

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: P893829

Luminaire Tested: 4MB-7HL-FLT-UNV-L930

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893829
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2403-334-4)
Test Lab: INNOVATION CENTER
Issue Date: 11/11/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: 4MB-7HL-FLT-UNV-L930
Description: 7000 Lumen 4FT MICROBAY LINEAR BAY with FLAT FROSTED LENS, 90CRI, 3000K CCT
Light Source: -
Ballast/Driver: -

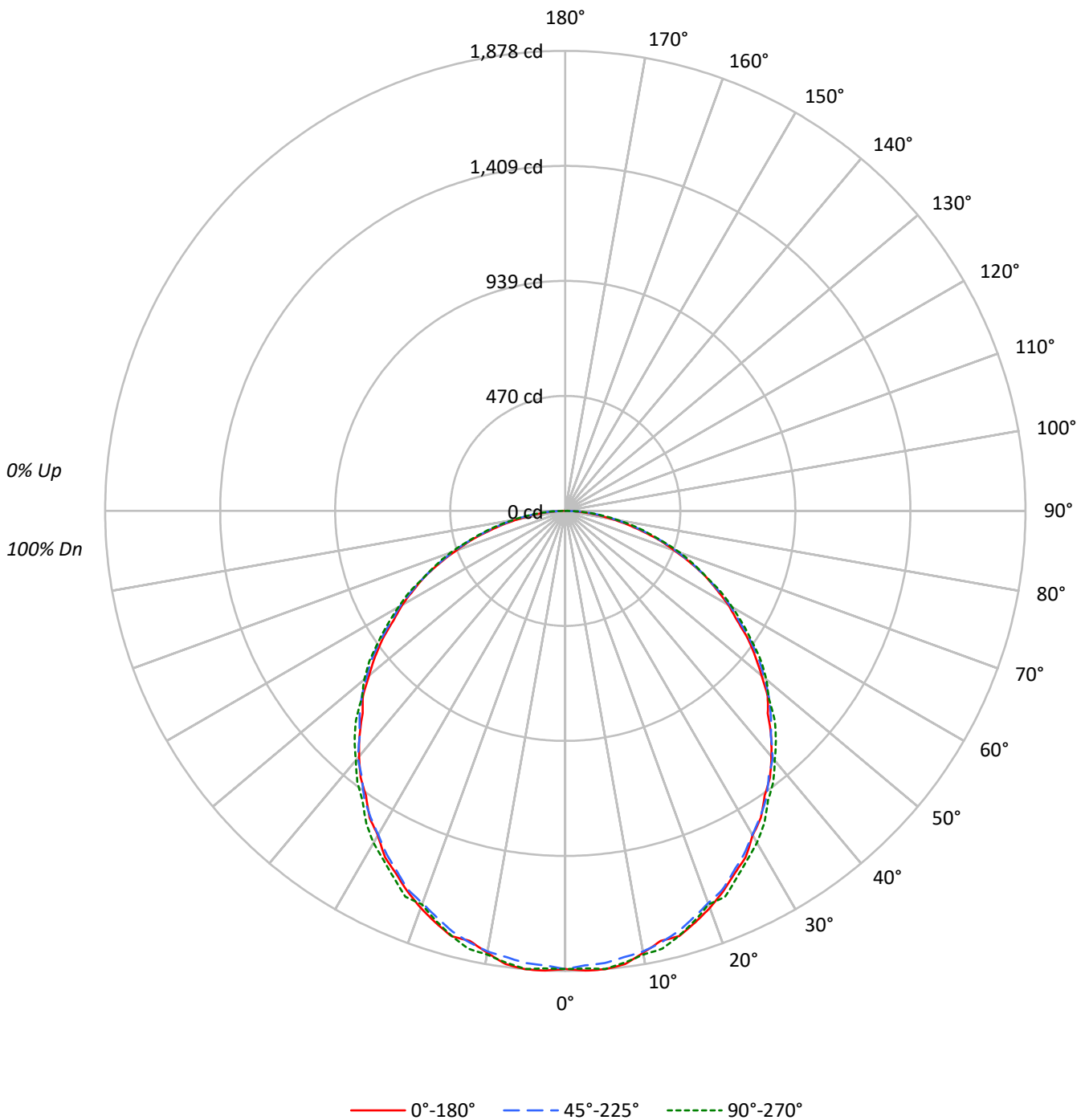
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5182.0 lumens
Efficiency: N/A
Efficacy: 100.0 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.24 / 1.34
Luminous Opening: Rectangular (W 0.38' x L: 3.98' x H: 0')
CIE Type: Direct

Input Watts (W): 51.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: 0.99
Total Harmonic Distortion (THDi): 4
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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CATALOG NUMBER: 4MB-7HL-FLT-UNV-L930

Luminous Intensity Polar Plot





TEST NUMBER: P893829

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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 | 0 |
| RCR | | | | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 102 | 102 | 102 | 100 |
| 1 | 109 | 104 | 99 | 96 | 106 | 102 | 98 | 94 | 97 | 94 | 91 | 93 | 91 | 88 | 90 | 88 | 86 | 86 | 86 | 86 | 84 |
| 2 | 99 | 90 | 84 | 78 | 96 | 89 | 82 | 77 | 85 | 80 | 75 | 82 | 77 | 73 | 79 | 75 | 72 | 72 | 72 | 72 | 70 |
| 3 | 90 | 79 | 71 | 65 | 88 | 78 | 70 | 64 | 75 | 68 | 63 | 72 | 67 | 62 | 69 | 65 | 61 | 61 | 61 | 61 | 59 |
| 4 | 82 | 70 | 62 | 55 | 80 | 69 | 61 | 54 | 67 | 59 | 54 | 64 | 58 | 53 | 62 | 57 | 52 | 52 | 52 | 52 | 50 |
| 5 | 76 | 63 | 54 | 47 | 74 | 62 | 53 | 47 | 60 | 52 | 46 | 58 | 51 | 46 | 56 | 50 | 45 | 45 | 45 | 45 | 43 |
| 6 | 70 | 57 | 48 | 41 | 68 | 56 | 47 | 41 | 54 | 46 | 41 | 52 | 45 | 40 | 51 | 45 | 40 | 40 | 40 | 40 | 38 |
| 7 | 65 | 51 | 43 | 36 | 63 | 51 | 42 | 36 | 49 | 41 | 36 | 48 | 41 | 36 | 46 | 40 | 35 | 35 | 35 | 35 | 33 |
| 8 | 60 | 47 | 38 | 33 | 59 | 46 | 38 | 32 | 45 | 37 | 32 | 44 | 37 | 32 | 42 | 36 | 32 | 32 | 32 | 32 | 30 |
| 9 | 57 | 43 | 35 | 29 | 55 | 42 | 35 | 29 | 41 | 34 | 29 | 40 | 34 | 29 | 39 | 33 | 29 | 29 | 29 | 29 | 27 |
| 10 | 53 | 40 | 32 | 27 | 52 | 39 | 32 | 26 | 38 | 31 | 26 | 37 | 31 | 26 | 36 | 30 | 26 | 26 | 26 | 26 | 24 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 13306 | 13306 | 13306 |
| 5° | 13415 | 13236 | 13404 |
| 10° | 13231 | 13197 | 13284 |
| 15° | 13234 | 13097 | 13223 |
| 20° | 13060 | 12901 | 12949 |
| 25° | 12824 | 12754 | 12982 |
| 30° | 12564 | 12545 | 12856 |
| 35° | 12322 | 12427 | 12532 |
| 40° | 12155 | 12230 | 12350 |
| 45° | 11763 | 11942 | 12161 |
| 50° | 11572 | 11741 | 11857 |
| 55° | 11284 | 11425 | 11545 |
| 60° | 10933 | 11094 | 11198 |
| 65° | 10608 | 10650 | 10650 |
| 70° | 9865 | 10100 | 10352 |
| 75° | 9083 | 9437 | 9638 |
| 80° | 8010 | 8707 | 9002 |
| 85° | 7192 | 8049 | 8637 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 12161 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 177.0 | 3.4 |
| 10°-20° | 504.5 | 9.7 |
| 20°-30° | 756.7 | 14.6 |
| 30°-40° | 898.7 | 17.3 |
| 40°-50° | 920.1 | 17.8 |
| 50°-60° | 824.4 | 15.9 |
| 60°-70° | 626.3 | 12.1 |
| 70°-80° | 364.8 | 7.0 |
| 80°-90° | 109.6 | 2.1 |
| 90°-100° | 0.0 | 0.0 |
| 100°-110° | 0.0 | 0.0 |
| 110°-120° | 0.0 | 0.0 |
| 120°-130° | 0.0 | 0.0 |
| 130°-140° | 0.0 | 0.0 |
| 140°-150° | 0.0 | 0.0 |
| 150°-160° | 0.0 | 0.0 |
| 160°-170° | 0.0 | 0.0 |
| 170°-180° | 0.0 | 0.0 |
| 0°-30° | 1438.2 | 27.8 |
| 0°-40° | 2336.9 | 45.1 |
| 0°-60° | 4081.4 | 78.8 |
| 0°-90° | 5182.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 5182.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1870 | 1870 | 1870 | 1870 | 1870 | |
| 5° | 1878 | 1871 | 1853 | 1864 | 1877 | 178 |
| 15° | 1797 | 1809 | 1778 | 1785 | 1795 | 504 |
| 25° | 1634 | 1648 | 1625 | 1646 | 1654 | 754 |
| 35° | 1419 | 1450 | 1431 | 1436 | 1443 | 892 |
| 45° | 1169 | 1198 | 1187 | 1196 | 1209 | 909 |
| 55° | 910 | 923 | 921 | 932 | 931 | 811 |
| 65° | 630 | 630 | 633 | 641 | 633 | 619 |
| 75° | 330 | 336 | 343 | 354 | 351 | 352 |
| 85° | 88 | 90 | 99 | 105 | 106 | 99 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P893829

CATALOG NUMBER: 4MB-7HL-FLT-UNV-L930

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1870.2 | 1870.2 | 1870.2 | 1870.2 | 1870.2 |
| 2.5° | 1878.3 | 1869.4 | 1857.3 | 1861.3 | 1869.4 |
| 5° | 1878.3 | 1871.0 | 1853.2 | 1864.5 | 1876.7 |
| 7.5° | 1866.2 | 1875.9 | 1837.1 | 1837.1 | 1859.7 |
| 10° | 1831.4 | 1850.0 | 1826.6 | 1824.2 | 1838.7 |
| 12.5° | 1798.3 | 1832.2 | 1804.8 | 1812.8 | 1830.6 |
| 15° | 1796.7 | 1808.8 | 1778.1 | 1785.4 | 1795.1 |
| 17.5° | 1762.0 | 1774.1 | 1740.9 | 1754.7 | 1754.7 |
| 20° | 1724.8 | 1727.2 | 1703.8 | 1733.7 | 1710.2 |
| 22.5° | 1682.0 | 1707.0 | 1674.7 | 1684.4 | 1704.6 |
| 25° | 1633.5 | 1648.0 | 1624.6 | 1645.6 | 1653.7 |
| 27.5° | 1593.9 | 1611.7 | 1579.4 | 1604.4 | 1606.8 |
| 30° | 1529.3 | 1548.7 | 1526.9 | 1543.0 | 1564.8 |
| 32.5° | 1485.7 | 1492.1 | 1480.8 | 1505.1 | 1511.5 |
| 35° | 1418.6 | 1450.1 | 1430.7 | 1436.4 | 1442.8 |
| 37.5° | 1371.8 | 1381.4 | 1364.5 | 1383.9 | 1394.4 |
| 40° | 1308.7 | 1323.3 | 1316.8 | 1320.0 | 1329.7 |
| 42.5° | 1243.3 | 1258.7 | 1241.7 | 1265.1 | 1272.4 |
| 45° | 1169.0 | 1198.1 | 1186.8 | 1196.4 | 1208.6 |
| 47.5° | 1120.5 | 1130.2 | 1127.0 | 1132.6 | 1124.5 |
| 50° | 1045.4 | 1055.1 | 1060.7 | 1068.0 | 1071.2 |
| 52.5° | 978.3 | 985.6 | 996.1 | 1000.1 | 1007.4 |
| 55° | 909.7 | 923.4 | 921.0 | 931.5 | 930.7 |
| 57.5° | 829.7 | 849.9 | 843.4 | 858.8 | 858.8 |
| 60° | 768.3 | 771.5 | 779.6 | 786.9 | 786.9 |
| 62.5° | 697.2 | 701.2 | 705.3 | 711.7 | 716.6 |
| 65° | 630.1 | 630.1 | 632.6 | 640.6 | 632.6 |
| 67.5° | 552.6 | 549.3 | 557.4 | 567.1 | 566.3 |
| 70° | 474.2 | 478.3 | 485.5 | 497.6 | 497.6 |
| 72.5° | 407.2 | 407.2 | 415.2 | 421.7 | 420.9 |
| 75° | 330.4 | 336.1 | 343.3 | 353.8 | 350.6 |
| 77.5° | 261.7 | 265.8 | 277.9 | 287.6 | 288.4 |
| 80° | 195.5 | 199.5 | 212.5 | 222.2 | 219.7 |
| 82.5° | 136.5 | 142.2 | 154.3 | 161.6 | 160.8 |
| 85° | 88.1 | 89.7 | 98.6 | 105.0 | 105.8 |
| 87.5° | 40.4 | 43.6 | 50.1 | 52.5 | 52.5 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



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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 | 20.52 | 22.16 | 20.89 | 22.47 | 22.79 | 20.63 | 22.27 | 20.99 | 22.58 | 22.89 |
| | 3H | 22.30 | 23.78 | 22.68 | 24.11 | 24.47 | 22.46 | 23.95 | 22.84 | 24.27 | 24.63 |
| | 4H | 22.97 | 24.36 | 23.36 | 24.71 | 25.09 | 23.16 | 24.56 | 23.56 | 24.91 | 25.28 |
| | 6H | 23.44 | 24.74 | 23.85 | 25.10 | 25.49 | 23.71 | 25.01 | 24.12 | 25.37 | 25.76 |
| | 8H | 23.59 | 24.83 | 24.01 | 25.22 | 25.61 | 23.90 | 25.14 | 24.33 | 25.53 | 25.93 |
| | 12H | 23.70 | 24.88 | 24.12 | 25.26 | 25.69 | 24.04 | 25.23 | 24.47 | 25.61 | 26.04 |
| 4H | 2H | 21.17 | 22.56 | 21.56 | 22.91 | 23.29 | 21.25 | 22.65 | 21.65 | 22.99 | 23.37 |
| | 3H | 23.17 | 24.34 | 23.58 | 24.74 | 25.14 | 23.31 | 24.49 | 23.72 | 24.88 | 25.28 |
| | 4H | 23.96 | 25.02 | 24.39 | 25.44 | 25.87 | 24.15 | 25.21 | 24.58 | 25.63 | 26.06 |
| | 6H | 24.56 | 25.49 | 25.01 | 25.93 | 26.38 | 24.84 | 25.77 | 25.29 | 26.21 | 26.66 |
| | 8H | 24.76 | 25.63 | 25.22 | 26.07 | 26.53 | 25.09 | 25.96 | 25.54 | 26.40 | 26.86 |
| | 12H | 24.91 | 25.69 | 25.39 | 26.17 | 26.64 | 25.28 | 26.07 | 25.76 | 26.54 | 27.01 |
| 8H | 4H | 24.30 | 25.17 | 24.76 | 25.61 | 26.07 | 24.46 | 25.33 | 24.92 | 25.78 | 26.24 |
| | 6H | 25.02 | 25.75 | 25.51 | 26.23 | 26.71 | 25.29 | 26.01 | 25.78 | 26.50 | 26.97 |
| | 8H | 25.29 | 25.94 | 25.80 | 26.45 | 26.93 | 25.62 | 26.27 | 26.13 | 26.78 | 27.26 |
| | 12H | 25.52 | 26.10 | 26.03 | 26.59 | 27.15 | 25.91 | 26.49 | 26.41 | 26.98 | 27.54 |
| 12H | 4H | 24.34 | 25.12 | 24.82 | 25.60 | 26.07 | 24.50 | 25.28 | 24.98 | 25.76 | 26.22 |
| | 6H | 25.09 | 25.74 | 25.60 | 26.25 | 26.74 | 25.35 | 26.00 | 25.85 | 26.50 | 26.99 |
| | 8H | 25.43 | 26.00 | 25.93 | 26.49 | 27.05 | 25.74 | 26.32 | 26.25 | 26.81 | 27.37 |