



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX2D-4-00-L8-8TW-FW-DIM-UNV 4000K\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #15034137.01

[TESTLAB] UL Verification Services Inc.

[ISSUE DATE] 4 DEC 2023

[TEST DATE] 11/2/2023

[MANUFAC] H E Williams Inc

[LUMCAT] MX2D-4-00-L8-8TW-S-FW-DIM-UNV 4000k

[LUMINAIRE] Long white metal housing with plastic frosted lens

[LAMP] 144 LEDs

[BALLAST] eldoLED Optotronic OTI50/120-277/1A4 DIM-1 L G2 #57452

[OTHER] 24.9 C, 119.981 V, 0.338283 A, 39.9716 W, 0.984824 PF, 60.0072 Hz

[OTHER] This test was performed using the calibrated photodetector method

[MORE] of absolute photometry.

### CHARACTERISTICS

|                                 |                 |
|---------------------------------|-----------------|
| Lumens Per Lamp                 | N.A. (absolute) |
| Total Lamp Lumens               | N.A. (absolute) |
| Luminaire Lumens                | 3140            |
| Total Luminaire Efficiency      | N.A.            |
| Luminaire Efficacy Rating (LER) | 78              |
| Total Luminaire Watts           | 40.4            |
| Ballast Factor                  | 1.00            |
| CIE Type                        | Direct          |
| Spacing Criterion (0-180)       | 1.20            |
| Spacing Criterion (90-270)      | 1.46            |
| Spacing Criterion (Diagonal)    | 1.46            |
| Basic Luminous Shape            | Rectangular     |
| Luminous Length (0-180)         | 4.00 ft         |
| Luminous Width (90-270)         | 0.17 ft         |
| Luminous Height                 | 0.00 ft         |

### LUMINANCE DATA (cd/sq.m)

| Angle In<br>Degrees | Average<br>0-Deg | Average<br>45-Deg | Average<br>90-Deg |
|---------------------|------------------|-------------------|-------------------|
| 45                  | 14019            | 17852             | 18545             |
| 55                  | 13127            | 16834             | 16981             |
| 65                  | 12066            | 15649             | 15350             |
| 75                  | 10067            | 12933             | 12537             |
| 85                  | 5909             | 7843              | 7843              |

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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  | 1038.904   | 1038.904    | 1038.904    | 1038.904    | 1038.904    |
| 0.5  | 1055.181   | 1041.027    | 1034.657    | 1037.488    | 1030.411    |
| 1.0  | 1055.181   | 1041.027    | 1035.365    | 1038.196    | 1031.119    |
| 1.5  | 1054.473   | 1040.319    | 1035.365    | 1038.904    | 1031.827    |
| 2.0  | 1054.473   | 1040.319    | 1035.365    | 1039.611    | 1032.534    |
| 2.5  | 1053.765   | 1040.319    | 1036.073    | 1040.319    | 1033.950    |
| 3.0  | 1053.058   | 1039.611    | 1036.073    | 1041.734    | 1035.365    |
| 3.5  | 1052.350   | 1038.904    | 1036.781    | 1042.442    | 1036.781    |
| 4.0  | 1051.642   | 1038.196    | 1036.781    | 1043.858    | 1038.196    |
| 4.5  | 1050.227   | 1037.488    | 1036.781    | 1045.273    | 1039.611    |
| 5.0  | 1048.811   | 1036.781    | 1037.488    | 1046.688    | 1041.027    |
| 5.5  | 1047.396   | 1036.073    | 1038.196    | 1048.104    | 1043.150    |
| 6.0  | 1045.981   | 1035.365    | 1038.196    | 1049.519    | 1044.565    |
| 6.5  | 1044.565   | 1033.950    | 1038.904    | 1050.935    | 1046.688    |
| 7.0  | 1042.442   | 1033.242    | 1038.904    | 1052.350    | 1048.811    |
| 7.5  | 1040.319   | 1031.827    | 1038.904    | 1054.473    | 1050.935    |
| 8.0  | 1038.904   | 1030.411    | 1039.611    | 1055.888    | 1053.765    |
| 8.5  | 1036.073   | 1029.704    | 1039.611    | 1058.012    | 1055.888    |
| 9.0  | 1033.950   | 1028.288    | 1039.611    | 1059.427    | 1058.719    |
| 9.5  | 1031.827   | 1026.873    | 1040.319    | 1061.550    | 1060.842    |
| 10.0 | 1028.996   | 1024.750    | 1040.319    | 1062.965    | 1062.965    |
| 10.5 | 1026.165   | 1023.334    | 1040.319    | 1064.381    | 1065.089    |
| 11.0 | 1023.334   | 1021.211    | 1040.319    | 1066.504    | 1067.212    |
| 11.5 | 1020.503   | 1019.088    | 1040.319    | 1067.919    | 1070.042    |
| 12.0 | 1017.673   | 1017.673    | 1040.319    | 1070.042    | 1071.458    |
| 12.5 | 1014.134   | 1015.550    | 1040.319    | 1071.458    | 1074.289    |
| 13.0 | 1010.596   | 1013.426    | 1040.319    | 1072.873    | 1076.412    |
| 13.5 | 1007.057   | 1010.596    | 1040.319    | 1074.289    | 1078.535    |
| 14.0 | 1003.519   | 1008.473    | 1039.611    | 1075.704    | 1080.658    |
| 14.5 | 999.980    | 1005.642    | 1039.611    | 1077.119    | 1082.781    |
| 15.0 | 995.734    | 1003.519    | 1038.904    | 1078.535    | 1084.196    |
| 15.5 | 992.195    | 1000.688    | 1038.196    | 1079.950    | 1086.320    |
| 16.0 | 987.949    | 997.857     | 1038.196    | 1081.366    | 1088.443    |
| 16.5 | 983.703    | 995.026     | 1037.488    | 1082.073    | 1089.858    |
| 17.0 | 979.457    | 992.195     | 1036.073    | 1082.781    | 1091.273    |
| 17.5 | 975.211    | 989.365     | 1035.365    | 1083.489    | 1092.689    |
| 18.0 | 970.964    | 986.534     | 1034.657    | 1084.196    | 1093.397    |
| 18.5 | 966.011    | 982.995     | 1033.950    | 1084.904    | 1094.104    |
| 19.0 | 961.057    | 979.457     | 1032.534    | 1084.904    | 1094.812    |
| 19.5 | 956.103    | 975.918     | 1031.119    | 1084.904    | 1094.104    |
| 20.0 | 951.149    | 972.380     | 1029.704    | 1084.196    | 1094.104    |
| 20.5 | 946.195    | 968.841     | 1028.288    | 1083.489    | 1093.397    |
| 21.0 | 940.533    | 965.303     | 1026.873    | 1082.781    | 1092.689    |
| 21.5 | 935.579    | 961.057     | 1025.457    | 1082.073    | 1091.273    |
| 22.0 | 929.918    | 956.810     | 1023.334    | 1080.658    | 1089.858    |
| 22.5 | 924.256    | 952.564     | 1021.211    | 1079.243    | 1089.150    |
| 23.0 | 919.302    | 948.318     | 1019.796    | 1077.119    | 1087.735    |
| 23.5 | 912.933    | 944.072     | 1016.965    | 1074.996    | 1086.320    |
| 24.0 | 907.271    | 939.118     | 1014.842    | 1073.581    | 1084.904    |
| 24.5 | 901.610    | 934.872     | 1012.011    | 1071.458    | 1082.781    |
| 25.0 | 895.948    | 929.918     | 1009.180    | 1069.335    | 1080.658    |
| 25.5 | 890.287    | 924.964     | 1006.349    | 1067.212    | 1077.827    |
| 26.0 | 883.917    | 920.010     | 1003.519    | 1065.089    | 1075.704    |
| 26.5 | 877.548    | 915.056     | 999.980     | 1062.965    | 1072.873    |

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**CANDELA TABULATION - (Cont.)**

|      |         |         |         |          |          |
|------|---------|---------|---------|----------|----------|
| 27.0 | 871.886 | 910.102 | 996.442 | 1060.135 | 1070.042 |
| 27.5 | 865.517 | 904.441 | 993.611 | 1057.304 | 1067.212 |
| 28.0 | 859.148 | 899.487 | 990.072 | 1054.473 | 1063.673 |
| 28.5 | 852.779 | 893.825 | 986.534 | 1051.642 | 1060.135 |
| 29.0 | 846.409 | 888.871 | 982.995 | 1048.104 | 1056.596 |
| 29.5 | 840.040 | 883.210 | 979.457 | 1044.565 | 1053.058 |
| 30.0 | 832.963 | 877.548 | 975.211 | 1040.319 | 1048.811 |
| 30.5 | 826.594 | 872.594 | 970.964 | 1036.073 | 1044.565 |
| 31.0 | 819.517 | 866.933 | 966.718 | 1031.119 | 1039.611 |
| 31.5 | 812.440 | 861.271 | 962.472 | 1026.165 | 1034.657 |
| 32.0 | 806.070 | 854.902 | 958.226 | 1021.211 | 1029.704 |
| 32.5 | 798.993 | 849.240 | 953.272 | 1016.257 | 1023.334 |
| 33.0 | 791.916 | 843.578 | 948.318 | 1010.596 | 1017.673 |
| 33.5 | 784.839 | 837.209 | 942.656 | 1004.934 | 1011.303 |
| 34.0 | 778.470 | 831.548 | 937.703 | 998.565  | 1004.226 |
| 34.5 | 771.393 | 825.178 | 932.041 | 992.195  | 997.149  |
| 35.0 | 764.316 | 818.809 | 926.379 | 985.826  | 990.072  |
| 35.5 | 757.239 | 812.440 | 920.718 | 978.749  | 982.995  |
| 36.0 | 749.454 | 805.363 | 914.348 | 971.672  | 975.211  |
| 36.5 | 742.377 | 798.993 | 907.979 | 964.595  | 967.426  |
| 37.0 | 735.300 | 791.916 | 901.610 | 957.518  | 959.641  |
| 37.5 | 728.223 | 784.839 | 895.241 | 949.733  | 951.149  |
| 38.0 | 720.439 | 777.762 | 888.164 | 941.949  | 943.364  |
| 38.5 | 713.362 | 770.685 | 881.087 | 934.164  | 934.872  |
| 39.0 | 705.577 | 762.901 | 874.717 | 926.379  | 926.379  |
| 39.5 | 698.005 | 755.824 | 867.640 | 917.887  | 917.887  |
| 40.0 | 690.574 | 748.747 | 860.563 | 909.395  | 908.687  |
| 40.5 | 683.214 | 740.962 | 853.486 | 900.902  | 899.487  |
| 41.0 | 675.570 | 733.885 | 846.409 | 892.410  | 890.994  |
| 41.5 | 668.352 | 726.808 | 838.625 | 883.917  | 881.087  |
| 42.0 | 660.780 | 719.731 | 831.548 | 875.425  | 871.886  |
| 42.5 | 653.278 | 711.946 | 823.763 | 866.225  | 862.686  |
| 43.0 | 645.705 | 704.515 | 815.978 | 857.025  | 852.779  |
| 43.5 | 638.345 | 697.155 | 808.193 | 847.825  | 843.578  |
| 44.0 | 630.985 | 689.795 | 800.409 | 838.625  | 834.378  |
| 44.5 | 623.271 | 682.435 | 791.916 | 830.132  | 824.471  |
| 45.0 | 615.770 | 674.863 | 784.132 | 820.224  | 814.563  |
| 45.5 | 608.480 | 667.290 | 775.639 | 811.024  | 805.363  |
| 46.0 | 600.696 | 659.506 | 767.147 | 801.824  | 795.455  |
| 46.5 | 593.265 | 651.792 | 758.654 | 791.916  | 785.547  |
| 47.0 | 585.551 | 643.936 | 750.162 | 782.716  | 775.639  |
| 47.5 | 577.908 | 636.081 | 740.962 | 772.808  | 765.024  |
| 48.0 | 570.052 | 628.084 | 732.470 | 762.901  | 755.116  |
| 48.5 | 562.126 | 619.945 | 723.269 | 752.993  | 744.500  |
| 49.0 | 554.625 | 611.948 | 714.069 | 743.085  | 734.593  |
| 49.5 | 549.458 | 603.810 | 705.294 | 732.470  | 723.977  |
| 50.0 | 543.301 | 595.388 | 695.881 | 722.562  | 713.362  |
| 50.5 | 537.569 | 586.896 | 686.611 | 712.654  | 702.534  |
| 51.0 | 529.855 | 578.616 | 677.057 | 701.755  | 691.706  |
| 51.5 | 522.070 | 570.194 | 667.573 | 691.211  | 680.878  |
| 52.0 | 514.286 | 561.702 | 657.878 | 680.524  | 670.121  |
| 52.5 | 506.359 | 553.068 | 648.041 | 670.050  | 659.364  |
| 53.0 | 498.504 | 548.114 | 638.345 | 659.364  | 648.536  |
| 53.5 | 490.790 | 541.957 | 628.721 | 648.819  | 637.425  |
| 54.0 | 483.076 | 534.101 | 618.884 | 638.204  | 626.739  |
| 54.5 | 475.291 | 525.538 | 609.330 | 627.588  | 615.911  |

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|      |         |         |         |         |         |
|------|---------|---------|---------|---------|---------|
| 55.0 | 467.719 | 517.116 | 599.776 | 617.114 | 605.013 |
| 55.5 | 460.005 | 508.766 | 590.080 | 606.711 | 594.468 |
| 56.0 | 452.574 | 500.344 | 580.809 | 596.096 | 583.994 |
| 56.5 | 444.931 | 492.135 | 571.185 | 585.622 | 573.025 |
| 57.0 | 437.359 | 483.925 | 561.418 | 575.077 | 562.692 |
| 57.5 | 429.857 | 475.716 | 552.077 | 564.603 | 552.218 |
| 58.0 | 422.426 | 467.436 | 545.637 | 554.978 | 545.071 |
| 58.5 | 414.783 | 459.227 | 537.994 | 547.052 | 536.507 |
| 59.0 | 407.140 | 451.017 | 528.581 | 538.489 | 527.378 |
| 59.5 | 399.709 | 442.737 | 518.815 | 529.360 | 516.975 |
| 60.0 | 392.349 | 434.528 | 509.049 | 518.956 | 506.784 |
| 60.5 | 385.060 | 426.177 | 499.212 | 508.482 | 496.381 |
| 61.0 | 377.629 | 417.968 | 489.375 | 498.008 | 485.836 |
| 61.5 | 370.198 | 409.688 | 479.608 | 487.535 | 475.362 |
| 62.0 | 362.696 | 401.337 | 469.913 | 476.848 | 464.747 |
| 62.5 | 355.053 | 392.986 | 460.005 | 466.162 | 454.131 |
| 63.0 | 347.410 | 384.493 | 450.168 | 455.688 | 443.728 |
| 63.5 | 339.979 | 376.001 | 440.402 | 445.073 | 433.395 |
| 64.0 | 332.265 | 367.509 | 430.494 | 434.811 | 422.992 |
| 64.5 | 324.551 | 358.945 | 420.657 | 424.266 | 413.014 |
| 65.0 | 316.767 | 350.382 | 410.820 | 414.005 | 402.964 |
| 65.5 | 309.123 | 341.607 | 400.771 | 403.743 | 392.844 |
| 66.0 | 301.339 | 332.902 | 390.721 | 393.410 | 382.866 |
| 66.5 | 293.696 | 324.197 | 380.530 | 382.936 | 372.816 |
| 67.0 | 285.840 | 315.422 | 370.339 | 372.392 | 362.555 |
| 67.5 | 277.843 | 306.646 | 360.078 | 361.989 | 352.364 |
| 68.0 | 270.058 | 297.871 | 349.675 | 351.444 | 341.890 |
| 68.5 | 262.132 | 289.308 | 339.413 | 340.616 | 331.204 |
| 69.0 | 254.135 | 280.391 | 328.868 | 329.717 | 320.517 |
| 69.5 | 246.209 | 271.615 | 318.253 | 318.819 | 309.831 |
| 70.0 | 238.283 | 262.627 | 307.779 | 308.203 | 299.216 |
| 70.5 | 230.498 | 253.923 | 297.234 | 297.588 | 288.812 |
| 71.0 | 222.713 | 245.360 | 286.902 | 286.972 | 278.621 |
| 71.5 | 214.716 | 236.655 | 276.640 | 276.640 | 268.431 |
| 72.0 | 206.931 | 228.162 | 266.520 | 266.520 | 258.381 |
| 72.5 | 199.288 | 219.741 | 256.470 | 256.400 | 248.615 |
| 73.0 | 191.716 | 211.390 | 246.563 | 246.421 | 238.920 |
| 73.5 | 184.144 | 203.039 | 236.726 | 236.726 | 229.366 |
| 74.0 | 176.500 | 194.901 | 227.101 | 227.030 | 220.024 |
| 74.5 | 169.140 | 186.833 | 217.476 | 217.547 | 210.824 |
| 75.0 | 161.851 | 178.694 | 207.922 | 207.993 | 201.553 |
| 75.5 | 154.491 | 170.626 | 198.581 | 198.368 | 192.424 |
| 76.0 | 147.202 | 162.559 | 189.097 | 189.027 | 183.365 |
| 76.5 | 140.125 | 154.703 | 179.897 | 179.685 | 174.448 |
| 77.0 | 133.048 | 146.635 | 170.626 | 170.343 | 165.460 |
| 77.5 | 125.971 | 138.780 | 161.356 | 161.073 | 156.614 |
| 78.0 | 118.823 | 130.854 | 152.297 | 151.943 | 147.909 |
| 78.5 | 111.675 | 122.927 | 143.238 | 142.885 | 139.205 |
| 79.0 | 104.598 | 115.284 | 134.392 | 133.897 | 130.571 |
| 79.5 | 97.733  | 107.570 | 125.617 | 125.121 | 122.361 |
| 80.0 | 91.081  | 100.069 | 117.124 | 116.487 | 114.081 |
| 80.5 | 84.429  | 92.567  | 108.703 | 108.137 | 106.084 |
| 81.0 | 77.776  | 85.349  | 100.423 | 99.856  | 98.016  |
| 81.5 | 71.336  | 78.342  | 92.355  | 91.789  | 90.444  |
| 82.0 | 65.038  | 71.548  | 84.429  | 84.004  | 82.872  |
| 82.5 | 59.093  | 64.896  | 76.785  | 76.573  | 75.582  |

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**CANDELA TABULATION - (Cont.)**

|       |        |        |        |        |        |
|-------|--------|--------|--------|--------|--------|
| 83.0  | 53.290 | 58.527 | 69.496 | 69.355 | 68.505 |
| 83.5  | 47.487 | 52.441 | 62.348 | 62.278 | 61.641 |
| 84.0  | 42.037 | 46.567 | 55.413 | 55.696 | 54.988 |
| 84.5  | 36.942 | 40.905 | 48.761 | 49.114 | 48.477 |
| 85.0  | 31.988 | 35.597 | 42.462 | 42.887 | 42.462 |
| 85.5  | 27.246 | 30.502 | 36.447 | 36.942 | 36.730 |
| 86.0  | 22.859 | 25.690 | 30.643 | 31.351 | 31.210 |
| 86.5  | 18.825 | 21.160 | 25.336 | 26.114 | 25.902 |
| 87.0  | 15.074 | 16.914 | 20.382 | 21.231 | 21.160 |
| 87.5  | 11.606 | 13.022 | 15.852 | 16.772 | 16.702 |
| 88.0  | 8.492  | 9.554  | 11.819 | 12.739 | 12.739 |
| 88.5  | 5.803  | 6.511  | 8.280  | 9.059  | 9.271  |
| 89.0  | 3.468  | 4.034  | 5.308  | 6.086  | 6.228  |
| 89.5  | 1.698  | 2.123  | 3.043  | 3.751  | 3.892  |
| 90.0  | 0.708  | 0.991  | 1.557  | 2.123  | 2.265  |
| 90.5  | 0.354  | 0.495  | 0.778  | 1.062  | 1.203  |
| 91.0  | 0.354  | 0.354  | 0.495  | 0.566  | 0.637  |
| 91.5  | 0.354  | 0.354  | 0.425  | 0.425  | 0.425  |
| 92.0  | 0.354  | 0.354  | 0.354  | 0.354  | 0.354  |
| 92.5  | 0.354  | 0.354  | 0.354  | 0.354  | 0.354  |
| 93.0  | 0.354  | 0.354  | 0.354  | 0.354  | 0.354  |
| 93.5  | 0.354  | 0.354  | 0.354  | 0.354  | 0.354  |
| 94.0  | 0.283  | 0.354  | 0.354  | 0.354  | 0.354  |
| 94.5  | 0.283  | 0.283  | 0.354  | 0.354  | 0.354  |
| 95.0  | 0.283  | 0.283  | 0.354  | 0.283  | 0.283  |
| 95.5  | 0.283  | 0.283  | 0.283  | 0.283  | 0.283  |
| 96.0  | 0.283  | 0.283  | 0.283  | 0.283  | 0.283  |
| 96.5  | 0.283  | 0.283  | 0.283  | 0.283  | 0.283  |
| 97.0  | 0.283  | 0.283  | 0.283  | 0.283  | 0.283  |
| 97.5  | 0.283  | 0.283  | 0.283  | 0.283  | 0.283  |
| 98.0  | 0.283  | 0.283  | 0.283  | 0.283  | 0.283  |
| 98.5  | 0.283  | 0.283  | 0.283  | 0.283  | 0.283  |
| 99.0  | 0.283  | 0.283  | 0.283  | 0.283  | 0.283  |
| 99.5  | 0.212  | 0.283  | 0.283  | 0.283  | 0.283  |
| 100.0 | 0.212  | 0.283  | 0.283  | 0.283  | 0.283  |
| 100.5 | 0.212  | 0.283  | 0.283  | 0.283  | 0.283  |
| 101.0 | 0.212  | 0.283  | 0.283  | 0.283  | 0.283  |
| 101.5 | 0.212  | 0.212  | 0.283  | 0.283  | 0.283  |
| 102.0 | 0.212  | 0.212  | 0.283  | 0.283  | 0.283  |
| 102.5 | 0.212  | 0.212  | 0.283  | 0.283  | 0.283  |
| 103.0 | 0.212  | 0.212  | 0.283  | 0.283  | 0.283  |
| 103.5 | 0.212  | 0.212  | 0.212  | 0.283  | 0.212  |
| 104.0 | 0.212  | 0.212  | 0.212  | 0.212  | 0.283  |
| 104.5 | 0.212  | 0.212  | 0.283  | 0.283  | 0.283  |
| 105.0 | 0.212  | 0.212  | 0.212  | 0.283  | 0.212  |
| 105.5 | 0.212  | 0.212  | 0.212  | 0.212  | 0.212  |
| 106.0 | 0.212  | 0.212  | 0.212  | 0.283  | 0.212  |
| 106.5 | 0.212  | 0.212  | 0.212  | 0.212  | 0.283  |
| 107.0 | 0.212  | 0.212  | 0.212  | 0.283  | 0.212  |
| 107.5 | 0.212  | 0.212  | 0.212  | 0.212  | 0.212  |
| 108.0 | 0.212  | 0.212  | 0.212  | 0.283  | 0.283  |
| 108.5 | 0.212  | 0.212  | 0.283  | 0.283  | 0.283  |
| 109.0 | 0.212  | 0.212  | 0.283  | 0.283  | 0.283  |
| 109.5 | 0.212  | 0.212  | 0.212  | 0.283  | 0.283  |
| 110.0 | 0.212  | 0.212  | 0.283  | 0.283  | 0.283  |
| 110.5 | 0.212  | 0.212  | 0.283  | 0.283  | 0.283  |

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : MX2D-4-00-L8-8TW-FW-DIM-UNV 4000K\_.IES**

**CANDELA TABULATION - (Cont.)**

|       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|
| 111.0 | 0.212 | 0.212 | 0.283 | 0.283 | 0.283 |
| 111.5 | 0.212 | 0.212 | 0.283 | 0.283 | 0.283 |
| 112.0 | 0.212 | 0.212 | 0.283 | 0.283 | 0.283 |
| 112.5 | 0.212 | 0.283 | 0.283 | 0.283 | 0.283 |
| 113.0 | 0.212 | 0.283 | 0.283 | 0.283 | 0.283 |
| 113.5 | 0.212 | 0.283 | 0.283 | 0.283 | 0.283 |
| 114.0 | 0.283 | 0.283 | 0.283 | 0.283 | 0.283 |
| 114.5 | 0.283 | 0.283 | 0.283 | 0.283 | 0.283 |
| 115.0 | 0.283 | 0.283 | 0.283 | 0.283 | 0.283 |
| 115.5 | 0.283 | 0.283 | 0.283 | 0.354 | 0.283 |
| 116.0 | 0.283 | 0.283 | 0.354 | 0.354 | 0.354 |
| 116.5 | 0.283 | 0.283 | 0.354 | 0.354 | 0.354 |
| 117.0 | 0.283 | 0.283 | 0.354 | 0.354 | 0.354 |
| 117.5 | 0.283 | 0.354 | 0.354 | 0.354 | 0.354 |
| 118.0 | 0.283 | 0.354 | 0.354 | 0.354 | 0.354 |
| 118.5 | 0.354 | 0.354 | 0.354 | 0.354 | 0.354 |
| 119.0 | 0.354 | 0.354 | 0.354 | 0.425 | 0.425 |
| 119.5 | 0.354 | 0.354 | 0.425 | 0.425 | 0.425 |
| 120.0 | 0.354 | 0.354 | 0.425 | 0.425 | 0.425 |
| 120.5 | 0.354 | 0.354 | 0.425 | 0.425 | 0.425 |
| 121.0 | 0.354 | 0.425 | 0.425 | 0.425 | 0.425 |
| 121.5 | 0.354 | 0.425 | 0.425 | 0.425 | 0.425 |
| 122.0 | 0.425 | 0.425 | 0.425 | 0.495 | 0.495 |
| 122.5 | 0.425 | 0.425 | 0.495 | 0.495 | 0.495 |
| 123.0 | 0.425 | 0.425 | 0.495 | 0.495 | 0.495 |
| 123.5 | 0.425 | 0.425 | 0.495 | 0.495 | 0.495 |
| 124.0 | 0.425 | 0.495 | 0.495 | 0.566 | 0.566 |
| 124.5 | 0.425 | 0.495 | 0.495 | 0.566 | 0.566 |
| 125.0 | 0.495 | 0.495 | 0.566 | 0.566 | 0.566 |
| 125.5 | 0.495 | 0.495 | 0.566 | 0.566 | 0.566 |
| 126.0 | 0.495 | 0.495 | 0.566 | 0.566 | 0.566 |
| 126.5 | 0.495 | 0.566 | 0.566 | 0.637 | 0.637 |
| 127.0 | 0.566 | 0.566 | 0.637 | 0.637 | 0.637 |
| 127.5 | 0.566 | 0.566 | 0.637 | 0.637 | 0.637 |
| 128.0 | 0.566 | 0.566 | 0.637 | 0.637 | 0.637 |
| 128.5 | 0.566 | 0.566 | 0.637 | 0.708 | 0.708 |
| 129.0 | 0.566 | 0.637 | 0.637 | 0.708 | 0.708 |
| 129.5 | 0.637 | 0.637 | 0.708 | 0.708 | 0.708 |
| 130.0 | 0.637 | 0.637 | 0.708 | 0.708 | 0.708 |
| 130.5 | 0.637 | 0.637 | 0.708 | 0.778 | 0.778 |
| 131.0 | 0.637 | 0.637 | 0.708 | 0.778 | 0.778 |
| 131.5 | 0.637 | 0.708 | 0.778 | 0.778 | 0.778 |
| 132.0 | 0.708 | 0.708 | 0.778 | 0.778 | 0.849 |
| 132.5 | 0.708 | 0.708 | 0.778 | 0.849 | 0.849 |
| 133.0 | 0.708 | 0.708 | 0.778 | 0.849 | 0.849 |
| 133.5 | 0.708 | 0.778 | 0.849 | 0.849 | 0.849 |
| 134.0 | 0.778 | 0.778 | 0.849 | 0.849 | 0.849 |
| 134.5 | 0.778 | 0.778 | 0.849 | 0.920 | 0.920 |
| 135.0 | 0.778 | 0.778 | 0.849 | 0.920 | 0.920 |
| 135.5 | 0.778 | 0.849 | 0.849 | 0.920 | 0.920 |
| 136.0 | 0.849 | 0.849 | 0.920 | 0.920 | 0.920 |
| 136.5 | 0.849 | 0.849 | 0.920 | 0.991 | 0.991 |
| 137.0 | 0.849 | 0.849 | 0.920 | 0.991 | 0.991 |
| 137.5 | 0.849 | 0.920 | 0.920 | 0.991 | 0.991 |
| 138.0 | 0.849 | 0.920 | 0.991 | 0.991 | 0.991 |
| 138.5 | 0.920 | 0.920 | 0.991 | 0.991 | 1.062 |

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : MX2D-4-00-L8-8TW-FW-DIM-UNV 4000K\_.IES**

**CANDELA TABULATION - (Cont.)**

|       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|
| 139.0 | 0.920 | 0.920 | 0.991 | 1.062 | 1.062 |
| 139.5 | 0.920 | 0.920 | 0.991 | 1.062 | 1.062 |
| 140.0 | 0.920 | 0.991 | 0.991 | 1.062 | 1.062 |
| 140.5 | 0.991 | 0.991 | 1.062 | 1.062 | 1.062 |
| 141.0 | 0.991 | 0.991 | 1.062 | 1.062 | 1.132 |
| 141.5 | 0.991 | 0.991 | 1.062 | 1.132 | 1.132 |
| 142.0 | 0.991 | 1.062 | 1.062 | 1.132 | 1.132 |
| 142.5 | 1.062 | 1.062 | 1.062 | 1.132 | 1.132 |
| 143.0 | 1.062 | 1.062 | 1.132 | 1.132 | 1.203 |
| 143.5 | 1.062 | 1.062 | 1.132 | 1.203 | 1.203 |
| 144.0 | 1.062 | 1.062 | 1.132 | 1.203 | 1.203 |
| 144.5 | 1.062 | 1.132 | 1.132 | 1.203 | 1.203 |
| 145.0 | 1.132 | 1.132 | 1.203 | 1.203 | 1.203 |
| 145.5 | 1.132 | 1.132 | 1.203 | 1.203 | 1.203 |
| 146.0 | 1.132 | 1.132 | 1.203 | 1.274 | 1.274 |
| 146.5 | 1.132 | 1.132 | 1.203 | 1.274 | 1.274 |
| 147.0 | 1.203 | 1.203 | 1.203 | 1.274 | 1.274 |
| 147.5 | 1.203 | 1.203 | 1.274 | 1.274 | 1.274 |
| 148.0 | 1.203 | 1.203 | 1.274 | 1.274 | 1.274 |
| 148.5 | 1.203 | 1.203 | 1.274 | 1.345 | 1.345 |
| 149.0 | 1.203 | 1.274 | 1.274 | 1.345 | 1.345 |
| 149.5 | 1.274 | 1.274 | 1.274 | 1.345 | 1.345 |
| 150.0 | 1.274 | 1.274 | 1.345 | 1.345 | 1.345 |
| 150.5 | 1.274 | 1.274 | 1.345 | 1.345 | 1.345 |
| 151.0 | 1.274 | 1.274 | 1.345 | 1.345 | 1.345 |
| 151.5 | 1.274 | 1.274 | 1.345 | 1.415 | 1.415 |
| 152.0 | 1.274 | 1.345 | 1.345 | 1.415 | 1.415 |
| 152.5 | 1.345 | 1.345 | 1.345 | 1.415 | 1.415 |
| 153.0 | 1.345 | 1.345 | 1.415 | 1.415 | 1.415 |
| 153.5 | 1.345 | 1.345 | 1.415 | 1.415 | 1.415 |
| 154.0 | 1.345 | 1.345 | 1.415 | 1.415 | 1.415 |
| 154.5 | 1.345 | 1.345 | 1.415 | 1.415 | 1.415 |
| 155.0 | 1.345 | 1.415 | 1.415 | 1.415 | 1.415 |
| 155.5 | 1.415 | 1.415 | 1.415 | 1.486 | 1.486 |
| 156.0 | 1.415 | 1.415 | 1.415 | 1.486 | 1.486 |
| 156.5 | 1.415 | 1.415 | 1.415 | 1.486 | 1.486 |
| 157.0 | 1.415 | 1.415 | 1.415 | 1.486 | 1.486 |
| 157.5 | 1.415 | 1.415 | 1.486 | 1.486 | 1.486 |
| 158.0 | 1.415 | 1.415 | 1.486 | 1.486 | 1.486 |
| 158.5 | 1.415 | 1.486 | 1.486 | 1.486 | 1.486 |
| 159.0 | 1.486 | 1.486 | 1.486 | 1.486 | 1.486 |
| 159.5 | 1.486 | 1.486 | 1.486 | 1.486 | 1.486 |
| 160.0 | 1.486 | 1.486 | 1.486 | 1.486 | 1.486 |
| 160.5 | 1.486 | 1.486 | 1.486 | 1.486 | 1.486 |
| 161.0 | 1.486 | 1.486 | 1.486 | 1.557 | 1.486 |
| 161.5 | 1.486 | 1.486 | 1.486 | 1.557 | 1.557 |
| 162.0 | 1.486 | 1.486 | 1.486 | 1.557 | 1.557 |
| 162.5 | 1.557 | 1.486 | 1.486 | 1.557 | 1.557 |
| 163.0 | 1.557 | 1.486 | 1.486 | 1.557 | 1.557 |
| 163.5 | 1.557 | 1.486 | 1.557 | 1.557 | 1.557 |
| 164.0 | 1.557 | 1.486 | 1.557 | 1.557 | 1.557 |
| 164.5 | 1.557 | 1.486 | 1.557 | 1.557 | 1.557 |
| 165.0 | 1.557 | 1.557 | 1.557 | 1.557 | 1.557 |
| 165.5 | 1.557 | 1.557 | 1.557 | 1.557 | 1.557 |
| 166.0 | 1.557 | 1.557 | 1.557 | 1.557 | 1.628 |
| 166.5 | 1.557 | 1.557 | 1.557 | 1.557 | 1.628 |

IES INDOOR REPORT  
PHOTOMETRIC FILENAME : MX2D-4-00-L8-8TW-FW-DIM-UNV 4000K\_.IES

CANDELA TABULATION - (Cont.)

|       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|
| 167.0 | 1.557 | 1.557 | 1.557 | 1.628 | 1.628 |
| 167.5 | 1.557 | 1.557 | 1.557 | 1.628 | 1.628 |
| 168.0 | 1.628 | 1.557 | 1.557 | 1.628 | 1.628 |
| 168.5 | 1.628 | 1.557 | 1.557 | 1.628 | 1.628 |
| 169.0 | 1.628 | 1.557 | 1.628 | 1.628 | 1.628 |
| 169.5 | 1.628 | 1.557 | 1.628 | 1.628 | 1.628 |
| 170.0 | 1.628 | 1.628 | 1.628 | 1.628 | 1.628 |
| 170.5 | 1.628 | 1.628 | 1.628 | 1.628 | 1.628 |
| 171.0 | 1.628 | 1.628 | 1.628 | 1.628 | 1.628 |
| 171.5 | 1.628 | 1.628 | 1.628 | 1.628 | 1.628 |
| 172.0 | 1.628 | 1.628 | 1.628 | 1.628 | 1.628 |
| 172.5 | 1.628 | 1.628 | 1.628 | 1.628 | 1.698 |
| 173.0 | 1.628 | 1.628 | 1.628 | 1.628 | 1.698 |
| 173.5 | 1.628 | 1.628 | 1.628 | 1.628 | 1.698 |
| 174.0 | 1.628 | 1.628 | 1.628 | 1.628 | 1.698 |
| 174.5 | 1.628 | 1.628 | 1.628 | 1.628 | 1.698 |
| 175.0 | 1.628 | 1.628 | 1.628 | 1.628 | 1.698 |
| 175.5 | 1.628 | 1.628 | 1.628 | 1.628 | 1.698 |
| 176.0 | 1.628 | 1.628 | 1.628 | 1.698 | 1.698 |
| 176.5 | 1.628 | 1.628 | 1.628 | 1.698 | 1.698 |
| 177.0 | 1.628 | 1.628 | 1.628 | 1.698 | 1.698 |
| 177.5 | 1.628 | 1.628 | 1.628 | 1.698 | 1.698 |
| 178.0 | 1.628 | 1.628 | 1.628 | 1.698 | 1.698 |
| 178.5 | 1.628 | 1.628 | 1.698 | 1.698 | 1.698 |
| 179.0 | 1.628 | 1.628 | 1.698 | 1.698 | 1.698 |
| 179.5 | 1.628 | 1.628 | 1.698 | 1.698 | 1.698 |
| 180.0 | 1.698 | 1.698 | 1.698 | 1.698 | 1.698 |

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : MX2D-4-00-L8-8TW-FW-DIM-UNV 4000K\_.IES****ZONAL LUMEN SUMMARY**

| Zone    | Lumens  | %Lamp | %Fixt  |
|---------|---------|-------|--------|
| 0-20    | 393.71  | N.A.  | 12.50  |
| 0-30    | 854.27  | N.A.  | 27.20  |
| 0-40    | 1417.51 | N.A.  | 45.10  |
| 0-60    | 2502.47 | N.A.  | 79.70  |
| 0-80    | 3087.52 | N.A.  | 98.30  |
| 0-90    | 3136.03 | N.A.  | 99.90  |
| 10-90   | 3036.53 | N.A.  | 96.70  |
| 20-40   | 1023.8  | N.A.  | 32.60  |
| 20-50   | 1600.71 | N.A.  | 51.00  |
| 40-70   | 1464.18 | N.A.  | 46.60  |
| 60-80   | 585.05  | N.A.  | 18.60  |
| 70-80   | 205.84  | N.A.  | 6.60   |
| 80-90   | 48.51   | N.A.  | 1.50   |
| 90-110  | 0.67    | N.A.  | 0.00   |
| 90-120  | 0.97    | N.A.  | 0.00   |
| 90-130  | 1.45    | N.A.  | 0.00   |
| 90-150  | 2.83    | N.A.  | 0.10   |
| 90-180  | 4.08    | N.A.  | 0.10   |
| 110-180 | 3.41    | N.A.  | 0.10   |
| 0-180   | 3140.1  | N.A.  | 100.00 |

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

| Zone    | Lumens |
|---------|--------|
| 0-10    | 99.49  |
| 10-20   | 294.21 |
| 20-30   | 460.57 |
| 30-40   | 563.24 |
| 40-50   | 576.91 |
| 50-60   | 508.05 |
| 60-70   | 379.22 |
| 70-80   | 205.84 |
| 80-90   | 48.51  |
| 90-100  | 0.41   |
| 100-110 | 0.26   |
| 110-120 | 0.30   |
| 120-130 | 0.48   |
| 130-140 | 0.66   |
| 140-150 | 0.73   |
| 150-160 | 0.65   |
| 160-170 | 0.44   |
| 170-180 | 0.16   |

# IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX2D-4-00-L8-8TW-FW-DIM-UNV 4000K\_.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  | 90 | 90 | 90 | 90 | 88 | 88 | 88 | 88 | 84 | 84 | 84 | 80 | 80 | 80 | 77 | 77 | 77 | 76 |
| 1  | 82 | 79 | 76 | 73 | 80 | 77 | 74 | 72 | 74 | 71 | 69 | 71 | 69 | 67 | 68 | 67 | 65 | 64 |
| 2  | 75 | 69 | 64 | 59 | 73 | 67 | 63 | 59 | 65 | 61 | 57 | 62 | 59 | 56 | 60 | 57 | 55 | 53 |
| 3  | 68 | 60 | 54 | 49 | 66 | 59 | 53 | 49 | 57 | 52 | 48 | 55 | 51 | 47 | 53 | 49 | 46 | 45 |
| 4  | 63 | 53 | 47 | 42 | 61 | 52 | 46 | 41 | 51 | 45 | 41 | 49 | 44 | 40 | 47 | 43 | 40 | 38 |
| 5  | 57 | 48 | 41 | 36 | 56 | 47 | 40 | 36 | 45 | 40 | 35 | 44 | 39 | 35 | 42 | 38 | 34 | 33 |
| 6  | 53 | 43 | 36 | 31 | 52 | 42 | 36 | 31 | 41 | 35 | 31 | 40 | 34 | 31 | 38 | 34 | 30 | 29 |
| 7  | 49 | 39 | 32 | 28 | 48 | 38 | 32 | 27 | 37 | 31 | 27 | 36 | 31 | 27 | 35 | 30 | 27 | 25 |
| 8  | 46 | 35 | 29 | 25 | 45 | 35 | 29 | 24 | 34 | 28 | 24 | 33 | 28 | 24 | 32 | 27 | 24 | 23 |
| 9  | 43 | 33 | 26 | 22 | 42 | 32 | 26 | 22 | 31 | 26 | 22 | 30 | 25 | 22 | 30 | 25 | 22 | 20 |
| 10 | 40 | 30 | 24 | 20 | 39 | 30 | 24 | 20 | 29 | 23 | 20 | 28 | 23 | 20 | 27 | 23 | 20 | 18 |

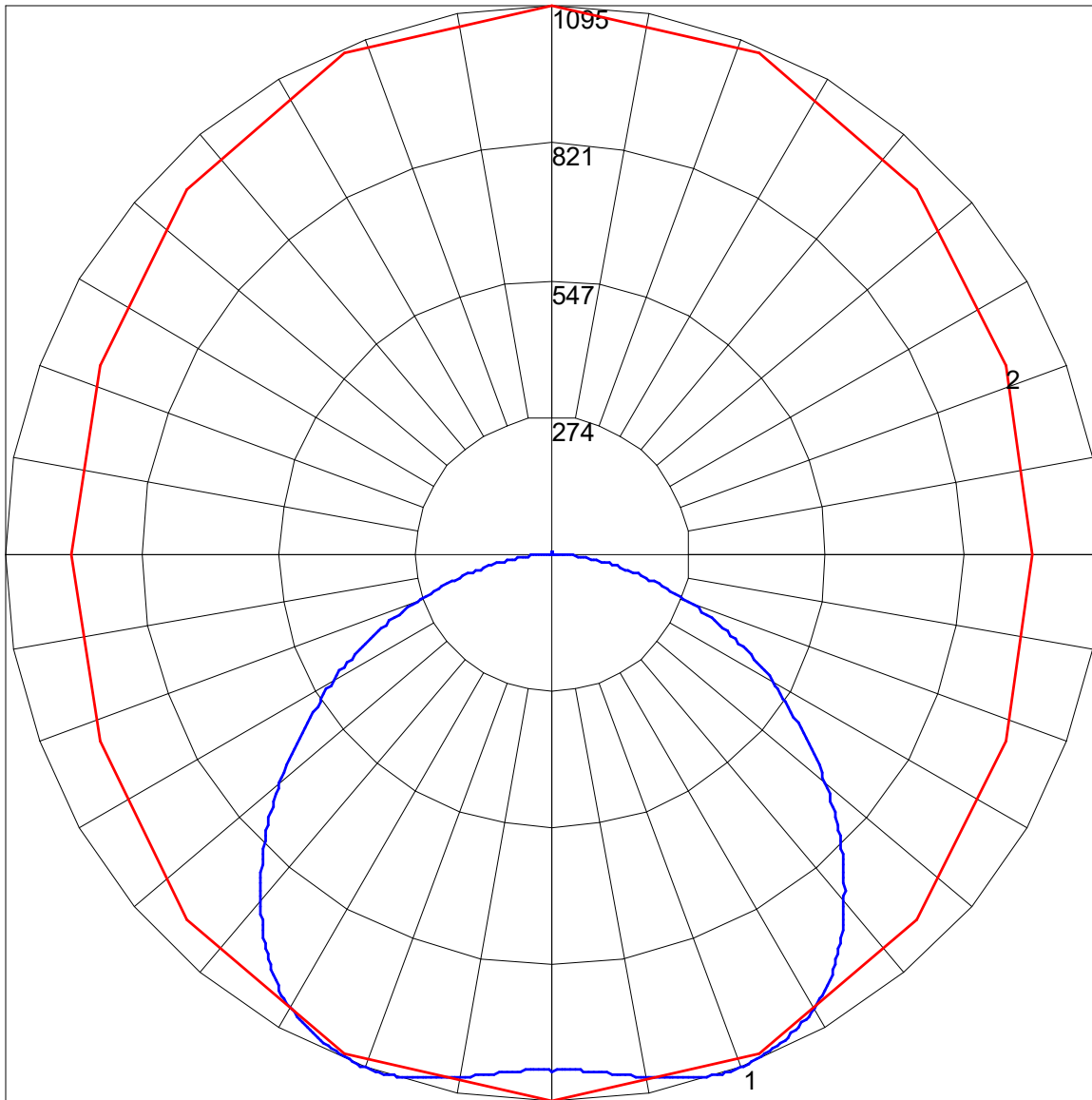
**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : MX2D-4-00-L8-8TW-FW-DIM-UNV 4000K\_.IES**

**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 | 21.9                 | 23.5 | 22.3 | 23.8 | 24.2 | 23.2               | 24.8 | 23.6 | 25.1 | 25.4 |
|                | 3H   | 23.6                 | 25.0 | 24.0 | 25.4 | 25.7 | 24.9               | 26.4 | 25.3 | 26.7 | 27.1 |
|                | 4H   | 24.1                 | 25.5 | 24.5 | 25.9 | 26.3 | 25.5               | 26.9 | 25.9 | 27.2 | 27.6 |
|                | 6H   | 24.5                 | 25.8 | 24.9 | 26.2 | 26.6 | 25.9               | 27.2 | 26.3 | 27.5 | 27.9 |
|                | 8H   | 24.6                 | 25.9 | 25.1 | 26.3 | 26.7 | 26.0               | 27.2 | 26.4 | 27.6 | 28.0 |
|                | 12H  | 24.7                 | 25.9 | 25.1 | 26.2 | 26.7 | 26.0               | 27.2 | 26.5 | 27.6 | 28.0 |
| 4H             | 2H   | 22.8                 | 24.2 | 23.2 | 24.6 | 24.9 | 23.8               | 25.2 | 24.2 | 25.5 | 25.9 |
|                | 3H   | 24.7                 | 25.8 | 25.1 | 26.2 | 26.6 | 25.7               | 26.9 | 26.1 | 27.3 | 27.7 |
|                | 4H   | 25.3                 | 26.4 | 25.8 | 26.8 | 27.2 | 26.4               | 27.5 | 26.9 | 27.9 | 28.3 |
|                | 6H   | 25.8                 | 26.7 | 26.3 | 27.2 | 27.6 | 26.9               | 27.9 | 27.4 | 28.3 | 28.8 |
|                | 8H   | 26.0                 | 26.8 | 26.4 | 27.3 | 27.7 | 27.1               | 27.9 | 27.6 | 28.4 | 28.9 |
|                | 12H  | 26.0                 | 26.8 | 26.5 | 27.3 | 27.7 | 27.2               | 27.9 | 27.7 | 28.4 | 28.9 |
| 8H             | 4H   | 25.7                 | 26.6 | 26.2 | 27.0 | 27.5 | 26.7               | 27.5 | 27.2 | 28.0 | 28.5 |
|                | 6H   | 26.3                 | 27.0 | 26.8 | 27.5 | 28.0 | 27.3               | 28.0 | 27.8 | 28.5 | 29.0 |
|                | 8H   | 26.5                 | 27.1 | 27.0 | 27.7 | 28.1 | 27.5               | 28.1 | 28.0 | 28.7 | 29.1 |
|                | 12H  | 26.6                 | 27.2 | 27.1 | 27.7 | 28.2 | 27.7               | 28.2 | 28.2 | 28.7 | 29.3 |
| 12H            | 4H   | 25.8                 | 26.5 | 26.3 | 27.0 | 27.5 | 26.7               | 27.5 | 27.2 | 28.0 | 28.4 |
|                | 6H   | 26.4                 | 27.0 | 26.9 | 27.5 | 28.0 | 27.4               | 28.0 | 27.9 | 28.5 | 29.0 |
|                | 8H   | 26.6                 | 27.2 | 27.1 | 27.7 | 28.2 | 27.6               | 28.2 | 28.1 | 28.6 | 29.2 |

Maximum UGR = 29.3

POLAR GRAPH



Maximum Candela = 1094.812 Located At Horizontal Angle = 90, Vertical Angle = 19  
# 1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (19) (Through Max. Cd.)