

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: P834476

Luminaire Tested: **ORLG-12-4-INS-OPL-LD4-3STD-30-120-EDD-90**

Issue Date: 5/16/2024



**Test Information**

Test Method: LM-79-08  
Report Number: P834476  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 5/16/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: ORLG-12-4-INS-OPL-LD4-3STD-30-120-EDD-90  
Description: 1FT x 4FT ORL LED LUMINAIRE WITH opal acrylic lens  
Light Source: 3000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

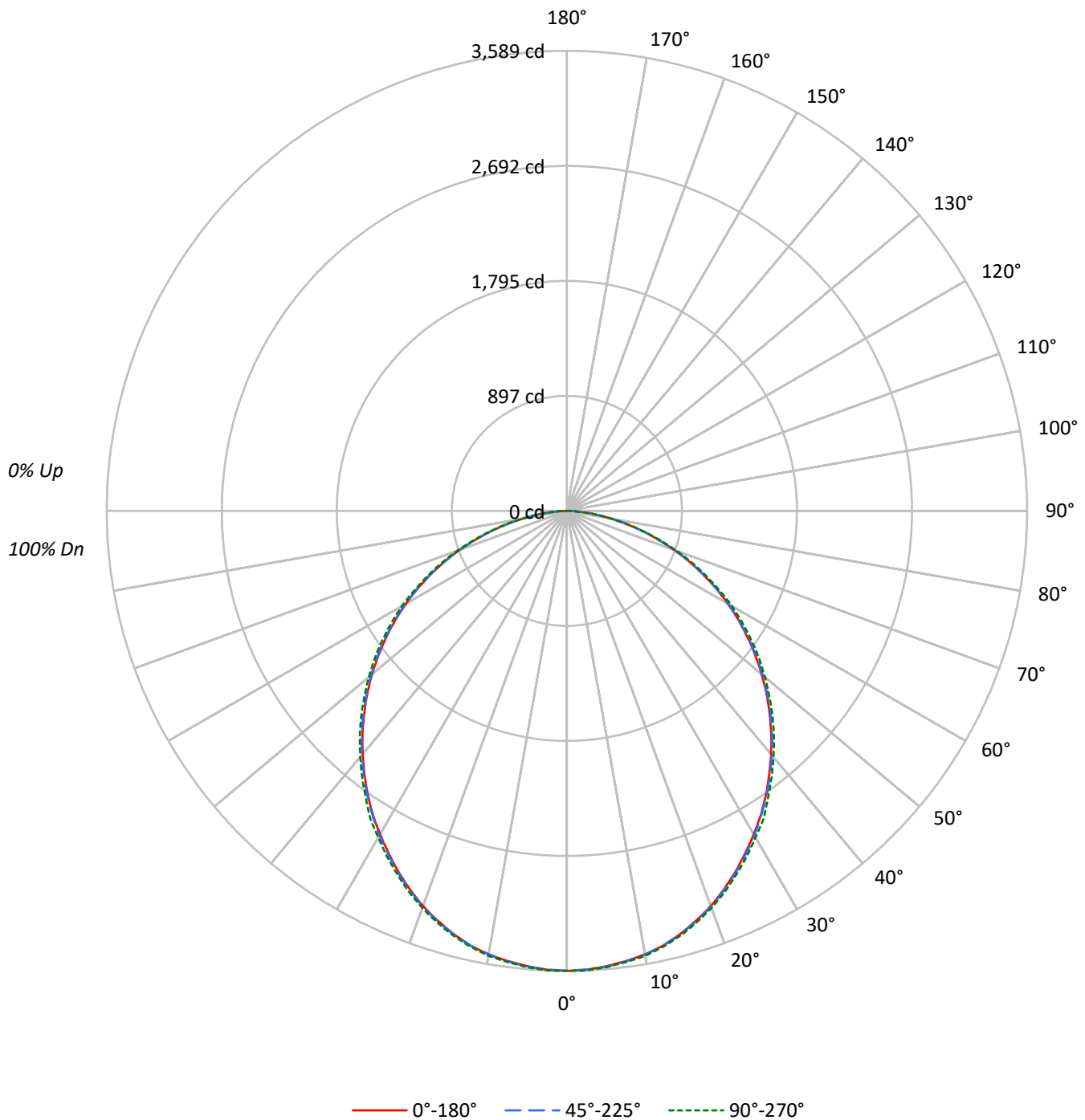
Lumens per Lamp: N/A  
Luminaire Lumens: 9695.0 lumens  
Efficiency: N/A  
Efficacy: 97.0 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.22 / 1.33  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

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

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 9655 | 9655 | 9655 |
| 5°  | 9630 | 9638 | 9650 |
| 10° | 9599 | 9601 | 9630 |
| 15° | 9520 | 9526 | 9553 |
| 20° | 9396 | 9407 | 9441 |
| 25° | 9226 | 9248 | 9290 |
| 30° | 9053 | 9083 | 9138 |
| 35° | 8887 | 8909 | 8980 |
| 40° | 8700 | 8729 | 8807 |
| 45° | 8509 | 8546 | 8633 |
| 50° | 8303 | 8341 | 8437 |
| 55° | 8068 | 8107 | 8239 |
| 60° | 7800 | 7832 | 8008 |
| 65° | 7459 | 7483 | 7625 |
| 70° | 7002 | 7008 | 7160 |
| 75° | 6364 | 6341 | 6488 |
| 80° | 5469 | 5446 | 5537 |
| 85° | 4242 | 4174 | 4196 |

Classified

Scaled Data Report

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 339.0  | 3.5       |
| 10°-20°   | 964.4  | 9.9       |
| 20°-30°   | 1435.7 | 14.8      |
| 30°-40°   | 1697.9 | 17.5      |
| 40°-50°   | 1733.3 | 17.9      |
| 50°-60°   | 1546.9 | 16.0      |
| 60°-70°   | 1165.1 | 12.0      |
| 70°-80°   | 649.8  | 6.7       |
| 80°-90°   | 162.8  | 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°    | 2739.2 | 28.3      |
| 0°-40°    | 4437.1 | 45.8      |
| 0°-60°    | 7717.4 | 79.6      |
| 0°-90°    | 9695.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 9695.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 3588 | 3588  | 3588 | 3588  | 3588 |      |
| 5°  | 3565 | 3572  | 3568 | 3569  | 3572 | 339  |
| 15° | 3417 | 3421  | 3419 | 3422  | 3429 | 963  |
| 25° | 3107 | 3111  | 3115 | 3123  | 3129 | 1431 |
| 35° | 2705 | 2702  | 2712 | 2722  | 2734 | 1692 |
| 45° | 2236 | 2235  | 2246 | 2257  | 2269 | 1725 |
| 55° | 1720 | 1718  | 1728 | 1740  | 1756 | 1537 |
| 65° | 1172 | 1167  | 1175 | 1186  | 1198 | 1159 |
| 75° | 612  | 607   | 610  | 613   | 624  | 649  |
| 85° | 137  | 134   | 135  | 134   | 136  | 165  |
| 90° | 0    | 0     | 0    | 0     | 0    |      |

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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 3587.9 | 3587.9 | 3587.9 | 3587.9 | 3587.9 |
| 2.5°  | 3582.0 | 3587.9 | 3580.5 | 3582.0 | 3588.7 |
| 5°    | 3564.9 | 3571.6 | 3567.9 | 3568.6 | 3572.3 |
| 7.5°  | 3541.1 | 3550.1 | 3544.9 | 3546.3 | 3550.1 |
| 10°   | 3512.9 | 3519.6 | 3513.7 | 3517.4 | 3524.1 |
| 12.5° | 3472.8 | 3475.8 | 3472.8 | 3474.3 | 3481.7 |
| 15°   | 3417.1 | 3420.8 | 3419.3 | 3422.3 | 3429.0 |
| 17.5° | 3351.7 | 3356.2 | 3355.4 | 3361.4 | 3366.6 |
| 20°   | 3281.1 | 3281.9 | 3284.9 | 3290.8 | 3296.7 |
| 22.5° | 3197.9 | 3200.2 | 3203.1 | 3211.3 | 3217.3 |
| 25°   | 3107.3 | 3111.0 | 3114.7 | 3122.9 | 3128.9 |
| 27.5° | 3011.5 | 3015.2 | 3020.4 | 3029.3 | 3039.0 |
| 30°   | 2913.4 | 2913.4 | 2923.1 | 2932.0 | 2940.9 |
| 32.5° | 2814.6 | 2810.9 | 2819.8 | 2831.0 | 2852.5 |
| 35°   | 2705.4 | 2702.5 | 2712.1 | 2722.5 | 2733.7 |
| 37.5° | 2591.8 | 2589.6 | 2600.7 | 2611.8 | 2622.2 |
| 40°   | 2476.6 | 2473.7 | 2484.8 | 2496.0 | 2507.1 |
| 42.5° | 2358.5 | 2357.0 | 2367.4 | 2378.6 | 2390.5 |
| 45°   | 2236.0 | 2235.2 | 2245.6 | 2256.8 | 2268.6 |
| 47.5° | 2111.2 | 2109.7 | 2120.1 | 2132.0 | 2142.4 |
| 50°   | 1983.4 | 1981.9 | 1992.3 | 2004.2 | 2015.3 |
| 52.5° | 1851.9 | 1851.9 | 1861.6 | 1872.0 | 1889.1 |
| 55°   | 1719.7 | 1717.5 | 1727.9 | 1739.7 | 1756.1 |
| 57.5° | 1586.0 | 1583.0 | 1592.7 | 1604.5 | 1619.4 |
| 60°   | 1449.3 | 1446.3 | 1455.2 | 1467.1 | 1487.9 |
| 62.5° | 1311.1 | 1306.7 | 1315.6 | 1326.7 | 1339.3 |
| 65°   | 1171.5 | 1167.0 | 1175.2 | 1185.6 | 1197.5 |
| 67.5° | 1031.1 | 1025.9 | 1034.0 | 1043.0 | 1054.1 |
| 70°   | 889.9  | 884.7  | 890.7  | 899.6  | 910.0  |
| 72.5° | 749.5  | 744.3  | 749.5  | 753.2  | 765.9  |
| 75°   | 612.1  | 606.9  | 609.9  | 612.8  | 624.0  |
| 77.5° | 478.4  | 473.2  | 479.1  | 480.6  | 487.3  |
| 80°   | 352.9  | 347.7  | 351.4  | 352.1  | 357.3  |
| 82.5° | 238.5  | 234.0  | 239.2  | 235.5  | 239.9  |
| 85°   | 137.4  | 133.7  | 135.2  | 133.7  | 135.9  |
| 87.5° | 54.2   | 51.3   | 52.0   | 49.0   | 49.0   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)