

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: P835118

Luminaire Tested: **ORLG-24-4-INS-OPL-LD4-1STD-40-120-EDD-90**

Issue Date: 5/16/2024

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269

**Test Information**

Test Method: LM-79-08  
Report Number: P835118  
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-LD4-1STD-40-120-EDD-90  
Description: 2FT x 4FT ORL LED LUMINAIRE WITH opal acrylic lens  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

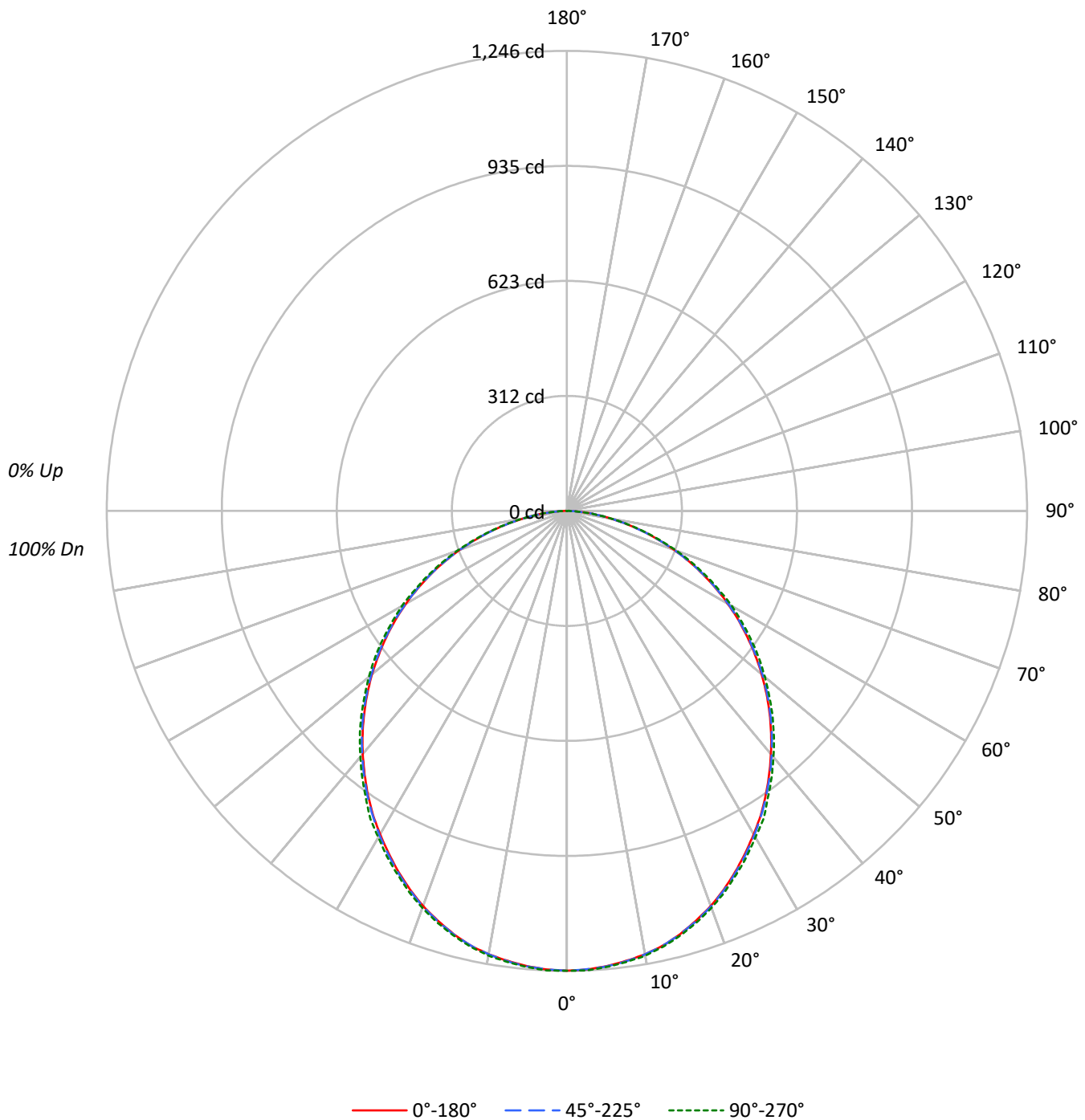
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3365.3 lumens  
Efficiency: N/A  
Efficacy: 101.1 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): 33.3  
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



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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  |
| RCR |     |     |     |     |     |     |     |     |     |     |     |  |     |     |     |  |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 |  | 106 | 106 | 106 |  | 102 |
| 1   | 109 | 104 | 100 | 96  | 106 | 102 | 98  | 95  | 98  | 94  | 92  |  | 94  | 91  | 89  |  | 90  |
| 2   | 99  | 91  | 84  | 78  | 96  | 89  | 83  | 77  | 85  | 80  | 76  |  | 82  | 78  | 74  |  | 79  |
| 3   | 90  | 80  | 72  | 65  | 88  | 78  | 71  | 65  | 75  | 69  | 64  |  | 73  | 67  | 62  |  | 70  |
| 4   | 83  | 71  | 62  | 55  | 80  | 69  | 61  | 55  | 67  | 60  | 54  |  | 65  | 58  | 53  |  | 62  |
| 5   | 76  | 63  | 54  | 48  | 74  | 62  | 54  | 47  | 60  | 53  | 47  |  | 58  | 52  | 46  |  | 56  |
| 6   | 70  | 57  | 48  | 42  | 68  | 56  | 48  | 42  | 54  | 47  | 41  |  | 53  | 46  | 41  |  | 51  |
| 7   | 65  | 52  | 43  | 37  | 64  | 51  | 43  | 37  | 49  | 42  | 36  |  | 48  | 41  | 36  |  | 47  |
| 8   | 61  | 47  | 39  | 33  | 59  | 47  | 38  | 33  | 45  | 38  | 33  |  | 44  | 37  | 32  |  | 43  |
| 9   | 57  | 43  | 35  | 30  | 55  | 43  | 35  | 30  | 42  | 34  | 29  |  | 41  | 34  | 29  |  | 40  |
| 10  | 53  | 40  | 32  | 27  | 52  | 40  | 32  | 27  | 39  | 32  | 27  |  | 38  | 31  | 27  |  | 37  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 1676 | 1676 | 1676 |
| 5°  | 1671 | 1673 | 1675 |
| 10° | 1666 | 1666 | 1671 |
| 15° | 1652 | 1653 | 1658 |
| 20° | 1631 | 1633 | 1638 |
| 25° | 1601 | 1605 | 1612 |
| 30° | 1571 | 1576 | 1586 |
| 35° | 1543 | 1546 | 1559 |
| 40° | 1510 | 1515 | 1529 |
| 45° | 1477 | 1483 | 1498 |
| 50° | 1441 | 1448 | 1464 |
| 55° | 1400 | 1407 | 1430 |
| 60° | 1354 | 1359 | 1390 |
| 65° | 1294 | 1299 | 1323 |
| 70° | 1215 | 1216 | 1243 |
| 75° | 1105 | 1101 | 1126 |
| 80° | 949  | 945  | 961  |
| 85° | 736  | 724  | 729  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 117.7  | 3.5       |
| 10°-20°   | 334.8  | 9.9       |
| 20°-30°   | 498.4  | 14.8      |
| 30°-40°   | 589.4  | 17.5      |
| 40°-50°   | 601.7  | 17.9      |
| 50°-60°   | 537.0  | 16.0      |
| 60°-70°   | 404.4  | 12.0      |
| 70°-80°   | 225.6  | 6.7       |
| 80°-90°   | 56.5   | 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°    | 950.8  | 28.3      |
| 0°-40°    | 1540.2 | 45.8      |
| 0°-60°    | 2678.8 | 79.6      |
| 0°-90°    | 3365.3 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3365.3 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1245 | 1245  | 1245 | 1245  | 1245 |      |
| 5°  | 1237 | 1240  | 1238 | 1239  | 1240 | 118  |
| 15° | 1186 | 1187  | 1187 | 1188  | 1190 | 334  |
| 25° | 1079 | 1080  | 1081 | 1084  | 1086 | 497  |
| 35° | 939  | 938   | 941  | 945   | 949  | 587  |
| 45° | 776  | 776   | 780  | 783   | 788  | 599  |
| 55° | 597  | 596   | 600  | 604   | 610  | 534  |
| 65° | 407  | 405   | 408  | 412   | 416  | 402  |
| 75° | 212  | 211   | 212  | 213   | 217  | 225  |
| 85° | 48   | 46    | 47   | 46    | 47   | 57   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |

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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1245.4 | 1245.4 | 1245.4 | 1245.4 | 1245.4 |
| 2.5°  | 1243.4 | 1245.4 | 1242.8 | 1243.4 | 1245.7 |
| 5°    | 1237.4 | 1239.8 | 1238.5 | 1238.7 | 1240.0 |
| 7.5°  | 1229.2 | 1232.3 | 1230.5 | 1231.0 | 1232.3 |
| 10°   | 1219.4 | 1221.7 | 1219.6 | 1220.9 | 1223.3 |
| 12.5° | 1205.5 | 1206.5 | 1205.5 | 1206.0 | 1208.6 |
| 15°   | 1186.1 | 1187.4 | 1186.9 | 1187.9 | 1190.2 |
| 17.5° | 1163.4 | 1165.0 | 1164.7 | 1166.8 | 1168.6 |
| 20°   | 1138.9 | 1139.2 | 1140.2 | 1142.3 | 1144.3 |
| 22.5° | 1110.1 | 1110.8 | 1111.9 | 1114.7 | 1116.8 |
| 25°   | 1078.6 | 1079.9 | 1081.2 | 1084.0 | 1086.1 |
| 27.5° | 1045.3 | 1046.6 | 1048.4 | 1051.5 | 1054.9 |
| 30°   | 1011.3 | 1011.3 | 1014.6 | 1017.7 | 1020.8 |
| 32.5° | 977.0  | 975.7  | 978.8  | 982.7  | 990.2  |
| 35°   | 939.1  | 938.1  | 941.4  | 945.0  | 948.9  |
| 37.5° | 899.6  | 898.9  | 902.7  | 906.6  | 910.2  |
| 40°   | 859.7  | 858.6  | 862.5  | 866.4  | 870.3  |
| 42.5° | 818.7  | 818.2  | 821.8  | 825.6  | 829.8  |
| 45°   | 776.1  | 775.9  | 779.5  | 783.4  | 787.5  |
| 47.5° | 732.8  | 732.3  | 735.9  | 740.0  | 743.6  |
| 50°   | 688.5  | 687.9  | 691.6  | 695.7  | 699.6  |
| 52.5° | 642.8  | 642.8  | 646.2  | 649.8  | 655.7  |
| 55°   | 596.9  | 596.2  | 599.8  | 603.9  | 609.6  |
| 57.5° | 550.5  | 549.5  | 552.8  | 557.0  | 562.1  |
| 60°   | 503.1  | 502.0  | 505.1  | 509.3  | 516.5  |
| 62.5° | 455.1  | 453.6  | 456.7  | 460.5  | 464.9  |
| 65°   | 406.6  | 405.1  | 407.9  | 411.5  | 415.7  |
| 67.5° | 357.9  | 356.1  | 358.9  | 362.0  | 365.9  |
| 70°   | 308.9  | 307.1  | 309.2  | 312.3  | 315.9  |
| 72.5° | 260.2  | 258.4  | 260.2  | 261.5  | 265.8  |
| 75°   | 212.5  | 210.7  | 211.7  | 212.7  | 216.6  |
| 77.5° | 166.1  | 164.3  | 166.3  | 166.8  | 169.2  |
| 80°   | 122.5  | 120.7  | 122.0  | 122.2  | 124.0  |
| 82.5° | 82.8   | 81.2   | 83.0   | 81.7   | 83.3   |
| 85°   | 47.7   | 46.4   | 46.9   | 46.4   | 47.2   |
| 87.5° | 18.8   | 17.8   | 18.0   | 17.0   | 17.0   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)