

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: P835703

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

Issue Date: 5/16/2024



**Test Information**

Test Method: LM-79-08  
Report Number: P835703  
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-LD4-4STD-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**

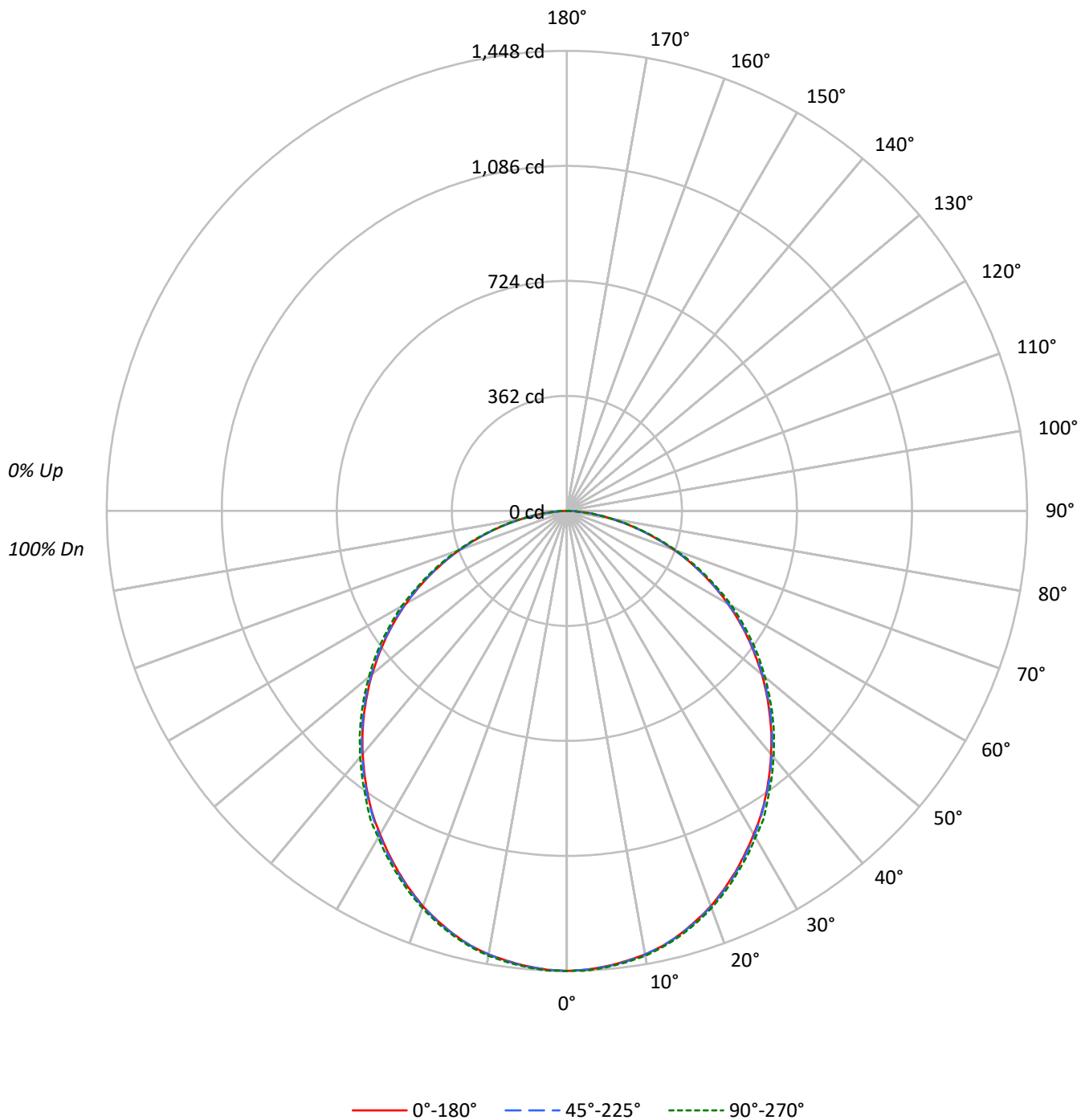
Lumens per Lamp: N/A  
Luminaire Lumens: 3912.5 lumens  
Efficiency: N/A  
Efficacy: 58.7 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.22 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 66.6  
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°  | 3896 | 3896 | 3896 |
| 5°  | 3886 | 3889 | 3894 |
| 10° | 3874 | 3874 | 3886 |
| 15° | 3842 | 3844 | 3855 |
| 20° | 3792 | 3796 | 3810 |
| 25° | 3723 | 3732 | 3749 |
| 30° | 3653 | 3665 | 3688 |
| 35° | 3587 | 3596 | 3624 |
| 40° | 3511 | 3523 | 3554 |
| 45° | 3434 | 3449 | 3484 |
| 50° | 3351 | 3366 | 3405 |
| 55° | 3256 | 3271 | 3325 |
| 60° | 3148 | 3161 | 3232 |
| 65° | 3010 | 3019 | 3077 |
| 70° | 2825 | 2828 | 2889 |
| 75° | 2568 | 2559 | 2618 |
| 80° | 2207 | 2197 | 2235 |
| 85° | 1714 | 1686 | 1695 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 136.8  | 3.5       |
| 10°-20°   | 389.2  | 9.9       |
| 20°-30°   | 579.4  | 14.8      |
| 30°-40°   | 685.2  | 17.5      |
| 40°-50°   | 699.5  | 17.9      |
| 50°-60°   | 624.2  | 16.0      |
| 60°-70°   | 470.2  | 12.0      |
| 70°-80°   | 262.2  | 6.7       |
| 80°-90°   | 65.7   | 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°    | 1105.4 | 28.3      |
| 0°-40°    | 1790.6 | 45.8      |
| 0°-60°    | 3114.4 | 79.6      |
| 0°-90°    | 3912.5 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3912.5 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1448 | 1448  | 1448 | 1448  | 1448 |      |
| 5°  | 1439 | 1441  | 1440 | 1440  | 1442 | 137  |
| 15° | 1379 | 1380  | 1380 | 1381  | 1384 | 389  |
| 25° | 1254 | 1256  | 1257 | 1260  | 1263 | 578  |
| 35° | 1092 | 1091  | 1094 | 1099  | 1103 | 683  |
| 45° | 902  | 902   | 906  | 911   | 916  | 696  |
| 55° | 694  | 693   | 697  | 702   | 709  | 620  |
| 65° | 473  | 471   | 474  | 478   | 483  | 468  |
| 75° | 247  | 245   | 246  | 247   | 252  | 262  |
| 85° | 56   | 54    | 55   | 54    | 55   | 67   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |

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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1447.9 | 1447.9 | 1447.9 | 1447.9 | 1447.9 |
| 2.5°  | 1445.5 | 1447.9 | 1444.9 | 1445.5 | 1448.2 |
| 5°    | 1438.6 | 1441.3 | 1439.8 | 1440.1 | 1441.6 |
| 7.5°  | 1429.0 | 1432.6 | 1430.5 | 1431.1 | 1432.6 |
| 10°   | 1417.6 | 1420.3 | 1417.9 | 1419.4 | 1422.1 |
| 12.5° | 1401.5 | 1402.7 | 1401.5 | 1402.1 | 1405.1 |
| 15°   | 1379.0 | 1380.5 | 1379.9 | 1381.1 | 1383.8 |
| 17.5° | 1352.6 | 1354.4 | 1354.1 | 1356.5 | 1358.6 |
| 20°   | 1324.1 | 1324.4 | 1325.6 | 1328.0 | 1330.4 |
| 22.5° | 1290.5 | 1291.4 | 1292.6 | 1295.9 | 1298.3 |
| 25°   | 1254.0 | 1255.5 | 1257.0 | 1260.3 | 1262.7 |
| 27.5° | 1215.3 | 1216.8 | 1218.9 | 1222.5 | 1226.4 |
| 30°   | 1175.7 | 1175.7 | 1179.6 | 1183.2 | 1186.8 |
| 32.5° | 1135.9 | 1134.4 | 1138.0 | 1142.4 | 1151.1 |
| 35°   | 1091.8 | 1090.6 | 1094.5 | 1098.7 | 1103.2 |
| 37.5° | 1045.9 | 1045.0 | 1049.5 | 1054.0 | 1058.2 |
| 40°   | 999.5  | 998.3  | 1002.8 | 1007.2 | 1011.7 |
| 42.5° | 951.8  | 951.2  | 955.4  | 959.9  | 964.7  |
| 45°   | 902.3  | 902.0  | 906.2  | 910.7  | 915.5  |
| 47.5° | 852.0  | 851.4  | 855.6  | 860.4  | 864.6  |
| 50°   | 800.4  | 799.8  | 804.0  | 808.8  | 813.3  |
| 52.5° | 747.3  | 747.3  | 751.2  | 755.4  | 762.3  |
| 55°   | 694.0  | 693.1  | 697.3  | 702.1  | 708.7  |
| 57.5° | 640.0  | 638.8  | 642.7  | 647.5  | 653.5  |
| 60°   | 584.9  | 583.7  | 587.3  | 592.1  | 600.5  |
| 62.5° | 529.1  | 527.3  | 530.9  | 535.4  | 540.5  |
| 65°   | 472.7  | 470.9  | 474.2  | 478.4  | 483.2  |
| 67.5° | 416.1  | 414.0  | 417.3  | 420.9  | 425.4  |
| 70°   | 359.1  | 357.0  | 359.4  | 363.0  | 367.2  |
| 72.5° | 302.5  | 300.4  | 302.5  | 304.0  | 309.1  |
| 75°   | 247.0  | 244.9  | 246.1  | 247.3  | 251.8  |
| 77.5° | 193.1  | 191.0  | 193.4  | 194.0  | 196.7  |
| 80°   | 142.4  | 140.3  | 141.8  | 142.1  | 144.2  |
| 82.5° | 96.2   | 94.4   | 96.5   | 95.0   | 96.8   |
| 85°   | 55.5   | 54.0   | 54.6   | 54.0   | 54.9   |
| 87.5° | 21.9   | 20.7   | 21.0   | 19.8   | 19.8   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)