

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: P835599

Luminaire Tested: **ORLG-24-2-INS-OPL-LD4-5HI-20-120-EDD**

Issue Date: 5/16/2024



**Test Information**

Test Method: LM-79-08  
Report Number: P835599  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 5/16/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: ORLG-24-2-INS-OPL-LD4-5HI-20-120-EDD  
Description: 2FT x 2FT ORL LED LUMINAIRE WITH opal acrylic lens  
Light Source: 2000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

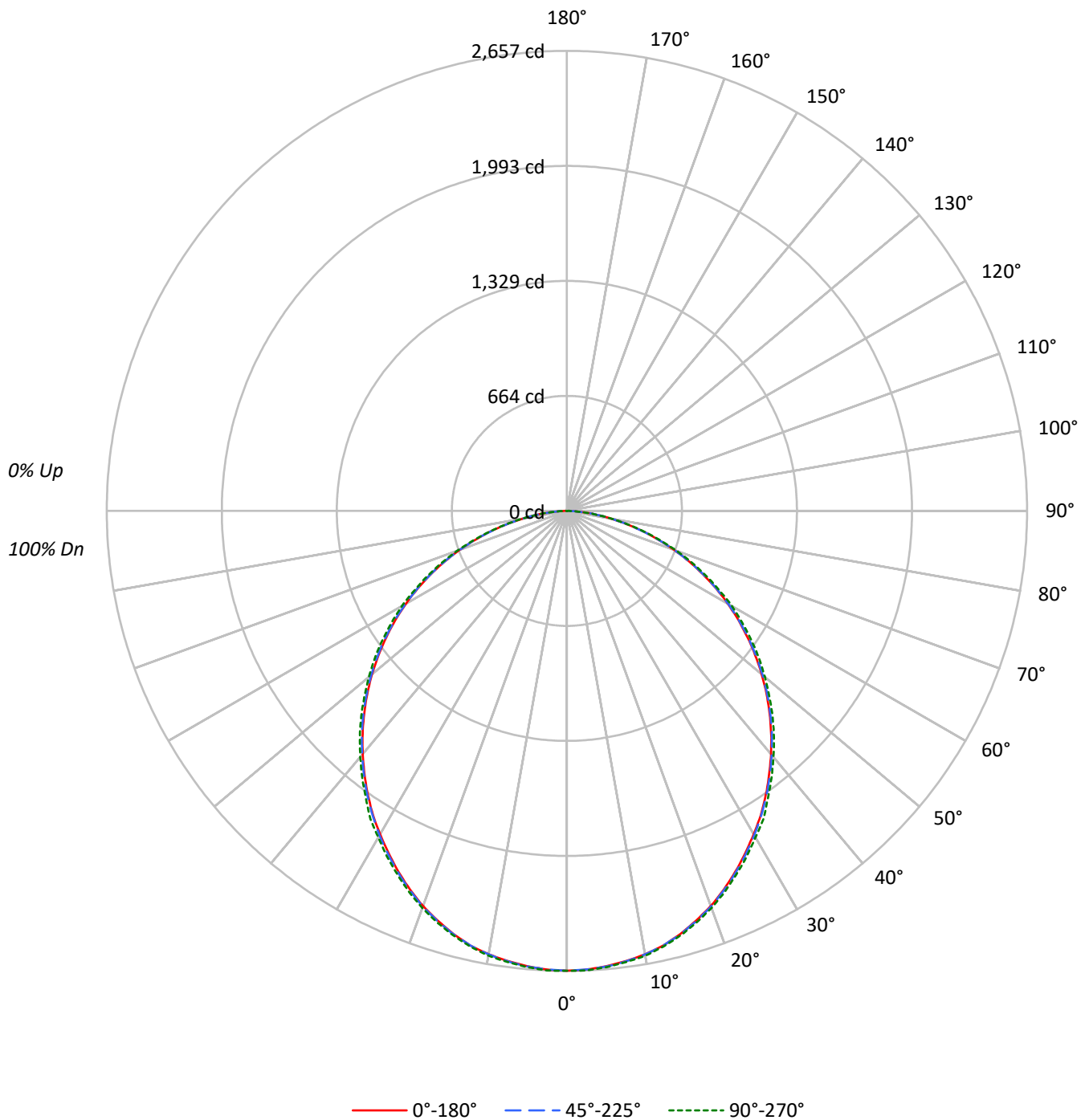
Lumens per Lamp: N/A  
Luminaire Lumens: 7176.9 lumens  
Efficiency: N/A  
Efficacy: 65.2 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.22 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 110  
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 | 100 |    |    |
| 1   | 109 | 104 | 100 | 96  | 106 | 102 | 98  | 95  | 98  | 94  | 92  | 94  | 91  | 89  | 90  | 88  | 86  | 84  |    |    |
| 2   | 99  | 91  | 84  | 78  | 96  | 89  | 83  | 77  | 85  | 80  | 76  | 82  | 78  | 74  | 79  | 76  | 72  | 70  |    |    |
| 3   | 90  | 80  | 72  | 65  | 88  | 78  | 71  | 65  | 75  | 69  | 64  | 73  | 67  | 62  | 70  | 65  | 61  | 59  |    |    |
| 4   | 83  | 71  | 62  | 55  | 80  | 69  | 61  | 55  | 67  | 60  | 54  | 65  | 58  | 53  | 62  | 57  | 53  | 51  |    |    |
| 5   | 76  | 63  | 54  | 48  | 74  | 62  | 54  | 47  | 60  | 53  | 47  | 58  | 52  | 46  | 56  | 51  | 46  | 44  |    |    |
| 6   | 70  | 57  | 48  | 42  | 68  | 56  | 48  | 42  | 54  | 47  | 41  | 53  | 46  | 41  | 51  | 45  | 40  | 38  |    |    |
| 7   | 65  | 52  | 43  | 37  | 64  | 51  | 43  | 37  | 49  | 42  | 36  | 48  | 41  | 36  | 47  | 41  | 36  | 34  |    |    |
| 8   | 61  | 47  | 39  | 33  | 59  | 47  | 38  | 33  | 45  | 38  | 33  | 44  | 37  | 32  | 43  | 37  | 32  | 30  |    |    |
| 9   | 57  | 43  | 35  | 30  | 55  | 43  | 35  | 30  | 42  | 34  | 29  | 41  | 34  | 29  | 40  | 34  | 29  | 27  |    |    |
| 10  | 53  | 40  | 32  | 27  | 52  | 40  | 32  | 27  | 39  | 32  | 27  | 38  | 31  | 27  | 37  | 31  | 26  | 25  |    |    |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 7147 | 7147 | 7147 |
| 5°  | 7129 | 7135 | 7143 |
| 10° | 7106 | 7107 | 7128 |
| 15° | 7047 | 7052 | 7071 |
| 20° | 6956 | 6964 | 6989 |
| 25° | 6830 | 6846 | 6877 |
| 30° | 6701 | 6724 | 6765 |
| 35° | 6579 | 6595 | 6648 |
| 40° | 6440 | 6461 | 6519 |
| 45° | 6299 | 6326 | 6391 |
| 50° | 6147 | 6174 | 6246 |
| 55° | 5972 | 6001 | 6099 |
| 60° | 5774 | 5798 | 5928 |
| 65° | 5522 | 5539 | 5644 |
| 70° | 5183 | 5187 | 5300 |
| 75° | 4711 | 4694 | 4802 |
| 80° | 4048 | 4031 | 4099 |
| 85° | 3140 | 3091 | 3106 |

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 251.0  | 3.5       |
| 10°-20°   | 713.9  | 9.9       |
| 20°-30°   | 1062.8 | 14.8      |
| 30°-40°   | 1256.9 | 17.5      |
| 40°-50°   | 1283.1 | 17.9      |
| 50°-60°   | 1145.1 | 16.0      |
| 60°-70°   | 862.5  | 12.0      |
| 70°-80°   | 481.0  | 6.7       |
| 80°-90°   | 120.5  | 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°    | 2027.8 | 28.3      |
| 0°-40°    | 3284.6 | 45.8      |
| 0°-60°    | 5712.9 | 79.6      |
| 0°-90°    | 7176.9 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 7176.9 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 2656 | 2656  | 2656 | 2656  | 2656 |      |
| 5°  | 2639 | 2644  | 2641 | 2642  | 2644 | 251  |
| 15° | 2530 | 2532  | 2531 | 2533  | 2538 | 713  |
| 25° | 2300 | 2303  | 2306 | 2312  | 2316 | 1060 |
| 35° | 2003 | 2000  | 2008 | 2015  | 2024 | 1252 |
| 45° | 1655 | 1655  | 1662 | 1671  | 1679 | 1277 |
| 55° | 1273 | 1271  | 1279 | 1288  | 1300 | 1138 |
| 65° | 867  | 864   | 870  | 878   | 886  | 858  |
| 75° | 453  | 449   | 452  | 454   | 462  | 480  |
| 85° | 102  | 99    | 100  | 99    | 101  | 122  |
| 90° | 0    | 0     | 0    | 0     | 0    |      |

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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 2656.0 | 2656.0 | 2656.0 | 2656.0 | 2656.0 |
| 2.5°  | 2651.6 | 2656.0 | 2650.5 | 2651.6 | 2656.6 |
| 5°    | 2639.0 | 2643.9 | 2641.2 | 2641.7 | 2644.5 |
| 7.5°  | 2621.4 | 2628.0 | 2624.1 | 2625.2 | 2628.0 |
| 10°   | 2600.5 | 2605.4 | 2601.0 | 2603.8 | 2608.7 |
| 12.5° | 2570.8 | 2573.0 | 2570.8 | 2571.9 | 2577.4 |
| 15°   | 2529.5 | 2532.3 | 2531.2 | 2533.4 | 2538.3 |
| 17.5° | 2481.2 | 2484.4 | 2483.9 | 2488.3 | 2492.1 |
| 20°   | 2428.9 | 2429.5 | 2431.7 | 2436.1 | 2440.5 |
| 22.5° | 2367.3 | 2369.0 | 2371.2 | 2377.2 | 2381.6 |
| 25°   | 2300.2 | 2303.0 | 2305.7 | 2311.8 | 2316.2 |
| 27.5° | 2229.3 | 2232.0 | 2235.9 | 2242.5 | 2249.6 |
| 30°   | 2156.7 | 2156.7 | 2163.9 | 2170.5 | 2177.1 |
| 32.5° | 2083.6 | 2080.8 | 2087.4 | 2095.7 | 2111.6 |
| 35°   | 2002.7 | 2000.5 | 2007.7 | 2015.4 | 2023.6 |
| 37.5° | 1918.6 | 1917.0 | 1925.2 | 1933.4 | 1941.1 |
| 40°   | 1833.4 | 1831.2 | 1839.4 | 1847.7 | 1855.9 |
| 42.5° | 1745.9 | 1744.8 | 1752.5 | 1760.8 | 1769.6 |
| 45°   | 1655.2 | 1654.7 | 1662.3 | 1670.6 | 1679.4 |
| 47.5° | 1562.8 | 1561.7 | 1569.4 | 1578.2 | 1585.9 |
| 50°   | 1468.2 | 1467.1 | 1474.8 | 1483.6 | 1491.9 |
| 52.5° | 1370.9 | 1370.9 | 1378.1 | 1385.7 | 1398.4 |
| 55°   | 1273.0 | 1271.4 | 1279.1 | 1287.9 | 1300.0 |
| 57.5° | 1174.0 | 1171.8 | 1179.0 | 1187.8 | 1198.8 |
| 60°   | 1072.9 | 1070.7 | 1077.3 | 1086.1 | 1101.5 |
| 62.5° | 970.6  | 967.3  | 973.9  | 982.1  | 991.5  |
| 65°   | 867.2  | 863.9  | 869.9  | 877.6  | 886.4  |
| 67.5° | 763.3  | 759.4  | 765.5  | 772.1  | 780.3  |
| 70°   | 658.8  | 654.9  | 659.3  | 665.9  | 673.6  |
| 72.5° | 554.8  | 551.0  | 554.8  | 557.6  | 566.9  |
| 75°   | 453.1  | 449.3  | 451.5  | 453.7  | 461.9  |
| 77.5° | 354.1  | 350.3  | 354.7  | 355.8  | 360.7  |
| 80°   | 261.2  | 257.4  | 260.1  | 260.7  | 264.5  |
| 82.5° | 176.5  | 173.2  | 177.1  | 174.3  | 177.6  |
| 85°   | 101.7  | 99.0   | 100.1  | 99.0   | 100.6  |
| 87.5° | 40.1   | 37.9   | 38.5   | 36.3   | 36.3   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)