

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: P402515

Luminaire Tested: **LD1MRT52D010TR309040SB1MW**

Issue Date: 6/3/2020



**Test Information**

Test Method: LM-41-14  
Report Number: P402515  
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: LD1MRT52D010TR309040SB1MW  
Description: 1 INCH 30° OPTIC WITH SPECULAR BLACK BAFFLE  
Light Source: HIGH LUMEN LED 90CRI / 4000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

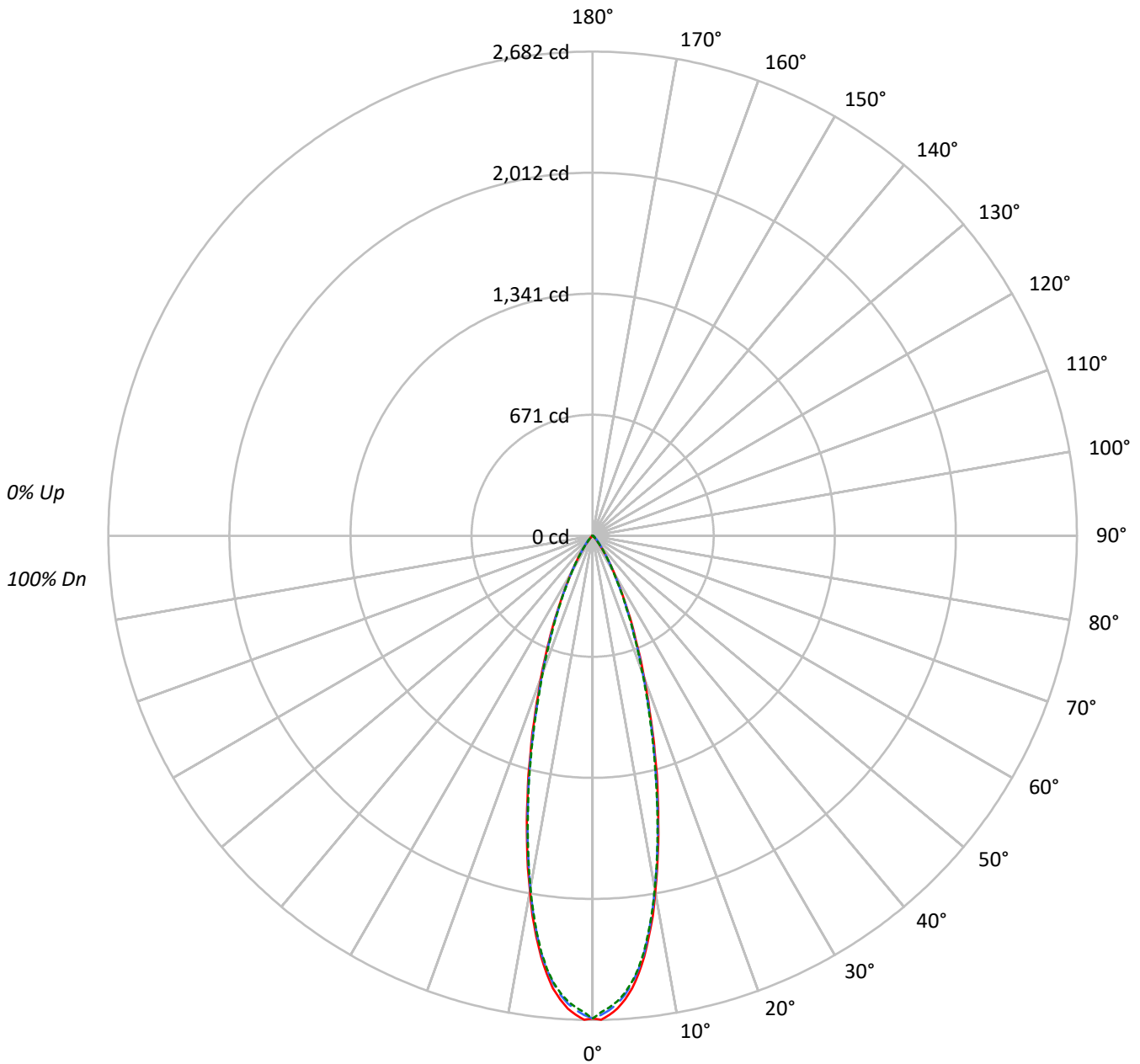
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 911.6 lumens  
Efficiency: N/A  
Efficacy: 75.3 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): 12.1  
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 | 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  | 75  | 72  | 87  | 80  | 75  | 72  | 79  | 75  | 72  | 78  | 74  | 71  | 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°  | 829100 | 829100 | 829100 |
| 5°  | 783286 | 775320 | 772768 |
| 10° | 629851 | 625067 | 624343 |
| 15° | 440583 | 433105 | 431212 |
| 20° | 274870 | 267942 | 264874 |
| 25° | 159053 | 154264 | 152280 |
| 30° | 84693  | 82187  | 80505  |
| 35° | 40569  | 41894  | 41023  |
| 40° | 16996  | 23107  | 17442  |
| 45° | 8680   | 14292  | 9207   |
| 50° | 5643   | 8440   | 6173   |
| 55° | 3783   | 5675   | 4432   |
| 60° | 2170   | 3596   | 2914   |
| 65° | 880    | 2567   | 880    |
| 70° | 0      | 1088   | 0      |
| 75° | 0      | 0      | 0      |
| 80° | 0      | 0      | 0      |
| 85° | 0      | 0      | 0      |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 222.1  | 24.4      |
| 10°-20°   | 370.7  | 40.7      |
| 20°-30°   | 213.3  | 23.4      |
| 30°-40°   | 74.2   | 8.1       |
| 40°-50°   | 21.0   | 2.3       |
| 50°-60°   | 8.1    | 0.9       |
| 60°-70°   | 2.2    | 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°    | 806.0  | 88.4      |
| 0°-40°    | 880.2  | 96.6      |
| 0°-60°    | 909.3  | 99.8      |
| 0°-90°    | 911.6  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 911.6  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 2674 | 2674  | 2674 | 2674  | 2674 |      |
| 5°  | 2517 | 2502  | 2492 | 2496  | 2483 | 224  |
| 15° | 1373 | 1367  | 1350 | 1346  | 1344 | 375  |
| 25° | 465  | 459   | 451  | 449   | 445  | 218  |
| 35° | 107  | 112   | 111  | 111   | 108  | 72   |
| 45° | 20   | 23    | 33   | 23    | 21   | 17   |
| 55° | 7    | 8     | 10   | 8     | 8    | 7    |
| 65° | 1    | 2     | 4    | 2     | 1    | 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°    | 2674.5 | 2674.5 | 2674.5 | 2674.5 | 2674.5 |
| 1°    | 2681.5 | 2668.6 | 2654.7 | 2654.7 | 2640.7 |
| 2°    | 2655.8 | 2644.2 | 2629.0 | 2630.2 | 2615.0 |
| 3°    | 2622.0 | 2610.4 | 2595.2 | 2597.6 | 2583.6 |
| 4°    | 2575.4 | 2560.3 | 2549.8 | 2553.3 | 2540.4 |
| 5°    | 2517.1 | 2502.0 | 2491.5 | 2496.2 | 2483.3 |
| 6°    | 2437.9 | 2427.4 | 2418.1 | 2423.9 | 2412.3 |
| 7°    | 2349.3 | 2337.7 | 2330.7 | 2335.3 | 2326.0 |
| 8°    | 2241.0 | 2232.8 | 2224.6 | 2229.3 | 2220.0 |
| 9°    | 2130.2 | 2117.4 | 2109.3 | 2112.8 | 2105.8 |
| 10°   | 2000.9 | 1995.1 | 1985.7 | 1989.2 | 1983.4 |
| 11°   | 1876.2 | 1876.2 | 1858.7 | 1852.9 | 1856.4 |
| 12°   | 1748.0 | 1746.8 | 1730.5 | 1723.5 | 1725.9 |
| 13°   | 1618.7 | 1617.5 | 1601.2 | 1595.4 | 1596.5 |
| 14°   | 1490.5 | 1491.6 | 1474.2 | 1469.5 | 1468.3 |
| 15°   | 1372.8 | 1366.9 | 1349.5 | 1346.0 | 1343.6 |
| 16°   | 1249.2 | 1248.1 | 1230.6 | 1225.9 | 1223.6 |
| 17°   | 1138.5 | 1132.7 | 1115.2 | 1110.6 | 1107.1 |
| 18°   | 1023.2 | 1024.3 | 1006.9 | 1003.4 | 997.5  |
| 19°   | 925.3  | 923.0  | 906.6  | 903.1  | 897.3  |
| 20°   | 833.2  | 822.7  | 812.2  | 808.7  | 802.9  |
| 22.5° | 628.1  | 622.3  | 608.3  | 604.8  | 603.6  |
| 25°   | 465.0  | 459.1  | 451.0  | 448.7  | 445.2  |
| 26°   | 406.7  | 407.9  | 397.4  | 395.1  | 392.7  |
| 27°   | 360.1  | 357.8  | 348.4  | 347.3  | 343.8  |
| 28°   | 310.0  | 312.3  | 301.8  | 300.7  | 298.3  |
| 29°   | 270.4  | 270.4  | 264.5  | 261.0  | 258.7  |
| 30°   | 236.6  | 235.4  | 229.6  | 227.2  | 224.9  |
| 32.5° | 163.1  | 162.0  | 159.7  | 158.5  | 156.2  |
| 35°   | 107.2  | 111.9  | 110.7  | 110.7  | 108.4  |
| 37.5° | 66.4   | 75.7   | 79.2   | 78.1   | 71.1   |
| 40°   | 42.0   | 48.9   | 57.1   | 52.4   | 43.1   |
| 42.5° | 28.0   | 33.8   | 42.0   | 35.0   | 28.0   |
| 45°   | 19.8   | 23.3   | 32.6   | 23.3   | 21.0   |
| 47.5° | 15.1   | 17.5   | 24.5   | 17.5   | 15.1   |
| 50°   | 11.7   | 14.0   | 17.5   | 14.0   | 12.8   |
| 52.5° | 9.3    | 10.5   | 14.0   | 10.5   | 9.3    |
| 55°   | 7.0    | 8.2    | 10.5   | 8.2    | 8.2    |
| 57.5° | 5.8    | 7.0    | 8.2    | 7.0    | 5.8    |
| 60°   | 3.5    | 4.7    | 5.8    | 4.7    | 4.7    |
| 62.5° | 2.3    | 3.5    | 4.7    | 3.5    | 2.3    |
| 65°   | 1.2    | 2.3    | 3.5    | 2.3    | 1.2    |
| 67.5° | 0.0    | 1.2    | 1.2    | 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 | 1.2 | 0.0 | 0.0 |
| 72.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



(END OF REPORT)