

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: P402000

Luminaire Tested: **LA1MR102D010 EA1M102WW9035SC1MW**

Issue Date: 6/3/2020



Test Information

Test Method: LM-41-14
Report Number: P402000
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1912-604-15)
Test Lab: INNOVATION CENTER (G3)
Issue Date: 6/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: PORTFOLIO
Catalog Number: LA1MR102D010 EA1M102WW9035SC1MW
Description: 1 INCH WW OPTIC WITH SPECULAR CLEAR BAFFLE
Light Source: HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

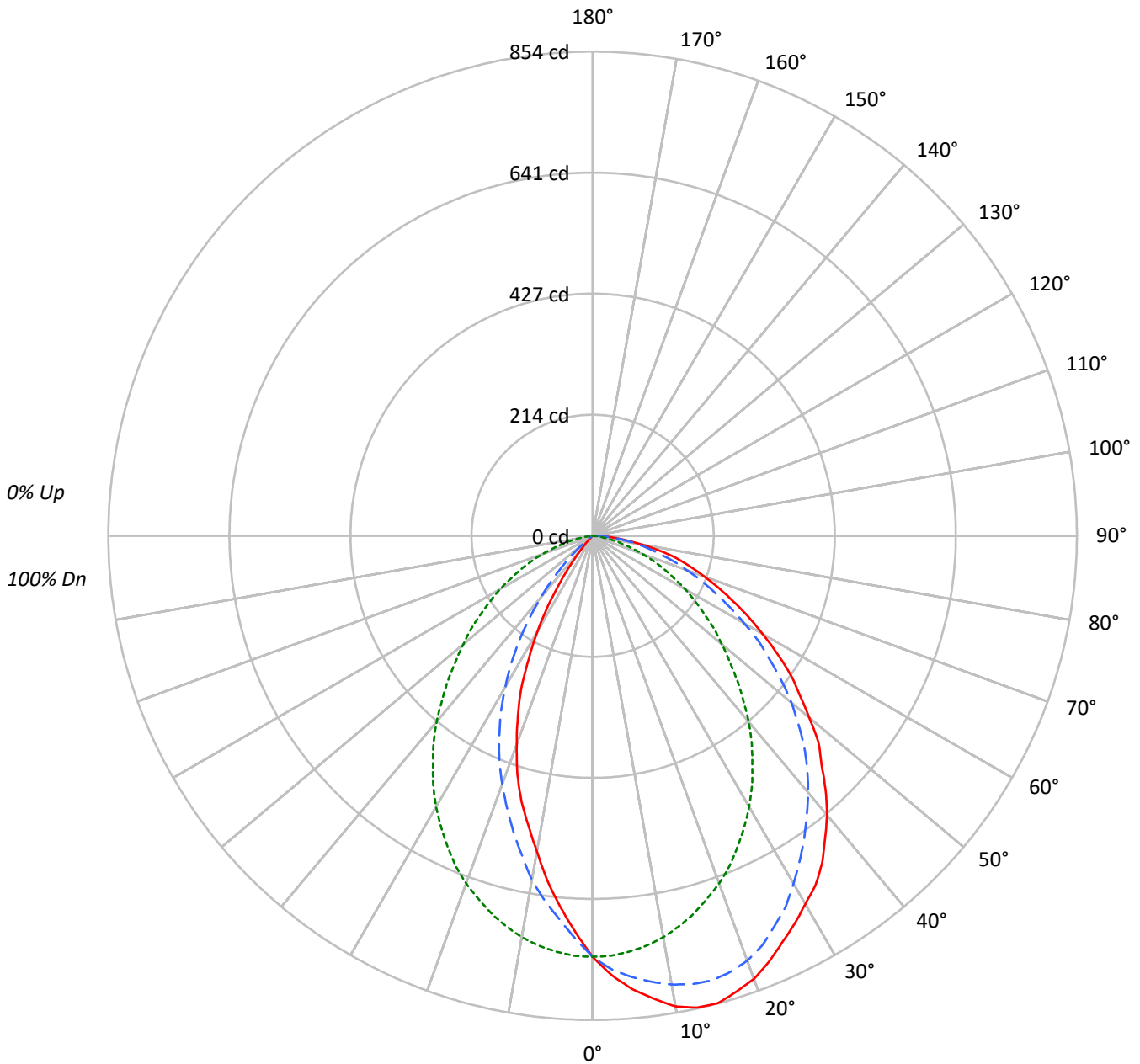
Lumens per Lamp: N/A
Luminaire Lumens: 1436.9 lumens
Efficiency: N/A
Efficacy: 61.1 lumens/watt
Spacing Criteria (0/90/45): 1 / 1.12 / 1.15
Luminous Opening: Rectangular (W 0.1' x L: 1.29' x H: 0')
CIE Type: Direct

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 | | | | 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 | 110 | 106 | 102 | 99 | 107 | 104 | 100 | 97 | 99 | 97 | 94 | 96 | 93 | 91 | 92 | 90 | 89 | 86 | | | | 86 |
| 2 | 101 | 94 | 88 | 83 | 99 | 92 | 86 | 82 | 89 | 84 | 80 | 85 | 81 | 78 | 82 | 79 | 76 | 74 | | | | 74 |
| 3 | 93 | 84 | 76 | 71 | 91 | 82 | 75 | 70 | 79 | 73 | 69 | 77 | 72 | 68 | 74 | 70 | 66 | 64 | | | | 64 |
| 4 | 86 | 75 | 67 | 61 | 84 | 74 | 66 | 61 | 72 | 65 | 60 | 69 | 64 | 59 | 67 | 62 | 58 | 56 | | | | 56 |
| 5 | 80 | 68 | 60 | 54 | 78 | 67 | 59 | 53 | 65 | 58 | 53 | 63 | 57 | 52 | 61 | 56 | 52 | 50 | | | | 50 |
| 6 | 74 | 62 | 54 | 48 | 72 | 61 | 53 | 47 | 59 | 52 | 47 | 58 | 51 | 47 | 56 | 51 | 46 | 44 | | | | 44 |
| 7 | 69 | 57 | 48 | 43 | 68 | 56 | 48 | 43 | 54 | 47 | 42 | 53 | 47 | 42 | 52 | 46 | 42 | 40 | | | | 40 |
| 8 | 65 | 52 | 44 | 39 | 63 | 51 | 44 | 39 | 50 | 43 | 38 | 49 | 43 | 38 | 48 | 42 | 38 | 36 | | | | 36 |
| 9 | 61 | 48 | 40 | 35 | 59 | 48 | 40 | 35 | 46 | 40 | 35 | 45 | 39 | 35 | 44 | 39 | 35 | 33 | | | | 33 |
| 10 | 57 | 45 | 37 | 32 | 56 | 44 | 37 | 32 | 43 | 37 | 32 | 42 | 36 | 32 | 41 | 36 | 32 | 30 | | | | 30 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 90° | 180° |
|-----|-------|-------|-------|
| 0° | 59408 | 59408 | 59408 |
| 5° | 64461 | 59137 | 52737 |
| 10° | 68488 | 58391 | 45938 |
| 15° | 70689 | 57131 | 40144 |
| 20° | 70806 | 55550 | 33330 |
| 25° | 69848 | 53395 | 26331 |
| 30° | 69273 | 51001 | 17986 |
| 35° | 68881 | 47942 | 9610 |
| 40° | 67171 | 44676 | 3248 |
| 45° | 64567 | 40775 | 351 |
| 50° | 62005 | 37001 | 0 |
| 55° | 59375 | 33516 | 0 |
| 60° | 55344 | 30160 | 0 |
| 65° | 51754 | 26274 | 0 |
| 70° | 48933 | 21800 | 0 |
| 75° | 47384 | 16320 | 0 |
| 80° | 40081 | 10043 | 0 |
| 85° | 34238 | 1928 | 0 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 69.3 | 4.8 |
| 10°-20° | 190.3 | 13.2 |
| 20°-30° | 263.8 | 18.4 |
| 30°-40° | 276.6 | 19.2 |
| 40°-50° | 242.5 | 16.9 |
| 50°-60° | 188.1 | 13.1 |
| 60°-70° | 124.5 | 8.7 |
| 70°-80° | 65.5 | 4.6 |
| 80°-90° | 16.3 | 1.1 |
| 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° | 523.4 | 36.4 |
| 0°-40° | 799.9 | 55.7 |
| 0°-60° | 1230.6 | 85.6 |
| 0°-90° | 1436.9 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1436.9 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|-----|-----|-----|------|------|------|
| 0° | 743 | 743 | 743 | 743 | 743 | |
| 5° | 803 | 781 | 736 | 678 | 657 | 78 |
| 15° | 854 | 812 | 690 | 540 | 485 | 240 |
| 25° | 791 | 759 | 605 | 389 | 298 | 365 |
| 35° | 705 | 650 | 491 | 225 | 98 | 439 |
| 45° | 571 | 528 | 360 | 72 | 3 | 442 |
| 55° | 426 | 381 | 240 | 1 | 0 | 378 |
| 65° | 273 | 238 | 139 | 0 | 0 | 272 |
| 75° | 153 | 121 | 53 | 0 | 0 | 159 |
| 85° | 37 | 30 | 2 | 0 | 0 | 43 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° |
|-------|-------|-------|-------|-------|-------|--------|-------|--------|-------|
| 0° | 742.6 | 742.6 | 742.6 | 742.6 | 742.6 | 742.6 | 742.6 | 742.6 | 742.6 |
| 2.5° | 775.8 | 773.7 | 765.4 | 757.1 | 741.6 | 726.1 | 710.5 | 701.2 | 699.1 |
| 5° | 802.7 | 796.5 | 781.0 | 765.4 | 736.4 | 709.5 | 678.4 | 661.8 | 656.7 |
| 7.5° | 823.4 | 815.1 | 793.4 | 768.5 | 729.2 | 688.8 | 648.4 | 625.6 | 613.2 |
| 10° | 843.1 | 833.8 | 803.7 | 767.5 | 718.8 | 662.9 | 616.3 | 581.1 | 565.5 |
| 12.5° | 852.4 | 842.1 | 810.0 | 766.5 | 705.3 | 639.1 | 576.9 | 539.6 | 523.1 |
| 15° | 853.5 | 843.1 | 812.0 | 758.2 | 689.8 | 611.1 | 539.6 | 497.2 | 484.7 |
| 17.5° | 843.1 | 834.8 | 806.9 | 748.8 | 671.2 | 586.2 | 502.3 | 458.8 | 441.2 |
| 20° | 831.7 | 821.4 | 797.5 | 737.5 | 652.5 | 555.2 | 466.1 | 412.2 | 391.5 |
| 22.5° | 813.1 | 804.8 | 782.0 | 724.0 | 630.8 | 522.0 | 429.8 | 367.7 | 343.9 |
| 25° | 791.3 | 781.0 | 759.2 | 706.4 | 604.9 | 486.8 | 389.4 | 324.2 | 298.3 |
| 27.5° | 771.6 | 758.2 | 737.5 | 686.7 | 579.0 | 455.7 | 350.1 | 274.5 | 242.4 |
| 30° | 749.9 | 738.5 | 708.5 | 661.8 | 552.1 | 419.5 | 307.6 | 223.7 | 194.7 |
| 32.5° | 731.2 | 713.6 | 679.5 | 634.9 | 523.1 | 385.3 | 267.2 | 176.1 | 145.0 |
| 35° | 705.3 | 690.8 | 650.5 | 603.8 | 490.9 | 352.2 | 224.8 | 127.4 | 98.4 |
| 37.5° | 673.2 | 662.9 | 620.4 | 571.7 | 460.9 | 318.0 | 182.3 | 87.0 | 57.0 |
| 40° | 643.2 | 630.8 | 591.4 | 539.6 | 427.8 | 285.9 | 140.9 | 50.8 | 31.1 |
| 42.5° | 608.0 | 597.6 | 560.3 | 502.3 | 392.6 | 251.7 | 105.6 | 26.9 | 13.5 |
| 45° | 570.7 | 561.4 | 528.2 | 466.1 | 360.4 | 221.7 | 71.5 | 11.4 | 3.1 |
| 47.5° | 540.7 | 526.2 | 492.0 | 428.8 | 327.3 | 190.6 | 41.4 | 2.1 | 0.0 |
| 50° | 498.2 | 492.0 | 457.8 | 390.5 | 297.3 | 161.6 | 22.8 | 0.0 | 0.0 |
| 52.5° | 459.9 | 452.6 | 419.5 | 356.3 | 270.3 | 132.6 | 9.3 | 0.0 | 0.0 |
| 55° | 425.7 | 415.3 | 381.2 | 323.2 | 240.3 | 100.5 | 1.0 | 0.0 | 0.0 |
| 57.5° | 385.3 | 377.0 | 348.0 | 291.0 | 213.4 | 75.6 | 0.0 | 0.0 | 0.0 |
| 60° | 345.9 | 340.8 | 308.7 | 262.0 | 188.5 | 49.7 | 0.0 | 0.0 | 0.0 |
| 62.5° | 309.7 | 304.5 | 272.4 | 231.0 | 161.6 | 29.0 | 0.0 | 0.0 | 0.0 |
| 65° | 273.4 | 267.2 | 238.2 | 203.0 | 138.8 | 14.5 | 0.0 | 0.0 | 0.0 |
| 67.5° | 240.3 | 234.1 | 207.2 | 173.0 | 116.0 | 5.2 | 0.0 | 0.0 | 0.0 |
| 70° | 209.2 | 200.9 | 176.1 | 147.1 | 93.2 | 1.0 | 0.0 | 0.0 | 0.0 |
| 72.5° | 180.2 | 170.9 | 149.1 | 122.2 | 72.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| 75° | 153.3 | 145.0 | 121.2 | 98.4 | 52.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| 77.5° | 121.2 | 116.0 | 98.4 | 74.6 | 37.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80° | 87.0 | 86.0 | 75.6 | 53.9 | 21.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| 82.5° | 59.0 | 59.0 | 52.8 | 36.3 | 10.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 37.3 | 34.2 | 30.0 | 20.7 | 2.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 16.6 | 16.6 | 12.4 | 7.3 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



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







(END OF REPORT)