

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: P834966

Luminaire Tested: **ORLG-24-4-INS-OPL-LD4-4HI-27-120-EDD**

Issue Date: 5/16/2024



**Test Information**

Test Method: LM-79-08  
Report Number: P834966  
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-LD4-4HI-27-120-EDD  
Description: 2FT x 4FT ORL LED LUMINAIRE WITH opal acrylic lens  
Light Source: 2700K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

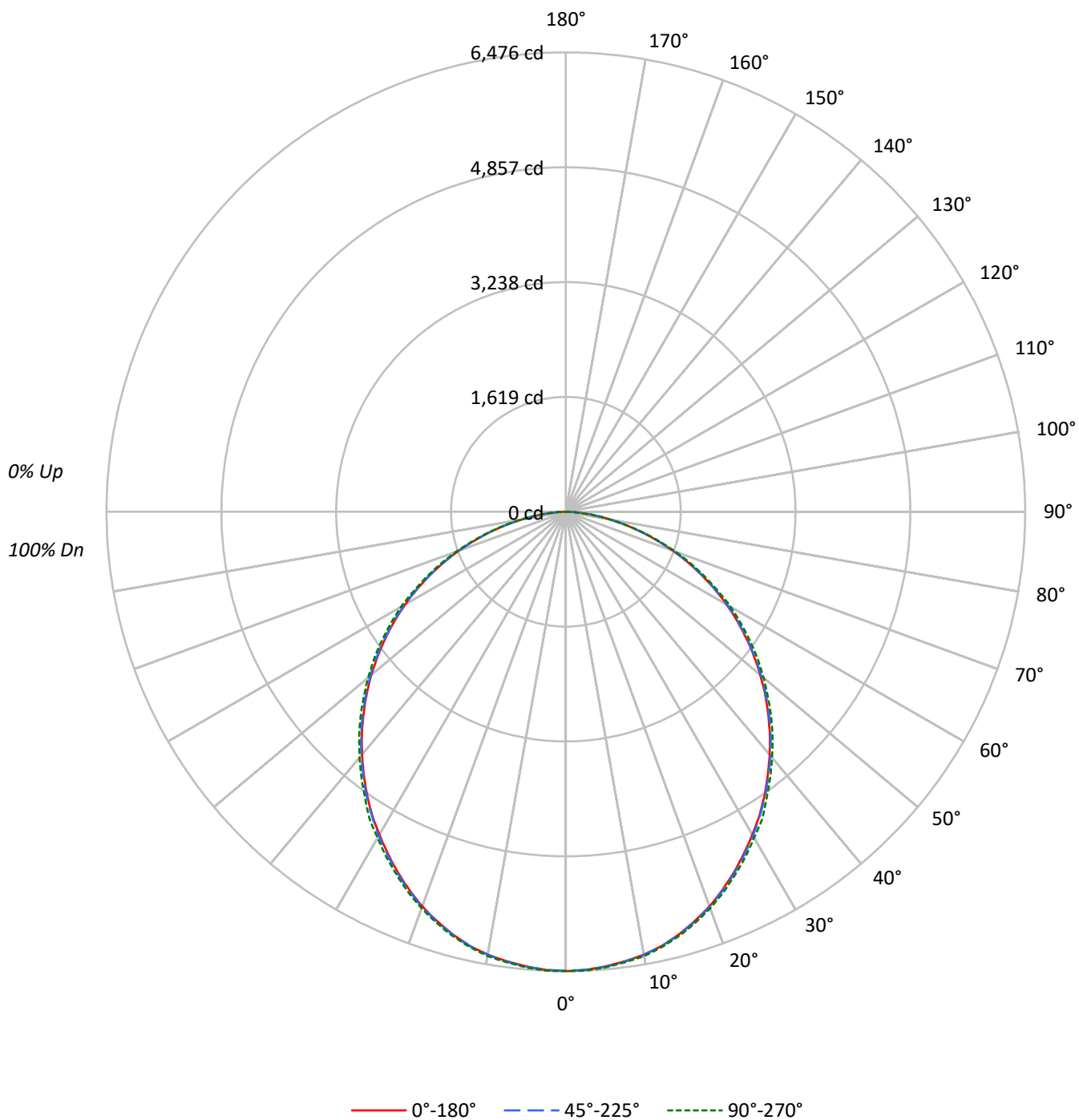
Lumens per Lamp: N/A  
Luminaire Lumens: 17493.9 lumens  
Efficiency: N/A  
Efficacy: 99.4 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.22 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 176  
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  | 26  | 26  | 26  | 25  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 8711 | 8711 | 8711 |
| 5°  | 8688 | 8695 | 8706 |
| 10° | 8660 | 8662 | 8688 |
| 15° | 8589 | 8594 | 8619 |
| 20° | 8477 | 8487 | 8518 |
| 25° | 8324 | 8344 | 8382 |
| 30° | 8168 | 8195 | 8245 |
| 35° | 8019 | 8038 | 8102 |
| 40° | 7849 | 7875 | 7946 |
| 45° | 7677 | 7710 | 7789 |
| 50° | 7491 | 7525 | 7612 |
| 55° | 7279 | 7314 | 7433 |
| 60° | 7037 | 7066 | 7225 |
| 65° | 6730 | 6751 | 6879 |
| 70° | 6317 | 6322 | 6460 |
| 75° | 5742 | 5721 | 5853 |
| 80° | 4933 | 4912 | 4995 |
| 85° | 3829 | 3767 | 3787 |

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

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**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 611.8   | 3.5       |
| 10°-20°   | 1740.3  | 9.9       |
| 20°-30°   | 2590.7  | 14.8      |
| 30°-40°   | 3063.8  | 17.5      |
| 40°-50°   | 3127.7  | 17.9      |
| 50°-60°   | 2791.3  | 16.0      |
| 60°-70°   | 2102.4  | 12.0      |
| 70°-80°   | 1172.4  | 6.7       |
| 80°-90°   | 293.7   | 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°    | 4942.7  | 28.3      |
| 0°-40°    | 8006.5  | 45.8      |
| 0°-60°    | 13925.4 | 79.6      |
| 0°-90°    | 17493.9 | 100.0     |
| 90°-120°  | 0.0     | 0.0       |
| 90°-150°  | 0.0     | 0.0       |
| 90°-180°  | 0.0     | 0.0       |
| 0°-180°   | 17493.9 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 6474 | 6474  | 6474 | 6474  | 6474 |      |
| 5°  | 6433 | 6445  | 6438 | 6439  | 6446 | 611  |
| 15° | 6166 | 6173  | 6170 | 6175  | 6187 | 1738 |
| 25° | 5607 | 5614  | 5620 | 5635  | 5646 | 2583 |
| 35° | 4882 | 4876  | 4894 | 4913  | 4933 | 3053 |
| 45° | 4035 | 4033  | 4052 | 4072  | 4094 | 3112 |
| 55° | 3103 | 3099  | 3118 | 3139  | 3169 | 2774 |
| 65° | 2114 | 2106  | 2120 | 2139  | 2161 | 2091 |
| 75° | 1104 | 1095  | 1100 | 1106  | 1126 | 1171 |
| 85° | 248  | 241   | 244  | 241   | 245  | 298  |
| 90° | 0    | 0     | 0    | 0     | 0    |      |

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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 6474.2 | 6474.2 | 6474.2 | 6474.2 | 6474.2 |
| 2.5°  | 6463.4 | 6474.2 | 6460.8 | 6463.4 | 6475.5 |
| 5°    | 6432.6 | 6444.7 | 6438.0 | 6439.3 | 6446.0 |
| 7.5°  | 6389.7 | 6405.8 | 6396.4 | 6399.1 | 6405.8 |
| 10°   | 6338.8 | 6350.9 | 6340.1 | 6346.8 | 6358.9 |
| 12.5° | 6266.4 | 6271.8 | 6266.4 | 6269.1 | 6282.5 |
| 15°   | 6165.9 | 6172.6 | 6169.9 | 6175.3 | 6187.3 |
| 17.5° | 6047.9 | 6056.0 | 6054.6 | 6065.3 | 6074.7 |
| 20°   | 5920.6 | 5921.9 | 5927.3 | 5938.0 | 5948.7 |
| 22.5° | 5770.5 | 5774.5 | 5779.8 | 5794.6 | 5805.3 |
| 25°   | 5606.9 | 5613.6 | 5620.3 | 5635.1 | 5645.8 |
| 27.5° | 5434.0 | 5440.7 | 5450.1 | 5466.2 | 5483.6 |
| 30°   | 5257.1 | 5257.1 | 5274.5 | 5290.6 | 5306.7 |
| 32.5° | 5078.8 | 5072.1 | 5088.2 | 5108.3 | 5147.2 |
| 35°   | 4881.8 | 4876.4 | 4893.8 | 4912.6 | 4932.7 |
| 37.5° | 4676.7 | 4672.7 | 4692.8 | 4712.9 | 4731.6 |
| 40°   | 4468.9 | 4463.6 | 4483.7 | 4503.8 | 4523.9 |
| 42.5° | 4255.8 | 4253.1 | 4271.9 | 4292.0 | 4313.4 |
| 45°   | 4034.6 | 4033.3 | 4052.1 | 4072.2 | 4093.6 |
| 47.5° | 3809.4 | 3806.8 | 3825.5 | 3847.0 | 3865.7 |
| 50°   | 3578.9 | 3576.2 | 3595.0 | 3616.4 | 3636.5 |
| 52.5° | 3341.6 | 3341.6 | 3359.1 | 3377.8 | 3408.7 |
| 55°   | 3103.0 | 3099.0 | 3117.8 | 3139.2 | 3168.7 |
| 57.5° | 2861.8 | 2856.4 | 2873.8 | 2895.3 | 2922.1 |
| 60°   | 2615.1 | 2609.8 | 2625.9 | 2647.3 | 2684.8 |
| 62.5° | 2365.8 | 2357.8 | 2373.9 | 2394.0 | 2416.8 |
| 65°   | 2113.8 | 2105.8 | 2120.5 | 2139.3 | 2160.7 |
| 67.5° | 1860.5 | 1851.1 | 1865.8 | 1881.9 | 1902.0 |
| 70°   | 1605.8 | 1596.4 | 1607.1 | 1623.2 | 1642.0 |
| 72.5° | 1352.5 | 1343.1 | 1352.5 | 1359.2 | 1382.0 |
| 75°   | 1104.5 | 1095.1 | 1100.5 | 1105.8 | 1125.9 |
| 77.5° | 863.2  | 853.8  | 864.6  | 867.2  | 879.3  |
| 80°   | 636.7  | 627.3  | 634.0  | 635.4  | 644.7  |
| 82.5° | 430.3  | 422.2  | 431.6  | 424.9  | 433.0  |
| 85°   | 248.0  | 241.3  | 244.0  | 241.3  | 245.3  |
| 87.5° | 97.8   | 92.5   | 93.8   | 88.5   | 88.5   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)