

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: P402250

Luminaire Tested: **LD1MR022D010 ED1M22309030MW1MW**

Issue Date: 6/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P402250  
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: LD1MR022D010 ED1M22309030MW1MW  
Description: 1 INCH 30° OPTIC WITH MATTE WHITE BAFFLE  
Light Source: HIGH LUMEN LED 90CRI / 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

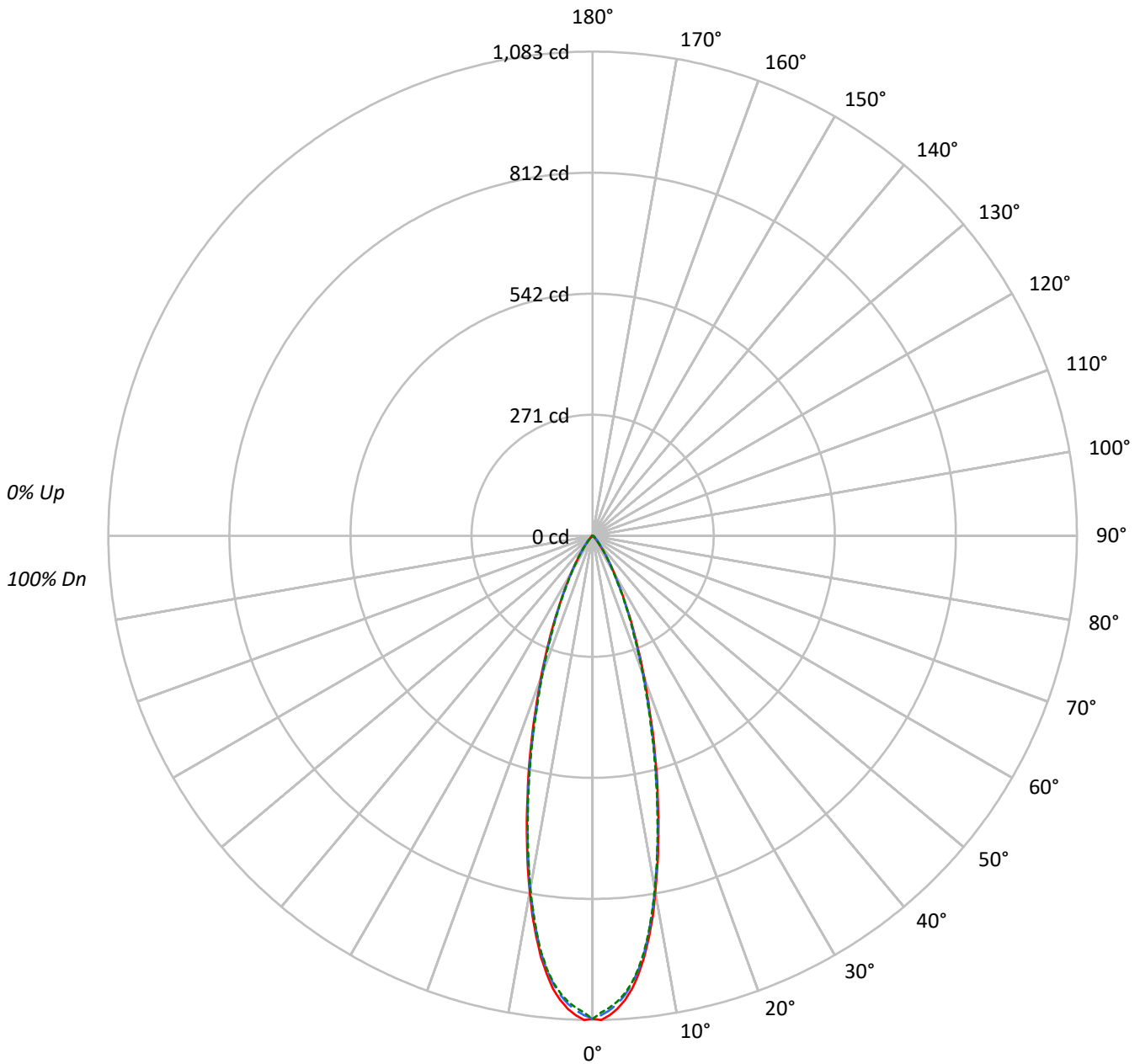
Lumens per Lamp: N/A  
Luminaire Lumens: 368.3 lumens  
Efficiency: N/A  
Efficacy: 64.6 lumens/watt  
Spacing Criteria (0/90/45): 0.51 / 0.5 / 0.52  
Luminous Opening: Rectangular (W 0.08' x L: 0.42' x H: 0')  
CIE Type: Direct

Input Watts (W): 5.7  
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°  | 334988 | 334988 | 334988 |
| 5°  | 316476 | 313271 | 312244 |
| 10° | 254503 | 252551 | 252268 |
| 15° | 178024 | 174975 | 174237 |
| 20° | 111076 | 108272 | 107019 |
| 25° | 64271  | 62321  | 61535  |
| 30° | 34221  | 33219  | 32538  |
| 35° | 16387  | 16916  | 16576  |
| 40° | 6880   | 9348   | 7041   |
| 45° | 3507   | 5787   | 3726   |
| 50° | 2267   | 3424   | 2508   |
| 55° | 1513   | 2270   | 1784   |
| 60° | 868    | 1488   | 1178   |
| 65° | 367    | 1027   | 367    |
| 70° | 0      | 453    | 0      |
| 75° | 0      | 0      | 0      |
| 80° | 0      | 0      | 0      |
| 85° | 0      | 0      | 0      |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 89.7   | 24.4      |
| 10°-20°   | 149.8  | 40.7      |
| 20°-30°   | 86.2   | 23.4      |
| 30°-40°   | 30.0   | 8.1       |
| 40°-50°   | 8.5    | 2.3       |
| 50°-60°   | 3.3    | 0.9       |
| 60°-70°   | 0.9    | 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°    | 325.7  | 88.4      |
| 0°-40°    | 355.6  | 96.6      |
| 0°-60°    | 367.4  | 99.8      |
| 0°-90°    | 368.3  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 368.3  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1081 | 1081  | 1081 | 1081  | 1081 |      |
| 5°  | 1017 | 1011  | 1007 | 1009  | 1003 | 90   |
| 15° | 555  | 552   | 545  | 544   | 543  | 151  |
| 25° | 188  | 186   | 182  | 181   | 180  | 88   |
| 35° | 43   | 45    | 45   | 45    | 44   | 29   |
| 45° | 8    | 9     | 13   | 9     | 8    | 7    |
| 55° | 3    | 3     | 4    | 3     | 3    | 3    |
| 65° | 0    | 1     | 1    | 1     | 0    | 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°    | 1080.6 | 1080.6 | 1080.6 | 1080.6 | 1080.6 |
| 1°    | 1083.4 | 1078.3 | 1072.6 | 1072.6 | 1067.0 |
| 2°    | 1073.1 | 1068.4 | 1062.2 | 1062.7 | 1056.6 |
| 3°    | 1059.4 | 1054.7 | 1048.6 | 1049.5 | 1043.9 |
| 4°    | 1040.6 | 1034.5 | 1030.2 | 1031.6 | 1026.5 |
| 5°    | 1017.0 | 1010.9 | 1006.7 | 1008.6 | 1003.4 |
| 6°    | 985.0  | 980.8  | 977.0  | 979.4  | 974.7  |
| 7°    | 949.2  | 944.5  | 941.7  | 943.6  | 939.8  |
| 8°    | 905.5  | 902.2  | 898.9  | 900.7  | 897.0  |
| 9°    | 860.7  | 855.5  | 852.2  | 853.7  | 850.8  |
| 10°   | 808.5  | 806.1  | 802.3  | 803.7  | 801.4  |
| 11°   | 758.1  | 758.1  | 751.0  | 748.7  | 750.1  |
| 12°   | 706.3  | 705.8  | 699.2  | 696.4  | 697.3  |
| 13°   | 654.0  | 653.5  | 647.0  | 644.6  | 645.1  |
| 14°   | 602.2  | 602.7  | 595.6  | 593.7  | 593.3  |
| 15°   | 554.7  | 552.3  | 545.2  | 543.8  | 542.9  |
| 16°   | 504.8  | 504.3  | 497.2  | 495.3  | 494.4  |
| 17°   | 460.0  | 457.7  | 450.6  | 448.7  | 447.3  |
| 18°   | 413.4  | 413.9  | 406.8  | 405.4  | 403.1  |
| 19°   | 373.9  | 372.9  | 366.3  | 364.9  | 362.6  |
| 20°   | 336.7  | 332.4  | 328.2  | 326.8  | 324.4  |
| 22.5° | 253.8  | 251.4  | 245.8  | 244.4  | 243.9  |
| 25°   | 187.9  | 185.5  | 182.2  | 181.3  | 179.9  |
| 26°   | 164.3  | 164.8  | 160.6  | 159.6  | 158.7  |
| 27°   | 145.5  | 144.6  | 140.8  | 140.3  | 138.9  |
| 28°   | 125.2  | 126.2  | 122.0  | 121.5  | 120.5  |
| 29°   | 109.2  | 109.2  | 106.9  | 105.5  | 104.5  |
| 30°   | 95.6   | 95.1   | 92.8   | 91.8   | 90.9   |
| 32.5° | 65.9   | 65.4   | 64.5   | 64.0   | 63.1   |
| 35°   | 43.3   | 45.2   | 44.7   | 44.7   | 43.8   |
| 37.5° | 26.8   | 30.6   | 32.0   | 31.5   | 28.7   |
| 40°   | 17.0   | 19.8   | 23.1   | 21.2   | 17.4   |
| 42.5° | 11.3   | 13.7   | 17.0   | 14.1   | 11.3   |
| 45°   | 8.0    | 9.4    | 13.2   | 9.4    | 8.5    |
| 47.5° | 6.1    | 7.1    | 9.9    | 7.1    | 6.1    |
| 50°   | 4.7    | 5.7    | 7.1    | 5.7    | 5.2    |
| 52.5° | 3.8    | 4.2    | 5.7    | 4.2    | 3.8    |
| 55°   | 2.8    | 3.3    | 4.2    | 3.3    | 3.3    |
| 57.5° | 2.4    | 2.8    | 3.3    | 2.8    | 2.4    |
| 60°   | 1.4    | 1.9    | 2.4    | 1.9    | 1.9    |
| 62.5° | 0.9    | 1.4    | 1.9    | 1.4    | 0.9    |
| 65°   | 0.5    | 0.9    | 1.4    | 0.9    | 0.5    |
| 67.5° | 0.0    | 0.5    | 0.5    | 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 | 0.5 | 0.0 | 0.0 |
| 72.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



(END OF REPORT)