

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: P893942

Luminaire Tested: 4MB-8HL-LVR-UNV-L935

Issue Date: 11/11/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P893942  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2407-175-6)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 4MB-8HL-LVR-UNV-L935  
Description: 8000 Lumen 4FT MICROBAY LINEAR BAY with LOUVER, 90CRI, 3500K CCT  
Light Source: -  
Ballast/Driver: -

**Summary**

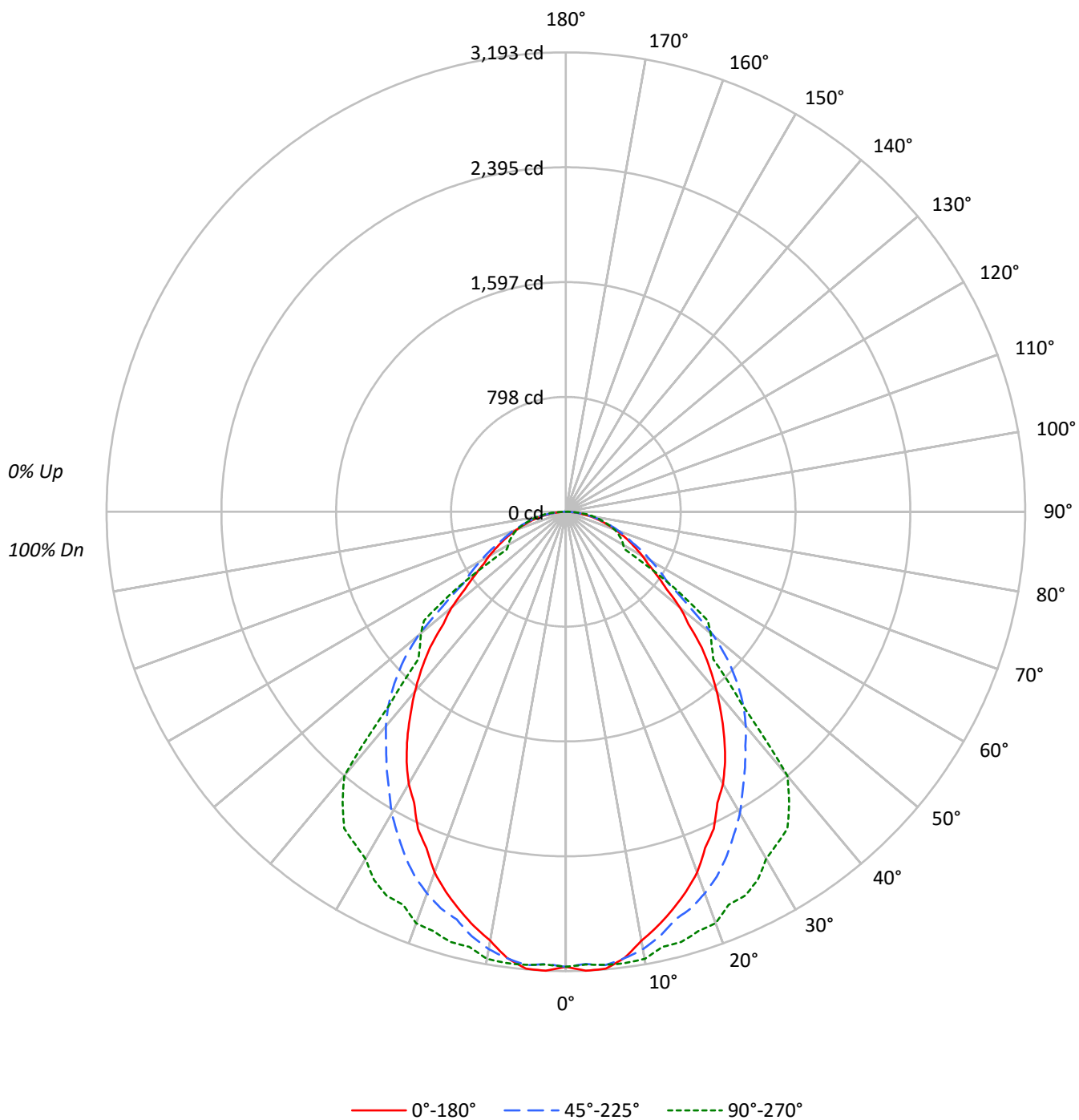
Lumens per Lamp: N/A  
Luminaire Lumens: 6620.0 lumens  
Efficiency: N/A  
Efficacy: 114.3 lumens/watt  
Spacing Criteria (0/90/45): 1.05 / 1.32 / 1.26  
Luminous Opening: Rectangular (W 0.38' x L: 3.98' x H: 0')  
CIE Type: Direct

Input Watts (W): 57.9  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: 0.999  
Total Harmonic Distortion (THDi): 4.23  
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  |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  |  | 50  | 30  | 10  |  | 50  |
| RCR |     |     |     |     |     |     |     |     |     |     |     |  |     |     |     |  |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 |  | 106 | 106 | 106 |  | 102 |
| 1   | 110 | 106 | 102 | 99  | 108 | 104 | 100 | 97  | 100 | 97  | 94  |  | 96  | 93  | 91  |  | 92  |
| 2   | 101 | 94  | 88  | 83  | 99  | 92  | 87  | 82  | 89  | 84  | 80  |  | 86  | 82  | 78  |  | 83  |
| 3   | 94  | 84  | 77  | 71  | 91  | 83  | 76  | 70  | 80  | 74  | 69  |  | 77  | 72  | 68  |  | 75  |
| 4   | 86  | 76  | 68  | 62  | 84  | 74  | 67  | 61  | 72  | 66  | 60  |  | 70  | 64  | 60  |  | 68  |
| 5   | 80  | 68  | 60  | 54  | 78  | 67  | 60  | 54  | 65  | 59  | 53  |  | 63  | 57  | 53  |  | 62  |
| 6   | 74  | 62  | 54  | 48  | 73  | 61  | 54  | 48  | 60  | 53  | 48  |  | 58  | 52  | 47  |  | 56  |
| 7   | 69  | 57  | 49  | 43  | 68  | 56  | 48  | 43  | 55  | 48  | 43  |  | 53  | 47  | 42  |  | 52  |
| 8   | 65  | 52  | 44  | 39  | 63  | 52  | 44  | 39  | 50  | 43  | 39  |  | 49  | 43  | 38  |  | 48  |
| 9   | 61  | 48  | 41  | 35  | 59  | 48  | 40  | 35  | 47  | 40  | 35  |  | 46  | 39  | 35  |  | 45  |
| 10  | 57  | 45  | 37  | 32  | 56  | 44  | 37  | 32  | 43  | 37  | 32  |  | 42  | 36  | 32  |  | 42  |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 22502 | 22502 | 22502 |
| 5°  | 22774 | 22594 | 22581 |
| 10° | 21876 | 22306 | 22796 |
| 15° | 21093 | 21613 | 22810 |
| 20° | 20205 | 21372 | 23039 |
| 25° | 19089 | 20745 | 23121 |
| 30° | 17940 | 19878 | 22885 |
| 35° | 16684 | 18853 | 23331 |
| 40° | 15157 | 18073 | 22248 |
| 45° | 13430 | 16963 | 14589 |
| 50° | 11494 | 14825 | 14558 |
| 55° | 9632  | 10818 | 11325 |
| 60° | 8763  | 9767  | 6556  |
| 65° | 8209  | 8647  | 7005  |
| 70° | 7556  | 8192  | 7497  |
| 75° | 7098  | 7686  | 7634  |
| 80° | 6621  | 7269  | 8182  |
| 85° | 5690  | 6066  | 8719  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°

Vertical Angle: 45°

Luminance: 16963 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 300.5  | 4.5       |
| 10°-20°   | 840.9  | 12.7      |
| 20°-30°   | 1225.5 | 18.5      |
| 30°-40°   | 1402.0 | 21.2      |
| 40°-50°   | 1199.3 | 18.1      |
| 50°-60°   | 790.9  | 11.9      |
| 60°-70°   | 478.1  | 7.2       |
| 70°-80°   | 292.5  | 4.4       |
| 80°-90°   | 90.3   | 1.4       |
| 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°    | 2366.9 | 35.8      |
| 0°-40°    | 3768.8 | 56.9      |
| 0°-60°    | 5759.0 | 87.0      |
| 0°-90°    | 6620.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 6620.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 3163 | 3163  | 3163 | 3163  | 3163 |      |
| 5°  | 3189 | 3186  | 3164 | 3157  | 3162 | 299  |
| 15° | 2864 | 2897  | 2934 | 3122  | 3097 | 805  |
| 25° | 2432 | 2469  | 2642 | 2868  | 2945 | 1112 |
| 35° | 1921 | 2017  | 2171 | 2512  | 2686 | 1197 |
| 45° | 1335 | 1438  | 1686 | 1575  | 1450 | 1022 |
| 55° | 776  | 820   | 872  | 1034  | 913  | 706  |
| 65° | 488  | 500   | 514  | 459   | 416  | 482  |
| 75° | 258  | 265   | 280  | 293   | 278  | 273  |
| 85° | 70   | 69    | 74   | 88    | 107  | 79   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |

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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 3162.6 | 3162.6 | 3162.6 | 3162.6 | 3162.6 |
| 2.5°  | 3193.2 | 3184.0 | 3145.9 | 3182.1 | 3149.6 |
| 5°    | 3188.6 | 3185.8 | 3163.5 | 3157.0 | 3161.7 |
| 7.5°  | 3127.3 | 3133.8 | 3130.1 | 3199.7 | 3164.4 |
| 10°   | 3027.9 | 3040.9 | 3087.4 | 3184.9 | 3155.2 |
| 12.5° | 2949.9 | 2960.1 | 3022.3 | 3167.2 | 3097.6 |
| 15°   | 2863.5 | 2896.9 | 2934.1 | 3121.7 | 3096.6 |
| 17.5° | 2770.6 | 2802.2 | 2890.4 | 3060.4 | 3057.6 |
| 20°   | 2668.5 | 2727.0 | 2822.6 | 2980.5 | 3042.8 |
| 22.5° | 2530.1 | 2609.0 | 2743.7 | 2944.3 | 2956.4 |
| 25°   | 2431.6 | 2468.8 | 2642.5 | 2868.2 | 2945.2 |
| 27.5° | 2282.1 | 2352.7 | 2530.1 | 2758.6 | 2885.8 |
| 30°   | 2183.6 | 2242.1 | 2419.5 | 2694.5 | 2785.5 |
| 32.5° | 2060.1 | 2129.8 | 2288.6 | 2624.8 | 2734.4 |
| 35°   | 1920.8 | 2017.4 | 2170.6 | 2511.5 | 2686.1 |
| 37.5° | 1774.0 | 1869.7 | 2050.8 | 2417.7 | 2549.6 |
| 40°   | 1631.9 | 1713.6 | 1945.9 | 2305.3 | 2395.4 |
| 42.5° | 1486.1 | 1574.3 | 1826.0 | 2083.3 | 1801.9 |
| 45°   | 1334.7 | 1437.8 | 1685.8 | 1575.3 | 1449.9 |
| 47.5° | 1155.4 | 1281.8 | 1530.7 | 1266.0 | 1373.7 |
| 50°   | 1038.4 | 1107.1 | 1339.3 | 1193.5 | 1315.2 |
| 52.5° | 883.3  | 976.2  | 1075.6 | 1114.6 | 1242.7 |
| 55°   | 776.5  | 820.1  | 872.1  | 1033.8 | 913.0  |
| 57.5° | 678.0  | 717.0  | 777.4  | 729.1  | 486.7  |
| 60°   | 615.8  | 633.4  | 686.4  | 521.1  | 460.7  |
| 62.5° | 545.2  | 562.9  | 601.9  | 486.7  | 442.1  |
| 65°   | 487.6  | 499.7  | 513.6  | 458.8  | 416.1  |
| 67.5° | 426.3  | 432.8  | 447.7  | 423.5  | 391.0  |
| 70°   | 363.2  | 372.5  | 393.8  | 387.3  | 360.4  |
| 72.5° | 307.4  | 315.8  | 334.4  | 343.7  | 318.6  |
| 75°   | 258.2  | 264.7  | 279.6  | 292.6  | 277.7  |
| 77.5° | 205.3  | 211.8  | 231.3  | 245.2  | 238.7  |
| 80°   | 161.6  | 162.5  | 177.4  | 191.3  | 199.7  |
| 82.5° | 113.3  | 115.2  | 126.3  | 141.2  | 157.9  |
| 85°   | 69.7   | 68.7   | 74.3   | 88.2   | 106.8  |
| 87.5° | 26.9   | 26.0   | 30.7   | 37.2   | 54.8   |
| 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 | 18.64            | 20.12 | 19.01 | 20.44 | 20.75 | 18.32          | 19.80 | 18.69 | 20.11 | 20.43 |
|                 | 3H   | 20.20            | 21.53 | 20.58 | 21.86 | 22.22 | 19.94          | 21.26 | 20.32 | 21.59 | 21.95 |
|                 | 4H   | 20.80            | 22.04 | 21.20 | 22.39 | 22.77 | 20.69          | 21.93 | 21.09 | 22.28 | 22.66 |
|                 | 6H   | 21.26            | 22.41 | 21.67 | 22.77 | 23.17 | 21.36          | 22.50 | 21.77 | 22.87 | 23.26 |
|                 | 8H   | 21.41            | 22.50 | 21.84 | 22.89 | 23.29 | 21.63          | 22.72 | 22.06 | 23.11 | 23.51 |
|                 | 12H  | 21.51            | 22.56 | 21.94 | 22.94 | 23.37 | 21.85          | 22.90 | 22.28 | 23.28 | 23.71 |
| 4H              | 2H   | 19.24            | 20.48 | 19.64 | 20.83 | 21.21 | 18.98          | 20.22 | 19.38 | 20.57 | 20.95 |
|                 | 3H   | 21.03            | 22.05 | 21.44 | 22.45 | 22.86 | 20.87          | 21.89 | 21.28 | 22.30 | 22.70 |
|                 | 4H   | 21.75            | 22.68 | 22.19 | 23.09 | 23.53 | 21.76          | 22.69 | 22.20 | 23.10 | 23.54 |
|                 | 6H   | 22.34            | 23.14 | 22.79 | 23.58 | 24.04 | 22.57          | 23.37 | 23.03 | 23.82 | 24.28 |
|                 | 8H   | 22.53            | 23.29 | 23.00 | 23.73 | 24.20 | 22.90          | 23.65 | 23.36 | 24.10 | 24.56 |
|                 | 12H  | 22.67            | 23.34 | 23.15 | 23.82 | 24.29 | 23.17          | 23.84 | 23.65 | 24.32 | 24.79 |
| 8H              | 4H   | 22.07            | 22.83 | 22.54 | 23.27 | 23.74 | 22.08          | 22.84 | 22.55 | 23.28 | 23.75 |
|                 | 6H   | 22.78            | 23.41 | 23.28 | 23.90 | 24.38 | 23.03          | 23.66 | 23.53 | 24.15 | 24.63 |
|                 | 8H   | 23.05            | 23.61 | 23.57 | 24.13 | 24.61 | 23.45          | 24.01 | 23.97 | 24.52 | 25.01 |
|                 | 12H  | 23.26            | 23.76 | 23.77 | 24.25 | 24.82 | 23.82          | 24.32 | 24.33 | 24.81 | 25.37 |
| 12H             | 4H   | 22.11            | 22.79 | 22.60 | 23.26 | 23.74 | 22.11          | 22.78 | 22.59 | 23.26 | 23.73 |
|                 | 6H   | 22.85            | 23.42 | 23.37 | 23.93 | 24.42 | 23.09          | 23.65 | 23.60 | 24.16 | 24.65 |
|                 | 8H   | 23.18            | 23.68 | 23.69 | 24.17 | 24.74 | 23.56          | 24.06 | 24.07 | 24.55 | 25.12 |