

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: P893653

Luminaire Tested: 4MB-5SL-LVRF-UNV-L930

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893653
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2407-175-7)
Test Lab: INNOVATION CENTER
Issue Date: 11/11/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: 4MB-5SL-LVRF-UNV-L930
Description: 5000 Lumen 4FT MICROBAY LINEAR BAY with LOUVER WITH FROSTED INLAY, 90CRI, 3000K C
Light Source: -
Ballast/Driver: -

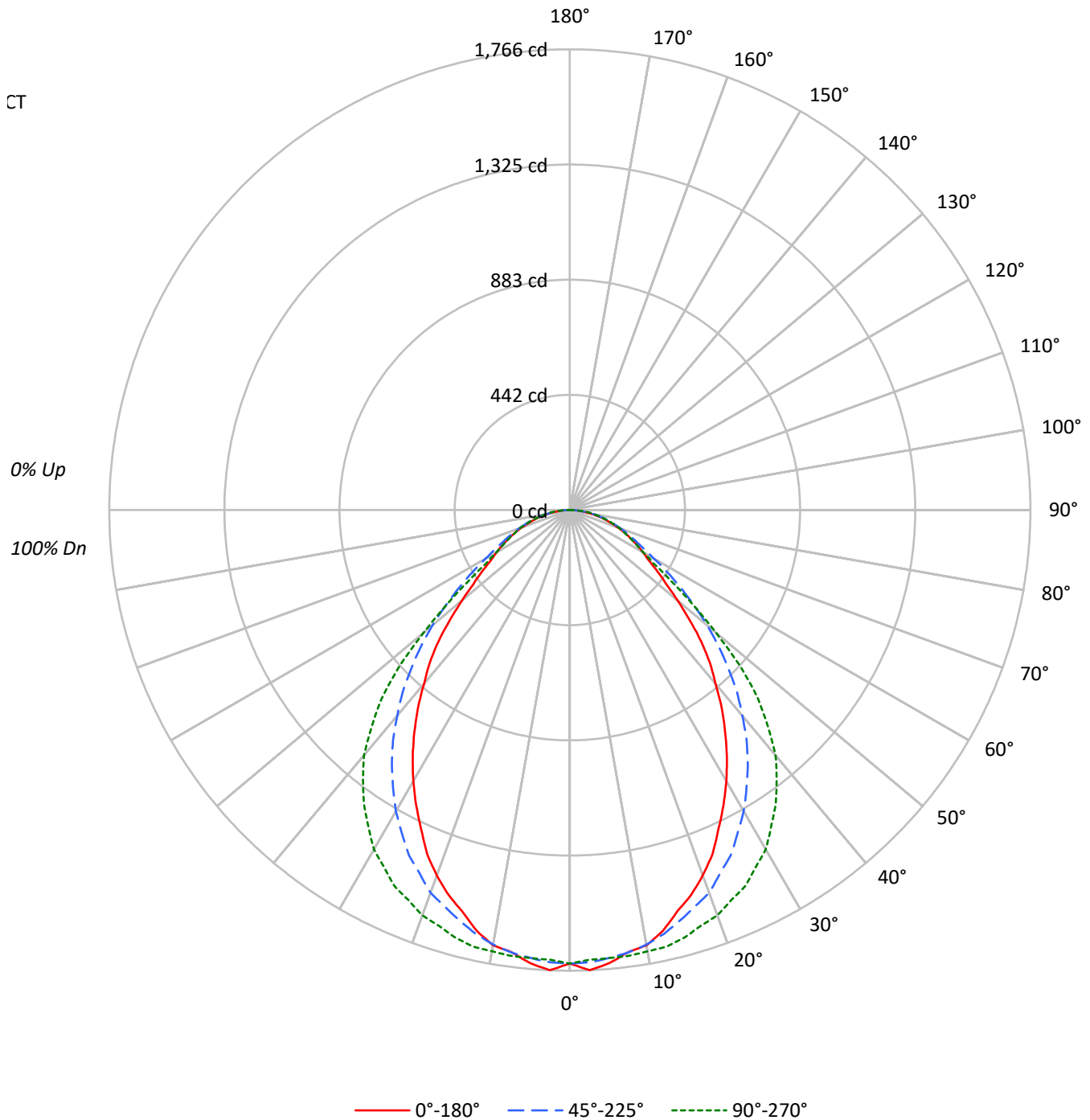
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3613.0 lumens
Efficiency: N/A
Efficacy: 103.2 lumens/watt
Spacing Criteria (0/90/45): 1.06 / 1.27 / 1.23
Luminous Opening: Rectangular (W 0.38' x L: 3.98' x H: 0')
CIE Type: Direct

Input Watts (W): 35
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: 0.995
Total Harmonic Distortion (THDi): 9.55
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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Luminous Intensity Polar Plot





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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 | 110 | 106 | 102 | 99 | 108 | 104 | 100 | 97 | 100 | 97 | 94 | 96 | 93 | 91 | 92 | 90 | 89 | 89 | 89 | 89 | 87 |
| 2 | 102 | 94 | 88 | 83 | 99 | 92 | 87 | 82 | 89 | 84 | 80 | 86 | 82 | 79 | 83 | 80 | 77 | 77 | 77 | 77 | 75 |
| 3 | 94 | 84 | 77 | 71 | 91 | 83 | 76 | 70 | 80 | 74 | 69 | 77 | 72 | 68 | 75 | 71 | 67 | 67 | 67 | 67 | 65 |
| 4 | 87 | 76 | 68 | 62 | 84 | 74 | 67 | 61 | 72 | 66 | 60 | 70 | 64 | 60 | 68 | 63 | 59 | 59 | 59 | 59 | 57 |
| 5 | 80 | 68 | 60 | 54 | 78 | 67 | 60 | 54 | 65 | 59 | 53 | 63 | 58 | 53 | 62 | 56 | 52 | 52 | 52 | 52 | 50 |
| 6 | 75 | 62 | 54 | 48 | 73 | 61 | 54 | 48 | 60 | 53 | 48 | 58 | 52 | 47 | 56 | 51 | 47 | 47 | 47 | 47 | 45 |
| 7 | 69 | 57 | 49 | 43 | 68 | 56 | 48 | 43 | 55 | 48 | 43 | 53 | 47 | 42 | 52 | 46 | 42 | 42 | 42 | 42 | 40 |
| 8 | 65 | 52 | 44 | 39 | 63 | 52 | 44 | 39 | 50 | 44 | 39 | 49 | 43 | 38 | 48 | 42 | 38 | 38 | 38 | 38 | 36 |
| 9 | 61 | 48 | 41 | 35 | 60 | 48 | 40 | 35 | 47 | 40 | 35 | 46 | 39 | 35 | 45 | 39 | 35 | 35 | 35 | 35 | 33 |
| 10 | 57 | 45 | 37 | 32 | 56 | 44 | 37 | 32 | 43 | 37 | 32 | 42 | 36 | 32 | 42 | 36 | 32 | 32 | 32 | 32 | 30 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 12369 | 12369 | 12369 |
| 5° | 12455 | 12312 | 12312 |
| 10° | 12239 | 12220 | 12409 |
| 15° | 11733 | 12006 | 12499 |
| 20° | 11287 | 11828 | 12519 |
| 25° | 10589 | 11462 | 12491 |
| 30° | 9856 | 10955 | 12344 |
| 35° | 9022 | 10334 | 11951 |
| 40° | 8078 | 9555 | 11402 |
| 45° | 7168 | 8650 | 10251 |
| 50° | 5964 | 7615 | 8085 |
| 55° | 5080 | 6414 | 5876 |
| 60° | 4605 | 5301 | 4643 |
| 65° | 4337 | 4642 | 4322 |
| 70° | 4082 | 4306 | 4213 |
| 75° | 3802 | 4102 | 4025 |
| 80° | 3483 | 3778 | 3888 |
| 85° | 3029 | 3323 | 4351 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 10251 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 164.6 | 4.6 |
| 10°-20° | 463.1 | 12.8 |
| 20°-30° | 672.6 | 18.6 |
| 30°-40° | 748.9 | 20.7 |
| 40°-50° | 661.7 | 18.3 |
| 50°-60° | 434.2 | 12.0 |
| 60°-70° | 265.9 | 7.4 |
| 70°-80° | 154.7 | 4.3 |
| 80°-90° | 47.4 | 1.3 |
| 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° | 1300.3 | 36.0 |
| 0°-40° | 2049.2 | 56.7 |
| 0°-60° | 3145.1 | 87.0 |
| 0°-90° | 3613.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3613.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1738 | 1738 | 1738 | 1738 | 1738 | |
| 5° | 1744 | 1745 | 1724 | 1741 | 1724 | 164 |
| 15° | 1593 | 1611 | 1630 | 1694 | 1697 | 449 |
| 25° | 1349 | 1381 | 1460 | 1553 | 1591 | 621 |
| 35° | 1039 | 1095 | 1190 | 1315 | 1376 | 648 |
| 45° | 712 | 756 | 860 | 975 | 1019 | 545 |
| 55° | 410 | 438 | 517 | 513 | 474 | 371 |
| 65° | 258 | 262 | 276 | 268 | 257 | 256 |
| 75° | 138 | 140 | 149 | 152 | 146 | 147 |
| 85° | 37 | 39 | 41 | 46 | 53 | 42 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P893653
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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1738.4 | 1738.4 | 1738.4 | 1738.4 | 1738.4 |
| 2.5° | 1765.5 | 1743.8 | 1735.7 | 1743.8 | 1725.8 |
| 5° | 1743.8 | 1744.7 | 1723.9 | 1741.1 | 1723.9 |
| 7.5° | 1709.5 | 1721.2 | 1711.3 | 1737.5 | 1723.9 |
| 10° | 1694.1 | 1695.0 | 1691.4 | 1718.5 | 1717.6 |
| 12.5° | 1651.6 | 1654.3 | 1664.3 | 1705.0 | 1714.0 |
| 15° | 1592.9 | 1610.9 | 1629.9 | 1694.1 | 1696.8 |
| 17.5° | 1546.8 | 1568.5 | 1593.8 | 1662.5 | 1670.6 |
| 20° | 1490.7 | 1499.8 | 1562.1 | 1622.7 | 1653.4 |
| 22.5° | 1428.3 | 1445.5 | 1506.1 | 1587.4 | 1618.2 |
| 25° | 1348.8 | 1381.3 | 1460.0 | 1553.1 | 1591.1 |
| 27.5° | 1275.6 | 1313.5 | 1394.9 | 1498.8 | 1543.1 |
| 30° | 1199.6 | 1243.0 | 1333.4 | 1435.6 | 1502.5 |
| 32.5° | 1121.0 | 1175.2 | 1261.1 | 1378.6 | 1437.4 |
| 35° | 1038.7 | 1094.8 | 1189.7 | 1315.3 | 1375.9 |
| 37.5° | 956.4 | 1010.7 | 1113.7 | 1248.4 | 1302.7 |
| 40° | 869.7 | 923.0 | 1028.8 | 1165.3 | 1227.6 |
| 42.5° | 794.6 | 840.7 | 949.2 | 1065.8 | 1123.7 |
| 45° | 712.4 | 755.8 | 859.7 | 975.4 | 1018.8 |
| 47.5° | 622.0 | 672.6 | 773.8 | 868.8 | 885.9 |
| 50° | 538.8 | 591.2 | 688.0 | 743.1 | 730.4 |
| 52.5° | 465.6 | 509.9 | 598.5 | 622.0 | 592.1 |
| 55° | 409.5 | 438.4 | 517.1 | 512.6 | 473.7 |
| 57.5° | 358.0 | 376.1 | 443.0 | 417.7 | 380.6 |
| 60° | 323.6 | 331.8 | 372.5 | 348.9 | 326.3 |
| 62.5° | 291.1 | 294.7 | 316.4 | 303.7 | 286.6 |
| 65° | 257.6 | 262.2 | 275.7 | 267.6 | 256.7 |
| 67.5° | 226.9 | 228.7 | 241.4 | 239.6 | 226.0 |
| 70° | 196.2 | 198.9 | 207.0 | 210.6 | 202.5 |
| 72.5° | 166.3 | 169.0 | 177.2 | 180.8 | 173.6 |
| 75° | 138.3 | 140.1 | 149.2 | 151.9 | 146.4 |
| 77.5° | 111.2 | 114.8 | 120.2 | 124.8 | 118.4 |
| 80° | 85.0 | 86.8 | 92.2 | 97.6 | 94.9 |
| 82.5° | 59.7 | 62.4 | 66.0 | 73.2 | 75.0 |
| 85° | 37.1 | 38.9 | 40.7 | 46.1 | 53.3 |
| 87.5° | 14.5 | 15.4 | 18.1 | 19.9 | 26.2 |
| 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 | 16.27 | 17.75 | 16.63 | 18.06 | 18.38 | 16.92 | 18.40 | 17.29 | 18.72 | 19.03 |
| | 3H | 17.87 | 19.20 | 18.25 | 19.52 | 19.89 | 18.36 | 19.68 | 18.73 | 20.01 | 20.37 |
| | 4H | 18.49 | 19.73 | 18.89 | 20.08 | 20.46 | 18.96 | 20.20 | 19.36 | 20.55 | 20.93 |
| | 6H | 18.96 | 20.10 | 19.37 | 20.47 | 20.86 | 19.45 | 20.59 | 19.86 | 20.96 | 21.35 |
| | 8H | 19.11 | 20.20 | 19.54 | 20.59 | 20.99 | 19.64 | 20.74 | 20.07 | 21.13 | 21.53 |
| | 12H | 19.21 | 20.25 | 19.64 | 20.64 | 21.07 | 19.81 | 20.86 | 20.24 | 21.24 | 21.67 |
| 4H | 2H | 16.89 | 18.13 | 17.29 | 18.48 | 18.86 | 17.41 | 18.66 | 17.81 | 19.01 | 19.38 |
| | 3H | 18.71 | 19.74 | 19.12 | 20.14 | 20.54 | 19.11 | 20.14 | 19.52 | 20.54 | 20.94 |
| | 4H | 19.45 | 20.37 | 19.88 | 20.79 | 21.23 | 19.86 | 20.79 | 20.30 | 21.21 | 21.65 |
| | 6H | 20.05 | 20.85 | 20.50 | 21.29 | 21.76 | 20.50 | 21.30 | 20.96 | 21.75 | 22.21 |
| | 8H | 20.24 | 21.00 | 20.71 | 21.44 | 21.91 | 20.75 | 21.51 | 21.22 | 21.95 | 22.42 |
| | 12H | 20.39 | 21.06 | 20.87 | 21.54 | 22.01 | 20.98 | 21.65 | 21.46 | 22.13 | 22.60 |
| 8H | 4H | 19.77 | 20.52 | 20.23 | 20.96 | 21.43 | 20.13 | 20.89 | 20.60 | 21.33 | 21.80 |
| | 6H | 20.49 | 21.11 | 20.99 | 21.61 | 22.08 | 20.91 | 21.53 | 21.41 | 22.02 | 22.50 |
| | 8H | 20.76 | 21.32 | 21.28 | 21.84 | 22.32 | 21.25 | 21.81 | 21.77 | 22.32 | 22.81 |
| | 12H | 20.98 | 21.48 | 21.49 | 21.97 | 22.54 | 21.57 | 22.07 | 22.08 | 22.56 | 23.13 |
| 12H | 4H | 19.80 | 20.47 | 20.28 | 20.95 | 21.42 | 20.15 | 20.83 | 20.64 | 21.31 | 21.78 |
| | 6H | 20.56 | 21.12 | 21.07 | 21.63 | 22.12 | 20.95 | 21.52 | 21.47 | 22.03 | 22.52 |
| | 8H | 20.89 | 21.39 | 21.40 | 21.88 | 22.44 | 21.36 | 21.86 | 21.87 | 22.35 | 22.92 |