

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P835052

Luminaire Tested: **ORLG-24-4-INS-OPL-LD4-3STD-20-120-EDD-90**

Issue Date: 5/16/2024



**Test Information**

Test Method: LM-79-08  
Report Number: P835052  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 5/16/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: ORLG-24-4-INS-OPL-LD4-3STD-20-120-EDD-90  
Description: 2FT x 4FT ORL LED LUMINAIRE WITH opal acrylic lens  
Light Source: 2000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

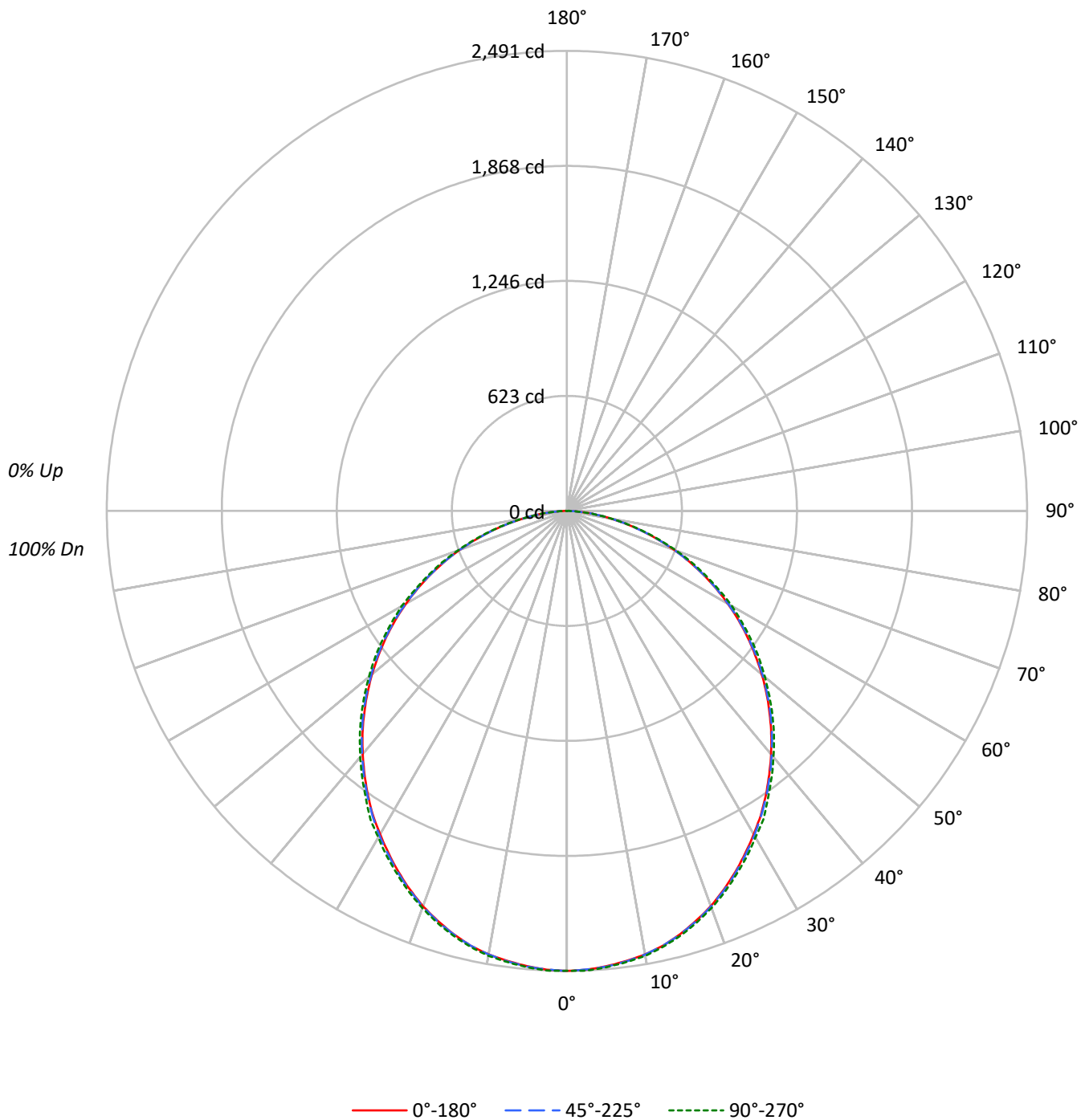
Lumens per Lamp: N/A  
Luminaire Lumens: 6730.0 lumens  
Efficiency: N/A  
Efficacy: 67.4 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.22 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 99.9  
Input Voltage (V): 120  
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: 28.75 FT

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### Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| RF  | 20  |     |     |     | 20  |     |     |     |     | 20  |     |     |     |     | 20  |     |     |     |     | 20  |
| RC  | 80  |     |     |     | 70  |     |     |     |     | 50  |     |     |     |     | 30  |     |     |     |     | 10  |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 102 | 102 | 100 |
| 1   | 109 | 104 | 100 | 96  | 106 | 102 | 98  | 95  | 98  | 94  | 92  | 94  | 91  | 89  | 90  | 88  | 86  | 86  | 86  | 84  |
| 2   | 99  | 91  | 84  | 78  | 96  | 89  | 83  | 77  | 85  | 80  | 76  | 82  | 78  | 74  | 79  | 76  | 72  | 72  | 72  | 70  |
| 3   | 90  | 80  | 72  | 65  | 88  | 78  | 71  | 65  | 75  | 69  | 64  | 73  | 67  | 62  | 70  | 65  | 61  | 61  | 61  | 59  |
| 4   | 83  | 71  | 62  | 55  | 80  | 69  | 61  | 55  | 67  | 60  | 54  | 65  | 58  | 53  | 62  | 57  | 53  | 53  | 53  | 51  |
| 5   | 76  | 63  | 54  | 48  | 74  | 62  | 54  | 47  | 60  | 53  | 47  | 58  | 52  | 46  | 56  | 51  | 46  | 46  | 46  | 44  |
| 6   | 70  | 57  | 48  | 42  | 68  | 56  | 48  | 42  | 54  | 47  | 41  | 53  | 46  | 41  | 51  | 45  | 40  | 40  | 40  | 38  |
| 7   | 65  | 52  | 43  | 37  | 64  | 51  | 43  | 37  | 49  | 42  | 36  | 48  | 41  | 36  | 47  | 41  | 36  | 36  | 36  | 34  |
| 8   | 61  | 47  | 39  | 33  | 59  | 47  | 38  | 33  | 45  | 38  | 33  | 44  | 37  | 32  | 43  | 37  | 32  | 32  | 32  | 30  |
| 9   | 57  | 43  | 35  | 30  | 55  | 43  | 35  | 30  | 42  | 34  | 29  | 41  | 34  | 29  | 40  | 34  | 29  | 29  | 29  | 27  |
| 10  | 53  | 40  | 32  | 27  | 52  | 40  | 32  | 27  | 39  | 32  | 27  | 38  | 31  | 27  | 37  | 31  | 27  | 27  | 27  | 25  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 3351 | 3351 | 3351 |
| 5°  | 3342 | 3345 | 3349 |
| 10° | 3332 | 3332 | 3342 |
| 15° | 3304 | 3306 | 3316 |
| 20° | 3261 | 3265 | 3277 |
| 25° | 3202 | 3210 | 3225 |
| 30° | 3142 | 3152 | 3172 |
| 35° | 3085 | 3092 | 3117 |
| 40° | 3020 | 3030 | 3057 |
| 45° | 2953 | 2966 | 2997 |
| 50° | 2882 | 2895 | 2928 |
| 55° | 2800 | 2814 | 2860 |
| 60° | 2707 | 2718 | 2780 |
| 65° | 2589 | 2597 | 2646 |
| 70° | 2430 | 2432 | 2485 |
| 75° | 2209 | 2201 | 2252 |
| 80° | 1898 | 1890 | 1922 |
| 85° | 1473 | 1450 | 1457 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 235.4  | 3.5       |
| 10°-20°   | 669.5  | 9.9       |
| 20°-30°   | 996.7  | 14.8      |
| 30°-40°   | 1178.6 | 17.5      |
| 40°-50°   | 1203.2 | 17.9      |
| 50°-60°   | 1073.8 | 16.0      |
| 60°-70°   | 808.8  | 12.0      |
| 70°-80°   | 451.0  | 6.7       |
| 80°-90°   | 113.0  | 1.7       |
| 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°    | 1901.5 | 28.3      |
| 0°-40°    | 3080.1 | 45.8      |
| 0°-60°    | 5357.2 | 79.6      |
| 0°-90°    | 6730.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 6730.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 2491 | 2491  | 2491 | 2491  | 2491 |      |
| 5°  | 2475 | 2479  | 2477 | 2477  | 2480 | 235  |
| 15° | 2372 | 2375  | 2374 | 2376  | 2380 | 669  |
| 25° | 2157 | 2160  | 2162 | 2168  | 2172 | 994  |
| 35° | 1878 | 1876  | 1883 | 1890  | 1898 | 1174 |
| 45° | 1552 | 1552  | 1559 | 1567  | 1575 | 1197 |
| 55° | 1194 | 1192  | 1199 | 1208  | 1219 | 1067 |
| 65° | 813  | 810   | 816  | 823   | 831  | 804  |
| 75° | 425  | 421   | 423  | 425   | 433  | 450  |
| 85° | 95   | 93    | 94   | 93    | 94   | 114  |
| 90° | 0    | 0     | 0    | 0     | 0    |      |

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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 2490.7 | 2490.7 | 2490.7 | 2490.7 | 2490.7 |
| 2.5°  | 2486.5 | 2490.7 | 2485.5 | 2486.5 | 2491.2 |
| 5°    | 2474.7 | 2479.3 | 2476.7 | 2477.2 | 2479.8 |
| 7.5°  | 2458.2 | 2464.4 | 2460.7 | 2461.8 | 2464.4 |
| 10°   | 2438.6 | 2443.2 | 2439.1 | 2441.7 | 2446.3 |
| 12.5° | 2410.7 | 2412.8 | 2410.7 | 2411.8 | 2416.9 |
| 15°   | 2372.1 | 2374.6 | 2373.6 | 2375.7 | 2380.3 |
| 17.5° | 2326.7 | 2329.8 | 2329.3 | 2333.4 | 2337.0 |
| 20°   | 2277.7 | 2278.2 | 2280.3 | 2284.4 | 2288.5 |
| 22.5° | 2219.9 | 2221.5 | 2223.5 | 2229.2 | 2233.3 |
| 25°   | 2157.0 | 2159.6 | 2162.2 | 2167.8 | 2172.0 |
| 27.5° | 2090.5 | 2093.1 | 2096.7 | 2102.9 | 2109.6 |
| 30°   | 2022.4 | 2022.4 | 2029.1 | 2035.3 | 2041.5 |
| 32.5° | 1953.8 | 1951.3 | 1957.5 | 1965.2 | 1980.1 |
| 35°   | 1878.0 | 1876.0 | 1882.7 | 1889.9 | 1897.6 |
| 37.5° | 1799.1 | 1797.6 | 1805.3 | 1813.1 | 1820.3 |
| 40°   | 1719.2 | 1717.2 | 1724.9 | 1732.6 | 1740.4 |
| 42.5° | 1637.2 | 1636.2 | 1643.4 | 1651.2 | 1659.4 |
| 45°   | 1552.1 | 1551.6 | 1558.9 | 1566.6 | 1574.8 |
| 47.5° | 1465.5 | 1464.5 | 1471.7 | 1480.0 | 1487.2 |
| 50°   | 1376.8 | 1375.8 | 1383.0 | 1391.3 | 1399.0 |
| 52.5° | 1285.5 | 1285.5 | 1292.3 | 1299.5 | 1311.3 |
| 55°   | 1193.8 | 1192.2 | 1199.4 | 1207.7 | 1219.0 |
| 57.5° | 1100.9 | 1098.9 | 1105.6 | 1113.8 | 1124.1 |
| 60°   | 1006.1 | 1004.0 | 1010.2 | 1018.4 | 1032.9 |
| 62.5° | 910.1  | 907.1  | 913.2  | 921.0  | 929.7  |
| 65°   | 813.2  | 810.1  | 815.8  | 823.0  | 831.2  |
| 67.5° | 715.7  | 712.1  | 717.8  | 724.0  | 731.7  |
| 70°   | 617.8  | 614.2  | 618.3  | 624.5  | 631.7  |
| 72.5° | 520.3  | 516.7  | 520.3  | 522.9  | 531.6  |
| 75°   | 424.9  | 421.3  | 423.4  | 425.4  | 433.2  |
| 77.5° | 332.1  | 328.5  | 332.6  | 333.6  | 338.3  |
| 80°   | 244.9  | 241.3  | 243.9  | 244.4  | 248.0  |
| 82.5° | 165.5  | 162.4  | 166.0  | 163.5  | 166.6  |
| 85°   | 95.4   | 92.8   | 93.9   | 92.8   | 94.4   |
| 87.5° | 37.6   | 35.6   | 36.1   | 34.0   | 34.0   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)