

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: P401992

Luminaire Tested: **LA1MR102D010 EA1M102WW9027SC1MW**

Issue Date: 6/3/2020



**Test Information**

Test Method: LM-41-14  
Report Number: P401992  
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 EA1M102WW9027SC1MW  
Description: 1 INCH WW OPTIC WITH SPECULAR CLEAR BAFFLE  
Light Source: HIGH LUMEN LED 90CRI / 2700K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

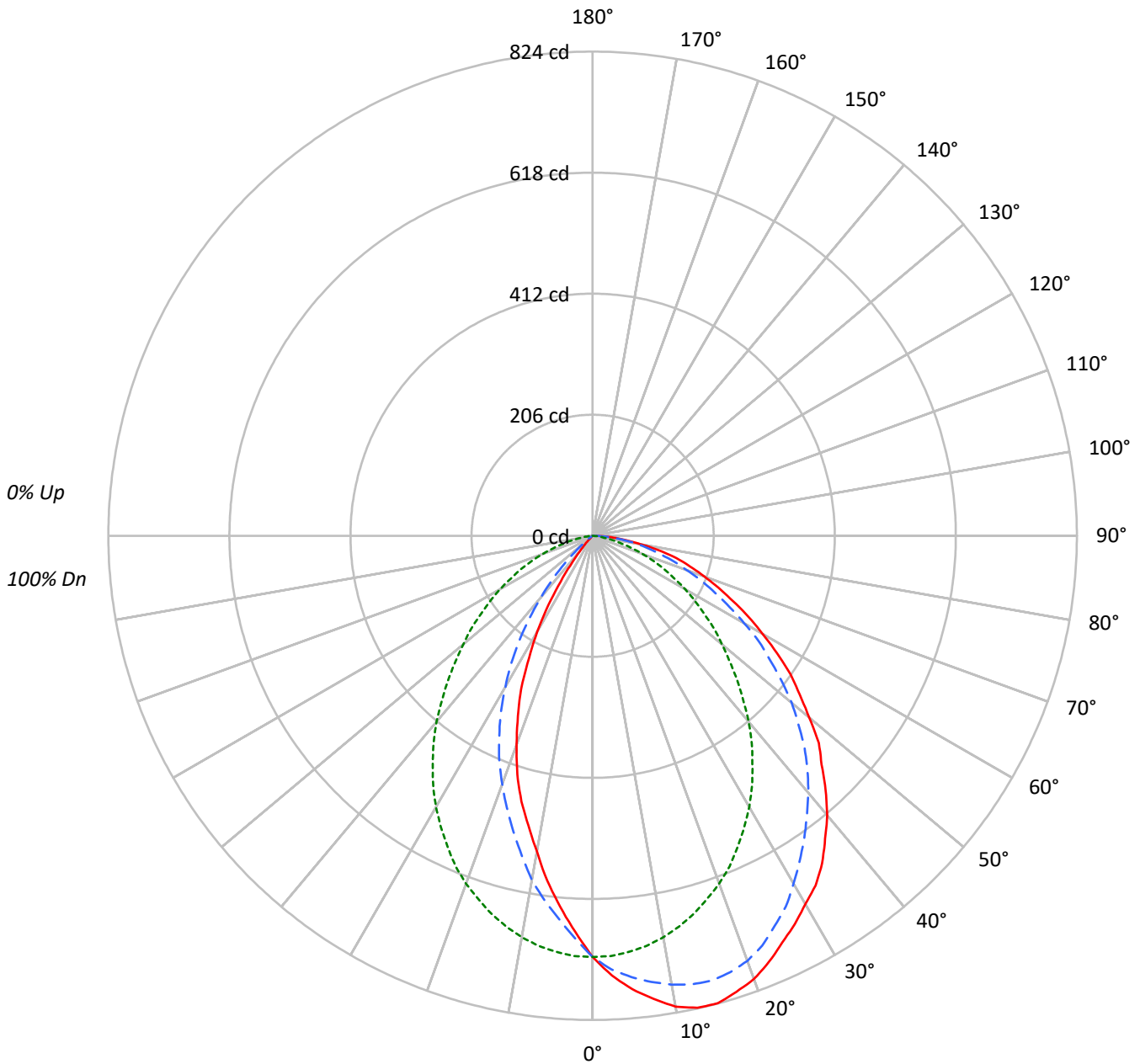
Lumens per Lamp: N/A  
Luminaire Lumens: 1387.0 lumens  
Efficiency: N/A  
Efficacy: 59.0 lumens/watt  
Spacing Criteria (0/90/45): 1 / 1.12 / 1.15  
Luminous Opening: Rectangular (W 0.1' x L: 1.29' x H: 0')  
CIE Type: Direct

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

**AVERAGE LUMINANCE (cd/sqm):**

|     | 0°    | 90°   | 180°  |
|-----|-------|-------|-------|
| 0°  | 57344 | 57344 | 57344 |
| 5°  | 62221 | 57081 | 50906 |
| 10° | 66108 | 56360 | 44346 |
| 15° | 68229 | 55143 | 38752 |
| 20° | 68346 | 53626 | 32172 |
| 25° | 67421 | 51541 | 25413 |
| 30° | 66862 | 49227 | 17367 |
| 35° | 66488 | 46282 | 9278  |
| 40° | 64842 | 43120 | 3133  |
| 45° | 62327 | 39360 | 339   |
| 50° | 59852 | 35707 | 0     |
| 55° | 57311 | 32344 | 0     |
| 60° | 53424 | 29120 | 0     |
| 65° | 49955 | 25366 | 0     |
| 70° | 47249 | 21051 | 0     |
| 75° | 45746 | 15764 | 0     |
| 80° | 38699 | 9675  | 0     |
| 85° | 33044 | 1836  | 0     |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 66.8   | 4.8       |
| 10°-20°   | 183.7  | 13.2      |
| 20°-30°   | 254.7  | 18.4      |
| 30°-40°   | 267.0  | 19.2      |
| 40°-50°   | 234.1  | 16.9      |
| 50°-60°   | 181.6  | 13.1      |
| 60°-70°   | 120.2  | 8.7       |
| 70°-80°   | 63.2   | 4.6       |
| 80°-90°   | 15.7   | 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°    | 505.2  | 36.4      |
| 0°-40°    | 772.1  | 55.7      |
| 0°-60°    | 1187.8 | 85.6      |
| 0°-90°    | 1387.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1387.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 45° | 90° | 135° | 180° | Flux |
|-----|-----|-----|-----|------|------|------|
| 0°  | 717 | 717 | 717 | 717  | 717  |      |
| 5°  | 775 | 754 | 711 | 655  | 634  | 75   |
| 15° | 824 | 784 | 666 | 521  | 468  | 231  |
| 25° | 764 | 733 | 584 | 376  | 288  | 353  |
| 35° | 681 | 628 | 474 | 217  | 95   | 424  |
| 45° | 551 | 510 | 348 | 69   | 3    | 427  |
| 55° | 411 | 368 | 232 | 1    | 0    | 365  |
| 65° | 264 | 230 | 134 | 0    | 0    | 263  |
| 75° | 148 | 117 | 51  | 0    | 0    | 153  |
| 85° | 36  | 29  | 2   | 0    | 0    | 41   |
| 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°    | 716.8 | 716.8 | 716.8 | 716.8 | 716.8 | 716.8  | 716.8 | 716.8  | 716.8 |
| 2.5°  | 748.8 | 746.8 | 738.8 | 730.8 | 715.8 | 700.8  | 685.8 | 676.8  | 674.8 |
| 5°    | 774.8 | 768.8 | 753.8 | 738.8 | 710.8 | 684.8  | 654.8 | 638.9  | 633.9 |
| 7.5°  | 794.8 | 786.8 | 765.8 | 741.8 | 703.8 | 664.8  | 625.9 | 603.9  | 591.9 |
| 10°   | 813.8 | 804.8 | 775.8 | 740.8 | 693.8 | 639.9  | 594.9 | 560.9  | 545.9 |
| 12.5° | 822.8 | 812.8 | 781.8 | 739.8 | 680.8 | 616.9  | 556.9 | 520.9  | 504.9 |
| 15°   | 823.8 | 813.8 | 783.8 | 731.8 | 665.8 | 589.9  | 520.9 | 479.9  | 467.9 |
| 17.5° | 813.8 | 805.8 | 778.8 | 722.8 | 647.8 | 565.9  | 484.9 | 442.9  | 425.9 |
| 20°   | 802.8 | 792.8 | 769.8 | 711.8 | 629.9 | 535.9  | 449.9 | 397.9  | 377.9 |
| 22.5° | 784.8 | 776.8 | 754.8 | 698.8 | 608.9 | 503.9  | 414.9 | 354.9  | 331.9 |
| 25°   | 763.8 | 753.8 | 732.8 | 681.8 | 583.9 | 469.9  | 375.9 | 312.9  | 287.9 |
| 27.5° | 744.8 | 731.8 | 711.8 | 662.8 | 558.9 | 439.9  | 337.9 | 264.9  | 233.9 |
| 30°   | 723.8 | 712.8 | 683.8 | 638.9 | 532.9 | 404.9  | 296.9 | 215.9  | 188.0 |
| 32.5° | 705.8 | 688.8 | 655.8 | 612.9 | 504.9 | 371.9  | 257.9 | 170.0  | 140.0 |
| 35°   | 680.8 | 666.8 | 627.9 | 582.9 | 473.9 | 339.9  | 216.9 | 123.0  | 95.0  |
| 37.5° | 649.8 | 639.9 | 598.9 | 551.9 | 444.9 | 306.9  | 176.0 | 84.0   | 55.0  |
| 40°   | 620.9 | 608.9 | 570.9 | 520.9 | 412.9 | 275.9  | 136.0 | 49.0   | 30.0  |
| 42.5° | 586.9 | 576.9 | 540.9 | 484.9 | 378.9 | 242.9  | 102.0 | 26.0   | 13.0  |
| 45°   | 550.9 | 541.9 | 509.9 | 449.9 | 347.9 | 214.0  | 69.0  | 11.0   | 3.0   |
| 47.5° | 521.9 | 507.9 | 474.9 | 413.9 | 315.9 | 184.0  | 40.0  | 2.0    | 0.0   |
| 50°   | 480.9 | 474.9 | 441.9 | 376.9 | 286.9 | 156.0  | 22.0  | 0.0    | 0.0   |
| 52.5° | 443.9 | 436.9 | 404.9 | 343.9 | 260.9 | 128.0  | 9.0   | 0.0    | 0.0   |
| 55°   | 410.9 | 400.9 | 367.9 | 311.9 | 231.9 | 97.0   | 1.0   | 0.0    | 0.0   |
| 57.5° | 371.9 | 363.9 | 335.9 | 280.9 | 206.0 | 73.0   | 0.0   | 0.0    | 0.0   |
| 60°   | 333.9 | 328.9 | 297.9 | 252.9 | 182.0 | 48.0   | 0.0   | 0.0    | 0.0   |
| 62.5° | 298.9 | 293.9 | 262.9 | 222.9 | 156.0 | 28.0   | 0.0   | 0.0    | 0.0   |
| 65°   | 263.9 | 257.9 | 229.9 | 196.0 | 134.0 | 14.0   | 0.0   | 0.0    | 0.0   |
| 67.5° | 231.9 | 225.9 | 200.0 | 167.0 | 112.0 | 5.0    | 0.0   | 0.0    | 0.0   |
| 70°   | 202.0 | 194.0 | 170.0 | 142.0 | 90.0  | 1.0    | 0.0   | 0.0    | 0.0   |
| 72.5° | 174.0 | 165.0 | 144.0 | 118.0 | 70.0  | 0.0    | 0.0   | 0.0    | 0.0   |
| 75°   | 148.0 | 140.0 | 117.0 | 95.0  | 51.0  | 0.0    | 0.0   | 0.0    | 0.0   |
| 77.5° | 117.0 | 112.0 | 95.0  | 72.0  | 36.0  | 0.0    | 0.0   | 0.0    | 0.0   |
| 80°   | 84.0  | 83.0  | 73.0  | 52.0  | 21.0  | 0.0    | 0.0   | 0.0    | 0.0   |
| 82.5° | 57.0  | 57.0  | 51.0  | 35.0  | 10.0  | 0.0    | 0.0   | 0.0    | 0.0   |
| 85°   | 36.0  | 33.0  | 29.0  | 20.0  | 2.0   | 0.0    | 0.0   | 0.0    | 0.0   |
| 87.5° | 16.0  | 16.0  | 12.0  | 7.0   | 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)