1877phas.prof..153W

KG
11366
595

V.
3

Zone Observations & Reductions

C. 33.

Form Nov. 8 1875 to Jan. 20 1876

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1875phae.proj.1599R

633.	1	43	7	52	Jan 10
	2	40	41	54	" 10

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1875phae..proj..159S

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ins

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ'
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
d											
$((\delta) - D)\frac{d'}{100}$											
δ_2											
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
d											
$((\delta) - D)\frac{d'}{100}$											
δ_2											
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
d											
$((\delta) - D)\frac{d'}{100}$											
δ_2											
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
d											
$((\delta) - D)\frac{d'}{100}$											
δ_2											
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
d											
$((\delta) - D)\frac{d'}{100}$											
δ_2											

Value of the Inclination (i) for all dates of 1875 in this book $= +5^\circ\ 5'\ 11''$

Constant of Declinations

log. tan. i = 8.94943 n
log. 15 = 1.17609
log 15 tan i = 0.12552 n

See also first page of C. 27

Value of the Inclination (i) for the dates of 1876 in this book $= +5^\circ\ 4'\ 47''$

Constant of Declinations

log. tan i = 8.94886 n
log 15 = 1.17609
log 15 tan i = 0.12495 n

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Date$_1$ = June 9, 1874 Observer W.A.R. Recorder J.F.M. Date$_2$ = June 10, 1874 Observer Recorder

2

Run

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
1 h	01m 30s	58. 07	9.5										
	00 52.6	51 11.8	9.5										
κ													
((δ) — D) $\frac{\kappa'}{100}$													
α_1													
			9.7										
κ													
((δ) — D) $\frac{\kappa'}{100}$													
α_2													
24	14	50 25	6.5										
23	37.6	50 30.2	8.8										
κ													
((δ) — D) $\frac{\kappa'}{100}$													
α_1													
			5.8										
κ													
((δ) — D) $\frac{\kappa'}{100}$													
α_2													
25	01	50 47	9.0										
24	25.3	50 51.9	9.0										
κ													
((δ) — D) $\frac{\kappa'}{100}$													
α_1													
			9.0										
κ													
((δ) — D) $\frac{\kappa'}{100}$													
α_2													
26	26	54 01.	9.0										
25	57.0	54 5.5	8.9										
κ													
((δ) — D) $\frac{\kappa'}{100}$													
α_1													
			9.0										
κ													
((δ) — D) $\frac{\kappa'}{100}$													
α_2													
27	58	53 56	9.0										
27	23.1	54 0.1	9.0										
κ													
((δ) — D) $\frac{\kappa'}{100}$													
α_1													
			9.0										
κ													
((δ) — D) $\frac{\kappa'}{100}$													
α_2													

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
		1 29.0	43.9						25		
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
		1 30.2	35.0						25		
d											
$((\delta) - D)\frac{d'}{100}$											
δ_2											
		3 39.9	53.0						5		
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
		3 41.9	54.1						5		
d											
$((\delta) - D)\frac{d'}{100}$											
δ_2											
		1 28.4	44.0						45		
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
		2 5.4	10.3						45		
d											
$((\delta) - D)\frac{d'}{100}$											
δ_2											
		2 5.4	5.9						30		
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
		3 4.0	8.4						30		
d											
$((\delta) - D)\frac{d'}{100}$											
δ_2											
		2 87.8	51.6						35		
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
		2 36.8	40.7						35		
d											
$((\delta) - D)\frac{d'}{100}$											
δ_2											

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1875phae.proj.15998

Date$_1$ = June 9, 1874 Observer W. A. R. Recorder J. Z. M. Date$_2$ = June 10, 1874 Observer Recorder 4 Ru

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
1	28m 25s	50° 19′	9.2										
2	27 51.3	50 23.9	9.2										
κ													
$((\delta) - D)\frac{\kappa'}{100}$													
α_1													
			9.2										
κ													
$((\delta) - D)\frac{\kappa'}{100}$													
α_2													
30	45	50 21	9.0										
30	11.5	50 25.1	8.8										
κ													
$((\delta) - D)\frac{\kappa'}{100}$													
α_1													
			8.8										
κ													
$((\delta) - D)\frac{\kappa'}{100}$													
α_2													
32	01	50 16	7.8										
31	27.0	50 9.5	7.8										
κ													
$((\delta) - D)\frac{\kappa'}{100}$													
α_1													
			7.7										
κ													
$((\delta) - D)\frac{\kappa'}{100}$													
α_2													
32	55	50 33	9.1										
32	20.9	50 37.4	9.2										
κ													
$((\delta) - D)\frac{\kappa'}{100}$													
α_1													
			9.2										
κ													
$((\delta) - D)\frac{\kappa'}{100}$													
α_2													
34	13	54 34	5.8										
33	39.2	54 38.8	5.8										
κ													
$((\delta) - D)\frac{\kappa'}{100}$													
α_1													
			5.8										
κ													
$((\delta) - D)\frac{\kappa'}{100}$													
α_2													

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1875phae.proj.1599R

Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
		0 23.3	38.9						15		
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
		0 46.5	53.1						15		
d											
$((\delta) - D)\frac{d'}{100}$											
δ_2											
		2 43.1	57.4						10		
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
		2 38.7	43.2						10		
d											
$((\delta) - D)\frac{d'}{100}$											
δ_2											
		3 32.1	46.5						25		
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
		3 14.6	19.9						25		
d											
$((\delta) - D)\frac{d'}{100}$											
δ_2											
		0 24.0	39.9						0		
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
		0 25.5	31.8						0		
d											
$((\delta) - D)\frac{d'}{100}$											
δ_2											
		3 53.7	8.5						55		
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
		3 46.0	50.8						55		
d											
$((\delta) - D)\frac{d'}{100}$											
δ_2											

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Date$_1$ = June 9, 1874 Observer W. A. R. Recorder J. F. M. Date$_2$ = June 10, 1874 Observer Recorder 6

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
	35m 19	64 01	6.5										
	34 45.6	54 35	7.3										
κ													
$((\delta) - D)\frac{\kappa'}{100}$													
α_1													
			6.7										
κ													
$((\delta) - D)\frac{\kappa'}{100}$													
α_2													
	36 53	52 48	6.5										
	36 19.2	52 52.5	6.8										
κ													
$((\delta) - D)\frac{\kappa'}{100}$													
α_1													
			6.9										
κ													
$((\delta) - D)\frac{\kappa'}{100}$													
α_2													
	38 07	50 39	9.0										
	37 22.6	50 43.5	9.0										
κ													
$((\delta) - D)\frac{\kappa'}{100}$													
α_1													
			9.1										
κ													
$((\delta) - D)\frac{\kappa'}{100}$													
α_2													
	39 03	49 59	9.1										
	38 30.5	50 5.9	9.0										
κ													
$((\delta) - D)\frac{\kappa'}{100}$													
α_1													
			9.2										
κ													
$((\delta) - D)\frac{\kappa'}{100}$													
α_2													
	40 06	50 25	9.5										
	39 33.1	50 29.1	9.5										
κ													
$((\delta) - D)\frac{\kappa'}{100}$													
α_1													
			9.7										
κ													
$((\delta) - D)\frac{\kappa'}{100}$													
α_2													

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1875phae.proj.1599R

Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
		3 55.2	9.4						30		
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
		3 50.0	55.3						30		
d											
$((\delta) - D)\frac{d'}{100}$											
δ_2											
		1 5.7	21.7						45		
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
		1 16.0	22.2						45		
d											
$((\delta) - D)\frac{d'}{100}$											
δ_2											
		3 41.4	55.0						50		
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
		3 55.7	59.9						50		
d											
$((\delta) - D)\frac{d'}{100}$											
δ_2											
		1 1.5	16.3						30		
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
		1 55.3	0.9						30		
d											
$((\delta) - D)\frac{d'}{100}$											
δ_2											
		0 36.9	50.7						5		
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
		3 43.8	58.1						5		
d											
$((\delta) - D)\frac{d'}{100}$											
δ_2											

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Date$_1$ = June 9, 1874 Observer W. A. R. Recorder J. Hill. Date$_2$ = June 10, 1874 Observer Recorder

Star.	α	δ	Mag.	T_a	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
12 ~	41 m 55	50 49	9.1										
	41 22.3	50 54.0	8.9										
κ			9.1										
((δ) — D) $\frac{\kappa'}{100}$													
α_1													
			9.1										
κ													
((δ) — D) $\frac{\kappa'}{100}$													
α_2													
	45 04	54 02											
	44 31.1	54 6.8	8.8										
κ													
((δ) — D) $\frac{\kappa'}{100}$													
α_1													
			8.9										
κ													
((δ) — D) $\frac{\kappa'}{100}$													
α_2													
	46 42	54 28	9.1										
	46 8.6	54 32.0	9.0										
κ													
((δ) — D) $\frac{\kappa'}{100}$													
α_1													
			9.0										
κ													
((δ) — D) $\frac{\kappa'}{100}$													
α_2													
	49 04	54 03	9.5										
	48 21.5	54 7.9	9.5										
κ													
((δ) — D) $\frac{\kappa'}{100}$													
α_1													
			9.5										
κ													
((δ) — D) $\frac{\kappa'}{100}$													
α_2													
κ													
((δ) — D) $\frac{\kappa'}{100}$													
α_1													
12 ~	02 14	52 29	8.2										
June 2	01 29.2	52 34.1	7.5										
κ													
((δ) — D) $\frac{\kappa'}{100}$													
α_2													

Single Observations

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
		2 41.5	54.4						40		
		3 41.5	54.4						40		
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
		2 2.7	7.5						45		
d											
$((\delta) - D)\frac{d'}{100}$											
δ_2											
		0 54.1	9.7						30		
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
		1 18.2	25.9						30		
d											
$((\delta) - D)\frac{d'}{100}$											
δ_2											
		0 24.2	40.8						5		
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
		0 19.0	26.4						5		
d											
$((\delta) - D)\frac{d'}{100}$											
δ_2											
		0 20.6	36.7						30		
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
		0 14.3	21.1						30		
d											
$((\delta) - D)\frac{d'}{100}$											
δ_2											
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
		4 53.8	05						0		
d											
$((\delta) - D)\frac{d'}{100}$											
δ_2											

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Single Observations

10

Date$_1$ = June 9, 1874 June 2 — Observer W. A. R. Recorder J. J. M. — Date$_2$ = June 10, 1874 — Observer — Recorder — Run

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
12	04 m 55 s	52 ° 19 ′	9.0										
June 2	04 10.1	52 24.3	9.1										
	K												
	((δ) — D) $\frac{\kappa'}{100}$												
	α_1												
13	07 23	52 35	7.0										
	06 38.7	52 40.2	7.1										
June 2	K												
	((δ) — D) $\frac{\kappa'}{100}$												
	α_2												
13	09 01	52 17	9.1										
	08 16.9	52 22.7	8.8										
June 2	K												
	((δ) — D) $\frac{\kappa'}{100}$												
	α_1												
13	47 27	52 47	9.5										
	46 49.0	52 52.0	9.4										
June 9	K												
	((δ) — D) $\frac{\kappa'}{100}$												
	α_2												
13	57 17	52 32	9.7										
	56 39.9	52 36.8	9.5										
June 9	K												
	((δ) — D) $\frac{\kappa'}{100}$												
	α_1												
14	29 45	50 46	9.6										
	29 11.5	50 50.5	9.4										
June 9	K												
	((δ) — D) $\frac{\kappa'}{100}$												
	α_2												
13	22 58	51 14	7.7										
	22 15.9	51 19.7	7.5										
June 10	K												
	((δ) — D) $\frac{\kappa'}{100}$												
	α_1												
13	24 13	53 53	8.0										
	23 30.0	53 57.0	7.8										
June 10	K												
	((δ) — D) $\frac{\kappa'}{100}$												
	α_2												
14	43 26	50 06	8.6										
	42 53.6	50 10.1	8.0										
June 10	K												
	((δ) — D) $\frac{\kappa'}{100}$												
	α_1												
	K												
	((δ) — D) $\frac{\kappa'}{100}$												
	α_2												

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
		4 45.4	51.8						10		
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
		3 35.9	43.0						55		
d											
$((\delta) - D)\frac{d'}{100}$											
δ_2											
		1 30.1	37.6						15		
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
		1 59.7	16.6						45		
d											
$((\delta) - D)\frac{d'}{100}$											
δ_2											
		1 40.2	56.7						0		
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
		2 41.7	56.9						45		0′
d											
$((\delta) - D)\frac{d'}{100}$											
δ_2											
		3 37.1	44.0						15		
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
		2 1.5	7.9						40		
d											
$((\delta) - D)\frac{d'}{100}$											
δ_2											
		2 35.2	39.9						25		
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
d											
$((\delta) - D)\frac{d'}{100}$											
δ_2											

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Date$_1$ = 1875 Nov. 8 n = −.23 Observer
Nov. 11 n = −.28 Recorder

Date$_2$ = Nov. 17 n = −.11 Observer Recorder

12

Star. α δ Mag. T_s T_m T_e T_f T_g T_h Sum Mean Red. to T_m

Nov 8.

Add +.012 to (ΣT + m), it has been added to the sum of the constants and to final R.A.

	h m s	° ′ ″											
Nov. 8	12 11 33.6	52 21 16.8	8.8 8.1	22 12 54.7 58.9 1.8 54.47	13 16.5	20.0	23.4	26.8	30.3 −1 2.04	+.012	13 23.44 −61.67 −30 −2 12 21.43 −1.64 12 19.76	73	
	κ												
	((δ) − D) $\frac{\kappa'}{100}$												
	a_1												
Nov. 11			8.7	13 35.4 38.4 41.4 38.83	13 17.4	20.8	24.4	27.8	31.0 −1 2.91	+.018	13 24.28 −62.63 −36 −2 12 21.25 −1.56 12 19.74	53 60 62.53 81 78	
	κ												
	((δ) − D) $\frac{\kappa'}{100}$												
	a_2												
Nov. 8	13 57 13 18.0	51 23 18.0	9.0 8.5	14 44.0 48.7 51.6 48.10	15 1.3	4.9	8.1	11.4	14.7 −1 2.03		15 8.08 −61.67 −29 −2 14 6.08 −1.69 14 4.36	73 76	
	κ												
	((δ) − D) $\frac{\kappa'}{100}$												
	a_1												
Nov. 11			8.8	14 42.6 45.4 48.5 45.50	15 2.3	5.6	8.8	12.1	15.6 −1 2.90		15 8.88 −62.63 −35 −2 14 5.86 −1.62 14 4.24	0 53 36 4.29	
	κ												
	((δ) − D) $\frac{\kappa'}{100}$												
	a_2												
Nov. 8	15 03 14 25.5	51 7 2.1	8.7 8.4	15 50.0 53.3 56.6 53.30	16 9.4	12.3	15.4	18.9	22.2 −1 2.02		16 15.64 −61.67 −28 −2 15 13.65 −1.72 15 11.90	73	
	κ												
	((δ) − D) $\frac{\kappa'}{100}$												
	a_1												
Nov. 11			8.7	15 44.9 48.1 50.9 47.97	16 9.7	13.1	16.4	19.6	22.9 −1 2.90		16 16.34 −62.63 −35 −2 15 13.32 −1.64 15 11.68	60 53 80 11.73	
	κ												
	((δ) − D) $\frac{\kappa'}{100}$												
	a_2												
Nov 17			8.6	16 18.6 19.0 19.5	16 12.9	16.3 19.6	—	22.5 19.2	26.4 −1 5.78		16 19.57 −65.62 −14 −2 15 13.41	43 65	
	κ												
	((δ) − D) $\frac{\kappa'}{100}$		9.0		16 26.1	29.2	32.4	35.5	38.9 −1 5.78		16 32.42 −65.62 −14 −2 15 12.25 16 18 26.64	1.49 15 12.15	
	14 37.9	5 34.8											
	a_1												
Nov. 8	15 57 15 13.9	52 8 3.0	8.8 8.7	16 50.9 53.4 56.1 53.47	16 57.8	0.8	4.1	7.7	11.1 −1 2.04		18 4.30 −61.67 −30 −2 16 2.29 −1.70 16 0.59	73 15 25.15 6	
	κ												
	((δ) − D) $\frac{\kappa'}{100}$												
	a_2												
Nov. 11			8.8	16 47.4 50.2 53.1 52.23	16 58.2	1.7	5.0	8.3	11.7 −1 2.92		18 4.98 −62.63 −36 −2 16 1.95 −1.61 16 0.34	54 45 0.39	
	κ												
	((δ) − D) $\frac{\kappa'}{100}$												
	a_1												
Nov. 17			8.5	17 15.9 18.6 22.1 18.87	17 1.4	4.5	8.0	11.3	14.9 −1 5.78		17 8.02 −65.62 −14 −2 16 2.24 −1.45 16 0.79		
	κ												
	((δ) − D) $\frac{\kappa'}{100}$												
	a_2												

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Reg. Nov. 8 −16′ 13.″31 −.″12
Nov. 11 −16 14.28 −.12
Nov. 17 −16 14.10 −.12

Runs	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
d	+24.9	2	57.1	7.9	1250	3′ 2.″50	39 45.85		40	52 23 12.25	
	1.39620				43	52 23 32.54				− 17	+10.58
	9.78560					− 20.29				− 36	
$((\delta) - D)\frac{d'}{100}$	1.30732m									+10.64	
										+ 47	
δ_1										−28.70	
										22 54.13	
d	~~−5.5~~	3	28.2	40.7	68.9	3	3445		40	23 11.44	
	−14.5				43	52 22 59.62				− 5	+10.42
	1.16137m					+ 11.82				− 43	
$((\delta) - D)\frac{d'}{100}$	9.78560									+10.43	
	1.07249									+ 47	
δ_2										−2880	
										22 53.06	
d	+20.0	2	0.2	12.8	13.0	2	650		40	51 24 11.88	
	1.30103				42	51 24 28.54				− 11	+9.63
	9.79510					− 16.66				− 25	
$((\delta) - D)\frac{d'}{100}$	1.22165m									+9.57	
										+ 42	
δ_1										−2860	
										23 52.91	
d	+23.4	1	56.9	11.0	12.7.9	2	395		40	24 12.63	
	1.36922				42	51 24 30.12				− 14	+9.42
	9.79510					− 19.49				− 25	
$((\delta) - D)\frac{d'}{100}$	1.28984m									+9.39	
										+ 42	
δ_2										−2880	
										23 52.25	
d	+22.3	2	49.4	59.7	109.1	2	54.55		55	51 8 21.81	
	1.34830				57	51 8 40.49				− 13	+9.21
	9.79762					− 18.68				− 35	
$((\delta) - D)\frac{d'}{100}$	1.27144m									+ 9.28	
										+ 41	
δ_1										− 28.70	
										8 2.32	
d	+28.3	2	43.5	56.9	100.4	2	50.20		55	8 20.16	
	1.45179				57	51 8 43.87				− 21	+8.97
	9.79762					−23.71				− 34	
$((\delta) - D)\frac{d'}{100}$	1.37493m									+ 9.11	
										+ 41	
δ_2										−2880	
										8 0.33	
d	~~+0.9~~	3	38.7	~~47.9~~	~~86.6~~	3	4330		55	7 50.20	✓
	9.95424				58	51 7 50.95				− 0	+9.34
	9.79762					− 0.75				− 45	
$((\delta) - D)\frac{d'}{100}$	9.87738m									+ 9.53	Ref
										+ 46	
δ_1										−29.20	
										7 30.34	
d	+10.8	1	53.6	4.1	117.7	1	58.85		55	52 9 27.34	
	1.03342				56	52 9 36.19				− 3	+10.57
	9.78788					− 8.85				− 24	
$((\delta) - D)\frac{d'}{100}$	0.94682m									+10.38	
										+ 46	
δ_2										−28.90	
										9 9.01	
d	+14.8	1	48.9	1.1	110.0	1	55.00		55	9 26.95	
	1.17026				56	52 9 39.07				− 6	+10.35
	9.78788					− 12.12				− 23	
$((\delta) - D)\frac{d'}{100}$	1.08366m									+10.18	
										+ 46	
δ_1										−29.00	
										9 8.30	
d	−10.9	2	13.3	21.2	34.5	2	1725		55	9 25.93	
	1.03743m				57	52 9 17.00				− 3	+10.65
	9.78788					+ 8.93				− 27	
$((\delta) - D)\frac{d'}{100}$	0.95083									+10.45	
										+ 60	
δ_2										−29.40	
										9 7.18	

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Date$_1$ = Nov. 8, 1875 (441) Observer / Recorder

Date$_2$ = Nov. 17 (443) Observer / Recorder

14 Run

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
2 Nov. 8	16 12.4	51 58.7	8.8 8.9	22 17 38.5 42.5 44.8 41.93	17 55.9	59.4	2.9	6.6	9.8 −1 2.04	18 2.92 −61.69 −30 −2	17 0.91 −1.71	16 59.167	
11			9.0	17 31.7 34.8 38.6 35.03	17 56.9	0.4	3.7	6.9	10.6 −1 2.92	18 3.70 −62.60 −36 −2	17 0.67 −1.63	16 59.04	
17			8.5	17 55.3 58.6 2.2 58.70	17 59.7	3.2	6.5	10.0	13.3 −1 5.78	18 6.58 −65.62 −14 −2	17 0.80 −1.47	16 59.33	
8	18 07 17 29.9	51 33 27.8	9.0 9.0	18 55.0 55.00	19 13.7	17.6	20.4	23.7	26.8 −1 2.04	19 20.44 −61.70 −29 −2	18 18.43 −1.74	16.69 54	
11			8.9	18 52.8 56.6 59.0 56.13	19 14.2	17.4	20.7	24.1	27.6 −1 2.91	19 20.60 −62.65 −35 −2	18 17.78 −1.66	16.12 16.23	
17			8.8	18 58.3 2.2 4.9 1.88	19 17.3	20.5	23.7	27.0	30.5 −1 5.78	19 23.80 −65.62 −14 −2	18 18.02 −1.51	16.51	
8	19 12 18 34.6	51 42 37.7	8.9 8.8	20 4.6 7.0 9.9 7.17	20 17.8	21.3	24.1	27.6	31.3 −1 2.04	20 24.42 −61.78 −29 −2	19 22.41 −1.75	20.663	
11			8.8	19 48.0 51.3 54.0 51.10	20 18.5	21.8	25.1	28.4	31.8 −1 2.91	20 25.12 −62.65 −35 −2	19 22.10 −1.67	20.42 20.43	
17			8.8	20 6.8 10.3 13.0 10.03	20 21.5	24.6	27.9	31.3	34.6 −1 5.78	20 27.98 −65.62 −14 −2	19 22.20 −1.52	19 20.68	
8	20 13 19 35.4	51 11 6.3	8.7 8.9	21 1.4 5.8 5.8 8.1	21 19.9	23.1	26.6	29.9	33.0 −1 2.04	21 26.50 −61.70 −29 −2			
			9.0	mean 5.1 21 49.3 51.9 55.0 52.07	22 10.4	13.8	17.3	21.0	24.1 −1 2.05	22 1.32 −61.70 −29 −2	20 24.49 −1.78 20 22.71	21 15.31 −1.79 21 13.52	

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+21.0	0 47.0	57.7	104.7	0′ 52.35	21 56.00			0	52 5 25.46	
	1.32222					52 5 42.69				− 12	+10.54
d	9.78853					− 17.23				− 10	
	1.23627n									+ 10.31	
$((\delta) - D)\frac{d'}{100}$										+ 45	
										−29.00	
δ_1										5 7.00	
	+28.7	0 38.7	51.9	90.6	0 45.30	22 3.05			0	5 23.22	
	1.45788					52 5 48.77				− 22	+10.25
d	9.78853					− 23.55				− 9	
	1.37193n									+ 10.11	
$((\delta) - D)\frac{d'}{100}$										+ 45	
										−29.00	
δ_2										5 6.47	
	+ 7.9	0 59.9	8.8	128.7	1 4.35	21 44.00			0	5 23.42	
	0.89763					52 5 29.90				− 2	+10.72
d	9.78853					− 6.48				− 13	
	0.81168n									+10.37	
$((\delta) - D)\frac{d'}{100}$										+ 50	
										−29.40	
δ_1										5 4.74	
	+25.4	1 41.2	50.9	92.1	1 46.05	51 2.30			30	51 34 27.91	
	1.40483				31	51 34 48.99				− 17	+9.80
d	9.79351					− 21.08				− 21	
	1.32386n									+ 9.75	
$((\delta) - D)\frac{d'}{100}$										+ 43	
										−28.90	
δ_2										34 8.81	
	+24.7	1 40.0	53.0	93.0	1 46.50	51 1.85			30	34 27.07	
	1.39270				31	51 34 47.57				− 16	+9.63
d	9.79351					− 20.50				− 21	
	1.31173n									+ 9.57	
$((\delta) - D)\frac{d'}{100}$										+ 43	
										−29.00	
δ_1										34 7.70	
	+22.0	1 43.4	52.9	96.3	1 48.15	51 0.20			30	34 27.84	
	1.34242				31	51 34 46.10				− 13	+9.95
d	9.79351					− 18.26				− 21	
	1.26145n									+ 9.81	
$((\delta) - D)\frac{d'}{100}$										+ 48	
										−29.40	
δ_2										34 8.39	
	+17.2	1 48.4	58.6	107.0	1 53.50	0 54.85			20	51 44 27.32	
	1.23553				21	51 44 41.54				− 8	+10.06
d	9.79192					− 14.22				− 23	
	1.15297n									+ 9.93	
$((\delta) - D)\frac{d'}{100}$										+ 44	
										−29.00	
δ_1										44 8.38	
	+34.0	1 30.6	44.8	75.4	1 37.70	1 10.65			20	44 28.26	
	1.53148				21	51 44 56.37				− 31	+9.69
d	9.79192					− 28.11				− 19	
	1.44892n									+ 9.75	
$((\delta) - D)\frac{d'}{100}$										+ 44	
										−29.10	
δ_2										44 8.55	
	+18.0	1 47.9	56.7	104.6	1 52.30	0 56.05			20	44 27.07	
	1.25527				21	51 44 41.95				− 9	+10.16
d	9.79192					− 14.88				− 22	
	1.17271n									+ 9.98	
$((\delta) - D)\frac{d'}{100}$										+ 49	
										−29.60	
δ_1										44 7.63	
	+21.4	2 51.6	2.8	114.4	2 57.20	29 51.15			50	51 13 19.94	12 49.32
	1.33041				52	51 13 37.84				− 12	− 17 +9.21
d	9.79684					− 17.90				− 35 +9.32	− 41
	1.25277n									+ 9.38	+ 9.38
$((\delta) - D)\frac{d'}{100}$	+25.2	3 19.8	29.5	49.3	3 24.65	29 23.70			50	+ 41	+ 41
	1.40140				53	51 13 10.39				−29.00	−29.00
δ_2	9.79684					− 21.07				13 0.26	12 29.53
	1.32376n										

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Date$_1$ = Nov. 8 / " 11 — Observer / Recorder — Date$_2$ = Nov. 17 — Observer / Recorder — Ru

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
2	20 13	51 11	8.5	22 20 57.3	21 20.5	23.8	27.3	30.6	33.8	21	27.20	-62.54	
Nov. 11	19 35.4	6.3	8.9	59.7					−1 2.91		−62.60		
	κ			3.0							− 35		
				4.00							− 2		
	((δ) — D) $\frac{\kappa'}{100}$		8.0	21 38.7	22 11.5	15.0	18.0	21.5	24.6	22	18.12	20 24.18	
				41.2					−1 2.97		−62.60	−1.70	
				43.0							− 35	20 22.48	22.53
	α_1			40.97							− 2	21 15.10	
17			8.5	21 9.6	21 23.4	26.8	30.2	33.3	36.7	21	30.08	−1.72	
				12.2					−1 5.78		−65.62	21 13.34	13.48
	κ			15.6							− 14		
				12.47							− 2		
	((δ) — D) $\frac{\kappa'}{100}$		9.0	22 0.7	22 14.4	17.7	21.0	24.2	27.6	22	30.98	20 24.30	
				4.8					−1 5.78		−65.62	−1.55	
				8.7							− 14	20 22.75	
	α_2			4.73							− 2	21 15.20	
8	22 19	51 57	9.1	23 6.2	23 26.5	30.3	33.7	36.9	40.5	23	33.58	−1.56	
	21 41.9	52.2	9.4	8.0							− 61.784	21 31.64	
	κ			10.8					−1 2.04		− 29		
				8.33							− 2		
	((δ) — D) $\frac{\kappa'}{100}$									22	31.57		
											−1.78		
	α_1									22	29.79	29.68	
11			9.3	23 8.0	23 27.3	30.9	34.4	37.7	41.2	23	34.30	61.54	
				6.1							− 62.62		
	κ			9.0					−1 2.92		− 36		
				6.03							− 2		
	((δ) — D) $\frac{\kappa'}{100}$									22	31.27		
											−1.71		
	α_2									22	29.56	29.62	
17			9.1	23 26.2	23 36.8	33.9	36.9	40.4	43.8	23	37.16		
				28.8							− 65.62		
	κ			31.8					−1 5.78		− 14		
				28.93							− 2		
	((δ) — D) $\frac{\kappa'}{100}$									22	31.38		
											−1.55		
	α_1									22	29.83		
8	23 01	51 15	9.2	24 18.0	24 13.2	17.0	20.0	23.5	26.9	24	20.12		
	22 27.1	10.3	9.5	18.00							− 61.784		
	κ								−1 2.04		− 29		
											− 2		
	((δ) — D) $\frac{\kappa'}{100}$									23	18.11		
											−1.82		
	α_2									23	16.28		
11	22 26.8	51 99	8.3	23 57.5	24 12.1	15.6	18.8	22.0	25.3	24	18.76		
				0.4							− 62.85	61	
	κ			2.0					−1 2.91		− 35	54	
				59.97							− 2		
	((δ) — D) $\frac{\kappa'}{100}$		9.1	24 26.2	24 14.0	17.4	20.7	24.2	27.2			23 15.74	
	22 27.1			26.20						24	20.70	−1.74	
	α_1								−1 2.91		− 62.85	23 13.99	14.04
											− 35		
											− 2	23 17.68	
17	22 26.8		8.4	24 3.0	24 14.8	18.2	21.5	24.6	27.9	24	21.40	−1.74	
				5.6							− 65.62	23 15.98	15.98
	κ			8.1					−1 5.78		− 14	16.05	16.05
				5.57							− 2		
	((δ) — D) $\frac{\kappa'}{100}$		9.1	24 31.4	24 16.8	20.6	23.7	26.9	30.5			23 15.62	
	22 27.1			31.40						24	23.70	−1.58	
	α_2								−1 5.78		− 65.62	23 14.04	
											− 14		
											− 2	23 17.92	
8	24 24	51 43	8.5	25 8.8	25 30.2	33.6	36.9	40.3	43.4	25	36.88	−1.56	
	23 45.7	38.0	8.5	12.2							− 61.784	23 16.84	
	κ			16.3					−1 2.04		− 29		
				12.43							− 2		
	((δ) — D) $\frac{\kappa'}{100}$									24	34.87		
											−1.82		
	α_1									24	33.05		
11			8.0	25 53.3	25 30.8	34.2	37.6	40.9	44.2	25	37.54		
				58.1							− 62.85	61	
	κ			0.8					−1 2.91		− 35	54	
				57.40							− 2		
	((δ) — D) $\frac{\kappa'}{100}$									24	34.52		
											−1.74		
	α_2									24	32.78	32.82	

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Runs

	$T_m - T$		A	C	Sum		Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′	
	+27.2	2	45.4	58.0	103.4	2	51.70	29 56.65			50	51 13 19.62	12 49.44	
	1.434457					52		51 13 42.37				− 19	− 37	+8.85
d	9.779684							− 22.75				− 34	+9.08 − 39	
	1.356988n											+ 9.20	+ 9.20	
	+37.1	8	7.2	20.0	27.2	3	1360	29 34.75			50	+ 41	+ 41	
((δ) − D) $\frac{d'}{100}$	1.569377					53		51 13 20.47				− 29.10	−29.10	
	9.796841							− 31.03				12 59.60	12 ~~59~~ 29.19	
δ_1	1.491731n													
						2	3	0.065						
	+17.6	2	56.2	5.1	141.3	2	~~5865~~	29 47.70			50	13 18.88	12 48.02	
	1.245551					53		51 13 33.60				− 9	− 7	+9.39
d	9.796841							− 14.72				− 36	+9.44 − 43	
	1.167871n											+ 9.43	+ 9.43	
((δ) − D) $\frac{d'}{100}$	+16.3	8	27.8	37.4	65.2	3	3260	29 15.75			50	+ 46	+ 46	
	1.212191					53		51 13 1.65				−29.50	−29.50	
δ_2	9.796841							−13.63				12 5882	12 27.91	
	1.134555n													
	+25.3	2	40.4	49.5	89.9	2	4495	15 3.40			5	51 58 29.28		
	1.403122					7		51 58 50.09				− 17	+10.14	
d	9.789671							− 20.81				− 33		
	1.318311n											+10.19		
((δ) − D) $\frac{d'}{100}$												+ 45		
												− 29.10		
δ_1												58 10.32		
	+28.3	2	33.5	46.0	79.5	2	3975	15 8.60			5	58 31.04		
	1.451791					7		51 58 54.32				− 21	+9.93	
d	9.789671							− 23.28				− 32		
	1.366981n											+10.01		
((δ) − D) $\frac{d'}{100}$												+ 45		
												−29.30		
δ_2												58 11.67		
	+ 8.3	2	53.6	1.1	114.7	2	5735	14 51.50			5	58 30.07		
	0.919081					7		51 58 36.90				− 2	+10.37	
d	9.789671							− 6.83				− 35		
	0.834271n											+10.24		
((δ) − D) $\frac{d'}{100}$												+ 50		
												−29.70		
δ_1												58 10.74		
	+ 2.1	4	45.9	55.4	101.3	4	5065	32 57.70			45	51	16 42.64	
	0.322222					49		51 16 44.39					− 0	+9.~~30~~ 27
d	9.796211							− 1.75					− 58	
	0.243995n												+ 9.44	
((δ) − D) $\frac{d'}{100}$													+ 41	
													−29.10	
δ_2													16 22.81	
	+18.8	4	49.1	3.0	112.1	4	5605	32 52.30			45	16 22.32	16 42.61	
	1.274161					49		51 16 38.02				− 10	− 1	+9.06
d	9.796211							− 15.70				− 57	+8.97 − 59	
	1.195891n							+ 4.59				+ 9.25	+ 9.25	
((δ) − D) $\frac{d'}{100}$	− 5.5	4	49.1	3.0	112.1	4	5605				45	+ 41	+ 41	
	0.740361n											−29.20	−29.20	
δ_1	9.796211											16 2.09	16 22.47	
	0.662091													
	+15.8	4	53.4	3.9	117.3	4	5865	32 49.70			45	16 22.41	16 42.03	
	1.198661					49		51 16 35.60				− 7	− 2	+9.33
d	9.796211							− 13.19				− 60	+9.28 − 60	
	1.120391n							+ 6.43				+ 9.49	+ 9.49	
((δ) − D) $\frac{d'}{100}$	− 7.7	4	52.4	3.9	117.3	4	5865				45	+ 46	+ 46	
	0.886491n											− 29.60	− 29.60	
δ_2	9.796211											16 2.09	16 21.76	
	0.808221						65							
	+ 24.5	0	53.8	5.5	121.3	1	0.~~7~~	1 47.70			20	51 45 14.14		
	1.389171					21		51 45 34.39				− 16	+10.11	
d	9.791761							− 20.25				− 12		
	1.306451n											+ 9.95		
((δ) − D) $\frac{d'}{100}$												+ 44		
												− 29.20		
δ_1												44 5505		
	− 19.9	1	27.8	41.2	69.0	1	3450	1 13.85			20	45 16.02		
	1.298851n					21		51 44 59.57				− 11	+9.91	
d	9.791761							+ 16.45				− 19		
	1.216131											+ 9.77		
((δ) − D) $\frac{d'}{100}$												+ 44		
												− 29.40		
δ_2												44 5653		

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Date$_1$ = Nov. 8 (441, 442) " 11 — Observer / Recorder

Date$_2$ = Nov. 17 (443) — Observer / Recorder

Ru

Star.	α	δ	Mag.	T_δ	T_m	T_o	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
2 Nov. 17	24m 45.7	51 43 38.0	8.5 8.5	22 25 14.0 18.3 20.9 17.3	25 33.9	37.2	40.7	43.8	47.3 −1 5.79	25 24 24	40.58 − 65.63 − 14 − 2 / 34.79 −1.58 / 33.21		
8	26m 25	06 51 35 27.2 30.1	9.4 9.5	26 46.3 49.3 53.0 49.53	27 12.5	15.2	19.3	22.5	25.9 −1 2.04	27 26 26	19.18 − 61.20 74 − 29 − 2 / 17.17 −1.84 / 15.29 30		
11			9.2	26 47.4 51.2 53.4 50.67	27 13.6	16.8	20.1	23.3	26.8 −1 2.91	27 26 26	20.12 − 62.43 61 54 − 35 − 2 / 17.10 −1.77 / 15.32 44 4 15.37		
17			9.3	27 46.8 50.0 53.3 50.03	27 16.2	19.7	23.0	26.2	29.6 −1 5.79	27 26 26	22.94 − 65.63 − 14 − 2 / 17.15 −1.61 / 15.54		
8	27m 26	07 53 1 28.4 52 55.5	8.5 8.7	27 45.7	28 12.6	16.1	19.6	22.6	27.0 −1 2.07	28 27 27	19.58 − 61.78 4 − 31 − 3 / 17.54 −1.81 / 15.70		
11			8.0	27 56.3 59.5 3.0 59.60	28 13.5	16.8	20.2	23.8	27.2 −1 2.94	28 27 27	20.30 − 62.63 64 54 − 37 − 3 / 17.25 −1.74 2 / 15.53 .62 15.55		
17	28m 19		8.2	28 9.8 12.2 14.6 12.20	28 16.3	19.7	23.2	26.6	30.2 −1 5.81	28 27 27	23.20 − 65.63 − 15 − 3 / 17.39 −1.59 / 15.80		
8	28m 27	19 53 30 24.7 24.6	8.7 9.1	29 1.4 5.0 8.4 4.93	29 24.4	27.8	31.7	35.1	38.7 −1 2.07	29 28 28	31.54 − 61.78 4 − 31 − 3 / 29.50 −1.81 / 27.69 6		
11	27 16.1	53 24.3	8.5	28 58.5 58.80	29 2.4	5.7	9.2	12.5	16.1 −1 2.96	29	9.18 − 62.63 61 55 − 38 − 3	28 7.12 −1.73	
17	27 39.7	53 24.6	8.8 8.7	29 3.4.8 38.5 43.9 39.87	29 25.2	28.8	32.3	35.8	39.3 −1 2.96	29 28 28	32.28 − 62.63 55 − 38 − 3	28 4.48 .50 4.98 28 29.22	4.49
			8.7 8.9	29 4.0 29 47.2 51.2 54.5 50.97	29 5.2 29 28.0	8.6 31.5	12.0 35.1	15.5 38.5	18.9 −1 5.81 42.0 −1 5.81	29 29	12.04 − 65.63 − 15 − 3 / 33.92 − 65.63 − 15 − 3	28 27.48 .50 28 .623 1.56 28 4.67 28 29.21 −1.57 28 27.64	27.58

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+22.9	0	56.1	3.9	120.0	1′ 21	7″.000	1			
	1.35284					51 45 34.25	48.35				
d	9.77176					− 18.					
	1.27712n										
$((\delta) - D)\frac{d'}{100}$									20	51 45 15.32	
										− 14	+10.24
δ_1										− 12	
										+ 10.01	
										+ 49	
										−29.80	
										44 55.76	
	+29.7	0	16.1	26.9	43.0	0 30	2150	52			
	1.47276					51 36 13.54	26.85				
d	9.79319					− 24.63					
	1.39147n										
$((\delta) - D)\frac{d'}{100}$									30	51 35 48.91	
										− 23	+9.96
δ_2										− 4	
										+ 9.80	
										+ 43	
										−29.30	
										35 29.57	
	+29.4	0	14.1	27.5	41.6	0 30	2080	52			
	1.46835					51 36 13.27	27.55				
d	9.79319					− 24.38					
	1.38706n										
$((\delta) - D)\frac{d'}{100}$									30	35 48.89	
										− 23	+9.77
δ_1										− 4	
										+ 9.61	
										+ 43	
										−29.40	
										35 29.256	
	−27.1	1	8.3	11.4	14.7	1 31	735	51			
	1.43297n					51 35 26.90	41.00				
d	9.79319					+ 22.47					
	1.35168										
$((\delta) - D)\frac{d'}{100}$									30	35 49.37	
										− 19	+10.00
δ_2										− 14	
										+ 9.85	
										+ 48	
										−29.80	
										35 29.57	
	+23.9	4	10.9	19.4	30.3	4	1515				
	1.53020					53 2 19.89	18 33.20				
d	9.77913					− 27.22					
	1.43485n										
$((\delta) - D)\frac{d'}{100}$									0	53 1 52.67	
										− 30	+11.04
δ_1										− 51	
										+11.35	
										+ 50	
										−29.40	
										1 34.31	
	+20.7	4	18.7	29.5	48.2	4	2410				
	1.31597					53 2 9.97	18 24.25				
d	9.77913					− 16.62					
	1.22062n										
$((\delta) - D)\frac{d'}{100}$									0	1 53.35	
										− 11	+10.99
δ_2										− 53	
										+11.13	
										+ 50	
										−29.70	
										1 34.64	
	+11.0	4	28.5	35.9	64.4	4	3220				
	1.04139					53 2 2.05	18 16.15				
d	9.77913					− 8.83					
	0.94604n										
$((\delta) - D)\frac{d'}{100}$									0	1 53.22	
										− 3	+11.36
δ_1										− 54	
										+11.43	
										+ 50	
										−30.10	
										1 34.48	
	+26.6	0	9.1	19.9	29.0	0 35	1450				
	1.42488					53 31 20.54	47 33.85				
d	9.77422					− 21.12					
	1.32462n										
$((\delta) - D)\frac{d'}{100}$									35	53	30 59.42
											− 19 +12.22
δ_2											− 3
											+11.89
											+ 55
											−29.60
											30 42.04
	+10.7	0	57.9	9.9	127.8	1 36	3.90				
	1.02938					53 30 30.17	46 44.45				
d	9.77439					− 8.50					
	0.92929n										
$((\delta) - D)\frac{d'}{100}$	−6.8	0	34.0	46.4	80.4	0 35	4020		35	30 21.67	30 59.27
	0.83251n					53 30 53.87	47 8.15			− 3	− 1 +12.09
δ_1	9.77422					+ 5.40				− 13 +12.02	− 8
	0.73225									+ 11.63	+ 11.63
										+ 55	+ 55
										−29.80	−29.80
										30 3.89	30 41.56
	+8.0	1	3.5	11.1	14.6	1 36	730				
	0.90309					53 30 26.95	46 41.05				
d	9.77439					− 6.35					
	0.80300n										
$((\delta) - D)\frac{d'}{100}$	−16.0	0	42.9	50.9	93.8	0 35	4690		35	30 20.60	31 0.05
	1.20472n					53 30 47.35	47 1.45			− 2	− 7 +12.33
δ_2	9.77422					+ 12.70				− 13 +12.34	− 9
	1.10386									+ 11.94	+ 11.94
										+ 55	+ 55
										− 3020	−30.20
										30 2.74	30 42.18

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Date$_1$ = Nov. 8 Observer
" 11 Recorder

Date$_2$ = Nov. 17 Observer
Recorder

Star. α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
29 29 84	53 48	9.0	22 30 17.3	30 38.6	42.2	45.8	49.3	53.0	30	45.78		
28 54.1	43.3	9.0	21.9							− 61.78	4	
κ			24.9							− 31		
((δ) — D) $\frac{\kappa'}{100}$			21.37					−1 2.07		− 3		
α_1									29	43.74		
										−1.82		
									29	41.889		
11		8.5	30 30.7	30 39.2	42.6	46.2	49.8	53.4	30	46.24		
			34.1							− 62.88	61 55	
κ			36.3							− 38		
((δ) — D) $\frac{\kappa'}{100}$			33.70					1 2.96		− 3		
α_2									29	43.18		
										−1.74	54	
									29	41.435	41.48	
17		8.4	30 31.0	30 41.9	45.1	48.9	52.4	56.0	30	48.92		
			34.6							− 65.63		
κ			37.1							− 15		
((δ) — D) $\frac{\kappa'}{100}$			34.23					−1 5.81		− 3		
α_1									29	43.11		
										−1.57		
									29	41.54		
30 29	53 52	9.0	31 21.2	31 35.0	38.6	41.9	45.4	49.0	31	41.98		
8 29 49.7	47.2	9.0	24.8							− 61.78	4	
κ			27.7							− 31		
((δ) — D) $\frac{\kappa'}{100}$			24.57					−1 2.07		− 3		
α_2									30	39.94		
										−1.82		
									30	38.089		
11		8.7	31 20.5	31 35.3	39.1	42.6	46.3	49.6	31	42.58		
			23.6							− 62.63	61 55	
κ			26.2							− 38		
((δ) — D) $\frac{\kappa'}{100}$			23.43					−1 2.96		− 3		
α_1									30	39.52		
										−1.75	7	
									30	37.775	37.87	
17		9.0	31 21.0	31 38.4	41.9	45.4	49.0	52.4	31	45.42		
			24.1							− 65.63		
κ			27.3							− 15		
((δ) — D) $\frac{\kappa'}{100}$			24.13					−1 5.81		− 3		
α_2									30	39.61		
										−1.59		
									30	38.02		
31 40	53 45	7.5	32 20.3	32 44.6	48.3	51.7	55.0	58.8	32	51.68		
8 30 59.8	40.1	7.3	23.5							− 61.78	4	
κ			26.6							− 31		
((δ) — D) $\frac{\kappa'}{100}$			23.47					−1 2.07		− 3		
α_1									31	49.64		
										−1.84		
									31	47.796		
11		7.7	32 15.0	32 45.4	48.8	52.3	55.6	59.2	32	52.26		
			19.1							− 62.63	61 55	
κ			21.3							− 38		
((δ) — D) $\frac{\kappa'}{100}$			18.47					−1 2.96		− 3		
α_2									31	49.20		
										−1.77	53	
									31	47.432	47.47	
17		7.5	32 35.3	32 48.2	51.8	55.1	58.8	2.3	32	55.22		
			38.9							− 65.63		
κ			41.2							− 15		
((δ) — D) $\frac{\kappa'}{100}$			38.47					−1 5.81		− 3		
α_1									31	49.41		
										−1.61		
									31	47.80		
33 06	54 2	9.1	33 51.1	34 10.8	14.1	17.7	21.0	24.6	34	17.64		
8 32 25.5	53 57.4	9.4	54.1							− 61.78	4	
κ			57.2							− 32		
((δ) — D) $\frac{\kappa'}{100}$			54.13					−1 2.88		− 3		
α_2									33	15.59		
										−1.86		
									33	13.685		
										40		

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Runs

	$T_m - T$		A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
d	+24.4	1	18.3	28.1	46.4	1′ 23.20	6 27 25.15			15	53 49 52.61	
	1.38739					1/16	53 50 11.84				− 15	+12.50
$((\delta) - D)\frac{d'}{100}$	9.77095						− 19.23				− 17	
	1.28386n										+12.24	
δ_1											+ 58	
											−29.70	
											49 35.41	
d	+12.5	1	24.4	36.4	60.8	1 3040	6 27 17.95			15	49 53.82	
	1.09691					1/16	53 50 3.67				− 4	+12.34
$((\delta) - D)\frac{d'}{100}$	9.77095						− 9.85				− 18	
	0.99338n										+11.98	
δ_2											+ 58	
											−29.90	
											49 36.26	
d	+14.7	1	27.0	33.8	60.8	1 3040	6 27 17.95			15	49 52.27	
	1.16732					1/16	53 50 3.85				− 6	+12.65
$((\delta) - D)\frac{d'}{100}$	9.77095						−11.58				− 18	
	1.06379n										+12.31	
δ_1											+ 58	
											−3040	
											49 34.52	
d	+17.4	2	29.8	39.8	69.1	2 3458	10 20 13.80			10	53 53 46.80	
	1.24055					2/12	53 54 0.49				− 8	+12.51
$((\delta) - D)\frac{d'}{100}$	9.77026						−13.69				− 31	
	1.13633n										+12.31	
δ_2											+ 59	
											−29.70	
											53 29.61	
d	+19.2	2	25.9	38.5	64.4	2 3220	10 20 16.15			10	53 46.77	
	1.28330					2/12	53 54 1.87				− 9	+12.26
$((\delta) - D)\frac{d'}{100}$	9.77026						−15.10				− 30	
	1.17908n										+12.06	
δ_1											+ 59	
											−29.90	
											53 29.13	
			{26.5			2 30.30						
d	+21.3	2	6.5	34.1	40.6	2 2030	10 20 28.05	10 18.05		10	53 57.19	
	1.32838					2/12	53 54 13.95	54 3.95			47.19	+12.57
$((\delta) - D)\frac{d'}{100}$	9.77026						− 16.76	16.76			− 12	
	1.22416n										− 28	
δ_2											+12.38	
											+ 59	
											−3040	
											53 29.36	
d	+28.2	4	18.5	27.1	45.6	4 2280	3 18 25.55			15	53 46 50.60	
	1.45025					4/19	53 47 12.34				− 21	+12.03
$((\delta) - D)\frac{d'}{100}$	9.77147						− 22.24				− 52	
	1.34724n										+12.18	
δ_1											+ 58	
											−2980	
											46 32.33	
d	+34.8	4	12.5	22.0	34.5	4 17.25	3 18 31.10			15	46 50.16	
	1.52892					4/19	53 47 16.82				− 30	+11.71
$((\delta) - D)\frac{d'}{100}$	9.77147						− 26.66				− 51	
	1.42591n										+11.94	
δ_2											+ 58	
											−3000	
											46 31.87	
d	+16.7	4	27.9	34.4	62.3	4 31.15	3 18 17.20			15	46 49.93	
	1.22272					4/19	53 47 3.10				− 7	+12.23
$((\delta) - D)\frac{d'}{100}$	9.77147						−13.17				− 53	
	1.11971n										+12.25	
δ_1											+ 58	
											−3050	
											46 31.66	
d	+23.5	2	17.1	26.2	43.3	2 21.65	20 26.70			0	54 3 54.98	
	1.37107						54 4 13.39				− 14	+12.65
$((\delta) - D)\frac{d'}{100}$	9.76852						−18.41				− 28	
	1.26511n										+12.47	
δ_2											+ 60	
											−2990	
											3 37.73	

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Date$_1$ = Nov. 8 / Nov. 11 — Observer / Recorder

Date$_2$ = Nov. 17 — Observer / Recorder

22

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
22 Nov. 11	33 32	06 54 2 / 25.5 53 57.4	9.3 / 9.4	22 33 45.3 49.4 53.1 / 49.33	34 11.2	14.7	18.2	21.7	25.3 / −1 2.98	34	18.22 − 62.63 − 39 − 3		
	κ									33	15.15 − 1.78		
	((δ) — D) $\frac{\kappa'}{100}$									33	13.35	13.48	
	α_1												
17			9.1	33 52.7 55.7 59.4 / 56.93	34 13.9	17.4	21.1	24.5	27.9 / −1 5.81	34	20.91 − 65.63 − 15 − 3		
	κ									33	15.15 − 1.62		
	((δ) — D) $\frac{\kappa'}{100}$									33	13.53		
	α_2												
8	34 33	34 54. 1 / 52.6 53 55.6	8.7 / 8.9	35 18.7 22.3 26.0 / 22.33	35 37.7	41.3	44.7	48.6	51.9 / −1 2.08	35	44.84 − 61.74 − 32 − 3		
	κ									34	42.78 − 1.88		
	((δ) — D) $\frac{\kappa'}{100}$									34	40.87		
	α_1												
11			8.4	35 16.3 19.3 22.0 / 19.20	35 38.5	42.1	45.8	49.1	52.6 / −1 2.98	35	45.62 − 62.63 − 39 − 3	−6256	
	κ									34	42.55 − 1.80	40.78	
	((δ) — D) $\frac{\kappa'}{100}$									34	40.75		
	α_2												
17			8.5	35 20.8 24.6 27.9 / 24.43	35 41.1	44.9	48.3	51.7	55.8 / −1 5.81	35	48.34 − 65.63 − 15 − 3		
	κ									34	42.53 − 1.64		
	((δ) — D) $\frac{\kappa'}{100}$									34	40.89		
	α_1												
11	35 34	81 53 15 / 50.0 10.0	8.6 / 9.0	36 22.8 25.2 28.8 / 26.60	36 36.1	39.7	43.1	46.4	50.2 / −1 2.96	36	43.30 − 62.63 − 37 − 3	−6256	
	κ									35	40.05 − 1.84		
	((δ) — D) $\frac{\kappa'}{100}$									35	38.21	38.24	
	α_2												
17			8.3	36 28.4	36 38.9	42.4	45.8	49.3	52.7 / −1 5.81	36	45.82 − 65.63 − 15 − 3		
	κ									35	40.01 − 1.68		
	((δ) — D) $\frac{\kappa'}{100}$									35	38.33		
	α_1												
11	37 36	21 52 29 / 40.0 23.9	9.2 / 9.4	38 6.1 9.0 11.4 / 8.83	38 27.6	31.0	34.5	37.8	41.1 / −1 2.94	38	34.40 − 62.63 − 36 − 2	−6256	
	κ									37	31.37 − 1.89		
	((δ) — D) $\frac{\kappa'}{100}$									37	29.48	29.57	
	α_2												
17			9.2	38 10.0 13.5 16.6 / 13.37	38 30.3	33.8	37.2	40.5	43.9 / −1 5.79	38	37.14 − 65.63 − 14 − 2		
	κ									37	31.35 − 1.73		
	((δ) — D) $\frac{\kappa'}{100}$									37	29.62		
	α_1												
	κ												
	((δ) — D) $\frac{\kappa'}{100}$												
	α_2												

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
d	+28.9	2	10.1	22.5	32.6	2	16.30	20 32.05		0	54 3 55.13	
	1.46090							54 4 17.77			− 22	+12.35
	9.76852							− 22.64			− 27	
	1.35494 n										+12.24	
((δ) − D) $\frac{d'}{100}$											+ 60	
											−3000	
δ_1											3 37.48	
d	+25.1	2	17.0	24.2	41.2	2	20.60	20 27.75		0	3 53.98	
	1.39967							54 4 13.65			− 16	+12.71
	9.76852							− 19.67			− 28	
	1.29371 n										+12.55	
((δ) − D) $\frac{d'}{100}$											+ 60	
											−3060	
δ_2											3 36.09	
d	+22.5	4	4.6	14.8	19.4	4	9.70	18 38.65		0	54 2 7.70	
	1.35218							54 2 25.34			− 13	+12.41
	9.76887							− 17.64			− 50	
	1.24657 n										+12.44	
((δ) − D) $\frac{d'}{100}$											+ 60	
											−2990	
δ_1											1 50.21	
d	+26.4	3	58.7	10.3	129.0	4	4.50	18 43.85		0	2 8.87	
	1.42160							54 2 29.57			− 18	+12.14
	9.76887							− 20.70			− 49	
	1.31599 n										+12.21	
((δ) − D) $\frac{d'}{100}$											+ 60	
											−3010	
δ_2											1 50.91	
d	+23.9	4	4.0	9.9	13.9	4	6.95	18 41.40		0	2 8.56	
	1.37840							54 2 27.30			− 15	+12.48
	9.76887							− 18.74			− 49	
	1.27279 n										+12.52	
((δ) − D) $\frac{d'}{100}$											+ 60	
											−3060	
δ_1											1 50.44	
d	+17.5	4	56.6	8.7	125.3	5 50	2.65	32~~17~~ 45.70		45	53 16 17.45	
	1.24304							53 16 31.42			− 8	+11.23
	9.77677							− 13.97			− 61	
	1.14533 n										+11.39	
((δ) − D) $\frac{d'}{100}$											+ 53	
											−~~3000~~	
δ_2											15 58.68	
d	+17.4	4	58.2	6.3	124.5	5 50	2.25	32~~17~~ 46.10		45	16 18.11	
	1.24055							53 16 32.00			− 8	+11.53
	9.77677							− 13.89			− 60	
	1.14284 n										+11.68	
((δ) − D) $\frac{d'}{100}$											+ 53	
											−3060	
δ_1											15 59.04	
d	+25.6	0	43.6	55.3	98.9	0 35	49.45	46~~27~~ 58.90		35	52 30 23.81	
	1.40824							52 30 44.62			− 17	+10.78
	9.78445							− 20.81			− 10	
	1.31821 n										+10.57	
((δ) − D) $\frac{d'}{100}$											+ 48	
											−3000	
δ_2											30 4.59	
d	+23.7	0	47.7	55.0	102.7	0 35	51.35	46~~27~~ 57.00		35	30 23.64	
	1.37475							52 30 42.90			− 15	+11.10
	9.78445							− 19.26			− 10	
	1.28472 n										+10.~~79~~85	
((δ) − D) $\frac{d'}{100}$											+ 50	
											−3060	
δ_1											30 4.14	
d												
((δ) − D) $\frac{d'}{100}$												
δ_2												

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4412

Date$_1$ = Nov. 11 — Observer — Recorder

4413

Date$_2$ = Nov. 17 — Observer — Recorder

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Ru

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
38	17 38	52 58	8.5	22 39 5.6	39 24.2	27.6	31.0	34.5	38.0	39	31.06		
37	36.8	53.1	9.2	8.9							− 62.62	−.62	−6256
κ				12.2							− 37		
((δ) — D) $\frac{\kappa'}{100}$				8.90					−1 2.96		− 3		
a_1										38	28.01		
											−1.90	20	
										38	26.087 11	26.14	
			8.7	39 7.5	39 26.9	30.3	33.8	37.1	40.6	39	33.74		
				12.3							− 65.63		
κ				15.0							− 15		
((δ) — D) $\frac{\kappa'}{100}$				11.60					−1 5.81		− 3		
a_2										38	27.93		
											−1.75		
										38	26.18		
38	13	53 5	7.0	40 5.3	40 19.1	22.4	25.9	29.3	33.0	40	25.98		
38	32.3	52 59.9	7.5	7.8							− 62.63	−.62	−62.56
κ				10.5							− 37		
((δ) — D) $\frac{\kappa'}{100}$				7.87					−1 2.96		− 3		
a_1										39	22.95		
											−1.90	12	
										39	21.05 3	21.06	
			7.4	40 3.3	40 22.0	25.4	28.8	32.3	35.9	40	2888		
				6.4							− 65.64		
κ				9.8							− 15		
((δ) — D) $\frac{\kappa'}{100}$				8.50					−1 5.82		− 3		
a_2										39	23.06		
											−1.74		
										39	21.32		
40	17	54 0	8.8	41 7.9	41 24.0	27.5	31.0	34.5	38.1	41	31.02		
39	35.3	53 55.1	9.0	11.4							− 62.63	−.62	62.56
κ				14.5							− 37		
((δ) — D) $\frac{\kappa'}{100}$				11.27					−1 2.98		− 3		
a_1										40	27.95		
											−1.89	15	
										40	26.06 6	26.09	
			9.1	41 3.6	41 26.7	30.3	33.9	37.3	40.7	41	33.78		
				7.5							− 65.64		
κ				10.0							− 15		
((δ) — D) $\frac{\kappa'}{100}$				7.03					−1 5.82		− 3		
a_2										40	27.96		
											−1.73		
										40	26.23		
41	3.0	53 10	8.5	42 0.2	42 37.4	41.0	44.2	47.8	51.3	42	44.34		
40	48.5	4.7	8.3	2.8							− 62.63	−.62	62.56
κ				6.2							− 37		
((δ) — D) $\frac{\kappa'}{100}$				3.07					−1 2.96		− 3		
a_1										41	41.29		
											−1.93	45	
										41	40.34 39.39		
			8.8	42 15.5	42 40.4	43.7	47.1	50.5	54.1	42	47.16		
				19.8							− 65.64		
κ				23.0							− 15		
((δ) — D) $\frac{\kappa'}{100}$				19.43					−1 5.82		− 3		
a_2										41	41.34		
											−1.77		
										41	39.57		
42	24	52 3	8.5	43 13.6	43 31.4	34.7	38.2	41.6	44.9	43	38.16	62.56	
41	43.2	51 57.8	9.0	16.5							− 62.63		
κ				19.5							− 36		
((δ) — D) $\frac{\kappa'}{100}$				16.53					−1 2.94		− 2		
a_1										42	35.13		
											−1.94	25	
										42	1.84 33.19 6	33.19	
			8.5	43 18.5	43 34.4	37.6	41.0	44.3	47.7	43	4100		
				22.0							− 65.64		
κ				24.4							− 14		
((δ) — D) $\frac{\kappa'}{100}$				21.63					−1 5.80		− 2		
a_2										42	35.20		
											−1.82		
										42	33.38		

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
d	+22.2	1 16.1	27.8	43.9	1′ 21.95	16 21 26.40			5	52 59 54.28	
	1.34635			6		53 0 12.12				− 13	+11.31
	9.77946					− 17.84				− 16	
	1.25133n									+11.10	
((δ) − D) $\frac{d'}{100}$										+ 50	
										−3000	
δ_1										59 35.59	
d	+22.1	1 18.1	25.7	43.8	1 21.90	16 21 26.45			5	59 54.59	
	1.34439			6		53 0 12.35				− 13	+11.60
	9.77946					− 17.76				− 16	
	1.24937n									+11.39	
((δ) − D) $\frac{d'}{100}$										+ 50	
										−3060	
δ_2										59 35.59	
d	+18.1	4 51.2	4.0	115.2	4 57.60	22 17 50.75			55	53 6 21.96	
	1.25768			57		53 6 36.47				− 8	+11.03
	9.77846					− 14.51				− 60	
	1.16166n									+11.21	
((δ) − D) $\frac{d'}{100}$										+ 50	
										−30.20	
δ_1										6 2.79	
d	+22.4	4 51.1	56.9	108.0	4 54.00	22 17 54.35			55	6 22.29	
	1.35025			57		53 6 40.25				− 13	+11.29
	9.77846					− 17.96				− 59	
	1.25423n									+11.50	
((δ) − D) $\frac{d'}{100}$										+ 51	
										−30.80	
δ_2										6 2.78	
d	+19.7	4 6.0	17.3	23.3	4 11.65	18 36.70			0	54 2 6.97	
	1.29447					54 2 22.42				− 10	+12.21
	9.76887					− 15.45				− 50	
	1.18886n									+12.21	
((δ) − D) $\frac{d'}{100}$										+ 60	
										−30.80	
δ_1										1 48.88	
d	+26.8	4 2.6	9.3	11.9	4 5.95	18 42.40			0	2 7.28	
	1.42813					54 2 28.30				− 19	+12.46
	9.76887					− 21.02				− 47	
	1.32252n									+12.54	
((δ) − D) $\frac{d'}{100}$										+ 60	
										−3090	
δ_2										1 48.84	
d	+41.2	4 30.4	41.9	72.3	4 36.15	28 18 12.20			50	53 11 24.96	
	1.61490			54		53 11 57.92				− 45	+10.81
	9.77761					− 32.96				− 55	
	1.51803n									+11.29	
((δ) − D) $\frac{d'}{100}$										+ 52	
										−3020	
δ_1										11 5.57	
d	+27.8	4 44.6	49.7	94.3	4 47.15	28 18 1.20			50	11 24.86	
	1.44404			54		53 11 47.10				− 20	+11.35
	9.77761					− 22.24				− 57	
	1.34717n									+11.57	
((δ) − D) $\frac{d'}{100}$										60	
										+ 52	
										−30.90	
δ_2										11 5.31	
d	+21.7	1 19.7	21.5	51.2	1 25.60	21 22.75			0	52 4 50.67	
	1.33646					52 5 8.47				− 13	+11.27
	9.78853					− 17.80				− 17	
	1.25051n									+11.12	
((δ) − D) $\frac{d'}{100}$										+ 45	
										−30.20	
δ_1										4 31.74	
d	+19.4	1 23.5	30.5	54.0	1 27.00	21 21.35			0	4 51.33	
	1.28780					52 5 7.25				− 10	+10.62
	9.78853					− 15.92				− 17	
	1.20185n									+10.39	
((δ) − D) $\frac{d'}{100}$										+ 50	
										−30.70	
δ_2										4 31.25	

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Date$_1$ = Nov. 11 Observer / Recorder Date$_2$ = Nov. 17 Observer / Recorder

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
43	50	50 48	9.5	22 44 36.2	44 57.4	0.6	4.2	7.2	10.6	45	4.00	62.56	
43	8.0	43.1	9.4	38.6							−62.63		
κ				42.6							− 34		
				39.13					−1 2.92		− 2		
((δ) — D) $\frac{\kappa'}{100}$										44	0.99		
											−2.02		
c_1										44	58.97	59.00	
			9.5	44 41.8	45 03	3.6	6.9	10.1	13.5	45	6.92		
				45.0							−65.64		
κ				46.0							− 13		
				44.93					−1 5.79		− 2		
((δ) — D) $\frac{\kappa'}{100}$										44	1.13		
											−1.88		
a_2										44	59.25		
44	48	53 15	8.3	45 35.8	45 54.1	57.6	1.0	4.6	8.0	46	1.06	62.56	
44	6.1	9.7	8.0	38.3							−62.63		
κ				42.0							− 37		
				38.70					−1 2.96		− 3		
((δ) — D) $\frac{\kappa'}{100}$										44	58.01		
											−1.97		
a_1										44	56.04	56.13	
			8.2	45 45.5	45 57.9	0.4	3.8	7.2	10.9	46	4.04		
				48.8							−65.64		
κ				51.5							− 15		
				48.80					−1 5.82		− 3		
((δ) — D) $\frac{\kappa'}{100}$										44	54.22		
											−1.81		
a_2										44	56.41		
45	41	53 27	8.6	46 41.4	46 45.7	49.4	52.6	56.2	59.7	46	52.72	62.56	
44	58.3	22.5	8.9	44.4							−62.63		
κ				47.7							− 37		
				44.30					−1 2.96		− 3		
((δ) — D) $\frac{\kappa'}{100}$										45	49.76		
											−1.97		
a_1										45	47.79	47.78	
			8.3	46 32.0	46 48.7	52.0	55.5	59.0	2.6	46	55.58		
				35.8							−65.64		
κ				38.9							− 15		
				35.87					−1 5.82		− 3		
((δ) — D) $\frac{\kappa'}{100}$										45	49.74		
											−1.82		
a_2										45	47.92		
46	85	53 2	8.5	47 30.0	47 40.6	43.9	47.5	50.9	54.3	47	47.44	62.57	
45	52.4	52 57.0	8.8	33.0							−62.63		
κ				35.6							− 37		
				32.87					−1 2.97		− 3		
((δ) — D) $\frac{\kappa'}{100}$										46	44.39		
											−2.00		
a_1										46	42.37	42.41	
			8.2	47 29.6	47 43.3	46.9	50.1	53.5	57.1	47	50.18		
				33.3							−65.64		
κ				35.4							− 15		
				32.77					−1 5.82		− 3		
((δ) — D) $\frac{\kappa'}{100}$										46	44.36		
											−1.85		
a_2										46	42.51		
47	38	53 16	9.2	48 39.8	49 4.2	7.5	10.9	14.4	17.8	49	10.98	62.57	
47	14.9	11.2	9.3	42.8							−62.63		
κ				45.2							− 37		
				42.60					−1 2.97		− 3		
((δ) — D) $\frac{\kappa'}{100}$										48	7.91		
											−2.01		
a_1										48	5.88	5.98	
			9.2	48 40.3	49 6.9	10.3	13.9	17.2	20.5	49	13.76		
				43.6							−65.64		
κ				47.0							− 15		
				43.63					−1 5.82		− 3		
((δ) — D) $\frac{\kappa'}{100}$										48	7.94		
											−1.86		
a_2										48	6.08		

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Runs

	$T_m - T$		A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
d	+24.9	1	23.5	37.8	61.3	1 / 16	3065	6 27 17.70		15	50 49 42.42	+8.76
	1.39620						50 50 3.42				− 17	
	9.80043						−21.00				− 18	
	1.32215n										+ 8.72	
((δ) − D) $\frac{d'}{100}$											+ 39	
											−3010	
δ_1											49 21.508	
d	+22.0	1	29.1	37.7	66.8	1 / 16	3340	6 27 14.95		15	49 42.30	+9.14
	1.34242						50 50 0.85				− 13	
	9.80043						−18.55				− 19	
	1.26837n										+ 9.03	
((δ) − D) $\frac{d'}{100}$											+ 43	
											−3060	
δ_2											49 20.84	
	+22.4	4	48.0	58.2	106.2	4 / 49	5310	32 27 55.25		45	53 16 15 10 23.08	+11.20
1.35025	1.51055						53 16 40.97				− 13	
9.77677	9.77677						− 25.87				− 59	
1.25254n	1.41284n						17.89				+11.39	
((δ) − D) $\frac{d'}{100}$											+ 53	
											−3060	
δ_1											16 3.98	
d	+15.4	4	56.0	3.3	119.3	4 / 49	5965	32 27 48.70		45	16 22.30	+11.56
	1.18752						53 16 34.60				− 6	
	9.77677						−12.30				− 60	
	1.08981n										+11.689	
((δ) − D) $\frac{d'}{100}$											+ 53	
											−31.00	
δ_2											16 2.86	
d	+ 8.2	2	2.3	14.1	16.4	2 / 37	820	45 20 40.15		35	53 29 19.35	+11.89
	0.91381						53 29 25.87				− 2	
	9.77456						− 6.52				− 26	
	0.81389n										+11.62	
((δ) − D) $\frac{d'}{100}$											+ 55	
											−3040	
δ_1											29 0.84	
d	+20.0	1	56.0	2.9	118.9	1 / 36	5945	45 20 48.90		35	29 18.91	+12.14
	1.30103						53 29 34.80				− 10	
	9.77456						−15.89				− 24	
	1.20111n										+11.983	
((δ) − D) $\frac{d'}{100}$											+ 55	
											−3110	
δ_2											28 59.95	
d	+14.5	3	9.0	20.2	29.2	3 / 14.60		19 33.75		0	53 3 7.83	+11.282
	1.16137							53 3 19.47			− 5	
	9.77896							−11.64			− 39	
	1.06585n										+11.16	
((δ) − D) $\frac{d'}{100}$											+ 50	
											−3040	
δ_1											2 48.65	
d	+17.3	3	8.7	15.4	24.1	3	1205	19 36.30		0	3 8.31	+11.50
	1.23805							53 3 22.20			− 8	
	9.77896							−13.89			− 38	
	1.14253n										+11.486	
((δ) − D) $\frac{d'}{100}$											+ 50	
											−3110	
δ_2											2 48.71	
d	+27.4	3	17.0	27.9	44.9	3 / 48	2245	34 19 25.90		45	53 17 48.96	+11.34
	1.45332							53 18 11.62			− 21	
	9.77643							−22.66			− 40	
	1.35527n										+11.42	
((δ) − D) $\frac{d'}{100}$											+ 53	
											−30.50	
δ_1											17 29.80	
d	+30.2	3	18.6	24.7	43.3	3 / 48	2165	34 19 26.70		45	17 48.50	+11.62
	1.48001							53 18 12.60			− 24	
	9.77643							− 24.10			− 40	
	1.38196n										+11.783	
((δ) − D) $\frac{d'}{100}$											+ 53	
											−31.20	
δ_2											17 28.92	

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Date$_1$ = Nov. 11 Observer / Recorder Date$_2$ = Nov. 17 Observer / Recorder

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
49	26	50 50	8.7	22 50	50 34.3	37.6	40.8	44.1	47.5	50	4086		
48	43.7	45.2	9.6	10.6							−62.57	−62.57	
κ				14.5							− 34		
				16.6							− 2		
				13.90					−1 2.93	49	37.85		
((δ) — D) $\frac{\kappa'}{100}$											−2.09		
α_1										49	35.76	35.78	
			8.8	50 16.0	50 36.9	40.2	43.5	46.9	50.1	50	43.52		
				19.7							− 65.64		
κ				22.2							− 13		
				19.30					−1 5.79		− 2		
((δ) — D) $\frac{\kappa'}{100}$										49	37.73		
α_2											−1.95		
										49	35.78		
51	10	51 45	9.0	52 4.0	52 19.0	22.3	25.6	28.9	32.4	52	2564		
50	28.1	39.8	9.1	7.0							− 62.63	7.63 6257	
κ				9.6							− 35		
				6.87					−1 2.94		− 2		
((δ) — D) $\frac{\kappa'}{100}$										51	2262		
α_1											−2.10		
										51	20.52	20.54	
			9.1	51 52.4	52 21.5	25.0	28.3	31.8	35.0	52	28.32		
				56.1							− 65.64		
κ				58.5							− 14		
				55.67					−1 5.80		− 2		
((δ) — D) $\frac{\kappa'}{100}$										51	22.52		
α_2											−1.95		
										51	20.57		
52	17	52 2	8.8	53 2.5	53 25.9	29.4	—	35.8	39.0	53	32.52		
51	35.9	51 56.6	8.8	5.9							− 62.63	7.63 6257	
κ				8.6							− 36		
				5.67					−1 2.95		− 2		
((δ) — D) $\frac{\kappa'}{100}$										52	29.49		
α_1											−2.10		
										52	27.39	27.41	
			8.7	53 8.4	53 28.4	31.5	35.1	38.4	41.8	53	3504		
				12.2							− 65.64		
κ				15.0							− 14		
				11.84					−1 5.80		− 2		
((δ) — D) $\frac{\kappa'}{100}$										52	29.24		
α_2											−1.96		
										52	27.28	27.28	
53	12	52 55	9.0	54 2.8	54 18.1	21.6	25.1	28.5	31.8	54	2502		
52	29.1	52.2	8.8	6.4							− 62.63	7.63 6257	
κ				9.5							− 37		
				6.23					−1 2.96		− 2		
((δ) — D) $\frac{\kappa'}{100}$										53	21.98		
α_1											−2.10		
										53	19.88	19.96	
			9.0	53 55.5	54 20.9	24.4	27.8	31.3	34.7	54	2782		
				58.1							− 66.64		
κ				1.0							− 15		
				58.20					−1 5.81		− 2		
((δ) — D) $\frac{\kappa'}{100}$										53	22.01		
α_2											− 1.95		
										53	20.06		
54	06	53 1	9.1	54 59.4	55 25.8	29.2	32.6	36.0	39.3	55	32.58		
53	23.5	52 53.3	9.0	2.3							− 62.63	7.63 6257	
κ				4.9							− 37		
				2.20					−1 2.97		− 3		
((δ) — D) $\frac{\kappa'}{100}$										54	29.53		
α_1											−2.10		
										54	27.43	27.45	
53	46	52 56.0	8.5	54 58.5	54 56.6	0.0	3.6	7.0	10.6	55	3.56		
				53.9							− 65.64		
κ				56.0							− 15		
				53.47					−1 5.82		− 3		
((δ) — D) $\frac{\kappa'}{100}$			7.7	55 17.2	55 16.4	19.7	23.2	26.8	30.3		32	53 57.74	
53	23.5	52 55.3		17.20						55	23.80	− 1.95	
α_2											− 65.64	53 55.79	
									−1 5.82		− 15		
											− 3		
										54	17.50		
											− 1.96		
										54	15.54		

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
d	+27.0	4	7.4	20.0	27.4	4′ 13.70	18 34.65		10	50 51 57.62	
	1.43136				14	50 52 20.37				− 19	+8.53
	9.80012					− 22.75				− 51	
	1.35700$_n$									+ 8.84	
((δ) − D) $\frac{d'}{100}$										+ 39	
										−30.30	
δ_1										51 35.85	
d	+24.2	4	13.0	20.0	33.0	4 16.50	18 31.85		10	51 57.38 6	
	1.38382				14	50 52 17.75				− 16	+8.84
	9.80012					−20.39				− 51	
	1.30946$_n$									+ 9.087	
((δ) − D) $\frac{d'}{100}$										+ 44	
										−30.80	
δ_2										51 35.420	
d	+18.7	4	48.0	59.3	107.3	4 53.65	27 54.70		15	51 46 24.97	
	1.27184				19	51 46 40.42				− 10	+9.55
	9.79160					−15.45				− 59	
	1.18896$_n$									+ 9.80	
((δ) − D) $\frac{d'}{100}$										+ 44	
										−30.50	
δ_1										46 4.02	
d	+32.6	4	38.9	44.9	83.8	4 41.90	3 18 6.45		15	46 25.41	
	1.51322				19	51 46 52.35				− 28	+9.69
	9.79160					−26.94				− 56	
	1.43034$_n$									+ 10.084	
((δ) − D) $\frac{d'}{100}$										+ 49	
										−31.10	
δ_2										46 4.00	
d	+26.8	3	24.2	37.5	61.7	3 30.85	19 17.50		0	52 2 41.22	
	1.42813					52 3 3.22				− 19	+9.93
	9.78886					−22.00				− 42	
	1.34251$_n$									+10.09	
((δ) − D) $\frac{d'}{100}$										+ 45	
										−30.50	
δ_1										2 2.65	
d	+23.1	3	30.3	35.6	65.9	3 32.95	19 15.40		0	2 42.33	
	1.36361					52 3 1.30				− 14	+10.29
	9.78886					−18.97				− 42	
	1.27799$_n$									+10.385	
((δ) − D) $\frac{d'}{100}$										+ 50	
										−31.20	
δ_2										2 21.42	
d	+18.8	4	22.8	34.9	57.7	28 4 3385	13 18 19.50		5	52 56 50.10	
	1.27416				9	52 57 5.22				− 9	+10.93
	9.77997					−15.12				− 54	
	1.17965$_n$									+11.06	
((δ) − D) $\frac{d'}{100}$										+ 50	
										−30.70	
δ_1										56 30.33	
d	+29.6	4	17.1	23.0	40.1	4 20.05	13 18 28.30		5	56 50.39	
	1.47129				9	52 57 14.20				− 23	+11.09
	9.77997					−23.81				− 52	
	1.37678$_n$									+11.334	
((δ) − D) $\frac{d'}{100}$										+ 50	
										−31.30	
δ_2										56 30.18	
d	+30.4	1	51.6	3.9	115.5	1 57.75	20 50.60		0	53 4 11.93	
	1.48287					53 4 36.32				− 24	+11.20
	9.77879					−24.39				− 24	
	1.38718$_n$									+11.18	
((δ) − D) $\frac{d'}{100}$										+ 50	
										−30.70	
δ_1										3 52.43	
d	+10.1	3	28.8	36.0	64.8	3 32.40	19 15.95		0	2 53.74	1. 47.75
	1.00432					53 3 1.85				− 3	+11.51 − 1 +11.38
	9.77896					−8.11				− 42	− 56
	0.90880$_n$									+11.485	+11.434
((δ) − D) $\frac{d'}{100}$	+6.1	4	38.1	45.1	83.2	4 41.60	18 6.75		0	+ 51	+ 51
	0.78533					53 1 52.65				−31.40	−31.40
δ_2	9.77913					− 4.90				2 33.85	1 27.753
	0.68998$_n$										

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Date$_1$ = Nov. 11 Observer Recorder

Date$_2$ = Nov. 17 Observer Recorder

Ru

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
2	3 4	5 6	8.8	22 55 51.4	56 3.2	6.7	9.8	13.0	16.4	58	2.88		
	54	18.6	8.9	54.6							-62.63 7.63	62.57	
	κ	6.0		57.6							- 36		
				54.53					-1 2.95		- 2		
	((δ) — D) $\frac{\kappa'}{100}$									55	6.85		
											-2.13		
	a_1									55	4.78 2	4.74 80	
			9.0	55 57.3	56 6.2	9.4	12.6	16.2	19.0-	56	12.78		
				0.1							- 65.64		
	κ			2.0							- 14		
				59.87					-1 5.60		- 2		
	((δ) — D) $\frac{\kappa'}{100}$									55	6.98		
											-1.99		
	a_2									55	4.99		
	5 6	11	7.8	57 9.0	57 18.5	21.8	25.2	28.6	31.9	57	25.20		
	55	28.4	8.1	12.8							-62.65 7.64	62.57	
	κ	3.8		15.7							- 36		
				12.30					-1 2.95		- 2		
	((δ) — D) $\frac{\kappa'}{100}$									56	22.17		
											-2.15		
	a_1									56	20.02 2	20.03 10	
			7.5	57 0.6	57 21.1	24.5-	28.0	31.3	34.7	57	27.92		
				4.0							- 65.65		
	κ			6.9							- 14		
				3.83					-1 5.81		- 2		
	((δ) — D) $\frac{\kappa'}{100}$									56	22.11		
											-2.01		
	a_2									56	20.10		
	3 7	12	8.3	58 6.2	58 17.3	20.9	24.4	27.9	31.4	58	24.38		
	56	27.6	8.3	9.0							-62.63 7.64	-6258	
	κ	41.3		12.5-							- 38		
				9.23					-1 2.99		- 3		
	((δ) — D) $\frac{\kappa'}{100}$									57	21.32		
											-2.13		
	a_1									57	19.19 2	19.28 6	
			8.5	58 1.7	58 20.0	23.6	27.2	30.5-	34.0	58	27.06		
				5.0							-65.65		
	κ			8.6							- 15		
				5.10					-1 5.83		- 3		
	((δ) — D) $\frac{\kappa'}{100}$									57	21.23		
											-1.98		
	a_2									57	19.25		
	5 8	24	8.7	59 12.4	59 29.9	33.3	36.9	40.1	43.9	59	36.82		
	57	39.7	8.2	16.8							-62.65 7.64	6258	
	κ	25.1		19.4							- 38		
				16.20					-1 2.99		- 3		
	((δ) — D) $\frac{\kappa'}{100}$									58	33.76		
											-2.15		
	a_1									58	31.59 61	31.62 8	
			8.7	59 11.0	59 32.4	36.0	39.3	43.0	46.5-	59	39.44		
				14.7							- 65.65		
	κ			17.6							- 15		
				14.43					-1 5.83		- 3		
	((δ) — D) $\frac{\kappa'}{100}$									58	33.61		
											-2.070		
	a_2									58	31.61 2		
	5 8	0 1	8.5	23 0 6.6	0 8.1	11.3	14.7	18.1	21.4	0	14.78		
	58	18.2	8.4	9.9							- 62.65 7.64	6258	
	κ	15.4		13.5-							- 36		
				10.00					-1 2.96		- 2		
	((δ) — D) $\frac{\kappa'}{100}$									59	11.69		
											-2.18		
	a_1									59	9.51 8	9.52	
			8.5	0 4.4	0 10.8	14.0	17.3	20.9	24.3	0	17.46		
				7.0							- 65.65		
	κ			2.7							- 14		
				7.03					-1 5.81		- 2		
	((δ) — D) $\frac{\kappa'}{100}$									59	11.61		
											-2.04		
	a_2									59	9.61		

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Runs

	$T_m - T$		A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+15.4	3	8.7	20.1	288	3′ 14″40	29 33.95			50	52 13 9.66	
	1.18752					53	52 13 19.67				− 6	+10.28
d	9.78723						− 10.01				− 39	
	1.00027n										+10.27	
((δ) − D) $\frac{d'}{100}$											+ 46	
											−30.60	
δ_1											12 49.34	
	+13.0	3	12.9	19.0	31.9	3 15.95	29 32.40			50	13 7.67	
	1.11394					53	52 13 18.30				− 5	+10.60
d	9.78723						− 10.63				− 39	
	1.02669n										+10.54	
((δ) − D) $\frac{d'}{100}$											+ 50	
											−31.30	
δ_2											12 46.97	
	+12.7	0	43.1	55.1	98.2	0 49.10	26 27 59.25			55	52 10 34.57	
	1.10380					55	52 10 44.97				− 5	+10.54
d	9.78756						− 10.40				− 10	
	1.01688n										+10.23	
((δ) − D) $\frac{d'}{100}$											+ 46	
											−30.70	
δ_1											10 14.41	
	+24.1	0	36.8	44.0	80.8	0 40.40	27 27 7.95			55	10 34.12	
	1.38202					55	52 10 55.85				− 15	+10.78
d	9.78756						− 19.73				− 8	
	1.29510n										+10.48	
((δ) − D) $\frac{d'}{100}$											+ 51	
											−31.40	
δ_2											10 13.50	
	+15.2	3	11.5	22.1	33.6	3 16.80	4 4 31.55			15	53 48 5.28	
	1.18184					18	53 48 17.27				− 6	+12.10
d	9.77130						− 11.99				− 39	
	1.07866n										+11.97	
((δ) − D) $\frac{d'}{100}$											+ 58	
											−30.90	
δ_1											47 46.48	
	+22.0	3	9.2	14.5	23.7	3 11.85	4 4 36.50			15	48 5.05	
	1.34242					18	53 48 22.40				− 13	+12.36
d	9.77130						− 17.35				− 38	
	1.23924n										+12.29	
((δ) − D) $\frac{d'}{100}$											+ 58	
											−31.60	
δ_2											47 45.81	
	+20.6	4	22.9	33.9	56.8	4 28.40	4 8 19.95			30	53 31 49.32	
	1.31387					34	53 32 5.67				− 11	+11.58
d	9.77405						−16.35				− 54	
	1.21344n										+11.68	
((δ) − D) $\frac{d'}{100}$											+ 55	
											−30.90	
δ_1											31 30.00	
	+25.0	4	22.0	27.1	49.1	4 24.55	4 8 23.80			30	31 49.86	
	1.39794					34	53 32 9.70				− 16	+11.86
d	9.77405						−19.84				− 53	
	1.29751n										+11.98 12.00	
((δ) − D) $\frac{d'}{100}$											+ 55	
											−31.60	
δ_2											31 30.12	
	+4.7	4	14.1	24.3	38.4	4 19.20	3 8 29.15			40	52 22 11.04	
	0.67210					44	52 22 14.87				− 1	+10.37
d	9.78576						− 3.83				− 52	
	0.58338n										+10.43	
((δ) − D) $\frac{d'}{100}$											+ 47	
											−30.80	
δ_1											21 50.61	
	+10.5	4	11.9	17.9	29.8	4 14.90	3 8 33.45			40	22 10.79	
	1.02119					44	52 22 19.35				− 3	+10.67
d	9.78576						− 8.56				− 51	
	0.93247n										+10.64 71	
((δ) − D) $\frac{d'}{100}$											+ 50	
											−31.50	
δ_2											21 49.96	

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Date$_1$ = Nov. 11 Observer / Recorder Date$_2$ = Nov. 17 Observer / Recorder Ru

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
22	58 54	52 33	8.7	23 0 48.6	1 0.9	4.5	7.7	11.2	14.6	1	7.78		
	59 11.2	27.3	8.8	51.4							−62.65 64	62.58	
				54.9							− 36		
				51.83					−1 2.96		− 2		
	κ									0	4.75		
	((δ) — D) $\frac{\kappa'}{100}$										−2.19 63		
	α_1									0	2.56 5	2.57	
			8.4	0 52.3	1 3.6	7.0	10.4	13.8	17.3	1	10.42		
				55.4							− 65.65		
				58.4							− 14		
				55.43					−1 5.81		− 2		
	κ									0	4.61		
	((δ) — D) $\frac{\kappa'}{100}$										−2.05		
	α_2									0	2.56		
23	1 30	52 7	5.3	2 14.7	2 36.7	40.1	43.4	46.7	50.1	2	43.38		
	0 45.5	2.0	5.5	16.9							− 62.65 64	62.58	
				19.4							− 36		
				17.10					−1 2.96		− 2		
	κ									1	40.35		
	((δ) — D) $\frac{\kappa'}{100}$										−2.23		
	α_1									1	38.12 2	38.19	
			6.3	2 7.2	2 39.4	42.8	46.0	49.4	52.8	2	46.08		
				10.2							− 65.65		
				12.8							− 14		
				10.07					−1 5.81		− 2		
	κ									1	40.27		
	((δ) — D) $\frac{\kappa'}{100}$										−2.09		
	α_2									1	38.18		
	3 26	50 50	9.0	4 6.1	4 33.6	36.9	40.2	43.4	46.5	4	40.12		
	2 41.6	45.3	8.8	9.8							− 62.65 64	62.58	
				12.2							− 34		
				9.37					−1 2.94		− 2		
	κ									3	37.11		
	((δ) — D) $\frac{\kappa'}{100}$										−2.27 91		
	α_1									3	34.84 4	34.88	
			9.0	4 17.4	4 36.2	39.4	42.8	46.1	49.4	4	42.78		
				20.4							− 65.65		
				23.2							− 13		
				20.33					−1 5.80		− 2		
	κ									3	36.98		
	((δ) — D) $\frac{\kappa'}{100}$										−2.14		
	α_2									3	34.84		

Single Observations

22	36 11	53 24	8.5	22 37 10.3	37 16.9	19.4	23.0	26.4	29.8	37	22.90		
Nov. 11	35 29.8	19.5	8.8	14.2							− 62.65	62.56	
				17.2							− 38		
				13.90					−1 2.97		− 3		
	κ									36	19.84		
	((δ) — D) $\frac{\kappa'}{100}$										−1.84		
	α_1									36	17.98 18	18.09	
23	5 22	52 16	9.4	23 6 8.7	6 29.6	32.8	36.2	39.4	42.8	6	36.16		
Nov. 11	4 37.0	10.9	9.2	11.3							−62.65 64	62.59	
				15.6							− 36		
				11.87					−1 2.97		− 2		
	κ									5	33.73	2.27 5	30.86
	((δ) — D) $\frac{\kappa'}{100}$		9.1	6 18.4	6 45.8	49.3	52.8	56.2	59.4	6	92.70 6	30.84 6	30.92
	α_2			21.1							− 62.65 64	30.875 5	
				24.6							− 36		
				21.87					−1 3.02		− 2		
										5	49.67	−2.28	
	6 21	52 29	7.9	7 19.0	7 28.4	31.8	35.1	38.5	41.8	7	35.12		
Nov. 11	5 36.2	24.0	8.6	22.0							− 65.65	47.45 5	
				24.9							62.357		
				21.97					−1 2.97		− 36		
	κ										− 2		
	((δ) — D) $\frac{\kappa'}{100}$									6	29.09		
	α_1										−2.28		
										6	26.81 2	26.88 6	29.87
	7 29	52 25	8.0	8 12.0	8 36.5	39.7	43.0	46.4	49.8	8	43.08		
Nov. 11	6 44.2	19.9	8.3	14.9							− 62.65 64	62.59	
				18.1							− 36		
				13.00					−1 2.97		− 2		
	κ									7	40.05		
	((δ) — D) $\frac{\kappa'}{100}$										−2.30		
	α_2									7	37.75 5	37.76	37.81
Nov. 11	8 42	53 52	9.0		9 49.1	52.4	56.0	59.5	3.1	9	56.02		
	7 57.0	47.2	9.3	4 22.2							− 62.65 8	52.96	
				26.0							− 62.603 8	−2.28	73
				23.73					−1 3.01		− 3 7e 8	50.55	30.88

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+16.2	2	32.8	44.5	77.3	2	3865	50 ~~20~~ 9.70		30	52 33 42.27	
	1.20952					32		52 33 55.42			− 7	+10.76
d	9.78379							− 13.15			− 30	
	1.11883$_n$										+10.65	
$((\delta) - D)\frac{d'}{100}$											+ 48	
											−30.80	
δ_1											33 22.23	
	+15.0	2	36.8	42.9	79.7	2	3985	50 ~~20~~ 8.50		30	33 42.23	
	1.17609					32		52 33 54.40			− 6	+11.05
d	9.78379							− 12.17			− 32	
	1.08540$_n$										+ 10.93	
$((\delta) - D)\frac{d'}{100}$											+ 50	
											−31.50	
δ_2											33 21.78	
	+26.3	2	20.8	32.1	52.9	2	2645	25 ~~20~~ 21.90		55	52 8 46.17	
	1.41996					57		52 9 7.62			− 18	+10.19
d	9.78788							− 21.45			− 29	
	1.33136$_n$										+10.20	
$((\delta) - D)\frac{d'}{100}$											+ 46	
											−30.80	
δ_1											8 25.56	
	+36.0	2	15.2	20.4	35.6	2	1780	25 ~~20~~ 30.55		55	8 46.96	
	1.55630					57		52 9 16.45			− 34	+10.36
d	9.78788							− 29.49			− 27	
	1.46970$_n$										+10.47	
$((\delta) - D)\frac{d'}{100}$											+ 50	
											−31.50	
δ_2											8 25.82	
	+30.7	3	37.5	49.4	86.9	3	4345	9 4.90		10	50 52 24.75	
	1.48714					13		50 52 50.62			− 25	+8.54
d	9.80012							− 25.87			− 45	
	1.41278$_n$										+ 8.85	
$((\delta) - D)\frac{d'}{100}$											+ 39	
											−30.70	
δ_1											52 2.59	
	+22.5	3	49.0	55.5	104.5	3	5225	8 56.10		10	52 23.04	
	1.35218					13		50 52 42.00			− 13	+8.95
d	9.80012							− 18.96			− 46	
	1.27782$_n$										+ 9.07 10	
$((\delta) - D)\frac{d'}{100}$											+ 44	
											−31.40	
δ_2											52 0.59	
	+9.0	0	30.5	43.2	73.7	0	3685	42 ~~22~~ 11.50		40	53 25 50.06	
	0.95424					40		53 25 57.22			− 2	+12.02
d	9.77507							− 7.16			− 7	
	0.85483$_n$										+ 11.57	
$((\delta) - D)\frac{d'}{100}$											+ 54	
											−3010	
δ_1											25 31.98	
	+24.3	3	29.3	40.5	69.8	3	3490	34 ~~29~~ 13.45		45	52 17 39.33	17 33.61
	1.38561					48		52 17 59.17			− 16	− 26 +10.13
d	9.78642							− 19.84			− 43 +10.23	− 43
	1.29755$_n$							− 25.56			+10.36	+10.36
$((\delta) - D)\frac{d'}{100}$	+31.3	3	~~29.3~~	~~40.5~~	~~69.8~~	3	3490			45	+ 46	+ 46
	1.49554					48					~~+~~ 31.00	− 31.00
δ_2	9.78642										17 18.56	17 12.74
	1.40748$_n$											
	+13.1	0	9.2	21.0	30.2	0	1510	47 ~~22~~ 33.25		35	52 31 8.33	
	1.11727					35		52 31 18.97			− 5	+10.99
d	9.78428							− 10.64			− 3	
	1.02707$_n$										+10.59	
$((\delta) - D)\frac{d'}{100}$											+ 48	
											− 3100	
δ_1											30 48.32	
	+28.1	4	17.6	29.7	47.3	4	2365	43 ~~18~~ 24.70		35	52 26 47.56	53 54 3.13
	1.44871					39		52 27 10.42			− 21	− 24 +12.17
d	9.78494							− 22.86			− 53 +10.25	− 25
	1.35917$_n$										+ 10.52	+ ~~10.52~~ 12.07
$((\delta) - D)\frac{d'}{100}$											+ 47	+ 59
	+30.3										− 31.00	− 31.30
δ_2	1.48144										26 26.81	53 44.00
	9.77026	2	1.4	12.8	14.2	2	710	10 ~~20~~ 41.25		10		
	1.37722$_n$					12		53 54 26.97				
								− 23.84				

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Date$_1$ = Nov. 24 1875 — Observer W. A. R — Date$_2$ = Dec. 6 — Observer
n = n = −.17 — Recorder J. F. M — Dec 14 — Recorder

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
											m s		
22	2.6	42 51 57	8.7	22 25 57.0	26 10.4	13.6	16.7	20.0	23.2				
	25	27.8	8.7	53.7									
Nov 24	26 κ	3.0	52.1	53.8									
				26 44.2	26 57.0	54.2	57.6	1.0	4.3	26	57.62		
				47.3							− 5.69		
	((δ) − D) $\frac{\kappa'}{100}$			50.2					− 5.93		− 22		
				47.23							− 2		
	a_1									26	51.69		
											−1.42	26	50.27
Dec 6			9.0	26 28.8	26 24.7	30.0	33.2	36.6	40.2	+.014	33.34		
				32.0							− 0.10 .01		
	κ			35.7					− 0.20 +.01		− 17		
				32.13							− 2		
	((δ) − D) $\frac{\kappa'}{100}$									26	33.05		
											−1.10		
	a_2									26	32.05	5	
Nov 24	27	56 53 29	8.7	27 42.6	28 4.7	8.2	11.7	15.2	18.6	28	11.68		
	27	16.1	9.0	45.2							− 5.69		
	κ	24.3		47.8					− 5.95		− 23		
				45.20							− 3		
	((δ) − D) $\frac{\kappa'}{100}$		9.0	28 ~~37~~	28 27.8	31.4	34.8	38.4	41.8	28	5.73	−1.37	
	27 37.7	53 24.6		57.8						26	34.84	28	4.36
	a_1			1.75					− 5.95		− 5.69		
				53.50							− .23		
										28	− 3		
											28.89	−1.38	
6				27 29.3	27 39.3	42.6	43.0	49.3	52.7	27	45.38	28	27.51
				32.5							0.10 .01		
	κ			36.0					− 0.21 +.01		− 17		
				32.60							− 3		
	((δ) − D) $\frac{\kappa'}{100}$									27	45.08		
											−1.04		
	a_2									27	44.13	4	
	29	4 53 25	7.5	29 26.2	29 11.8	15.3	18.7	22.3	25.7	29	18.76		
	28	24.2	7.3	28.8							− 5.69		
24	κ	19.9		31.7					− 5.95		− 23		
				28.90							− 3		
	((δ) − D) $\frac{\kappa'}{100}$									29	12.81		
											−1.39		
	a_1									29	11.42		
6			—	29 31.4	29 —	—	12.7	16.1	19.5	29	12.63		
				33.9			12.6				−0.10 .01		
	κ			36.9			12.6		− 0.21 +.01		− 17		
				34.07							− 3		
	((δ) − D) $\frac{\kappa'}{100}$									29	12.33		
											−1.06		
	a_2									29	11.36	7	
												94	
	31	39 50 27	7.8	31 25.3	31 48.4	51.7	53.0	58.1	1.5	31	54.87		
24	30	58.0	8.0	27.5							− 5.69		
	κ	24.9		30.6					− 5.92		− 21		
				27.80							− 2		
	((δ) − D) $\frac{\kappa'}{100}$									30	49.02		
											−1.55		
	a_1									31	47.47		
6			9.0	31 23.3	31 26.4	29.6	32.8	36.0	39.4	31	32.84		
				27.0							0.10 .01		
	κ			30.6					− 0.19 +.01		− 16		
				26.97							− 2		
	((δ) − D) $\frac{\kappa'}{100}$									31	32.37		
											−1.23	3	
	a_2									31	31.42		
	34	39 50 24	9.0	34 25.2	34 47.4	50.5 54.0	57.1	0.4		34	53.88		
24	33	56.3	9.2	28.0		^					− 5.69		
	κ	19.7		31.0					− 5.92		− 21		
				28.07							− 2		
	((δ) − D) $\frac{\kappa'}{100}$									34	47.96		
											−1.59		
	a_1									34	46.37		
6	33 8.5	50 24.7	9.3	33 49.2	33 52.9	56.2	59.4	2.6	6.0	33	59.42		
				52.0							0.10 .01		
	κ			53.0					− 0.19 +.01		− 16		
				52.07							− 2		
	((δ) − D) $\frac{\kappa'}{100}$									33	59.14		
											−1.28		
	a_2									33	57.86		

Add +.014 to ($\Delta\Gamma$ + n) for Dec 6. It has been added to sum of constants and to final R.A.

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Runs Nov. 24 −16′ 14″.57 −″.11
Dec. 6 −16 13.53 −.11
Dec. 14 −16 14.00 −.10

35

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+10.4	2	46.1	52.8	98.9 2′ 49″.45	14 19	58.90		5?	51 58 35.78	✓
	1.01703				7	51 58	44.33			− 3	+10.35
d	9.78950						− 8.55			− 31	
	0.93205n									+10.19	
$((\delta) - D)\frac{d'}{100}$										+ 50	
										−3020	
δ_1										58 15.93	
	+11.2	3	26.7	30.7	57.4 3	28.70	29	19.65		5.14	✓
	0.07918		0.07948		53		51 2 58	6.12	50?	57 12 58	+10.26
d	9.78967		9.78723		8		13	− 0.98		− 0	worked with stroke = 50
	9.99437n		9.99193n							− 38	
$((\delta) - D)\frac{d'}{100}$										+10.14	
										+ 50	
δ_2										−3010	
										57 45.29 50	
	+26.5	0	46.1	52.3	98.4 0	49.20	46 24	59.15	35	53 30 23.53	1 2.61
	1.42325				35	53 30	44.58			− 18	30 26.55
d	9.77439						− 21.05			− 9	− 14 +12.15
	1.32316n						+ 18.03			+12.11	− 9
$((\delta) - D)\frac{d'}{100}$	−22.7	0	46.1	52.3	98.4 0	49.20			35	+ 11.83	+ 11.83
	1.35603									+ 55	+ 55
δ_1	9.77439									−3050	− 3060
	1.25594n									30 5.14	5.10
	+12.8										30 44.16
	1.10721										
d											
$((\delta) - D)\frac{d'}{100}$											
δ_2										−30.50	
	−16.1	4	54.2	0.5	114.7 4	57.35	42 17	51.00	35	53 26 44.46	
	1.00432n				39	53 26	36.43			− 3	+11.72
d	9.77507						+ 8.03			− 54	
	0.90491									+11.75	
$((\delta) - D)\frac{d'}{100}$										+ 54	
										−3080	
δ_1										26 25.38	
	−21.5	0	4.4	10.3	14.7 0	7.35	42 22	41.00	40	26 44.67	
	1.33244n				40	53 26	27.47			− 12	+12.14
d	9.77507						+ 17.10			− 1	
	1.10751									+11.73	
$((\delta) - D)\frac{d'}{100}$										+ 54	
										−3060	
δ_2										26 26.11	
	+27.1	2	56.6	2.9	119.5 2	59.75	44 19	48.60	35	50 28 11.80	✓
	1.43297				37	50 28	34.03			− 20	+8.41
d	9.80382						− 23.03			− 33	
	1.36231n									+ 8.54	
$((\delta) - D)\frac{d'}{100}$										+ 40	
										−3030	
δ_1										27 49.11	
	+5.8	0	42.6	47.2	89.8 0	44.90	2 32	3.45	20	50 45 46.83	✓
	0.76343				20	50 45	49.92			− 1	+9.19
d	9.80105						− 3.09			− 8	
	0.49000n									+ 8.85	
$((\delta) - D)\frac{d'}{100}$										+ 43	
										−3020	
δ_2										45 25.82	
	+25.8	4	51.3	57.6	89.4 4	54.45	42 17	53.90	35	50 26 17.39	✓
	1.41162				39	50 26	39.33			− 18	+8.18
d	9.80412						− 21.94			− 54	
	1.34126n									+ 8.51	
$((\delta) - D)\frac{d'}{100}$										+ 39	
										−3040	
δ_1										25 55.17	
	+7.3	0	22.9	28.9	11.8 0	2.90	47 22	22.45	35	50 31 42.72	✓
	0.86332				35	50 31	8.92			− 1	+8.93
d	9.80336						− 6.20			− 4	
	0.79220n									+ 8.58	
$((\delta) - D)\frac{d'}{100}$										+ 40	
										−3040	
δ_2										30 41.25	

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Date$_1$ = 1875 Nov. 24 Observer Recorder

Date$_2$ = Dec. 6 " 14 Observer Recorder

Star.	α	δ	Mag.	T_s	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
22	35 19	52 23	9.4	22 35	35 30.5	34.2	37.5	40.8	44.2	36	37.44		
	34 38.9		9.3	32.2							− 5.69		
	κ			34.8							− 22		
				38.5					− 5.93		− 2		
	(δ) − D $\frac{\kappa'}{100}$			35.17						35	31.51	−1.43	
Nov 24	36 22	53 42	7.0	36 19.5	36 30.1	33.6	37.0	40.6	44.1		08	35 30.78	
	35a$_1$ 41.4	37.6	8.0	22.1						36	37.48		
				25.1					− 5.95		− 5.69		
				~~26.3~~							− 23		
				35 ~~47.6~~	~~22.7~~	~~26.2~~	~~31.2~~				− 3		
6				52.1						36	31.13		
	κ		8.9	54.8							−1.48		
			9.2		24.6	28.2	33.2			36	29.65		
	(δ) − D $\frac{\kappa'}{100}$			~~34 59.0~~									
Dec 6	36 22		8.0	36 26.0	36 24.3	27.6	31.0	34.6	38.1	36	31.12		
	35a$_2$ 44.4								− 0.22 +01		− 0.10 01		
											− 18		
											− 3	36 30.81	
	37 41	51 1	9.1	37 33.8	37 42.9	43.2	46.4	49.8	53.0	37	56.46		−1.15 6
	36 39.4	50 56.7	9.2	36.3							− 5.69	36 29.75	
24	κ			39.5							− 21		
				36.53					− 5.92		− 2		
	(δ) − D $\frac{\kappa'}{100}$									37	50.54		
											−1.62		
	a_1									37	48.92		
			9.2	37 27.4	37 43.9	47.2	50.6	53.9	57.2	37	00.58		
6				30.5							− 0.10 01		
	κ			32.5							− 16		
				30.13					− 0.19 +02		− 2		
	(δ) − D $\frac{\kappa'}{100}$									37	50.28		
											−1.31		
	a_2									37	49.08 8		
	39 18	51 57	8.8	39 4.4	39 27.3	30.8	34.2	37.5	41.0	39	34.16		
24	38 37.5	51.7	8.8	7.8							− 5.69		
	κ			10.3							− 22		
				7.50					− 5.93		− 2		
	(δ) − D $\frac{\kappa'}{100}$									39	28.23		
											−1.60		
	a_1									39	26.63		
6			8.7	38 38.0	39 21.3	24.7	28.2	31.6	34.7	39	28.10		
	κ			1.1							− 0.10 01		
				35							− 17		
				0.84					− 0.20 +01		− 2		
	(δ) − D $\frac{\kappa'}{100}$									39	27.81		
											−1.29		
	a_2									39	26.61 2		
14			9.0	39 7.4	39 16.7	19.9	23.3	26.5	29.6	39	23.20		
	κ			10.9							~~− 5.67~~		
				12.6							+ 4.55		
				10.30							− 8		
	(δ) − D $\frac{\kappa'}{100}$								+ 4.45		− 2		
										39	27.65		
	a_1										−1.08		
											~~1647~~ 39	26.57	
	40 22	53 40	8.4	40 7.4	40 30.7	34.3	37.6	41.2	44.8	40	37.72		
	39 40.2	34.9	8.5	10.0							− 5.69		
24	κ			14.0							− 23		
				10.47					− 5.95		− 3		
	(δ) − D $\frac{\kappa'}{100}$									40	31.77		
											−1.55		
	a_2									40	30.22		
			8.6	40 3.0	40 24.6	28.2	31.7	35.3	38.8	40	31.72		
6				5.8							− 0.10 01		
	κ			8.8							− 18		
				5.87					− 0.22 +01		− 3		
	(δ) − D $\frac{\kappa'}{100}$									40	31.41		
											−1.21		
	a_1									40	30.29 30		
											96		
			9.0	40 10.4	40 19.8	23.5	27.0	30.8	34.0	40	26.84		
14				14.1							+ 4.55		
	κ			17.8							− 8		
				14.10					+ 4.44		− 3		
	(δ) − D $\frac{\kappa'}{100}$									40	31.40		
											−1.00		
	a_2										~~28.52~~		
										40	30.40		

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′	
	+2.2	2 32.1	39.5	71.6	2 / 42	3580	40 ~~20~~ 12.55		40	52 25 56.19	53 44 20.71	
	0.34242						52 25 57.98			3 0	− 6	+12.37
d	9.78510						− 1.79			− 28	+10.88 − 22	
	0.25304n									+10.66	+ 12.08	
	+14.9						0 ~~2~~0 47.05			+ 50	+ 57	
((δ) − D) $\frac{d'}{100}$	1.17319	1 58.2	4.4	122.6	2 / 22	130	53 44 32.48		20	−30.80	−31.70	
	9.77199						− 11.77			25 36.17	44 2.08	
δ_1	1.07070n											
											44 20.94	
		2 8.7	13.2	21.9	2 / 42	1095			40		− 1	+12.38
d											− 24	
		1 57.0	1.5	114.5	1 / 41	59.25			40		+12.06	
((δ) − D) $\frac{d'}{100}$											+ 57	
		2 7.8	11.9	19.7	2 / 22	985	0 ~~2~~0 38.50		20		− 31.10	
δ_2	+ 5.1						53 ~~44~~ 24.97				44 2.22	
	0.70757						− 4.03					
	9.77199											
	0.60508n											
	+20.0	3 54.1	1.4	115.5	3	5775	18 50.60		0	51 2 19.23	4	
	1.30103						51 2 36.03			− 11	+9.06	
d	9.79856						− 16.79			− 44		
	1.22511n									+ 9.16		
										+ 45		
((δ) − D) $\frac{d'}{100}$										−30.70		
										1 57.59 60		
δ_1												
	+20.5	3 55.4	59.9	115.3	3	5765	18 50.70		0	2 19.96		
	1.31175						51 2 37.17			− 11	+9.04	
d	9.79856						− 17.21			− 44		
	1.23583n									+ 9.14		
										+ 45		
((δ) − D) $\frac{d'}{100}$										−30.70		
										1 58.30		
δ_2												
	+26.7	2 42.9	48.9	91.8	2 / 7	4590	15 ~~20~~ 2.45		5	57 58 25.92		
	1.42651						57 58 47.88			− 19	+10.17	
d	9.78967						− 21.96			− 30		
	1.34170n									+10.16		
										+ 50		
((δ) − D) $\frac{d'}{100}$										−31.00		
										58 5.09		
δ_1												
	+27.2	2 43.6	48.1	91.7	2 / 7	4585	15 2.50		5	58 26.60		
	1.43457						57 58 48.97			− 20	+10.14	
d	9.78967						−22.37			− 30		
	1.34976n									+10.14		
										+ 50		
((δ) − D) $\frac{d'}{100}$										−31.00		
				11.26		56.30			5	58 5.74		
δ_2												
	+12.9	2 54.7	57.9	13.6	2 / 7	~~566~~ 568	14 52.05		~~9.0~~ 5	58 27.44		
	1.11059						57 58 38.05			− 5	+10.49	
d	9.78967						− 10.61			− 29		
	1.02578n									+10.28		
										+ 55		
((δ) − D) $\frac{d'}{100}$										−30.70		
										58 7.23		
δ_1												
	+27.2	4 17.1	22.9	40.0	4 / 24	2000	58 28.35		20	53 41 52.28		
	1.43457						53 42 13.78			− 20	+11.93	
d	9.77233						−21.50			− 48		
	1.33242n									+12.04		
										+ 57		
((δ) − D) $\frac{d'}{100}$										−31.30		
										41 32.91		
δ_2												
	+25.8	4 21.0	23.9	44.9	4 / 24	2245	58 25.90		20	41 51.98		
	1.41162						53 42 12.37			− 17	+11.94	
d	9.77233						−20.39			− 48		
	1.30947n									+12.02		
										+ 57		
((δ) − D) $\frac{d'}{100}$										−31.40		
										41 32.52		
δ_1												
	+12.9	4 31.5	33.9	54	4 / 24	3270	58 15.65		20	41 51.45		
	1.11059						53 42 1.65			− 5	+12.29	
d	9.77233						−10.20			− 45		
	1.00844n									+12.19		
										+ 60		
((δ) − D) $\frac{d'}{100}$										−31.10		
										41 32.64		
δ_2												

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Date$_1$ = Nov. 24 — Observer / Recorder

Date$_2$ = Dec. 6 " 14 — Observer / Recorder

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_r	T_g	T_h	Sum	Mean	Red. to T_m	T
24	41 35	53 7	7.6	22 41 15.1	41 43.0	46.6	50.1	53.5	57.0	41	5004		
41	40 53.0		8.1	17.5							− 5.69		
	κ			21.0					− 5.95		− 23		
	((δ) — D) $\frac{\kappa'}{100}$			17.87							− 3		
										41	44.09		
	α_1										−1.59		
										41	42.49		
6			8.1	41 9.0	41 37.2	40.5	43.9	47.4	51.0	41	4400		
				12.2							− 0.18.01		
	κ			15.0							− 17		
	((δ) — D) $\frac{\kappa'}{100}$			12.07					− 0.21+01		− 3		
										41	43.70		
	α_2										−1.26		
										41	42.58		
14			8.2	41 10.9	41 32.2	35.8	39.3	42.9	46.2	41	39.28		
				13.8							+ 4.55		
	κ			16.5							− 8		
	((δ) — D) $\frac{\kappa'}{100}$			13.83					+ 4.44		− 3		
										41	43.72		
	α_1										−1.05		
										41	42.67		
	42 09	51 15	8.3	42 13.0	42 20.0	23.2	26.5	29.8	33.0	42	26.50		
	41 28.6		8.8	16.7							− 5.69		
24	κ			19.1							− 21		
	((δ) — D) $\frac{\kappa'}{100}$			16.27					− 5.92		− 2		
										42	20.58		
	α_2										−1.67		
										42	18.91		
			8.8	42 5.8	42 14.0	17.3	20.5	23.8	27.1	42	20.54		
6				8.6							− 0.10.01		
	κ			12.1							− 16		
	((δ) — D) $\frac{\kappa'}{100}$			8.83					− 0.19+01		− 2		
										42	20.26		
	α_1										−1.36		
										42	18.99	19.00	
14			8.5	42 15'	42 9.4	12.6	16.0	19.1	22.5	42	15.92		
				4.4							+ 4.55		
	κ			7.7							− 7		
	((δ) — D) $\frac{\kappa'}{100}$			4.53					+ 4.46		− 2		
										42	20.36		
	α_2										−1.16		
										42	19.22		
	43 07	53 28	8.0	42 58.8	43 16.4	19.8	23.6	27.1	30.5	43	23.48		
24	42 25.1	23.3	8.6	2.0							− 5.69		
	κ			6.4							− 23		
	((δ) — D) $\frac{\kappa'}{100}$			2.07					− 5.95		− 3		
										43	17.53		
	α_1										−1.60		
										43	15.93		
6			8.8	42 52.7	43 10.5	14.0	17.5	21.0	24.4	43	17.48		
				53.5							− 0.09.01		
	κ			58.5							− 17		
	((δ) — D) $\frac{\kappa'}{100}$		9.4	55.37					− 0.21+01		− 3		
										43	17.19		
	α_2										−1.26		
										43	16.01	2	
14			8.7	42 49.3	43 8.8	9.1	12.5	15.9	19.7	43	12.60		
				52.0							+ 4.55		
	κ			55.0							− 8		
	((δ) — D) $\frac{\kappa'}{100}$			52.10					+ 4.44		− 3		
										43	17.04		
	α_1										−1.06		
										43	15.98		
	44 18	53 11	9.3	44 11.6	44 26.9	30.3	33.8	37.2	40.7	44	33.78		
24	43 35.7	5.8	9.3	14.6							− 5.69		
	κ			18.3							− 23		
	((δ) — D) $\frac{\kappa'}{100}$			14.83					− 5.95		− 3		
										44	27.83		
	α_2										−1.63		
										44	26.20		

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Runs

	$T_m - T$		A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
d	+32.1	2	10.4	15.9	26.3	2′ 13.″15	25 35.20			55	53 8 54.93	
	1.506651					57	53 9 20.63				− 27	+11.44
	9.77795						− 25.70				− 25	
$((\delta) - D)\frac{d'}{100}$	1.40998m										+ 11.45	
											+ 51	
δ_1											− 31.30	
											8 35.07	
d	+31.9	2	12.9	16.1	9.0	2	25 33.85			55	8 54.78	
	1.50379					57	53 9 20.32				− 27	+11.42
	9.77795						− 25.54				− 25	
$((\delta) - D)\frac{d'}{100}$	1.40726m										+ 11.43	
											+ 51	
δ_2											− 31.40	
											8 34.80	
d	+25.5	2	17.4	20.8	38.2	2	25 29.25			55	8 54.83	
	1.40654					57	53 9 15.25				− 17	+11.79
	9.77795						− 20.42				− 23	
$((\delta) - D)\frac{d'}{100}$	1.31001m										+ 11.57	
											+ 60	
δ_1											− 31.10	
											8 35.52	
d	+10.2	4	15.3	22.1	37.4	4	33 29.65			45	51 17 6.56	
	1.00860					49	51 17 15.08				− 3	+9.39
	9.79621						− 8.52				− 47	
$((\delta) - D)\frac{d'}{100}$	0.93033m										+ 9.43	
											+ 46	
δ_2											− 31.00	
											16 44.95	
d	+11.7	4	16.4	20.4	36.8	4	33 29.95			45	17 6.65	
	1.06819					49	51 17 16.42				− 3	+9.38
	9.79621						− 9.77				− 47	
$((\delta) - D)\frac{d'}{100}$	0.98992m										+ 9.42	
											+ 46	
δ_1											− 31.10	
											16 44.93	
d	+11.54	4	17.9	21.1	39.0	4	33 28.85			45	17 5.33	
	1.05690					49	51 17 14.85				− 3	+9.56
	9.79621						− 9.52				− 43	
$((\delta) - D)\frac{d'}{100}$	0.97863m										+ 9.54	
											+ 48	
δ_2											− 30.80	
											16 44.09	
d	+21.4	1	14.8	20.9	35.7	1	46 30.50			35	53 29 58.93	
	1.33041					36	53 30 15.93				− 12	+12.12
	9.77439						− 17.00				− 14	
$((\delta) - D)\frac{d'}{100}$	1.23032m										+ 11.83	
											+ 55	
δ_1											− 31.40	
											29 39.65	
d	+21.9	1	16.9	20.1	37.0	1	46 29.85			35	29 58.93	
	1.34044					36	53 30 16.32				− 13	+12.11
	9.77439						− 17.39				− 14	
$((\delta) - D)\frac{d'}{100}$	1.24035m										+ 11.83	
											+ 55	
δ_2											− 31.60	
											29 39.44	
d	+20.5	1	17.9	20.5	38.4	1	46 29.15			35	29 58.87	
	1.31175					36	53 30 15.15				− 11	+12.33
	9.77439						− 16.28				− 13	
$((\delta) - D)\frac{d'}{100}$	1.21166m										+ 11.97	
											+ 60	
δ_1											− 31.30	
											29 39.90	
d	+19.0	3	53.5	58.4	11.9	3	28 52.40			50	53 12 22.63	
	1.27875					53	53 12 37.83				− 9	+11.50
	9.77744						− 15.20				− 43	
$((\delta) - D)\frac{d'}{100}$	1.18171m										+ 11.50	
											+ 52	
δ_2											− 31.40	
											12 2.73	

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Date$_1$ = Nov. 24 Observer / Recorder

Date$_2$ = Dec. 6 " 14 Observer / Recorder

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
22	44 18	53 11	9.4	22 43 59.0	43 20.6	24.2	27.5	31.0	34.5	434	27.58		
	43 35.7	5.8	9.3	2.3							− 0.09		
Dec 6	κ			8.3							− 17		
				44 2.20					− 0.21		− 3		
	((δ) − D) $\frac{\kappa'}{100}$								+01	44	27.27		
											− 1.30		
	a_1									44	26.08	6	
14			9.2	44 0.8	44 15.7	19.3	22.8	26.3	30.0	44	22.86		
				43							+ 4.55		
	κ			7.9							− 8		
				43.3 ~~7.6~~					+ 4.44		− 3		
	((δ) − D) $\frac{\kappa'}{100}$									44	27.30		
											− 1.09		
	a_2									44	26.21		
	45 19	53 5	9.0	45 8.0	45 28.2	31.7	35.3	38.6	42.0	45	35.16		
	44 37.5	0.1	8.8	11.5							− 5.69		
24	κ			14.2							− 23		
				11.8 ~~23~~					− 5.95		− 3		
	((δ) − D) $\frac{\kappa'}{100}$									45	29.21		
											− 1.65		
	a_1									45	27.56		
6			8.7	45 0.2	45 22.3	25.6	29.0	32.6	36.0	45	29.10		
				8.0							− 009	1	
	κ			8.3							− 17		
				28.3					− 0.21		− 3		
	((δ) − D) $\frac{\kappa'}{100}$								+02	45	28.81		
											− 1.32		
	a_2									45	27.49		
14			8.7	44 54.4	45 17.4	20.8	24.1	27.6	31.4	45	24.26		
				57.9							+ 4.55		
	κ			0.0							− 8		
				57.43					+ 4.44		− 3		
	((δ) − D) $\frac{\kappa'}{100}$									45	28.70		
											− 1.11		
	a_1									45	27.59		
	46 20	53 6	8.6	46 4.7	46 25.0	31.5	34.9	38.4	41.9	46	32.94		
24	45 37.5	0.7	8.4	7.7							− 5.69		
	κ			10.3							− 23		
				7.57					− 5.95		− 3		
	((δ) − D) $\frac{\kappa'}{100}$									46	28.99		
											− 1.66		
	a_2									46	27.33		
6			8.9	45 53.0	46 21.9	25.3	28.8	32.3	35.7	46	28.88		
				56.4							− 0.09	1	
	κ			58.7							− 17		
				58.03					− 0.21		− 3		
	((δ) − D) $\frac{\kappa'}{100}$								+01	46	28.51		
											− 1.33		
	a_1									46	27.24	7	
14			8.6	46 0.0	46 17.0	20.6	24.0	27.6	31.0	46	24.04		
				3.1							+ 4.55		
	κ			5.8							− 8		
				2.87					+ 4.44		− 3		
	((δ) − D) $\frac{\kappa'}{100}$									46	28.48		
											− 1.13		
	a_2									46	27.35		
24	48 18	52 39	8.7	48 11.8	48 26.4	29.9	33.3	36.7	40.2	48	33.30		
	47 35.9	33.9	9.6	14.5							− 5.69		
	κ			17.0							− 22		
				14.43					− 5.93		− 2		
	((δ) − D) $\frac{\kappa'}{100}$									48	27.37		
											− 1.70		
	a_1									48	25.67		
6			8.9	47 54.3	48 20.6	24.0	27.4	30.6	34.2	48	27.86		
				57.3							− 0.09	1	
	κ			1.1							− 17		
				57.57					− 0.20		− 2		
	((δ) − D) $\frac{\kappa'}{100}$								+01	48	27.08		
											− 1.39		
	a_2									48	25.77	8	

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
d	+25.4	3	49.6	51.9	101.5	3	50.75	28 57.60		50	53 12 23.76	
	1.40483				53			53 12 44.07			− 17	+11.42
	9.77728							− 20.31			− 42	
$((\delta) - D)\frac{d'}{100}$	1.30763n										+11.49	
											+ 52	
δ_1											−31.60	
											12 3.58	
d	+18.6	3	55.3	57.7	13.0	3	67.50	28 51.85		50	12 22.98	
	1.26951				53			53 12 37.85			− 9	+11.76
	9.77728							− 14.87			− 39	
$((\delta) - D)\frac{d'}{100}$	1.17231n										+11.64	
											+ 60	
δ_2											−31.30	
											12 3.44	
d	+24.0	3	59.0	4.9	123.9	4	1.95	23 46.40		55	53 7 12.60	
	1.38021				59			53 7 31.83			− 15	+11.33
	9.77829							− 19.23			− 44	
$((\delta) - D)\frac{d'}{100}$	1.28402n										+11.41	
											+ 57	
δ_1											−31.50	
											6 52.43	
d	+26.3	3	59.8	2.9	122.7	4	1.35	23 47.00		55	7 12.39	
	1.41996				59			53 7 33.47			− 18	+11.27
	9.77829							− 21.08			− 44	
$((\delta) - D)\frac{d'}{100}$	1.32377n										+11.40	
											+ 57	
δ_2											−31.70	
											6 51.98	
d	+26.9	3	58.1	1.6	119.7	3	39.85	23 48.50		55	7 12.94	
	1.42975				58			53 7 34.50			− 19	+11.57
	9.77829							− 21.56			− 40	
$((\delta) - D)\frac{d'}{100}$	1.33356n										+11.56	
											+ 60	
δ_1											−31.40	
											6 53.11	
d	+27.3	3	43.8	49.9	13.7	3	4685	24 1.50		55	53 7 25.05	
	1.43616				58			53 7 46.93			− 19	+11.32
	9.77829							− 21.88			− 41	
$((\delta) - D)\frac{d'}{100}$	1.33997n										+11.41	
											+ 57	
δ_2											−31.50	
											7 4.87	
d	+32.8	3	42.1	46.6	8.7	3	4435	24 4.00		55	7 24.19	
	1.51587				58			53 7 50.47			− 28	+11.22
	9.77829							− 26.28			− 41	
$((\delta) - D)\frac{d'}{100}$	1.41968n										+11.40	
											+ 51	
δ_1											−31.70	
											7 3.71	
d	+21.1	3	51.2	54.6	5.8	3	5290	23 55.45		55	7 24.54	
	1.32428				58			53 7 41.45			− 12	+11.64
	9.77829							− 16.91			− 39	
$((\delta) - D)\frac{d'}{100}$	1.22809n										+11.55	
											+ 60	
δ_2											−31.60	
											7 4.68	
d	+18.9	0	37.7	44.8	82.5	0	41.25	57 7.10		25	52 40 37.23	
	1.27646				25			52 40 52.53			− 10	+11.26
	9.78263							− 15.30			− 7	
$((\delta) - D)\frac{d'}{100}$	1.18461n										+10.93	
											+ 50	
δ_1											−31.50	
											40 16.99	
d	+29.8	0	30.2	35.3	5.5	0	32.75	57 15.60		25	40 37.95	
	1.47422				25			52 41 2.07			− 23	+11.12
	9.78263							− 24.12			− 6	
$((\delta) - D)\frac{d'}{100}$	1.38237n										+10.91	
											+ 50	
δ_2											−31.80	
											40 17.27	

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Date$_1$ = Nov. 24 Observer / Recorder

Date$_2$ = Dec. 6 " 14 Observer / Recorder

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
42	48 18	52 39	9.0	22 48	0.5 48 15.5	18.9	22.4	25.9	29.3	48	22.40		
	47 35.9	33.9	9.0	8.7							+ 4.55		
Dec 14				7.0							− 8		
				3.73					+ 4.45		− 2		
										48	26.85		
											−1.18		
										48	25.67		
	49 56	51 57	7.5	49 45.5	50 6.7	10.0	13.3	16.8	20.0	50	18.86		
24 Nov	49 14.2	51.5	8.0	52.8							− 5.69		
				13.0							− 22		
				52.43					− 5.93		− 2		
										50	7.43		
											−1.75		
										50	5.68		
Dec 6			8.0	49 39.4	50 0.6	3.9	7.4	10.5	14.1	50	7.30		
				43.0							− 0.091		
				45.7							− 17		
				42.70					− 0.20+01		− 2		
										50	7.02		
											−1.447		
										50	5.667		
14			7.8	49 38.1	49 53.8	3 59.1	25	5.8	9.3	50	2.50		
				38.0							+ 4.55		
				40.7							− 8		
				37.93					+ 4.45		− 2		
										50	6.95		
											−1.24		
										50	5.71		
	51 14	50 51	9.3	51 10.8	51 24.7	28.0	31.6	34.7	~~34.6~~	51	~~31.42~~		40
Nov 24	50 31.8	46.1	9.1	14.5					38.0		− 5.69		
				17.2							− 21		
				14.17					− 5.92		− 2		
										51	25.20		
											−1.81		
										51	23.39		67
Dec 6			9.5	50 56.0	51 18.7	22.1	25.3	28.4	31.9	51	25.28		
				58.6							− 0.09		1
				1.9							− 16		
				58.83					− 0.19+01		− 2		
										51	25.01		
											−1.51		
										51	23.58		9
14			9.0										
	52 11	51 48	9.6	52 87.5	52 21.7	25.0	28.7	32.0	35.2	52	28.52		
Nov 24	51 29.1	42.8	9.5	37.50							− 5.69		
											− 21		
									− 5.92		− 2		
										52	22.60		
											−1.79		
										52	20.81		
Dec 14			9.8	52 15.9	52 10.9	14.4	17.5	20.8	24.4	52	17.60		
				15.90							+ 4.55		
											− 8		
									+ 4.45		− 2		
										52	22.05		
											−1.29		
										52	20.76		
	53 47	53 1	8.4	53 86.9	53 56.5	59.9	3.4	6.9	10.4	54 53	3.42		
Nov 24	53 4.6	52 56.0	8.6	89.7							− 5.69		
				42.4							− 22		
				39.67					− 5.94		− 3		
										53	37.48		
											−1.78		
										53	55.70		

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
d	+18.7	0	42.9	45.2	8.1	0	44.0	57 4.30		25	52 40 35.16	
	1.27184					25		52 40 50.30			− 10	+11.49
	9.78263							−15.14			− 7	
$((\delta) - D)\frac{d'}{100}$	1.17999 n										+11.08	
											+ 58	
δ_1											−31.50	
											40 15.15	
d	+21.0	3	28.0	33.7	61.7	3	30.85	14 17.50		5	51 57 45.66	
	1.32222					8		51 58 2.93			− 12	+10.16
	9.78967							−17.27			− 38	
$((\delta) - D)\frac{d'}{100}$	1.23741 n										+10.16	
											+ 50	
δ_2											−31.50	
											57 24.82	
d	+24.6	3	26.7	30.3	57.0	3	28.50	14 19.85		5	57 46.08	
	1.39094					8		51 58 6.32			− 16	+10.11
	9.78967							−20.24			− 38	
$((\delta) - D)\frac{d'}{100}$	1.30613 n										+10.15	
											+ 50	
δ_1											−31.80	
											57 24 39	
d	+24.6	3	26.5	30.0	56.5	3	28.25	14 20.10		5	57 45.86	
	1.39094					8		51 58 6.10			− 16	+10.33
	9.78967							−20.24			− 33	
$((\delta) - D)\frac{d'}{100}$	1.30613 n										+10.29	
											+ 53	
δ_2											−31.50	
											57 24.69	
d	+16.7 (17.2)	3	26.0	32.1	58.1	3	29.05	9 19.30		10	50 52 50.60 (26)	
	1.22789					13		50 53 4.73			− 8	+8.98
	9.79996							−14.27			− 38	
$((\delta) - D)\frac{d'}{100}$	1.15337 n										+ 9.00	
											+ 44	
δ_1											−31.40	
											52 ~~25.05~~ 27.84	
d	+26.5	3	21.4	26.5	7.9	3	23.95	9 24.40		10	52 48.55	
	1.42325					13		50 53 10.87			− 18	+8.88
	9.79996							−22.32			− 37	
$((\delta) - D)\frac{d'}{100}$	1.34873 n										+ 8.99	
											+ 44	
δ_2											−31.60	
											52 25.83	
d		3	24.1	27.4	11.5 ~~13~~ ~~25.75~~	13				10		
$((\delta) - D)\frac{d'}{100}$												
δ_1												
d	−9.0	2	6.0	14.1	20.1	2	10.05	5 38.30		15	51 49 31.16	
	0.95424 n					17		51 49 23.73			− 3	+10.22
	9.79111							+ 7.43			− 24	
$((\delta) - D)\frac{d'}{100}$	0.87087										+10.00	
											+ 49	
δ_2											−31.60	
											49 9.78	
d	+1.7	2	2.0	4.9	6.9	2	3.45	5 44.90		15	49 29.50	
	0.23045					17		51 49 30.90			− 0	+10.45
	9.79111							− 1.40			− 21	
$((\delta) - D)\frac{d'}{100}$	0.14708 n										+10.13	
											+ 53	
δ_1											−31.60	
											49 8.35	
+23.7	~~−36.3~~	3	15.9	21.4	37.3	3	18.65	19 29.70		0	53 ~~3 44.25~~	
1.37475	1.55994 n					3		53 3 15.13			2 56.12	+11.32
9.77879	9.77879							~~+29.12~~			− 15	
1.27906 n	1.46422							−19.01			− 36	
$((\delta) - D)\frac{d'}{100}$											+11.33	
											+ 50	
δ_2											−31.90	
											2 35.54	

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Date$_1$ = Nov. 24 (X446) — Observer / Recorder — Date$_2$ = Dec. 6 (447), " 14 — Observer / Recorder — 44 — Run

Star.	α	δ	Mag.	T_s	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
22	53 47	53.1	8.5	22 53	18.9 53	05.5	17.0	37.4	0.9	4.4	53	57.44	
	53 4.6	52 56.0	8.6		22.3							− 0.08 1	
Dec 6					25.6							− 17	
	κ				22.27					− 0.21 +01		− 3	
	((δ) − D) $\frac{\kappa'}{100}$										53	57.15	
												−1.46	
	c_1										53	55.77 8	
Dec 14			8.4	53	21.0 53	45.6	49.1	52.5	56.0	59.4	53	52.52	
					23.7							+ 4.55	
	κ				26.7							− 8	
					23.80					+ 4.44		− 3	
	((δ) − D) $\frac{\kappa'}{100}$										53	56.96	
												−1.25	
	α_2										53	55.71	
23	6 28	52 7	8.0	23 6	18.7 6	31.6	34.8	38.2	41.6	45.0	6	38.24	
	5 43.8	2.0	8.2		22.7							− 0.08 1	
Dec 6					26.0							− 17	
	κ				22.53					− 0.20 +01		− 2	
	((δ) − D) $\frac{\kappa'}{100}$										6	37.97	
												−1.69	
	α_1										6	36.35 6	
Dec 14			8.5	6	4.6 6	26.6	30.1	33.2	36.8	40.2	6	33.38	
					7.7							+ 4.56	
	κ				10.0							− 8	
					7.43					+ 4.46		− 2	
	((δ) − D) $\frac{\kappa'}{100}$										6	37.84	
												−1.49	
	α_2										6	36.35	
Dec 6	8 42	53 52	9.2	8	15 8	22.7	26.5	29.9	33.3	36.8	8	28.84	
	7 57.0	47.2	9.3		6.0							− 0.08 1	
	κ				9.6							− 1	
					5.70					− 0.21 +02		− 3	
	((δ) − D) $\frac{\kappa'}{100}$		—	8	53.9 9	3.9	7.3	10.8	14.1	17.6	8	29.56	−1.65
	8 15.3	53 8.7			57.2						9	10.74 8	27.00 28.00
					0.3							− 0.08 1	
	α_1				57.13					− 0.28 +02		− 1	
												− 3	
											9	10.46	−1.66
14			9.2	8	32.7 8	53.0	56.5	0.1	3.7	7.1	9	9.08	9 8.89
					36.3							+ 4.56	
	κ				38.4							− 8	
					35.80					+ 4.45		− 3	
	((δ) − D) $\frac{\kappa'}{100}$										9	4.53	
												−1.46	
	α_2										9	3.07	
6	16 11	53 15	8.5	10	10.0 10	14.5	17.7	21.2	24.7	28.3	10	21.28	
	9 26.0	10.5	8.8		12.8							− 0.08 1	
	κ				16.6							− 17	
					13.13					− 0.21 +01		− 3	
	((δ) − D) $\frac{\kappa'}{100}$		8.9								10	21.00	
												−1.71	
	α_1										10	19.36 7	
14			8.8	9	52.3 10	9.5	12.7	16.3	19.6	23.1	10	16.24	
					53.3							+ 4.56	
	κ				55.4							− 8	
					55.33					+ 4.45		− 3	
	((δ) − D) $\frac{\kappa'}{100}$										10	20.69	
												−1.50	
	α_2										10	19.19 7	
6	11 30	53 20	9.0	11	21.0 11	33.6	37.0	0.6	4.0	7.4	12	0.52	
	11 4.6	14.8	9.0		24.5							− 0.08 1	
	κ				27.3							− 17	
					24.27					− 0.21 +01		− 3	
	((δ) − D) $\frac{\kappa'}{100}$										12	0.24	
												−1.73	
	α_1										11	58.58 9	
14			9.1	11	32.0 11	48.7	51.9	55.5	59.0	2.4	11	55.50	
					35.8							+ 4.56	
	κ				38.7							− 8	
					35.60					+ 4.45		− 3	
	((δ) − D) $\frac{\kappa'}{100}$										11	59.95	
												−1.52	
	α_2											2.57	
											11	58.43	

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Runs

	$T_m - T$		A	C	Sum		Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
d	+35.1	3	9.5	12.8	22.3	3′	11″15	19 37.20			0	53 2 55.50	
	1.54531							53 3 23.67				− 32	+11.15
	9.77896							− 28.17				− 35	
	1.44979n											+11.32	
$((\delta) - D)\frac{d'}{100}$												+ 50	
												−3220	
δ_1												2 34.45	
d	+28.7	3	15.2	16.9	12.1	3	1605	19 32.30			0	2 55.26	
	1.45788							53 3 18.30				− 22	+11.53
	9.77896							− 23.04				− 33	
	1.36236n											+11.48	
$((\delta) - D)\frac{d'}{100}$												+ 60	
												−3200	
δ_2												2 34.79	
d	+15.7	2	50.1	53.9	4.0	2	5200	24 56.35			55	52 8 29.95	
	1.19590					57		52 8 42.82				− 7	+10.45
	9.78805							− 12.87				− 31	
	1.10947n											+10.33	
$((\delta) - D)\frac{d'}{100}$												+ 60	
												−32.80	
δ_1												8 7.60	
d	+26.0	2	42.2	45.8	8.0	2	4400	25 4.35			55	8 29.04	
	1.41497					57		52 8 50.35				− 18	+10.60
	9.78805							− 21.31				− 27	
	1.32854n											+10.49	
$((\delta) - D)\frac{d'}{100}$												+ 56	
												−3260	
δ_2												8 7.04	
d	+24.1	1	2.9	6.9	9.8	1	490	6 43.45			15	53 50 10.93	53 50 18.96
	1.38202					16		53 50 29.92				− 15	1249 − 5	12.59
	9.77095							− 18.99				− 12	− 12
	1.27849n							− 10.96				+12.18	+12.18
$((\delta) - D)\frac{d'}{100}$	+13.6											+ 58	+ 58
	1.13354											−3320	−3320
δ_1	9.77095											49 50.22	49 58.35
	1.04001n												
d	+24.3	2	27.8	40.8	7.86	2	8730	5 9.05			15	53 47 35.90	
	1.38561					17		53 48 55.05				− 15	+12.50
	9.77112							− 19.15				− 27	
	1.28225n											+12.32	
$((\delta) - D)\frac{d'}{100}$												+ 60	
												−33.10	
δ_2												47 15.30	
d	+8.2	0	52.3	55.4	7.7	0	5385	31 54.50			50	53 15 34.42	17 3.87
	0.91381					50		53 15 40.97				− 2	+11.97 − 2	+11.58
	9.77677							− 6.55				− 10	− 49
	0.81610n											+11.56	+11.56
$((\delta) - D)\frac{d'}{100}$		4	22.6	26.2	4.88	4	2440	33 20.95			45	+ 53	+ 53
						49		53 17 10.42				−33.20	−3320
δ_1	9.77660							− 6.55					16 42.25
d	+20.9	4	12.7	15.5	8.2	4	1410	33 34.25			45		17 3.57
	1.32015					49		53 17 20.25					− 12 +11.81
	9.77660							− 16.68					− 42
	1.22227n												+11.75
$((\delta) - D)\frac{d'}{100}$													+ 60
													−3310
δ_2													16 42.88
d	+36.2	4	1.0	4.0	5.0	4	250	38 45.85			40	53 22 3.44	
	1.55871					44		53 22 32.32				− 35	+11.42
	9.77575							− 28.84				− 44	
	1.45998n											+11.67	
$((\delta) - D)\frac{d'}{100}$												+ 54	
												−3330	
δ_1												21 41.56	
d	+20.0	4	16.5	17.5	14.0	4	1700	38 31.35			40	22 1.42	
	1.30103					44		53 22 17.35				− 10	+11.91
	9.77575							− 15.93				− 43	
	1.20230n											+11.84	
$((\delta) - D)\frac{d'}{100}$												+ 60	
												−3320	
δ_2												21 40.13	

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Date$_1$ = Dec 6 — Observer / Recorder — Nov 24 — Date$_2$ = Dec 14 — Observer / Recorder — Run

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_r	T_g	T_h	Sum	Mean	Red. to T_m	T
23	12 44	53 27	9.3	23 12 33.8	12 53.4	56.9	0.3	3.8	7.2	13	0.32		
	11 58.7	22.0	9.2	36.7							− 0.08 1		
	κ			40.2							− 17		
				3690					− 0.21 +01		− 3		
	((δ) — D) $\frac{\kappa'}{100}$									13	0.04		
											−1.74		
	a_1									12	58.37 8		
			9.2	12 37.6	12 48.3	52.0	55.4	58.8	2.3	12	55.86		
				41.4							+ 4.56		
	κ			44.6							− 8		
				4120					+ 4.45		− 3		
	((δ) — D) $\frac{\kappa'}{100}$									12	59.81		
											−1.54		
	a_2									12	58.27		
	14 30	52 34	8.7	14 11.8	14 35.1	38.5	41.9	45.3	48.7	14	41.90		
	13 45.6	29.0	8.8	15.1							− 0.08 1		
	κ			17.7							− 17		
				1487					− 0.20 +01		− 2		
	((δ) — D) $\frac{\kappa'}{100}$									14	41.63		
											−1.80		
	a_1									14	39.82 1		
			8.5	14 6.0	14 30.1	33.8	36.9	40.5	43.9	14	37.04		
				9.4							+ 4.56		
	κ			12.0							− 8		
				9.13					+ 4.46		− 2		
	((δ) — D) $\frac{\kappa'}{100}$									14	41.58		
											−1.60		
	a_2									14	39.90		
	15 59	51 26	9.3	15 57.0	16 10.2	13.4	16.6	19.6	22.8	16	16.52		
	15 13.9	20.2	9.4	59.0							− 5.70		
Nov 24	κ			1.5							− 21		
				59.17					− 5.93		− 2		
	((δ) — D) $\frac{\kappa'}{100}$									16	10.59		
											−2.15		
	a_1									14	8.44		
Dec 6			9.1	15 50.5	16 3.7	7.0	10.5	13.8	17.2	16	10.44		
				52.8							− 0.04 1		
	κ			56.4							− 16		
				5323					− 0.19 +01		− 2		
	((δ) — D) $\frac{\kappa'}{100}$									16	10.18		
											−1.86		
	a_2									16	8.32		
14			9.3	15 25.2	15 49.2	52.9	56.0	59.2	2.7	15	56.00		
				28.0							+ 4.56		
	κ			31.0							− 7		
				28.07					+ 4.47		− 2		
	((δ) — D) $\frac{\kappa'}{100}$									16	0.47		
											−1.67		
	a_1									15	58.80		
	16 56	53 19	8.5	16 48.8	17 6.2	9.5	12.7	—	—	17	12.90		
24	16 9.7	12.8	8.4	57.2			12.9				− 5.70		
	κ			53.0			13.1				− 23		
				51.67					− 5.96		− 3		
	((δ) — D) $\frac{\kappa'}{100}$									17	6.94		
											−2.11		
	a_2									17	4.83		
6			8.6	16 52.2	16 57.9	3.4	6.7	10.2	13.7	18	6.78		
				52.20							− 0.08 1		
	κ										− 17		
									− 0.21 +01		− 3		
	((δ) — D) $\frac{\kappa'}{100}$									17	6.50		
											−1.81		
	a_1									17	4.67		
14			8.7	16 37.4	16 55.1	58.6	2.1	5.7	8.8	17	2.06		
				42.0							+ 4.56		
	κ			44.1							− 8		
				4117					45		− 3		
	((δ) — D) $\frac{\kappa'}{100}$								+ 4.47	17	6.51		
											−1.61		
	a_2									17	4.90		

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Runs

	$T_m - T$		A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+23.4	0	30.1	33.2	3.3	0′	3′.65	42 16.70		40	53 25 44.56	
	1.36922					40		53 26 3.17			− 14	+12.08
d	9.77507							−18.61			− 6	
	1.26981m										+11.74	
$((\delta) - D)\frac{d'}{100}$											+ 54	
											−33.30	
δ_1											25 23.34	
	+14.2	0	37.3	40.0	77.3	0	3865	42 9.70		40	25 44.40	
	1.15229					40		53 25 55.70			− 5	+12.41
d	9.77524							− 11.30			− 6	
	1.05305m										+11.92	
$((\delta) - D)\frac{d'}{100}$											+ 60	
											−33.30	
δ_2											25 23.51	
	+27.0	1	6.0	9.5	15.5	1	7.75	51 40.60		30	52 35 5.17	
	1.43136					31		52 35 27.07			− 19	+11.00
d	9.78362							− 21.90			− 13	
	1.34050m										+10.82	
$((\delta) - D)\frac{d'}{100}$											+ 50	
											−33.20	
δ_1											34 42.97	
	+27.9	1	5.6	8.6	14.2	1	7.10	51 41.25		30	35 4.62	
	1.44560					31		52 35 27.25			− 21	+11.25
d	9.78362							− 22.63			− 11	
	1.35474m										+10.99	
$((\delta) - D)\frac{d'}{100}$											+ 58	
											−33.10	
δ_2											34 42.77	
	+17.3	4	4.9	10.9	15.8	4	7.90	43 40.45		35	51 27 11.49	
	1.23805					39		51 27 25.88			− 8	+9.54
d	9.79463							− 14.39			− 46	
	1.15820m										+ 9.61	
$((\delta) - D)\frac{d'}{100}$											+ 47	
											−3260	
δ_1											26 48.43	
	+17.2	4	6.1	9.8	15.9	4	7.95	43 40.40		85	27 12.56	
	1.23553					39		51 27 26.87			− 8	+9.53
d	9.79463							− 14.31			− 46	
	1.15568m										+ 9.60	
$((\delta) - D)\frac{d'}{100}$											+ 47	
											−3310	
δ_2											26 48.99	
	+27.9	0	20.2	23.8	4.0	0	2200	42 26.35		40	51 25 49.13	
	1.44560					40		51 26 12.35			− 21	+9.97
d	9.79478							− 23.22			− 4	
	1.36590m										+ 9.73	
$((\delta) - D)\frac{d'}{100}$											+ 49	
											−33.10	
δ_1											25 26.00	
	+21.2	1	35.8	42.2	78.0	1	39.00	36 9.35		45	53 19 37.88	
	1,32634					46		53 19 54.78			− 12	+11.87
d	9.77609							− 16.90			− 18	
	1,22795m										+11.64	
$((\delta) - D)\frac{d'}{100}$											+ 53	
											−3290	
δ_2											19 16.85	
	+14.6	1	42.9	46.9	9.8	1	4490	36 3.45		45	19 38.28	
	1.16435					46		53 19 49.92			− 6	+11.91
d	9.77609							−11.64			− 19	
	1.06596m										+11.63	
$((\delta) - D)\frac{d'}{100}$											+ 53	
											−33.50	
δ_1											19 16.69	
	+20.9	1	38.9	41.4	80.3	1	4015	36 8.20		45	19 37.54	
	1.32015					46		53 19 54.20			− 12	+12.13
d	9.77609							−16.66			− 17	
	1.22176m										+11.82	
$((\delta) - D)\frac{d'}{100}$											+ 60	
											−33.50	
δ_2											19 16.17	

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Date$_1$ = Dec 6 — Observer / Recorder — Date$_2$ = Dec 14 — Observer / Recorder

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
3	17 52	53 54	9.1	23 17 50.4	17 53.0	56.5	0.1	3.4	6.7	17	57.94		
	17 6.0	48.3	9.0	53.1							− 0.01		
	κ			53.7							− 17		
				53.07					− 0.21 +02		− 3		
	((δ) — D) $\frac{\kappa'}{100}$									17	59.66		
	α_1										−1.80		
										17	57.93	5	
			8.8	17 33.1	17 48.1	51.6	53.0	53.6	2.2	17	55.10		
				36.8							+ 4.54		
	κ			39.8							− 8		
				36.57					+ 4.45		− 3		
	((δ) — D) $\frac{\kappa'}{100}$									17	59.55		
	α_2										−1.59		
										17	57.96		
	18 44	52 43	8.0	18 41.8	18 48.3	51.8	53.2	53.6	2.0	18	55.18		
	17 58.0	37.0	7.8	44.2							− 0.01		
	κ			47.3							− 17		
				44.43					− 0.20 +01		− 2		
	((δ) — D) $\frac{\kappa'}{100}$									18	54.91		
	α_1										−1.88		
										18	53.13	3	
			7.8	18 32.3	18 44.2	46.8	50.4	53.8	55.2	18	53.48		
				35.9							+ 4.56		
	κ			38.0							− 8		
				35.40					+ 4.46		− 2		
	((δ) — D) $\frac{\kappa'}{100}$									18	54.94		
	α_2										−1.66		
										18	53.28		
	19 49	52 40	7.7	19 28.2	19 37.7	53.0	53.5	1.9	5.4	19	58.50		
	19 3.2	34.6	7.9	30.8							− 0.01		
	κ			34.0							− 17		
				31.00					− 0.20 +01		− 2		
	((δ) — D) $\frac{\kappa'}{100}$									19	58.23		
	α_1										−1.88		
										19	56.42	3	
			7.5	19 19.0	19 46.7	50.2	53.5	56.9	6.4	19	53.54		
				22.0							+ 4.56		
	κ			25.6							− 8		
				22.20					+ 4.46		− 2		
	((δ) — D) $\frac{\kappa'}{100}$									19	58.00		
	α_2										−1.68		
										19	56.32		
	20 36	52 44	8.7	20 19.0	20 41.2	44.7	48.1	51.5	54.9	20	48.08		
	19 58.8	38.6	9.0	22.0							− 0.01		
	κ			24.5							− 17		
				21.83					− 0.20 +01		− 2		
	((δ) — D) $\frac{\kappa'}{100}$									20	47.81		
	α_1										−1.89		
										20	45.99	46.00	
			8.7	20 15.6	20 36.2	39.6	43.2	46.7	49.8	20	43.10		
				19.5							+ 4.56		
	κ			21.7							− 8		
				18.93					+ 4.46		− 2		
	((δ) — D) $\frac{\kappa'}{100}$									20	47.56		
	α_2										−1.69		
										20	45.87		
	25 34	52 27	9.0	24 58.7	25 18.0	21.5	25.0	28.3	31.8	25	24.92		
	24 ~~477~~ 249	21.6	9.0	1.7							− 0.01		
	κ			5.0							− 17		
				1.80					− 0.20 +01		− 2		
	((δ) — D) $\frac{\kappa'}{100}$									25	24.66		
	α_1										−1.97		
										25	22.75	6	
			9.0	24 49.0	25 13.4	16.8	20.1	23.4	26.9	25	20.12		
				52.5	16.8						+ 4.56		
	κ			55.0	Dot						− 8		
				52.17					+ 4.46		− 2		
	((δ) — D) $\frac{\kappa'}{100}$									25	24.58		
	α_2										−1.78		
										25	22.80		

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
d	+6.8	2, 28.2	32.2	60.4	2′ 30″20	10 18.15			10	53 53 59.27	
	0.83251				12	53 54 4.62				− 1	+12.56
	9.77026					− 5.35				− 27	
$((\delta) - D)\frac{d'}{100}$	0.72829m									+12.25	
										+ 59	
δ_1										−33.70	
										53 38.13	
d	+18.5	2 19.9	22.0	41.9	2 20″95	10 27.40			10	53 58.85	
	1.26717				12	53 54 13.40				− 8	+12.73
	9.77026					− 14.55				− 23	
$((\delta) - D)\frac{d'}{100}$	1.16295m									+12.44	
										+ 60	
δ_2										−33.70	
										53 37.88	
d	+10.8	2 30.2	33.2	34	2 31″70	0 16.65			20	52 43 54.39	
	1.03342				22	52 44 3.12				− 3	+11.18
	9.78213					− 8.73				− 27	
$((\delta) - D)\frac{d'}{100}$	0.94107m									+10.98	
										+ 50	
δ_1										−33.50	
										43 32.07	
d	+15.1	2 26.7	28.6	153	2 27″65	0 20.70			20	~~43~~ 54.50	
	1.17898				22	52 44 6.70				− 6	+11.44
	9.78180					− 12.20				− 25	
$((\delta) - D)\frac{d'}{100}$	1.08630m									+11.16	
										+ 59	
δ_2										−33.50	
										43 32.44	
d	+27.5	0 18.2	21.9	40.1	0 20″05	57 28.30			25	52 40 52.51	
	1.43933				25	52 41 14.77				− 20	+11.19
	9.78263					− 22.26				− 4	
$((\delta) - D)\frac{d'}{100}$	1.34748m									+10.93	
										+ 50	
δ_1										−33.50	
										40 30.20	
d	+31.3	0 16.0	19.1	151	0 17″55	57 30.80			25	40 51.47	
	1.49554				25	52 41 16.80				− 26	+11.39
	9.78263					− 25.33				− 3	
$((\delta) - D)\frac{d'}{100}$	1.40369m									+11.10	
										+ 58	
δ_2										−33.60	
										40 29.26	
d	+26.3	0 29.0	32.2	61.2	0 30″60	2 17.75			20	52 45 42.97	
	1.41996				20	52 46 4.22				− 18	+11.29
	9.78180					−21.25				− 5	
$((\delta) - D)\frac{d'}{100}$	1.32728m									+11.02	
										+ 50	
δ_1										−33.60	
										45 20.66	
d	+24.2	0 31.8	34.0	58	0 32″90	2 15.45			20	45 41.90	
	1.38382				20	52 46 1.45				− 16	+11.56
	9.78180					−19.55				− 5	
$((\delta) - D)\frac{d'}{100}$	1.29114m									+11.19	
										+ 58	
δ_2										− 3360	
										45 19.86	
d	+23.1	0 0.1	5.4	55	0 27″5	42 45.60			40	52 26 13.27	
	1.36361				40	52 26 32.07				− 14	+11.00
	9.78510					− 18.80				− 1	
$((\delta) - D)\frac{d'}{100}$	1.27423m									+10.65	
										+ 50	
δ_1										−33.70	
										25 50.57	
d	+27.9	4 57.2	58.1	153	4 57″65	42 50.70			35	26 13.99	
	1.44560				39	52 26 36.70				− 21	+10.69
	9.78510					− 22.71				− 50	
$((\delta) - D)\frac{d'}{100}$	1.35622m									+10.83	
										+ 57	
δ_2										− 3380	
										25 5085	

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Date$_1$ = Dec. 6 Observer / Recorder — Date$_2$ = Dec. 14 Observer / Recorder — Run

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_r	T_g	T_h	Sum	Mean	Red. to T_m	T
3	26 32	52 59	7.0	23 26 14.7	26 36.0	39.3	42.7	46.2	49.6	26	42.76		
	25 45.5	53.2	7.0	17.7							− 0.07	1	
	κ			19.8							− 17		
				1740					− 0.21 +01		− 3		
	((δ) — D) $\frac{\kappa'}{100}$									26	42.49		
											−1.98		
	a_1									26	40.51	8	
			7.0	26 13.2	26 30.8	34.1	37.9	41.2	44.5	26	37.70		
				16.3							+ 4.56		
	κ			19.2							− 8		
				1623					+ 4.45		− 3		
	((δ) — D) $\frac{\kappa'}{100}$									26	42.15		
											−1.78		
	a_2										5.03		
										26	40.37		
	27 55	50 52	8.9	27 37.7	28 1.1	4.6	7.9	11.0	14.2	28	7.76		
	27 8.4	47.0	8.8	41.3							− 0.07	1	
	κ			44.0							− 16		
				4100					− 0.19 +01		− 2		
	((δ) — D) $\frac{\kappa'}{100}$									28	7.51		
											−2.06		
	a_1									28	5.51	2	
			8.9	27 55.8	27 56.4	59.7	3.1	6.2	9.6	28	3.00		
				1.8							+ 4.56		
	κ			3.0							− 7		
				1.77					+ 4.47		− 2		
	((δ) — D) $\frac{\kappa'}{100}$									28	7.47		
											−1.88		
	a_2									28	5.59		
	28 46	51 58	8.0	28 31.3	28 52.7	56.0	59.3	2.7	6.1	28	59.36		
	28 0.2	52.9	8.5	34.1							− 0.07	1	
	κ			36.5							− 17		
				3397					− 0.20 +02		− 2		
	((δ) — D) $\frac{\kappa'}{100}$									28	59.10		
											−2.04		
	a_1									28	57.12	4	
			8.4	28 38.4	28 47.9	51.1	54.4	57.7	1.1	28	54.44		
				41.6							+ 4.56		
	κ			44.8							− 8		
				4160					+ 4.46		− 2		
	((δ) — D) $\frac{\kappa'}{100}$									28	59.98		
											−1.85		
	a_2									28	57.05		
	29 58	50 29	9.2	29 41.2	30 4.7	7.9	11.1	14.4	17.7	30	11.16		
	27 11.6	24.1	9.3	48.4							− 0.07	1	
	κ			57.0							− 16		
				4820					− 0.19 +01		− 2		
	((δ) — D) $\frac{\kappa'}{100}$									30	10.91		
											−2.10		
	a_1									30	8.81	8	
			9.4	29 39.4	29 59.8	2.9	6.3	9.7	12.8	30	6.30		
				43.9							+ 4.56		
	κ			46.0							− 7		
				4310					+ 4.47		− 2		
	((δ) — D) $\frac{\kappa'}{100}$									30	10.77		
											−1.92		
	a_2									30	8.85		
	30 30	53 15	8.3	30 32.3	30 54.6	58.0	41.1	44.9	48.3	30	41.88		
	29 42.1	9.2	8.4	35.0							− 0.07	1	
	κ			37.3							− 18		
				5487					− 0.22 +01		− 3		
	((δ) — D) $\frac{\kappa'}{100}$									30	41.10		
											−2.03		
	a_1									30	39.12	4	
			8.5	30 45.4	30 29.6	33.2	36.5	40.0	43.6	30	36.58		
				45.0							+ 4.56		
	κ										− 8		
									+ 4.45		− 3		
	((δ) — D) $\frac{\kappa'}{100}$									30	41.03		
											−1.84		
	a_2									30	39.19		

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Runs

	$T_m - T$		A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+25.4	1	2.8	6.3	91	1	455	16 43.80		5	53 0 9.86	
	1.40483					6		53 0 30.27			− 17	+18.49
d	9.77946							− 20.41			− 12	
	1.30981n										+11.28	
$((\delta) - D)\frac{d'}{100}$											+ 50	
											−33.90	
δ_1											59 47.45	
	+21.5	1	6.0	8.0	140	1	700	16 41.35		5	0 10.08	
	1.33244					6		53 0 27.35			− 12	+11.82
d	9.77946							− 17.27			− 11	
	1.23742n										+11.45	
$((\delta) - D)\frac{d'}{100}$											+ 60	
											−33.90	
δ_2											59 48.00	
	+26.8	2	6.4	10.8	172	2	860	10 39.75		10	50 54 3.65	
	1.42813					12		50 54 26.22			− 19	+9.02
d	9.77981							− 22.57			− 24	
	1.35346n										+9.01	
$((\delta) - D)\frac{d'}{100}$											+ 44	
											−33.50	
δ_1											53 39.17	
	+ 1.2	2	29.4	31.6	61.0	2	305	10 17.85		10	54 2.84	
	0.07918					12		50 54 3.85			− 0	+9.39
d	9.77981							− 1.01			− 25	
	0.60451n										+9.19	
$((\delta) - D)\frac{d'}{100}$											+ 45	
											−33.60	
δ_2											53 38.63	
	+25.4	1	42.3	46.2	85	1	425	16 4.10		5	51 59 29.69	
	1.40483					6		57 59 50.57			− 17	+10.32
d	9.78934							− 20.88			− 19	
	1.31969n										+10.18	
$((\delta) - D)\frac{d'}{100}$											+ 50	
											−33.80	
δ_1											59 6.21	
	+12.8	1	54.1	55.5	96	1	548	15 53.55		5	59 29.03	
	1.10721					6		51 59 39.55			− 5	+10.64
d	9.78934							− 10.52			− 19	
	1.02207n										+10.33	
$((\delta) - D)\frac{d'}{100}$											+ 55	
											−33.90	
δ_2											59 5.77	
	+23.0	0	26.4	31.0	574	0	2870	47 19.65		35	50 30 46.59	
	1.36173					35		50 31 6.12			− 14	+8.81
d	9.80336							− 19.53			− 5	
	1.29061n										+8.60	
$((\delta) - D)\frac{d'}{100}$											+ 40	
											−33.50	
δ_1											30 21.90	
	+23.2	0	26.9	29.1	160	0	2800	47 20.35		35	30 46.66	
	1.36549					35		50 31 6.35			− 14	+8.98
d	9.80336							−19.69			− 5	
	1.29437n										+8.74	
$((\delta) - D)\frac{d'}{100}$											+ 43	
											−33.60	
δ_2											30 22.04	
	+ 6.5	0	22.9	26.4	93	0	2465	32 23.70		50	53 16 4.98	
	0.81291					50		53 16 10.17			− 1	+12.04
d	9.77677							− 5.19			− 5	
	0.71520n										+11.57	
$((\delta) - D)\frac{d'}{100}$											+ 53	
											−34.10	
δ_1											15 42.92	
	− 8.8	0	38.2	40.2	784	0	3920	32 9.15		50	16 2.18	
	0.94448n					50		53 15 55.15			− 2	+12.26
d	9.77677							+ 7.03			− 6	
	0.84677										+11.74	
$((\delta) - D)\frac{d'}{100}$											+ 60	
											−34.20	
δ_2											15 40.24	

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Date$_1$ = Dec. 6 Observer / Recorder

Date$_2$ = Dec. 14 Observer / Recorder

Ru

Star.	α	δ	Mag.	T_δ	T_m	T_o	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
23	31 12	50 14	9.0	23 31 47.8	31 42.4	46.2	49.3	52.3	53.6	31	49.20		
	30 24.9	9.7	8.8	50.2							− 0.07		
	κ 48.5	4.6		52.8							− 15		
				50.27					− 0.18 +01		− 2		
	((δ) — D) $\frac{\kappa'}{100}$									31	48.96		
											−2.14 9		
	α_1									31	46.88		
			9.1	31 17.2	31 37.9	40.8	44.3	47.8	50.6	31	44.28		
				20.7							+ 4.56		
	κ			28.2							− 7		
				20.37					+ 4.47		− 2		
	((δ) — D) $\frac{\kappa'}{100}$									31	48.75		
											−1.96		
	α_2									31	46.79		
	32 55	53 58	8.4	32 38.8	32 58.7	2.4	6.0	9.5	12.1	33	5.98		
	32 6.7	51.8	8.5	42.0							− 0.07 1		
	κ			44.8							− 18		
				41.87					− 0.22 +01		− 3		
	((δ) — D) $\frac{\kappa'}{100}$									33	5.70		
											−2.05		
	α_1									33	3.71 2		
			8.5	32 24.9	32 54.0	57.7	1.0	4.5	8.3	33	1.10		
				28.8							+ 4.56		
	κ			32.1							− 8		
				28.60					+ 4.45		− 3		
	((δ) — D) $\frac{\kappa'}{100}$									33	5.55		
											−1.85		
	α_2									33	3.70		
	36 49	52 38	8.8	34 33.5	36 54.6	58.0	1.5	5.0	8.4	37	1.50		
	36 1.2	32.0	9.0	37.0							− 0.07 1		
	κ			40.1							− 17		
				36.87					− 0.20 +01		− 2		
	((δ) — D) $\frac{\kappa'}{100}$									37	1.24		
											−2.15		
	α_1									36	59.18 6		
			8.9	36 21.9	36 49.9	53.3	56.7	0.1	3.6	36	56.72		
				25.2							+ 4.56		
	κ			27.7							− 8		
				24.93					+ 4.46		− 2		
	((δ) — D) $\frac{\kappa'}{100}$									37	1.18		
											−1.95		
	α_2									36	59.23		
	κ												
	((δ) — D) $\frac{\kappa'}{100}$												
	α_1												

Single Observations.

22	30 07	58 0	8.7	22 30 10.0	30 16.2	19.5	22.9	26.4	29.9	30	22.98		
	29 27.4	52 55.3	9.0	12.2							− 5.69		
Nov 24	κ			15.7							− 23		
				12.53					− 5.95		− 3		
	((δ) — D) $\frac{\kappa'}{100}$									30	17.03		
											−1.43		
	α_2									30	15.60		
22	33 07	51 48	9.0	33 27.5	33 15.2	18.3	21.8	25.2	28.6	33	21.82		
	32 26.2	38.9	9.0	27.50							− 5.69		
Nov 24	κ 25.7	37.4							− 5.92		− 21		
										33	1.590	−153	
	((δ) — D) $\frac{\kappa'}{100}$		9.5	32 58.9	33 16.2	19.3	22.7	26.0	29.5	33	22.74	33 14.37	
	32 α_1 26.2	36.5		32.9							− 5.69		
				58.6					− 5.92		− 21		
				32.47						33	16.82	−153	
22	26 00	50 12	8.0	22 25 57.0	26 10.3	13.5	16.7	20.0	23.3	26	16.76	33 15.29	
	25 21.3	7.5	7.6	58.7							− 5.69		
2 Dec 6	κ			53.8							− 20		
				53.57					− 5.91		− 2		
Nov. 24	((δ) — D) $\frac{\kappa'}{100}$									26	10.85		
											−1.49		
	α_2									26	9.36		

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Runs

	$T_m - T$		A	C	Sum		Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	−1.1	1	44.7	50.0	94.7	1	47.35	31 1.00			50	50 14 48.41	
	0.04139	n				51		50 14 47.47				0	+8.49
d	9.80580							+ 0.94				− 19	
	9.97271											+ 8.31	
$((\delta) - D)\frac{d'}{100}$												+ 37	
												− 33.50	
δ_1												14 23.40	
	+23.9	1	24.0	26.5	10.5	1	25.25	31 23.10			50	14 48.70	
	1.37840					51		50 15 9.10				− 15	+8.56
d	9.80580							−20.40				− 14	
	1.30972	n										+ 8.44	
$((\delta) - D)\frac{d'}{100}$												+ 41	
												−3360	
δ_2												14 23.66	
	+24.1	2	32.6	35.7	8.3	2	34.15	15 14.20			5	53 58 41.75	
	1.38202					7		53 59 0.67				− 15	+12.52
d	9.76939							−18.92				− 28	
	1.27693	n										+12.35	
$((\delta) - D)\frac{d'}{100}$												+ 60	
												−34.30	
δ_1												58 19.97	
	+32.5	2	26.2	27.0	13.2	2	26.60	15 21.75			5	58 42.24	
	1.51188					7		53 59 7.75				− 27	+11.62
d	9.76939							−25.51				− 24	
	1.40679	n										+11.53	
$((\delta) - D)\frac{d'}{100}$												+ 60	
												−3450	
δ_2												58 19.36	
+24.6	~~−35.4~~	2	6.1	10.1	16.2	2	8.10	55 40.25			25	52 39 ~~56.38~~	
1.39094	~~1.54900~~	n				27		52 39 26.72				6.80	+11.50
9.78280	~~9.78280~~							~~+28.66~~				− 16	
1.29926 n	~~1.45732~~							− 19.92				− 24	
$((\delta) - D)\frac{d'}{100}$												+10.90	
												+ 50	
δ_1												−3420	
												38 43.60	
	+31.8	2	1.0	2.1	3.1	2	1.55	55 46.80			25	39 7.04	
	1.50243					27		52 39 32.80				− 26	+11.19
d	9.78296							− 25.76				− 20	
	1.41091	n										+11.07	
$((\delta) - D)\frac{d'}{100}$												+ 58	
												−3440	
δ_2												38 43.83	
d													
$((\delta) - D)\frac{d'}{100}$													
δ_1													
	+10.5	4	49.0	54.9	103.9	4	51.95	17 56.40			0	53 1 33.40	
	1.02119							53 1 41.83				− 3	+11.25
d	9.77930							− 8.43				− 53	
	0.92601	n										+11.31	
$((\delta) - D)\frac{d'}{100}$												+ 50	
												−3060	
δ_2												1 14.05	
					8		42						
	− 5.7	2	38.9	45.7	94.6	2	47.30	0 6.05			20	51 43 56.19	43 28.79
	0.75587	n				22		51 43 51.48				− 1	− 18 +9.93
d	9.79192							+ 4.71				− 29 +10.10	− 29
	0.67331							− 22.69				+ 9.91	+ 9.91
$((\delta) - D)\frac{d'}{100}$	+26.2	2	38.9	45.7	84.6	2	42.30				20	+ 49	+ 49
	1.41830					22						−3060	−3060
δ_1	9.79192											43 35.69	43 8.12
	1.33574 n												
	+23.3	1	56.5	5.1	12.16	2	0.80	30 47.55			50	50 14 13.08	
	1.36736					52		50 14 32.98				− 14	+8.30
d	9.80595							− 19.90				− 22	
	1.29883 n											+ 8.29	
$((\delta) - D)\frac{d'}{100}$												+ 37	
												−2996	
δ_2												13 51.48	

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Date$_1$ = Dec 6 — Observer / Recorder — Date$_2$ = Dec 13 — Observer / Recorder — Run

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
	32 47	50 3	8.8	0 32 36.2	32 56.9	0.2	8.4	6.6	9.8	33	8.38		
	31 54.7	49 56.8	8.9	39.8						+.014	−0.04		
	κ			42.2							−15		
	((δ) — D) $\frac{\kappa'}{100}$			39.40					−0.18	+01	−2.		
	a_1									33	3.17		
											−3.06		
										33	0.115		
			8.8	32 30.1	32 52.8	56.0	59.2	2.4	5.8	32	59.24		
				33.7							+4.05		
	κ			36.1							−11		
	((δ) — D) $\frac{\kappa'}{100}$			33.30					+3.92		−2.		
	a_2									33	3.16		
											−2.93		
										33	0.23		
	33 36	54 18	8.4	33 40.0	33 44.0	47.5	51.0	57.6	58.2	33	51.06		
	32 40.5		8.6	42.2							−0.04		
	κ			46.0							−18		
	((δ) — D) $\frac{\kappa'}{100}$			42.73					−0.22	+02	−3		
	a_1									33	50.81		
											−3.08		
										33	47.788		
			8.7	33 31.9	33 39.8	43.2	46.7	53.3	53.9	33	46.78		
				35.3							+4.05		
	κ			37.6							−12		
	((δ) — D) $\frac{\kappa'}{100}$			34.93					+3.90		−3		
	a_2									33	50.68		
											−2.92		
										33	47.76		
	34 28	54 59	8.5	34 29.1	34 35.7	38.7	42.4	45.8	49.6	34	42.38		
	33 31.6	53.2	8.2	29.10							−0.04		
	κ										−19		
	((δ) — D) $\frac{\kappa'}{100}$								−0.23	+01	−3		
	a_1									34	42.17		
											−3.106		
										34	39.056		
			8.5	34 10.3	34 21.0	34.6	38.2	41.8	45.4	34	38.20		
				13.1							+4.05		
	κ			15.8							−13		
	((δ) — D) $\frac{\kappa'}{100}$			13.07					+3.89		−3		
	a_2									34	34.91 41.99		
											−2.94		
										34	39.15		
	36 39	54 56	8.4	36 18.0	36 47.0	50.7	54.3	58.0	1.6	36	54.32		
	35 43.4	49.6	8.5	20.9							−0.04		
	κ			23.8							−19		
	((δ) — D) $\frac{\kappa'}{100}$			20.90					−0.23	+01	−3		
	a_1									36	54.06		
											−3.137		
										36	50.987		
			8.5	36 18.9	36 43.0	46.4	50.2	53.7	57.4	36	50.14		
				23.6	46.4						+4.04		
	κ			26.1							−13		
	((δ) — D) $\frac{\kappa'}{100}$			22.97					+3.88		−3		
	a_2									36	54.02		
											−2.98		
										36	51.04		
	37 21	54 13	8.6	37 17.7	37 29.0	32.6	36.0	39.6	43.2	37	36.08		
	36 25.2	7.4	8.9	21.4							−0.04		
	κ			24.3							−18		
	((δ) — D) $\frac{\kappa'}{100}$			21.13					−0.22	+.01	−3		
	a_1									37	35.84		
											−3.143		
										37	32.703		
			8.6	37 10.7	37 24.9	28.4	31.9	35.7	39.1	37	32.00		
				14.5							+4.04		
	κ			17.6							−12		
	((δ) — D) $\frac{\kappa'}{100}$			14.27					+3.89		−3		
	a_2									37	35.89		
											−2.99		
										37	32.90		

Add +.014 to (ΔT+m) for Dec 6. It has been added to Sum of corrections and to final R.A.

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Dec. 13 −16′ 14.″15 −.″10

Runs

	$T_m - T$		A	C	Sum		Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
d	+24.0	1	2.5	6.8	9.3	1′	4.″65	21 43.70			0	50 5 9.61	
	1.380211							50 5 30.17				− .15	+8.24
	9.80731							− 20.56				− 12	
	1.31304n											+8.15	
$((\delta) - D)\frac{d'}{100}$												+ 36	
												−34.80	
δ_1												4 43.05	
d	+25.9	0	58.2	3.6	121.8	1	090	21 47.45			0	5 11.11	
	1.41330							50 5 33.30				− 18	+ 7.75 8.01
	9.80731							− 22.19				− 10	
	1.34613n											+ 7.93	
$((\delta) - D)\frac{d'}{100}$												+ 36	
												−35.30	
δ_2												4 43.82	
d	+ 8.4	2	51.1	52.5	3.6	2	5180	34 56.55			45	54 18 36.48	
	0.92428					47		54 18 43.02				− 2	+13.03
	9.76590							− 6.54				− 31	
	0.81570n											+12.74	
$((\delta) - D)\frac{d'}{100}$												+ 62	
												−35.40	
δ_1												18 14.11	
d	+11.9	2	46.1	50.1	9.62	2	4810	35 0.25			45	18 36.83	
	1.07655					47		54 18 46.10				− 4	+12.70
	9.76590							− 9.27				− 28	
	0.96697n											+12.39	
$((\delta) - D)\frac{d'}{100}$												+ 603	
												−36.10	
δ_2												18 13.43	
d	+13.3	1	12.5	16.9	9.4	1	1470	16 33.65			5	55 0 9.41	
	1.12385					6		55 0 20.12				− 5	+13.95
	9.75859							− 10.71				− 14	
	1.02796n											+13.49	
$((\delta) - D)\frac{d'}{100}$												+ 65	
												−35.60	
δ_1												54 59 47.76	
d	+25.1	1	2.2	7.0	9.21		460	16 43.75			5	0 10.38	
	1.39967					6		55 0 29.60				− 16	+13.55
	9.75859							− 19.22				− 11	
	1.28378n											+13.12	
$((\delta) - D)\frac{d'}{100}$												+ 70	
												−36.20	
δ_2												59 47.73	
d	+33.4	4	35.9	37.9	13.8	4	3690	13 11.45			5	54 56 32.30	
	1.52375					9		54 56 57.92				− 27	+13.30
	9.75931							− 25.62				− 50	
	1.40858n											+13.44	
$((\delta) - D)\frac{d'}{100}$												+ 65	
												−35.60	
δ_1												56 1600	
d	+27.1	4	38.9	42.5	81.4	4	4070	13 7.65			5	56 32.71	
	1.43297					9		54 56 53.50				− 19	+13.10
	9.75931							− 20.79				− 47	
	1.31780n											+13.07	
$((\delta) - D)\frac{d'}{100}$												+ 69	
												−36.20	
δ_2												56 9.61	
d	+15.0	2	8.9	11.6	20.5	2	1025	30 38.10			50	54 14 12.87	
	1.17609					52		54 14 24.57				− 6	+12.96
	9.76677							− 11.70				− 24	
	1.06838n											+12.65	
$((\delta) - D)\frac{d'}{100}$												+ 41	
												−35.40	
δ_1												18 50.43	
d	+17.7	2	3.8	8.3	12.1	2	605	30 42.30			50	14 14.34	
	1.24797					52		54 14 28.15				− 8	+12.63
	9.76677							− 13.81				− 21	
	1.14026n											+12.30	
$((\delta) - D)\frac{d'}{100}$												+ 62	
												−36.10	
δ_2												13 50.87	

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Date$_1$ = Dec. 6 — Observer / Recorder

Date$_2$ = Dec. 13 — Observer / Recorder

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
38	30	54 17	8.0	38 18.1 18.7	38 38.6	42.1	45.6	49.0	52.7	38	45.60		
37	34.2	11.2	8.0	20.3 19.6							− 0.03		
κ				23.9 19.0					− 0.22	+01	− 18		
				20.7 7							− 3		
((δ) — D) $\frac{\kappa'}{100}$			9.3	38 18.6	40.3	43.9	47.5	50.8	54.5	38	45.36	−3.16	
				11.6							47.40	38 42.28	3
α_1				14.0							− 0.03		
				11.4 0					− 0.22	+01	− 18		
											− 3		
										38	47.76	−3.16	3
			8.0	38 18.6	38 34.7	38.0	41.5	45.7	48.6	38	41.46	38 44.02	
				22.4							+ 4.04		
κ				24.8							− 12		
				21.93					+ 3.89		− 3		
										38	45.35	−3.01	
((δ) — D) $\frac{\kappa'}{100}$			9.4	38 0.4	38 36.0	39.7	43.2	46.9	50.2	38	43.20	38 43.34	
				12.8							+ 4.04		
α_2				15.2					+ 3.89		− 12		
				12.37							− 3		
										38	47.09	−3.01	
40	03	54 52	8.6	39 44.1	40 12.0	15.5	19.0	22.6	26.3	40	19.08	38 44.08	
39	5.9	45.8	9.0	48.2	15.5						− 0.03		
κ				51.0	14						− 19		
				47.77					− 0.23	+01	− 3		
((δ) — D) $\frac{\kappa'}{100}$										40	18.83		
											−3.18		
α_1										40	15.67	8	
			8.8	39 46.7	40 7.8	11.4	15.0	18.5	22.1	40	14.96		
				49.8							+ 4.04		
κ				53.2							− 13		
				49.98					+ 3.88		− 3		
((δ) — D) $\frac{\kappa'}{100}$										40	18.84		
											−3.04		
α_2										40	15.80		
41	08	54 7	8.7	40 57.5	41 16.4	19.9	23.3	27.0	30.6	41	23.44		
40	11.5	0.6	8.5	53.2	14.9						− 0.03		
κ				57.8	23.2						− 18		
				54.83					− 0.22	+01	− 3		
((δ) — D) $\frac{\kappa'}{100}$										41	23.20		
											−3.21		
α_1										41	20.08	2	
			8.6	40 47.6	41 12.2	15.8	19.2	22.8	26.3	41	19.26		
				51.4							+ 4.04		
κ				53.7							− 12		
				50.90					+ 3.89		− 3		
((δ) — D) $\frac{\kappa'}{100}$										41	23.15		
											−3.06		
α_2										41	20.09		
42	08	54 52	9.0	41 57.8	42 17.1	20.7	24.4	28.0	31.6	42	24.36		
41.	11.0	46.5	9.0	0.8							− 0.03		
κ				4.8							− 19		
				1.13					− 0.23	+02	− 3		
((δ) — D) $\frac{\kappa'}{100}$										42	24.11		
											− 3.22		
α_1										42	20.91	3	
			9.2	41 56.7	42 12.9	16.5	20.1	23.8	27.5	42	20.16		
				0.4							+ 4.04		
κ				3.1							− 13		
				0.07					− 3.88		− 3		
((δ) — D) $\frac{\kappa'}{100}$										42	24.04		
											−3.08		
α_2										42	20.96		
43	04	49 56	8.3	42 47.9	43 17.4	20.7	23.9	27.2	30.4	43	23.92		
42	~~10.2~~ 13.8	49 50.6	9.4	57.6							− 0.03		
κ				54.3							− 15		
				51.27					− 0.18	+01	− 2		
((δ) — D) $\frac{\kappa'}{100}$										43	23.70	5	
											−3.22		
α_1										43	20.52	3	
			8.3	42 52.5	43 13.2	16.5	19.7	22.9	26.2	43	19.70		
				56.0							+ 4.04		
κ				53.5							− 11		
				50.00					+ 3.91		− 2		
((δ) — D) $\frac{\kappa'}{100}$										43	23.61		
											−3.09		
α_2										43	~~19.48~~ 20.52		

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Runs

	$T_m - T$		A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+24.8	3	4.2	7.5	11.7	3′ 585″	34 42.50			45	54 18 9.65	18 0.92
	1.39445					3 48	54 18 28.97				− 15	− 34 +12.67
d	9.76607						− 19.32				− 34 +12.86	− 34
	1.28604n						− 28.05				+12.73	+12.73
$((\delta) - D)\frac{d'}{100}$	+36.0										+ 62	+ 62
	1.55630										−3550	− 3550
δ_1	9.76607										17 47.01	17 38.09
	1.44789n											
	+19.6	3	5.9	10.6	16.5	3 48 8.25	34 40.10			45	18 10.68	18 1.95
	1.29226						54 18 25.95				− 10	− 24 +12.46
d	9.76607						− 15.27				− 31 +12.60	− 31
	1.18385n						− 24.00				+12.38	+12.38
$((\delta) - D)\frac{d'}{100}$	+30.8										+ 63	+ 63
	1.48855										−3610	−3610
δ_2	9.76607										17 47.18	17 38.31
	1.38014n											
	+31.3	3	14.0	16.5	10.5	3 13 1525	9 33.10			10	54 52 55.53	
	1.49554						54 53 19.57				− 25	+13.40
d	9.75985						− 24.04				− 36	
	1.38091n										+13.37	
$((\delta) - D)\frac{d'}{100}$											+ 64	
											−3550	
δ_1											52 33.43	
	+25.1	3	16.7	20.6	37.3	3 13 1865	9 29.78 0			10	52 56.~~32~~.27	
	1.39967						54 53 15.~~60~~ 55				− 16	+13.21
d	9.75985						− 19.28				− 33	
	1.28504n										+13.01	
$((\delta) - D)\frac{d'}{100}$											+ 69	
											−3620	
δ_2											52 33.~~33~~.28	
	+28.6	3	18.6	22.0	40.6	3 58 2030	24 28.05			55	54 7 52.24	
	1.45637						54 8 14.52				− 21	+12.58
d	9.76782						− 22.28				− 37	
	1.34971n										+12.55	
$((\delta) - D)\frac{d'}{100}$											+ 61	
											−3540	
δ_1											7 29.42	
	+28.4	3	15.9	20.2	36.1	3 58 1805	24 30.30			55	7 53.93	
	1.45332						54 8 16.15				− 21	+12.27
d	9.76782						−22.22				− 33	
	1.34666n										+12.20	
$((\delta) - D)\frac{d'}{100}$											+ 61	
											−3610	
δ_2											7 30.10	
	+23.3	2	53.9	55.8	9.7	2 12 5485	9 53.50			10	54 53 22.07	
	1.36736						54 53 39.97				− 14	+13.55
d	9.75985						−17.90				− 32	
	1.25273n										+13.37	
$((\delta) - D)\frac{d'}{100}$											+ 64	
											−3550	
δ_1											53 0.12	
	+20.1	2	53.7	57.1	10.8	2 12 3540	9 52.95			10	53 23.36	
	1.30320						54 53 38.80				− 10	+13.31
d	9.75985						−15.44				− 29	
	1.18857n										+13.01	
$((\delta) - D)\frac{d'}{100}$											+ 69	
											−36.20	
δ_2											53 0.47	
	+32.6	3	41.4	45.1	6.5	3 8 4325	14 5.10			5	49 57 24.20	
	1.51322						49 57 51.57				− 29	+7.71
d	9.80852						−27.37				− 41	
	1.43726n										+ 8.06	
$((\delta) - D)\frac{d'}{100}$											+ 35	
											−34.70	
δ_1											56 57.21	
	+24.7	3	45.1	49.2	14.3	3 8 4715	14 1.20			5	57 25.83	
	1.39270						49 57 47.05				− 16	+7.65
d	9.80852						−21.22				− 38	
	1.32674n										+ 7.84	
$((\delta) - D)\frac{d'}{100}$											+ 35	
											−35.30	
δ_2											56 58.18	

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447

Date$_1$ = Dec. 6 — Observer / Recorder

448

Date$_2$ = Dec. 13 — Observer / Recorder

58

Runs

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
	59 40	54 18	6.0	0 57 24.9	57 33.0	37.6	1.9	5.6	9.1	0	m s 2.04		
	58 41.0	12.0	5.7	28.8							− 0.02		
				31.8							− 18		
				28.50					− 0.22 +01		− 3		
	κ									0	1.81		
	((δ) — D) $\frac{\kappa'}{100}$										−3.52		
	a_1									59	58.38		
			6.5	59 25.7	59 32.9	37.3	5.8.0	1.4	8.0	598	57.92		
				29.0							+ 4.04		
				31.8							− 18		
	κ			28.83					+ 3.89		− 3		
	((δ) — D) $\frac{\kappa'}{100}$									0	1.82		
	a_2										−3.39		
										59	58.42		
1	00 30	54 29	8.5	1 0 27.6	0 38.8	42.4	45.9	49.5	53.0	0	4584		
	59 31.0	22.9	7.7	31.4							− 0.02		
				34.6							− 18		
	κ			31.20					− 0.22 +01		− 3		
	((δ) — D) $\frac{\kappa'}{100}$									0	4561		
	a_1										−3.54		
										0	42.089		
			9.0	0 29.0	0 34.6	38.1	41.7	45.2	48.8	0	4168		
				32.3							+ 4.04		
				35.0							− 13		
	κ			32.10					+ 3.88		− 3		
	((δ) — D) $\frac{\kappa'}{100}$									0	4556		
	a_2										−3.40		
										0	42.16		
	1 0 27	53 27	8.8	1 27.0	1 34.2	37.7	41.3	44.6	48.1	1	41.18		
	27.2	22.3	8.8	30.0							− 0.0		
				33.2							− 18		
	κ			30.07					− 0.22 +01		− 3		
	((δ) — D) $\frac{\kappa'}{100}$									1	40.95		
	a_1										−3.54		
										1	37.413		
			9.0	1 19.9	1 30.2	33.7	37.2	40.6	44.1	1	37.16		
				24.1							+ 4.04		
				27.4							− 12		
	κ			23.80					+ 3.89		− 3		
	((δ) — D) $\frac{\kappa'}{100}$									1	41.05		
	a_2										−3.41		
										1	37.64		
	2 56	53 48	8.6	2 40.0	3 4.3	7.8	11.2	14.8	18.3	3	1128		
	1 56.5	42.9	8.7	42.8							− 0.0		
				45.5							− 18		
	κ			42.77					− 0.22 +01		− 3		
	((δ) — D) $\frac{\kappa'}{100}$									3	11.05		
	a_1										−3.56		
										3	7.49		
			8.7	2 33.4	3 0.0	3.5	7.0	10.5	14.0	3	7.00		
				37.0							+ 4.04		
				39.5							− 12		
	κ			36.63					+ 3.89		− 3		
	((δ) — D) $\frac{\kappa'}{100}$									3	10.89		
	a_2										−3.44		
										3	7.45		
	3 36	53 28	9.4	3 59.6	3 42.2	46.0	49.6	53.8	57.6	3	4944		
	2 35.8	22.6	9.4	2.6							− 0.0		
	κ			0.2							− 17		
				2.80					− 0.21 +01		− 3		
	((δ) — D) $\frac{\kappa'}{100}$		9.4	3 33.2	3 44.0	47.9	51.4	54.6	58.3	3	49.27	−3.57	7
	a_1			1 15 35.8						3	5128	3 45.56	
				39.8							− 0.0		
				36.27					− 0.21 +01		− 17		
										3	51.06	−3.57	
			9.3	2 25 4 7.8	3 37.0	41.8	45.2	48.7	52.2	3	44.98	3 47.58	
				11.2							+ 4.04		
	κ			14.0							− 12		
				11.00					+ 3.89		− 3		
	((δ) — D) $\frac{\kappa'}{100}$		9.2	3 28.0	40.3	43.8	47.0	50.6	54.2	3	48.87	−3.44	
	a_2			1 15 30.9							47.18	3 45.43	
				34.4							+ 4.04		
				31.10					+ 3.89		− 12		
											− 3		
										3	51.07		
											−3.44		
										3	47.63		

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+33.5	2	23.4	25.5	8.9	2	24.45	36 23.90		45	54 18 44.28	
	1.52504					47		54 19 10.37			− 29	+12.82
d	9.76590							−26.09			− 27	
	1.41646 m										+12.76	
((δ) − D) $\frac{d'}{100}$											+ 62	
											−35.20	
δ_1											18 21.90	
		24.0		52.2		26.10						
	+29.1	2	~~48.0~~	28.2	~~76.2~~	2	~~28.10~~	~~35 10.25~~ 35	22.25	45	~~18 33.44~~	
	1.46389					47		54 ~~18 56.10~~ 19	8.10		18 45.44	+12.58
d	9.76590							~~−22.66~~	−22.66		− 22	
	1.35531 m										− 24	
((δ) − D) $\frac{d'}{100}$											+12.41	
											+ 63	
δ_2											−36.00	
											18 22.02	
	+14.6	1	42.3	45.5	7.8	1	48.90	46 4.46		35	54 29 39.60	
	1.16435					36		54 29 50.92			− 5	+13.33
d	9.76395							−11.32			− 19	
	1.05382 m										+12.95	
((δ) − D) $\frac{d'}{100}$											+ 62	
											−35.20	
δ_1											29 17.73	
	+9.6	1	43.5	47.2	10.7	1	45.35	46 3.00		35	29 41.41	
	0.98227					36		54 29 48.85			− 2	+13.06
d	9.76395							− 7.44			− 18	
	0.87174 m										+12.61	
((δ) − D) $\frac{d'}{100}$											+ 65	
											−36.00	
δ_2											29 18.47	
	+11.1	2	13.5	15.9	9.4	2	14.70	45 33.65		35	53 29 11.30	
	1.04532					37		53 29 20.12			− 3	+12.11
d	9.77456							− 8.82			− 25	
	0.94540 m										+11.84	
((δ) − D) $\frac{d'}{100}$											+ 55	
											−3500	
δ_1											28 48.41	
	+13.4	2	8.4	12.0	20.4	2	10.20	45 38.15		35	29 13.35	
	1.12710					37		53 29 24.00			− 5	+11.81
d	9.77456							−10.65			− 22	
	1.02718 m										+11.53	
((δ) − D) $\frac{d'}{100}$											+ 55	
											−3580	
δ_2											28 49.36	
	+28.5	1	41.8	44.5	6.3	1	43.15	6 5.20		15	53 49 29.21	
	1.45484					16		53 49 51.67			− 21	+12.46
d	9.77112							−22.46			− 19	
	1.35148 m										+12.28	
((δ) − D) $\frac{d'}{100}$											+ 58	
											−3510	
δ_1											49 6.57	
	+30.4	1	36.9	41.1	78.0	1	39.00	6 9.35		15	49 31.24	
	1.48287					16		53 49 65.20			− 24	+12.07
d	9.77112							−23.96			− 16	
	1.37951 m										+11.89	
((δ) − D) $\frac{d'}{100}$											+ 58	
											−3590	
δ_2		C. R	~~C. R~~ #								49 7.41	
	+13.1	− 13.4	2	40.5	42.2	2.7	2	41.35	45 7.00	35	53 29 4.72	29 28.36
	1.11727	1.12710 m					37		53 28 53.47		28 43.06 − 5	+12.05 − 13 +12.84
	9.77456	9.77456							~~+10.65~~ −11.92		− 29	− 25 11
	1.01733 m	1.02718	C. R		for 2 #				+10.41		+ 11.84	+ 11.84
((δ) − D) $\frac{d'}{100}$		+ 15.0	2	14.8	16.4	31.2	2	15.60	45 32.75	35	+ 55	+ 55
		1.17609		1.17609			37		53 29 19.22		−3500	−3500 29 5.47
	−11.5	9.77456		9.77456					~~−18.85~~ ~~+10.65~~		~~29 25 41.17~~	~~7.6.92 28 37.45 18.63~~
	1.86070 m	1.27617 m		1.07617 m					11.72 +9.14	28	20.11 37.80	14.38 5
	9.77456											
	0.99078											
	+13.9	+ 26.0	2	37.7	41.5	79.2	2	39.60	45 8.75	35	28 43.56 ~~29 15.25~~	29 30.06 ~~58.36~~ 41.81
	1.14301	1.41497 m		C. R.	1 #		37		53 28 54.60		− 11.05	− .15 +11.76 +11.76
	9.77456	9.77456							+20.65 ~~−12.79~~		− 26	− 24 64
	1.04909	1.31505							−11.04		+ 11.52	+ 11.52
((δ) − D) $\frac{d'}{100}$		+ 16.1	2	21.0	25.1	46.1	2	23.05	45 25.30	35	+ 55	+ 55
	−23.8	1.20683		C R	2 #		37		53 29 11.18		− 3580	− 3580
	1.37666 m	9.77456							~~−12.79~~ ~~+20.65~~		~~2934 51.56~~ 7	~~28 37.12 2 17.77~~
	9.77456	1.10691 m							+ 18.91		763	34.32
	1.27666									28 19.52		29 5.92

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Date$_1$ = Dec 6 — Observer / Recorder — Date$_2$ = Dec. 13 — Observer / Recorder — 60

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
1	5 59	50 21	8.5	5 46.4	5 57.8	3.1	6.5	9.6	13.8	6	6.56		
	4 52.4	16.1	8.7	49.5	8.7						− 0.03		
	κ			57.8	6.3						− 16		
				49.23					− 0.19 +02		− 2		
	((δ) − D) $\frac{\kappa'}{100}$									6	6.36		
	c_1										− 3.56		
										6	2.83		
	4 36.9	50 19.2	9.0	5 36.8	5 41.8	44.4	47.7	50.9	54.2	5	47.70		
	κ			40.0							+ 4.04		
				43.0							− 11		
	((δ) − D) $\frac{\kappa'}{100}$			39.93					+ 3.91		− 2		
										5	51.61		
	α_2										− 3.44		
										5	48.17		
	6 48	53 19	9.4	6 44.7	6 57.6	12	4.4	8.0	11.6	7	4.56		
	5 48.5	14.5	9.4	48.0							− 0.03		
	κ			57.8							− 17		
	((δ) − D) $\frac{\kappa'}{100}$			48.17					− 0.21 +01		− 3		
										7	4.34		
	α_1										− 3.62		
										7	0.72		
			9.4	6 46.0	6 58.6	57.0	0.8	2.9	7.3	7	0.46		
	κ			57.0							+ 4.04		
				52.5							− 12		
	((δ) − D) $\frac{\kappa'}{100}$			49.50					+ 3.89		− 3		
										7	4.35		
	α_2										− 3.50		
										7	0.85		
	8 19	53 45	9.0	8 0.2	8 28.5	31.8	35.3	38.7	42.5	8	35.36		
	7 19.4	39.8	9.0	4.0							− 0.03		
	κ			6.4							− 18		
	((δ) − D) $\frac{\kappa'}{100}$			3.53					− 0.22 +01		− 3		
										8	35.13		
	α_1										− 3.65		
										8	31.49		
			9.0	8 1.6	8 24.3	28.0	31.3	34.9	38.3	8	31.36		
	κ			5.2							+ 4.04		
				7.7							− 12		
	((δ) − D) $\frac{\kappa'}{100}$			4.83					+ 3.89		− 3		
										8	35.25		
	α_2										− 3.53		
										8	31.72		
	9 11	53 5	8.6	8 57.8	9 19.4	23.0	26.4	29.8	33.4	9	26.40		
	8 11.5	0.1	8.3	57.8							− 0.03		
	κ 10.4	52 59.5		1.0							− 17		
				57.87					− 0.21 +01		− 3		
	((δ) − D) $\frac{\kappa'}{100}$		8.5	9 42.6	20.4	23.9	27.3	30.8	34.5	9	26.18	−3.56	
	8 11.5	53 0.1		45.6							27.38	22.54	
	α_1			48.2					− 0.21 +01		− 0.03		
				46.47							− 17		
										9	27.16	−3.65	2
			8.8	9 41.7	9 15.2	18.9	22.3	25.7	29.1	9	22.24	9 23.51	
	κ			44.9							+ 4.04		
				47.4							− 12		
	((δ) − D) $\frac{\kappa'}{100}$			44.67					+ 3.89		− 3		
				(2nd δ ?)						9	26.13	−3.54	
			8.6	8 54.1	16.2	19.9	23.3	26.7	30.1		23.24	9 22.59	
	α_2			57.3							+ 4.04		
				0.2							− 12		
				(1st δ ?)					+ 3.89		− 3		
				57.20						9	24.13	−3.54	
	10 13	53 14	8.3	10 8.3	10 21.7	25.2	28.7	32.1	35.6	10	28.66	0.35	
	9 12.6	9.1	8.0	6.0							− 0.03	9 28.59	
	κ			9.0							− 17		
				6.10					− 0.21 +01		− 3		
	((δ) − D) $\frac{\kappa'}{100}$									10	28.44		
	α_1										− 3.68		
										10	24.76		
											24.58		
			8.2	10 1.2	10 17.7	21.1	24.5	28.0	31.6	10	25.48		
	κ			5.8							+ 4.04		
				8.3							− 12		
	((δ) − D) $\frac{\kappa'}{100}$			5.10					+ 3.89		− 3		
										10	28.47		
	α_2										− 3.55		
										10	24.92		

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+17.4	3	18.1	22.5	40.6	3	2030			39 28.05	40	50 22 59.71	diff #0
d	1.240055					43				50 23 14.52		− 8	+8.42
	9.80458									−14.81		− 37	
	1.17065n											+ 8.48	
((δ) − D) $\frac{d'}{100}$												+ 39	
												−3440	
δ_1												22 33.73	
	+7.8	0	6.7	12.4	19.1	0	955			42 38.80	40	50 26 18.02	diff #5
d	0.89209					40				50 26 24.65		− 1	+8.68
	9.80412									− 6.63		− 2	
	0.82173n											+ 8.32	
((δ) − D) $\frac{d'}{100}$												+ 39	
												−3520	
δ_2												25 51.50	
	+16.4	0	4.7	7.7	12.4	0	620			37 42.15	45	53 21 15.55	
d	1.21484					45				53 21 28.62		− 7	+12.15
	9.77592									−13.07		− 1	
	1.11628n											+11.69	
((δ) − D) $\frac{d'}{100}$												+ 54	
												−3490	
δ_1												20 52.80	
	+11.0	0	6.2	11.2	17.4	0	870			37 39.65	45	21 16.73	
d	1.04139					45				53 21 25.50		− 3	+11.88
	9.77592									− 8.77		− 1	
	0.94283n											+11.38	
((δ) − D) $\frac{d'}{100}$												+ 54	
												−3570	
δ_2												20 52.91	
	+31.9	4	40.4	41.8	2.2	4	4110			3 7.25	15	53 46 28.55	
d	1.50379					19				53 46 53.72		− 27	+11.94
	9.77164									−25.17		− 51	
	1.40095n											+12.14	
((δ) − D) $\frac{d'}{100}$												+ 58	
												−3490	
δ_1												46 5.59	
	+26.6	4	42.0	44.9	6.9	4	4345			3 4.90	15	46 29.76	
d	1.42488					19				53 46 50.75		− 19	+11.74
	9.77164									−20.99		− 47	
	1.32204n											+11.82	
((δ) − D) $\frac{d'}{100}$												+ 58	
												−3580	
δ_2												46 5.70	
	+28.5	4	57.0	58.5	15.5	4	5715			22 50.60	55	53 6 14.22	6 51.58
d	1.45484					59				53 6 37.07		− 21	− 8 +11.31
	9.77846									−22.85		− 54	+11.18 − 54
	1.35882n									+14.51		+11.42	+11.42
((δ) − D) $\frac{d'}{100}$	−18.1											+ 57	+ 57
	1.25768n											−3480	−3480
δ_1	9.77846											5 50.60	6 28.09
	1.16166												
	+25.0	4	56.5	59.8	16.3	4	5815			22 50.20	55	6 16.01	6 53.29
d	1.39794					59				53 6 36.05		− 16	− 12 +11.01
	9.77846									−20.04		− 50	+10.97 − 50
	1.30192n									+17.24		+11.12	+11.12
((δ) − D) $\frac{d'}{100}$	−21.5											+ 57	+ 57
	1.33244n											−3570	−3570
δ_2	9.77846											5 57.28	6 28.60
	1.23642												
	+22.6	0	24.9	27.5	12.4	0	2620			32 22.15	50	53 15 50.57	
d	1.35411					50				53 16 8.62		− 44	+11.94
	9.77677									−18.05		− 5	
	1.25640n											+11.60	
((δ) − D) $\frac{d'}{100}$												+ 53	
												−3480	
δ_1												15 27.71	
	+19.5	0	24.8	28.0	12.8	0	2640			32 21.95	50	15 52.23	
d	1.29003					50				53 16 7.80		− 10	+11.69
	9.77677									−15.57		− 4	
	1.19232n											+11.30	
((δ) − D) $\frac{d'}{100}$												+ 53	
												−3560	
δ_2												15 28.32	

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Date$_1$ = Dec. 6 Observer / Recorder

Date$_2$ = Dec. 13 Observer / Recorder

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
11	11 09	53 48	8.5	10 58.0	11 19.1	22.8	26.3	29.7	33.4		11 26.86		
10	9.5	43.8	8.7	1.0							− 0.01		
κ		1		3.3							− 18		
((δ) — D) $\frac{\kappa'}{100}$				0.77					− 0.22 +01		− 3		
a_1											11 26.43		
											−3.70		
											11 22.73		
			9.0	11 28	11 18.0	18.6	22.1	25.8	29.1		11 22.43		
				6.0							+ 4.04		
κ				9.4							− 12		
((δ) — D) $\frac{\kappa'}{100}$				6.07					+ 3.89		− 3		
a_2											11 2600		
											−3.56		
											11 22.43		
12	12 19	53 9	9.0	12 4.3	12 29.3	32.7	36.1	39.5	43.1		12 36.14		
11	19.4	3.9	8.9	7.7							− 0.01		
κ				10.0							− 17		
((δ) — D) $\frac{\kappa'}{100}$				7.33					− 0.21 +01		− 3		
a_1											12 35.93		
											−3.71		
											12 32.21		
			9.1	12 8.6	12 23.7	28.7	32.0	35.4	38.9		12 32.50		
				12.6	23.7						+ 4.04		
κ				15.5	22.0						− 12		
((δ) — D) $\frac{\kappa'}{100}$				12.23					+ 3.89		− 3		
a_2											12 35.89		
											−3.59		
											12 32.30		
13	13 10	53 57	7.0	12 58.0	13 20.2	23.6	27.2	30.6	34.2		13 27.16		
12	10.5	52.3	7.3	8.7							− 0.01		
κ				8.7							− 18		
((δ) — D) $\frac{\kappa'}{100}$				2.80					− 0.22 +02		− 3		
a_1											13 26.94		
											−3.74		
											13 23.20		
			7.5	12 58.4	13 16.9	19.5	23.1	26.5	30.1		13 23.02		
				56.5							+ 4.04		
κ				57.3							− 12		
((δ) — D) $\frac{\kappa'}{100}$				56.40					+ 3.89		− 3		
a_2											13 26.91		
											−3.62		
											13 23.29		
14	14 03	53 59	9.0	13 50.9	14 13.0	16.7	20.0	23.6	27.2		14 20.10		
13	2.6	53.7	8.8	53.8							− 0.01		
κ				56.8							− 18		
((δ) — D) $\frac{\kappa'}{100}$				53.83					− 0.22 +01		− 3		
a_1											14 19.88		
											−3.75		
											14 16.13		
			9.2	13 53.1	14 8.8	12.4	15.8	19.3	23.0		14 15.88		
				56.7							+ 4.04		
κ				59.2							− 12		
((δ) — D) $\frac{\kappa'}{100}$				56.33					+ 3.89		− 3		
a_2											14 19.75		
											−3.63		
											14 16.12		
15	15 15	53 53	9.0	14 58.4	15 26.1	29.7	33.3	36.8	40.1		15 33.20		
14	15.4	46.3	9.0	2.1							− 0.01		
κ				5.6							− 18		
((δ) — D) $\frac{\kappa'}{100}$				2.37					− 0.22 +01		− 3		
a_1											15 32.98		
											−3.77		
											15 29.21		
			9.0	14 49.5	15 22.1	26.6	29.1	32.5	36.1		15 29.06		
				53.2							+ 4.04		
κ				56.9							− 12		
((δ) — D) $\frac{\kappa'}{100}$				52.87					+ 3.89		− 3		
a_2											15 32.95		
											− 3.65		
											15 29.30		

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+25.1	1	29.7	31.9	61.6	1′ 30.80	6 17.55		15	53 49 43.61 93	
d	1.41330				1/16	53 50 4.02				− 18	+12.46
	9.77095					−20.47 09				− 16	
((δ) − D) $\frac{d'}{100}$	1.30977n									+12.22	
										+ 58	
δ_1										−34.90	
										49 21.47	49
	+16.0	1	33.2	37.9	11.1	1′ 35.55	6 12.80		15	49 46.04	
d	1.20412				1/16	53 49 58.65				− 7	+12.25
	9.77095					−12.61				− 16	
((δ) − D) $\frac{d'}{100}$	1.10059n									+11.90	
										+ 58	
δ_2										−35.70	
										49 22.59	
	+28.8	0	26.1	28.9	16.0	0 27.5	27 20.85		55	53 10 44.28	
d	1.45939				55	53 11 7.32				− 22	+11.76
	9.77761					−23.04				− 5	
((δ) − D) $\frac{d'}{100}$	1.36252n									+11.51	
										+ 52	
δ_1										−34.80	
										10 21.24	
	+19.8	0	29.9	35.1	65.0	0 32.50	27 15.85		55	10 45.86	
d	1.29667				55	53 11 1.70				− 10	+11.58
	9.77761					−15.84				− 5	
((δ) − D) $\frac{d'}{100}$	1.19980n									+11.21	
										+ 52	
δ_2										−35.60	
										10 21.84	
	+24.4	2	30.4	32.3	2.7 2	31.35	15 17.00		5	53 58 44.31	
d	1.38739				7	53 59 3.47				− 15	+12.56
	9.76939					−19.16				− 27	
((δ) − D) $\frac{d'}{100}$	1.28230n									+12.38	
										+ 60	
δ_1										−34.80	
										58 22.07	
	+26.6	2	25.8	29.9	15.7 2	27.85	15 20.50		5	58 45.47	
d	1.42488				7	53 59 6.35				− 19	+12.22
	9.76939					−20.88				− 25	
((δ) − D) $\frac{d'}{100}$	1.31979n									+12.06	
										+ 60	
δ_2										−35.70	
										58 21.99	
	+26.3	0	59.3	1.5	12.08 1	0.40	16 47.95		5	54 0 13.78	
d	1.41996				6	54 0 34.42				− 18	+12.71
	9.76922					−20.64				− 11	
((δ) − D) $\frac{d'}{100}$	1.31470n									+12.40	
										+ 60	
δ_1										−34.80	
										59 51.69	
	+19.6	1	1.6	6.3	7.9 1	3.95	16 44.40		5	0 14.87	
d	1.29226				6	54 0 30.25				− 10	+12.47
	9.76922					−15.38				− 11	
((δ) − D) $\frac{d'}{100}$	1.18700n									+12.08	
										+ 60	
δ_2										−35.70	
										59 51.64	
	+30.8	1	24.4	27.0	11.4 1	2.570	11 22.65		10	53 54 44.90	
d	1.48855				11	53 55 9.12				− 24	+12.60
	9.77009					−24.22				− 16	
((δ) − D) $\frac{d'}{100}$	1.38416n									+12.31	
										+ 59	
δ_1										−34.80	
										54 22.60	
	+36.2	1	17.5	21.4	38.9 1	1.945	11 28.90		10	54 46.28	
d	1.55871				11	53 55 14.75				− 35	+12.10
	9.77009					−28.47				− 13	
((δ) − D) $\frac{d'}{100}$	1.45432n									+11.99	
										+ 59	
δ_2										−35.70	
										54 22.68	

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Date$_1$ = Dec. 6 Observer / Recorder Date$_2$ = Dec. 13 Observer / Recorder Ru

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
	16 8	53 41	8.4	15 58.0	16 18.6	22.1	25.6	29.0	32.4		16m 25.54		
	15 8.5	36.0	8.0	2.0							− 0.01		
	κ			5.1							− 18		
	((δ) — D) $\frac{\kappa'}{100}$			2.03					− 0.22+01		− 3		
	c_1										16 25.32		
											−3.78		
											16 21.54	5	
			8.3	15 58.9	16 14.4	17.9	21.4	25.0	28.5		16 21.44		
	κ			2.3							+ 4.04		
	((δ) — D) $\frac{\kappa'}{100}$			8.4					+ 3.89		− 12		
	a_2			2.20							− 3		
											16 25.33		
											−3.66		
											16 21.67	90	
	17 9	53 43	9.0	17 7.4	17 18.9	22.4	25.9	29.3	33.0		17 25.50		
	16 7.5	38.2	8.7	11.0							− 0.01		
	κ			13.4							− 18		
	((δ) — D) $\frac{\kappa'}{100}$			10.70					− 0.22+01		− 3		
	a_1										17 25.68		
											−3.80		
											17 21.88	9	
			9.0	17 05.7	17 14.7	18.3	21.7	26.1	28.7		17 21.70		
	κ			8.7							+ 4.04		
	((δ) — D) $\frac{\kappa'}{100}$			6.6					+ 3.89		− 12		
	a_2			3.70							− 3		
											17 25.59		
											−3.68		
											17 21.91		
	19 28	54 18	9.2	19 12.3	19 37.7	41.3	44.8	48.3	52.0		19 44.82		
	18 26.0	13.1	9.2	16.0							− 0.01		
	κ			19.1							− 18		
	((δ) — D) $\frac{\kappa'}{100}$			15.83					− 0.22+01		− 3		
	a_1										19 44.60		
											− 3.84		
											19 40.76	7	
			9.1	19 19.7	19 33.5	37.0	40.7	44.2	47.7		19 40.62		
	κ			22.5							+ 4.04		
	((δ) — D) $\frac{\kappa'}{100}$			26.2					+ 3.89		− 12		
	a_2			22.80							− 3		
											19 44.51		
											− 3.73		
											19 40.78		
	20 50	54 36	8.5	20 35.7	20 57.8	8.4	6.9	10.7	14.4		21 7.04		
	19 48.1	31.0	8.0	38.5							− 0.01		
	κ			41.3							− 18		
	((δ) — D) $\frac{\kappa'}{100}$ Dec. 13		8.0	38.50					− 0.22+01		− 3		
	a_1			20 32.3	20 55.9	59.4	2.9	6.6	10.2		21 6.82	−3.88	5
				36.6					3.		21 2.98	21 − 2.93	87
				37.8					+ 3.88		+ 4.04		
				35.23							− 13		
											− 3		
											21 6.86	−3.76	
Dec 6				Single		Observations							
0	21 6	54 33	—	0 21 29.6	21 11.3	15.0	18.7	22.2	25.7		21 18.58	21 2.86	
	20 11.8	27.0	8.0	32.2							− 0.04	3.10	
	κ			34.7							− 18		
	((δ) — D) $\frac{\kappa'}{100}$			32.17					− 0.22+01		− 3		
	a_2										21 18.33		
											−2.87		
											21 15.46	50	
0	22 58	54 42	9.0	23 26.0	23 35.9	39.6	43.3	46.8	50.4		23 43.20		
	22 40	35.6	8.9	28.6							− 0.01		
	κ 35.0	34.2		32.3							− 18		
	((δ) — D) $\frac{\kappa'}{100}$			28.97					− 0.22+02		− 3		
	a_1										23 42.95		
											−2.91		
											23 40.04	9	
0	25 29	54 31	8.4	25 6.0	25 33.6	39.0	42.6	46.3	50.0		25 42.70		
	24 34.2	24.9	8.1	8.4							− 0.01		
	κ			11.6							− 18		
	((δ) — D) $\frac{\kappa'}{100}$			8.67					− 0.22+01		− 3		
	a_2										25 42.45		
											−2.94		
											25 39.51	5	

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+23.5	3	29.5	30.1	59.6	3′ 29″80	59 18.55		20	53 42 46.45	
	1.37107				23	53 43 5.02				− 14	+12.13
d	9.77216						−18.57			− 37	
	1.26875n									+12.09	
$((\delta) - D)\frac{d'}{100}$										+ 57	
										−34.80	
δ_1										42 23.78	
	+19.2	3	29.1	33.9	63.0	3 31.50	59 16.85		20	42 47.53	
	1.28330				23	53 43 2.70				− 9	+11.88
d	9.77216						−15.17			− 36	
	1.18098n									+11.75	
$((\delta) - D)\frac{d'}{100}$										+ 57	
										−3560	
δ_2										42 23.81	
	+15.2	1	41.6	44.2	5.8	1 42.90	1 5.45		20	53 44 39.95	
	1.18184				21	53 44 51.92				− 6	+12.45
d	9.77181						−11.97			− 19	
	1.07817n									+12.13	
$((\delta) - D)\frac{d'}{100}$										+ 57	
										−34.70	
δ_1										44 17.70	
	+18.0	1	37.3	40.2	7.75	1 38.75	1 9.60		20	44 41.24	
	1.25527				21	53 44 55.45				− 8	+12.15
d	9.77181						−14.21			− 16	
	1.15260n									+11.82	
$((\delta) - D)\frac{d'}{100}$										+ 57	
										−3560	
δ_2										44 17.79	
	+29.0	2	1.9	4.5	6.4	2 3.20	35 45.15		45	54 19 9.04	
	1.46240				47	54 19 31.62				− 22	+12.93
d	9.76590						−22.38			− 23	
	1.35382n									+12.76	
$((\delta) - D)\frac{d'}{100}$										+ 62	
										−3480	
δ_1										18 47.17	
	+17.8	2	8.1	12.1	20.2	2 10.10	35 38.25		45	19 10.24	
	1.25042				47	54 19 24.10				− 8	+12.77
d	9.76590						−13.86			− 20	
	1.14184n									+12.42	
$((\delta) - D)\frac{d'}{100}$										+ 63	
										−3560	
δ_2										18 47.41	
	+28.5	3	0.8	2.8	3.6	3 1.80	54 46.55		25	54 38 11.00	38 ~~15.82~~ 12.32
	1.45484				28	54 38 33.02				− 21	+12.92
d	9.76253						− 22.02			− 33	+13.20 − 20
	1.34289n	? 59.9			1208 3	0.40				+13.11	− 29
$((\delta) - D)\frac{d'}{100}$	+27.8	2	52.9	0.9	113.8 2	56.90	54 51.45	54 47.95	25	+ 63	+12.75
	1.44404				28	54 38 37.30		38 33.80		−34.70	+ 66
δ_1	9.76253						− 21.48	− 21.48		37 49.50	− 3560
	1.33209n					49					37 49.64
	−13.6	23	7.2	9.7	16.9 ~~3~~ 3	8.45	50 39.90		30	54 34 36.89	
	1.13354n				32	54 34 26.37				2 5	+13.37
d	9.76307					3 +10.52				− 23	
	1.02213									+13.02	
$((\delta) - D)\frac{d'}{100}$										+ 63	
										−3550	
δ_2										34 14.76	
	+14.2	3	42.9	46.1	9.0	3 4.50	59 3.85		20	54 42 39.37	
	1.15229				23	54 42 50.32				− 5	+13.36
d	9.76164						−10.95			− 41	
	1.03945n									+13.18	
$((\delta) - D)\frac{d'}{100}$										+ 64	
										−3550	
δ_1										42 17.23	
	+34.0	4	14.6	17.1	11.7	4 2.85	48 32.50		30	54 31 52.63	
	1.53148				34	54 32 18.97				− 30	+12.84
d	9.76360						−26.34			− 47	
	1.42060n									+12.98	
$((\delta) - D)\frac{d'}{100}$										+ 63	
										−3550	
δ_2										30 29.97	

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Date$_1$ = Dec 6 447 — Observer / Recorder — Date$_2$ = — Observer / Recorder — 66 — Ru

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
	26 58	54 14	8.2	0 26 43.6	27 0.5	4.1	7.7	11.1	14.8	27	7.64		
	26 0.4	8.2	8.0	46.9							− 0.04		
	κ			5.0.5							− 18		
				4700					− 0.22 +01		− 3		
	((δ) — D) $\frac{\kappa'}{100}$									27	7.39		
											−2.97		
	α_1									27	4.42	6	
0	28 32	54 87	9.0	28 19.1	28 39.5	43.0	46.6	50.4	53.8	28	46.66		
	27 36.7	36.8	8.8	23.6							− 0.04		
	κ			26.0							− 18		
				22.90					− 0.22 +01		− 3		
	((δ) — D) $\frac{\kappa'}{100}$									28	46.41		
											−3.00		
	α_2									28	43.41	5	
0	29 39	54 13	9.4	29 19.1	29 45.0	48.4	52.0	55.6	59.2	29	52.04		
	28 43.6	7.3	9.4	23.8							− 0.04		
	κ			26.0							− 18		
				18.0					− 0.22 +01		− 3		
	((δ) — D) $\frac{\kappa'}{100}$			21.8						29	51.79		
				24.9							−3.01		
	α_1			21.57						29	48.78	2	
0	30 44	54 36	9.6	30 ~~27.0~~	30 ~~45.2~~	~~49.3~~	~~52.9~~	~~56.2~~	1.1				
	29 48.2	30.5	9.2	~~29.7~~							−0.04		
	κ			33.0							− 18		
									− 0.22		− 3		
	((δ) — D) $\frac{\kappa'}{100}$		8.8	31 ~~45.3~~ 30									
				19.0									
	α_2			22.3									
1	4 39	50 50	8.8	1 4 44.1	4 50.7	53.8	57.2	0.4	3.6	4	57.14		
	3 42.9	45.1	8.2	46.5							− 0.04		
	κ			49.3							− 16		
				46.63					− 0.19 +01		− 2		
	((δ) — D) $\frac{\kappa'}{100}$		9.0	4 44.1	51.1	54.2	57.6	0.7	4.1	4	56.94	−.355	
				46.5							57.54	4 53.40	
	α_1			49.3							− 0.04		
				46.63					− 0.19 +01		− 16		
											− 2		
										4	57.34		
	κ										−3.56		
	((δ) — D) $\frac{\kappa'}{100}$									4	53.80		
	α_2												
	κ												
	((δ) — D) $\frac{\kappa'}{100}$												
	α_1												
	κ												
	((δ) — D) $\frac{\kappa'}{100}$												
	α_2												
	κ												
	((δ) — D) $\frac{\kappa'}{100}$												
	α_1												
	κ												
	((δ) — D) $\frac{\kappa'}{100}$												
	α_2												

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+20.6	1 27.5	30.9	584	1 29.20	31 19.15			50	54 14 49.55	
	1.31387				51	54 15 5.62				− 11	+13.00
d	9.76660					− 16.07				− 17	
	1.20599n									+12.67	
$((\delta) - D)\frac{d'}{100}$										+ 61	
										−3540	
δ_1										14 27.15	
	+23.8	3 37.8	39.9	17.7	3 38.85	54 9.50			25	54 37 37.58	
	1.37658				28	54 37 55.97				− 15	+13.17
d	9.76253					− 18.39				− 40	
	1.26463n									+13.09	
$((\delta) - D)\frac{d'}{100}$										+ 63	
										−3550	
δ_2										37 15.25	
	+30.4	1 50.4	51.9	2.3	1 57.15	30 57.20			50	54 14 19.95	
	1.48287				51	54 14 43.67				− 24	+12.82
d	9.76677					− 23.72				− 20	
	1.37516n									+12.65	
$((\delta) - D)\frac{d'}{100}$										+ 61	
										−3540	
δ_1										13 57.37	
		4 37	5.8	9.5	4 4.75	53 43.60			25	−	−
d	9.76253				29	54 37 30.07				− 45	− 36
										+12.64	+12.64
$((\delta) - D)\frac{d'}{100}$		3 17.1	20.2	37.3	3 18.65	54 29.70			25	+ 63	+ 63
					28	54 38 16.17					
δ_2	9.76253										
	+10.5	4 21.0	23.9	4.9	4 22.45	8 25.90			10	50 52 3.52	52 3.18
	1.02119				14	30 52 12.37				− 3	− 3 +8.94
d	9.80012					− 8.85				− 48	+8.94 − 48
	0.94683n					− 9.19				+ 9.01	+ 9.01
$((\delta) - D)\frac{d'}{100}$	+10.9	4 21.0	23.9	4.9	~~4 22.45~~				10	+ 44	+ 44
	1.03743									−3460	− 3460
δ_1	9.80012									51 37.86	51 37.52
	0.96307n										
d											
$((\delta) - D)\frac{d'}{100}$											
δ_2											
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
d											
$((\delta) - D)\frac{d'}{100}$											
δ_2											
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
d											
$((\delta) - D)\frac{d'}{100}$											
δ_2											

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Date$_1$ = 1876. Jan. 10 $n = -.04$ Observer W.A.R. Recorder J.F.M.

Date$_2$ = 1876. Jan. 11 $n = +.06$ $c = +.10$ Observer W.A.R. Recorder J.F.M.

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_r	T_g	T_h	Sum	Mean	Red. to T_m	T
1	32 24 51 53		8.5	1 32 12.4	32 18.2	21.6	24.8	28.2	31.7		32 24.80		
	31 21.6		8.4	15.4						+.006	+14.95 3	Add +.006 to (ΔT+m) for Jan 10. It has been added to constants and to final R.A.	
	κ			18.6							− 5		
	((δ) — D) $\frac{\kappa'}{100}$			15.47					+ 14.89		− 2		
	c_1										32 39.80		
											+ 41		−3.7
											32 40.19 20		−18
			8.6	32 14.2	32 18.1	21.5	24.8	28.1	31.3		32 24.76		
				17.0						+.007	+ 15.00	Add +.007 to (ΔT+m) for Jan 11. It has been added to constants and to final R.A.	
+	κ			20.0							+ 8		
	((δ) — D) $\frac{\kappa'}{100}$			17.07					+ 15.25		+ 16		
	a_2										− 2		
											32 40.08 1		−3.7
											+ 43		−18
											32 46.48 4		
	34 29 51 32		9.3	34 17.3	34 23.9	27.0	30.6	33.9	37.2		34 30.52		
	33 26.7		9.2	19.4							+ 14.95 3		
	κ			23.2							− 5		
	((δ) — D) $\frac{\kappa'}{100}$			19.97					+ 14.88		− 2		
	a_1										34 45.42		
											+ 38		−3.7
											34 45.78		−18
			9.2	34 5.2	34 23.7	26.9	30.3	33.7	37.0		34 30.32		
				8.5							+ 15.00		
	κ			11.3							+ 8		
	((δ) — D) $\frac{\kappa'}{100}$			8.33					+ 15.25		+ 16		
	a_2								+ 14.88		− 2		
											34 45.56 7		−3.7
											+ 40	45.96	−18
											34 45.64		
	35 22 51 24		8.7	35 25.4	35 17.5	20.8	24.1	27.5	30.7		35 24.12		
	34 19.7		9.0	25.10							+ 14.95 3		
	κ										− 5		
	((δ) — D) $\frac{\kappa'}{100}$								+ 14.89		− 2		
	a_1										35 39.00		
											+ 37		−3.7
											35 39.38		−18
			9.0	34 54.5	35 17.2	20.5	23.9	27.0	30.8		35 23.82		
				57.2							+ 15.00		
	κ			0.5							+ 7		
	((δ) — D) $\frac{\kappa'}{100}$			57.40					+ 15.23		+ 16		
	a_2										− 2		
											35 39.05		−3.7
											+ 39		−18
											35 39.44		
	36 31 51 28		9.0	36 14.9	36 28.4	31.8	35.0	38.5	41.8		36 35.10		
	35 28.8		9.5	17.8							+ 14.98 3		
	κ			21.4							− 5		
	((δ) — D) $\frac{\kappa'}{100}$			18.03					+ 14.92		− 2		
	a_1										36 50.01		
											+ 36		−3.7
											36 50.34		−18
			9.2	36 5.1	36 28.2	31.5	34.7	38.2	41.6		36 34.84		
				8.7							+ 15.00		
	κ			11.2							+ 7		
	((δ) — D) $\frac{\kappa'}{100}$			8.17					+ 15.24		+ 16		
	a_2										− 2		
											36 50.07		−3.7
											+ 38		−18
											36 50.45		
	37 37 51 57		9.5	37 10.2	37 31.9	35.0	38.3	42.1	45.2		37 38.50		
	36 34.0		9.5	13.4							+ 14.98 3		
	κ			16.5							− 5		
	((δ) — D) $\frac{\kappa'}{100}$			13.87					+ 14.89		− 2		
	a_1										37 53.41		
											+ 35		−3.7
											37 53.78 4		−18
			9.5	37 12.5	37 31.5	34.7	38.3	41.4	44.9		37 38.16		
				16.7							+ 15.00		
	κ			19.6							+ 8		
	((δ) — D) $\frac{\kappa'}{100}$			16.23					+ 15.25		+ 16		
	a_2										− 2		
											37 53.40		−3.7
											+ 38		−18
											37 53.78 9		

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Runs Jan. 10 + 2′ 2.″36 −.″05 +0.″73
Jan 11 + 2 3.~~39~~ 37 −.05 +0.22

Corr. to Micros. Jan 10 +0.73 " 11 +0.22

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+9.1	0 33.2	37.3	10.5	0 3525	52~~22~~ 13.10			80	51 54 7.97	
	0.95904				30	57 54 15.46				− 2	+10.~~05~~
d	9.79031					− 7.49				− 3	81 = Sum + corr to micros
	0.87430 m									+10.03	
((δ) − D) $\frac{d'}{100}$										+ 10	
										−18.10	
−3.74 δ_1		32 36.46		53 42.2						54 0.68 ~~0.05~~	
−18.44										− 0.57	
	+7.7	0 35.9	40.7	76.6	0 3830	52~~22~~ 10.05			80	54 7.65	
	0.88649				30	57 54 13.99				− 2	+10.~~41~~
d	9.79031					− 6.34				− 3	63
	0.80175 m									+10.36	
((δ) − D) $\frac{d'}{100}$										+ 10	
										−18.10	
−3.74 δ_2		32 36.70		53 41.2					1	~~53~~ 49.39	
−18.44										53 5.61	
	+10.5	1 27.2	32.9	60.1	1 3005	31~~21~~ 18.30			80	51 33 11.95	
	1.02119				51	57 33 20.66				− 3	+~~9~~.65
d	9.79367					− 8.71				− 8	10.38
	0.93981 m									+ 9.66	
((δ) − D) $\frac{d'}{100}$										+ 10	
										−18.00	
−3.75 δ_1		34 42.03		32 46.0						33 4.33	
−18.37											
	+22.0	1 17.2	22.2	39.4	1 1990	31~~21~~ ~~29~~.65			50	33 15.35	
	1.34242				51	57 33 33.59				− 13	+~~9~~.87
d	9.79367					− 18.24				− 7	10.09
	1.26104 m									+ 9.97	
((δ) − D) $\frac{d'}{100}$										+ 10	
										−18.00	
−3.75 δ_2		34 42.22		32 48.5						~~33~~ 6.~~45~~	
−18.37										33 ~~6~~87	
	− 1.3	4 21.9	25.9	7.8	4 2390	23~~18~~ 24.45			55	51 25 27.89	
	0.11394				59	57 25 26.81				− 0	+~~9~~.40
d	9.79478					+ 1.08				− 22	10.13
	0.03367									+ 9.52	
((δ) − D) $\frac{d'}{100}$										+ 10	
										−18.00	
−3.75 δ_1		35 35.63		25 1.7						25 20.02	
−18.34											
	+26.4	3 59.6	2.6	122.2	4 1.10	23~~18~~ 47.25			55	~~21~~ 25 29.25	
	1.42160				59	57 25 51.19				− 18	+~~9~~.57
d	9.79478					− 21.94				− 20	74
	1.34133 m									+ 9.80	
((δ) − D) $\frac{d'}{100}$										+ 10	
										−18.00	
−3.75 δ_2		35 35.69		25 2.1						~~25~~ 20.20	
−18.34										25 2.02	
	+17.1	0 4.7	9.4	14.1	0 705	27~~22~~ 41.30			55	51 29 29.47	
	1.23300				55	57 29 43.66				− 8	+~~9~~.60
d	9.79415					− 14.19				− 1	10.33
	1.15210 m									+ 9.59	
((δ) − D) $\frac{d'}{100}$										+ 10	
										−18.10	
−3.76 δ_1		36 46.58		29 3.4						29 21.70	
−18.30											
	+26.6	4 5.9	1.9	119.8	4 5990	27~~17~~ 48.45			50	29 30.31	
	1.42488				54	57 29 52.39				− 19	+~~9~~.67
d	9.79415					− 22.08				− 25	79
	1.34398 m									+ 9.91	
((δ) − D) $\frac{d'}{100}$										+ 10	
										−18.10	
−3.76 δ_2		36 46.70		29 3.1						~~29~~ 21.21	
−18.30										29 2.143	
	+25.1	1 20.3	25.8	6.1	1 2305	56~~21~~ 25.30			25	51 58 6.07~~.70~~	
	1.39967				26	57 58 27.66				− 17	+~~9~~.97
d	9.78967					− 20.67				− 7	10.70
	1.34429 m									+10.11	
((δ) − D) $\frac{d'}{100}$										+ 10	
										−18.20	
−3.78 δ_1		37 49.96		57 41.3						57 ~~55.57~~ 59.54	
−18.26											
	+22.0	1 23.4	26.9	10.3	1 2515	56~~21~~ 23.20			25	58 9.07	
	1.34242				26	57 58 27.14				− 13	+10.~~34~~
d	9.78967					− 18.07				− 7	56
	1.25704 m									+10.44	
((δ) − D) $\frac{d'}{100}$										+ 10	
−3.78										−18.30	
−18.26 δ_2		37 50.01		57 42.5						~~58~~ 0.54	
										58 0.76	

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451

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Ru

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_r	T_g	T_h	Sum	Mean	Red. to T_m	T
38	49 50	28	9.2	1 38 24.4	38 45.7	49.1	52.4	55.6	57.0	38	52.40		
37	49.1	23.5	9.0	28.9							+ 14.98		
κ				32.1					+ 14.88		− 5		
((δ) — D) $\frac{\kappa'}{100}$				28.47							− 2		
a_1										39	7.31		
											+ .31		−3.7
										39	7.59		−18.
			9.0	38 7.2	38 45.7	48.8	52.2	55.4	58.8	38	52.18		
κ				10.0							+15.00		
				12.0					+ 15.23		+ 7		
((δ) — D) $\frac{\kappa'}{100}$				10.07							+ 16		
a_2											− 2		
										39	7.41		
											+ 33		−3.7
										39	7.74		−18
40	6	52 36	8.5	39 38.7	39 57.4	2.8	6.0	9.6	13.0	40	6.16		
39	1.9	31.8	8.8	41.8							+14.98		
κ				43.7					+ 14.89		− 5		
((δ) — D) $\frac{\kappa'}{100}$				41.36							− 2		
a_1										40	21.07		
											+ 34		−3.8
										40	21.389		−18.
			8.4	39 36.7	39 57.1	21.4	25.9	29.2	12.7	40	5.88		
κ				39.8							+15.00		
				42.8					+ 15.25		+ 8		
((δ) — D) $\frac{\kappa'}{100}$				39.77							+ 16		
a_2											− 2		
										40	21.10		
											+ 36		−3.8
										40	21.487		−18.
42	24	51 53	9.2	42 3.4	42 21.9	23.3	26.8	30.2	33.7	42	26.80		
41	21.7	48.2	9.4	6.6							+14.98		
κ				9.3					+ 14.88		− 5		
((δ) — D) $\frac{\kappa'}{100}$				6.48							− 2		
a_1										42	41.71		
											+ 30		−3.8
										42	41.98		−18.
			9.5	41 38.9	42 19.8	23.1	26.8	29.9	33.3	42	26.58		
κ				2.4							+15.00		
				6.3					+ 15.25		+ 8		
((δ) — D) $\frac{\kappa'}{100}$				2.53							+ 16		
a_2											− 2		
										42	41.82		
											+ 32		−3.8
										42	42.145		−18
43	24	51 10	8.3	43 2.5	43 18.5	21.8	25.2	28.5	31.9	43	25.18		
42	21.5	6.0	8.6	5.2							+14.98		
κ				7.8					+ 14.89		− 5		
((δ) — D) $\frac{\kappa'}{100}$				5.17							− 2		
a_1										43	40.09		
											+ 28		−3.8
										43	40.37 34	40.35	−18.
			7.8	42 58.4	43 18.2	21.6	24.7	28.1	31.5	43	24.82		
κ				1.2							+15.00		
				4.2					+ 15.23		+ 7		
((δ) — D) $\frac{\kappa'}{100}$				1.82 27							+ 16		
a_2											− 2		
										43	40.05		
											+ 30		−3.8
										43	40.35		−18
45	7	52 2	9.0	44 49.3	45 8.5	6.5	10.1	13.2	16.7	45	1000		
44	4.5	51 55.9		52.3							+14.98		
κ				55.8					+ 14.89		− 5		
((δ) — D) $\frac{\kappa'}{100}$				52.47							− 2		
a_1										45	24.97		
											+ 25.27		−3.8
										45	32.16		−17.
			9.2	44 35.5	45 3.1	6.5	9.7	13.1	16.6	45	9.80		
κ				38.4							+15.01		
				42.2					+ 15.26		+ 8		
((δ) — D) $\frac{\kappa'}{100}$				38.70							+ 16		
a_2											− 2		
										45	25.08		
											+ 29		−3.8
										45	25.345		1991 −17.

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	$\frac{+}{z}$ 0.73 .22	δ′
	+23.9	4 13.2	18.4	11.6	4′ 1580	28~~18~~ 32.55		50	50 30 14.65		
	1.37840				54	50 30 34.91			− 15		+~~8.28~~
d	9.80336					−20.26			− 21		9.01
	1.30671 n								+ 8.54		
((δ) − D) $\frac{d'}{100}$									+ 10		
									−17.90		
−3.75				5							
−18.21 δ_1		39 3.84		29 47.6					30 5.76		
									− 0.57		
	+42.1	3 59.0	1.5	120.5	4 025	28~~18~~ 48.10		50	30 16.35		
	1.62428				54	50 30 52.04			− 47		+~~8.35~~
d	9.80336					−35.69			− 20		47
	1.55259 n								+ 8.82		
((δ) − D) $\frac{d'}{100}$									+ 10		
									−17.90		
−3.75 δ_2											
−18.21		39 3.99		29 48.1					~~30~~ 6.13		
									30 6.35		
	+24.9	1 37.9	42.1	80.0	1 4000	36~~21~~ 8.35		45	52 37 50.56		
	1.39620				46	52 38 10.71			− 16		+~~10.73~~
d	9.78313					−20.15			− 8		11.46
	1.30428 n								+10.82		
((δ) − D) $\frac{d'}{100}$									+ 15		
				3					−18.50		
−3.81 δ_1		40 17.58		37 25.4					37 43.52		
−18.17											
	+26.1	1 38.5	41.2	79.7	1 3985	36~~21~~ 8.50		45	37 51.32		
	1.41664				46	52 38 12.44			− 18		+~~11.56~~
d	9.78313					−21.12			− 8		28
	1.32472 n								+11.17		
((δ) − D) $\frac{d'}{100}$									+ 15		
									−18.50		
−3.81 δ_2		40 17.66		37 25.4					37 ~~43.31~~		
−18.17									43.53		
	+20.4	4 54.9	58.0	12.9	4 5645	52~~17~~ 51.90		25	51 54 37.48		
	1.30963				29	57 54 54.26			− 11		+~~7.80~~
d	9.79015					−16.78			− 25		10.53
	1.22473 n								+ 10.06		
((δ) − D) $\frac{d'}{100}$									+ 10		
									−18.30		
−3.81 δ_1		42 38.17		54 11.6					54 29.71		
−1808											
	+24.1	4 52.7	55.2	7.9	4 5395	52~~17~~ 54.40		25	54 38.52		
	1.38202				29	57 54 58.34			− 15		+~~10.08~~
d	9.79015					−19.82			− 25		30
	1.29712 n								+10.38		
((δ) − D) $\frac{d'}{100}$									+ 10		
									−18.30		
−3.81 δ_2		42 38.34		54 11.9					54 ~~29.73~~		
−18.08									29.95		
	+20.0	3 19.9	24.1	44.0	3 2200	~~29~~ 26.35		10	51 11 11.99		
	1.30103				13	51 11 28.71			− 11		+9.~~10~~
d	9.77715					−16.72			− 17		83
	1.22313 n								+9.28		
((δ) − D) $\frac{d'}{100}$									+ 10		
−3.80									−18.20		
−1804 δ_1		43 36.55		10 45.6					11 3.62		
	+23.5	3 18.0	21.4	39.4	3 1970	~~29~~ 28.65		10	11 12.95		
	1.37107				13	51 11 32.59			− 14		+9.~~36~~
d	9.77715					−19.64			− 17		58
	1.29317 n								+9.57		
((δ) − D) $\frac{d'}{100}$									+ 10		
									−18.20		
−280 δ_2		43 36.55		10 45.4					11 ~~3.54~~		
−1804									3.76		
	+17.5	2 18.9	23.1	42.0	2 2100	07~~0~~ 27.35		20	52 2 15.35		
	1.24304				22	52 2 29.71			− 8		+~~10.09~~
d	9.78902					−14.36			− 12		86 2
	1.15701 n								+10.19		
((δ) − D) $\frac{d'}{100}$									+ 10		
−3.83									−1840		
−17.97 δ_1		45 21.33		1 49.8					2 777		
	+31.1	2 9.6	14.4	24.0	2 1200	02~~0~~ 36.35		20	2 14.78		
	1.49276				22	52 2 40.29			− 25		+~~10.25~~
d	9.78902					−25.51			− 11		47
	1.40673 n								+10.51		
((δ) − D) $\frac{d'}{100}$									+ 10		
									−1840		
−3.83											
−17.97 δ_2		45 21.52		1 48.3					2 ~~6.06~~		
									6.28		

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Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
1	46 52 51 36		8.7	1 46 28.1	46 45.1	48.4	51.7	55.2	58.6	46	m s 51.80		
	45 47.0		8.7	31.4							+ 14.98 4		
	κ			34.0							− 5		
				31.17					+ 14.90		− 2		
	((δ) — D) $\frac{\kappa'}{100}$									47	6.71		
											+ 24 4		
	α_1									47	6.98		−3.8 −17.
			8.6	46 20.9	46 45.0	48.3	51.6	54.9	58.2	46	57.60		
				28.6							+ 15.01		
	κ			26.4							+ 8		
				23.63					+ 15.26		+ 16		
	((δ) — D) $\frac{\kappa'}{100}$										− 2		
										47	6.83		
	α_2										+ 27		
										47	7.12	713	−3.8 −17.
	48 17 51 53		9.1	47 49.0	48 11.6	14.9	18.3	21.8	25.1	48	1834		
	47 12.4		9.2	53.4							+ 14.96 4		
	κ			55.6							− 5		
				52.63					+ 14.89		− 2		
	((δ) — D) $\frac{\kappa'}{100}$									48	33.25		
											+ 24		
	α_1									48	33.47		−3.8 −17.
			9.2	47 49.1	48 11.2	14.7	18.3	21.4	24.8	48	1808		
				52.4							+ 15.01		
	κ			55.7					15.25		+ 8		
				52.80					+ ~~14.89~~		+ 16		
	((δ) — D) $\frac{\kappa'}{100}$										− 2		
										48	33.33		
	α_2										+ 26		
										48	33.59		−3.8 −17.
	49 32 52 33		8.4	49 4.6	49 24.5	28.0	31.5	34.8	38.3	49	31.42		
	48 25.6		8.3	7.9							+ 14.98 4		
	κ			10.1							− 5		
				7.53					+ 14.90		− 2		
	((δ) — D) $\frac{\kappa'}{100}$									49	46.33		
											+ 23		
	α_1									49	46.56 5		−3. −17.
			8.4	49 2.1	49 24.2	27.6	31.1	34.6	38.0	49	31.10		
				5.0							+ 15.01		
	κ			7.4							+ 8		
				4.83					+ 15.26		+ 16		
	((δ) — D) $\frac{\kappa'}{100}$										− 2		
										49	46.33		
	α_2										+ 25		
										49	46.68		−3.8 −17.
	50 13 52 0		8.9	49 59.2	50 7.5	10.9	14.2	17.3	20.8	50	14.14		
	49 8.4	51 55.2	9.1	2.9							+ 14.98 4		
	κ			5.8							− 5		
				2.53					+ 14.89		− 2		
	((δ) — D) $\frac{\kappa'}{100}$									50	29.05		
											+ 21		
	α_1									50	29.24		−3.8 −17.
			8.8	50 7.6	50 7.2	10.6	13.6	17.0	20.8	50	13.84		
				5.8							+ 15.01		
	κ			13.0							+ 8		
				10.13					+ 15.26		+ 16		
	((δ) — D) $\frac{\kappa'}{100}$										− 2		
										50	29.09		
	α_2										+ 23		
										50	29.32 3		−3.8 −17.
	51 50 52 39		8.4	51 21.9	51 45.4	48.9	52.2	55.8	59.0	51	32.26		
	50 44.9		8.4	25.7							+ 14.98 4		
	κ			28.9							− 5		
				25.57					+ 14.90		− 2		
	((δ) — D) $\frac{\kappa'}{100}$									52	7.17		
											+ 20 6		
	α_1									52	4.38		−3.8 −17.
			8.6	51 23.4	51 45.0	48.5	51.6	55.3	59.0	51	51.88		
				26.9							+ 15.01		
	κ			29.9							+ 8		
				26.73					+ 15.25		+ 16		
	((δ) — D) $\frac{\kappa'}{100}$										− 2		
										52	7.13		
	α_2										+ 22		
										52	7.35		−3.8 −17.

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	+ 0.73 + z .22	δ′
	+20.6	1 20.9	26.4	73	1′ 2″.365	3621 24.70			45	51 38 10.01	
	1,31387				46	51 38 27.06				− 12	+9.67
d	9.79288						−17.05			− 7	10.40
	1.23170m									+ 9.76	
((δ) − D) $\frac{d'}{100}$										+ 10	
										−1840	
−3.83 δ_1		47 3.11		37 44.2						38 2.11	
−17.91										− 0.87	
	+28.0	1 15.7	20.7	36.4	1 1820	3621 30.15			45	38 10.92	
	1,44716				46	51 38 34.09				− 21	+9.89
d	9.79288						−23.17			− 7	10.11
	1.36499m									+10.07	
((δ) − D) $\frac{d'}{100}$										+ 10	
										−1840	
−3.83 δ_2		47 3.30		37 44.2						38 1.84	
−17.91										2.06	
	+25.7	4 44.8	49.1	13.9	4 4695	5318 1.40			25	51 54 42.62	
	1.40993				29	51 55 3.76				− 18	+9.74
d	9.79015						−21.14			− 24	10.47
	1.32503m									+10.06	
((δ) − D) $\frac{d'}{100}$										+ 10	
										−1840	
−3.85 δ_1		48 29.62		54 16.8						54 34.69	
−17.85											
	+25.8	4 45.8	49.2	15.0	4 4750	5318 0.85			25	54 43.57	.00
	1.41162				29	51 55 4.79	22			− 18	+10.06
d	9.79015						−21.22			− 24	28
	1.32672m									+10.38	
((δ) − D) $\frac{d'}{100}$										+ 10	
										−1840	
−3.85 δ_2		48 29.74		54 17.0						54 32.66	
−17.85										3 34.88	
	+23.9	1 6.0	10.9	16.9	1 845	3121 39.90			50	52 33 22.89	
	1.37840				51	52 33 42.26				− 15	+10.68
d	9.78379						−19.37			− 6	11.41
	1.28714m									+10.74	
((δ) − D) $\frac{d'}{100}$										+ 15	
										−1860	
−3.88 δ_1		49 42.64		32 57.9						33 14.97	
−17.80										1.70	
	+26.3	1 5.2	7.9	13.1	1 655	3121 41.80			50	33 24.42	
	1.41996				51	52 33 45.74				− 18	+10.99
d	9.78379						−21.32			− 6	11.21
	1.32870m									+11.08	
((δ) − D) $\frac{d'}{100}$										+ 15	
−3.88										−1860	
−17.80 δ_2		49 42.73		32 58.7						33 16.21	
										1646	
	+11.6	3 15.1	19.2	14.3	3 1715	5919 31.20			20	52 1 24.02	
	1.06446				23	52 1 33.56				− 4	+10.06
d	9.78902						− 9.54			− 17	79
	0.97943m									+1017	
((δ) − D) $\frac{d'}{100}$										+ 10	
−3.87										−1860	
−17.77 δ_1		50 25.37		0 58.4						1 15.48	
										1621	
	+3.7	3 23.5	26.9	10.4	3 2520	5919 23.15			20	1 24.05	2348
	0.56820				23	52 1 27.09	26.52			− 0	+10.42
d	9.78902						− 3.04			− 17	64
	0.48217m									+10.49	
((δ) − D) $\frac{d'}{100}$										+ 10	
−3.87										−1860	
−17.77 δ_2		50 25.46		0 57.8						1 15.30	
										1552	
	+26.6	0 15.1	21.1	36.2	0 1810	3722 30.25			45	52 39 11.10	
	1.42488				45	52 39 32.61				− 19	+10.80
d	9.78280						−21.51			− 2	11.53
	1.33263m									+10.86	
((δ) − D) $\frac{d'}{100}$										+ 15	
										−1870	
−3.89 δ_1		52 3.47		38 46.2						39 3.93	
−17.71											
	+25.2	0 17.6	21.9	39.5	0 1975	3722 28.60			45	39 12.16	
	1.40140				45	52 39 32.54				− 17	+11.14
d	9.78280						−20.38			− 2	36
	1.30915m									+11.18	
((δ) − D) $\frac{d'}{100}$										+ 15	
										−1880	
−3.89 δ_2		53 3.46		38 46.4						39 3.93	
−17.71										4.15	

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Date$_1$ = 1876 Jan. 10 (450) Observer / Recorder — Date$_2$ = 1876 Jan. 11 (451) Observer / Recorder — Run

	Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
1		52 27	52 21	8.5	1 5.2	1 13 6 2 21.0	24.4	27.9	31.0	34.8	52	m s 27.82		
		51 21.4		9.1		18.8						+14.98 4		
		κ				18.7						− 5		
						15.27				+ 14.89		− 8		
		((δ) — D) $\frac{\kappa'}{100}$									52	42.73		
												+ 19		
		α_1									52	42.90		
				9.0	5.2	15.1 6 2 20.7	24.2	27.8	30.9	34.3	52	27.52		
						18.1						+15.01		
		κ				20.4						+ 8		
						17.87				+ 15.26		+ 16		
		((δ) — D) $\frac{\kappa'}{100}$										− 2		
											52	42.77		
		α_2										+ 21 9		
2		5 8	53 8	9.5	4 40.2	5 8.5	7.0	10.5	14.1	17.3	52	42.98 4		
		4 1.5		9.4	44.4						5	10.48		
		κ			46.9					+ 14.90		+14.98 4		
					43.83							− 5		
		((δ) — D) $\frac{\kappa'}{100}$										− 8		
											5	25.39		
		α_1										+ 06		
											5	25.45 4		
				9.4	4 38.1	5 8.2	6.9	10.1	13.9	17.2	5	10.26		
					38.5							+15.02		
		κ			43.4							+ 8		
					39.80					+ 15.28		+ 17		
		((δ) — D) $\frac{\kappa'}{100}$										− 8		
											5	25.53		
		α_2										+ 08		
											5	25.61 2		
		6 10	53 56	8.3	5 48.3	6 6.0	9.4	12.9	16.4	20.1	6	12.96		
		5 2.1		8.5	51.7							+14.97 5		
		κ			54.6					+ 14.89		− 6		
					51.53							− 8		
		((δ) — D) $\frac{\kappa'}{100}$									6	27.87		
												+ 06		
		α_1									6	27.91		
				8.0	5 49.8	6 5.5	9.1	12.7	16.1	19.6	6	12.60		
					54.4							+15.02		
		κ			56.8							+ 8		
					53.67					+ 15.27		+ 17		
		((δ) — D) $\frac{\kappa'}{100}$										− 8		
											6	27.87		
		α_2										+ 08		
											6	27.95		
		7 37	51 41	9.0	7 13.8	7 26.4	29.8	42.9	46.4	49.8	7	43.06		
		6 24.4		9.2	16.9							+14.97 5		
		κ			19.4					+ 14.91		− 5		
					16.70							− 2		
		((δ) — D) $\frac{\kappa'}{100}$									7	57.98		
												+ 01		
		α_1									7	57.99 8		
				9.2	7 14.8	7 26.1	29.4	42.6	45.8	49.3	7	42.64		
					17.8							+15.02		
+		κ			20.2							+ 8		
					17.50					+ 15.27		+ 16		
		((δ) — D) $\frac{\kappa'}{100}$										− 2		
											7	57.90		
		α_2										+ 03		
											7	57.93 57.94		
		9 26	53 8	8.9	8 5.6 3	9 20.8	24.2	27.7	31.2	34.8	9	27.74		
		8 18.0		9.0	5.9 2							+14.97 5		
		κ			2.5					+ 14.90		− 5		
					57.33							− 8		
		((δ) — D) $\frac{\kappa'}{100}$									9	42.66		
												+ 01		
		α_1									9	42.65		
				9.0	8 4.1	8 11.0	14.5	18.0	21.3	24.9	8	17.94		
					7.1							+15.02		
		κ			11.4							+ 8		
					7.53					+ 15.28		+ 17		
		((δ) — D) $\frac{\kappa'}{100}$										− 8		
											8	33.21		
		α_2										+ 03		
											8	33.24		

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z + 7.3 + 22	δ′
	+12.5	2 39.5	44.4	839	2 41.95	20 6.40			0	52 21 58.58	
	1.09691					52 22 8.76				− 4	+10.47
d	9.78576					−10.18				− 14	11.20
	1.00762 m									+10.53	
										+ 10	
((δ) − D) $\frac{d'}{100}$										−18.70	
−3.89 δ_1		52 39.01		21 33.4						21 51.08	
−17.68										− 0.57	
	+ 9.6	2 42.8	45.7	8.5 2	4425	20 4.10			0	22 0.22	
	0.98227					52 22 8.04				− 2	+10.82
d	9.78576					− 7.82				− 14	11.04
	0.89298 m									+10.88	
		2 42.8	45.7	8.5 2	4425				0	+ 10	
((δ) − D) $\frac{d'}{100}$										−1880	
−3.89 δ_2		52 39.10		21 34.2						21 51.67	
−17.68										51.89	
	+26.7	0 21.8	26.8	8.1	0 2405	722 24.30			15	53 9 5.31	
	1.42657				15	53 9 26.66				− 19	+11.34
d	9.77795					−21.35				− 2	12.07
	1.32941 m									+11.40	
										+ 15	
((δ) − D) $\frac{d'}{100}$										−19.20	
−4.00 δ_1		5 21.44		8 41.0						8 58.18	
−17.13											
	+31.3	0 19.9	25.4	45.3	0 2265	732 25.70			15	9 4.61	
	1.49554				15	53 9 29.64				− 26	+11.63
d	9.77795					−25.03				− 2	85
	1.39844 m									+11.76	
										+ 15	
((δ) − D) $\frac{d'}{100}$										−19.20	
−4.00 δ_2		5 21.62		8 39.6						8 56.47	
−17.13										56.69	
	+20.5	2 23.8	27.2	11.0	2 2550	5520 22.85			25	53 57 9.12	
	1.31175				27	53 57 25.21				− 10	+12.28
d	9.76974					−16.09				− 12	13.01
	1.20644 m									+12.30	
										+ 20	
((δ) − D) $\frac{d'}{100}$										−19.30	
−4.03 δ_1		6 23.88		56 45.8						57 283	
−17.08											
	+18.9	2 26.1	29.9	16.0	2 2800	5520 20.35			25	57 9.46	
	1.27646				27	53 57 24.29				− 9	+12.65
d	9.76974					−14.83				− 12	89
	1.17115 m									+12.66	
										+ 20	
((δ) − D) $\frac{d'}{100}$										−19.40	
−4.03 δ_2		6 23.92		56 45.3						57 2.14	
−17.08										2.36	
	+26.4	1 35.4	41.4	76.8	1 3840	41 21 9.95			40	51 42 50.50	
	1.42160				41	57 43 12.31				− 18	+9.73
d	9.79208					−21.81				− 8	10.46
	1.33863 m									+ 9.89	
										+ 10	
((δ) − D) $\frac{d'}{100}$										−1880	
−3.97 δ_1		7 54.01		42 25.2						42 42.16	
−17.01											
	+25.1	1 36.7	42.1	78.8	1 3940	421 8.95			40	42 52.16	
	1.39967				41	57 43 12.89				− 17	+10.02
d	9.79208					−20.73				− 8	24
	1.31670 m									+10.17	
										+ 10	
((δ) − D) $\frac{d'}{100}$										−1880	
−3.97 δ_2		7 53.97		42 26.0		+.73				42 42.51	
−17.01										43.03	
	+28.4	0 25.9	31.8	57.7	0 2885	732 19.50			15	53 8 59.15	✓
	1.45332				15	53 9 21.86				− 21	+11.35
d	9.77795					−22.71				− 2	12.08
	1.35622 m									+11.43	different #s
										+ 15	
((δ) − D) $\frac{d'}{100}$										−19.20	
−4.03 δ_1		9 38.62		8 34.4						8 51.30	
−16.93											
	+10.4	0 31.8	36.8	76	0 3380	732 14.55			15	9 10.17	✓
	1.01703				15	53 9 18.49				− 3	+11.86
d	9.77795					− 8.32				− 3	12.08
	0.91993 m									+11.77	
										+ 15	
((δ) − D) $\frac{d'}{100}$										−19.20	
δ_2										9 2.26	
										2.83	

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Date$_1$ = 1876, Jan. 10 — Observer / Recorder

457

Date$_2$ = 1876, Jan. 11 — Observer / Recorder

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Run

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
2	10 13 53 30	8.6	2 9	58.2	10 7.4	10.7	14.3	17.8	21.4	10	14.32		
	9 5.0 25.2	9.0		56.8					+ 14.90		+ 14.97 ×5		
	κ			57.4							− 6		
	((δ) — D) $\frac{\kappa'}{100}$			58.1							− 3		
	α_1									10	29.23		
											+ 00		
										10	29.23 ×2		
			8.8	9 58.6	10 7.0	10.5	14.0	17.5	21.0	10	14.00		
	κ			58.5							+ 15.02		
	((δ) — D) $\frac{\kappa'}{100}$			56.2					+ 15.27		+ 8		
				53.43							+ 17		
	α_2										− 3		
										10	29.27		
											+ 02		
										10	29.29		
	12 53 53 52	9.1	12	25.7	12 47.5	57.0	54.4	57.9	1.5	12	54.46		
	11 43.6 46.8	9.2		29.7					+ 14.89		+ 14.97 ×5		
	κ			32.2							− 6		
	((δ) — D) $\frac{\kappa'}{100}$			28.97							− 3		
	α_1									13	9.34		
											− 02		
										13	9.33		
			9.0	12 23.3	12 47.1	57.5	54.1	57.7	1.1	12	54.10		
	κ			26.8							+ 15.02		
	((δ) — D) $\frac{\kappa'}{100}$			29.8					+ 15.28		+ 8		
				26.3							+ 17		
	α_2										− 3		
										13	9.37		
											+ 00		
										13	9.37	8	
	14 59 52 6	8.3	14 23.7	14 52.7	55.9	59.4	2.8	6.2	14	59.40		
	13 50.2 1.4	8.0		27.3					+ 14.94		+ 14.97 ×5		
	κ			30.1							− 5		
	((δ) — D) $\frac{\kappa'}{100}$			27.03							− 2		
	α_1									15	14.32		
											− 06		
										15	14.26	5	
			8.0	14 28.9	14 52.7	56.7	59.0	2.3	5.8	14	59.00		
	κ			31.8							+ 15.03		
	((δ) — D) $\frac{\kappa'}{100}$			34.7					+ 15.28		+ 8		
				31.63							+ 16		
	α_2										− 2		
										15	14.27		
											− 04		
										15	14.23	4	
	15 43 52 52	8.8	15 45.5	15 36.9	39.8	42.9	46.2	50.0	15	42.92		
	14 34.4 47.5	9.0		48.9					+ 14.90		+ 14.97 ×5		
	κ			53.1							− 5		
	((δ) — D) $\frac{\kappa'}{100}$			49.17							− 2		
	α_1									15	57.84		
											− 06		
										15	57.76		
			8.9	15 26.3	15 35.6	39.2	42.5	46.1	49.3	15	42.54		
	κ			29.5							+ 15.03		
	((δ) — D) $\frac{\kappa'}{100}$			32.4					+ 15.28		+ 8		
				29.40							+ 17		
	α_2										− 2		
										15	57.81		
											− 04		
										15	57.78		
	17 9 52 47	8.8	16 46.2	17 3.8	7.2	10.6	13.9	17.4	17	10.58		
	16 0.8 43.0	9.0		49.1							+ 14.97 ×5		
	κ			48.0					+ 14.91		− 5		
	((δ) — D) $\frac{\kappa'}{100}$			49.43							− 2		
	α_1									17	25.50		
											− 08		
										17	25.42	1	
			8.6	16 41.7	17 3.5	6.7	10.2	13.5	17.1	17	10.20		
	κ			44.6							+ 15.03		
	((δ) — D) $\frac{\kappa'}{100}$			48.4					+ 15.29		+ 8		
				44.90							+ 17		
	α_2										− 2		
										17	25.48		
											− 06		
										17	25.42	3	

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z + 0.73 + .22	δ′
	+17.8	3 12.5	15.2	7.7	3 1385	29~~19~~ 34.50			50	53 31 22.75	
	1.25042				53	53 31 36.86				− 8	+11.79
d	9.77405					−14.11				− 16	12.52
	1.14942n									+11.83	
((δ) − D) $\frac{d'}{100}$										+ 20	
										−19.80	
−4.05 δ_1		10 25.17		30 59.~~17~~						31 15.97	
−16.89										− 0.57	
	+20.6	3 11.4	14.2	5.6	3 1280	29~~19~~ 35.55			50	31 23.16	
	1.31387				53	53 31 39.49				− 11	+12.14
d	9.77405					− 16.33				− 16	33
	1.21287n									+12.18	
((δ) − D) $\frac{d'}{100}$										+ 20	
										−19.40	
−4.05 δ_2		10 25.24		30 58.6						31 15.30	
−16.89										15.52	
	+25.5	1 43.4	46.5	9.9	1 4495	51~~21~~ 3.40			80	53 52 45.72	
	1.40654				31	53 53 5.76				− 17	+12.17
d	9.77043					−20.04				− ~~E9~~	90
	1.30192n									+12.23	
((δ) − D) $\frac{d'}{100}$										+ 20	
										−18.40	
−4.08 δ_1		13 5.25		52 22.5						52 39.22	
−16.76											
	+27.5	1 41.9	46.0	7.9	1 4395	51~~21~~ 4.40			80	52 46.73	
	1.43933				31	53 53 8.34				− 19	+12.51
d	9.77043					−21.61				− 9	73
	1.33471n									+12.59	
((δ) − D) $\frac{d'}{100}$										+ 20	
−4.08										−19.50	
−16.76 δ_2		13 5.30		52 22.6						52 39.39	
	+32.4	2 12.4	17.1	9.8	2 1475	5~~20~~ 33.60			15	52 7 9.44	
	1.51053				17	52 7 35.96				− 28	+10.03
d	9.78805					− 26.52				− 11	76
	1.42355n									+10.32	
((δ) − D) $\frac{d'}{100}$										+ 10	
										−19.00	
−4.03 δ_1		15 10.22		6 44.5						7 1.20	
−16.67											
	+27.4	2 16.6	20.1	8.67	2 1825	5~~20~~ 30.00			15	7 11.52	
	1.43775				17	52 7 33.94				− 20	+10.39
d	9.78805					− 22.42				− 12	61
	1.35075n									+10.61	
((δ) − D) $\frac{d'}{100}$										+ 10	
										−19.00	
−4.03 δ_2		15 10.21		6 45.9						7 2.56	
−16.67											
	−6.3 ~~3.7~~	1 48.9	53.2	102.1	1 3705	50~~20~~ 57.30			30	52 53 4.73	
	0.79734n				31	52 52 59.~~66~~				− 1	+11.17
d	9.78063					+ 5.07				− 9	90
	0.70492									+11.12	
((δ) − D) $\frac{d'}{100}$										+ 15	
										−19.20	
−4.06 δ_1		15 53.70		52 40.8						52 57.43	
−16.63											
	+13.1	1 33.3	38.1	11.4	1 3570	5~~17~~ 12.65			30	53 6.05	
	1.11727				31	52 53 16.59				− 5	+11.48
d	9.78063					−10.54				− 8	70
	1.02285n									+11.46	
((δ) − D) $\frac{d'}{100}$										+ 15	
										−19.50	
−4.06 δ_2		15 53.72		52 41.2						52 57.88	
−16.63											
	+21.2	1 0.9	4.9	5.8	1 290	46~~21~~ 45.45			35	52 48 30.72	
	1.32634				36	52 48 47.81				− 12	+11.03
d	9.78147					−17.09				− 5	76
	1.23276n									+11.05	
((δ) − D) $\frac{d'}{100}$										+ 15	
										−19.20	
−4.07 δ_1		17 21.34		48 6.7						48 23.28	
−16.56											
	+25.3	0 56.8	0.8	11.76	0 3880	46~~21~~ 49.55			35	48 33.09	
	1.40312				35	52 48 53.49				− 17	+11.32
d	9.78147					−20.40				− 5	54
	1.30954n									+11.39	
((δ) − D) $\frac{d'}{100}$										+ 15	
										−19.30	
−4.07 δ_2		17 21.36		48 8.2						48 24.76	
−16.56											

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Date$_1$ = 1876, Jan. 10 — Observer / Recorder

Date$_2$ = 1876, Jan. 11 — Observer / Recorder

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
2	18 43 52 58	9.0	2	18 27.7	18 41.1	44.6	48.0	51.6	55.0	2418	48.06		
	17 24.6	9.2		30.4							+14.975		
	κ			33.3					+ 14.90		− 5		
	((δ) − D) $\frac{\kappa'}{100}$			30.47							− 2		
										19	2.98		
	α_1										− .10		
										19	2.86		
		9.1		18 7.3	18 41.0	44.3	47.8	51.1	54.9	18	47.82		
				10.4							+15.03		
	κ			14.0							+ 8		
	((δ) − D) $\frac{\kappa'}{100}$			10.57					+ 15.29		+ 17		
											− 2		
	α_2									19	3.10		
										19	− .08.3		
											3.02		
	19 59 52 58	9.0		19 21.0	19 54.9	58.3	1.8	5.2	8.6	20	1.76		
	18 50.7	8.8		28.4							+14.975		
	κ			28.6							− 5		
	((δ) − D) $\frac{\kappa'}{100}$			25.00					+ 14.91		− 2		
										20	16.68		
	α_1										− .12		
										20	16.54.5		
		9.3		19 35.2	19 54.7	57.9	1.2	4.6	8.3	20	1.34		
				38.9							+15.03		
	κ			44.4							+ 8		
	((δ) − D) $\frac{\kappa'}{100}$			38.50					+ 15.28		+ 17		
											− 2		
	α_2									20	16.62		
											− .09		
										20	16.53		
	20 57 52 29	8.5		20 34.7	20 53.1	56.3	59.8	3.3	6.7	20	59.84		
	19 48.9	8.3		37.8							+14.975		
	κ			46.3							− 5		
	((δ) − D) $\frac{\kappa'}{100}$			37.60					+ 14.90		− 2		
										21	14.76		
	α_1										− .15		
										21	14.61		
		8.1		20 34.6	20 53.5	56.1	59.4	2.9	6.2	20	59.42		
				38.5							+15.03		
	κ			41.2							+ 8		
	((δ) − D) $\frac{\kappa'}{100}$			38.10					+ 15.28		+ 16		
											− 2		
	α_2									21	14.59		
											− .11		
										21	14.58.9		
	22 4 52 37	8.9		21 48.4	21 59.4	2.9	6.3	9.7	13.1	22	6.28		
	20 33.4	7.5		52.7							+14.975		
	κ			58.1							− 5		
	((δ) − D) $\frac{\kappa'}{100}$	8.8		52.07					+ 14.91		− 2		
										22	21.20		
	α_1										− .14		
										22	21.04.5		
		8.8		21 35.2	21 59.1	2.8	6.9	9.3	12.7	22	5.90		
				38.6							+15.03		
	κ			41.1							+ 8		
	((δ) − D) $\frac{\kappa'}{100}$	8.8		38.30					+ 15.28		+ 16		
											− 2		
	α_2									22	21.17		
											− .12		
										22	21.05.6		
	23 9 52 16	8.0		22 49.0	23 3.4	6.9	10.2	13.5	17.0	23	10.20		
	22 0.6	8.5		52.1							+14.975		
	κ			54.8							− 5		
	((δ) − D) $\frac{\kappa'}{100}$			51.97					+ 14.90		− 2		
										23	25.12		
	α_1										− .15		
										23	~~25.35~~ 24.95		
		8.4		22 41.0	23 3.0	6.5	9.8	13.1	16.3	23	9.74		
				43.3							+15.03		
	κ			45.8							+ 8		
	((δ) − D) $\frac{\kappa'}{100}$			43.43					+ 15.27		+ 16		
											− 2		
	α_2									23	25.01		
											− .13		
										23	24.88		

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke			8'
	+17.6	3 22.0	25.6	476 3	23.80	59~~19~~ 24.55			20	53 1 12.79		
	1,245551			23		63 1 26.91				− 8		+11.17
d	9,77930					−14.12				− 17		90
	1.14976m									+11.27		
										+ 15		
((δ) − D) $\frac{d'}{100}$										−19.30		
										1 539		
−4.08 δ_1		18 58.78		0 48.9						− 0.57		
−16.48												
	+37.2	3 6.0	8.9	149 3	7.45	59~~19~~ 40.90			20	1 15.00		
	1,557034			23		53 1 44.84				− 37		+11.~~25~~
d	9,77930					−29.84				− 16		47
	1.47479m									+11.63		
										+ 15		
((δ) − D) $\frac{d'}{100}$										−19.30		
										1 660		
−4.08 δ_2		18 58.95		0 50.1								
−16.48												
	+36.8	0 7.7	11.9	196 0	9.80	57~~22~~ 38.65			25	52 59 11.38		
	1,565585			25		52 59 40.91				− 35		+11.02
d	9,77946					−29.53				− 1		75
	1.47026m									+11.23		
										+ 15		
((δ) − D) $\frac{d'}{100}$										−19.30		
										59 383		
−4.09 δ_1		20 12.46		58 47.4								
−16.42												
	+22.8	0 19.5	24.8	443 0	22.15	57~~22~~ 26.25 0			25	59 11.89~~,27~~		
	1,35793			25		52 59 ~~30.19~~ 29.57				− 14		+11.~~58~~
d	9,77946					−18.30				− 2		80
	1.26234m									+11.59		
										+ 15		
((δ) − D) $\frac{d'}{100}$										−19.30		
										59 382,77		
−4.09 δ_2		20 12.44		58 47.4						16 4739		
−16.42												
	+22.2	4 1.4	5.3	67 4	3.35	28~~18~~ 45.00			50	52 30 29.35		
	1,34635			54		52 30 47.36				− 13		+10.54
d	9,78428					−18.01				− 20		11.27
	1.25668m									+10.72		
										+ 15		
((δ) − D) $\frac{d'}{100}$										−19.20		
										30 21.42		
−4.08 δ_1		21 10.53		30 5.0								
−16.37												
	+21.3	4 2.4	6.3	87 4	4.35	28~~18~~ 44.00			50	30 30.66		
	1,32838			54		52 30 47.94				− 12		+10.~~90~~
d	9,78428					−17.28				− 20		11.12
	1.23761m									+11.07		
										+ 15		
((δ) − D) $\frac{d'}{100}$										−19.20		
										30 22.01		
−4.08 δ_2		21 10.51		30 5.6								
−16.37												
	+14.2	2 26.7	30.6	573 2	28.65	35~~20~~ 19.70			45	52 37 10.56		
	1,15229			47		52 37 22.06				− 5		+10.82
d	9,78329					−11.50				− 12		11.55
	1.06053m									+10.84		
										+ 15		
((δ) − D) $\frac{d'}{100}$										−19.20		
										37 2.91		
−4.09 δ_1		22 16.96		36 46.6								
−16.31												
	+27.6	2 15.0	20.2	352 2	17.60	35~~20~~ 30.75			45	37 12.35		
	1,44091			47		52 37 34.69				− 20		+11.04
d	9,78329					−22.34				− 11		23
	1.34915m									+11.17		
										+ 15		
((δ) − D) $\frac{d'}{100}$										−19.30		
										37 3.71		
−4.09 δ_2		22 16.97		36 47.4								
−16.31												
	+18.2	2 27.9	31.9	598 2	29.90	15~~20~~ 18.45			5	52 17 5.96		
	1,26007			7		52 17 20.81				− 9		+10.~~38~~
d	9,78658					−14.85				− 12		11.11
	1.17160m									+10.49		
										+ 10		
((δ) − D) $\frac{d'}{100}$										−19.20		
										16 57.87		
−4.08 δ_1		23 20.84		16 41.6								
−16.26												
	+26.3	2 20.8	26.1	469 2	23.45	15~~20~~ 24.90			5	17 ~~7.39~~		6.82
	1,41996			7		52 17 ~~28.84~~ 28.27				− 18		+10.60
d	9,78658					−21.45				− 12		82
	1.33149m									+10.80		
										+ 10		
((δ) − D) $\frac{d'}{100}$										−19.30		
										16 58.34		
−4.08 δ_2		23 20.80		16 42.1								
−16.26												

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Date$_1$ = 1876, Jan. 10 Observer / Recorder

Date$_2$ = 1876, Jan. 11 Observer / Recorder

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
242	25	9 52 4	8.2	2 24 49,0	25 10,3	13,5	17,0	20,3	23,7	25	16.96		
	24	44 51 57,8	8.5	51,3					+ 14,92		+14,976		
	κ			57,2							− 5		
				54.50							− 2		
	((δ) — D) $\frac{\kappa'}{100}$									25	31.88		
	c_1										− 18		
										25	31.69 70		
			8.3	24 37,5	25 9,7	13,1	16,6	19,8	23,2	25	16.48		
				40,1							+15,03		
	κ			42,4							+ 8		
				40.00					+ 15.28		+ 16		
	((δ) — D) $\frac{\kappa'}{100}$										− 2		
	c_2									25	31.75		
											− 16		
										25	31.59 60		
	26	35 53 8	8.9	26 1,8	26 30,8	34,2	37,6	41,2	44,6	26	37.68		
	25	25.9 2.8	8.5	4,9							+14,976		
	κ			7,9					+ 14,91		− 5		
				4.87							− 3		
	((δ) — D) $\frac{\kappa'}{100}$									26	52.60		
	a_1										− 19		
										26	52.40		
			8.8	26 8,1	26 30,3	33,8	37,2	40,8	44,2	26	37.26		
				11,1							+15,03		
	κ			14,3							+ 8		
				11.17					+ 15.29		+ 17		
	((δ) — D) $\frac{\kappa'}{100}$										− 3		
	a_2									26	52.54		
											− 17		
										26	52.37	52.38	
	29	46 54 39	9.0	29 13,1	29 42,7	46,8	50,0	53,6	57,2	29	49.96		
	28	33.6 34.2	9.2	16,3							+14,976		
	κ			20,5					+ 14,91		− 6		
				16.63					−		− 3		
	((δ) — D) $\frac{\kappa'}{100}$									30	4.87		
	a_1										− 22		
										30	4.65		
			8.8	29 25,9	29 42,4	46,1	49,7	53,1	56,7	29	49.60		
				28,8							+15,043		
	κ			31,9							+ 8		
				28.87					+ 15.28		+ 17		
	((δ) — D) $\frac{\kappa'}{100}$										− 3		
	a_2									30	4.89		
										30	− 20		
											4.68		
	31	11 54 27	8.7	30 45,9	31 7,8	10,9	14,9	18,5	22,2	31	14.86		
	30	0.6 22.3	8.8	57,0							+14,986		
	κ			53,3					+ 14,90		− 6		
				49.73							− 3		
	((δ) — D) $\frac{\kappa'}{100}$									31	29,78		
	a_1										− 24		
										31	29.82		
			8.8	30 43,2	31 7,3	11,1	14,3	18,0	21,6	31	14.46		
				47,8							+15,043		
	κ			51,7							+ 8		
				47.57					+ 15.29		+ 17		
	((δ) — D) $\frac{\kappa'}{100}$										− 3		
	a_2									31	29.75		
											− 21		
										31	29.54		
	32	19 54 37	8.7	31 8,35	32 14,9	18,4	22,0	25,6	29,3	32	22.04		
	31	7.7 32.7	8.9	58,3							+14,986		
	κ			0,7					+ 14,91		− 6		
				57.50							− 3		
	((δ) — D) $\frac{\kappa'}{100}$									32	36,96		
	a_1										− 25		
										32	36.69 70		
			8.9	31 48,4	32 14,4	18,0	21,7	25,2	28,8	32	21.62		
				52,2							+15,04		
	κ			55,0							+ 8		
				51.87					+ 15.30		+ 17		
	((δ) — D) $\frac{\kappa'}{100}$										− 3		
	a_2									32	36.91		
											− 22		
										32	36.69		

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	+ .73 ~~+ .22~~	δ′
	+25.5	4 7.1	10.8	179 4′	8.″95	~~3~~8 39.40			15	52 5 20.87	
	1.40654			19		52 5 41.76				− 17	+~~9.99~~
d	9.78853					− 20.89				− 21	10.72
	1.32002n									+10.27	
((δ) − D) $\frac{d'}{100}$										+ 10	
										−19.10	
−4.09 δ₁		25 27.61		4 56.3						5 12.49	
−16.15										− 0.57	
	+36.5	3 58.4	1.3	1197 3	59.85	~~3~~8 48.50			15	5 22.54	
	1.56229			18		52 5 52.44				− 35	+~~10.13~~
d	9.78837					− 29.90				− 20	35
	1.47561n									+10.58	
((δ) − D) $\frac{d'}{100}$										+ 10	
										−19.20	
−4.09 δ₂		25 27.51		4 57.0						5 13.12	
−16.15											
	+32.8	0 43.0	47.9	909 0	45.45	~~7~~2 2.90			15	53 8 39.03	
	1.51587			15		53 9 5.26				− 28	+~~11.23~~
d	9.77795					−26.23				− 4	96
	1.41877n									+11.40	
((δ) − D) $\frac{d'}{100}$										+ 15	
										−19.40	
−4.14 δ₁		26 48.26		8 15.5						8 31.59	
−16.08											
	+26.1	1 48.0	52.7	1007 0	50.35	6~~2~~0 58.00			15	8 41.07	
	1.41664			15		53 9 1.94				− 18	+~~11.81~~
d	9.77795					−20.87				− 4	93
	1.31954n									+11.78	
((δ) − D) $\frac{d'}{100}$										+ 15	
										−19.50	
−4.14 δ₂		26 48.24		8 16.8						8 3.293	
−16.08											
	+33.4	4 33.3	36.1	694 4	34.70	3~~8~~8 13.65			40	54 39 50.26	
	1.52375			44		54 40 16.01				− 29	+~~12.81~~
d	9.76218					−25.75				− 23	13.54
	1.41088n									+13.08	
((δ) − D) $\frac{d'}{100}$										+ 25	
										−19.70	
−4.22 δ₁		30 0.43		39 28.2						39 44.10	
−15.91											
	+20.7	4 43.9	47.8	917 4	45.85	3~~8~~8 2.50			40	39 50.48	
	1.31597			44		54 40 6.44				− 11	+~~13.39~~
d	9.76218					−15.96				− 24	61
	1.20310n									+13.49	
((δ) − D) $\frac{d'}{100}$										+ 25	
										−19.70	
−4.22 δ₂		30 0.46		39 27.9						39 43.82	
−15.91											
	+25.2	1 80.1	84.2	643 1	32.15	26~~2~~1 16.20			55	54 27 59.03	
	1.40140			56		54 28 18.56				− 16	+~~12.83~~
d	9.76431					−19.53				− 8	13.56
	1.29066n									+12.87	
((δ) − D) $\frac{d'}{100}$										+ 20	
										−19.70	
−4.22 δ₁		31 25.30		27 37.1						5289	
−15.83											
	+26.9	1 30.6	33.9	645 1	32.25	26~~2~~1 16.10			55	27 59.19	
	1.42975			56		54 28 20.04				− 19	+~~13.16~~
d	9.76431					−20.85				− 8	38
	1.31901n									+13.23	
((δ) − D) $\frac{d'}{100}$										+ 20	
										−1980	
−4.22 δ₂		31 25.32		27 36.4						27 5220	
−15.83											
	+24.5	2 32.4	36.1	685 2	34.25	3~~5~~4 14.10			45	54 36 57.54	
	1.38917			47		54 37 16.46				− 15	+~~12.98~~
d	9.76271					−18.92				− 13	13.71
	1.27683n									+13.01	
((δ) − D) $\frac{d'}{100}$										+ 25	
										−19.80	
−4.23 δ₁		32 32.47		36 35.7						36 51.45	
−15.77											
	+29.7	2 27.6	32.4	600 2	30.00	3~~5~~0 18.35			45	36 59.36	
	1.47276			47		54 37 22.29				− 23	+13.29
d	9.76271					−22.93				− 13	51
	1.36042n									+13.40	
((δ) − D) $\frac{d'}{100}$										+ 25	
										−19.80	
−4.23 δ₂		32 32.46		36 36.7						52.50	
−15.77											

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Date$_1$ = 1876, Jan. 10 — Observer / Recorder

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Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
2	33 56	54 34	5.5	2 33 22,4	33 49,4	53.0	56,5	0,1	3,7	33	56.54		
	22 45.0	29.7	6.0	25,5							+14.98 6		
	κ			27.7							− 6		
				25.20					+ 14.90		− 3		
	((δ) − D) $\frac{\kappa'}{100}$									34	11.46		
											− 27		
	a_1									34	11.17		
			5.8	33 28,2	33 49,2	52,5	56,1	59.6	3,21	33	56.12		
				31,8							+15.04		
	κ			34,7							+ 8		
				31.47					+ 15.29		+ 17		
	((δ) − D) $\frac{\kappa'}{100}$										− 3		
										34	11.41		
	a_2										− 25		
										34	11.16		
	35 51	54 24	8.8	35 22,6	35 46,0	49,8	53,2	57,0	0,3	35	53.26		
	34 40.1	20.5	8.0	26,9							+14.98 6		
	κ			29,5							− 6		
				26.27					+ 14.91		− 3		
	((δ) − D) $\frac{\kappa'}{100}$									36	8.18		
											− 29		
	a_1									36	7.87 8		
			8.8	35 29,8	35 46,0	49,2	53,0	56,8	0,0	35	52.94		
				33,2							+15.04		
	κ			35,8							+ 8		
				32.93					+ 15.30		+ 17		
	((δ) − D) $\frac{\kappa'}{100}$										− 3		
										36	8.23		
	a_2										− 27		
										36	7.96 7		
	37 2	54 53	8.9	36 35,6	36 49,8	0,3	6,8	10,5	14,2	37	6.92		
	36 51.5	49.8	8.5	38,8							+14.98 6		
	κ			42,1							− 6		
				38.83					+ 14.90		− 3		
	((δ) − D) $\frac{\kappa'}{100}$									37	21.84		
											− 31		
	a_1									37	21,51		
			9.4	36 41,3	36 57,3	2,9	6,5	10,1	13,9	37	6.54		
				44,3							+15.04		
	κ			47,8							+ 8		
				44.47					+ 15.30		+ 17		
	((δ) − D) $\frac{\kappa'}{100}$										− 3		
										37	21.83		
	a_2										− 28		
										37	21.55 6		
	38 36	54 23	8.2	38 10,0	38 22,3	35,8	39,5	43.0	46,6	38	39.44		
	37 28.1	19.4	8.3	13,0							+14.98 6		
	κ			15,8							− 6		
				12.93					+ 14.91		− 3		
	((δ) − D) $\frac{\kappa'}{100}$									38	54.36		
											− 33		
	a_1									38	54.03 7		
			8.8	38 13,5	38 32,0	35,8	39,2	42,6	46,2	38	39.16		
				16,7							+15,04		
	κ			19,3							+ 8		
				16.50					+ 15.29		+ 17		
	((δ) − D) $\frac{\kappa'}{100}$										− 3		
										38	54,45		
	a_2										− 30		
										38	54.16		
	40 41	54 8	8.0	40 19,8	40 39,7	43,2	46,7	50.3	54,2	40	46.82		
	~~37 30.4~~			23,5							+14.98 6		
	~~40 27.6~~	~~54 37~~	7.9	26,1							− 6		
	((δ) − D) $\frac{\kappa'}{100}$			23.13					+ 14.90		− 3		
	39 36.4	54 53.0								41	1.74		
	a_1										− 35		
										41	1.37		
			8.4	40 13,1	40 39,3	43.0	46,5	50,3	53,9	40	46.60		
				16,2							+15.04		
	κ			19,2							+ 8		
				16.17					+ 15.30		+ 17		
	((δ) − D) $\frac{\kappa'}{100}$										− 3		
										41	1.89		
	a_2										− 33		
										41	1.56 7		

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z + .73 + .22	δ′
	+31.3	4 48.2	51.3	99.5	4 49.75	3217 58.60			45	54 34 36.77	
	1.49554					54 35 0.96				− 26	+ 12.75
d	9.76307					−24.19				− 24	13.48
	1.38356 m									+13.00	
((δ) − D) $\frac{d'}{100}$										+ 25	
										−19.80	
−4.24 δ_1		34 6.93		34 14.8						34 30.45	
−15.69										− 0.67	
	+24.6	4 53.9	57.6	11.5	4 55.75	3217 52.60			45	34 37.53	
	1.39094				49	54 34 56.54				− 16	+ 13.25
d	9.76307					−19.01				− 24	47
	1.27896 m									+13.40	
((δ) − D) $\frac{d'}{100}$										+ 25	
										−19.80	
−4.24 δ_2		34 6.92		34 14.9						34 3698	
−15.69										3863	
	+27.0	3 8.9	12.9	21.8	3 10.90	2479 37.45			55	54 26 18.87	
	1.43136				58	54 26 39.81				− 19	+ 12.68
d	9.76466					− 20.94				− 16	13.41
	1.32097 m									+12.83	
((δ) − D) $\frac{d'}{100}$										+ 20	
										−19.80	
−4.25 δ_1		36 3.63		25 56.9						26 1248	
−15.59											
	+20.0	3 14.9	18.9	13.8	3 16.90	2479 31.45			55	26 19.88	
	1.30103				58	54 26 35.39				− 10	+ 13.17
d	9.76466					−15.51				− 16	39
	1.19064 m									+13.23	
((δ) − D) $\frac{d'}{100}$										+ 20	
										−19.80	
−4.25 δ_2		36 3.72		25 57.3						26 1290	
−15.59											
	+28.1	4 36.0	89.2	15.2	4 37.60	5318 10.75			25	54 34 51.57	
	1.44871				29	54 55 13.11				− 20	+ 13.18
d	9.75949					− 21.54				− 23	91
	1.33315 m									+13.36	
((δ) − D) $\frac{d'}{100}$										+ 25	
										−19.90	
−4.28 δ_1		37 17.23		54 30.1						54 4588	
−15.31											
	+22.0	4 40.4	45.1	5.5	4 42.75	5318 5.60			25	54 52.68	
	1.34242				29	54 55 9.54				− 12	+ 13.67
d	9.75949					−16.86				− 24	89
	1.22686 m									+13.78	
((δ) − D) $\frac{d'}{100}$										+ 25	
										−20.00	
−4.28 δ_2		37 17.28		54 30.5						54 46.0	
−15.31											
	+26.5	3 9.9	13.1	23.0	3 11.50	2479 36.85			55	54 26 18.86	
	1.42325				58	54 26 39.21				− 18	+ 12.70
d	9.76466					− 20.55				− 16	13.43
	1.31286 m									+12.84	
((δ) − D) $\frac{d'}{100}$										+ 20	
										−19.80	
−4.27 δ_1		38 49.75		25 56.9						26 12.29	
−15.43											
	+22.7	3 14.2	18.1	12.3	3 16.15	2479 32.20			55	26 18.53	
	1.35603				58	54 26 36.14				− 14	+ 13.13
d	9.76466					− 17.61				− 16	35
	1.24564 m									+13.23	
((δ) − D) $\frac{d'}{100}$										+ 20	
										−19.90	
−4.27 δ_2		38 49.88		25 56.0						26 11.41	
−15.43											
	+23.7	0 41.1	46.9	8.0	0 44.00	5722 4.35			25	53 58 48.13	58
	1.37475				25	53 59 6.71				4 − 15	+ 12.35 + 18.26
d	9.76939	9.75877				4 −18.58				− 4	13.08
	1.26909 m	1.25847 m								+ 12.84	13.47
((δ) − D) $\frac{d'}{100}$										+ 20.5	
−4.30				7						−19.70	90
−15.29 δ_1		40 57.07		58 27.6						58 415	4294
	+30.4	0 36.1	40.7	76.8	0 38.40	5722 9.96			25	58 50.06	63
	1.48287				25	53 59 13.89				− 24	+ 12.65 + 14.07
● d	9.76939	9.75877				4 −23.83				− 3	13.87
	1.37721 m	1.36659 m								+ 12.72	
((δ) − D) $\frac{d'}{100}$										+ 20.5	
−4.30										−19.70	2080
−15.29 δ_2		40 57.27		58 28.8						58 42.66	44.13

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Date$_1$ = 1876, Jan. 10 — Observer / Recorder

Date$_2$ = 1876, Jan. 11 — Observer / Recorder

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
2	41 40 / 40 27.6	54 8 / 8.7	8.0 / 7.9	2 41 16.5 / 20.0 / 22.1 / 19.53	41 34.8	37.9	41.5	44.9	48.6	41	41.48 / +14.98 6 / − 6 / − 3		
κ									+ 14.91	41	56.40 / − 36		
((δ) − D) $\frac{\kappa'}{100}$										41	56.86 3 / 56.02		−4.2 / −15
α_1													
			8.4	41 14.6 / 17.6 / 20.7 / 17.63	41 34.1	37.6	41.1	44.8	48.2	41	41.16 / +15.04 / + 8 / + 17 / − 3		
κ									+ 15.30	41	56.45 / − 34		
((δ) − D) $\frac{\kappa'}{100}$										41	56.11 2		−4.2 / −13
α_2													
	44 30 / 48 19.1	53 16 / 11.8	7.7 / 7.8	43 53.0 / 58.1 / 0.5 / 57.87	44 26.9	30.3	33.8	37.2	40.7	44	33.78 / +14.98 6 / − 5 / − 3		
κ									+ 14.91	44	48.71 / − 40		
((δ) − D) $\frac{\kappa'}{100}$										44	48.29		−4.2 / −13
α_1													
			8.2	44 44 / 8.2 / 10.8 / 7.80	44 26.3	29.8	33.5	36.8	40.4	44	33.36 / +15.05 4 / + 8 / + 17 / − 3		
κ									+ 15.29	44	48.66 / − 38		
((δ) − D) $\frac{\kappa'}{100}$										44	48.27		−4.2 / −1.3
α_2													

Single Observations

Jan. 10													
2	2 8 / 1 0.4	52 36 / 31.5	8.5 / 8.8	2 17.1 / 20.5 / 23.4 / 20.33	2 0.7	4.2	7.6	11.0	14.4	2	7.58 / +14.98 4 / − 5 / − 2		
κ									+ 14.90	2	22.49 / + 09		
((δ) − D) $\frac{\kappa'}{100}$										2	22.58 7		−3.96 / −17.2
Jan. 10 α_2													
2	3 51 / 2 44.6	53 40 / 38.4	9.4 / 9.5	3 18.1 / 21.6 / 25.1 / 21.60	3 46.6	50.1	53.5	57.0	0.6	3	53.56 / +14.98 4 / − 6 / − 3		
κ									+ 14.88	4	8.46 / + 08		
((δ) − D) $\frac{\kappa'}{100}$										4	8.52		−4.01 / −17.1
Jan. 10 α_1													
2	11 43 / 10 24.6	53 38 / 31.3	9.0 / 8.8	11 10.4 / 14.0 / 16.3 / 13.57	11 35.6	39.2	42.7	46.1	49.6	41	42.64 / +14.97 5 / − 6 / − 3		
κ									+ 14.90	11	57.53 4 / − 01		
((δ) − D) $\frac{\kappa'}{100}$										11	57.52 3		−4.0 / −16.
Jan. 11 α_2													
1	33 29 / 32 26.0	51 56 / 52.8	9.0 / 9.3	33 8.4 / 9.3 / 11.2 / 8.30	33 21.6	24.9	28.3	31.6	35.0	33	28.28 / +15.00 0 / + 8 / + 16 / − 2		
κ									+ 15.25	33	43.52 / + 42 5		
((δ) − D) $\frac{\kappa'}{100}$										33	43.94		−3.7 / −18.
Jan. 11 α_1													
2	8 20 / 7 10.1	52 52 / 47.7	8.8 / 8.8	9 1.4 / 4.1 / 7.2 / 4.23	9 20.3	23.9	27.5	30.6	34.1	9	27.28 / +15.02 / + 8 / + 17 / − 2		
κ									+ 15.28	9	42.55 5 / + 02		
((δ) − D) $\frac{\kappa'}{100}$										9	42.29 / 57 / 42.58		
α_2													

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z + 73 + .22	δ′
	+22.0	0	38.5	43.1	81.6	0 / 15	40.80	7 ~~27~~ 7.55		15	54 8 52.73	
	1.34242							54 9 9.91			− 13	+ ~~12.58~~
d	9.76765							−17.18			− 3	13.31
	1.23502 n										+12.54	
((δ) − D) $\frac{d'}{100}$											+ 20	
											−19.70	
−4.27 δ_1		41 51.76		8 31.1							8 46.34	
−15.26											− 0.57	
	+23.6	0	36.8	40.9	77.7	0 / 15	38.85	7 ~~22~~ 9.50		15	8 55.01	
	1.37291							54 9 13.44			− 15	+ 12.93
d	9.76765							− 18.43			− 3	13.15
	1.26551 n										+12.91	
((δ) − D) $\frac{d'}{100}$											+ 20	
											−19.80	
−4.27 δ_2		41 51.85		8 32.5		H1.5					8 ~~47.97~~	
−15.26											47.79	
	+35.9	1	39.2	43.5	82.7	1 / 6	41.35	16 ~~21~~ 7.00		5	53 17 40.75	
	1.55509							53 18 9.36			− 34	+ 11.32
d	9.77643							−28.61			− 9	12.05
	1.45647 n										+11.60	
((δ) − D) $\frac{d'}{100}$											+ 15	
											−18.50	
−4.25 δ_1		44 44.04		17 ~~18.2~~ 18.99							17 33.30	
−15.10												
	+25.6	1	47.2	50.6	97.8	1 / 6	48.90	15 ~~20~~ 59.45		5	17 42.99	
	1.40824							53 18 3.39			− 17	+ 11.85
d	9.77643							−20.40			− 9	12.07
	1.30962 n										+11.96	
((δ) − D) $\frac{d'}{100}$											+ 15	
−4.25											−19.60	
−1.5.10 δ_2		44 44.02		17 19.8							17 34.89	
d												
((δ) − D) $\frac{d'}{100}$												
δ_1											4314	
	−12.78	2	15.0	20.7	35.7	2 / 47	17.85	35 ~~20~~ 30.50		45	52 37 ~~22.58~~	
	1.10380 n							52 37 32.86			− 5	+ 10.81
d	9.78329							+ 10.28			− 11	11.54
	1.01204										+10.82	
((δ) − D) $\frac{d'}{100}$											+ 15	
−3.96											−18.90	
−17.26 δ_2		2 18.61		37 18.5							37 ~~15.28~~	35.78
	+32.0	2	52.6	55.8	8.6	2 / 42	54.30	39 ~~49~~ 54.05		40	53 41 31.15	
	1.50515							53 41 56.41			− 27	+ 11.79
d	9.77233							−25.26			− 14	12.52
	1.40243 n										+12.00	
((δ) − D) $\frac{d'}{100}$											+ 20	
−4.01											−19.20	
−17.19 δ_1		4 4.51		41 7.3							41 23.47	
	+29.0	2	6.2	11.3	17.5	2 / 47	8.75	35 ~~20~~ 39.60		45	53 37 19.02	
	1.46240							53 37 41.96			− 22	+ 11.79
d	9.77319							− 22.94			− 11	12.52
	1.36054 n										+11.92	
((δ) − D) $\frac{d'}{100}$											+ 20	
−4.06											−19.30	
−16.82 δ_2		11 53.47		36 55.4							37 12.24	
											− 0.57	
	+20.0	2	5.7	9.7	15.4	2 / 27	7.70	55 ~~20~~ 40.65		25	51 57 28.16	
	1.30103							51 57 44.59			− 11	+ 10.29
d	9.78967							−16.43			− 11	51
	1.21565 n										+10.41	
((δ) − D) $\frac{d'}{100}$											+ 10	
−3.75											−18.10	
−18.40 δ_1		33 40.20		57 1.6							57 2.00	
											− 0.57	
	+23.1	1	15.8	20.3	36.1	1 / 31	18.05	51 ~~21~~ 30.30		30	52 53 15.66	
	1.36361							52 53 34.24			− 14	+ 11.41
d	9.78047							−18.58			− ~~11.06~~	63
	1.26903 n										+11.46	
((δ) − D) $\frac{d'}{100}$											+ 15	
											−19.20	
δ_2											53 7.52	

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452

Date$_1$ = 1876, Jan. 12 n = +.04 Observer W.A.R.
" 13 n = +.05 Recorder J.F.M.

454

Date$_2$ = 1876, Jan. 20 n = −.06 Observer W.A.R. Recorder J.F.M.

86

Ru

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
43	43 41 53 11		9.2	2 43 25.5	43 35.8	39.3	42.7	46.2	49.4	43 42.68			
42	29.8 7.0		8.7	28.8					+ 16.42		+ 15.37		
	κ			31.8							+ 5		
	((δ) — D) $\frac{\kappa'}{100}$			28.70							− 8		
	a_1									43	58.10		
											− .34		
										43	57.76		−4.2 −15.
13 is right			9.1	43 20.1	43 35.0	38.8	42.0	45.6	49.0	43 42.08		Add +.008 to (ΔT+m) Jan 13 M has been added to constants and to final R.A.	
See orig κ rec.				24.0						+.008	+ 15.76		
	κ			26.1					+ 15.84		+ 7		
	((δ) — D) $\frac{\kappa'}{100}$			23.40							− 3		
	a_2									43	57.91		
											− .32		
										43	57.59 60		−4.2 −15
20 is right			8.6	43 4.2	43 32.0	35.5	39.0	42.5	46.0	43 39.00			
	κ			7.1							+ 18.88		
See orig rec.				10.1					+ 18.89		− 8		
	((δ) — D) $\frac{\kappa'}{100}$			7.13							− 3		
	a_1									43	57.80		
											− .16		
										43	57.64		−4.2 −15
12 45	41 54 29		9.2	45 25.8	45 38.9	41.8	45.2	48.6	52.3	45 45.18			
44	29.5 25.5		9.1	29.0							+ 15.37		
	κ			32.0					+ 15.43		+ 6		
	((δ) — D) $\frac{\kappa'}{100}$			28.93							− 3		
	a_2									46	0.61		
											− .37		
										46	0.24		−4.3 −15.
13			9.4	45 17.7	45 37.4	41.0	44.6	48.1	51.7	45 44.58			
	κ			21.0							+ 15.76		
				24.2					+ 15.84		+ 7		
	((δ) — D) $\frac{\kappa'}{100}$			20.97							− 3		
	a_1									46	0.39		
											− .34		
										46	0.056		−4.3 −15
20			9.1	45 8.0	45 34.6	38.0	41.6	45.2	48.8	45 41.64			
	κ			11.4							+ 18.88		
				15.6					+ 18.80		− 8		
	((δ) — D) $\frac{\kappa'}{100}$			11.67							− 3		
	a_2									46	0.44		
											− .18		
										46	.026		−4.2 −15
48	13 53 35.0		8.1	47 37.2	48 9.8	13.4	16.9	20.4	23.9	48 16.88			
47	1.6 45.7		8.3	38.0							+ 15.37		
	κ			0.8					+ 15.43		+ 6		
	((δ) — D) $\frac{\kappa'}{100}$			57.67							− 3		
	a_1									48	32.31		
											− .39		
										48	31.92		−4.3 −14
			8.5	47 46.3	47 31.0	34.6	38.0	41.8	45.4				
	κ			+9.3									
				21.7									
	((δ) — D) $\frac{\kappa'}{100}$												
	a_2			48 31.6	48 9.6	13.1	16.4	19.6	23.4	48 16.42			
				34.6							+ 15.76		
				38.8					+15.84		+ 7		
				34.97							− .37	48 31.88 9	−4.3 −14
			8.4	48 38.0	48 6.2	9.7	13.3	16.7	20.4	48 13.26			
	κ			25.8							+ 18.88		
				29.0					+ 18.58		− 8		
	((δ) — D) $\frac{\kappa'}{100}$			25.93					80		− 22		
	a_1									48	31.84		
													−4.3 −14
49	1 53 41.7		8.2	48 28.0	49 45.7	52.7	56.7	59.5	2.7				
47	48.6 12.7		7.7	48 42.2									
	κ			45.8									
	((δ) — D) $\frac{\kappa'}{100}$												
	a_2			48 48.9	48 55.8	59.3	2.8	6.3	9.8	49 2.80			
				3.3.4							+ 15.37		
				3.40					+ 15.42		+ 5		
				53.10							− 3		
										49	18.12		−4.2 −14
											− 40		
										49	17.82		

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Runs

Jan. 12 +2′ 3.″91 −.″05 +0.″16
Jan 13 +2 3.72 −.05 +0.34
Jan 20 +2 4.10 −.06 −0.22

+.16
3
+.34
−.22

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	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+14.0	1 32.1	38.1	10.2	1′ 3.″510	11 ~~21~~ 13.28			10	53 13 5.93	
	1.14613				11	53 13 17.16				− 5	+11.~~83~~
d	9.77728					−11.18				− 8	99.
	1.04836 m									+11.76	
										+ 20	
										−19.60	
−4.24 δ_1		43 53.52		12 43.28						12 58 32.7	
−15.14											
	+18.7	1 29.1	35.7	64.8	1	3240	11 ~~21~~ 15.95			10	13 4.74	
	1.27184				11		53 13 19.67				− 9	+12.~~26~~
d	9.77728						−14.93				− 8	60
	1.17407 m										+12.23	
											+ 20	
											−19.60	
−4.24 δ_2		43 53.36		12 42.60							12 57.74	
−15.14												
	+31.9	1 16.2	23.7	39.9	1	1995	11 ~~21~~ 28.40			10	13 7.03	
	1.50379				11		53 ~~13~~ 32.50				− 27	+11.~~46~~
d	9.77728						−25.47				− 8	24
	1.40602 m										+11.61	
											+ 20	
											−20.00	
−4.24 δ_1		43 53.40		12 43.13							12 58.27	
−15.14												
	+16.3	3 46.4	51.2	97.6	3	4880	28 ~~18~~ 59.55			50	54 30 50.84	
	1.21219				53		54 31 3.46				− 7	+13.~~25~~
d	9.76378						−12.62				− 19	41
	1.10092 m										+13.21	
											+ 30	
											−19.90	
−4.31 δ_2		45 55.93		30 29.3							30 44.95	
−15.02												
	+23.6	3 40.2	46.8	7.0	3	4850	29 ~~19~~ 4.85			50	30 50.30	
	1.37291				53		54 31 8.57				− 14	+13.59
d	9.76378						−18.27				− 19	93
	1.26164 m										+13.62	
											+ 30	
											−20.00	
−4.31 δ_1		45 55.75		30 29.2							30 44.23	
−15.02												
	+29.9	3 34.1	41.2	75.3	3	3765	29 ~~19~~ 10.70			50	30 51.66	
	1.47567				53		54 31 14.80				− 23	+12.~~90~~
d	9.76378						−23.14				− 22	68
	1.36440 m										+13.05	
											+ 30	
											−20.30	
−4.31 δ_2		45 55.95		30 29.0							30 44.04	
−15.02												
	+19.2	3 2.6	6.4	9.0	3	4.50	47 ~~19~~ 43.85			30	53 51 32.66	
	1.28330				33		53 51 47.76				− 9	+12.44
d	9.77061						−15.10				− 15	.60
	1.17886 m										+12.48	
											+ 20	
											−19.80	
−4.30												
−14.88 δ_1		48 27.62		51 10.6							51 25.46	
	−18.6	3 34.8	40.1	74.9	3	3 ~~8.745~~	47 ~~19~~ 40.90			30	51 2 ~~39~~.24	
	1.26957				33		53 51 14.62				− 9	+12.~~91~~
d	9.77061						+14.62				− 18	13.25
	1.16507										+12.98	
											+ 20	
											−19.80	
−4.30 δ_2		48 27.59		51 7.8							51 22.69	
−14.88												
	−12.6	3 26.1	32.1	58.2	3	2910	49 ~~19~~ 19.25			80	51 31.22	
	1.10037				33		53 51 23.35				− 4	+12.35
d	9.77061						+ 7.87				− 21	13
	0.87593										+12.30	
											+ 30	
											−20.20	
−4.30												
−14.88 δ_1		48 27.54		51 8.3							51 23.15	
	+9.7	2 1.7	6.7	8.4	2	420	15 ~~20~~ 44.15			5	53 17 40.33	
	0.98677				7		53 17 48.06				− 2	+11.~~93~~
d	9.77643						− 7.73				− 10	1209
	0.88815 m										+11.85	
											+ 20	
											−19.60	
−4.28												
−14.83 δ_2		49 13.54		17 18.0							17 32.82	

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Date$_1$ = 1876, Jan. 12 (452) / " 13 (453) — Observer / Recorder

Date$_2$ = Jan. 20 (454) — Observer / Recorder

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
Jan. 13										m s			
49 47 κ	1 48.6	53 17 12.7	7.8 7.7	2 48 ~~37.5~~ ~~48~~ — 24.6 ~~38.8~~		13.1	~~16.3~~	~~19.6~~	~~23.4~~				
((δ) — D) $\frac{\kappa'}{100}$				49 6.3 6.30	49 55.3	58.7	2.4	5.7	9.4 + 15.83	49	2.30 +15.76		
α_1										49	+ 18 13 −.38	49	17.75
κ			7.8	49 0.1 3.3 5.5 29.7	48 52.3	55.7	59.2	2.6	6.0 + 18.80	48	59.16 + 18.88 − 8 − 3		
((δ) — D) $\frac{\kappa'}{100}$										49	17.96 − 23		
α_2										49	17.73		
49 48 κ	53 41.4	53 51 47.3	9.0 8.5	~~50~~ ~~16.9~~ ~~50~~ ~~39.8~~ 19.9 ~~22.3~~		~~43.4~~	~~47.0~~	~~50.4~~	~~54.1~~				
((δ) — D) $\frac{\kappa'}{100}$				49 28.6 42.7 45.3 42.03	49 48.7	52.1	55.7	59.3	2.7 + 18.44	49	55.70 +15.38 + 6 − 3	−42	
α_1										50	11.14	−42	
κ			8.8	49 38.1 40.4 43.5 40.67	49 48.1	51.7	55.0	58.8	2.3 + 15.83 4	49	55.18 +15.76 + 7 − 3	~~50~~ 52	10.72
((δ) — D) $\frac{\kappa'}{100}$										50	11.01 − 40		
α_2										50	10.61 2		
49 14.8 κ		53 45.1	8.5	49 47.2 49.8 52.5 49.83	50 20.3	23.8	27.3	30.7	34.3 + 18.80	50	27.28 +18.88 − 8 − 3		
((δ) — D) $\frac{\kappa'}{100}$										50	46.08 − 25		
α_1										50	45.83		
50 49 κ	42 30.1	54 8 4.0	8.6 8.5	~~50~~ 16.9 19.9 22.3 19.70	50 39.8	43.4	47.0	50.4	54.1 + 15.44	50	46.94 +15.38 + 6 − 3		
((δ) — D) $\frac{\kappa'}{100}$										51	2.38 − .43		
α_2										51	1.95		
κ			8.9	~~50~~ 24.4 37.9 41.8 38.33	50 39.4	42.6	46.2	49.9	53.4 + 15.84	50	46.30 +15.78 + 7 − 3	6	
((δ) — D) $\frac{\kappa'}{100}$										51	2.14 − .41		
α_1										51	1.73	3	
κ			8.4	50 56.5 0.3 2.8 59.77	50 —	—	43.3 43.2	~~46.8~~	50.3 + 18.80	50	43.25 +18.88 − 8 − 3		
((δ) — D) $\frac{\kappa'}{100}$										51	2.05 − .24		
α_2										51	1.81		
52 51 κ	27 24.7	53 14 9.7	8.7 9.2	51 17.8 24.8 24.8 21.13	52 33.3	36.9	40.2	43.6	47.1 + 15.43	52	40.22 +15.38 + 5 − 3		
((δ) — D) $\frac{\kappa'}{100}$										52	55.65 − .44		
α_1										52	55.21		
κ			9.1	51 12.3 15.7 18.6 19.53	52 32.5	36.1	39.5	43.0	46.7 + 15.83 4	52	39.56 +15.78 + 7 − 3	6	
((δ) — D) $\frac{\kappa'}{100}$										52	55.40 − .42		
α_2										52	54.98		

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+ .16
+ .34
− .22

Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	−4.0	2 14.0	21.3	35.3	2′ 17.65	15~~20~~ 30.70			5	53 17 37.61	
	0.60206 n				7	53 17 34.42				− 0	+12.42
d	9.77670					+ 3.19				− 11	76
	0.50371									+1233	
((δ) − D) $\frac{d'}{100}$										+ 20	
										−19.90	
−4.28 δ_1		49 13.47		17 15.8						17 ~~38~~ 30.67	
−14.83											
	−3.8	2 10.0	18.7	8.7	2 14.35	15~~20~~ 34.00			5	17 41.13	
	0.57978 n				7	53 17 38.10				− 0	+11.77
d	9.77670					+~~83~~.03				− 13	55
	0.48143									+1170	
((δ) − D) $\frac{d'}{100}$										+ 20	
										−2000	
−4.28 δ_2		49 13.45		17 17.8						17 ~~5.68~~ 32.68	
−14.83											
	+13.7	1 18.1	23.9	42.0	1 21.00	51~~21~~ 27.35			30	53 53 20.49	
	1.13672				31	53 53 31.26				− 5	+12.58
d	9.77043					− 10.77				− ~~1~~7	74
	1.03210 n									+12.50	
((δ) − D) $\frac{d'}{100}$										+ 20	
										−19.80	
−4.31 δ_1		50 6.41		52 55.6						53 13.43	
−14.78											
	+14.5	1 18.8	25.6	44.4	1 22.20	51~~21~~ 26.15			30	53 18.47	
	1.16137				31	53 53 29.87				− 5	+13.08
d	9.77043					− 11.40				− 7	42
	1.05675 n									+13.00	
((δ) − D) $\frac{d'}{100}$										+ 20	
										−19.80	
−4.31 δ_2		50 6.31		52 57.3						53 12.09	
−14.78											
	+37.5	4 18.1	25.1	43.2	4 21.60	48~~18~~ 26.75			30	50 1.34 ✓	
	1.57403				34	53 50 30.85				− 37	+11.96
d	9.77095					−29.57				− 26	74
	1.46993 n									+1229	
((δ) − D) $\frac{d'}{100}$										+ 30	
										−20.20	
−4.31 δ_1		50 41.52		49 38.1						49 52.88	
−14.78											
	+27.2	0 34.2	40.1	74.3	0 37.15	7~~22~~ 11.20			15	54 8 53.87	
	1.43457				15	54 9 15.11				− 19	+12.78
d	9.76765					− 21.24				− 3	94
	1.32717 n									+12.80	
((δ) − D) $\frac{d'}{100}$				3						+ 20	
										−19.80	
−4.33 δ_2		50 57.62		8 32.~~28~~						8 47.01	
−14.73											
	+8.3	0 52.5	58.1	106	0 55.30	6~~21~~ 53.05			15	8 50.29	
	0.91908				15	54 8 56.77				− 2	+13.85
d	9.76765					− 6.48				− 4	69
	0.81168 n									+13.21	
((δ) − D) $\frac{d'}{100}$										+ 20	
										−19.90	
−4.33 δ_1		50 57.40		8 29.~~47~~						8 44.08	
−14.73											
	−16.6	1 8.2	14.8	23.0	1 11.50	6~~21~~ 36.85			15	8 53.91	
	1.22011 n				16	54 8 40.95				− 8	+12.79
d	9.76765					+ 12.96				− 7	57
	1.11271									+1264	
((δ) − D) $\frac{d'}{100}$										+ 30	
										−2030	
−4.33 δ_2		50 57.48		8 31.4						8 46.18	
−14.73											
	+19.1	4 9.2	14.3	23.5	4 11.75	13~~18~~ 36.60			5	53 15 25.28	
	1.28103				9	53 15 40.51				− 9	+11.70
d	9.77677					−15.23				− 21	86
	1.18276 n									+11.80	
((δ) − D) $\frac{d'}{100}$										+ 20	
										−19.60	
−4.30 δ_1		52 50.91		15 2.9						15 17.54	
−14.62											
	+24.1	4 7.0	13.0	20.0	4 10.00	13~~18~~ 38.85			5	15 22.85	
	1.38202				9	53 15 42.07				− 15	+13.03
d	9.77677					−19.22				− 21	39
	1.28374 n									+13.19	
((δ) − D) $\frac{d'}{100}$										+ 20	
										−19.70	
−4.30 δ_2		52 50.68		15 1.9						15 16.52	
−14.62											

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Date$_1$ = 1876, Jan. 12 (452) / " 13 (453) — Observer / Recorder

Date$_2$ = 1876, Jan. 20 (454) — Observer / Recorder

Jan 20	Star.	α	δ	Mag.	T_s	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
2	κ	52 27 53 14	8.8	2	59.7	52 29.7	33.2	36.6	40.0	43.5	52	36.60		
		51 24.7	9.2		3.6					+ 18.80		+ 18.88		
					6.2							− 8		
					3.17							− 3		
											52	55.40		
												− 28		
	c_1										52	55.12		−4.3 −14.
	κ	58 5 53 36	8.8		59.3	58 3.7	7.3	10.5	14.2	17.9	58	10.72		
		56 53.3	8.0		2.4					+ 15.44		+ 15.38		
					6.4							+ 6		
					62.37							− 8		
											58	26.16		
												− 51		
	σ_2										58	25.65		−4. −14
	κ		8.5		57 52.9	58 3.1	6.6	10.0	13.8	16.9	58	10.08		
					56.2					+ 15.63		+ 15.776		
					59.8							+ 7		
					56.30							− 8		
											58	25.92		
												− 49		
	α_1										58	25.482		−4. −1
	κ		8.4		58 13.1	58 0.2	3.7	7.2	10.5	14.2	58	7.16		
					16.4					+ 18.80		+ 18.88		
					19.8							− 8		
					16.43							− 3		
											58	25.96		
												− 34		
	α_2										58	25.682		−4. −1
3	κ	0 26 54 48	9.0		0 1.7	0 28.8	32.4	35.9	39.4	42.9	0	35.88		
		59 14.0	8.9		5.9					+ 15.44		+ 15.38		
					8.6							+ 6		
					5.40							− 8		
											0	51.32		
												− 55		
	α_1										0	~~51.99~~ 50.77		−4.4 −14
	κ		—		0 3.3	0 28.4	31.9	35.4	39.1	42.4	0	35.60		
					6.9					+ 15.834		+ 15.776		
					9.7							+ 7		
					6.63							− 8		
											0	51.44		
												− 53		
	α_2										0	50.91		−4.4 −1
	κ		9.2		~~59~~ 55.5	0 28.2	28.6	32.2	35.9	39.5	0	32.28		1. 9.4 1.
					59.7					+ 18.80		+ 18.88		
					3.3							− 8		
					~~55.95~~							− 3		
					59 59.50						0	51.08		
												− 37		
	α_1										0	50.71		−4. −1
	κ													
Jan. 13	α_2													
2	κ	47 27 54 59	8.7	2	47 16.3	47 31.0	34.6	38.0	41.8	45.4	47	38.16		
		46 25.8	8.7		19.3					+ 15.834		+ 15.76		
					21.7							+ 7		
					19.1							− 3		
											47	53.99		
												− 37		
Jan 20	α_1										47	53.62 3		−4.3 −14.
	κ		8.4		47 5.7	47 27.6	31.5	35.1	38.7	42.2	47	35.02		
					10.7					+ 18.80		+ 18.88		
					13.5							− 8		
					9.97							− 3		
											47	53.82		
												− 20		
	α_2										47	53.62		−4. −1

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+ .16
+ .34
− .22

Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+33.4	8 55.8	2.1	1179	3′ 58.″95	138 49.40			5	53 15 26.84	
	1.52395				8	53 15 53.50				− 29	+11.32
d	9.77711					− 26.66				− 24	10
	1.42581 m									+11.65	
((δ) − D) $\frac{d'}{100}$										+ 20	
										−20.10	
−4.30 δ_1		52 50.82		15 3.2						15 17.84	
−14.62											
	+8.3	1 49.6	53.2	1028	1 57.40	36 21 43.21 35.95			45	53 35 40.66	
	0.91908				46	53 38 41.12 38 0.86				37 54.30	+12.31
d	9.77285					− 6.56	− 6.56			− 9	47
	0.81688 m									+12.22	
((δ) − D) $\frac{d'}{100}$										+ 20	
										−19.70	
−4.35 δ_2		58 21.30		37 32.8						37 47.07	
−14.28											
	+13.8	1 46.8	53.0	998	1 49.90	35 20 58.45			45	37 51.26	
	1.13988				46	53 38 2.17				− 5	+12.67
d	9.77285					−10.91				− 9	13.03
	1.03768 m									+18.63	
((δ) − D) $\frac{d'}{100}$										+ 20	
										−19.80	
−4.35 δ_1		58 21.07		37 30.2						37 44.49	
−14.28											
	~~0.8~~ −9.2	2 0.8	57.9	87	2 4.35	35 20 44.00			45	37 55.37	
	0.96379 m				47	53 37 48.10				− 3	+12.17
d	9.77285					+ 7.27				− 12	11.95
	0.86159									+12.07	
((δ) − D) $\frac{d'}{100}$										+ 25	
										−20.20	
−4.35 δ_2		58 21.27		37 32.8						37 47.12	
−14.28											
	+30.5	4 51.7	56.1	1078	4 53.90	47 17 54.45			30	54 49 34.94	
	1.48430				34	54 49 58.36				− 24	+13.38
d	9.76039					− 23.42				− 24	54
	1.36964 m									+13.56	
((δ) − D) $\frac{d'}{100}$										+ 30	
										−19.90	
−4.42 δ_1		0 46.35		49 14.42						49 28.58	
−14.14											
	+29.0	4 54.5	59.2	1137	4 56.85	47 51.50			~~45~~ 30	~~49~~ 49 32.~~77~~ 95	
	~~7.46240~~	1.46240			~~49~~ 34	54 49 55.22				− 22	+13.83
d	~~9.76307~~	9.76039				− 22.~~47~~ 27				− 24	1417
	1.35042 m	1.34774 m								+13.99	
((δ) − D) $\frac{d'}{100}$										+ 30	
										−20.00	
−4.42 δ_2		046.49		49 13.0						49 27.12	
−14.14											
1.51587	~~+26.3~~ 325	4 49.7	54.4	1041	4 52.05	47 56.30			~~45~~ 30	~~49~~ 49 ~~40.08~~ 20	35.21
9.76039	~~+41996~~	1.41496			~~49~~ 34	54 50 0.40				− 18	+13.~~33~~
1.40121 n	~~9.76307~~	9.76039				~~−20.32~~ 20				− 29	01
6	~~1.30798 m~~	1.30530 m				− 25.19				+13.40	
((δ) − D) $\frac{d'}{100}$										+ 30	
										− 2.050	
−4.42 δ_1		0 46.29		49 13.6						49 ~~32.71~~ 27.72	
−14.14											
d											
((δ) − D) $\frac{d'}{100}$											
δ_2											
	+19.1	0 13.2	20.9	341	0 17.05	57 22 31.30			25	54 59 20.41	
	1.28103				25	54 59 35.02				− 9	+14.38
d	9.~~7~~8559					− 14.61				− 2	72
	1.16457 m									+14.19	
((δ) − D) $\frac{d'}{100}$										+ 30	
										− 20.10	
4.35 δ_1		47 49.28		59 0.1						59 15.03	
−14.91											
	+25.0	0 4.8	12.9	177	0 ~~8.85~~	57 22 39.50			25	59 24.48	
	1.39794				25	54 59 43.60				− 16	+13.69
d	9.75859					− 19.12				− 1	47
	1.28148 m									+13.56	
((δ) − D) $\frac{d'}{100}$										+ 30	
										− 20.50	
−4.35 δ_2		47 49.27		59 2.5						59 17.45	
−14.91											

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Star.	α	δ	Mag.	T_s	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
1	48 54 54	91	3 1 24.9	1 47.8	51.4	55.0	58.7	2.3		1	m s 55.04		
0	36.5 50.0	9.4	28.6					+ 15.44			+ 15.38		
κ			81.4								+ 6		
((δ) — D) $\frac{\kappa'}{100}$			2830								− 8		
										2	10.48		
α_1											− .56		
										2	9.92		−4.
													−14.
		9.2	1 21.2	1 44.4	47.8	51.4	55.0	58.7		1	51.46		
			24.5								+ 18.88		
κ			27.1					+ 18.80			− 8		
((δ) — D) $\frac{\kappa'}{100}$			2427								− 8		
										2	10.26		
α_2											− .38		
										2	9.88		−4.
													−14.
3	15 54 51	8.1	2 45.4	3 18.4	17.0	20.6	24.2	27.7		3	20.58		
2	2.3 47.3	8.0	49.2								+ 15.38		
κ			51.9					+ 15.44			+ 6		
((δ) — D) $\frac{\kappa'}{100}$			4883								− 8		
										3	36.02		
α_1											− .58		
										3	35.44		−4.4
													−13.
		8.2	2 39.2	3 9.7	13.4	17.0	20.5	24.2		3	16.96		
			42.6								+ 18.88		
κ			44.8					+ 18.80			− 8		
((δ) — D) $\frac{\kappa'}{100}$			4220								− 8		
										3	35.76		
α_2											− .40		
										3	35.36		−4.
													−1
4	21 54 27	9.0	4 6.0	4 22.9	26.8	29.8	33.3	37.0		4	29.86		
3	8.5 23.4	9.0	8.4								+ 15.38		
κ			11.4					+ 15.44			+ 6		
((δ) — D) $\frac{\kappa'}{100}$			8.60								− 8		
										4	45.30		
α_1											− .59		
										4	44.71		−4.4
													−13.
		9.0	3 57.3	4 19.1	22.8	26.2	29.8	33.3		4	26.24		
			59.8								+ 18.88		
κ			3.7					+ 18.80			− 8		
((δ) — D) $\frac{\kappa'}{100}$			027								− 8		
										4	45.04		
α_2											− .42		
										4	44.62		−4.
													−1.
6	26 54 50	8.8	5 53.3	6 25.2	28.9	32.4	36.0	39.7		6	32.44		
5	13.4 45.9	8.7	56.4								+ 15.38		
κ			59.2					+ 15.44			+ 6		
((δ) — D) $\frac{\kappa'}{100}$			56.30								− 8		
										6	47.88		
α_1											− .61		
										6	47.27		−4.
													−13.
		8.3	5 58.0	6 21.7	25.3	28.7	32.4	36.0		6	28.82		
			6.3								+ 18.88		
κ			0					+ 18.80			− 8		
((δ) — D) $\frac{\kappa'}{100}$			56.43								− 8		
										6	47.62		
α_2											− .44		
										6	47.18		−4.
													−13.
8	20 54 31	9.0	7 58.2	8 28.9	32.4	35.9	39.7	43.1		8	36.00		
7	16.2 27.1	9.0	1.8								+ 15.38		
κ			4.6					+ 15.44			+ 6		
((δ) — D) $\frac{\kappa'}{100}$			1.53								− 8		
										8	51.44		
α_1											− .64		
										8	50.80		−4.
													−13.
		8.8	8 4.6	8 25.3	28.6	32.3	35.9	39.4		8	32.30		
	× 0.		9.0								+ 18.89		
κ			11.9					+ 18.81			− 8		
((δ) — D) $\frac{\kappa'}{100}$			8.50								− 8		
										8	51.11		
α_2											− .46		
										8	50.65		−4.
													−1.

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+ .16
− .22

Runs

	$T_m - T$		A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+26.7	4	28.2	32.4	60.6	4	3030	5378 18.05		25	54 55 1.50	
	1.426571					29		54 55 21.96			− 18	+13.55
d	9.75949							−20.46			− 23	71
	1.31095m										+13.66	
((δ) − D) $\frac{d'}{100}$											+ 30	
											−2000	
−4.43 δ_1		2	5.49		54 41.2						54 55.21	
−1405												
	+27.2	4	26.4	34.0	80.4	4	3020	5378 18.15		25	55 1.40	
	1.434457					29		54 55 22.25			− 19	+13.33
d	9.75949							−20.85			− 27	11
	1.31901m										+1349	
((δ) − D) $\frac{d'}{100}$					40						+ 30	
											−20.50	
−4.43 δ_2		2	5.45		54 [illegible]0						54 54.01	
−1405												
	+31.8	2	6.5	13.1	19.6	2	980	5030 38.55		30	54 52 18.06	
	1.502 43					32		54 52 42.46			− 26	+13.53
d	9.76003							− 24.40			− 121	13.69
	1.38741m										+13.60	
((δ) − D) $\frac{d'}{100}$											+ 30	
											−2000	
−4.44 δ_1		3	31.00		51 57.8						52 11.75	
−13.96												
	+34.8	3	3.6	10.1	13.7	2	685	5030 41.50		30	52 18.90	
	1.541 58					32		54 52 45.60			− 15	+13.29
d	9.76003							− 26.70			− 13	07
	1.42656m										+1343	
((δ) − D) $\frac{d'}{100}$											+ 30	
											−2050	
−4.44 δ_2		3	30.92		51 57.5						52 11.47	
−13.96												
	+21.3	1	21.3	27.2	8.5	1	2425	2627 24.10		55	54 28 11.50	
	1.328 38					56		54 28 28.01			− 12	+13.19
d	9.76431							−16.51			− 9	35
	1.21764m										+1316	
((δ) − D) $\frac{d'}{100}$											+ 25	
											−1980	
−4.42 δ_1		4	40.29		27 51.2						28 5.05	
−13.90												
	+25.9	1	15.9	24.0	39.9	1	1995	2627 28.40		55	28 12.43	
	1.413 30					56		54 28 32.50			− 17	+13.04
d	9.76431							−20 07			− 8	12.82
	1.30256m										+12.99	
((δ) − D) $\frac{d'}{100}$											+ 30	
											−2040	
−4.42 δ_2		4	40.20		27 51.0						28 4.85	
−13.90												
	+36.1	3	34.0	38.9	12.9	3	3645	4919 11.90		30	54 50 48.10	
	1.557 51					33		54 51 15.81			− 33	+13.37
d	9.76021							− 27.71			− 18	53
	1.44267m										+13.58	
((δ) − D) $\frac{d'}{100}$											+ 30	
											−1990	
−4.45 δ_1		6	42.52		50 28.0						50 41.73	
−13.76												
	+32.4	3	35.8	43.0	78.8	3	3940	4919 8.95		30	50 48.18	
	1.510 35					33		54 51 13.05			− 27	+13.23
d	9.76021							−24.87			− 18	01
	1.39571m										+13.42	
((δ) − D) $\frac{d'}{100}$											+ 30	
											−2050	
−4.45 δ_2		6	42.73		50 26.9						50 40.69	
−13.76												
	+34.5	1	56.1	0.3	116.4	1	5820	3020 50.15		50	54 32 27.38	
	1.537 82					57		54 32 54.06			− 31	+13.12
d	9.76342							−26.68			− 10	28
	1.42619m										+13.23	
((δ) − D) $\frac{d'}{100}$											+ 30	
											−1980	
−4.45 δ_1		8	46.35		32 7.2						32 20.86	
−13.62												
	+23.8	2	4.0	11.1	15.1	2	755	3030 40.80		50	32 26.49	
	1.376 58					52		54 32 44.90			− 15	+13.08
d	9.76342							−18.41			− 13	12.86
	1.26495m										+13.06	
((δ) − D) $\frac{d'}{100}$											+ 36	
											−2040	
−4.45												
−13.62 δ_2		8	46.20		32 5.3						32 18.75	

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Date$_2$ = 1876, Jan. 20 — Observer — Recorder

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Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
9	22 54 44		8.7	8 9 11.0	9 23.0	26.6	30.1	33.7	37.3	9	30.14		
8	8.5	39.6	8.6	14.0					+ 15.44		+ 15.38		
κ				17.4							+ 4		
((δ) — D) $\frac{\kappa'}{100}$				14.13							− 3		
										9	45.58		
α_1											− 65		
										9	44.93		
			8.8	9 4.3	9 19.4	23.0	26.6	30.0	33.7	9	26.54		
				7.9							+ 18.89		
κ				10.5					− 18.81		− 8		
((δ) — D) $\frac{\kappa'}{100}$				7.57							− 3		
										9	45.35		
α_2											− 48		
										9	44.87		
10	57 58 41		9.3	10 24.7	10 35.8	39.4	21.7	6.3	9.8	11	2.80		
9	44.1(3)	37.1	9.4	28.1							+15.38		
κ				31.0					+ 15.44		+ 6		
((δ) — D) $\frac{\kappa'}{100}$				27.93							− 3		
										11	18.24		
α_1											− 66		
										11	17.58		
			9.2	10 30.3	10 52.2	55.8	59.1	2.7	6.2	10	56.20		
				34.3							+ 18.89		
κ				37.4					+ 18.81		− 8		
((δ) — D) $\frac{\kappa'}{100}$				34.07							− 3		
										11	18.01		
α_2											− 50		
										11	17.51		
11	49 53 36		8.6	11 41.3	11 49.6	53.0	56.7	5.1	9.5	11	56.58		
10	35.2	31.6	9.0	44.3							+15.38		
κ				47.7					+ 15.44		+ 6		
((δ) — D) $\frac{\kappa'}{100}$				44.43							− 3		
										12	12.02		
α_1											− 67		
										12	11.35		
			9.1	11 41.4	11 46.3	49.6	53.2	56.6	0.0	11	53.14		
				44.5							+18.89		
κ				47.6					+ 18.81		− 8		
((δ) — D) $\frac{\kappa'}{100}$				44.50							− 3		
										12	11.95		
α_2											− 51		
										12	11.44		
13	14 54 03		8.4	12 48.8	13 12.7	16.2	19.7	23.2	26.8	13	19.72		
11	59.0	58.7	8.3	57.9							+15.39		
κ				57.5					+ 15.45		+ 6		
((δ) — D) $\frac{\kappa'}{100}$				57.73							− 3		
										13	35.17		
α_1											− 69		
										13	34.48		
			8.1	12 46.4	13 9.1	12.7	16.2	19.8	23.2	13	16.12		
				49.2							+ 18.89		
κ				52.2					+ 18.81		− 8		
((δ) — D) $\frac{\kappa'}{100}$				49.27							− 3		
										13	34.93		
α_2											− 52		
										13	34.41		
14	16 53 48		8.8	13 58.2	14 14.9	18.5	21.9	25.5	29.0	14	21.96		
13	24.2	43.7	8.7	2.3							+15.39		
κ				5.1					+ 15.45		+ 6		
((δ) — D) $\frac{\kappa'}{100}$				1.87							− 3		
										14	37.41		
α_1											− 70		
										14	36.71		
			8.9	13 58.0	14 11.3	14.8	18.3	21.9	25.3	14	18.36		
				34.2							+18.89		
κ				56.8					+ 18.81		− 8		
((δ) — D) $\frac{\kappa'}{100}$				54.00							− 3		
										14	37.17		
α_2											− 54		
										14	36.63		

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+.16
−.22

Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+16.0	0 20.6	25.1	57	0′ 22″85	42 25.50			40	54 44 17.09	
d	1.20412				40	54 44 29.41				− 7	+13.46
	9.76146					−12.32				− 2	.82
	1.09053m									+13.45	
((δ) − D) $\frac{d'}{100}$										+ 30	
										−19.90	
−4.46 δ_1		9 40.47		43 57.4						44 11.01	
−13.57											
	+18.9	0 16.6	24.1	40.7	0 20″35	42 28.00			40	44 17.55	
d	1.27646				40	54 44 32.10				− 9	+13.47
	9.76146					−14.55				− 2	.25
	1.16287m									+13.28	
((δ) − D) $\frac{d'}{100}$										+ 30	
										−20.50	
−4.46 δ_2		9 40.41		43 56.7						44 10.30	
−13.57											
	+34.9	2 24.1	28.8	129	2 26″45	40 21.90			40	53 41 58.26	
d	1.54284				42	53 42 25.81				− 32	+12.06
	9.77233					−27.55				− 12	.22
	1.44012m									+12.30	
((δ) − D) $\frac{d'}{100}$										+ 20	
										−19.60	
−4.42 δ_1		11 13.16		41 37.4						41 50.88	
−13.47											
	+25.1	2 30.6	37.1	77	2 33″85	40 14.50			40	41 58.79	
d	1.39967				42	53 42 18.60				− 16	+12.08
	9.77233					−19.81				− 15	.11.86
	1.29695m									+12.14	
((δ) − D) $\frac{d'}{100}$										+ 25	
										−20.20	
−4.42 δ_2		11 13.09		41 37.0						41 50.45	
−13.47											
	+12.2	2 51.9	56.2	8.1	2 54″05	34 54.30			45	53 36 48.56	
d	1.08636				47	53 36 58.21				− 4	+12.23
	9.77319					− 9.65				− 14	.39
	0.98450m									+12.21	
((δ) − D) $\frac{d'}{100}$										+ 20	
										−19.60	
−4.42 δ_1		12 6.93		36 27.9						36 41.35	
−13.42											
	+18.6	2 52.6	58.4	11.0	2 55″50	34 52.85			45	36 50.15	
d	0.93450				47	53 36 56.95				− 2	+12.10
	9.77319					− 6.80				− 18	.11.88
	0.83264m									+12.05	
((δ) − D) $\frac{d'}{100}$										+ 25	
										−20.20	
−4.42 δ_2		12 7.02		36 28.4						36 41.83	
−13.42											
	+28.0	1 24.7	29.9	14.6	1 27″30	17 21.05			20	54 3 3.04	
d	1.44716				21	54 3 24.96				− 20	+12.61
	9.76870					−21.92				− 7	.77
	1.34081m									+12.68	
((δ) − D) $\frac{d'}{100}$										+ 20	
										−19.70	
−4.45 δ_1		13 30.03		2 42.8						2 56.11	
−13.32											
	+26.8	1 22.7	30.5	53.2	1 26″60	17 21.85			20	3 4.97	
d	1.42813				21	54 3 25.95				− 19	+12.56
	9.76870					−20.98				− 9	.33
	1.32178m									+12.53	
((δ) − D) $\frac{d'}{100}$										+ 30	
										−20.30	
−4.45 δ_2		13 29.96		2 43.7						2 5700	
−13.32										5700	
	+20.1	1 36.9	42.0	78.9	1 39″45	46 21 8.70			35	53 47 56.98	
d	1.30320				36	53 48 12.81				− 10	+12.43
	9.77130					−15.83				− 8	.59
	1.19445m									+12.41	
((δ) − D) $\frac{d'}{100}$										+ 20	
										−19.60	
−4.44 δ_1		14 32.27		47 36.7						47 49.97	
−13.26											
	+24.4	1 30.8	38.1	89	1 34″45	46 21 13.90			35	47 58.79	
d	1.38789				36	53 48 18.00				− 15	+12.31
	9.77130					−19.21				− 9	.09
	1.28354m									+12.25	
((δ) − D) $\frac{d'}{100}$										+ 30	
										−20.20	
−4.44 δ_2		14 32.19		47 37.4						47 50.68	
−13.26											

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Date$_2$ = 1876, Jan. 20 — Observer / Recorder

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Star.	α	δ	Mag.	T_δ	T_m	T_e	T_r	T_g	T_h	Sum / Mean / Red. to T_m / T
23	23 53 54	32	6.8	8 23 25.7	23 5.10	5.7.9	5.8.8	2.2	5.6	23 58.60
22	38.1	27.7	6.0	29.2					+ 15.45	+ 15.39
κ				32.4						+ 6
((δ) — D) $\frac{\kappa'}{100}$				29.17						− 8
a_1										24 14.05
										− .82
										24 13.23
			6.0	23 11.8	23 47.8	51.4	5.4.7	5.8.4	21	23 54.88
κ				14.7					+ 16.81	+ 18.89
((δ) — D) $\frac{\kappa'}{100}$				18.6						− 8
a_2				16.03						− 8
										24 13.69
										− .66
										24 13.03
30	55 51	55	8.9	30 34.9	30 58.7	21.1	5.1.4	8.8	12.1.2	31 54.44
29	46.4	58.6	9.1	37.6					+ 15.47	+ 15.39
κ				40.5						+ 8.5
((δ) — D) $\frac{\kappa'}{100}$				37.67						− 8
a_1										31 20.86
										− .87
										31 19.99
			9.3	29 51.1	29 58.0	1.3	4.8	8.2	11.5	30 47.6
κ				53.6					+ 18.82	+ 18.90
((δ) — D) $\frac{\kappa'}{100}$				56.2						− 8
a_2				53.63						− 2
										30 28.58
										− .72
										30 27.86
32	10 50	51	8.9	31 47.0	32 12.0	15.4	18.5	21.6	25.4	32 18.58
31	0.4	48.2	8.7	49.9					+ 15.44	+ 15.39
κ				52.7						+ 5
((δ) — D) $\frac{\kappa'}{100}$				49.67						− 2
see next page for a_2 δ_2										32 34.02
										− .87
										32 33.15
			8.8	31 45.0	32 8.5	11.7	15.1	18.3	21.5	32 15.02
κ				44.1					+ 18.83	+ 18.90
((δ) — D) $\frac{\kappa'}{100}$				48.1						− 7
a_2				44.07						− 2
										32 33.85
										− .73
										32 33.12
36	5 54	43	9.6	35 59.4	36 6.0	9.0	12.8	16.1	19.6	36 12.70
34	48.9	39.8	9.5	2.0					+ 15.46	+ 15.40
κ				6.4						+ 6
((δ) — D) $\frac{\kappa'}{100}$				2.60						− 3
a_1										36 28.16
										− .96
										36 27.20
			9.6	36 3.7	36 2.0	8.6	9.0	12.4	16.3	36 9.06
κ				6.6					+ 18.82	+ 18.90
((δ) — D) $\frac{\kappa'}{100}$				9.4						− 8
a_2				6.57						− 3
										36 27.88
										− .81
										36 27.04
38	6 54	38	8.0	37 46.7	38 4.5	8.1	11.8	15.2	19.0	38 11.72
36	50.3	35.8	8.5	49.1					+ 15.46	+ 15.40
κ				52.0						+ 6
((δ) — D) $\frac{\kappa'}{100}$				49.27						− 3
a_1										38 27.18
										− .98
										38 26.20
			8.3	38 1.6	38 0.9	4.7	8.1	11.7	15.2	38 8.12
κ				3.6					+ 18.82	+ 18.90
((δ) — D) $\frac{\kappa'}{100}$				7.4						− 8
a_2				4.20						− 3
										38 26.94
										− .83
										38 26.11

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Runs

+ .16
− 22

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+29.4	1 12.9	18.2	11.1	1′ 15.55	31 27 32.80			50	54 33 13.97	
	1.468 35				57	54 33 36.71				− 22	+13.27
d	9.76342					− 22.74				− 7	43
	1.35672 m									+ 13.26	
((δ) − D) $\frac{d'}{100}$										+ 30	
										− 19.70	
−4.53 δ_1		24 8.70	=	32 55.1						33 7.89	
−12.62											
	+39.9	1 4.3	10.9	15.2	1 7.60	31 27 40.75			50	33 13.99	
	1.60097				57	54 33 44.85				− 41	+12.80
d	9.76342					− 30.86				− 7	68
	1.48934 m									+ 13.08	
((δ) − D) $\frac{d'}{100}$										+ 30	
										− 20.40	
−4.53 δ_2		24 8.50		32 53.6						33 6.27	
−12.62											
	+27.7	3 35.7	41.2	76.9	3 38.45	54 19 9.90			25	51 55 51.04	
	1.44248				28	57 56 13.81				− 20	+10.12
d	9.78999					− 22.77				− 18	28
	1.35742 m									+ 10.35	
((δ) − D) $\frac{d'}{100}$										+ 15	
										− 19.07	
−4.43 δ_1		31 15.56		55 30.2						55 42.32	
−12.13											
	+1.1.2	1 5.0	12.8	17.8	1 8.90	51 27 39.45			30	53 34.33	
	1.04922				31	57 53 43.55				− 3	+10.26
d	9.79031					− 9 22				− 7	04
	0.96448 m									+ 10.16	
((δ) − D) $\frac{d'}{100}$										+ 20	
										− 19.70	
δ_2										53 24.67	
	+28.9	1 45.9	53.0	98.9	1 49.45	50 58.90			30	50 52 38.50	
	1.46090				31	50 53 2.81				− 22	+8.98
d	9.79 ~~647~~ 946					−24.31				− 9	9.14
	1.38581 m									+ 9.19	
((δ) − D) $\frac{d'}{100}$										+ 10	
										− 18.70	
−4.39 δ_1		32 28.76		52 16.9						52 28.94	
−12.03											
	+30.9	1 44.1	53.5	97.6	1 48.80	50 59.55			30	52 37.66	
	1.48996				31	50 53 3.65				− 26	+8.90
d	9.79996					−25.99				− 11	68
	1.41487 m									+ 9.07	
((δ) − D) $\frac{d'}{100}$										+ 20	
										− 19.40	
−4.39 δ_2		32 28.73		52 14.9						52 26.94	
−12.03											
	+10.1	0 37.0	41.9	78.9	0 39.45	42 8.90			40	54 44 5.03	
	1.00432				40	54 44 12.81				− 3	+13.70
d	9.76146					− 7.78				− 3	86
	0.89073 m									+ 13.46	
((δ) − D) $\frac{d'}{100}$										+ 30	
										− 19.50	
−4.60 δ_1		36 22.60		43 47.6						43 59.39	
−11.76											
	+2.5	0 43.1	50.2	93.3	0 46.65	42 1.70			40	44 3.87	
	0.39794				40	54 44 5.80				− 0	+13.53
d	9.76146					~~−19.25~~				− 5	31
	0.28435 m					− 1.93				+ 13.28	
((δ) − D) $\frac{d'}{100}$										+ 30	
										− 20.30	
−4.60 δ_2		36 22.47		43 45.1						43 56.88	
−11.76											
	+22.4	4 15.2	19.2	14.4	4 17.20	38 31.15			40	54 40 17.79	
	1.35025				44	54 40 35.06				− 13	+13.32
d	9.76218					− 17.27				− 21	48
	1.23738 m									+ 13.36	
((δ) − D) $\frac{d'}{100}$										+ 30	
										− 19.50	
−4.61 δ_1		38 21.59		40 0.2						40 11.77	
−11.62											
	+3.9	4 27.9	34.1	62.0	4 31.00	38 17.35			40	40 18.44	
	0.59106				44	54 40 21.45				− 0	+13.24
d	9.76218					− 3.01				− 27	02
	0.47819 m									+ 13.21	
((δ) − D) $\frac{d'}{100}$										+ 30	
										− 20.30	
−4.61 δ_2		38 21.50		39 59.5						40 11.16	
−11.62											

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Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
33	33 31	51 15	8.5	3 33 9.4	83 32.8	36.2	39.4	42.7	46.2	33	39.46		
32	20.9	12.0	8.3	12.4							+15.40		
κ				15.5					+ 15.45		+ 5		
((δ) — D) $\frac{\kappa'}{100}$				12.43							− 2		
										33	54.91		
See pr. page α_1											−.89		
										33	54.02		
			8.5	33 9.0	33 29.3	32.6	35.8	39.1	42.4	33	35.84		
				11.8							+18.90		
κ				14.2					+ 18.83		− 7		
((δ) — D) $\frac{\kappa'}{100}$				11.67							− 2		
										33	54.67		
α_2											−.75		
										33	53.92		
40	54	54 57	8.0	40 30.2	40 53.8	57.4	0.9	4.6	8.2	41	0.98		
39	38.5	54.2	8.0	22.9							+15.40		
κ				25.9					+ 15.46		+ 6		
((δ) — D) $\frac{\kappa'}{100}$				33.00							− 3		
										41	16.44		
α_1											−1.03		
										41	15.41		
			8.2	40 39.3	40 50.2	53.8	57.4	1.0	4.6	40	57.40		
				32.0							+18.90		
κ				34.7					+ 18.82		− 8		
((δ) — D) $\frac{\kappa'}{100}$				32.60							− 3		
										41	16.22		
α_2											−.88		
										41	15.34		
41	46	52 7	8.4	41 36.8	41 40.5	43.8	47.2	51.5	54.0	41	47.20		
40	27.2	3.6	8.6	39.8							+15.40		
κ				42.6					+ 15.45		+ 5		
((δ) — D) $\frac{\kappa'}{100}$				39.73							− 2		
										42	2.65		
α_1											−.99		
										42	1.66		
			8.3	41 29.3	41 36.8	40.2	43.6	47.0	50.3	41	43.58		
				31.7							+18.90		
κ				34.7					+ 18.82		− 8		
((δ) — D) $\frac{\kappa'}{100}$				31.90							− 2		
										42	2.40		
α_2											−.85		
										42	1.55		
44	13	52 10	9.1	43 36.2	44 9.4	12.8	16.1	19.5	22.9	44	16.14		
42	56.4	6.7	9.3	40.1							+15.40		
κ				41.9					+ 15.45		+ 5		
((δ) — D) $\frac{\kappa'}{100}$				39.60							− 2		
										44	31.59		
α_1											−1.02		
										44	30.57		
			9.0	43 42.0	44 5.8	9.2	12.7	16.0	19.3	44	12.60		
				45.3							+18.90		
κ				47.7					+ 18.82		− 8		
((δ) — D) $\frac{\kappa'}{100}$				45.60							− 2		
										44	31.42		
α_2											−.88		
										44	30.54		
46	44	54 31	9.1	46 18.4	46 42.6	46.3	49.6	53.3	57.0	46	49.76		
45	27.9	28.0	9.1	21.8							+15.41		
κ				24.4					+ 15.47		+ 6		
((δ) — D) $\frac{\kappa'}{100}$				21.53							− 8		
										47	5.23		
α_1											−1.08		
										47	4.15		
			8.7	46 11.9	46 39.1	42.8	46.1	49.2	53.2	46	46.12		
				15.6							+18.90		
κ				17.7					+ 18.82		− 8		
((δ) — D) $\frac{\kappa'}{100}$				15.07							− 3		
										47	4.94		
α_2											−.94		
										47	4.00		

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+.16
−.22

Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+27.1	3 14.3	20.1	34.4	3′ 17.20″	14 31.15			5	51 16 12.46	
	1.43297				8	51 16 35.06				− 19	+9.36
d	9.79621					−22.60				− 16	52
	1.35413 m									+9.61	
										+ 10	
		49.61								−1880	
−4.41 δ_1		33 ~~58.43~~		15 51.2						16 318	
−11.94											
	+24.1	3 14.8	23.3	38.1	3 19.05	14 29.30			5	16 13.30	
	1.38202				8	51 16 33.40				− 15	+9.33
d	9.79621					−20.10				− 20	11
	1.30318 m									+9.48	
										+ 20	
		49.51								−19.50	
−4.41 δ_2		33 ~~58.33~~		15 51.0						16 291	
−11.94											
	+28.0	1 11.4	16.7	8.1	1 14.05	56 34.30			25	54 58 16.78	
	1.44716				26	54 58 38.21				− 20	+13.76
d	9.75895					−21.43				− ~~16~~	92
	1.33106 m									+13.72	
										+ 30	
		10.77								−19.40	
−4.64 δ_1		41 ~~20.05~~		57 59.9						58 1130	
−11.43											
	+25.4	1 11.9	18.7	10.6	1 15.30	56 33.05			25	58 17.71	
	1.40483				26	54 58 37.15				− 16	+13.60
d	9.75895					−19.44				− 8	38
	1.28873 m									+13.64	
										+ 30	
		10.70								−2030	
−4.64 δ_2		41 ~~19.98~~		57 59.4						58 1079	
−11.43											
	+7.5	2 3.2	9.1	12.3	2 6.15	5 42.20			15	52 7 39.97	
	0.87506				17	52 7 46.11				− 1	+10.61
d	9.78821					− 6.14				− 11	77
	0.78822 m									+10.58	
										+ 15	
		41 57.18								−1880	
−4.48 δ_1		42 ~~6.14~~		7 20.6						7 3194	
−11.36											
	+11.7	1 58.5	5.8	12.43	2 2.15	5 46.20			15	7 40.72	
	1.06819				17	52 7 50.30				− 4	+10.47
d	9.78821					− 9.58				− 12	25
	0.98135 m									+1043	
										+ 20	
										−19.60	
−4.48 δ_2		41 57.07		4 20.0						7 3137	
−11.36											
	+36.7	3 38.8	43.7	82.5	3 41.25	9 7.10			10	52 10 41.01	
	1.56467				13	52 11 11.01				− 35	+10.24
d	9.78756					−30.00				− 19	40
	1.47718 m									+10.63	
										+ 15	
										−1880	
−4.50 δ_1		4426.07		10 21.4						10 3261	
−11.18											
	+27.6	3 44.8	51.9	96.7	3 48.35	9 0.00			10	10 41.54	
	1.44091				13	52 11 4.10				− 20	+10.25
d	9.78756					−22.56				− 23	03
	1.35342 m									+10.48	
										+ 20	
										−18.60	
−4.50 δ_2		4426.04		10 20.8						10 3197	
−11.18											
	+28.3	2 51.0	54.8	5.8	2 52.90	29 55.45			50	54 31 37.69	
	1.44716				52	54 31 59.36				− 21	+13.30
d	9.76378					−21.67				− 14	36
	1.33589 m									+13.25	
										+ 30	
										−19.20	
−4.64 δ_1		4659.51		31 20.8						31 3185	
−11.00											
	+31.0	2 46.8	53.0	99.8	2 49.90	29 58.45			50	31 38.56	
	1.49136				52	54 32 2.55				− 25	+12.94
d	9.76378					−23.99				− 17	72
	1.38009 m									+13.06	
										+ 30	
										− 2010	
−4.64											
−11.00 δ_2		4659.36		31 20.2						31 3118	

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Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
49	47 24.4	52 1	9.4	3 49 34.9	49 39.8	43.2	46.7	50.0	53.3	49	46.60		
48	24.7	51 53.8	9.0	87.9							+15.41		
κ		52.09		40.0					+ 15.46		+ 5		
((δ) — D) $\frac{\kappa'}{100}$				37.60							− 2		
										50	2.06		
a_1											−1.07		
										50	0.99		
			8.8	49 15.6	49 36.4	39.7	42.9	46.4	49.6	49	43.00		
				18.8							+18.91		
κ				21.8					+ 18.83		− 8		
((δ) — D) $\frac{\kappa'}{100}$				18.73							− 2		
										50	1.83		
a_2											− .94		
										50	0.89		
50	41	52 35	9.0	50 40.8	50 56.9	0.3	4.0	7.0	10.5	51	3.74		
49	24.4	34.4	8.3	44.0							+15.41		
κ	40.0	33.9		46.8					+ 15.46		+ 5		
((δ) — D) $\frac{\kappa'}{100}$				43.87							− 2		
										51	19.20		
a_1											−1.09		
										51	18.11		
49	24.4	52 31.4	8.3	50 23.1	50 35.9	39.2	42.7	46.1	49.6	50	42.70		
				26.2							+18.91		
κ				28.6					+ 18.83		− 8		
((δ) — D) $\frac{\kappa'}{100}$				25.97							− 2		
										51	1.53		
a_2											− .96		
		$2 observed 53°								51	0.57		
52	5	52 24	8.2	52 8.4	52 29.2	28.7	27.3	30.6	34.1	52	27.18		
51	48.3	52 20.8	8.7	11.8							+15.41		
κ	49	53 19.5		14.9					+ 15.47		+ 6		
((δ) — D) $\frac{\kappa'}{100}$				11.70							− 3		
										52	42.63		
a_1											− 1.12		
										52	41.53		
			8.6	51 53.2	52 16.7	20.1	23.5	27.1	30.5	52	23.58		
				56.0							+18.91		
κ				59.0							− 8		
((δ) — D) $\frac{\kappa'}{100}$				56.07					+ 18.83		− 3		
										52	42.41		
a_2											− .99		
										52	41.42		
κ				Single Observations									
((δ) — D) $\frac{\kappa'}{100}$													
Jan. 12 a_1													
~~3~~	~~47~~	~~47 58 42~~	~~8.8~~										
κ													
((δ) — D) $\frac{\kappa'}{100}$													
Jan. 20 a_2													
3	27	33 54 7	9.0	3 26 57.0	27 28.5	32.1	36.6	38.9	42.6	27	35.54		
26	17.8	8 25	9.0	0.7							+18.89		
κ				3.4					+ 18.81		− 8		
((δ) — D) $\frac{\kappa'}{100}$				0.37							− 3		
										27	54.35		
Jan. 20 a_1											− .70		
										27	53.65		
3	28 9	54 45	7.4	27 55.7	28 5.1	8.8	12.4	16.0	19.5	28	12.36		
26	54.0	41.2	8.3	56.5							+18.90		
κ				1.9					+ 18.82		− 8		
((δ) — D) $\frac{\kappa'}{100}$				58.70							− 3		
										28	31.18		
Jan. 20											− .71	28	30.47
3	39 a_2 48	52 16	7.0	39 21.9	39 42.6	45.9	49.4	52.7	56.1	39	4934		
36	32.2	12.2	6.5	24.6							+18.90		
				27.0					+ 18.82		− 8		
				24.50						40	8.16	−83	43.33

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Runs

+.16
−.22

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire → Red. runs	Stroke	z	δ′
d	+9.0 0.95424 9.78853 0.86772m	4 54.9	59.4	14.3	4 57.15 19	2 51.20 52 4 55.11 −7.38		15	52 4 47.73 − 2 − 25 +10.52 + 15 −1860 4 39.69	+10.~~40~~ 56
((δ) − D) $\frac{d'}{100}$		49 56.48 ~~50 54.50~~								
−4.51 −10.76 δ_1				4 28.9						
d	+24.3 1.38561 9.78853 1.29909m	4 39.7	46.7	86.4	4 43.20 19	3 5.15 52 5 9.25 −19.91		15	4 49.34 − 16 − 28 +1037 + 20 −1940 4 37.85	+~~10.13~~ 9.91
((δ) − D) $\frac{d'}{100}$		49 56.38 ~~50 54.40~~								
−4.51 −10.76 δ_2				4 29.1						
d	+19.8 1.29667 9.78313 1.20475m	1 37.9	44.9	82.8	1 41.40 46	36 6.95 52 38 10.86 −16.02		45	52 37 54.84 − 11 − 9 +11.13 + 20 −18.70 37 47.43	+~~11.13~~ 29
((δ) − D) $\frac{d'}{100}$		12.56 51 ~~22.66~~								
−4.55 −10.71 δ_1				37 36.7						
d	+16.7 1.22272 9.78313 1.13080m	4 0.1	7.1	7.2	4 3.60 49	33 44.75 52 35 48.85 −13.52		45	35 35.33 − 8 − 24 +1093 + 20 −1960 35 26.32	✓ another # +~~10.81~~ 59
((δ) − D) $\frac{d'}{100}$		50 56.02 ~~51 51.12~~								
−4.55 −10.71 δ_2				35 15.6		×.16				
d	+15.5 1.19033 9.77541 1.09869m	0 25.8	31.0	56.8	0 28.40	22 19 ~~95.70~~ 53 24 23.~~86~~ ~~65~~.70 −12.32		0	53 24 11.~~54~~ ~~28~~ − 6 − 2 +11.98 + 20 −18.90 ~~4.74~~ .90 .74	+12.~~10~~ 26
((δ) − D) $\frac{d'}{100}$		36.83 52 ~~46.13~~								
−4.60 −10.53 δ_1				23 54.2		.22				
d	+27.5 1.43933 9.77541 1.33969m	0 12.4	20.6	33.0	0 16.50	22 31.85 53 24 35.95 −21.86		0	24 14.09 − 20 − 2 +11.81 + 25 −19.70 6.~~45~~ .25	+11.84 62
((δ) − D) $\frac{d'}{100}$		36.82 52 ~~46.02~~								
−4.60 −10.53 δ_2				23 55.7						
d										
((δ) − D) $\frac{d'}{100}$										
δ_1										
d										
((δ) − D) $\frac{d'}{100}$										
δ_2										
d	+~~35~~ ~~28~~.1 1.54531 9.76782 1.43808m	1 16.1	23.3	39.4	1 19.70 16	6 28.65 54 8 32.75 −24.42		15	54 8 8.33 − 33 − 8 +12.62 + 30 −2020 8 ~~16.10~~ 0.42	+12.~~57~~ 29
((δ) − D) $\frac{d'}{100}$		49.12 27 ~~58.18~~								
−4.53 −12.36 δ_1				7 48.1						
d	+13.7 1.13672 9.76111 1.02278m	4 0.3 25.91 28 ~~35.03~~	6.8	7.1	4 3.55 39	43 44.80 54 45 48.90 −10.54		35	54 45 38.36 − 5 − 24 +13.33 + 30 −2040 45 31.08	52 17~~6~~ 26.82 − 16 +13.~~34~~ − 11 12 +10.59 + 20 −19.70 17 17.42 6	+10.~~57~~ 30
−4.56 −12.32 ((δ) − D) $\frac{d'}{100}$		2 3′								
δ_2	+24.8 1.39443 9.78658 1.30598m	2.2	8.6	10.8	5.40	15 4 42.95 52 17~~6~~ 47.05 −20.23		5	45 31.08	
−4.49 −11.50		40 2.84		16 5.9	Chk ?					

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Star. α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
κ												
$((\delta) - D)\frac{\kappa'}{100}$												
α_1												
κ												
$((\delta) - D)\frac{\kappa'}{100}$												
α_2												
κ												
$((\delta) - D)\frac{\kappa'}{100}$												
α_1												
κ												
$((\delta) - D)\frac{\kappa'}{100}$												
α_2												
κ												
$((\delta) - D)\frac{\kappa'}{100}$												
α_1												
κ												
$((\delta) - D)\frac{\kappa'}{100}$												
α_2												
κ												
$((\delta) - D)\frac{\kappa'}{100}$												
α_1												
κ												
$((\delta) - D)\frac{\kappa'}{100}$												
α_2												
κ												
$((\delta) - D)\frac{\kappa'}{100}$												
α_1												
κ												
$((\delta) - D)\frac{\kappa'}{100}$												
α_2												

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ'
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
d											
$((\delta) - D)\frac{d'}{100}$											
δ_2											
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
d											
$((\delta) - D)\frac{d'}{100}$											
δ_2											
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
d											
$((\delta) - D)\frac{d'}{100}$											
δ_2											
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
d											
$((\delta) - D)\frac{d'}{100}$											
δ_2											
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
d											
$((\delta) - D)\frac{d'}{100}$											
δ_2											

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Date$_1$ = Observer / Recorder

Date$_2$ = Observer / Recorder

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
	κ												
	$((\delta) - D)\frac{\kappa'}{100}$												
	α_1												
	κ												
	$((\delta) - D)\frac{\kappa'}{100}$												
	α_2												
	κ												
	$((\delta) - D)\frac{\kappa'}{100}$												
	α_1												
	κ												
	$((\delta) - D)\frac{\kappa'}{100}$												
	α_2												
	κ												
	$((\delta) - D)\frac{\kappa'}{100}$												
	α_1												
	κ												
	$((\delta) - D)\frac{\kappa'}{100}$												
	α_2												
	κ												
	$((\delta) - D)\frac{\kappa'}{100}$												
	α_1												
	κ												
	$((\delta) - D)\frac{\kappa'}{100}$												
	α_2												
	κ												
	$((\delta) - D)\frac{\kappa'}{100}$												
	α_1												
	κ												
	$((\delta) - D)\frac{\kappa'}{100}$												
	α_2												

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