

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: P835089

Luminaire Tested: **ORLG-24-4-INS-OPL-LD4-3HI-30-120-EDD-90**

Issue Date: 5/16/2024



**Test Information**

Test Method: LM-79-08  
Report Number: P835089  
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-LD4-3HI-30-120-EDD-90  
Description: 2FT x 4FT ORL LED LUMINAIRE WITH opal acrylic lens  
Light Source: 3000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

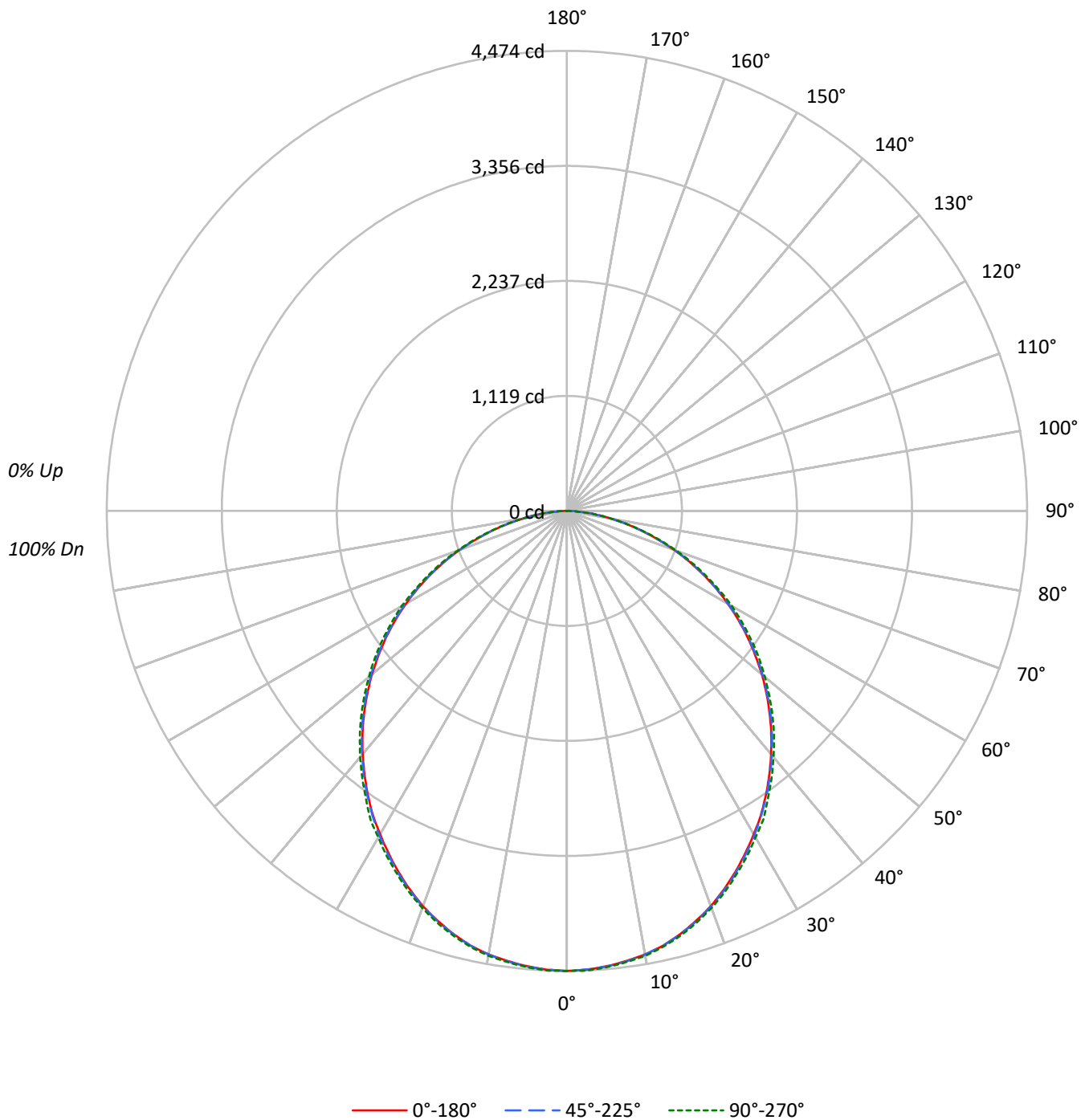
Lumens per Lamp: N/A  
Luminaire Lumens: 12088.1 lumens  
Efficiency: N/A  
Efficacy: 91.6 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.22 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 132  
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  | 27  | 27  | 27  | 25  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 6019 | 6019 | 6019 |
| 5°  | 6003 | 6008 | 6016 |
| 10° | 5984 | 5986 | 6003 |
| 15° | 5935 | 5939 | 5955 |
| 20° | 5858 | 5864 | 5886 |
| 25° | 5752 | 5766 | 5792 |
| 30° | 5644 | 5662 | 5697 |
| 35° | 5541 | 5554 | 5598 |
| 40° | 5424 | 5442 | 5490 |
| 45° | 5305 | 5328 | 5382 |
| 50° | 5177 | 5200 | 5260 |
| 55° | 5030 | 5054 | 5136 |
| 60° | 4863 | 4883 | 4992 |
| 65° | 4650 | 4665 | 4753 |
| 70° | 4365 | 4369 | 4463 |
| 75° | 3968 | 3953 | 4044 |
| 80° | 3409 | 3395 | 3452 |
| 85° | 2644 | 2603 | 2617 |

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

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**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 422.7   | 3.5       |
| 10°-20°   | 1202.5  | 9.9       |
| 20°-30°   | 1790.1  | 14.8      |
| 30°-40°   | 2117.0  | 17.5      |
| 40°-50°   | 2161.2  | 17.9      |
| 50°-60°   | 1928.7  | 16.0      |
| 60°-70°   | 1452.7  | 12.0      |
| 70°-80°   | 810.1   | 6.7       |
| 80°-90°   | 203.0   | 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°    | 3415.4  | 28.3      |
| 0°-40°    | 5532.4  | 45.8      |
| 0°-60°    | 9622.3  | 79.6      |
| 0°-90°    | 12088.1 | 100.0     |
| 90°-120°  | 0.0     | 0.0       |
| 90°-150°  | 0.0     | 0.0       |
| 90°-180°  | 0.0     | 0.0       |
| 0°-180°   | 12088.1 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 4474 | 4474  | 4474 | 4474  | 4474 |      |
| 5°  | 4445 | 4453  | 4449 | 4450  | 4454 | 422  |
| 15° | 4261 | 4265  | 4263 | 4267  | 4275 | 1201 |
| 25° | 3874 | 3879  | 3884 | 3894  | 3901 | 1785 |
| 35° | 3373 | 3370  | 3382 | 3394  | 3408 | 2109 |
| 45° | 2788 | 2787  | 2800 | 2814  | 2829 | 2151 |
| 55° | 2144 | 2141  | 2154 | 2169  | 2190 | 1917 |
| 65° | 1461 | 1455  | 1465 | 1478  | 1493 | 1445 |
| 75° | 763  | 757   | 760  | 764   | 778  | 809  |
| 85° | 171  | 167   | 169  | 167   | 170  | 206  |
| 90° | 0    | 0     | 0    | 0     | 0    |      |

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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 4473.6 | 4473.6 | 4473.6 | 4473.6 | 4473.6 |
| 2.5°  | 4466.2 | 4473.6 | 4464.3 | 4466.2 | 4474.5 |
| 5°    | 4444.9 | 4453.2 | 4448.6 | 4449.5 | 4454.1 |
| 7.5°  | 4415.2 | 4426.3 | 4419.9 | 4421.7 | 4426.3 |
| 10°   | 4380.0 | 4388.4 | 4381.0 | 4385.6 | 4393.9 |
| 12.5° | 4330.0 | 4333.7 | 4330.0 | 4331.9 | 4341.1 |
| 15°   | 4260.6 | 4265.2 | 4263.3 | 4267.0 | 4275.4 |
| 17.5° | 4179.0 | 4184.6 | 4183.7 | 4191.1 | 4197.6 |
| 20°   | 4091.1 | 4092.0 | 4095.7 | 4103.1 | 4110.5 |
| 22.5° | 3987.3 | 3990.1 | 3993.8 | 4004.0 | 4011.4 |
| 25°   | 3874.3 | 3879.0 | 3883.6 | 3893.8 | 3901.2 |
| 27.5° | 3754.8 | 3759.5 | 3766.0 | 3777.1 | 3789.1 |
| 30°   | 3632.6 | 3632.6 | 3644.6 | 3655.7 | 3666.9 |
| 32.5° | 3509.4 | 3504.8 | 3515.9 | 3529.8 | 3556.6 |
| 35°   | 3373.2 | 3369.5 | 3381.6 | 3394.5 | 3408.4 |
| 37.5° | 3231.5 | 3228.8 | 3242.7 | 3256.5 | 3269.5 |
| 40°   | 3088.0 | 3084.3 | 3098.2 | 3112.1 | 3125.9 |
| 42.5° | 2940.7 | 2938.9 | 2951.8 | 2965.7 | 2980.5 |
| 45°   | 2787.9 | 2787.0 | 2799.9 | 2813.8 | 2828.6 |
| 47.5° | 2632.3 | 2630.4 | 2643.4 | 2658.2 | 2671.2 |
| 50°   | 2473.0 | 2471.1 | 2484.1 | 2498.9 | 2512.8 |
| 52.5° | 2309.0 | 2309.0 | 2321.1 | 2334.0 | 2355.3 |
| 55°   | 2144.2 | 2141.4 | 2154.4 | 2169.2 | 2189.6 |
| 57.5° | 1977.5 | 1973.7 | 1985.8 | 2000.6 | 2019.1 |
| 60°   | 1807.0 | 1803.3 | 1814.4 | 1829.3 | 1855.2 |
| 62.5° | 1634.8 | 1629.2 | 1640.3 | 1654.2 | 1670.0 |
| 65°   | 1460.6 | 1455.1 | 1465.3 | 1478.2 | 1493.0 |
| 67.5° | 1285.6 | 1279.1 | 1289.3 | 1300.4 | 1314.3 |
| 70°   | 1109.6 | 1103.1 | 1110.5 | 1121.6 | 1134.6 |
| 72.5° | 934.5  | 928.1  | 934.5  | 939.2  | 954.9  |
| 75°   | 763.2  | 756.7  | 760.4  | 764.1  | 778.0  |
| 77.5° | 596.5  | 590.0  | 597.4  | 599.3  | 607.6  |
| 80°   | 439.9  | 433.5  | 438.1  | 439.0  | 445.5  |
| 82.5° | 297.3  | 291.8  | 298.2  | 293.6  | 299.2  |
| 85°   | 171.3  | 166.7  | 168.6  | 166.7  | 169.5  |
| 87.5° | 67.6   | 63.9   | 64.8   | 61.1   | 61.1   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)