

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: P893425

Luminaire Tested: 4MB-3SL-LVRF-UNV-L830

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893425
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-L830
Description: 3000 Lumen 4FT MICROBAY LINEAR BAY with LOUVER WITH FROSTED INLAY, 80CRI, 3000K C
Light Source: -
Ballast/Driver: -

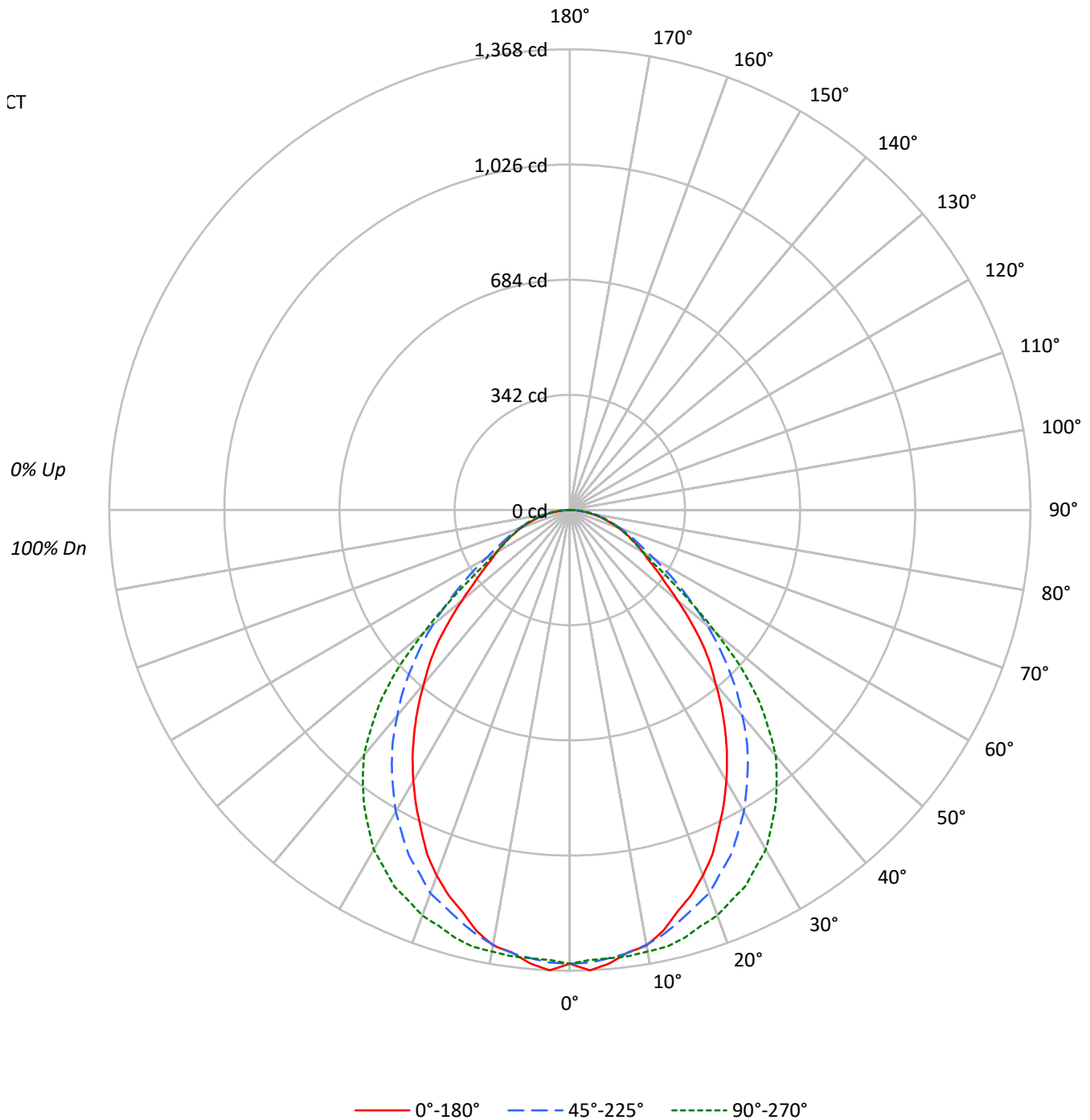
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2800.0 lumens
Efficiency: N/A
Efficacy: 132.7 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





TEST NUMBER: P893425

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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° | 9585 | 9585 | 9585 |
| 5° | 9652 | 9542 | 9542 |
| 10° | 9485 | 9470 | 9617 |
| 15° | 9093 | 9305 | 9686 |
| 20° | 8747 | 9166 | 9702 |
| 25° | 8206 | 8883 | 9680 |
| 30° | 7638 | 8490 | 9566 |
| 35° | 6992 | 8008 | 9262 |
| 40° | 6260 | 7405 | 8837 |
| 45° | 5555 | 6704 | 7945 |
| 50° | 4622 | 5901 | 6266 |
| 55° | 3937 | 4971 | 4554 |
| 60° | 3569 | 4107 | 3599 |
| 65° | 3362 | 3598 | 3350 |
| 70° | 3162 | 3337 | 3264 |
| 75° | 2947 | 3178 | 3120 |
| 80° | 2700 | 2930 | 3016 |
| 85° | 2343 | 2572 | 3372 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 7945 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 127.5 | 4.6 |
| 10°-20° | 358.9 | 12.8 |
| 20°-30° | 521.2 | 18.6 |
| 30°-40° | 580.4 | 20.7 |
| 40°-50° | 512.8 | 18.3 |
| 50°-60° | 336.5 | 12.0 |
| 60°-70° | 206.0 | 7.4 |
| 70°-80° | 119.9 | 4.3 |
| 80°-90° | 36.7 | 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° | 1007.7 | 36.0 |
| 0°-40° | 1588.1 | 56.7 |
| 0°-60° | 2437.3 | 87.0 |
| 0°-90° | 2800.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2800.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1347 | 1347 | 1347 | 1347 | 1347 | |
| 5° | 1351 | 1352 | 1336 | 1349 | 1336 | 127 |
| 15° | 1234 | 1248 | 1263 | 1313 | 1315 | 348 |
| 25° | 1045 | 1070 | 1132 | 1204 | 1233 | 481 |
| 35° | 805 | 848 | 922 | 1019 | 1066 | 502 |
| 45° | 552 | 586 | 666 | 756 | 790 | 422 |
| 55° | 317 | 340 | 401 | 397 | 367 | 288 |
| 65° | 200 | 203 | 214 | 207 | 199 | 199 |
| 75° | 107 | 109 | 116 | 118 | 114 | 114 |
| 85° | 29 | 30 | 32 | 36 | 41 | 32 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P893425

CATALOG NUMBER: 4MB-3SL-LVRF-UNV-L830

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1347.2 | 1347.2 | 1347.2 | 1347.2 | 1347.2 |
| 2.5° | 1368.2 | 1351.4 | 1345.1 | 1351.4 | 1337.4 |
| 5° | 1351.4 | 1352.1 | 1336.0 | 1349.3 | 1336.0 |
| 7.5° | 1324.8 | 1333.9 | 1326.2 | 1346.5 | 1336.0 |
| 10° | 1312.9 | 1313.6 | 1310.8 | 1331.8 | 1331.1 |
| 12.5° | 1280.0 | 1282.1 | 1289.8 | 1321.3 | 1328.3 |
| 15° | 1234.4 | 1248.4 | 1263.2 | 1312.9 | 1315.0 |
| 17.5° | 1198.7 | 1215.5 | 1235.1 | 1288.4 | 1294.7 |
| 20° | 1155.3 | 1162.3 | 1210.6 | 1257.6 | 1281.4 |
| 22.5° | 1106.9 | 1120.2 | 1167.2 | 1230.2 | 1254.1 |
| 25° | 1045.3 | 1070.5 | 1131.5 | 1203.6 | 1233.0 |
| 27.5° | 988.5 | 1018.0 | 1081.0 | 1161.6 | 1195.9 |
| 30° | 929.7 | 963.3 | 1033.4 | 1112.5 | 1164.4 |
| 32.5° | 868.7 | 910.8 | 977.3 | 1068.4 | 1113.9 |
| 35° | 805.0 | 848.4 | 922.0 | 1019.4 | 1066.3 |
| 37.5° | 741.2 | 783.3 | 863.1 | 967.5 | 1009.5 |
| 40° | 674.0 | 715.3 | 797.3 | 903.1 | 951.4 |
| 42.5° | 615.8 | 651.5 | 735.6 | 826.0 | 870.8 |
| 45° | 552.1 | 585.7 | 666.3 | 755.9 | 789.6 |
| 47.5° | 482.0 | 521.2 | 599.7 | 673.3 | 686.6 |
| 50° | 417.6 | 458.2 | 533.1 | 575.9 | 566.1 |
| 52.5° | 360.8 | 395.1 | 463.8 | 482.0 | 458.9 |
| 55° | 317.4 | 339.8 | 400.7 | 397.2 | 367.1 |
| 57.5° | 277.4 | 291.4 | 343.3 | 323.7 | 294.9 |
| 60° | 250.8 | 257.1 | 288.6 | 270.4 | 252.9 |
| 62.5° | 225.6 | 228.4 | 245.2 | 235.4 | 222.1 |
| 65° | 199.7 | 203.2 | 213.7 | 207.4 | 199.0 |
| 67.5° | 175.8 | 177.2 | 187.1 | 185.7 | 175.1 |
| 70° | 152.0 | 154.1 | 160.4 | 163.2 | 156.9 |
| 72.5° | 128.9 | 131.0 | 137.3 | 140.1 | 134.5 |
| 75° | 107.2 | 108.6 | 115.6 | 117.7 | 113.5 |
| 77.5° | 86.2 | 89.0 | 93.2 | 96.7 | 91.8 |
| 80° | 65.9 | 67.3 | 71.5 | 75.7 | 73.6 |
| 82.5° | 46.2 | 48.3 | 51.1 | 56.7 | 58.1 |
| 85° | 28.7 | 30.1 | 31.5 | 35.7 | 41.3 |
| 87.5° | 11.2 | 11.9 | 14.0 | 15.4 | 20.3 |
| 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 | 15.38 | 16.86 | 15.75 | 17.18 | 17.49 | 16.03 | 17.52 | 16.40 | 17.83 | 18.14 |
| | 3H | 16.98 | 18.31 | 17.36 | 18.64 | 19.00 | 17.47 | 18.80 | 17.85 | 19.12 | 19.49 |
| | 4H | 17.60 | 18.84 | 18.00 | 19.19 | 19.57 | 18.08 | 19.32 | 18.48 | 19.67 | 20.05 |
| | 6H | 18.07 | 19.22 | 18.48 | 19.58 | 19.98 | 18.56 | 19.71 | 18.97 | 20.08 | 20.47 |
| | 8H | 18.22 | 19.31 | 18.65 | 19.70 | 20.11 | 18.76 | 19.85 | 19.19 | 20.24 | 20.64 |
| | 12H | 18.32 | 19.37 | 18.75 | 19.75 | 20.18 | 18.93 | 19.97 | 19.36 | 20.35 | 20.78 |
| 4H | 2H | 16.00 | 17.25 | 16.40 | 17.60 | 17.97 | 16.53 | 17.77 | 16.93 | 18.12 | 18.50 |
| | 3H | 17.82 | 18.85 | 18.23 | 19.25 | 19.65 | 18.23 | 19.25 | 18.64 | 19.65 | 20.06 |
| | 4H | 18.56 | 19.49 | 19.00 | 19.90 | 20.34 | 18.98 | 19.90 | 19.41 | 20.32 | 20.76 |
| | 6H | 19.16 | 19.97 | 19.62 | 20.41 | 20.87 | 19.61 | 20.42 | 20.07 | 20.86 | 21.32 |
| | 8H | 19.36 | 20.11 | 19.82 | 20.56 | 21.02 | 19.87 | 20.62 | 20.33 | 21.07 | 21.53 |
| | 12H | 19.50 | 20.17 | 19.98 | 20.65 | 21.12 | 20.09 | 20.76 | 20.58 | 21.24 | 21.72 |
| 8H | 4H | 18.88 | 19.63 | 19.35 | 20.08 | 20.55 | 19.25 | 20.00 | 19.71 | 20.45 | 20.91 |
| | 6H | 19.61 | 20.23 | 20.10 | 20.72 | 21.20 | 20.02 | 20.65 | 20.52 | 21.14 | 21.62 |
| | 8H | 19.88 | 20.44 | 20.39 | 20.95 | 21.44 | 20.37 | 20.93 | 20.88 | 21.44 | 21.93 |
| | 12H | 20.10 | 20.59 | 20.61 | 21.09 | 21.65 | 20.69 | 21.18 | 21.20 | 21.68 | 22.24 |
| 12H | 4H | 18.92 | 19.59 | 19.40 | 20.07 | 20.54 | 19.27 | 19.94 | 19.75 | 20.42 | 20.89 |
| | 6H | 19.67 | 20.23 | 20.19 | 20.74 | 21.23 | 20.07 | 20.63 | 20.58 | 21.14 | 21.63 |
| | 8H | 20.00 | 20.50 | 20.51 | 20.99 | 21.56 | 20.47 | 20.97 | 20.99 | 21.46 | 22.03 |