

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: P834951

Luminaire Tested: **ORLG-24-4-INS-OPL-LD4-5HI-20-120-EDD**

Issue Date: 5/16/2024



**Test Information**

Test Method: LM-79-08  
Report Number: P834951  
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-LD4-5HI-20-120-EDD  
Description: 2FT x 4FT ORL LED LUMINAIRE WITH opal acrylic lens  
Light Source: 2000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

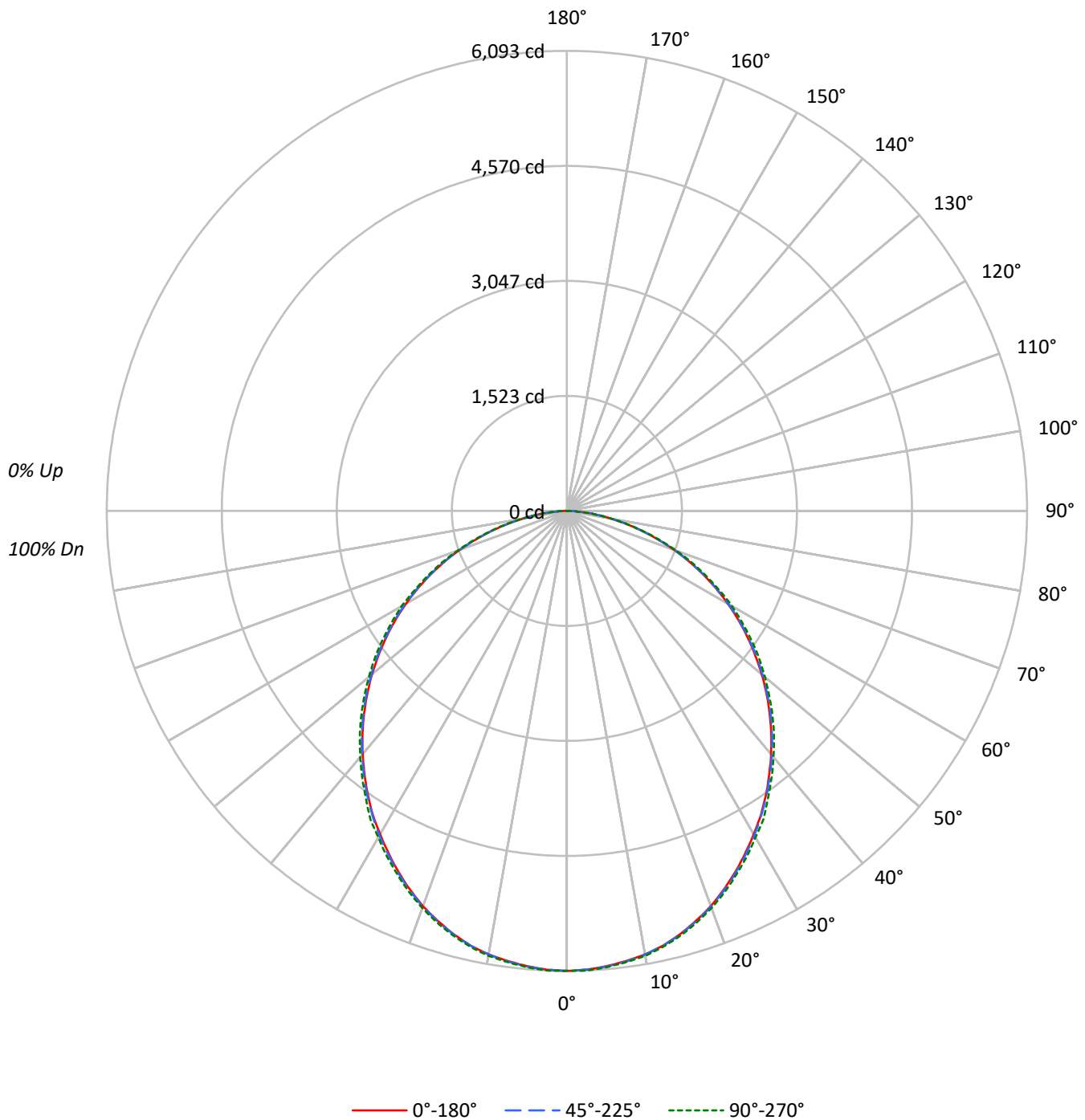
Lumens per Lamp: N/A  
Luminaire Lumens: 16461.7 lumens  
Efficiency: N/A  
Efficacy: 74.8 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.22 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 220  
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°  | 8197 | 8197 | 8197 |
| 5°  | 8175 | 8182 | 8193 |
| 10° | 8149 | 8151 | 8175 |
| 15° | 8082 | 8087 | 8110 |
| 20° | 7977 | 7986 | 8015 |
| 25° | 7833 | 7852 | 7887 |
| 30° | 7686 | 7711 | 7758 |
| 35° | 7545 | 7564 | 7624 |
| 40° | 7386 | 7410 | 7477 |
| 45° | 7224 | 7255 | 7330 |
| 50° | 7049 | 7081 | 7163 |
| 55° | 6849 | 6882 | 6994 |
| 60° | 6622 | 6649 | 6798 |
| 65° | 6333 | 6353 | 6473 |
| 70° | 5945 | 5949 | 6078 |
| 75° | 5403 | 5383 | 5508 |
| 80° | 4642 | 4623 | 4701 |
| 85° | 3602 | 3545 | 3563 |

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

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**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 575.7   | 3.5       |
| 10°-20°   | 1637.6  | 9.9       |
| 20°-30°   | 2437.8  | 14.8      |
| 30°-40°   | 2883.0  | 17.5      |
| 40°-50°   | 2943.1  | 17.9      |
| 50°-60°   | 2626.6  | 16.0      |
| 60°-70°   | 1978.3  | 12.0      |
| 70°-80°   | 1103.3  | 6.7       |
| 80°-90°   | 276.4   | 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°    | 4651.1  | 28.3      |
| 0°-40°    | 7534.0  | 45.8      |
| 0°-60°    | 13103.7 | 79.6      |
| 0°-90°    | 16461.7 | 100.0     |
| 90°-120°  | 0.0     | 0.0       |
| 90°-150°  | 0.0     | 0.0       |
| 90°-180°  | 0.0     | 0.0       |
| 0°-180°   | 16461.7 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 6092 | 6092  | 6092 | 6092  | 6092 |      |
| 5°  | 6053 | 6064  | 6058 | 6059  | 6066 | 575  |
| 15° | 5802 | 5808  | 5806 | 5811  | 5822 | 1635 |
| 25° | 5276 | 5282  | 5289 | 5303  | 5313 | 2431 |
| 35° | 4594 | 4589  | 4605 | 4623  | 4642 | 2873 |
| 45° | 3797 | 3795  | 3813 | 3832  | 3852 | 2929 |
| 55° | 2920 | 2916  | 2934 | 2954  | 2982 | 2610 |
| 65° | 1989 | 1982  | 1995 | 2013  | 2033 | 1967 |
| 75° | 1039 | 1030  | 1036 | 1041  | 1060 | 1102 |
| 85° | 233  | 227   | 230  | 227   | 231  | 280  |
| 90° | 0    | 0     | 0    | 0     | 0    |      |

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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 6092.2 | 6092.2 | 6092.2 | 6092.2 | 6092.2 |
| 2.5°  | 6082.1 | 6092.2 | 6079.5 | 6082.1 | 6093.4 |
| 5°    | 6053.1 | 6064.4 | 6058.1 | 6059.4 | 6065.7 |
| 7.5°  | 6012.7 | 6027.8 | 6019.0 | 6021.5 | 6027.8 |
| 10°   | 5964.8 | 5976.1 | 5966.0 | 5972.3 | 5983.7 |
| 12.5° | 5896.6 | 5901.7 | 5896.6 | 5899.2 | 5911.8 |
| 15°   | 5802.0 | 5808.4 | 5805.8 | 5810.9 | 5822.2 |
| 17.5° | 5691.1 | 5698.6 | 5697.4 | 5707.4 | 5716.3 |
| 20°   | 5571.2 | 5572.5 | 5577.5 | 5587.6 | 5597.7 |
| 22.5° | 5430.0 | 5433.7 | 5438.8 | 5452.7 | 5462.8 |
| 25°   | 5276.1 | 5282.4 | 5288.7 | 5302.6 | 5312.7 |
| 27.5° | 5113.4 | 5119.7 | 5128.5 | 5143.6 | 5160.0 |
| 30°   | 4946.9 | 4946.9 | 4963.3 | 4978.4 | 4993.5 |
| 32.5° | 4779.1 | 4772.8 | 4788.0 | 4806.9 | 4843.4 |
| 35°   | 4593.7 | 4588.7 | 4605.1 | 4622.7 | 4641.6 |
| 37.5° | 4400.7 | 4396.9 | 4415.9 | 4434.8 | 4452.4 |
| 40°   | 4205.2 | 4200.2 | 4219.1 | 4238.0 | 4256.9 |
| 42.5° | 4004.7 | 4002.2 | 4019.8 | 4038.7 | 4058.9 |
| 45°   | 3796.6 | 3795.3 | 3813.0 | 3831.9 | 3852.1 |
| 47.5° | 3584.7 | 3582.1 | 3599.8 | 3620.0 | 3637.6 |
| 50°   | 3367.7 | 3365.2 | 3382.8 | 3403.0 | 3421.9 |
| 52.5° | 3144.5 | 3144.5 | 3160.9 | 3178.5 | 3207.5 |
| 55°   | 2919.9 | 2916.2 | 2933.8 | 2954.0 | 2981.7 |
| 57.5° | 2692.9 | 2687.9 | 2704.3 | 2724.4 | 2749.7 |
| 60°   | 2460.8 | 2455.8 | 2470.9 | 2491.1 | 2526.4 |
| 62.5° | 2226.2 | 2218.7 | 2233.8 | 2252.7 | 2274.2 |
| 65°   | 1989.1 | 1981.5 | 1995.4 | 2013.1 | 2033.2 |
| 67.5° | 1750.7 | 1741.9 | 1755.8 | 1770.9 | 1789.8 |
| 70°   | 1511.1 | 1502.2 | 1512.3 | 1527.5 | 1545.1 |
| 72.5° | 1272.7 | 1263.8 | 1272.7 | 1279.0 | 1300.4 |
| 75°   | 1039.3 | 1030.5 | 1035.5 | 1040.6 | 1059.5 |
| 77.5° | 812.3  | 803.5  | 813.5  | 816.1  | 827.4  |
| 80°   | 599.1  | 590.3  | 596.6  | 597.9  | 606.7  |
| 82.5° | 404.9  | 397.3  | 406.1  | 399.8  | 407.4  |
| 85°   | 233.3  | 227.0  | 229.6  | 227.0  | 230.8  |
| 87.5° | 92.1   | 87.0   | 88.3   | 83.2   | 83.2   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)