

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: P893318

Luminaire Tested: 4MB-2SL-LVRF-UNV-L935

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893318
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-2SL-LVRF-UNV-L935
Description: 2000 Lumen 4FT MICROBAY LINEAR BAY with LOUVER WITH FROSTED INLAY, 90CRI, 3500K C
Light Source: -
Ballast/Driver: -

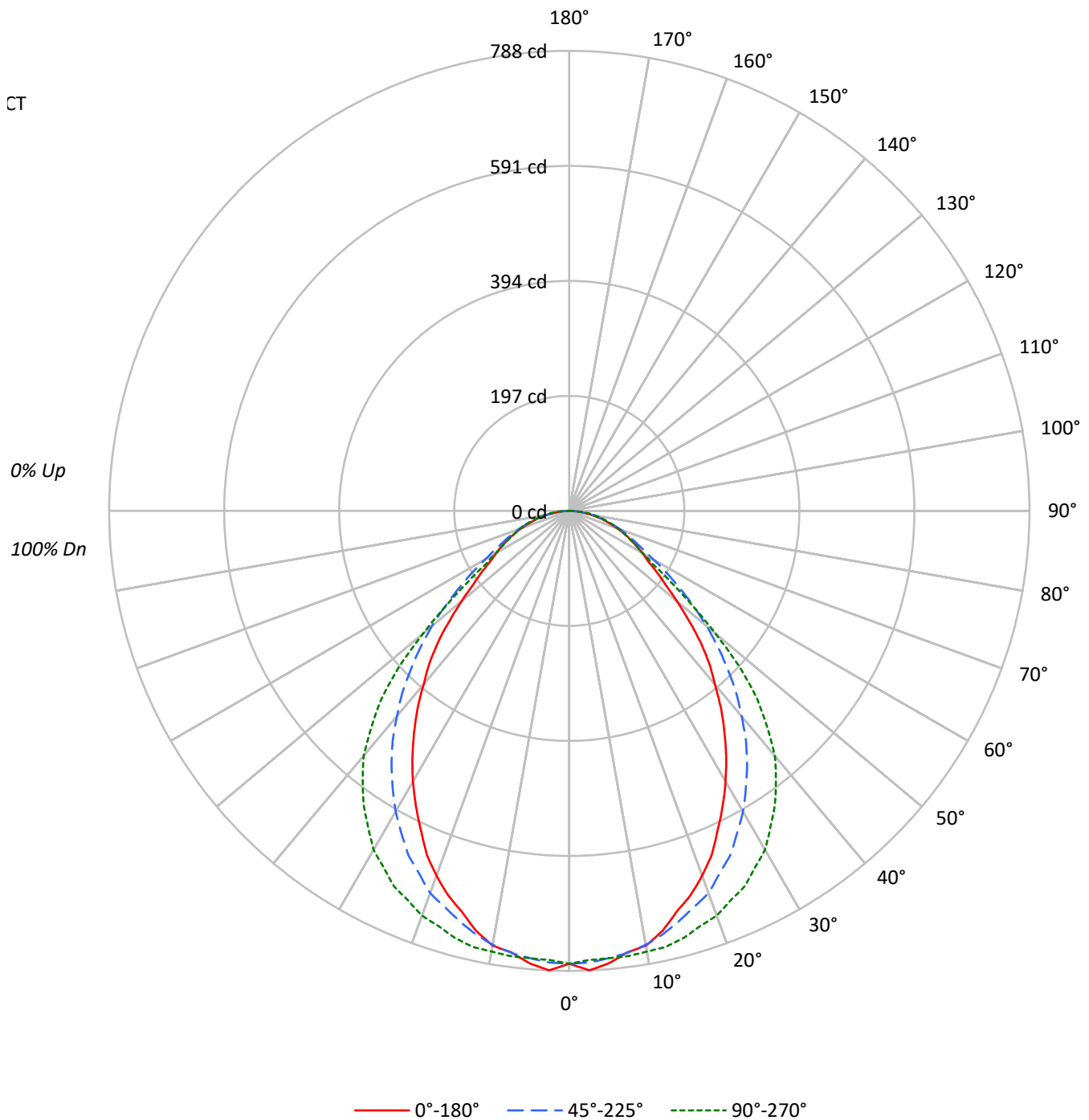
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1612.0 lumens
Efficiency: N/A
Efficacy: 116.8 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): 13.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.996
Total Harmonic Distortion (THDi): 5.92
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° | 5518 | 5518 | 5518 |
| 5° | 5557 | 5494 | 5494 |
| 10° | 5461 | 5452 | 5536 |
| 15° | 5235 | 5357 | 5577 |
| 20° | 5036 | 5277 | 5586 |
| 25° | 4724 | 5114 | 5573 |
| 30° | 4397 | 4888 | 5507 |
| 35° | 4025 | 4610 | 5332 |
| 40° | 3604 | 4263 | 5087 |
| 45° | 3198 | 3860 | 4574 |
| 50° | 2661 | 3397 | 3607 |
| 55° | 2266 | 2862 | 2621 |
| 60° | 2055 | 2365 | 2072 |
| 65° | 1936 | 2071 | 1928 |
| 70° | 1820 | 1922 | 1878 |
| 75° | 1696 | 1831 | 1795 |
| 80° | 1553 | 1684 | 1737 |
| 85° | 1347 | 1486 | 1943 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 4574 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 73.4 | 4.6 |
| 10°-20° | 206.6 | 12.8 |
| 20°-30° | 300.1 | 18.6 |
| 30°-40° | 334.1 | 20.7 |
| 40°-50° | 295.2 | 18.3 |
| 50°-60° | 193.7 | 12.0 |
| 60°-70° | 118.6 | 7.4 |
| 70°-80° | 69.0 | 4.3 |
| 80°-90° | 21.2 | 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° | 580.1 | 36.0 |
| 0°-40° | 914.3 | 56.7 |
| 0°-60° | 1403.2 | 87.0 |
| 0°-90° | 1612.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1612.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 776 | 776 | 776 | 776 | 776 | |
| 5° | 778 | 778 | 769 | 777 | 769 | 73 |
| 15° | 711 | 719 | 727 | 756 | 757 | 201 |
| 25° | 602 | 616 | 651 | 693 | 710 | 277 |
| 35° | 463 | 488 | 531 | 587 | 614 | 289 |
| 45° | 318 | 337 | 384 | 435 | 455 | 243 |
| 55° | 183 | 196 | 231 | 229 | 211 | 166 |
| 65° | 115 | 117 | 123 | 119 | 114 | 114 |
| 75° | 62 | 62 | 67 | 68 | 65 | 65 |
| 85° | 16 | 17 | 18 | 21 | 24 | 19 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 775.6 | 775.6 | 775.6 | 775.6 | 775.6 |
| 2.5° | 787.7 | 778.0 | 774.4 | 778.0 | 770.0 |
| 5° | 778.0 | 778.4 | 769.2 | 776.8 | 769.2 |
| 7.5° | 762.7 | 768.0 | 763.5 | 775.2 | 769.2 |
| 10° | 755.9 | 756.3 | 754.6 | 766.7 | 766.3 |
| 12.5° | 736.9 | 738.1 | 742.5 | 760.7 | 764.7 |
| 15° | 710.7 | 718.7 | 727.2 | 755.9 | 757.1 |
| 17.5° | 690.1 | 699.8 | 711.1 | 741.7 | 745.4 |
| 20° | 665.1 | 669.1 | 697.0 | 724.0 | 737.7 |
| 22.5° | 637.3 | 644.9 | 672.0 | 708.3 | 722.0 |
| 25° | 601.8 | 616.3 | 651.4 | 692.9 | 709.9 |
| 27.5° | 569.1 | 586.1 | 622.4 | 668.7 | 688.5 |
| 30° | 535.2 | 554.6 | 594.9 | 640.5 | 670.3 |
| 32.5° | 500.1 | 524.3 | 562.7 | 615.1 | 641.3 |
| 35° | 463.4 | 488.4 | 530.8 | 586.9 | 613.9 |
| 37.5° | 426.7 | 450.9 | 496.9 | 557.0 | 581.2 |
| 40° | 388.0 | 411.8 | 459.0 | 519.9 | 547.7 |
| 42.5° | 354.5 | 375.1 | 423.5 | 475.5 | 501.4 |
| 45° | 317.8 | 337.2 | 383.6 | 435.2 | 454.6 |
| 47.5° | 277.5 | 300.1 | 345.3 | 387.6 | 395.3 |
| 50° | 240.4 | 263.8 | 306.9 | 331.5 | 325.9 |
| 52.5° | 207.7 | 227.5 | 267.0 | 277.5 | 264.2 |
| 55° | 182.7 | 195.6 | 230.7 | 228.7 | 211.3 |
| 57.5° | 159.7 | 167.8 | 197.6 | 186.3 | 169.8 |
| 60° | 144.4 | 148.0 | 166.2 | 155.7 | 145.6 |
| 62.5° | 129.9 | 131.5 | 141.2 | 135.5 | 127.9 |
| 65° | 115.0 | 117.0 | 123.0 | 119.4 | 114.5 |
| 67.5° | 101.2 | 102.0 | 107.7 | 106.9 | 100.8 |
| 70° | 87.5 | 88.7 | 92.4 | 94.0 | 90.3 |
| 72.5° | 74.2 | 75.4 | 79.1 | 80.7 | 77.4 |
| 75° | 61.7 | 62.5 | 66.6 | 67.8 | 65.3 |
| 77.5° | 49.6 | 51.2 | 53.6 | 55.7 | 52.8 |
| 80° | 37.9 | 38.7 | 41.1 | 43.6 | 42.4 |
| 82.5° | 26.6 | 27.8 | 29.4 | 32.7 | 33.5 |
| 85° | 16.5 | 17.3 | 18.2 | 20.6 | 23.8 |
| 87.5° | 6.5 | 6.9 | 8.1 | 8.9 | 11.7 |
| 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 | 13.46 | 14.95 | 13.83 | 15.26 | 15.57 | 14.11 | 15.60 | 14.48 | 15.91 | 16.22 |
| | 3H | 15.06 | 16.39 | 15.44 | 16.72 | 17.08 | 15.55 | 16.88 | 15.93 | 17.20 | 17.57 |
| | 4H | 15.68 | 16.92 | 16.08 | 17.27 | 17.65 | 16.16 | 17.40 | 16.56 | 17.75 | 18.13 |
| | 6H | 16.15 | 17.30 | 16.56 | 17.67 | 18.06 | 16.64 | 17.79 | 17.06 | 18.16 | 18.55 |
| | 8H | 16.30 | 17.39 | 16.73 | 17.78 | 18.19 | 16.84 | 17.93 | 17.27 | 18.32 | 18.72 |
| | 12H | 16.40 | 17.45 | 16.83 | 17.83 | 18.26 | 17.01 | 18.05 | 17.44 | 18.43 | 18.86 |
| 4H | 2H | 14.09 | 15.33 | 14.49 | 15.68 | 16.06 | 14.61 | 15.85 | 15.01 | 16.20 | 16.58 |
| | 3H | 15.91 | 16.93 | 16.32 | 17.33 | 17.74 | 16.31 | 17.34 | 16.72 | 17.74 | 18.14 |
| | 4H | 16.64 | 17.57 | 17.08 | 17.99 | 18.43 | 17.06 | 17.99 | 17.49 | 18.40 | 18.84 |
| | 6H | 17.24 | 18.05 | 17.70 | 18.49 | 18.95 | 17.70 | 18.50 | 18.15 | 18.94 | 19.41 |
| | 8H | 17.44 | 18.19 | 17.90 | 18.64 | 19.10 | 17.95 | 18.70 | 18.42 | 19.15 | 19.62 |
| | 12H | 17.58 | 18.25 | 18.06 | 18.73 | 19.20 | 18.18 | 18.85 | 18.66 | 19.33 | 19.80 |
| 8H | 4H | 16.96 | 17.72 | 17.43 | 18.16 | 18.63 | 17.33 | 18.08 | 17.79 | 18.53 | 19.00 |
| | 6H | 17.69 | 18.31 | 18.18 | 18.80 | 19.28 | 18.11 | 18.73 | 18.60 | 19.22 | 19.70 |
| | 8H | 17.96 | 18.52 | 18.47 | 19.03 | 19.52 | 18.45 | 19.01 | 18.97 | 19.52 | 20.01 |
| | 12H | 18.18 | 18.67 | 18.69 | 19.17 | 19.73 | 18.77 | 19.27 | 19.28 | 19.76 | 20.32 |
| 12H | 4H | 17.00 | 17.67 | 17.48 | 18.15 | 18.62 | 17.35 | 18.02 | 17.83 | 18.50 | 18.97 |
| | 6H | 17.75 | 18.31 | 18.27 | 18.82 | 19.31 | 18.15 | 18.71 | 18.67 | 19.22 | 19.71 |
| | 8H | 18.08 | 18.58 | 18.59 | 19.07 | 19.64 | 18.56 | 19.05 | 19.07 | 19.55 | 20.11 |