

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: P893960

Luminaire Tested: 4MB-8HL-LVRF-UNV-L950

Issue Date: 11/11/2024

**Test Information**

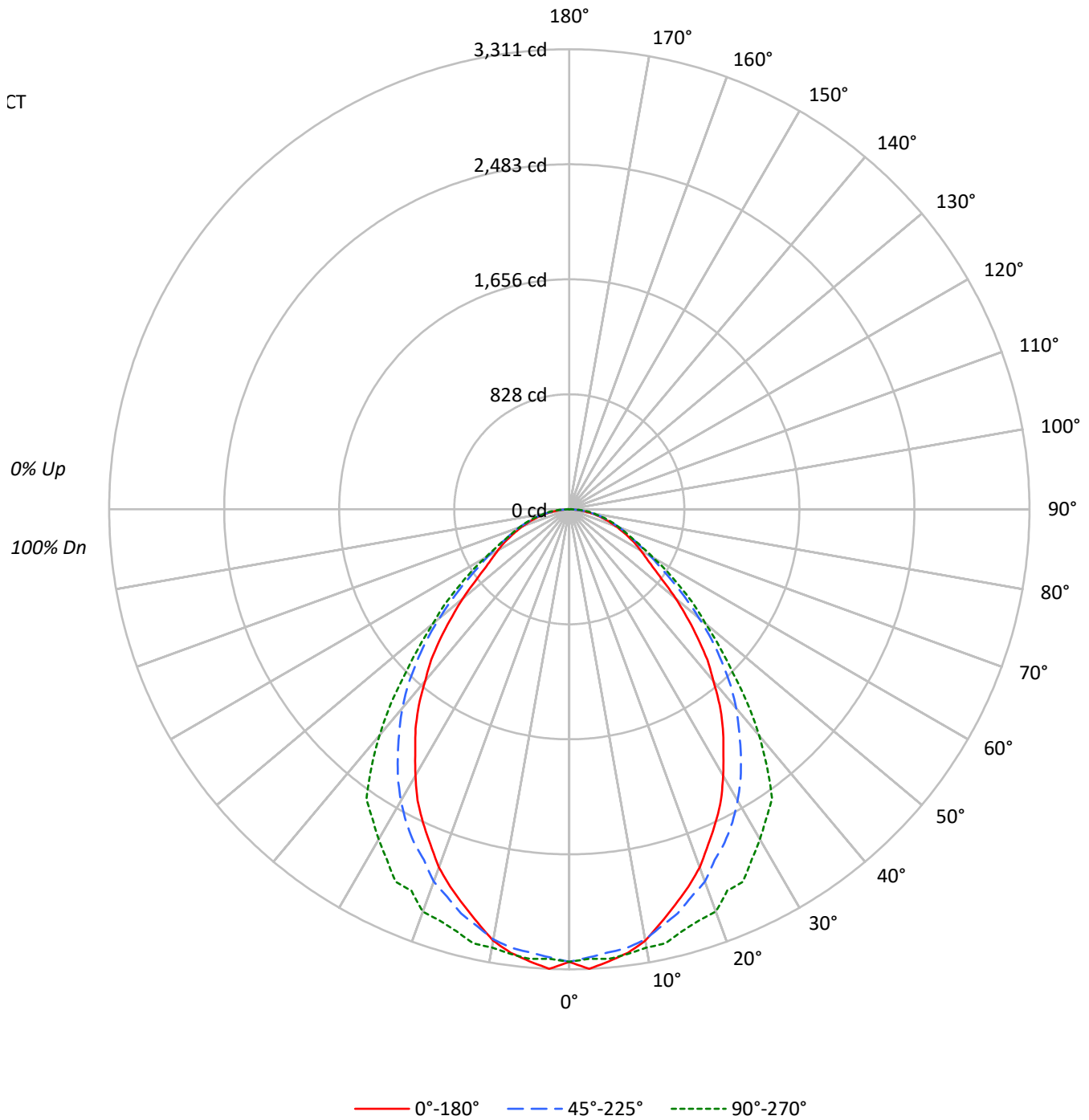
Test Method: LM-79-2019  
Report Number: P893960  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2407-175-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 4MB-8HL-LVRF-UNV-L950  
Description: 8000 Lumen 4FT MICROBAY LINEAR BAY with LOUVER WITH FROSTED INLAY, 90CRI, 5000K C  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6604.0 lumens  
Efficiency: N/A  
Efficacy: 114.1 lumens/watt  
Spacing Criteria (0/90/45): 1.05 / 1.25 / 1.21  
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 (A<sub>in</sub>): 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

TEST NUMBER: P893960  
CATALOG NUMBER: 4MB-8HL-LVRF-UNV-L950

### Luminous Intensity Polar Plot





TEST NUMBER: P893960  
 CATALOG NUMBER: 4MB-8HL-LVRF-UNV-L950

**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  | 78  | 83  | 80  | 77  | 77  | 77  | 77  | 75  |
| 3   | 94  | 84  | 77  | 71  | 91  | 83  | 76  | 70  | 80  | 74  | 69  | 77  | 72  | 68  | 75  | 70  | 67  | 67  | 67  | 67  | 65  |
| 4   | 87  | 76  | 68  | 62  | 84  | 74  | 67  | 61  | 72  | 66  | 61  | 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  | 57  | 52  | 52  | 52  | 52  | 50  |
| 6   | 75  | 62  | 54  | 48  | 73  | 61  | 54  | 48  | 60  | 53  | 48  | 58  | 52  | 47  | 57  | 51  | 47  | 47  | 47  | 47  | 45  |
| 7   | 70  | 57  | 49  | 43  | 68  | 56  | 49  | 43  | 55  | 48  | 43  | 53  | 47  | 42  | 52  | 46  | 42  | 42  | 42  | 42  | 40  |
| 8   | 65  | 52  | 44  | 39  | 64  | 52  | 44  | 39  | 50  | 44  | 39  | 49  | 43  | 39  | 48  | 43  | 38  | 38  | 38  | 38  | 37  |
| 9   | 61  | 48  | 41  | 36  | 60  | 48  | 40  | 35  | 47  | 40  | 35  | 46  | 40  | 35  | 45  | 39  | 35  | 35  | 35  | 35  | 33  |
| 10  | 57  | 45  | 37  | 33  | 56  | 44  | 37  | 32  | 43  | 37  | 32  | 43  | 36  | 32  | 42  | 36  | 32  | 32  | 32  | 32  | 30  |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 23174 | 23174 | 23174 |
| 5°  | 23325 | 22873 | 23200 |
| 10° | 22779 | 22708 | 23145 |
| 15° | 21704 | 22184 | 23145 |
| 20° | 20761 | 21594 | 23334 |
| 25° | 19546 | 20769 | 23216 |
| 30° | 18184 | 19903 | 22536 |
| 35° | 16746 | 18682 | 22099 |
| 40° | 14977 | 17364 | 19733 |
| 45° | 13129 | 15617 | 16734 |
| 50° | 11080 | 13494 | 14163 |
| 55° | 9192  | 11293 | 12078 |
| 60° | 8453  | 9602  | 9962  |
| 65° | 7918  | 8443  | 8509  |
| 70° | 7373  | 8001  | 7940  |
| 75° | 6878  | 7469  | 7736  |
| 80° | 6425  | 6941  | 7420  |
| 85° | 5404  | 5886  | 8188  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 16734 cd/sqm



TEST NUMBER: P893960  
 CATALOG NUMBER: 4MB-8HL-LVRF-UNV-L950

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 307.4  | 4.7       |
| 10°-20°   | 857.5  | 13.0      |
| 20°-30°   | 1235.0 | 18.7      |
| 30°-40°   | 1363.4 | 20.6      |
| 40°-50°   | 1169.9 | 17.7      |
| 50°-60°   | 797.0  | 12.1      |
| 60°-70°   | 501.4  | 7.6       |
| 70°-80°   | 285.5  | 4.3       |
| 80°-90°   | 86.8   | 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°    | 2400.0 | 36.3      |
| 0°-40°    | 3763.4 | 57.0      |
| 0°-60°    | 5730.4 | 86.8      |
| 0°-90°    | 6604.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 6604.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 3257 | 3257  | 3257 | 3257  | 3257 |      |
| 5°  | 3266 | 3253  | 3202 | 3270  | 3248 | 308  |
| 15° | 2946 | 2978  | 3012 | 3148  | 3142 | 830  |
| 25° | 2490 | 2539  | 2646 | 2859  | 2957 | 1143 |
| 35° | 1928 | 2003  | 2151 | 2386  | 2544 | 1199 |
| 45° | 1305 | 1391  | 1552 | 1646  | 1663 | 1005 |
| 55° | 741  | 787   | 910  | 954   | 974  | 681  |
| 65° | 470  | 478   | 502  | 526   | 505  | 467  |
| 75° | 250  | 252   | 272  | 283   | 281  | 267  |
| 85° | 66   | 68    | 72   | 86    | 100  | 76   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



TEST NUMBER: P893960

CATALOG NUMBER: 4MB-8HL-LVRF-UNV-L950

**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 3257.1 | 3257.1 | 3257.1 | 3257.1 | 3257.1 |
| 2.5°  | 3310.6 | 3276.5 | 3227.9 | 3274.6 | 3238.6 |
| 5°    | 3265.8 | 3253.2 | 3202.5 | 3269.7 | 3248.3 |
| 7.5°  | 3220.1 | 3192.8 | 3184.0 | 3256.1 | 3227.9 |
| 10°   | 3152.9 | 3137.3 | 3143.1 | 3235.7 | 3203.5 |
| 12.5° | 3046.8 | 3057.5 | 3071.1 | 3188.9 | 3198.6 |
| 15°   | 2946.5 | 2977.6 | 3011.7 | 3148.0 | 3142.2 |
| 17.5° | 2848.1 | 2891.0 | 2923.1 | 3098.4 | 3103.2 |
| 20°   | 2742.0 | 2766.3 | 2852.0 | 3021.4 | 3081.8 |
| 22.5° | 2610.5 | 2658.2 | 2732.2 | 2943.5 | 2970.8 |
| 25°   | 2489.8 | 2539.4 | 2645.6 | 2858.8 | 2957.2 |
| 27.5° | 2363.2 | 2409.0 | 2540.4 | 2758.5 | 2842.3 |
| 30°   | 2213.3 | 2274.6 | 2422.6 | 2644.6 | 2743.0 |
| 32.5° | 2063.3 | 2152.9 | 2295.0 | 2522.9 | 2636.8 |
| 35°   | 1928.0 | 2002.9 | 2150.9 | 2385.6 | 2544.3 |
| 37.5° | 1778.0 | 1856.9 | 2006.8 | 2235.6 | 2336.9 |
| 40°   | 1612.5 | 1697.2 | 1869.5 | 2054.5 | 2124.6 |
| 42.5° | 1470.3 | 1543.3 | 1716.7 | 1847.1 | 1902.6 |
| 45°   | 1304.8 | 1391.4 | 1552.1 | 1645.6 | 1663.1 |
| 47.5° | 1145.1 | 1244.4 | 1388.5 | 1432.3 | 1466.4 |
| 50°   | 1001.0 | 1078.9 | 1219.1 | 1246.4 | 1279.5 |
| 52.5° | 853.9  | 936.7  | 1059.4 | 1086.7 | 1135.4 |
| 55°   | 741.0  | 786.8  | 910.4  | 954.2  | 973.7  |
| 57.5° | 658.2  | 687.4  | 775.1  | 830.6  | 836.4  |
| 60°   | 594.0  | 608.6  | 674.8  | 716.7  | 700.1  |
| 62.5° | 534.6  | 546.3  | 579.4  | 611.5  | 590.1  |
| 65°   | 470.3  | 478.1  | 501.5  | 525.8  | 505.4  |
| 67.5° | 409.9  | 418.7  | 440.1  | 457.6  | 440.1  |
| 70°   | 354.4  | 361.2  | 384.6  | 392.4  | 381.7  |
| 72.5° | 302.8  | 305.7  | 325.2  | 338.9  | 332.0  |
| 75°   | 250.2  | 252.2  | 271.7  | 283.4  | 281.4  |
| 77.5° | 202.5  | 205.5  | 222.0  | 232.7  | 226.9  |
| 80°   | 156.8  | 158.7  | 169.4  | 185.0  | 181.1  |
| 82.5° | 110.0  | 113.9  | 120.7  | 134.4  | 145.1  |
| 85°   | 66.2   | 68.2   | 72.1   | 85.7   | 100.3  |
| 87.5° | 25.3   | 27.3   | 29.2   | 36.0   | 47.7   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |



TEST NUMBER: P893960  
 CATALOG NUMBER: 4MB-8HL-LVRF-UNV-L950

**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 | 18.37            | 19.85 | 18.74 | 20.17 | 20.48 | 19.74          | 21.21 | 20.10 | 21.53 | 21.84 |
|                 | 3H   | 19.95            | 21.28 | 20.33 | 21.61 | 21.97 | 21.02          | 22.35 | 21.40 | 22.67 | 23.04 |
|                 | 4H   | 20.56            | 21.80 | 20.96 | 22.15 | 22.53 | 21.57          | 22.82 | 21.98 | 23.17 | 23.54 |
|                 | 6H   | 21.03            | 22.18 | 21.44 | 22.54 | 22.94 | 22.03          | 23.17 | 22.44 | 23.54 | 23.93 |
|                 | 8H   | 21.19            | 22.28 | 21.61 | 22.67 | 23.07 | 22.21          | 23.30 | 22.64 | 23.69 | 24.10 |
|                 | 12H  | 21.28            | 22.33 | 21.71 | 22.71 | 23.14 | 22.37          | 23.41 | 22.80 | 23.79 | 24.22 |
| 4H              | 2H   | 18.99            | 20.23 | 19.39 | 20.58 | 20.96 | 20.10          | 21.34 | 20.50 | 21.69 | 22.07 |
|                 | 3H   | 20.79            | 21.82 | 21.20 | 22.22 | 22.62 | 21.66          | 22.69 | 22.07 | 23.09 | 23.49 |
|                 | 4H   | 21.52            | 22.44 | 21.95 | 22.86 | 23.30 | 22.36          | 23.29 | 22.80 | 23.70 | 24.14 |
|                 | 6H   | 22.11            | 22.92 | 22.57 | 23.36 | 23.82 | 22.97          | 23.78 | 23.43 | 24.22 | 24.68 |
|                 | 8H   | 22.31            | 23.07 | 22.78 | 23.51 | 23.98 | 23.22          | 23.97 | 23.68 | 24.41 | 24.88 |
|                 | 12H  | 22.45            | 23.13 | 22.94 | 23.60 | 24.08 | 23.43          | 24.10 | 23.92 | 24.58 | 25.05 |
| 8H              | 4H   | 21.84            | 22.59 | 22.31 | 23.04 | 23.51 | 22.60          | 23.35 | 23.06 | 23.79 | 24.26 |
|                 | 6H   | 22.57            | 23.19 | 23.06 | 23.68 | 24.16 | 23.34          | 23.96 | 23.84 | 24.45 | 24.93 |
|                 | 8H   | 22.84            | 23.40 | 23.36 | 23.91 | 24.40 | 23.67          | 24.23 | 24.19 | 24.74 | 25.23 |
|                 | 12H  | 23.05            | 23.55 | 23.56 | 24.04 | 24.61 | 23.98          | 24.47 | 24.49 | 24.97 | 25.53 |
| 12H             | 4H   | 21.88            | 22.55 | 22.36 | 23.03 | 23.50 | 22.61          | 23.28 | 23.09 | 23.76 | 24.23 |
|                 | 6H   | 22.63            | 23.19 | 23.15 | 23.70 | 24.19 | 23.38          | 23.94 | 23.89 | 24.45 | 24.94 |
|                 | 8H   | 22.97            | 23.47 | 23.48 | 23.96 | 24.52 | 23.77          | 24.26 | 24.28 | 24.75 | 25.32 |