

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: P402439

Luminaire Tested: **LD1MRT102D010TR509027SB1MW**

Issue Date: 6/3/2020



**Test Information**

Test Method: LM-41-14  
Report Number: P402439  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1912-604-8)  
Test Lab: INNOVATION CENTER (G3)  
Issue Date: 6/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: PORTFOLIO  
Catalog Number: LD1MRT102D010TR509027SB1MW  
Description: 1 INCH 50° OPTIC WITH SPECULAR BLACK BAFFLE  
Light Source: HIGH LUMEN LED 90CRI / 2700K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

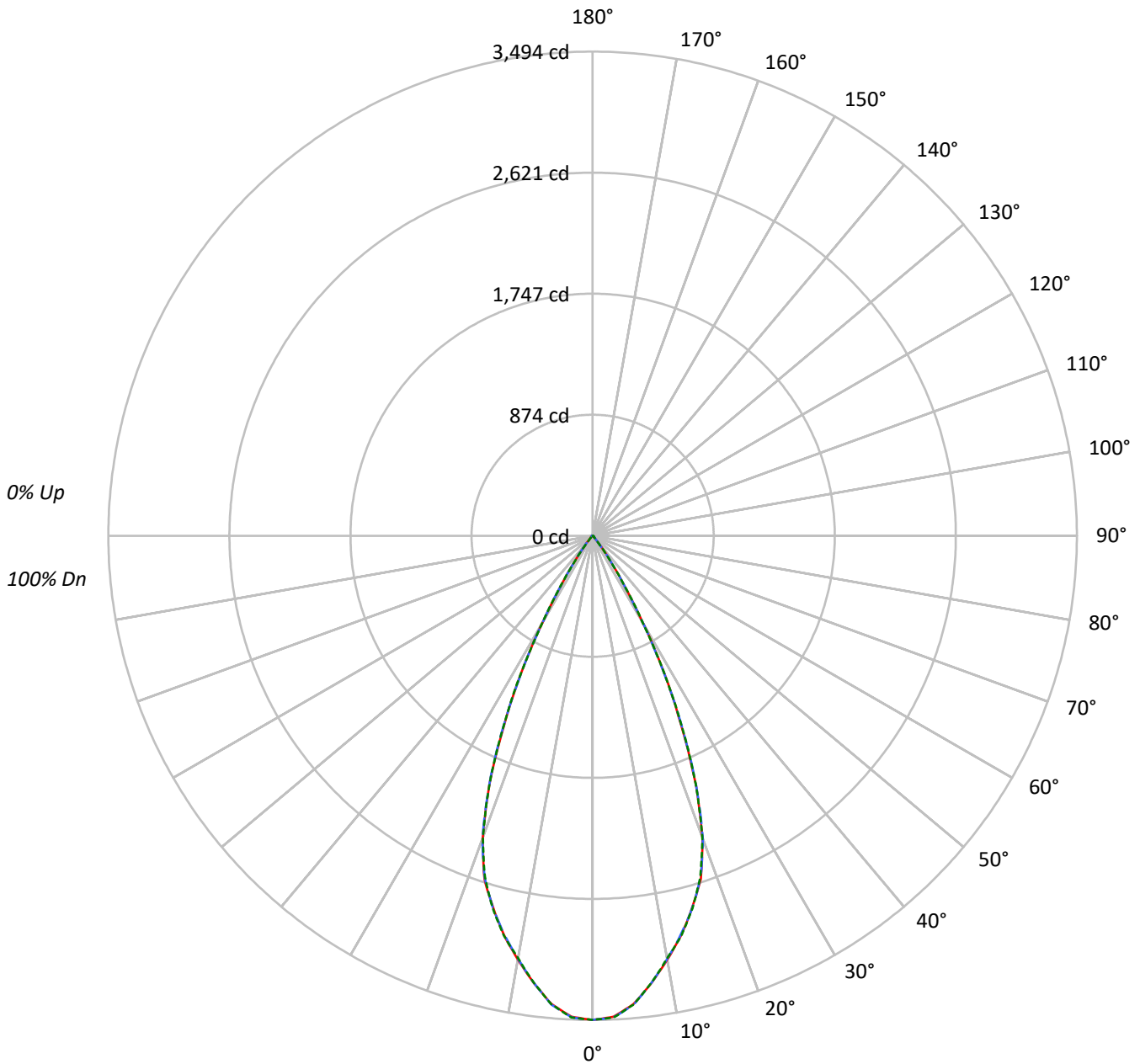
Lumens per Lamp: N/A  
Luminaire Lumens: 1972.0 lumens  
Efficiency: N/A  
Efficacy: 83.9 lumens/watt  
Spacing Criteria (0/90/45): 0.77 / 0.77 / 0.71  
Luminous Opening: Rectangular (W 0.1' x L: 1.29' x H: 0')  
CIE Type: Direct

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 |  |  |  |  |  |  |  |  |   |
| 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 |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 1   | 114 | 112 | 110 | 108 | 112 | 110 | 108 | 106 | 106 | 104 | 103 | 102 | 101 | 100 | 99  | 98  | 97  | 95  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 2   | 110 | 105 | 102 | 99  | 107 | 104 | 100 | 98  | 100 | 98  | 96  | 98  | 95  | 94  | 95  | 93  | 92  | 90  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 3   | 105 | 99  | 95  | 92  | 103 | 98  | 94  | 91  | 96  | 92  | 90  | 93  | 90  | 88  | 91  | 89  | 87  | 85  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 4   | 101 | 94  | 89  | 86  | 99  | 93  | 89  | 85  | 91  | 87  | 84  | 89  | 86  | 83  | 87  | 85  | 82  | 81  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 5   | 97  | 89  | 84  | 81  | 95  | 89  | 84  | 80  | 87  | 83  | 80  | 85  | 82  | 79  | 84  | 81  | 78  | 77  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 6   | 93  | 85  | 80  | 76  | 91  | 84  | 79  | 76  | 83  | 79  | 75  | 82  | 78  | 75  | 80  | 77  | 75  | 73  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 7   | 89  | 81  | 76  | 72  | 88  | 80  | 76  | 72  | 79  | 75  | 72  | 78  | 74  | 71  | 77  | 74  | 71  | 70  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 8   | 85  | 77  | 72  | 69  | 84  | 77  | 72  | 69  | 76  | 71  | 68  | 75  | 71  | 68  | 74  | 70  | 68  | 67  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 9   | 82  | 74  | 69  | 65  | 81  | 73  | 69  | 65  | 73  | 68  | 65  | 72  | 68  | 65  | 71  | 67  | 65  | 64  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 10  | 79  | 71  | 66  | 62  | 78  | 70  | 66  | 62  | 70  | 65  | 62  | 69  | 65  | 62  | 68  | 64  | 62  | 61  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |

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

|     | 0°     | 45°    | 90°    |
|-----|--------|--------|--------|
| 0°  | 279496 | 279496 | 279496 |
| 5°  | 272428 | 272790 | 272637 |
| 10° | 252248 | 251882 | 251460 |
| 15° | 229922 | 230187 | 230510 |
| 20° | 197222 | 197826 | 197060 |
| 25° | 133685 | 135336 | 135115 |
| 30° | 66224  | 66649  | 66409  |
| 35° | 22120  | 22247  | 20919  |
| 40° | 5055   | 4919   | 4250   |
| 45° | 1969   | 2195   | 1822   |
| 50° | 1606   | 1693   | 1444   |
| 55° | 1437   | 1437   | 1255   |
| 60° | 1136   | 1232   | 1040   |
| 65° | 738    | 852    | 606    |
| 70° | 0      | 140    | 0      |
| 75° | 0      | 0      | 0      |
| 80° | 0      | 0      | 0      |
| 85° | 0      | 0      | 0      |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 314.5  | 15.9      |
| 10°-20°   | 771.0  | 39.1      |
| 20°-30°   | 686.4  | 34.8      |
| 30°-40°   | 171.3  | 8.7       |
| 40°-50°   | 16.3   | 0.8       |
| 50°-60°   | 8.9    | 0.5       |
| 60°-70°   | 3.6    | 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°    | 1771.8 | 89.8      |
| 0°-40°    | 1943.2 | 98.5      |
| 0°-60°    | 1968.4 | 99.8      |
| 0°-90°    | 1972.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1972.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 3494 | 3494  | 3494 | 3494  | 3494 |      |
| 5°  | 3392 | 3405  | 3397 | 3394  | 3395 | 314  |
| 15° | 2776 | 2790  | 2779 | 2774  | 2783 | 771  |
| 25° | 1514 | 1531  | 1533 | 1544  | 1531 | 684  |
| 35° | 226  | 235   | 228  | 225   | 214  | 170  |
| 45° | 17   | 17    | 19   | 17    | 16   | 17   |
| 55° | 10   | 10    | 10   | 10    | 9    | 9    |
| 65° | 4    | 4     | 4    | 4     | 3    | 3    |
| 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°    | 3493.7 | 3493.7 | 3493.7 | 3493.7 | 3493.7 |
| 2.5°  | 3473.7 | 3489.2 | 3478.2 | 3478.8 | 3479.5 |
| 5°    | 3392.4 | 3404.6 | 3396.9 | 3394.3 | 3395.0 |
| 7.5°  | 3254.9 | 3265.9 | 3253.6 | 3258.1 | 3253.0 |
| 10°   | 3105.2 | 3116.2 | 3100.7 | 3100.7 | 3095.5 |
| 12.5° | 2952.9 | 2964.5 | 2945.8 | 2943.9 | 2956.1 |
| 15°   | 2776.1 | 2790.3 | 2779.3 | 2774.2 | 2783.2 |
| 17.5° | 2597.4 | 2595.4 | 2589.0 | 2585.7 | 2582.5 |
| 20°   | 2316.6 | 2328.3 | 2323.7 | 2304.4 | 2314.7 |
| 22.5° | 1947.5 | 1948.2 | 1954.6 | 1957.9 | 1949.5 |
| 25°   | 1514.5 | 1531.3 | 1533.2 | 1543.6 | 1530.7 |
| 27.5° | 1122.2 | 1125.4 | 1108.0 | 1109.3 | 1121.5 |
| 30°   | 716.9  | 726.6  | 721.5  | 726.6  | 718.9  |
| 32.5° | 413.6  | 422.0  | 418.8  | 422.7  | 423.3  |
| 35°   | 226.5  | 234.9  | 227.8  | 224.6  | 214.2  |
| 37.5° | 112.3  | 112.3  | 114.9  | 105.8  | 100.7  |
| 40°   | 48.4   | 49.7   | 47.1   | 44.5   | 40.7   |
| 42.5° | 24.5   | 24.5   | 25.8   | 21.9   | 21.3   |
| 45°   | 17.4   | 17.4   | 19.4   | 16.8   | 16.1   |
| 47.5° | 14.8   | 14.8   | 16.1   | 14.2   | 13.6   |
| 50°   | 12.9   | 12.9   | 13.6   | 12.3   | 11.6   |
| 52.5° | 11.6   | 11.6   | 12.3   | 11.0   | 10.3   |
| 55°   | 10.3   | 10.3   | 10.3   | 9.7    | 9.0    |
| 57.5° | 8.4    | 9.0    | 9.0    | 8.4    | 7.7    |
| 60°   | 7.1    | 7.1    | 7.7    | 7.1    | 6.5    |
| 62.5° | 5.8    | 5.8    | 5.8    | 5.8    | 5.2    |
| 65°   | 3.9    | 3.9    | 4.5    | 3.9    | 3.2    |
| 67.5° | 0.6    | 1.3    | 3.2    | 0.0    | 0.0    |
| 70°   | 0.0    | 0.0    | 0.6    | 0.0    | 0.0    |
| 72.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 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°







(END OF REPORT)