no others are measurable

Du 71-81 Group (2M)

| | | | |
|---|---|---|---|
| 10 7 | 5.3 | 5.4 | 5.9 |
| 9 3 | 5.1 | 5.1 | 5.7 |
| 8 4 | 5.6 | 5.6 | 5.9 |
| 7 5 | 5.2 | 5.5 | 5.8 |
| 6 6 | 5.3 | 5.6 | 5.8 |
| 5 7 | 4.9 | 5.6 | 5.7 |
| Sum | 31.4 | 32.8 | 34.8 |
| (3) Mean | 5.2 | 5.5 | 5.8 |
| (3) - (2) | 0.6 | 0.8 | 0.7 |
| (2) - (1) | 0.7 | 0.5 | 0.6 |

Ended 9.13

Checked by A.E.

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C 102 11

1.8 3 v
1.3 v
1.3 v
4.1
3.9 v

6) 4.1
0.7 div. = 1 mag.

6) 3.9
.6 v div. = 1 mag

4.1 ) 6.0 1.46
41
190
164
260
246
4

3.9 ) 6.0 1.54 v
3.9
210
195
150

| | a c | b | c a |
|---|---|---|---|
| 1 | 3.9 | 4.2 | 4.5 |
| 2 | 4.6 | 4.7 | 5.1 |
| 3 | 5.2 | 5.5 | 5.8 |

| | II | I | IV |
|---|---|---|---|
| | ~~IX~~ | | ~~IX~~ |
| | ~~II~~ | I | ~~IV~~ |
| | ~~c~~ c | b | ~~a~~ a |
| 1 | 8.01 v | 8.47 v | 8.93 v |
| 2 | 8.08 v | 8.24 v | 8.85 v |
| 3 | 8.01 v | 8.47 v | 8.93 v |
| Sum | 24.10 v | 25.18 v | 26.71 v |
| Mean | 8.03 v | 8.39 v | 8.90 v |
| | -2 v | +28 v | +3 v |
| | +5 v | -15 v | -5 v |
| | -2 v | +8 v | +3 v |
| | 9 v | 31 v | 11 v |
| | | 9 v | |
| | | 11 v | |
| | | 9 \| 51 v | |
| | | ±.06 v | |

Checked by R.O.L.

| | II | I | IV |
|---|---|---|---|
| | ~~IX~~ | | ~~IX~~ |
| | ~~II~~ | I | ~~IV~~ |
| | ~~c~~ c | b | ~~a~~ a |
| 1 | 7.69 | 8.13 | 8.57 |
| 2 | 7.72 | 7.86 | 8.45 |
| 3 | 7.59 | 8.03 | 8.47 |
| Sum | 23.00 | 24.02 | 25.49 |
| Mean | 7.67 | 8.01 | 8.50 |
| | +2 | +12 | +7 |
| | +5 | -15 | -5 |
| | -8 | +2 | -3 |
| | 15 | 29 | 15 |
| | | 15 | |
| | | 9 \| 59 | |
| | | ±.07 | |

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C 10888 = 10 Begun 9.27

June 22, 1903, Electric Light. Thirault.

| | a ~~III~~ | b ~~IV~~ | c |
|---|---|---|---|
| 6 | 3.7 | 5.3 | |
| 11 | 3.9 | 5.6 | |
| 16 | 3.8 | 5.6 | |
| 21 | 4.1 | 5.6 | |
| 26 | 4.1 | 5.8 | |
| 31 | 3.9 | 5.6 | |
| Sum | 23.5 ✓ | 33.5 ✓ | |
| (1) Mean | 3.9 +1 | 5.6 -1 | |

Du 51-61 Group (1M)

| | | |
|---|---|---|
| 2 | — | 6.0 ✓ |
| 4 | — | 5.9 |
| 6 | — | 5.9 |
| 8 | — | 5.9 |
| 10 | — | 6.1 |
| 12 | — | 6.0 |
| Sum | | 35.8 ✓ |
| (5) Mean | — | 6.0 -2 |

Du 71-81 Group (2M)

| | | |
|---|---|---|
| 2 | 4.7 | 6.0 |
| 4 | 4.7 | 6.1 |
| 6 | 4.8 | 6.2 |
| 8 | 4.7 | 6.0 |
| 10 | 4.7 | 6.1 |
| 12 | 4.4 | 5.8 |
| Sum | 28.0 ✓ | 36.2 ✓ |
| (3) Mean | 4.7 -2 | 6.0 +2 |
| (3) - (2) | | ~~0.4~~ 0.0 ✓ |
| (2) - (1) | | ~~0.0~~ 0.4 ✓ |

Ended 9.47

Checked by AE.

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C 10888



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1903phae.proj.1774T



C 11015 = 11

Begun 10.10

June 23, 1903, Electric Light, Thirault.

| | a II | b I | c IV |
|---|---|---|---|
| 6 | — | — | — |
| 11 | 4.4 | 4.9 | 3.5 |
| 16 | 5.0 | 5.4 | 3.4 |
| 21 | 5.1 | 5.5 | 3.5 |
| 26 | 5.4 | 5.6 | 3.7 |
| 31 | 4.9 | 5.1 | 3.6 |
| Sum | 24.8 ✓ | 26.5 ✓ | 17.7 ✓ |
| (1) Mean | 5.0 -2 | 5.3 ✓ | 3.5 +2 |

Du 51-61 Group (1M)

| | | | |
|---|---|---|---|
| 2 | 5.7 | 5.8 | 5.6 |
| 4 | 5.8 | 5.9 | 5.5 |
| 6 | 5.9 | 5.9 | 5.6 |
| 8 | 5.9 | 5.9 | 5.8 |
| 10 | 5.9 | 5.8 | 5.7 |
| 12 | 5.7 | 5.7 | 5.7 |
| Sum | 34.9 ✓ | 35.0 ✓ | 33.9 ✓ |
| (2) Mean | 5.8 +1 | 5.8 +2 | 5.6 +3 |

Du 71-81 Group (2M)

| | | | |
|---|---|---|---|
| 2 | 6.9 | 7.0 | 7.4 |
| 4 | 6.9 | 7.0 | 7.6 |
| 6 | 6.9 | 7+6.9 | 7.6 |
| 8 | ~~6.9~~ 7.0 | 7.1 | 7.7 |
| 10 | 6.9 | 7.1 | 7.6 |
| 11 | 6.9 | 7.2 | 7.7 |
| Sum | 41.5 ✓ | 42 43.3 | 45.6 ✓ |
| (3) Mean | 6.9 +1 | 7.2 0 +3 ✓ | 7.6 ✓ |
| (3)-(2) | 1.1 ✓ | 1.4 2 | 2.0 ✓ |
| (2)-(1) | 0.8 ✓ | 0.5 ✓ | 2.1 ✓ |

Ended 10-24-03

Checked by AE.

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C 110,5

4.1 ✓
3 ✓
1.8
1.9 ✓
7.77 ✓

6) 7.8
1.3 ✓ div. = 1 mag.

7.1) 6.000 .78 ✓
539
610

| | a | b | c |
|---|---|---|---|
| 1 | 5.0 | 5.3 | 3.5 |
| 2 | 5.8 | 5.8 | 5.6 |
| 3 | 6.9 | 7.8 | 7.6 |

| | II a | I b | IV c |
|---|---|---|---|
| 1 | 5.90 ✓ | 6.13 ✓ | 4.73 ✓ |
| 2 | 5.52 ✓ | 5.52 ✓ | 5.37 ✓ |
| 3 | 5.38 ✓ | 5.62 ✓ | 5.93 ✓ |
| Sum | 16.80 ✓ | 17.27 ✓ | 16.03 ✓ |
| Mean | 5.60 ✓ | 5.76 ✓ | 5.34 ✓ |
| | +30 ✓ | +37 ✓ | −61 ✓ |
| | −8 ✓ | −24 ✓ | +3 ✓ |
| | −22 ✓ | −14 ✓ | +59 ✓ |
| | 60 ✓ | 75 ✓ | 123 ✓ |

60 ✓
123 ✓
258 ✓
9 (28)
±.29 ✓

Checked by R.W.L.

| | II a | I b | IV c |
|---|---|---|---|
| 1 | 6.30 / 5.80 | 6.56 / 6.03 | 5.01 / 4.66 |
| 2 | 5.99 / 5.41 | 5.99 / 5.41 | 5.82 / 5.26 |
| 3 | 5.93 / 5.24 | 6.19 / 5.49 | 6.54 / 5.78 |
| Sum | 16.45 / 18.22 | 16.91, 18.74 | 15.71 / 17.37 |
| Mean | 5.48 | 6.07 5.64 6.25 | 5.23 5.79 |
| | +32 | +23 +39 +31 | −26 −57 +22 |
| | −7 | −8 −14 23 | −6 +3 +3 |
| | −24 | −14 −17 | 45 +3 −25 |
| | 63 | 45 79 | 45 +55 30 |
| | | 63 | 115 |
| | | 115 | 9 (158) |
| | | 9 (257) | ±.18 |
| | | ±.29 | |

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1903phae.proj.1774T



Brgum 7.50

C 11055 = 12

June 23, 1903, Electric Light, Thibaut.

| | a I | b II | c III |
|---|---|---|---|
| 6 | — no b on plate | | |
| 11 | 4.6 | 4.6 | 3.4 |
| 16 | 4.9 | 4.7 | 3.6 |
| 21 | 4.8 | 4.7 | 3.6 |
| 26 | 5.3 | 5.1 | 4.2 |
| 31 | 4.8 | 4.7 | 3.7 |
| Sum | 24.4 ✓ | 23.8 ✓ | 18.5 ✓ |
| (1) Mean | 4.9 -1 | 4.8 -2 | 3.7 ✓ |

Du 51-61 Group (1M)

| | | | |
|---|---|---|---|
| 5 | 5.4 | 5.3 | 4.6 |
| 7 | 5.4 | 5.4 | 4.8 |
| 9 | 5.6 | 5.3 | 4.9 |
| 11 | 5.5 | 5.4 | 4.8 |
| 13 | 5.5 | 5.3 | 5.0 |
| 15 | 5.5 | 5.4 | 5.2 |
| Sum | 32.9 ✓ | 32.1 ✓ | 29.3 ✓ |
| (2) Mean | 5.5 -1 | 5.4 -3 | 4.9 -1 |

Du 71-81 Group (2M)

| | | | |
|---|---|---|---|
| 3 | 5.7 | 5.8 | |
| 4 | 5.9 | 5.7 | |
| 5 | 5.7 | 5.7 | hidden |
| 6 | 5.8 | 5.6 | |
| 7 | 5.8 | 5.8 | |
| 8 | 5.9 | 5.8 | |
| Sum | 34.8 ✓ | 34.4 ✓ | |
| (3) Mean | 5.8 ✓ | 5.7 +2 | |
| (3) - (2) | 0.3 ✓ | 0.3 ✓ | — |
| (2) - (1) | 0.6 ✓ | 0.6 ✓ | 1.2 ✓ |

Ended 8.11

Checked by AE.

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C 11055

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1903phae.proj.1774T



Begun 8.18

C 11825 = 13

June 23, 1903, Electric Light, Thibault.

| | a II | b II | c |
|---|---|---|---|
| 6 | Not in Platt | | |
| 11 | 3.6 | 3.3 | |
| 16 | 4.9 | 4.4 | |
| 21 | 4.6 | 4.4 | |
| 26 | 4.7 | 4.4 | |
| 31 | 4.8 | 4.1 | |
| Sum | 22.6 ✓ | 20.6 ✓ | |
| (1) Mean | 4.5 +1 | 4.1 +1 | |

Du 51-61 Group (1 M)

| | | | |
|---|---|---|---|
| 3 | 5.5 | 5.0 | |
| 5 | 5.7 | 5.0 | |
| 7 | 5.7 | 4.9 | |
| 9 | 5.3 | 5.1 | |
| 11 | 5.3 | 4.6 | |
| 13 | 4.9 | 4.6 | |
| Sum | 32.4 ✓ | 29.2 ✓ -2 | |
| (2) Mean | 5.4 ✓ | 4.9 | |

Du 71-81 Group (2 M)

| | | | |
|---|---|---|---|
| 3 | 5.9 | 5.4 | |
| 5 | 5.9 | 5.4 | |
| 7 | 5.8 | 5.4 | |
| 9 | 5.8 | 5.3 | |
| 11 | 5.8 | 5.2 | |
| 13 | 5.8 | 5.5 | Ended 8.40 |
| Sum | 35.0 ✓ | 32.2 ✓ | |
| (3) Mean | 5.8 +2 | 5.4 -2 | |
| (3) - (2) | 0.4 ✓ | 0.5 ✓ | |
| (2) - (1) | 0.9 ✓ | 0.8 ✓ | |

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1903phae.proj.1774T

C 118 25



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1903phae.proj.1774T



C 12045 = 14

Begun 8.45

June 23, 1903, Electric Light, Thitaut.

| | a IV | b I | c II |
|---|---|---|---|
| 6 | 6.2 | 6.3 | 6.2 |
| 11 | 6.4 | 5.7 | 5.9 |
| 16 | 5.8 | 5.7 | 5.8 |
| 21 | 5.9 | 5.6 hidden | 5.8 |
| 26 | 6.8 | 6.0 | 6.2 |
| 31 | — 31 in plate | | |
| Sum | 31.1 ✓ | 29.3 ✓ | 29.9 ✓ |
| (1) Mean | 6.2 +1 | 5.9 -2 | 6.0 -1 |
| | In 51-61 Group (1 M) | | |
| 1 | 6.9 | 6.5 | 6.6 |
| 2 | 6.9 | 6.5 | 6.2 |
| 3 | 7.5 | 6.8 | 6.7 |
| 4 | 7.7 | 6.9 | 7.2 |
| 5 | 7.6 | 6.8 | 6.9 |
| 6 | 7.7 | 6.8 | 6.7 |
| Sum | 44.3 ✓ | 40.3 ✓ | 40.3 ✓ |
| (2) Mean | 7.4 -1 | 6.7 +1 | 6.7 +1 |
| | In 71-81 Group (2 M) | | |
| 2 | | 7.0 | 6.9 |
| 3 | [illegible] | 6.9 | 6.9 |
| 4 | [illegible] | 6.7 | 6.9 |
| 5 | faint | 6.9 | 7.0 |
| 6 | | 6.9 | 6.9 |
| 7 | | 6.9 | 6.9 |
| Sum | — | 41.3 ✓ | 41.5 ✓ |
| (3) Mean | — | 6.9 -1 | 6.9 +1 |
| (3) - (2) | | 0.2 ✓ | 0.2 ✓ |
| (2) - (1) | 1.2 ✓ | 0.8 ✓ | 0.7 ✓ |

Ended 9.03

Checked by AE.

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1903phae.proj.17741

C 12045



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1903phae.proj.1774T



C 12634 = 15 Begun. 9.10

June 23, 1903, Electric Light, Thibaut.

| | a | b | c | |
|---|---|---|---|---|
| 6 | 5.4 | 6.2 | 5.7 | Very diffuse |
| 11 | 6.7 | 7.2 | 6.6 | |
| 16 | 5.2 | 6.3 | 5.3 | |
| 21 | 5.6 | 6.7 | 5.3 | |
| 26 | 5.3 | 6.8 | 5.8 | |
| 31 | 5.4 | 6.9 | 5.2 | |
| Sum | 33.6 ✓ | 40.1 ✓ | 33.9 ✓ | |
| (1) Mean | 5.6 ✓ | 6.7 -1 | 5.6 +3 | |

In 51-61 Group (1M)

| | | | | |
|---|---|---|---|---|
| 2 | 7.7 | 8.5 | 7.4 | |
| 3 | 7.8 | 9.2 | 7.7 | |
| 4 | 7.4 | 8.6 | 7.8 | |
| 5 | 7.6 | 9.1 | 7.5 | |
| Sum | 30.5 ✓ | 35.5 ✓ | 30.4 ✓ | |
| (2) Mean | 7.6 +1 | 8.9 -1 | 7.6 ✓ | |

In 71-81 Group (2M)

| | | | | |
|---|---|---|---|---|
| 1 | | | | |
| 2 | | | | No faint |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | Ended 9.20 |
| Sum | | | | |
| (3) Mean | | | | |
| (3) - (1) | — | — | — | |
| (2) - (1) | 2.0 ✓ | 2.2 ✓ | 2.0 ✓ | |

Checked by AG.

II IV I

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C 12634



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1903phae.proj.1774T



C 13816 = 16

Begun 9.36

June 23, 1903, Thibaudt Electric Light.

| | a | b | c |
|---|---|---|---|
| 6 | 5.9 | 5.8 | 7.1 |
| 11 | 6.0 | 5.9 | 6.9 |
| 16 | 6.2 | 6.4 | 7.1 |
| 21 | 5.4 | 5.3 | 6.4 |
| 26 | Not on plate | | |
| 31 | | | |
| Sum | 23.5 | 23.3 | 22.5 |
| (11) Mean | 5.9 | 5.8 | 6.9 |

In 51–61 Group (1 M)

| | | | |
|---|---|---|---|
| 2 | 7.0 | 7.1 | 7.9 |
| 3 | 6.9 | 6.9 | 8.1 |
| 4 | 7.2 | 7.1 | 7.9 |
| Sum | 21.1 | 21.1 | 23.9 |
| (3) Mean | 7.0 | 7.0 | 8.0 |

In 71–81 Group (2 M)

| | | | |
|---|---|---|---|
| 2 | 8.2 | | |
| 3 | | Not seen | Not Seen |
| 4 | 8.4 | | |
| Sum | 16.6 | | |
| (2) Mean | 8.3 | | |

Ended 9.38

| | | | |
|---|---|---|---|
| (3) – (1) | 1.3 | — | — |
| (2) – (1) | 1.1 | 1.2 | 1.1 |

Checked by AE.

II I ~~IV~~

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C 13816



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1903phae.proj.1774T



C 13866 = 17

Begun 9.45

June 24, 1903, Electric Light, Thirteenth.

| | a | | b | c | |
|---|---|---|---|---|---|
| 6 | 4.8 | Very | 5.4 | 3.4 | Apparently some |
| 11 | 4.5 | | 4.9 | 3.0 | |
| 16 | 4.2 | close | 4.5 | 3.2 | interference after 21. |
| 21 | 4.1 | to | 4.6 | 3.2 | |
| 26 | 6.7 | f | 6.9 | 5.8 | |
| 31 | 5.7 | | 5.8 | 5.1 | |
| Sum | 30.0 | v | 32.1 | 23.7 | v |
| 11 Mean | 5.0 | v | 5.4 | 4.0 | -3 |
| | ~~II~~ | | ~~I~~ | III | |

No aperture exposures.

Ended 9.52

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1903phae.proj.17747

C 13866



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1903phae.proj.1774T



C 13 880 = 18 Begun 10.30

June 24, 1903, Electric Light, Thiaucourt.

| | a | b | c | |
|---|---|---|---|---|
| 6 | 4.4 | 3.8 | 4.7 | Images diffuse |
| 11 | 3.8 | 2.8 | 4.7 | |
| 16 | 4.8 | 3.9 | 4.9 | |
| 21 | 4.5 | 3.9 | 5.5 | |
| 26 | 4.6 | 4.2 | 5.2 | C Very Close to Ecl. |
| 31 | 4.5 | 4.2 | 5.6 | |
| Sum | 26.6 v | 22.8 v | 30.6 v | |
| (1) Mean | 4.4 +2 | 3.8 v | 5.1 v | |

Du 51-61 Group (1M)

| | | | | |
|---|---|---|---|---|
| 2 | 5.2 | 4.4 | 5.4 | C Closer to Ecl. |
| 3 | 5.1 | 4.3 | 5.6 | |
| 4 | 4.7 | 4.1 | 5.4 | |
| Sum | 15.0 v | 12.8 v | 16.4 v | |
| (2) Mean | 5.0 v | 4.3 -1 | 5.5 -1 | |

Du 71-81 Group (2M)

| | | | | |
|---|---|---|---|---|
| 3 | 5.9 | 5.5 | 6.2 | C practically im- |
| 5 | 5.9 | 5.6 | 6.3 | posed on Ecl. |
| 7 | 6.2 | 5.6 | 6.4 | |
| 8 | 5.8 | 5.4 | 6.2 | |
| 9 | 6.1 | 5.7 | 6.5 | |
| 10 | 5.9 | 5.4 | 6.4 | |
| Sum | 35.8 v | 33.2 v | 38.0 v | |
| (3) Mean | 6.0 -2 | 5.5 +2 | 6.3 +2 | |
| (3) - (2) | 1.0 v | 1.2 v | 0.8 v | |
| (2) - (1) | 0.6 v | 0.5 v | 0.4 v | |

Ended 10.47

II III I

Checked by AE.

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1909phae.proj.1774T



1.6 ✓
1.7 ✓
1.2 ✓
4.5 ✓

b) 4.5
.8 av. = 1 mag.
1.33 ✓
4.5 | 6.0
4.5
150
135

| | a | b | c | II a | III b | I c |
|---|---|---|---|---|---|---|
| 1 | 4.4 | 3.8 | 5.1 | 7.85 ✓ | 7.05 ✓ | 8.78 ✓ |
| 2 | 5.0 | 4.3 | 5.5 | 7.65 ✓ | 6.72 ✓ | 8.32 ✓ |
| 3 | 6.0 | 5.5 | 6.3 | 7.98 ✓ | 7.32 ✓ | 8.38 ✓ |
| Sum | | | | 23.48 ✓ | 21.09 ✓ | 25.48 ✓ |
| Mean | | | | 7.83 ✓ | 7.03 ✓ | 8.49 ✓ |
| | | | | +2 ✓ | +2 ✓ | 29 ✓ |
| | | | | −18 ✓ | −31 ✓ | −17 ✓ |
| | | | | +15 ✓ | +3.9 ✓ | −11 ✓ |
| | | | | 35 ✓ | 62 ✓ | 57 ✓ |
| | | | | | 35 ✓ | |
| | | | | | 57 ✓ | |
| | | | | | 9 \| 154 ✓ | |
| | | | | | ±17 ✓ | |

Checked by R.W.L.

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1903phae.proj.1774T



C 13 919 = 19

Begun 11.13

June 24, 1903, Electric Light, Thirlmere

| | a | b | c |
|---|---|---|---|
| 6 | | | |
| 11 | These images not on plate | | |
| 16 | | | |
| 21 | 5.3 | 4.7 | 5.1 |
| 26 | 5.7 | 5.5 | 5.6 |
| 31 | 5.9 | 5.7 | 5.7 |
| Sum | 16.9 v | 15.9 v | 16.4 v |
| (1) Mean | 5.6 +1 | 5.3 v | 5.5 -1 |

Du 51-61 Group (1M)

| | | | |
|---|---|---|---|
| 4 | | | |
| 25 | 6.6 | 6.3 | 6.7 |
| 46 | 7.2 | 7.1 | 7.4 |
| 57 | 7.4 | 7.4 | 7.7 |
| 8 | | | |
| 9 | | | |
| Sum | 21.2 v | 20.8 v | 21.8 v |
| (2) Mean | 7.1 -1 | 6.9 +1 | 7.3 -1 |

These images drop

Du 71-81 Group (2M)

| | | | |
|---|---|---|---|
| 4 | 7.2 | 6.9 | 7.5 |
| 5 | 7.1 | 7.2 | 7.5 |
| 6 | 7.3 | 7.0 | 7.6 |
| 7 | 7.1 | 7.0 | 7.3 |
| 8 | 7.2 | 7.1 | 7.3 |
| 9 | 7.5 | 7.4 | 7.7 |
| Sums | 43.4 v | 42.6 v | 44.9 v |
| (3) Mean | 7.2 +2 | 7.1 v | 7.5 -1 |
| (3) - (2) | 0.1 v | 0.2 v | 0.2 v |
| (2) - (1) | 1.5 v | 1.6 v | 1.8 v |

Ended 11.24

Checked by A.E.

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1903phae.proj.17741



1.6 ✓
1.8 ✓
2.0 ✓
5.4 ✓

6) 5.4
.9 ✓ div. = 1 mag.
1.11 ✓

5.4) 6.0
5.4
60

| | a | b | c | I a | II b | IV c |
|---|---|---|---|---|---|---|
| 1 | 5.6 | 5.3 | 5.5 | 8.22 ✓ | 7.88 ✓ | 8.10 ✓ |
| 2 | 7.1 | 6.9 | 7.3 | 8.88 ✓ | 8.66 ✓ | 9.10 ✓ |
| 3 | 7.2 | 7.1 | 7.5 | 7.99 ✓ | 7.88 ✓ | 8.32 ✓ |
| Sum | | | | 25.09 ✓ | 24.42 ✓ | 25.52 ✓ |
| Mean | | | | 8.36 ✓ | 8.14 ✓ | 8.51 ✓ |
| | | | | −14 ✓ | −26 ✓ | −41 ✓ |
| | | | | +52 ✓ | +52 ✓ | +59 ✓ |
| | | | | −37 ✓ | −26 ✓ | −19 ✓ |
| | | | | 103 ✓ | 104 ✓ | 119 ✓ |
| | | | | | 103 ✓ | |
| | | | | | 119 ✓ | |
| | | | | | 9 \| 326 ✓ | |
| | | | | | ±36 ✓ | |

Checked by R W L

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1903phae.proj.1774T



C 13955 = 20 Begun 11.25

June 24, 1903, Electric Light, Thirsmet.

| | a | b | c |
|---|---|---|---|
| 6 | 1.6 | 1.3 | 2.2 |
| 11 | 2.4 | 2.1 | 2.9 |
| 16 | 2.4 | 1.9 | 2.8 |
| 21 | 2.1 | 1.4 | 2.4 |
| 26 | 2.3 | 1.9 | 2.5 |
| 31 | no 31 on plate | | |
| Sum | 10.8 v | 8.6 v | 12.8 v |
| 10 Mean | 2.2 -2 | 1.7 +1 | 2.6 -2 |

checked by AE.

~~In 51-61 Group (1M)~~

Two aperture exposures. Ended 11.30

IV II I

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C 13955



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1903phae.proj.1774T



Begun 11.31

C 14 009 = 21

June 24, 1903, Electric Light, Thiranet-

| | a | b | c |
|---|---|---|---|
| 6 | 4.9 | 4.9 | 4.0 |
| 11 | 5.3 | 5.3 | 4.3 |
| 16 | 5.7 | 5.5 | 4.6 |
| 21 | 5.7 | 5.7 | 4.8 |
| 26 | 5.9 | 5.9 | 4.9 |
| 31 | 5.6 | 5.7 | 5.3 |
| Sum | 33.1 | 32.9 | 27.7 |
| (1) Mean | 5.5 +1 | 5.5 -1 | 4.6 +1 |

In 51-61 Group (1m)

| | | | |
|---|---|---|---|
| ~~Sum~~ 2 | 7.4 | 7.8 | 6.9 |
| 3 | 7.5 | 7.6 | 7.0 |
| 4 | 7.6 | 7.7 | 6.87 |
| 5 | 7.3 | 7.6 | 6.8 |
| 6 | 7.4 | 7.7 | 6.9 |
| 7 | 7.4 | 7.6 | 6.6 |
| Sum | 44.6 | 46.0 | 40.9 |
| (2) Mean | 7.4 +2 | 7.7 -2 | 6.8 +1 |

Ended 11.39

Two 2m exposure

| | I | II | III |
|---|---|---|---|
| (3) - (2) | — | — | — |
| (2) - (1) | 1.9 | 2.2 | 2.2 |

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C 14009



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1903phae.proj.1774T



C 10887=22

| | a | b | c |
|---|---|---|---|
| 6 | | | |
| 11 | | | |
| 16 | | | |
| 21 | | | |
| 26 | | | |
| 31 | | | |
| Sum | | | |
| (11) Mean | | | |

This plate was measured once as 22 11.

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# Measurement of Set II Group F.

Electric Light. C = 0.35 = 1 Bagnu 10.00

June 26, 1903, Thirault.

| | a | b | c |
|---|---|---|---|
| 6 | 4.6 | 4.7 | 5.6 |
| 11 | 4.9 | 4.7 | 5.8 |
| 16 | 5.0 | 4.9 | 5.6 |
| 21 | 5.0 | 4.8 | 5.4 |
| 26 | 5.4 | 5.4 | 5.9 |
| 31 | 5.6 | 5.4 | 6.1 |
| Sum | 30.5 | 29.9 | 34.4 |
| Mean | 5.1 | 5.0 | 5.7 |

Two aperture exposures.

I II IV

checked by AE

Ended 10.11

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C 2035



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1903phae.proj.1774T



C 4214 = 2

Begun 10,15

June 26, 1903, Electric Light, Thitaner.

| | I a | II b | IV c |
|---|---|---|---|
| 6 | 4.0 | 3.9 | 5.4 |
| 11 | 5.5 | 5.4 | 6.8 |
| 16 | 5.4 | 5.2 | 6.7 |
| 21 | 5.2 | 5.4 | 6.4 |
| 26 | 5.4 | 5.2 | 6.8 |
| 31 | 6.4 | 6.1 | 7.8 |
| Sum | 31.9 v | 31.2 v | 39.9 v |
| (1) Mean | 5.3 +1 | 5.2 v | 6.6 +3 |

In 51-61 Group (1M)

| | | | |
|---|---|---|---|
| 1 | | | |
| 2 | 7.9 | 7.7 | — |
| 3 | 8.0 | 7.9 | — |
| 4 | 7.8 | 7.6 | — |
| Sum | 23.7 v | 23.2 v | — |
| (2) Mean | 7.9 v | 7.7 +1 | — |

~~In 71~~ to 2M group.

| | | | |
|---|---|---|---|
| (3) - (2) | — | — | — |
| (2) - (1) | 2.6 v | 2.5 v | — |

Ended 10,23

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C 4314



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1903phae.proj.1774T



C 5041=3 Begun 10.26

June 26, 1903, Electric Light, Thirault.

| | a | b | c |
|---|---|---|---|
| 6 | 3.9 | 3.0 | 3.7 |
| 11 | 4.0 | 3.9 | 3.7 |
| 16 | 3.9 | 3.5 | 3.3 |
| 21 | 4.1 | 3.84 | 3.4 |
| 26 | 4.6 | 4.0 | 4.6 |
| 31 | 4.4 | 3.7 | 3.9 |
| Sum | 24.9 v | 20.5 v | 22.6 v |
| (1) Mean | 4.2 -3 | 3.4 +1 | 3.8 -2 |

In 51-61 Group (1M)

| | | | |
|---|---|---|---|
| 2 | 5.9 | 5.0 | 5.5 |
| 3 | 5.8 | 5.0 | 5.5 |
| 4 | 5.9 | 4.9 | 5.3 |
| 5 | 5.8 | 4.9 | 5.3 |
| 6 | 5.9 | 4.9 | 5.4 |
| 7 | 5.9 | 5.1 | 5.4 |
| Sum | 35.2 v | 29.8 v | 32.4 v |
| (2) Mean | 5.9 -2 | 5.0 -2 | 5.4 v |

In 71-81 Group (2M)

| | | | |
|---|---|---|---|
| 2 | 7.5 | 6.1 | 6.5 |
| 3 | 7.3 | 6.3 | 6.7 |
| 4 | 7.4 | 6.2 | 6.6 |
| 5 | 7.6 | 6.3 | 6.8 |
| 6 | 7.6 | 6.3 | 6.7 |
| 7 | 7.5 | 6.5 | 6.6 |
| Sum | 44.9 v | 37.9 v | 39.9 v |
| (3) Mean | 7.5 -1 | 6.3 +1 | 6.6 +3 |
| (3) - (2) | 1.6 v | 1.3 v | 1.2 v |
| (2) - (1) | 1.7 v | 1.6 v | 1.6 v |

Ended 10.46

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C 5041



2.8
2.9
3.3
9.0

6) 9.0 / 1.5 div. = 1 mag.

9.0 ⌊ 6.0
0.66 7

| | | IV | I | II |
|---|---|---|---|---|
| | | a | b | c |
| 1. | 1 | 4.2 | 3.4 | 3.8 |
| | 2 | 5.9 | 5.8 | 5.4 |
| | 3 | 7.5 | 6.3 | 6.6 |

| | IV | I | II |
|---|---|---|---|
| | a | b | c |
| | 4.77 81 | 4.24 8 | 4.57 5 |
| | 4.89 95 | 4.30 5 | 4.56 62 |
| | 4.95 5.02 | 4.16 22 | 4.36 42 |
| Sum | 14.61 14.78 | 12.70 12.85 | 13.49 13.59 |
| Mean | 4.87 93 | 4.23 8 | 4.48 53 |

−12 +10 ±00 +1 +3 +02
+02 +3 +07 +7 +8 +09
+9 +8 −06 −7 −12 −11
23 20 13 15 23 22
23 20 23
22 9 | 58 9 | 58 ±.06
9 | .58
±.06

Checked by R.W.L.

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1903phae.proj.1774T



C 5234 = 4 Begun 10.15

June 27, 1903, Electric Light, Thibault.

| | a | b | c |
|---|---|---|---|
| 6 | 5.1 | 4.9 | 4.3 |
| 11 | 5.4 | 4.9 | 4.4 |
| 16 | 5.2 | 4.6 | 4.3 |
| 21 | 5.6 | 4.7 | 4.3 |
| 26 | 5.6 | 4.8 | 4.4 |
| 31 | 5.6 | 4.8 | 4.4 |
| Sum | 32.5 ~~54~~ | 28.7 | 26.1 |
| (1) Mean | 5.4 +1 | 4.8 -1 | 4.4 -3 |

In 51–61 Group (1M)

| | | | |
|---|---|---|---|
| 2 | 7.0 | 6.4 | 5.7 |
| 3 | 6.9 | 6.6 | 5.8 |
| 4 | 6.9 | 6.5 | 5.9 |
| 5 | 7.3 | 6.4 | 6.0 |
| 6 | 7.1 | 6.5 | 6.0 |
| 7 | 7.2 | 6.5 | 5.8 |
| Sum | 42.4 | 38.9 | 35.4 |
| (2) Mean | 7.1 -2 | 6.5 -1 | 5.9 |

In 71–81 Group (2M)

| | | | |
|---|---|---|---|
| 2 | 8.5 | 7.9 | 7.5 |
| 3 | 9.1 | 8.6 | 7.9 |
| 4 | 8.6 | 7.8 | 7.6 |
| 8 | — | 7.8 | 7.7 |
| 6 | 8.9 | 7.8 | 7.8 |
| 7 | — | 8.0 | 7.6 |
| Sum | 35.5 | 47.9 | 46.1 |
| (3) Mean | 8.9 -1 | 8.0 -1 | 7.7 -1 |
| (3) - (2) | 1.8 | 1.5 | 1.8 |
| (2) - (1) | 1.7 | 1.7 | 1.5 |

Ended 10.35

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1903phae.proj.17741



C 5234

3.5
3.2
3.3
10.0

6) 10.0
1.7 div. = 1 mag.

10.0 / 6.
.6

| | a | b | c |
|---|---|---|---|
| 1 | 5.4 | 4.8 | 4.4 |
| 2 | 7.1 | 6.5 | 5.9 |
| 3 | 8.9 | 8.0 | 7.7 |

| | IV a | I b | II c |
|---|---|---|---|
| | 5.24 | 4.88 | 4.64 |
| | 5.26 | 4.90 | 4.54 |
| | 5.34 | 4.80 | 4.62 |
| Sum | 15.84 | 14.58 | 13.80 |
| Mean | 5.28 | 4.86 | 4.60 |
| | −4 | +2 | +4 |
| | −2 | +4 | −6 |
| | +6 | −6 | +2 |
| | 12 | 12 | 12 |
| | | 12 | |
| | | 12 | |
| | | 9 1.36 | |
| | | ±.04 | |

Checked by R.W.L.

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1903phae.proj.1774T



C 6377-5 Begun 7.30

June 26, 1903, Electric Light, Thiriault.

| | a | b | c |
|---|---|---|---|
| 6 | 7.4 | — | — |
| 11 | 7.6 | — | — |
| 16 | 7.8 | — | — |
| 21 | 3.0 | — | — |
| 26 | 2.7 | — | — |
| 31 | 2.9 | — | — |
| Sum | 16.4 V | | |
| (6) Mean | 2.7 +2 | | |

Du 51-61 Group (1M)

Var. star apl. apparently did not work, too dusky; large linage appears on plate.

Du 71-81 Group (2M)

| | | | |
|---|---|---|---|
| 2 | 6.8 | | |
| 3 | 6.7 | | |
| 4 | 6.6 | | |
| 5 | 6.8 | | |
| 7 | 6.9 | | |
| Sum | 33.8 V | | |
| (3) Mean | 6.8 -2 | | |

Ended 7.40

checked by AE

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C 6377



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1903phae.proj.1774T



C 6583=6 Begun 7.45

June 26, 1903, Electric Light, Thibaudet.

| | a | b | c |
|---|---|---|---|
| 6 | 4.7 | 3.5 | 3.4 |
| 11 | 5.0 | 4.0 | 3.9 |
| 16 | 4.9 | 4.1 | 3.8 |
| 21 | 5.0 | 4.2 | 3.9 |
| 26 | 5.0 | 4.0 | 3.8 |
| 31 | 4.9 | 4.0 | 3.6 |
| Sum | 29.5 ✓ | 23.8 ✓ | 22.4 ✓ |
| (1) Mean | 4.9 +1 | 4.0 -2 | 3.7 +2 |

In 51-61 Group (1 M)

| | | | |
|---|---|---|---|
| 2 | ~~5.9~~ 6.3 | 5.6 | ~~4.9~~ 5.3 |
| 3 | 6.4 | 5.6 | 5.5 |
| 4 | 6.5 | 5.8 | 5.3 |
| 5 | 6.5 | 5.9 | 5.6 |
| 6 | 6.4 | 5.8 | 5.7 |
| 7 | 6.5 | 5.7 | 5.7 |
| Sum | 38.6 ✓ | 34.4 ✓ | 33.1 ✓ |
| (2) Mean | 6.4 +2 | 5.7 +2 | 5.5 +1 |

In 71-81 Group (2 M)

| | | | |
|---|---|---|---|
| 2 | 7.9 | 7.1 | 6.9 |
| 3 | 7.7 | 7.2 | 6.9 |
| 4 | 7.8 | 7.3 | 7.0 |
| 5 | — hidden | 7.2 | 6.8 |
| 6 | 7.7 | 7.1 | 7.0 |
| 7 | 7.8 | 7.0 | 7.1 |
| Sum | 38.9 ✓ | 42.9 ✓ | 41.7 ✓ |
| (3) Mean | 7.8 -1 | 7.2 -3 | 7.0 -3 |
| (3) - (2) | 1.4 ✓ | 1.5 ✓ | 1.5 ✓ |
| (2) - (1) | 1.5 ✓ | 1.7 ✓ | 1.8 ✓ |

Ended 8.01

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C 6583



2.9
3.2
3.3
9.4

6) 9.4
1.6 div. = 1 mag.

.64
9.4 / 6.00
564
360

| | a | b | c |
|---|---|---|---|
| 1 | 4.9 | 4.0 | 3.7 |
| 2 | 6.4 | 5.7 | 5.5 |
| 3 | 7.8 | 7.2 | 7.0 |

| | IV a | I b | II c |
|---|---|---|---|
| | 5.14 | 4.56 | 4.37 |
| | 5.10 | 4.65 | 4.52 |
| | 4.99 | 4.61 | 4.48 |
| Sum | 15.23 | 13.82 | 13.37 |
| Mean | 5.08 | 4.61 | 4.46 |
| | +6 | -5 | -9 |
| | +2 | +4 | +6 |
| | -9 | 0 | +2 |
| | 17 | 9 | 17 |
| | | 17 | |
| | | 17 | |
| | | 9 \| .43 | |
| | | ±.05 | |

Checked by RWL

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1903phae.proj.1774T



C 6 ~~5~~ 5 7 = 8
C 6 ~~5~~ 8 5 = 7

Began 8.02

June 26, 1903, Electric Light, Thirsty

| | a | b II | c IV |
|---|---|---|---|
| 6 | 4.8 | 4.6 | 5.8 |
| 11 | 4.6 | 4.6 | 5.9 |
| 16 | 4.9 | 5.0 | 5.9 |
| 21 | 4.8 | 4.8 | 6.4 |
| 26 | 5.5 | 5.4 | 6.3 |
| 31 | 5.3 | 5.2 | 6.6 |
| Sum | 29.9 ✓ | 29.6 ✓ | 36.9 ✓ |
| (1) Mean | 5.0 -1 | 4.9 +2 | 6.2 -3 |

In 51-61 Group (1M)

| | | | |
|---|---|---|---|
| 3 | 6.7 | 6.5 | 7.8 |
| 4 | 6.8 | 6.4 | 7.7 |
| 5 | 6.8 | 6.6 | 7.9 |
| 6 | 6.8 | 6.7 | 7.8 |
| 7 | 6.8 | 6.6 | 7.9 |
| Sum | 33.9 ✓ | 32.8 ✓ | 39.0 ✓ |
| (2) Mean | 6.8 -1 | 6.6 -2 | 7.8 ✓ |

In 71-81 Group (2M)

| | | |
|---|---|---|
| 4 | 8.7 | 8.4 |
| 5 | 8.6 | ~~8.4~~ Smudged |
| 6 | 8.7 | 8.6 |
| 7 | 8.6 | 7.9 |
| Sum | 34.6 ✓ | 33.3 ✓ |
| (3) Mean | 8.6 +2 | 8.3 +1 |
| (3) - (2) | 1.8 ✓ | 1.7 ✓ |
| (2) - (1) | 1.8 ✓ | 1.7 ✓ 1.6 ✓ |

Ended 8.20

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C 6 657



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1903phae.proj.1774T



C 6657 = 8 (585 → 7)

Begun 8.22

June 26, 1903, Electric Light, Thibault.

| | a | b | c |
|---|---|---|---|
| 6 | 4.4 | 2.4 | 2.3 |
| 11 | 3.9 | 1.8 | 1.5 |
| 16 | 4.3 | 2.2 | 1.9 |
| 21 | 4.9 | 3.3 | 2.7 |
| 26 | 4.8 | 2.9 | 2.4 |
| 31 | 5.0 | 3.9 | 3.3 |
| Sum | 27.3 ✓ | 16.5 ✓ | 14.1 ✓ |
| (1) Mean | 4.6 −3 | 2.8 −3 | 2.4 −3 |

Mag Eq Hurry

Du 51-61 Group (1M)

| | | | |
|---|---|---|---|
| 3 | 6.4 | 5.8 | 5.7 |
| 4 | 6.7 | 5.8 | 5.7 |
| 5 | 6.7 | 6.0 | 5.6 |
| 6 | 6.6 | 6.0 | 5.7 |
| 7 | 6.5 | 6.0 | 5.8 |
| Sum | 32.9 ✓ | 29.6 ✓ | 28.5 ✓ |
| (2) Mean | 6.6 −1 | 5.9 +1 | 5.7 ✓ |

Du 71-81 Group (2M)

| | | | |
|---|---|---|---|
| 4 | 8.3 | 7.8 | 7.6 |
| 5 | 7.9 | 7.9 | 7.7 |
| 6 | 8.5 | 7.9 | 7.6 |
| 7 | 8.3 | 7.8 | 7.5 |
| Sum | 33.0 ✓ | 31.4 ✓ | 30.4 |
| (3) Mean | 8.2 +2 | 7.8 +2 | 7.6 ✓ |
| (3) − (2) | 1.6 ✓ | 1.9 ✓ | 1.9 ✓ |
| (2) − (1) | 2.0 ✓ | 2.1 ✓ | 3.3 ✓ |

Ended 8.34

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C 6 ~~657~~ 585

3.6
5.0
5.2
13.8

6) 13.8
2.3 dist. = 1 mag.

.43
13.8 ) 6.00
552
480

| | a | b | c |
|---|---|---|---|
| 1 | 4.6 | 2.8 | 2.4 |
| 2 | 6.6 | 5.9 | 5.7 |
| 3 | 8.2 | 7.8 | 7.6 |

| | IV a | I b | II c |
|---|---|---|---|
| | 3.98 | 3.20 | 3.03 |
| | 3.84 | 3.54 | 3.45 |
| | 3.53 | 3.35 | 3.27 |
| Sum | 11.35 | 10.09 | 9.75 |
| Mean | 3.78 | 3.36 | 3.25 |
| | +20 | −16 | −22 |
| | +6 | +18 | +20 |
| | −25 | −1 | +2 |
| | 51 | 35 | 44 |
| | | 51 | |
| | | 44 | |
| | | 9 ) 130 | |
| | | ±.14 | |

Checked by R.W.L.

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1903phae.proj.1774T



C 7132 = 9 Begun 8,35

June 26, 1903, Electric Light, Thibault.

| | a II | b II | c III |
|---|---|---|---|
| 6 | 5.7 dim | 4.9 | 3.4 |
| 11 | 5.4 | 4.7 | 3.6 |
| 16 | 5.6 | 4.9 | 3.3 |
| 21 | 5.4 | 4.9 | 3.3 |
| 26 | 5.3 | 4.8 | 3.2 |
| 31 | 5.5 | 4.5 | 3.4 |
| Sum | 32.9 | 28.7 | 20.2 |
| (6) Mean | 5.5 -1 | 4.8 -1 | 3.4 -2 |

Du 51-61 Group (1M)

| | | | |
|---|---|---|---|
| 3 | 7.8 | 7.1 | 5.6 |
| 4 | 7.9 | 6.9 | 5.5 |
| 5 | 7.3 | 6.9 | 5.4 |
| 6 | 7.8 | 7.0 | 5.7 |
| 7 | 7.6 | 7.2 | 5.7 |
| 8 | 7.9 | 7.1 | 5.7 |
| Sum | 46.3 | 42.2 | 33.6 |
| (6) Mean | 7.7 +1 | 7.0 +2 | 5.6 |

Du 71-81 Group (2M)

| | | | |
|---|---|---|---|
| 3 | — | — | 7.6 |
| 4 | — | — | 7.8 |
| 5 | — | — | 7.9 |
| 6 | — | — | 7.9 |
| 7 | — | — | 7.9 |
| 8 | — | — | 8.2 |
| Sum | | | 47.3 |
| (3) Mean | | | 7.9 -1 |
| (3) - (2) | — | — | 1.3 |
| (2) - (1) | 2.2 | 2.2 | 2.2 |

Ended 8,48

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C 7132.



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1903phae.proj.1774T



C 7152 = 10 Begun 8.50

June 26, 1903, Electric Light, Thurst.

| | a | b | c |
|---|---|---|---|
| 6 | 5.8 | 4.9 | 4.9 |
| 11 | 5.7 | 5.0 | 5.0 |
| 16 | 5.9 | 4.8 | 4.9 |
| 21 | 5.9 | 4.9 | 5.0 |
| 26 | 5.8 | 4.8 | 4.9 |
| 31 | 5.8 | 5.0 | 5.0 |
| Sum | 34.9 ✓ | 29.4 ✓ | 29.7 ✓ |
| (1) Mean | 5.8 +1 | 4.9 ✓ | 5.0 −3 |

In 51-61 Group (1 M)

| | | | |
|---|---|---|---|
| 3 | 7.2 | 6.6 | 6.5 |
| 4 | 7.2 | 6.6 | 6.5 |
| 5 | 7.0 | 6.6 | 6.7 |
| 6 | 7.2 | 6.6 | 6.6 |
| 7 | 7.4 | 6.7 | 6.7 |
| 8 | 7.2 | 6.8 | 6.8 |
| Sum | 43.2 ✓ | 39.6 ✓ | 39.8 ✓ |
| (2) Mean | 7.2 ✓ | 6.6 ✓ | 6.6 +2 |

In 71-81 Group (2 M)

| | | | |
|---|---|---|---|
| 3 | 8.4 | 7.7 | 7.8 |
| 4 | 8.6 | 7.7 | 7.8 |
| 5 | 8.7 | 7.5 | 7.7 |
| 6 | 8.2 | 7.4 | 7.7 |
| 7 | 8.3 | 7.4 | 7.7 |
| 8 | 8.0 | 7.4 | 7.8 |
| Sum | 50.2 ✓ | 45.1 ✓ | 46.5 ✓ |
| (3) Mean | 8.4 −2 | 7.5 +1 | 7.8 −3 |
| (3) − (2) | 1.2 ✓ | 0.9 ✓ | 1.2 ✓ |
| (2) − (1) | 1.4 ✓ | 1.7 ✓ | 1.6 ✓ |

Ended 9.06

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2.6
2.6
2.8
8.0

6/8.0
1.3 div. = 1 mag.

C 7152

8.0/6.00
.75

| | a | b | c |
|---|---|---|---|
| 1 | 3.8 | 4.9 | 5.0 |
| 2 | 7.2 | 6.6 | 6.6 |
| 3 | 8.4 | 7.5 | 7.8 |

| | IV a | I b | II c |
|---|---|---|---|
| | 6.35 | 5.68 | 5.75 |
| | 6.40 | 5.95 | 5.95 |
| | 6.30 | 5.62 | 5.85 |
| Sum | 19.05 | 17.25 | 17.55 |
| Mean | 6.35 | 5.75 | 5.85 |
| | 0 | −7 | −10 |
| | +5 | +28 | +10 |
| | −5 | −13 | 0 |
| | 10 | 40 | 20 |
| | | 10 | |
| | | 20 | |
| | | 9\|70 | |
| | | ±.08 | |

Checked by R.W.L.

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1903phae.proj.1774T



C 7421 = 11

Begun 10,04

June 29, 1903, Electric Light, Thirault.

| | a I | b II | c IV |
|---|---|---|---|
| b | No b on plate | | |
| IV + | 3.9 | 4.0 | 5.3 · 11 ~~10~~ 1st image so |
| 16 | 4.5 | 4.6 | 5.7 IV was taken |
| 21 | 4.6 | 4.5 | 5.6 |
| 26 | 4.7 | 4.8 | 5.8 |
| 31 | 4.8 | 4.9 | 5.8 |
| Sum | 22.5 | 22.8 | 28.2 |
| III Mean | 4.5 | 4.6 -2 | 5.6 +2 |

No aperture images.

Ended 10,11

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C 7421



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1903phae.proj.1774T



C 7545 = 12

Begun 10.56

June 29, 1903, Electric Light. Thirteenth.

| | a | b | c |
|---|---|---|---|
| 6 | 6.8 | 6.6 | 5.9 |
| 11 | 7.4 | 6.9 | 5.7 |
| 16 | 6.8 | 6.6 | 5.6 |
| 21 | 6.7 | 6.5 | 5.6 |
| 26 | 6.9 | 6.6 | 5.7 |
| 31 | 6.8 | 6.4 | 5.6 |
| Sum | 41.4 v | 39.6 v | 34.1 v |
| (1) Mean | 6.9 v | 6.6 v | 5.7 -1 |

In 51-61 Group (1M)

| | | | |
|---|---|---|---|
| 3 | 7.7 | 7.4 | 6.9 |
| 5 | 7.7 | 7.4 | 6.9 |
| 6 | 7.7 | 7.3 | 6.8 |
| 8 | 7.1 | 7.2 | 6.4 |
| 10 | 7.6 | 7.7 | 6.5 |
| 12 | 7.5 | 7.3 | 6.7 |
| Sum | 44.3 v | 44.3 v | 40.2 v |
| (2) Mean | 7.4 -1 | 7.4 -1 | 6.7 v |

In 71-81 Group (2M)

| | | | |
|---|---|---|---|
| 2 | 8.3 | 8.4 | 7.6 |
| 3 | 8.6 | 8.4 | 7.6 |
| 4 | 7.9 | 8.0 | 7.4 |
| 5 | 8.4 | 8.1 | 7.3 |
| 6 | 8.3 | 8.0 | 7.3 |
| 9 | 8.5 | 7.8 | 7.6 |
| Sum | 50.0 v | 48.7 v | 44.8 v |
| (3) Mean | 8.3 +2 | 8.1 +1 | 7.5 -2 |
| (3) - (2) | 0.9 v | 0.7 v | 0.8 v |
| (2) - (1) | 0.5 v | 0.8 v | 1.0 v |

Thursday Night June Thirteenth.

Ended 11.15

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C 7545

1.4
1.5
1.8
4.7

6/4.7
.8 div. = 1 mag.

$$4.7 \overline{)6.0} = 1.28$$

47
130
94
360

| | a | b | c |
|---|---|---|---|
| 1 | 6.9 | 6.6 | 5.7 |
| 2 | 7.4 | 7.4 | 6.7 |
| 3 | 8.3 | 8.1 | 7.5 |

| | I a | II b | III c |
|---|---|---|---|
| | 10.83 | 10.45 | 9.30 |
| | 10.47 | 10.47 | 9.58 |
| | 10.62 | 10.37 | 9.60 |
| Sum | 31.92 | 31.29 | 28.48 |
| Mean | 10.64 | 10.43 | 9.49 |
| | +19 | +2 | −19 |
| | −17 | +4 | +9 |
| | −2 | −6 | +11 |
| | 38 | 12 | 39 |
| | | 38 | |
| | | 39 | |
| | | 9 \| 89 | |
| | | ±10 | |

Checked by R.W.L.

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1903phae.proj.1774T



C 7581 = 13

Begun 11.16

June 29, 1903, Electric Light, Thirault.

| | a | b | c |
|---|---|---|---|
| 6 | 4.5 | | |
| 11 | 4.4 | | |
| 16 | 4.8 | | |
| 21 | 4.9 | | |
| 26 | 4.9 | | |
| 31 | 5.0 | | |
| Sum | 28.5 ✓ | | |
| (1) Mean | 4.8 -3 | | |

In 51-61 Group (1M)

| | | |
|---|---|---|
| 4 | 6.6 | |
| 14 X | 6.8 | 14 is a much better magnitude so was selected, marked 7. Likewise 11. |
| 8 | 6.7 | |
| 9 | 6.6 | |
| 10 | 6.8 | |
| 11 12 | 6.7 | |
| Sum | 40.2 ✓ | |
| (2) Mean | 6.7 ✓ | |

In 71-81 Group (2M)

| | |
|---|---|
| 2 | 8.6 |
| 5 | 8.5 |
| 7 | 8.3 |
| 9 | 8.1 |
| 11 | 7.8 |
| 12 | 8.1 |
| Sum | 49.4 ✓ |
| (3) Mean | 8.2 +2 |
| (3) - (2) | 1.5 ✓ |
| (2) - (1) | 1.9 ✓ |

Ended 11.21

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C 7581



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1903phae.proj.1774T



C 7596 = 14 Began 11.22

June 29, 1903, Electric Light, Thibault.

| | a IV | b X | c |
|---|---|---|---|
| 6 | 5.7 | 5.5 | |
| 11 | 5.7 | 5.4 | |
| 16 | 5.7 | 5.4 | |
| 21 | 5.5 | 5.4 | |
| 26 | 5.6 | 5.2 | |
| 31 | 5.9 | 5.6 | |
| Sum | 34.1 v | 32.5 v | |
| (6) Mean | 5.7 -1 | 5.4 +1 | |

Ended 11.26

Du 51-61 Group (1M)

| | | | |
|---|---|---|---|
| 2 | 7.4 | | |
| 3 | 7.3 | | |
| 4 | 7.2 | | |
| 5 | 7.3 | | |
| 6 | 7.4 | | |
| 7 | 7.3 | | |
| Sum | 43.9 v | | |
| (6) Mean | 7.3 +1 | | |

Liddenby Peanut

Hi Res Images already measured in Group D

Du 71-81 Group (2M)

| | | |
|---|---|---|
| 2 | ~~7.4~~ | 7.9 |
| 3 | ~~7.3~~ | 7.9 |
| 6 | — | 7.8 |
| 7 | — | 7.9 |
| 5 ~~8~~ | — | 7.9 |
| 6 ~~9~~ | — | 7.9 |
| Sum | — | 47.3 v |
| (3) Mean | — | 7.9 -1 |
| (31 - (2) | — | — |
| (2) - (1) | 1.6 v | — |

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C 7596



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1903phae.proj.1774T



C 8436 = 15

Begun 11.38

June 29, 1903, Electric Light, Thirteen

| | a | b | c |
|---|---|---|---|
| 6 | 2.7 | 3.9 | |
| 11 | 2.9 | 3.9 | |
| 16 | 2.7 | 3.9 | |
| 21 | 3.0 | 4.3 | |
| 26 | 3.4 | 4.3 | |
| 31 | 3.4 | 4.5 | |
| Sum | 18.1 | 24.8 | |
| Mean | 3.0 | 4.1 | |

No aperture exposures. Ended 11.52

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C 8436



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1903phae.proj.1774T



C 9582 r = 16

Begun 2.51

June 29, 1903, Electric Light, Thaw cast.

| | a | b | c |
|---|---|---|---|
| 6 | hidden | 6.5 | 6.4 |
| 11 | 5.4 | 6.4 | 6.3 |
| 16 | 5.7 | 6.7 | 6.5 |
| 21 | 5.4 | 6.7 | 6.1 |
| 26 | 5.6 | 6.7 | 6.6 |
| 31 | 5.6 | 6.6 | 6.3 |
| Sum | 27.2 ✓ | 39.6 ✓ | 38.2 ✓ |
| (1) Mean | 5.4 +2 | 6.6 ✓ | 6.4 -2 |

Du 51-61 Group (1M)

| | | | |
|---|---|---|---|
| 3 | 6.7 | 7.8 | 7.6 |
| 4 | 6.9 | 7.7 | 7.6 |
| 5 | 6.8 | 7.8 | 7.6 |
| 6 | 6.9 | 7.9 | 7.7 |
| 7 | 6.9 | 7.6 | 7.4 |
| 8 | 6.7 | 7.8 | 7.7 |
| Sum | 40.9 ✓ | 46.6 ✓ | 45.6 ✓ |
| (2) Mean | 6.8 +1 | 7.8 -2 | 7.6 ✓ |

Du 71-81 Group (2M)

| | | | |
|---|---|---|---|
| 2 | 7.8 | 8.9 | 8.4 |
| 4 | 7.8 | 8.8 | 8.6 |
| 6 | 7.8 | 9.0 | 8.7 |
| 8 | 7.9 | 9.1 | 8.7 |
| 10 | 7.8 | 8.9 | 9.0 |
| 12 | 7.9 | 8.9 | 8.7 |
| Sum | 47.0 ✓ | 53.6 ✓ | 52.1 ✓ |
| (3) Mean | 7.8 +2 | 8.9 +2 | 8.7 -1 |
| (3) - (2) | 1.0 ✓ | 1.1 ✓ | 1.1 ✓ |
| (2) - (1) | 1.4 ✓ | 1.2 ✓ | 1.2 ✓ |

Ended 3.07

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C 9582

2.4 ✓
2.3 ✓
2.3 ✓
7.0 ✓

6 | 7.0
1.2 div. = 1 mag.

7.1 | 6.00
.86 ✓

| | a | b | c |
|---|---|---|---|
| 1 | 5.4 | 6.6 | 6.4 |
| 2 | 6.8 | 7.8 | 7.6 |
| 3 | 7.8 | 8.9 | 8.7 |

| | III a | IV b | II c |
|---|---|---|---|
| | 6.64 ✓ | 7.68 ✓ | 7.50 ✓ |
| | 6.85 ✓ | 7.71 ✓ | 7.54 ✓ |
| | 6.71 ✓ | 7.65 ✓ | 7.48 ✓ |
| Sum | 20.20 ✓ | 23.04 ✓ | 22.52 ✓ |
| Mean | 6.73 ✓ | 7.68 ✓ | 7.51 ✓ |
| | −9 ✓ | 0 ✓ | −1 ✓ |
| | +12 ✓ | +3 ✓ | +3 ✓ |
| | −2 ✓ | −3 ✓ | −3 ✓ |
| | 23 ✓ | 4 ✓ | 7 ✓ |
| | | 23 ✓ | |
| | | 7 ✓ | |
| | | 9 \| 36 ✓ | |
| | | ±.04 ✓ | |

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C 14017 = 17

July 25, 1903, Electric Light, Thibaut.

Begun 9.58

| | a | b | c |
|---|---|---|---|
| 6 | 4.4 | 3.2 | |
| 11 | 4.3 | 3.2 | |
| 16 | 4.2 | 3.8 | |
| 21 | 4.8 | 4.1 | |
| 26 | 5.2 | 3.9 | |
| 31 | 4.7 | 3.7 | |
| Sum | 27.6 | 21.9 | |
| (1) Mean | 4.6 | 3.6 | |

Du 51 – 61 Group (1M)

| | | |
|---|---|---|
| 2 | 7.6 | 5.7 |
| 3 | 7.1 | 6.9 |
| 4 | 6.9 | 5.8 |
| 5 | 6.9 | 5.7 |
| Sum | 28.5 | 24.1 |
| (2) Mean | ~~6.8~~ 7.1 | 6.0 |

Du 71 – 81 Group (2M)

| | | |
|---|---|---|
| 2 | 7.9 | 6.8 |
| 3 | 7.9 | 6.8 |
| 4 | 7.7 | 6.5 |
| 5 | 7.8 | 6.6 |
| 6 | 8.0 | 6.7 |
| 7 | 7.8 | 6.8 |
| Sum | 47.1 | 40.2 |
| (3) Mean | 7.8 | 6.7 |
| (3) – (2) | I | III |
| (2) – (1) | | |

Ended 10.13

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C 7674=18

Begun 10.15

July 25, 1903, Electric Light

Thitault.

| | a I | b II | c |
|---|---|---|---|
| 6 | 5.8 | 5.7 | |
| 11 | 6.2 | 5.7 | |
| 16 | 6.4 | 5.6 | |
| 21 | 6.3 | 5.9 | |
| 26 | 5.9 | 5.8 | |
| 31 | 6.2 | 5.9 | |
| Sum | 36.8 | 34.6 | |
| (1) Mean | 6.1 +2 | 5.8 −2 | |

Du 51-61 Group (1M)

| | | | |
|---|---|---|---|
| 2 | 7.7 | 7.3 | |
| 4 | 7.6 | 7.1 | |
| 6 | 7.6 | 7.0 | |
| 7 | 7.5 | 6.9 | |
| 8 | 7.9 | 7.5 | |
| Sum | 38.3 | 35.8 | |
| (2) Mean | 7.7 −2 | 7.2 −2 | |

Du 71-81 Group (2M)

| | | | |
|---|---|---|---|
| 2 | 8.3 | 7.9 | |
| 4 | 8.5 | 8.1 | |
| 5 | 7.9 | 7.5 | |
| 7 | 7.9 | 7.7 | |
| 10 | 7.9 | 7.6 | |
| Sum | 40.5 ✓ | 38.8 | |
| (3) Mean | 8.1 ✓ | 7.8 −2 | |
| (3) − (2) | | | |
| (2) − (1) | | | |

Ended 10.35

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C 7674



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