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TABLES OF σT^4

- 100 (0.1) 250 °F, Btu/ft² hr

250 (1.0) 1250 °F, Btu/ft² hr

- 50 (0.1) 150 °C, Cal/cm² min

ANALYZED

BY

C. J. SHIRTLIFFE AND D. G. STEPHENSON

TECHNICAL PAPER NO. 105

OF THE

DIVISION OF BUILDING RESEARCH

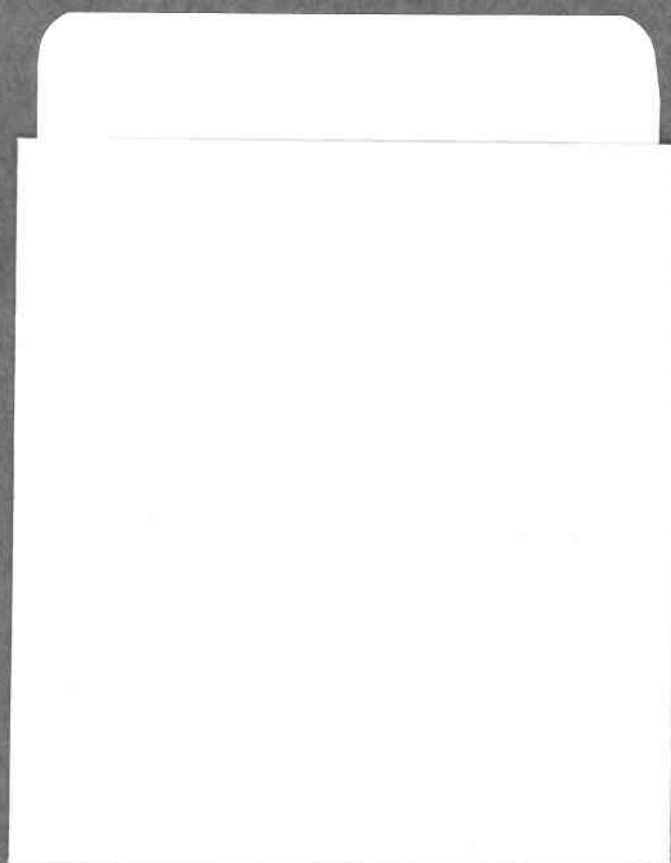
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OTTAWA

NOVEMBER 1960

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C.J. Shirlcliffe and D.G. Stephenson

Technical Paper No. 105
of the
Division of Building Research

OTTAWA

NOVEMBER 1960

PREFACE

The development of computers has now made it feasible to prepare tables of values of various functions for use as aids in desk computations. One such set of tables of values commonly used in radiant energy exchange calculations is now reported.

The authors are research officers in the Building Services Section having special interest in heat transfer problems in buildings.

Ottawa
November 1960

N.B. Hutcheon
Assistant Director

TABLES OF σT^4

by

C.J. Shirtliffe and D.G. Stephenson

The function σT^4 is the amount of heat radiated per unit time from unit area of a black body at the absolute temperature T . Sigma, σ , is the Stephan-Boltzmann constant, which has been determined directly by experiment and indirectly by using theoretical relationships between σ and other atomic constants. The values obtained by the two methods differ by about half per cent. The theoretical value is now generally conceded to be the more accurate.

The values of σ given in the recent edition of several handbooks are listed in Table I. The constants used for these tables are:

$$\begin{aligned}\sigma &= 0.1712 \times 10^{-8}, \text{ Btu/ft}^2 \text{ hr } ^\circ\text{R}^4 \\ &= 81.2619 \times 10^{-12}, \text{ cal/cm}^2 \text{ min } ^\circ\text{K}^4 \\ &= 5.6687 \times 10^{-5}, \text{ erg/cm}^2 \text{ sec } ^\circ\text{K}^4 \\ \text{and } ^\circ\text{F} &= ^\circ\text{R} - 459.69 \\ ^\circ\text{C} &= ^\circ\text{K} - 273.16\end{aligned}$$

The tables were calculated on a small digital computer which used 12 digit numbers for all calculations. The numbers were rounded and typed to a specified number of decimal places.

The values of σT^4 have only four significant figures because of the probable error in σ . Therefore, any value of σT^4 which has more than 4 digits should be rounded before being used.

The tables are photographic copies of the original computer sheets. Errors in transcription have therefore been eliminated.

Acknowledgments

The authors wish to acknowledge the assistance of the Analysis Section, Division of Mechanical Engineering, National Research Council, for the use of their Bendix G-15 computer in the preparation of these tables.

TABLE I

LIST OF STEPHAN-BOLTZMANN CONSTANTS FROM REFERENCES

<u>Value of σ</u>	<u>Reference</u>
erg cm ⁻² deg ⁻⁴ sec ⁻¹ (Multiply by 10 ⁻⁵)	
5.6685 $\pm$ 0.0007	"American Institute of Physics Handbooks" McGraw-Hill, 1957, p.7-3
5.6687 $\pm$ 0.0007	"Tables of Physical and Chemical Constants" Kaye and Laby, Longmans, 1957, p.193.
5.66858 $\pm$ 0.00053	Smithsonian Physical Tables, 9th ed, 1954, constants by "Bearden and Associates"
5.672 (83) $\pm$ 0.003(7)	(same tables) constants by "Birge"

$$\sigma T^4 \text{ (BTU / ft}^2\text{-hr)}$$

$$T = I + \delta \text{ (}^\circ\text{F)}$$

δ	.0	.1	.2	.3	.4	.5	.6	.7	.8	.9
I										
- 100.	28.66	28.69	28.72	28.75	28.78	28.82	28.85	28.88	28.91	28.94
- 99.	28.98	29.01	29.04	29.07	29.10	29.14	29.17	29.20	29.23	29.27
- 98.	29.30	29.33	29.36	29.40	29.43	29.46	29.49	29.53	29.56	29.59
- 97.	29.62	29.66	29.69	29.72	29.76	29.79	29.82	29.85	29.89	29.92
- 96.	29.95	29.99	30.02	30.05	30.08	30.12	30.15	30.18	30.22	30.25
- 95.	30.28	30.32	30.35	30.38	30.42	30.45	30.48	30.52	30.55	30.58
- 94.	30.62	30.65	30.68	30.72	30.75	30.78	30.82	30.85	30.89	30.92
- 93.	30.95	30.99	31.02	31.05	31.09	31.12	31.16	31.19	31.22	31.26
- 92.	31.29	31.33	31.36	31.39	31.43	31.46	31.50	31.53	31.57	31.60
- 91.	31.63	31.67	31.70	31.74	31.77	31.81	31.84	31.87	31.91	31.94
- 90.	31.98	32.01	32.05	32.08	32.12	32.15	32.19	32.22	32.26	32.29
- 89.	32.33	32.36	32.40	32.43	32.47	32.50	32.54	32.57	32.61	32.64
- 88.	32.68	32.71	32.75	32.78	32.82	32.85	32.89	32.92	32.96	32.99
- 87.	33.03	33.06	33.10	33.14	33.17	33.21	33.24	33.28	33.31	33.35
- 86.	33.38	33.42	33.46	33.49	33.53	33.56	33.60	33.64	33.67	33.71
- 85.	33.74	33.78	33.82	33.85	33.89	33.92	33.96	34.00	34.03	34.07
- 84.	34.11	34.14	34.18	34.21	34.25	34.29	34.32	34.36	34.40	34.43
- 83.	34.47	34.51	34.54	34.58	34.62	34.65	34.69	34.73	34.76	34.80
- 82.	34.84	34.87	34.91	34.95	34.99	35.02	35.06	35.10	35.13	35.17
- 81.	35.21	35.25	35.28	35.32	35.36	35.39	35.43	35.47	35.51	35.54
- 80.	35.58	35.62	35.66	35.69	35.73	35.77	35.81	35.84	35.88	35.92
- 79.	35.96	36.00	36.03	36.07	36.11	36.15	36.18	36.22	36.26	36.30
- 78.	36.34	36.37	36.41	36.45	36.49	36.53	36.57	36.60	36.64	36.68
- 77.	36.72	36.76	36.80	36.83	36.87	36.91	36.95	36.99	37.03	37.07
- 76.	37.10	37.14	37.18	37.22	37.26	37.30	37.34	37.38	37.41	37.45
- 75.	37.49	37.53	37.57	37.61	37.65	37.69	37.73	37.77	37.81	37.84
- 74.	37.88	37.92	37.96	38.00	38.04	38.08	38.12	38.16	38.20	38.24
- 73.	38.28	38.32	38.36	38.40	38.44	38.48	38.52	38.56	38.60	38.64
- 72.	38.68	38.72	38.76	38.80	38.84	38.88	38.92	38.96	39.00	39.04
- 71.	39.08	39.12	39.16	39.20	39.24	39.28	39.32	39.36	39.40	39.44
- 70.	39.48	39.52	39.56	39.60	39.64	39.68	39.72	39.76	39.81	39.85
- 69.	39.89	39.93	39.97	40.01	40.05	40.09	40.13	40.17	40.21	40.26
- 68.	40.30	40.34	40.38	40.42	40.46	40.50	40.54	40.59	40.63	40.67
- 67.	40.71	40.75	40.79	40.83	40.88	40.92	40.96	41.00	41.04	41.08
- 66.	41.13	41.17	41.21	41.25	41.29	41.34	41.38	41.42	41.46	41.50
- 65.	41.55	41.59	41.63	41.67	41.71	41.76	41.80	41.84	41.88	41.93
- 64.	41.97	42.01	42.05	42.10	42.14	42.18	42.22	42.27	42.31	42.35
- 63.	42.39	42.44	42.48	42.52	42.57	42.61	42.65	42.69	42.74	42.78
- 62.	42.82	42.87	42.91	42.95	43.00	43.04	43.08	43.13	43.17	43.21
- 61.	43.26	43.30	43.34	43.39	43.43	43.47	43.52	43.56	43.60	43.65
- 60.	43.69	43.74	43.78	43.82	43.87	43.91	43.95	44.00	44.04	44.09
- 59.	44.13	44.17	44.22	44.26	44.31	44.35	44.40	44.44	44.48	44.53
- 58.	44.57	44.62	44.66	44.71	44.75	44.79	44.84	44.88	44.93	44.97
- 57.	45.02	45.06	45.11	45.15	45.20	45.24	45.29	45.33	45.38	45.42
- 56.	45.47	45.51	45.56	45.60	45.65	45.69	45.74	45.78	45.83	45.87
- 55.	45.92	45.96	46.01	46.06	46.10	46.15	46.19	46.24	46.28	46.33
- 54.	46.37	46.42	46.47	46.51	46.56	46.60	46.65	46.70	46.74	46.79
- 53.	46.83	46.88	46.93	46.97	47.02	47.06	47.11	47.16	47.20	47.25
- 52.	47.30	47.34	47.39	47.44	47.48	47.53	47.57	47.62	47.67	47.71
- 51.	47.76	47.81	47.86	47.90	47.95	48.00	48.04	48.09	48.14	48.18

$$\sigma T^4 \text{ (BTU / ft}^2\text{-hr)}$$

$$T = I + \delta \text{ (}^\circ\text{F)}$$

δ	.0	.1	.2	.3	.4	.5	.6	.7	.8	.9
-50.	48.23	48.28	48.33	48.37	48.42	48.47	48.51	48.56	48.61	48.66
-49.	48.70	48.75	48.80	48.85	48.89	48.94	48.99	49.04	49.08	49.13
-48.	49.18	49.23	49.28	49.32	49.37	49.42	49.47	49.51	49.56	49.61
-47.	49.66	49.71	49.76	49.80	49.85	49.90	49.95	50.00	50.05	50.09
-46.	50.14	50.19	50.24	50.29	50.34	50.39	50.43	50.48	50.53	50.58
-45.	50.63	50.68	50.73	50.78	50.82	50.87	50.92	50.97	51.02	51.07
-44.	51.12	51.17	51.22	51.27	51.32	51.37	51.41	51.46	51.51	51.56
-43.	51.61	51.66	51.71	51.76	51.81	51.86	51.91	51.96	52.01	52.06
-42.	52.11	52.16	52.21	52.26	52.31	52.36	52.41	52.46	52.51	52.56
-41.	52.61	52.66	52.71	52.76	52.81	52.86	52.91	52.96	53.01	53.06
-40.	53.12	53.17	53.22	53.27	53.32	53.37	53.42	53.47	53.52	53.57
-39.	53.62	53.67	53.73	53.78	53.83	53.88	53.93	53.98	54.03	54.08
-38.	54.13	54.19	54.24	54.29	54.34	54.39	54.44	54.50	54.55	54.60
-37.	54.65	54.70	54.75	54.81	54.86	54.91	54.96	55.01	55.07	55.12
-36.	55.17	55.22	55.27	55.33	55.38	55.43	55.48	55.53	55.59	55.64
-35.	55.69	55.74	55.80	55.85	55.90	55.95	56.01	56.06	56.11	56.17
-34.	56.22	56.27	56.32	56.38	56.43	56.48	56.54	56.59	56.64	56.70
-33.	56.75	56.80	56.85	56.91	56.96	57.01	57.07	57.12	57.18	57.23
-32.	57.28	57.34	57.39	57.44	57.50	57.55	57.60	57.66	57.71	57.77
-31.	57.82	57.87	57.93	57.98	58.04	58.09	58.14	58.20	58.25	58.31
-30.	58.36	58.42	58.47	58.52	58.58	58.63	58.69	58.74	58.80	58.85
-29.	58.91	58.96	59.02	59.07	59.13	59.18	59.24	59.29	59.35	59.40
-28.	59.46	59.51	59.57	59.62	59.68	59.73	59.79	59.84	59.90	59.95
-27.	60.01	60.06	60.12	60.17	60.23	60.29	60.34	60.40	60.45	60.51
-26.	60.56	60.62	60.68	60.73	60.79	60.84	60.90	60.96	61.01	61.07
-25.	61.13	61.18	61.24	61.29	61.35	61.41	61.46	61.52	61.58	61.63
-24.	61.69	61.75	61.80	61.86	61.92	61.97	62.03	62.09	62.14	62.20
-23.	62.26	62.32	62.37	62.43	62.49	62.54	62.60	62.66	62.72	62.77
-22.	62.83	62.89	62.95	63.00	63.06	63.12	63.18	63.23	63.29	63.35
-21.	63.41	63.46	63.52	63.58	63.64	63.70	63.75	63.81	63.87	63.93
-20.	63.99	64.04	64.10	64.16	64.22	64.28	64.34	64.40	64.45	64.51
-19.	64.57	64.63	64.69	64.75	64.81	64.86	64.92	64.98	65.04	65.10
-18.	65.16	65.22	65.28	65.34	65.40	65.45	65.51	65.57	65.63	65.69
-17.	65.75	65.81	65.87	65.93	65.99	66.05	66.11	66.17	66.23	66.29
-16.	66.35	66.41	66.47	66.53	66.59	66.65	66.71	66.77	66.83	66.89
-15.	66.95	67.01	67.07	67.13	67.19	67.25	67.31	67.37	67.43	67.49
-14.	67.55	67.61	67.67	67.73	67.79	67.86	67.92	67.98	68.04	68.10
-13.	68.16	68.22	68.28	68.34	68.40	68.47	68.53	68.59	68.65	68.71
-12.	68.77	68.83	68.90	68.96	69.02	69.08	69.14	69.20	69.27	69.33
-11.	69.39	69.45	69.51	69.57	69.64	69.70	69.76	69.82	69.88	69.95
-10.	70.01	70.07	70.13	70.20	70.26	70.32	70.38	70.45	70.51	70.57
-9.	70.63	70.70	70.76	70.82	70.89	70.95	71.01	71.07	71.14	71.20
-8.	71.26	71.33	71.39	71.45	71.52	71.58	71.64	71.71	71.77	71.83
-7.	71.90	71.96	72.02	72.09	72.15	72.21	72.28	72.34	72.41	72.47
-6.	72.53	72.60	72.66	72.73	72.79	72.85	72.92	72.98	73.05	73.11
-5.	73.18	73.24	73.30	73.37	73.43	73.50	73.56	73.63	73.69	73.76
-4.	73.82	73.89	73.95	74.02	74.08	74.15	74.21	74.28	74.34	74.41
-3.	74.47	74.54	74.60	74.67	74.73	74.80	74.86	74.93	74.99	75.06
-2.	75.13	75.19	75.26	75.32	75.39	75.45	75.52	75.59	75.65	75.72
-1.	75.78	75.85	75.92	75.98	76.05	76.12	76.18	76.25	76.31	76.38

$$\sigma T^4 \text{ (BTU / ft}^2 \text{ - hr)}$$

$$T = I + S \text{ (}^\circ\text{F)}$$

$\frac{I}{S}$	.0	.1	.2	.3	.4	.5	.6	.7	.8	.9
.	76.45	76.51	76.58	76.65	76.71	76.78	76.85	76.91	76.98	77.05
1.	77.12	77.18	77.25	77.32	77.38	77.45	77.52	77.58	77.65	77.72
2.	77.79	77.85	77.92	77.99	78.06	78.12	78.19	78.26	78.33	78.40
3.	78.46	78.53	78.60	78.67	78.73	78.80	78.87	78.94	79.01	79.08
4.	79.14	79.21	79.28	79.35	79.42	79.49	79.55	79.62	79.69	79.76
5.	79.83	79.90	79.97	80.03	80.10	80.17	80.24	80.31	80.38	80.45
6.	80.52	80.59	80.66	80.73	80.79	80.86	80.93	81.00	81.07	81.14
7.	81.21	81.28	81.35	81.42	81.49	81.56	81.63	81.70	81.77	81.84
8.	81.91	81.98	82.05	82.12	82.19	82.26	82.33	82.40	82.47	82.54
9.	82.61	82.68	82.75	82.82	82.90	82.97	83.04	83.11	83.18	83.25
10.	83.32	83.39	83.46	83.53	83.60	83.68	83.75	83.82	83.89	83.96
11.	84.03	84.10	84.17	84.25	84.32	84.39	84.46	84.53	84.60	84.68
12.	84.75	84.82	84.89	84.96	85.04	85.11	85.18	85.25	85.32	85.40
13.	85.47	85.54	85.61	85.69	85.76	85.83	85.90	85.98	86.05	86.12
14.	86.19	86.27	86.34	86.41	86.49	86.56	86.63	86.71	86.78	86.85
15.	86.92	87.00	87.07	87.14	87.22	87.29	87.37	87.44	87.51	87.59
16.	87.66	87.73	87.81	87.88	87.95	88.03	88.10	88.18	88.25	88.32
17.	88.40	88.47	88.55	88.62	88.70	88.77	88.85	88.92	88.99	89.07
18.	89.14	89.22	89.29	89.37	89.44	89.52	89.59	89.67	89.74	89.82
19.	89.89	89.97	90.04	90.12	90.19	90.27	90.34	90.42	90.49	90.57
20.	90.65	90.72	90.80	90.87	90.95	91.02	91.10	91.18	91.25	91.33
21.	91.40	91.48	91.56	91.63	91.71	91.78	91.86	91.94	92.01	92.09
22.	92.17	92.24	92.32	92.40	92.47	92.55	92.63	92.70	92.78	92.86
23.	92.93	93.01	93.09	93.17	93.24	93.32	93.40	93.47	93.55	93.63
24.	93.71	93.78	93.86	93.94	94.02	94.10	94.17	94.25	94.33	94.41
25.	94.48	94.56	94.64	94.72	94.80	94.87	94.95	95.03	95.11	95.19
26.	95.27	95.35	95.42	95.50	95.58	95.66	95.74	95.82	95.90	95.97
27.	96.05	96.13	96.21	96.29	96.37	96.45	96.53	96.61	96.69	96.77
28.	96.85	96.92	97.00	97.08	97.16	97.24	97.32	97.40	97.48	97.56
29.	97.64	97.72	97.80	97.88	97.96	98.04	98.12	98.20	98.28	98.36
30.	98.44	98.52	98.60	98.69	98.77	98.85	98.93	99.01	99.09	99.17
31.	99.25	99.33	99.41	99.49	99.57	99.66	99.74	99.82	99.90	99.98
32.	100.06	100.14	100.22	100.31	100.39	100.47	100.55	100.63	100.71	100.80
33.	100.88	100.96	101.04	101.12	101.21	101.29	101.37	101.45	101.54	101.62
34.	101.70	101.78	101.86	101.95	102.03	102.11	102.20	102.28	102.36	102.44
35.	102.53	102.61	102.69	102.78	102.86	102.94	103.02	103.11	103.19	103.27
36.	103.36	103.44	103.52	103.61	103.69	103.78	103.86	103.94	104.03	104.11
37.	104.19	104.28	104.36	104.45	104.53	104.61	104.70	104.78	104.87	104.95
38.	105.04	105.12	105.21	105.29	105.37	105.46	105.54	105.63	105.71	105.80
39.	105.88	105.97	106.05	106.14	106.22	106.31	106.39	106.48	106.56	106.65
40.	106.73	106.82	106.91	106.99	107.08	107.16	107.25	107.33	107.42	107.51
41.	107.59	107.68	107.76	107.85	107.94	108.02	108.11	108.19	108.28	108.37
42.	108.45	108.54	108.63	108.71	108.80	108.89	108.97	109.06	109.15	109.23
43.	109.32	109.41	109.50	109.58	109.67	109.76	109.84	109.93	110.02	110.11
44.	110.19	110.28	110.37	110.46	110.54	110.63	110.72	110.81	110.90	110.98
45.	111.07	111.16	111.25	111.34	111.42	111.51	111.60	111.69	111.78	111.87
46.	111.95	112.04	112.13	112.22	112.31	112.40	112.49	112.58	112.66	112.75
47.	112.84	112.93	113.02	113.11	113.20	113.29	113.38	113.47	113.56	113.65
48.	113.74	113.83	113.92	114.01	114.09	114.18	114.27	114.36	114.45	114.54
49.	114.63	114.72	114.82	114.91	115.00	115.09	115.18	115.27	115.36	115.45

$$\sigma T^4 \text{ (BTU / ft}^2\text{-hr)}$$

$$T = I + \delta \text{ (}^\circ\text{F)}$$

δ	.0	.1	.2	.3	.4	.5	.6	.7	.8	.9
I										
50.	115.54	115.63	115.72	115.81	115.90	115.99	116.08	116.17	116.27	116.36
51.	116.45	116.54	116.63	116.72	116.81	116.91	117.00	117.09	117.18	117.27
52.	117.36	117.45	117.55	117.64	117.73	117.82	117.91	118.01	118.10	118.19
53.	118.28	118.38	118.47	118.56	118.65	118.75	118.84	118.93	119.02	119.12
54.	119.21	119.30	119.39	119.49	119.58	119.67	119.77	119.86	119.95	120.05
55.	120.14	120.23	120.33	120.42	120.51	120.61	120.70	120.79	120.89	120.98
56.	121.08	121.17	121.26	121.36	121.45	121.55	121.64	121.73	121.83	121.92
57.	122.02	122.11	122.21	122.30	122.40	122.49	122.59	122.68	122.78	122.87
58.	122.97	123.06	123.16	123.25	123.35	123.44	123.54	123.63	123.73	123.82
59.	123.92	124.01	124.11	124.21	124.30	124.40	124.49	124.59	124.68	124.78
60.	124.88	124.97	125.07	125.17	125.26	125.36	125.45	125.55	125.65	125.74
61.	125.84	125.94	126.03	126.13	126.23	126.32	126.42	126.52	126.62	126.71
62.	126.81	126.91	127.00	127.10	127.20	127.30	127.39	127.49	127.59	127.69
63.	127.79	127.88	127.98	128.08	128.18	128.27	128.37	128.47	128.57	128.67
64.	128.77	128.86	128.96	129.06	129.16	129.26	129.36	129.46	129.55	129.65
65.	129.75	129.85	129.95	130.05	130.15	130.25	130.35	130.45	130.55	130.64
66.	130.74	130.84	130.94	131.04	131.14	131.24	131.34	131.44	131.54	131.64
67.	131.74	131.84	131.94	132.04	132.14	132.24	132.34	132.44	132.54	132.64
68.	132.75	132.85	132.95	133.05	133.15	133.25	133.35	133.45	133.55	133.65
69.	133.75	133.86	133.96	134.06	134.16	134.26	134.36	134.46	134.57	134.67
70.	134.77	134.87	134.97	135.07	135.18	135.28	135.38	135.48	135.59	135.69
71.	135.79	135.89	135.99	136.10	136.20	136.30	136.41	136.51	136.61	136.71
72.	136.82	136.92	137.02	137.13	137.23	137.33	137.43	137.54	137.64	137.74
73.	137.85	137.95	138.06	138.16	138.26	138.37	138.47	138.57	138.68	138.78
74.	138.89	138.99	139.09	139.20	139.30	139.41	139.51	139.62	139.72	139.83
75.	139.93	140.04	140.14	140.24	140.35	140.45	140.56	140.66	140.77	140.87
76.	140.98	141.09	141.19	141.30	141.40	141.51	141.61	141.72	141.82	141.93
77.	142.04	142.14	142.25	142.35	142.46	142.57	142.67	142.78	142.88	142.99
78.	143.10	143.20	143.31	143.42	143.52	143.63	143.74	143.84	143.95	144.06
79.	144.16	144.27	144.38	144.49	144.59	144.70	144.81	144.92	145.02	145.13
80.	145.24	145.35	145.45	145.56	145.67	145.78	145.89	145.99	146.10	146.21
81.	146.32	146.43	146.53	146.64	146.75	146.86	146.97	147.08	147.19	147.29
82.	147.40	147.51	147.62	147.73	147.84	147.95	148.06	148.17	148.28	148.39
83.	148.49	148.60	148.71	148.82	148.93	149.04	149.15	149.26	149.37	149.48
84.	149.59	149.70	149.81	149.92	150.03	150.14	150.25	150.36	150.47	150.59
85.	150.70	150.81	150.92	151.03	151.14	151.25	151.36	151.47	151.58	151.69
86.	151.81	151.92	152.03	152.14	152.25	152.36	152.47	152.59	152.70	152.81
87.	152.92	153.03	153.15	153.26	153.37	153.48	153.59	153.71	153.82	153.93
88.	154.04	154.16	154.27	154.38	154.49	154.61	154.72	154.83	154.95	155.06
89.	155.17	155.28	155.40	155.51	155.62	155.74	155.85	155.96	156.08	156.19
90.	156.31	156.42	156.53	156.65	156.76	156.88	156.99	157.10	157.22	157.33
91.	157.45	157.56	157.68	157.79	157.90	158.02	158.13	158.25	158.36	158.48
92.	158.59	158.71	158.82	158.94	159.05	159.17	159.28	159.40	159.51	159.63
93.	159.75	159.86	160.00	160.09	160.21	160.32	160.44	160.56	160.67	160.79
94.	160.91	161.02	161.14	161.25	161.37	161.49	161.60	161.72	161.84	161.95
95.	162.07	162.19	162.30	162.42	162.54	162.66	162.77	162.89	163.01	163.13
96.	163.24	163.36	163.48	163.60	163.71	163.83	163.95	164.07	164.18	164.30
97.	164.42	164.54	164.66	164.78	164.89	165.01	165.13	165.25	165.37	165.49
98.	165.61	165.72	165.84	165.96	166.08	166.20	166.32	166.44	166.56	166.68
99.	166.80	166.92	167.04	167.16	167.27	167.39	167.51	167.63	167.75	167.87

$$\sigma T^4 \text{ (BTU / ft}^2\text{-hr)}$$

$$T = I + \delta \text{ (}^\circ\text{F)}$$

δ I	.0	.1	.2	.3	.4	.5	.6	.7	.8	.9
100.	167.99	168.11	168.23	168.35	168.47	168.60	168.72	168.84	168.96	169.08
101.	169.20	169.32	169.44	169.56	169.68	169.80	169.92	170.04	170.17	170.29
102.	170.41	170.53	170.65	170.77	170.89	171.02	171.14	171.26	171.38	171.50
103.	171.62	171.75	171.87	171.99	172.11	172.24	172.36	172.48	172.60	172.73
104.	172.85	172.97	173.09	173.22	173.34	173.46	173.59	173.71	173.83	173.95
105.	174.08	174.20	174.32	174.45	174.57	174.70	174.82	174.94	175.07	175.19
106.	175.31	175.44	175.56	175.69	175.81	175.94	176.06	176.18	176.31	176.43
107.	176.56	176.68	176.81	176.93	177.06	177.18	177.31	177.43	177.56	177.69
108.	177.81	177.93	178.06	178.18	178.31	178.43	178.56	178.69	178.81	178.94
109.	179.06	179.19	179.32	179.44	179.57	179.69	179.82	179.95	180.07	180.20
110.	180.33	180.45	180.58	180.71	180.83	180.96	181.09	181.21	181.34	181.47
111.	181.60	181.72	181.85	181.98	182.11	182.23	182.36	182.49	182.62	182.74
112.	182.87	183.00	183.13	183.26	183.38	183.51	183.64	183.77	183.90	184.03
113.	184.15	184.28	184.41	184.54	184.67	184.80	184.93	185.06	185.19	185.31
114.	185.44	185.57	185.70	185.83	185.96	186.09	186.22	186.35	186.48	186.61
115.	186.74	186.87	187.00	187.13	187.26	187.39	187.52	187.65	187.78	187.91
116.	188.04	188.17	188.31	188.44	188.57	188.70	188.83	188.96	189.09	189.22
117.	189.35	189.48	189.62	189.75	189.88	190.01	190.14	190.27	190.41	190.54
118.	190.67	190.80	190.93	191.07	191.20	191.33	191.46	191.60	191.73	191.86
119.	191.99	192.13	192.26	192.39	192.53	192.66	192.79	192.92	193.06	193.19
120.	193.32	193.46	193.59	193.73	193.86	193.99	194.13	194.26	194.39	194.53
121.	194.66	194.80	194.93	195.06	195.20	195.33	195.47	195.60	195.74	195.87
122.	196.01	196.14	196.28	196.41	196.55	196.68	196.82	196.95	197.09	197.22
123.	197.36	197.49	197.63	197.76	197.90	198.04	198.17	198.31	198.44	198.58
124.	198.72	198.85	198.99	199.12	199.26	199.40	199.53	199.67	199.81	199.94
125.	200.08	200.22	200.36	200.49	200.63	200.77	200.90	201.04	201.18	201.32
126.	201.45	201.59	201.73	201.87	202.00	202.14	202.28	202.42	202.56	202.69
127.	202.83	202.97	203.11	203.25	203.39	203.53	203.66	203.80	203.94	204.08
128.	204.22	204.36	204.50	204.64	204.78	204.92	205.05	205.19	205.33	205.47
129.	205.61	205.75	205.89	206.03	206.17	206.31	206.45	206.59	206.73	206.87
130.	207.01	207.15	207.29	207.44	207.58	207.72	207.86	208.00	208.14	208.28
131.	208.42	208.56	208.70	208.85	208.99	209.13	209.27	209.41	209.55	209.69
132.	209.84	209.98	210.12	210.26	210.40	210.55	210.69	210.83	210.97	211.12
133.	211.26	211.40	211.54	211.69	211.83	211.97	212.12	212.26	212.40	212.54
134.	212.69	212.83	212.97	213.12	213.26	213.41	213.55	213.69	213.84	213.98
135.	214.12	214.27	214.41	214.56	214.70	214.85	214.99	215.13	215.28	215.42
136.	215.57	215.71	215.86	216.00	216.15	216.29	216.44	216.58	216.73	216.87
137.	217.02	217.17	217.31	217.46	217.60	217.75	217.89	218.04	218.19	218.33
138.	218.48	218.62	218.77	218.92	219.06	219.21	219.36	219.50	219.65	219.80
139.	219.94	220.09	220.24	220.39	220.53	220.68	220.83	220.97	221.12	221.27
140.	221.42	221.56	221.71	221.86	222.01	222.16	222.30	222.45	222.60	222.75
141.	222.90	223.05	223.19	223.34	223.49	223.64	223.79	223.94	224.09	224.24
142.	224.39	224.53	224.68	224.83	224.98	225.13	225.28	225.43	225.58	225.73
143.	225.88	226.03	226.18	226.33	226.48	226.63	226.78	226.93	227.08	227.23
144.	227.38	227.53	227.69	227.84	227.99	228.14	228.29	228.44	228.59	228.74
145.	228.89	229.05	229.20	229.35	229.50	229.65	229.80	229.96	230.11	230.26
146.	230.41	230.56	230.72	230.87	231.02	231.17	231.33	231.48	231.63	231.78
147.	231.94	232.09	232.24	232.40	232.55	232.70	232.86	233.01	233.16	233.32
148.	233.47	233.62	233.78	233.93	234.09	234.24	234.39	234.55	234.70	234.86
149.	235.01	235.17	235.32	235.47	235.63	235.78	235.94	236.09	236.25	236.40

$$\sigma T^4 \text{ (BTU / ft}^2 \text{ - hr)}$$

$$T = I + \delta \text{ (}^\circ\text{F)}$$

I \ δ	.0	.1	.2	.3	.4	.5	.6	.7	.8	.9
150.	236.56	236.71	236.87	237.03	237.18	237.34	237.49	237.65	237.80	237.96
151.	238.12	238.27	238.43	238.58	238.74	238.90	239.05	239.21	239.37	239.52
152.	239.68	239.84	239.99	240.15	240.31	240.46	240.62	240.78	240.93	241.09
153.	241.25	241.41	241.56	241.72	241.88	242.04	242.20	242.35	242.51	242.67
154.	242.83	242.99	243.15	243.30	243.46	243.62	243.78	243.94	244.10	244.26
155.	244.42	244.57	244.73	244.89	245.05	245.21	245.37	245.53	245.69	245.85
156.	246.01	246.17	246.33	246.49	246.65	246.81	246.97	247.13	247.29	247.45
157.	247.61	247.77	247.93	248.09	248.25	248.42	248.58	248.74	248.90	249.06
158.	249.22	249.38	249.54	249.71	249.87	250.03	250.19	250.35	250.52	250.68
159.	250.84	251.00	251.16	251.33	251.49	251.65	251.81	251.98	252.14	252.30
160.	252.47	252.63	252.79	252.95	253.12	253.28	253.44	253.61	253.77	253.94
161.	254.10	254.26	254.43	254.59	254.75	254.92	255.08	255.25	255.41	255.58
162.	255.74	255.90	256.07	256.23	256.40	256.56	256.73	256.89	257.06	257.22
163.	257.39	257.56	257.72	257.89	258.05	258.22	258.38	258.55	258.72	258.88
164.	259.05	259.21	259.38	259.55	259.71	259.88	260.05	260.21	260.38	260.55
165.	260.71	260.88	261.05	261.21	261.38	261.55	261.72	261.88	262.05	262.22
166.	262.39	262.55	262.72	262.89	263.06	263.23	263.39	263.56	263.73	263.90
167.	264.07	264.24	264.40	264.57	264.74	264.91	265.08	265.25	265.42	265.59
168.	265.76	265.93	266.10	266.27	266.44	266.60	266.77	266.94	267.11	267.28
169.	267.45	267.62	267.80	267.97	268.14	268.31	268.48	268.65	268.82	268.99
170.	269.16	269.33	269.50	269.67	269.84	270.02	270.19	270.36	270.53	270.70
171.	270.87	271.05	271.22	271.39	271.56	271.73	271.91	272.08	272.25	272.42
172.	272.60	272.77	272.94	273.11	273.29	273.46	273.63	273.81	273.98	274.15
173.	274.33	274.50	274.67	274.85	275.02	275.19	275.37	275.54	275.72	275.89
174.	276.06	276.24	276.41	276.59	276.76	276.94	277.11	277.29	277.46	277.64
175.	277.81	277.99	278.16	278.34	278.51	278.69	278.86	279.04	279.21	279.39
176.	279.57	279.74	279.92	280.09	280.27	280.45	280.62	280.80	280.98	281.15
177.	281.33	281.51	281.68	281.86	282.04	282.21	282.39	282.57	282.75	282.92
178.	283.10	283.28	283.46	283.63	283.81	283.99	284.17	284.35	284.52	284.70
179.	284.88	285.06	285.24	285.42	285.60	285.77	285.95	286.13	286.31	286.49
180.	286.67	286.85	287.03	287.21	287.39	287.57	287.75	287.93	288.11	288.29
181.	288.47	288.65	288.83	289.01	289.19	289.37	289.55	289.73	289.91	290.09
182.	290.27	290.45	290.63	290.82	291.00	291.18	291.36	291.54	291.72	291.90
183.	292.09	292.27	292.45	292.63	292.81	293.00	293.18	293.36	293.54	293.72
184.	293.91	294.09	294.27	294.46	294.64	294.82	295.00	295.19	295.37	295.55
185.	295.74	295.92	296.11	296.29	296.47	296.66	296.84	297.02	297.21	297.39
186.	297.58	297.76	297.95	298.13	298.32	298.50	298.69	298.87	299.05	299.24
187.	299.43	299.61	299.80	299.98	300.17	300.35	300.54	300.72	300.91	301.10
188.	301.28	301.47	301.65	301.84	302.03	302.21	302.40	302.59	302.77	302.96
189.	303.15	303.33	303.52	303.71	303.89	304.08	304.27	304.46	304.64	304.83
190.	305.02	305.21	305.40	305.58	305.77	305.96	306.15	306.34	306.53	306.71
191.	306.90	307.09	307.28	307.47	307.66	307.85	308.04	308.23	308.41	308.60
192.	308.79	308.98	309.17	309.36	309.55	309.74	309.93	310.12	310.31	310.50
193.	310.69	310.88	311.07	311.26	311.46	311.65	311.84	312.03	312.22	312.41
194.	312.60	312.79	312.98	313.18	313.37	313.56	313.75	313.94	314.13	314.33
195.	314.52	314.71	314.90	315.10	315.29	315.48	315.67	315.87	316.06	316.25
196.	316.44	316.64	316.83	317.02	317.22	317.41	317.60	317.80	317.99	318.19
197.	318.38	318.57	318.77	318.96	319.16	319.35	319.54	319.74	319.93	320.13
198.	320.32	320.52	320.71	320.91	321.10	321.30	321.49	321.69	321.88	322.08
199.	322.28	322.47	322.67	322.86	323.06	323.26	323.45	323.65	323.84	324.04

$$\sigma T^4 \text{ (BTU / ft}^2\text{-hr)}$$

$$T = I + \delta \text{ (}^\circ\text{F)}$$

I \ δ	.0	.1	.2	.3	.4	.5	.6	.7	.8	.9
200.	324.24	324.43	324.63	324.83	325.02	325.22	325.42	325.62	325.81	326.01
201.	326.21	326.41	326.60	326.80	327.00	327.20	327.39	327.59	327.79	327.99
202.	328.19	328.39	328.58	328.78	328.98	329.18	329.38	329.58	329.78	329.98
203.	330.18	330.38	330.57	330.77	330.97	331.17	331.37	331.57	331.77	331.97
204.	332.17	332.37	332.57	332.77	332.97	333.18	333.38	333.58	333.78	333.98
205.	334.18	334.38	334.58	334.78	334.99	335.19	335.39	335.59	335.79	335.99
206.	336.20	336.40	336.60	336.80	337.00	337.21	337.41	337.61	337.81	338.02
207.	338.22	338.42	338.63	338.83	339.03	339.24	339.44	339.64	339.85	340.05
208.	340.25	340.46	340.66	340.87	341.07	341.27	341.48	341.68	341.89	342.09
209.	342.30	342.50	342.71	342.91	343.12	343.32	343.53	343.73	343.94	344.14
210.	344.35	344.55	344.76	344.97	345.17	345.38	345.58	345.79	346.00	346.20
211.	346.41	346.62	346.82	347.03	347.24	347.44	347.65	347.86	348.07	348.27
212.	348.48	348.69	348.90	349.10	349.31	349.52	349.73	349.94	350.14	350.35
213.	350.56	350.77	350.98	351.19	351.40	351.60	351.81	352.02	352.23	352.44
214.	352.65	352.86	353.07	353.28	353.49	353.70	353.91	354.12	354.33	354.54
215.	354.75	354.96	355.17	355.38	355.59	355.80	356.01	356.22	356.43	356.65
216.	356.86	357.07	357.28	357.49	357.70	357.91	358.13	358.34	358.55	358.76
217.	358.97	359.19	359.40	359.61	359.82	360.04	360.25	360.46	360.67	360.89
218.	361.10	361.31	361.53	361.74	361.95	362.17	362.38	362.59	362.81	363.02
219.	363.24	363.45	363.66	363.88	364.09	364.31	364.52	364.74	364.95	365.17
220.	365.38	365.60	365.81	366.03	366.24	366.46	366.67	366.89	367.11	367.32
221.	367.54	367.75	367.97	368.19	368.40	368.62	368.83	369.05	369.27	369.48
222.	369.70	369.92	370.14	370.35	370.57	370.79	371.01	371.22	371.44	371.66
223.	371.88	372.09	372.31	372.53	372.75	372.97	373.18	373.40	373.62	373.84
224.	374.06	374.28	374.50	374.72	374.94	375.15	375.37	375.59	375.81	376.03
225.	376.25	376.47	376.69	376.91	377.13	377.35	377.57	377.79	378.01	378.23
226.	378.46	378.68	378.90	379.12	379.34	379.56	379.78	380.00	380.22	380.45
227.	380.67	380.89	381.11	381.33	381.56	381.78	382.00	382.22	382.45	382.67
228.	382.89	383.11	383.34	383.56	383.78	384.01	384.23	384.45	384.68	384.90
229.	385.12	385.35	385.57	385.79	386.02	386.24	386.47	386.69	386.92	387.14
230.	387.36	387.59	387.81	388.04	388.26	388.49	388.71	388.94	389.16	389.39
231.	389.62	389.84	390.07	390.29	390.52	390.75	390.97	391.20	391.42	391.65
232.	391.88	392.10	392.33	392.56	392.78	393.01	393.24	393.47	393.69	393.92
233.	394.15	394.38	394.60	394.83	395.06	395.29	395.52	395.74	395.97	396.20
234.	396.43	396.66	396.89	397.12	397.34	397.57	397.80	398.03	398.26	398.49
235.	398.72	398.95	399.18	399.41	399.64	399.87	400.10	400.33	400.56	400.79
236.	401.02	401.25	401.48	401.71	401.94	402.17	402.41	402.64	402.87	403.10
237.	403.33	403.56	403.79	404.03	404.26	404.49	404.72	404.95	405.19	405.42
238.	405.65	405.88	406.12	406.35	406.58	406.82	407.05	407.28	407.52	407.75
239.	407.98	408.22	408.45	408.68	408.92	409.15	409.39	409.62	409.85	410.09
240.	410.32	410.56	410.79	411.03	411.26	411.50	411.73	411.97	412.20	412.44
241.	412.67	412.91	413.15	413.38	413.62	413.85	414.09	414.33	414.56	414.80
242.	415.04	415.27	415.51	415.75	415.98	416.22	416.46	416.69	416.93	417.17
243.	417.41	417.64	417.88	418.12	418.36	418.60	418.83	419.07	419.31	419.55
244.	419.79	420.03	420.26	420.50	420.74	420.98	421.22	421.46	421.70	421.94
245.	422.18	422.42	422.66	422.90	423.14	423.38	423.62	423.86	424.10	424.34
246.	424.58	424.82	425.06	425.30	425.54	425.78	426.03	426.27	426.51	426.75
247.	426.99	427.23	427.48	427.72	427.96	428.20	428.44	428.69	428.93	429.17
248.	429.41	429.66	429.90	430.14	430.39	430.63	430.87	431.12	431.36	431.60
249.	431.85	432.09	432.33	432.58	432.82	433.07	433.31	433.55	433.80	434.04

$$\sigma T^4 \text{ (BTU / ft}^2\text{-hr)}$$

$$T = I + \delta \text{ (}^\circ\text{F)}$$

I \ δ	0	1	2	3	4	5	6	7	8	9
250.	434.3	436.7	439.2	441.7	444.2	446.7	449.2	451.7	454.2	456.7
260.	459.3	461.8	464.4	467.0	469.6	472.2	474.8	477.4	480.1	482.7
270.	485.4	488.0	490.7	493.4	496.1	498.8	501.5	504.2	507.0	509.7
280.	512.5	515.3	518.1	520.9	523.7	526.5	529.3	532.2	535.0	537.9
290.	540.8	543.7	546.6	549.5	552.4	555.4	558.3	561.3	564.2	567.2
300.	570.2	573.2	576.3	579.3	582.3	585.4	588.5	591.5	594.6	597.7
310.	600.9	604.0	607.1	610.3	613.4	616.6	619.8	623.0	626.2	629.5
320.	632.7	635.9	639.2	642.5	645.8	649.1	652.4	655.7	659.1	662.4
330.	665.8	669.2	672.5	676.0	679.4	682.8	686.2	689.7	693.2	696.7
340.	700.1	703.7	707.2	710.7	714.3	717.8	721.4	725.0	728.6	732.2
350.	735.8	739.5	743.1	746.8	750.5	754.2	757.9	761.6	765.3	769.1
360.	772.9	776.6	780.4	784.2	788.1	791.9	795.7	799.6	803.5	807.4
370.	811.3	815.2	819.1	823.1	827.0	831.0	835.0	839.0	843.0	847.1
380.	851.1	855.2	859.2	863.3	867.4	871.6	875.7	879.8	884.0	888.2
390.	892.4	896.6	900.8	905.0	909.3	913.6	917.8	922.1	926.5	930.8
400.	935.1	939.5	943.9	948.2	952.7	957.1	961.5	966.0	970.4	974.9
410.	979.4	983.9	988.4	993.0	997.5	1002.1	1006.7	1011.3	1015.9	1020.6
420.	1025.2	1029.9	1034.6	1039.3	1044.0	1048.7	1053.5	1058.3	1063.0	1067.8
430.	1072.7	1077.5	1082.3	1087.2	1092.1	1097.0	1101.9	1106.8	1111.8	1116.7
440.	1121.7	1126.7	1131.7	1136.7	1141.8	1146.8	1151.9	1157.0	1162.1	1167.3
450.	1172.4	1177.6	1182.7	1187.9	1193.2	1198.4	1203.6	1208.9	1214.2	1219.5
460.	1224.8	1230.1	1235.5	1240.9	1246.3	1251.7	1257.1	1262.5	1268.0	1273.5
470.	1279.0	1284.5	1290.0	1295.5	1301.1	1306.7	1312.3	1317.9	1323.6	1329.2
480.	1334.9	1340.6	1346.3	1352.0	1357.8	1363.5	1369.3	1375.1	1380.9	1386.8
490.	1392.6	1398.5	1404.4	1410.3	1416.2	1422.2	1428.1	1434.1	1440.1	1446.2
500.	1452.2	1458.3	1464.3	1470.4	1476.6	1482.7	1488.9	1495.0	1501.2	1507.5
510.	1513.7	1519.9	1526.2	1532.5	1538.8	1545.1	1551.5	1557.9	1564.3	1570.7
520.	1577.1	1583.5	1590.0	1596.5	1603.0	1609.5	1616.1	1622.7	1629.2	1635.9
530.	1642.5	1649.1	1655.8	1662.5	1669.2	1675.9	1682.7	1689.4	1696.2	1703.0
540.	1709.9	1716.7	1723.6	1730.5	1737.4	1744.3	1751.3	1758.3	1765.3	1772.3
550.	1779.3	1786.4	1793.5	1800.6	1807.7	1814.8	1822.0	1829.2	1836.4	1843.6
560.	1850.9	1858.1	1865.4	1872.7	1880.1	1887.4	1894.8	1902.2	1909.6	1917.1
570.	1924.6	1932.0	1939.5	1947.1	1954.6	1962.2	1969.8	1977.4	1985.1	1992.7
580.	2000.4	2008.1	2015.8	2023.6	2031.4	2039.2	2047.0	2054.8	2062.7	2070.6
590.	2078.5	2086.4	2094.4	2102.4	2110.4	2118.4	2126.4	2134.5	2142.6	2150.7
600.	2158.8	2167.0	2175.2	2183.4	2191.6	2199.9	2208.1	2216.4	2224.8	2233.1
610.	2241.5	2249.9	2258.3	2266.7	2275.2	2283.7	2292.2	2300.7	2309.3	2317.9
620.	2326.5	2335.1	2343.8	2352.4	2361.2	2369.9	2378.6	2387.4	2396.2	2405.0
630.	2413.9	2422.8	2431.7	2440.6	2449.5	2458.5	2467.5	2476.5	2485.6	2494.6
640.	2503.7	2512.8	2522.0	2531.1	2540.3	2549.6	2558.8	2568.1	2577.4	2586.7
650.	2596.0	2605.4	2614.8	2624.2	2633.7	2643.1	2652.6	2662.2	2671.7	2681.3
660.	2690.9	2700.5	2710.2	2719.8	2729.5	2739.3	2749.0	2758.8	2768.6	2778.4
670.	2788.3	2798.2	2808.1	2818.0	2828.0	2838.0	2848.0	2858.1	2868.1	2878.2
680.	2888.4	2898.5	2908.7	2918.9	2929.1	2939.4	2949.7	2960.0	2970.3	2980.7
690.	2991.1	3001.5	3011.9	3022.4	3032.9	3043.4	3054.0	3064.6	3075.2	3085.8
700.	3096.5	3107.2	3117.9	3128.7	3139.4	3150.3	3161.1	3171.9	3182.8	3193.8
710.	3204.7	3215.7	3226.7	3237.7	3248.8	3259.8	3271.0	3282.1	3293.3	3304.5
720.	3315.7	3327.0	3338.2	3349.6	3360.9	3372.3	3383.7	3395.1	3406.6	3418.0
730.	3429.6	3441.1	3452.7	3464.3	3475.9	3487.6	3499.3	3511.0	3522.7	3534.5
740.	3546.3	3558.2	3570.0	3581.9	3593.9	3605.8	3617.8	3629.8	3641.9	3654.0

$$\sigma T^4 \text{ (BTU / ft}^2 \text{ - hr)}$$

$$T = I + \delta \text{ (}^\circ\text{F)}$$

I	0	1	2	3	4	5	6	7	8	9
750.	3666.1	3678.2	3690.4	3702.6	3714.8	3727.1	3739.3	3751.7	3764.0	3776.4
760.	3788.8	3801.2	3813.7	3826.2	3838.7	3851.3	3863.9	3876.5	3889.2	3901.9
770.	3914.6	3927.3	3940.1	3952.9	3965.8	3978.6	3991.6	4004.5	4017.5	4030.5
780.	4043.5	4056.6	4069.6	4082.8	4095.9	4109.1	4122.3	4135.6	4148.9	4162.2
790.	4175.5	4188.9	4202.3	4215.8	4229.3	4242.8	4256.3	4269.9	4283.5	4297.1
800.	4310.8	4324.5	4338.2	4352.0	4365.8	4379.7	4393.5	4407.4	4421.4	4435.3
810.	4449.3	4463.4	4477.4	4491.5	4505.7	4519.8	4534.0	4548.3	4562.5	4576.8
820.	4591.2	4605.5	4619.9	4634.4	4648.8	4663.3	4677.9	4692.4	4707.1	4721.7
830.	4736.4	4751.1	4765.8	4780.6	4795.4	4810.2	4825.1	4840.0	4855.0	4870.0
840.	4885.0	4900.0	4915.1	4930.2	4945.4	4960.6	4975.8	4991.1	5006.4	5021.7
850.	5037.1	5052.5	5067.9	5083.4	5098.9	5114.4	5130.0	5145.6	5161.3	5177.0
860.	5192.7	5208.4	5224.2	5240.1	5255.9	5271.8	5287.8	5303.7	5319.7	5335.8
870.	5351.9	5368.0	5384.1	5400.3	5416.6	5432.8	5449.1	5465.5	5481.8	5498.2
880.	5514.7	5531.2	5547.7	5564.3	5580.8	5597.5	5614.1	5630.9	5647.6	5664.4
890.	5681.2	5698.1	5714.9	5731.9	5748.8	5765.9	5782.9	5800.0	5817.1	5834.3
900.	5851.4	5868.7	5886.0	5903.3	5920.6	5938.0	5955.4	5972.9	5990.4	6007.9
910.	6025.5	6043.1	6060.8	6078.5	6096.2	6114.0	6131.8	6149.6	6167.5	6185.4
920.	6203.4	6221.4	6239.4	6257.5	6275.7	6293.8	6312.0	6330.3	6348.5	6366.9
930.	6385.2	6403.6	6422.1	6440.5	6459.0	6477.6	6496.2	6514.8	6533.5	6552.2
940.	6571.0	6589.8	6608.6	6627.5	6646.4	6665.4	6684.4	6703.4	6722.5	6741.6
950.	6760.8	6780.0	6799.3	6818.5	6837.9	6857.2	6876.6	6896.1	6915.6	6935.1
960.	6954.7	6974.3	6994.0	7013.7	7033.4	7053.2	7073.0	7092.9	7112.8	7132.7
970.	7152.7	7172.8	7192.8	7212.9	7233.1	7253.3	7273.6	7293.8	7314.2	7334.5
980.	7354.9	7375.4	7395.9	7416.4	7437.0	7457.7	7478.3	7499.0	7519.8	7540.6
990.	7561.4	7582.3	7603.3	7624.2	7645.2	7666.3	7687.4	7708.5	7729.7	7751.0
1000.	7772.2	7793.6	7814.9	7836.3	7857.8	7879.3	7900.8	7922.4	7944.0	7965.7
1010.	7987.4	8009.2	8031.0	8052.8	8074.7	8096.7	8118.7	8140.7	8162.8	8184.9
1020.	8207.0	8229.3	8251.5	8273.8	8296.1	8318.5	8341.0	8363.4	8386.0	8408.5
1030.	8431.2	8453.8	8476.5	8499.3	8522.1	8544.9	8567.8	8590.8	8613.7	8636.8
1040.	8659.8	8683.0	8706.1	8729.3	8752.6	8775.9	8799.3	8822.7	8846.1	8869.6
1050.	8893.1	8916.7	8940.4	8964.0	8987.8	9011.5	9035.4	9059.2	9083.1	9107.1
1060.	9131.1	9155.2	9179.3	9203.4	9227.6	9251.9	9276.2	9300.5	9324.9	9349.4
1070.	9373.8	9398.4	9423.0	9447.6	9472.3	9497.0	9521.8	9546.6	9571.5	9596.4
1080.	9621.4	9646.4	9671.5	9696.6	9721.7	9747.0	9772.2	9797.5	9822.9	9848.3
1090.	9873.8	9899.3	9924.8	9950.5	9976.1	10001.8	10027.6	10053.4	10079.2	10105.1
1100.	10131.1	10157.1	10183.2	10209.3	10235.4	10261.6	10287.9	10314.2	10340.6	10367.0
1110.	10393.4	10420.0	10446.5	10473.1	10499.8	10526.5	10553.3	10580.1	10606.9	10633.9
1120.	10660.8	10687.9	10714.9	10742.1	10769.2	10796.5	10823.7	10851.1	10878.4	10905.9
1130.	10933.4	10960.9	10988.5	11016.1	11043.8	11071.6	11099.4	11127.2	11155.1	11183.1
1140.	11211.1	11239.1	11267.2	11295.4	11323.6	11351.9	11380.2	11408.6	11437.0	11465.5
1150.	11494.0	11522.6	11551.3	11580.0	11608.7	11637.5	11666.4	11695.3	11724.2	11753.3
1160.	11782.3	11811.5	11840.6	11869.9	11899.2	11928.5	11957.9	11987.3	12016.8	12046.4
1170.	12076.0	12105.7	12135.4	12165.2	12195.0	12224.9	12254.8	12284.8	12314.9	12345.0
1180.	12375.2	12405.4	12435.6	12466.0	12496.4	12526.8	12557.3	12587.8	12618.4	12649.1
1190.	12679.8	12710.6	12741.4	12772.3	12803.2	12834.2	12865.3	12896.4	12927.6	12958.8
1200.	12990.1	13021.4	13052.8	13084.3	13115.8	13147.3	13178.9	13210.6	13242.3	13274.1
1210.	13306.0	13337.9	13369.9	13401.9	13434.0	13466.1	13498.3	13530.5	13562.8	13595.2
1220.	13627.6	13660.1	13692.7	13725.2	13757.9	13790.6	13823.4	13856.2	13889.1	13922.1
1230.	13955.1	13988.1	14021.3	14054.4	14087.7	14121.0	14154.3	14187.8	14221.2	14254.8
1240.	14288.4	14322.0	14355.7	14389.5	14423.3	14457.2	14491.2	14525.2	14559.3	14593.4

$$\sigma T^4 \text{ (Cal / cm}^2\text{ - min) } \times 10^4$$

$$T = I + \delta \text{ (}^\circ\text{C)}$$

δ	.0	.1	.2	.3	.4	.5	.6	.7	.8	.9
I										
-50.	2015.	2019.	2023.	2026.	2030.	2033.	2037.	2041.	2044.	2043.
-49.	2052.	2055.	2059.	2063.	2066.	2070.	2074.	2077.	2081.	2085.
-48.	2089.	2092.	2096.	2100.	2103.	2107.	2111.	2115.	2118.	2122.
-47.	2126.	2130.	2133.	2137.	2141.	2145.	2149.	2152.	2156.	2160.
-46.	2164.	2168.	2171.	2175.	2179.	2183.	2187.	2191.	2194.	2198.
-45.	2202.	2206.	2210.	2214.	2218.	2222.	2225.	2229.	2233.	2237.
-44.	2241.	2245.	2249.	2253.	2257.	2261.	2265.	2269.	2272.	2276.
-43.	2280.	2284.	2288.	2292.	2296.	2300.	2304.	2308.	2312.	2316.
-42.	2320.	2324.	2328.	2332.	2336.	2340.	2344.	2348.	2353.	2357.
-41.	2361.	2365.	2369.	2373.	2377.	2381.	2385.	2389.	2393.	2397.
-40.	2402.	2406.	2410.	2414.	2418.	2422.	2426.	2431.	2435.	2439.
-39.	2443.	2447.	2451.	2456.	2460.	2464.	2468.	2472.	2477.	2481.
-38.	2485.	2489.	2494.	2498.	2502.	2506.	2511.	2515.	2519.	2523.
-37.	2528.	2532.	2536.	2540.	2545.	2549.	2553.	2558.	2562.	2566.
-36.	2571.	2575.	2579.	2584.	2588.	2592.	2597.	2601.	2606.	2610.
-35.	2614.	2619.	2623.	2628.	2632.	2636.	2641.	2645.	2650.	2654.
-34.	2659.	2663.	2667.	2672.	2676.	2681.	2685.	2690.	2694.	2699.
-33.	2703.	2708.	2712.	2717.	2721.	2726.	2730.	2735.	2739.	2744.
-32.	2749.	2753.	2758.	2762.	2767.	2771.	2776.	2781.	2785.	2790.
-31.	2794.	2799.	2804.	2808.	2813.	2818.	2822.	2827.	2832.	2836.
-30.	2841.	2846.	2850.	2855.	2860.	2864.	2869.	2874.	2878.	2883.
-29.	2888.	2893.	2897.	2902.	2907.	2912.	2916.	2921.	2926.	2931.
-28.	2936.	2940.	2945.	2950.	2955.	2960.	2964.	2969.	2974.	2979.
-27.	2984.	2989.	2993.	2998.	3003.	3008.	3013.	3018.	3023.	3028.
-26.	3032.	3037.	3042.	3047.	3052.	3057.	3062.	3067.	3072.	3077.
-25.	3082.	3087.	3092.	3097.	3102.	3107.	3112.	3117.	3122.	3127.
-24.	3132.	3137.	3142.	3147.	3152.	3157.	3162.	3167.	3172.	3177.
-23.	3182.	3188.	3193.	3198.	3203.	3208.	3213.	3218.	3223.	3228.
-22.	3234.	3239.	3244.	3249.	3254.	3259.	3265.	3270.	3275.	3280.
-21.	3285.	3291.	3296.	3301.	3306.	3312.	3317.	3322.	3327.	3333.
-20.	3338.	3343.	3348.	3354.	3359.	3364.	3370.	3375.	3380.	3386.
-19.	3391.	3396.	3402.	3407.	3412.	3418.	3423.	3428.	3434.	3439.
-18.	3445.	3450.	3455.	3461.	3466.	3472.	3477.	3483.	3488.	3493.
-17.	3499.	3504.	3510.	3515.	3521.	3526.	3532.	3537.	3543.	3548.
-16.	3554.	3559.	3565.	3570.	3576.	3582.	3587.	3593.	3598.	3604.
-15.	3609.	3615.	3621.	3626.	3632.	3638.	3643.	3649.	3654.	3660.
-14.	3666.	3671.	3677.	3683.	3688.	3694.	3700.	3705.	3711.	3717.
-13.	3723.	3728.	3734.	3740.	3746.	3751.	3757.	3763.	3769.	3774.
-12.	3780.	3786.	3792.	3798.	3803.	3809.	3815.	3821.	3827.	3833.
-11.	3838.	3844.	3850.	3856.	3862.	3868.	3874.	3880.	3885.	3891.
-10.	3897.	3903.	3909.	3915.	3921.	3927.	3933.	3939.	3945.	3951.
-9.	3957.	3963.	3969.	3975.	3981.	3987.	3993.	3999.	4005.	4011.
-8.	4017.	4023.	4029.	4035.	4041.	4048.	4054.	4060.	4066.	4072.
-7.	4078.	4084.	4090.	4097.	4103.	4109.	4115.	4121.	4127.	4134.
-6.	4140.	4146.	4152.	4158.	4165.	4171.	4177.	4183.	4190.	4196.
-5.	4202.	4208.	4215.	4221.	4227.	4233.	4240.	4246.	4252.	4259.
-4.	4265.	4271.	4278.	4284.	4291.	4297.	4303.	4310.	4316.	4322.
-3.	4329.	4335.	4342.	4348.	4355.	4361.	4367.	4374.	4380.	4387.
-2.	4393.	4400.	4406.	4413.	4419.	4426.	4432.	4439.	4445.	4452.
-1.	4458.	4465.	4472.	4478.	4485.	4491.	4498.	4504.	4511.	4518.

$$\sigma T^4 \text{ (Cal / cm}^2 \text{ - min) } \times 10^4$$

$$T = I + \delta \text{ (}^\circ\text{C)}$$

I \ δ	.0	.1	.2	.3	.4	.5	.6	.7	.8	.9
1.	4524.	4531.	4538.	4544.	4551.	4558.	4564.	4571.	4578.	4584.
2.	4591.	4598.	4604.	4611.	4618.	4625.	4631.	4638.	4645.	4652.
3.	4658.	4665.	4672.	4679.	4685.	4692.	4699.	4706.	4713.	4720.
4.	4726.	4733.	4740.	4747.	4754.	4761.	4768.	4774.	4781.	4788.
5.	4795.	4802.	4809.	4816.	4823.	4830.	4837.	4844.	4851.	4858.
6.	4865.	4872.	4879.	4886.	4893.	4900.	4907.	4914.	4921.	4928.
7.	4935.	4942.	4949.	4956.	4963.	4971.	4978.	4985.	4992.	4999.
8.	5006.	5013.	5021.	5028.	5035.	5042.	5049.	5056.	5064.	5071.
9.	5078.	5085.	5093.	5100.	5107.	5114.	5122.	5129.	5136.	5143.
10.	5151.	5158.	5165.	5173.	5180.	5187.	5195.	5202.	5209.	5217.
11.	5224.	5232.	5239.	5246.	5254.	5261.	5269.	5276.	5283.	5291.
12.	5298.	5306.	5313.	5321.	5328.	5336.	5343.	5351.	5358.	5366.
13.	5373.	5381.	5388.	5396.	5404.	5411.	5419.	5426.	5434.	5441.
14.	5449.	5457.	5464.	5472.	5480.	5487.	5495.	5503.	5510.	5518.
15.	5526.	5533.	5541.	5549.	5556.	5564.	5572.	5580.	5587.	5595.
16.	5603.	5611.	5619.	5626.	5634.	5642.	5650.	5658.	5665.	5673.
17.	5681.	5689.	5697.	5705.	5713.	5721.	5728.	5736.	5744.	5752.
18.	5760.	5768.	5776.	5784.	5792.	5800.	5808.	5816.	5824.	5832.
19.	5840.	5848.	5856.	5864.	5872.	5880.	5888.	5896.	5904.	5913.
20.	5921.	5929.	5937.	5945.	5953.	5961.	5969.	5978.	5986.	5994.
21.	6002.	6010.	6019.	6027.	6035.	6043.	6051.	6060.	6068.	6076.
22.	6084.	6093.	6101.	6109.	6118.	6126.	6134.	6143.	6151.	6159.
23.	6168.	6176.	6184.	6193.	6201.	6210.	6218.	6226.	6235.	6243.
24.	6252.	6260.	6269.	6277.	6285.	6294.	6302.	6311.	6319.	6328.
25.	6336.	6345.	6354.	6362.	6371.	6379.	6388.	6396.	6405.	6414.
26.	6422.	6431.	6439.	6448.	6457.	6465.	6474.	6483.	6491.	6500.
27.	6509.	6518.	6526.	6535.	6544.	6552.	6561.	6570.	6579.	6587.
28.	6596.	6605.	6614.	6623.	6631.	6640.	6649.	6658.	6667.	6676.
29.	6685.	6693.	6702.	6711.	6720.	6729.	6738.	6747.	6756.	6765.
30.	6774.	6783.	6792.	6801.	6810.	6819.	6828.	6837.	6846.	6855.
31.	6864.	6873.	6882.	6891.	6900.	6909.	6918.	6928.	6937.	6946.
32.	6955.	6964.	6973.	6982.	6992.	7001.	7010.	7019.	7028.	7038.
33.	7047.	7056.	7065.	7075.	7084.	7093.	7102.	7112.	7121.	7130.
34.	7140.	7149.	7158.	7168.	7177.	7186.	7196.	7205.	7215.	7224.
35.	7233.	7243.	7252.	7262.	7271.	7281.	7290.	7300.	7309.	7319.
36.	7328.	7338.	7347.	7357.	7366.	7376.	7385.	7395.	7405.	7414.
37.	7424.	7433.	7443.	7453.	7462.	7472.	7481.	7491.	7501.	7511.
38.	7520.	7530.	7540.	7549.	7559.	7569.	7579.	7588.	7598.	7608.
39.	7618.	7627.	7637.	7647.	7657.	7667.	7677.	7686.	7696.	7706.
40.	7716.	7726.	7736.	7746.	7756.	7766.	7776.	7786.	7795.	7805.
41.	7815.	7825.	7835.	7845.	7855.	7865.	7875.	7886.	7896.	7906.
42.	7916.	7926.	7936.	7946.	7956.	7966.	7976.	7987.	7997.	8007.
43.	8017.	8027.	8037.	8048.	8058.	8068.	8078.	8088.	8099.	8109.
44.	8119.	8130.	8140.	8150.	8160.	8171.	8181.	8191.	8202.	8212.
45.	8222.	8233.	8243.	8254.	8264.	8274.	8285.	8295.	8306.	8316.
46.	8327.	8337.	8348.	8358.	8369.	8379.	8390.	8400.	8411.	8421.
47.	8432.	8442.	8453.	8464.	8474.	8485.	8495.	8506.	8517.	8527.
48.	8538.	8549.	8559.	8570.	8581.	8591.	8602.	8613.	8624.	8634.
49.	8645.	8656.	8667.	8678.	8688.	8699.	8710.	8721.	8732.	8742.
50.	8753.	8764.	8775.	8786.	8797.	8808.	8819.	8830.	8841.	8852.

$$\sigma T^4 \text{ (Cal / cm}^2 \text{ - min) } \times 10^4$$

$$T = I + \delta \text{ (}^\circ\text{C)}$$

δ	.0	.1	.2	.3	.4	.5	.6	.7	.8	.9
I										
50.	8863.	8873.	8884.	8895.	8906.	8917.	8929.	8940.	8951.	8962.
51.	8973.	8984.	8995.	9006.	9017.	9028.	9039.	9050.	9062.	9073.
52.	9084.	9095.	9106.	9118.	9129.	9140.	9151.	9162.	9174.	9185.
53.	9196.	9208.	9219.	9230.	9241.	9253.	9264.	9275.	9287.	9298.
54.	9310.	9321.	9332.	9344.	9355.	9367.	9378.	9389.	9401.	9412.
55.	9424.	9435.	9447.	9458.	9470.	9481.	9493.	9505.	9516.	9528.
56.	9539.	9551.	9562.	9574.	9586.	9597.	9609.	9621.	9632.	9644.
57.	9656.	9667.	9679.	9691.	9703.	9714.	9726.	9738.	9750.	9761.
58.	9773.	9785.	9797.	9809.	9821.	9832.	9844.	9856.	9868.	9880.
59.	9892.	9904.	9916.	9928.	9940.	9952.	9963.	9975.	9987.	9999.
60.	10011.	10024.	10036.	10048.	10060.	10072.	10084.	10096.	10108.	10120.
61.	10132.	10144.	10157.	10169.	10181.	10193.	10205.	10217.	10230.	10242.
62.	10254.	10266.	10279.	10291.	10303.	10315.	10328.	10340.	10352.	10365.
63.	10377.	10389.	10402.	10414.	10426.	10439.	10451.	10464.	10476.	10489.
64.	10501.	10513.	10526.	10538.	10551.	10563.	10576.	10588.	10601.	10614.
65.	10626.	10639.	10651.	10664.	10677.	10689.	10702.	10714.	10727.	10740.
66.	10752.	10765.	10778.	10790.	10803.	10816.	10829.	10841.	10854.	10867.
67.	10880.	10893.	10905.	10918.	10931.	10944.	10957.	10970.	10982.	10995.
68.	11008.	11021.	11034.	11047.	11060.	11073.	11086.	11099.	11112.	11125.
69.	11138.	11151.	11164.	11177.	11190.	11203.	11216.	11229.	11242.	11256.
70.	11269.	11282.	11295.	11308.	11321.	11335.	11348.	11361.	11374.	11387.
71.	11401.	11414.	11427.	11440.	11454.	11467.	11480.	11494.	11507.	11520.
72.	11534.	11547.	11560.	11574.	11587.	11601.	11614.	11628.	11641.	11654.
73.	11668.	11681.	11695.	11708.	11722.	11736.	11749.	11763.	11776.	11790.
74.	11803.	11817.	11831.	11844.	11858.	11872.	11885.	11899.	11913.	11926.
75.	11940.	11954.	11967.	11981.	11995.	12009.	12022.	12036.	12050.	12064.
76.	12078.	12092.	12105.	12119.	12133.	12147.	12161.	12175.	12189.	12203.
77.	12217.	12231.	12245.	12259.	12273.	12287.	12301.	12315.	12329.	12343.
78.	12357.	12371.	12385.	12399.	12413.	12427.	12442.	12456.	12470.	12484.
79.	12498.	12512.	12527.	12541.	12555.	12569.	12584.	12598.	12612.	12626.
80.	12641.	12655.	12669.	12684.	12698.	12712.	12727.	12741.	12756.	12770.
81.	12785.	12799.	12813.	12828.	12842.	12857.	12871.	12886.	12900.	12915.
82.	12930.	12944.	12959.	12973.	12988.	13003.	13017.	13032.	13046.	13061.
83.	13076.	13090.	13105.	13120.	13135.	13149.	13164.	13179.	13194.	13208.
84.	13223.	13238.	13253.	13268.	13283.	13297.	13312.	13327.	13342.	13357.
85.	13372.	13387.	13402.	13417.	13432.	13447.	13462.	13477.	13492.	13507.
86.	13522.	13537.	13552.	13567.	13582.	13597.	13613.	13628.	13643.	13658.
87.	13673.	13688.	13704.	13719.	13734.	13749.	13765.	13780.	13795.	13810.
88.	13826.	13841.	13856.	13872.	13887.	13902.	13918.	13933.	13949.	13964.
89.	13979.	13995.	14010.	14026.	14041.	14057.	14072.	14088.	14103.	14119.
90.	14134.	14150.	14166.	14181.	14197.	14212.	14228.	14244.	14259.	14275.
91.	14291.	14306.	14322.	14338.	14354.	14369.	14385.	14401.	14417.	14433.
92.	14448.	14464.	14480.	14496.	14512.	14528.	14544.	14560.	14575.	14591.
93.	14607.	14623.	14639.	14655.	14671.	14687.	14703.	14719.	14735.	14751.
94.	14768.	14784.	14800.	14816.	14832.	14848.	14864.	14880.	14897.	14913.
95.	14929.	14945.	14962.	14978.	14994.	15010.	15027.	15043.	15059.	15076.
96.	15092.	15108.	15125.	15141.	15157.	15174.	15190.	15207.	15223.	15240.
97.	15256.	15273.	15289.	15306.	15322.	15339.	15355.	15372.	15388.	15405.
98.	15422.	15438.	15455.	15472.	15488.	15505.	15522.	15538.	15555.	15572.
99.	15589.	15605.	15622.	15639.	15656.	15672.	15689.	15706.	15723.	15740.

$$\sigma T^4 \text{ (Cal / cm}^2\text{ - min) } \times 10^4$$

$$T = I + \delta \text{ (}^\circ\text{C)}$$

δ	.0	.1	.2	.3	.4	.5	.6	.7	.8	.9
I										
100.	15757.	15774.	15791.	15808.	15824.	15841.	15858.	15875.	15892.	15909.
101.	15926.	15943.	15960.	15977.	15995.	16012.	16029.	16046.	16063.	16080.
102.	16097.	16114.	16132.	16149.	16166.	16183.	16201.	16218.	16235.	16252.
103.	16270.	16287.	16304.	16322.	16339.	16356.	16374.	16391.	16408.	16426.
104.	16443.	16461.	16478.	16496.	16513.	16531.	16548.	16566.	16583.	16601.
105.	16618.	16636.	16654.	16671.	16689.	16706.	16724.	16742.	16759.	16777.
106.	16795.	16813.	16830.	16848.	16866.	16884.	16901.	16919.	16937.	16955.
107.	16973.	16991.	17009.	17026.	17044.	17062.	17080.	17098.	17116.	17134.
108.	17152.	17170.	17188.	17206.	17224.	17242.	17260.	17278.	17297.	17315.
109.	17333.	17351.	17369.	17387.	17405.	17424.	17442.	17460.	17478.	17497.
110.	17515.	17533.	17551.	17570.	17588.	17607.	17625.	17643.	17662.	17680.
111.	17698.	17717.	17735.	17754.	17772.	17791.	17809.	17828.	17846.	17865.
112.	17883.	17902.	17921.	17939.	17958.	17977.	17995.	18014.	18033.	18051.
113.	18070.	18089.	18107.	18126.	18145.	18164.	18182.	18201.	18220.	18239.
114.	18258.	18277.	18296.	18314.	18333.	18352.	18371.	18390.	18409.	18428.
115.	18447.	18466.	18485.	18504.	18523.	18542.	18562.	18581.	18600.	18619.
116.	18638.	18657.	18676.	18696.	18715.	18734.	18753.	18772.	18792.	18811.
117.	18830.	18850.	18869.	18888.	18908.	18927.	18946.	18966.	18985.	19005.
118.	19024.	19044.	19063.	19083.	19102.	19122.	19141.	19161.	19180.	19200.
119.	19219.	19239.	19259.	19278.	19298.	19318.	19337.	19357.	19377.	19396.
120.	19416.	19436.	19456.	19476.	19495.	19515.	19535.	19555.	19575.	19595.
121.	19614.	19634.	19654.	19674.	19694.	19714.	19734.	19754.	19774.	19794.
122.	19814.	19834.	19854.	19875.	19895.	19915.	19935.	19955.	19975.	19995.
123.	20016.	20036.	20056.	20076.	20097.	20117.	20137.	20157.	20178.	20198.
124.	20219.	20239.	20259.	20280.	20300.	20321.	20341.	20361.	20382.	20402.
125.	20423.	20443.	20464.	20485.	20505.	20526.	20546.	20567.	20588.	20608.
126.	20629.	20650.	20670.	20691.	20712.	20732.	20753.	20774.	20795.	20816.
127.	20836.	20857.	20878.	20899.	20920.	20941.	20962.	20983.	21003.	21024.
128.	21045.	21066.	21087.	21108.	21129.	21151.	21172.	21193.	21214.	21235.
129.	21256.	21277.	21298.	21320.	21341.	21362.	21383.	21404.	21426.	21447.
130.	21468.	21490.	21511.	21532.	21554.	21575.	21596.	21618.	21639.	21661.
131.	21682.	21704.	21725.	21746.	21768.	21790.	21811.	21833.	21854.	21876.
132.	21897.	21919.	21941.	21962.	21984.	22006.	22027.	22049.	22071.	22093.
133.	22114.	22136.	22158.	22180.	22202.	22224.	22245.	22267.	22289.	22311.
134.	22333.	22355.	22377.	22399.	22421.	22443.	22465.	22487.	22509.	22531.
135.	22553.	22575.	22597.	22620.	22642.	22664.	22686.	22708.	22731.	22753.
136.	22775.	22797.	22820.	22842.	22864.	22887.	22909.	22931.	22954.	22976.
137.	22999.	23021.	23043.	23066.	23088.	23111.	23133.	23156.	23178.	23201.
138.	23224.	23246.	23269.	23292.	23314.	23337.	23360.	23382.	23405.	23428.
139.	23450.	23473.	23496.	23519.	23542.	23564.	23587.	23610.	23633.	23656.
140.	23679.	23702.	23725.	23748.	23771.	23794.	23817.	23840.	23863.	23886.
141.	23909.	23932.	23955.	23978.	24001.	24025.	24048.	24071.	24094.	24117.
142.	24141.	24164.	24187.	24211.	24234.	24257.	24281.	24304.	24327.	24351.
143.	24374.	24398.	24421.	24444.	24468.	24491.	24515.	24538.	24562.	24586.
144.	24609.	24633.	24656.	24680.	24704.	24727.	24751.	24775.	24799.	24822.
145.	24846.	24870.	24894.	24917.	24941.	24965.	24989.	25013.	25037.	25061.
146.	25085.	25108.	25132.	25156.	25180.	25204.	25228.	25253.	25277.	25301.
147.	25325.	25349.	25373.	25397.	25421.	25446.	25470.	25494.	25518.	25542.
148.	25567.	25591.	25615.	25640.	25664.	25688.	25713.	25737.	25762.	25786.
149.	25810.	25835.	25859.	25884.	25908.	25933.	25957.	25982.	26007.	26031.