

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: P402459

Luminaire Tested: **LD1MRT102D010TRWW9030SB1MW**

Issue Date: 6/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P402459  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1912-604-16)  
Test Lab: INNOVATION CENTER (G3)  
Issue Date: 6/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: PORTFOLIO  
Catalog Number: LD1MRT102D010TRWW9030SB1MW  
Description: 1 INCH WW OPTIC WITH SPECULAR BLACK BAFFLE  
Light Source: HIGH LUMEN LED 90CRI / 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

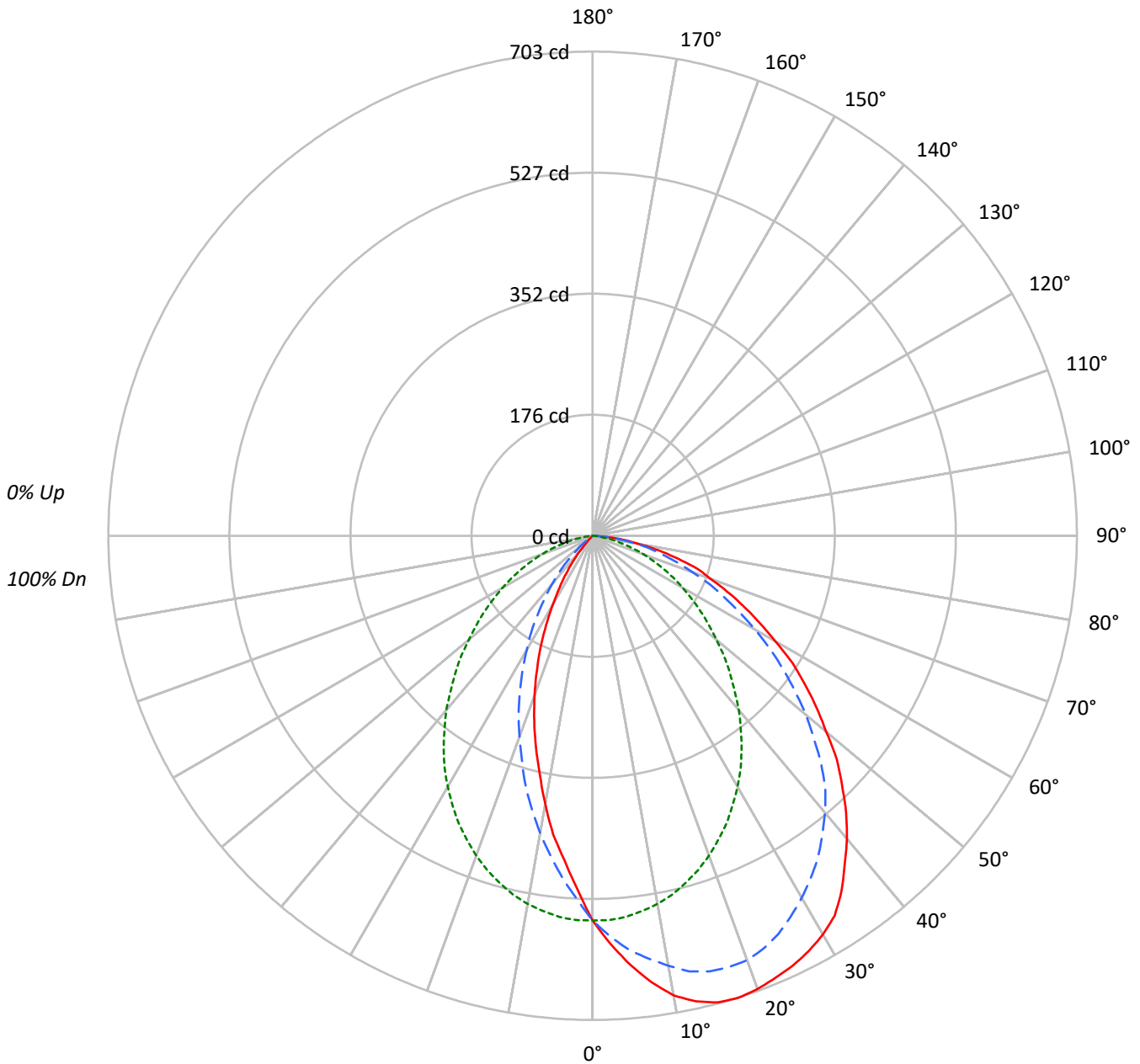
Lumens per Lamp: N/A  
Luminaire Lumens: 1166.8 lumens  
Efficiency: N/A  
Efficacy: 49.6 lumens/watt  
Spacing Criteria (0/90/45): 1.07 / 1.13 / 1.2  
Luminous Opening: Rectangular (W 0.1' x L: 0.88' x H: 0')  
CIE Type: Direct

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  |     |     |     | 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 |    |    | 100 |
| 1   | 110 | 106 | 102 | 98  | 107 | 103 | 100 | 97  | 99  | 96  | 94  | 95  | 93  | 91  | 92  | 90  | 88  |     |    |    | 86  |
| 2   | 101 | 93  | 87  | 82  | 98  | 92  | 86  | 81  | 88  | 83  | 79  | 85  | 81  | 77  | 82  | 79  | 76  |     |    |    | 74  |
| 3   | 93  | 83  | 76  | 70  | 90  | 82  | 75  | 69  | 79  | 73  | 68  | 76  | 71  | 67  | 73  | 69  | 66  |     |    |    | 64  |
| 4   | 86  | 74  | 66  | 60  | 83  | 73  | 66  | 60  | 71  | 64  | 59  | 68  | 63  | 58  | 66  | 61  | 57  |     |    |    | 55  |
| 5   | 79  | 67  | 59  | 53  | 77  | 66  | 58  | 52  | 64  | 57  | 52  | 62  | 56  | 51  | 60  | 55  | 51  |     |    |    | 49  |
| 6   | 73  | 61  | 53  | 46  | 72  | 60  | 52  | 46  | 58  | 51  | 46  | 57  | 50  | 46  | 55  | 49  | 45  |     |    |    | 43  |
| 7   | 68  | 56  | 47  | 42  | 67  | 55  | 47  | 41  | 53  | 46  | 41  | 52  | 46  | 41  | 51  | 45  | 41  |     |    |    | 39  |
| 8   | 64  | 51  | 43  | 37  | 62  | 50  | 43  | 37  | 49  | 42  | 37  | 48  | 42  | 37  | 47  | 41  | 37  |     |    |    | 35  |
| 9   | 60  | 47  | 39  | 34  | 59  | 47  | 39  | 34  | 45  | 39  | 34  | 44  | 38  | 34  | 43  | 38  | 33  |     |    |    | 32  |
| 10  | 56  | 44  | 36  | 31  | 55  | 43  | 36  | 31  | 42  | 35  | 31  | 41  | 35  | 31  | 40  | 35  | 31  |     |    |    | 29  |

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

|     | 0°    | 90°   | 180°  |
|-----|-------|-------|-------|
| 0°  | 65956 | 65956 | 65956 |
| 5°  | 74091 | 65852 | 55978 |
| 10° | 81256 | 65079 | 47463 |
| 15° | 85754 | 63796 | 38818 |
| 20° | 88022 | 62083 | 30916 |
| 25° | 89714 | 59979 | 23272 |
| 30° | 91173 | 57355 | 15832 |
| 35° | 90826 | 54351 | 9587  |
| 40° | 88551 | 50935 | 3823  |
| 45° | 85493 | 47047 | 334   |
| 50° | 81298 | 43010 | 0     |
| 55° | 77416 | 39428 | 0     |
| 60° | 72180 | 35617 | 0     |
| 65° | 67372 | 31604 | 0     |
| 70° | 62670 | 27071 | 0     |
| 75° | 58404 | 21263 | 0     |
| 80° | 45226 | 12786 | 0     |
| 85° | 29539 | 1355  | 0     |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 52.3   | 4.5       |
| 10°-20°   | 144.7  | 12.4      |
| 20°-30°   | 204.7  | 17.5      |
| 30°-40°   | 224.2  | 19.2      |
| 40°-50°   | 203.9  | 17.5      |
| 50°-60°   | 161.3  | 13.8      |
| 60°-70°   | 108.2  | 9.3       |
| 70°-80°   | 55.9   | 4.8       |
| 80°-90°   | 11.6   | 1.0       |
| 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°    | 401.6  | 34.4      |
| 0°-40°    | 625.8  | 53.6      |
| 0°-60°    | 991.1  | 84.9      |
| 0°-90°    | 1166.8 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1166.8 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 45° | 90° | 135° | 180° | Flux |
|-----|-----|-----|-----|------|------|------|
| 0°  | 558 | 558 | 558 | 558  | 558  |      |
| 5°  | 625 | 603 | 556 | 499  | 472  | 61   |
| 15° | 701 | 655 | 522 | 376  | 318  | 198  |
| 25° | 688 | 638 | 460 | 250  | 179  | 317  |
| 35° | 630 | 570 | 377 | 138  | 66   | 392  |
| 45° | 512 | 469 | 282 | 52   | 2    | 395  |
| 55° | 376 | 337 | 192 | 1    | 0    | 336  |
| 65° | 241 | 210 | 113 | 0    | 0    | 240  |
| 75° | 128 | 104 | 47  | 0    | 0    | 134  |
| 85° | 22  | 21  | 1   | 0    | 0    | 29   |
| 90° | 0   | 0   | 0   | 0    | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   | 112.5° | 135°  | 157.5° | 180°  |
|-------|-------|-------|-------|-------|-------|--------|-------|--------|-------|
| 0°    | 558.5 | 558.5 | 558.5 | 558.5 | 558.5 | 558.5  | 558.5 | 558.5  | 558.5 |
| 2.5°  | 593.2 | 591.3 | 582.3 | 573.4 | 558.5 | 543.6  | 527.8 | 519.8  | 512.9 |
| 5°    | 625.0 | 617.1 | 603.2 | 582.3 | 555.5 | 526.8  | 499.0 | 483.1  | 472.2 |
| 7.5°  | 653.8 | 641.9 | 619.0 | 589.3 | 549.6 | 507.9  | 468.2 | 446.4  | 437.5 |
| 10°   | 677.6 | 664.7 | 633.9 | 593.2 | 542.7 | 486.1  | 438.5 | 407.7  | 395.8 |
| 12.5° | 692.5 | 680.5 | 647.8 | 595.2 | 533.7 | 464.3  | 406.7 | 369.0  | 354.2 |
| 15°   | 701.4 | 688.5 | 654.8 | 595.2 | 521.8 | 441.5  | 376.0 | 330.4  | 317.5 |
| 17.5° | 703.4 | 691.5 | 656.7 | 592.3 | 508.9 | 418.6  | 341.3 | 296.6  | 281.7 |
| 20°   | 700.4 | 688.5 | 655.7 | 587.3 | 494.0 | 394.8  | 310.5 | 261.9  | 246.0 |
| 22.5° | 694.4 | 681.5 | 648.8 | 581.3 | 477.2 | 370.0  | 280.8 | 226.2  | 211.3 |
| 25°   | 688.5 | 672.6 | 637.9 | 571.4 | 460.3 | 343.3  | 250.0 | 195.4  | 178.6 |
| 27.5° | 679.6 | 662.7 | 623.0 | 557.5 | 440.5 | 316.5  | 220.2 | 163.7  | 145.8 |
| 30°   | 668.6 | 650.8 | 607.1 | 540.7 | 420.6 | 290.7  | 191.5 | 134.9  | 116.1 |
| 32.5° | 653.8 | 636.9 | 589.3 | 522.8 | 399.8 | 263.9  | 165.7 | 109.1  | 89.3  |
| 35°   | 630.0 | 619.0 | 570.4 | 501.0 | 377.0 | 238.1  | 137.9 | 83.3   | 66.5  |
| 37.5° | 601.2 | 591.3 | 547.6 | 477.2 | 353.2 | 214.3  | 113.1 | 61.5   | 46.6  |
| 40°   | 574.4 | 562.5 | 524.8 | 451.4 | 330.4 | 191.5  | 91.3  | 40.7   | 24.8  |
| 42.5° | 544.6 | 532.7 | 500.0 | 423.6 | 304.6 | 165.7  | 70.4  | 23.8   | 10.9  |
| 45°   | 511.9 | 498.0 | 469.2 | 398.8 | 281.7 | 143.8  | 51.6  | 8.9    | 2.0   |
| 47.5° | 481.1 | 469.2 | 435.5 | 371.0 | 258.9 | 123.0  | 33.7  | 1.0    | 0.0   |
| 50°   | 442.5 | 433.5 | 403.8 | 342.3 | 234.1 | 104.2  | 19.8  | 0.0    | 0.0   |
| 52.5° | 409.7 | 399.8 | 370.0 | 316.5 | 212.3 | 85.3   | 7.9   | 0.0    | 0.0   |
| 55°   | 376.0 | 367.1 | 337.3 | 287.7 | 191.5 | 67.5   | 1.0   | 0.0    | 0.0   |
| 57.5° | 344.2 | 332.3 | 304.6 | 259.9 | 170.6 | 51.6   | 0.0   | 0.0    | 0.0   |
| 60°   | 305.6 | 297.6 | 271.8 | 232.1 | 150.8 | 36.7   | 0.0   | 0.0    | 0.0   |
| 62.5° | 272.8 | 265.9 | 240.1 | 205.4 | 131.9 | 22.8   | 0.0   | 0.0    | 0.0   |
| 65°   | 241.1 | 232.1 | 210.3 | 179.6 | 113.1 | 12.9   | 0.0   | 0.0    | 0.0   |
| 67.5° | 211.3 | 203.4 | 183.5 | 153.8 | 95.2  | 4.0    | 0.0   | 0.0    | 0.0   |
| 70°   | 181.5 | 174.6 | 153.8 | 131.0 | 78.4  | 0.0    | 0.0   | 0.0    | 0.0   |
| 72.5° | 159.7 | 148.8 | 128.0 | 105.2 | 61.5  | 0.0    | 0.0   | 0.0    | 0.0   |
| 75°   | 128.0 | 125.0 | 104.2 | 83.3  | 46.6  | 0.0    | 0.0   | 0.0    | 0.0   |
| 77.5° | 98.2  | 93.3  | 84.3  | 63.5  | 31.7  | 0.0    | 0.0   | 0.0    | 0.0   |
| 80°   | 66.5  | 66.5  | 61.5  | 45.6  | 18.8  | 0.0    | 0.0   | 0.0    | 0.0   |
| 82.5° | 45.6  | 42.7  | 39.7  | 28.8  | 7.9   | 0.0    | 0.0   | 0.0    | 0.0   |
| 85°   | 21.8  | 21.8  | 20.8  | 14.9  | 1.0   | 0.0    | 0.0   | 0.0    | 0.0   |
| 87.5° | 5.0   | 6.0   | 6.0   | 4.0   | 0.0   | 0.0    | 0.0   | 0.0    | 0.0   |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0    | 0.0   | 0.0    | 0.0   |



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— 0°-180°    - - 45°-225°    - - - - 90°-270°







(END OF REPORT)