

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: P893176

Luminaire Tested: 4MB-10HL-FLT-UNV-L950

Issue Date: 11/11/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P893176  
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-10HL-FLT-UNV-L950  
Description: 10000 Lumen 4FT MICROBAY LINEAR BAY with FLAT FROSTED LENS, 90CRI, 5000K CCT  
Light Source: -  
Ballast/Driver: -

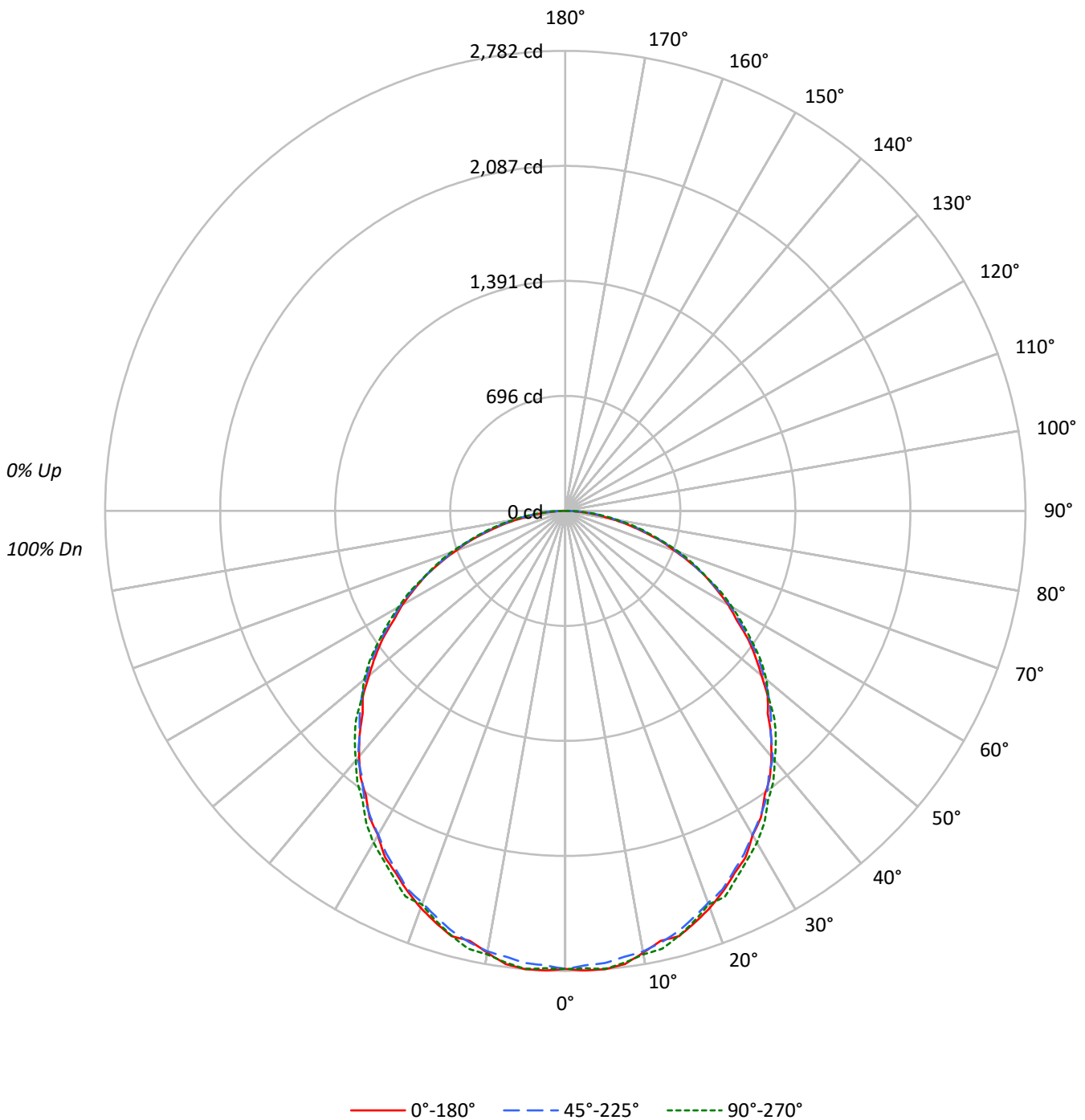
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7675.0 lumens  
Efficiency: N/A  
Efficacy: 101.7 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): 75.5  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: 0.997  
Total Harmonic Distortion (THDi): 7.45  
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  |     |     |     | 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°  | 19708 | 19708 | 19708 |
| 5°  | 19869 | 19604 | 19852 |
| 10° | 19597 | 19545 | 19675 |
| 15° | 19602 | 19398 | 19584 |
| 20° | 19342 | 19107 | 19179 |
| 25° | 18994 | 18890 | 19228 |
| 30° | 18609 | 18579 | 19042 |
| 35° | 18250 | 18405 | 18562 |
| 40° | 18004 | 18114 | 18293 |
| 45° | 17422 | 17686 | 18011 |
| 50° | 17138 | 17389 | 17562 |
| 55° | 16713 | 16920 | 17099 |
| 60° | 16192 | 16430 | 16584 |
| 65° | 15713 | 15773 | 15773 |
| 70° | 14612 | 14959 | 15334 |
| 75° | 13454 | 13979 | 14276 |
| 80° | 11866 | 12894 | 13337 |
| 85° | 10645 | 11919 | 12792 |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 18011 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 262.2  | 3.4       |
| 10°-20°   | 747.2  | 9.7       |
| 20°-30°   | 1120.7 | 14.6      |
| 30°-40°   | 1331.0 | 17.3      |
| 40°-50°   | 1362.8 | 17.8      |
| 50°-60°   | 1221.0 | 15.9      |
| 60°-70°   | 927.6  | 12.1      |
| 70°-80°   | 540.3  | 7.0       |
| 80°-90°   | 162.2  | 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°    | 2130.1 | 27.8      |
| 0°-40°    | 3461.1 | 45.1      |
| 0°-60°    | 6045.0 | 78.8      |
| 0°-90°    | 7675.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 7675.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 2770 | 2770  | 2770 | 2770  | 2770 |      |
| 5°  | 2782 | 2771  | 2745 | 2762  | 2780 | 263  |
| 15° | 2661 | 2679  | 2634 | 2644  | 2659 | 747  |
| 25° | 2419 | 2441  | 2406 | 2437  | 2449 | 1116 |
| 35° | 2101 | 2148  | 2119 | 2127  | 2137 | 1321 |
| 45° | 1731 | 1774  | 1758 | 1772  | 1790 | 1347 |
| 55° | 1347 | 1368  | 1364 | 1380  | 1378 | 1200 |
| 65° | 933  | 933   | 937  | 949   | 937  | 917  |
| 75° | 489  | 498   | 508  | 524   | 519  | 521  |
| 85° | 130  | 133   | 146  | 156   | 157  | 146  |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 2769.9 | 2769.9 | 2769.9 | 2769.9 | 2769.9 |
| 2.5°  | 2781.9 | 2768.7 | 2750.8 | 2756.8 | 2768.7 |
| 5°    | 2781.9 | 2771.1 | 2744.8 | 2761.6 | 2779.5 |
| 7.5°  | 2764.0 | 2778.3 | 2720.9 | 2720.9 | 2754.4 |
| 10°   | 2712.5 | 2740.0 | 2705.3 | 2701.7 | 2723.3 |
| 12.5° | 2663.4 | 2713.7 | 2673.0 | 2685.0 | 2711.3 |
| 15°   | 2661.1 | 2679.0 | 2633.5 | 2644.3 | 2658.7 |
| 17.5° | 2609.6 | 2627.6 | 2578.5 | 2598.8 | 2598.8 |
| 20°   | 2554.6 | 2558.2 | 2523.5 | 2567.7 | 2533.0 |
| 22.5° | 2491.1 | 2528.2 | 2480.4 | 2494.7 | 2524.7 |
| 25°   | 2419.4 | 2440.9 | 2406.2 | 2437.3 | 2449.3 |
| 27.5° | 2360.7 | 2387.1 | 2339.2 | 2376.3 | 2379.9 |
| 30°   | 2265.0 | 2293.7 | 2261.4 | 2285.3 | 2317.7 |
| 32.5° | 2200.4 | 2210.0 | 2193.2 | 2229.1 | 2238.7 |
| 35°   | 2101.1 | 2147.7 | 2119.0 | 2127.4 | 2137.0 |
| 37.5° | 2031.7 | 2046.0 | 2020.9 | 2049.6 | 2065.2 |
| 40°   | 1938.4 | 1959.9 | 1950.3 | 1955.1 | 1969.5 |
| 42.5° | 1841.4 | 1864.2 | 1839.0 | 1873.7 | 1884.5 |
| 45°   | 1731.4 | 1774.4 | 1757.7 | 1772.0 | 1790.0 |
| 47.5° | 1659.6 | 1673.9 | 1669.1 | 1677.5 | 1665.6 |
| 50°   | 1548.3 | 1562.7 | 1571.0 | 1581.8 | 1586.6 |
| 52.5° | 1449.0 | 1459.8 | 1475.3 | 1481.3 | 1492.1 |
| 55°   | 1347.3 | 1367.6 | 1364.0 | 1379.6 | 1378.4 |
| 57.5° | 1228.8 | 1258.7 | 1249.2 | 1271.9 | 1271.9 |
| 60°   | 1137.9 | 1142.7 | 1154.6 | 1165.4 | 1165.4 |
| 62.5° | 1032.6 | 1038.6 | 1044.6 | 1054.1 | 1061.3 |
| 65°   | 933.3  | 933.3  | 936.9  | 948.8  | 936.9  |
| 67.5° | 818.4  | 813.6  | 825.6  | 840.0  | 838.8  |
| 70°   | 702.4  | 708.3  | 719.1  | 737.1  | 737.1  |
| 72.5° | 603.0  | 603.0  | 615.0  | 624.6  | 623.4  |
| 75°   | 489.4  | 497.8  | 508.5  | 524.1  | 519.3  |
| 77.5° | 387.7  | 393.7  | 411.6  | 426.0  | 427.2  |
| 80°   | 289.6  | 295.5  | 314.7  | 329.0  | 325.5  |
| 82.5° | 202.2  | 210.6  | 228.5  | 239.3  | 238.1  |
| 85°   | 130.4  | 132.8  | 146.0  | 155.5  | 156.7  |
| 87.5° | 59.8   | 64.6   | 74.2   | 77.8   | 77.8   |
| 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 | 21.89            | 23.52 | 22.25 | 23.84 | 24.15 | 21.99          | 23.63 | 22.36 | 23.94 | 24.26 |
|                 | 3H   | 23.67            | 25.15 | 24.04 | 25.48 | 25.84 | 23.83          | 25.31 | 24.21 | 25.64 | 26.00 |
|                 | 4H   | 24.33            | 25.73 | 24.73 | 26.07 | 26.45 | 24.53          | 25.92 | 24.92 | 26.27 | 26.65 |
|                 | 6H   | 24.80            | 26.10 | 25.22 | 26.46 | 26.86 | 25.08          | 26.37 | 25.49 | 26.74 | 27.13 |
|                 | 8H   | 24.95            | 26.19 | 25.38 | 26.58 | 26.98 | 25.27          | 26.50 | 25.69 | 26.89 | 27.29 |
|                 | 12H  | 25.06            | 26.25 | 25.49 | 26.63 | 27.06 | 25.41          | 26.60 | 25.84 | 26.98 | 27.41 |
| 4H              | 2H   | 22.53            | 23.93 | 22.93 | 24.28 | 24.65 | 22.61          | 24.01 | 23.01 | 24.36 | 24.73 |
|                 | 3H   | 24.53            | 25.71 | 24.94 | 26.10 | 26.50 | 24.68          | 25.85 | 25.09 | 26.25 | 26.65 |
|                 | 4H   | 25.33            | 26.39 | 25.76 | 26.80 | 27.24 | 25.52          | 26.58 | 25.95 | 26.99 | 27.43 |
|                 | 6H   | 25.92            | 26.85 | 26.38 | 27.29 | 27.75 | 26.20          | 27.13 | 26.66 | 27.57 | 28.03 |
|                 | 8H   | 26.12            | 26.99 | 26.58 | 27.43 | 27.90 | 26.45          | 27.32 | 26.91 | 27.76 | 28.23 |
|                 | 12H  | 26.27            | 27.06 | 26.75 | 27.53 | 28.00 | 26.65          | 27.43 | 27.13 | 27.91 | 28.37 |
| 8H              | 4H   | 25.66            | 26.53 | 26.12 | 26.97 | 27.44 | 25.83          | 26.70 | 26.29 | 27.14 | 27.61 |
|                 | 6H   | 26.38            | 27.11 | 26.88 | 27.60 | 28.07 | 26.65          | 27.38 | 27.14 | 27.86 | 28.34 |
|                 | 8H   | 26.66            | 27.31 | 27.16 | 27.81 | 28.30 | 26.98          | 27.64 | 27.49 | 28.14 | 28.63 |
|                 | 12H  | 26.88            | 27.46 | 27.39 | 27.95 | 28.51 | 27.27          | 27.85 | 27.78 | 28.34 | 28.90 |
| 12H             | 4H   | 25.70            | 26.49 | 26.18 | 26.96 | 27.43 | 25.86          | 26.65 | 26.34 | 27.12 | 27.59 |
|                 | 6H   | 26.46            | 27.11 | 26.96 | 27.61 | 28.10 | 26.71          | 27.36 | 27.22 | 27.87 | 28.35 |
|                 | 8H   | 26.79            | 27.37 | 27.30 | 27.86 | 28.42 | 27.11          | 27.68 | 27.61 | 28.17 | 28.73 |