



IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX2UD-4-00-P8-835U-P8-835D-F-F-POE X.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN FROM 13012869.08
 [TESTLAB] UL Verification Services Inc.
 [ISSUEDATE] 12/05/2019
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.
 [LUMCAT] MX2DU-4-00-P8-835U-P8-835D-F-F-POE x
 [LUMINAIRE] Formed White aluminum housing, lens enclosures
 [LAMP] 144 White Downlight LEDs/144 White Uplight LEDs
 [OTHER] This test was performed using the calibrated photodetector met
 [MORE] hod of absolute photometry.

CHARACTERISTICS

| | |
|---------------------------------|---------------------|
| Lumens Per Lamp | N.A. (absolute) |
| Total Lamp Lumens | N.A. (absolute) |
| Luminaire Lumens | 6552 |
| Total Luminaire Efficiency | N.A. |
| Luminaire Efficacy Rating (LER) | 130 |
| Total Luminaire Watts | 50.4 |
| Ballast Factor | 1.00 |
| CIE Type | General Diffuse |
| Spacing Criterion (0-180) | N.A. |
| Spacing Criterion (90-270) | N.A. |
| Spacing Criterion (Diagonal) | N.A. |
| Basic Luminous Shape | Rectangular w/Sides |
| Luminous Length (0-180) | 3.96 ft |
| Luminous Width (90-270) | 0.17 ft |
| Luminous Height | 0.33 ft |

LUMINANCE DATA (cd/sq.m)

| Angle In Degrees | Average 0-Deg | Average 45-Deg | Average 90-Deg |
|---------------------|------------------|-------------------|-------------------|
| 45 | 16092 | 6471 | 4886 |
| 55 | 13674 | 4500 | 3284 |
| 65 | 11315 | 2903 | 2066 |
| 75 | 8284 | 1552 | 1103 |
| 85 | 3903 | 480 | 363 |

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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> |
|------|------------|-------------|-------------|-------------|-------------|
| 0.0 | 1398.918 | 1398.918 | 1398.918 | 1398.918 | 1398.918 |
| 0.5 | 1394.733 | 1407.288 | 1395.779 | 1396.825 | 1396.825 |
| 1.0 | 1394.733 | 1406.242 | 1395.779 | 1396.825 | 1396.825 |
| 1.5 | 1394.733 | 1406.242 | 1395.779 | 1396.825 | 1397.872 |
| 2.0 | 1393.686 | 1406.242 | 1394.733 | 1396.825 | 1397.872 |
| 2.5 | 1393.686 | 1405.196 | 1394.733 | 1397.872 | 1397.872 |
| 3.0 | 1392.640 | 1404.149 | 1393.686 | 1396.825 | 1396.825 |
| 3.5 | 1391.594 | 1403.103 | 1392.640 | 1396.825 | 1396.825 |
| 4.0 | 1389.501 | 1402.057 | 1391.594 | 1395.779 | 1395.779 |
| 4.5 | 1388.455 | 1401.010 | 1390.547 | 1394.733 | 1394.733 |
| 5.0 | 1387.408 | 1398.918 | 1388.455 | 1393.686 | 1392.640 |
| 5.5 | 1385.316 | 1397.872 | 1387.408 | 1391.594 | 1390.547 |
| 6.0 | 1383.223 | 1395.779 | 1385.316 | 1389.501 | 1388.455 |
| 6.5 | 1381.131 | 1393.686 | 1383.223 | 1386.362 | 1386.362 |
| 7.0 | 1379.038 | 1391.594 | 1381.131 | 1383.223 | 1383.223 |
| 7.5 | 1375.899 | 1389.501 | 1377.992 | 1380.084 | 1379.038 |
| 8.0 | 1373.806 | 1386.362 | 1375.899 | 1375.899 | 1374.853 |
| 8.5 | 1370.667 | 1383.223 | 1372.760 | 1371.714 | 1370.667 |
| 9.0 | 1367.529 | 1381.131 | 1369.621 | 1367.529 | 1366.482 |
| 9.5 | 1364.390 | 1377.992 | 1366.482 | 1363.343 | 1361.251 |
| 10.0 | 1361.251 | 1374.853 | 1362.297 | 1358.112 | 1354.973 |
| 10.5 | 1358.112 | 1371.714 | 1359.158 | 1353.926 | 1348.695 |
| 11.0 | 1354.973 | 1367.529 | 1353.926 | 1348.695 | 1343.463 |
| 11.5 | 1350.788 | 1363.343 | 1349.741 | 1342.417 | 1337.185 |
| 12.0 | 1346.602 | 1360.204 | 1344.510 | 1337.185 | 1329.861 |
| 12.5 | 1342.417 | 1356.019 | 1339.278 | 1330.908 | 1323.583 |
| 13.0 | 1338.232 | 1351.834 | 1334.047 | 1324.630 | 1316.259 |
| 13.5 | 1334.047 | 1346.602 | 1328.815 | 1318.352 | 1308.935 |
| 14.0 | 1328.815 | 1342.417 | 1322.537 | 1312.074 | 1302.657 |
| 14.5 | 1324.630 | 1337.185 | 1316.259 | 1304.750 | 1295.333 |
| 15.0 | 1319.398 | 1331.954 | 1309.981 | 1297.426 | 1286.963 |
| 15.5 | 1313.120 | 1326.722 | 1303.704 | 1290.101 | 1279.638 |
| 16.0 | 1307.889 | 1321.491 | 1297.426 | 1282.777 | 1271.268 |
| 16.5 | 1302.657 | 1315.213 | 1290.101 | 1274.407 | 1262.897 |
| 17.0 | 1297.426 | 1308.935 | 1282.777 | 1267.083 | 1255.573 |
| 17.5 | 1291.148 | 1303.704 | 1275.453 | 1258.712 | 1247.203 |
| 18.0 | 1284.870 | 1296.379 | 1268.129 | 1250.342 | 1238.832 |
| 18.5 | 1279.638 | 1290.101 | 1260.805 | 1243.017 | 1230.462 |
| 19.0 | 1273.361 | 1283.824 | 1252.434 | 1233.601 | 1221.045 |
| 19.5 | 1267.083 | 1276.499 | 1244.064 | 1225.230 | 1212.674 |
| 20.0 | 1259.758 | 1269.175 | 1235.693 | 1216.860 | 1203.258 |
| 20.5 | 1253.481 | 1262.897 | 1227.323 | 1207.443 | 1192.795 |
| 21.0 | 1247.203 | 1254.527 | 1218.952 | 1196.980 | 1184.424 |
| 21.5 | 1239.879 | 1247.203 | 1210.582 | 1187.563 | 1172.915 |
| 22.0 | 1232.554 | 1239.879 | 1202.211 | 1178.146 | 1163.498 |
| 22.5 | 1225.230 | 1231.508 | 1192.795 | 1167.683 | 1154.081 |
| 23.0 | 1217.906 | 1224.184 | 1184.424 | 1157.220 | 1142.572 |
| 23.5 | 1210.582 | 1215.813 | 1175.007 | 1146.757 | 1132.109 |
| 24.0 | 1202.211 | 1207.443 | 1165.590 | 1136.294 | 1120.599 |
| 24.5 | 1194.887 | 1199.072 | 1157.220 | 1125.831 | 1110.136 |
| 25.0 | 1185.470 | 1190.702 | 1146.757 | 1114.321 | 1098.627 |
| 25.5 | 1177.100 | 1182.331 | 1137.340 | 1103.858 | 1088.163 |
| 26.0 | 1168.729 | 1172.915 | 1127.923 | 1093.395 | 1077.700 |
| 26.5 | 1159.313 | 1163.498 | 1117.460 | 1082.932 | 1066.191 |

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CANDELA TABULATION - (Cont.)

| | | | | | |
|------|----------|----------|----------|----------|----------|
| 27.0 | 1150.942 | 1154.081 | 1108.043 | 1071.422 | 1054.682 |
| 27.5 | 1141.525 | 1144.664 | 1097.580 | 1060.959 | 1044.009 |
| 28.0 | 1131.062 | 1135.247 | 1088.163 | 1049.450 | 1032.918 |
| 28.5 | 1121.645 | 1125.831 | 1076.654 | 1038.882 | 1022.246 |
| 29.0 | 1111.182 | 1115.368 | 1066.191 | 1028.001 | 1011.678 |
| 29.5 | 1101.766 | 1105.951 | 1055.728 | 1017.119 | 1000.378 |
| 30.0 | 1091.302 | 1095.488 | 1044.637 | 1006.551 | 988.973 |
| 30.5 | 1081.886 | 1083.978 | 1033.651 | 995.460 | 978.510 |
| 31.0 | 1071.422 | 1074.561 | 1022.455 | 984.265 | 966.687 |
| 31.5 | 1059.913 | 1063.052 | 1010.946 | 972.965 | 955.387 |
| 32.0 | 1050.496 | 1051.543 | 999.541 | 961.351 | 943.982 |
| 32.5 | 1039.091 | 1040.556 | 987.927 | 949.109 | 932.682 |
| 33.0 | 1028.942 | 1028.838 | 975.999 | 937.285 | 920.440 |
| 33.5 | 1017.956 | 1017.747 | 964.280 | 925.462 | 908.512 |
| 34.0 | 1006.865 | 1006.028 | 952.352 | 913.430 | 897.316 |
| 34.5 | 996.088 | 993.995 | 940.320 | 901.083 | 885.493 |
| 35.0 | 985.311 | 982.277 | 928.601 | 888.737 | 872.833 |
| 35.5 | 974.534 | 969.930 | 916.673 | 876.285 | 859.963 |
| 36.0 | 963.652 | 958.316 | 904.222 | 864.148 | 847.617 |
| 36.5 | 952.562 | 946.284 | 892.294 | 851.488 | 834.956 |
| 37.0 | 941.366 | 934.565 | 880.052 | 839.037 | 821.250 |
| 37.5 | 929.438 | 922.637 | 868.124 | 826.376 | 807.857 |
| 38.0 | 918.243 | 910.709 | 855.778 | 813.507 | 794.569 |
| 38.5 | 906.419 | 898.572 | 843.850 | 800.533 | 781.699 |
| 39.0 | 894.596 | 886.749 | 831.294 | 788.081 | 770.817 |
| 39.5 | 882.563 | 875.135 | 819.157 | 777.409 | 758.994 |
| 40.0 | 870.740 | 863.730 | 806.810 | 765.272 | 746.229 |
| 40.5 | 858.603 | 851.697 | 794.673 | 753.658 | 733.673 |
| 41.0 | 846.989 | 839.874 | 783.687 | 741.102 | 721.641 |
| 41.5 | 835.270 | 828.364 | 773.747 | 728.756 | 709.922 |
| 42.0 | 823.238 | 816.436 | 761.924 | 716.932 | 698.517 |
| 42.5 | 811.310 | 804.822 | 750.833 | 705.423 | 687.531 |
| 43.0 | 799.696 | 793.208 | 739.114 | 694.227 | 676.754 |
| 43.5 | 788.605 | 782.641 | 727.709 | 683.346 | 666.291 |
| 44.0 | 777.932 | 773.119 | 716.514 | 672.778 | 656.037 |
| 44.5 | 769.771 | 761.714 | 705.423 | 662.420 | 645.992 |
| 45.0 | 758.262 | 750.519 | 694.541 | 652.270 | 635.843 |
| 45.5 | 746.961 | 739.428 | 683.869 | 642.226 | 625.903 |
| 46.0 | 735.871 | 728.023 | 673.406 | 632.390 | 615.963 |
| 46.5 | 724.675 | 716.618 | 662.943 | 622.450 | 606.128 |
| 47.0 | 713.689 | 705.318 | 652.689 | 612.615 | 596.188 |
| 47.5 | 702.493 | 694.018 | 642.330 | 602.780 | 586.353 |
| 48.0 | 691.507 | 682.927 | 632.076 | 592.840 | 576.517 |
| 48.5 | 680.521 | 671.836 | 621.718 | 583.005 | 566.787 |
| 49.0 | 669.534 | 660.850 | 611.464 | 572.960 | 557.161 |
| 49.5 | 658.653 | 649.864 | 601.106 | 563.229 | 547.535 |
| 50.0 | 647.876 | 638.982 | 590.852 | 553.499 | 538.013 |
| 50.5 | 636.994 | 628.101 | 580.493 | 543.768 | 528.701 |
| 51.0 | 626.113 | 617.324 | 570.135 | 534.142 | 519.389 |
| 51.5 | 615.336 | 606.546 | 559.881 | 524.516 | 510.077 |
| 52.0 | 604.454 | 595.769 | 549.836 | 514.994 | 500.764 |
| 52.5 | 593.572 | 585.202 | 539.792 | 505.577 | 491.557 |
| 53.0 | 582.691 | 574.529 | 529.957 | 496.161 | 482.454 |
| 53.5 | 571.914 | 563.962 | 520.226 | 486.744 | 473.037 |
| 54.0 | 561.241 | 553.603 | 510.600 | 477.536 | 463.830 |
| 54.5 | 550.569 | 543.140 | 501.078 | 468.120 | 454.622 |

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CANDELA TABULATION - (Cont.)

| | | | | | |
|------|---------|---------|---------|---------|---------|
| 55.0 | 540.001 | 532.886 | 491.557 | 458.807 | 445.415 |
| 55.5 | 529.433 | 522.737 | 482.140 | 449.704 | 436.312 |
| 56.0 | 518.970 | 512.588 | 472.723 | 440.497 | 427.104 |
| 56.5 | 508.612 | 502.648 | 463.307 | 431.603 | 418.211 |
| 57.0 | 498.358 | 492.603 | 453.890 | 422.605 | 409.422 |
| 57.5 | 488.209 | 482.559 | 444.473 | 413.816 | 400.842 |
| 58.0 | 478.269 | 472.514 | 435.161 | 405.027 | 392.262 |
| 58.5 | 468.329 | 462.574 | 425.849 | 396.447 | 383.996 |
| 59.0 | 458.807 | 452.843 | 416.746 | 387.867 | 375.626 |
| 59.5 | 449.391 | 443.217 | 407.538 | 379.392 | 367.464 |
| 60.0 | 439.974 | 433.591 | 398.540 | 371.022 | 359.408 |
| 60.5 | 430.662 | 424.070 | 389.646 | 362.756 | 351.351 |
| 61.0 | 421.245 | 414.548 | 380.857 | 354.595 | 343.399 |
| 61.5 | 411.828 | 405.236 | 372.068 | 346.538 | 335.552 |
| 62.0 | 402.307 | 395.924 | 363.384 | 338.482 | 327.914 |
| 62.5 | 392.890 | 386.717 | 354.804 | 330.530 | 320.276 |
| 63.0 | 383.578 | 377.614 | 346.434 | 322.787 | 312.742 |
| 63.5 | 374.370 | 368.511 | 337.958 | 315.044 | 305.209 |
| 64.0 | 365.163 | 359.303 | 329.588 | 307.302 | 297.780 |
| 64.5 | 355.955 | 350.200 | 321.322 | 299.663 | 290.351 |
| 65.0 | 346.957 | 341.202 | 313.056 | 292.130 | 283.132 |
| 65.5 | 337.854 | 332.204 | 304.895 | 284.597 | 275.912 |
| 66.0 | 328.856 | 323.310 | 296.838 | 277.168 | 268.693 |
| 66.5 | 319.753 | 314.416 | 288.677 | 269.634 | 261.473 |
| 67.0 | 310.650 | 305.732 | 280.621 | 261.996 | 254.149 |
| 67.5 | 301.651 | 296.943 | 272.669 | 254.567 | 246.929 |
| 68.0 | 292.758 | 288.154 | 264.717 | 247.139 | 239.814 |
| 68.5 | 283.864 | 279.470 | 256.660 | 239.814 | 232.700 |
| 69.0 | 275.075 | 270.681 | 248.813 | 232.490 | 225.585 |
| 69.5 | 266.286 | 262.101 | 240.861 | 225.166 | 218.679 |
| 70.0 | 257.393 | 253.521 | 233.118 | 217.947 | 211.669 |
| 70.5 | 248.603 | 245.046 | 225.375 | 210.832 | 204.868 |
| 71.0 | 239.919 | 236.466 | 217.633 | 203.821 | 198.171 |
| 71.5 | 231.235 | 227.991 | 210.099 | 196.811 | 191.684 |
| 72.0 | 222.760 | 219.516 | 202.880 | 190.010 | 185.302 |
| 72.5 | 214.284 | 211.250 | 195.556 | 183.418 | 178.919 |
| 73.0 | 205.914 | 203.089 | 188.231 | 176.827 | 172.641 |
| 73.5 | 197.544 | 195.032 | 181.012 | 170.339 | 166.468 |
| 74.0 | 189.382 | 186.976 | 173.897 | 163.957 | 160.295 |
| 74.5 | 181.221 | 179.128 | 166.991 | 157.679 | 154.226 |
| 75.0 | 173.164 | 171.386 | 160.086 | 151.506 | 148.158 |
| 75.5 | 165.317 | 163.643 | 153.285 | 145.437 | 142.298 |
| 76.0 | 157.470 | 156.110 | 146.588 | 139.473 | 136.544 |
| 76.5 | 149.832 | 148.681 | 139.996 | 133.509 | 130.894 |
| 77.0 | 142.298 | 141.357 | 133.509 | 127.650 | 125.139 |
| 77.5 | 134.765 | 134.137 | 127.127 | 122.000 | 119.593 |
| 78.0 | 127.441 | 127.022 | 120.954 | 116.245 | 113.943 |
| 78.5 | 120.221 | 120.117 | 114.780 | 110.700 | 108.502 |
| 79.0 | 113.211 | 113.315 | 108.921 | 105.154 | 103.271 |
| 79.5 | 106.305 | 106.619 | 103.062 | 99.818 | 98.039 |
| 80.0 | 99.504 | 100.132 | 97.412 | 94.482 | 92.912 |
| 80.5 | 92.808 | 93.854 | 91.761 | 89.250 | 87.890 |
| 81.0 | 86.425 | 87.681 | 86.216 | 84.228 | 82.972 |
| 81.5 | 80.252 | 81.717 | 80.775 | 79.206 | 78.159 |
| 82.0 | 74.079 | 75.858 | 75.439 | 74.183 | 73.346 |
| 82.5 | 68.115 | 69.998 | 70.312 | 69.370 | 68.743 |

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CANDELA TABULATION - (Cont.)

| | | | | | |
|-------|---------|---------|---------|---------|---------|
| 83.0 | 62.360 | 64.453 | 65.081 | 64.662 | 64.034 |
| 83.5 | 56.710 | 59.012 | 60.058 | 59.954 | 59.535 |
| 84.0 | 51.269 | 53.885 | 55.245 | 55.350 | 55.141 |
| 84.5 | 46.038 | 48.863 | 50.432 | 50.851 | 50.641 |
| 85.0 | 41.015 | 43.945 | 45.724 | 46.456 | 46.247 |
| 85.5 | 36.202 | 39.237 | 41.225 | 42.166 | 42.062 |
| 86.0 | 31.494 | 34.528 | 36.830 | 37.876 | 37.876 |
| 86.5 | 26.995 | 30.134 | 32.540 | 33.796 | 33.796 |
| 87.0 | 22.600 | 25.739 | 28.355 | 29.820 | 29.820 |
| 87.5 | 18.310 | 21.554 | 24.170 | 25.844 | 25.844 |
| 88.0 | 14.125 | 17.473 | 20.194 | 21.973 | 22.077 |
| 88.5 | 9.940 | 13.497 | 16.218 | 18.415 | 18.520 |
| 89.0 | 5.755 | 9.103 | 12.033 | 14.230 | 13.707 |
| 89.5 | 2.825 | 5.441 | 7.638 | 8.998 | 8.475 |
| 90.0 | 2.511 | 3.976 | 4.918 | 5.232 | 4.290 |
| 90.5 | 2.825 | 5.859 | 7.952 | 8.475 | 8.370 |
| 91.0 | 5.755 | 7.220 | 9.208 | 10.986 | 11.091 |
| 91.5 | 10.045 | 9.626 | 10.568 | 11.823 | 11.928 |
| 92.0 | 14.962 | 12.974 | 12.556 | 13.497 | 13.497 |
| 92.5 | 19.985 | 16.636 | 14.648 | 15.381 | 15.381 |
| 93.0 | 25.007 | 20.717 | 17.055 | 17.369 | 17.264 |
| 93.5 | 30.134 | 24.798 | 20.089 | 19.461 | 19.357 |
| 94.0 | 35.261 | 28.878 | 23.542 | 21.659 | 21.449 |
| 94.5 | 40.388 | 33.168 | 27.309 | 24.065 | 23.647 |
| 95.0 | 45.515 | 37.667 | 31.389 | 26.890 | 25.949 |
| 95.5 | 50.537 | 42.376 | 35.575 | 30.029 | 28.669 |
| 96.0 | 55.664 | 47.293 | 39.655 | 33.482 | 31.703 |
| 96.5 | 60.686 | 52.316 | 43.631 | 37.249 | 34.947 |
| 97.0 | 65.813 | 57.442 | 47.398 | 41.225 | 38.714 |
| 97.5 | 70.940 | 62.465 | 51.165 | 45.305 | 42.585 |
| 98.0 | 76.067 | 67.592 | 55.036 | 49.281 | 46.561 |
| 98.5 | 81.194 | 72.614 | 58.803 | 53.153 | 50.537 |
| 99.0 | 86.321 | 77.741 | 62.569 | 56.919 | 54.408 |
| 99.5 | 91.448 | 82.868 | 66.545 | 60.686 | 58.280 |
| 100.0 | 96.575 | 87.995 | 70.521 | 64.348 | 61.942 |
| 100.5 | 101.806 | 93.226 | 74.602 | 68.115 | 65.708 |
| 101.0 | 106.933 | 98.458 | 78.787 | 71.882 | 69.475 |
| 101.5 | 112.269 | 103.689 | 82.972 | 75.753 | 73.242 |
| 102.0 | 117.605 | 109.026 | 87.472 | 79.520 | 77.113 |
| 102.5 | 123.151 | 114.466 | 91.971 | 83.391 | 80.984 |
| 103.0 | 128.696 | 120.012 | 96.470 | 87.367 | 84.751 |
| 103.5 | 134.451 | 125.662 | 101.178 | 91.448 | 88.727 |
| 104.0 | 140.310 | 131.417 | 106.096 | 95.528 | 92.808 |
| 104.5 | 146.065 | 137.276 | 111.014 | 99.818 | 96.993 |
| 105.0 | 151.924 | 143.240 | 116.141 | 104.108 | 101.283 |
| 105.5 | 157.888 | 149.309 | 121.372 | 108.502 | 105.573 |
| 106.0 | 164.062 | 155.482 | 126.813 | 113.002 | 110.072 |
| 106.5 | 170.444 | 161.864 | 132.463 | 117.710 | 114.571 |
| 107.0 | 177.036 | 168.456 | 138.322 | 122.418 | 119.279 |
| 107.5 | 183.732 | 175.152 | 144.391 | 127.336 | 123.988 |
| 108.0 | 190.742 | 182.058 | 150.564 | 132.463 | 128.906 |
| 108.5 | 197.962 | 189.173 | 157.051 | 137.799 | 133.928 |
| 109.0 | 205.391 | 196.497 | 163.643 | 143.240 | 139.159 |
| 109.5 | 212.924 | 203.926 | 170.549 | 148.890 | 144.600 |
| 110.0 | 220.876 | 211.669 | 177.664 | 154.749 | 150.146 |
| 110.5 | 228.933 | 219.725 | 185.092 | 160.923 | 155.900 |

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CANDELA TABULATION - (Cont.)

| | | | | | |
|-------|----------|----------|---------|---------|---------|
| 111.0 | 237.408 | 227.887 | 192.835 | 167.305 | 161.864 |
| 111.5 | 245.988 | 236.362 | 200.892 | 174.106 | 168.142 |
| 112.0 | 255.091 | 245.255 | 209.262 | 181.116 | 174.839 |
| 112.5 | 264.403 | 254.358 | 217.947 | 188.545 | 181.640 |
| 113.0 | 274.029 | 263.880 | 227.049 | 196.183 | 188.859 |
| 113.5 | 283.969 | 273.610 | 236.466 | 204.135 | 196.183 |
| 114.0 | 294.327 | 283.655 | 246.197 | 212.506 | 204.135 |
| 114.5 | 304.895 | 294.013 | 256.346 | 221.295 | 212.297 |
| 115.0 | 315.881 | 304.790 | 266.809 | 230.398 | 220.981 |
| 115.5 | 327.181 | 315.881 | 277.796 | 239.919 | 229.875 |
| 116.0 | 338.691 | 327.286 | 289.096 | 249.964 | 239.291 |
| 116.5 | 350.619 | 339.109 | 300.814 | 260.531 | 249.022 |
| 117.0 | 363.070 | 351.037 | 312.952 | 271.413 | 259.381 |
| 117.5 | 375.835 | 363.488 | 325.403 | 282.818 | 270.158 |
| 118.0 | 389.018 | 376.149 | 338.272 | 294.641 | 281.248 |
| 118.5 | 402.516 | 389.332 | 351.561 | 306.778 | 292.758 |
| 119.0 | 416.327 | 402.830 | 365.058 | 319.334 | 304.790 |
| 119.5 | 430.348 | 416.641 | 379.078 | 332.518 | 317.242 |
| 120.0 | 444.473 | 430.871 | 393.518 | 346.015 | 330.111 |
| 120.5 | 459.017 | 445.415 | 408.271 | 360.036 | 343.399 |
| 121.0 | 473.874 | 460.377 | 423.442 | 374.579 | 357.211 |
| 121.5 | 489.150 | 475.653 | 438.927 | 389.646 | 371.650 |
| 122.0 | 504.740 | 491.348 | 454.831 | 405.027 | 386.507 |
| 122.5 | 520.749 | 507.147 | 471.049 | 421.036 | 401.993 |
| 123.0 | 537.071 | 523.260 | 487.476 | 437.358 | 417.792 |
| 123.5 | 553.603 | 539.583 | 504.217 | 453.994 | 434.010 |
| 124.0 | 570.240 | 556.219 | 521.168 | 471.049 | 450.646 |
| 124.5 | 587.190 | 572.855 | 538.327 | 488.627 | 467.806 |
| 125.0 | 604.140 | 589.806 | 555.800 | 506.519 | 485.593 |
| 125.5 | 620.986 | 606.860 | 573.378 | 524.830 | 503.589 |
| 126.0 | 637.727 | 624.020 | 591.061 | 543.349 | 521.795 |
| 126.5 | 654.572 | 641.179 | 608.744 | 562.183 | 540.420 |
| 127.0 | 671.732 | 658.548 | 626.740 | 581.226 | 559.567 |
| 127.5 | 688.996 | 675.917 | 644.632 | 600.478 | 578.819 |
| 128.0 | 706.155 | 693.495 | 662.524 | 619.730 | 598.281 |
| 128.5 | 723.210 | 710.864 | 680.311 | 638.982 | 617.742 |
| 129.0 | 739.847 | 728.128 | 697.889 | 658.339 | 637.308 |
| 129.5 | 756.692 | 745.287 | 715.467 | 677.591 | 657.188 |
| 130.0 | 771.340 | 761.819 | 732.836 | 696.948 | 677.277 |
| 130.5 | 785.152 | 776.049 | 749.996 | 716.095 | 697.157 |
| 131.0 | 801.056 | 791.953 | 765.272 | 735.033 | 717.142 |
| 131.5 | 817.064 | 807.647 | 781.071 | 752.925 | 737.021 |
| 132.0 | 832.759 | 823.761 | 795.615 | 770.399 | 754.704 |
| 132.5 | 848.454 | 839.560 | 811.833 | 788.186 | 774.166 |
| 133.0 | 863.939 | 854.941 | 827.946 | 803.776 | 793.313 |
| 133.5 | 878.901 | 870.531 | 843.745 | 820.831 | 809.740 |
| 134.0 | 893.445 | 885.388 | 859.440 | 837.677 | 828.260 |
| 134.5 | 907.884 | 900.246 | 874.611 | 854.208 | 846.256 |
| 135.0 | 921.381 | 914.371 | 889.783 | 870.426 | 863.625 |
| 135.5 | 935.088 | 928.392 | 904.641 | 886.016 | 880.261 |
| 136.0 | 948.376 | 942.098 | 919.080 | 901.606 | 896.689 |
| 136.5 | 960.827 | 955.596 | 933.309 | 916.464 | 912.802 |
| 137.0 | 973.174 | 968.361 | 947.644 | 931.531 | 928.287 |
| 137.5 | 985.206 | 981.335 | 960.618 | 945.970 | 943.459 |
| 138.0 | 997.239 | 993.682 | 974.116 | 959.990 | 957.898 |
| 138.5 | 1009.062 | 1006.028 | 986.776 | 973.488 | 971.604 |

IES INDOOR REPORT
PHOTOMETRIC FILENAME : MX2UD-4-00-P8-835U-P8-835D-F-F-POE X.IES

CANDELA TABULATION - (Cont.)

| | | | | | |
|-------|----------|----------|----------|----------|----------|
| 139.0 | 1019.839 | 1017.956 | 999.018 | 986.881 | 985.520 |
| 139.5 | 1030.721 | 1029.675 | 1011.260 | 999.541 | 998.495 |
| 140.0 | 1041.498 | 1040.452 | 1022.769 | 1012.515 | 1011.364 |
| 140.5 | 1051.543 | 1051.543 | 1034.174 | 1024.548 | 1023.501 |
| 141.0 | 1062.006 | 1062.006 | 1045.788 | 1036.476 | 1035.325 |
| 141.5 | 1071.422 | 1072.469 | 1056.774 | 1048.404 | 1047.357 |
| 142.0 | 1080.839 | 1082.932 | 1068.284 | 1058.867 | 1058.867 |
| 142.5 | 1090.256 | 1092.349 | 1077.700 | 1070.376 | 1069.330 |
| 143.0 | 1099.673 | 1101.766 | 1088.163 | 1080.839 | 1080.839 |
| 143.5 | 1108.043 | 1111.182 | 1098.627 | 1091.302 | 1091.302 |
| 144.0 | 1116.414 | 1119.553 | 1108.043 | 1101.766 | 1101.766 |
| 144.5 | 1124.784 | 1128.970 | 1116.414 | 1112.229 | 1112.229 |
| 145.0 | 1133.155 | 1137.340 | 1125.831 | 1121.645 | 1122.692 |
| 145.5 | 1141.525 | 1145.711 | 1134.201 | 1131.062 | 1133.155 |
| 146.0 | 1148.850 | 1154.081 | 1142.572 | 1140.479 | 1142.572 |
| 146.5 | 1157.220 | 1161.405 | 1150.942 | 1149.896 | 1153.035 |
| 147.0 | 1164.544 | 1168.729 | 1159.313 | 1158.266 | 1161.405 |
| 147.5 | 1170.822 | 1177.100 | 1166.637 | 1166.637 | 1170.822 |
| 148.0 | 1179.193 | 1184.424 | 1175.007 | 1175.007 | 1179.193 |
| 148.5 | 1186.517 | 1191.748 | 1182.331 | 1182.331 | 1187.563 |
| 149.0 | 1193.841 | 1199.072 | 1189.656 | 1189.656 | 1194.887 |
| 149.5 | 1200.119 | 1206.397 | 1196.980 | 1196.980 | 1202.211 |
| 150.0 | 1207.443 | 1212.674 | 1204.304 | 1203.258 | 1208.489 |
| 150.5 | 1213.721 | 1219.999 | 1211.628 | 1209.536 | 1214.767 |
| 151.0 | 1219.999 | 1226.277 | 1218.952 | 1216.860 | 1221.045 |
| 151.5 | 1227.323 | 1233.601 | 1225.230 | 1223.138 | 1226.277 |
| 152.0 | 1233.601 | 1239.879 | 1232.554 | 1229.415 | 1231.508 |
| 152.5 | 1239.879 | 1246.156 | 1239.879 | 1235.693 | 1237.786 |
| 153.0 | 1246.156 | 1252.434 | 1246.156 | 1241.971 | 1243.017 |
| 153.5 | 1252.434 | 1257.666 | 1252.434 | 1248.249 | 1248.249 |
| 154.0 | 1257.666 | 1263.944 | 1258.712 | 1254.527 | 1253.481 |
| 154.5 | 1263.944 | 1270.222 | 1264.990 | 1260.805 | 1259.758 |
| 155.0 | 1269.175 | 1275.453 | 1271.268 | 1267.083 | 1264.990 |
| 155.5 | 1274.407 | 1280.685 | 1277.546 | 1273.361 | 1271.268 |
| 156.0 | 1279.638 | 1285.916 | 1282.777 | 1279.638 | 1277.546 |
| 156.5 | 1284.870 | 1291.148 | 1289.055 | 1285.916 | 1283.824 |
| 157.0 | 1289.055 | 1296.379 | 1294.287 | 1292.194 | 1289.055 |
| 157.5 | 1294.287 | 1301.611 | 1299.518 | 1298.472 | 1295.333 |
| 158.0 | 1299.518 | 1306.842 | 1304.750 | 1303.704 | 1301.611 |
| 158.5 | 1304.750 | 1311.028 | 1309.981 | 1309.981 | 1306.842 |
| 159.0 | 1308.935 | 1316.259 | 1314.167 | 1315.213 | 1312.074 |
| 159.5 | 1313.120 | 1320.445 | 1319.398 | 1321.491 | 1318.352 |
| 160.0 | 1317.306 | 1324.630 | 1324.630 | 1326.722 | 1323.583 |
| 160.5 | 1321.491 | 1328.815 | 1328.815 | 1330.908 | 1328.815 |
| 161.0 | 1325.676 | 1333.000 | 1333.000 | 1336.139 | 1334.047 |
| 161.5 | 1329.861 | 1337.185 | 1337.185 | 1340.324 | 1338.232 |
| 162.0 | 1334.047 | 1341.371 | 1341.371 | 1344.510 | 1343.463 |
| 162.5 | 1338.232 | 1345.556 | 1345.556 | 1348.695 | 1347.649 |
| 163.0 | 1342.417 | 1348.695 | 1349.741 | 1352.880 | 1351.834 |
| 163.5 | 1346.602 | 1352.880 | 1352.880 | 1356.019 | 1354.973 |
| 164.0 | 1350.788 | 1357.065 | 1357.065 | 1359.158 | 1359.158 |
| 164.5 | 1353.926 | 1361.251 | 1360.204 | 1362.297 | 1362.297 |
| 165.0 | 1358.112 | 1364.390 | 1363.343 | 1365.436 | 1365.436 |
| 165.5 | 1361.251 | 1367.529 | 1365.436 | 1368.575 | 1368.575 |
| 166.0 | 1365.436 | 1371.714 | 1368.575 | 1370.667 | 1371.714 |
| 166.5 | 1368.575 | 1374.853 | 1370.667 | 1373.806 | 1373.806 |

IES INDOOR REPORT
PHOTOMETRIC FILENAME : MX2UD-4-00-P8-835U-P8-835D-F-F-POE X.IES

CANDELA TABULATION - (Cont.)

| | | | | | |
|-------|----------|----------|----------|----------|----------|
| 167.0 | 1371.714 | 1377.992 | 1373.806 | 1376.945 | 1377.992 |
| 167.5 | 1374.853 | 1381.131 | 1375.899 | 1379.038 | 1380.084 |
| 168.0 | 1377.992 | 1383.223 | 1379.038 | 1382.177 | 1382.177 |
| 168.5 | 1381.131 | 1386.362 | 1381.131 | 1384.269 | 1385.316 |
| 169.0 | 1383.223 | 1388.455 | 1383.223 | 1387.408 | 1388.455 |
| 169.5 | 1386.362 | 1391.594 | 1385.316 | 1389.501 | 1390.547 |
| 170.0 | 1388.455 | 1393.686 | 1387.408 | 1391.594 | 1393.686 |
| 170.5 | 1391.594 | 1395.779 | 1389.501 | 1393.686 | 1395.779 |
| 171.0 | 1393.686 | 1397.872 | 1390.547 | 1395.779 | 1397.872 |
| 171.5 | 1394.733 | 1398.918 | 1392.640 | 1397.872 | 1401.010 |
| 172.0 | 1397.872 | 1401.010 | 1394.733 | 1399.964 | 1403.103 |
| 172.5 | 1398.918 | 1403.103 | 1395.779 | 1402.057 | 1405.196 |
| 173.0 | 1401.010 | 1404.149 | 1397.872 | 1403.103 | 1407.288 |
| 173.5 | 1403.103 | 1406.242 | 1398.918 | 1404.149 | 1409.381 |
| 174.0 | 1404.149 | 1407.288 | 1399.964 | 1406.242 | 1410.427 |
| 174.5 | 1406.242 | 1408.335 | 1402.057 | 1407.288 | 1411.474 |
| 175.0 | 1407.288 | 1409.381 | 1403.103 | 1408.335 | 1412.520 |
| 175.5 | 1408.335 | 1410.427 | 1403.103 | 1409.381 | 1413.566 |
| 176.0 | 1410.427 | 1411.474 | 1405.196 | 1410.427 | 1414.613 |
| 176.5 | 1411.474 | 1412.520 | 1405.196 | 1410.427 | 1414.613 |
| 177.0 | 1411.474 | 1412.520 | 1406.242 | 1411.474 | 1414.613 |
| 177.5 | 1412.520 | 1413.566 | 1407.288 | 1411.474 | 1414.613 |
| 178.0 | 1413.566 | 1414.613 | 1407.288 | 1411.474 | 1415.659 |
| 178.5 | 1414.613 | 1414.613 | 1408.335 | 1412.520 | 1414.613 |
| 179.0 | 1414.613 | 1414.613 | 1408.335 | 1412.520 | 1414.613 |
| 179.5 | 1414.613 | 1414.613 | 1409.381 | 1412.520 | 1414.613 |
| 180.0 | 1412.520 | 1412.520 | 1412.520 | 1412.520 | 1412.520 |

IES INDOOR REPORT
PHOTOMETRIC FILENAME : MX2UD-4-00-P8-835U-P8-835D-F-F-POE X.IES

ZONAL LUMEN SUMMARY

| Zone | Lumens | %Lamp | %Fixt |
|---------|---------|-------|--------|
| 0-20 | 500.72 | N.A. | 7.60 |
| 0-30 | 1028.7 | N.A. | 15.70 |
| 0-40 | 1610.43 | N.A. | 24.60 |
| 0-60 | 2592.34 | N.A. | 39.60 |
| 0-80 | 3076.43 | N.A. | 47.00 |
| 0-90 | 3127.43 | N.A. | 47.70 |
| 10-90 | 2995.41 | N.A. | 45.70 |
| 20-40 | 1109.71 | N.A. | 16.90 |
| 20-50 | 1649.2 | N.A. | 25.20 |
| 40-70 | 1294.59 | N.A. | 19.80 |
| 60-80 | 484.10 | N.A. | 7.40 |
| 70-80 | 171.42 | N.A. | 2.60 |
| 80-90 | 51.00 | N.A. | 0.80 |
| 90-110 | 170.10 | N.A. | 2.60 |
| 90-120 | 440.51 | N.A. | 6.70 |
| 90-130 | 933.25 | N.A. | 14.20 |
| 90-150 | 2320.51 | N.A. | 35.40 |
| 90-180 | 3424.87 | N.A. | 52.30 |
| 110-180 | 3254.77 | N.A. | 49.70 |
| 0-180 | 6552.3 | N.A. | 100.00 |

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

| Zone | Lumens |
|---------|--------|
| 0-10 | 132.02 |
| 10-20 | 368.69 |
| 20-30 | 527.99 |
| 30-40 | 581.72 |
| 40-50 | 539.49 |
| 50-60 | 442.43 |
| 60-70 | 312.68 |
| 70-80 | 171.42 |
| 80-90 | 51.00 |
| 90-100 | 38.67 |
| 100-110 | 131.43 |
| 110-120 | 270.41 |
| 120-130 | 492.74 |
| 130-140 | 683.35 |
| 140-150 | 703.92 |
| 150-160 | 585.59 |
| 160-170 | 384.93 |
| 170-180 | 133.83 |

IES INDOOR REPORT
PHOTOMETRIC FILENAME : MX2UD-4-00-P8-835U-P8-835D-F-F-POE X.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 | 107 | 107 | 107 | 107 | 98 | 98 | 98 | 98 | 82 | 82 | 82 | 67 | 67 | 67 | 54 | 54 | 54 | 48 |
| 1 | 98 | 93 | 90 | 86 | 90 | 86 | 83 | 80 | 72 | 70 | 68 | 60 | 58 | 57 | 48 | 47 | 46 | 41 |
| 2 | 89 | 82 | 76 | 71 | 82 | 76 | 70 | 66 | 64 | 60 | 57 | 53 | 50 | 48 | 43 | 41 | 39 | 35 |
| 3 | 81 | 72 | 65 | 59 | 75 | 67 | 60 | 55 | 56 | 52 | 48 | 47 | 44 | 41 | 38 | 36 | 34 | 30 |
| 4 | 75 | 64 | 56 | 50 | 68 | 59 | 53 | 47 | 50 | 45 | 41 | 42 | 38 | 35 | 34 | 32 | 29 | 26 |
| 5 | 69 | 57 | 49 | 43 | 63 | 53 | 46 | 41 | 45 | 40 | 36 | 38 | 34 | 31 | 31 | 28 | 26 | 23 |
| 6 | 63 | 51 | 44 | 38 | 58 | 48 | 41 | 36 | 41 | 35 | 31 | 34 | 30 | 27 | 28 | 25 | 23 | 20 |
| 7 | 59 | 47 | 39 | 33 | 54 | 43 | 36 | 31 | 37 | 32 | 28 | 31 | 27 | 24 | 26 | 23 | 20 | 18 |
| 8 | 54 | 42 | 35 | 29 | 50 | 39 | 33 | 28 | 34 | 29 | 25 | 29 | 25 | 22 | 24 | 21 | 18 | 16 |
| 9 | 51 | 39 | 31 | 26 | 47 | 36 | 29 | 25 | 31 | 26 | 22 | 26 | 22 | 19 | 22 | 19 | 17 | 15 |
| 10 | 47 | 36 | 28 | 24 | 44 | 33 | 27 | 22 | 29 | 24 | 20 | 25 | 20 | 18 | 21 | 17 | 15 | 13 |

IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX2UD-4-00-P8-835U-P8-835D-F-F-POE X.IES

UGR TABLE - CORRECTED

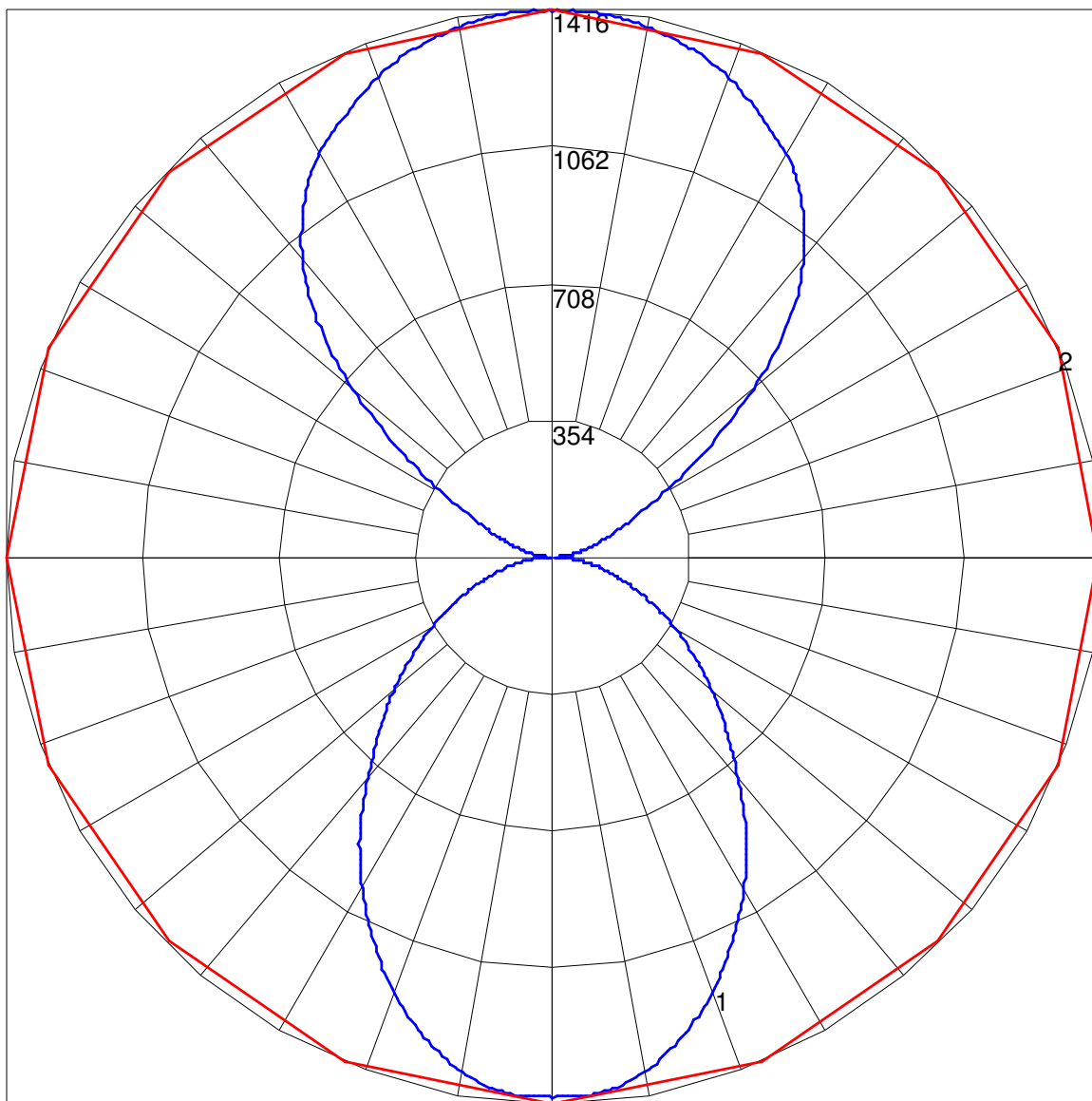
Reflectances

| | | | | | | | | | | |
|----------------|----|----|----|----|----|----|----|----|----|----|
| Ceiling Cavity | 70 | 70 | 50 | 50 | 30 | 70 | 70 | 50 | 50 | 30 |
| Walls | 50 | 30 | 50 | 30 | 30 | 50 | 30 | 50 | 30 | 30 |
| Floor Cavity | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |

| Room Size | | UGR Viewed Crosswise | | | | | UGR Viewed Endwise | | | | |
|-----------|------|----------------------|------|------|------|------|--------------------|------|------|------|------|
| X=2H | Y=2H | 14.6 | 15.5 | 15.6 | 16.4 | 17.7 | 13.5 | 14.3 | 14.5 | 15.3 | 16.6 |
| | 3H | 16.2 | 16.9 | 17.1 | 17.9 | 19.2 | 15.0 | 15.7 | 16.0 | 16.7 | 18.1 |
| | 4H | 16.7 | 17.4 | 17.7 | 18.4 | 19.7 | 15.5 | 16.2 | 16.5 | 17.2 | 18.5 |
| | 6H | 17.0 | 17.6 | 18.0 | 18.6 | 20.0 | 15.9 | 16.5 | 16.9 | 17.5 | 18.9 |
| | 8H | 17.1 | 17.7 | 18.1 | 18.7 | 20.0 | 16.0 | 16.6 | 17.0 | 17.6 | 19.0 |
| | 12H | 17.1 | 17.7 | 18.1 | 18.7 | 20.1 | 16.1 | 16.7 | 17.1 | 17.7 | 19.0 |
| 4H | 2H | 14.7 | 15.4 | 15.7 | 16.4 | 17.7 | 13.7 | 14.4 | 14.7 | 15.4 | 16.7 |
| | 3H | 16.3 | 16.9 | 17.4 | 18.0 | 19.3 | 15.3 | 15.9 | 16.3 | 16.9 | 18.3 |
| | 4H | 16.9 | 17.5 | 18.0 | 18.5 | 19.9 | 15.9 | 16.4 | 16.9 | 17.5 | 18.8 |
| | 6H | 17.3 | 17.8 | 18.4 | 18.8 | 20.2 | 16.4 | 16.8 | 17.4 | 17.9 | 19.2 |
| | 8H | 17.4 | 17.9 | 18.5 | 18.9 | 20.3 | 16.5 | 16.9 | 17.5 | 18.0 | 19.3 |
| | 12H | 17.5 | 17.9 | 18.5 | 18.9 | 20.3 | 16.6 | 17.0 | 17.7 | 18.0 | 19.4 |
| 8H | 4H | 16.9 | 17.3 | 17.9 | 18.4 | 19.7 | 15.9 | 16.3 | 16.9 | 17.4 | 18.8 |
| | 6H | 17.3 | 17.7 | 18.4 | 18.8 | 20.2 | 16.4 | 16.8 | 17.5 | 17.9 | 19.2 |
| | 8H | 17.5 | 17.8 | 18.6 | 18.9 | 20.3 | 16.6 | 16.9 | 17.7 | 18.0 | 19.4 |
| | 12H | 17.6 | 17.8 | 18.6 | 18.9 | 20.3 | 16.7 | 17.0 | 17.8 | 18.1 | 19.5 |
| 12H | 4H | 16.8 | 17.2 | 17.9 | 18.3 | 19.7 | 15.9 | 16.3 | 16.9 | 17.3 | 18.7 |
| | 6H | 17.3 | 17.6 | 18.4 | 18.7 | 20.1 | 16.4 | 16.7 | 17.5 | 17.8 | 19.2 |
| | 8H | 17.5 | 17.7 | 18.5 | 18.8 | 20.2 | 16.6 | 16.9 | 17.7 | 17.9 | 19.4 |

Maximum UGR = 20.3

POLAR GRAPH



Maximum Candela = 1415.659 Located At Horizontal Angle = 90, Vertical Angle = 178
1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (178) (Through Max. Cd.)