

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: P402080

Luminaire Tested: **LA1MR022D010 EA1M22309035SC1MW**

Issue Date: 6/3/2020



Test Information

Test Method: LM-41-14
Report Number: P402080
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: LA1MR022D010 EA1M22309035SC1MW
Description: 1 INCH 30° OPTIC WITH SPECULAR CLEAR BAFFLE
Light Source: HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

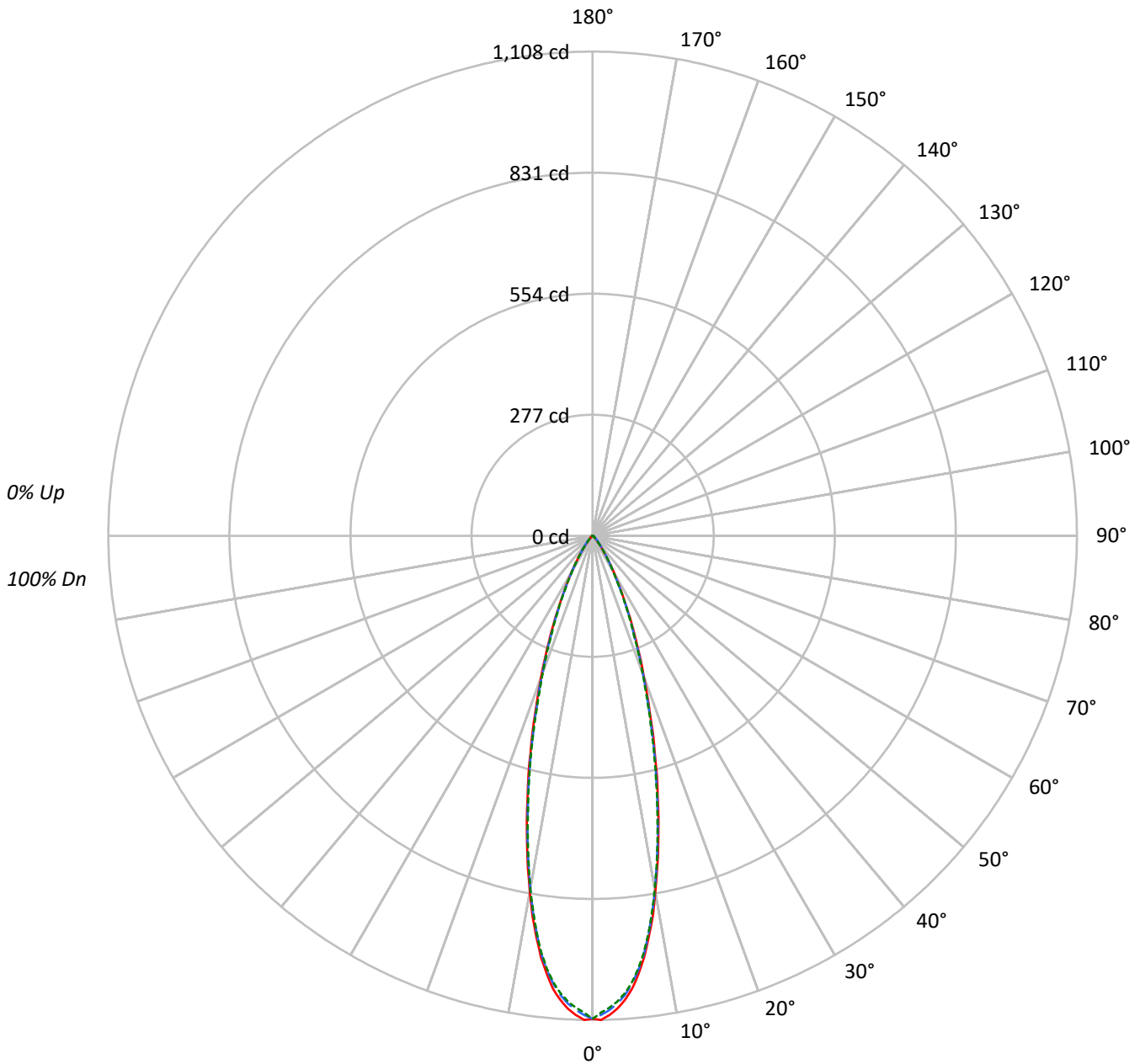
Lumens per Lamp: N/A
Luminaire Lumens: 376.8 lumens
Efficiency: N/A
Efficacy: 66.1 lumens/watt
Spacing Criteria (0/90/45): 0.51 / 0.5 / 0.52
Luminous Opening: Rectangular (W 0.08' x L: 0.42' x H: 0')
CIE Type: Direct

Input Watts (W): 5.7
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 | | | | 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° | 342676 | 342676 | 342676 |
| 5° | 323758 | 320459 | 319401 |
| 10° | 260326 | 258375 | 258060 |
| 15° | 182100 | 179019 | 178249 |
| 20° | 113617 | 110746 | 109493 |
| 25° | 65742 | 63758 | 62937 |
| 30° | 35008 | 33970 | 33290 |
| 35° | 16765 | 17333 | 16954 |
| 40° | 7001 | 9550 | 7203 |
| 45° | 3595 | 5919 | 3814 |
| 50° | 2315 | 3472 | 2556 |
| 55° | 1567 | 2324 | 1838 |
| 60° | 868 | 1488 | 1178 |
| 65° | 367 | 1027 | 367 |
| 70° | 0 | 453 | 0 |
| 75° | 0 | 0 | 0 |
| 80° | 0 | 0 | 0 |
| 85° | 0 | 0 | 0 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 91.8 | 24.4 |
| 10°-20° | 153.2 | 40.7 |
| 20°-30° | 88.1 | 23.4 |
| 30°-40° | 30.7 | 8.1 |
| 40°-50° | 8.7 | 2.3 |
| 50°-60° | 3.3 | 0.9 |
| 60°-70° | 0.9 | 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° | 333.2 | 88.4 |
| 0°-40° | 363.8 | 96.6 |
| 0°-60° | 375.8 | 99.8 |
| 0°-90° | 376.8 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 376.8 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1105 | 1105 | 1105 | 1105 | 1105 | |
| 5° | 1040 | 1034 | 1030 | 1032 | 1026 | 92 |
| 15° | 567 | 565 | 558 | 556 | 555 | 155 |
| 25° | 192 | 190 | 186 | 185 | 184 | 90 |
| 35° | 44 | 46 | 46 | 46 | 45 | 30 |
| 45° | 8 | 10 | 14 | 10 | 9 | 7 |
| 55° | 3 | 3 | 4 | 3 | 3 | 3 |
| 65° | 0 | 1 | 1 | 1 | 0 | 1 |
| 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° | 1105.4 | 1105.4 | 1105.4 | 1105.4 | 1105.4 |
| 1° | 1108.3 | 1103.0 | 1097.2 | 1097.2 | 1091.5 |
| 2° | 1097.7 | 1092.9 | 1086.6 | 1087.1 | 1080.9 |
| 3° | 1083.7 | 1078.9 | 1072.7 | 1073.6 | 1067.8 |
| 4° | 1064.5 | 1058.2 | 1053.9 | 1055.3 | 1050.0 |
| 5° | 1040.4 | 1034.1 | 1029.8 | 1031.7 | 1026.4 |
| 6° | 1007.6 | 1003.3 | 999.5 | 1001.9 | 997.0 |
| 7° | 971.0 | 966.2 | 963.3 | 965.3 | 961.4 |
| 8° | 926.2 | 922.9 | 919.5 | 921.4 | 917.6 |
| 9° | 880.5 | 875.2 | 871.8 | 873.3 | 870.4 |
| 10° | 827.0 | 824.6 | 820.8 | 822.2 | 819.8 |
| 11° | 775.5 | 775.5 | 768.3 | 765.8 | 767.3 |
| 12° | 722.5 | 722.0 | 715.3 | 712.4 | 713.3 |
| 13° | 669.0 | 668.5 | 661.8 | 659.4 | 659.9 |
| 14° | 616.0 | 616.5 | 609.3 | 607.4 | 606.9 |
| 15° | 567.4 | 565.0 | 557.8 | 556.3 | 555.4 |
| 16° | 516.3 | 515.9 | 508.6 | 506.7 | 505.7 |
| 17° | 470.6 | 468.2 | 461.0 | 459.0 | 457.6 |
| 18° | 422.9 | 423.4 | 416.2 | 414.7 | 412.3 |
| 19° | 382.4 | 381.5 | 374.7 | 373.3 | 370.9 |
| 20° | 344.4 | 340.1 | 335.7 | 334.3 | 331.9 |
| 22.5° | 259.6 | 257.2 | 251.4 | 250.0 | 249.5 |
| 25° | 192.2 | 189.8 | 186.4 | 185.4 | 184.0 |
| 26° | 168.1 | 168.6 | 164.2 | 163.3 | 162.3 |
| 27° | 148.8 | 147.9 | 144.0 | 143.5 | 142.1 |
| 28° | 128.1 | 129.1 | 124.8 | 124.3 | 123.3 |
| 29° | 111.7 | 111.7 | 109.3 | 107.9 | 106.9 |
| 30° | 97.8 | 97.3 | 94.9 | 93.9 | 93.0 |
| 32.5° | 67.4 | 67.0 | 66.0 | 65.5 | 64.5 |
| 35° | 44.3 | 46.2 | 45.8 | 45.8 | 44.8 |
| 37.5° | 27.5 | 31.3 | 32.8 | 32.3 | 29.4 |
| 40° | 17.3 | 20.2 | 23.6 | 21.7 | 17.8 |
| 42.5° | 11.6 | 14.0 | 17.3 | 14.4 | 11.6 |
| 45° | 8.2 | 9.6 | 13.5 | 9.6 | 8.7 |
| 47.5° | 6.3 | 7.2 | 10.1 | 7.2 | 6.3 |
| 50° | 4.8 | 5.8 | 7.2 | 5.8 | 5.3 |
| 52.5° | 3.9 | 4.3 | 5.8 | 4.3 | 3.9 |
| 55° | 2.9 | 3.4 | 4.3 | 3.4 | 3.4 |
| 57.5° | 2.4 | 2.9 | 3.4 | 2.9 | 2.4 |
| 60° | 1.4 | 1.9 | 2.4 | 1.9 | 1.9 |
| 62.5° | 1.0 | 1.4 | 1.9 | 1.4 | 1.0 |
| 65° | 0.5 | 1.0 | 1.4 | 1.0 | 0.5 |
| 67.5° | 0.0 | 0.5 | 0.5 | 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 | 0.5 | 0.0 | 0.0 |
| 72.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



(END OF REPORT)