

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: P402390

Luminaire Tested: **LA1MRT52D010TR309027MW1MW**

Issue Date: 6/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P402390  
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: LA1MRT52D010TR309027MW1MW  
Description: 1 INCH 30° OPTIC WITH MATTE WHITE BAFFLE  
Light Source: HIGH LUMEN LED 90CRI / 2700K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

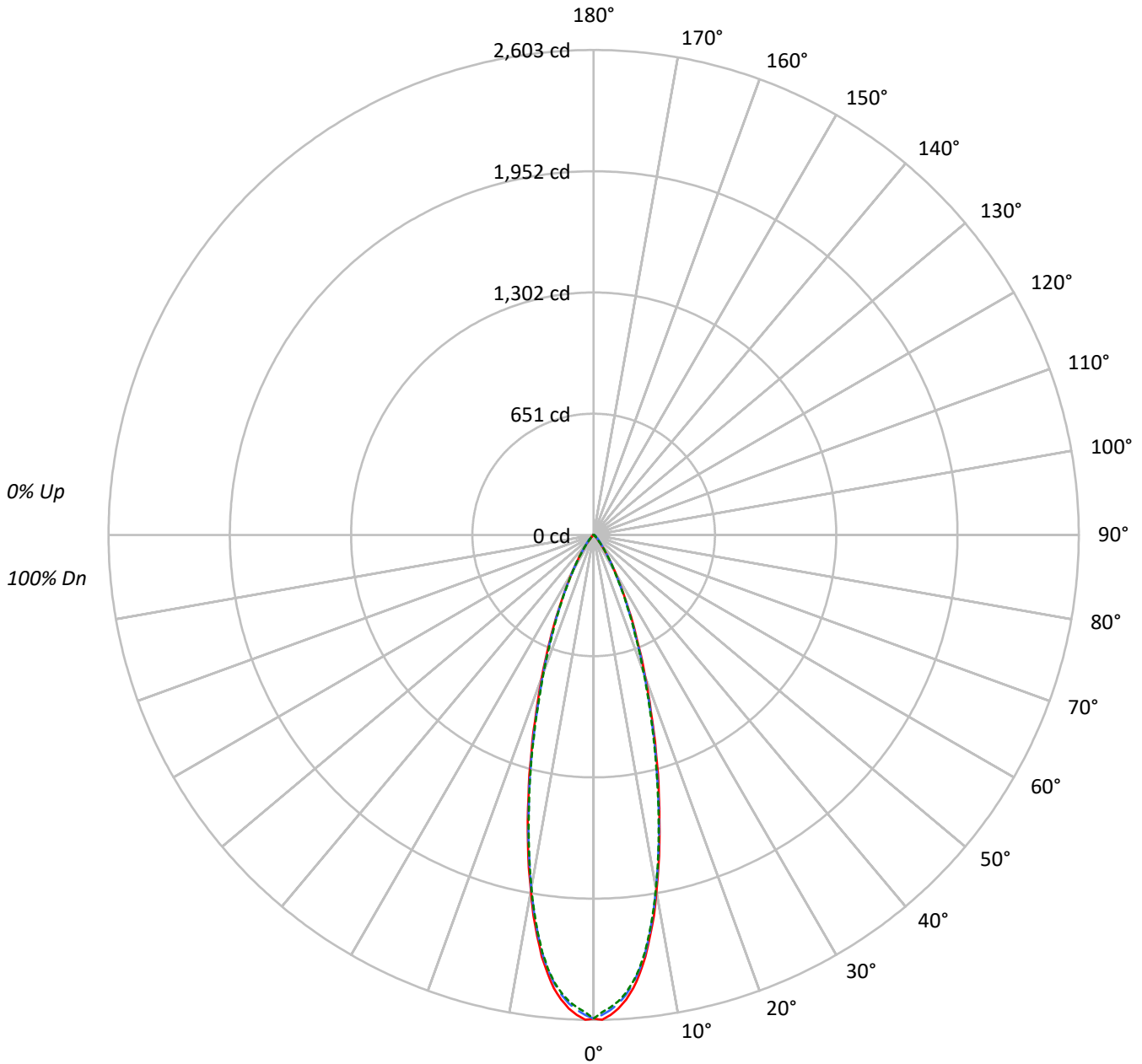
Lumens per Lamp: N/A  
Luminaire Lumens: 884.8 lumens  
Efficiency: N/A  
Efficacy: 73.1 lumens/watt  
Spacing Criteria (0/90/45): 0.51 / 0.5 / 0.52  
Luminous Opening: Rectangular (W 0.08' x L: 0.42' x H: 0')  
CIE Type: Direct

Input Watts (W): 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  | 76  | 72  | 87  | 80  | 75  | 72  | 79  | 75  | 72  | 78  | 74  | 72  | 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°  | 804734 | 804734 | 804734 |
| 5°  | 760289 | 752541 | 750082 |
| 10° | 611342 | 606715 | 605991 |
| 15° | 427617 | 420364 | 418567 |
| 20° | 266788 | 260091 | 257089 |
| 25° | 154367 | 149715 | 147799 |
| 30° | 82187  | 79753  | 78142  |
| 35° | 39396  | 40683  | 39812  |
| 40° | 16470  | 22419  | 16956  |
| 45° | 8417   | 13898  | 8944   |
| 50° | 5450   | 8199   | 5980   |
| 55° | 3675   | 5513   | 4270   |
| 60° | 2108   | 3534   | 2790   |
| 65° | 807    | 2494   | 807    |
| 70° | 0      | 997    | 0      |
| 75° | 0      | 0      | 0      |
| 80° | 0      | 0      | 0      |
| 85° | 0      | 0      | 0      |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 215.6  | 24.4      |
| 10°-20°   | 359.8  | 40.7      |
| 20°-30°   | 207.0  | 23.4      |
| 30°-40°   | 72.0   | 8.1       |
| 40°-50°   | 20.4   | 2.3       |
| 50°-60°   | 7.8    | 0.9       |
| 60°-70°   | 2.1    | 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°    | 782.3  | 88.4      |
| 0°-40°    | 854.4  | 96.6      |
| 0°-60°    | 882.6  | 99.8      |
| 0°-90°    | 884.8  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 884.8  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 2596 | 2596  | 2596 | 2596  | 2596 |      |
| 5°  | 2443 | 2428  | 2418 | 2423  | 2410 | 217  |
| 15° | 1332 | 1327  | 1310 | 1306  | 1304 | 364  |
| 25° | 451  | 446   | 438  | 436   | 432  | 212  |
| 35° | 104  | 109   | 108  | 108   | 105  | 70   |
| 45° | 19   | 23    | 32   | 23    | 20   | 17   |
| 55° | 7    | 8     | 10   | 8     | 8    | 6    |
| 65° | 1    | 2     | 3    | 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°    | 2595.9 | 2595.9 | 2595.9 | 2595.9 | 2595.9 |
| 1°    | 2602.7 | 2590.2 | 2576.6 | 2576.6 | 2563.1 |
| 2°    | 2577.8 | 2566.5 | 2551.8 | 2552.9 | 2538.2 |
| 3°    | 2545.0 | 2533.7 | 2518.9 | 2521.2 | 2507.6 |
| 4°    | 2499.7 | 2485.0 | 2474.8 | 2478.2 | 2465.8 |
| 5°    | 2443.2 | 2428.5 | 2418.3 | 2422.8 | 2410.4 |
| 6°    | 2366.3 | 2356.1 | 2347.0 | 2352.7 | 2341.4 |
| 7°    | 2280.3 | 2269.0 | 2262.2 | 2266.7 | 2257.7 |
| 8°    | 2175.1 | 2167.2 | 2159.3 | 2163.8 | 2154.7 |
| 9°    | 2067.6 | 2055.2 | 2047.3 | 2050.7 | 2043.9 |
| 10°   | 1942.1 | 1936.4 | 1927.4 | 1930.8 | 1925.1 |
| 11°   | 1821.1 | 1821.1 | 1804.1 | 1798.4 | 1801.8 |
| 12°   | 1696.6 | 1695.5 | 1679.7 | 1672.9 | 1675.2 |
| 13°   | 1571.1 | 1570.0 | 1554.1 | 1548.5 | 1549.6 |
| 14°   | 1446.7 | 1447.8 | 1430.8 | 1426.3 | 1425.2 |
| 15°   | 1332.4 | 1326.8 | 1309.8 | 1306.4 | 1304.2 |
| 16°   | 1212.5 | 1211.4 | 1194.4 | 1189.9 | 1187.7 |
| 17°   | 1105.1 | 1099.4 | 1082.5 | 1077.9 | 1074.5 |
| 18°   | 993.1  | 994.2  | 977.3  | 973.9  | 968.2  |
| 19°   | 898.1  | 895.8  | 880.0  | 876.6  | 870.9  |
| 20°   | 808.7  | 798.6  | 788.4  | 785.0  | 779.3  |
| 22.5° | 609.7  | 604.0  | 590.4  | 587.0  | 585.9  |
| 25°   | 451.3  | 445.7  | 437.7  | 435.5  | 432.1  |
| 26°   | 394.8  | 395.9  | 385.7  | 383.4  | 381.2  |
| 27°   | 349.5  | 347.2  | 338.2  | 337.1  | 333.7  |
| 28°   | 300.9  | 303.1  | 293.0  | 291.8  | 289.6  |
| 29°   | 262.4  | 262.4  | 256.8  | 253.4  | 251.1  |
| 30°   | 229.6  | 228.5  | 222.8  | 220.6  | 218.3  |
| 32.5° | 158.4  | 157.2  | 155.0  | 153.8  | 151.6  |
| 35°   | 104.1  | 108.6  | 107.5  | 107.5  | 105.2  |
| 37.5° | 64.5   | 73.5   | 76.9   | 75.8   | 69.0   |
| 40°   | 40.7   | 47.5   | 55.4   | 50.9   | 41.9   |
| 42.5° | 27.1   | 32.8   | 40.7   | 33.9   | 27.1   |
| 45°   | 19.2   | 22.6   | 31.7   | 22.6   | 20.4   |
| 47.5° | 14.7   | 17.0   | 23.8   | 17.0   | 14.7   |
| 50°   | 11.3   | 13.6   | 17.0   | 13.6   | 12.4   |
| 52.5° | 9.0    | 10.2   | 13.6   | 10.2   | 9.0    |
| 55°   | 6.8    | 7.9    | 10.2   | 7.9    | 7.9    |
| 57.5° | 5.7    | 6.8    | 7.9    | 6.8    | 5.7    |
| 60°   | 3.4    | 4.5    | 5.7    | 4.5    | 4.5    |
| 62.5° | 2.3    | 3.4    | 4.5    | 3.4    | 2.3    |
| 65°   | 1.1    | 2.3    | 3.4    | 2.3    | 1.1    |
| 67.5° | 0.0    | 1.1    | 1.1    | 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 | 1.1 | 0.0 | 0.0 |
| 72.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



(END OF REPORT)