

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: P835704

Luminaire Tested: **ORLG-24-2-INS-OPL-LD4-4HI-20-120-EDD-90**

Issue Date: 5/16/2024



**Test Information**

Test Method: LM-79-08  
Report Number: P835704  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 5/16/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: ORLG-24-2-INS-OPL-LD4-4HI-20-120-EDD-90  
Description: 2FT x 2FT ORL LED LUMINAIRE WITH opal acrylic lens  
Light Source: 2000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

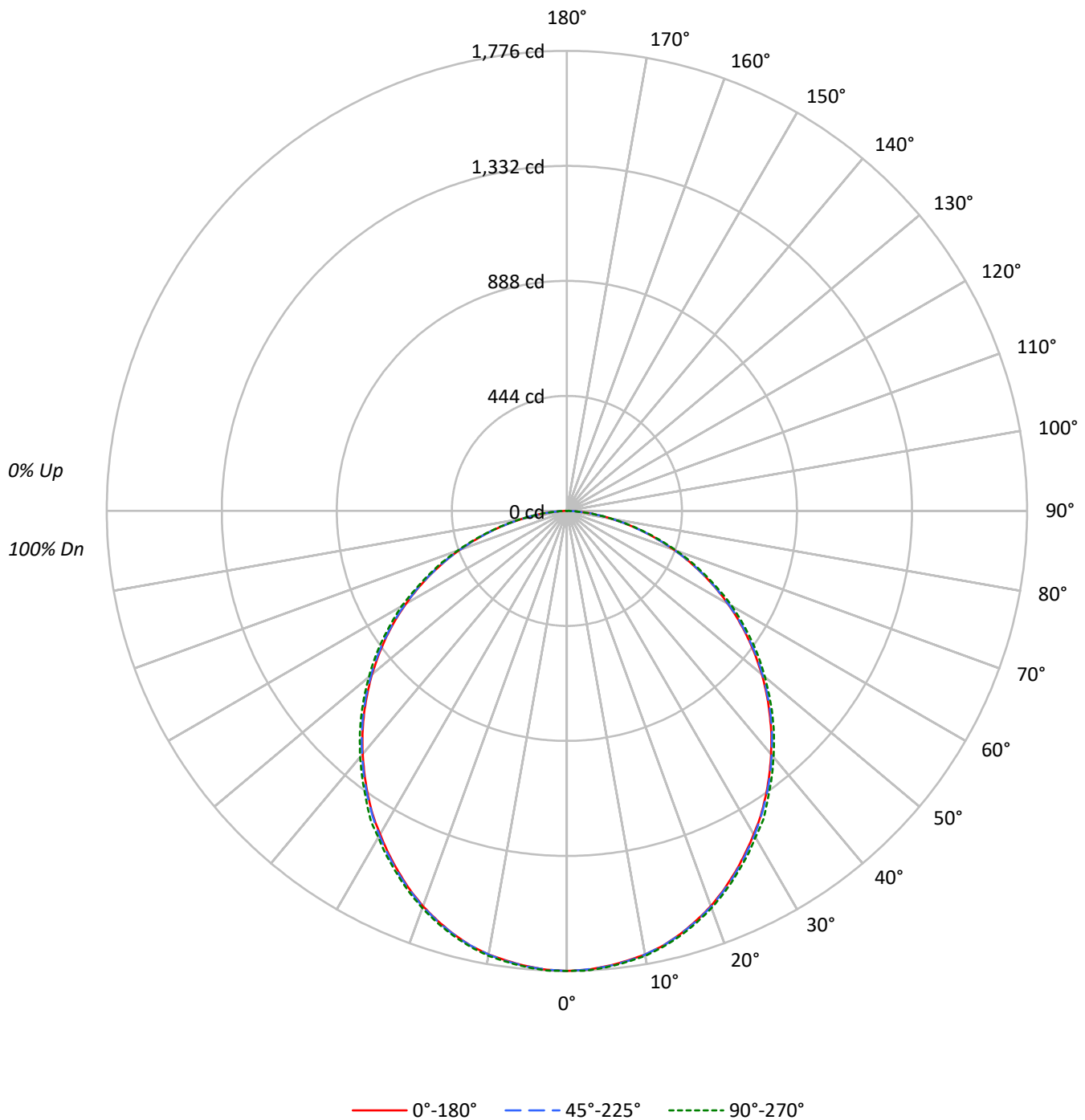
Lumens per Lamp: N/A  
Luminaire Lumens: 4798.7 lumens  
Efficiency: N/A  
Efficacy: 54.5 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.22 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 88  
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°  | 4779 | 4779 | 4779 |
| 5°  | 4766 | 4770 | 4776 |
| 10° | 4751 | 4752 | 4766 |
| 15° | 4712 | 4715 | 4728 |
| 20° | 4651 | 4656 | 4673 |
| 25° | 4567 | 4578 | 4598 |
| 30° | 4481 | 4496 | 4523 |
| 35° | 4399 | 4410 | 4445 |
| 40° | 4306 | 4320 | 4359 |
| 45° | 4212 | 4230 | 4273 |
| 50° | 4110 | 4128 | 4176 |
| 55° | 3993 | 4012 | 4078 |
| 60° | 3860 | 3877 | 3964 |
| 65° | 3692 | 3704 | 3774 |
| 70° | 3466 | 3468 | 3544 |
| 75° | 3150 | 3139 | 3212 |
| 80° | 2706 | 2695 | 2741 |
| 85° | 2100 | 2066 | 2078 |

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 167.8  | 3.5       |
| 10°-20°   | 477.4  | 9.9       |
| 20°-30°   | 710.6  | 14.8      |
| 30°-40°   | 840.4  | 17.5      |
| 40°-50°   | 857.9  | 17.9      |
| 50°-60°   | 765.7  | 16.0      |
| 60°-70°   | 576.7  | 12.0      |
| 70°-80°   | 321.6  | 6.7       |
| 80°-90°   | 80.6   | 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°    | 1355.8 | 28.3      |
| 0°-40°    | 2196.2 | 45.8      |
| 0°-60°    | 3819.8 | 79.6      |
| 0°-90°    | 4798.7 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 4798.7 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1776 | 1776  | 1776 | 1776  | 1776 |      |
| 5°  | 1764 | 1768  | 1766 | 1766  | 1768 | 168  |
| 15° | 1691 | 1693  | 1692 | 1694  | 1697 | 477  |
| 25° | 1538 | 1540  | 1542 | 1546  | 1549 | 709  |
| 35° | 1339 | 1338  | 1342 | 1348  | 1353 | 837  |
| 45° | 1107 | 1106  | 1112 | 1117  | 1123 | 854  |
| 55° | 851  | 850   | 855  | 861   | 869  | 761  |
| 65° | 580  | 578   | 582  | 587   | 593  | 573  |
| 75° | 303  | 300   | 302  | 303   | 309  | 321  |
| 85° | 68   | 66    | 67   | 66    | 67   | 82   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |

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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1775.9 | 1775.9 | 1775.9 | 1775.9 | 1775.9 |
| 2.5°  | 1773.0 | 1775.9 | 1772.2 | 1773.0 | 1776.3 |
| 5°    | 1764.5 | 1767.8 | 1766.0 | 1766.3 | 1768.2 |
| 7.5°  | 1752.7 | 1757.1 | 1754.6 | 1755.3 | 1757.1 |
| 10°   | 1738.8 | 1742.1 | 1739.1 | 1741.0 | 1744.3 |
| 12.5° | 1718.9 | 1720.4 | 1718.9 | 1719.6 | 1723.3 |
| 15°   | 1691.3 | 1693.2 | 1692.4 | 1693.9 | 1697.2 |
| 17.5° | 1659.0 | 1661.2 | 1660.8 | 1663.8 | 1666.3 |
| 20°   | 1624.0 | 1624.4 | 1625.9 | 1628.8 | 1631.8 |
| 22.5° | 1582.9 | 1584.0 | 1585.4 | 1589.5 | 1592.4 |
| 25°   | 1538.0 | 1539.8 | 1541.7 | 1545.7 | 1548.7 |
| 27.5° | 1490.6 | 1492.4 | 1495.0 | 1499.4 | 1504.2 |
| 30°   | 1442.0 | 1442.0 | 1446.8 | 1451.2 | 1455.6 |
| 32.5° | 1393.1 | 1391.3 | 1395.7 | 1401.2 | 1411.9 |
| 35°   | 1339.1 | 1337.6 | 1342.4 | 1347.5 | 1353.1 |
| 37.5° | 1282.8 | 1281.7 | 1287.2 | 1292.8 | 1297.9 |
| 40°   | 1225.8 | 1224.4 | 1229.9 | 1235.4 | 1240.9 |
| 42.5° | 1167.4 | 1166.7 | 1171.8 | 1177.3 | 1183.2 |
| 45°   | 1106.7 | 1106.4 | 1111.5 | 1117.0 | 1122.9 |
| 47.5° | 1044.9 | 1044.2 | 1049.4 | 1055.2 | 1060.4 |
| 50°   | 981.7  | 981.0  | 986.1  | 992.0  | 997.5  |
| 52.5° | 916.6  | 916.6  | 921.4  | 926.6  | 935.0  |
| 55°   | 851.2  | 850.1  | 855.2  | 861.1  | 869.2  |
| 57.5° | 785.0  | 783.5  | 788.3  | 794.2  | 801.5  |
| 60°   | 717.3  | 715.9  | 720.3  | 726.2  | 736.5  |
| 62.5° | 649.0  | 646.8  | 651.2  | 656.7  | 662.9  |
| 65°   | 579.8  | 577.6  | 581.7  | 586.8  | 592.7  |
| 67.5° | 510.3  | 507.8  | 511.8  | 516.2  | 521.7  |
| 70°   | 440.5  | 437.9  | 440.8  | 445.3  | 450.4  |
| 72.5° | 371.0  | 368.4  | 371.0  | 372.8  | 379.1  |
| 75°   | 303.0  | 300.4  | 301.9  | 303.3  | 308.9  |
| 77.5° | 236.8  | 234.2  | 237.2  | 237.9  | 241.2  |
| 80°   | 174.6  | 172.1  | 173.9  | 174.3  | 176.9  |
| 82.5° | 118.0  | 115.8  | 118.4  | 116.6  | 118.8  |
| 85°   | 68.0   | 66.2   | 66.9   | 66.2   | 67.3   |
| 87.5° | 26.8   | 25.4   | 25.7   | 24.3   | 24.3   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)