MAXIMUM TEMPERATURE RANGE Thermocouple Grade

- 328 to 2282°F

- 200 to 1250°C

Extension Grade 32 to 392°F

0 to 200°C LIMITS OF ERROR

Children of Error (whichever is greater) Standard: 2.2°C or 0.75% Above 0°C 2.2°C or 2.0% Below 0°C Special: 1.1°C or 0.4%

COMMENTS, BARE WIRE ENVIRONMENT:

Clean Oxidizing and Inert; Limited Use in Vacuum or Reducing; Wide Temperature Range; Most Popular Calibration TEMPERATURE IN DEGREES °F **REFERENCE JUNCTION AT 32°F**



Nickel-Chromium VS. Nickel-Aluminum

Extension Grade



Thermocouple Grade

Revised Thermocouple Reference Tables

Tables N.I.S.T. **Monograph 175** Revised to **ITS-90**



Thermoelectric Voltage in Millivolts

F	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0					2	3	4	5	6	7	8	9	10	°F
-450							-6.458	-6.457	-6.457			° F -450	°F 100 110 120 130 140	0 1.521 1.749 1.977 2.207 2.436	1 1.543 1.771 2.000 2.230 2.459	1.566 1.794 2.023 2.253 2.483			1.635 1.863 2.092		1.680 1.909 2.138 2.367 2.598	1.703 1.931 2.161 2.390 2.621	1.726 1.954 2.184 2.413 2.644	1.749 1.977 2.207 2.436 2.667	100 110 120 130 140
-440 -430 -420 -410 -400	-6.446 -6.431 -6.409	-6.455 -6.445 -6.429 -6.406 -6.377	-6.444 -6.427 -6.404	-6.443 -6.425 -6.401	-6.441 -6.423 -6.398	-6.440 -6.421 -6.395	-6.438 -6.419 -6.392	-6.436 -6.416 -6.389	-6.435 -6.414 -6.386	-6.433 -6.411	-6.431 -6.409 -6.380	-440 -430 -420 -410 -400	150 160 170 180 190	2.667 2.897 3.128 3.359 3.590	2.690 2.920 3.151 3.382 3.613	2.713 2.944 3.174 3.405 3.636	2.736 2.967 3.197 3.428 3.659	2.759 2.990 3.220 3.451 3.682	2.782 3.013 3.244 3.474 3.705	2.805 3.036 3.267 3.497 3.728	2.828 3.059 3.290 3.520 3.751	2.851 3.082 3.313 3.544 3.774	2.874 3.105 3.336 3.567 3.797	2.897 3.128 3.359 3.590 3.820	150 160 170 180 190
-390 -380 -370 -360 -350	-6.301 -6.251 -6.195	-6.340 -6.296 -6.246 -6.189 -6.126	-6.292 -6.241 -6.183	-6.287 -6.235 -6.177	-6.282 -6.230 -6.171	-6.277 -6.224 -6.165	-6.272 -6.218 -6.158	-6.267 -6.213 -6.152	-6.262 -6.207 -6.146		-6.251 -6.195 -6.133		200 210 220 230 240	3.820 4.050 4.280 4.509 4.738	3.843 4.073 4.303 4.532 4.760	3.866 4.096 4.326 4.555 4.783	4.349	3.912 4.142 4.372 4.601 4.829	4.165 4.395		3.981 4.211 4.440 4.669 4.897	4.004 4.234 4.463 4.692 4.920	4.257 4.486 4.715	4.050 4.280 4.509 4.738 4.965	200 210 220 230 240
-340 -330 -320 -310 -300	-5.989 -5.908 -5.822	-6.057 -5.981 -5.900 -5.813 -5.720	-5.973 -5.891 -5.804	-5.965 -5.883 -5.795	-5.957 -5.874 -5.786	-5.949 -5.866 -5.776	-5.941 -5.857 -5.767	-5.933 -5.848 -5.758	-5.925 -5.840 -5.749	-5.917 -5.831 -5.739	-5.908 -5.822 -5.730	-310	250 260 270 280 290	4.965 5.192 5.419 5.644 5.869	4.988 5.215 5.441 5.667 5.892	5.690	5.260 5.487		5.306 5.532	5.102 5.328 5.554 5.779 6.004	5.124 5.351 5.577 5.802 6.026		5.396 5.622 5.847	5.192 5.419 5.644 5.869 6.094	250 260 270 280 290
-290 -280 -270 -260 -250	-5.529 -5.421 -5.308	-5.622 -5.519 -5.410 -5.296 -5.178	-5.508 -5.399 -5.285	-5.497 -5.388 -5.273	-5.487 -5.377 -5.261	-5.476 -5.365 -5.250	-5.465 -5.354 -5.238	-5.454 -5.343 -5.226	-5.443 -5.331 -5.214	-5.432 -5.320 -5.202	-5.421 -5.308 -5.190	-290 -280 -270 -260 -250	300 310 320 330 340	6.094 6.317 6.540 6.763 6.985	6.116 6.339 6.562 6.785 7.007	6.362 6.585	6.161 6.384 6.607 6.829 7.052	6.406 6.629 6.852	6.429 6.652 6.874	6.451 6.674	6.250 6.473 6.696 6.918 7.140		6.518 6.741 6.963	6.317 6.540 6.763 6.985 7.207	300 310 320 330 340
-240 -230 -220 -210 -200	-4.939 -4.806 -4.669	-5.054 -4.926 -4.793 -4.655 -4.513	-4.913 -4.779 -4.641	-4.900 -4.766 -4.627	-4.886 -4.752 -4.613	-4.873 -4.738 -4.599	-4.860 -4.724 -4.584	-4.847 -4.711 -4.570	-4.833 -4.697 -4.556	-4.820 -4.683 -4.542	-4.806 -4.669 -4.527		350 360 370 380 390	7.207 7.429 7.650 7.872 8.094	7.229 7.451 7.673 7.894 8.116	7.695 7.917	7.495 7.717	7.739 7.961	7.540 7.761 7.983	7.783	7.362 7.584 7.806 8.027 8.250	8.050	7.628 7.850		350 360 370 380 390
-190 -180 -170 -160 -150	-4.231 -4.076 -3.917	-4.366 -4.215 -4.060 -3.901 -3.738	-4.200 -4.044 -3.885	-4.185 -4.029 -3.869	-4.169 -4.013 -3.852	-4.154 -3.997 -3.836	-4.138 -3.981 -3.820	-4.123 -3.965 -3.803	-4.107 -3.949 -3.787	-4.091 -3.933 -3.771	-4.076 -3.917 -3.754	-170	400 410 420 430 440	8.316 8.539 8.761 8.985 9.208	8.338 8.561 8.784 9.007 9.231	8.583 8.806	8.828 9.052	8.628 8.851	8.650 8.873	8.672 8.895 9.119	8.472 8.694 8.918 9.141 9.365	8.717 8.940	8.739 8.962	8.539 8.761 8.985 9.208 9.432	400 410 420 430 440
-140 -130 -120 -110 -100	-3.417 -3.243 -3.065	-3.225 -3.047	-3.382 -3.207	-3.365 -3.190 -3.011	-3.348 -3.172 -2.993	-3.330 -3.154 -2.975	-3.313 -3.136 -2.957	-3.295 -3.119 -2.938	-3.278 -3.101 -2.920	-3.260 -3.083 -2.902	-3.243 -3.065	-140 -130 -120 -110 -100	450 460 470 480 490			9.477 9.702 9.927 10.153 10.380	10.176	9.973 10.199	9.770 9.995 10.221	9.792 10.018 10.244	9.815 10.040 10.267	9.837 10.063 10.289	9.860 10.086 10.312	10.334	450 460 470 480 490
-90 -80 -70 -60 -50	-2.511 -2.320 -2.126	-2.492 -2.301 -2.106		-2.454 -2.262 -2.067	-2.435 -2.243 -2.048	-2.416 -2.223 -2.028	-2.397 -2.204 -2.008	-2.378 -2.185 -1.988	-2.359 -2.165 -1.969	-2.146	-2.320 -2.126 -1.929	-90 -80 -70 -60 -50	500 510 520 530 540	10.789 11.017 11.245	10.811 11.039 11.268	10.607 10.834 11.062 11.291 11.519	10.857 11.085 11.313	10.880 11.108 11.336	10.903 11.131 11.359	10.925 11.154 11.382	10.948 11.176 11.405	10.971 11.199 11.428	10.994 11.222 11.451	11.017 11.245 11.474	500 510 520 530 540
-40 -30 -20 -10 0	-1.527 -1.322 -1.114	-1.507 -1.301 -1.094	-1.281	-1.466 -1.260 -1.052	-1.445 -1.239 -1.031	-1.425 -1.218 -1.010	-1.404 -1.198 -0.989	-1.384 -1.177 -0.968	-1.363 -1.156 -0.947	-1.135	-1.322 -1.114 -0.905	-40 -30 -20 -10	570 580	11.933 12.163 12.393	11.956 12.186 12.416		12.001 12.232 12.462	12.024 12.255 12.485	12.047 12.278 12.508	12.070 12.301 12.531	12.093 12.324 12.554	12.116 12.347 12.577	12.140 12.370 12.600	12.163 12.393 12.624	550 560 570 580 590
0 10 20 30 40	-0.478 -0.262		-0.435	-0.413 -0.197	-0.392 -0.175 0.044	-0.370	-0.349 -0.131	-0.327 -0.109	-0.305	-0.500 -0.284 -0.066 0.154 0.375	-0.262 -0.044	0 10 20 30 40		13.086 13.318 13.549	13.109 13.341 13.573	12.901 13.132 13.364 13.596 13.828	13.155 13.387 13.619	13.179 13.410 13.642	13.202 13.433 13.665	13.225 13.457 13.689	13.248 13.480 13.712	13.271 13.503 13.735	13.294 13.526 13.758	13.318 13.549 13.782	600 610 620 630 640
50 60 70 80 90	0.397 0.619 0.843 1.068 1.294	0.419 0.642 0.865 1.090 1.316	0.441 0.664 0.888 1.113 1.339	0.463 0.686 0.910 1.136 1.362	0.709	0.508 0.731 0.955 1.181 1.407	0.530 0.753 0.978 1.203 1.430	0.552 0.776 1.000 1.226 1.453	0.575 0.798 1.023 1.249 1.475	0.597 0.821 1.045 1.271 1.498	0.619 0.843 1.068 1.294 1.521	50 60 70 80 90	650 660 670 680 690	14.247 14.479 14.713	14.270 14.503 14.736	14.060 14.293 14.526 14.759 14.993	14.316 14.549 14.783	14.340 14.573 14.806	14.363 14.596 14.829	14.386 14.619 14.853	14.410 14.643 14.876	14.433 14.666 14.899	14.456 14.689 14.923	14.479 14.713 14.946	650 660 670 680 690
°F	0	1	2	3	4	5	6	7	8	9	10	°F	°F	0	1	2	3	4	5	6	7	8	9	10	°F

Revised Thermocouple Reference Tables

Tables N.I.S.T. **Monograph 175** Revised to **ITS-90**

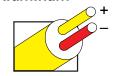




VS. Nickel-Aluminum

Extension Grade





Thermocouple

Grade

MAXIMUM TEMPERATURE RANGE

Thermocouple Grade

- 328 to 2282°F - 200 to 1250°C

Extension Grade 32 to 392°F

0 to 200°C

LIMITS OF ERROR

Children of Error (whichever is greater) Standard: 2.2°C or 0.75% Above 0°C 2.2°C or 2.0% Below 0°C Special: 1.1°C or 0.4%

COMMENTS, BARE WIRE ENVIRONMENT:

Clean Oxidizing and Inert; Limited Use in Vacuum or Reducing; Wide Temperature Range; Most Popular Calibration TEMPERATURE IN DEGREES °F REFERENCE JUNCTION AT 32°F

Thermoelectric Voltage in Millivolts

											11101	1110010	,01110	v O	ilage		11 V O113										
°1 70 71 72 73 74	00 1 0 1 0 1 0 1	5.413 5.647 5.881	15.437 15.671 15.905	15.460 15.694 15.928	15.483 15.717 15.952	15.507 15.741 15.975	15.530 15.764 15.998	15.554 15.788 16.022	15.577 15.811 16.045	8 15.366 15.600 15.834 16.069 16.303	15.624 15.858 16.092	15.647 15.881 16.116	°F 700 710 720 730 740		1310 1320 1330	29.548 29.780 30.012	29.571 29.803 30.035	29.594 29.826 30.058	29.617 29.849 30.081	29.640 29.873 30.104	29.664 29.896 30.128	6 29.455 29.687 29.919 30.151 30.382	29.710 29.942 30.174	29.733 29.965 30.197	29.757 29.989 30.220	29.780 30.012 30.243	1310 1320 1330
76 77 78	0 1 0 1 0 1	6.585 6.820 7.055	16.608 16.843 17.078	16.632 16.867 17.102	16.655 16.890 17.125	16.679 16.914 17.149	16.702 16.937 17.173	16.726 16.961 17.196	16.749 16.984 17.220	16.538 16.773 17.008 17.243 17.478	16.796 17.031 17.267	16.820 17.055 17.290	750 760 770 780 790		1360 1370 1380	30.706 30.937 31.167	30.729 30.960 31.190	30.752 30.983 31.213	30.775 31.006 31.236	30.798 31.029 31.260	30.821 31.052 31.283	30.613 30.844 31.075 31.306 31.536	30.868 31.098 31.329	30.891 31.121 31.352	30.914 31.144 31.375	30.937 31.167 31.398	1360 1370 1380
81 82 83	0 1 0 1 0 1	7.761 7.997 8.233	17.785 18.020 18.256	17.808 18.044 18.280	17.832 18.068 18.303	17.855 18.091 18.327	17.879 18.115 18.351	17.902 18.138 18.374	17.926 18.162 18.398	17.714 17.950 18.185 18.421 18.657	17.973 18.209 18.445	17.997 18.233 18.469	800 810 820 830 840		1410 1420 1430	31.857 32.087 32.316	31.880 32.110 32.339	31.903 32.133 32.362	31.926 32.156 32.385	31.949 32.179 32.408	31.972 32.202 32.431	31.766 31.995 32.224 32.453 32.682	32.018 32.247 32.476	32.041 32.270 32.499	32.064 32.293 32.522	32.087 32.316 32.545	1410 1420 1430
86 87 88	0 1 0 1 0 1	8.941 9.177 9.414	18.965 19.201 19.437	18.988 19.224 19.461	19.012 19.248 19.485	19.035 19.272 19.508	19.059 19.295 19.532	19.083 19.319 19.556	19.106 19.343 19.579	18.894 19.130 19.366 19.603 19.839	19.154 19.390 19.626	19.177 19.414 19.650	850 860 870 880 890		1460 1470 1480	33.002 33.230 33.458	33.025 33.253 33.480	33.047 33.275 33.503	33.070 33.298 33.526	33.093 33.321 33.548	33.116 33.344 33.571	32.911 33.139 33.366 33.594 33.821	33.161 33.389 33.617	33.184 33.412 33.639	33.207 33.435 33.662	33.230 33.458 33.685	1460 1470 1480
91 92 93	0 2	0.123 0.360 0.597	20.147 20.384 20.621	20.171 20.407 20.644	20.194 20.431 20.668	20.218 20.455 20.692	20.242 20.479 20.715	20.265 20.502 20.739	20.289 20.526 20.763	20.076 20.313 20.550 20.786 21.023	20.336 20.573 20.810	20.360 20.597 20.834	900 910 920 930 940		1510 1520 1530	34.139 34.365 34.591	34.161 34.388 34.614	34.184 34.410 34.637	34.207 34.433 34.659	34.229 34.456 34.682	34.252 34.478 34.704	34.048 34.275 34.501 34.727 34.953	34.297 34.524 34.750	34.320 34.546 34.772	34.343 34.569 34.795	34.365 34.591 34.817	1510 1520 1530
96 97 98	0 2 2 0 2 0 2	1.308 1.544 1.781	21.331 21.568 21.805	21.355 21.592 21.829	21.379 21.616 21.852	21.402 21.639 21.876	21.426 21.663 21.900	21.450 21.687 21.924	21.473 21.710 21.947	21.260 21.497 21.734 21.971 22.208	21.521 21.758 21.995	21.544 21.781 22.018	950 960 970 980 990		1560 1570 1580	35.268 35.493 35.718	35.291 35.516 35.740	35.313 35.538 35.763	35.336 35.560 35.785	35.358 35.583 35.807	35.381 35.605 35.830	35.178 35.403 35.628 35.852 36.076	35.426 35.650 35.875	35.448 35.673 35.897	35.471 35.695 35.920	35.493 35.718 35.942	1560 1570 1580
102 103	0 2	2.492 2.729 2.966	22.516 22.753 22.990	22.540 22.776 23.013	22.563 22.800 23.037	22.587 22.824 23.061	22.611 22.847 23.084	22.634 22.871 23.108	22.658 22.895 23.132	22.445 22.682 22.919 23.155 23.392	22.705 22.942 23.179	22.729 22.966 23.203			1610 1620 1630	36.390 36.613 36.836	36.412 36.635 36.859	36.434 36.658 36.881	36.457 36.680 36.903	36.479 36.702 36.925	36.501 36.725 36.948	36.300 36.524 36.747 36.970 37.193	36.546 36.769 36.992	36.568 36.792 37.014	36.591 36.814 37.037	36.613 36.836 37.059	1610 1620 1630
106 107 108	0 2	3.676 3.913 4.149	23.700 23.936 24.173	23.723 23.960 24.197	23.747 23.984 24.220	23.771 24.007 24.244	23.794 24.031 24.267	23.818 24.055 24.291	23.842 24.078 24.315	23.629 23.865 24.102 24.338 24.575	23.889 24.126 24.362	23.913 24.149 24.386	1060 1070 1080		1660 1670 1680	37.504 37.725 37.947	37.526 37.748 37.969	37.548 37.770 37.991	37.570 37.792 38.013	37.592 37.814 38.036	37.615 37.836 38.058	37.415 37.637 37.858 38.080 38.301	37.659 37.881 38.102	37.681 37.903 38.124	37.703 37.925 38.146	37.725 37.947 38.168	1660 1670 1680
111 112 113	0 2	4.858 5.094 5.330	24.882 25.118 25.354	24.905 25.142 25.377	24.929 25.165 25.401	24.953 25.189 25.425	24.976 25.212 25.448	25.000 25.236 25.472	25.024 25.260 25.495	24.811 25.047 25.283 25.519 25.755	25.071 25.307 25.543	25.094 25.330 25.566	1110 1120 1130		1710 1720 1730	38.610 38.830 39.050	38.632 38.852 39.072	38.654 38.874 39.094	38.676 38.896 39.116	38.698 38.918 39.138	38.720 38.940 39.160	38.522 38.742 38.962 39.182 39.401	38.764 38.984 39.204	38.786 39.006 39.226	38.808 39.028 39.248	38.830 39.050 39.270	1710 1720 1730
	0 2 0 2 0 2	6.037 6.273 6.508	26.061 26.296 26.532	26.084 26.320 26.555	26.108 26.343 26.579	26.132 26.367 26.602	26.155 26.390 26.626	26.179 26.414 26.649	26.202 26.437 26.673	25.990 26.226 26.461 26.696 26.931	26.249 26.484 26.720	26.273 26.508 26.743	1160 1170 1180		1760 1770 1780	39.708 39.927 40.145	39.730 39.949 40.167	39.752 39.970 40.189	39.774 39.992 40.211	39.796 40.014 40.232	39.817 40.036 40.254	39.620 39.839 40.058 40.276 40.494	39.861 40.080 40.298	39.883 40.101 40.320	39.905 40.123 40.341	39.927 40.145 40.363	1760 1770 1780
122 123	0 2 0 2 0 2	7.213 7.447 7.681	27.236 27.471 27.705	27.259 27.494 27.728	27.283 27.517 27.752	27.306 27.541 27.775	27.330 27.564 27.798	27.353 27.588 27.822	27.377 27.611 27.845	27.166 27.400 27.635 27.869 28.103	27.424 27.658 27.892	27.447 27.681 27.915	1210 1220 1230		1810 1820 1830	40.798 41.015 41.232	40.820 41.037 41.254	40.842 41.059 41.276	40.864 41.081 41.297	40.885 41.102 41.319	40.907 41.124 41.341	40.711 40.929 41.146 41.362 41.578	40.950 41.167 41.384	40.972 41.189 41.405	40.994 41.211 41.427	41.015 41.232 41.449	1810 1820 1830
126 127 128	0 2 2 0 2 0 2	8.383 8.616 8.849	28.406 28.640 28.873	28.430 28.663 28.896	28.453 28.686 28.919	28.476 28.710 28.943	28.500 28.733 28.966	28.523 28.756 28.989	28.546 28.780 29.013	28.336 28.570 28.803 29.036 29.269	28.593 28.826 29.059	28.616 28.849 29.082	1260 1270 1280		1860 1870 1880	41.881 42.096 42.311	41.902 42.118 42.333	41.924 42.139 42.354	41.945 42.161 42.376	41.967 42.182 42.397	41.988 42.204 42.419	41.794 42.010 42.225 42.440 42.655	42.032 42.247 42.462	42.053 42.268 42.483	42.075 42.290 42.505	42.096 42.311 42.526	1860 1870 1880
°l	F	0	1	2	3	4	5	6	7	8	9	10	°F		°F	0	1	2	3	4	5	6	7	8	9	10	°F

MAXIMUM TEMPERATURE RANGE

Thermocouple Grade

328 to 2282°F

– 200 to 1250°C

Extension Grade 32 to 392°F

0 to 200°C LIMITS OF ERROR

Children of Error (whichever is greater) Standard: 2.2°C or 0.75% Above 0°C 2.2°C or 2.0% Below 0°C Special: 1.1°C or 0.4%

COMMENTS, BARE WIRE ENVIRONMENT:

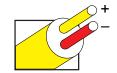
Clean Oxidizing and Inert; Limited Use in Vacuum or Reducing; Wide Temperature Range; Most Popular Calibration TEMPERATURE IN DEGREES °F REFERENCE JUNCTION AT 32°F

Extension Grade





Nickel-Chromium VS. Nickel-Aluminum



Revised Thermocouple Reference Tables

Tables N.I.S.T. **Monograph 175** Revised to **ITS-90**



Thermoelectric Voltage in Millivolts

°F	0	1	2	3	4	5	6	7	8	9	10	°F	l °F	0	1	2	3	4	5	6	7	8	9	10	°F
1900	42 741	42 762	42.783	42 805	42 826	42 848	42 869	42 891	42 912	42 933	42 955	1900	2250	50.006	50.026	50.046	50.066	50.086	50 106	50.126	50 146	50 166	50 186	50 206	2250
1010			42.998										2260							50.326					
1710																				50.525					
			43.211																						
			43.425																	50.723					
1940	43.595	43.616	43.638	43.659	43.680	43.701	43.723	43.744	43.765	43.787	43.808	1940	2290	50.802	50.822	50.842	50.862	50.882	50.901	50.921	50.941	50.961	50.981	51.000	2290
1950	43 808	43 829	43.850	43 872	43 893	43 914	43 935	43 957	43 978	43 999	44 020	1950	2300	51 000	51 020	51 040	51 060	51 079	51 099	51.119	51 139	51 158	51 178	51 198	2300
			44.063																	51.316					
			44.275																	51.510					
			44.486																	51.708					
1990	44.655	44.676	44.697	44.719	44.740	44.761	44.782	44.803	44.824	44.845	44.866	1990	2340	51.787	51.806	51.826	51.845	51.865	51.885	51.904	51.924	51.943	51.963	51.982	2340
2000	44.866	44.887	44.908	44.929	44.950	44.971	44.992	45.014	45.035	45.056	45.077	2000	2350	51.982	52.002	52.021	52.041	52.060	52.080	52.099	52.119	52.138	52.158	52.177	2350
2010	45 077	45 098	45.119	45 140	45 161	45 182	45 203	45 224	45 245	45 266	45 287	2010	2360	52 177	52 197	52 216	52 235	52 255	52 274	52.294	52 313	52 333	52 352	52 371	2360
			45.329																	52.488					
			45.539																	52.681					
2040	45.706	45.727	45.748	45.769	45.790	45.811	45.832	45.852	45.873	45.894	45.915	2040	23905	2.759	52.778	52.797	52.817	52.836	52.855	52.875	52.894	52.913	52.932	52.952	2390
2050	45.915	45.936	45.957	45.978	45.999	46.019	46.040	46.061	46.082	46.103	46.124	2050								53.067					
2060	46.124	46.145	46.165	46.186	46.207	46.228	46.249	46.269	46.290	46.311	46.332	2060	2410	53.144	53.163	53.183	53.202	53.221	53.240	53.260	53.279	53.298	53.317	53.336	2410
2070	46.332	46.353	46.373	46.394	46.415	46.436	46.457	46.477	46.498	46.519	46.540	2070	2420	53.336	53.355	53.375	53.394	53.413	53.432	53.451	53.470	53.490	53.509	53.528	2420
			46.581										3430							53.643					
			46.789																	53.833					
2070	40.747	40.700	40.707	40.007	40.030	40.031	40.071	40.072	40.713	40.733	40.734	2070	2440	33.717	33.730	33.737	33.770	33.173	33.014	33.033	33.032	33.071	33.070	33.710	2440
0400	47.054	47.075	47.005	47.047	47.007	47.057	47.070	47.000	47.440	17.1.10	47.474	0400	0.450	F0 010	F0 000	F0.040	E0.0/7	E0.00/	E 4 00E	E 4 00 4	E 4 0 40	E40/0	E 4 004	F 4 400	0.450
			46.995										2450							54.024					
			47.202																	54.214					
2120	47.367	47.387	47.408	47.429	47.449	47.470	47.490	47.511	47.531	47.552	47.573	2120	2470	54.289	54.308	54.327	54.346	54.365	54.384	54.403	54.422	54.441	54.460	54.479	2470
2130	47.573	47.593	47.614	47.634	47.655	47.675	47.696	47.716	47.737	47.757	47.778	2130	2480	54.479	54.498	54.517	54.536	54.554	54.573	54.592	54.611	54.630	54.649	54.668	2480
2140	47.778	47.798	47.819	47.839	47.860	47.880	47.901	47.921	47.942	47.962	47.983	2140	2490	54.668	54.687	54.705	54.724	54.743	54.762	54.781	54.800	54.819	54.837	54.856	2490
2150	47 093	48 UU3	48.024	18 011	48 065	48 A85	48 105	18 126	18 116	18 167	10 107	2150	2500	54 956	54.875	5/1 80/									2500
2160			48.228										2300	34.030	34.073	34.074									2300
			48.432																						
			48.635																						
2190	48.798	48.818	48.838	48.859	48.879	48.899	48.919	48.940	48.960	48.980	49.000	2190													
													1												
2200	49.000	49.021	49.041	49.061	49.081	49.101	49.122	49.142	49.162	49.182	49.202	2200													
2210	49.202	49.223	49.243	49.263	49.283	49.303	49.323	49.344	49.364	49.384	49,404	2210													
			49,444																						
			49.645																						
			49.846																						
		49.820																							
°F	0	1	2	3	4	5	6	7	8	9	10	°F	°F	0	1	2	3	4	5	6	7	8	9	10	°F

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