

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: P835078

Luminaire Tested: **ORLG-24-4-INS-OPL-LD4-6LO-27-120-EDD-90**

Issue Date: 5/16/2024



**Test Information**

Test Method: LM-79-08  
Report Number: P835078  
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-LD4-6LO-27-120-EDD-90  
Description: 2FT x 4FT ORL LED LUMINAIRE WITH opal acrylic lens  
Light Source: 2700K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

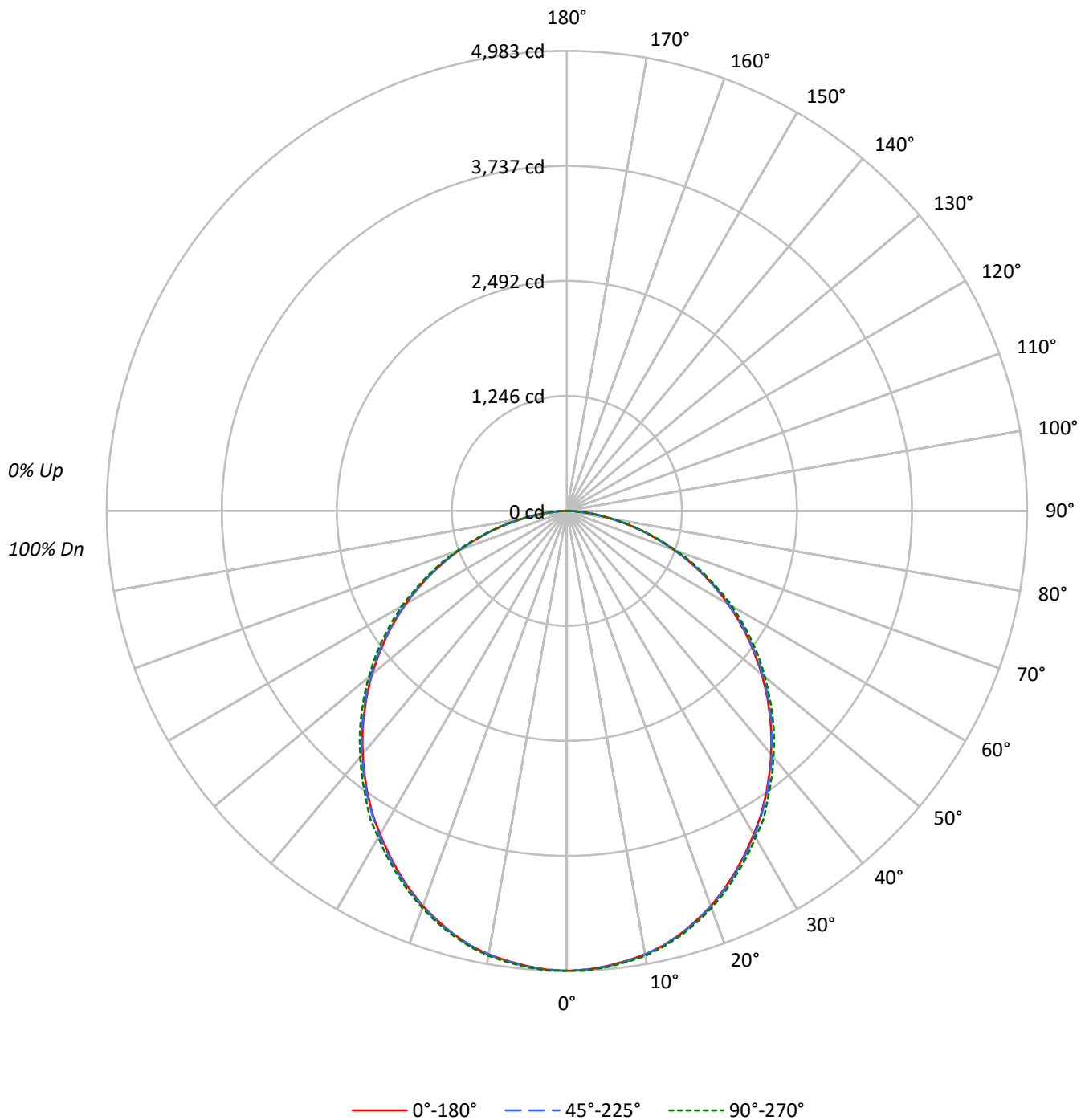
Lumens per Lamp: N/A  
Luminaire Lumens: 13462.1 lumens  
Efficiency: N/A  
Efficacy: 95.9 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.22 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 140.4  
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°  | 6703 | 6703 | 6703 |
| 5°  | 6686 | 6691 | 6700 |
| 10° | 6664 | 6666 | 6686 |
| 15° | 6609 | 6614 | 6632 |
| 20° | 6524 | 6531 | 6555 |
| 25° | 6406 | 6421 | 6450 |
| 30° | 6285 | 6306 | 6345 |
| 35° | 6171 | 6186 | 6235 |
| 40° | 6040 | 6060 | 6115 |
| 45° | 5908 | 5933 | 5994 |
| 50° | 5765 | 5791 | 5858 |
| 55° | 5602 | 5628 | 5720 |
| 60° | 5415 | 5438 | 5560 |
| 65° | 5179 | 5195 | 5294 |
| 70° | 4861 | 4866 | 4971 |
| 75° | 4418 | 4402 | 4504 |
| 80° | 3797 | 3780 | 3844 |
| 85° | 2946 | 2898 | 2915 |

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

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**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 470.8   | 3.5       |
| 10°-20°   | 1339.2  | 9.9       |
| 20°-30°   | 1993.6  | 14.8      |
| 30°-40°   | 2357.7  | 17.5      |
| 40°-50°   | 2406.8  | 17.9      |
| 50°-60°   | 2148.0  | 16.0      |
| 60°-70°   | 1617.8  | 12.0      |
| 70°-80°   | 902.2   | 6.7       |
| 80°-90°   | 226.0   | 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°    | 3803.6  | 28.3      |
| 0°-40°    | 6161.2  | 45.8      |
| 0°-60°    | 10716.0 | 79.6      |
| 0°-90°    | 13462.1 | 100.0     |
| 90°-120°  | 0.0     | 0.0       |
| 90°-150°  | 0.0     | 0.0       |
| 90°-180°  | 0.0     | 0.0       |
| 0°-180°   | 13462.1 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 4982 | 4982  | 4982 | 4982  | 4982 |      |
| 5°  | 4950 | 4959  | 4954 | 4955  | 4960 | 470  |
| 15° | 4745 | 4750  | 4748 | 4752  | 4761 | 1337 |
| 25° | 4315 | 4320  | 4325 | 4336  | 4345 | 1988 |
| 35° | 3757 | 3752  | 3766 | 3780  | 3796 | 2349 |
| 45° | 3105 | 3104  | 3118 | 3134  | 3150 | 2395 |
| 55° | 2388 | 2385  | 2399 | 2416  | 2438 | 2134 |
| 65° | 1627 | 1620  | 1632 | 1646  | 1663 | 1609 |
| 75° | 850  | 843   | 847  | 851   | 866  | 901  |
| 85° | 191  | 186   | 188  | 186   | 189  | 229  |
| 90° | 0    | 0     | 0    | 0     | 0    |      |

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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 4982.1 | 4982.1 | 4982.1 | 4982.1 | 4982.1 |
| 2.5°  | 4973.8 | 4982.1 | 4971.8 | 4973.8 | 4983.1 |
| 5°    | 4950.1 | 4959.4 | 4954.2 | 4955.3 | 4960.4 |
| 7.5°  | 4917.1 | 4929.5 | 4922.2 | 4924.3 | 4929.5 |
| 10°   | 4877.9 | 4887.2 | 4878.9 | 4884.1 | 4893.4 |
| 12.5° | 4822.2 | 4826.3 | 4822.2 | 4824.3 | 4834.6 |
| 15°   | 4744.8 | 4750.0 | 4747.9 | 4752.1 | 4761.3 |
| 17.5° | 4654.1 | 4660.3 | 4659.2 | 4667.5 | 4674.7 |
| 20°   | 4556.1 | 4557.1 | 4561.2 | 4569.5 | 4577.7 |
| 22.5° | 4440.5 | 4443.6 | 4447.8 | 4459.1 | 4467.4 |
| 25°   | 4314.7 | 4319.9 | 4325.0 | 4336.4 | 4344.6 |
| 27.5° | 4181.6 | 4186.8 | 4194.0 | 4206.4 | 4219.8 |
| 30°   | 4045.5 | 4045.5 | 4058.9 | 4071.3 | 4083.7 |
| 32.5° | 3908.3 | 3903.1 | 3915.5 | 3931.0 | 3960.9 |
| 35°   | 3756.7 | 3752.5 | 3766.0 | 3780.4 | 3795.9 |
| 37.5° | 3598.9 | 3595.8 | 3611.2 | 3626.7 | 3641.1 |
| 40°   | 3439.0 | 3434.8 | 3450.3 | 3465.8 | 3481.3 |
| 42.5° | 3275.0 | 3272.9 | 3287.3 | 3302.8 | 3319.3 |
| 45°   | 3104.8 | 3103.7 | 3118.2 | 3133.7 | 3150.2 |
| 47.5° | 2931.5 | 2929.4 | 2943.9 | 2960.4 | 2974.8 |
| 50°   | 2754.1 | 2752.0 | 2766.4 | 2782.9 | 2798.4 |
| 52.5° | 2571.5 | 2571.5 | 2584.9 | 2599.3 | 2623.1 |
| 55°   | 2387.9 | 2384.8 | 2399.2 | 2415.7 | 2438.4 |
| 57.5° | 2202.2 | 2198.1 | 2211.5 | 2228.0 | 2248.6 |
| 60°   | 2012.4 | 2008.3 | 2020.7 | 2037.2 | 2066.1 |
| 62.5° | 1820.6 | 1814.4 | 1826.8 | 1842.2 | 1859.8 |
| 65°   | 1626.7 | 1620.5 | 1631.8 | 1646.3 | 1662.8 |
| 67.5° | 1431.7 | 1424.5 | 1435.8 | 1448.2 | 1463.7 |
| 70°   | 1235.7 | 1228.5 | 1236.8 | 1249.1 | 1263.6 |
| 72.5° | 1040.8 | 1033.5 | 1040.8 | 1045.9 | 1063.5 |
| 75°   | 849.9  | 842.7  | 846.8  | 851.0  | 866.4  |
| 77.5° | 664.3  | 657.1  | 665.3  | 667.4  | 676.7  |
| 80°   | 490.0  | 482.7  | 487.9  | 488.9  | 496.1  |
| 82.5° | 331.1  | 324.9  | 332.1  | 327.0  | 333.2  |
| 85°   | 190.8  | 185.7  | 187.7  | 185.7  | 188.8  |
| 87.5° | 75.3   | 71.2   | 72.2   | 68.1   | 68.1   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)