

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: PORTFOLIO

Report Number: P402007

Luminaire Tested: **LA1MR012D010 EA1M12309027SB1MW**

Issue Date: 6/3/2020



Test Information

Test Method: LM-41-14
Report Number: P402007
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2005-766-2)
Test Lab: INNOVATION CENTER (G2)
Issue Date: 6/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: PORTFOLIO
Catalog Number: LA1MR012D010 EA1M12309027SB1MW
Description: 1 INCH 30° OPTIC WITH SPECULAR BLACK BAFFLE
Light Source: HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

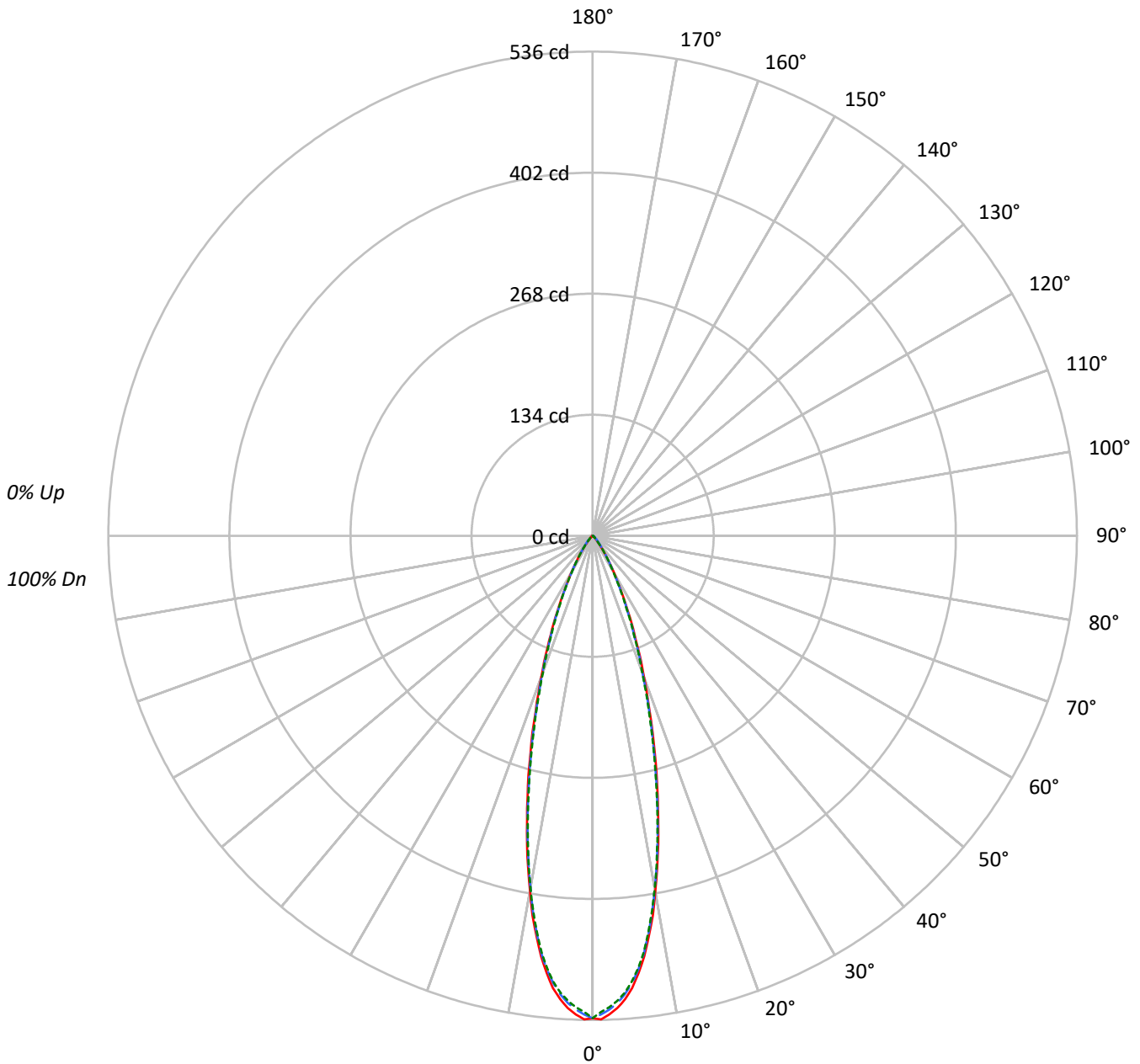
Lumens per Lamp: N/A
Luminaire Lumens: 182.0 lumens
Efficiency: N/A
Efficacy: 50.6 lumens/watt
Spacing Criteria (0/90/45): 0.51 / 0.5 / 0.52
Luminous Opening: Rectangular (W 0.08' x L: 0.42' x H: 0')
CIE Type: Direct

Input Watts (W): 3.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT

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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|-----|--|--|--|--|--|--|----|--|--|--|--|--|--|--|--|---|
| RF | 20 | | | | | | | | | 20 | | | | | | | | | 20 | | | | | | | | | 20 | | | | | | | | | |
| RC | 80 | | | | | | | | | 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 | 100 | | | 100 | | | | | | | | | | | | | | | | |
| 1 | 114 | 112 | 110 | 108 | 112 | 110 | 108 | 106 | 106 | 105 | 103 | 102 | 101 | 100 | 99 | 98 | 97 | 95 | | | 95 | | | | | | | | | | | | | | | | |
| 2 | 110 | 106 | 103 | 100 | 108 | 104 | 101 | 99 | 101 | 99 | 97 | 98 | 96 | 95 | 96 | 94 | 93 | 91 | | | 91 | | | | | | | | | | | | | | | | |
| 3 | 106 | 101 | 96 | 93 | 104 | 99 | 95 | 92 | 97 | 94 | 91 | 94 | 92 | 90 | 92 | 90 | 88 | 87 | | | 87 | | | | | | | | | | | | | | | | |
| 4 | 102 | 96 | 91 | 88 | 100 | 95 | 90 | 87 | 93 | 89 | 86 | 91 | 88 | 85 | 89 | 86 | 84 | 83 | | | 83 | | | | | | | | | | | | | | | | |
| 5 | 98 | 91 | 87 | 83 | 97 | 90 | 86 | 83 | 89 | 85 | 82 | 87 | 84 | 81 | 86 | 83 | 81 | 79 | | | 79 | | | | | | | | | | | | | | | | |
| 6 | 94 | 87 | 82 | 79 | 93 | 87 | 82 | 79 | 85 | 81 | 78 | 84 | 80 | 78 | 83 | 80 | 77 | 76 | | | 76 | | | | | | | | | | | | | | | | |
| 7 | 91 | 84 | 79 | 75 | 90 | 83 | 78 | 75 | 82 | 78 | 75 | 81 | 77 | 74 | 80 | 77 | 74 | 73 | | | 73 | | | | | | | | | | | | | | | | |
| 8 | 88 | 80 | 76 | 72 | 87 | 80 | 75 | 72 | 79 | 75 | 72 | 78 | 74 | 72 | 77 | 74 | 71 | 70 | | | 70 | | | | | | | | | | | | | | | | |
| 9 | 85 | 77 | 73 | 69 | 84 | 77 | 72 | 69 | 76 | 72 | 69 | 75 | 71 | 69 | 74 | 71 | 69 | 67 | | | 67 | | | | | | | | | | | | | | | | |
| 10 | 82 | 74 | 70 | 67 | 81 | 74 | 70 | 67 | 73 | 69 | 66 | 73 | 69 | 66 | 72 | 69 | 66 | 65 | | | 65 | | | | | | | | | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|--------|--------|--------|
| 0° | 165572 | 165572 | 165572 |
| 5° | 156433 | 154815 | 154317 |
| 10° | 125788 | 124812 | 124686 |
| 15° | 87969 | 86493 | 86108 |
| 20° | 54895 | 53509 | 52882 |
| 25° | 31776 | 30819 | 30408 |
| 30° | 16896 | 16395 | 16072 |
| 35° | 8099 | 8364 | 8174 |
| 40° | 3399 | 4613 | 3480 |
| 45° | 1754 | 2850 | 1841 |
| 50° | 1109 | 1688 | 1254 |
| 55° | 757 | 1135 | 865 |
| 60° | 434 | 744 | 558 |
| 65° | 147 | 513 | 147 |
| 70° | 0 | 181 | 0 |
| 75° | 0 | 0 | 0 |
| 80° | 0 | 0 | 0 |
| 85° | 0 | 0 | 0 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 44.3 | 24.4 |
| 10°-20° | 74.0 | 40.7 |
| 20°-30° | 42.6 | 23.4 |
| 30°-40° | 14.8 | 8.1 |
| 40°-50° | 4.2 | 2.3 |
| 50°-60° | 1.6 | 0.9 |
| 60°-70° | 0.4 | 0.2 |
| 70°-80° | 0.0 | 0.0 |
| 80°-90° | 0.0 | 0.0 |
| 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° | 161.0 | 88.4 |
| 0°-40° | 175.8 | 96.6 |
| 0°-60° | 181.6 | 99.8 |
| 0°-90° | 182.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 182.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 534 | 534 | 534 | 534 | 534 | |
| 5° | 503 | 500 | 498 | 498 | 496 | 45 |
| 15° | 274 | 273 | 270 | 269 | 268 | 75 |
| 25° | 93 | 92 | 90 | 90 | 89 | 44 |
| 35° | 21 | 22 | 22 | 22 | 22 | 14 |
| 45° | 4 | 5 | 6 | 5 | 4 | 3 |
| 55° | 1 | 2 | 2 | 2 | 2 | 1 |
| 65° | 0 | 0 | 1 | 0 | 0 | 0 |
| 75° | 0 | 0 | 0 | 0 | 0 | 0 |
| 85° | 0 | 0 | 0 | 0 | 0 | 0 |
| 90° | 0 | 0 | 0 | 0 | 0 | 0 |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 534.1 | 534.1 | 534.1 | 534.1 | 534.1 |
| 1° | 535.5 | 532.9 | 530.1 | 530.1 | 527.3 |
| 2° | 530.3 | 528.0 | 525.0 | 525.2 | 522.2 |
| 3° | 523.6 | 521.3 | 518.2 | 518.7 | 515.9 |
| 4° | 514.3 | 511.3 | 509.2 | 509.9 | 507.3 |
| 5° | 502.7 | 499.6 | 497.5 | 498.5 | 495.9 |
| 6° | 486.8 | 484.7 | 482.9 | 484.0 | 481.7 |
| 7° | 469.1 | 466.8 | 465.4 | 466.4 | 464.5 |
| 8° | 447.5 | 445.9 | 444.2 | 445.2 | 443.3 |
| 9° | 425.4 | 422.8 | 421.2 | 421.9 | 420.5 |
| 10° | 399.6 | 398.4 | 396.5 | 397.2 | 396.1 |
| 11° | 374.7 | 374.7 | 371.2 | 370.0 | 370.7 |
| 12° | 349.1 | 348.8 | 345.6 | 344.2 | 344.6 |
| 13° | 323.2 | 323.0 | 319.7 | 318.6 | 318.8 |
| 14° | 297.6 | 297.9 | 294.4 | 293.4 | 293.2 |
| 15° | 274.1 | 273.0 | 269.5 | 268.8 | 268.3 |
| 16° | 249.5 | 249.2 | 245.7 | 244.8 | 244.3 |
| 17° | 227.4 | 226.2 | 222.7 | 221.8 | 221.1 |
| 18° | 204.3 | 204.6 | 201.1 | 200.4 | 199.2 |
| 19° | 184.8 | 184.3 | 181.0 | 180.4 | 179.2 |
| 20° | 166.4 | 164.3 | 162.2 | 161.5 | 160.3 |
| 22.5° | 125.4 | 124.3 | 121.5 | 120.8 | 120.5 |
| 25° | 92.9 | 91.7 | 90.1 | 89.6 | 88.9 |
| 26° | 81.2 | 81.4 | 79.4 | 78.9 | 78.4 |
| 27° | 71.9 | 71.4 | 69.6 | 69.3 | 68.6 |
| 28° | 61.9 | 62.4 | 60.3 | 60.0 | 59.6 |
| 29° | 54.0 | 54.0 | 52.8 | 52.1 | 51.7 |
| 30° | 47.2 | 47.0 | 45.8 | 45.4 | 44.9 |
| 32.5° | 32.6 | 32.3 | 31.9 | 31.6 | 31.2 |
| 35° | 21.4 | 22.3 | 22.1 | 22.1 | 21.6 |
| 37.5° | 13.3 | 15.1 | 15.8 | 15.6 | 14.2 |
| 40° | 8.4 | 9.8 | 11.4 | 10.5 | 8.6 |
| 42.5° | 5.6 | 6.7 | 8.4 | 7.0 | 5.6 |
| 45° | 4.0 | 4.7 | 6.5 | 4.7 | 4.2 |
| 47.5° | 3.0 | 3.5 | 4.9 | 3.5 | 3.0 |
| 50° | 2.3 | 2.8 | 3.5 | 2.8 | 2.6 |
| 52.5° | 1.9 | 2.1 | 2.8 | 2.1 | 1.9 |
| 55° | 1.4 | 1.6 | 2.1 | 1.6 | 1.6 |
| 57.5° | 1.2 | 1.4 | 1.6 | 1.4 | 1.2 |
| 60° | 0.7 | 0.9 | 1.2 | 0.9 | 0.9 |
| 62.5° | 0.5 | 0.7 | 0.9 | 0.7 | 0.5 |
| 65° | 0.2 | 0.5 | 0.7 | 0.5 | 0.2 |
| 67.5° | 0.0 | 0.2 | 0.2 | 0.0 | 0.0 |



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CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-----|-------|-----|-------|-----|
| 75° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 77.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 82.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



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— 0°-180° - - 45°-225° - - - - 90°-270°







| | | | | | |
|-------|-----|-----|-----|-----|-----|
| 70° | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 |
| 72.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



(END OF REPORT)