

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: P892851

Luminaire Tested: 2MB-5HL-LVRA-UNV-L940

Issue Date: 11/11/2024

**Test Information**

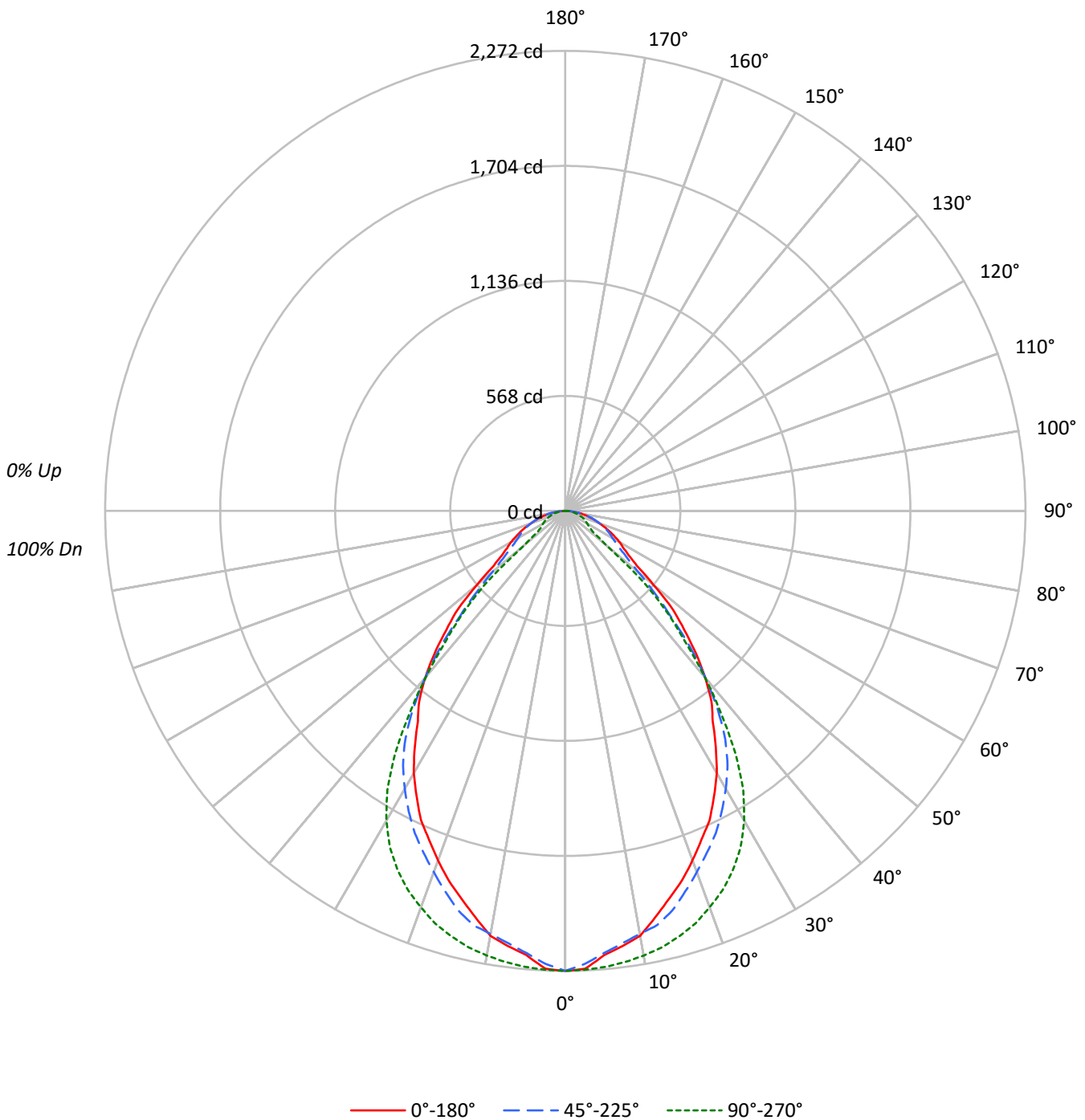
Test Method: LM-79-2019  
Report Number: P892851  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2404-077-26)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 2MB-5HL-LVRA-UNV-L940  
Description: 5000 Lumen 2FT MICROBAY LINEAR BAY with LOUVER WITH AISLE OPTIC, 90CRI, 4000K CCT  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3687.0 lumens  
Efficiency: N/A  
Efficacy: 109.4 lumens/watt  
Spacing Criteria (0/90/45): 1.02 / 1.16 / 1.12  
Luminous Opening: Rectangular (W 0.38' x L: 1.98' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.7  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: 0.99  
Total Harmonic Distortion (THDi): 4.5  
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 |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |    |    |
| 1   | 111 | 107 | 104 | 101 | 108 | 105 | 102 | 99  | 101 | 98  | 96  | 97  | 95  | 93  | 93  | 92  | 90  | 88  |    |    |
| 2   | 103 | 96  | 91  | 86  | 101 | 95  | 90  | 85  | 91  | 87  | 83  | 88  | 85  | 82  | 85  | 82  | 80  | 78  |    |    |
| 3   | 96  | 87  | 80  | 75  | 94  | 86  | 80  | 75  | 83  | 78  | 73  | 80  | 76  | 72  | 78  | 74  | 71  | 69  |    |    |
| 4   | 89  | 79  | 72  | 66  | 87  | 78  | 71  | 66  | 76  | 70  | 65  | 73  | 68  | 64  | 71  | 67  | 63  | 62  |    |    |
| 5   | 83  | 72  | 65  | 59  | 81  | 71  | 64  | 59  | 69  | 63  | 58  | 67  | 62  | 58  | 66  | 61  | 57  | 55  |    |    |
| 6   | 78  | 66  | 59  | 53  | 76  | 65  | 58  | 53  | 64  | 57  | 53  | 62  | 57  | 52  | 61  | 56  | 52  | 50  |    |    |
| 7   | 73  | 61  | 54  | 48  | 71  | 60  | 53  | 48  | 59  | 52  | 48  | 58  | 52  | 47  | 56  | 51  | 47  | 45  |    |    |
| 8   | 68  | 57  | 49  | 44  | 67  | 56  | 49  | 44  | 55  | 48  | 44  | 53  | 48  | 43  | 52  | 47  | 43  | 41  |    |    |
| 9   | 64  | 52  | 45  | 40  | 63  | 52  | 45  | 40  | 51  | 44  | 40  | 50  | 44  | 40  | 49  | 44  | 40  | 38  |    |    |
| 10  | 61  | 49  | 42  | 37  | 60  | 48  | 42  | 37  | 47  | 41  | 37  | 47  | 41  | 37  | 46  | 40  | 37  | 35  |    |    |

**AVERAGE LUMINANCE (cd/sqm):**

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 32499 | 32499 | 32499 |
| 5°  | 31622 | 31479 | 32463 |
| 10° | 30951 | 30814 | 32388 |
| 15° | 29352 | 30254 | 32206 |
| 20° | 27961 | 28907 | 31714 |
| 25° | 26598 | 27735 | 30904 |
| 30° | 24712 | 26182 | 29180 |
| 35° | 22158 | 24060 | 25593 |
| 40° | 20075 | 20118 | 20010 |
| 45° | 16786 | 14866 | 14500 |
| 50° | 12679 | 10464 | 5929  |
| 55° | 9535  | 8368  | 3739  |
| 60° | 8861  | 7705  | 3602  |
| 65° | 8246  | 7691  | 3608  |
| 70° | 7541  | 7541  | 3551  |
| 75° | 7152  | 7346  | 3432  |
| 80° | 6607  | 6945  | 3518  |
| 85° | 5761  | 6057  | 3841  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 22.5°  
 Vertical Angle: 45°  
 Luminance: 17176 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 209.8  | 5.7       |
| 10°-20°   | 578.2  | 15.7      |
| 20°-30°   | 819.9  | 22.2      |
| 30°-40°   | 844.7  | 22.9      |
| 40°-50°   | 590.0  | 16.0      |
| 50°-60°   | 283.1  | 7.7       |
| 60°-70°   | 198.6  | 5.4       |
| 70°-80°   | 124.2  | 3.4       |
| 80°-90°   | 38.4   | 1.0       |
| 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°    | 1608.0 | 43.6      |
| 0°-40°    | 2452.7 | 66.5      |
| 0°-60°    | 3325.8 | 90.2      |
| 0°-90°    | 3687.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3687.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 2272 | 2272  | 2272 | 2272  | 2272 |      |
| 5°  | 2202 | 2199  | 2192 | 2250  | 2261 | 208  |
| 15° | 1982 | 1997  | 2043 | 2101  | 2175 | 558  |
| 25° | 1685 | 1702  | 1757 | 1876  | 1958 | 771  |
| 35° | 1269 | 1303  | 1378 | 1406  | 1466 | 800  |
| 45° | 830  | 849   | 735  | 697   | 717  | 639  |
| 55° | 382  | 364   | 336  | 215   | 150  | 358  |
| 65° | 244  | 228   | 227  | 173   | 107  | 241  |
| 75° | 129  | 128   | 133  | 115   | 62   | 136  |
| 85° | 35   | 35    | 37   | 36    | 23   | 39   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 2271.8 | 2271.8 | 2271.8 | 2271.8 | 2271.8 |
| 2.5°  | 2263.0 | 2256.0 | 2239.0 | 2270.0 | 2267.7 |
| 5°    | 2202.1 | 2199.2 | 2192.1 | 2249.5 | 2260.6 |
| 7.5°  | 2167.6 | 2161.7 | 2153.5 | 2216.7 | 2247.8 |
| 10°   | 2130.7 | 2137.7 | 2121.3 | 2179.3 | 2229.6 |
| 12.5° | 2054.5 | 2073.3 | 2095.5 | 2140.6 | 2207.4 |
| 15°   | 1981.9 | 1996.6 | 2042.8 | 2101.4 | 2174.6 |
| 17.5° | 1914.0 | 1931.0 | 1970.8 | 2058.6 | 2136.5 |
| 20°   | 1836.7 | 1860.2 | 1898.8 | 2011.2 | 2083.2 |
| 22.5° | 1757.1 | 1778.8 | 1827.4 | 1948.0 | 2028.2 |
| 25°   | 1685.1 | 1702.1 | 1757.1 | 1876.0 | 1957.9 |
| 27.5° | 1589.7 | 1621.3 | 1673.4 | 1788.1 | 1874.2 |
| 30°   | 1496.0 | 1522.9 | 1585.0 | 1681.6 | 1766.5 |
| 32.5° | 1383.0 | 1422.2 | 1490.7 | 1564.5 | 1635.3 |
| 35°   | 1268.8 | 1303.3 | 1377.7 | 1406.4 | 1465.5 |
| 37.5° | 1185.7 | 1195.0 | 1237.2 | 1233.7 | 1267.0 |
| 40°   | 1075.0 | 1093.7 | 1077.3 | 1033.4 | 1071.5 |
| 42.5° | 955.5  | 977.8  | 911.6  | 860.7  | 874.2  |
| 45°   | 829.7  | 849.0  | 734.8  | 697.3  | 716.7  |
| 47.5° | 720.8  | 719.0  | 592.5  | 567.4  | 540.4  |
| 50°   | 569.7  | 588.4  | 470.2  | 423.3  | 266.4  |
| 52.5° | 445.0  | 452.0  | 387.6  | 270.5  | 175.1  |
| 55°   | 382.3  | 363.6  | 335.5  | 214.9  | 149.9  |
| 57.5° | 339.6  | 316.2  | 297.4  | 199.7  | 137.0  |
| 60°   | 309.7  | 283.4  | 269.3  | 189.7  | 125.9  |
| 62.5° | 275.8  | 255.3  | 250.0  | 180.9  | 115.9  |
| 65°   | 243.6  | 227.8  | 227.2  | 172.7  | 106.6  |
| 67.5° | 211.4  | 202.6  | 204.9  | 162.8  | 96.0   |
| 70°   | 180.3  | 178.6  | 180.3  | 149.9  | 84.9   |
| 72.5° | 154.0  | 152.2  | 156.9  | 133.5  | 72.6   |
| 75°   | 129.4  | 127.6  | 132.9  | 114.8  | 62.1   |
| 77.5° | 103.0  | 104.2  | 107.7  | 95.4   | 52.1   |
| 80°   | 80.2   | 80.2   | 84.3   | 74.9   | 42.7   |
| 82.5° | 57.4   | 58.0   | 60.3   | 55.0   | 33.4   |
| 85°   | 35.1   | 35.1   | 36.9   | 36.3   | 23.4   |
| 87.5° | 11.7   | 13.5   | 15.8   | 17.0   | 11.7   |
| 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 | 17.74            | 19.10 | 18.11 | 19.41 | 19.72 | 14.08          | 15.43 | 14.44 | 15.74 | 16.06 |
|                 | 3H   | 19.48            | 20.69 | 19.86 | 21.02 | 21.38 | 16.05          | 17.26 | 16.43 | 17.59 | 17.95 |
|                 | 4H   | 20.15            | 21.28 | 20.55 | 21.63 | 22.01 | 16.76          | 17.88 | 17.16 | 18.23 | 18.62 |
|                 | 6H   | 20.66            | 21.70 | 21.07 | 22.07 | 22.46 | 17.28          | 18.32 | 17.69 | 18.69 | 19.08 |
|                 | 8H   | 20.83            | 21.82 | 21.26 | 22.21 | 22.61 | 17.46          | 18.45 | 17.89 | 18.84 | 19.24 |
|                 | 12H  | 20.94            | 21.88 | 21.37 | 22.26 | 22.69 | 17.60          | 18.54 | 18.03 | 18.93 | 19.36 |
| 4H              | 2H   | 18.27            | 19.40 | 18.67 | 19.75 | 20.13 | 15.70          | 16.82 | 16.10 | 17.17 | 17.56 |
|                 | 3H   | 20.25            | 21.18 | 20.66 | 21.58 | 21.99 | 17.87          | 18.80 | 18.29 | 19.21 | 19.61 |
|                 | 4H   | 21.05            | 21.89 | 21.49 | 22.31 | 22.75 | 18.75          | 19.59 | 19.19 | 20.01 | 20.45 |
|                 | 6H   | 21.69            | 22.42 | 22.16 | 22.86 | 23.33 | 19.40          | 20.12 | 19.86 | 20.57 | 21.03 |
|                 | 8H   | 21.91            | 22.59 | 22.38 | 23.04 | 23.51 | 19.61          | 20.28 | 20.07 | 20.73 | 21.20 |
|                 | 12H  | 22.07            | 22.67 | 22.55 | 23.15 | 23.62 | 19.76          | 20.36 | 20.25 | 20.85 | 21.32 |
| 8H              | 4H   | 21.34            | 22.01 | 21.80 | 22.46 | 22.93 | 19.40          | 20.08 | 19.87 | 20.53 | 21.00 |
|                 | 6H   | 22.12            | 22.67 | 22.62 | 23.17 | 23.65 | 20.26          | 20.82 | 20.76 | 21.31 | 21.79 |
|                 | 8H   | 22.42            | 22.92 | 22.94 | 23.43 | 23.92 | 20.59          | 21.09 | 21.11 | 21.60 | 22.10 |
|                 | 12H  | 22.66            | 23.10 | 23.17 | 23.59 | 24.16 | 20.85          | 21.29 | 21.37 | 21.79 | 22.36 |
| 12H             | 4H   | 21.35            | 21.95 | 21.84 | 22.43 | 22.91 | 19.48          | 20.08 | 19.96 | 20.56 | 21.03 |
|                 | 6H   | 22.17            | 22.67 | 22.69 | 23.18 | 23.68 | 20.40          | 20.90 | 20.92 | 21.41 | 21.91 |
|                 | 8H   | 22.54            | 22.98 | 23.05 | 23.47 | 24.04 | 20.81          | 21.25 | 21.33 | 21.75 | 22.32 |