

Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: FAIL-SAFE

Report Number: P688303

Luminaire Tested: FLR-HA-24-55-40-CP125

Issue Date: 5/22/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P688303  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2207-724-12)  
Test Lab: INNOVATION CENTER  
Issue Date: 5/22/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FLR-HA-24-55-40-CP125  
Description: Fail-Safe - FLR Fully Luminous Recessed 2X4 4000K Luminaire for High Abuse  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

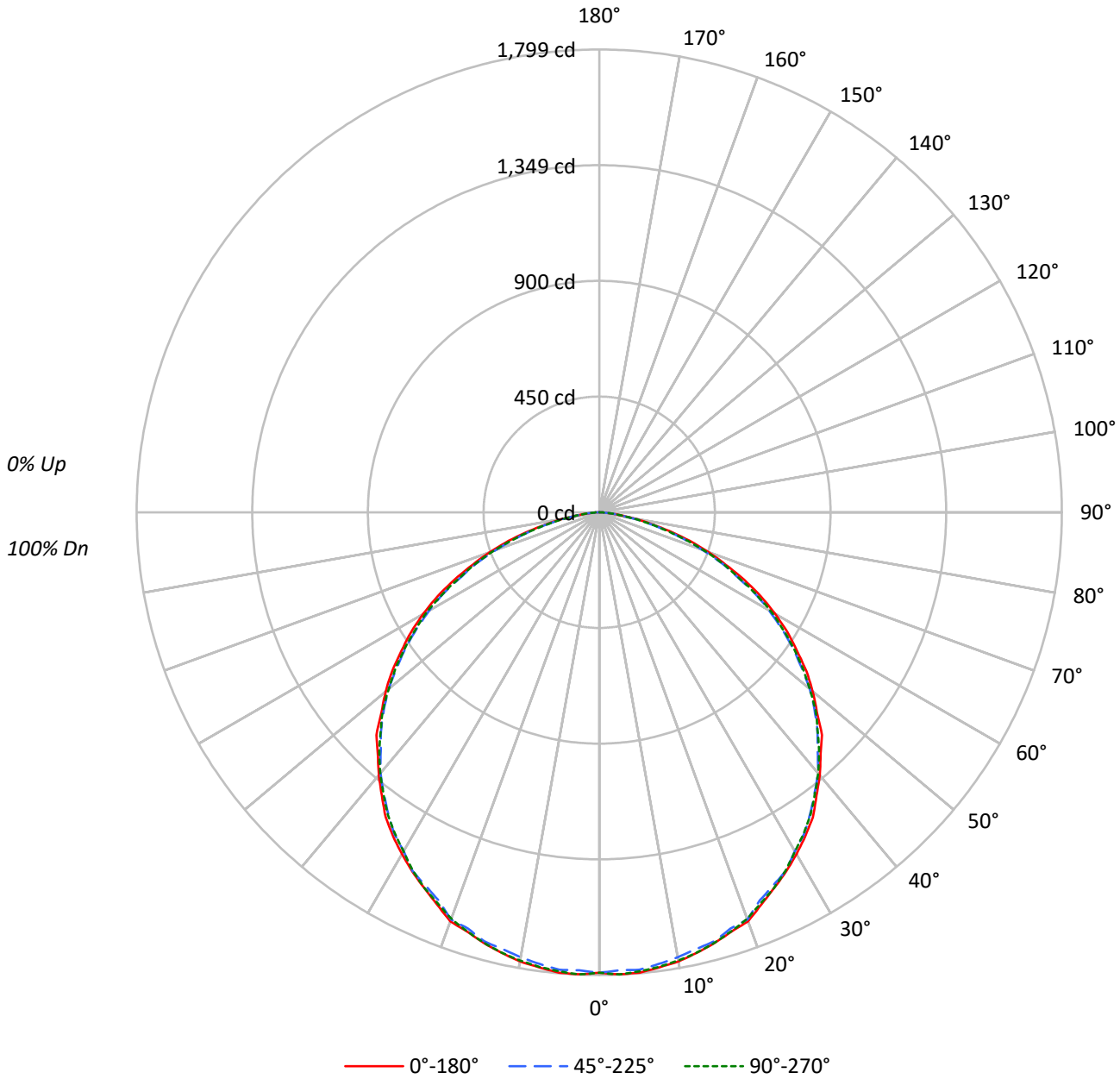
Lumens per Lamp: N/A  
Luminaire Lumens: 4966.3 lumens  
Efficiency: N/A  
Efficacy: 106.1 lumens/watt  
Spacing Criteria (0/90/45): 1.27 / 1.27 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 46.8  
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: 24 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  | 0   |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 0   |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |
| 1   | 109 | 105 | 101 | 97  | 107 | 103 | 99  | 95  | 98  | 95  | 92  | 94  | 92  | 90  | 91  | 89  | 87  | 85  |
| 2   | 100 | 92  | 85  | 79  | 97  | 90  | 84  | 78  | 86  | 81  | 77  | 83  | 79  | 75  | 80  | 76  | 73  | 71  |
| 3   | 91  | 81  | 73  | 66  | 88  | 79  | 72  | 66  | 76  | 70  | 64  | 73  | 68  | 63  | 71  | 66  | 62  | 60  |
| 4   | 83  | 71  | 63  | 56  | 81  | 70  | 62  | 56  | 68  | 61  | 55  | 65  | 59  | 54  | 63  | 58  | 54  | 51  |
| 5   | 77  | 64  | 55  | 48  | 74  | 63  | 54  | 48  | 61  | 53  | 48  | 59  | 52  | 47  | 57  | 51  | 47  | 44  |
| 6   | 71  | 57  | 49  | 42  | 69  | 56  | 48  | 42  | 55  | 47  | 42  | 53  | 46  | 41  | 51  | 46  | 41  | 39  |
| 7   | 66  | 52  | 43  | 37  | 64  | 51  | 43  | 37  | 50  | 42  | 37  | 48  | 42  | 37  | 47  | 41  | 36  | 34  |
| 8   | 61  | 48  | 39  | 33  | 59  | 47  | 39  | 33  | 45  | 38  | 33  | 44  | 38  | 33  | 43  | 37  | 33  | 31  |
| 9   | 57  | 44  | 35  | 30  | 56  | 43  | 35  | 30  | 42  | 35  | 30  | 41  | 34  | 29  | 40  | 34  | 29  | 28  |
| 10  | 53  | 40  | 32  | 27  | 52  | 40  | 32  | 27  | 39  | 32  | 27  | 38  | 31  | 27  | 37  | 31  | 27  | 25  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 2409 | 2409 | 2409 |
| 5°  | 2427 | 2411 | 2419 |
| 10° | 2423 | 2399 | 2417 |
| 15° | 2415 | 2406 | 2413 |
| 20° | 2423 | 2412 | 2408 |
| 25° | 2392 | 2376 | 2390 |
| 30° | 2384 | 2364 | 2365 |
| 35° | 2378 | 2350 | 2355 |
| 40° | 2343 | 2324 | 2328 |
| 45° | 2331 | 2283 | 2286 |
| 50° | 2268 | 2237 | 2237 |
| 55° | 2202 | 2153 | 2166 |
| 60° | 2124 | 2051 | 2079 |
| 65° | 1979 | 1877 | 1895 |
| 70° | 1773 | 1674 | 1699 |
| 75° | 1461 | 1373 | 1368 |
| 80° | 1023 | 965  | 965  |
| 85° | 553  | 496  | 496  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2331 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 169.8  | 3.4       |
| 10°-20°   | 487.2  | 9.8       |
| 20°-30°   | 740.5  | 14.9      |
| 30°-40°   | 895.6  | 18.0      |
| 40°-50°   | 927.1  | 18.7      |
| 50°-60°   | 823.7  | 16.6      |
| 60°-70°   | 591.8  | 11.9      |
| 70°-80°   | 283.0  | 5.7       |
| 80°-90°   | 47.7   | 1.0       |
| 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°    | 1397.4 | 28.1      |
| 0°-40°    | 2293.0 | 46.2      |
| 0°-60°    | 4043.8 | 81.4      |
| 0°-90°    | 4966.3 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 4966.3 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1790 | 1790  | 1790 | 1790  | 1790 |      |
| 5°  | 1797 | 1784  | 1785 | 1787  | 1791 | 171  |
| 15° | 1734 | 1722  | 1727 | 1723  | 1733 | 490  |
| 25° | 1611 | 1602  | 1601 | 1607  | 1610 | 744  |
| 35° | 1448 | 1438  | 1431 | 1429  | 1434 | 902  |
| 45° | 1225 | 1207  | 1200 | 1196  | 1202 | 938  |
| 55° | 938  | 929   | 918  | 912   | 923  | 840  |
| 65° | 622  | 615   | 590  | 574   | 595  | 614  |
| 75° | 281  | 276   | 264  | 242   | 263  | 302  |
| 85° | 36   | 34    | 32   | 30    | 32   | 51   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |

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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1790.1 | 1790.1 | 1790.1 | 1790.1 | 1790.1 |
| 2.5°  | 1797.7 | 1784.5 | 1781.7 | 1798.6 | 1798.6 |
| 5°    | 1796.8 | 1784.5 | 1785.4 | 1787.3 | 1791.1 |
| 7.5°  | 1784.5 | 1777.9 | 1771.3 | 1777.9 | 1782.6 |
| 10°   | 1773.2 | 1758.1 | 1756.2 | 1759.0 | 1769.4 |
| 12.5° | 1754.3 | 1737.3 | 1739.2 | 1743.9 | 1753.4 |
| 15°   | 1733.6 | 1722.2 | 1727.0 | 1723.2 | 1732.6 |
| 17.5° | 1709.0 | 1709.0 | 1696.8 | 1693.9 | 1708.1 |
| 20°   | 1692.1 | 1668.5 | 1684.5 | 1670.4 | 1681.7 |
| 22.5° | 1649.6 | 1636.4 | 1632.6 | 1644.0 | 1644.0 |
| 25°   | 1610.9 | 1602.5 | 1600.6 | 1607.2 | 1610.0 |
| 27.5° | 1574.2 | 1569.4 | 1571.3 | 1570.4 | 1570.4 |
| 30°   | 1534.5 | 1522.3 | 1521.3 | 1521.3 | 1522.3 |
| 32.5° | 1492.1 | 1483.6 | 1482.7 | 1477.0 | 1479.8 |
| 35°   | 1447.8 | 1438.3 | 1430.8 | 1428.9 | 1433.6 |
| 37.5° | 1388.4 | 1377.0 | 1376.1 | 1378.0 | 1378.0 |
| 40°   | 1333.7 | 1321.4 | 1323.3 | 1316.7 | 1325.2 |
| 42.5° | 1274.2 | 1263.9 | 1257.3 | 1255.4 | 1265.7 |
| 45°   | 1225.2 | 1207.3 | 1199.7 | 1195.9 | 1201.6 |
| 47.5° | 1147.8 | 1143.1 | 1135.6 | 1129.0 | 1142.2 |
| 50°   | 1083.7 | 1086.5 | 1068.6 | 1062.0 | 1068.6 |
| 52.5° | 1015.8 | 1003.5 | 991.3  | 980.0  | 998.8  |
| 55°   | 938.5  | 929.0  | 917.7  | 912.1  | 923.4  |
| 57.5° | 867.7  | 857.3  | 840.4  | 827.2  | 847.0  |
| 60°   | 789.4  | 780.0  | 762.1  | 747.9  | 772.5  |
| 62.5° | 709.3  | 698.9  | 681.9  | 659.3  | 684.7  |
| 65°   | 621.6  | 615.0  | 589.5  | 574.4  | 595.1  |
| 67.5° | 532.9  | 529.1  | 514.0  | 488.6  | 518.7  |
| 70°   | 450.8  | 443.3  | 425.4  | 402.7  | 432.0  |
| 72.5° | 369.7  | 356.5  | 343.3  | 321.6  | 346.1  |
| 75°   | 281.1  | 276.4  | 264.1  | 241.5  | 263.1  |
| 77.5° | 203.7  | 199.0  | 190.5  | 173.5  | 190.5  |
| 80°   | 132.0  | 131.1  | 124.5  | 112.2  | 124.5  |
| 82.5° | 75.5   | 75.5   | 70.7   | 66.0   | 70.7   |
| 85°   | 35.8   | 34.0   | 32.1   | 30.2   | 32.1   |
| 87.5° | 9.4    | 9.4    | 9.4    | 9.4    | 10.4   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)