

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: P402227

Luminaire Tested: **LD1MR152D010 ED1M152309040SB1MW**

Issue Date: 6/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P402227  
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: LD1MR152D010 ED1M152309040SB1MW  
Description: 1 INCH 30° OPTIC WITH SPECULAR BLACK BAFFLE  
Light Source: HIGH LUMEN LED 90CRI / 4000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

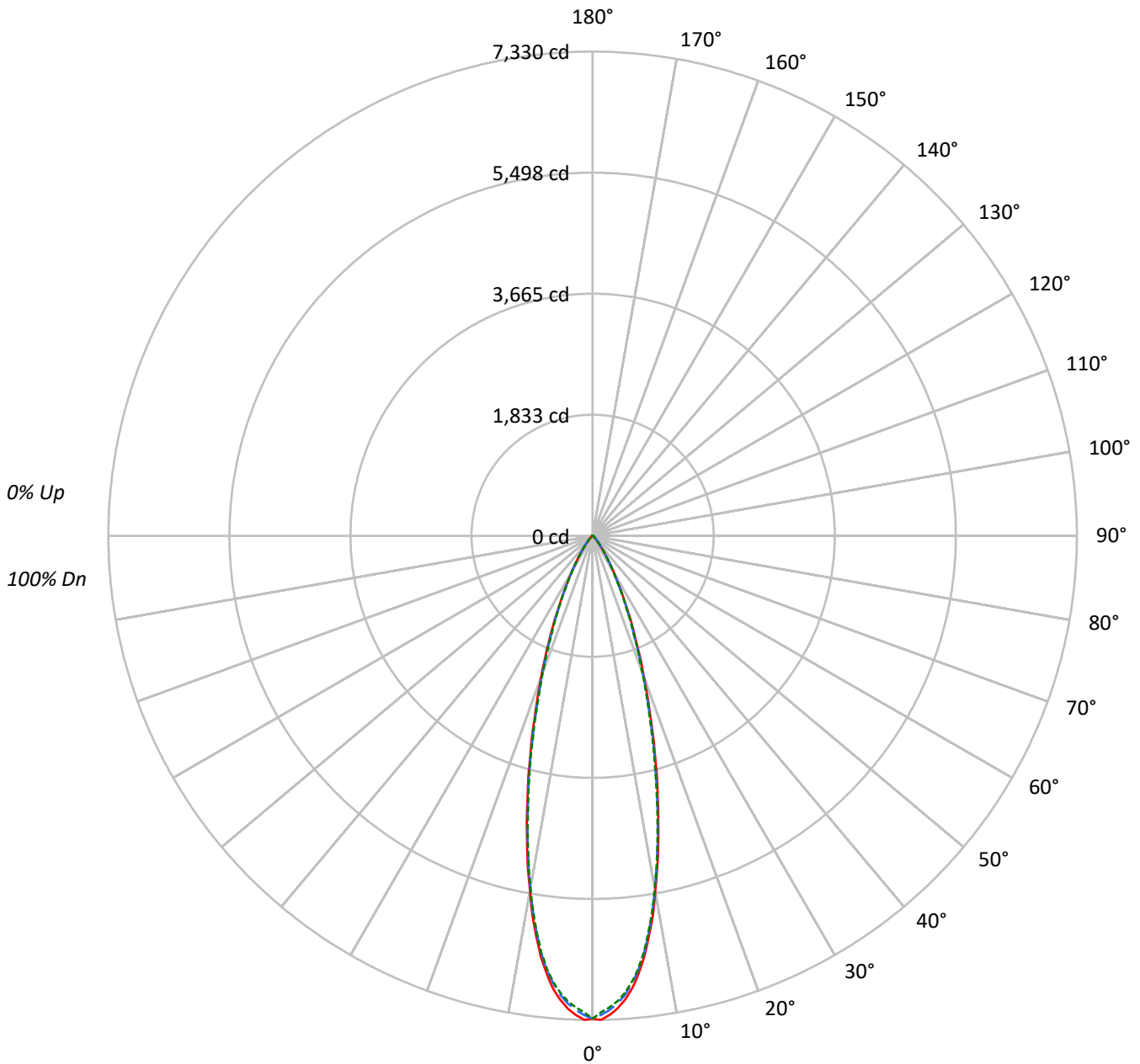
Lumens per Lamp: N/A  
Luminaire Lumens: 2491.6 lumens  
Efficiency: N/A  
Efficacy: 72.9 lumens/watt  
Spacing Criteria (0/90/45): 0.51 / 0.5 / 0.52  
Luminous Opening: Rectangular (W 0.08' x L: 0.42' x H: 0')  
CIE Type: Direct

Input Watts (W): 34.2  
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   | 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°  | 2266237 | 2266237 | 2266237 |
| 5°  | 2141052 | 2119269 | 2112330 |
| 10° | 1721617 | 1708585 | 1706570 |
| 15° | 1204253 | 1183810 | 1178707 |
| 20° | 751340  | 732437  | 724025  |
| 25° | 434744  | 421644  | 416205  |
| 30° | 231456  | 224619  | 220073  |
| 35° | 110921  | 114517  | 112095  |
| 40° | 46417   | 63170   | 47712   |
| 45° | 23762   | 39106   | 25121   |
| 50° | 15385   | 23053   | 16880   |
| 55° | 10323   | 15512   | 12053   |
| 60° | 5952    | 9858    | 7874    |
| 65° | 2347    | 7042    | 2347    |
| 70° | 0       | 2900    | 0       |
| 75° | 0       | 0       | 0       |
| 80° | 0       | 0       | 0       |
| 85° | 0       | 0       | 0       |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 607.1  | 24.4      |
| 10°-20°   | 1013.2 | 40.7      |
| 20°-30°   | 582.9  | 23.4      |
| 30°-40°   | 202.8  | 8.1       |
| 40°-50°   | 57.5   | 2.3       |
| 50°-60°   | 22.0   | 0.9       |
| 60°-70°   | 6.0    | 0.2       |
| 70°-80°   | 0.1    | 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°    | 2203.2 | 88.4      |
| 0°-40°    | 2406.0 | 96.6      |
| 0°-60°    | 2485.5 | 99.8      |
| 0°-90°    | 2491.6 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2491.6 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 7310 | 7310  | 7310 | 7310  | 7310 |      |
| 5°  | 6880 | 6839  | 6810 | 6823  | 6788 | 611  |
| 15° | 3752 | 3736  | 3689 | 3679  | 3673 | 1024 |
| 25° | 1271 | 1255  | 1233 | 1226  | 1217 | 596  |
| 35° | 293  | 306   | 303  | 303   | 296  | 198  |
| 45° | 54   | 64    | 89   | 64    | 57   | 47   |
| 55° | 19   | 22    | 29   | 22    | 22   | 18   |
| 65° | 3    | 6     | 10   | 6     | 3    | 4    |
| 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°    | 7310.4 | 7310.4 | 7310.4 | 7310.4 | 7310.4 |
| 1°    | 7329.5 | 7294.4 | 7256.2 | 7256.2 | 7218.0 |
| 2°    | 7259.4 | 7227.5 | 7186.1 | 7189.3 | 7147.9 |
| 3°    | 7167.0 | 7135.2 | 7093.8 | 7100.1 | 7061.9 |
| 4°    | 7039.6 | 6998.2 | 6969.5 | 6979.1 | 6944.0 |
| 5°    | 6880.3 | 6838.9 | 6810.3 | 6823.0 | 6788.0 |
| 6°    | 6663.7 | 6635.1 | 6609.6 | 6625.5 | 6593.7 |
| 7°    | 6421.6 | 6389.8 | 6370.7 | 6383.4 | 6357.9 |
| 8°    | 6125.4 | 6103.1 | 6080.8 | 6093.6 | 6068.1 |
| 9°    | 5822.8 | 5787.8 | 5765.5 | 5775.0 | 5755.9 |
| 10°   | 5469.2 | 5453.3 | 5427.8 | 5437.4 | 5421.4 |
| 11°   | 5128.4 | 5128.4 | 5080.6 | 5064.7 | 5074.2 |
| 12°   | 4778.0 | 4774.8 | 4730.2 | 4711.1 | 4717.5 |
| 13°   | 4424.4 | 4421.3 | 4376.7 | 4360.7 | 4363.9 |
| 14°   | 4074.1 | 4077.2 | 4029.5 | 4016.7 | 4013.5 |
| 15°   | 3752.3 | 3736.4 | 3688.6 | 3679.1 | 3672.7 |
| 16°   | 3414.7 | 3411.5 | 3363.7 | 3351.0 | 3344.6 |
| 17°   | 3112.1 | 3096.2 | 3048.4 | 3035.6 | 3026.1 |
| 18°   | 2796.7 | 2799.9 | 2752.1 | 2742.6 | 2726.7 |
| 19°   | 2529.2 | 2522.8 | 2478.2 | 2468.6 | 2452.7 |
| 20°   | 2277.5 | 2248.9 | 2220.2 | 2210.6 | 2194.7 |
| 22.5° | 1716.9 | 1701.0 | 1662.7 | 1653.2 | 1650.0 |
| 25°   | 1271.0 | 1255.0 | 1232.7 | 1226.4 | 1216.8 |
| 26°   | 1111.7 | 1114.9 | 1086.2 | 1079.8 | 1073.5 |
| 27°   | 984.3  | 977.9  | 952.4  | 949.2  | 939.7  |
| 28°   | 847.3  | 853.7  | 825.0  | 821.8  | 815.4  |
| 29°   | 739.0  | 739.0  | 723.1  | 713.5  | 707.1  |
| 30°   | 646.6  | 643.4  | 627.5  | 621.1  | 614.8  |
| 32.5° | 445.9  | 442.8  | 436.4  | 433.2  | 426.8  |
| 35°   | 293.1  | 305.8  | 302.6  | 302.6  | 296.2  |
| 37.5° | 181.6  | 207.0  | 216.6  | 213.4  | 194.3  |
| 40°   | 114.7  | 133.8  | 156.1  | 143.3  | 117.9  |
| 42.5° | 76.4   | 92.4   | 114.7  | 95.6   | 76.4   |
| 45°   | 54.2   | 63.7   | 89.2   | 63.7   | 57.3   |
| 47.5° | 41.4   | 47.8   | 66.9   | 47.8   | 41.4   |
| 50°   | 31.9   | 38.2   | 47.8   | 38.2   | 35.0   |
| 52.5° | 25.5   | 28.7   | 38.2   | 28.7   | 25.5   |
| 55°   | 19.1   | 22.3   | 28.7   | 22.3   | 22.3   |
| 57.5° | 15.9   | 19.1   | 22.3   | 19.1   | 15.9   |
| 60°   | 9.6    | 12.7   | 15.9   | 12.7   | 12.7   |
| 62.5° | 6.4    | 9.6    | 12.7   | 9.6    | 6.4    |
| 65°   | 3.2    | 6.4    | 9.6    | 6.4    | 3.2    |
| 67.5° | 0.0    | 3.2    | 3.2    | 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 | 3.2 | 0.0 | 0.0 |
| 72.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



(END OF REPORT)