

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: P893431

Luminaire Tested: 4MB-3SL-LVRF-UNV-L940

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893431
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-3SL-LVRF-UNV-L940
Description: 3000 Lumen 4FT MICROBAY LINEAR BAY with LOUVER WITH FROSTED INLAY, 90CRI, 4000K C
Light Source: -
Ballast/Driver: -

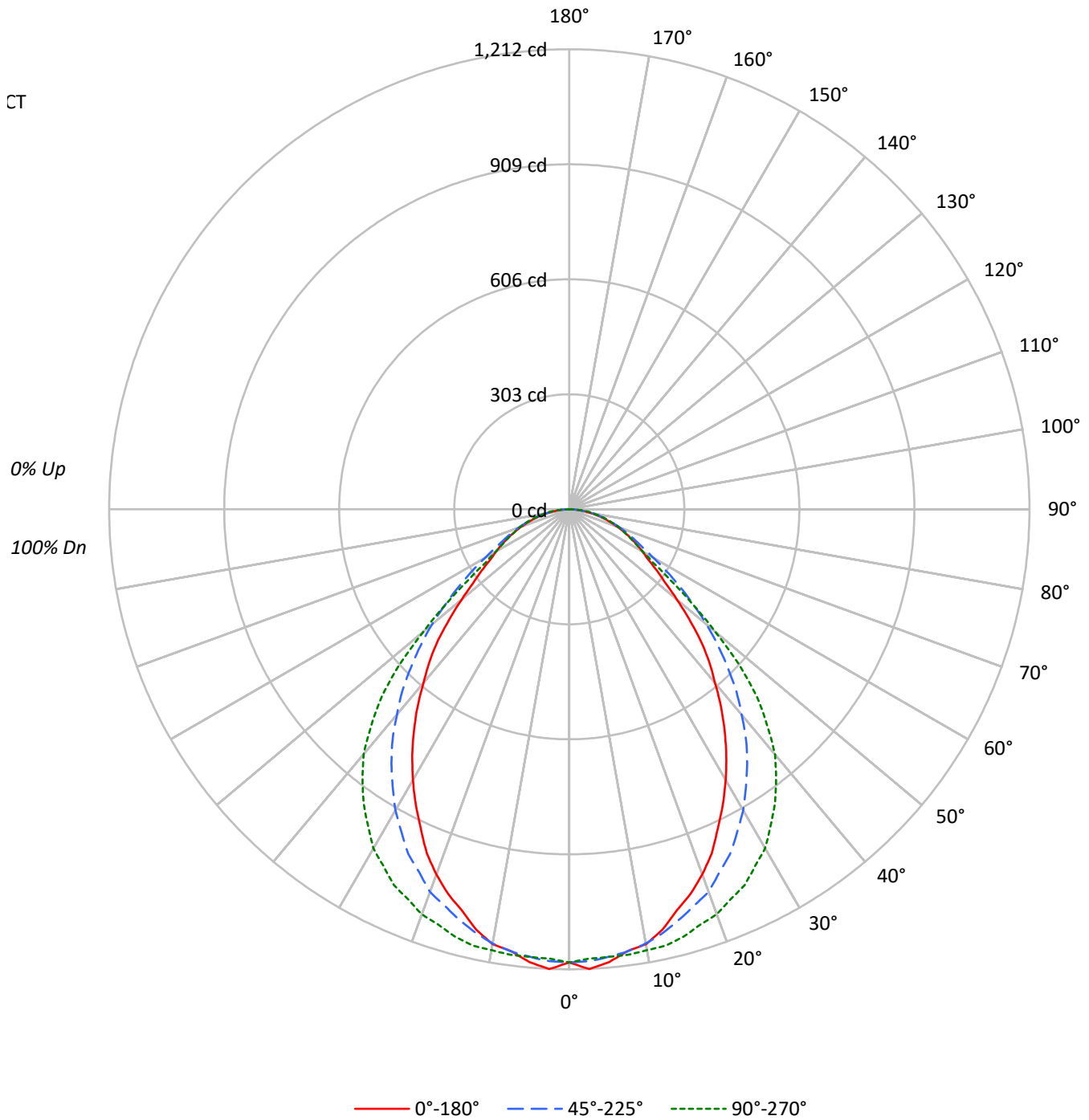
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2481.0 lumens
Efficiency: N/A
Efficacy: 117.6 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): 21.1
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: 0.99
Total Harmonic Distortion (THDi): 5.2
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° | 8493 | 8493 | 8493 |
| 5° | 8553 | 8455 | 8455 |
| 10° | 8405 | 8392 | 8522 |
| 15° | 8057 | 8245 | 8583 |
| 20° | 7751 | 8122 | 8597 |
| 25° | 7271 | 7870 | 8577 |
| 30° | 6768 | 7522 | 8476 |
| 35° | 6196 | 7095 | 8206 |
| 40° | 5547 | 6561 | 7830 |
| 45° | 4922 | 5941 | 7039 |
| 50° | 4096 | 5229 | 5552 |
| 55° | 3488 | 4405 | 4035 |
| 60° | 3162 | 3640 | 3189 |
| 65° | 2978 | 3187 | 2968 |
| 70° | 2802 | 2958 | 2894 |
| 75° | 2612 | 2815 | 2766 |
| 80° | 2393 | 2594 | 2671 |
| 85° | 2082 | 2278 | 2988 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 7039 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 113.0 | 4.6 |
| 10°-20° | 318.0 | 12.8 |
| 20°-30° | 461.8 | 18.6 |
| 30°-40° | 514.3 | 20.7 |
| 40°-50° | 454.4 | 18.3 |
| 50°-60° | 298.1 | 12.0 |
| 60°-70° | 182.6 | 7.4 |
| 70°-80° | 106.2 | 4.3 |
| 80°-90° | 32.5 | 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° | 892.9 | 36.0 |
| 0°-40° | 1407.2 | 56.7 |
| 0°-60° | 2159.7 | 87.0 |
| 0°-90° | 2481.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2481.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1194 | 1194 | 1194 | 1194 | 1194 | |
| 5° | 1198 | 1198 | 1184 | 1196 | 1184 | 113 |
| 15° | 1094 | 1106 | 1119 | 1163 | 1165 | 309 |
| 25° | 926 | 948 | 1002 | 1066 | 1093 | 426 |
| 35° | 713 | 752 | 817 | 903 | 945 | 445 |
| 45° | 489 | 519 | 590 | 670 | 700 | 374 |
| 55° | 281 | 301 | 355 | 352 | 325 | 255 |
| 65° | 177 | 180 | 189 | 184 | 176 | 176 |
| 75° | 95 | 96 | 102 | 104 | 101 | 101 |
| 85° | 26 | 27 | 28 | 32 | 37 | 29 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CATALOG NUMBER: 4MB-3SL-LVRF-UNV-L940

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1193.7 | 1193.7 | 1193.7 | 1193.7 | 1193.7 |
| 2.5° | 1212.4 | 1197.5 | 1191.9 | 1197.5 | 1185.1 |
| 5° | 1197.5 | 1198.1 | 1183.8 | 1195.6 | 1183.8 |
| 7.5° | 1173.9 | 1181.9 | 1175.1 | 1193.1 | 1183.8 |
| 10° | 1163.3 | 1163.9 | 1161.5 | 1180.1 | 1179.5 |
| 12.5° | 1134.1 | 1136.0 | 1142.8 | 1170.8 | 1177.0 |
| 15° | 1093.8 | 1106.2 | 1119.3 | 1163.3 | 1165.2 |
| 17.5° | 1062.1 | 1077.0 | 1094.4 | 1141.6 | 1147.2 |
| 20° | 1023.7 | 1029.9 | 1072.7 | 1114.3 | 1135.4 |
| 22.5° | 980.8 | 992.6 | 1034.2 | 1090.1 | 1111.2 |
| 25° | 926.2 | 948.5 | 1002.5 | 1066.5 | 1092.6 |
| 27.5° | 875.9 | 902.0 | 957.9 | 1029.2 | 1059.7 |
| 30° | 823.8 | 853.6 | 915.6 | 985.8 | 1031.7 |
| 32.5° | 769.8 | 807.0 | 866.0 | 946.7 | 987.0 |
| 35° | 713.3 | 751.8 | 816.9 | 903.2 | 944.8 |
| 37.5° | 656.8 | 694.0 | 764.8 | 857.3 | 894.5 |
| 40° | 597.2 | 633.8 | 706.4 | 800.2 | 843.0 |
| 42.5° | 545.7 | 577.3 | 651.8 | 731.9 | 771.6 |
| 45° | 489.2 | 519.0 | 590.4 | 669.8 | 699.6 |
| 47.5° | 427.1 | 461.9 | 531.4 | 596.6 | 608.4 |
| 50° | 370.0 | 406.0 | 472.4 | 510.3 | 501.6 |
| 52.5° | 319.7 | 350.1 | 411.0 | 427.1 | 406.6 |
| 55° | 281.2 | 301.1 | 355.1 | 352.0 | 325.3 |
| 57.5° | 245.8 | 258.2 | 304.2 | 286.8 | 261.3 |
| 60° | 222.2 | 227.8 | 255.8 | 239.6 | 224.1 |
| 62.5° | 199.9 | 202.4 | 217.3 | 208.6 | 196.8 |
| 65° | 176.9 | 180.0 | 189.3 | 183.7 | 176.3 |
| 67.5° | 155.8 | 157.1 | 165.7 | 164.5 | 155.2 |
| 70° | 134.7 | 136.6 | 142.2 | 144.6 | 139.1 |
| 72.5° | 114.2 | 116.1 | 121.7 | 124.2 | 119.2 |
| 75° | 95.0 | 96.2 | 102.4 | 104.3 | 100.6 |
| 77.5° | 76.4 | 78.8 | 82.6 | 85.7 | 81.3 |
| 80° | 58.4 | 59.6 | 63.3 | 67.0 | 65.2 |
| 82.5° | 41.0 | 42.8 | 45.3 | 50.3 | 51.5 |
| 85° | 25.5 | 26.7 | 27.9 | 31.7 | 36.6 |
| 87.5° | 9.9 | 10.6 | 12.4 | 13.7 | 18.0 |
| 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 | 14.96 | 16.44 | 15.33 | 16.76 | 17.07 | 15.61 | 17.10 | 15.98 | 17.41 | 17.72 |
| | 3H | 16.56 | 17.89 | 16.94 | 18.22 | 18.58 | 17.05 | 18.38 | 17.43 | 18.70 | 19.07 |
| | 4H | 17.18 | 18.42 | 17.58 | 18.77 | 19.15 | 17.66 | 18.90 | 18.06 | 19.25 | 19.63 |
| | 6H | 17.65 | 18.80 | 18.06 | 19.17 | 19.56 | 18.14 | 19.29 | 18.55 | 19.66 | 20.05 |
| | 8H | 17.80 | 18.89 | 18.23 | 19.28 | 19.69 | 18.34 | 19.43 | 18.77 | 19.82 | 20.22 |
| | 12H | 17.90 | 18.95 | 18.33 | 19.33 | 19.76 | 18.51 | 19.55 | 18.94 | 19.93 | 20.36 |
| 4H | 2H | 15.58 | 16.83 | 15.98 | 17.17 | 17.55 | 16.11 | 17.35 | 16.51 | 17.70 | 18.08 |
| | 3H | 17.40 | 18.43 | 17.82 | 18.83 | 19.24 | 17.80 | 18.83 | 18.22 | 19.23 | 19.64 |
| | 4H | 18.14 | 19.07 | 18.58 | 19.48 | 19.92 | 18.56 | 19.48 | 18.99 | 19.90 | 20.34 |
| | 6H | 18.74 | 19.55 | 19.20 | 19.99 | 20.45 | 19.19 | 20.00 | 19.65 | 20.44 | 20.90 |
| | 8H | 18.94 | 19.69 | 19.40 | 20.14 | 20.60 | 19.45 | 20.20 | 19.91 | 20.65 | 21.11 |
| | 12H | 19.08 | 19.75 | 19.56 | 20.23 | 20.70 | 19.67 | 20.34 | 20.16 | 20.82 | 21.30 |
| 8H | 4H | 18.46 | 19.21 | 18.93 | 19.66 | 20.13 | 18.83 | 19.58 | 19.29 | 20.03 | 20.49 |
| | 6H | 19.19 | 19.81 | 19.68 | 20.30 | 20.78 | 19.60 | 20.23 | 20.10 | 20.72 | 21.20 |
| | 8H | 19.46 | 20.02 | 19.97 | 20.53 | 21.02 | 19.95 | 20.51 | 20.46 | 21.02 | 21.51 |
| | 12H | 19.68 | 20.17 | 20.19 | 20.67 | 21.23 | 20.27 | 20.76 | 20.78 | 21.26 | 21.82 |
| 12H | 4H | 18.50 | 19.17 | 18.98 | 19.65 | 20.12 | 18.85 | 19.52 | 19.33 | 20.00 | 20.47 |
| | 6H | 19.25 | 19.81 | 19.76 | 20.32 | 20.81 | 19.65 | 20.21 | 20.16 | 20.72 | 21.21 |
| | 8H | 19.58 | 20.08 | 20.09 | 20.57 | 21.14 | 20.05 | 20.55 | 20.56 | 21.04 | 21.61 |