

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: METALUX

Report Number: P893513

Luminaire Tested: 4MB-4SL-FLTU-UNV-L830

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893513
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2403-327-6)
Test Lab: INNOVATION CENTER
Issue Date: 11/11/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: 4MB-4SL-FLTU-UNV-L830
Description: 4000 Lumen 4FT MICROBAY LINEAR BAY with FLAT FROSTED LENS WITH UPLIGHT, 80CRI, 300
Light Source: -
Ballast/Driver: -

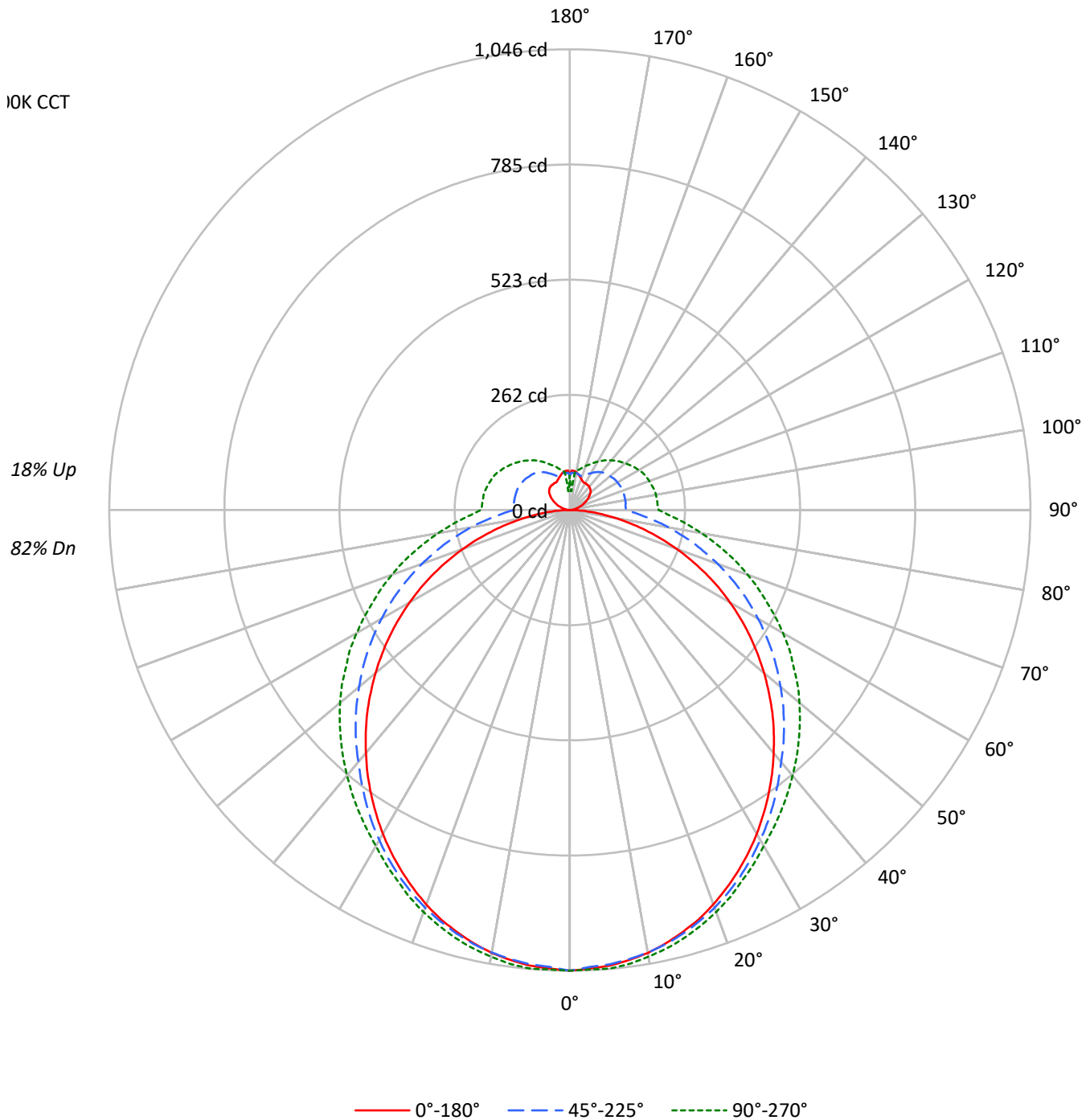
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3954.0 lumens
Efficiency: N/A
Efficacy: 132.7 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.38' x L: 3.98' x H: 0.21')
CIE Type: Semi-Direct

Input Watts (W): 29.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: 0.99
Total Harmonic Distortion (THDi): 5.5
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P893513
CATALOG NUMBER: 4MB-4SL-FLTU-UNV-L830

Luminous Intensity Polar Plot





TEST NUMBER: P893513
 CATALOG NUMBER: 4MB-4SL-FLTU-UNV-L830

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|
| RF | 20 | | | | 20 | | | | 20 | | | | 20 | | | | 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 | 50 | 30 | 10 |
| RCR | | | | | | | | | | | | | | | | | | | | |
| 0 | 115 | 115 | 115 | 115 | 110 | 110 | 110 | 110 | 101 | 101 | 101 | 93 | 93 | 93 | 86 | 86 | 86 | 86 | 82 | |
| 1 | 103 | 98 | 93 | 89 | 99 | 94 | 90 | 86 | 86 | 83 | 80 | 79 | 77 | 74 | 73 | 71 | 69 | 66 | 66 | |
| 2 | 93 | 85 | 77 | 71 | 89 | 81 | 75 | 69 | 75 | 69 | 65 | 69 | 64 | 61 | 63 | 60 | 57 | 54 | 54 | |
| 3 | 85 | 74 | 65 | 59 | 81 | 71 | 63 | 57 | 65 | 59 | 54 | 60 | 55 | 51 | 55 | 51 | 48 | 45 | 45 | |
| 4 | 77 | 65 | 56 | 49 | 74 | 63 | 54 | 48 | 58 | 51 | 45 | 53 | 48 | 43 | 49 | 45 | 41 | 38 | 38 | |
| 5 | 71 | 58 | 49 | 42 | 68 | 56 | 47 | 41 | 52 | 45 | 39 | 48 | 42 | 37 | 44 | 39 | 35 | 32 | 32 | |
| 6 | 66 | 52 | 43 | 37 | 62 | 50 | 42 | 36 | 47 | 39 | 34 | 43 | 37 | 32 | 40 | 35 | 31 | 28 | 28 | |
| 7 | 61 | 47 | 38 | 32 | 58 | 45 | 37 | 31 | 42 | 35 | 30 | 39 | 33 | 29 | 37 | 31 | 27 | 25 | 25 | |
| 8 | 56 | 43 | 34 | 29 | 54 | 41 | 33 | 28 | 39 | 32 | 27 | 36 | 30 | 26 | 34 | 28 | 24 | 22 | 22 | |
| 9 | 53 | 39 | 31 | 26 | 50 | 38 | 30 | 25 | 35 | 29 | 24 | 33 | 27 | 23 | 31 | 26 | 22 | 20 | 20 | |
| 10 | 49 | 36 | 28 | 23 | 47 | 35 | 28 | 23 | 33 | 26 | 22 | 31 | 25 | 21 | 29 | 24 | 20 | 18 | 18 | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 7442 | 7442 | 7442 |
| 5° | 7382 | 7130 | 7121 |
| 10° | 7310 | 6857 | 6784 |
| 15° | 7202 | 6583 | 6460 |
| 20° | 7082 | 6302 | 6132 |
| 25° | 6932 | 6009 | 5800 |
| 30° | 6771 | 5710 | 5497 |
| 35° | 6595 | 5411 | 5247 |
| 40° | 6408 | 5115 | 5008 |
| 45° | 6220 | 4858 | 4781 |
| 50° | 6001 | 4592 | 4560 |
| 55° | 5765 | 4330 | 4314 |
| 60° | 5484 | 4050 | 4080 |
| 65° | 5146 | 3754 | 3815 |
| 70° | 4707 | 3430 | 3569 |
| 75° | 4107 | 3099 | 3303 |
| 80° | 3320 | 2745 | 3030 |
| 85° | 2293 | 2386 | 2781 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6220 cd/sqm



TEST NUMBER: P893513
 CATALOG NUMBER: 4MB-4SL-FLTU-UNV-L830

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 98.9 | 2.5 |
| 10°-20° | 282.1 | 7.1 |
| 20°-30° | 423.8 | 10.7 |
| 30°-40° | 508.9 | 12.9 |
| 40°-50° | 535.1 | 13.5 |
| 50°-60° | 502.8 | 12.7 |
| 60°-70° | 418.1 | 10.6 |
| 70°-80° | 298.3 | 7.5 |
| 80°-90° | 177.6 | 4.5 |
| 90°-100° | 128.6 | 3.3 |
| 100°-110° | 126.8 | 3.2 |
| 110°-120° | 119.1 | 3.0 |
| 120°-130° | 105.6 | 2.7 |
| 130°-140° | 87.5 | 2.2 |
| 140°-150° | 65.5 | 1.7 |
| 150°-160° | 43.1 | 1.1 |
| 160°-170° | 24.4 | 0.6 |
| 170°-180° | 7.8 | 0.2 |
| 0°-30° | 804.8 | 20.4 |
| 0°-40° | 1313.7 | 33.2 |
| 0°-60° | 2351.7 | 59.5 |
| 0°-90° | 3245.7 | 82.1 |
| 90°-120° | 374.5 | 9.5 |
| 90°-150° | 633.1 | 16.0 |
| 90°-180° | 708.0 | 17.9 |
| 0°-180° | 3954.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|------|------|-------|------|-------|------|------|
| 0° | 1046 | 1046 | 1046 | 1046 | 1046 | |
| 5° | 1038 | 1051 | 1035 | 1038 | 1045 | 99 |
| 15° | 992 | 1007 | 995 | 1002 | 1006 | 280 |
| 25° | 904 | 922 | 917 | 926 | 928 | 417 |
| 35° | 787 | 805 | 808 | 828 | 836 | 492 |
| 45° | 650 | 669 | 688 | 723 | 736 | 501 |
| 55° | 500 | 520 | 561 | 606 | 620 | 446 |
| 65° | 340 | 368 | 426 | 480 | 493 | 336 |
| 75° | 179 | 219 | 291 | 348 | 366 | 190 |
| 85° | 45 | 98 | 171 | 228 | 247 | 49 |
| 90° | 0 | 56 | 127 | 182 | 202 | 3 |
| 95° | 5 | 59 | 127 | 180 | 200 | 5 |
| 105° | 18 | 66 | 128 | 179 | 196 | 19 |
| 115° | 35 | 72 | 127 | 171 | 188 | 35 |
| 125° | 54 | 76 | 123 | 160 | 173 | 48 |
| 135° | 66 | 80 | 116 | 146 | 157 | 51 |
| 145° | 70 | 78 | 105 | 130 | 138 | 44 |
| 155° | 71 | 79 | 89 | 110 | 116 | 33 |
| 165° | 81 | 86 | 83 | 84 | 97 | 23 |
| 175° | 90 | 89 | 84 | 72 | 43 | 8 |
| 180° | 78 | 78 | 78 | 78 | 78 | |



TEST NUMBER: P893513
 CATALOG NUMBER: 4MB-4SL-FLTU-UNV-L830

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 10° | 15° | 20° | 22.5° | 25° | 30° | 35° | 40° | 45° |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1045.9 | 1045.9 | 1045.9 | 1045.9 | 1045.9 | 1045.9 | 1045.9 | 1045.9 | 1045.9 | 1045.9 | 1045.9 |
| 2.5° | 1042.1 | 1044.9 | 1045.9 | 1055.5 | 1051.6 | 1055.5 | 1048.8 | 1041.1 | 1039.2 | 1044.0 | 1038.3 |
| 5° | 1038.3 | 1041.1 | 1042.1 | 1051.6 | 1047.8 | 1050.7 | 1044.9 | 1037.3 | 1035.4 | 1041.1 | 1035.4 |
| 7.5° | 1030.6 | 1033.5 | 1034.4 | 1044.9 | 1040.2 | 1044.0 | 1037.3 | 1029.7 | 1028.7 | 1034.4 | 1028.7 |
| 10° | 1021.1 | 1023.9 | 1024.9 | 1034.4 | 1030.6 | 1034.4 | 1027.8 | 1020.1 | 1019.2 | 1025.8 | 1020.1 |
| 12.5° | 1007.7 | 1010.6 | 1012.5 | 1022.0 | 1017.2 | 1022.0 | 1014.4 | 1006.7 | 1007.7 | 1013.4 | 1009.6 |
| 15° | 991.5 | 995.3 | 996.2 | 1005.8 | 1002.0 | 1006.7 | 999.1 | 991.5 | 993.4 | 999.1 | 995.3 |
| 17.5° | 974.3 | 978.1 | 979.0 | 987.6 | 983.8 | 989.5 | 980.9 | 974.3 | 976.2 | 981.9 | 979.0 |
| 20° | 953.2 | 957.1 | 959.0 | 967.6 | 963.8 | 969.5 | 960.9 | 955.2 | 957.1 | 963.8 | 960.9 |
| 22.5° | 929.4 | 935.1 | 936.1 | 945.6 | 940.8 | 946.6 | 938.0 | 933.2 | 936.1 | 942.7 | 939.9 |
| 25° | 904.5 | 910.3 | 911.2 | 920.8 | 917.0 | 921.7 | 913.1 | 908.4 | 912.2 | 918.9 | 917.0 |
| 27.5° | 877.8 | 883.5 | 885.4 | 894.0 | 890.2 | 895.9 | 886.4 | 883.5 | 887.3 | 894.0 | 892.1 |
| 30° | 849.1 | 854.9 | 855.8 | 864.4 | 861.6 | 867.3 | 858.7 | 854.9 | 860.6 | 867.3 | 865.4 |
| 32.5° | 818.6 | 824.3 | 827.2 | 834.8 | 831.9 | 836.7 | 829.1 | 827.2 | 831.9 | 838.6 | 837.7 |
| 35° | 787.1 | 792.8 | 795.6 | 804.2 | 800.4 | 805.2 | 797.6 | 795.6 | 803.3 | 808.1 | 808.1 |
| 37.5° | 754.6 | 760.3 | 763.2 | 771.8 | 767.0 | 772.7 | 765.1 | 764.1 | 772.7 | 777.5 | 777.5 |
| 40° | 720.2 | 726.9 | 729.7 | 737.4 | 733.6 | 738.3 | 731.7 | 732.6 | 740.2 | 746.0 | 746.9 |
| 42.5° | 685.8 | 692.5 | 695.4 | 704.0 | 699.2 | 704.0 | 698.2 | 699.2 | 707.8 | 713.5 | 718.3 |
| 45° | 650.5 | 656.2 | 659.1 | 668.6 | 662.9 | 668.6 | 662.9 | 664.8 | 673.4 | 682.0 | 687.7 |
| 47.5° | 613.2 | 618.9 | 623.7 | 631.4 | 626.6 | 631.4 | 627.5 | 630.4 | 640.9 | 649.5 | 657.1 |
| 50° | 576.0 | 581.7 | 586.5 | 593.2 | 588.4 | 595.1 | 590.3 | 594.1 | 607.5 | 616.1 | 624.7 |
| 52.5° | 537.8 | 542.5 | 550.2 | 554.0 | 550.2 | 557.8 | 554.0 | 559.7 | 573.1 | 583.6 | 593.2 |
| 55° | 499.5 | 504.3 | 512.0 | 514.8 | 511.0 | 519.6 | 516.7 | 524.4 | 538.7 | 550.2 | 560.7 |
| 57.5° | 460.4 | 465.2 | 471.8 | 474.7 | 471.8 | 481.4 | 480.4 | 489.0 | 503.4 | 515.8 | 527.2 |
| 60° | 420.3 | 425.0 | 430.8 | 433.6 | 433.6 | 443.2 | 443.2 | 453.7 | 469.0 | 480.4 | 493.8 |
| 62.5° | 381.1 | 384.0 | 389.7 | 393.5 | 396.4 | 405.9 | 405.9 | 417.4 | 433.6 | 447.0 | 460.4 |
| 65° | 340.0 | 342.9 | 347.7 | 352.5 | 357.2 | 367.7 | 368.7 | 381.1 | 397.3 | 410.7 | 426.0 |
| 67.5° | 299.0 | 301.8 | 306.6 | 312.3 | 319.0 | 329.5 | 331.4 | 344.8 | 362.0 | 377.3 | 391.6 |
| 70° | 258.8 | 259.8 | 265.5 | 273.2 | 280.8 | 291.3 | 294.2 | 308.5 | 326.7 | 341.9 | 357.2 |
| 72.5° | 218.7 | 219.7 | 225.4 | 235.0 | 243.6 | 255.0 | 258.8 | 274.1 | 292.3 | 307.6 | 322.8 |
| 75° | 178.6 | 179.6 | 187.2 | 198.7 | 208.2 | 218.7 | 223.5 | 239.7 | 257.9 | 274.1 | 291.3 |
| 77.5° | 140.4 | 142.3 | 150.0 | 161.4 | 172.9 | 185.3 | 190.1 | 206.3 | 226.4 | 241.7 | 257.9 |
| 80° | 105.1 | 107.0 | 115.6 | 128.0 | 140.4 | 151.9 | 157.6 | 173.8 | 194.9 | 210.1 | 228.3 |
| 82.5° | 72.6 | 75.5 | 86.0 | 99.3 | 111.8 | 124.2 | 129.9 | 145.2 | 164.3 | 181.5 | 198.7 |
| 85° | 44.9 | 48.7 | 59.2 | 73.5 | 86.9 | 98.4 | 104.1 | 120.4 | 138.5 | 154.7 | 171.0 |
| 87.5° | 21.0 | 26.7 | 37.3 | 51.6 | 65.9 | 75.5 | 82.1 | 98.4 | 115.6 | 131.8 | 148.0 |
| 90° | 0.0 | 8.6 | 19.1 | 33.4 | 47.8 | 56.4 | 64.0 | 79.3 | 96.5 | 111.8 | 127.0 |
| 92.5° | 1.9 | 9.6 | 21.0 | 34.4 | 48.7 | 57.3 | 65.0 | 80.2 | 96.5 | 111.8 | 127.0 |
| 95° | 4.8 | 10.5 | 22.0 | 36.3 | 50.6 | 59.2 | 65.9 | 81.2 | 97.4 | 112.7 | 127.0 |
| 97.5° | 8.6 | 13.4 | 24.8 | 38.2 | 52.5 | 60.2 | 67.8 | 83.1 | 98.4 | 113.7 | 128.0 |
| 100° | 11.5 | 15.3 | 26.7 | 40.1 | 54.4 | 62.1 | 69.7 | 84.1 | 99.3 | 114.6 | 128.0 |
| 102.5° | 14.3 | 19.1 | 29.6 | 42.0 | 56.4 | 64.0 | 70.7 | 85.0 | 100.3 | 114.6 | 128.0 |
| 105° | 18.1 | 22.0 | 31.5 | 44.9 | 58.3 | 65.9 | 72.6 | 86.9 | 101.2 | 115.6 | 128.0 |
| 107.5° | 22.0 | 24.8 | 34.4 | 46.8 | 60.2 | 66.9 | 73.5 | 87.9 | 102.2 | 115.6 | 128.0 |
| 110° | 26.7 | 28.7 | 37.3 | 48.7 | 61.1 | 68.8 | 75.5 | 88.8 | 102.2 | 115.6 | 128.0 |



TEST NUMBER: P893513
 CATALOG NUMBER: 4MB-4SL-FLTU-UNV-L830

CANDELA DISTRIBUTION (continued):

| | 0° | 5° | 10° | 15° | 20° | 22.5° | 25° | 30° | 35° | 40° | 45° |
|--------|------|------|------|------|------|-------|------|------|-------|-------|-------|
| 112.5° | 31.5 | 31.5 | 40.1 | 50.6 | 63.0 | 69.7 | 76.4 | 89.8 | 103.2 | 115.6 | 128.0 |
| 115° | 35.3 | 36.3 | 43.0 | 52.5 | 65.0 | 71.6 | 77.4 | 89.8 | 103.2 | 115.6 | 127.0 |
| 117.5° | 40.1 | 40.1 | 46.8 | 54.4 | 65.9 | 72.6 | 79.3 | 90.7 | 103.2 | 114.6 | 126.1 |
| 120° | 44.9 | 43.9 | 49.7 | 57.3 | 67.8 | 73.5 | 80.2 | 91.7 | 103.2 | 114.6 | 125.1 |
| 122.5° | 49.7 | 47.8 | 51.6 | 59.2 | 68.8 | 75.5 | 80.2 | 91.7 | 103.2 | 113.7 | 124.2 |
| 125° | 53.5 | 51.6 | 54.4 | 62.1 | 70.7 | 76.4 | 81.2 | 91.7 | 103.2 | 112.7 | 123.2 |
| 127.5° | 57.3 | 55.4 | 58.3 | 64.0 | 71.6 | 76.4 | 82.1 | 91.7 | 103.2 | 111.8 | 121.3 |
| 130° | 61.1 | 58.3 | 62.1 | 65.9 | 73.5 | 77.4 | 82.1 | 91.7 | 102.2 | 110.8 | 119.4 |
| 132.5° | 64.0 | 61.1 | 65.0 | 67.8 | 74.5 | 78.3 | 83.1 | 91.7 | 101.2 | 109.8 | 118.4 |
| 135° | 65.9 | 63.0 | 67.8 | 69.7 | 76.4 | 80.2 | 84.1 | 91.7 | 100.3 | 108.9 | 116.5 |
| 137.5° | 67.8 | 64.0 | 69.7 | 71.6 | 77.4 | 81.2 | 84.1 | 90.7 | 99.3 | 107.0 | 114.6 |
| 140° | 68.8 | 65.9 | 71.6 | 73.5 | 76.4 | 80.2 | 84.1 | 89.8 | 97.4 | 105.1 | 111.8 |
| 142.5° | 69.7 | 65.9 | 72.6 | 74.5 | 76.4 | 79.3 | 83.1 | 87.9 | 95.5 | 102.2 | 108.9 |
| 145° | 69.7 | 66.9 | 72.6 | 74.5 | 76.4 | 78.3 | 81.2 | 86.9 | 92.7 | 98.4 | 105.1 |
| 147.5° | 69.7 | 67.8 | 73.5 | 75.5 | 77.4 | 77.4 | 79.3 | 85.0 | 89.8 | 95.5 | 101.2 |
| 150° | 70.7 | 67.8 | 73.5 | 75.5 | 78.3 | 78.3 | 79.3 | 82.1 | 87.9 | 91.7 | 96.5 |
| 152.5° | 69.7 | 68.8 | 72.6 | 76.4 | 78.3 | 79.3 | 79.3 | 80.2 | 85.0 | 88.8 | 92.7 |
| 155° | 70.7 | 70.7 | 73.5 | 78.3 | 79.3 | 79.3 | 80.2 | 79.3 | 81.2 | 85.0 | 88.8 |
| 157.5° | 72.6 | 74.5 | 74.5 | 79.3 | 81.2 | 81.2 | 82.1 | 81.2 | 80.2 | 81.2 | 85.0 |
| 160° | 75.5 | 77.4 | 77.4 | 80.2 | 83.1 | 83.1 | 84.1 | 83.1 | 82.1 | 81.2 | 81.2 |
| 162.5° | 78.3 | 80.2 | 80.2 | 81.2 | 84.1 | 85.0 | 86.0 | 85.0 | 84.1 | 82.1 | 81.2 |
| 165° | 81.2 | 83.1 | 83.1 | 83.1 | 85.0 | 86.0 | 86.9 | 86.0 | 86.0 | 84.1 | 83.1 |
| 167.5° | 84.1 | 86.0 | 86.0 | 85.0 | 86.0 | 86.9 | 87.9 | 86.9 | 86.9 | 86.0 | 84.1 |
| 170° | 86.9 | 88.8 | 88.8 | 86.9 | 87.9 | 87.9 | 88.8 | 87.9 | 87.9 | 86.0 | 85.0 |
| 172.5° | 88.8 | 90.7 | 89.8 | 88.8 | 88.8 | 88.8 | 88.8 | 87.9 | 86.9 | 85.0 | 85.0 |
| 175° | 89.8 | 91.7 | 91.7 | 89.8 | 88.8 | 88.8 | 89.8 | 87.9 | 86.9 | 86.0 | 84.1 |
| 177.5° | 89.8 | 91.7 | 91.7 | 89.8 | 89.8 | 88.8 | 89.8 | 88.8 | 88.8 | 86.9 | 85.0 |
| 180° | 78.3 | 78.3 | 78.3 | 78.3 | 78.3 | 78.3 | 78.3 | 78.3 | 78.3 | 78.3 | 78.3 |



TEST NUMBER: P893513
 CATALOG NUMBER: 4MB-4SL-FLTU-UNV-L830

CANDELA DISTRIBUTION (continued):

| | 50° | 55° | 60° | 65° | 67.5° | 70° | 75° | 80° | 85° | 90° |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1045.9 | 1045.9 | 1045.9 | 1045.9 | 1045.9 | 1045.9 | 1045.9 | 1045.9 | 1045.9 | 1045.9 |
| 2.5° | 1042.1 | 1041.1 | 1035.4 | 1042.1 | 1042.1 | 1040.2 | 1047.8 | 1046.9 | 1045.9 | 1044.0 |
| 5° | 1038.3 | 1037.3 | 1031.6 | 1038.3 | 1038.3 | 1037.3 | 1044.9 | 1045.9 | 1046.9 | 1044.9 |
| 7.5° | 1032.5 | 1031.6 | 1025.8 | 1032.5 | 1032.5 | 1031.6 | 1040.2 | 1041.1 | 1042.1 | 1039.2 |
| 10° | 1023.9 | 1023.0 | 1017.2 | 1023.9 | 1024.9 | 1023.9 | 1030.6 | 1031.6 | 1033.5 | 1029.7 |
| 12.5° | 1012.5 | 1012.5 | 1006.7 | 1013.4 | 1014.4 | 1013.4 | 1020.1 | 1022.0 | 1023.9 | 1019.2 |
| 15° | 998.1 | 999.1 | 994.3 | 1001.0 | 1002.0 | 1002.0 | 1008.6 | 1009.6 | 1012.5 | 1005.8 |
| 17.5° | 980.9 | 982.9 | 979.0 | 985.7 | 986.7 | 987.6 | 991.5 | 994.3 | 997.2 | 989.5 |
| 20° | 962.8 | 963.8 | 960.9 | 966.6 | 968.5 | 967.6 | 972.4 | 976.2 | 979.0 | 971.4 |
| 22.5° | 940.8 | 941.8 | 938.9 | 944.7 | 946.6 | 947.5 | 951.3 | 956.1 | 958.0 | 951.3 |
| 25° | 916.0 | 919.8 | 917.9 | 923.6 | 925.5 | 925.5 | 929.4 | 934.1 | 937.0 | 927.5 |
| 27.5° | 892.1 | 896.9 | 895.0 | 900.7 | 902.6 | 903.6 | 905.5 | 911.2 | 914.1 | 905.5 |
| 30° | 865.4 | 871.1 | 870.2 | 875.9 | 877.8 | 876.8 | 880.7 | 886.4 | 890.2 | 880.7 |
| 32.5° | 835.8 | 843.4 | 842.5 | 850.1 | 852.0 | 853.0 | 855.8 | 863.5 | 867.3 | 858.7 |
| 35° | 807.1 | 815.7 | 816.7 | 825.3 | 828.1 | 829.1 | 832.9 | 840.5 | 844.4 | 835.8 |
| 37.5° | 777.5 | 789.0 | 791.8 | 800.4 | 803.3 | 804.2 | 808.1 | 816.7 | 820.5 | 811.9 |
| 40° | 748.8 | 762.2 | 766.0 | 773.7 | 776.5 | 779.4 | 782.3 | 790.9 | 795.6 | 787.1 |
| 42.5° | 720.2 | 734.5 | 739.3 | 746.9 | 749.8 | 752.7 | 756.5 | 766.0 | 769.9 | 762.2 |
| 45° | 690.6 | 705.9 | 711.6 | 719.2 | 723.1 | 725.9 | 729.7 | 738.3 | 743.1 | 735.5 |
| 47.5° | 661.0 | 676.3 | 682.0 | 690.6 | 694.4 | 698.2 | 701.1 | 711.6 | 716.4 | 708.7 |
| 50° | 629.5 | 646.6 | 653.3 | 661.0 | 666.7 | 669.6 | 673.4 | 682.9 | 687.7 | 681.0 |
| 52.5° | 597.9 | 616.1 | 623.7 | 631.4 | 637.1 | 641.9 | 643.8 | 654.3 | 659.1 | 652.4 |
| 55° | 565.5 | 583.6 | 592.2 | 600.8 | 606.5 | 612.3 | 614.2 | 624.7 | 629.5 | 619.9 |
| 57.5° | 533.0 | 552.1 | 560.7 | 570.2 | 575.0 | 581.7 | 584.6 | 594.1 | 598.9 | 592.2 |
| 60° | 500.5 | 518.7 | 529.2 | 537.8 | 544.4 | 550.2 | 552.1 | 562.6 | 567.4 | 558.8 |
| 62.5° | 467.1 | 486.2 | 496.7 | 506.2 | 512.0 | 518.7 | 521.5 | 531.1 | 534.9 | 526.3 |
| 65° | 432.7 | 451.8 | 463.3 | 471.8 | 479.5 | 485.2 | 487.1 | 497.6 | 501.5 | 492.9 |
| 67.5° | 398.3 | 417.4 | 429.8 | 439.4 | 446.1 | 452.7 | 454.7 | 465.2 | 469.0 | 462.3 |
| 70° | 364.9 | 384.0 | 396.4 | 407.9 | 412.6 | 419.3 | 422.2 | 431.7 | 435.6 | 429.8 |
| 72.5° | 331.4 | 350.5 | 363.9 | 375.4 | 380.2 | 386.8 | 390.7 | 398.3 | 404.0 | 399.3 |
| 75° | 299.0 | 318.1 | 331.4 | 342.9 | 347.7 | 354.4 | 358.2 | 365.8 | 369.6 | 365.8 |
| 77.5° | 267.4 | 286.5 | 299.0 | 310.4 | 316.2 | 321.9 | 325.7 | 333.4 | 338.1 | 334.3 |
| 80° | 236.9 | 256.0 | 268.4 | 278.9 | 284.6 | 290.4 | 294.2 | 302.8 | 306.6 | 303.7 |
| 82.5° | 208.2 | 226.4 | 239.7 | 250.3 | 256.0 | 261.7 | 265.5 | 273.2 | 278.0 | 274.1 |
| 85° | 182.4 | 200.6 | 213.0 | 223.5 | 228.3 | 234.0 | 237.8 | 245.5 | 249.3 | 247.4 |
| 87.5° | 157.6 | 173.8 | 188.2 | 198.7 | 203.4 | 209.2 | 214.0 | 219.7 | 224.5 | 221.6 |
| 90° | 138.5 | 152.8 | 166.2 | 176.7 | 182.4 | 188.2 | 193.9 | 199.6 | 203.4 | 201.5 |
| 92.5° | 139.5 | 152.8 | 165.2 | 174.8 | 180.5 | 186.3 | 192.0 | 198.7 | 201.5 | 199.6 |
| 95° | 139.5 | 152.8 | 165.2 | 174.8 | 180.5 | 186.3 | 192.0 | 198.7 | 201.5 | 199.6 |
| 97.5° | 139.5 | 152.8 | 165.2 | 174.8 | 180.5 | 186.3 | 192.0 | 198.7 | 201.5 | 198.7 |
| 100° | 139.5 | 152.8 | 165.2 | 174.8 | 180.5 | 185.3 | 191.0 | 197.7 | 200.6 | 198.7 |
| 102.5° | 139.5 | 152.8 | 164.3 | 173.8 | 179.6 | 184.3 | 190.1 | 196.8 | 199.6 | 197.7 |
| 105° | 139.5 | 151.9 | 164.3 | 172.9 | 178.6 | 183.4 | 189.1 | 194.9 | 197.7 | 195.8 |
| 107.5° | 138.5 | 150.9 | 162.4 | 171.9 | 176.7 | 181.5 | 187.2 | 192.9 | 195.8 | 193.9 |
| 110° | 138.5 | 150.0 | 161.4 | 170.0 | 174.8 | 179.6 | 185.3 | 191.0 | 193.9 | 192.0 |



TEST NUMBER: P893513
 CATALOG NUMBER: 4MB-4SL-FLTU-UNV-L830

CANDELA DISTRIBUTION (continued):

| | 50° | 55° | 60° | 65° | 67.5° | 70° | 75° | 80° | 85° | 90° |
|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 112.5° | 137.5 | 149.0 | 160.5 | 168.1 | 172.9 | 177.7 | 182.4 | 189.1 | 192.0 | 190.1 |
| 115° | 136.6 | 148.0 | 158.6 | 166.2 | 171.0 | 174.8 | 180.5 | 187.2 | 189.1 | 188.2 |
| 117.5° | 135.6 | 146.1 | 156.6 | 164.3 | 169.1 | 172.9 | 177.7 | 183.4 | 186.3 | 185.3 |
| 120° | 134.7 | 144.2 | 154.7 | 161.4 | 166.2 | 170.0 | 173.8 | 179.6 | 182.4 | 180.5 |
| 122.5° | 132.8 | 142.3 | 152.8 | 159.5 | 163.3 | 167.2 | 171.0 | 175.7 | 178.6 | 177.7 |
| 125° | 130.9 | 140.4 | 150.0 | 156.6 | 160.5 | 163.3 | 167.2 | 171.9 | 173.8 | 172.9 |
| 127.5° | 128.9 | 138.5 | 147.1 | 152.8 | 157.6 | 160.5 | 163.3 | 168.1 | 170.0 | 169.1 |
| 130° | 127.0 | 135.6 | 144.2 | 150.0 | 153.8 | 156.6 | 159.5 | 164.3 | 165.2 | 165.2 |
| 132.5° | 125.1 | 132.8 | 141.4 | 147.1 | 150.9 | 152.8 | 155.7 | 159.5 | 161.4 | 160.5 |
| 135° | 123.2 | 129.9 | 138.5 | 143.3 | 146.1 | 149.0 | 151.9 | 155.7 | 156.6 | 156.6 |
| 137.5° | 120.4 | 127.0 | 134.7 | 139.5 | 142.3 | 144.2 | 147.1 | 150.9 | 151.9 | 151.9 |
| 140° | 117.5 | 124.2 | 130.9 | 134.7 | 138.5 | 140.4 | 142.3 | 146.1 | 147.1 | 147.1 |
| 142.5° | 114.6 | 120.4 | 127.0 | 130.9 | 134.7 | 135.6 | 138.5 | 141.4 | 142.3 | 142.3 |
| 145° | 110.8 | 117.5 | 123.2 | 127.0 | 129.9 | 130.9 | 133.7 | 136.6 | 136.6 | 137.5 |
| 147.5° | 106.0 | 111.8 | 119.4 | 122.3 | 125.1 | 126.1 | 128.9 | 130.9 | 131.8 | 131.8 |
| 150° | 101.2 | 107.0 | 113.7 | 118.4 | 121.3 | 122.3 | 123.2 | 126.1 | 126.1 | 127.0 |
| 152.5° | 96.5 | 101.2 | 107.9 | 112.7 | 116.5 | 117.5 | 118.4 | 120.4 | 120.4 | 121.3 |
| 155° | 91.7 | 95.5 | 101.2 | 106.0 | 109.8 | 111.8 | 113.7 | 115.6 | 115.6 | 116.5 |
| 157.5° | 87.9 | 91.7 | 96.5 | 100.3 | 103.2 | 106.0 | 108.9 | 110.8 | 110.8 | 110.8 |
| 160° | 83.1 | 86.0 | 90.7 | 93.6 | 97.4 | 99.3 | 104.1 | 106.0 | 106.0 | 107.0 |
| 162.5° | 80.2 | 81.2 | 84.1 | 86.9 | 89.8 | 91.7 | 96.5 | 101.2 | 101.2 | 102.2 |
| 165° | 81.2 | 80.2 | 81.2 | 82.1 | 84.1 | 85.0 | 87.9 | 94.6 | 96.5 | 97.4 |
| 167.5° | 83.1 | 80.2 | 80.2 | 80.2 | 82.1 | 82.1 | 85.0 | 88.8 | 95.5 | 93.6 |
| 170° | 83.1 | 80.2 | 78.3 | 78.3 | 79.3 | 78.3 | 80.2 | 83.1 | 86.9 | 90.7 |
| 172.5° | 84.1 | 81.2 | 78.3 | 74.5 | 75.5 | 74.5 | 72.6 | 72.6 | 73.5 | 86.0 |
| 175° | 83.1 | 81.2 | 77.4 | 72.6 | 71.6 | 68.8 | 63.0 | 58.3 | 55.4 | 43.0 |
| 177.5° | 82.1 | 79.3 | 76.4 | 72.6 | 70.7 | 67.8 | 61.1 | 53.5 | 45.8 | 43.9 |
| 180° | 78.3 | 78.3 | 78.3 | 78.3 | 78.3 | 78.3 | 78.3 | 78.3 | 78.3 | 78.3 |



TEST NUMBER: P893513
 CATALOG NUMBER: 4MB-4SL-FLTU-UNV-L830

CIE UGR TABLE:

| Reflectances: | | | | | | | | | | | |
|-----------------|------|------------------|-------|-------|-------|-------|----------------|-------|-------|-------|-------|
| Ceiling | | 0.7 | 0.7 | 0.5 | 0.5 | 0.3 | 0.7 | 0.7 | 0.5 | 0.5 | 0.3 |
| Wall | | 0.5 | 0.3 | 0.5 | 0.3 | 0.3 | 0.5 | 0.3 | 0.5 | 0.3 | 0.3 |
| Reference plane | | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| Room dimensions | | Viewed crosswise | | | | | Viewed endwise | | | | |
| X=2H | Y=2H | 14.66 | 15.98 | 15.27 | 16.61 | 17.33 | 17.21 | 18.53 | 17.82 | 19.16 | 19.88 |
| | 3H | 16.06 | 17.26 | 16.69 | 17.90 | 18.66 | 19.64 | 20.84 | 20.26 | 21.48 | 22.24 |
| | 4H | 16.49 | 17.63 | 17.14 | 18.28 | 19.05 | 20.78 | 21.91 | 21.42 | 22.57 | 23.34 |
| | 6H | 16.73 | 17.78 | 17.39 | 18.45 | 19.23 | 21.91 | 22.97 | 22.57 | 23.64 | 24.42 |
| | 8H | 16.77 | 17.78 | 17.44 | 18.47 | 19.26 | 22.47 | 23.48 | 23.14 | 24.17 | 24.96 |
| | 12H | 16.78 | 17.75 | 17.46 | 18.43 | 19.25 | 23.06 | 24.02 | 23.73 | 24.70 | 25.52 |
| 4H | 2H | 15.54 | 16.68 | 16.20 | 17.34 | 18.11 | 17.56 | 18.69 | 18.21 | 19.35 | 20.12 |
| | 3H | 17.17 | 18.14 | 17.83 | 18.83 | 19.62 | 20.19 | 21.15 | 20.85 | 21.85 | 22.64 |
| | 4H | 17.72 | 18.61 | 18.40 | 19.31 | 20.12 | 21.48 | 22.36 | 22.16 | 23.06 | 23.88 |
| | 6H | 18.06 | 18.84 | 18.76 | 19.56 | 20.39 | 22.79 | 23.57 | 23.49 | 24.29 | 25.12 |
| | 8H | 18.14 | 18.87 | 18.84 | 19.59 | 20.43 | 23.45 | 24.18 | 24.15 | 24.90 | 25.74 |
| | 12H | 18.17 | 18.83 | 18.90 | 19.58 | 20.42 | 24.15 | 24.81 | 24.87 | 25.55 | 26.40 |
| 8H | 4H | 18.37 | 19.11 | 19.08 | 19.82 | 20.66 | 21.63 | 22.36 | 22.33 | 23.08 | 23.92 |
| | 6H | 18.88 | 19.50 | 19.61 | 20.26 | 21.10 | 23.09 | 23.70 | 23.82 | 24.46 | 25.31 |
| | 8H | 19.03 | 19.59 | 19.78 | 20.35 | 21.21 | 23.87 | 24.42 | 24.61 | 25.18 | 26.04 |
| | 12H | 19.12 | 19.62 | 19.87 | 20.37 | 21.29 | 24.73 | 25.22 | 25.47 | 25.97 | 26.89 |
| 12H | 4H | 18.54 | 19.20 | 19.26 | 19.94 | 20.79 | 21.62 | 22.28 | 22.35 | 23.03 | 23.87 |
| | 6H | 19.14 | 19.69 | 19.88 | 20.45 | 21.31 | 23.10 | 23.66 | 23.85 | 24.42 | 25.28 |
| | 8H | 19.37 | 19.86 | 20.12 | 20.62 | 21.53 | 23.94 | 24.43 | 24.68 | 25.18 | 26.10 |