

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: P834461

Luminaire Tested: **ORLG-12-4-INS-OPL-LD4-1STD-27-120-EDD-90**

Issue Date: 5/16/2024



**Test Information**

Test Method: LM-79-08  
Report Number: P834461  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 5/16/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: ORLG-12-4-INS-OPL-LD4-1STD-27-120-EDD-90  
Description: 1FT x 4FT ORL LED LUMINAIRE WITH opal acrylic lens  
Light Source: 2700K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

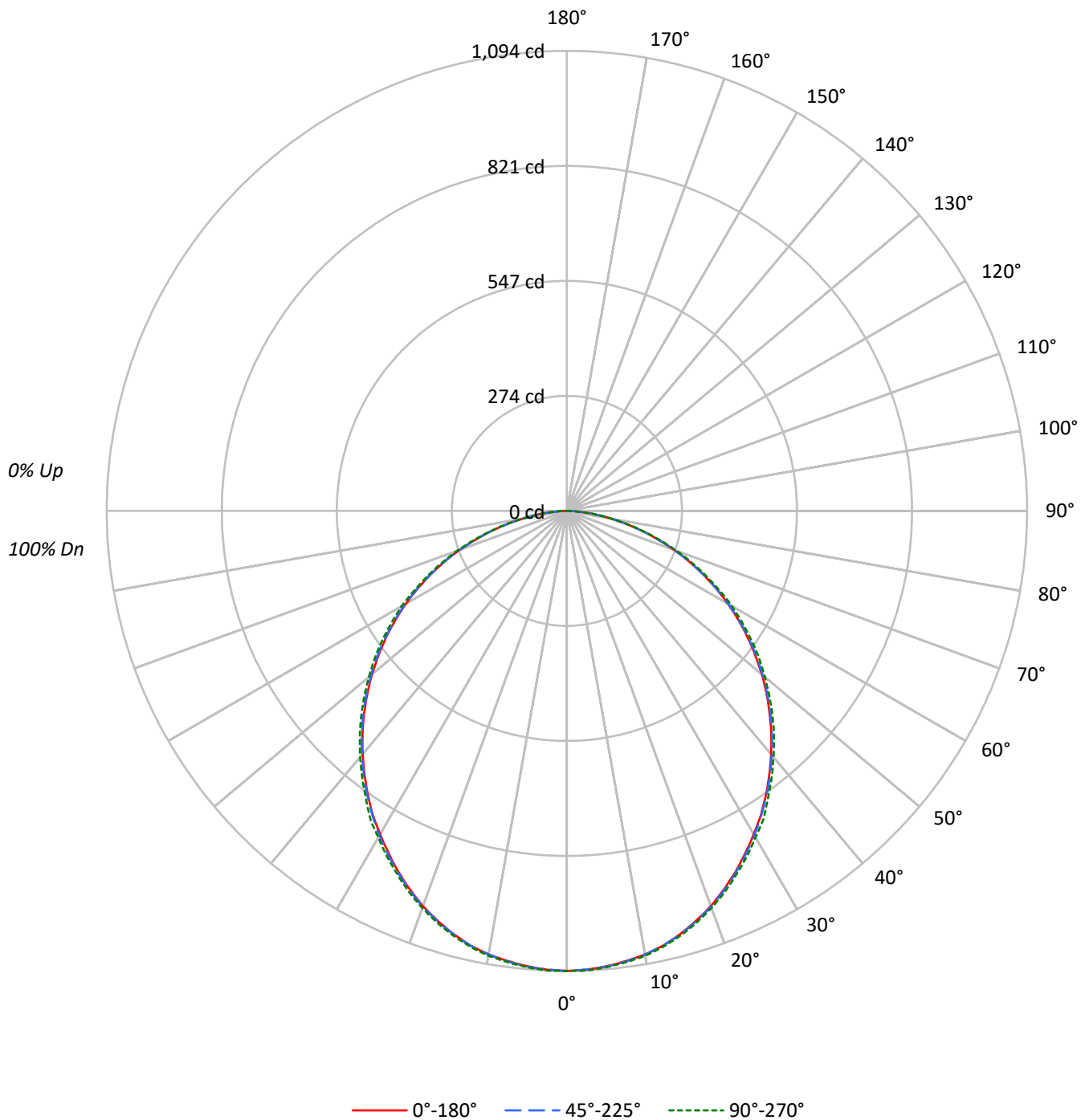
Lumens per Lamp: N/A  
Luminaire Lumens: 2955.8 lumens  
Efficiency: N/A  
Efficacy: 88.8 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.22 / 1.33  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

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



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°  | 2944 | 2944 | 2944 |
| 5°  | 2936 | 2938 | 2942 |
| 10° | 2926 | 2927 | 2936 |
| 15° | 2902 | 2904 | 2912 |
| 20° | 2865 | 2868 | 2878 |
| 25° | 2813 | 2820 | 2832 |
| 30° | 2760 | 2769 | 2786 |
| 35° | 2710 | 2716 | 2738 |
| 40° | 2653 | 2661 | 2685 |
| 45° | 2594 | 2605 | 2632 |
| 50° | 2532 | 2543 | 2572 |
| 55° | 2460 | 2472 | 2512 |
| 60° | 2378 | 2388 | 2441 |
| 65° | 2274 | 2281 | 2325 |
| 70° | 2135 | 2136 | 2183 |
| 75° | 1940 | 1933 | 1978 |
| 80° | 1667 | 1660 | 1688 |
| 85° | 1294 | 1272 | 1278 |

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 103.4  | 3.5       |
| 10°-20°   | 294.0  | 9.9       |
| 20°-30°   | 437.7  | 14.8      |
| 30°-40°   | 517.7  | 17.5      |
| 40°-50°   | 528.5  | 17.9      |
| 50°-60°   | 471.6  | 16.0      |
| 60°-70°   | 355.2  | 12.0      |
| 70°-80°   | 198.1  | 6.7       |
| 80°-90°   | 49.6   | 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°    | 835.1  | 28.3      |
| 0°-40°    | 1352.8 | 45.8      |
| 0°-60°    | 2352.9 | 79.6      |
| 0°-90°    | 2955.8 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2955.8 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1094 | 1094  | 1094 | 1094  | 1094 |      |
| 5°  | 1087 | 1089  | 1088 | 1088  | 1089 | 103  |
| 15° | 1042 | 1043  | 1042 | 1043  | 1045 | 294  |
| 25° | 947  | 948   | 950  | 952   | 954  | 436  |
| 35° | 825  | 824   | 827  | 830   | 833  | 516  |
| 45° | 682  | 682   | 685  | 688   | 692  | 526  |
| 55° | 524  | 524   | 527  | 530   | 535  | 469  |
| 65° | 357  | 356   | 358  | 362   | 365  | 353  |
| 75° | 187  | 185   | 186  | 187   | 190  | 198  |
| 85° | 42   | 41    | 41   | 41    | 41   | 50   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |

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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1093.9 | 1093.9 | 1093.9 | 1093.9 | 1093.9 |
| 2.5°  | 1092.1 | 1093.9 | 1091.6 | 1092.1 | 1094.1 |
| 5°    | 1086.9 | 1088.9 | 1087.8 | 1088.0 | 1089.1 |
| 7.5°  | 1079.6 | 1082.3 | 1080.7 | 1081.2 | 1082.3 |
| 10°   | 1071.0 | 1073.0 | 1071.2 | 1072.4 | 1074.4 |
| 12.5° | 1058.8 | 1059.7 | 1058.8 | 1059.2 | 1061.5 |
| 15°   | 1041.8 | 1042.9 | 1042.5 | 1043.4 | 1045.4 |
| 17.5° | 1021.9 | 1023.2 | 1023.0 | 1024.8 | 1026.4 |
| 20°   | 1000.3 | 1000.6 | 1001.5 | 1003.3 | 1005.1 |
| 22.5° | 975.0  | 975.7  | 976.6  | 979.1  | 980.9  |
| 25°   | 947.4  | 948.5  | 949.6  | 952.1  | 953.9  |
| 27.5° | 918.1  | 919.3  | 920.9  | 923.6  | 926.5  |
| 30°   | 888.2  | 888.2  | 891.2  | 893.9  | 896.6  |
| 32.5° | 858.1  | 857.0  | 859.7  | 863.1  | 869.7  |
| 35°   | 824.8  | 823.9  | 826.9  | 830.0  | 833.4  |
| 37.5° | 790.2  | 789.5  | 792.9  | 796.3  | 799.5  |
| 40°   | 755.1  | 754.2  | 757.6  | 761.0  | 764.4  |
| 42.5° | 719.1  | 718.6  | 721.8  | 725.2  | 728.8  |
| 45°   | 681.7  | 681.5  | 684.6  | 688.0  | 691.7  |
| 47.5° | 643.6  | 643.2  | 646.4  | 650.0  | 653.2  |
| 50°   | 604.7  | 604.2  | 607.4  | 611.0  | 614.4  |
| 52.5° | 564.6  | 564.6  | 567.6  | 570.7  | 575.9  |
| 55°   | 524.3  | 523.6  | 526.8  | 530.4  | 535.4  |
| 57.5° | 483.5  | 482.6  | 485.6  | 489.2  | 493.7  |
| 60°   | 441.9  | 441.0  | 443.7  | 447.3  | 453.6  |
| 62.5° | 399.7  | 398.4  | 401.1  | 404.5  | 408.3  |
| 65°   | 357.2  | 355.8  | 358.3  | 361.5  | 365.1  |
| 67.5° | 314.3  | 312.8  | 315.3  | 318.0  | 321.4  |
| 70°   | 271.3  | 269.7  | 271.5  | 274.3  | 277.4  |
| 72.5° | 228.5  | 226.9  | 228.5  | 229.6  | 233.5  |
| 75°   | 186.6  | 185.0  | 185.9  | 186.8  | 190.2  |
| 77.5° | 145.9  | 144.3  | 146.1  | 146.5  | 148.6  |
| 80°   | 107.6  | 106.0  | 107.1  | 107.4  | 108.9  |
| 82.5° | 72.7   | 71.3   | 72.9   | 71.8   | 73.2   |
| 85°   | 41.9   | 40.8   | 41.2   | 40.8   | 41.4   |
| 87.5° | 16.5   | 15.6   | 15.9   | 14.9   | 14.9   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)