



IES INDOOR REPORT

PHOTOMETRIC FILENAME : HZX-EX-B2-60W-4000K-D120.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:

[TEST] HZX-EX-B2-60W-4000K-D120

[TESTLAB] Standard-tech Co., Ltd. Testing Center

[DATE] 2018/02/07

[MANUFAC] BELUCE CANADA INC.

[LUMINAIRE] HZX-EX-B2-60W-4000K-D120

[LUMCAT] HZX-EX-B2-60W-4000K-D120

[LAMP] 7847 LUMENS

[_SEARCH_SOURCE] LED

CHARACTERISTICS

| | |
|---------------------------------|-----------------|
| Lumens Per Lamp | N.A. (absolute) |
| Total Lamp Lumens | N.A. (absolute) |
| Luminaire Lumens | 7847 |
| Total Luminaire Efficiency | N.A. |
| Luminaire Efficacy Rating (LER) | 127 |
| Total Luminaire Watts | 61.7 |
| Ballast Factor | 1.00 |
| CIE Type | Direct |
| Spacing Criterion (0-180) | 1.20 |
| Spacing Criterion (90-270) | 1.22 |
| Spacing Criterion (Diagonal) | 1.32 |
| Basic Luminous Shape | Point |
| Luminous Length (0-180) | 0.00 m |
| Luminous Width (90-270) | 0.00 m |
| Luminous Height | 0.00 m |

LUMINANCE DATA (cd/sq.m)

| Angle In Degrees | Average 0-Deg | Average 45-Deg | Average 90-Deg |
|---------------------|------------------|-------------------|-------------------|
| 45 | 0 | 0 | 0 |
| 55 | 0 | 0 | 0 |
| 65 | 0 | 0 | 0 |
| 75 | 0 | 0 | 0 |
| 85 | 0 | 0 | 0 |

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CANDELA TABULATION

| | <u>0.0</u> | <u>22.5</u> | <u>45.0</u> | <u>67.5</u> | <u>90.0</u> | <u>112.5</u> | <u>135.0</u> | <u>157.5</u> | <u>180.0</u> | <u>202.5</u> |
|----|------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|--------------|--------------|
| 0 | 3283.765 | 3283.765 | 3283.765 | 3283.765 | 3283.765 | 3283.765 | 3283.765 | 3283.765 | 3283.765 | 3283.765 |
| 1 | 3278.763 | 3280.503 | 3281.373 | 3280.503 | 3287.462 | 3289.202 | 3288.332 | 3290.072 | 3283.113 | 3284.853 |
| 2 | 3277.893 | 3280.503 | 3279.633 | 3280.503 | 3289.202 | 3290.072 | 3290.072 | 3291.812 | 3285.723 | 3288.332 |
| 3 | 3277.893 | 3281.373 | 3280.503 | 3279.633 | 3289.202 | 3291.812 | 3292.682 | 3296.162 | 3290.072 | 3291.812 |
| 4 | 3276.153 | 3280.503 | 3280.503 | 3281.373 | 3289.202 | 3292.682 | 3294.422 | 3297.902 | 3293.552 | 3293.552 |
| 5 | 3275.283 | 3279.633 | 3280.503 | 3281.373 | 3287.462 | 3291.812 | 3295.292 | 3299.641 | 3293.552 | 3293.552 |
| 6 | 3277.023 | 3277.893 | 3279.633 | 3277.893 | 3284.853 | 3289.202 | 3294.422 | 3298.771 | 3290.942 | 3291.812 |
| 7 | 3274.414 | 3277.023 | 3276.153 | 3273.544 | 3279.633 | 3284.853 | 3290.942 | 3295.292 | 3286.593 | 3290.072 |
| 8 | 3272.674 | 3275.283 | 3268.324 | 3264.844 | 3272.674 | 3279.633 | 3287.462 | 3288.332 | 3280.503 | 3284.853 |
| 9 | 3271.804 | 3269.194 | 3261.365 | 3250.055 | 3263.104 | 3271.804 | 3279.633 | 3278.763 | 3274.414 | 3278.763 |
| 10 | 3268.324 | 3261.365 | 3248.316 | 3236.137 | 3248.316 | 3262.234 | 3270.934 | 3264.844 | 3263.104 | 3270.064 |
| 11 | 3256.145 | 3250.055 | 3232.657 | 3219.608 | 3237.007 | 3252.665 | 3261.365 | 3253.535 | 3252.665 | 3260.495 |
| 12 | 3247.446 | 3237.007 | 3218.738 | 3205.689 | 3223.958 | 3238.746 | 3246.576 | 3237.876 | 3237.876 | 3244.836 |
| 13 | 3231.787 | 3221.348 | 3203.949 | 3187.421 | 3213.518 | 3226.567 | 3233.527 | 3226.567 | 3226.567 | 3226.567 |
| 14 | 3217.868 | 3208.299 | 3190.030 | 3171.762 | 3198.730 | 3209.169 | 3214.388 | 3211.779 | 3211.779 | 3210.039 |
| 15 | 3200.469 | 3190.900 | 3174.372 | 3150.884 | 3182.201 | 3188.291 | 3198.730 | 3197.860 | 3197.860 | 3190.030 |
| 16 | 3184.811 | 3175.242 | 3161.323 | 3134.355 | 3167.412 | 3170.892 | 3176.981 | 3180.461 | 3183.071 | 3175.242 |
| 17 | 3162.193 | 3154.363 | 3143.924 | 3116.086 | 3146.534 | 3147.404 | 3152.624 | 3162.193 | 3168.282 | 3155.233 |
| 18 | 3137.835 | 3135.225 | 3129.135 | 3100.428 | 3128.265 | 3129.135 | 3134.355 | 3147.404 | 3154.363 | 3138.705 |
| 19 | 3117.826 | 3109.997 | 3109.127 | 3082.159 | 3103.037 | 3103.907 | 3111.737 | 3125.656 | 3137.835 | 3116.957 |
| 20 | 3090.858 | 3092.598 | 3087.379 | 3066.500 | 3083.899 | 3083.029 | 3092.598 | 3108.257 | 3124.786 | 3096.078 |
| 21 | 3069.980 | 3067.370 | 3068.240 | 3044.752 | 3056.061 | 3056.931 | 3067.370 | 3083.029 | 3105.647 | 3079.550 |
| 22 | 3040.403 | 3043.882 | 3038.663 | 3025.614 | 3028.224 | 3026.484 | 3039.532 | 3060.411 | 3083.029 | 3057.801 |
| 23 | 3009.085 | 3005.605 | 3006.475 | 2995.166 | 3003.865 | 2997.776 | 3016.915 | 3026.484 | 3060.411 | 3038.663 |
| 24 | 2958.629 | 2958.629 | 2956.019 | 2962.979 | 2962.979 | 2960.369 | 2977.768 | 2984.727 | 3023.874 | 3006.475 |
| 25 | 2914.263 | 2916.003 | 2912.523 | 2915.133 | 2913.393 | 2922.962 | 2941.231 | 2944.710 | 2972.548 | 2961.239 |
| 26 | 2854.238 | 2860.327 | 2855.108 | 2861.197 | 2868.157 | 2869.896 | 2889.035 | 2889.905 | 2926.442 | 2919.482 |
| 27 | 2802.042 | 2814.221 | 2804.652 | 2813.351 | 2807.261 | 2814.221 | 2832.490 | 2831.619 | 2864.677 | 2861.197 |
| 28 | 2736.797 | 2755.936 | 2744.626 | 2752.456 | 2757.676 | 2765.505 | 2781.164 | 2782.904 | 2809.001 | 2813.351 |
| 29 | 2688.081 | 2711.569 | 2701.130 | 2705.480 | 2700.260 | 2705.480 | 2715.049 | 2725.488 | 2735.927 | 2752.456 |
| 30 | 2633.276 | 2662.853 | 2652.414 | 2653.284 | 2649.804 | 2648.064 | 2653.284 | 2673.292 | 2669.813 | 2694.171 |
| 31 | 2596.130 | 2624.576 | 2619.966 | 2614.746 | 2624.750 | 2618.226 | 2622.228 | 2633.276 | 2621.097 | 2651.544 |
| 32 | 2552.633 | 2582.994 | 2576.208 | 2565.769 | 2579.601 | 2568.292 | 2569.597 | 2597.435 | 2579.949 | 2614.224 |
| 33 | 2511.225 | 2549.240 | 2539.497 | 2516.183 | 2534.887 | 2520.968 | 2519.837 | 2547.153 | 2528.101 | 2564.812 |
| 34 | 2476.601 | 2507.223 | 2491.912 | 2476.688 | 2489.998 | 2473.122 | 2475.123 | 2496.001 | 2477.993 | 2513.399 |
| 35 | 2430.669 | 2459.377 | 2443.544 | 2428.581 | 2443.805 | 2433.627 | 2441.891 | 2454.592 | 2440.412 | 2470.251 |
| 36 | 2384.215 | 2418.403 | 2402.832 | 2390.826 | 2406.920 | 2384.911 | 2399.004 | 2401.266 | 2395.176 | 2415.271 |
| 37 | 2347.852 | 2367.512 | 2353.158 | 2341.762 | 2361.162 | 2336.195 | 2354.724 | 2350.288 | 2351.071 | 2360.379 |
| 38 | 2301.659 | 2318.274 | 2305.834 | 2289.740 | 2311.315 | 2288.436 | 2309.227 | 2312.881 | 2308.357 | 2306.182 |
| 39 | 2263.904 | 2275.909 | 2269.297 | 2247.897 | 2271.646 | 2250.507 | 2270.515 | 2268.253 | 2275.300 | 2263.382 |
| 40 | 2214.927 | 2219.276 | 2223.800 | 2196.745 | 2221.973 | 2205.618 | 2217.188 | 2220.929 | 2233.195 | 2211.882 |
| 41 | 2166.907 | 2176.128 | 2177.085 | 2157.511 | 2169.256 | 2159.599 | 2160.295 | 2171.430 | 2189.786 | 2163.775 |
| 42 | 2129.587 | 2126.455 | 2132.892 | 2105.403 | 2112.884 | 2107.404 | 2106.621 | 2132.110 | 2140.983 | 2116.016 |
| 43 | 2081.828 | 2077.130 | 2076.260 | 2051.206 | 2063.820 | 2061.819 | 2067.561 | 2083.045 | 2099.661 | 2077.304 |
| 44 | 2041.724 | 2034.155 | 2035.286 | 2006.144 | 2001.185 | 2004.578 | 2021.454 | 2030.937 | 2044.160 | 2028.849 |
| 45 | 1993.965 | 1978.567 | 1981.960 | 1950.555 | 1940.638 | 1945.597 | 1973.782 | 1975.261 | 1986.309 | 1979.089 |
| 46 | 1940.899 | 1921.326 | 1922.109 | 1889.660 | 1885.398 | 1889.747 | 1922.022 | 1928.894 | 1939.681 | 1930.373 |
| 47 | 1896.185 | 1876.089 | 1875.219 | 1842.075 | 1841.118 | 1849.295 | 1877.568 | 1873.306 | 1879.656 | 1892.531 |
| 48 | 1845.033 | 1823.024 | 1817.021 | 1785.269 | 1788.922 | 1794.664 | 1819.196 | 1818.761 | 1819.109 | 1840.683 |
| 49 | 1806.669 | 1782.572 | 1772.829 | 1740.989 | 1735.161 | 1733.508 | 1757.344 | 1776.395 | 1754.386 | 1782.659 |
| 50 | 1758.214 | 1729.767 | 1719.415 | 1689.577 | 1681.660 | 1672.961 | 1707.497 | 1719.502 | 1704.104 | 1724.809 |
| 51 | 1716.631 | 1684.357 | 1674.614 | 1647.211 | 1636.859 | 1626.594 | 1641.121 | 1658.694 | 1648.429 | 1674.962 |
| 52 | 1652.518 | 1616.850 | 1607.977 | 1582.488 | 1566.743 | 1565.264 | 1569.352 | 1589.274 | 1588.752 | 1611.283 |
| 53 | 1585.272 | 1553.520 | 1523.594 | 1520.636 | 1488.797 | 1487.666 | 1484.708 | 1524.899 | 1514.373 | 1539.340 |

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CANDELA TABULATION - (Cont.)

| | | | | | | | | | | |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 54 | 1491.320 | 1474.269 | 1455.652 | 1437.036 | 1402.761 | 1400.325 | 1416.245 | 1444.256 | 1445.909 | 1455.827 |
| 55 | 1408.502 | 1414.853 | 1381.100 | 1361.613 | 1342.823 | 1336.124 | 1338.038 | 1369.877 | 1367.355 | 1389.712 |
| 56 | 1352.305 | 1339.517 | 1321.335 | 1305.677 | 1272.619 | 1257.135 | 1267.574 | 1294.803 | 1300.457 | 1316.551 |
| 57 | 1282.450 | 1255.743 | 1246.609 | 1239.823 | 1208.854 | 1187.627 | 1199.632 | 1232.690 | 1233.386 | 1243.477 |
| 58 | 1227.731 | 1189.976 | 1190.672 | 1191.194 | 1141.782 | 1136.823 | 1149.002 | 1156.484 | 1177.449 | 1185.714 |
| 59 | 1162.660 | 1118.207 | 1126.036 | 1131.256 | 1089.499 | 1075.146 | 1086.542 | 1082.018 | 1108.290 | 1113.857 |
| 60 | 1104.549 | 1066.968 | 1075.232 | 1080.887 | 1025.559 | 1008.944 | 1025.299 | 1024.603 | 1034.694 | 1043.828 |
| 61 | 1021.906 | 1001.984 | 1007.813 | 1015.033 | 952.138 | 943.786 | 965.534 | 959.967 | 977.279 | 975.800 |
| 62 | 965.013 | 955.704 | 950.050 | 961.098 | 886.023 | 877.063 | 886.980 | 897.158 | 908.206 | 922.125 |
| 63 | 900.290 | 893.504 | 872.800 | 870.190 | 796.159 | 789.374 | 800.770 | 825.650 | 829.478 | 847.659 |
| 64 | 832.957 | 831.739 | 805.381 | 800.335 | 718.040 | 731.176 | 722.215 | 766.930 | 763.972 | 765.799 |
| 65 | 765.016 | 757.099 | 730.654 | 735.264 | 649.489 | 665.322 | 675.500 | 684.025 | 707.600 | 697.944 |
| 66 | 717.605 | 700.467 | 681.764 | 675.935 | 596.684 | 608.255 | 622.521 | 611.038 | 631.221 | 650.533 |
| 67 | 648.880 | 636.266 | 621.825 | 613.474 | 536.137 | 545.098 | 540.139 | 554.841 | 569.978 | 585.549 |
| 68 | 600.425 | 581.461 | 559.886 | 564.062 | 474.807 | 476.547 | 469.066 | 502.036 | 500.383 | 524.741 |
| 69 | 539.443 | 504.907 | 494.294 | 489.074 | 425.569 | 431.137 | 426.700 | 431.659 | 442.881 | 461.932 |
| 70 | 473.416 | 463.324 | 443.925 | 423.569 | 368.937 | 371.199 | 372.156 | 376.679 | 382.160 | 391.903 |
| 71 | 425.134 | 400.602 | 398.602 | 374.940 | 310.391 | 321.004 | 317.611 | 327.354 | 332.226 | 345.014 |
| 72 | 360.499 | 346.841 | 345.188 | 339.533 | 259.413 | 272.810 | 270.896 | 277.594 | 287.686 | 289.252 |
| 73 | 304.736 | 290.469 | 288.208 | 281.944 | 220.701 | 226.878 | 221.136 | 229.487 | 236.969 | 249.409 |
| 74 | 261.066 | 252.019 | 247.321 | 248.191 | 184.077 | 182.598 | 183.207 | 188.949 | 193.124 | 204.085 |
| 75 | 219.570 | 208.261 | 199.127 | 196.604 | 143.190 | 142.233 | 147.453 | 148.845 | 154.586 | 162.764 |
| 76 | 176.596 | 173.899 | 170.332 | 163.895 | 111.612 | 116.658 | 117.875 | 121.616 | 127.010 | 126.836 |
| 77 | 142.059 | 138.580 | 134.143 | 130.054 | 88.559 | 88.124 | 87.776 | 89.081 | 95.779 | 99.694 |
| 78 | 107.349 | 111.699 | 105.783 | 103.783 | 66.724 | 66.985 | 66.637 | 67.246 | 70.377 | 76.641 |
| 79 | 87.254 | 83.339 | 81.947 | 78.816 | 49.586 | 49.847 | 49.586 | 49.412 | 51.935 | 55.849 |
| 80 | 66.115 | 65.593 | 62.722 | 62.026 | 40.191 | 40.365 | 40.539 | 40.452 | 41.670 | 44.279 |
| 81 | 51.500 | 48.281 | 47.324 | 46.193 | 31.056 | 31.056 | 31.230 | 32.013 | 33.318 | 34.971 |
| 82 | 39.147 | 39.147 | 38.190 | 37.581 | 23.140 | 23.140 | 23.488 | 24.532 | 26.011 | 27.403 |
| 83 | 32.361 | 30.882 | 29.926 | 29.056 | 16.442 | 16.181 | 16.529 | 18.790 | 18.790 | 20.530 |
| 84 | 24.880 | 25.054 | 22.705 | 23.053 | 9.482 | 10.613 | 10.874 | 11.483 | 12.788 | 14.702 |
| 85 | 19.747 | 18.616 | 17.486 | 16.442 | 4.872 | 4.785 | 4.959 | 5.133 | 5.916 | 7.481 |
| 86 | 13.310 | 13.310 | 12.092 | 10.961 | 2.784 | 2.871 | 2.871 | 2.958 | 3.132 | 3.306 |
| 87 | 7.742 | 6.350 | 5.568 | 4.785 | 2.436 | 2.523 | 2.610 | 2.610 | 2.610 | 2.697 |
| 88 | 2.697 | 2.784 | 2.523 | 2.436 | 2.262 | 2.349 | 2.262 | 2.349 | 2.262 | 2.436 |
| 89 | 2.088 | 2.001 | 2.001 | 2.001 | 2.001 | 2.001 | 2.001 | 2.088 | 2.088 | 2.175 |
| 90 | 1.827 | 1.740 | 1.740 | 1.827 | 1.827 | 1.827 | 1.914 | 1.827 | 2.001 | 1.914 |
| 91 | 1.653 | 1.566 | 1.653 | 1.653 | 1.653 | 1.653 | 1.653 | 1.740 | 1.740 | 1.740 |
| 92 | 1.479 | 1.566 | 1.479 | 1.479 | 1.479 | 1.566 | 1.566 | 1.566 | 1.566 | 1.653 |
| 93 | 1.392 | 1.392 | 1.305 | 1.305 | 1.479 | 1.392 | 1.479 | 1.479 | 1.479 | 1.566 |
| 94 | 1.218 | 1.218 | 1.305 | 1.218 | 1.305 | 1.392 | 1.305 | 1.392 | 1.305 | 1.392 |
| 95 | 1.131 | 1.131 | 1.218 | 1.131 | 1.218 | 1.218 | 1.218 | 1.305 | 1.305 | 1.305 |
| 96 | 1.044 | 1.044 | 1.044 | 1.044 | 1.218 | 1.218 | 1.218 | 1.218 | 1.218 | 1.218 |
| 97 | 0.957 | 0.957 | 0.957 | 0.957 | 1.218 | 1.131 | 1.131 | 1.131 | 1.131 | 1.131 |
| 98 | 0.870 | 0.870 | 0.870 | 0.870 | 1.044 | 1.131 | 1.131 | 1.131 | 1.131 | 1.131 |
| 99 | 0.957 | 0.870 | 0.870 | 0.783 | 1.044 | 1.044 | 1.044 | 1.044 | 1.044 | 1.044 |
| 100 | 0.783 | 0.696 | 0.783 | 0.870 | 1.044 | 1.131 | 1.044 | 1.044 | 1.044 | 1.044 |
| 101 | 0.783 | 0.783 | 0.783 | 0.783 | 1.044 | 0.957 | 1.044 | 1.044 | 1.044 | 0.957 |
| 102 | 0.696 | 0.783 | 0.783 | 0.783 | 1.044 | 1.044 | 1.044 | 1.044 | 1.044 | 0.957 |
| 103 | 0.696 | 0.783 | 0.783 | 0.696 | 1.131 | 0.957 | 1.044 | 0.957 | 1.044 | 0.957 |
| 104 | 0.783 | 0.696 | 0.783 | 0.696 | 1.044 | 1.044 | 1.044 | 1.044 | 1.131 | 1.044 |
| 105 | 0.783 | 0.783 | 0.783 | 0.783 | 1.131 | 1.044 | 1.044 | 1.044 | 0.957 | 0.957 |
| 106 | 0.696 | 0.696 | 0.783 | 0.783 | 1.044 | 1.044 | 1.131 | 1.131 | 1.044 | 1.044 |
| 107 | 0.783 | 0.783 | 0.696 | 0.783 | 1.131 | 1.044 | 1.131 | 1.131 | 1.131 | 1.044 |
| 108 | 0.783 | 0.783 | 0.783 | 0.783 | 1.218 | 1.131 | 1.044 | 1.131 | 1.131 | 1.131 |
| 109 | 0.783 | 0.783 | 0.783 | 0.783 | 1.131 | 1.131 | 1.131 | 1.131 | 1.044 | 1.131 |

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CANDELA TABULATION - (Cont.)

| | | | | | | | | | | |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 110 | 0.870 | 0.870 | 0.783 | 0.783 | 1.131 | 1.131 | 1.131 | 1.131 | 1.218 | 1.218 |
| 111 | 0.870 | 0.870 | 0.870 | 0.870 | 1.218 | 1.131 | 1.218 | 1.131 | 1.218 | 1.131 |
| 112 | 0.957 | 0.870 | 0.870 | 0.870 | 1.218 | 1.218 | 1.218 | 1.218 | 1.218 | 1.218 |
| 113 | 0.957 | 0.957 | 0.957 | 0.870 | 1.218 | 1.218 | 1.218 | 1.218 | 1.218 | 1.131 |
| 114 | 0.957 | 0.957 | 0.957 | 0.957 | 1.305 | 1.218 | 1.218 | 1.218 | 1.305 | 1.218 |
| 115 | 0.957 | 0.957 | 0.957 | 0.957 | 1.305 | 1.305 | 1.218 | 1.305 | 1.305 | 1.218 |
| 116 | 0.957 | 1.044 | 0.957 | 1.044 | 1.392 | 1.305 | 1.305 | 1.305 | 1.305 | 1.218 |
| 117 | 0.957 | 1.044 | 1.044 | 0.957 | 1.305 | 1.305 | 1.392 | 1.305 | 1.392 | 1.305 |
| 118 | 1.131 | 1.044 | 0.957 | 1.044 | 1.479 | 1.392 | 1.305 | 1.305 | 1.392 | 1.305 |
| 119 | 1.044 | 1.044 | 1.044 | 1.044 | 1.392 | 1.392 | 1.392 | 1.392 | 1.479 | 1.218 |
| 120 | 1.131 | 1.131 | 1.131 | 1.131 | 1.479 | 1.392 | 1.392 | 1.392 | 1.392 | 1.392 |
| 121 | 1.131 | 1.044 | 1.131 | 1.131 | 1.566 | 1.479 | 1.392 | 1.392 | 1.479 | 1.392 |
| 122 | 1.131 | 1.131 | 1.131 | 1.131 | 1.653 | 1.479 | 1.479 | 1.392 | 1.392 | 1.305 |
| 123 | 1.218 | 1.131 | 1.218 | 1.218 | 1.566 | 1.479 | 1.479 | 1.479 | 1.479 | 1.392 |
| 124 | 1.218 | 1.218 | 1.218 | 1.131 | 1.653 | 1.479 | 1.566 | 1.566 | 1.479 | 1.392 |
| 125 | 1.305 | 1.218 | 1.218 | 1.218 | 1.653 | 1.479 | 1.566 | 1.566 | 1.566 | 1.479 |
| 126 | 1.305 | 1.218 | 1.305 | 1.305 | 1.653 | 1.566 | 1.566 | 1.653 | 1.566 | 1.479 |
| 127 | 1.305 | 1.305 | 1.305 | 1.305 | 1.740 | 1.566 | 1.653 | 1.566 | 1.653 | 1.566 |
| 128 | 1.392 | 1.305 | 1.305 | 1.305 | 1.740 | 1.653 | 1.740 | 1.653 | 1.740 | 1.479 |
| 129 | 1.392 | 1.392 | 1.392 | 1.392 | 1.827 | 1.653 | 1.740 | 1.740 | 1.740 | 1.566 |
| 130 | 1.479 | 1.392 | 1.392 | 1.392 | 1.827 | 1.653 | 1.740 | 1.740 | 1.740 | 1.653 |
| 131 | 1.479 | 1.392 | 1.479 | 1.392 | 1.827 | 1.740 | 1.827 | 1.740 | 1.827 | 1.566 |
| 132 | 1.479 | 1.479 | 1.479 | 1.479 | 1.914 | 1.740 | 1.827 | 1.827 | 1.914 | 1.653 |
| 133 | 1.566 | 1.566 | 1.479 | 1.479 | 2.001 | 1.827 | 1.827 | 1.827 | 1.914 | 1.740 |
| 134 | 1.566 | 1.566 | 1.566 | 1.479 | 2.001 | 1.827 | 1.827 | 1.914 | 1.914 | 1.740 |
| 135 | 1.653 | 1.653 | 1.566 | 1.566 | 2.088 | 1.827 | 1.827 | 1.914 | 2.088 | 1.827 |
| 136 | 1.740 | 1.653 | 1.653 | 1.653 | 2.175 | 1.914 | 2.001 | 2.001 | 2.175 | 1.914 |
| 137 | 1.740 | 1.740 | 1.653 | 1.653 | 2.175 | 2.001 | 2.001 | 2.088 | 2.088 | 1.914 |
| 138 | 1.827 | 1.740 | 1.653 | 1.653 | 2.175 | 2.001 | 2.001 | 2.088 | 2.175 | 1.914 |
| 139 | 1.914 | 1.827 | 1.740 | 1.740 | 2.262 | 2.088 | 2.001 | 2.175 | 2.175 | 2.088 |
| 140 | 1.914 | 1.914 | 1.827 | 1.653 | 2.262 | 2.088 | 2.001 | 2.262 | 2.262 | 2.088 |
| 141 | 2.001 | 1.914 | 1.740 | 1.740 | 2.262 | 2.175 | 2.088 | 2.175 | 2.349 | 2.088 |
| 142 | 2.001 | 2.001 | 1.827 | 1.827 | 2.349 | 2.175 | 2.088 | 2.262 | 2.436 | 2.175 |
| 143 | 2.001 | 2.001 | 1.914 | 1.827 | 2.436 | 2.088 | 2.175 | 2.262 | 2.436 | 2.175 |
| 144 | 2.175 | 2.001 | 1.914 | 1.827 | 2.436 | 2.262 | 2.262 | 2.262 | 2.436 | 2.175 |
| 145 | 2.175 | 2.001 | 1.914 | 1.914 | 2.436 | 2.175 | 2.175 | 2.349 | 2.523 | 2.262 |
| 146 | 2.175 | 2.001 | 2.001 | 2.001 | 2.523 | 2.349 | 2.262 | 2.262 | 2.523 | 2.262 |
| 147 | 2.175 | 2.088 | 2.001 | 2.001 | 2.436 | 2.262 | 2.262 | 2.349 | 2.436 | 2.349 |
| 148 | 2.262 | 2.088 | 2.001 | 2.088 | 2.523 | 2.436 | 2.262 | 2.436 | 2.523 | 2.262 |
| 149 | 2.349 | 2.175 | 2.088 | 2.088 | 2.523 | 2.349 | 2.436 | 2.436 | 2.523 | 2.349 |
| 150 | 2.349 | 2.088 | 2.088 | 2.088 | 2.610 | 2.349 | 2.436 | 2.436 | 2.523 | 2.436 |
| 151 | 2.349 | 2.175 | 2.175 | 2.175 | 2.610 | 2.436 | 2.349 | 2.436 | 2.523 | 2.436 |
| 152 | 2.349 | 2.262 | 2.262 | 2.262 | 2.610 | 2.436 | 2.349 | 2.436 | 2.523 | 2.436 |
| 153 | 2.349 | 2.262 | 2.175 | 2.175 | 2.697 | 2.436 | 2.436 | 2.523 | 2.523 | 2.436 |
| 154 | 2.436 | 2.349 | 2.349 | 2.262 | 2.697 | 2.523 | 2.523 | 2.523 | 2.610 | 2.436 |
| 155 | 2.523 | 2.349 | 2.262 | 2.262 | 2.697 | 2.436 | 2.523 | 2.610 | 2.697 | 2.436 |
| 156 | 2.523 | 2.436 | 2.349 | 2.349 | 2.697 | 2.523 | 2.523 | 2.523 | 2.697 | 2.523 |
| 157 | 2.523 | 2.436 | 2.262 | 2.349 | 2.784 | 2.610 | 2.523 | 2.610 | 2.697 | 2.523 |
| 158 | 2.523 | 2.436 | 2.436 | 2.436 | 2.697 | 2.523 | 2.523 | 2.697 | 2.610 | 2.610 |
| 159 | 2.610 | 2.523 | 2.436 | 2.436 | 2.784 | 2.523 | 2.523 | 2.697 | 2.697 | 2.610 |
| 160 | 2.523 | 2.523 | 2.436 | 2.436 | 2.784 | 2.610 | 2.523 | 2.784 | 2.784 | 2.610 |
| 161 | 2.610 | 2.523 | 2.436 | 2.523 | 2.784 | 2.610 | 2.523 | 2.784 | 2.784 | 2.610 |
| 162 | 2.697 | 2.610 | 2.436 | 2.436 | 2.784 | 2.610 | 2.697 | 2.784 | 2.871 | 2.610 |
| 163 | 2.697 | 2.610 | 2.523 | 2.523 | 2.784 | 2.784 | 2.610 | 2.871 | 2.871 | 2.697 |
| 164 | 2.697 | 2.610 | 2.523 | 2.523 | 2.871 | 2.697 | 2.784 | 2.871 | 2.871 | 2.784 |
| 165 | 2.697 | 2.697 | 2.523 | 2.523 | 2.958 | 2.784 | 2.784 | 2.871 | 2.871 | 2.871 |

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CANDELA TABULATION - (Cont.)

| | | | | | | | | | | |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 166 | 2.784 | 2.697 | 2.610 | 2.610 | 2.958 | 2.784 | 2.871 | 2.871 | 2.958 | 2.784 |
| 167 | 2.784 | 2.784 | 2.610 | 2.610 | 2.958 | 2.871 | 2.871 | 3.045 | 2.958 | 2.958 |
| 168 | 2.784 | 2.784 | 2.610 | 2.697 | 2.958 | 2.871 | 2.871 | 2.958 | 3.045 | 2.958 |
| 169 | 2.784 | 2.784 | 2.697 | 2.697 | 2.958 | 2.958 | 2.958 | 3.045 | 3.045 | 3.045 |
| 170 | 2.871 | 2.958 | 2.697 | 2.784 | 3.045 | 2.958 | 3.045 | 3.132 | 3.045 | 2.958 |
| 171 | 2.871 | 2.958 | 2.784 | 2.871 | 3.045 | 3.045 | 3.132 | 3.132 | 3.045 | 3.045 |
| 172 | 2.958 | 2.958 | 2.871 | 2.871 | 3.045 | 3.132 | 3.132 | 3.132 | 3.132 | 3.132 |
| 173 | 2.958 | 3.132 | 2.871 | 2.958 | 3.132 | 3.132 | 3.219 | 3.219 | 3.219 | 3.219 |
| 174 | 3.132 | 3.045 | 2.958 | 2.958 | 3.306 | 3.219 | 3.132 | 3.306 | 3.219 | 3.219 |
| 175 | 3.045 | 3.045 | 3.045 | 3.045 | 3.219 | 3.219 | 3.306 | 3.393 | 3.306 | 3.306 |
| 176 | 3.132 | 3.132 | 3.132 | 3.045 | 3.219 | 3.306 | 3.306 | 3.306 | 3.306 | 3.219 |
| 177 | 3.045 | 3.219 | 3.132 | 3.132 | 3.393 | 3.219 | 3.219 | 3.219 | 3.306 | 3.219 |
| 178 | 3.219 | 3.219 | 3.132 | 3.132 | 3.306 | 3.306 | 3.219 | 3.219 | 3.306 | 3.219 |
| 179 | 3.306 | 3.219 | 3.132 | 3.219 | 3.306 | 3.219 | 3.306 | 3.219 | 3.306 | 3.219 |
| 180 | 3.262 | 3.262 | 3.262 | 3.262 | 3.262 | 3.262 | 3.262 | 3.262 | 3.262 | 3.262 |

Vert. Angles **Horizontal Angles**

| | <u>225.0</u> | <u>247.5</u> | <u>270.0</u> | <u>292.5</u> | <u>315.0</u> | <u>337.5</u> | <u>360.0</u> |
|----|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| 0 | 3283.765 | 3283.765 | 3283.765 | 3283.765 | 3283.765 | 3283.765 | 3283.765 |
| 1 | 3283.983 | 3281.373 | 3283.113 | 3283.983 | 3281.373 | 3283.983 | 3278.763 |
| 2 | 3287.462 | 3282.243 | 3282.243 | 3281.373 | 3278.763 | 3282.243 | 3277.893 |
| 3 | 3290.072 | 3283.983 | 3281.373 | 3279.633 | 3277.893 | 3279.633 | 3277.893 |
| 4 | 3293.552 | 3286.593 | 3281.373 | 3277.893 | 3277.023 | 3277.893 | 3276.153 |
| 5 | 3296.162 | 3287.462 | 3280.503 | 3275.283 | 3274.414 | 3277.893 | 3275.283 |
| 6 | 3294.422 | 3287.462 | 3279.633 | 3274.414 | 3271.804 | 3277.023 | 3277.023 |
| 7 | 3292.682 | 3285.723 | 3277.023 | 3272.674 | 3270.934 | 3277.023 | 3274.414 |
| 8 | 3288.332 | 3281.373 | 3276.153 | 3269.194 | 3270.064 | 3277.023 | 3272.674 |
| 9 | 3281.373 | 3275.283 | 3271.804 | 3264.844 | 3267.454 | 3276.153 | 3271.804 |
| 10 | 3271.804 | 3265.714 | 3265.714 | 3260.495 | 3265.714 | 3273.544 | 3268.324 |
| 11 | 3261.365 | 3257.015 | 3256.145 | 3252.665 | 3261.365 | 3265.714 | 3256.145 |
| 12 | 3246.576 | 3243.096 | 3246.576 | 3243.966 | 3254.405 | 3259.625 | 3247.446 |
| 13 | 3234.397 | 3227.437 | 3230.047 | 3230.047 | 3243.096 | 3250.055 | 3231.787 |
| 14 | 3216.128 | 3213.518 | 3216.128 | 3216.998 | 3227.437 | 3234.397 | 3217.868 |
| 15 | 3196.990 | 3194.380 | 3199.600 | 3197.860 | 3212.648 | 3219.608 | 3200.469 |
| 16 | 3179.591 | 3180.461 | 3184.811 | 3176.981 | 3193.510 | 3197.860 | 3184.811 |
| 17 | 3157.843 | 3161.323 | 3164.802 | 3159.583 | 3174.372 | 3177.851 | 3162.193 |
| 18 | 3139.574 | 3143.054 | 3144.794 | 3139.574 | 3149.144 | 3151.753 | 3137.835 |
| 19 | 3116.957 | 3121.306 | 3128.265 | 3123.046 | 3129.135 | 3128.265 | 3117.826 |
| 20 | 3093.468 | 3096.948 | 3107.387 | 3100.428 | 3103.037 | 3100.428 | 3090.858 |
| 21 | 3075.200 | 3076.070 | 3087.379 | 3083.029 | 3083.899 | 3076.939 | 3069.980 |
| 22 | 3053.451 | 3049.102 | 3061.281 | 3054.322 | 3057.801 | 3044.752 | 3040.403 |
| 23 | 3035.183 | 3025.614 | 3036.053 | 3029.964 | 3031.703 | 3013.435 | 3009.085 |
| 24 | 3005.605 | 2993.426 | 2996.036 | 2993.426 | 2985.597 | 2967.329 | 2958.629 |
| 25 | 2966.458 | 2954.280 | 2956.889 | 2957.759 | 2943.840 | 2929.052 | 2914.263 |
| 26 | 2929.052 | 2916.873 | 2902.084 | 2909.913 | 2889.035 | 2878.596 | 2854.238 |
| 27 | 2874.246 | 2862.937 | 2854.238 | 2866.417 | 2842.059 | 2836.839 | 2802.042 |
| 28 | 2825.530 | 2804.652 | 2794.212 | 2808.131 | 2781.164 | 2784.643 | 2736.797 |
| 29 | 2765.505 | 2756.806 | 2746.366 | 2762.895 | 2735.927 | 2742.887 | 2688.081 |
| 30 | 2708.090 | 2699.390 | 2689.821 | 2708.959 | 2684.602 | 2691.561 | 2633.276 |
| 31 | 2663.723 | 2642.845 | 2646.325 | 2660.243 | 2637.625 | 2648.935 | 2596.130 |
| 32 | 2623.271 | 2613.267 | 2597.782 | 2622.575 | 2602.393 | 2593.781 | 2552.633 |
| 33 | 2570.206 | 2559.941 | 2551.067 | 2579.688 | 2557.679 | 2540.454 | 2511.225 |
| 34 | 2519.750 | 2506.875 | 2516.879 | 2542.281 | 2521.838 | 2501.046 | 2476.601 |
| 35 | 2480.168 | 2455.375 | 2473.992 | 2493.043 | 2477.036 | 2453.983 | 2430.669 |
| 36 | 2427.711 | 2413.967 | 2427.364 | 2454.331 | 2431.626 | 2408.747 | 2384.215 |

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CANDELA TABULATION - (Cont.)

| | | | | | | | |
|----|----------|----------|----------|----------|----------|----------|----------|
| 37 | 2374.994 | 2362.989 | 2387.434 | 2400.309 | 2392.827 | 2373.428 | 2347.852 |
| 38 | 2321.928 | 2310.619 | 2336.891 | 2345.851 | 2343.502 | 2330.627 | 2301.659 |
| 39 | 2277.649 | 2258.597 | 2296.613 | 2304.094 | 2303.747 | 2296.874 | 2263.904 |
| 40 | 2221.799 | 2218.493 | 2241.286 | 2251.638 | 2255.117 | 2251.986 | 2214.927 |
| 41 | 2169.168 | 2168.733 | 2184.218 | 2198.485 | 2205.531 | 2202.661 | 2166.907 |
| 42 | 2120.191 | 2119.844 | 2140.635 | 2154.989 | 2163.079 | 2159.251 | 2129.587 |
| 43 | 2083.132 | 2082.176 | 2088.787 | 2100.705 | 2112.101 | 2101.053 | 2081.828 |
| 44 | 2037.896 | 2035.025 | 2048.248 | 2061.645 | 2060.775 | 2044.508 | 2041.724 |
| 45 | 1991.181 | 1987.788 | 1995.444 | 2014.234 | 2017.801 | 1999.967 | 1993.965 |
| 46 | 1940.377 | 1939.942 | 1936.723 | 1960.212 | 1960.385 | 1943.509 | 1940.899 |
| 47 | 1893.662 | 1899.751 | 1890.095 | 1916.280 | 1910.886 | 1900.534 | 1896.185 |
| 48 | 1833.115 | 1847.382 | 1836.073 | 1861.996 | 1850.426 | 1850.861 | 1845.033 |
| 49 | 1770.567 | 1796.752 | 1795.099 | 1814.411 | 1801.971 | 1812.237 | 1806.669 |
| 50 | 1708.019 | 1745.774 | 1743.164 | 1753.255 | 1742.555 | 1763.259 | 1758.214 |
| 51 | 1662.174 | 1698.972 | 1697.493 | 1695.318 | 1686.097 | 1713.239 | 1716.631 |
| 52 | 1613.632 | 1638.164 | 1637.120 | 1650.343 | 1644.601 | 1667.132 | 1652.518 |
| 53 | 1551.519 | 1571.440 | 1580.661 | 1593.536 | 1587.099 | 1591.709 | 1585.272 |
| 54 | 1478.445 | 1492.973 | 1524.116 | 1534.294 | 1531.075 | 1519.853 | 1491.320 |
| 55 | 1413.983 | 1425.553 | 1444.256 | 1441.560 | 1451.912 | 1425.205 | 1408.502 |
| 56 | 1332.906 | 1339.604 | 1375.532 | 1369.443 | 1388.059 | 1356.742 | 1352.305 |
| 57 | 1258.440 | 1247.218 | 1291.497 | 1293.933 | 1306.199 | 1278.274 | 1282.450 |
| 58 | 1197.806 | 1182.495 | 1232.690 | 1242.868 | 1243.564 | 1216.770 | 1227.731 |
| 59 | 1119.338 | 1121.339 | 1172.317 | 1172.839 | 1170.055 | 1148.741 | 1162.660 |
| 60 | 1049.744 | 1073.667 | 1127.254 | 1113.422 | 1113.422 | 1095.415 | 1104.549 |
| 61 | 979.627 | 1013.990 | 1061.749 | 1044.698 | 1050.875 | 1033.737 | 1021.906 |
| 62 | 920.385 | 950.746 | 999.375 | 995.982 | 1002.071 | 986.152 | 965.013 |
| 63 | 840.613 | 868.189 | 926.649 | 929.345 | 940.046 | 921.168 | 900.290 |
| 64 | 769.278 | 785.981 | 866.102 | 873.670 | 863.492 | 850.443 | 832.957 |
| 65 | 709.862 | 716.213 | 787.460 | 803.032 | 804.076 | 772.323 | 765.016 |
| 66 | 664.104 | 675.587 | 734.655 | 740.136 | 720.736 | 714.647 | 717.605 |
| 67 | 603.644 | 608.950 | 665.148 | 667.671 | 660.189 | 668.280 | 648.880 |
| 68 | 531.527 | 541.444 | 605.732 | 612.343 | 596.945 | 598.685 | 600.425 |
| 69 | 471.763 | 483.420 | 546.142 | 561.452 | 551.361 | 538.399 | 539.443 |
| 70 | 414.260 | 425.656 | 503.080 | 485.421 | 476.634 | 467.413 | 473.416 |
| 71 | 355.105 | 371.199 | 440.097 | 425.656 | 422.699 | 418.784 | 425.134 |
| 72 | 295.515 | 316.480 | 390.511 | 372.069 | 361.804 | 363.108 | 360.499 |
| 73 | 257.673 | 271.766 | 336.837 | 330.051 | 326.919 | 313.088 | 304.736 |
| 74 | 213.307 | 220.962 | 286.294 | 288.556 | 276.377 | 261.675 | 261.066 |
| 75 | 172.159 | 174.247 | 239.405 | 238.448 | 235.577 | 225.225 | 219.570 |
| 76 | 142.233 | 149.280 | 204.781 | 205.042 | 196.517 | 182.163 | 176.596 |
| 77 | 107.436 | 116.223 | 168.331 | 166.244 | 165.026 | 153.717 | 142.059 |
| 78 | 80.990 | 86.558 | 136.492 | 134.491 | 124.922 | 119.006 | 107.349 |
| 79 | 60.286 | 64.201 | 104.479 | 106.653 | 101.347 | 96.127 | 87.254 |
| 80 | 47.237 | 50.717 | 83.078 | 78.207 | 76.554 | 71.073 | 66.115 |
| 81 | 36.711 | 38.451 | 62.200 | 61.765 | 59.590 | 55.849 | 51.500 |
| 82 | 28.795 | 30.535 | 45.323 | 45.497 | 44.279 | 41.583 | 39.147 |
| 83 | 21.748 | 23.140 | 36.711 | 36.711 | 35.754 | 33.927 | 32.361 |
| 84 | 16.355 | 17.573 | 28.795 | 28.534 | 27.577 | 25.924 | 24.880 |
| 85 | 9.395 | 10.787 | 22.792 | 22.705 | 21.835 | 20.791 | 19.747 |
| 86 | 3.915 | 4.611 | 16.094 | 16.007 | 15.572 | 14.528 | 13.310 |
| 87 | 2.697 | 2.784 | 10.700 | 10.874 | 10.439 | 9.221 | 7.742 |
| 88 | 2.436 | 2.523 | 4.350 | 4.785 | 4.524 | 3.393 | 2.697 |
| 89 | 2.175 | 2.262 | 2.088 | 2.262 | 2.262 | 2.175 | 2.088 |
| 90 | 2.001 | 2.001 | 1.827 | 2.001 | 1.827 | 1.827 | 1.827 |
| 91 | 1.827 | 1.827 | 1.653 | 1.740 | 1.653 | 1.653 | 1.653 |
| 92 | 1.653 | 1.653 | 1.479 | 1.566 | 1.479 | 1.392 | 1.479 |

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CANDELA TABULATION - (Cont.)

| | | | | | | | |
|-----|-------|-------|-------|-------|-------|-------|-------|
| 93 | 1.479 | 1.479 | 1.392 | 1.392 | 1.392 | 1.392 | 1.392 |
| 94 | 1.479 | 1.479 | 1.218 | 1.305 | 1.305 | 1.218 | 1.218 |
| 95 | 1.305 | 1.305 | 1.131 | 1.131 | 1.131 | 1.131 | 1.131 |
| 96 | 1.218 | 1.305 | 1.044 | 1.044 | 1.131 | 1.044 | 1.044 |
| 97 | 1.218 | 1.131 | 0.957 | 1.044 | 0.870 | 0.957 | 0.957 |
| 98 | 1.131 | 1.131 | 0.783 | 0.870 | 0.870 | 0.870 | 0.870 |
| 99 | 1.131 | 1.131 | 0.783 | 0.870 | 0.870 | 0.783 | 0.957 |
| 100 | 1.044 | 1.044 | 0.696 | 0.783 | 0.783 | 0.783 | 0.783 |
| 101 | 1.044 | 1.131 | 0.696 | 0.783 | 0.696 | 0.696 | 0.783 |
| 102 | 0.957 | 1.044 | 0.783 | 0.870 | 0.696 | 0.783 | 0.696 |
| 103 | 1.044 | 1.044 | 0.696 | 0.783 | 0.783 | 0.696 | 0.696 |
| 104 | 0.957 | 1.044 | 0.696 | 0.696 | 0.696 | 0.696 | 0.783 |
| 105 | 1.131 | 1.044 | 0.696 | 0.783 | 0.696 | 0.783 | 0.783 |
| 106 | 1.044 | 1.044 | 0.696 | 0.783 | 0.696 | 0.783 | 0.696 |
| 107 | 1.044 | 1.131 | 0.696 | 0.783 | 0.696 | 0.696 | 0.783 |
| 108 | 1.044 | 1.044 | 0.696 | 0.783 | 0.783 | 0.783 | 0.783 |
| 109 | 1.131 | 1.131 | 0.696 | 0.783 | 0.783 | 0.783 | 0.783 |
| 110 | 1.131 | 1.218 | 0.783 | 0.783 | 0.783 | 0.783 | 0.870 |
| 111 | 1.131 | 1.218 | 0.783 | 0.870 | 0.870 | 0.783 | 0.870 |
| 112 | 1.218 | 1.305 | 0.870 | 0.870 | 0.870 | 0.870 | 0.957 |
| 113 | 1.218 | 1.218 | 0.870 | 0.870 | 0.870 | 0.870 | 0.957 |
| 114 | 1.218 | 1.305 | 0.870 | 0.957 | 0.957 | 0.957 | 0.957 |
| 115 | 1.305 | 1.305 | 0.957 | 0.957 | 0.957 | 0.957 | 0.957 |
| 116 | 1.305 | 1.305 | 0.957 | 0.957 | 0.957 | 1.044 | 0.957 |
| 117 | 1.305 | 1.392 | 0.957 | 1.044 | 0.957 | 0.957 | 0.957 |
| 118 | 1.392 | 1.305 | 1.044 | 0.957 | 0.957 | 1.044 | 1.131 |
| 119 | 1.392 | 1.479 | 0.957 | 1.044 | 1.131 | 1.044 | 1.044 |
| 120 | 1.392 | 1.479 | 1.044 | 1.131 | 1.131 | 1.044 | 1.131 |
| 121 | 1.392 | 1.479 | 1.131 | 1.131 | 1.044 | 1.044 | 1.131 |
| 122 | 1.479 | 1.479 | 1.131 | 1.218 | 1.131 | 1.131 | 1.131 |
| 123 | 1.566 | 1.566 | 1.131 | 1.218 | 1.131 | 1.044 | 1.218 |
| 124 | 1.479 | 1.566 | 1.218 | 1.218 | 1.218 | 1.218 | 1.218 |
| 125 | 1.566 | 1.566 | 1.305 | 1.305 | 1.218 | 1.218 | 1.305 |
| 126 | 1.566 | 1.653 | 1.218 | 1.392 | 1.305 | 1.218 | 1.305 |
| 127 | 1.566 | 1.653 | 1.392 | 1.305 | 1.305 | 1.218 | 1.305 |
| 128 | 1.566 | 1.653 | 1.305 | 1.392 | 1.392 | 1.305 | 1.392 |
| 129 | 1.740 | 1.740 | 1.392 | 1.392 | 1.392 | 1.305 | 1.392 |
| 130 | 1.740 | 1.740 | 1.392 | 1.479 | 1.392 | 1.305 | 1.479 |
| 131 | 1.740 | 1.827 | 1.479 | 1.479 | 1.392 | 1.392 | 1.479 |
| 132 | 1.827 | 1.914 | 1.566 | 1.566 | 1.479 | 1.392 | 1.479 |
| 133 | 1.827 | 1.914 | 1.566 | 1.479 | 1.479 | 1.479 | 1.566 |
| 134 | 1.827 | 1.827 | 1.566 | 1.566 | 1.566 | 1.479 | 1.566 |
| 135 | 1.914 | 2.001 | 1.653 | 1.653 | 1.566 | 1.479 | 1.653 |
| 136 | 1.914 | 2.001 | 1.653 | 1.566 | 1.653 | 1.566 | 1.740 |
| 137 | 1.914 | 2.088 | 1.740 | 1.653 | 1.653 | 1.653 | 1.740 |
| 138 | 1.914 | 2.088 | 1.740 | 1.740 | 1.653 | 1.653 | 1.827 |
| 139 | 2.001 | 2.175 | 1.827 | 1.740 | 1.740 | 1.740 | 1.914 |
| 140 | 2.088 | 2.175 | 1.827 | 1.827 | 1.740 | 1.740 | 1.914 |
| 141 | 2.175 | 2.175 | 1.827 | 1.914 | 1.740 | 1.740 | 2.001 |
| 142 | 2.175 | 2.262 | 1.914 | 1.914 | 1.740 | 1.827 | 2.001 |
| 143 | 2.175 | 2.262 | 1.914 | 1.914 | 1.914 | 1.827 | 2.001 |
| 144 | 2.262 | 2.262 | 2.001 | 1.914 | 1.914 | 1.914 | 2.175 |
| 145 | 2.262 | 2.349 | 2.001 | 2.001 | 1.914 | 1.914 | 2.175 |
| 146 | 2.262 | 2.349 | 2.001 | 2.088 | 1.914 | 2.001 | 2.175 |
| 147 | 2.349 | 2.436 | 2.088 | 2.001 | 2.001 | 2.001 | 2.175 |
| 148 | 2.349 | 2.436 | 2.088 | 2.088 | 2.001 | 2.088 | 2.262 |

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CANDELA TABULATION - (Cont.)

| | | | | | | | |
|------------|-------|-------|-------|-------|-------|-------|-------|
| 149 | 2.436 | 2.436 | 2.175 | 2.175 | 2.088 | 2.088 | 2.349 |
| 150 | 2.349 | 2.523 | 2.262 | 2.175 | 2.175 | 2.088 | 2.349 |
| 151 | 2.349 | 2.436 | 2.262 | 2.175 | 2.175 | 2.088 | 2.349 |
| 152 | 2.436 | 2.610 | 2.262 | 2.262 | 2.175 | 2.088 | 2.349 |
| 153 | 2.436 | 2.610 | 2.349 | 2.349 | 2.262 | 2.175 | 2.349 |
| 154 | 2.523 | 2.610 | 2.349 | 2.349 | 2.262 | 2.262 | 2.436 |
| 155 | 2.523 | 2.610 | 2.349 | 2.349 | 2.349 | 2.262 | 2.523 |
| 156 | 2.523 | 2.610 | 2.436 | 2.436 | 2.349 | 2.349 | 2.523 |
| 157 | 2.523 | 2.697 | 2.436 | 2.436 | 2.436 | 2.349 | 2.523 |
| 158 | 2.610 | 2.697 | 2.436 | 2.523 | 2.349 | 2.349 | 2.523 |
| 159 | 2.610 | 2.697 | 2.523 | 2.523 | 2.436 | 2.349 | 2.610 |
| 160 | 2.610 | 2.784 | 2.523 | 2.610 | 2.436 | 2.436 | 2.523 |
| 161 | 2.610 | 2.784 | 2.523 | 2.523 | 2.436 | 2.436 | 2.610 |
| 162 | 2.610 | 2.784 | 2.523 | 2.523 | 2.523 | 2.436 | 2.697 |
| 163 | 2.697 | 2.871 | 2.610 | 2.610 | 2.523 | 2.523 | 2.697 |
| 164 | 2.784 | 2.871 | 2.610 | 2.610 | 2.523 | 2.523 | 2.697 |
| 165 | 2.784 | 2.871 | 2.610 | 2.697 | 2.523 | 2.523 | 2.697 |
| 166 | 2.871 | 2.958 | 2.610 | 2.697 | 2.697 | 2.610 | 2.784 |
| 167 | 2.958 | 2.958 | 2.610 | 2.697 | 2.610 | 2.697 | 2.784 |
| 168 | 2.958 | 3.045 | 2.697 | 2.697 | 2.697 | 2.697 | 2.784 |
| 169 | 2.958 | 3.045 | 2.697 | 2.697 | 2.697 | 2.697 | 2.784 |
| 170 | 3.045 | 3.132 | 2.697 | 2.871 | 2.784 | 2.784 | 2.871 |
| 171 | 3.045 | 3.132 | 2.784 | 2.871 | 2.784 | 2.784 | 2.871 |
| 172 | 3.132 | 3.132 | 2.871 | 2.871 | 2.871 | 2.871 | 2.958 |
| 173 | 3.132 | 3.219 | 2.871 | 2.958 | 2.958 | 2.871 | 2.958 |
| 174 | 3.219 | 3.219 | 2.871 | 3.045 | 3.045 | 2.958 | 3.132 |
| 175 | 3.306 | 3.306 | 2.958 | 3.045 | 3.045 | 3.045 | 3.045 |
| 176 | 3.219 | 3.219 | 2.958 | 3.219 | 3.132 | 3.045 | 3.132 |
| 177 | 3.219 | 3.219 | 3.045 | 3.219 | 3.132 | 3.045 | 3.045 |
| 178 | 3.306 | 3.219 | 3.045 | 3.219 | 3.132 | 3.132 | 3.219 |
| 179 | 3.219 | 3.306 | 3.306 | 3.219 | 3.219 | 3.219 | 3.306 |
| 180 | 3.262 | 3.262 | 3.262 | 3.262 | 3.262 | 3.262 | 3.262 |

IES INDOOR REPORT
PHOTOMETRIC FILENAME : HZX-EX-B2-60W-4000K-D120.IES

ZONAL LUMEN SUMMARY

| Zone | Lumens | %Lamp | %Fixt |
|---------|---------|-------|--------|
| 0-20 | 1214.28 | N.A. | 15.50 |
| 0-30 | 2558.75 | N.A. | 32.60 |
| 0-40 | 4094.09 | N.A. | 52.20 |
| 0-60 | 6869.07 | N.A. | 87.50 |
| 0-80 | 7816.95 | N.A. | 99.60 |
| 0-90 | 7837.03 | N.A. | 99.90 |
| 10-90 | 7524.07 | N.A. | 95.90 |
| 20-40 | 2879.81 | N.A. | 36.70 |
| 20-50 | 4406.94 | N.A. | 56.20 |
| 40-70 | 3504.56 | N.A. | 44.70 |
| 60-80 | 947.88 | N.A. | 12.10 |
| 70-80 | 218.30 | N.A. | 2.80 |
| 80-90 | 20.08 | N.A. | 0.30 |
| 90-110 | 2.35 | N.A. | 0.00 |
| 90-120 | 3.46 | N.A. | 0.00 |
| 90-130 | 4.72 | N.A. | 0.10 |
| 90-150 | 7.43 | N.A. | 0.10 |
| 90-180 | 9.62 | N.A. | 0.10 |
| 110-180 | 7.27 | N.A. | 0.10 |
| 0-180 | 7846.65 | N.A. | 100.00 |

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

| Zone | Lumens |
|---------|---------|
| 0-10 | 312.96 |
| 10-20 | 901.32 |
| 20-30 | 1344.46 |
| 30-40 | 1535.34 |
| 40-50 | 1527.13 |
| 50-60 | 1247.85 |
| 60-70 | 729.58 |
| 70-80 | 218.30 |
| 80-90 | 20.08 |
| 90-100 | 1.39 |
| 100-110 | 0.96 |
| 110-120 | 1.11 |
| 120-130 | 1.26 |
| 130-140 | 1.37 |
| 140-150 | 1.35 |
| 150-160 | 1.13 |
| 160-170 | 0.77 |
| 170-180 | 0.29 |

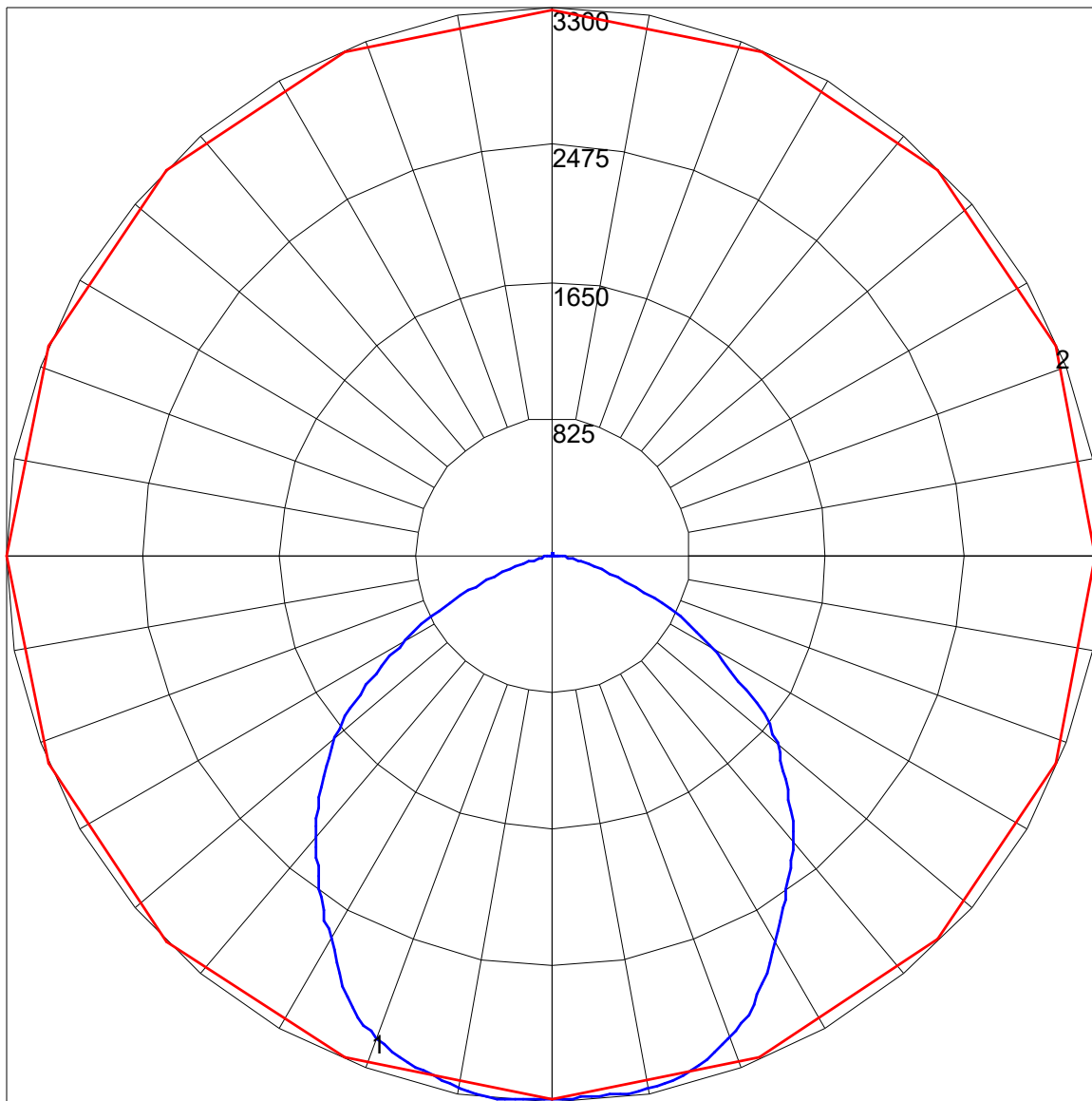
IES INDOOR REPORT
PHOTOMETRIC FILENAME : HZX-EX-B2-60W-4000K-D120.IES

COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

Effective Floor Cavity Reflectance 0.20

| RC | 80 | | | | 70 | | | | 50 | | | 30 | | | 10 | | | 0 |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| RW | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |
| 1 | 110 | 106 | 103 | 99 | 108 | 104 | 101 | 98 | 100 | 97 | 95 | 96 | 94 | 92 | 92 | 91 | 89 | 87 |
| 2 | 101 | 94 | 88 | 83 | 99 | 92 | 87 | 82 | 89 | 84 | 80 | 86 | 82 | 78 | 83 | 79 | 77 | 75 |
| 3 | 93 | 84 | 76 | 70 | 91 | 82 | 75 | 70 | 79 | 73 | 69 | 76 | 72 | 67 | 74 | 70 | 66 | 64 |
| 4 | 86 | 75 | 67 | 60 | 84 | 73 | 66 | 60 | 71 | 64 | 59 | 69 | 63 | 58 | 67 | 62 | 58 | 56 |
| 5 | 79 | 67 | 59 | 53 | 77 | 66 | 58 | 52 | 64 | 57 | 52 | 62 | 56 | 51 | 60 | 55 | 51 | 49 |
| 6 | 73 | 61 | 52 | 46 | 71 | 60 | 52 | 46 | 58 | 51 | 46 | 56 | 50 | 45 | 55 | 49 | 45 | 43 |
| 7 | 68 | 55 | 47 | 41 | 66 | 54 | 47 | 41 | 53 | 46 | 41 | 51 | 45 | 40 | 50 | 44 | 40 | 38 |
| 8 | 63 | 51 | 42 | 37 | 62 | 50 | 42 | 37 | 49 | 42 | 36 | 47 | 41 | 36 | 46 | 40 | 36 | 34 |
| 9 | 59 | 46 | 39 | 33 | 58 | 46 | 38 | 33 | 45 | 38 | 33 | 44 | 37 | 33 | 43 | 37 | 33 | 31 |
| 10 | 56 | 43 | 35 | 30 | 54 | 42 | 35 | 30 | 41 | 35 | 30 | 41 | 34 | 30 | 40 | 34 | 30 | 28 |

POLAR GRAPH



Maximum Candela = 3299.641 Located At Horizontal Angle = 157.5, Vertical Angle = 5
1 - Vertical Plane Through Horizontal Angles (157.5 - 337.5) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)