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Thermocouple Reference Tables Based on the IPTS–68: Reference Tables in Degrees Fahrenheit for Thermoelements versus Platinum (Pt–67)

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[1] Headquarters and Laboratories at Gaithersburg, Maryland, unless otherwise noted; mailing address Washington, D.C. 20234.
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Thermocouple Reference Tables Based on the IPTS–68: Reference Tables in Degrees Fahrenheit for Thermoelements versus Platinum (Pt–67)

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Thermocouple Reference Tables Based on the IPTS-68: Reference Tables in Degrees Fahrenheit for Thermoelements versus Platinum (Pt-67)

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Reference tables for several thermoelements versus platinum (Pt–67) are given with values of the thermoelectric voltage as a function of temperature in degrees Fahrenheit. Only tables for standard letter-designated thermoelements are included: Types BP, BN, JP, JN, KP (same as EP), KN, TP, and TN (same as EN). These tables supplement those given in NBS Monograph 125 and were calculated from the power series expansions presented in that Monograph. They are based upon the absolute electrical units and the International Practical Temperature Scale of 1968 (IPTS–68).
Key words: Base metal alloys; noble metal alloys; temperature scale; temperature standards; thermoelements; thermometry.

Introduction

Reference tables giving corresponding values of thermoelectric voltage and temperature for thermoelements versus platinum provide the manufacturers of thermocouple wire with a basis for the production control of their products. The production of thermocouple wire with thermoelectric properties controlled to conform to specified tabular values insures interchangeability. Reference tables for thermoelements are also used by science and industry in the testing and calibration of commercial thermocouple wire and in the preparation of purchase specifications for it.

This supplement to NBS Monograph 125[1] "Thermocouple Reference Tables Based on the IPTS–68," gives reference tables for standard letter-designated thermoelements versus platinum (Pt–67) with values of the thermoelectric voltage as a function of temperature in degrees Fahrenheit. Reference tables for thermoelements were included in NBS Monograph 125 with temperature in degrees Celsius. While the trend in U.S. industry is expected to be towards the usage of Celsius temperatures in their transactions, many industries are still a number of years away from such a practice. Therefore, this supplement was prepared to serve the needs of U.S. industry during the transition period. Its preparation was recommended by Committee E–20 on Temperature Measurement of the American Society for Testing and Materials (ASTM).

Tables are given for the following standard letter-designated thermoelements: Types BP, BN, JP, JN, KP (same as EP), KN, TP, and TN (same as EN). As discussed in NBS Monograph 125, tables for Type RP, RN, SP, and SN thermoelements are not necessary. Hence, none are included for these types in this supplement. The tables for Type JP and JN thermoelements merely give average values for industrial materials, which have a wide variability. **They do NOT contain standardized values. Neither the ASTM nor the ISA recognize Type JP or JN thermoelements as standardized materials.**

The typical nominal compositions and representative trade names for the standard letter-designated thermoelements are given in table 1. Additional information on the thermoelements can be found in NBS Monograph 125. Items covered there include recommended temperature ranges, special precautions on usage, effect of impurities, and limits of error.

The values in these reference tables are calculated from the power series expansions given in NBS Monograph 125. They are based upon the absolute electrical units and the International Practical Temperature Scale of 1968 (IPTS–68). Values of Fahrenheit temperature (t_F) are related to International Practical Celsius Temperatures (t_{68}) by

$$t_F = \{9/5\, t_{68} + 32\}\ °F$$

where degrees Fahrenheit, symbol °F, is the unit of Fahrenheit temperature.

The reference tables are based on the platinum thermoelectric reference standard, designated Pt–67. This standard is maintained by the Temperature Section of NBS. Its development and properties are summarized in section 1.2 of NBS Monograph 125.

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[1] Issued March 1974, available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 as SD Catalog No. C13.44:125, price $4.55.

TABLE 1. *Thermoelement characteristics*

Type designation[a]	Materials
---N	Denotes the negative thermoelement of a given thermocouple type.
---P	Denotes the positive thermoelement of a given thermocouple type.
BN	*Platinum*–nominal 6 wt% rhodium.
BP	*Platinum*–nominal 30 wt% rhodium.
EN or TN	A *copper*–nickel alloy, constantan: Cupron[1], Advance[3], ThermoKanthal JN[2]; nominally 55% Cu, 45% Ni; often referred to as Adams constantan.
EP or KP	A *nickel*–chromium alloy: Chromel[4], Tophel[1], T–1[3], ThermoKanthal KP[2]; nominally 90% Ni, 10% Cr.
JN	A *copper*–nickel alloy similar to, but usually not interchangeable with EN and TN; SAMA specification.
JP	Iron: ThermoKanthal JP[2]; nominally 99.5% Fe.
KN	A *nickel*–aluminum alloy: Alumel[4], Nial[1], T–2[3], ThermoKanthal KN[2]; nominally 95% Ni, 2% Al, 2% Mn, 1% Si.
RN, SN	High–purity platinum.
RP	*Platinum*–13 wt% rhodium.
SP	*Platinum*–10 wt% rhodium.
TP	Copper, usually Electrolytic Tough Pitch.

[a] The letter designations used in this Supplement follow the recommendations of ASTM Committee E–20 on Temperature Measurement. The letter type, e.g., Type TP, designates the thermoelectric properties of the thermoelement with respect to platinum, not the precise chemical composition. Thermoelements of a given type may have variations in composition as long as the thermoelectric properties of thermocouples formed from them and their mating thermoelement remain within established limits of error. As indicated in ASTM Standard E230–72, thermocouples and matched thermocouple wire are supplied to established limits of error. However, limits of error for individual thermoelements with respect to platinum are established only for Types KP and KN. They are supplied, by common practice, to an emf tolerance that is equivalent to one half the limit of error for the Type K thermocouple.

Registered Trademarks:

[1] Trademark—Wilbur B. Driver Co.
[2] Trademark—Kanthal Corp.
[3] Trademark—Driver-Harris Co.
[4] Trademark—Hoskins Manufacturing Co.

The use of trade names does not constitute an endorsement of any manufacturer's products. All materials manufactured in compliance with the established thermoelectric voltage standards are equally acceptable.

TABLE 2. ***Type BP thermoelements versus platinum, Pt–67**—thermoelectric voltage as a function of temperature (°F), reference junctions at 32 °F*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
					THERMOELECTRIC VOLTAGE IN ABSOLUTE MILLIVOLTS							
0												0
10												10
20												20
30			0.0000	0.0027	0.0054	0.0081	0.0108	0.0135	0.0162	0.0190	0.0217	30
40	0.0217	0.0245	0.0273	0.0300	0.0328	0.0356	0.0384	0.0412	0.0441	0.0469	0.0497	40
50	0.0497	0.0526	0.0555	0.0583	0.0612	0.0641	0.0670	0.0699	0.0728	0.0757	0.0787	50
60	0.0787	0.0816	0.0846	0.0875	0.0905	0.0935	0.0965	0.0995	0.1025	0.1055	0.1085	60
70	0.1085	0.1116	0.1146	0.1177	0.1207	0.1238	0.1269	0.1300	0.1330	0.1362	0.1393	70
80	0.1393	0.1424	0.1455	0.1487	0.1518	0.1550	0.1581	0.1613	0.1645	0.1677	0.1709	80
90	0.1709	0.1741	0.1773	0.1805	0.1837	0.1870	0.1902	0.1935	0.1968	0.2000	0.2033	90
100	0.2033	0.2066	0.2099	0.2132	0.2165	0.2198	0.2232	0.2265	0.2299	0.2332	0.2366	100
110	0.2366	0.2399	0.2433	0.2467	0.2501	0.2535	0.2569	0.2603	0.2638	0.2672	0.2707	110
120	0.2707	0.2741	0.2776	0.2810	0.2845	0.2880	0.2915	0.2950	0.2985	0.3020	0.3055	120
130	0.3055	0.3090	0.3126	0.3161	0.3197	0.3232	0.3268	0.3304	0.3340	0.3376	0.3411	130
140	0.3411	0.3448	0.3484	0.3520	0.3556	0.3592	0.3629	0.3665	0.3702	0.3739	0.3775	140
150	0.3775	0.3812	0.3849	0.3886	0.3923	0.3960	0.3997	0.4034	0.4072	0.4109	0.4147	150
160	0.4147	0.4184	0.4222	0.4259	0.4297	0.4335	0.4373	0.4411	0.4449	0.4487	0.4525	160
170	0.4525	0.4563	0.4602	0.4640	0.4679	0.4717	0.4756	0.4794	0.4833	0.4872	0.4911	170
180	0.4911	0.4950	0.4989	0.5028	0.5067	0.5106	0.5145	0.5185	0.5224	0.5264	0.5303	180
190	0.5303	0.5343	0.5382	0.5422	0.5462	0.5502	0.5542	0.5582	0.5622	0.5662	0.5702	190
200	0.5702	0.5743	0.5783	0.5823	0.5864	0.5904	0.5945	0.5986	0.6027	0.6067	0.6108	200
210	0.6108	0.6149	0.6190	0.6231	0.6272	0.6314	0.6355	0.6396	0.6438	0.6479	0.6521	210
220	0.6521	0.6562	0.6604	0.6646	0.6687	0.6729	0.6771	0.6813	0.6855	0.6897	0.6939	220
230	0.6939	0.6982	0.7024	0.7066	0.7109	0.7151	0.7194	0.7236	0.7279	0.7322	0.7364	230
240	0.7364	0.7407	0.7450	0.7493	0.7536	0.7579	0.7622	0.7665	0.7709	0.7752	0.7795	240
250	0.7795	0.7839	0.7882	0.7926	0.7970	0.8013	0.8057	0.8101	0.8145	0.8189	0.8233	250
260	0.8233	0.8277	0.8321	0.8365	0.8409	0.8453	0.8498	0.8542	0.8586	0.8631	0.8675	260
270	0.8675	0.8720	0.8765	0.8810	0.8854	0.8899	0.8944	0.8989	0.9034	0.9079	0.9124	270
280	0.9124	0.9169	0.9215	0.9260	0.9305	0.9351	0.9396	0.9442	0.9487	0.9533	0.9579	280
290	0.9579	0.9624	0.9670	0.9716	0.9762	0.9808	0.9854	0.9900	0.9946	0.9992	1.0039	290
300	1.0039	1.0085	1.0131	1.0178	1.0224	1.0271	1.0317	1.0364	1.0411	1.0457	1.0504	300
310	1.0504	1.0551	1.0598	1.0645	1.0692	1.0739	1.0786	1.0833	1.0880	1.0928	1.0975	310
320	1.0975	1.1022	1.1070	1.1117	1.1165	1.1212	1.1260	1.1308	1.1356	1.1403	1.1451	320
330	1.1451	1.1499	1.1547	1.1595	1.1643	1.1691	1.1739	1.1788	1.1836	1.1884	1.1933	330
340	1.1933	1.1981	1.2029	1.2078	1.2127	1.2175	1.2224	1.2273	1.2321	1.2370	1.2419	340
350	1.2419	1.2468	1.2517	1.2566	1.2615	1.2664	1.2713	1.2763	1.2812	1.2861	1.2911	350
360	1.2911	1.2960	1.3009	1.3059	1.3109	1.3158	1.3208	1.3258	1.3307	1.3357	1.3407	360
370	1.3407	1.3457	1.3507	1.3557	1.3607	1.3657	1.3707	1.3757	1.3808	1.3858	1.3908	370
380	1.3908	1.3959	1.4009	1.4060	1.4110	1.4161	1.4211	1.4262	1.4313	1.4364	1.4414	380
390	1.4414	1.4465	1.4516	1.4567	1.4618	1.4669	1.4720	1.4772	1.4823	1.4874	1.4925	390
400	1.4925	1.4977	1.5028	1.5080	1.5131	1.5183	1.5234	1.5286	1.5337	1.5389	1.5441	400
410	1.5441	1.5493	1.5545	1.5596	1.5648	1.5700	1.5752	1.5804	1.5857	1.5909	1.5961	410
420	1.5961	1.6013	1.6066	1.6118	1.6170	1.6223	1.6275	1.6328	1.6380	1.6433	1.6486	420
430	1.6486	1.6538	1.6591	1.6644	1.6697	1.6750	1.6803	1.6856	1.6909	1.6962	1.7015	430
440	1.7015	1.7068	1.7121	1.7174	1.7228	1.7281	1.7334	1.7388	1.7441	1.7495	1.7548	440
450	1.7548	1.7602	1.7656	1.7709	1.7763	1.7817	1.7871	1.7925	1.7978	1.8032	1.8086	450
460	1.8086	1.8140	1.8194	1.8249	1.8303	1.8357	1.8411	1.8465	1.8520	1.8574	1.8629	460
470	1.8629	1.8683	1.8738	1.8792	1.8847	1.8901	1.8956	1.9011	1.9065	1.9120	1.9175	470
480	1.9175	1.9230	1.9285	1.9340	1.9395	1.9450	1.9505	1.9560	1.9615	1.9671	1.9726	480
490	1.9726	1.9781	1.9836	1.9892	1.9947	2.0003	2.0058	2.0114	2.0169	2.0225	2.0281	490
500	2.0281	2.0336	2.0392	2.0448	2.0504	2.0560	2.0616	2.0672	2.0728	2.0784	2.0840	500
510	2.0840	2.0896	2.0952	2.1008	2.1064	2.1121	2.1177	2.1233	2.1290	2.1346	2.1403	510
520	2.1403	2.1459	2.1516	2.1572	2.1629	2.1686	2.1743	2.1799	2.1856	2.1913	2.1970	520
530	2.1970	2.2027	2.2084	2.2141	2.2198	2.2255	2.2312	2.2369	2.2426	2.2484	2.2541	530
540	2.2541	2.2598	2.2656	2.2713	2.2770	2.2828	2.2885	2.2943	2.3001	2.3058	2.3116	540
550	2.3116	2.3174	2.3231	2.3289	2.3347	2.3405	2.3463	2.3521	2.3579	2.3637	2.3695	550
560	2.3695	2.3753	2.3811	2.3869	2.3928	2.3986	2.4044	2.4102	2.4161	2.4219	2.4278	560
570	2.4278	2.4336	2.4395	2.4453	2.4512	2.4571	2.4629	2.4688	2.4747	2.4806	2.4864	570
580	2.4864	2.4923	2.4982	2.5041	2.5100	2.5159	2.5218	2.5277	2.5336	2.5396	2.5455	580
590	2.5455	2.5514	2.5573	2.5633	2.5692	2.5752	2.5811	2.5870	2.5930	2.5990	2.6049	590
600	2.6049	2.6109	2.6168	2.6228	2.6288	2.6348	2.6408	2.6467	2.6527	2.6587	2.6647	600
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 2. *Type BP thermoelements versus platinum,* **Pt–67**—*thermoelectric voltage as a function of temperature (°F), reference junctions at 32 °F—Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						THERMOELECTRIC VOLTAGE IN ABSOLUTE MILLIVOLTS						
600	2.6049	2.6109	2.6168	2.6228	2.6288	2.6348	2.6408	2.6467	2.6527	2.6587	2.6647	600
610	2.6647	2.6707	2.6767	2.6827	2.6887	2.6948	2.7008	2.7068	2.7128	2.7189	2.7249	610
620	2.7249	2.7309	2.7370	2.7430	2.7491	2.7551	2.7612	2.7672	2.7733	2.7794	2.7854	620
630	2.7854	2.7915	2.7976	2.8037	2.8098	2.8158	2.8219	2.8280	2.8341	2.8402	2.8463	630
640	2.8463	2.8525	2.8586	2.8647	2.8708	2.8769	2.8831	2.8892	2.8953	2.9015	2.9076	640
650	2.9076	2.9138	2.9199	2.9261	2.9322	2.9384	2.9446	2.9507	2.9569	2.9631	2.9692	650
660	2.9692	2.9754	2.9816	2.9878	2.9940	3.0002	3.0064	3.0126	3.0188	3.0250	3.0312	660
670	3.0312	3.0375	3.0437	3.0499	3.0561	3.0624	3.0686	3.0749	3.0811	3.0873	3.0936	670
680	3.0936	3.0999	3.1061	3.1124	3.1186	3.1249	3.1312	3.1375	3.1437	3.1500	3.1563	680
690	3.1563	3.1626	3.1689	3.1752	3.1815	3.1878	3.1941	3.2004	3.2067	3.2130	3.2194	690
700	3.2194	3.2257	3.2320	3.2383	3.2447	3.2510	3.2574	3.2637	3.2701	3.2764	3.2828	700
710	3.2828	3.2891	3.2955	3.3019	3.3082	3.3146	3.3210	3.3274	3.3338	3.3401	3.3465	710
720	3.3465	3.3529	3.3593	3.3657	3.3721	3.3785	3.3850	3.3914	3.3978	3.4042	3.4106	720
730	3.4106	3.4171	3.4235	3.4299	3.4364	3.4428	3.4493	3.4557	3.4622	3.4686	3.4751	730
740	3.4751	3.4816	3.4880	3.4945	3.5010	3.5074	3.5139	3.5204	3.5269	3.5334	3.5399	740
750	3.5399	3.5464	3.5529	3.5594	3.5659	3.5724	3.5789	3.5855	3.5920	3.5985	3.6050	750
760	3.6050	3.6116	3.6181	3.6246	3.6312	3.6377	3.6443	3.6508	3.6574	3.6639	3.6705	760
770	3.6705	3.6771	3.6836	3.6902	3.6968	3.7034	3.7100	3.7166	3.7231	3.7297	3.7363	770
780	3.7363	3.7429	3.7495	3.7561	3.7628	3.7694	3.7760	3.7826	3.7892	3.7959	3.8025	780
790	3.8025	3.8091	3.8158	3.8224	3.8291	3.8357	3.8423	3.8490	3.8557	3.8623	3.8690	790
800	3.8690	3.8757	3.8823	3.8890	3.8957	3.9024	3.9090	3.9157	3.9224	3.9291	3.9358	800
810	3.9358	3.9425	3.9492	3.9559	3.9626	3.9694	3.9761	3.9828	3.9895	3.9963	4.0030	810
820	4.0030	4.0097	4.0165	4.0232	4.0299	4.0367	4.0434	4.0502	4.0570	4.0637	4.0705	820
830	4.0705	4.0773	4.0840	4.0908	4.0976	4.1044	4.1111	4.1179	4.1247	4.1315	4.1383	830
840	4.1383	4.1451	4.1519	4.1587	4.1655	4.1724	4.1792	4.1860	4.1928	4.1997	4.2065	840
850	4.2065	4.2133	4.2202	4.2270	4.2338	4.2407	4.2475	4.2544	4.2613	4.2681	4.2750	850
860	4.2750	4.2818	4.2887	4.2956	4.3025	4.3093	4.3162	4.3231	4.3300	4.3369	4.3438	860
870	4.3438	4.3507	4.3576	4.3645	4.3714	4.3783	4.3852	4.3922	4.3991	4.4060	4.4129	870
880	4.4129	4.4199	4.4268	4.4338	4.4407	4.4476	4.4546	4.4615	4.4685	4.4755	4.4824	880
890	4.4824	4.4894	4.4964	4.5033	4.5103	4.5173	4.5243	4.5313	4.5382	4.5452	4.5522	890
900	4.5522	4.5592	4.5662	4.5732	4.5802	4.5873	4.5943	4.6013	4.6083	4.6153	4.6224	900
910	4.6224	4.6294	4.6364	4.6435	4.6505	4.6575	4.6646	4.6716	4.6787	4.6858	4.6928	910
920	4.6928	4.6999	4.7069	4.7140	4.7211	4.7282	4.7352	4.7423	4.7494	4.7565	4.7636	920
930	4.7636	4.7707	4.7778	4.7849	4.7920	4.7991	4.8062	4.8133	4.8205	4.8276	4.8347	930
940	4.8347	4.8418	4.8490	4.8561	4.8632	4.8704	4.8775	4.8847	4.8918	4.8990	4.9061	940
950	4.9061	4.9133	4.9204	4.9276	4.9348	4.9420	4.9491	4.9563	4.9635	4.9707	4.9779	950
960	4.9779	4.9851	4.9923	4.9995	5.0067	5.0139	5.0211	5.0283	5.0355	5.0427	5.0499	960
970	5.0499	5.0572	5.0644	5.0716	5.0789	5.0861	5.0933	5.1006	5.1078	5.1151	5.1223	970
980	5.1223	5.1296	5.1368	5.1441	5.1514	5.1586	5.1659	5.1732	5.1805	5.1878	5.1950	980
990	5.1950	5.2023	5.2096	5.2169	5.2242	5.2315	5.2388	5.2461	5.2534	5.2607	5.2681	990
1,000	5.2681	5.2754	5.2827	5.2900	5.2974	5.3047	5.3120	5.3194	5.3267	5.3341	5.3414	1,000
1,010	5.3414	5.3488	5.3561	5.3635	5.3708	5.3782	5.3856	5.3929	5.4003	5.4077	5.4151	1,010
1,020	5.4151	5.4225	5.4298	5.4372	5.4446	5.4520	5.4594	5.4668	5.4742	5.4816	5.4891	1,020
1,030	5.4891	5.4965	5.5039	5.5113	5.5187	5.5262	5.5336	5.5410	5.5485	5.5559	5.5634	1,030
1,040	5.5634	5.5708	5.5783	5.5857	5.5932	5.6006	5.6081	5.6156	5.6230	5.6305	5.6380	1,040
1,050	5.6380	5.6455	5.6529	5.6604	5.6679	5.6754	5.6829	5.6904	5.6979	5.7054	5.7129	1,050
1,060	5.7129	5.7204	5.7279	5.7354	5.7430	5.7505	5.7580	5.7655	5.7731	5.7806	5.7882	1,060
1,070	5.7882	5.7957	5.8032	5.8108	5.8183	5.8259	5.8334	5.8410	5.8486	5.8561	5.8637	1,070
1,080	5.8637	5.8713	5.8789	5.8864	5.8940	5.9016	5.9092	5.9168	5.9244	5.9320	5.9396	1,080
1,090	5.9396	5.9472	5.9548	5.9624	5.9700	5.9776	5.9853	5.9929	6.0005	6.0081	6.0158	1,090
1,100	6.0158	6.0234	6.0310	6.0387	6.0463	6.0540	6.0616	6.0693	6.0770	6.0846	6.0923	1,100
1,110	6.0923	6.0999	6.1076	6.1153	6.1230	6.1306	6.1383	6.1460	6.1537	6.1614	6.1691	1,110
1,120	6.1691	6.1768	6.1845	6.1922	6.1999	6.2076	6.2153	6.2230	6.2308	6.2385	6.2462	1,120
1,130	6.2462	6.2539	6.2617	6.2694	6.2772	6.2849	6.2926	6.3004	6.3081	6.3159	6.3237	1,130
1,140	6.3237	6.3314	6.3392	6.3469	6.3547	6.3625	6.3703	6.3780	6.3858	6.3936	6.4014	1,140
1,150	6.4014	6.4092	6.4170	6.4248	6.4326	6.4404	6.4482	6.4560	6.4638	6.4716	6.4795	1,150
1,160	6.4795	6.4873	6.4951	6.5029	6.5108	6.5186	6.5264	6.5343	6.5421	6.5500	6.5578	1,160
1,170	6.5578	6.5657	6.5735	6.5814	6.5893	6.5971	6.6050	6.6129	6.6207	6.6286	6.6365	1,170
1,180	6.6365	6.6444	6.6523	6.6602	6.6681	6.6760	6.6839	6.6918	6.6997	6.7076	6.7155	1,180
1,190	6.7155	6.7234	6.7313	6.7393	6.7472	6.7551	6.7630	6.7710	6.7789	6.7868	6.7948	1,190
1,200	6.7948	6.8027	6.8107	6.8186	6.8266	6.8346	6.8425	6.8505	6.8585	6.8664	6.8744	1,200
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 2. *Type BP thermoelements versus platinum,* Pt–6 7*—thermoelectric voltage as a function of temperature (°F), reference junctions at 32 °F—Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						THERMOELECTRIC VOLTAGE IN ABSOLUTE MILLIVOLTS						
1,200	6.7948	6.8027	6.8107	6.8186	6.8266	6.8346	6.8425	6.8505	6.8585	6.8664	6.8744	1,200
1,210	6.8744	6.8824	6.8904	6.8983	6.9063	6.9143	6.9223	6.9303	6.9383	6.9463	6.9543	1,210
1,220	6.9543	6.9623	6.9703	6.9783	6.9864	6.9944	7.0024	7.0104	7.0185	7.0265	7.0345	1,220
1,230	7.0345	7.0426	7.0506	7.0587	7.0667	7.0748	7.0828	7.0909	7.0989	7.1070	7.1151	1,230
1,240	7.1151	7.1231	7.1312	7.1393	7.1473	7.1554	7.1635	7.1716	7.1797	7.1878	7.1959	1,240
1,250	7.1959	7.2040	7.2121	7.2202	7.2283	7.2364	7.2445	7.2526	7.2608	7.2689	7.2770	1,250
1,260	7.2770	7.2851	7.2933	7.3014	7.3096	7.3177	7.3258	7.3340	7.3421	7.3503	7.3585	1,260
1,270	7.3585	7.3666	7.3748	7.3830	7.3911	7.3993	7.4075	7.4157	7.4238	7.4320	7.4402	1,270
1,280	7.4402	7.4484	7.4566	7.4648	7.4730	7.4812	7.4894	7.4976	7.5058	7.5140	7.5223	1,280
1,290	7.5223	7.5305	7.5387	7.5469	7.5552	7.5634	7.5716	7.5799	7.5881	7.5964	7.6046	1,290
1,300	7.6046	7.6129	7.6211	7.6294	7.6376	7.6459	7.6542	7.6624	7.6707	7.6790	7.6873	1,300
1,310	7.6873	7.6955	7.7038	7.7121	7.7204	7.7287	7.7370	7.7453	7.7536	7.7619	7.7702	1,310
1,320	7.7702	7.7785	7.7868	7.7952	7.8035	7.8118	7.8201	7.8285	7.8368	7.8451	7.8535	1,320
1,330	7.8535	7.8618	7.8702	7.8785	7.8869	7.8952	7.9036	7.9119	7.9203	7.9287	7.9370	1,330
1,340	7.9370	7.9454	7.9538	7.9622	7.9705	7.9789	7.9873	7.9957	8.0041	8.0125	8.0209	1,340
1,350	8.0209	8.0293	8.0377	8.0461	8.0545	8.0629	8.0714	8.0798	8.0882	8.0966	8.1051	1,350
1,360	8.1051	8.1135	8.1219	8.1304	8.1388	8.1473	8.1557	8.1641	8.1726	8.1811	8.1895	1,360
1,370	8.1895	8.1980	8.2064	8.2149	8.2234	8.2319	8.2403	8.2488	8.2573	8.2658	8.2743	1,370
1,380	8.2743	8.2828	8.2913	8.2998	8.3083	8.3168	8.3253	8.3338	8.3423	8.3508	8.3593	1,380
1,390	8.3593	8.3679	8.3764	8.3849	8.3934	8.4020	8.4105	8.4190	8.4276	8.4361	8.4447	1,390
1,400	8.4447	8.4532	8.4618	8.4704	8.4789	8.4875	8.4960	8.5046	8.5132	8.5218	8.5303	1,400
1,410	8.5303	8.5389	8.5475	8.5561	8.5647	8.5733	8.5819	8.5905	8.5991	8.6077	8.6163	1,410
1,420	8.6163	8.6249	8.6335	8.6421	8.6507	8.6594	8.6680	8.6766	8.6853	8.6939	8.7025	1,420
1,430	8.7025	8.7112	8.7198	8.7285	8.7371	8.7458	8.7544	8.7631	8.7717	8.7804	8.7891	1,430
1,440	8.7891	8.7977	8.8064	8.8151	8.8238	8.8324	8.8411	8.8498	8.8585	8.8672	8.8759	1,440
1,450	8.8759	8.8846	8.8933	8.9020	8.9107	8.9194	8.9281	8.9368	8.9456	8.9543	8.9630	1,450
1,460	8.9630	8.9717	8.9805	8.9892	8.9979	9.0067	9.0154	9.0242	9.0329	9.0417	9.0504	1,460
1,470	9.0504	9.0592	9.0680	9.0767	9.0855	9.0943	9.1030	9.1118	9.1206	9.1294	9.1381	1,470
1,480	9.1381	9.1469	9.1557	9.1645	9.1733	9.1821	9.1909	9.1997	9.2085	9.2173	9.2261	1,480
1,490	9.2261	9.2350	9.2438	9.2526	9.2614	9.2703	9.2791	9.2879	9.2968	9.3056	9.3144	1,490
1,500	9.3144	9.3233	9.3321	9.3410	9.3498	9.3587	9.3676	9.3764	9.3853	9.3941	9.4030	1,500
1,510	9.4030	9.4119	9.4208	9.4297	9.4385	9.4474	9.4563	9.4652	9.4741	9.4830	9.4919	1,510
1,520	9.4919	9.5008	9.5097	9.5186	9.5275	9.5364	9.5454	9.5543	9.5632	9.5721	9.5811	1,520
1,530	9.5811	9.5900	9.5989	9.6079	9.6168	9.6257	9.6347	9.6436	9.6526	9.6615	9.6705	1,530
1,540	9.6705	9.6795	9.6884	9.6974	9.7064	9.7153	9.7243	9.7333	9.7423	9.7512	9.7602	1,540
1,550	9.7602	9.7692	9.7782	9.7872	9.7962	9.8052	9.8142	9.8232	9.8322	9.8412	9.8503	1,550
1,560	9.8503	9.8593	9.8683	9.8773	9.8863	9.8954	9.9044	9.9134	9.9225	9.9315	9.9406	1,560
1,570	9.9406	9.9496	9.9587	9.9677	9.9768	9.9858	9.9949	10.0039	10.0130	10.0221	10.0312	1,570
1,580	10.0312	10.0402	10.0493	10.0584	10.0675	10.0766	10.0856	10.0947	10.1038	10.1129	10.1220	1,580
1,590	10.1220	10.1311	10.1402	10.1493	10.1585	10.1676	10.1767	10.1858	10.1949	10.2041	10.2132	1,590
1,600	10.2132	10.2223	10.2314	10.2406	10.2497	10.2589	10.2680	10.2772	10.2863	10.2955	10.3046	1,600
1,610	10.3046	10.3138	10.3229	10.3321	10.3413	10.3505	10.3596	10.3688	10.3780	10.3872	10.3963	1,610
1,620	10.3963	10.4055	10.4147	10.4239	10.4331	10.4423	10.4515	10.4607	10.4699	10.4791	10.4883	1,620
1,630	10.4883	10.4976	10.5068	10.5160	10.5252	10.5345	10.5437	10.5529	10.5622	10.5714	10.5806	1,630
1,640	10.5806	10.5899	10.5991	10.6084	10.6176	10.6269	10.6361	10.6454	10.6547	10.6639	10.6732	1,640
1,650	10.6732	10.6825	10.6917	10.7010	10.7103	10.7196	10.7289	10.7381	10.7474	10.7567	10.7660	1,650
1,660	10.7660	10.7753	10.7846	10.7939	10.8032	10.8126	10.8219	10.8312	10.8405	10.8498	10.8591	1,660
1,670	10.8591	10.8685	10.8778	10.8871	10.8965	10.9058	10.9151	10.9245	10.9338	10.9432	10.9525	1,670
1,680	10.9525	10.9619	10.9712	10.9806	10.9900	10.9993	11.0087	11.0181	11.0274	11.0368	11.0462	1,680
1,690	11.0462	11.0556	11.0650	11.0744	11.0837	11.0931	11.1025	11.1119	11.1213	11.1307	11.1401	1,690
1,700	11.1401	11.1495	11.1590	11.1684	11.1778	11.1872	11.1966	11.2061	11.2155	11.2249	11.2343	1,700
1,710	11.2343	11.2438	11.2532	11.2627	11.2721	11.2816	11.2910	11.3005	11.3099	11.3194	11.3288	1,710
1,720	11.3288	11.3383	11.3478	11.3572	11.3667	11.3762	11.3857	11.3951	11.4046	11.4141	11.4236	1,720
1,730	11.4236	11.4331	11.4426	11.4521	11.4616	11.4711	11.4806	11.4901	11.4996	11.5091	11.5186	1,730
1,740	11.5186	11.5281	11.5377	11.5472	11.5567	11.5662	11.5758	11.5853	11.5948	11.6044	11.6139	1,740
1,750	11.6139	11.6235	11.6330	11.6425	11.6521	11.6617	11.6712	11.6808	11.6903	11.6999	11.7095	1,750
1,760	11.7095	11.7190	11.7286	11.7382	11.7478	11.7574	11.7669	11.7765	11.7861	11.7957	11.8053	1,760
1,770	11.8053	11.8149	11.8245	11.8341	11.8437	11.8533	11.8629	11.8725	11.8822	11.8918	11.9014	1,770
1,780	11.9014	11.9110	11.9206	11.9303	11.9399	11.9495	11.9592	11.9688	11.9785	11.9881	11.9978	1,780
1,790	11.9978	12.0074	12.0171	12.0267	12.0364	12.0460	12.0557	12.0654	12.0750	12.0847	12.0944	1,790
1,800	12.0944	12.1040	12.1137	12.1234	12.1331	12.1428	12.1525	12.1622	12.1719	12.1816	12.1913	1,800
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 2. *Type BP thermoelements versus platinum,* **Pt–67**—*thermoelectric voltage as a function of temperature (°F), reference junctions at 32 °F—Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
					THERMOELECTRIC VOLTAGE IN ABSOLUTE MILLIVOLTS							
1,800	12.0944	12.1040	12.1137	12.1234	12.1331	12.1428	12.1525	12.1622	12.1719	12.1816	12.1913	1,800
1,810	12.1913	12.2010	12.2107	12.2204	12.2301	12.2398	12.2495	12.2592	12.2690	12.2787	12.2884	1,810
1,820	12.2884	12.2981	12.3079	12.3176	12.3273	12.3371	12.3468	12.3566	12.3663	12.3761	12.3858	1,820
1,830	12.3858	12.3956	12.4053	12.4151	12.4248	12.4346	12.4444	12.4541	12.4639	12.4737	12.4835	1,830
1,840	12.4835	12.4932	12.5030	12.5128	12.5226	12.5324	12.5422	12.5520	12.5618	12.5716	12.5814	1,840
1,850	12.5814	12.5912	12.6010	12.6108	12.6206	12.6304	12.6403	12.6501	12.6599	12.6697	12.6796	1,850
1,860	12.6796	12.6894	12.6992	12.7091	12.7189	12.7287	12.7386	12.7484	12.7583	12.7681	12.7780	1,860
1,870	12.7780	12.7878	12.7977	12.8076	12.8174	12.8273	12.8372	12.8470	12.8569	12.8668	12.8767	1,870
1,880	12.8767	12.8866	12.8964	12.9063	12.9162	12.9261	12.9360	12.9459	12.9558	12.9657	12.9756	1,880
1,890	12.9756	12.9855	12.9954	13.0053	13.0153	13.0252	13.0351	13.0450	13.0549	13.0649	13.0748	1,890
1,900	13.0748	13.0847	13.0947	13.1046	13.1145	13.1245	13.1344	13.1444	13.1543	13.1643	13.1742	1,900
1,910	13.1742	13.1842	13.1941	13.2041	13.2141	13.2240	13.2340	13.2440	13.2540	13.2639	13.2739	1,910
1,920	13.2739	13.2839	13.2939	13.3039	13.3139	13.3238	13.3338	13.3438	13.3538	13.3638	13.3738	1,920
1,930	13.3738	13.3839	13.3939	13.4039	13.4139	13.4239	13.4339	13.4439	13.4540	13.4640	13.4740	1,930
1,940	13.4740	13.4840	13.4941	13.5041	13.5142	13.5242	13.5342	13.5443	13.5543	13.5644	13.5744	1,940
1,950	13.5744	13.5845	13.5945	13.6046	13.6147	13.6247	13.6348	13.6449	13.6549	13.6650	13.6751	1,950
1,960	13.6751	13.6852	13.6953	13.7053	13.7154	13.7255	13.7356	13.7457	13.7558	13.7659	13.7760	1,960
1,970	13.7760	13.7861	13.7962	13.8063	13.8164	13.8265	13.8366	13.8468	13.8569	13.8670	13.8771	1,970
1,980	13.8771	13.8873	13.8974	13.9075	13.9177	13.9278	13.9379	13.9481	13.9582	13.9684	13.9785	1,980
1,990	13.9785	13.9887	13.9988	14.0090	14.0191	14.0293	14.0394	14.0496	14.0598	14.0699	14.0801	1,990
2,000	14.0801	14.0903	14.1005	14.1106	14.1208	14.1310	14.1412	14.1514	14.1616	14.1718	14.1820	2,000
2,010	14.1820	14.1922	14.2024	14.2126	14.2228	14.2330	14.2432	14.2534	14.2636	14.2738	14.2840	2,010
2,020	14.2840	14.2943	14.3045	14.3147	14.3249	14.3352	14.3454	14.3556	14.3659	14.3761	14.3863	2,020
2,030	14.3863	14.3966	14.4068	14.4171	14.4273	14.4376	14.4478	14.4581	14.4684	14.4786	14.4889	2,030
2,040	14.4889	14.4991	14.5094	14.5197	14.5300	14.5402	14.5505	14.5608	14.5711	14.5814	14.5916	2,040
2,050	14.5916	14.6019	14.6122	14.6225	14.6328	14.6431	14.6534	14.6637	14.6740	14.6843	14.6946	2,050
2,060	14.6946	14.7049	14.7152	14.7256	14.7359	14.7462	14.7565	14.7668	14.7772	14.7875	14.7978	2,060
2,070	14.7978	14.8082	14.8185	14.8288	14.8392	14.8495	14.8599	14.8702	14.8806	14.8909	14.9013	2,070
2,080	14.9013	14.9116	14.9220	14.9323	14.9427	14.9531	14.9634	14.9738	14.9842	14.9945	15.0049	2,080
2,090	15.0049	15.0153	15.0257	15.0360	15.0464	15.0568	15.0672	15.0776	15.0880	15.0984	15.1088	2,090
2,100	15.1088	15.1192	15.1296	15.1400	15.1504	15.1608	15.1712	15.1816	15.1920	15.2024	15.2129	2,100
2,110	15.2129	15.2233	15.2337	15.2441	15.2546	15.2650	15.2754	15.2858	15.2963	15.3067	15.3172	2,110
2,120	15.3172	15.3276	15.3380	15.3485	15.3589	15.3694	15.3798	15.3903	15.4007	15.4112	15.4217	2,120
2,130	15.4217	15.4321	15.4426	15.4531	15.4635	15.4740	15.4845	15.4949	15.5054	15.5159	15.5264	2,130
2,140	15.5264	15.5369	15.5473	15.5578	15.5683	15.5788	15.5893	15.5998	15.6103	15.6208	15.6313	2,140
2,150	15.6313	15.6418	15.6523	15.6628	15.6733	15.6838	15.6943	15.7049	15.7154	15.7259	15.7364	2,150
2,160	15.7364	15.7469	15.7575	15.7680	15.7785	15.7891	15.7996	15.8101	15.8207	15.8312	15.8417	2,160
2,170	15.8417	15.8523	15.8628	15.8734	15.8839	15.8945	15.9050	15.9156	15.9262	15.9367	15.9473	2,170
2,180	15.9473	15.9578	15.9684	15.9790	15.9895	16.0001	16.0107	16.0213	16.0318	16.0424	16.0530	2,180
2,190	16.0530	16.0636	16.0742	16.0848	16.0953	16.1059	16.1165	16.1271	16.1377	16.1483	16.1589	2,190
2,200	16.1589	16.1695	16.1801	16.1907	16.2013	16.2120	16.2226	16.2332	16.2438	16.2544	16.2650	2,200
2,210	16.2650	16.2757	16.2863	16.2969	16.3075	16.3182	16.3288	16.3394	16.3501	16.3607	16.3713	2,210
2,220	16.3713	16.3820	16.3926	16.4033	16.4139	16.4246	16.4352	16.4459	16.4565	16.4672	16.4778	2,220
2,230	16.4778	16.4885	16.4992	16.5098	16.5205	16.5312	16.5418	16.5525	16.5632	16.5738	16.5845	2,230
2,240	16.5845	16.5952	16.6059	16.6166	16.6272	16.6379	16.6486	16.6593	16.6700	16.6807	16.6914	2,240
2,250	16.6914	16.7021	16.7128	16.7235	16.7342	16.7449	16.7556	16.7663	16.7770	16.7877	16.7984	2,250
2,260	16.7984	16.8091	16.8198	16.8306	16.8413	16.8520	16.8627	16.8735	16.8842	16.8949	16.9056	2,260
2,270	16.9056	16.9164	16.9271	16.9378	16.9486	16.9593	16.9701	16.9808	16.9915	17.0023	17.0130	2,270
2,280	17.0130	17.0238	17.0345	17.0453	17.0560	17.0668	17.0776	17.0883	17.0991	17.1098	17.1206	2,280
2,290	17.1206	17.1314	17.1421	17.1529	17.1637	17.1745	17.1852	17.1960	17.2068	17.2176	17.2283	2,290
2,300	17.2283	17.2391	17.2499	17.2607	17.2715	17.2823	17.2931	17.3039	17.3147	17.3254	17.3362	2,300
2,310	17.3362	17.3470	17.3578	17.3686	17.3795	17.3903	17.4011	17.4119	17.4227	17.4335	17.4443	2,310
2,320	17.4443	17.4551	17.4659	17.4768	17.4876	17.4984	17.5092	17.5201	17.5309	17.5417	17.5525	2,320
2,330	17.5525	17.5634	17.5742	17.5850	17.5959	17.6067	17.6176	17.6284	17.6392	17.6501	17.6609	2,330
2,340	17.6609	17.6718	17.6826	17.6935	17.7043	17.7152	17.7260	17.7369	17.7478	17.7586	17.7695	2,340
2,350	17.7695	17.7803	17.7912	17.8021	17.8129	17.8238	17.8347	17.8455	17.8564	17.8673	17.8782	2,350
2,360	17.8782	17.8890	17.8999	17.9108	17.9217	17.9326	17.9435	17.9543	17.9652	17.9761	17.9870	2,360
2,370	17.9870	17.9979	18.0088	18.0197	18.0306	18.0415	18.0524	18.0633	18.0742	18.0851	18.0960	2,370
2,380	18.0960	18.1069	18.1178	18.1287	18.1396	18.1506	18.1615	18.1724	18.1833	18.1942	18.2051	2,380
2,390	18.2051	18.2161	18.2270	18.2379	18.2488	18.2598	18.2707	18.2816	18.2925	18.3035	18.3144	2,390
2,400	18.3144	18.3253	18.3363	18.3472	18.3582	18.3691	18.3800	18.3910	18.4019	18.4129	18.4238	2,400
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 2. ***Type BP thermoelements versus platinum, Pt–67***—*thermoelectric voltage as a function of temperature (°F), reference junctions at 32 °F—Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
					THERMOELECTRIC VOLTAGE IN ABSOLUTE MILLIVOLTS							
2,400	18.3144	18.3253	18.3363	18.3472	18.3582	18.3691	18.3800	18.3910	18.4019	18.4129	18.4238	2,400
2,410	18.4238	18.4348	18.4457	18.4567	18.4676	18.4786	18.4895	18.5005	18.5114	18.5224	18.5334	2,410
2,420	18.5334	18.5443	18.5553	18.5662	18.5772	18.5882	18.5991	18.6101	18.6211	18.6321	18.6430	2,420
2,430	18.6430	18.6540	18.6650	18.6760	18.6869	18.6979	18.7089	18.7199	18.7309	18.7418	18.7528	2,430
2,440	18.7528	18.7638	18.7748	18.7858	18.7968	18.8078	18.8188	18.8298	18.8408	18.8517	18.8627	2,440
2,450	18.8627	18.8737	18.8847	18.8957	18.9067	18.9178	18.9288	18.9398	18.9508	18.9618	18.9728	2,450
2,460	18.9728	18.9838	18.9948	19.0058	19.0168	19.0278	19.0389	19.0499	19.0609	19.0719	19.0829	2,460
2,470	19.0829	19.0940	19.1050	19.1160	19.1270	19.1381	19.1491	19.1601	19.1711	19.1822	19.1932	2,470
2,480	19.1932	19.2042	19.2153	19.2263	19.2373	19.2484	19.2594	19.2705	19.2815	19.2925	19.3036	2,480
2,490	19.3036	19.3146	19.3257	19.3367	19.3478	19.3588	19.3699	19.3809	19.3920	19.4030	19.4141	2,490
2,500	19.4141	19.4251	19.4362	19.4472	19.4583	19.4693	19.4804	19.4915	19.5025	19.5136	19.5246	2,500
2,510	19.5246	19.5357	19.5468	19.5578	19.5689	19.5800	19.5910	19.6021	19.6132	19.6243	19.6353	2,510
2,520	19.6353	19.6464	19.6575	19.6685	19.6796	19.6907	19.7018	19.7129	19.7239	19.7350	19.7461	2,520
2,530	19.7461	19.7572	19.7683	19.7794	19.7904	19.8015	19.8126	19.8237	19.8348	19.8459	19.8570	2,530
2,540	19.8570	19.8681	19.8791	19.8902	19.9013	19.9124	19.9235	19.9346	19.9457	19.9568	19.9679	2,540
2,550	19.9679	19.9790	19.9901	20.0012	20.0123	20.0234	20.0345	20.0456	20.0567	20.0678	20.0789	2,550
2,560	20.0789	20.0901	20.1012	20.1123	20.1234	20.1345	20.1456	20.1567	20.1678	20.1789	20.1901	2,560
2,570	20.1901	20.2012	20.2123	20.2234	20.2345	20.2456	20.2568	20.2679	20.2790	20.2901	20.3012	2,570
2,580	20.3012	20.3124	20.3235	20.3346	20.3457	20.3569	20.3680	20.3791	20.3902	20.4014	20.4125	2,580
2,590	20.4125	20.4236	20.4348	20.4459	20.4570	20.4681	20.4793	20.4904	20.5015	20.5127	20.5238	2,590
2,600	20.5238	20.5350	20.5461	20.5572	20.5684	20.5795	20.5906	20.6018	20.6129	20.6241	20.6352	2,600
2,610	20.6352	20.6463	20.6575	20.6686	20.6798	20.6909	20.7021	20.7132	20.7243	20.7355	20.7466	2,610
2,620	20.7466	20.7578	20.7689	20.7801	20.7912	20.8024	20.8135	20.8247	20.8358	20.8470	20.8581	2,620
2,630	20.8581	20.8693	20.8804	20.8916	20.9027	20.9139	20.9251	20.9362	20.9474	20.9585	20.9697	2,630
2,640	20.9697	20.9808	20.9920	21.0032	21.0143	21.0255	21.0366	21.0478	21.0589	21.0701	21.0813	2,640
2,650	21.0813	21.0924	21.1036	21.1148	21.1259	21.1371	21.1482	21.1594	21.1706	21.1817	21.1929	2,650
2,660	21.1929	21.2041	21.2152	21.2264	21.2376	21.2487	21.2599	21.2711	21.2822	21.2934	21.3046	2,660
2,670	21.3046	21.3157	21.3269	21.3381	21.3492	21.3604	21.3716	21.3828	21.3939	21.4051	21.4163	2,670
2,680	21.4163	21.4274	21.4386	21.4498	21.4610	21.4721	21.4833	21.4945	21.5057	21.5168	21.5280	2,680
2,690	21.5280	21.5392	21.5503	21.5615	21.5727	21.5839	21.5950	21.6062	21.6174	21.6286	21.6398	2,690
2,700	21.6398	21.6509	21.6621	21.6733	21.6845	21.6956	21.7068	21.7180	21.7292	21.7403	21.7515	2,700
2,710	21.7515	21.7627	21.7739	21.7851	21.7962	21.8074	21.8186	21.8298	21.8410	21.8521	21.8633	2,710
2,720	21.8633	21.8745	21.8857	21.8969	21.9080	21.9192	21.9304	21.9416	21.9528	21.9639	21.9751	2,720
2,730	21.9751	21.9863	21.9975	22.0087	22.0198	22.0310	22.0422	22.0534	22.0646	22.0757	22.0869	2,730
2,740	22.0869	22.0981	22.1093	22.1205	22.1316	22.1428	22.1540	22.1652	22.1764	22.1876	22.1987	2,740
2,750	22.1987	22.2099	22.2211	22.2323	22.2435	22.2546	22.2658	22.2770	22.2882	22.2994	22.3105	2,750
2,760	22.3105	22.3217	22.3329	22.3441	22.3553	22.3664	22.3776	22.3888	22.4000	22.4112	22.4223	2,760
2,770	22.4223	22.4335	22.4447	22.4559	22.4671	22.4782	22.4894	22.5006	22.5118	22.5230	22.5341	2,770
2,780	22.5341	22.5453	22.5565	22.5677	22.5788	22.5900	22.6012	22.6124	22.6236	22.6347	22.6459	2,780
2,790	22.6459	22.6571	22.6683	22.6794	22.6906	22.7018	22.7130	22.7241	22.7353	22.7465	22.7577	2,790
2,800	22.7577	22.7688	22.7800	22.7912	22.8024	22.8135	22.8247	22.8359	22.8470	22.8582	22.8694	2,800
2,810	22.8694	22.8806	22.8917	22.9029	22.9141	22.9252	22.9364	22.9476	22.9588	22.9699	22.9811	2,810
2,820	22.9811	22.9923	23.0034	23.0146	23.0258	23.0369	23.0481	23.0593	23.0704	23.0816	23.0928	2,820
2,830	23.0928	23.1039	23.1151	23.1263	23.1374	23.1486	23.1598	23.1709	23.1821	23.1932	23.2044	2,830
2,840	23.2044	23.2156	23.2267	23.2379	23.2490	23.2602	23.2714	23.2825	23.2937	23.3048	23.3160	2,840
2,850	23.3160	23.3271	23.3383	23.3495	23.3606	23.3718	23.3829	23.3941	23.4052	23.4164	23.4275	2,850
2,860	23.4275	23.4387	23.4498	23.4610	23.4721	23.4833	23.4944	23.5056	23.5167	23.5279	23.5390	2,860
2,870	23.5390	23.5502	23.5613	23.5725	23.5836	23.5948	23.6059	23.6170	23.6282	23.6393	23.6505	2,870
2,880	23.6505	23.6616	23.6728	23.6839	23.6950	23.7062	23.7173	23.7284	23.7396	23.7507	23.7619	2,880
2,890	23.7619	23.7730	23.7841	23.7953	23.8064	23.8175	23.8287	23.8398	23.8509	23.8620	23.8732	2,890
2,900	23.8732	23.8843	23.8954	23.9066	23.9177	23.9288	23.9399	23.9511	23.9622	23.9733	23.9844	2,900
2,910	23.9844	23.9956	24.0067	24.0178	24.0289	24.0400	24.0511	24.0623	24.0734	24.0845	24.0956	2,910
2,920	24.0956	24.1067	24.1178	24.1290	24.1401	24.1512	24.1623	24.1734	24.1845	24.1956	24.2067	2,920
2,930	24.2067	24.2178	24.2289	24.2400	24.2511	24.2622	24.2733	24.2844	24.2956	24.3067	24.3177	2,930
2,940	24.3177	24.3288	24.3399	24.3510	24.3621	24.3732	24.3843	24.3954	24.4065	24.4176	24.4287	2,940
2,950	24.4287	24.4398	24.4509	24.4620	24.4730	24.4841	24.4952	24.5063	24.5174	24.5285	24.5396	2,950
2,960	24.5396	24.5506	24.5617	24.5728	24.5839	24.5950	24.6060	24.6171	24.6282	24.6393	24.6503	2,960
2,970	24.6503	24.6614	24.6725	24.6835	24.6946	24.7057	24.7167	24.7278	24.7389	24.7499	24.7610	2,970
2,980	24.7610	24.7721	24.7831	24.7942	24.8052	24.8163	24.8274	24.8384	24.8495	24.8605	24.8716	2,980
2,990	24.8716	24.8826	24.8937	24.9047	24.9158	24.9268	24.9379	24.9489	24.9600	24.9710	24.9821	2,990
3,000	24.9821	24.9931	25.0041	25.0152	25.0262	25.0372	25.0483	25.0593	25.0704	25.0814	25.0924	3,000
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 2. *Type BP thermoelements versus platinum,* **Pt–67**—*thermoelectric voltage as a function of temperature (°F), reference junctions at 32 °F—Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
					THERMOELECTRIC VOLTAGE IN ABSOLUTE MILLIVOLTS							
3,000	24.9821	24.9931	25.0041	25.0152	25.0262	25.0372	25.0483	25.0593	25.0704	25.0814	25.0924	3,000
3,010	25.0924	25.1035	25.1145	25.1255	25.1365	25.1476	25.1586	25.1696	25.1806	25.1917	25.2027	3,010
3,020	25.2027	25.2137	25.2247	25.2357	25.2468	25.2578	25.2688	25.2798	25.2908	25.3018	25.3128	3,020
3,030	25.3128	25.3238	25.3349	25.3459	25.3569	25.3679	25.3789	25.3899	25.4009	25.4119	25.4229	3,030
3,040	25.4229	25.4339	25.4449	25.4559	25.4669	25.4778	25.4888	25.4998	25.5108	25.5218	25.5328	3,040
3,050	25.5328	25.5438	25.5548	25.5657	25.5767	25.5877	25.5987	25.6097	25.6206	25.6316	25.6426	3,050
3,060	25.6426	25.6536	25.6645	25.6755	25.6865	25.6974	25.7084	25.7194	25.7303	25.7413	25.7523	3,060
3,070	25.7523	25.7632	25.7742	25.7851	25.7961	25.8071	25.8180	25.8290	25.8399	25.8509	25.8618	3,070
3,080	25.8618	25.8728	25.8837	25.8947	25.9056	25.9165	25.9275	25.9384	25.9494	25.9603	25.9712	3,080
3,090	25.9712	25.9822	25.9931	26.0040	26.0150	26.0259	26.0368	26.0478	26.0587	26.0696	26.0805	3,090
3,100	26.0805	26.0915	26.1024	26.1133	26.1242	26.1351	26.1460	26.1570	26.1679	26.1788	26.1897	3,100
3,110	26.1897	26.2006	26.2115	26.2224	26.2333	26.2442	26.2551	26.2660	26.2769	26.2878	26.2987	3,110
3,120	26.2987	26.3096	26.3205	26.3314	26.3423	26.3532	26.3641	26.3749	26.3858	26.3967	26.4076	3,120
3,130	26.4076	26.4185	26.4294	26.4402	26.4511	26.4620	26.4729	26.4837	26.4946	26.5055	26.5163	3,130
3,140	26.5163	26.5272	26.5381	26.5489	26.5598	26.5707	26.5815	26.5924	26.6032	26.6141	26.6250	3,140
3,150	26.6250	26.6358	26.6467	26.6575	26.6684	26.6792	26.6901	26.7009	26.7117	26.7226	26.7334	3,150
3,160	26.7334	26.7443	26.7551	26.7659	26.7768	26.7876	26.7984	26.8093	26.8201	26.8309	26.8418	3,160
3,170	26.8418	26.8526	26.8634	26.8742	26.8850	26.8959	26.9067	26.9175	26.9283	26.9391	26.9499	3,170
3,180	26.9499	26.9608	26.9716	26.9824	26.9932	27.0040	27.0148	27.0256	27.0364	27.0472	27.0580	3,180
3,190	27.0580	27.0688	27.0796	27.0904	27.1012	27.1119	27.1227	27.1335	27.1443	27.1551	27.1659	3,190
3,200	27.1659	27.1767	27.1874	27.1982	27.2090	27.2198	27.2305	27.2413	27.2521	27.2629	27.2736	3,200
3,210	27.2736	27.2844	27.2952	27.3059	27.3167	27.3275	27.3382	27.3490	27.3597	27.3705	27.3812	3,210
3,220	27.3812	27.3920	27.4027	27.4135	27.4242	27.4350	27.4457	27.4565	27.4672	27.4780	27.4887	3,220
3,230	27.4887	27.4994	27.5102	27.5209	27.5317	27.5424	27.5531	27.5639	27.5746	27.5853	27.5960	3,230
3,240	27.5960	27.6068	27.6175	27.6282	27.6389	27.6496	27.6604	27.6711	27.6818	27.6925	27.7032	3,240
3,250	27.7032	27.7139	27.7246	27.7353	27.7461	27.7568	27.7675	27.7782	27.7889	27.7996	27.8103	3,250
3,260	27.8103	27.8210	27.8317	27.8423	27.8530	27.8637	27.8744	27.8851	27.8958	27.9065	27.9172	3,260
3,270	27.9172	27.9279	27.9385	27.9492	27.9599	27.9706	27.9812	27.9919	28.0026	28.0133	28.0239	3,270
3,280	28.0239	28.0346	28.0453	28.0559	28.0666	28.0773	28.0879	28.0986	28.1093	28.1199	28.1306	3,280
3,290	28.1306	28.1412	28.1519	28.1625	28.1732	28.1838	28.1945	28.2051	28.2158	28.2264	28.2371	3,290
3,300	28.2371	28.2477	28.2584	28.2690	28.2796	28.2903	28.3009	28.3115	28.3222			3,300
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 3. ***Type BN thermoelements versus platinum, Pt–67***—*thermoelectric voltage as a function of temperature (°F), reference junctions at 32° F*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
					THERMOELECTRIC VOLTAGE IN ABSOLUTE MILLIVOLTS							
0												0
10												10
20												20
30			0.0000	0.0028	0.0056	0.0085	0.0113	0.0141	0.0170	0.0198	0.0227	30
40	0.0227	0.0256	0.0284	0.0313	0.0342	0.0371	0.0400	0.0429	0.0458	0.0487	0.0516	40
50	0.0516	0.0545	0.0575	0.0604	0.0633	0.0663	0.0692	0.0722	0.0752	0.0781	0.0811	50
60	0.0811	0.0841	0.0871	0.0900	0.0930	0.0960	0.0990	0.1021	0.1051	0.1081	0.1111	60
70	0.1111	0.1142	0.1172	0.1202	0.1233	0.1263	0.1294	0.1324	0.1355	0.1386	0.1417	70
80	0.1417	0.1448	0.1478	0.1509	0.1540	0.1571	0.1602	0.1634	0.1665	0.1696	0.1727	80
90	0.1727	0.1759	0.1790	0.1821	0.1853	0.1884	0.1916	0.1948	0.1979	0.2011	0.2043	90
100	0.2043	0.2074	0.2106	0.2138	0.2170	0.2202	0.2234	0.2266	0.2298	0.2331	0.2363	100
110	0.2363	0.2395	0.2427	0.2460	0.2492	0.2525	0.2557	0.2590	0.2622	0.2655	0.2687	110
120	0.2687	0.2720	0.2753	0.2786	0.2819	0.2851	0.2884	0.2917	0.2950	0.2983	0.3016	120
130	0.3016	0.3050	0.3083	0.3116	0.3149	0.3182	0.3216	0.3249	0.3283	0.3316	0.3350	130
140	0.3350	0.3383	0.3417	0.3450	0.3484	0.3518	0.3551	0.3585	0.3619	0.3653	0.3687	140
150	0.3687	0.3721	0.3755	0.3789	0.3823	0.3857	0.3891	0.3925	0.3959	0.3994	0.4028	150
160	0.4028	0.4062	0.4097	0.4131	0.4165	0.4200	0.4234	0.4269	0.4303	0.4338	0.4373	160
170	0.4373	0.4407	0.4442	0.4477	0.4512	0.4546	0.4581	0.4616	0.4651	0.4686	0.4721	170
180	0.4721	0.4756	0.4791	0.4826	0.4861	0.4897	0.4932	0.4967	0.5002	0.5038	0.5073	180
190	0.5073	0.5108	0.5144	0.5179	0.5215	0.5250	0.5286	0.5321	0.5357	0.5392	0.5428	190
200	0.5428	0.5464	0.5499	0.5535	0.5571	0.5607	0.5643	0.5679	0.5714	0.5750	0.5786	200
210	0.5786	0.5822	0.5858	0.5894	0.5931	0.5967	0.6003	0.6039	0.6075	0.6111	0.6148	210
220	0.6148	0.6184	0.6220	0.6257	0.6293	0.6329	0.6366	0.6402	0.6439	0.6475	0.6512	220
230	0.6512	0.6549	0.6585	0.6622	0.6658	0.6695	0.6732	0.6769	0.6805	0.6842	0.6879	230
240	0.6879	0.6916	0.6953	0.6990	0.7027	0.7064	0.7101	0.7138	0.7175	0.7212	0.7249	240
250	0.7249	0.7286	0.7323	0.7360	0.7398	0.7435	0.7472	0.7509	0.7547	0.7584	0.7621	250
260	0.7621	0.7659	0.7696	0.7733	0.7771	0.7808	0.7846	0.7883	0.7921	0.7959	0.7996	260
270	0.7996	0.8034	0.8071	0.8109	0.8147	0.8184	0.8222	0.8260	0.8298	0.8336	0.8373	270
280	0.8373	0.8411	0.8449	0.8487	0.8525	0.8563	0.8601	0.8639	0.8677	0.8715	0.8753	280
290	0.8753	0.8791	0.8829	0.8867	0.8905	0.8944	0.8982	0.9020	0.9058	0.9096	0.9135	290
300	0.9135	0.9173	0.9211	0.9250	0.9288	0.9326	0.9365	0.9403	0.9442	0.9480	0.9518	300
310	0.9518	0.9557	0.9595	0.9634	0.9673	0.9711	0.9750	0.9788	0.9827	0.9866	0.9904	310
320	0.9904	0.9943	0.9982	1.0020	1.0059	1.0098	1.0137	1.0176	1.0214	1.0253	1.0292	320
330	1.0292	1.0331	1.0370	1.0409	1.0448	1.0487	1.0526	1.0565	1.0604	1.0643	1.0682	330
340	1.0682	1.0721	1.0760	1.0799	1.0838	1.0877	1.0916	1.0955	1.0995	1.1034	1.1073	340
350	1.1073	1.1112	1.1152	1.1191	1.1230	1.1269	1.1309	1.1348	1.1387	1.1427	1.1466	350
360	1.1466	1.1505	1.1545	1.1584	1.1624	1.1663	1.1703	1.1742	1.1782	1.1821	1.1861	360
370	1.1861	1.1900	1.1940	1.1979	1.2019	1.2059	1.2098	1.2138	1.2178	1.2217	1.2257	370
380	1.2257	1.2297	1.2336	1.2376	1.2416	1.2456	1.2495	1.2535	1.2575	1.2615	1.2655	380
390	1.2655	1.2695	1.2734	1.2774	1.2814	1.2854	1.2894	1.2934	1.2974	1.3014	1.3054	390
400	1.3054	1.3094	1.3134	1.3174	1.3214	1.3254	1.3294	1.3334	1.3374	1.3414	1.3454	400
410	1.3454	1.3494	1.3535	1.3575	1.3615	1.3655	1.3695	1.3735	1.3776	1.3816	1.3856	410
420	1.3856	1.3896	1.3937	1.3977	1.4017	1.4058	1.4098	1.4138	1.4179	1.4219	1.4259	420
430	1.4259	1.4300	1.4340	1.4380	1.4421	1.4461	1.4502	1.4542	1.4583	1.4623	1.4663	430
440	1.4663	1.4704	1.4744	1.4785	1.4825	1.4866	1.4907	1.4947	1.4988	1.5028	1.5069	440
450	1.5069	1.5109	1.5150	1.5191	1.5231	1.5272	1.5313	1.5353	1.5394	1.5435	1.5475	450
460	1.5475	1.5516	1.5557	1.5597	1.5638	1.5679	1.5720	1.5760	1.5801	1.5842	1.5883	460
470	1.5883	1.5924	1.5964	1.6005	1.6046	1.6087	1.6128	1.6169	1.6210	1.6250	1.6291	470
480	1.6291	1.6332	1.6373	1.6414	1.6455	1.6496	1.6537	1.6578	1.6619	1.6660	1.6701	480
490	1.6701	1.6742	1.6783	1.6824	1.6865	1.6906	1.6947	1.6988	1.7029	1.7070	1.7111	490
500	1.7111	1.7152	1.7193	1.7234	1.7276	1.7317	1.7358	1.7399	1.7440	1.7481	1.7522	500
510	1.7522	1.7564	1.7605	1.7646	1.7687	1.7728	1.7770	1.7811	1.7852	1.7893	1.7934	510
520	1.7934	1.7976	1.8017	1.8058	1.8100	1.8141	1.8182	1.8223	1.8265	1.8306	1.8347	520
530	1.8347	1.8389	1.8430	1.8471	1.8513	1.8554	1.8595	1.8637	1.8678	1.8720	1.8761	530
540	1.8761	1.8802	1.8844	1.8885	1.8927	1.8968	1.9010	1.9051	1.9092	1.9134	1.9175	540
550	1.9175	1.9217	1.9258	1.9300	1.9341	1.9383	1.9424	1.9466	1.9507	1.9549	1.9590	550
560	1.9590	1.9632	1.9674	1.9715	1.9757	1.9798	1.9840	1.9881	1.9923	1.9965	2.0006	560
570	2.0006	2.0048	2.0089	2.0131	2.0173	2.0214	2.0256	2.0298	2.0339	2.0381	2.0423	570
580	2.0423	2.0464	2.0506	2.0548	2.0589	2.0631	2.0673	2.0715	2.0756	2.0798	2.0840	580
590	2.0840	2.0881	2.0923	2.0965	2.1007	2.1048	2.1090	2.1132	2.1174	2.1216	2.1257	590
600	2.1257	2.1299	2.1341	2.1383	2.1425	2.1466	2.1508	2.1550	2.1592	2.1634	2.1676	600
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 3. *Type BN thermoelements versus platinum,* **Pt–67**—*thermoelectric voltage as a function of temperature (°F), reference junctions at 32 °F—Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						THERMOELECTRIC VOLTAGE IN ABSOLUTE MILLIVOLTS						
600	2.1257	2.1299	2.1341	2.1383	2.1425	2.1466	2.1508	2.1550	2.1592	2.1634	2.1676	600
610	2.1676	2.1717	2.1759	2.1801	2.1843	2.1885	2.1927	2.1969	2.2010	2.2052	2.2094	610
620	2.2094	2.2136	2.2178	2.2220	2.2262	2.2304	2.2346	2.2388	2.2430	2.2472	2.2514	620
630	2.2514	2.2556	2.2597	2.2639	2.2681	2.2723	2.2765	2.2807	2.2849	2.2891	2.2933	630
640	2.2933	2.2975	2.3017	2.3059	2.3101	2.3143	2.3185	2.3228	2.3270	2.3312	2.3354	640
650	2.3354	2.3396	2.3438	2.3480	2.3522	2.3564	2.3606	2.3648	2.3690	2.3732	2.3774	650
660	2.3774	2.3817	2.3859	2.3901	2.3943	2.3985	2.4027	2.4069	2.4111	2.4154	2.4196	660
670	2.4196	2.4238	2.4280	2.4322	2.4364	2.4406	2.4449	2.4491	2.4533	2.4575	2.4617	670
680	2.4617	2.4660	2.4702	2.4744	2.4786	2.4828	2.4871	2.4913	2.4955	2.4997	2.5039	680
690	2.5039	2.5082	2.5124	2.5166	2.5208	2.5251	2.5293	2.5335	2.5377	2.5420	2.5462	690
700	2.5462	2.5504	2.5547	2.5589	2.5631	2.5673	2.5716	2.5758	2.5800	2.5843	2.5885	700
710	2.5885	2.5927	2.5970	2.6012	2.6054	2.6097	2.6139	2.6181	2.6224	2.6266	2.6308	710
720	2.6308	2.6351	2.6393	2.6435	2.6478	2.6520	2.6562	2.6605	2.6647	2.6690	2.6732	720
730	2.6732	2.6774	2.6817	2.6859	2.6902	2.6944	2.6986	2.7029	2.7071	2.7114	2.7156	730
740	2.7156	2.7199	2.7241	2.7283	2.7326	2.7368	2.7411	2.7453	2.7496	2.7538	2.7581	740
750	2.7581	2.7623	2.7665	2.7708	2.7750	2.7793	2.7835	2.7878	2.7920	2.7963	2.8005	750
760	2.8005	2.8048	2.8090	2.8133	2.8175	2.8218	2.8260	2.8303	2.8345	2.8388	2.8431	760
770	2.8431	2.8473	2.8516	2.8558	2.8601	2.8643	2.8686	2.8728	2.8771	2.8813	2.8856	770
780	2.8856	2.8899	2.8941	2.8984	2.9026	2.9069	2.9111	2.9154	2.9197	2.9239	2.9282	780
790	2.9282	2.9324	2.9367	2.9410	2.9452	2.9495	2.9538	2.9580	2.9623	2.9665	2.9708	790
800	2.9708	2.9751	2.9793	2.9836	2.9879	2.9921	2.9964	3.0007	3.0049	3.0092	3.0135	800
810	3.0135	3.0177	3.0220	3.0263	3.0305	3.0348	3.0391	3.0433	3.0476	3.0519	3.0561	810
820	3.0561	3.0604	3.0647	3.0689	3.0732	3.0775	3.0818	3.0860	3.0903	3.0946	3.0989	820
830	3.0989	3.1031	3.1074	3.1117	3.1159	3.1202	3.1245	3.1288	3.1330	3.1373	3.1416	830
840	3.1416	3.1459	3.1502	3.1544	3.1587	3.1630	3.1673	3.1715	3.1758	3.1801	3.1844	840
850	3.1844	3.1887	3.1929	3.1972	3.2015	3.2058	3.2101	3.2143	3.2186	3.2229	3.2272	850
860	3.2272	3.2315	3.2358	3.2400	3.2443	3.2486	3.2529	3.2572	3.2615	3.2657	3.2700	860
870	3.2700	3.2743	3.2786	3.2829	3.2872	3.2915	3.2957	3.3000	3.3043	3.3086	3.3129	870
880	3.3129	3.3172	3.3215	3.3258	3.3301	3.3343	3.3386	3.3429	3.3472	3.3515	3.3558	880
890	3.3558	3.3601	3.3644	3.3687	3.3730	3.3773	3.3816	3.3859	3.3901	3.3944	3.3987	890
900	3.3987	3.4030	3.4073	3.4116	3.4159	3.4202	3.4245	3.4288	3.4331	3.4374	3.4417	900
910	3.4417	3.4460	3.4503	3.4546	3.4589	3.4632	3.4675	3.4718	3.4761	3.4804	3.4847	910
920	3.4847	3.4890	3.4933	3.4976	3.5019	3.5062	3.5105	3.5148	3.5191	3.5234	3.5277	920
930	3.5277	3.5320	3.5363	3.5406	3.5449	3.5492	3.5536	3.5579	3.5622	3.5665	3.5708	930
940	3.5708	3.5751	3.5794	3.5837	3.5880	3.5923	3.5966	3.6009	3.6052	3.6096	3.6139	940
950	3.6139	3.6182	3.6225	3.6268	3.6311	3.6354	3.6397	3.6440	3.6484	3.6527	3.6570	950
960	3.6570	3.6613	3.6656	3.6699	3.6742	3.6786	3.6829	3.6872	3.6915	3.6958	3.7001	960
970	3.7001	3.7045	3.7088	3.7131	3.7174	3.7217	3.7260	3.7304	3.7347	3.7390	3.7433	970
980	3.7433	3.7476	3.7520	3.7563	3.7606	3.7649	3.7692	3.7736	3.7779	3.7822	3.7865	980
990	3.7865	3.7909	3.7952	3.7995	3.8038	3.8081	3.8125	3.8168	3.8211	3.8255	3.8298	990
1.000	3.8298	3.8341	3.8384	3.8428	3.8471	3.8514	3.8557	3.8601	3.8644	3.8687	3.8731	1.000
1.010	3.8731	3.8774	3.8817	3.8860	3.8904	3.8947	3.8990	3.9034	3.9077	3.9120	3.9164	1.010
1.020	3.9164	3.9207	3.9250	3.9294	3.9337	3.9380	3.9424	3.9467	3.9510	3.9554	3.9597	1.020
1.030	3.9597	3.9640	3.9684	3.9727	3.9771	3.9814	3.9857	3.9901	3.9944	3.9987	4.0031	1.030
1.040	4.0031	4.0074	4.0118	4.0161	4.0204	4.0248	4.0291	4.0335	4.0378	4.0422	4.0465	1.040
1.050	4.0465	4.0508	4.0552	4.0595	4.0639	4.0682	4.0726	4.0769	4.0812	4.0856	4.0899	1.050
1.060	4.0899	4.0943	4.0986	4.1030	4.1073	4.1117	4.1160	4.1204	4.1247	4.1291	4.1334	1.060
1.070	4.1334	4.1378	4.1421	4.1465	4.1508	4.1552	4.1595	4.1639	4.1682	4.1726	4.1769	1.070
1.080	4.1769	4.1813	4.1856	4.1900	4.1943	4.1987	4.2031	4.2074	4.2118	4.2161	4.2205	1.080
1.090	4.2205	4.2248	4.2292	4.2335	4.2379	4.2423	4.2466	4.2510	4.2553	4.2597	4.2641	1.090
1.100	4.2641	4.2684	4.2728	4.2771	4.2815	4.2859	4.2902	4.2946	4.2990	4.3033	4.3077	1.100
1.110	4.3077	4.3120	4.3164	4.3208	4.3251	4.3295	4.3339	4.3382	4.3426	4.3470	4.3513	1.110
1.120	4.3513	4.3557	4.3601	4.3644	4.3688	4.3732	4.3775	4.3819	4.3863	4.3907	4.3950	1.120
1.130	4.3950	4.3994	4.4038	4.4081	4.4125	4.4169	4.4213	4.4256	4.4300	4.4344	4.4388	1.130
1.140	4.4388	4.4431	4.4475	4.4519	4.4563	4.4606	4.4650	4.4694	4.4738	4.4781	4.4825	1.140
1.150	4.4825	4.4869	4.4913	4.4957	4.5000	4.5044	4.5088	4.5132	4.5176	4.5219	4.5263	1.150
1.160	4.5263	4.5307	4.5351	4.5395	4.5438	4.5482	4.5526	4.5570	4.5614	4.5658	4.5702	1.160
1.170	4.5702	4.5745	4.5789	4.5833	4.5877	4.5921	4.5965	4.6009	4.6053	4.6096	4.6140	1.170
1.180	4.6140	4.6184	4.6228	4.6272	4.6316	4.6360	4.6404	4.6448	4.6492	4.6536	4.6580	1.180
1.190	4.6580	4.6623	4.6667	4.6711	4.6755	4.6799	4.6843	4.6887	4.6931	4.6975	4.7019	1.190
1.200	4.7019	4.7063	4.7107	4.7151	4.7195	4.7239	4.7283	4.7327	4.7371	4.7415	4.7459	1.200
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 3. ***Type BN thermoelements versus platinum, Pt–67**—thermoelectric voltage as a function of temperature (°F), reference junctions at 32 °F—Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						THERMOELECTRIC VOLTAGE IN ABSOLUTE MILLIVOLTS						
1,200	4.7019	4.7063	4.7107	4.7151	4.7195	4.7239	4.7283	4.7327	4.7371	4.7415	4.7459	1,200
1,210	4.7459	4.7503	4.7547	4.7591	4.7635	4.7679	4.7723	4.7767	4.7811	4.7855	4.7899	1,210
1,220	4.7899	4.7943	4.7988	4.8032	4.8076	4.8120	4.8164	4.8208	4.8252	4.8296	4.8340	1,220
1,230	4.8340	4.8384	4.8428	4.8472	4.8517	4.8561	4.8605	4.8649	4.8693	4.8737	4.8781	1,230
1,240	4.8781	4.8825	4.8870	4.8914	4.8958	4.9002	4.9046	4.9090	4.9135	4.9179	4.9223	1,240
1,250	4.9223	4.9267	4.9311	4.9355	4.9400	4.9444	4.9488	4.9532	4.9576	4.9621	4.9665	1,250
1,260	4.9665	4.9709	4.9753	4.9798	4.9842	4.9886	4.9930	4.9975	5.0019	5.0063	5.0107	1,260
1,270	5.0107	5.0152	5.0196	5.0240	5.0284	5.0329	5.0373	5.0417	5.0462	5.0506	5.0550	1,270
1,280	5.0550	5.0594	5.0639	5.0683	5.0727	5.0772	5.0816	5.0860	5.0905	5.0949	5.0993	1,280
1,290	5.0993	5.1038	5.1082	5.1126	5.1171	5.1215	5.1260	5.1304	5.1348	5.1393	5.1437	1,290
1,300	5.1437	5.1481	5.1526	5.1570	5.1615	5.1659	5.1704	5.1748	5.1792	5.1837	5.1881	1,300
1,310	5.1881	5.1926	5.1970	5.2015	5.2059	5.2103	5.2148	5.2192	5.2237	5.2281	5.2326	1,310
1,320	5.2326	5.2370	5.2415	5.2459	5.2504	5.2548	5.2593	5.2637	5.2682	5.2726	5.2771	1,320
1,330	5.2771	5.2815	5.2860	5.2904	5.2949	5.2993	5.3038	5.3083	5.3127	5.3172	5.3216	1,330
1,340	5.3216	5.3261	5.3305	5.3350	5.3395	5.3439	5.3484	5.3528	5.3573	5.3618	5.3662	1,340
1,350	5.3662	5.3707	5.3751	5.3796	5.3841	5.3885	5.3930	5.3975	5.4019	5.4064	5.4108	1,350
1,360	5.4108	5.4153	5.4198	5.4242	5.4287	5.4332	5.4376	5.4421	5.4466	5.4511	5.4555	1,360
1,370	5.4555	5.4600	5.4645	5.4689	5.4734	5.4779	5.4824	5.4868	5.4913	5.4958	5.5003	1,370
1,380	5.5003	5.5047	5.5092	5.5137	5.5182	5.5226	5.5271	5.5316	5.5361	5.5405	5.5450	1,380
1,390	5.5450	5.5495	5.5540	5.5585	5.5629	5.5674	5.5719	5.5764	5.5809	5.5854	5.5898	1,390
1,400	5.5898	5.5943	5.5988	5.6033	5.6078	5.6123	5.6168	5.6212	5.6257	5.6302	5.6347	1,400
1,410	5.6347	5.6392	5.6437	5.6482	5.6527	5.6572	5.6616	5.6661	5.6706	5.6751	5.6796	1,410
1,420	5.6796	5.6841	5.6886	5.6931	5.6976	5.7021	5.7066	5.7111	5.7156	5.7201	5.7246	1,420
1,430	5.7246	5.7291	5.7336	5.7381	5.7426	5.7471	5.7516	5.7561	5.7606	5.7651	5.7696	1,430
1,440	5.7696	5.7741	5.7786	5.7831	5.7876	5.7921	5.7966	5.8011	5.8056	5.8101	5.8146	1,440
1,450	5.8146	5.8191	5.8237	5.8282	5.8327	5.8372	5.8417	5.8462	5.8507	5.8552	5.8597	1,450
1,460	5.8597	5.8643	5.8688	5.8733	5.8778	5.8823	5.8868	5.8913	5.8959	5.9004	5.9049	1,460
1,470	5.9049	5.9094	5.9139	5.9184	5.9230	5.9275	5.9320	5.9365	5.9410	5.9456	5.9501	1,470
1,480	5.9501	5.9546	5.9591	5.9637	5.9682	5.9727	5.9772	5.9818	5.9863	5.9908	5.9953	1,480
1,490	5.9953	5.9999	6.0044	6.0089	6.0134	6.0180	6.0225	6.0270	6.0316	6.0361	6.0406	1,490
1,500	6.0406	6.0452	6.0497	6.0542	6.0588	6.0633	6.0678	6.0724	6.0769	6.0814	6.0860	1,500
1,510	6.0860	6.0905	6.0950	6.0996	6.1041	6.1087	6.1132	6.1177	6.1223	6.1268	6.1314	1,510
1,520	6.1314	6.1359	6.1405	6.1450	6.1495	6.1541	6.1586	6.1632	6.1677	6.1723	6.1768	1,520
1,530	6.1768	6.1814	6.1859	6.1905	6.1950	6.1996	6.2041	6.2086	6.2132	6.2178	6.2223	1,530
1,540	6.2223	6.2269	6.2314	6.2360	6.2405	6.2451	6.2496	6.2542	6.2587	6.2633	6.2678	1,540
1,550	6.2678	6.2724	6.2770	6.2815	6.2861	6.2906	6.2952	6.2998	6.3043	6.3089	6.3134	1,550
1,560	6.3134	6.3180	6.3226	6.3271	6.3317	6.3362	6.3408	6.3454	6.3499	6.3545	6.3591	1,560
1,570	6.3591	6.3636	6.3682	6.3728	6.3773	6.3819	6.3865	6.3911	6.3956	6.4002	6.4048	1,570
1,580	6.4048	6.4093	6.4139	6.4185	6.4231	6.4276	6.4322	6.4368	6.4414	6.4459	6.4505	1,580
1,590	6.4505	6.4551	6.4597	6.4642	6.4688	6.4734	6.4780	6.4826	6.4871	6.4917	6.4963	1,590
1,600	6.4963	6.5009	6.5055	6.5100	6.5146	6.5192	6.5238	6.5284	6.5330	6.5376	6.5421	1,600
1,610	6.5421	6.5467	6.5513	6.5559	6.5605	6.5651	6.5697	6.5743	6.5789	6.5834	6.5880	1,610
1,620	6.5880	6.5926	6.5972	6.6018	6.6064	6.6110	6.6156	6.6202	6.6248	6.6294	6.6340	1,620
1,630	6.6340	6.6386	6.6432	6.6478	6.6524	6.6570	6.6616	6.6662	6.6708	6.6754	6.6800	1,630
1,640	6.6800	6.6846	6.6892	6.6938	6.6984	6.7030	6.7076	6.7122	6.7168	6.7214	6.7260	1,640
1,650	6.7260	6.7306	6.7352	6.7398	6.7444	6.7490	6.7537	6.7583	6.7629	6.7675	6.7721	1,650
1,660	6.7721	6.7767	6.7813	6.7859	6.7906	6.7952	6.7998	6.8044	6.8090	6.8136	6.8182	1,660
1,670	6.8182	6.8229	6.8275	6.8321	6.8367	6.8413	6.8460	6.8506	6.8552	6.8598	6.8644	1,670
1,680	6.8644	6.8691	6.8737	6.8783	6.8829	6.8876	6.8922	6.8968	6.9014	6.9061	6.9107	1,680
1,690	6.9107	6.9153	6.9199	6.9246	6.9292	6.9338	6.9384	6.9431	6.9477	6.9523	6.9570	1,690
1,700	6.9570	6.9616	6.9662	6.9709	6.9755	6.9801	6.9848	6.9894	6.9940	6.9987	7.0033	1,700
1,710	7.0033	7.0080	7.0126	7.0172	7.0219	7.0265	7.0311	7.0358	7.0404	7.0451	7.0497	1,710
1,720	7.0497	7.0543	7.0590	7.0636	7.0683	7.0729	7.0776	7.0822	7.0869	7.0915	7.0962	1,720
1,730	7.0962	7.1008	7.1054	7.1101	7.1147	7.1194	7.1240	7.1287	7.1333	7.1380	7.1426	1,730
1,740	7.1426	7.1473	7.1519	7.1566	7.1613	7.1659	7.1706	7.1752	7.1799	7.1845	7.1892	1,740
1,750	7.1892	7.1938	7.1985	7.2032	7.2078	7.2125	7.2171	7.2218	7.2265	7.2311	7.2358	1,750
1,760	7.2358	7.2404	7.2451	7.2498	7.2544	7.2591	7.2638	7.2684	7.2731	7.2778	7.2824	1,760
1,770	7.2824	7.2871	7.2918	7.2964	7.3011	7.3058	7.3104	7.3151	7.3198	7.3244	7.3291	1,770
1,780	7.3291	7.3338	7.3385	7.3431	7.3478	7.3525	7.3571	7.3618	7.3665	7.3712	7.3758	1,780
1,790	7.3758	7.3805	7.3852	7.3899	7.3946	7.3992	7.4039	7.4086	7.4133	7.4180	7.4226	1,790
1,800	7.4226	7.4273	7.4320	7.4367	7.4414	7.4460	7.4507	7.4554	7.4601	7.4648	7.4695	1,800
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 3. *Type BN thermoelements versus platinum,* **Pt–67**—*thermoelectric voltage as a function of temperature (°F), reference junctions at 32 °F—Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
	THERMOELECTRIC VOLTAGE IN ABSOLUTE MILLIVOLTS											
1,800	7.4226	7.4273	7.4320	7.4367	7.4414	7.4460	7.4507	7.4554	7.4601	7.4648	7.4695	1,800
1,810	7.4695	7.4742	7.4788	7.4835	7.4882	7.4929	7.4976	7.5023	7.5070	7.5117	7.5164	1,810
1,820	7.5164	7.5210	7.5257	7.5304	7.5351	7.5398	7.5445	7.5492	7.5539	7.5586	7.5633	1,820
1,830	7.5633	7.5680	7.5727	7.5774	7.5821	7.5868	7.5915	7.5962	7.6009	7.6056	7.6103	1,830
1,840	7.6103	7.6150	7.6197	7.6244	7.6291	7.6338	7.6385	7.6432	7.6479	7.6526	7.6573	1,840
1,850	7.6573	7.6620	7.6667	7.6714	7.6761	7.6808	7.6855	7.6902	7.6949	7.6997	7.7044	1,850
1,860	7.7044	7.7091	7.7138	7.7185	7.7232	7.7279	7.7326	7.7373	7.7421	7.7468	7.7515	1,860
1,870	7.7515	7.7562	7.7609	7.7656	7.7704	7.7751	7.7798	7.7845	7.7892	7.7939	7.7987	1,870
1,880	7.7987	7.8034	7.8081	7.8128	7.8175	7.8223	7.8270	7.8317	7.8364	7.8411	7.8459	1,880
1,890	7.8459	7.8506	7.8553	7.8600	7.8648	7.8695	7.8742	7.8789	7.8837	7.8884	7.8931	1,890
1,900	7.8931	7.8979	7.9026	7.9073	7.9120	7.9168	7.9215	7.9262	7.9310	7.9357	7.9404	1,900
1,910	7.9404	7.9452	7.9499	7.9546	7.9594	7.9641	7.9688	7.9736	7.9783	7.9830	7.9878	1,910
1,920	7.9878	7.9925	7.9973	8.0020	8.0067	8.0115	8.0162	8.0210	8.0257	8.0304	8.0352	1,920
1,930	8.0352	8.0399	8.0447	8.0494	8.0542	8.0589	8.0636	8.0684	8.0731	8.0779	8.0826	1,930
1,940	8.0826	8.0874	8.0921	8.0969	8.1016	8.1064	8.1111	8.1159	8.1206	8.1254	8.1301	1,940
1,950	8.1301	8.1349	8.1396	8.1444	8.1491	8.1539	8.1586	8.1634	8.1681	8.1729	8.1776	1,950
1,960	8.1776	8.1824	8.1871	8.1919	8.1966	8.2014	8.2062	8.2109	8.2157	8.2204	8.2252	1,960
1,970	8.2252	8.2300	8.2347	8.2395	8.2442	8.2490	8.2538	8.2585	8.2633	8.2680	8.2728	1,970
1,980	8.2728	8.2776	8.2823	8.2871	8.2919	8.2966	8.3014	8.3062	8.3109	8.3157	8.3205	1,980
1,990	8.3205	8.3252	8.3300	8.3348	8.3395	8.3443	8.3491	8.3538	8.3586	8.3634	8.3681	1,990
2,000	8.3681	8.3729	8.3777	8.3825	8.3872	8.3920	8.3968	8.4016	8.4063	8.4111	8.4159	2,000
2,010	8.4159	8.4207	8.4254	8.4302	8.4350	8.4398	8.4445	8.4493	8.4541	8.4589	8.4637	2,010
2,020	8.4637	8.4684	8.4732	8.4780	8.4828	8.4876	8.4923	8.4971	8.5019	8.5067	8.5115	2,020
2,030	8.5115	8.5163	8.5210	8.5258	8.5306	8.5354	8.5402	8.5450	8.5497	8.5545	8.5593	2,030
2,040	8.5593	8.5641	8.5689	8.5737	8.5785	8.5833	8.5880	8.5928	8.5976	8.6024	8.6072	2,040
2,050	8.6072	8.6120	8.6168	8.6216	8.6264	8.6312	8.6360	8.6407	8.6455	8.6503	8.6551	2,050
2,060	8.6551	8.6599	8.6647	8.6695	8.6743	8.6791	8.6839	8.6887	8.6935	8.6983	8.7031	2,060
2,070	8.7031	8.7079	8.7127	8.7175	8.7223	8.7271	8.7319	8.7367	8.7415	8.7463	8.7511	2,070
2,080	8.7511	8.7559	8.7607	8.7655	8.7703	8.7751	8.7799	8.7847	8.7895	8.7943	8.7991	2,080
2,090	8.7991	8.8039	8.8087	8.8135	8.8183	8.8232	8.8280	8.8328	8.8376	8.8424	8.8472	2,090
2,100	8.8472	8.8520	8.8568	8.8616	8.8664	8.8712	8.8760	8.8809	8.8857	8.8905	8.8953	2,100
2,110	8.8953	8.9001	8.9049	8.9097	8.9145	8.9194	8.9242	8.9290	8.9338	8.9386	8.9434	2,110
2,120	8.9434	8.9482	8.9531	8.9579	8.9627	8.9675	8.9723	8.9771	8.9820	8.9868	8.9916	2,120
2,130	8.9916	8.9964	9.0012	9.0060	9.0109	9.0157	9.0205	9.0253	9.0301	9.0350	9.0398	2,130
2,140	9.0398	9.0446	9.0494	9.0542	9.0591	9.0639	9.0687	9.0735	9.0784	9.0832	9.0880	2,140
2,150	9.0880	9.0928	9.0977	9.1025	9.1073	9.1121	9.1170	9.1218	9.1266	9.1314	9.1363	2,150
2,160	9.1363	9.1411	9.1459	9.1507	9.1556	9.1604	9.1652	9.1701	9.1749	9.1797	9.1845	2,160
2,170	9.1845	9.1894	9.1942	9.1990	9.2039	9.2087	9.2135	9.2184	9.2232	9.2280	9.2329	2,170
2,180	9.2329	9.2377	9.2425	9.2474	9.2522	9.2570	9.2619	9.2667	9.2715	9.2764	9.2812	2,180
2,190	9.2812	9.2860	9.2909	9.2957	9.3005	9.3054	9.3102	9.3150	9.3199	9.3247	9.3296	2,190
2,200	9.3296	9.3344	9.3392	9.3441	9.3489	9.3537	9.3586	9.3634	9.3683	9.3731	9.3779	2,200
2,210	9.3779	9.3828	9.3876	9.3925	9.3973	9.4021	9.4070	9.4118	9.4167	9.4215	9.4263	2,210
2,220	9.4263	9.4312	9.4360	9.4409	9.4457	9.4506	9.4554	9.4602	9.4651	9.4699	9.4748	2,220
2,230	9.4748	9.4796	9.4845	9.4893	9.4942	9.4990	9.5038	9.5087	9.5135	9.5184	9.5232	2,230
2,240	9.5232	9.5281	9.5329	9.5378	9.5426	9.5475	9.5523	9.5572	9.5620	9.5669	9.5717	2,240
2,250	9.5717	9.5765	9.5814	9.5862	9.5911	9.5959	9.6008	9.6056	9.6105	9.6153	9.6202	2,250
2,260	9.6202	9.6250	9.6299	9.6347	9.6396	9.6444	9.6493	9.6541	9.6590	9.6638	9.6687	2,260
2,270	9.6687	9.6735	9.6784	9.6833	9.6881	9.6930	9.6978	9.7027	9.7075	9.7124	9.7172	2,270
2,280	9.7172	9.7221	9.7269	9.7318	9.7366	9.7415	9.7463	9.7512	9.7561	9.7609	9.7658	2,280
2,290	9.7658	9.7706	9.7755	9.7803	9.7852	9.7900	9.7949	9.7997	9.8046	9.8095	9.8143	2,290
2,300	9.8143	9.8192	9.8240	9.8289	9.8337	9.8386	9.8435	9.8483	9.8532	9.8580	9.8629	2,300
2,310	9.8629	9.8677	9.8726	9.8775	9.8823	9.8872	9.8920	9.8969	9.9017	9.9066	9.9115	2,310
2,320	9.9115	9.9163	9.9212	9.9260	9.9309	9.9357	9.9406	9.9455	9.9503	9.9552	9.9600	2,320
2,330	9.9600	9.9649	9.9698	9.9746	9.9795	9.9843	9.9892	9.9941	9.9989	10.0038	10.0086	2,330
2,340	10.0086	10.0135	10.0184	10.0232	10.0281	10.0329	10.0378	10.0427	10.0475	10.0524	10.0572	2,340
2,350	10.0572	10.0621	10.0670	10.0718	10.0767	10.0815	10.0864	10.0913	10.0961	10.1010	10.1058	2,350
2,360	10.1058	10.1107	10.1156	10.1204	10.1253	10.1302	10.1350	10.1399	10.1447	10.1496	10.1545	2,360
2,370	10.1545	10.1593	10.1642	10.1690	10.1739	10.1788	10.1836	10.1885	10.1934	10.1982	10.2031	2,370
2,380	10.2031	10.2079	10.2128	10.2177	10.2225	10.2274	10.2322	10.2371	10.2420	10.2468	10.2517	2,380
2,390	10.2517	10.2566	10.2614	10.2663	10.2711	10.2760	10.2809	10.2857	10.2906	10.2955	10.3003	2,390
2,400	10.3003	10.3052	10.3100	10.3149	10.3198	10.3246	10.3295	10.3343	10.3392	10.3441	10.3489	2,400
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 3. *Type BN thermoelements versus platinum,* **Pt–67**—*thermoelectric voltage as a function of temperature (°F), reference junctions at 32 °F—Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
					THERMOELECTRIC VOLTAGE IN ABSOLUTE MILLIVOLTS							
2,400	10.3003	10.3052	10.3100	10.3149	10.3198	10.3246	10.3295	10.3343	10.3392	10.3441	10.3489	2,400
2,410	10.3489	10.3538	10.3587	10.3635	10.3684	10.3732	10.3781	10.3830	10.3878	10.3927	10.3975	2,410
2,420	10.3975	10.4024	10.4073	10.4121	10.4170	10.4219	10.4267	10.4316	10.4364	10.4413	10.4462	2,420
2,430	10.4462	10.4510	10.4559	10.4607	10.4656	10.4705	10.4753	10.4802	10.4850	10.4899	10.4948	2,430
2,440	10.4948	10.4996	10.5045	10.5093	10.5142	10.5191	10.5239	10.5288	10.5336	10.5385	10.5434	2,440
2,450	10.5434	10.5482	10.5531	10.5579	10.5628	10.5676	10.5725	10.5774	10.5822	10.5871	10.5919	2,450
2,460	10.5919	10.5968	10.6017	10.6065	10.6114	10.6162	10.6211	10.6259	10.6308	10.6357	10.6405	2,460
2,470	10.6405	10.6454	10.6502	10.6551	10.6599	10.6648	10.6697	10.6745	10.6794	10.6842	10.6891	2,470
2,480	10.6891	10.6939	10.6988	10.7036	10.7085	10.7134	10.7182	10.7231	10.7279	10.7328	10.7376	2,480
2,490	10.7376	10.7425	10.7473	10.7522	10.7570	10.7619	10.7667	10.7716	10.7765	10.7813	10.7862	2,490
2,500	10.7862	10.7910	10.7959	10.8007	10.8056	10.8104	10.8153	10.8201	10.8250	10.8298	10.8347	2,500
2,510	10.8347	10.8395	10.8444	10.8492	10.8541	10.8589	10.8638	10.8686	10.8735	10.8783	10.8832	2,510
2,520	10.8832	10.8880	10.8929	10.8977	10.9026	10.9074	10.9123	10.9171	10.9220	10.9268	10.9316	2,520
2,530	10.9316	10.9365	10.9413	10.9462	10.9510	10.9559	10.9607	10.9656	10.9704	10.9753	10.9801	2,530
2,540	10.9801	10.9849	10.9898	10.9946	10.9995	11.0043	11.0092	11.0140	11.0188	11.0237	11.0285	2,540
2,550	11.0285	11.0334	11.0382	11.0430	11.0479	11.0527	11.0576	11.0624	11.0672	11.0721	11.0769	2,550
2,560	11.0769	11.0818	11.0866	11.0914	11.0963	11.1011	11.1060	11.1108	11.1156	11.1205	11.1253	2,560
2,570	11.1253	11.1301	11.1350	11.1398	11.1446	11.1495	11.1543	11.1591	11.1640	11.1688	11.1736	2,570
2,580	11.1736	11.1785	11.1833	11.1881	11.1930	11.1978	11.2026	11.2075	11.2123	11.2171	11.2220	2,580
2,590	11.2220	11.2268	11.2316	11.2364	11.2413	11.2461	11.2509	11.2557	11.2606	11.2654	11.2702	2,590
2,600	11.2702	11.2751	11.2799	11.2847	11.2895	11.2944	11.2992	11.3040	11.3088	11.3136	11.3185	2,600
2,610	11.3185	11.3233	11.3281	11.3329	11.3378	11.3426	11.3474	11.3522	11.3570	11.3619	11.3667	2,610
2,620	11.3667	11.3715	11.3763	11.3811	11.3859	11.3908	11.3956	11.4004	11.4052	11.4100	11.4148	2,620
2,630	11.4148	11.4197	11.4245	11.4293	11.4341	11.4389	11.4437	11.4485	11.4533	11.4582	11.4630	2,630
2,640	11.4630	11.4678	11.4726	11.4774	11.4822	11.4870	11.4918	11.4966	11.5014	11.5062	11.5110	2,640
2,650	11.5110	11.5159	11.5207	11.5255	11.5303	11.5351	11.5399	11.5447	11.5495	11.5543	11.5591	2,650
2,660	11.5591	11.5639	11.5687	11.5735	11.5783	11.5831	11.5879	11.5927	11.5975	11.6023	11.6071	2,660
2,670	11.6071	11.6119	11.6167	11.6215	11.6263	11.6310	11.6358	11.6406	11.6454	11.6502	11.6550	2,670
2,680	11.6550	11.6598	11.6646	11.6694	11.6742	11.6790	11.6838	11.6885	11.6933	11.6981	11.7029	2,680
2,690	11.7029	11.7077	11.7125	11.7173	11.7220	11.7268	11.7316	11.7364	11.7412	11.7460	11.7507	2,690
2,700	11.7507	11.7555	11.7603	11.7651	11.7699	11.7746	11.7794	11.7842	11.7890	11.7937	11.7985	2,700
2,710	11.7985	11.8033	11.8081	11.8128	11.8176	11.8224	11.8272	11.8319	11.8367	11.8415	11.8463	2,710
2,720	11.8463	11.8510	11.8558	11.8606	11.8653	11.8701	11.8749	11.8796	11.8844	11.8892	11.8939	2,720
2,730	11.8939	11.8987	11.9034	11.9082	11.9130	11.9177	11.9225	11.9273	11.9320	11.9368	11.9415	2,730
2,740	11.9415	11.9463	11.9510	11.9558	11.9606	11.9653	11.9701	11.9748	11.9796	11.9843	11.9891	2,740
2,750	11.9891	11.9938	11.9986	12.0033	12.0081	12.0128	12.0176	12.0223	12.0271	12.0318	12.0366	2,750
2,760	12.0366	12.0413	12.0461	12.0508	12.0555	12.0603	12.0650	12.0698	12.0745	12.0792	12.0840	2,760
2,770	12.0840	12.0887	12.0935	12.0982	12.1029	12.1077	12.1124	12.1171	12.1219	12.1266	12.1313	2,770
2,780	12.1313	12.1361	12.1408	12.1455	12.1503	12.1550	12.1597	12.1644	12.1692	12.1739	12.1786	2,780
2,790	12.1786	12.1833	12.1881	12.1928	12.1975	12.2022	12.2070	12.2117	12.2164	12.2211	12.2258	2,790
2,800	12.2258	12.2305	12.2353	12.2400	12.2447	12.2494	12.2541	12.2588	12.2635	12.2683	12.2730	2,800
2,810	12.2730	12.2777	12.2824	12.2871	12.2918	12.2965	12.3012	12.3059	12.3106	12.3153	12.3200	2,810
2,820	12.3200	12.3247	12.3294	12.3341	12.3388	12.3435	12.3482	12.3529	12.3576	12.3623	12.3670	2,820
2,830	12.3670	12.3717	12.3764	12.3811	12.3858	12.3905	12.3952	12.3999	12.4046	12.4093	12.4139	2,830
2,840	12.4139	12.4186	12.4233	12.4280	12.4327	12.4374	12.4420	12.4467	12.4514	12.4561	12.4608	2,840
2,850	12.4608	12.4655	12.4701	12.4748	12.4795	12.4842	12.4888	12.4935	12.4982	12.5029	12.5075	2,850
2,860	12.5075	12.5122	12.5169	12.5215	12.5262	12.5309	12.5355	12.5402	12.5449	12.5495	12.5542	2,860
2,870	12.5542	12.5589	12.5635	12.5682	12.5728	12.5775	12.5822	12.5868	12.5915	12.5961	12.6008	2,870
2,880	12.6008	12.6054	12.6101	12.6147	12.6194	12.6240	12.6287	12.6333	12.6380	12.6426	12.6473	2,880
2,890	12.6473	12.6519	12.6566	12.6612	12.6659	12.6705	12.6751	12.6798	12.6844	12.6891	12.6937	2,890
2,900	12.6937	12.6983	12.7030	12.7076	12.7122	12.7169	12.7215	12.7261	12.7308	12.7354	12.7400	2,900
2,910	12.7400	12.7447	12.7493	12.7539	12.7585	12.7632	12.7678	12.7724	12.7770	12.7817	12.7863	2,910
2,920	12.7863	12.7909	12.7955	12.8001	12.8047	12.8094	12.8140	12.8186	12.8232	12.8278	12.8324	2,920
2,930	12.8324	12.8370	12.8416	12.8462	12.8509	12.8555	12.8601	12.8647	12.8693	12.8739	12.8785	2,930
2,940	12.8785	12.8831	12.8877	12.8923	12.8969	12.9015	12.9061	12.9107	12.9153	12.9199	12.9244	2,940
2,950	12.9244	12.9290	12.9336	12.9382	12.9428	12.9474	12.9520	12.9566	12.9612	12.9657	12.9703	2,950
2,960	12.9703	12.9749	12.9795	12.9841	12.9886	12.9932	12.9978	13.0024	13.0069	13.0115	13.0161	2,960
2,970	13.0161	13.0207	13.0252	13.0298	13.0344	13.0389	13.0435	13.0481	13.0526	13.0572	13.0618	2,970
2,980	13.0618	13.0663	13.0709	13.0755	13.0800	13.0846	13.0891	13.0937	13.0983	13.1028	13.1074	2,980
2,990	13.1074	13.1119	13.1165	13.1210	13.1256	13.1301	13.1347	13.1392	13.1438	13.1483	13.1529	2,990
3,000	13.1529	13.1574	13.1619	13.1665	13.1710	13.1756	13.1801	13.1846	13.1892	13.1937	13.1982	3,000
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 3. *Type BN thermoelements versus platinum,* **Pt–67**—*thermoelectric voltage as a function of temperature (°F), reference junctions at 32 °F—Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
					THERMOELECTRIC VOLTAGE IN ABSOLUTE MILLIVOLTS							
3,000	13.1529	13.1574	13.1619	13.1665	13.1710	13.1756	13.1801	13.1846	13.1892	13.1937	13.1982	3,000
3,010	13.1982	13.2028	13.2073	13.2118	13.2164	13.2209	13.2254	13.2300	13.2345	13.2390	13.2435	3,010
3,020	13.2435	13.2481	13.2526	13.2571	13.2616	13.2662	13.2707	13.2752	13.2797	13.2842	13.2887	3,020
3,030	13.2887	13.2933	13.2978	13.3023	13.3068	13.3113	13.3158	13.3203	13.3248	13.3293	13.3338	3,030
3,040	13.3338	13.3383	13.3428	13.3473	13.3519	13.3564	13.3609	13.3653	13.3698	13.3743	13.3788	3,040
3,050	13.3788	13.3833	13.3878	13.3923	13.3968	13.4013	13.4058	13.4103	13.4148	13.4193	13.4237	3,050
3,060	13.4237	13.4282	13.4327	13.4372	13.4417	13.4462	13.4506	13.4551	13.4596	13.4641	13.4685	3,060
3,070	13.4685	13.4730	13.4775	13.4820	13.4864	13.4909	13.4954	13.4998	13.5043	13.5088	13.5132	3,070
3,080	13.5132	13.5177	13.5222	13.5266	13.5311	13.5356	13.5400	13.5445	13.5489	13.5534	13.5579	3,080
3,090	13.5579	13.5623	13.5668	13.5712	13.5757	13.5801	13.5846	13.5890	13.5935	13.5979	13.6024	3,090
3,100	13.6024	13.6068	13.6113	13.6157	13.6201	13.6246	13.6290	13.6335	13.6379	13.6423	13.6468	3,100
3,110	13.6468	13.6512	13.6557	13.6601	13.6645	13.6690	13.6734	13.6778	13.6822	13.6867	13.6911	3,110
3,120	13.6911	13.6955	13.6999	13.7044	13.7088	13.7132	13.7176	13.7221	13.7265	13.7309	13.7353	3,120
3,130	13.7353	13.7397	13.7442	13.7486	13.7530	13.7574	13.7618	13.7662	13.7706	13.7750	13.7794	3,130
3,140	13.7794	13.7839	13.7883	13.7927	13.7971	13.8015	13.8059	13.8103	13.8147	13.8191	13.8235	3,140
3,150	13.8235	13.8279	13.8323	13.8367	13.8411	13.8455	13.8499	13.8543	13.8586	13.8630	13.8674	3,150
3,160	13.8674	13.8718	13.8762	13.8806	13.8850	13.8894	13.8937	13.8981	13.9025	13.9069	13.9113	3,160
3,170	13.9113	13.9157	13.9200	13.9244	13.9288	13.9332	13.9376	13.9419	13.9463	13.9507	13.9550	3,170
3,180	13.9550	13.9594	13.9638	13.9682	13.9725	13.9769	13.9813	13.9856	13.9900	13.9944	13.9987	3,180
3,190	13.9987	14.0031	14.0075	14.0118	14.0162	14.0205	14.0249	14.0293	14.0336	14.0380	14.0423	3,190
3,200	14.0423	14.0467	14.0510	14.0554	14.0597	14.0641	14.0684	14.0728	14.0771	14.0815	14.0858	3,200
3,210	14.0858	14.0902	14.0945	14.0989	14.1032	14.1076	14.1119	14.1163	14.1206	14.1249	14.1293	3,210
3,220	14.1293	14.1336	14.1380	14.1423	14.1466	14.1510	14.1553	14.1596	14.1640	14.1683	14.1726	3,220
3,230	14.1726	14.1770	14.1813	14.1856	14.1900	14.1943	14.1986	14.2030	14.2073	14.2116	14.2159	3,230
3,240	14.2159	14.2203	14.2246	14.2289	14.2332	14.2376	14.2419	14.2462	14.2505	14.2548	14.2592	3,240
3,250	14.2592	14.2635	14.2678	14.2721	14.2764	14.2807	14.2851	14.2894	14.2937	14.2980	14.3023	3,250
3,260	14.3023	14.3066	14.3109	14.3152	14.3196	14.3239	14.3282	14.3325	14.3368	14.3411	14.3454	3,260
3,270	14.3454	14.3497	14.3540	14.3583	14.3626	14.3669	14.3712	14.3755	14.3798	14.3841	14.3884	3,270
3,280	14.3884	14.3927	14.3970	14.4013	14.4056	14.4099	14.4142	14.4185	14.4228	14.4271	14.4314	3,280
3,290	14.4314	14.4357	14.4400	14.4443	14.4486	14.4529	14.4572	14.4615	14.4658	14.4701	14.4744	3,290
3,300	14.4744	14.4787	14.4829	14.4872	14.4915	14.4958	14.5001	14.5044	14.5087			3,300
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 4. ***Type JP thermoelements versus platinum, Pt–67***—*thermoelectric voltage as a function of temperature (°F), reference junctions at 32 °F*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
					THERMOELECTRIC VOLTAGE IN ABSOLUTE MILLIVOLTS							
-350	-2.5591											-350
-340	-2.5602	-2.5603	-2.5605	-2.5605	-2.5605	-2.5604	-2.5603	-2.5601	-2.5598	-2.5595	-2.5591	-340
-330	-2.5550	-2.5558	-2.5565	-2.5572	-2.5578	-2.5583	-2.5588	-2.5592	-2.5596	-2.5599	-2.5602	-330
-320	-2.5438	-2.5452	-2.5465	-2.5478	-2.5490	-2.5501	-2.5512	-2.5522	-2.5532	-2.5541	-2.5550	-320
-310	-2.5270	-2.5289	-2.5308	-2.5326	-2.5344	-2.5361	-2.5378	-2.5394	-2.5409	-2.5424	-2.5438	-310
-300	-2.5047	-2.5072	-2.5096	-2.5119	-2.5143	-2.5165	-2.5187	-2.5209	-2.5230	-2.5250	-2.5270	-300
-290	-2.4773	-2.4802	-2.4832	-2.4860	-2.4888	-2.4916	-2.4943	-2.4970	-2.4996	-2.5022	-2.5047	-290
-280	-2.4449	-2.4483	-2.4518	-2.4551	-2.4584	-2.4617	-2.4649	-2.4681	-2.4712	-2.4742	-2.4773	-280
-270	-2.4078	-2.4118	-2.4156	-2.4194	-2.4232	-2.4269	-2.4306	-2.4343	-2.4379	-2.4414	-2.4449	-270
-260	-2.3663	-2.3707	-2.3750	-2.3792	-2.3835	-2.3876	-2.3918	-2.3958	-2.3999	-2.4039	-2.4078	-260
-250	-2.3206	-2.3253	-2.3301	-2.3347	-2.3394	-2.3440	-2.3485	-2.3530	-2.3575	-2.3619	-2.3663	-250
-240	-2.2708	-2.2760	-2.2811	-2.2861	-2.2912	-2.2962	-2.3011	-2.3061	-2.3109	-2.3158	-2.3206	-240
-230	-2.2172	-2.2227	-2.2282	-2.2337	-2.2391	-2.2445	-2.2498	-2.2551	-2.2604	-2.2656	-2.2708	-230
-220	-2.1600	-2.1659	-2.1717	-2.1775	-2.1833	-2.1891	-2.1948	-2.2004	-2.2061	-2.2117	-2.2172	-220
-210	-2.0994	-2.1056	-2.1118	-2.1179	-2.1240	-2.1301	-2.1362	-2.1422	-2.1482	-2.1541	-2.1600	-210
-200	-2.0356	-2.0421	-2.0486	-2.0550	-2.0615	-2.0679	-2.0742	-2.0806	-2.0869	-2.0932	-2.0994	-200
-190	-1.9687	-1.9755	-1.9823	-1.9890	-1.9958	-2.0025	-2.0092	-2.0158	-2.0224	-2.0290	-2.0356	-190
-180	-1.8989	-1.9060	-1.9131	-1.9201	-1.9271	-1.9341	-1.9411	-1.9480	-1.9549	-1.9618	-1.9687	-180
-170	-1.8264	-1.8338	-1.8411	-1.8484	-1.8557	-1.8630	-1.8702	-1.8774	-1.8846	-1.8917	-1.8989	-170
-160	-1.7514	-1.7590	-1.7666	-1.7741	-1.7817	-1.7892	-1.7967	-1.8041	-1.8116	-1.8190	-1.8264	-160
-150	-1.6739	-1.6818	-1.6896	-1.6974	-1.7052	-1.7129	-1.7207	-1.7284	-1.7361	-1.7437	-1.7514	-150
-140	-1.5943	-1.6023	-1.6104	-1.6184	-1.6264	-1.6344	-1.6423	-1.6503	-1.6582	-1.6661	-1.6739	-140
-130	-1.5125	-1.5208	-1.5290	-1.5373	-1.5455	-1.5536	-1.5618	-1.5700	-1.5781	-1.5862	-1.5943	-130
-120	-1.4288	-1.4373	-1.4457	-1.4541	-1.4625	-1.4709	-1.4793	-1.4876	-1.4959	-1.5042	-1.5125	-120
-110	-1.3433	-1.3519	-1.3605	-1.3691	-1.3777	-1.3863	-1.3948	-1.4033	-1.4118	-1.4203	-1.4288	-110
-100	-1.2561	-1.2649	-1.2736	-1.2824	-1.2911	-1.2999	-1.3086	-1.3173	-1.3260	-1.3346	-1.3433	-100
-90	-1.1673	-1.1762	-1.1852	-1.1941	-1.2030	-1.2119	-1.2207	-1.2296	-1.2384	-1.2472	-1.2561	-90
-80	-1.0771	-1.0861	-1.0952	-1.1043	-1.1133	-1.1223	-1.1314	-1.1404	-1.1493	-1.1583	-1.1673	-80
-70	-0.9855	-0.9947	-1.0039	-1.0131	-1.0223	-1.0314	-1.0406	-1.0497	-1.0589	-1.0680	-1.0771	-70
-60	-0.8928	-0.9021	-0.9114	-0.9207	-0.9300	-0.9393	-0.9486	-0.9578	-0.9671	-0.9763	-0.9855	-60
-50	-0.7989	-0.8083	-0.8178	-0.8272	-0.8366	-0.8460	-0.8553	-0.8647	-0.8741	-0.8834	-0.8928	-50
-40	-0.7040	-0.7136	-0.7231	-0.7326	-0.7421	-0.7516	-0.7611	-0.7705	-0.7800	-0.7895	-0.7989	-40
-30	-0.6083	-0.6179	-0.6275	-0.6371	-0.6467	-0.6563	-0.6658	-0.6754	-0.6850	-0.6945	-0.7040	-30
-20	-0.5117	-0.5214	-0.5311	-0.5408	-0.5504	-0.5601	-0.5697	-0.5794	-0.5890	-0.5987	-0.6083	-20
-10	-0.4144	-0.4242	-0.4339	-0.4437	-0.4534	-0.4631	-0.4729	-0.4826	-0.4923	-0.5020	-0.5117	-10
- 0	-0.3165	-0.3263	-0.3361	-0.3459	-0.3557	-0.3655	-0.3753	-0.3851	-0.3949	-0.4047	-0.4144	- 0
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 4. *Type JP thermoelements versus platinum,* **Pt–67**—*thermoelectric voltage as a function of temperature (°F), reference junctions at 32 °F—Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						THERMOELECTRIC VOLTAGE IN ABSOLUTE MILLIVOLTS						
0	-0.3165	-0.3067	-0.2969	-0.2870	-0.2772	-0.2674	-0.2575	-0.2477	-0.2378	-0.2279	-0.2181	0
10	-0.2181	-0.2082	-0.1983	-0.1884	-0.1786	-0.1687	-0.1588	-0.1489	-0.1390	-0.1291	-0.1192	10
20	-0.1192	-0.1093	-0.0993	-0.0894	-0.0795	-0.0696	-0.0596	-0.0497	-0.0398	-0.0298	-0.0199	20
30	-0.0199	-0.0099	0.0000	0.0100	0.0199	0.0299	0.0398	0.0498	0.0598	0.0697	0.0797	30
40	0.0797	0.0897	0.0996	0.1096	0.1196	0.1296	0.1396	0.1495	0.1595	0.1695	0.1795	40
50	0.1795	0.1895	0.1995	0.2095	0.2195	0.2295	0.2395	0.2495	0.2595	0.2695	0.2795	50
60	0.2795	0.2895	0.2995	0.3095	0.3195	0.3295	0.3395	0.3495	0.3595	0.3695	0.3795	60
70	0.3795	0.3896	0.3996	0.4096	0.4196	0.4296	0.4396	0.4496	0.4596	0.4696	0.4796	70
80	0.4796	0.4897	0.4997	0.5097	0.5197	0.5297	0.5397	0.5497	0.5597	0.5697	0.5797	80
90	0.5797	0.5897	0.5997	0.6097	0.6197	0.6297	0.6397	0.6497	0.6597	0.6697	0.6797	90
100	0.6797	0.6897	0.6997	0.7097	0.7196	0.7296	0.7396	0.7496	0.7596	0.7696	0.7795	100
110	0.7795	0.7895	0.7995	0.8094	0.8194	0.8294	0.8393	0.8493	0.8593	0.8692	0.8792	110
120	0.8792	0.8891	0.8991	0.9090	0.9190	0.9289	0.9388	0.9488	0.9587	0.9686	0.9786	120
130	0.9786	0.9885	0.9984	1.0083	1.0182	1.0282	1.0381	1.0480	1.0579	1.0678	1.0777	130
140	1.0777	1.0876	1.0974	1.1073	1.1172	1.1271	1.1370	1.1468	1.1567	1.1666	1.1764	140
150	1.1764	1.1863	1.1961	1.2060	1.2158	1.2257	1.2355	1.2453	1.2551	1.2650	1.2748	150
160	1.2748	1.2846	1.2944	1.3042	1.3140	1.3238	1.3336	1.3434	1.3532	1.3629	1.3727	160
170	1.3727	1.3825	1.3923	1.4020	1.4118	1.4215	1.4313	1.4410	1.4507	1.4605	1.4702	170
180	1.4702	1.4799	1.4896	1.4993	1.5090	1.5187	1.5284	1.5381	1.5478	1.5575	1.5672	180
190	1.5672	1.5768	1.5865	1.5961	1.6058	1.6154	1.6251	1.6347	1.6443	1.6540	1.6636	190
200	1.6636	1.6732	1.6828	1.6924	1.7020	1.7116	1.7212	1.7307	1.7403	1.7499	1.7594	200
210	1.7594	1.7690	1.7785	1.7881	1.7976	1.8071	1.8166	1.8262	1.8357	1.8452	1.8547	210
220	1.8547	1.8642	1.8736	1.8831	1.8926	1.9020	1.9115	1.9209	1.9304	1.9398	1.9493	220
230	1.9493	1.9587	1.9681	1.9775	1.9869	1.9963	2.0057	2.0151	2.0245	2.0338	2.0432	230
240	2.0432	2.0525	2.0619	2.0712	2.0806	2.0899	2.0992	2.1085	2.1178	2.1271	2.1364	240
250	2.1364	2.1457	2.1550	2.1643	2.1735	2.1828	2.1920	2.2013	2.2105	2.2197	2.2290	250
260	2.2290	2.2382	2.2474	2.2566	2.2658	2.2749	2.2841	2.2933	2.3024	2.3116	2.3207	260
270	2.3207	2.3299	2.3390	2.3481	2.3572	2.3663	2.3754	2.3845	2.3936	2.4027	2.4117	270
280	2.4117	2.4208	2.4299	2.4389	2.4479	2.4570	2.4660	2.4750	2.4840	2.4930	2.5020	280
290	2.5020	2.5110	2.5199	2.5289	2.5378	2.5468	2.5557	2.5647	2.5736	2.5825	2.5914	290
300	2.5914	2.6003	2.6092	2.6181	2.6269	2.6358	2.6447	2.6535	2.6624	2.6712	2.6800	300
310	2.6800	2.6888	2.6976	2.7064	2.7152	2.7240	2.7328	2.7415	2.7503	2.7590	2.7678	310
320	2.7678	2.7765	2.7852	2.7939	2.8026	2.8113	2.8200	2.8287	2.8374	2.8460	2.8547	320
330	2.8547	2.8633	2.8720	2.8806	2.8892	2.8978	2.9064	2.9150	2.9236	2.9322	2.9408	330
340	2.9408	2.9493	2.9579	2.9664	2.9749	2.9835	2.9920	3.0005	3.0090	3.0175	3.0259	340
350	3.0259	3.0344	3.0429	3.0513	3.0598	3.0682	3.0766	3.0850	3.0934	3.1018	3.1102	350
360	3.1102	3.1186	3.1270	3.1353	3.1437	3.1520	3.1604	3.1687	3.1770	3.1853	3.1936	360
370	3.1936	3.2019	3.2102	3.2185	3.2267	3.2350	3.2432	3.2515	3.2597	3.2679	3.2761	370
380	3.2761	3.2843	3.2925	3.3007	3.3089	3.3170	3.3252	3.3333	3.3415	3.3496	3.3577	380
390	3.3577	3.3658	3.3739	3.3820	3.3901	3.3982	3.4062	3.4143	3.4223	3.4304	3.4384	390
400	3.4384	3.4464	3.4544	3.4624	3.4704	3.4784	3.4864	3.4943	3.5023	3.5102	3.5182	400
410	3.5182	3.5261	3.5340	3.5419	3.5498	3.5577	3.5656	3.5735	3.5813	3.5892	3.5970	410
420	3.5970	3.6048	3.6127	3.6205	3.6283	3.6361	3.6439	3.6517	3.6594	3.6672	3.6749	420
430	3.6749	3.6827	3.6904	3.6981	3.7058	3.7136	3.7212	3.7289	3.7366	3.7443	3.7519	430
440	3.7519	3.7596	3.7672	3.7749	3.7825	3.7901	3.7977	3.8053	3.8129	3.8205	3.8280	440
450	3.8280	3.8356	3.8431	3.8507	3.8582	3.8657	3.8732	3.8807	3.8882	3.8957	3.9032	450
460	3.9032	3.9107	3.9181	3.9256	3.9330	3.9404	3.9478	3.9553	3.9627	3.9701	3.9774	460
470	3.9774	3.9848	3.9922	3.9995	4.0069	4.0142	4.0215	4.0289	4.0362	4.0435	4.0508	470
480	4.0508	4.0581	4.0653	4.0726	4.0799	4.0871	4.0943	4.1016	4.1088	4.1160	4.1232	480
490	4.1232	4.1304	4.1376	4.1448	4.1519	4.1591	4.1662	4.1734	4.1805	4.1876	4.1947	490
500	4.1947	4.2019	4.2089	4.2160	4.2231	4.2302	4.2372	4.2443	4.2513	4.2584	4.2654	500
510	4.2654	4.2724	4.2794	4.2864	4.2934	4.3004	4.3074	4.3143	4.3213	4.3282	4.3352	510
520	4.3352	4.3421	4.3490	4.3559	4.3628	4.3697	4.3766	4.3835	4.3903	4.3972	4.4041	520
530	4.4041	4.4109	4.4177	4.4246	4.4314	4.4382	4.4450	4.4518	4.4586	4.4653	4.4721	530
540	4.4721	4.4788	4.4856	4.4923	4.4991	4.5058	4.5125	4.5192	4.5259	4.5326	4.5393	540
550	4.5393	4.5460	4.5526	4.5593	4.5659	4.5726	4.5792	4.5858	4.5924	4.5990	4.6056	550
560	4.6056	4.6122	4.6188	4.6254	4.6319	4.6385	4.6450	4.6516	4.6581	4.6646	4.6712	560
570	4.6712	4.6777	4.6842	4.6907	4.6971	4.7036	4.7101	4.7166	4.7230	4.7294	4.7359	570
580	4.7359	4.7423	4.7487	4.7551	4.7616	4.7679	4.7743	4.7807	4.7871	4.7935	4.7998	580
590	4.7998	4.8062	4.8125	4.8188	4.8252	4.8315	4.8378	4.8441	4.8504	4.8567	4.8630	590
600	4.8630	4.8693	4.8755	4.8818	4.8880	4.8943	4.9005	4.9067	4.9130	4.9192	4.9254	600
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 4. ***Type JP thermoelements versus platinum, Pt–67***—*thermoelectric voltage as a function of temperature (°F), reference junctions at 32 °F—Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						THERMOELECTRIC VOLTAGE IN ABSOLUTE MILLIVOLTS						
600	4.8630	4.8693	4.8755	4.8818	4.8880	4.8943	4.9005	4.9067	4.9130	4.9192	4.9254	600
610	4.9254	4.9316	4.9378	4.9440	4.9501	4.9563	4.9625	4.9686	4.9748	4.9809	4.9871	610
620	4.9871	4.9932	4.9993	5.0054	5.0115	5.0176	5.0237	5.0298	5.0359	5.0420	5.0480	620
630	5.0480	5.0541	5.0601	5.0662	5.0722	5.0782	5.0843	5.0903	5.0963	5.1023	5.1083	630
640	5.1083	5.1143	5.1202	5.1262	5.1322	5.1382	5.1441	5.1501	5.1560	5.1619	5.1679	640
650	5.1679	5.1738	5.1797	5.1856	5.1915	5.1974	5.2033	5.2092	5.2151	5.2209	5.2268	650
660	5.2268	5.2327	5.2385	5.2444	5.2502	5.2560	5.2619	5.2677	5.2735	5.2793	5.2851	660
670	5.2851	5.2909	5.2967	5.3025	5.3083	5.3140	5.3198	5.3256	5.3313	5.3371	5.3428	670
680	5.3428	5.3486	5.3543	5.3600	5.3658	5.3715	5.3772	5.3829	5.3886	5.3943	5.4000	680
690	5.4000	5.4056	5.4113	5.4170	5.4227	5.4283	5.4340	5.4396	5.4453	5.4509	5.4566	690
700	5.4566	5.4622	5.4678	5.4734	5.4790	5.4846	5.4903	5.4959	5.5014	5.5070	5.5126	700
710	5.5126	5.5182	5.5238	5.5293	5.5349	5.5405	5.5460	5.5516	5.5571	5.5627	5.5682	710
720	5.5682	5.5737	5.5792	5.5848	5.5903	5.5958	5.6013	5.6068	5.6123	5.6178	5.6233	720
730	5.6233	5.6288	5.6343	5.6397	5.6452	5.6507	5.6561	5.6616	5.6671	5.6725	5.6780	730
740	5.6780	5.6834	5.6889	5.6943	5.6997	5.7051	5.7106	5.7160	5.7214	5.7268	5.7322	740
750	5.7322	5.7376	5.7430	5.7484	5.7538	5.7592	5.7646	5.7700	5.7754	5.7808	5.7861	750
760	5.7861	5.7915	5.7969	5.8022	5.8076	5.8129	5.8183	5.8236	5.8290	5.8343	5.8397	760
770	5.8397	5.8450	5.8504	5.8557	5.8610	5.8663	5.8717	5.8770	5.8823	5.8876	5.8929	770
780	5.8929	5.8982	5.9035	5.9088	5.9141	5.9194	5.9247	5.9300	5.9353	5.9406	5.9459	780
790	5.9459	5.9512	5.9565	5.9617	5.9670	5.9723	5.9776	5.9828	5.9881	5.9934	5.9986	790
800	5.9986	6.0039	6.0091	6.0144	6.0197	6.0249	6.0302	6.0354	6.0407	6.0459	6.0511	800
810	6.0511	6.0564	6.0616	6.0669	6.0721	6.0773	6.0826	6.0878	6.0930	6.0983	6.1035	810
820	6.1035	6.1087	6.1139	6.1192	6.1244	6.1296	6.1348	6.1401	6.1453	6.1505	6.1557	820
830	6.1557	6.1609	6.1661	6.1714	6.1766	6.1818	6.1870	6.1922	6.1974	6.2026	6.2078	830
840	6.2078	6.2130	6.2182	6.2235	6.2287	6.2339	6.2391	6.2443	6.2495	6.2547	6.2599	840
850	6.2599	6.2651	6.2703	6.2755	6.2807	6.2859	6.2911	6.2963	6.3015	6.3067	6.3119	850
860	6.3119	6.3171	6.3223	6.3275	6.3327	6.3380	6.3432	6.3484	6.3536	6.3588	6.3640	860
870	6.3640	6.3692	6.3744	6.3796	6.3848	6.3900	6.3952	6.4004	6.4057	6.4109	6.4161	870
880	6.4161	6.4213	6.4265	6.4317	6.4369	6.4422	6.4474	6.4526	6.4578	6.4631	6.4683	880
890	6.4683	6.4735	6.4787	6.4840	6.4892	6.4944	6.4997	6.5049	6.5101	6.5154	6.5206	890
900	6.5206	6.5258	6.5311	6.5363	6.5416	6.5468	6.5521	6.5573	6.5626	6.5678	6.5731	900
910	6.5731	6.5784	6.5836	6.5889	6.5942	6.5994	6.6047	6.6100	6.6153	6.6205	6.6258	910
920	6.6258	6.6311	6.6364	6.6417	6.6470	6.6523	6.6576	6.6629	6.6682	6.6735	6.6788	920
930	6.6788	6.6841	6.6894	6.6947	6.7000	6.7054	6.7107	6.7160	6.7213	6.7267	6.7320	930
940	6.7320	6.7374	6.7427	6.7481	6.7534	6.7588	6.7641	6.7695	6.7749	6.7802	6.7856	940
950	6.7856	6.7910	6.7964	6.8017	6.8071	6.8125	6.8179	6.8233	6.8287	6.8341	6.8396	950
960	6.8396	6.8450	6.8504	6.8558	6.8612	6.8667	6.8721	6.8776	6.8830	6.8885	6.8939	960
970	6.8939	6.8994	6.9048	6.9103	6.9158	6.9213	6.9267	6.9322	6.9377	6.9432	6.9487	970
980	6.9487	6.9542	6.9597	6.9653	6.9708	6.9763	6.9818	6.9874	6.9929	6.9985	7.0040	980
990	7.0040	7.0096	7.0152	7.0207	7.0263	7.0319	7.0375	7.0431	7.0487	7.0543	7.0599	990
1,000	7.0599	7.0655	7.0711	7.0767	7.0824	7.0880	7.0936	7.0993	7.1049	7.1106	7.1163	1,000
1,010	7.1163	7.1219	7.1276	7.1333	7.1390	7.1447	7.1504	7.1561	7.1618	7.1675	7.1733	1,010
1,020	7.1733	7.1790	7.1848	7.1905	7.1963	7.2020	7.2078	7.2136	7.2193	7.2251	7.2309	1,020
1,030	7.2309	7.2367	7.2425	7.2484	7.2542	7.2600	7.2659	7.2717	7.2776	7.2834	7.2893	1,030
1,040	7.2893	7.2952	7.3010	7.3069	7.3128	7.3187	7.3246	7.3305	7.3365	7.3424	7.3483	1,040
1,050	7.3483	7.3543	7.3603	7.3662	7.3722	7.3782	7.3841	7.3901	7.3961	7.4022	7.4082	1,050
1,060	7.4082	7.4142	7.4202	7.4263	7.4323	7.4384	7.4445	7.4505	7.4566	7.4627	7.4688	1,060
1,070	7.4688	7.4749	7.4810	7.4871	7.4933	7.4994	7.5056	7.5117	7.5179	7.5241	7.5303	1,070
1,080	7.5303	7.5364	7.5426	7.5489	7.5551	7.5613	7.5675	7.5738	7.5800	7.5863	7.5926	1,080
1,090	7.5926	7.5989	7.6051	7.6114	7.6178	7.6241	7.6304	7.6367	7.6431	7.6494	7.6558	1,090
1,100	7.6558	7.6622	7.6686	7.6749	7.6813	7.6878	7.6942	7.7006	7.7070	7.7135	7.7200	1,100
1,110	7.7200	7.7264	7.7329	7.7394	7.7459	7.7524	7.7589	7.7654	7.7720	7.7785	7.7851	1,110
1,120	7.7851	7.7916	7.7982	7.8048	7.8114	7.8180	7.8246	7.8312	7.8379	7.8445	7.8512	1,120
1,130	7.8512	7.8578	7.8645	7.8712	7.8779	7.8846	7.8913	7.8981	7.9048	7.9116	7.9183	1,130
1,140	7.9183	7.9251	7.9319	7.9387	7.9455	7.9523	7.9591	7.9659	7.9728	7.9796	7.9865	1,140
1,150	7.9865	7.9934	8.0003	8.0072	8.0141	8.0210	8.0279	8.0349	8.0418	8.0488	8.0557	1,150
1,160	8.0557	8.0627	8.0697	8.0767	8.0838	8.0908	8.0978	8.1049	8.1119	8.1190	8.1261	1,160
1,170	8.1261	8.1332	8.1403	8.1474	8.1545	8.1617	8.1688	8.1760	8.1832	8.1904	8.1976	1,170
1,180	8.1976	8.2048	8.2120	8.2192	8.2265	8.2337	8.2410	8.2483	8.2556	8.2629	8.2702	1,180
1,190	8.2702	8.2775	8.2848	8.2922	8.2995	8.3069	8.3143	8.3217	8.3291	8.3365	8.3439	1,190
1,200	8.3439	8.3514	8.3588	8.3663	8.3738	8.3813	8.3887	8.3963	8.4038	8.4113	8.4189	1,200
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 4. *Type JP thermoelements versus platinum,* **Pt–67**—*thermoelectric voltage as a function of temperature (°F), reference junctions at 32 °F—Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
					THERMOELECTRIC VOLTAGE IN ABSOLUTE MILLIVOLTS							
1,200	8.3439	8.3514	8.3588	8.3663	8.3738	8.3813	8.3887	8.3963	8.4038	8.4113	8.4189	1,200
1,210	8.4189	8.4264	8.4340	8.4416	8.4492	8.4568	8.4644	8.4720	8.4797	8.4873	8.4950	1,210
1,220	8.4950	8.5027	8.5103	8.5180	8.5258	8.5335	8.5412	8.5490	8.5567	8.5645	8.5723	1,220
1,230	8.5723	8.5801	8.5879	8.5957	8.6035	8.6114	8.6193	8.6271	8.6350	8.6429	8.6508	1,230
1,240	8.6508	8.6587	8.6666	8.6746	8.6825	8.6905	8.6985	8.7065	8.7145	8.7225	8.7305	1,240
1,250	8.7305	8.7386	8.7466	8.7547	8.7627	8.7708	8.7789	8.7870	8.7952	8.8033	8.8114	1,250
1,260	8.8114	8.8196	8.8278	8.8360	8.8441	8.8524	8.8606	8.8688	8.8770	8.8853	8.8936	1,260
1,270	8.8936	8.9019	8.9101	8.9184	8.9268	8.9351	8.9434	8.9518	8.9601	8.9685	8.9769	1,270
1,280	8.9769	8.9853	8.9937	9.0021	9.0106	9.0190	9.0275	9.0359	9.0444	9.0529	9.0614	1,280
1,290	9.0614	9.0699	9.0785	9.0870	9.0956	9.1041	9.1127	9.1213	9.1299	9.1385	9.1471	1,290
1,300	9.1471	9.1558	9.1644	9.1731	9.1817	9.1904	9.1991	9.2078	9.2165	9.2253	9.2340	1,300
1,310	9.2340	9.2428	9.2515	9.2603	9.2691	9.2779	9.2867	9.2955	9.3043	9.3132	9.3220	1,310
1,320	9.3220	9.3309	9.3398	9.3486	9.3575	9.3664	9.3754	9.3843	9.3932	9.4022	9.4112	1,320
1,330	9.4112	9.4201	9.4291	9.4381	9.4471	9.4561	9.4652	9.4742	9.4833	9.4923	9.5014	1,330
1,340	9.5014	9.5105	9.5196	9.5287	9.5378	9.5469	9.5560	9.5652	9.5743	9.5835	9.5927	1,340
1,350	9.5927	9.6019	9.6111	9.6203	9.6295	9.6387	9.6479	9.6572	9.6664	9.6757	9.6850	1,350
1,360	9.6850	9.6943	9.7036	9.7129	9.7222	9.7315	9.7408	9.7502	9.7595	9.7689	9.7783	1,360
1,370	9.7783	9.7877	9.7970	9.8064	9.8159	9.8253	9.8347	9.8441	9.8536	9.8630	9.8725	1,370
1,380	9.8725	9.8820	9.8915	9.9009	9.9104	9.9199	9.9295	9.9390	9.9485	9.9581	9.9676	1,380
1,390	9.9676	9.9772	9.9867	9.9963	10.0059	10.0155	10.0251	10.0347	10.0443	10.0539	10.0635	1,390
1,400	10.0635											1,400
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 5. ***Platinum, Pt–67, versus Type JN thermoelements***—*thermoelectric voltage as a function of temperature (°F), reference junctions at 32 °F.*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
					THERMOELECTRIC VOLTAGE IN ABSOLUTE MILLIVOLTS							
-350	-5.5783											-350
-340	-5.4701	-5.4810	-5.4919	-5.5028	-5.5137	-5.5245	-5.5353	-5.5461	-5.5568	-5.5676	-5.5783	-340
-330	-5.3596	-5.3708	-5.3819	-5.3930	-5.4041	-5.4152	-5.4262	-5.4372	-5.4482	-5.4592	-5.4701	-330
-320	-5.2468	-5.2582	-5.2696	-5.2809	-5.2922	-5.3035	-5.3148	-5.3260	-5.3372	-5.3484	-5.3596	-320
-310	-5.1318	-5.1434	-5.1550	-5.1665	-5.1781	-5.1896	-5.2011	-5.2125	-5.2240	-5.2354	-5.2468	-310
-300	-5.0145	-5.0263	-5.0381	-5.0499	-5.0617	-5.0734	-5.0851	-5.0968	-5.1085	-5.1201	-5.1318	-300
-290	-4.8950	-4.9070	-4.9190	-4.9310	-4.9430	-4.9550	-4.9669	-4.9788	-4.9907	-5.0026	-5.0145	-290
-280	-4.7733	-4.7855	-4.7978	-4.8100	-4.8222	-4.8344	-4.8465	-4.8587	-4.8708	-4.8829	-4.8950	-280
-270	-4.6494	-4.6619	-4.6744	-4.6868	-4.6992	-4.7116	-4.7240	-4.7363	-4.7487	-4.7610	-4.7733	-270
-260	-4.5235	-4.5361	-4.5488	-4.5615	-4.5741	-4.5867	-4.5993	-4.6119	-4.6244	-4.6369	-4.6494	-260
-250	-4.3954	-4.4083	-4.4212	-4.4340	-4.4469	-4.4597	-4.4725	-4.4853	-4.4980	-4.5107	-4.5235	-250
-240	-4.2652	-4.2783	-4.2914	-4.3045	-4.3175	-4.3306	-4.3436	-4.3565	-4.3695	-4.3825	-4.3954	-240
-230	-4.1330	-4.1463	-4.1596	-4.1729	-4.1861	-4.1994	-4.2126	-4.2258	-4.2389	-4.2521	-4.2652	-230
-220	-3.9987	-4.0123	-4.0258	-4.0392	-4.0527	-4.0661	-4.0795	-4.0929	-4.1063	-4.1197	-4.1330	-220
-210	-3.8625	-3.8762	-3.8899	-3.9036	-3.9172	-3.9309	-3.9445	-3.9581	-3.9717	-3.9852	-3.9987	-210
-200	-3.7242	-3.7381	-3.7520	-3.7659	-3.7798	-3.7936	-3.8074	-3.8212	-3.8350	-3.8487	-3.8625	-200
-190	-3.5840	-3.5981	-3.6122	-3.6263	-3.6403	-3.6544	-3.6684	-3.6824	-3.6963	-3.7103	-3.7242	-190
-180	-3.4418	-3.4561	-3.4704	-3.4847	-3.4989	-3.5131	-3.5274	-3.5415	-3.5557	-3.5699	-3.5840	-180
-170	-3.2977	-3.3122	-3.3267	-3.3411	-3.3556	-3.3700	-3.3844	-3.3988	-3.4131	-3.4275	-3.4418	-170
-160	-3.1517	-3.1663	-3.1810	-3.1957	-3.2103	-3.2249	-3.2395	-3.2541	-3.2686	-3.2832	-3.2977	-160
-150	-3.0037	-3.0186	-3.0335	-3.0483	-3.0631	-3.0779	-3.0927	-3.1075	-3.1222	-3.1370	-3.1517	-150
-140	-2.8539	-2.8690	-2.8840	-2.8991	-2.9141	-2.9291	-2.9440	-2.9590	-2.9739	-2.9888	-3.0037	-140
-130	-2.7023	-2.7175	-2.7327	-2.7480	-2.7632	-2.7783	-2.7935	-2.8086	-2.8237	-2.8388	-2.8539	-130
-120	-2.5488	-2.5642	-2.5796	-2.5950	-2.6104	-2.6257	-2.6411	-2.6564	-2.6717	-2.6870	-2.7023	-120
-110	-2.3934	-2.4090	-2.4246	-2.4402	-2.4558	-2.4713	-2.4868	-2.5023	-2.5178	-2.5333	-2.5488	-110
-100	-2.2363	-2.2521	-2.2679	-2.2836	-2.2994	-2.3151	-2.3308	-2.3465	-2.3621	-2.3778	-2.3934	-100
-90	-2.0773	-2.0933	-2.1093	-2.1252	-2.1411	-2.1570	-2.1729	-2.1888	-2.2046	-2.2205	-2.2363	-90
-80	-1.9166	-1.9328	-1.9489	-1.9650	-1.9811	-1.9972	-2.0133	-2.0293	-2.0453	-2.0614	-2.0773	-80
-70	-1.7542	-1.7705	-1.7868	-1.8031	-1.8194	-1.8356	-1.8519	-1.8681	-1.8843	-1.9005	-1.9166	-70
-60	-1.5900	-1.6065	-1.6229	-1.6394	-1.6558	-1.6723	-1.6887	-1.7051	-1.7215	-1.7378	-1.7542	-60
-50	-1.4240	-1.4407	-1.4573	-1.4740	-1.4906	-1.5072	-1.5238	-1.5404	-1.5569	-1.5734	-1.5900	-50
-40	-1.2564	-1.2732	-1.2900	-1.3068	-1.3236	-1.3404	-1.3572	-1.3739	-1.3906	-1.4073	-1.4240	-40
-30	-1.0870	-1.1040	-1.1210	-1.1380	-1.1549	-1.1719	-1.1888	-1.2057	-1.2226	-1.2395	-1.2564	-30
-20	-0.9160	-0.9331	-0.9503	-0.9674	-0.9846	-1.0017	-1.0188	-1.0359	-1.0529	-1.0700	-1.0870	-20
-10	-0.7432	-0.7606	-0.7779	-0.7952	-0.8125	-0.8298	-0.8471	-0.8643	-0.8815	-0.8988	-0.9160	-10
- 0	-0.5689	-0.5864	-0.6039	-0.6214	-0.6388	-0.6563	-0.6737	-0.6911	-0.7085	-0.7259	-0.7432	- 0
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 5. *Platinum, Pt–67, versus Type JN thermoelements—thermoelectric voltage as a function of temperature (°F), reference junctions at 32 °F—Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						THERMOELECTRIC VOLTAGE IN ABSOLUTE MILLIVOLTS						
0	-0.5689	-0.5514	-0.5338	-0.5163	-0.4987	-0.4811	-0.4635	-0.4459	-0.4282	-0.4106	-0.3929	0
10	-0.3929	-0.3752	-0.3575	-0.3398	-0.3220	-0.3043	-0.2865	-0.2687	-0.2509	-0.2331	-0.2153	10
20	-0.2153	-0.1974	-0.1795	-0.1617	-0.1438	-0.1259	-0.1079	-0.0900	-0.0720	-0.0540	-0.0360	20
30	-0.0360	-0.0180	0.0000	0.0180	0.0361	0.0542	0.0723	0.0904	0.1085	0.1266	0.1448	30
40	0.1448	0.1630	0.1811	0.1993	0.2176	0.2358	0.2540	0.2723	0.2906	0.3089	0.3272	40
50	0.3272	0.3455	0.3639	0.3822	0.4006	0.4190	0.4374	0.4558	0.4742	0.4927	0.5112	50
60	0.5112	0.5296	0.5481	0.5666	0.5852	0.6037	0.6223	0.6408	0.6594	0.6780	0.6967	60
70	0.6967	0.7153	0.7339	0.7526	0.7713	0.7900	0.8087	0.8274	0.8462	0.8649	0.8837	70
80	0.8837	0.9025	0.9213	0.9401	0.9590	0.9778	0.9967	1.0155	1.0344	1.0533	1.0723	80
90	1.0723	1.0912	1.1102	1.1291	1.1481	1.1671	1.1861	1.2052	1.2242	1.2433	1.2623	90
100	1.2623	1.2814	1.3005	1.3197	1.3388	1.3579	1.3771	1.3963	1.4155	1.4347	1.4539	100
110	1.4539	1.4731	1.4924	1.5116	1.5309	1.5502	1.5695	1.5889	1.6082	1.6276	1.6469	110
120	1.6469	1.6663	1.6857	1.7051	1.7245	1.7440	1.7634	1.7829	1.8024	1.8219	1.8414	120
130	1.8414	1.8609	1.8805	1.9000	1.9196	1.9392	1.9588	1.9784	1.9980	2.0177	2.0373	130
140	2.0373	2.0570	2.0767	2.0964	2.1161	2.1358	2.1556	2.1753	2.1951	2.2149	2.2347	140
150	2.2347	2.2545	2.2743	2.2942	2.3140	2.3339	2.3538	2.3737	2.3936	2.4135	2.4335	150
160	2.4335	2.4534	2.4734	2.4934	2.5134	2.5334	2.5534	2.5734	2.5935	2.6135	2.6336	160
170	2.6336	2.6537	2.6738	2.6939	2.7141	2.7342	2.7544	2.7746	2.7947	2.8149	2.8352	170
180	2.8352	2.8554	2.8756	2.8959	2.9162	2.9364	2.9567	2.9770	2.9974	3.0177	3.0381	180
190	3.0381	3.0584	3.0788	3.0992	3.1196	3.1400	3.1605	3.1809	3.2014	3.2218	3.2423	190
200	3.2423	3.2628	3.2833	3.3038	3.3244	3.3449	3.3655	3.3861	3.4067	3.4273	3.4479	200
210	3.4479	3.4685	3.4892	3.5098	3.5305	3.5512	3.5719	3.5926	3.6133	3.6340	3.6548	210
220	3.6548	3.6756	3.6963	3.7171	3.7379	3.7587	3.7796	3.8004	3.8212	3.8421	3.8630	220
230	3.8630	3.8839	3.9048	3.9257	3.9466	3.9676	3.9885	4.0095	4.0305	4.0515	4.0725	230
240	4.0725	4.0935	4.1145	4.1356	4.1566	4.1777	4.1988	4.2199	4.2410	4.2621	4.2832	240
250	4.2832	4.3044	4.3255	4.3467	4.3679	4.3891	4.4103	4.4315	4.4527	4.4740	4.4952	250
260	4.4952	4.5165	4.5378	4.5591	4.5804	4.6017	4.6230	4.6443	4.6657	4.6871	4.7084	260
270	4.7084	4.7298	4.7512	4.7726	4.7941	4.8155	4.8370	4.8584	4.8799	4.9014	4.9229	270
280	4.9229	4.9444	4.9659	4.9875	5.0090	5.0306	5.0521	5.0737	5.0953	5.1169	5.1385	280
290	5.1385	5.1602	5.1818	5.2035	5.2251	5.2468	5.2685	5.2902	5.3119	5.3336	5.3554	290
300	5.3554	5.3771	5.3989	5.4206	5.4424	5.4642	5.4860	5.5078	5.5297	5.5515	5.5733	300
310	5.5733	5.5952	5.6171	5.6390	5.6609	5.6828	5.7047	5.7266	5.7486	5.7705	5.7925	310
320	5.7925	5.8145	5.8364	5.8584	5.8805	5.9025	5.9245	5.9466	5.9686	5.9907	6.0128	320
330	6.0128	6.0348	6.0569	6.0791	6.1012	6.1233	6.1454	6.1676	6.1898	6.2119	6.2341	330
340	6.2341	6.2563	6.2785	6.3008	6.3230	6.3452	6.3675	6.3898	6.4120	6.4343	6.4566	340
350	6.4566	6.4789	6.5012	6.5236	6.5459	6.5683	6.5906	6.6130	6.6354	6.6578	6.6802	350
360	6.6802	6.7026	6.7250	6.7474	6.7699	6.7923	6.8148	6.8373	6.8598	6.8823	6.9048	360
370	6.9048	6.9273	6.9498	6.9724	6.9949	7.0175	7.0400	7.0626	7.0852	7.1078	7.1304	370
380	7.1304	7.1531	7.1757	7.1983	7.2210	7.2436	7.2663	7.2890	7.3117	7.3344	7.3571	380
390	7.3571	7.3798	7.4026	7.4253	7.4481	7.4708	7.4936	7.5164	7.5392	7.5620	7.5848	390
400	7.5848	7.6076	7.6305	7.6533	7.6762	7.6990	7.7219	7.7448	7.7677	7.7906	7.8135	400
410	7.8135	7.8364	7.8593	7.8823	7.9052	7.9282	7.9512	7.9741	7.9971	8.0201	8.0431	410
420	8.0431	8.0662	8.0892	8.1122	8.1353	8.1583	8.1814	8.2045	8.2275	8.2506	8.2737	420
430	8.2737	8.2969	8.3200	8.3431	8.3662	8.3894	8.4126	8.4357	8.4589	8.4821	8.5053	430
440	8.5053	8.5285	8.5517	8.5749	8.5982	8.6214	8.6447	8.6679	8.6912	8.7145	8.7377	440
450	8.7377	8.7610	8.7843	8.8077	8.8310	8.8543	8.8777	8.9010	8.9244	8.9477	8.9711	450
460	8.9711	8.9945	9.0179	9.0413	9.0647	9.0881	9.1115	9.1350	9.1584	9.1819	9.2053	460
470	9.2053	9.2288	9.2523	9.2758	9.2993	9.3228	9.3463	9.3698	9.3934	9.4169	9.4405	470
480	9.4405	9.4640	9.4876	9.5112	9.5347	9.5583	9.5819	9.6055	9.6292	9.6528	9.6764	480
490	9.6764	9.7001	9.7237	9.7474	9.7710	9.7947	9.8184	9.8421	9.8658	9.8895	9.9132	490
500	9.9132	9.9369	9.9607	9.9844	10.0081	10.0319	10.0557	10.0794	10.1032	10.1270	10.1508	500
510	10.1508	10.1746	10.1984	10.2222	10.2461	10.2699	10.2937	10.3176	10.3414	10.3653	10.3892	510
520	10.3892	10.4131	10.4370	10.4609	10.4848	10.5087	10.5326	10.5565	10.5805	10.6044	10.6283	520
530	10.6283	10.6523	10.6763	10.7002	10.7242	10.7482	10.7722	10.7962	10.8202	10.8442	10.8683	530
540	10.8683	10.8923	10.9164	10.9404	10.9645	10.9885	11.0126	11.0367	11.0608	11.0848	11.1089	540
550	11.1089	11.1331	11.1572	11.1813	11.2054	11.2296	11.2537	11.2778	11.3020	11.3262	11.3503	550
560	11.3503	11.3745	11.3987	11.4229	11.4471	11.4713	11.4955	11.5197	11.5440	11.5682	11.5924	560
570	11.5924	11.6167	11.6409	11.6652	11.6895	11.7137	11.7380	11.7623	11.7866	11.8109	11.8352	570
580	11.8352	11.8595	11.8839	11.9082	11.9325	11.9569	11.9812	12.0056	12.0299	12.0543	12.0787	580
590	12.0787	12.1031	12.1275	12.1519	12.1763	12.2007	12.2251	12.2495	12.2739	12.2984	12.3228	590
600	12.3228	12.3473	12.3717	12.3962	12.4206	12.4451	12.4696	12.4941	12.5186	12.5431	12.5676	600
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 5. ***Platinum, Pt–67, versus Type JN thermoelements***—*thermoelectric voltage as a function of temperature (°F), reference junctions at 32 °F—Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
					THERMOELECTRIC VOLTAGE IN ABSOLUTE MILLIVOLTS							
600	12.3228	12.3473	12.3717	12.3962	12.4206	12.4451	12.4696	12.4941	12.5186	12.5431	12.5676	600
610	12.5676	12.5921	12.6166	12.6411	12.6656	12.6902	12.7147	12.7393	12.7638	12.7884	12.8130	610
620	12.8130	12.8375	12.8621	12.8867	12.9113	12.9359	12.9605	12.9851	13.0097	13.0343	13.0589	620
630	13.0589	13.0836	13.1082	13.1329	13.1575	13.1822	13.2068	13.2315	13.2562	13.2808	13.3055	630
640	13.3055	13.3302	13.3549	13.3796	13.4043	13.4290	13.4537	13.4785	13.5032	13.5279	13.5527	640
650	13.5527	13.5774	13.6022	13.6269	13.6517	13.6765	13.7012	13.7260	13.7508	13.7756	13.8004	650
660	13.8004	13.8252	13.8500	13.8748	13.8996	13.9244	13.9493	13.9741	13.9989	14.0238	14.0486	660
670	14.0486	14.0735	14.0984	14.1232	14.1481	14.1730	14.1978	14.2227	14.2476	14.2725	14.2974	670
680	14.2974	14.3223	14.3472	14.3722	14.3971	14.4220	14.4469	14.4719	14.4968	14.5218	14.5467	680
690	14.5467	14.5717	14.5966	14.6216	14.6466	14.6715	14.6965	14.7215	14.7465	14.7715	14.7965	690
700	14.7965	14.8215	14.8465	14.8715	14.8966	14.9216	14.9466	14.9716	14.9967	15.0217	15.0468	700
710	15.0468	15.0718	15.0969	15.1219	15.1470	15.1721	15.1972	15.2222	15.2473	15.2724	15.2975	710
720	15.2975	15.3226	15.3477	15.3728	15.3979	15.4230	15.4482	15.4733	15.4984	15.5236	15.5487	720
730	15.5487	15.5738	15.5990	15.6241	15.6493	15.6745	15.6996	15.7248	15.7500	15.7751	15.8003	730
740	15.8003	15.8255	15.8507	15.8759	15.9011	15.9263	15.9515	15.9767	16.0019	16.0272	16.0524	740
750	16.0524	16.0776	16.1028	16.1281	16.1533	16.1786	16.2038	16.2291	16.2543	16.2796	16.3048	750
760	16.3048	16.3301	16.3554	16.3807	16.4059	16.4312	16.4565	16.4818	16.5071	16.5324	16.5577	760
770	16.5577	16.5830	16.6083	16.6336	16.6589	16.6843	16.7096	16.7349	16.7603	16.7856	16.8109	770
780	16.8109	16.8363	16.8616	16.8870	16.9123	16.9377	16.9631	16.9884	17.0138	17.0392	17.0645	780
790	17.0645	17.0899	17.1153	17.1407	17.1661	17.1915	17.2169	17.2423	17.2677	17.2931	17.3185	790
800	17.3185	17.3439	17.3694	17.3948	17.4202	17.4456	17.4711	17.4965	17.5219	17.5474	17.5728	800
810	17.5728	17.5983	17.6237	17.6492	17.6747	17.7001	17.7256	17.7511	17.7765	17.8020	17.8275	810
820	17.8275	17.8530	17.8784	17.9039	17.9294	17.9549	17.9804	18.0059	18.0314	18.0569	18.0824	820
830	18.0824	18.1080	18.1335	18.1590	18.1845	18.2100	18.2356	18.2611	18.2866	18.3122	18.3377	830
840	18.3377	18.3633	18.3888	18.4144	18.4399	18.4655	18.4910	18.5166	18.5422	18.5677	18.5933	840
850	18.5933	18.6189	18.6444	18.6700	18.6956	18.7212	18.7468	18.7724	18.7980	18.8236	18.8492	850
860	18.8492	18.8748	18.9004	18.9260	18.9516	18.9772	19.0028	19.0284	19.0540	19.0797	19.1053	860
870	19.1053	19.1309	19.1566	19.1822	19.2078	19.2335	19.2591	19.2847	19.3104	19.3360	19.3617	870
880	19.3617	19.3873	19.4130	19.4387	19.4643	19.4900	19.5157	19.5413	19.5670	19.5927	19.6183	880
890	19.6183	19.6440	19.6697	19.6954	19.7211	19.7468	19.7725	19.7982	19.8238	19.8495	19.8752	890
900	19.8752	19.9009	19.9267	19.9524	19.9781	20.0038	20.0295	20.0552	20.0809	20.1067	20.1324	900
910	20.1324	20.1581	20.1838	20.2096	20.2353	20.2610	20.2868	20.3125	20.3382	20.3640	20.3897	910
920	20.3897	20.4155	20.4412	20.4670	20.4927	20.5185	20.5443	20.5700	20.5958	20.6215	20.6473	920
930	20.6473	20.6731	20.6988	20.7246	20.7504	20.7762	20.8020	20.8277	20.8535	20.8793	20.9051	930
940	20.9051	20.9309	20.9567	20.9825	21.0083	21.0341	21.0598	21.0856	21.1115	21.1373	21.1631	940
950	21.1631	21.1889	21.2147	21.2405	21.2663	21.2921	21.3179	21.3438	21.3696	21.3954	21.4212	950
960	21.4212	21.4471	21.4729	21.4987	21.5245	21.5504	21.5762	21.6020	21.6279	21.6537	21.6796	960
970	21.6796	21.7054	21.7313	21.7571	21.7830	21.8088	21.8347	21.8605	21.8864	21.9122	21.9381	970
980	21.9381	21.9639	21.9898	22.0157	22.0415	22.0674	22.0933	22.1191	22.1450	22.1709	22.1968	980
990	22.1968	22.2226	22.2485	22.2744	22.3003	22.3262	22.3521	22.3779	22.4038	22.4297	22.4556	990
1,000	22.4556	22.4815	22.5074	22.5333	22.5592	22.5851	22.6110	22.6369	22.6628	22.6887	22.7146	1,000
1,010	22.7146	22.7405	22.7664	22.7923	22.8182	22.8441	22.8701	22.8960	22.9219	22.9478	22.9737	1,010
1,020	22.9737	22.9996	23.0256	23.0515	23.0774	23.1033	23.1293	23.1552	23.1811	23.2070	23.2330	1,020
1,030	23.2330	23.2589	23.2848	23.3108	23.3367	23.3627	23.3886	23.4145	23.4405	23.4664	23.4924	1,030
1,040	23.4924	23.5183	23.5443	23.5702	23.5962	23.6221	23.6481	23.6740	23.7000	23.7259	23.7519	1,040
1,050	23.7519	23.7778	23.8038	23.8298	23.8557	23.8817	23.9076	23.9336	23.9596	23.9855	24.0115	1,050
1,060	24.0115	24.0375	24.0634	24.0894	24.1154	24.1414	24.1673	24.1933	24.2193	24.2453	24.2712	1,060
1,070	24.2712	24.2972	24.3232	24.3492	24.3752	24.4011	24.4271	24.4531	24.4791	24.5051	24.5311	1,070
1,080	24.5311	24.5571	24.5830	24.6090	24.6350	24.6610	24.6870	24.7130	24.7390	24.7650	24.7910	1,080
1,090	24.7910	24.8170	24.8430	24.8690	24.8950	24.9210	24.9470	24.9730	24.9990	25.0250	25.0510	1,090
1,100	25.0510	25.0770	25.1030	25.1290	25.1550	25.1810	25.2071	25.2331	25.2591	25.2851	25.3111	1,100
1,110	25.3111	25.3371	25.3631	25.3892	25.4152	25.4412	25.4672	25.4932	25.5192	25.5453	25.5713	1,110
1,120	25.5713	25.5973	25.6233	25.6493	25.6754	25.7014	25.7274	25.7534	25.7795	25.8055	25.8315	1,120
1,130	25.8315	25.8576	25.8836	25.9096	25.9356	25.9617	25.9877	26.0137	26.0398	26.0658	26.0918	1,130
1,140	26.0918	26.1179	26.1439	26.1699	26.1960	26.2220	26.2480	26.2741	26.3001	26.3262	26.3522	1,140
1,150	26.3522	26.3782	26.4043	26.4303	26.4564	26.4824	26.5084	26.5345	26.5605	26.5866	26.6126	1,150
1,160	26.6126	26.6387	26.6647	26.6907	26.7168	26.7428	26.7689	26.7949	26.8210	26.8470	26.8731	1,160
1,170	26.8731	26.8991	26.9252	26.9512	26.9773	27.0033	27.0294	27.0554	27.0815	27.1075	27.1336	1,170
1,180	27.1336	27.1596	27.1857	27.2117	27.2378	27.2638	27.2899	27.3159	27.3420	27.3681	27.3941	1,180
1,190	27.3941	27.4202	27.4462	27.4723	27.4983	27.5244	27.5504	27.5765	27.6026	27.6286	27.6547	1,190
1,200	27.6547	27.6807	27.7068	27.7328	27.7589	27.7850	27.8110	27.8371	27.8631	27.8892	27.9152	1,200
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 5. *Platinum,* **Pt–67,** *versus Type JN thermoelements—thermoelectric voltage as a function of temperature (°F), reference junctions at 32 °F—Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
					THERMOELECTRIC VOLTAGE IN ABSOLUTE MILLIVOLTS							
1,200	27.6547	27.6807	27.7068	27.7328	27.7589	27.7850	27.8110	27.8371	27.8631	27.8892	27.9152	1,200
1,210	27.9152	27.9413	27.9674	27.9934	28.0195	28.0455	28.0716	28.0977	28.1237	28.1498	28.1758	1,210
1,220	28.1758	28.2019	28.2280	28.2540	28.2801	28.3061	28.3322	28.3583	28.3843	28.4104	28.4364	1,220
1,230	28.4364	28.4625	28.4886	28.5146	28.5407	28.5667	28.5928	28.6188	28.6449	28.6710	28.6970	1,230
1,240	28.6970	28.7231	28.7491	28.7752	28.8013	28.8273	28.8534	28.8794	28.9055	28.9315	28.9576	1,240
1,250	28.9576	28.9837	29.0097	29.0358	29.0618	29.0879	29.1139	29.1400	29.1661	29.1921	29.2182	1,250
1,260	29.2182	29.2442	29.2703	29.2963	29.3224	29.3484	29.3745	29.4005	29.4266	29.4527	29.4787	1,260
1,270	29.4787	29.5048	29.5308	29.5569	29.5829	29.6090	29.6350	29.6611	29.6871	29.7132	29.7392	1,270
1,280	29.7392	29.7653	29.7913	29.8173	29.8434	29.8694	29.8955	29.9215	29.9476	29.9736	29.9997	1,280
1,290	29.9997	30.0257	30.0517	30.0778	30.1038	30.1299	30.1559	30.1819	30.2080	30.2340	30.2601	1,290
1,300	30.2601	30.2861	30.3121	30.3382	30.3642	30.3902	30.4163	30.4423	30.4683	30.4944	30.5204	1,300
1,310	30.5204	30.5464	30.5725	30.5985	30.6245	30.6505	30.6766	30.7026	30.7286	30.7546	30.7807	1,310
1,320	30.7807	30.8067	30.8327	30.8587	30.8847	30.9108	30.9368	30.9628	30.9888	31.0148	31.0408	1,320
1,330	31.0408	31.0668	31.0928	31.1189	31.1449	31.1709	31.1969	31.2229	31.2489	31.2749	31.3009	1,330
1,340	31.3009	31.3269	31.3529	31.3789	31.4049	31.4309	31.4569	31.4829	31.5089	31.5349	31.5609	1,340
1,350	31.5609	31.5868	31.6128	31.6388	31.6648	31.6908	31.7168	31.7427	31.7687	31.7947	31.8207	1,350
1,360	31.8207	31.8467	31.8726	31.8986	31.9246	31.9505	31.9765	32.0025	32.0284	32.0544	32.0804	1,360
1,370	32.0804	32.1063	32.1323	32.1582	32.1842	32.2102	32.2361	32.2621	32.2880	32.3140	32.3399	1,370
1,380	32.3399	32.3658	32.3918	32.4177	32.4437	32.4696	32.4955	32.5215	32.5474	32.5733	32.5993	1,380
1,390	32.5993	32.6252	32.6511	32.6770	32.7030	32.7289	32.7548	32.7807	32.8066	32.8325	32.8584	1,390
1,400	32.8584											1,400
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 6. ***Type KP (or EP) thermoelements versus platinum, Pt–67***—*thermoelectric voltage as a function of temperature (°F), reference junctions at 32 °F*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
					THERMOELECTRIC VOLTAGE IN ABSOLUTE MILLIVOLTS							
-450	-3.5559	-3.5564	-3.5568	-3.5573	-3.5578							-450
-440	-3.5511	-3.5516	-3.5521	-3.5526	-3.5530	-3.5535	-3.5540	-3.5545	-3.5550	-3.5554	-3.5559	-440
-430	-3.5460	-3.5465	-3.5470	-3.5476	-3.5481	-3.5486	-3.5491	-3.5496	-3.5501	-3.5506	-3.5511	-430
-420	-3.5406	-3.5411	-3.5417	-3.5422	-3.5428	-3.5433	-3.5439	-3.5444	-3.5449	-3.5455	-3.5460	-420
-410	-3.5346	-3.5352	-3.5358	-3.5365	-3.5371	-3.5377	-3.5382	-3.5388	-3.5394	-3.5400	-3.5406	-410
-400	-3.5279	-3.5286	-3.5293	-3.5300	-3.5307	-3.5314	-3.5320	-3.5327	-3.5333	-3.5340	-3.5346	-400
-390	-3.5201	-3.5210	-3.5218	-3.5226	-3.5234	-3.5242	-3.5250	-3.5257	-3.5265	-3.5272	-3.5279	-390
-380	-3.5107	-3.5118	-3.5128	-3.5138	-3.5147	-3.5157	-3.5166	-3.5175	-3.5184	-3.5193	-3.5201	-380
-370	-3.4992	-3.5005	-3.5017	-3.5029	-3.5041	-3.5053	-3.5064	-3.5075	-3.5086	-3.5097	-3.5107	-370
-360	-3.4850	-3.4866	-3.4881	-3.4896	-3.4911	-3.4925	-3.4939	-3.4953	-3.4966	-3.4979	-3.4992	-360
-350	-3.4677	-3.4696	-3.4714	-3.4733	-3.4750	-3.4768	-3.4785	-3.4802	-3.4818	-3.4835	-3.4850	-350
-340	-3.4467	-3.4490	-3.4512	-3.4534	-3.4556	-3.4577	-3.4598	-3.4618	-3.4638	-3.4658	-3.4677	-340
-330	-3.4218	-3.4245	-3.4271	-3.4297	-3.4323	-3.4348	-3.4373	-3.4397	-3.4421	-3.4444	-3.4467	-330
-320	-3.3927	-3.3958	-3.3989	-3.4019	-3.4049	-3.4078	-3.4107	-3.4135	-3.4163	-3.4191	-3.4218	-320
-310	-3.3592	-3.3627	-3.3663	-3.3697	-3.3731	-3.3765	-3.3798	-3.3831	-3.3864	-3.3896	-3.3927	-310
-300	-3.3212	-3.3252	-3.3292	-3.3331	-3.3369	-3.3408	-3.3445	-3.3483	-3.3520	-3.3556	-3.3592	-300
-290	-3.2787	-3.2831	-3.2875	-3.2919	-3.2962	-3.3005	-3.3047	-3.3089	-3.3131	-3.3171	-3.3212	-290
-280	-3.2316	-3.2365	-3.2414	-3.2462	-3.2510	-3.2557	-3.2604	-3.2650	-3.2696	-3.2742	-3.2787	-280
-270	-3.1801	-3.1855	-3.1908	-3.1961	-3.2013	-3.2064	-3.2116	-3.2167	-3.2217	-3.2267	-3.2316	-270
-260	-3.1242	-3.1300	-3.1358	-3.1415	-3.1471	-3.1527	-3.1583	-3.1638	-3.1693	-3.1747	-3.1801	-260
-250	-3.0641	-3.0703	-3.0764	-3.0826	-3.0886	-3.0947	-3.1007	-3.1066	-3.1126	-3.1184	-3.1242	-250
-240	-2.9997	-3.0063	-3.0129	-3.0194	-3.0259	-3.0324	-3.0388	-3.0452	-3.0515	-3.0578	-3.0641	-240
-230	-2.9311	-2.9382	-2.9452	-2.9521	-2.9590	-2.9659	-2.9727	-2.9795	-2.9863	-2.9930	-2.9997	-230
-220	-2.8586	-2.8661	-2.8734	-2.8808	-2.8881	-2.8954	-2.9026	-2.9098	-2.9170	-2.9241	-2.9311	-220
-210	-2.7822	-2.7900	-2.7978	-2.8055	-2.8132	-2.8209	-2.8285	-2.8361	-2.8436	-2.8512	-2.8586	-210
-200	-2.7019	-2.7101	-2.7183	-2.7264	-2.7345	-2.7425	-2.7505	-2.7585	-2.7664	-2.7743	-2.7822	-200
-190	-2.6180	-2.6265	-2.6350	-2.6435	-2.6520	-2.6604	-2.6688	-2.6771	-2.6854	-2.6937	-2.7019	-190
-180	-2.5304	-2.5393	-2.5482	-2.5570	-2.5658	-2.5746	-2.5834	-2.5921	-2.6007	-2.6094	-2.6180	-180
-170	-2.4393	-2.4486	-2.4578	-2.4670	-2.4762	-2.4853	-2.4944	-2.5034	-2.5124	-2.5214	-2.5304	-170
-160	-2.3449	-2.3545	-2.3640	-2.3735	-2.3830	-2.3925	-2.4019	-2.4113	-2.4207	-2.4300	-2.4393	-160
-150	-2.2471	-2.2570	-2.2669	-2.2768	-2.2866	-2.2964	-2.3061	-2.3159	-2.3256	-2.3352	-2.3449	-150
-140	-2.1462	-2.1564	-2.1666	-2.1768	-2.1870	-2.1971	-2.2071	-2.2172	-2.2272	-2.2372	-2.2471	-140
-130	-2.0422	-2.0528	-2.0633	-2.0738	-2.0842	-2.0946	-2.1050	-2.1153	-2.1257	-2.1360	-2.1462	-130
-120	-1.9353	-1.9461	-1.9569	-1.9677	-1.9784	-1.9891	-1.9998	-2.0105	-2.0211	-2.0317	-2.0422	-120
-110	-1.8255	-1.8366	-1.8477	-1.8587	-1.8697	-1.8807	-1.8917	-1.9027	-1.9136	-1.9244	-1.9353	-110
-100	-1.7129	-1.7242	-1.7356	-1.7469	-1.7582	-1.7695	-1.7808	-1.7920	-1.8032	-1.8143	-1.8255	-100
-90	-1.5975	-1.6092	-1.6208	-1.6324	-1.6440	-1.6555	-1.6670	-1.6785	-1.6900	-1.7014	-1.7129	-90
-80	-1.4795	-1.4914	-1.5033	-1.5152	-1.5270	-1.5388	-1.5506	-1.5624	-1.5741	-1.5858	-1.5975	-80
-70	-1.3589	-1.3711	-1.3833	-1.3954	-1.4075	-1.4195	-1.4316	-1.4436	-1.4556	-1.4676	-1.4795	-70
-60	-1.2359	-1.2483	-1.2607	-1.2730	-1.2854	-1.2977	-1.3100	-1.3223	-1.3345	-1.3467	-1.3589	-60
-50	-1.1104	-1.1230	-1.1357	-1.1483	-1.1608	-1.1734	-1.1859	-1.1985	-1.2109	-1.2234	-1.2359	-50
-40	-0.9825	-0.9954	-1.0083	-1.0211	-1.0339	-1.0467	-1.0595	-1.0723	-1.0850	-1.0977	-1.1104	-40
-30	-0.8525	-0.8656	-0.8787	-0.8917	-0.9048	-0.9178	-0.9308	-0.9438	-0.9567	-0.9696	-0.9825	-30
-20	-0.7203	-0.7336	-0.7469	-0.7601	-0.7734	-0.7866	-0.7998	-0.8130	-0.8262	-0.8394	-0.8525	-20
-10	-0.5860	-0.5995	-0.6130	-0.6265	-0.6399	-0.6534	-0.6668	-0.6802	-0.6936	-0.7069	-0.7203	-10
- 0	-0.4496	-0.4633	-0.4771	-0.4907	-0.5044	-0.5180	-0.5317	-0.5453	-0.5589	-0.5724	-0.5860	- 0
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 6. *Type KP (or EP) thermoelements versus platinum,* **Pt–6 7**—*thermoelectric voltage as a function of temperature (°F), reference junctions at 32 °F—Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
	THERMOELECTRIC VOLTAGE IN ABSOLUTE MILLIVOLTS											
0	-0.4496	-0.4359	-0.4221	-0.4083	-0.3945	-0.3807	-0.3669	-0.3530	-0.3391	-0.3252	-0.3113	0
10	-0.3113	-0.2973	-0.2834	-0.2694	-0.2554	-0.2414	-0.2273	-0.2133	-0.1992	-0.1851	-0.1709	10
20	-0.1709	-0.1568	-0.1426	-0.1285	-0.1143	-0.1000	-0.0858	-0.0715	-0.0573	-0.0430	-0.0287	20
30	-0.0287	-0.0143	0.0000	0.0144	0.0287	0.0431	0.0575	0.0720	0.0864	0.1009	0.1153	30
40	0.1153	0.1298	0.1443	0.1589	0.1734	0.1879	0.2025	0.2171	0.2317	0.2463	0.2609	40
50	0.2609	0.2756	0.2902	0.3049	0.3196	0.3343	0.3490	0.3638	0.3785	0.3933	0.4081	50
60	0.4081	0.4229	0.4377	0.4525	0.4674	0.4822	0.4971	0.5120	0.5269	0.5418	0.5568	60
70	0.5568	0.5717	0.5867	0.6016	0.6166	0.6316	0.6467	0.6617	0.6768	0.6918	0.7069	70
80	0.7069	0.7220	0.7371	0.7522	0.7674	0.7825	0.7977	0.8129	0.8281	0.8433	0.8585	80
90	0.8585	0.8737	0.8890	0.9043	0.9195	0.9348	0.9501	0.9655	0.9808	0.9962	1.0115	90
100	1.0115	1.0269	1.0423	1.0577	1.0731	1.0886	1.1040	1.1195	1.1349	1.1504	1.1659	100
110	1.1659	1.1814	1.1970	1.2125	1.2281	1.2436	1.2592	1.2748	1.2904	1.3060	1.3217	110
120	1.3217	1.3373	1.3530	1.3687	1.3844	1.4001	1.4158	1.4315	1.4472	1.4630	1.4788	120
130	1.4788	1.4945	1.5103	1.5261	1.5420	1.5578	1.5736	1.5895	1.6054	1.6212	1.6371	130
140	1.6371	1.6530	1.6690	1.6849	1.7008	1.7168	1.7328	1.7488	1.7647	1.7808	1.7968	140
150	1.7968	1.8128	1.8289	1.8449	1.8610	1.8771	1.8931	1.9093	1.9254	1.9415	1.9576	150
160	1.9576	1.9738	1.9900	2.0061	2.0223	2.0385	2.0547	2.0710	2.0872	2.1034	2.1197	160
170	2.1197	2.1360	2.1523	2.1686	2.1849	2.2012	2.2175	2.2338	2.2502	2.2666	2.2829	170
180	2.2829	2.2993	2.3157	2.3321	2.3486	2.3650	2.3814	2.3979	2.4144	2.4308	2.4473	180
190	2.4473	2.4638	2.4803	2.4968	2.5134	2.5299	2.5465	2.5630	2.5796	2.5962	2.6128	190
200	2.6128	2.6294	2.6460	2.6627	2.6793	2.6960	2.7126	2.7293	2.7460	2.7627	2.7794	200
210	2.7794	2.7961	2.8128	2.8296	2.8463	2.8631	2.8798	2.8966	2.9134	2.9302	2.9470	210
220	2.9470	2.9638	2.9807	2.9975	3.0143	3.0312	3.0481	3.0650	3.0819	3.0988	3.1157	220
230	3.1157	3.1326	3.1495	3.1665	3.1834	3.2004	3.2173	3.2343	3.2513	3.2683	3.2853	230
240	3.2853	3.3023	3.3194	3.3364	3.3535	3.3705	3.3876	3.4047	3.4217	3.4388	3.4559	240
250	3.4559	3.4731	3.4902	3.5073	3.5245	3.5416	3.5588	3.5759	3.5931	3.6103	3.6275	250
260	3.6275	3.6447	3.6619	3.6792	3.6964	3.7136	3.7309	3.7482	3.7654	3.7827	3.8000	260
270	3.8000	3.8173	3.8346	3.8519	3.8693	3.8866	3.9039	3.9213	3.9386	3.9560	3.9734	270
280	3.9734	3.9908	4.0082	4.0256	4.0430	4.0604	4.0778	4.0953	4.1127	4.1302	4.1476	280
290	4.1476	4.1651	4.1826	4.2001	4.2176	4.2351	4.2526	4.2701	4.2877	4.3052	4.3227	290
300	4.3227	4.3403	4.3579	4.3754	4.3930	4.4106	4.4282	4.4458	4.4634	4.4810	4.4986	300
310	4.4986	4.5163	4.5339	4.5516	4.5692	4.5869	4.6046	4.6223	4.6399	4.6576	4.6753	310
320	4.6753	4.6931	4.7108	4.7285	4.7462	4.7640	4.7817	4.7995	4.8173	4.8350	4.8528	320
330	4.8528	4.8706	4.8884	4.9062	4.9240	4.9418	4.9596	4.9775	4.9953	5.0132	5.0310	330
340	5.0310	5.0489	5.0667	5.0846	5.1025	5.1204	5.1383	5.1562	5.1741	5.1920	5.2099	340
350	5.2099	5.2279	5.2458	5.2638	5.2817	5.2997	5.3176	5.3356	5.3536	5.3716	5.3896	350
360	5.3896	5.4076	5.4256	5.4436	5.4616	5.4796	5.4977	5.5157	5.5338	5.5518	5.5699	360
370	5.5699	5.5879	5.6060	5.6241	5.6422	5.6603	5.6784	5.6965	5.7146	5.7327	5.7508	370
380	5.7508	5.7689	5.7871	5.8052	5.8234	5.8415	5.8597	5.8778	5.8960	5.9142	5.9324	380
390	5.9324	5.9506	5.9688	5.9870	6.0052	6.0234	6.0416	6.0598	6.0781	6.0963	6.1146	390
400	6.1146	6.1328	6.1511	6.1693	6.1876	6.2059	6.2242	6.2424	6.2607	6.2790	6.2973	400
410	6.2973	6.3156	6.3339	6.3523	6.3706	6.3889	6.4073	6.4256	6.4439	6.4623	6.4806	410
420	6.4806	6.4990	6.5174	6.5357	6.5541	6.5725	6.5909	6.6093	6.6277	6.6461	6.6645	420
430	6.6645	6.6829	6.7013	6.7198	6.7382	6.7566	6.7751	6.7935	6.8120	6.8304	6.8489	430
440	6.8489	6.8674	6.8858	6.9043	6.9228	6.9413	6.9598	6.9783	6.9968	7.0153	7.0338	440
450	7.0338	7.0523	7.0708	7.0893	7.1079	7.1264	7.1449	7.1635	7.1820	7.2006	7.2191	450
460	7.2191	7.2377	7.2563	7.2748	7.2934	7.3120	7.3306	7.3492	7.3678	7.3864	7.4050	460
470	7.4050	7.4236	7.4422	7.4608	7.4794	7.4980	7.5167	7.5353	7.5539	7.5726	7.5912	470
480	7.5912	7.6099	7.6285	7.6472	7.6658	7.6845	7.7032	7.7219	7.7405	7.7592	7.7779	480
490	7.7779	7.7966	7.8153	7.8340	7.8527	7.8714	7.8901	7.9088	7.9275	7.9463	7.9650	490
500	7.9650	7.9837	8.0024	8.0212	8.0399	8.0587	8.0774	8.0962	8.1149	8.1337	8.1525	500
510	8.1525	8.1712	8.1900	8.2088	8.2275	8.2463	8.2651	8.2839	8.3027	8.3215	8.3403	510
520	8.3403	8.3591	8.3779	8.3967	8.4155	8.4343	8.4532	8.4720	8.4908	8.5096	8.5285	520
530	8.5285	8.5473	8.5661	8.5850	8.6038	8.6227	8.6415	8.6604	8.6792	8.6981	8.7170	530
540	8.7170	8.7358	8.7547	8.7736	8.7925	8.8113	8.8302	8.8491	8.8680	8.8869	8.9058	540
550	8.9058	8.9247	8.9436	8.9625	8.9814	9.0003	9.0192	9.0381	9.0571	9.0760	9.0949	550
560	9.0949	9.1138	9.1328	9.1517	9.1706	9.1896	9.2085	9.2275	9.2464	9.2654	9.2843	560
570	9.2843	9.3033	9.3222	9.3412	9.3601	9.3791	9.3981	9.4170	9.4360	9.4550	9.4740	570
580	9.4740	9.4929	9.5119	9.5309	9.5499	9.5689	9.5879	9.6069	9.6259	9.6449	9.6639	580
590	9.6639	9.6829	9.7019	9.7209	9.7399	9.7589	9.7779	9.7969	9.8160	9.8350	9.8540	590
600	9.8540	9.8730	9.8921	9.9111	9.9301	9.9492	9.9682	9.9872	10.0063	10.0253	10.0444	600
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 6. ***Type KP (or EP) thermoelements versus platinum, Pt–67***—*thermoelectric voltage as a function of temperature (°F), reference junctions at 32 °F—Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						THERMOELECTRIC VOLTAGE IN ABSOLUTE MILLIVOLTS						
600	9.8540	9.8730	9.8921	9.9111	9.9301	9.9492	9.9682	9.9872	10.0063	10.0253	10.0444	600
610	10.0444	10.0634	10.0825	10.1015	10.1206	10.1396	10.1587	10.1777	10.1968	10.2159	10.2349	610
620	10.2349	10.2540	10.2730	10.2921	10.3112	10.3303	10.3493	10.3684	10.3875	10.4066	10.4257	620
630	10.4257	10.4447	10.4638	10.4829	10.5020	10.5211	10.5402	10.5593	10.5784	10.5975	10.6166	630
640	10.6166	10.6357	10.6548	10.6739	10.6930	10.7121	10.7312	10.7503	10.7694	10.7885	10.8076	640
650	10.8076	10.8267	10.8459	10.8650	10.8841	10.9032	10.9223	10.9415	10.9606	10.9797	10.9988	650
660	10.9988	11.0180	11.0371	11.0562	11.0754	11.0945	11.1136	11.1328	11.1519	11.1710	11.1902	660
670	11.1902	11.2093	11.2285	11.2476	11.2667	11.2859	11.3050	11.3242	11.3433	11.3625	11.3816	670
680	11.3816	11.4008	11.4199	11.4391	11.4582	11.4774	11.4965	11.5157	11.5349	11.5540	11.5732	680
690	11.5732	11.5923	11.6115	11.6307	11.6498	11.6690	11.6882	11.7073	11.7265	11.7457	11.7648	690
700	11.7648	11.7840	11.8032	11.8223	11.8415	11.8607	11.8798	11.8990	11.9182	11.9374	11.9565	700
710	11.9565	11.9757	11.9949	12.0141	12.0333	12.0524	12.0716	12.0908	12.1100	12.1292	12.1483	710
720	12.1483	12.1675	12.1867	12.2059	12.2251	12.2443	12.2634	12.2826	12.3018	12.3210	12.3402	720
730	12.3402	12.3594	12.3786	12.3977	12.4169	12.4361	12.4553	12.4745	12.4937	12.5129	12.5321	730
740	12.5321	12.5512	12.5704	12.5896	12.6088	12.6280	12.6472	12.6664	12.6856	12.7048	12.7240	740
750	12.7240	12.7432	12.7624	12.7816	12.8007	12.8199	12.8391	12.8583	12.8775	12.8967	12.9159	750
760	12.9159	12.9351	12.9543	12.9735	12.9927	13.0119	13.0311	13.0503	13.0695	13.0887	13.1078	760
770	13.1078	13.1270	13.1462	13.1654	13.1846	13.2038	13.2230	13.2422	13.2614	13.2806	13.2998	770
780	13.2998	13.3190	13.3382	13.3574	13.3766	13.3957	13.4149	13.4341	13.4533	13.4725	13.4917	780
790	13.4917	13.5109	13.5301	13.5493	13.5685	13.5877	13.6069	13.6260	13.6452	13.6644	13.6836	790
800	13.6836	13.7028	13.7220	13.7412	13.7604	13.7796	13.7987	13.8179	13.8371	13.8563	13.8755	800
810	13.8755	13.8947	13.9139	13.9330	13.9522	13.9714	13.9906	14.0098	14.0289	14.0481	14.0673	810
820	14.0673	14.0865	14.1057	14.1248	14.1440	14.1632	14.1824	14.2016	14.2207	14.2399	14.2591	820
830	14.2591	14.2783	14.2974	14.3166	14.3358	14.3550	14.3741	14.3933	14.4125	14.4316	14.4508	830
840	14.4508	14.4700	14.4891	14.5083	14.5275	14.5466	14.5658	14.5850	14.6041	14.6233	14.6424	840
850	14.6424	14.6616	14.6808	14.6999	14.7191	14.7382	14.7574	14.7766	14.7957	14.8149	14.8340	850
860	14.8340	14.8532	14.8723	14.8915	14.9106	14.9298	14.9489	14.9681	14.9872	15.0064	15.0255	860
870	15.0255	15.0446	15.0638	15.0829	15.1021	15.1212	15.1403	15.1595	15.1786	15.1978	15.2169	870
880	15.2169	15.2360	15.2552	15.2743	15.2934	15.3125	15.3317	15.3508	15.3699	15.3891	15.4082	880
890	15.4082	15.4273	15.4464	15.4655	15.4847	15.5038	15.5229	15.5420	15.5611	15.5802	15.5994	890
900	15.5994	15.6185	15.6376	15.6567	15.6758	15.6949	15.7140	15.7331	15.7522	15.7713	15.7904	900
910	15.7904	15.8095	15.8286	15.8477	15.8668	15.8859	15.9050	15.9241	15.9432	15.9623	15.9814	910
920	15.9814	16.0004	16.0195	16.0386	16.0577	16.0768	16.0959	16.1149	16.1340	16.1531	16.1722	920
930	16.1722	16.1912	16.2103	16.2294	16.2485	16.2675	16.2866	16.3057	16.3247	16.3438	16.3628	930
940	16.3628	16.3819	16.4010	16.4200	16.4391	16.4581	16.4772	16.4962	16.5153	16.5343	16.5534	940
950	16.5534	16.5724	16.5915	16.6105	16.6295	16.6486	16.6676	16.6866	16.7057	16.7247	16.7437	950
960	16.7437	16.7628	16.7818	16.8008	16.8198	16.8389	16.8579	16.8769	16.8959	16.9149	16.9340	960
970	16.9340	16.9530	16.9720	16.9910	17.0100	17.0290	17.0480	17.0670	17.0860	17.1050	17.1240	970
980	17.1240	17.1430	17.1620	17.1810	17.2000	17.2190	17.2380	17.2570	17.2759	17.2949	17.3139	980
990	17.3139	17.3329	17.3519	17.3708	17.3898	17.4088	17.4278	17.4467	17.4657	17.4847	17.5036	990
1,000	17.5036	17.5226	17.5416	17.5605	17.5795	17.5984	17.6174	17.6363	17.6553	17.6742	17.6932	1,000
1,010	17.6932	17.7121	17.7311	17.7500	17.7689	17.7879	17.8068	17.8258	17.8447	17.8636	17.8825	1,010
1,020	17.8825	17.9015	17.9204	17.9393	17.9582	17.9772	17.9961	18.0150	18.0339	18.0528	18.0717	1,020
1,030	18.0717	18.0906	18.1095	18.1284	18.1473	18.1662	18.1851	18.2040	18.2229	18.2418	18.2607	1,030
1,040	18.2607	18.2796	18.2985	18.3174	18.3362	18.3551	18.3740	18.3929	18.4117	18.4306	18.4495	1,040
1,050	18.4495	18.4684	18.4872	18.5061	18.5249	18.5438	18.5627	18.5815	18.6004	18.6192	18.6381	1,050
1,060	18.6381	18.6569	18.6758	18.6946	18.7134	18.7323	18.7511	18.7700	18.7888	18.8076	18.8265	1,060
1,070	18.8265	18.8453	18.8641	18.8829	18.9018	18.9206	18.9394	18.9582	18.9770	18.9958	19.0146	1,070
1,080	19.0146	19.0334	19.0522	19.0710	19.0898	19.1086	19.1274	19.1462	19.1650	19.1838	19.2026	1,080
1,090	19.2026	19.2214	19.2402	19.2589	19.2777	19.2965	19.3153	19.3340	19.3528	19.3716	19.3903	1,090
1,100	19.3903	19.4091	19.4279	19.4466	19.4654	19.4841	19.5029	19.5216	19.5404	19.5591	19.5779	1,100
1,110	19.5779	19.5966	19.6154	19.6341	19.6528	19.6716	19.6903	19.7090	19.7277	19.7465	19.7652	1,110
1,120	19.7652	19.7839	19.8026	19.8213	19.8401	19.8588	19.8775	19.8962	19.9149	19.9336	19.9523	1,120
1,130	19.9523	19.9710	19.9897	20.0084	20.0271	20.0457	20.0644	20.0831	20.1018	20.1205	20.1391	1,130
1,140	20.1391	20.1578	20.1765	20.1952	20.2138	20.2325	20.2512	20.2698	20.2885	20.3071	20.3258	1,140
1,150	20.3258	20.3444	20.3631	20.3817	20.4004	20.4190	20.4377	20.4563	20.4749	20.4936	20.5122	1,150
1,160	20.5122	20.5308	20.5494	20.5681	20.5867	20.6053	20.6239	20.6425	20.6611	20.6798	20.6984	1,160
1,170	20.6984	20.7170	20.7356	20.7542	20.7728	20.7914	20.8100	20.8285	20.8471	20.8657	20.8843	1,170
1,180	20.8843	20.9029	20.9215	20.9400	20.9586	20.9772	20.9957	21.0143	21.0329	21.0514	21.0700	1,180
1,190	21.0700	21.0886	21.1071	21.1257	21.1442	21.1628	21.1813	21.1998	21.2184	21.2369	21.2555	1,190
1,200	21.2555	21.2740	21.2925	21.3111	21.3296	21.3481	21.3666	21.3851	21.4037	21.4222	21.4407	1,200
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 6. *Type KP (or EP) thermoelements versus platinum,* **Pt–6 7***—thermoelectric voltage as a function of temperature (°F), reference junctions at 32 °F—Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
					THERMOELECTRIC VOLTAGE IN ABSOLUTE MILLIVOLTS							
1,200	21.2555	21.2740	21.2925	21.3111	21.3296	21.3481	21.3666	21.3851	21.4037	21.4222	21.4407	1,200
1,210	21.4407	21.4592	21.4777	21.4962	21.5147	21.5332	21.5517	21.5702	21.5887	21.6072	21.6257	1,210
1,220	21.6257	21.6441	21.6626	21.6811	21.6996	21.7181	21.7365	21.7550	21.7735	21.7919	21.8104	1,220
1,230	21.8104	21.8289	21.8473	21.8658	21.8842	21.9027	21.9211	21.9396	21.9580	21.9765	21.9949	1,230
1,240	21.9949	22.0133	22.0318	22.0502	22.0686	22.0871	22.1055	22.1239	22.1423	22.1607	22.1791	1,240
1,250	22.1791	22.1976	22.2160	22.2344	22.2528	22.2712	22.2896	22.3080	22.3264	22.3448	22.3632	1,250
1,260	22.3632	22.3815	22.3999	22.4183	22.4367	22.4551	22.4734	22.4918	22.5102	22.5285	22.5469	1,260
1,270	22.5469	22.5653	22.5836	22.6020	22.6203	22.6387	22.6570	22.6754	22.6937	22.7121	22.7304	1,270
1,280	22.7304	22.7488	22.7671	22.7854	22.8038	22.8221	22.8404	22.8587	22.8771	22.8954	22.9137	1,280
1,290	22.9137	22.9320	22.9503	22.9686	22.9869	23.0052	23.0235	23.0418	23.0601	23.0784	23.0967	1,290
1,300	23.0967	23.1150	23.1333	23.1516	23.1698	23.1881	23.2064	23.2247	23.2429	23.2612	23.2795	1,300
1,310	23.2795	23.2977	23.3160	23.3343	23.3525	23.3708	23.3890	23.4073	23.4255	23.4437	23.4620	1,310
1,320	23.4620	23.4802	23.4985	23.5167	23.5349	23.5532	23.5714	23.5896	23.6078	23.6260	23.6443	1,320
1,330	23.6443	23.6625	23.6807	23.6989	23.7171	23.7353	23.7535	23.7717	23.7899	23.8081	23.8263	1,330
1,340	23.8263	23.8445	23.8627	23.8808	23.8990	23.9172	23.9354	23.9536	23.9717	23.9899	24.0081	1,340
1,350	24.0081	24.0262	24.0444	24.0625	24.0807	24.0989	24.1170	24.1352	24.1533	24.1714	24.1896	1,350
1,360	24.1896	24.2077	24.2259	24.2440	24.2621	24.2803	24.2984	24.3165	24.3346	24.3528	24.3709	1,360
1,370	24.3709	24.3890	24.4071	24.4252	24.4433	24.4614	24.4795	24.4976	24.5157	24.5338	24.5519	1,370
1,380	24.5519	24.5700	24.5881	24.6062	24.6243	24.6423	24.6604	24.6785	24.6966	24.7146	24.7327	1,380
1,390	24.7327	24.7508	24.7688	24.7869	24.8049	24.8230	24.8410	24.8591	24.8771	24.8952	24.9132	1,390
1,400	24.9132	24.9313	24.9493	24.9674	24.9854	25.0034	25.0214	25.0395	25.0575	25.0755	25.0935	1,400
1,410	25.0935	25.1115	25.1296	25.1476	25.1656	25.1836	25.2016	25.2196	25.2376	25.2556	25.2736	1,410
1,420	25.2736	25.2916	25.3096	25.3276	25.3455	25.3635	25.3815	25.3995	25.4175	25.4354	25.4534	1,420
1,430	25.4534	25.4714	25.4893	25.5073	25.5253	25.5432	25.5612	25.5791	25.5971	25.6150	25.6330	1,430
1,440	25.6330	25.6509	25.6688	25.6868	25.7047	25.7227	25.7406	25.7585	25.7764	25.7944	25.8123	1,440
1,450	25.8123	25.8302	25.8481	25.8660	25.8839	25.9019	25.9198	25.9377	25.9556	25.9735	25.9914	1,450
1,460	25.9914	26.0093	26.0272	26.0450	26.0629	26.0808	26.0987	26.1166	26.1345	26.1523	26.1702	1,460
1,470	26.1702	26.1881	26.2060	26.2238	26.2417	26.2595	26.2774	26.2953	26.3131	26.3310	26.3488	1,470
1,480	26.3488	26.3667	26.3845	26.4024	26.4202	26.4380	26.4559	26.4737	26.4915	26.5094	26.5272	1,480
1,490	26.5272	26.5450	26.5628	26.5807	26.5985	26.6163	26.6341	26.6519	26.6697	26.6875	26.7053	1,490
1,500	26.7053	26.7231	26.7409	26.7587	26.7765	26.7943	26.8121	26.8299	26.8477	26.8654	26.8832	1,500
1,510	26.8832	26.9010	26.9188	26.9365	26.9543	26.9721	26.9898	27.0076	27.0254	27.0431	27.0609	1,510
1,520	27.0609	27.0786	27.0964	27.1141	27.1319	27.1496	27.1674	27.1851	27.2028	27.2206	27.2383	1,520
1,530	27.2383	27.2560	27.2738	27.2915	27.3092	27.3269	27.3447	27.3624	27.3801	27.3978	27.4155	1,530
1,540	27.4155	27.4332	27.4509	27.4686	27.4863	27.5040	27.5217	27.5394	27.5571	27.5748	27.5925	1,540
1,550	27.5925	27.6102	27.6278	27.6455	27.6632	27.6809	27.6985	27.7162	27.7339	27.7516	27.7692	1,550
1,560	27.7692	27.7869	27.8045	27.8222	27.8398	27.8575	27.8752	27.8928	27.9104	27.9281	27.9457	1,560
1,570	27.9457	27.9634	27.9810	27.9986	28.0163	28.0339	28.0515	28.0692	28.0868	28.1044	28.1220	1,570
1,580	28.1220	28.1396	28.1572	28.1749	28.1925	28.2101	28.2277	28.2453	28.2629	28.2805	28.2981	1,580
1,590	28.2981	28.3157	28.3333	28.3509	28.3684	28.3860	28.4036	28.4212	28.4388	28.4563	28.4739	1,590
1,600	28.4739	28.4915	28.5091	28.5266	28.5442	28.5618	28.5793	28.5969	28.6144	28.6320	28.6495	1,600
1,610	28.6495	28.6671	28.6846	28.7022	28.7197	28.7373	28.7548	28.7723	28.7899	28.8074	28.8249	1,610
1,620	28.8249	28.8425	28.8600	28.8775	28.8950	28.9125	28.9301	28.9476	28.9651	28.9826	29.0001	1,620
1,630	29.0001	29.0176	29.0351	29.0526	29.0701	29.0876	29.1051	29.1226	29.1401	29.1576	29.1751	1,630
1,640	29.1751	29.1926	29.2100	29.2275	29.2450	29.2625	29.2799	29.2974	29.3149	29.3323	29.3498	1,640
1,650	29.3498	29.3673	29.3847	29.4022	29.4196	29.4371	29.4546	29.4720	29.4894	29.5069	29.5243	1,650
1,660	29.5243	29.5418	29.5592	29.5767	29.5941	29.6115	29.6289	29.6464	29.6638	29.6812	29.6986	1,660
1,670	29.6986	29.7161	29.7335	29.7509	29.7683	29.7857	29.8031	29.8205	29.8379	29.8553	29.8727	1,670
1,680	29.8727	29.8901	29.9075	29.9249	29.9423	29.9597	29.9771	29.9945	30.0119	30.0293	30.0466	1,680
1,690	30.0466	30.0640	30.0814	30.0988	30.1161	30.1335	30.1509	30.1682	30.1856	30.2030	30.2203	1,690
1,700	30.2203	30.2377	30.2550	30.2724	30.2897	30.3071	30.3244	30.3418	30.3591	30.3764	30.3938	1,700
1,710	30.3938	30.4111	30.4284	30.4458	30.4631	30.4804	30.4978	30.5151	30.5324	30.5497	30.5670	1,710
1,720	30.5670	30.5843	30.6017	30.6190	30.6363	30.6536	30.6709	30.6882	30.7055	30.7228	30.7401	1,720
1,730	30.7401	30.7574	30.7747	30.7920	30.8092	30.8265	30.8438	30.8611	30.8784	30.8956	30.9129	1,730
1,740	30.9129	30.9302	30.9475	30.9647	30.9820	30.9993	31.0165	31.0338	31.0510	31.0683	31.0856	1,740
1,750	31.0856	31.1028	31.1201	31.1373	31.1546	31.1718	31.1890	31.2063	31.2235	31.2408	31.2580	1,750
1,760	31.2580	31.2752	31.2924	31.3097	31.3269	31.3441	31.3613	31.3786	31.3958	31.4130	31.4302	1,760
1,770	31.4302	31.4474	31.4646	31.4818	31.4990	31.5162	31.5334	31.5506	31.5678	31.5850	31.6022	1,770
1,780	31.6022	31.6194	31.6366	31.6538	31.6710	31.6882	31.7053	31.7225	31.7397	31.7569	31.7740	1,780
1,790	31.7740	31.7912	31.8084	31.8255	31.8427	31.8599	31.8770	31.8942	31.9113	31.9285	31.9457	1,790
1,800	31.9457	31.9628	31.9800	31.9971	32.0142	32.0314	32.0485	32.0657	32.0828	32.0999	32.1171	1,800
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 6. ***Type KP (or EP) thermoelements versus platinum, Pt–67**—thermoelectric voltage as a function of temperature (°F), reference junctions at 32 °F—Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						THERMOELECTRIC VOLTAGE IN ABSOLUTE MILLIVOLTS						
1,800	31.9457	31.9628	31.9800	31.9971	32.0142	32.0314	32.0485	32.0657	32.0828	32.0999	32.1171	1,800
1,810	32.1171	32.1342	32.1513	32.1684	32.1856	32.2027	32.2198	32.2369	32.2540	32.2712	32.2883	1,810
1,820	32.2883	32.3054	32.3225	32.3396	32.3567	32.3738	32.3909	32.4080	32.4251	32.4422	32.4593	1,820
1,830	32.4593	32.4764	32.4934	32.5105	32.5276	32.5447	32.5618	32.5788	32.5959	32.6130	32.6301	1,830
1,840	32.6301	32.6471	32.6642	32.6813	32.6983	32.7154	32.7324	32.7495	32.7666	32.7836	32.8007	1,840
1,850	32.8007	32.8177	32.8347	32.8518	32.8688	32.8859	32.9029	32.9199	32.9370	32.9540	32.9710	1,850
1,860	32.9710	32.9881	33.0051	33.0221	33.0391	33.0562	33.0732	33.0902	33.1072	33.1242	33.1412	1,860
1,870	33.1412	33.1582	33.1752	33.1922	33.2092	33.2262	33.2432	33.2602	33.2772	33.2942	33.3112	1,870
1,880	33.3112	33.3282	33.3452	33.3622	33.3791	33.3961	33.4131	33.4301	33.4470	33.4640	33.4810	1,880
1,890	33.4810	33.4979	33.5149	33.5319	33.5488	33.5658	33.5827	33.5997	33.6166	33.6336	33.6505	1,890
1,900	33.6505	33.6675	33.6844	33.7014	33.7183	33.7353	33.7522	33.7691	33.7860	33.8030	33.8199	1,900
1,910	33.8199	33.8368	33.8538	33.8707	33.8876	33.9045	33.9214	33.9383	33.9552	33.9721	33.9891	1,910
1,920	33.9891	34.0060	34.0229	34.0398	34.0567	34.0736	34.0904	34.1073	34.1242	34.1411	34.1580	1,920
1,930	34.1580	34.1749	34.1918	34.2086	34.2255	34.2424	34.2593	34.2761	34.2930	34.3099	34.3267	1,930
1,940	34.3267	34.3436	34.3604	34.3773	34.3942	34.4110	34.4279	34.4447	34.4616	34.4784	34.4952	1,940
1,950	34.4952	34.5121	34.5289	34.5457	34.5626	34.5794	34.5962	34.6131	34.6299	34.6467	34.6635	1,950
1,960	34.6635	34.6804	34.6972	34.7140	34.7308	34.7476	34.7644	34.7812	34.7980	34.8148	34.8316	1,960
1,970	34.8316	34.8484	34.8652	34.8820	34.8988	34.9156	34.9324	34.9491	34.9659	34.9827	34.9995	1,970
1,980	34.9995	35.0163	35.0330	35.0498	35.0666	35.0833	35.1001	35.1169	35.1336	35.1504	35.1671	1,980
1,990	35.1671	35.1839	35.2006	35.2174	35.2341	35.2509	35.2676	35.2843	35.3011	35.3178	35.3345	1,990
2,000	35.3345	35.3513	35.3680	35.3847	35.4014	35.4182	35.4349	35.4516	35.4683	35.4850	35.5017	2,000
2,010	35.5017	35.5184	35.5351	35.5518	35.5685	35.5852	35.6019	35.6186	35.6353	35.6520	35.6687	2,010
2,020	35.6687	35.6854	35.7020	35.7187	35.7354	35.7521	35.7687	35.7854	35.8021	35.8187	35.8354	2,020
2,030	35.8354	35.8521	35.8687	35.8854	35.9020	35.9187	35.9353	35.9520	35.9686	35.9853	36.0019	2,030
2,040	36.0019	36.0185	36.0352	36.0518	36.0684	36.0850	36.1017	36.1183	36.1349	36.1515	36.1681	2,040
2,050	36.1681	36.1848	36.2014	36.2180	36.2346	36.2512	36.2678	36.2844	36.3010	36.3176	36.3341	2,050
2,060	36.3341	36.3507	36.3673	36.3839	36.4005	36.4171	36.4336	36.4502	36.4668	36.4833	36.4999	2,060
2,070	36.4999	36.5165	36.5330	36.5496	36.5661	36.5827	36.5992	36.6158	36.6323	36.6489	36.6654	2,070
2,080	36.6654	36.6819	36.6985	36.7150	36.7315	36.7481	36.7646	36.7811	36.7976	36.8141	36.8306	2,080
2,090	36.8306	36.8471	36.8637	36.8802	36.8967	36.9132	36.9297	36.9462	36.9626	36.9791	36.9956	2,090
2,100	36.9956	37.0121	37.0286	37.0451	37.0615	37.0780	37.0945	37.1109	37.1274	37.1439	37.1603	2,100
2,110	37.1603	37.1768	37.1932	37.2097	37.2261	37.2426	37.2590	37.2755	37.2919	37.3083	37.3248	2,110
2,120	37.3248	37.3412	37.3576	37.3740	37.3905	37.4069	37.4233	37.4397	37.4561	37.4725	37.4889	2,120
2,130	37.4889	37.5053	37.5217	37.5381	37.5545	37.5709	37.5873	37.6037	37.6201	37.6364	37.6528	2,130
2,140	37.6528	37.6692	37.6855	37.7019	37.7183	37.7346	37.7510	37.7673	37.7837	37.8000	37.8164	2,140
2,150	37.8164	37.8327	37.8491	37.8654	37.8817	37.8981	37.9144	37.9307	37.9470	37.9634	37.9797	2,150
2,160	37.9797	37.9960	38.0123	38.0286	38.0449	38.0612	38.0775	38.0938	38.1101	38.1264	38.1427	2,160
2,170	38.1427	38.1589	38.1752	38.1915	38.2078	38.2240	38.2403	38.2566	38.2728	38.2891	38.3053	2,170
2,180	38.3053	38.3216	38.3378	38.3541	38.3703	38.3866	38.4028	38.4190	38.4352	38.4515	38.4677	2,180
2,190	38.4677	38.4839	38.5001	38.5163	38.5325	38.5487	38.5649	38.5811	38.5973	38.6135	38.6297	2,190
2,200	38.6297	38.6459	38.6621	38.6783	38.6944	38.7106	38.7268	38.7429	38.7591	38.7753	38.7914	2,200
2,210	38.7914	38.8076	38.8237	38.8399	38.8560	38.8721	38.8883	38.9044	38.9205	38.9366	38.9528	2,210
2,220	38.9528	38.9689	38.9850	39.0011	39.0172	39.0333	39.0494	39.0655	39.0816	39.0977	39.1138	2,220
2,230	39.1138	39.1298	39.1459	39.1620	39.1781	39.1941	39.2102	39.2262	39.2423	39.2584	39.2744	2,230
2,240	39.2744	39.2904	39.3065	39.3225	39.3386	39.3546	39.3706	39.3866	39.4026	39.4187	39.4347	2,240
2,250	39.4347	39.4507	39.4667	39.4827	39.4987	39.5147	39.5306	39.5466	39.5626	39.5786	39.5946	2,250
2,260	39.5946	39.6105	39.6265	39.6425	39.6584	39.6744	39.6903	39.7063	39.7222	39.7381	39.7541	2,260
2,270	39.7541	39.7700	39.7859	39.8018	39.8177	39.8337	39.8496	39.8655	39.8814	39.8973	39.9132	2,270
2,280	39.9132	39.9290	39.9449	39.9608	39.9767	39.9926	40.0084	40.0243	40.0401	40.0560	40.0719	2,280
2,290	40.0719	40.0877	40.1035	40.1194	40.1352	40.1510	40.1669	40.1827	40.1985	40.2143	40.2301	2,290
2,300	40.2301	40.2459	40.2617	40.2775	40.2933	40.3091	40.3249	40.3407	40.3564	40.3722	40.3880	2,300
2,310	40.3880	40.4037	40.4195	40.4352	40.4510	40.4667	40.4824	40.4982	40.5139	40.5296	40.5453	2,310
2,320	40.5453	40.5611	40.5768	40.5925	40.6082	40.6239	40.6396	40.6552	40.6709	40.6866	40.7023	2,320
2,330	40.7023	40.7179	40.7336	40.7493	40.7649	40.7806	40.7962	40.8119	40.8275	40.8431	40.8587	2,330
2,340	40.8587	40.8744	40.8900	40.9056	40.9212	40.9368	40.9524	40.9680	40.9836	40.9991	41.0147	2,340
2,350	41.0147	41.0303	41.0459	41.0614	41.0770	41.0925	41.1081	41.1236	41.1392	41.1547	41.1702	2,350
2,360	41.1702	41.1857	41.2012	41.2168	41.2323	41.2478	41.2633	41.2787	41.2942	41.3097	41.3252	2,360
2,370	41.3252	41.3407	41.3561	41.3716	41.3870	41.4025	41.4179	41.4334	41.4488	41.4642	41.4796	2,370
2,380	41.4796	41.4950	41.5105	41.5259	41.5413	41.5567	41.5720	41.5874	41.6028	41.6182	41.6335	2,380
2,390	41.6335	41.6489	41.6643	41.6796	41.6950	41.7103	41.7256	41.7409	41.7563	41.7716	41.7869	2,390
2,400	41.7869	41.8022	41.8175	41.8328	41.8481	41.8634	41.8786	41.8939	41.9092	41.9244	41.9397	2,400
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 6. *Type KP (or EP) thermoelements versus platinum,* **Pt–67**—*thermoelectric voltage as a function of temperature (°F), reference junctions at 32 °F—Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
					THERMOELECTRIC VOLTAGE IN ABSOLUTE MILLIVOLTS							
2,400	41.7869	41.8022	41.8175	41.8328	41.8481	41.8634	41.8786	41.8939	41.9092	41.9244	41.9397	2,400
2,410	41.9397	41.9549	41.9702	41.9854	42.0006	42.0159	42.0311	42.0463	42.0615	42.0767	42.0919	2,410
2,420	42.0919	42.1071	42.1223	42.1374	42.1526	42.1678	42.1829	42.1981	42.2132	42.2283	42.2435	2,420
2,430	42.2435	42.2586	42.2737	42.2888	42.3039	42.3190	42.3341	42.3492	42.3643	42.3794	42.3945	2,430
2,440	42.3945	42.4095	42.4246	42.4396	42.4547	42.4697	42.4847	42.4998	42.5148	42.5298	42.5448	2,440
2,450	42.5448	42.5598	42.5748	42.5898	42.6048	42.6197	42.6347	42.6496	42.6646	42.6795	42.6945	2,450
2,460	42.6945	42.7094	42.7243	42.7393	42.7542	42.7691	42.7840	42.7989	42.8137	42.8286	42.8435	2,460
2,470	42.8435	42.8584	42.8732	42.8881	42.9029	42.9177	42.9326	42.9474	42.9622	42.9770	42.9918	2,470
2,480	42.9918	43.0066	43.0214	43.0362	43.0509	43.0657	43.0805	43.0952	43.1100	43.1247	43.1394	2,480
2,490	43.1394	43.1541	43.1689	43.1836	43.1983	43.2130	43.2276	43.2423	43.2570	43.2716	43.2863	2,490
2,500	43.2863											2,500
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 7. ***Platinum, Pt–67, versus Type KN thermoelements***—*thermoelectric voltage as a function of temperature (°F), reference junctions at 32 °F*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
					THERMOELECTRIC VOLTAGE IN ABSOLUTE MILLIVOLTS							
-450	-2.8998	-2.9000	-2.9000	-2.9001	-2.9000							-450
-440	-2.8955	-2.8962	-2.8968	-2.8974	-2.8979	-2.8984	-2.8988	-2.8991	-2.8994	-2.8997	-2.8998	-440
-430	-2.8851	-2.8864	-2.8877	-2.8889	-2.8900	-2.8910	-2.8921	-2.8930	-2.8939	-2.8947	-2.8955	-430
-420	-2.8684	-2.8703	-2.8722	-2.8741	-2.8758	-2.8775	-2.8792	-2.8807	-2.8823	-2.8837	-2.8851	-420
-410	-2.8453	-2.8479	-2.8504	-2.8529	-2.8553	-2.8576	-2.8599	-2.8621	-2.8643	-2.8664	-2.8684	-410
-400	-2.8160	-2.8192	-2.8223	-2.8254	-2.8284	-2.8314	-2.8343	-2.8371	-2.8399	-2.8426	-2.8453	-400
-390	-2.7809	-2.7847	-2.7884	-2.7920	-2.7956	-2.7991	-2.8026	-2.8061	-2.8094	-2.8127	-2.8160	-390
-380	-2.7407	-2.7450	-2.7492	-2.7533	-2.7574	-2.7614	-2.7654	-2.7694	-2.7733	-2.7771	-2.7809	-380
-370	-2.6961	-2.7007	-2.7053	-2.7099	-2.7144	-2.7189	-2.7234	-2.7278	-2.7321	-2.7365	-2.7407	-370
-360	-2.6477	-2.6526	-2.6576	-2.6625	-2.6674	-2.6723	-2.6771	-2.6819	-2.6867	-2.6914	-2.6961	-360
-350	-2.5962	-2.6014	-2.6067	-2.6119	-2.6171	-2.6223	-2.6274	-2.6325	-2.6376	-2.6426	-2.6477	-350
-340	-2.5422	-2.5477	-2.5532	-2.5587	-2.5641	-2.5695	-2.5749	-2.5802	-2.5856	-2.5909	-2.5962	-340
-330	-2.4864	-2.4920	-2.4977	-2.5033	-2.5089	-2.5145	-2.5201	-2.5257	-2.5312	-2.5367	-2.5422	-330
-320	-2.4290	-2.4348	-2.4406	-2.4464	-2.4521	-2.4579	-2.4636	-2.4693	-2.4750	-2.4807	-2.4864	-320
-310	-2.3704	-2.3763	-2.3822	-2.3881	-2.3940	-2.3998	-2.4057	-2.4115	-2.4174	-2.4232	-2.4290	-310
-300	-2.3109	-2.3169	-2.3229	-2.3288	-2.3348	-2.3408	-2.3467	-2.3527	-2.3586	-2.3645	-2.3704	-300
-290	-2.2505	-2.2566	-2.2627	-2.2687	-2.2748	-2.2808	-2.2868	-2.2929	-2.2989	-2.3049	-2.3109	-290
-280	-2.1895	-2.1956	-2.2018	-2.2079	-2.2140	-2.2201	-2.2262	-2.2323	-2.2384	-2.2445	-2.2505	-280
-270	-2.1278	-2.1340	-2.1402	-2.1464	-2.1525	-2.1587	-2.1649	-2.1710	-2.1772	-2.1833	-2.1895	-270
-260	-2.0655	-2.0717	-2.0780	-2.0842	-2.0905	-2.0967	-2.1029	-2.1091	-2.1154	-2.1216	-2.1278	-260
-250	-2.0025	-2.0088	-2.0152	-2.0215	-2.0278	-2.0341	-2.0403	-2.0466	-2.0529	-2.0592	-2.0655	-250
-240	-1.9390	-1.9454	-1.9517	-1.9581	-1.9645	-1.9708	-1.9772	-1.9835	-1.9899	-1.9962	-2.0025	-240
-230	-1.8748	-1.8813	-1.8877	-1.8941	-1.9006	-1.9070	-1.9134	-1.9198	-1.9262	-1.9326	-1.9390	-230
-220	-1.8101	-1.8166	-1.8231	-1.8296	-1.8361	-1.8425	-1.8490	-1.8555	-1.8619	-1.8684	-1.8748	-220
-210	-1.7447	-1.7513	-1.7579	-1.7644	-1.7709	-1.7775	-1.7840	-1.7905	-1.7971	-1.8036	-1.8101	-210
-200	-1.6788	-1.6854	-1.6920	-1.6986	-1.7052	-1.7118	-1.7184	-1.7250	-1.7316	-1.7382	-1.7447	-200
-190	-1.6122	-1.6189	-1.6256	-1.6323	-1.6389	-1.6456	-1.6522	-1.6589	-1.6655	-1.6722	-1.6788	-190
-180	-1.5451	-1.5518	-1.5586	-1.5653	-1.5720	-1.5787	-1.5854	-1.5922	-1.5989	-1.6055	-1.6122	-180
-170	-1.4773	-1.4841	-1.4909	-1.4977	-1.5045	-1.5113	-1.5180	-1.5248	-1.5316	-1.5383	-1.5451	-170
-160	-1.4089	-1.4158	-1.4227	-1.4295	-1.4364	-1.4432	-1.4500	-1.4569	-1.4637	-1.4705	-1.4773	-160
-150	-1.3399	-1.3468	-1.3538	-1.3607	-1.3676	-1.3745	-1.3814	-1.3883	-1.3952	-1.4021	-1.4089	-150
-140	-1.2703	-1.2773	-1.2843	-1.2912	-1.2982	-1.3052	-1.3121	-1.3191	-1.3260	-1.3330	-1.3399	-140
-130	-1.2001	-1.2071	-1.2142	-1.2212	-1.2282	-1.2353	-1.2423	-1.2493	-1.2563	-1.2633	-1.2703	-130
-120	-1.1292	-1.1363	-1.1434	-1.1505	-1.1576	-1.1647	-1.1718	-1.1789	-1.1859	-1.1930	-1.2001	-120
-110	-1.0578	-1.0649	-1.0721	-1.0793	-1.0864	-1.0936	-1.1007	-1.1078	-1.1150	-1.1221	-1.1292	-110
-100	-0.9858	-0.9930	-1.0002	-1.0074	-1.0146	-1.0218	-1.0290	-1.0362	-1.0434	-1.0506	-1.0578	-100
-90	-0.9133	-0.9205	-0.9278	-0.9351	-0.9423	-0.9496	-0.9568	-0.9641	-0.9713	-0.9785	-0.9858	-90
-80	-0.8403	-0.8476	-0.8549	-0.8622	-0.8695	-0.8768	-0.8841	-0.8914	-0.8987	-0.9060	-0.9133	-80
-70	-0.7668	-0.7742	-0.7815	-0.7889	-0.7962	-0.8036	-0.8109	-0.8183	-0.8256	-0.8329	-0.8403	-70
-60	-0.6929	-0.7003	-0.7077	-0.7151	-0.7225	-0.7299	-0.7373	-0.7447	-0.7521	-0.7594	-0.7668	-60
-50	-0.6187	-0.6261	-0.6336	-0.6410	-0.6484	-0.6559	-0.6633	-0.6707	-0.6781	-0.6855	-0.6929	-50
-40	-0.5441	-0.5516	-0.5590	-0.5665	-0.5740	-0.5814	-0.5889	-0.5964	-0.6038	-0.6113	-0.6187	-40
-30	-0.4692	-0.4767	-0.4842	-0.4917	-0.4992	-0.5067	-0.5142	-0.5216	-0.5291	-0.5366	-0.5441	-30
-20	-0.3939	-0.4014	-0.4090	-0.4165	-0.4240	-0.4316	-0.4391	-0.4466	-0.4541	-0.4616	-0.4692	-20
-10	-0.3184	-0.3260	-0.3335	-0.3411	-0.3486	-0.3562	-0.3637	-0.3713	-0.3788	-0.3864	-0.3939	-10
- 0	-0.2427	-0.2502	-0.2578	-0.2654	-0.2730	-0.2805	-0.2881	-0.2957	-0.3033	-0.3108	-0.3184	- 0
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 7. *Platinum,* **Pt–67,** *versus Type KN thermoelements—thermoelectric voltage as a function of temperature (°F), reference junctions at 32 °F—Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						THERMOELECTRIC VOLTAGE IN ABSOLUTE MILLIVOLTS						
0	-0.2427	-0.2351	-0.2275	-0.2199	-0.2123	-0.2048	-0.1972	-0.1896	-0.1820	-0.1744	-0.1668	0
10	-0.1668	-0.1592	-0.1516	-0.1441	-0.1365	-0.1289	-0.1213	-0.1137	-0.1061	-0.0985	-0.0910	10
20	-0.0910	-0.0834	-0.0758	-0.0682	-0.0606	-0.0530	-0.0455	-0.0379	-0.0303	-0.0227	-0.0152	20
30	-0.0152	-0.0076	0.0000	0.0076	0.0152	0.0227	0.0303	0.0379	0.0454	0.0530	0.0606	30
40	0.0606	0.0681	0.0757	0.0832	0.0908	0.0983	0.1059	0.1134	0.1210	0.1285	0.1360	40
50	0.1360	0.1436	0.1511	0.1586	0.1662	0.1737	0.1812	0.1887	0.1962	0.2038	0.2113	50
60	0.2113	0.2188	0.2263	0.2338	0.2413	0.2488	0.2563	0.2638	0.2712	0.2787	0.2862	60
70	0.2862	0.2937	0.3012	0.3086	0.3161	0.3236	0.3310	0.3385	0.3459	0.3534	0.3608	70
80	0.3608	0.3683	0.3757	0.3831	0.3906	0.3980	0.4054	0.4128	0.4202	0.4277	0.4351	80
90	0.4351	0.4425	0.4499	0.4573	0.4646	0.4720	0.4794	0.4868	0.4941	0.5015	0.5089	90
100	0.5089	0.5162	0.5236	0.5309	0.5383	0.5456	0.5529	0.5603	0.5676	0.5749	0.5822	100
110	0.5822	0.5895	0.5968	0.6041	0.6114	0.6187	0.6259	0.6332	0.6405	0.6477	0.6550	110
120	0.6550	0.6622	0.6695	0.6767	0.6839	0.6911	0.6983	0.7055	0.7127	0.7199	0.7271	120
130	0.7271	0.7343	0.7415	0.7486	0.7558	0.7629	0.7701	0.7772	0.7843	0.7914	0.7985	130
140	0.7985	0.8056	0.8127	0.8198	0.8269	0.8339	0.8410	0.8480	0.8551	0.8621	0.8691	140
150	0.8691	0.8761	0.8831	0.8901	0.8971	0.9041	0.9111	0.9180	0.9250	0.9319	0.9388	150
160	0.9388	0.9457	0.9526	0.9595	0.9664	0.9733	0.9802	0.9870	0.9938	1.0007	1.0075	160
170	1.0075	1.0143	1.0211	1.0279	1.0347	1.0414	1.0482	1.0549	1.0616	1.0683	1.0750	170
180	1.0750	1.0817	1.0884	1.0951	1.1017	1.1084	1.1150	1.1216	1.1282	1.1348	1.1414	180
190	1.1414	1.1479	1.1545	1.1610	1.1675	1.1740	1.1805	1.1870	1.1935	1.1999	1.2063	190
200	1.2063	1.2128	1.2192	1.2256	1.2319	1.2383	1.2447	1.2510	1.2573	1.2636	1.2699	200
210	1.2699	1.2762	1.2824	1.2887	1.2949	1.3011	1.3073	1.3135	1.3197	1.3258	1.3320	210
220	1.3320	1.3381	1.3442	1.3503	1.3564	1.3624	1.3685	1.3745	1.3805	1.3865	1.3925	220
230	1.3925	1.3984	1.4044	1.4103	1.4162	1.4221	1.4280	1.4338	1.4397	1.4455	1.4513	230
240	1.4513	1.4571	1.4629	1.4687	1.4744	1.4801	1.4858	1.4915	1.4972	1.5029	1.5085	240
250	1.5085	1.5141	1.5198	1.5253	1.5309	1.5365	1.5420	1.5476	1.5531	1.5586	1.5640	250
260	1.5640	1.5695	1.5749	1.5804	1.5858	1.5912	1.5965	1.6019	1.6072	1.6126	1.6179	260
270	1.6179	1.6232	1.6284	1.6337	1.6390	1.6442	1.6494	1.6546	1.6598	1.6649	1.6701	270
280	1.6701	1.6752	1.6803	1.6854	1.6905	1.6956	1.7006	1.7057	1.7107	1.7157	1.7207	280
290	1.7207	1.7256	1.7306	1.7355	1.7405	1.7454	1.7503	1.7552	1.7600	1.7649	1.7697	290
300	1.7697	1.7746	1.7794	1.7842	1.7889	1.7937	1.7985	1.8032	1.8079	1.8126	1.8173	300
310	1.8173	1.8220	1.8267	1.8314	1.8360	1.8406	1.8453	1.8499	1.8545	1.8590	1.8636	310
320	1.8636	1.8682	1.8727	1.8772	1.8818	1.8863	1.8908	1.8952	1.8997	1.9042	1.9086	320
330	1.9086	1.9131	1.9175	1.9219	1.9263	1.9307	1.9351	1.9395	1.9438	1.9482	1.9525	330
340	1.9525	1.9569	1.9612	1.9655	1.9698	1.9741	1.9784	1.9827	1.9869	1.9912	1.9954	340
350	1.9954	1.9997	2.0039	2.0081	2.0124	2.0166	2.0208	2.0250	2.0291	2.0333	2.0375	350
360	2.0375	2.0417	2.0458	2.0500	2.0541	2.0582	2.0624	2.0665	2.0706	2.0747	2.0788	360
370	2.0788	2.0829	2.0870	2.0911	2.0952	2.0992	2.1033	2.1074	2.1114	2.1155	2.1195	370
380	2.1195	2.1236	2.1276	2.1317	2.1357	2.1397	2.1437	2.1478	2.1518	2.1558	2.1598	380
390	2.1598	2.1638	2.1678	2.1718	2.1758	2.1798	2.1837	2.1877	2.1917	2.1957	2.1997	390
400	2.1997	2.2036	2.2076	2.2116	2.2155	2.2195	2.2234	2.2274	2.2313	2.2353	2.2393	400
410	2.2393	2.2432	2.2471	2.2511	2.2550	2.2590	2.2629	2.2669	2.2708	2.2747	2.2787	410
420	2.2787	2.2826	2.2865	2.2905	2.2944	2.2983	2.3023	2.3062	2.3101	2.3141	2.3180	420
430	2.3180	2.3219	2.3259	2.3298	2.3337	2.3376	2.3416	2.3455	2.3494	2.3534	2.3573	430
440	2.3573	2.3612	2.3651	2.3691	2.3730	2.3769	2.3809	2.3848	2.3887	2.3927	2.3966	440
450	2.3966	2.4005	2.4045	2.4084	2.4123	2.4163	2.4202	2.4241	2.4281	2.4320	2.4360	450
460	2.4360	2.4399	2.4439	2.4478	2.4517	2.4557	2.4596	2.4636	2.4675	2.4715	2.4754	460
470	2.4754	2.4794	2.4833	2.4873	2.4913	2.4952	2.4992	2.5031	2.5071	2.5111	2.5150	470
480	2.5150	2.5190	2.5230	2.5269	2.5309	2.5349	2.5388	2.5428	2.5468	2.5508	2.5547	480
490	2.5547	2.5587	2.5627	2.5667	2.5707	2.5746	2.5786	2.5826	2.5866	2.5906	2.5946	490
500	2.5946	2.5986	2.6026	2.6066	2.6106	2.6146	2.6186	2.6226	2.6266	2.6306	2.6346	500
510	2.6346	2.6386	2.6426	2.6466	2.6506	2.6546	2.6586	2.6626	2.6667	2.6707	2.6747	510
520	2.6747	2.6787	2.6827	2.6868	2.6908	2.6948	2.6988	2.7029	2.7069	2.7109	2.7149	520
530	2.7149	2.7190	2.7230	2.7270	2.7311	2.7351	2.7392	2.7432	2.7472	2.7513	2.7553	530
540	2.7553	2.7594	2.7634	2.7675	2.7715	2.7755	2.7796	2.7836	2.7877	2.7917	2.7958	540
550	2.7958	2.7999	2.8039	2.8080	2.8120	2.8161	2.8201	2.8242	2.8283	2.8323	2.8364	550
560	2.8364	2.8405	2.8445	2.8486	2.8527	2.8567	2.8608	2.8649	2.8689	2.8730	2.8771	560
570	2.8771	2.8811	2.8852	2.8893	2.8934	2.8974	2.9015	2.9056	2.9097	2.9138	2.9178	570
580	2.9178	2.9219	2.9260	2.9301	2.9342	2.9383	2.9423	2.9464	2.9505	2.9546	2.9587	580
590	2.9587	2.9628	2.9669	2.9710	2.9751	2.9792	2.9832	2.9873	2.9914	2.9955	2.9996	590
600	2.9996	3.0037	3.0078	3.0119	3.0160	3.0201	3.0242	3.0283	3.0324	3.0365	3.0406	600
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 7. ***Platinum*, Pt–67, *versus Type KN thermoelements*—*thermoelectric voltage as a function of temperature (°F), reference junctions at 32 °F—Continued***

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						THERMOELECTRIC VOLTAGE IN ABSOLUTE MILLIVOLTS						
600	2.9996	3.0037	3.0078	3.0119	3.0160	3.0201	3.0242	3.0283	3.0324	3.0365	3.0406	600
610	3.0406	3.0447	3.0488	3.0530	3.0571	3.0612	3.0653	3.0694	3.0735	3.0776	3.0817	610
620	3.0817	3.0858	3.0899	3.0941	3.0982	3.1023	3.1064	3.1105	3.1146	3.1188	3.1229	620
630	3.1229	3.1270	3.1311	3.1352	3.1394	3.1435	3.1476	3.1517	3.1559	3.1600	3.1641	630
640	3.1641	3.1682	3.1724	3.1765	3.1806	3.1848	3.1889	3.1930	3.1972	3.2013	3.2054	640
650	3.2054	3.2096	3.2137	3.2179	3.2220	3.2261	3.2303	3.2344	3.2386	3.2427	3.2469	650
660	3.2469	3.2510	3.2551	3.2593	3.2634	3.2676	3.2717	3.2759	3.2800	3.2842	3.2884	660
670	3.2884	3.2925	3.2967	3.3008	3.3050	3.3091	3.3133	3.3175	3.3216	3.3258	3.3300	670
680	3.3300	3.3341	3.3383	3.3425	3.3466	3.3508	3.3550	3.3591	3.3633	3.3675	3.3717	680
690	3.3717	3.3758	3.3800	3.3842	3.3884	3.3926	3.3967	3.4009	3.4051	3.4093	3.4135	690
700	3.4135	3.4177	3.4219	3.4261	3.4302	3.4344	3.4386	3.4428	3.4470	3.4512	3.4554	700
710	3.4554	3.4596	3.4638	3.4680	3.4722	3.4765	3.4807	3.4849	3.4891	3.4933	3.4975	710
720	3.4975	3.5017	3.5059	3.5102	3.5144	3.5186	3.5228	3.5270	3.5313	3.5355	3.5397	720
730	3.5397	3.5439	3.5482	3.5524	3.5566	3.5609	3.5651	3.5693	3.5736	3.5778	3.5821	730
740	3.5821	3.5863	3.5906	3.5948	3.5991	3.6033	3.6076	3.6118	3.6161	3.6203	3.6246	740
750	3.6246	3.6288	3.6331	3.6374	3.6416	3.6459	3.6501	3.6544	3.6587	3.6630	3.6672	750
760	3.6672	3.6715	3.6758	3.6801	3.6843	3.6886	3.6929	3.6972	3.7015	3.7058	3.7101	760
770	3.7101	3.7143	3.7186	3.7229	3.7272	3.7315	3.7358	3.7401	3.7444	3.7487	3.7531	770
780	3.7531	3.7574	3.7617	3.7660	3.7703	3.7746	3.7789	3.7833	3.7876	3.7919	3.7962	780
790	3.7962	3.8005	3.8049	3.8092	3.8135	3.8179	3.8222	3.8265	3.8309	3.8352	3.8396	790
800	3.8396	3.8439	3.8483	3.8526	3.8570	3.8613	3.8657	3.8700	3.8744	3.8787	3.8831	800
810	3.8831	3.8875	3.8918	3.8962	3.9006	3.9049	3.9093	3.9137	3.9181	3.9224	3.9268	810
820	3.9268	3.9312	3.9356	3.9400	3.9444	3.9487	3.9531	3.9575	3.9619	3.9663	3.9707	820
830	3.9707	3.9751	3.9795	3.9839	3.9883	3.9928	3.9972	4.0016	4.0060	4.0104	4.0148	830
840	4.0148	4.0193	4.0237	4.0281	4.0325	4.0370	4.0414	4.0458	4.0503	4.0547	4.0591	840
850	4.0591	4.0636	4.0680	4.0725	4.0769	4.0814	4.0858	4.0903	4.0947	4.0992	4.1036	850
860	4.1036	4.1081	4.1125	4.1170	4.1215	4.1259	4.1304	4.1349	4.1394	4.1438	4.1483	860
870	4.1483	4.1528	4.1573	4.1618	4.1663	4.1707	4.1752	4.1797	4.1842	4.1887	4.1932	870
880	4.1932	4.1977	4.2022	4.2067	4.2112	4.2157	4.2202	4.2248	4.2293	4.2338	4.2383	880
890	4.2383	4.2428	4.2473	4.2519	4.2564	4.2609	4.2655	4.2700	4.2745	4.2791	4.2836	890
900	4.2836	4.2881	4.2927	4.2972	4.3018	4.3063	4.3109	4.3154	4.3200	4.3245	4.3291	900
910	4.3291	4.3336	4.3382	4.3428	4.3473	4.3519	4.3565	4.3610	4.3656	4.3702	4.3748	910
920	4.3748	4.3794	4.3839	4.3885	4.3931	4.3977	4.4023	4.4069	4.4115	4.4161	4.4207	920
930	4.4207	4.4253	4.4299	4.4345	4.4391	4.4437	4.4483	4.4529	4.4575	4.4621	4.4667	930
940	4.4667	4.4714	4.4760	4.4806	4.4852	4.4899	4.4945	4.4991	4.5037	4.5084	4.5130	940
950	4.5130	4.5176	4.5223	4.5269	4.5316	4.5362	4.5409	4.5455	4.5502	4.5548	4.5595	950
960	4.5595	4.5641	4.5688	4.5734	4.5781	4.5828	4.5874	4.5921	4.5968	4.6014	4.6061	960
970	4.6061	4.6108	4.6155	4.6202	4.6248	4.6295	4.6342	4.6389	4.6436	4.6483	4.6530	970
980	4.6530	4.6576	4.6623	4.6670	4.6717	4.6764	4.6811	4.6858	4.6905	4.6953	4.7000	980
990	4.7000	4.7047	4.7094	4.7141	4.7188	4.7235	4.7283	4.7330	4.7377	4.7424	4.7471	990
1,000	4.7471	4.7519	4.7566	4.7613	4.7661	4.7708	4.7755	4.7803	4.7850	4.7898	4.7945	1,000
1,010	4.7945	4.7993	4.8040	4.8087	4.8135	4.8183	4.8230	4.8278	4.8325	4.8373	4.8420	1,010
1,020	4.8420	4.8468	4.8516	4.8563	4.8611	4.8659	4.8706	4.8754	4.8802	4.8849	4.8897	1,020
1,030	4.8897	4.8945	4.8993	4.9041	4.9088	4.9136	4.9184	4.9232	4.9280	4.9328	4.9376	1,030
1,040	4.9376	4.9424	4.9472	4.9520	4.9568	4.9616	4.9664	4.9712	4.9760	4.9808	4.9856	1,040
1,050	4.9856	4.9904	4.9952	5.0000	5.0048	5.0096	5.0144	5.0193	5.0241	5.0289	5.0337	1,050
1,060	5.0337	5.0385	5.0434	5.0482	5.0530	5.0578	5.0627	5.0675	5.0723	5.0772	5.0820	1,060
1,070	5.0820	5.0868	5.0917	5.0965	5.1014	5.1062	5.1110	5.1159	5.1207	5.1256	5.1304	1,070
1,080	5.1304	5.1353	5.1401	5.1450	5.1498	5.1547	5.1595	5.1644	5.1693	5.1741	5.1790	1,080
1,090	5.1790	5.1839	5.1887	5.1936	5.1984	5.2033	5.2082	5.2131	5.2179	5.2228	5.2277	1,090
1,100	5.2277	5.2325	5.2374	5.2423	5.2472	5.2521	5.2569	5.2618	5.2667	5.2716	5.2765	1,100
1,110	5.2765	5.2814	5.2862	5.2911	5.2960	5.3009	5.3058	5.3107	5.3156	5.3205	5.3254	1,110
1,120	5.3254	5.3303	5.3352	5.3401	5.3450	5.3499	5.3548	5.3597	5.3646	5.3695	5.3744	1,120
1,130	5.3744	5.3793	5.3842	5.3891	5.3940	5.3989	5.4039	5.4088	5.4137	5.4186	5.4235	1,130
1,140	5.4235	5.4284	5.4334	5.4383	5.4432	5.4481	5.4530	5.4580	5.4629	5.4678	5.4727	1,140
1,150	5.4727	5.4777	5.4826	5.4875	5.4924	5.4974	5.5023	5.5072	5.5122	5.5171	5.5220	1,150
1,160	5.5220	5.5270	5.5319	5.5368	5.5418	5.5467	5.5517	5.5566	5.5615	5.5665	5.5714	1,160
1,170	5.5714	5.5764	5.5813	5.5862	5.5912	5.5961	5.6011	5.6060	5.6110	5.6159	5.6209	1,170
1,180	5.6209	5.6258	5.6308	5.6357	5.6407	5.6456	5.6506	5.6555	5.6605	5.6654	5.6704	1,180
1,190	5.6704	5.6754	5.6803	5.6853	5.6902	5.6952	5.7001	5.7051	5.7101	5.7150	5.7200	1,190
1,200	5.7200	5.7249	5.7299	5.7349	5.7398	5.7448	5.7498	5.7547	5.7597	5.7647	5.7696	1,200
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 7. *Platinum, Pt–67, versus Type KN thermoelements—thermoelectric voltage as a function of temperature (°F), reference junctions at 32 °F—Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						THERMOELECTRIC VOLTAGE IN ABSOLUTE MILLIVOLTS						
1,200	5.7200	5.7249	5.7299	5.7349	5.7398	5.7448	5.7498	5.7547	5.7597	5.7647	5.7696	1,200
1,210	5.7696	5.7746	5.7796	5.7845	5.7895	5.7945	5.7994	5.8044	5.8094	5.8144	5.8193	1,210
1,220	5.8193	5.8243	5.8293	5.8342	5.8392	5.8442	5.8492	5.8541	5.8591	5.8641	5.8691	1,220
1,230	5.8691	5.8740	5.8790	5.8840	5.8890	5.8939	5.8989	5.9039	5.9089	5.9139	5.9188	1,230
1,240	5.9188	5.9238	5.9288	5.9338	5.9387	5.9437	5.9487	5.9537	5.9587	5.9637	5.9686	1,240
1,250	5.9686	5.9736	5.9786	5.9836	5.9886	5.9935	5.9985	6.0035	6.0085	6.0135	6.0185	1,250
1,260	6.0185	6.0234	6.0284	6.0334	6.0384	6.0434	6.0484	6.0534	6.0583	6.0633	6.0683	1,260
1,270	6.0683	6.0733	6.0783	6.0833	6.0883	6.0932	6.0982	6.1032	6.1082	6.1132	6.1182	1,270
1,280	6.1182	6.1232	6.1281	6.1331	6.1381	6.1431	6.1481	6.1531	6.1581	6.1630	6.1680	1,280
1,290	6.1680	6.1730	6.1780	6.1830	6.1880	6.1930	6.1980	6.2029	6.2079	6.2129	6.2179	1,290
1,300	6.2179	6.2229	6.2279	6.2329	6.2379	6.2428	6.2478	6.2528	6.2578	6.2628	6.2678	1,300
1,310	6.2678	6.2728	6.2777	6.2827	6.2877	6.2927	6.2977	6.3027	6.3077	6.3126	6.3176	1,310
1,320	6.3176	6.3226	6.3276	6.3326	6.3376	6.3425	6.3475	6.3525	6.3575	6.3625	6.3675	1,320
1,330	6.3675	6.3724	6.3774	6.3824	6.3874	6.3924	6.3974	6.4023	6.4073	6.4123	6.4173	1,330
1,340	6.4173	6.4223	6.4272	6.4322	6.4372	6.4422	6.4472	6.4521	6.4571	6.4621	6.4671	1,340
1,350	6.4671	6.4721	6.4770	6.4820	6.4870	6.4920	6.4969	6.5019	6.5069	6.5119	6.5168	1,350
1,360	6.5168	6.5218	6.5268	6.5318	6.5367	6.5417	6.5467	6.5516	6.5566	6.5616	6.5666	1,360
1,370	6.5666	6.5715	6.5765	6.5815	6.5864	6.5914	6.5964	6.6014	6.6063	6.6113	6.6163	1,370
1,380	6.6163	6.6212	6.6262	6.6312	6.6361	6.6411	6.6460	6.6510	6.6560	6.6609	6.6659	1,380
1,390	6.6659	6.6709	6.6758	6.6808	6.6857	6.6907	6.6957	6.7006	6.7056	6.7105	6.7155	1,390
1,400	6.7155	6.7205	6.7254	6.7304	6.7353	6.7403	6.7452	6.7502	6.7551	6.7601	6.7650	1,400
1,410	6.7650	6.7700	6.7749	6.7799	6.7848	6.7898	6.7947	6.7997	6.8046	6.8096	6.8145	1,410
1,420	6.8145	6.8195	6.8244	6.8294	6.8343	6.8392	6.8442	6.8491	6.8541	6.8590	6.8640	1,420
1,430	6.8640	6.8689	6.8738	6.8738	6.8837	6.8886	6.8936	6.8985	6.9035	6.9084	6.9133	1,430
1,440	6.9133	6.9183	6.9232	6.9281	6.9330	6.9380	6.9429	6.9478	6.9528	6.9577	6.9626	1,440
1,450	6.9626	6.9675	6.9725	6.9774	6.9823	6.9872	6.9922	6.9971	7.0020	7.0069	7.0118	1,450
1,460	7.0118	7.0168	7.0217	7.0266	7.0315	7.0364	7.0413	7.0463	7.0512	7.0561	7.0610	1,460
1,470	7.0610	7.0659	7.0708	7.0757	7.0806	7.0855	7.0905	7.0954	7.1003	7.1052	7.1101	1,470
1,480	7.1101	7.1150	7.1199	7.1248	7.1297	7.1346	7.1395	7.1444	7.1493	7.1542	7.1591	1,480
1,490	7.1591	7.1640	7.1689	7.1738	7.1786	7.1835	7.1884	7.1933	7.1982	7.2031	7.2080	1,490
1,500	7.2080	7.2129	7.2178	7.2226	7.2275	7.2324	7.2373	7.2422	7.2471	7.2519	7.2568	1,500
1,510	7.2568	7.2617	7.2666	7.2714	7.2763	7.2812	7.2861	7.2909	7.2958	7.3007	7.3056	1,510
1,520	7.3056	7.3104	7.3153	7.3202	7.3250	7.3299	7.3348	7.3396	7.3445	7.3494	7.3542	1,520
1,530	7.3542	7.3591	7.3639	7.3688	7.3737	7.3785	7.3834	7.3882	7.3931	7.3979	7.4028	1,530
1,540	7.4028	7.4076	7.4125	7.4173	7.4222	7.4270	7.4319	7.4367	7.4416	7.4464	7.4512	1,540
1,550	7.4512	7.4561	7.4609	7.4658	7.4706	7.4754	7.4803	7.4851	7.4900	7.4948	7.4996	1,550
1,560	7.4996	7.5045	7.5093	7.5141	7.5189	7.5238	7.5286	7.5334	7.5383	7.5431	7.5479	1,560
1,570	7.5479	7.5527	7.5575	7.5624	7.5672	7.5720	7.5768	7.5816	7.5865	7.5913	7.5961	1,570
1,580	7.5961	7.6009	7.6057	7.6105	7.6153	7.6201	7.6249	7.6298	7.6346	7.6394	7.6442	1,580
1,590	7.6442	7.6490	7.6538	7.6586	7.6634	7.6682	7.6730	7.6778	7.6826	7.6874	7.6921	1,590
1,600	7.6921	7.6969	7.7017	7.7065	7.7113	7.7161	7.7209	7.7257	7.7305	7.7352	7.7400	1,600
1,610	7.7400	7.7448	7.7496	7.7544	7.7592	7.7639	7.7687	7.7735	7.7783	7.7830	7.7878	1,610
1,620	7.7878	7.7926	7.7973	7.8021	7.8069	7.8117	7.8164	7.8212	7.8260	7.8307	7.8355	1,620
1,630	7.8355	7.8402	7.8450	7.8498	7.8545	7.8593	7.8640	7.8688	7.8735	7.8783	7.8830	1,630
1,640	7.8830	7.8878	7.8925	7.8973	7.9020	7.9068	7.9115	7.9163	7.9210	7.9258	7.9305	1,640
1,650	7.9305	7.9352	7.9400	7.9447	7.9495	7.9542	7.9589	7.9637	7.9684	7.9731	7.9779	1,650
1,660	7.9779	7.9826	7.9873	7.9920	7.9968	8.0015	8.0062	8.0109	8.0157	8.0204	8.0251	1,660
1,670	8.0251	8.0298	8.0345	8.0393	8.0440	8.0487	8.0534	8.0581	8.0628	8.0675	8.0723	1,670
1,680	8.0723	8.0770	8.0817	8.0864	8.0911	8.0958	8.1005	8.1052	8.1099	8.1146	8.1193	1,680
1,690	8.1193	8.1240	8.1287	8.1334	8.1381	8.1428	8.1475	8.1521	8.1568	8.1615	8.1662	1,690
1,700	8.1662	8.1709	8.1756	8.1803	8.1850	8.1896	8.1943	8.1990	8.2037	8.2084	8.2130	1,700
1,710	8.2130	8.2177	8.2224	8.2271	8.2317	8.2364	8.2411	8.2457	8.2504	8.2551	8.2597	1,710
1,720	8.2597	8.2644	8.2691	8.2737	8.2784	8.2830	8.2877	8.2924	8.2970	8.3017	8.3063	1,720
1,730	8.3063	8.3110	8.3156	8.3203	8.3249	8.3296	8.3342	8.3389	8.3435	8.3482	8.3528	1,730
1,740	8.3528	8.3575	8.3621	8.3667	8.3714	8.3760	8.3807	8.3853	8.3899	8.3946	8.3992	1,740
1,750	8.3992	8.4038	8.4085	8.4131	8.4177	8.4223	8.4270	8.4316	8.4362	8.4408	8.4455	1,750
1,760	8.4455	8.4501	8.4547	8.4593	8.4639	8.4686	8.4732	8.4778	8.4824	8.4870	8.4916	1,760
1,770	8.4916	8.4962	8.5008	8.5054	8.5100	8.5147	8.5193	8.5239	8.5285	8.5331	8.5377	1,770
1,780	8.5377	8.5423	8.5469	8.5515	8.5560	8.5606	8.5652	8.5698	8.5744	8.5790	8.5836	1,780
1,790	8.5836	8.5882	8.5928	8.5973	8.6019	8.6065	8.6111	8.6157	8.6203	8.6248	8.6294	1,790
1,800	8.6294	8.6340	8.6386	8.6431	8.6477	8.6523	8.6568	8.6614	8.6660	8.6706	8.6751	1,800
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 7. ***Platinum, Pt–67, versus Type KN thermoelements***—*thermoelectric voltage as a function of temperature (°F), reference junctions at 32 °F—Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						THERMOELECTRIC VOLTAGE IN ABSOLUTE MILLIVOLTS						
1,800	8.6294	8.6340	8.6386	8.6431	8.6477	8.6523	8.6568	8.6614	8.6660	8.6706	8.6751	1,800
1,810	8.6751	8.6797	8.6842	8.6888	8.6934	8.6979	8.7025	8.7070	8.7116	8.7162	8.7207	1,810
1,820	8.7207	8.7253	8.7298	8.7344	8.7389	8.7435	8.7480	8.7526	8.7571	8.7616	8.7662	1,820
1,830	8.7662	8.7707	8.7753	8.7798	8.7843	8.7889	8.7934	8.7980	8.8025	8.8070	8.8116	1,830
1,840	8.8116	8.8161	8.8206	8.8251	8.8297	8.8342	8.8387	8.8432	8.8478	8.8523	8.8568	1,840
1,850	8.8568	8.8613	8.8658	8.8704	8.8749	8.8794	8.8839	8.8884	8.8929	8.8974	8.9019	1,850
1,860	8.9019	8.9064	8.9110	8.9155	8.9200	8.9245	8.9290	8.9335	8.9380	8.9425	8.9470	1,860
1,870	8.9470	8.9515	8.9559	8.9604	8.9649	8.9694	8.9739	8.9784	8.9829	8.9874	8.9919	1,870
1,880	8.9919	8.9963	9.0008	9.0053	9.0098	9.0143	9.0187	9.0232	9.0277	9.0322	9.0366	1,880
1,890	9.0366	9.0411	9.0456	9.0501	9.0545	9.0590	9.0635	9.0679	9.0724	9.0768	9.0813	1,890
1,900	9.0813	9.0858	9.0902	9.0947	9.0991	9.1036	9.1081	9.1125	9.1170	9.1214	9.1259	1,900
1,910	9.1259	9.1303	9.1348	9.1392	9.1436	9.1481	9.1525	9.1570	9.1614	9.1658	9.1703	1,910
1,920	9.1703	9.1747	9.1792	9.1836	9.1880	9.1924	9.1969	9.2013	9.2057	9.2102	9.2146	1,920
1,930	9.2146	9.2190	9.2234	9.2279	9.2323	9.2367	9.2411	9.2455	9.2499	9.2544	9.2588	1,930
1,940	9.2588	9.2632	9.2676	9.2720	9.2764	9.2808	9.2852	9.2896	9.2940	9.2984	9.3028	1,940
1,950	9.3028	9.3072	9.3116	9.3160	9.3204	9.3248	9.3292	9.3336	9.3380	9.3424	9.3468	1,950
1,960	9.3468	9.3511	9.3555	9.3599	9.3643	9.3687	9.3731	9.3774	9.3818	9.3862	9.3906	1,960
1,970	9.3906	9.3949	9.3993	9.4037	9.4080	9.4124	9.4168	9.4211	9.4255	9.4299	9.4342	1,970
1,980	9.4342	9.4386	9.4430	9.4473	9.4517	9.4560	9.4604	9.4647	9.4691	9.4734	9.4778	1,980
1,990	9.4778	9.4821	9.4865	9.4908	9.4952	9.4995	9.5039	9.5082	9.5125	9.5169	9.5212	1,990
2,000	9.5212	9.5255	9.5299	9.5342	9.5385	9.5429	9.5472	9.5515	9.5558	9.5602	9.5645	2,000
2,010	9.5645	9.5688	9.5731	9.5775	9.5818	9.5861	9.5904	9.5947	9.5990	9.6033	9.6076	2,010
2,020	9.6076	9.6120	9.6163	9.6206	9.6249	9.6292	9.6335	9.6378	9.6421	9.6464	9.6507	2,020
2,030	9.6507	9.6550	9.6593	9.6635	9.6678	9.6721	9.6764	9.6807	9.6850	9.6893	9.6935	2,030
2,040	9.6935	9.6978	9.7021	9.7064	9.7107	9.7149	9.7192	9.7235	9.7278	9.7320	9.7363	2,040
2,050	9.7363	9.7406	9.7448	9.7491	9.7534	9.7576	9.7619	9.7661	9.7704	9.7746	9.7789	2,050
2,060	9.7789	9.7832	9.7874	9.7917	9.7959	9.8002	9.8044	9.8086	9.8129	9.8171	9.8214	2,060
2,070	9.8214	9.8256	9.8298	9.8341	9.8383	9.8425	9.8468	9.8510	9.8552	9.8595	9.8637	2,070
2,080	9.8637	9.8679	9.8721	9.8764	9.8806	9.8848	9.8890	9.8932	9.8975	9.9017	9.9059	2,080
2,090	9.9059	9.9101	9.9143	9.9185	9.9227	9.9269	9.9311	9.9353	9.9395	9.9437	9.9479	2,090
2,100	9.9479	9.9521	9.9563	9.9605	9.9647	9.9689	9.9731	9.9773	9.9814	9.9856	9.9898	2,100
2,110	9.9898	9.9940	9.9982	10.0024	10.0065	10.0107	10.0149	10.0191	10.0232	10.0274	10.0316	2,110
2,120	10.0316	10.0357	10.0399	10.0441	10.0482	10.0524	10.0565	10.0607	10.0649	10.0690	10.0732	2,120
2,130	10.0732	10.0773	10.0815	10.0856	10.0898	10.0939	10.0981	10.1022	10.1064	10.1105	10.1146	2,130
2,140	10.1146	10.1188	10.1229	10.1270	10.1312	10.1353	10.1394	10.1436	10.1477	10.1518	10.1560	2,140
2,150	10.1560	10.1601	10.1642	10.1683	10.1724	10.1766	10.1807	10.1848	10.1889	10.1930	10.1971	2,150
2,160	10.1971	10.2012	10.2053	10.2094	10.2136	10.2177	10.2218	10.2259	10.2300	10.2341	10.2382	2,160
2,170	10.2382	10.2422	10.2463	10.2504	10.2545	10.2586	10.2627	10.2668	10.2709	10.2750	10.2790	2,170
2,180	10.2790	10.2831	10.2872	10.2913	10.2954	10.2994	10.3035	10.3076	10.3116	10.3157	10.3198	2,180
2,190	10.3198	10.3238	10.3279	10.3320	10.3360	10.3401	10.3442	10.3482	10.3523	10.3563	10.3604	2,190
2,200	10.3604	10.3644	10.3685	10.3725	10.3766	10.3806	10.3847	10.3887	10.3928	10.3968	10.4009	2,200
2,210	10.4009	10.4049	10.4089	10.4130	10.4170	10.4210	10.4251	10.4291	10.4331	10.4372	10.4412	2,210
2,220	10.4412	10.4452	10.4492	10.4533	10.4573	10.4613	10.4653	10.4693	10.4734	10.4774	10.4814	2,220
2,230	10.4814	10.4854	10.4894	10.4934	10.4974	10.5014	10.5055	10.5095	10.5135	10.5175	10.5215	2,230
2,240	10.5215	10.5255	10.5295	10.5335	10.5375	10.5415	10.5455	10.5495	10.5534	10.5574	10.5614	2,240
2,250	10.5614	10.5654	10.5694	10.5734	10.5774	10.5814	10.5853	10.5893	10.5933	10.5973	10.6013	2,250
2,260	10.6013	10.6052	10.6092	10.6132	10.6172	10.6211	10.6251	10.6291	10.6331	10.6370	10.6410	2,260
2,270	10.6410	10.6450	10.6489	10.6529	10.6569	10.6608	10.6648	10.6688	10.6727	10.6767	10.6806	2,270
2,280	10.6806	10.6846	10.6885	10.6925	10.6965	10.7004	10.7044	10.7083	10.7123	10.7162	10.7202	2,280
2,290	10.7202	10.7241	10.7281	10.7320	10.7360	10.7399	10.7439	10.7478	10.7517	10.7557	10.7596	2,290
2,300	10.7596	10.7636	10.7675	10.7714	10.7754	10.7793	10.7833	10.7872	10.7911	10.7951	10.7990	2,300
2,310	10.7990	10.8029	10.8069	10.8108	10.8147	10.8187	10.8226	10.8265	10.8305	10.8344	10.8383	2,310
2,320	10.8383	10.8423	10.8462	10.8501	10.8540	10.8580	10.8619	10.8658	10.8698	10.8737	10.8776	2,320
2,330	10.8776	10.8815	10.8855	10.8894	10.8933	10.8972	10.9011	10.9051	10.9090	10.9129	10.9168	2,330
2,340	10.9168	10.9208	10.9247	10.9286	10.9325	10.9365	10.9404	10.9443	10.9482	10.9521	10.9561	2,340
2,350	10.9561	10.9600	10.9639	10.9678	10.9717	10.9757	10.9796	10.9835	10.9874	10.9914	10.9953	2,350
2,360	10.9953	10.9992	11.0031	11.0070	11.0110	11.0149	11.0188	11.0227	11.0267	11.0306	11.0345	2,360
2,370	11.0345	11.0384	11.0424	11.0463	11.0502	11.0541	11.0581	11.0620	11.0659	11.0699	11.0738	2,370
2,380	11.0738	11.0777	11.0817	11.0856	11.0895	11.0935	11.0974	11.1013	11.1053	11.1092	11.1131	2,380
2,390	11.1131	11.1171	11.1210	11.1249	11.1289	11.1328	11.1368	11.1407	11.1447	11.1486	11.1525	2,390
2,400	11.1525	11.1565	11.1604	11.1644	11.1683	11.1723	11.1763	11.1802	11.1842	11.1881	11.1921	2,400
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 7. *Platinum, Pt–67, versus Type KN thermoelements—thermoelectric voltage as a function of temperature (°F), reference junctions at 32 °F—Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
					THERMOELECTRIC VOLTAGE IN ABSOLUTE MILLIVOLTS							
2,400	11.1525	11.1565	11.1604	11.1644	11.1683	11.1723	11.1763	11.1802	11.1842	11.1881	11.1921	2,400
2,410	11.1921	11.1960	11.2000	11.2040	11.2079	11.2119	11.2159	11.2198	11.2238	11.2278	11.2318	2,410
2,420	11.2318	11.2357	11.2397	11.2437	11.2477	11.2517	11.2556	11.2596	11.2636	11.2676	11.2716	2,420
2,430	11.2716	11.2756	11.2796	11.2836	11.2876	11.2916	11.2956	11.2996	11.3036	11.3076	11.3116	2,430
2,440	11.3116	11.3157	11.3197	11.3237	11.3277	11.3318	11.3358	11.3398	11.3439	11.3479	11.3519	2,440
2,450	11.3519	11.3560	11.3600	11.3641	11.3681	11.3722	11.3762	11.3803	11.3844	11.3884	11.3925	2,450
2,460	11.3925	11.3966	11.4006	11.4047	11.4088	11.4129	11.4170	11.4211	11.4252	11.4293	11.4334	2,460
2,470	11.4334	11.4375	11.4416	11.4457	11.4498	11.4539	11.4581	11.4622	11.4663	11.4705	11.4746	2,470
2,480	11.4746	11.4788	11.4829	11.4871	11.4912	11.4954	11.4996	11.5037	11.5079	11.5121	11.5163	2,480
2,490	11.5163	11.5205	11.5246	11.5288	11.5331	11.5373	11.5415	11.5457	11.5499	11.5541	11.5584	2,490
2,500	11.5584											2,500
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 8. ***Type TP thermoelements versus platinum, Pt–67***—*thermoelectric voltage as a function of temperature (°F), reference junctions at 32 °F*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
					THERMOELECTRIC VOLTAGE IN ABSOLUTE MILLIVOLTS							
-450	0.0200	0.0200	0.0199	0.0198	0.0197							-450
-440	0.0178	0.0183	0.0186	0.0190	0.0192	0.0195	0.0197	0.0198	0.0199	0.0200	0.0200	-440
-430	0.0114	0.0122	0.0130	0.0137	0.0144	0.0151	0.0157	0.0163	0.0169	0.0174	0.0178	-430
-420	0.0011	0.0023	0.0034	0.0045	0.0056	0.0067	0.0077	0.0086	0.0096	0.0105	0.0114	-420
-410	-0.0125	-0.0110	-0.0095	-0.0081	-0.0067	-0.0053	-0.0040	-0.0027	-0.0014	-0.0001	0.0011	-410
-400	-0.0289	-0.0271	-0.0254	-0.0237	-0.0220	-0.0203	-0.0187	-0.0171	-0.0155	-0.0140	-0.0125	-400
-390	-0.0477	-0.0458	-0.0438	-0.0418	-0.0399	-0.0380	-0.0361	-0.0343	-0.0325	-0.0307	-0.0289	-390
-380	-0.0687	-0.0665	-0.0644	-0.0622	-0.0601	-0.0580	-0.0559	-0.0538	-0.0518	-0.0498	-0.0477	-380
-370	-0.0914	-0.0891	-0.0868	-0.0845	-0.0822	-0.0799	-0.0776	-0.0754	-0.0731	-0.0709	-0.0687	-370
-360	-0.1154	-0.1130	-0.1105	-0.1081	-0.1057	-0.1033	-0.1009	-0.0985	-0.0962	-0.0938	-0.0914	-360
-350	-0.1402	-0.1377	-0.1352	-0.1327	-0.1302	-0.1277	-0.1253	-0.1228	-0.1203	-0.1179	-0.1154	-350
-340	-0.1651	-0.1626	-0.1601	-0.1577	-0.1552	-0.1527	-0.1502	-0.1477	-0.1452	-0.1427	-0.1402	-340
-330	-0.1899	-0.1874	-0.1850	-0.1825	-0.1800	-0.1776	-0.1751	-0.1726	-0.1701	-0.1676	-0.1651	-330
-320	-0.2139	-0.2116	-0.2092	-0.2068	-0.2044	-0.2020	-0.1996	-0.1972	-0.1948	-0.1923	-0.1899	-320
-310	-0.2370	-0.2347	-0.2325	-0.2302	-0.2279	-0.2256	-0.2233	-0.2210	-0.2186	-0.2163	-0.2139	-310
-300	-0.2587	-0.2566	-0.2544	-0.2523	-0.2502	-0.2480	-0.2458	-0.2436	-0.2414	-0.2392	-0.2370	-300
-290	-0.2788	-0.2769	-0.2749	-0.2730	-0.2710	-0.2690	-0.2669	-0.2649	-0.2628	-0.2608	-0.2587	-290
-280	-0.2974	-0.2956	-0.2938	-0.2920	-0.2902	-0.2883	-0.2864	-0.2846	-0.2827	-0.2808	-0.2788	-280
-270	-0.3141	-0.3125	-0.3109	-0.3093	-0.3076	-0.3060	-0.3043	-0.3026	-0.3008	-0.2991	-0.2974	-270
-260	-0.3291	-0.3277	-0.3263	-0.3248	-0.3233	-0.3218	-0.3203	-0.3188	-0.3173	-0.3157	-0.3141	-260
-250	-0.3423	-0.3410	-0.3398	-0.3385	-0.3372	-0.3359	-0.3346	-0.3332	-0.3319	-0.3305	-0.3291	-250
-240	-0.3536	-0.3525	-0.3514	-0.3504	-0.3493	-0.3481	-0.3470	-0.3458	-0.3447	-0.3435	-0.3423	-240
-230	-0.3630	-0.3621	-0.3612	-0.3603	-0.3594	-0.3585	-0.3575	-0.3566	-0.3556	-0.3546	-0.3536	-230
-220	-0.3705	-0.3698	-0.3691	-0.3684	-0.3677	-0.3670	-0.3662	-0.3654	-0.3646	-0.3638	-0.3630	-220
-210	-0.3761	-0.3756	-0.3751	-0.3746	-0.3741	-0.3735	-0.3730	-0.3724	-0.3718	-0.3711	-0.3705	-210
-200	-0.3798	-0.3795	-0.3792	-0.3789	-0.3785	-0.3782	-0.3778	-0.3774	-0.3770	-0.3765	-0.3761	-200
-190	-0.3815	-0.3814	-0.3813	-0.3812	-0.3810	-0.3809	-0.3807	-0.3805	-0.3803	-0.3800	-0.3798	-190
-180	-0.3814	-0.3815	-0.3816	-0.3816	-0.3817	-0.3817	-0.3817	-0.3817	-0.3816	-0.3816	-0.3815	-180
-170	-0.3794	-0.3797	-0.3800	-0.3802	-0.3804	-0.3806	-0.3808	-0.3810	-0.3811	-0.3813	-0.3814	-170
-160	-0.3756	-0.3761	-0.3765	-0.3770	-0.3774	-0.3777	-0.3781	-0.3785	-0.3788	-0.3791	-0.3794	-160
-150	-0.3701	-0.3707	-0.3713	-0.3719	-0.3725	-0.3731	-0.3736	-0.3742	-0.3747	-0.3752	-0.3756	-150
-140	-0.3629	-0.3637	-0.3644	-0.3652	-0.3660	-0.3667	-0.3674	-0.3681	-0.3688	-0.3694	-0.3701	-140
-130	-0.3540	-0.3549	-0.3559	-0.3568	-0.3577	-0.3586	-0.3595	-0.3604	-0.3612	-0.3620	-0.3629	-130
-120	-0.3435	-0.3446	-0.3457	-0.3468	-0.3479	-0.3489	-0.3500	-0.3510	-0.3520	-0.3530	-0.3540	-120
-110	-0.3313	-0.3326	-0.3339	-0.3351	-0.3364	-0.3376	-0.3388	-0.3400	-0.3412	-0.3423	-0.3435	-110
-100	-0.3176	-0.3191	-0.3205	-0.3219	-0.3233	-0.3247	-0.3260	-0.3274	-0.3287	-0.3300	-0.3313	-100
-90	-0.3023	-0.3039	-0.3055	-0.3071	-0.3086	-0.3102	-0.3117	-0.3132	-0.3147	-0.3162	-0.3176	-90
-80	-0.2854	-0.2872	-0.2889	-0.2907	-0.2924	-0.2941	-0.2958	-0.2974	-0.2991	-0.3007	-0.3023	-80
-70	-0.2670	-0.2689	-0.2708	-0.2727	-0.2746	-0.2764	-0.2782	-0.2801	-0.2819	-0.2837	-0.2854	-70
-60	-0.2470	-0.2491	-0.2512	-0.2532	-0.2552	-0.2572	-0.2592	-0.2612	-0.2631	-0.2651	-0.2670	-60
-50	-0.2256	-0.2278	-0.2300	-0.2322	-0.2344	-0.2365	-0.2387	-0.2408	-0.2429	-0.2450	-0.2470	-50
-40	-0.2028	-0.2052	-0.2075	-0.2098	-0.2121	-0.2144	-0.2167	-0.2189	-0.2212	-0.2234	-0.2256	-40
-30	-0.1787	-0.1812	-0.1836	-0.1861	-0.1885	-0.1909	-0.1933	-0.1957	-0.1981	-0.2005	-0.2028	-30
-20	-0.1532	-0.1558	-0.1584	-0.1610	-0.1636	-0.1661	-0.1686	-0.1712	-0.1737	-0.1762	-0.1787	-20
-10	-0.1264	-0.1292	-0.1319	-0.1346	-0.1373	-0.1400	-0.1427	-0.1453	-0.1480	-0.1506	-0.1532	-10
- 0	-0.0984	-0.1012	-0.1041	-0.1069	-0.1098	-0.1126	-0.1154	-0.1182	-0.1209	-0.1237	-0.1264	- 0
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 8. *Type TP thermoelements versus platinum,* **Pt–67**—*thermoelectric voltage as a function of temperature (°F), reference junctions at 32 °F—Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
	THERMOELECTRIC VOLTAGE IN ABSOLUTE MILLIVOLTS											
0	-0.0984	-0.0955	-0.0926	-0.0897	-0.0868	-0.0838	-0.0809	-0.0779	-0.0750	-0.0720	-0.0690	0
10	-0.0690	-0.0660	-0.0630	-0.0599	-0.0569	-0.0538	-0.0508	-0.0477	-0.0446	-0.0415	-0.0384	10
20	-0.0384	-0.0352	-0.0321	-0.0289	-0.0258	-0.0226	-0.0194	-0.0162	-0.0130	-0.0097	-0.0065	20
30	-0.0065	-0.0033	0.0000	0.0033	0.0066	0.0098	0.0131	0.0165	0.0198	0.0231	0.0265	30
40	0.0265	0.0298	0.0332	0.0366	0.0400	0.0434	0.0468	0.0502	0.0536	0.0571	0.0605	40
50	0.0605	0.0640	0.0675	0.0710	0.0745	0.0780	0.0815	0.0851	0.0886	0.0922	0.0957	50
60	0.0957	0.0993	0.1029	0.1065	0.1102	0.1138	0.1175	0.1211	0.1248	0.1285	0.1322	60
70	0.1322	0.1359	0.1396	0.1433	0.1471	0.1508	0.1546	0.1584	0.1622	0.1660	0.1698	70
80	0.1698	0.1737	0.1775	0.1814	0.1852	0.1891	0.1930	0.1969	0.2009	0.2048	0.2087	80
90	0.2087	0.2127	0.2167	0.2206	0.2246	0.2286	0.2327	0.2367	0.2407	0.2448	0.2489	90
100	0.2489	0.2529	0.2570	0.2611	0.2653	0.2694	0.2735	0.2777	0.2818	0.2860	0.2902	100
110	0.2902	0.2944	0.2986	0.3029	0.3071	0.3113	0.3156	0.3199	0.3241	0.3284	0.3327	110
120	0.3327	0.3371	0.3414	0.3457	0.3501	0.3544	0.3588	0.3632	0.3676	0.3720	0.3764	120
130	0.3764	0.3809	0.3853	0.3898	0.3942	0.3987	0.4032	0.4077	0.4122	0.4167	0.4212	130
140	0.4212	0.4258	0.4303	0.4349	0.4395	0.4440	0.4486	0.4532	0.4578	0.4625	0.4671	140
150	0.4671	0.4717	0.4764	0.4811	0.4857	0.4904	0.4951	0.4998	0.5045	0.5093	0.5140	150
160	0.5140	0.5188	0.5235	0.5283	0.5331	0.5378	0.5426	0.5474	0.5523	0.5571	0.5619	160
170	0.5619	0.5668	0.5716	0.5765	0.5813	0.5862	0.5911	0.5960	0.6009	0.6058	0.6108	170
180	0.6108	0.6157	0.6206	0.6256	0.6306	0.6355	0.6405	0.6455	0.6505	0.6555	0.6605	180
190	0.6605	0.6656	0.6706	0.6756	0.6807	0.6858	0.6908	0.6959	0.7010	0.7061	0.7112	190
200	0.7112	0.7163	0.7214	0.7266	0.7317	0.7368	0.7420	0.7472	0.7523	0.7575	0.7627	200
210	0.7627	0.7679	0.7731	0.7783	0.7835	0.7888	0.7940	0.7993	0.8045	0.8098	0.8150	210
220	0.8150	0.8203	0.8256	0.8309	0.8362	0.8415	0.8468	0.8522	0.8575	0.8629	0.8682	220
230	0.8682	0.8736	0.8789	0.8843	0.8897	0.8951	0.9005	0.9059	0.9113	0.9167	0.9221	230
240	0.9221	0.9276	0.9330	0.9385	0.9439	0.9494	0.9549	0.9604	0.9659	0.9714	0.9769	240
250	0.9769	0.9824	0.9879	0.9934	0.9990	1.0045	1.0101	1.0156	1.0212	1.0268	1.0324	250
260	1.0324	1.0380	1.0435	1.0492	1.0548	1.0604	1.0660	1.0717	1.0773	1.0829	1.0886	260
270	1.0886	1.0943	1.0999	1.1056	1.1113	1.1170	1.1227	1.1284	1.1342	1.1399	1.1456	270
280	1.1456	1.1514	1.1571	1.1629	1.1686	1.1744	1.1802	1.1860	1.1918	1.1976	1.2034	280
290	1.2034	1.2092	1.2150	1.2208	1.2267	1.2325	1.2384	1.2442	1.2501	1.2560	1.2619	290
300	1.2619	1.2678	1.2737	1.2796	1.2855	1.2914	1.2973	1.3033	1.3092	1.3152	1.3211	300
310	1.3211	1.3271	1.3331	1.3391	1.3451	1.3511	1.3571	1.3631	1.3691	1.3751	1.3812	310
320	1.3812	1.3872	1.3933	1.3993	1.4054	1.4115	1.4176	1.4236	1.4297	1.4358	1.4420	320
330	1.4420	1.4481	1.4542	1.4603	1.4665	1.4726	1.4788	1.4850	1.4911	1.4973	1.5035	330
340	1.5035	1.5097	1.5159	1.5221	1.5284	1.5346	1.5408	1.5471	1.5533	1.5596	1.5658	340
350	1.5658	1.5721	1.5784	1.5847	1.5910	1.5973	1.6036	1.6099	1.6163	1.6226	1.6290	350
360	1.6290	1.6353	1.6417	1.6480	1.6544	1.6608	1.6672	1.6736	1.6800	1.6864	1.6929	360
370	1.6929	1.6993	1.7057	1.7122	1.7186	1.7251	1.7316	1.7381	1.7445	1.7510	1.7575	370
380	1.7575	1.7640	1.7706	1.7771	1.7836	1.7902	1.7967	1.8033	1.8099	1.8164	1.8230	380
390	1.8230	1.8296	1.8362	1.8428	1.8494	1.8560	1.8627	1.8693	1.8760	1.8826	1.8893	390
400	1.8893	1.8959	1.9026	1.9093	1.9160	1.9227	1.9294	1.9361	1.9429	1.9496	1.9563	400
410	1.9563	1.9631	1.9698	1.9766	1.9834	1.9902	1.9970	2.0037	2.0106	2.0174	2.0242	410
420	2.0242	2.0310	2.0379	2.0447	2.0515	2.0584	2.0653	2.0722	2.0790	2.0859	2.0928	420
430	2.0928	2.0997	2.1066	2.1136	2.1205	2.1274	2.1344	2.1413	2.1483	2.1553	2.1623	430
440	2.1623	2.1692	2.1762	2.1832	2.1902	2.1973	2.2043	2.2113	2.2184	2.2254	2.2325	440
450	2.2325	2.2395	2.2466	2.2537	2.2608	2.2679	2.2750	2.2821	2.2892	2.2963	2.3034	450
460	2.3034	2.3106	2.3177	2.3249	2.3320	2.3392	2.3464	2.3536	2.3608	2.3680	2.3752	460
470	2.3752	2.3824	2.3896	2.3969	2.4041	2.4113	2.4186	2.4259	2.4331	2.4404	2.4477	470
480	2.4477	2.4550	2.4623	2.4696	2.4769	2.4842	2.4916	2.4989	2.5062	2.5136	2.5210	480
490	2.5210	2.5283	2.5357	2.5431	2.5505	2.5579	2.5653	2.5727	2.5801	2.5875	2.5950	490
500	2.5950	2.6024	2.6098	2.6173	2.6248	2.6322	2.6397	2.6472	2.6547	2.6622	2.6697	500
510	2.6697	2.6772	2.6847	2.6922	2.6998	2.7073	2.7149	2.7224	2.7300	2.7376	2.7451	510
520	2.7451	2.7527	2.7603	2.7679	2.7755	2.7831	2.7908	2.7984	2.8060	2.8137	2.8213	520
530	2.8213	2.8290	2.8366	2.8443	2.8520	2.8597	2.8674	2.8751	2.8828	2.8905	2.8982	530
540	2.8982	2.9059	2.9137	2.9214	2.9291	2.9369	2.9447	2.9524	2.9602	2.9680	2.9758	540
550	2.9758	2.9836	2.9914	2.9992	3.0070	3.0148	3.0227	3.0305	3.0383	3.0462	3.0540	550
560	3.0540	3.0619	3.0698	3.0777	3.0856	3.0934	3.1013	3.1093	3.1172	3.1251	3.1330	560
570	3.1330	3.1410	3.1489	3.1568	3.1648	3.1728	3.1807	3.1887	3.1967	3.2047	3.2127	570
580	3.2127	3.2207	3.2287	3.2367	3.2447	3.2528	3.2608	3.2689	3.2769	3.2850	3.2930	580
590	3.2930	3.3011	3.3092	3.3173	3.3254	3.3335	3.3416	3.3497	3.3578	3.3659	3.3741	590
600	3.3741	3.3822	3.3904	3.3985	3.4067	3.4148	3.4230	3.4312	3.4394	3.4476	3.4558	600
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 8. ***Type TP thermoelements versus platinum, Pt–67***—*thermoelectric voltage as a function of temperature (°F), reference junctions at 32 °F—Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						THERMOELECTRIC VOLTAGE IN ABSOLUTE MILLIVOLTS						
600	3.3741	3.3822	3.3904	3.3985	3.4067	3.4148	3.4230	3.4312	3.4394	3.4476	3.4558	600
610	3.4558	3.4640	3.4722	3.4805	3.4887	3.4969	3.5052	3.5134	3.5217	3.5300	3.5382	610
620	3.5382	3.5465	3.5548	3.5631	3.5714	3.5797	3.5880	3.5963	3.6047	3.6130	3.6214	620
630	3.6214	3.6297	3.6381	3.6464	3.6548	3.6632	3.6716	3.6800	3.6884	3.6968	3.7052	630
640	3.7052	3.7136	3.7220	3.7305	3.7389	3.7474	3.7558	3.7643	3.7728	3.7812	3.7897	640
650	3.7897	3.7982	3.8067	3.8152	3.8237	3.8322	3.8408	3.8493	3.8578	3.8664	3.8750	650
660	3.8750	3.8835	3.8921	3.9007	3.9092	3.9178	3.9264	3.9350	3.9436	3.9523	3.9609	660
670	3.9609	3.9695	3.9782	3.9868	3.9955	4.0041	4.0128	4.0215	4.0301	4.0388	4.0475	670
680	4.0475	4.0562	4.0649	4.0736	4.0824	4.0911	4.0998	4.1086	4.1173	4.1261	4.1348	680
690	4.1348	4.1436	4.1524	4.1612	4.1699	4.1787	4.1875	4.1964	4.2052	4.2140	4.2228	690
700	4.2228	4.2316	4.2405	4.2493	4.2582	4.2670	4.2759	4.2848	4.2936	4.3025	4.3114	700
710	4.3114	4.3203	4.3292	4.3381	4.3470	4.3559	4.3648	4.3738	4.3827	4.3916	4.4006	710
720	4.4006	4.4095	4.4185	4.4274	4.4364	4.4453	4.4543	4.4633	4.4723	4.4813	4.4902	720
730	4.4902	4.4992	4.5082	4.5172	4.5262	4.5352	4.5442	4.5533	4.5623	4.5713	4.5803	730
740	4.5803	4.5894	4.5984	4.6074	4.6165	4.6255	4.6345	4.6436	4.6526	4.6617	4.6707	740
750	4.6707	4.6798	4.6888									750
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 9. ***Platinum, Pt–67, versus Type TN (or EN) thermoelements***—*thermoelectric voltage as a function of temperature (°F), reference junctions at 32 °F*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
					THERMOELECTRIC VOLTAGE IN ABSOLUTE MILLIVOLTS							
-450	-6.2745	-6.2754	-6.2762	-6.2768	-6.2772							-450
-440	-6.2578	-6.2600	-6.2621	-6.2641	-6.2660	-6.2677	-6.2694	-6.2708	-6.2722	-6.2734	-6.2745	-440
-430	-6.2288	-6.2322	-6.2355	-6.2387	-6.2418	-6.2447	-6.2476	-6.2503	-6.2529	-6.2554	-6.2578	-430
-420	-6.1885	-6.1930	-6.1974	-6.2017	-6.2059	-6.2100	-6.2140	-6.2178	-6.2216	-6.2252	-6.2288	-420
-410	-6.1375	-6.1430	-6.1485	-6.1539	-6.1591	-6.1643	-6.1694	-6.1743	-6.1791	-6.1839	-6.1885	-410
-400	-6.0762	-6.0828	-6.0893	-6.0956	-6.1019	-6.1081	-6.1142	-6.1201	-6.1260	-6.1318	-6.1375	-400
-390	-6.0054	-6.0129	-6.0203	-6.0276	-6.0348	-6.0420	-6.0490	-6.0559	-6.0628	-6.0696	-6.0762	-390
-380	-5.9259	-5.9342	-5.9424	-5.9506	-5.9587	-5.9667	-5.9746	-5.9824	-5.9902	-5.9978	-6.0054	-380
-370	-5.8385	-5.8476	-5.8566	-5.8655	-5.8743	-5.8831	-5.8918	-5.9004	-5.9090	-5.9175	-5.9259	-370
-360	-5.7444	-5.7541	-5.7638	-5.7733	-5.7828	-5.7923	-5.8017	-5.8110	-5.8202	-5.8294	-5.8385	-360
-350	-5.6445	-5.6547	-5.6649	-5.6751	-5.6851	-5.6951	-5.7051	-5.7150	-5.7249	-5.7347	-5.7444	-350
-340	-5.5396	-5.5503	-5.5609	-5.5716	-5.5821	-5.5926	-5.6031	-5.6135	-5.6239	-5.6342	-5.6445	-340
-330	-5.4304	-5.4415	-5.4526	-5.4636	-5.4746	-5.4855	-5.4964	-5.5073	-5.5181	-5.5289	-5.5396	-330
-320	-5.3176	-5.3290	-5.3404	-5.3518	-5.3632	-5.3745	-5.3857	-5.3970	-5.4081	-5.4193	-5.4304	-320
-310	-5.2016	-5.2133	-5.2250	-5.2367	-5.2484	-5.2600	-5.2716	-5.2831	-5.2947	-5.3061	-5.3176	-310
-300	-5.0827	-5.0947	-5.1067	-5.1186	-5.1306	-5.1425	-5.1544	-5.1662	-5.1780	-5.1898	-5.2016	-300
-290	-4.9612	-4.9735	-4.9857	-4.9979	-5.0101	-5.0223	-5.0344	-5.0465	-5.0586	-5.0707	-5.0827	-290
-280	-4.8373	-4.8498	-4.8622	-4.8747	-4.8871	-4.8995	-4.9119	-4.9243	-4.9366	-4.9489	-4.9612	-280
-270	-4.7110	-4.7237	-4.7364	-4.7491	-4.7618	-4.7744	-4.7870	-4.7996	-4.8122	-4.8247	-4.8373	-270
-260	-4.5826	-4.5955	-4.6084	-4.6213	-4.6342	-4.6471	-4.6599	-4.6727	-4.6855	-4.6983	-4.7110	-260
-250	-4.4520	-4.4652	-4.4783	-4.4914	-4.5045	-4.5176	-4.5306	-4.5436	-4.5566	-4.5696	-4.5826	-250
-240	-4.3194	-4.3328	-4.3461	-4.3594	-4.3727	-4.3860	-4.3992	-4.4125	-4.4257	-4.4389	-4.4520	-240
-230	-4.1848	-4.1983	-4.2119	-4.2254	-4.2389	-4.2523	-4.2658	-4.2792	-4.2926	-4.3060	-4.3194	-230
-220	-4.0482	-4.0620	-4.0757	-4.0894	-4.1031	-4.1168	-4.1304	-4.1440	-4.1576	-4.1712	-4.1848	-220
-210	-3.9098	-3.9237	-3.9376	-3.9515	-3.9654	-3.9792	-3.9931	-4.0069	-4.0207	-4.0345	-4.0482	-210
-200	-3.7694	-3.7835	-3.7976	-3.8117	-3.8258	-3.8398	-3.8538	-3.8679	-3.8818	-3.8958	-3.9098	-200
-190	-3.6272	-3.6415	-3.6558	-3.6700	-3.6843	-3.6985	-3.7127	-3.7269	-3.7411	-3.7553	-3.7694	-190
-180	-3.4831	-3.4976	-3.5121	-3.5265	-3.5410	-3.5554	-3.5698	-3.5842	-3.5985	-3.6129	-3.6272	-180
-170	-3.3371	-3.3518	-3.3665	-3.3811	-3.3957	-3.4104	-3.4249	-3.4395	-3.4541	-3.4686	-3.4831	-170
-160	-3.1893	-3.2042	-3.2190	-3.2339	-3.2487	-3.2635	-3.2782	-3.2930	-3.3077	-3.3224	-3.3371	-160
-150	-3.0396	-3.0547	-3.0697	-3.0847	-3.0997	-3.1147	-3.1297	-3.1446	-3.1595	-3.1744	-3.1893	-150
-140	-2.8880	-2.9033	-2.9185	-2.9337	-2.9489	-2.9641	-2.9792	-2.9943	-3.0095	-3.0246	-3.0396	-140
-130	-2.7346	-2.7500	-2.7654	-2.7808	-2.7962	-2.8115	-2.8269	-2.8422	-2.8575	-2.8728	-2.8880	-130
-120	-2.5793	-2.5949	-2.6105	-2.6261	-2.6416	-2.6572	-2.6727	-2.6882	-2.7037	-2.7191	-2.7346	-120
-110	-2.4221	-2.4379	-2.4537	-2.4694	-2.4852	-2.5009	-2.5166	-2.5323	-2.5480	-2.5636	-2.5793	-110
-100	-2.2631	-2.2791	-2.2950	-2.3110	-2.3269	-2.3428	-2.3587	-2.3746	-2.3904	-2.4063	-2.4221	-100
-90	-2.1023	-2.1184	-2.1346	-2.1507	-2.1668	-2.1829	-2.1990	-2.2150	-2.2311	-2.2471	-2.2631	-90
-80	-1.9397	-1.9560	-1.9724	-1.9887	-2.0049	-2.0212	-2.0375	-2.0537	-2.0699	-2.0861	-2.1023	-80
-70	-1.7754	-1.7919	-1.8084	-1.8248	-1.8413	-1.8577	-1.8742	-1.8906	-1.9070	-1.9233	-1.9397	-70
-60	-1.6093	-1.6260	-1.6426	-1.6593	-1.6759	-1.6925	-1.7091	-1.7257	-1.7423	-1.7588	-1.7754	-60
-50	-1.4415	-1.4583	-1.4752	-1.4920	-1.5088	-1.5256	-1.5424	-1.5591	-1.5759	-1.5926	-1.6093	-50
-40	-1.2719	-1.2889	-1.3060	-1.3230	-1.3399	-1.3569	-1.3738	-1.3908	-1.4077	-1.4246	-1.4415	-40
-30	-1.1006	-1.1178	-1.1350	-1.1522	-1.1693	-1.1865	-1.2036	-1.2207	-1.2378	-1.2548	-1.2719	-30
-20	-0.9275	-0.9449	-0.9623	-0.9796	-0.9969	-1.0143	-1.0316	-1.0488	-1.0661	-1.0834	-1.1006	-20
-10	-0.7527	-0.7702	-0.7878	-0.8053	-0.8228	-0.8403	-0.8578	-0.8752	-0.8927	-0.9101	-0.9275	-10
- 0	-0.5761	-0.5938	-0.6116	-0.6293	-0.6469	-0.6646	-0.6823	-0.6999	-0.7175	-0.7351	-0.7527	- 0
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 9. *Platinum, Pt–67, versus Type TN (or EN) thermoelements—thermoelectric voltage as a function of temperature (°F), reference junctions at 32 °F—Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						THERMOELECTRIC VOLTAGE IN ABSOLUTE MILLIVOLTS						
0	-0.5761	-0.5584	-0.5406	-0.5228	-0.5050	-0.4872	-0.4694	-0.4515	-0.4336	-0.4158	-0.3979	0
10	-0.3979	-0.3799	-0.3620	-0.3441	-0.3261	-0.3081	-0.2901	-0.2721	-0.2541	-0.2360	-0.2180	10
20	-0.2180	-0.1999	-0.1818	-0.1637	-0.1456	-0.1274	-0.1093	-0.0911	-0.0729	-0.0547	-0.0365	20
30	-0.0365	-0.0182	0.0000	0.0183	0.0365	0.0548	0.0731	0.0914	0.1097	0.1281	0.1464	30
40	0.1464	0.1647	0.1831	0.2015	0.2198	0.2382	0.2566	0.2751	0.2935	0.3119	0.3304	40
50	0.3304	0.3489	0.3673	0.3858	0.4043	0.4228	0.4414	0.4599	0.4784	0.4970	0.5156	50
60	0.5156	0.5342	0.5528	0.5714	0.5900	0.6086	0.6273	0.6460	0.6646	0.6833	0.7020	60
70	0.7020	0.7208	0.7395	0.7582	0.7770	0.7958	0.8145	0.8333	0.8521	0.8710	0.8898	70
80	0.8898	0.9087	0.9275	0.9464	0.9653	0.9842	1.0031	1.0221	1.0410	1.0600	1.0790	80
90	1.0790	1.0979	1.1170	1.1360	1.1550	1.1741	1.1931	1.2122	1.2313	1.2504	1.2695	90
100	1.2695	1.2886	1.3078	1.3269	1.3461	1.3653	1.3845	1.4037	1.4230	1.4422	1.4615	100
110	1.4615	1.4808	1.5001	1.5194	1.5387	1.5580	1.5774	1.5967	1.6161	1.6355	1.6549	110
120	1.6549	1.6744	1.6938	1.7133	1.7327	1.7522	1.7717	1.7912	1.8107	1.8303	1.8499	120
130	1.8499	1.8694	1.8890	1.9086	1.9282	1.9479	1.9675	1.9872	2.0069	2.0266	2.0463	130
140	2.0463	2.0660	2.0857	2.1055	2.1252	2.1450	2.1648	2.1846	2.2045	2.2243	2.2442	140
150	2.2442	2.2640	2.2839	2.3038	2.3237	2.3437	2.3636	2.3836	2.4036	2.4236	2.4436	150
160	2.4436	2.4636	2.4836	2.5037	2.5237	2.5438	2.5639	2.5840	2.6041	2.6243	2.6444	160
170	2.6444	2.6646	2.6848	2.7050	2.7252	2.7454	2.7657	2.7860	2.8062	2.8265	2.8468	170
180	2.8468	2.8671	2.8875	2.9078	2.9282	2.9486	2.9689	2.9894	3.0098	3.0302	3.0507	180
190	3.0507	3.0711	3.0916	3.1121	3.1326	3.1531	3.1737	3.1942	3.2148	3.2354	3.2560	190
200	3.2560	3.2766	3.2972	3.3178	3.3385	3.3592	3.3798	3.4005	3.4213	3.4420	3.4627	200
210	3.4627	3.4835	3.5042	3.5250	3.5458	3.5666	3.5874	3.6083	3.6291	3.6500	3.6709	210
220	3.6709	3.6918	3.7127	3.7336	3.7546	3.7755	3.7965	3.8174	3.8384	3.8594	3.8805	220
230	3.8805	3.9015	3.9225	3.9436	3.9647	3.9858	4.0069	4.0280	4.0491	4.0703	4.0914	230
240	4.0914	4.1126	4.1338	4.1550	4.1762	4.1974	4.2187	4.2399	4.2612	4.2824	4.3037	240
250	4.3037	4.3250	4.3464	4.3677	4.3890	4.4104	4.4318	4.4532	4.4746	4.4960	4.5174	250
260	4.5174	4.5388	4.5603	4.5817	4.6032	4.6247	4.6462	4.6677	4.6893	4.7108	4.7324	260
270	4.7324	4.7539	4.7755	4.7971	4.8187	4.8403	4.8619	4.8836	4.9052	4.9269	4.9486	270
280	4.9486	4.9703	4.9920	5.0137	5.0354	5.0572	5.0789	5.1007	5.1225	5.1443	5.1661	280
290	5.1661	5.1879	5.2097	5.2316	5.2534	5.2753	5.2972	5.3191	5.3410	5.3629	5.3848	290
300	5.3848	5.4067	5.4287	5.4507	5.4726	5.4946	5.5166	5.5386	5.5606	5.5827	5.6047	300
310	5.6047	5.6268	5.6489	5.6709	5.6930	5.7151	5.7372	5.7594	5.7815	5.8037	5.8258	310
320	5.8258	5.8480	5.8702	5.8924	5.9146	5.9368	5.9590	5.9813	6.0035	6.0258	6.0481	320
330	6.0481	6.0703	6.0926	6.1150	6.1373	6.1596	6.1819	6.2043	6.2267	6.2490	6.2714	330
340	6.2714	6.2938	6.3162	6.3386	6.3611	6.3835	6.4060	6.4284	6.4509	6.4734	6.4959	340
350	6.4959	6.5184	6.5409	6.5634	6.5859	6.6085	6.6310	6.6536	6.6762	6.6988	6.7214	350
360	6.7214	6.7440	6.7666	6.7892	6.8119	6.8345	6.8572	6.8799	6.9025	6.9252	6.9479	360
370	6.9479	6.9706	6.9934	7.0161	7.0388	7.0616	7.0843	7.1071	7.1299	7.1527	7.1755	370
380	7.1755	7.1983	7.2211	7.2440	7.2668	7.2896	7.3125	7.3354	7.3583	7.3811	7.4040	380
390	7.4040	7.4270	7.4499	7.4728	7.4957	7.5187	7.5416	7.5646	7.5876	7.6106	7.6336	390
400	7.6336	7.6566	7.6796	7.7026	7.7256	7.7487	7.7717	7.7948	7.8178	7.8409	7.8640	400
410	7.8640	7.8871	7.9102	7.9333	7.9564	7.9796	8.0027	8.0259	8.0490	8.0722	8.0954	410
420	8.0954	8.1186	8.1418	8.1650	8.1882	8.2114	8.2346	8.2579	8.2811	8.3044	8.3276	420
430	8.3276	8.3509	8.3742	8.3975	8.4208	8.4441	8.4674	8.4907	8.5141	8.5374	8.5608	430
440	8.5608	8.5841	8.6075	8.6309	8.6543	8.6777	8.7011	8.7245	8.7479	8.7713	8.7948	440
450	8.7948	8.8182	8.8417	8.8651	8.8886	8.9121	8.9356	8.9591	8.9826	9.0061	9.0296	450
460	9.0296	9.0531	9.0766	9.1002	9.1237	9.1473	9.1709	9.1944	9.2180	9.2416	9.2652	460
470	9.2652	9.2888	9.3124	9.3361	9.3597	9.3833	9.4070	9.4306	9.4543	9.4780	9.5016	470
480	9.5016	9.5253	9.5490	9.5727	9.5964	9.6201	9.6439	9.6676	9.6913	9.7151	9.7388	480
490	9.7388	9.7626	9.7864	9.8101	9.8339	9.8577	9.8815	9.9053	9.9291	9.9530	9.9768	490
500	9.9768	10.0006	10.0245	10.0483	10.0722	10.0960	10.1199	10.1438	10.1677	10.1916	10.2155	500
510	10.2155	10.2394	10.2633	10.2872	10.3112	10.3351	10.3590	10.3830	10.4070	10.4309	10.4549	510
520	10.4549	10.4789	10.5029	10.5269	10.5509	10.5749	10.5989	10.6229	10.6469	10.6710	10.6950	520
530	10.6950	10.7191	10.7431	10.7672	10.7913	10.8153	10.8394	10.8635	10.8876	10.9117	10.9358	530
540	10.9358	10.9599	10.9841	11.0082	11.0323	11.0565	11.0806	11.1048	11.1290	11.1531	11.1773	540
550	11.1773	11.2015	11.2257	11.2499	11.2741	11.2983	11.3225	11.3468	11.3710	11.3952	11.4195	550
560	11.4195	11.4437	11.4680	11.4922	11.5165	11.5408	11.5651	11.5894	11.6137	11.6380	11.6623	560
570	11.6623	11.6866	11.7109	11.7352	11.7596	11.7839	11.8083	11.8326	11.8570	11.8813	11.9057	570
580	11.9057	11.9301	11.9545	11.9789	12.0033	12.0277	12.0521	12.0765	12.1009	12.1253	12.1498	580
590	12.1498	12.1742	12.1987	12.2231	12.2476	12.2720	12.2965	12.3210	12.3455	12.3699	12.3944	590
600	12.3944	12.4189	12.4434	12.4680	12.4925	12.5170	12.5415	12.5661	12.5906	12.6152	12.6397	600
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 9. *Platinum*, Pt–67, *versus Type TN (or EN) thermoelements—thermoelectric voltage as a function of temperature (°F), reference junctions at 32 °F—Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						THERMOELECTRIC VOLTAGE IN ABSOLUTE MILLIVOLTS						
600	12.3944	12.4189	12.4434	12.4680	12.4925	12.5170	12.5415	12.5661	12.5906	12.6152	12.6397	600
610	12.6397	12.6643	12.6888	12.7134	12.7380	12.7626	12.7872	12.8117	12.8363	12.8610	12.8856	610
620	12.8856	12.9102	12.9348	12.9594	12.9841	13.0087	13.0334	13.0580	13.0827	13.1073	13.1320	620
630	13.1320	13.1567	13.1813	13.2060	13.2307	13.2554	13.2801	13.3048	13.3295	13.3543	13.3790	630
640	13.3790	13.4037	13.4284	13.4532	13.4779	13.5027	13.5274	13.5522	13.5770	13.6017	13.6265	640
650	13.6265	13.6513	13.6761	13.7009	13.7257	13.7505	13.7753	13.8001	13.8249	13.8498	13.8746	650
660	13.8746	13.8994	13.9243	13.9491	13.9740	13.9988	14.0237	14.0486	14.0734	14.0983	14.1232	660
670	14.1232	14.1481	14.1730	14.1979	14.2228	14.2477	14.2726	14.2975	14.3225	14.3474	14.3723	670
680	14.3723	14.3973	14.4222	14.4472	14.4721	14.4971	14.5221	14.5470	14.5720	14.5970	14.6220	680
690	14.6220	14.6470	14.6720	14.6970	14.7220	14.7470	14.7720	14.7970	14.8220	14.8471	14.8721	690
700	14.8721	14.8971	14.9222	14.9472	14.9723	14.9974	15.0224	15.0475	15.0726	15.0976	15.1227	700
710	15.1227	15.1478	15.1729	15.1980	15.2231	15.2482	15.2733	15.2984	15.3236	15.3487	15.3738	710
720	15.3738	15.3989	15.4241	15.4492	15.4744	15.4995	15.5247	15.5498	15.5750	15.6002	15.6254	720
730	15.6254	15.6505	15.6757	15.7009	15.7261	15.7513	15.7765	15.8017	15.8269	15.8521	15.8774	730
740	15.8774	15.9026	15.9278	15.9531	15.9783	16.0035	16.0288	16.0540	16.0793	16.1046	16.1298	740
750	16.1298	16.1551	16.1804	16.2056	16.2309	16.2562	16.2815	16.3068	16.3321	16.3574	16.3827	750
760	16.3827	16.4080	16.4333	16.4586	16.4840	16.5093	16.5346	16.5600	16.5853	16.6107	16.6360	760
770	16.6360	16.6614	16.6867	16.7121	16.7374	16.7628	16.7882	16.8136	16.8389	16.8643	16.8897	770
780	16.8897	16.9151	16.9405	16.9659	16.9913	17.0167	17.0421	17.0676	17.0930	17.1184	17.1438	780
790	17.1438	17.1693	17.1947	17.2201	17.2456	17.2710	17.2965	17.3219	17.3474	17.3729	17.3983	790
800	17.3983	17.4238	17.4493	17.4748	17.5002	17.5257	17.5512	17.5767	17.6022	17.6277	17.6532	800
810	17.6532	17.6787	17.7042	17.7297	17.7553	17.7808	17.8063	17.8318	17.8574	17.8829	17.9084	810
820	17.9084	17.9340	17.9595	17.9851	18.0106	18.0362	18.0618	18.0873	18.1129	18.1385	18.1640	820
830	18.1640	18.1896	18.2152	18.2408	18.2664	18.2920	18.3176	18.3432	18.3688	18.3944	18.4200	830
840	18.4200	18.4456	18.4712	18.4968	18.5224	18.5481	18.5737	18.5993	18.6250	18.6506	18.6763	840
850	18.6763	18.7019	18.7275	18.7532	18.7788	18.8045	18.8302	18.8558	18.8815	18.9072	18.9328	850
860	18.9328	18.9585	18.9842	19.0099	19.0356	19.0613	19.0869	19.1126	19.1383	19.1640	19.1897	860
870	19.1897	19.2154	19.2412	19.2669	19.2926	19.3183	19.3440	19.3697	19.3955	19.4212	19.4469	870
880	19.4469	19.4727	19.4984	19.5241	19.5499	19.5756	19.6014	19.6271	19.6529	19.6787	19.7044	880
890	19.7044	19.7302	19.7559	19.7817	19.8075	19.8333	19.8590	19.8848	19.9106	19.9364	19.9622	890
900	19.9622	19.9880	20.0137	20.0395	20.0653	20.0911	20.1169	20.1427	20.1686	20.1944	20.2202	900
910	20.2202	20.2460	20.2718	20.2976	20.3235	20.3493	20.3751	20.4009	20.4268	20.4526	20.4784	910
920	20.4784	20.5043	20.5301	20.5560	20.5818	20.6077	20.6335	20.6594	20.6852	20.7111	20.7369	920
930	20.7369	20.7628	20.7887	20.8145	20.8404	20.8663	20.8921	20.9180	20.9439	20.9698	20.9957	930
940	20.9957	21.0215	21.0474	21.0733	21.0992	21.1251	21.1510	21.1769	21.2028	21.2287	21.2546	940
950	21.2546	21.2805	21.3064	21.3323	21.3582	21.3841	21.4101	21.4360	21.4619	21.4878	21.5137	950
960	21.5137	21.5397	21.5656	21.5915	21.6174	21.6434	21.6693	21.6952	21.7212	21.7471	21.7731	960
970	21.7731	21.7990	21.8249	21.8509	21.8768	21.9028	21.9287	21.9547	21.9807	22.0066	22.0326	970
980	22.0326	22.0585	22.0845	22.1105	22.1364	22.1624	22.1884	22.2143	22.2403	22.2663	22.2922	980
990	22.2922	22.3182	22.3442	22.3702	22.3962	22.4221	22.4481	22.4741	22.5001	22.5261	22.5521	990
1,000	22.5521	22.5781	22.6041	22.6300	22.6560	22.6820	22.7080	22.7340	22.7600	22.7860	22.8120	1,000
1,010	22.8120	22.8380	22.8640	22.8901	22.9161	22.9421	22.9681	22.9941	23.0201	23.0461	23.0721	1,010
1,020	23.0721	23.0982	23.1242	23.1502	23.1762	23.2022	23.2283	23.2543	23.2803	23.3063	23.3324	1,020
1,030	23.3324	23.3584	23.3844	23.4104	23.4365	23.4625	23.4885	23.5146	23.5406	23.5667	23.5927	1,030
1,040	23.5927	23.6187	23.6448	23.6708	23.6969	23.7229	23.7489	23.7750	23.8010	23.8271	23.8531	1,040
1,050	23.8531	23.8792	23.9052	23.9313	23.9573	23.9834	24.0094	24.0355	24.0615	24.0876	24.1136	1,050
1,060	24.1136	24.1397	24.1658	24.1918	24.2179	24.2439	24.2700	24.2960	24.3221	24.3482	24.3742	1,060
1,070	24.3742	24.4003	24.4264	24.4524	24.4785	24.5046	24.5306	24.5567	24.5828	24.6088	24.6349	1,070
1,080	24.6349	24.6610	24.6870	24.7131	24.7392	24.7652	24.7913	24.8174	24.8435	24.8695	24.8956	1,080
1,090	24.8956	24.9217	24.9478	24.9738	24.9999	25.0260	25.0521	25.0781	25.1042	25.1303	25.1564	1,090
1,100	25.1564	25.1824	25.2085	25.2346	25.2607	25.2868	25.3128	25.3389	25.3650	25.3911	25.4172	1,100
1,110	25.4172	25.4432	25.4693	25.4954	25.5215	25.5476	25.5737	25.5997	25.6258	25.6519	25.6780	1,110
1,120	25.6780	25.7041	25.7302	25.7562	25.7823	25.8084	25.8345	25.8606	25.8867	25.9128	25.9388	1,120
1,130	25.9388	25.9649	25.9910	26.0171	26.0432	26.0693	26.0953	26.1214	26.1475	26.1736	26.1997	1,130
1,140	26.1997	26.2258	26.2519	26.2779	26.3040	26.3301	26.3562	26.3823	26.4084	26.4345	26.4605	1,140
1,150	26.4605	26.4866	26.5127	26.5388	26.5649	26.5910	26.6170	26.6431	26.6692	26.6953	26.7214	1,150
1,160	26.7214	26.7475	26.7735	26.7996	26.8257	26.8518	26.8779	26.9040	26.9300	26.9561	26.9822	1,160
1,170	26.9822	27.0083	27.0344	27.0604	27.0865	27.1126	27.1387	27.1648	27.1908	27.2169	27.2430	1,170
1,180	27.2430	27.2691	27.2952	27.3212	27.3473	27.3734	27.3995	27.4255	27.4516	27.4777	27.5038	1,180
1,190	27.5038	27.5298	27.5559	27.5820	27.6081	27.6341	27.6602	27.6863	27.7124	27.7384	27.7645	1,190
1,200	27.7645	27.7906	27.8166	27.8427	27.8688	27.8948	27.9209	27.9470	27.9730	27.9991	28.0252	1,200
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 9. ***Platinum*, Pt–67, *versus Type TN (or EN) thermocelements*—*thermoelectric voltage as a function of temperature (°F), reference junctions at 32 °F*—*Continued***

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						THERMOELECTRIC VOLTAGE IN ABSOLUTE MILLIVOLTS						
1,200	27.7645	27.7906	27.8166	27.8427	27.8688	27.8948	27.9209	27.9470	27.9730	27.9991	28.0252	1,200
1,210	28.0252	28.0512	28.0773	28.1034	28.1294	28.1555	28.1815	28.2076	28.2337	28.2597	28.2858	1,210
1,220	28.2858	28.3118	28.3379	28.3640	28.3900	28.4161	28.4421	28.4682	28.4942	28.5203	28.5463	1,220
1,230	28.5463	28.5724	28.5984	28.6245	28.6505	28.6766	28.7026	28.7287	28.7547	28.7808	28.8068	1,230
1,240	28.8068	28.8329	28.8589	28.8850	28.9110	28.9370	28.9631	28.9891	29.0152	29.0412	29.0672	1,240
1,250	29.0672	29.0933	29.1193	29.1454	29.1714	29.1974	29.2235	29.2495	29.2755	29.3015	29.3276	1,250
1,260	29.3276	29.3536	29.3796	29.4057	29.4317	29.4577	29.4837	29.5098	29.5358	29.5618	29.5878	1,260
1,270	29.5878	29.6138	29.6399	29.6659	29.6919	29.7179	29.7439	29.7699	29.7959	29.8219	29.8480	1,270
1,280	29.8480	29.8740	29.9000	29.9260	29.9520	29.9780	30.0040	30.0300	30.0560	30.0820	30.1080	1,280
1,290	30.1080	30.1340	30.1600	30.1860	30.2120	30.2380	30.2640	30.2900	30.3160	30.3420	30.3679	1,290
1,300	30.3679	30.3939	30.4199	30.4459	30.4719	30.4979	30.5239	30.5498	30.5758	30.6018	30.6278	1,300
1,310	30.6278	30.6537	30.6797	30.7057	30.7317	30.7576	30.7836	30.8096	30.8355	30.8615	30.8875	1,310
1,320	30.8875	30.9134	30.9394	30.9654	30.9913	31.0173	31.0432	31.0692	31.0952	31.1211	31.1471	1,320
1,330	31.1471	31.1730	31.1990	31.2249	31.2509	31.2768	31.3027	31.3287	31.3546	31.3806	31.4065	1,330
1,340	31.4065	31.4325	31.4584	31.4843	31.5103	31.5362	31.5621	31.5881	31.6140	31.6399	31.6658	1,340
1,350	31.6658	31.6918	31.7177	31.7436	31.7695	31.7954	31.8214	31.8473	31.8732	31.8991	31.9250	1,350
1,360	31.9250	31.9509	31.9768	32.0027	32.0286	32.0545	32.0804	32.1063	32.1322	32.1581	32.1840	1,360
1,370	32.1840	32.2099	32.2358	32.2617	32.2876	32.3135	32.3394	32.3653	32.3912	32.4170	32.4429	1,370
1,380	32.4429	32.4688	32.4947	32.5206	32.5464	32.5723	32.5982	32.6240	32.6499	32.6758	32.7016	1,380
1,390	32.7016	32.7275	32.7534	32.7792	32.8051	32.8309	32.8568	32.8826	32.9085	32.9343	32.9602	1,390
1,400	32.9602	32.9860	33.0119	33.0377	33.0636	33.0894	33.1152	33.1411	33.1669	33.1927	33.2186	1,400
1,410	33.2186	33.2444	33.2702	33.2961	33.3219	33.3477	33.3735	33.3993	33.4252	33.4510	33.4768	1,410
1,420	33.4768	33.5026	33.5284	33.5542	33.5800	33.6058	33.6316	33.6574	33.6832	33.7090	33.7348	1,420
1,430	33.7348	33.7606	33.7864	33.8122	33.8380	33.8637	33.8895	33.9153	33.9411	33.9669	33.9926	1,430
1,440	33.9926	34.0184	34.0442	34.0699	34.0957	34.1215	34.1472	34.1730	34.1988	34.2245	34.2503	1,440
1,450	34.2503	34.2760	34.3018	34.3275	34.3533	34.3790	34.4047	34.4305	34.4562	34.4820	34.5077	1,450
1,460	34.5077	34.5334	34.5591	34.5849	34.6106	34.6363	34.6620	34.6878	34.7135	34.7392	34.7649	1,460
1,470	34.7649	34.7906	34.8163	34.8420	34.8677	34.8934	34.9191	34.9448	34.9705	34.9962	35.0219	1,470
1,480	35.0219	35.0476	35.0733	35.0989	35.1246	35.1503	35.1760	35.2016	35.2273	35.2530	35.2787	1,480
1,490	35.2787	35.3043	35.3300	35.3556	35.3813	35.4069	35.4326	35.4582	35.4839	35.5095	35.5352	1,490
1,500	35.5352	35.5608	35.5865	35.6121	35.6377	35.6633	35.6890	35.7146	35.7402	35.7658	35.7915	1,500
1,510	35.7915	35.8171	35.8427	35.8683	35.8939	35.9195	35.9451	35.9707	35.9963	36.0219	36.0475	1,510
1,520	36.0475	36.0731	36.0986	36.1242	36.1498	36.1754	36.2010	36.2265	36.2521	36.2777	36.3032	1,520
1,530	36.3032	36.3288	36.3543	36.3799	36.4055	36.4310	36.4566	36.4821	36.5076	36.5332	36.5587	1,530
1,540	36.5587	36.5842	36.6098	36.6353	36.6608	36.6863	36.7119	36.7374	36.7629	36.7884	36.8139	1,540
1,550	36.8139	36.8394	36.8649	36.8904	36.9159	36.9414	36.9669	36.9924	37.0179	37.0433	37.0688	1,550
1,560	37.0688	37.0943	37.1198	37.1452	37.1707	37.1961	37.2216	37.2471	37.2725	37.2980	37.3234	1,560
1,570	37.3234	37.3488	37.3743	37.3997	37.4252	37.4506	37.4760	37.5014	37.5269	37.5523	37.5777	1,570
1,580	37.5777	37.6031	37.6285	37.6539	37.6793	37.7047	37.7301	37.7555	37.7809	37.8063	37.8317	1,580
1,590	37.8317	37.8570	37.8824	37.9078	37.9331	37.9585	37.9839	38.0092	38.0346	38.0599	38.0853	1,590
1,600	38.0853	38.1106	38.1360	38.1613	38.1866	38.2120	38.2373	38.2626	38.2879	38.3132	38.3386	1,600
1,610	38.3386	38.3639	38.3892	38.4145	38.4398	38.4651	38.4904	38.5156	38.5409	38.5662	38.5915	1,610
1,620	38.5915	38.6168	38.6420	38.6673	38.6926	38.7178	38.7431	38.7683	38.7936	38.8188	38.8440	1,620
1,630	38.8440	38.8693	38.8945	38.9197	38.9450	38.9702	38.9954	39.0206	39.0458	39.0710	39.0962	1,630
1,640	39.0962	39.1214	39.1466	39.1718	39.1970	39.2222	39.2474	39.2725	39.2977	39.3229	39.3480	1,640
1,650	39.3480	39.3732	39.3984	39.4235	39.4487	39.4738	39.4989	39.5241	39.5492	39.5743	39.5995	1,650
1,660	39.5995	39.6246	39.6497	39.6748	39.6999	39.7250	39.7501	39.7752	39.8003	39.8254	39.8505	1,660
1,670	39.8505	39.8756	39.9007	39.9257	39.9508	39.9759	40.0009	40.0260	40.0510	40.0761	40.1011	1,670
1,680	40.1011	40.1262	40.1512	40.1762	40.2013	40.2263	40.2513	40.2763	40.3013	40.3263	40.3513	1,680
1,690	40.3513	40.3763	40.4013	40.4263	40.4513	40.4763	40.5013	40.5263	40.5512	40.5762	40.6012	1,690
1,700	40.6012	40.6261	40.6511	40.6760	40.7010	40.7259	40.7509	40.7758	40.8007	40.8257	40.8506	1,700
1,710	40.8506	40.8755	40.9004	40.9253	40.9502	40.9751	41.0000	41.0249	41.0498	41.0747	41.0996	1,710
1,720	41.0996	41.1245	41.1493	41.1742	41.1991	41.2239	41.2488	41.2736	41.2985	41.3233	41.3482	1,720
1,730	41.3482	41.3730	41.3978	41.4227	41.4475	41.4723	41.4971	41.5220	41.5468	41.5716	41.5964	1,730
1,740	41.5964	41.6212	41.6460	41.6708	41.6955	41.7203	41.7451	41.7699	41.7946	41.8194	41.8442	1,740
1,750	41.8442	41.8689	41.8937	41.9184	41.9432	41.9679	41.9927	42.0174	42.0422	42.0669	42.0916	1,750
1,760	42.0916	42.1163	42.1411	42.1658	42.1905	42.2152	42.2399	42.2646	42.2893	42.3140	42.3387	1,760
1,770	42.3387	42.3634	42.3881	42.4127	42.4374	42.4621	42.4868	42.5114	42.5361	42.5608	42.5854	1,770
1,780	42.5854	42.6101	42.6347	42.6594	42.6840	42.7087	42.7333	42.7579	42.7826	42.8072	42.8318	1,780
1,790	42.8318	42.8565	42.8811	42.9057	42.9303	42.9549	42.9795	43.0041	43.0288	43.0534	43.0780	1,790
1,800	43.0780	43.1026	43.1272	43.1517	43.1763	43.2009	43.2255	43.2501	43.2747	43.2993	43.3238	1,800
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 9. ***Platinum, Pt–67, versus Type TN (or EN) thermoelements***—*thermoelectric voltage as a function of temperature (°F), reference junctions at 32 °F—Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
					THERMOELECTRIC VOLTAGE IN ABSOLUTE MILLIVOLTS							
1,800	43.0780	43.1026	43.1272	43.1517	43.1763	43.2009	43.2255	43.2501	43.2747	43.2993	43.3238	1,800
1,810	43.3238	43.3484	43.3730	43.3976	43.4221	43.4467	43.4713	43.4958	43.5204	43.5449	43.5695	1,810
1,820	43.5695	43.5941	43.6186	43.6432	43.6677	43.6923	43.7168	43.7414	43.7659	43.7904	43.8150	1,820
1,830	43.8150	43.8395	43.8641									1,830
°F	0	1	2	3	4	5	6	7	8	9	10	°F

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16. ABSTRACT (*A 200-word or less factual summary of most significant information. If document includes a significant bibliography or literature survey, mention it here.*)

Reference tables for several thermoelements versus platinum (Pt-67) are given with values of the thermoelectric voltage as a function of temperature in degrees Fahrenheit. Only tables for standard letter-designated thermoelements are included: Types BP, BN, JP, JN, KP (same as EP), KN, TP, and TN (same as EN). These tables supplement those given in NBS Monograph 125 and were calculated from the power series expansions presented in that Monograph. They are based upon the absolute electrical units and the International Practical Temperature Scale of 1968 (IPTS-68).

17. KEY WORDS (*six to twelve entries; alphabetical order; capitalize only the first letter of the first key word unless a proper name; separated by semicolons*)

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