

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: P401972

Luminaire Tested: **LA1MR102D010 EA1M102309040SC1MW**

Issue Date: 6/3/2020

Test Information

Test Method: LM-41-14
Report Number: P401972
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: LA1MR102D010 EA1M102309040SC1MW
Description: 1 INCH 30° OPTIC WITH SPECULAR CLEAR BAFFLE
Light Source: HIGH LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

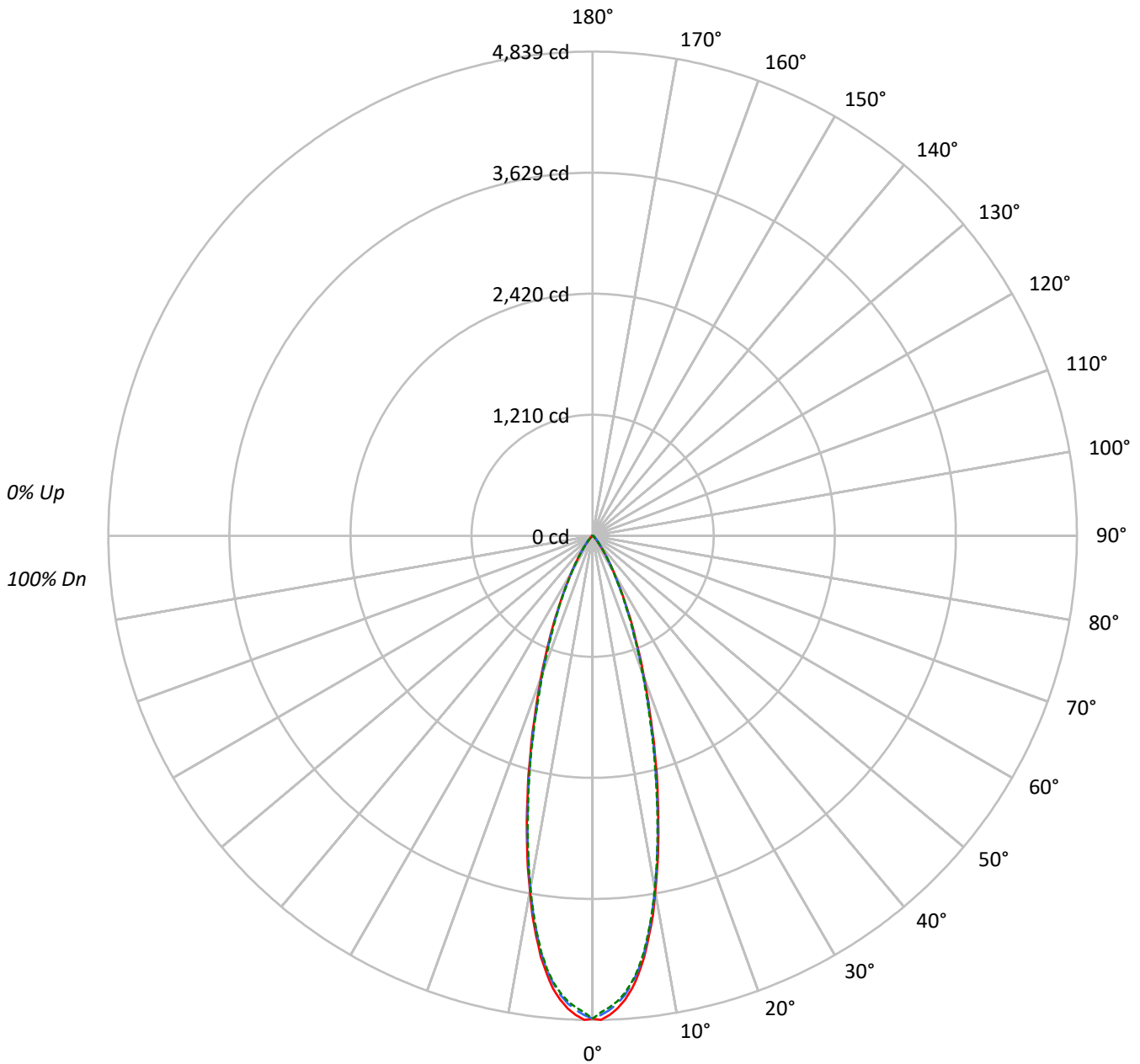
Lumens per Lamp: N/A
Luminaire Lumens: 1644.9 lumens
Efficiency: N/A
Efficacy: 70.0 lumens/watt
Spacing Criteria (0/90/45): 0.51 / 0.5 / 0.52
Luminous Opening: Rectangular (W 0.08' x L: 0.42' x H: 0')
CIE Type: Direct

Input Watts (W): 23.5
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 | | | | | 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 | 100 | | | | | | | | |
| 1 | 114 | 112 | 110 | 108 | 112 | 110 | 108 | 106 | 106 | 105 | 103 | 102 | 101 | 100 | 99 | 98 | 97 | 95 | | | | | | | | |
| 2 | 110 | 106 | 103 | 100 | 108 | 104 | 101 | 99 | 101 | 99 | 97 | 98 | 96 | 95 | 96 | 94 | 93 | 91 | | | | | | | | |
| 3 | 106 | 101 | 96 | 93 | 104 | 99 | 95 | 92 | 97 | 94 | 91 | 94 | 92 | 90 | 92 | 90 | 88 | 87 | | | | | | | | |
| 4 | 102 | 96 | 91 | 88 | 100 | 95 | 90 | 87 | 93 | 89 | 86 | 91 | 88 | 85 | 89 | 86 | 84 | 83 | | | | | | | | |
| 5 | 98 | 91 | 87 | 83 | 97 | 90 | 86 | 83 | 89 | 85 | 82 | 87 | 84 | 81 | 86 | 83 | 81 | 79 | | | | | | | | |
| 6 | 94 | 87 | 82 | 79 | 93 | 87 | 82 | 79 | 85 | 81 | 78 | 84 | 80 | 78 | 83 | 80 | 77 | 76 | | | | | | | | |
| 7 | 91 | 84 | 79 | 75 | 90 | 83 | 78 | 75 | 82 | 78 | 75 | 81 | 77 | 74 | 80 | 77 | 74 | 73 | | | | | | | | |
| 8 | 88 | 80 | 76 | 72 | 87 | 80 | 75 | 72 | 79 | 75 | 72 | 78 | 74 | 72 | 77 | 74 | 71 | 70 | | | | | | | | |
| 9 | 85 | 77 | 73 | 69 | 84 | 77 | 72 | 69 | 76 | 72 | 69 | 75 | 71 | 69 | 74 | 71 | 69 | 67 | | | | | | | | |
| 10 | 82 | 74 | 70 | 67 | 81 | 74 | 70 | 67 | 73 | 69 | 66 | 73 | 69 | 66 | 72 | 69 | 66 | 65 | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|---------|---------|---------|
| 0° | 1496068 | 1496068 | 1496068 |
| 5° | 1413469 | 1399061 | 1394486 |
| 10° | 1136559 | 1127966 | 1126643 |
| 15° | 795026 | 781515 | 778145 |
| 20° | 496000 | 483530 | 477988 |
| 25° | 286979 | 278360 | 274768 |
| 30° | 152813 | 148302 | 145296 |
| 35° | 73229 | 75613 | 74023 |
| 40° | 30634 | 41682 | 31484 |
| 45° | 15651 | 25822 | 16616 |
| 50° | 10128 | 15192 | 11141 |
| 55° | 6810 | 10215 | 7945 |
| 60° | 3906 | 6510 | 5208 |
| 65° | 1540 | 4621 | 1540 |
| 70° | 0 | 1903 | 0 |
| 75° | 0 | 0 | 0 |
| 80° | 0 | 0 | 0 |
| 85° | 0 | 0 | 0 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 400.8 | 24.4 |
| 10°-20° | 668.9 | 40.7 |
| 20°-30° | 384.8 | 23.4 |
| 30°-40° | 133.9 | 8.1 |
| 40°-50° | 38.0 | 2.3 |
| 50°-60° | 14.5 | 0.9 |
| 60°-70° | 3.9 | 0.2 |
| 70°-80° | 0.1 | 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° | 1454.5 | 88.4 |
| 0°-40° | 1588.4 | 96.6 |
| 0°-60° | 1640.9 | 99.8 |
| 0°-90° | 1644.9 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1644.9 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 4826 | 4826 | 4826 | 4826 | 4826 | |
| 5° | 4542 | 4515 | 4496 | 4504 | 4481 | 403 |
| 15° | 2477 | 2467 | 2435 | 2429 | 2425 | 676 |
| 25° | 839 | 828 | 814 | 810 | 803 | 394 |
| 35° | 194 | 202 | 200 | 200 | 196 | 131 |
| 45° | 36 | 42 | 59 | 42 | 38 | 31 |
| 55° | 13 | 15 | 19 | 15 | 15 | 12 |
| 65° | 2 | 4 | 6 | 4 | 2 | 2 |
| 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° | 4826.0 | 4826.0 | 4826.0 | 4826.0 | 4826.0 |
| 1° | 4838.7 | 4815.5 | 4790.3 | 4790.3 | 4765.1 |
| 2° | 4792.4 | 4771.4 | 4744.0 | 4746.1 | 4718.8 |
| 3° | 4731.4 | 4710.4 | 4683.0 | 4687.3 | 4662.0 |
| 4° | 4647.3 | 4620.0 | 4601.0 | 4607.3 | 4584.2 |
| 5° | 4542.2 | 4514.8 | 4495.9 | 4504.3 | 4481.2 |
| 6° | 4399.2 | 4380.2 | 4363.4 | 4373.9 | 4352.9 |
| 7° | 4239.3 | 4218.3 | 4205.7 | 4214.1 | 4197.3 |
| 8° | 4043.8 | 4029.1 | 4014.3 | 4022.8 | 4005.9 |
| 9° | 3844.0 | 3820.9 | 3806.2 | 3812.5 | 3799.9 |
| 10° | 3610.6 | 3600.1 | 3583.3 | 3589.6 | 3579.1 |
| 11° | 3385.6 | 3385.6 | 3354.0 | 3343.5 | 3349.8 |
| 12° | 3154.3 | 3152.2 | 3122.7 | 3110.1 | 3114.3 |
| 13° | 2920.9 | 2918.8 | 2889.3 | 2878.8 | 2880.9 |
| 14° | 2689.5 | 2691.6 | 2660.1 | 2651.7 | 2649.6 |
| 15° | 2477.2 | 2466.6 | 2435.1 | 2428.8 | 2424.6 |
| 16° | 2254.3 | 2252.2 | 2220.6 | 2212.2 | 2208.0 |
| 17° | 2054.5 | 2044.0 | 2012.4 | 2004.0 | 1997.7 |
| 18° | 1846.3 | 1848.4 | 1816.9 | 1810.6 | 1800.0 |
| 19° | 1669.7 | 1665.5 | 1636.0 | 1629.7 | 1619.2 |
| 20° | 1503.5 | 1484.6 | 1465.7 | 1459.4 | 1448.9 |
| 22.5° | 1133.4 | 1122.9 | 1097.7 | 1091.4 | 1089.3 |
| 25° | 839.0 | 828.5 | 813.8 | 809.6 | 803.3 |
| 26° | 733.9 | 736.0 | 717.1 | 712.9 | 708.7 |
| 27° | 649.8 | 645.6 | 628.8 | 626.6 | 620.3 |
| 28° | 559.4 | 563.6 | 544.6 | 542.5 | 538.3 |
| 29° | 487.9 | 487.9 | 477.3 | 471.0 | 466.8 |
| 30° | 426.9 | 424.8 | 414.3 | 410.1 | 405.9 |
| 32.5° | 294.4 | 292.3 | 288.1 | 286.0 | 281.8 |
| 35° | 193.5 | 201.9 | 199.8 | 199.8 | 195.6 |
| 37.5° | 119.9 | 136.7 | 143.0 | 140.9 | 128.3 |
| 40° | 75.7 | 88.3 | 103.0 | 94.6 | 77.8 |
| 42.5° | 50.5 | 61.0 | 75.7 | 63.1 | 50.5 |
| 45° | 35.7 | 42.1 | 58.9 | 42.1 | 37.9 |
| 47.5° | 27.3 | 31.5 | 44.2 | 31.5 | 27.3 |
| 50° | 21.0 | 25.2 | 31.5 | 25.2 | 23.1 |
| 52.5° | 16.8 | 18.9 | 25.2 | 18.9 | 16.8 |
| 55° | 12.6 | 14.7 | 18.9 | 14.7 | 14.7 |
| 57.5° | 10.5 | 12.6 | 14.7 | 12.6 | 10.5 |
| 60° | 6.3 | 8.4 | 10.5 | 8.4 | 8.4 |
| 62.5° | 4.2 | 6.3 | 8.4 | 6.3 | 4.2 |
| 65° | 2.1 | 4.2 | 6.3 | 4.2 | 2.1 |
| 67.5° | 0.0 | 2.1 | 2.1 | 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 | 2.1 | 0.0 | 0.0 |
| 72.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



(END OF REPORT)