

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: P974359

Luminaire Tested: FLR2-24-65-L940-CP187

Issue Date: 3/13/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P974359  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2411-281-3)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/13/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FLR2-24-65-L940-CP187  
Description: SHAPER SENSE CIRCLE  
  
Light Source: FLR2-24-65-L940-CP187  
Ballast/Driver: -

**Summary**

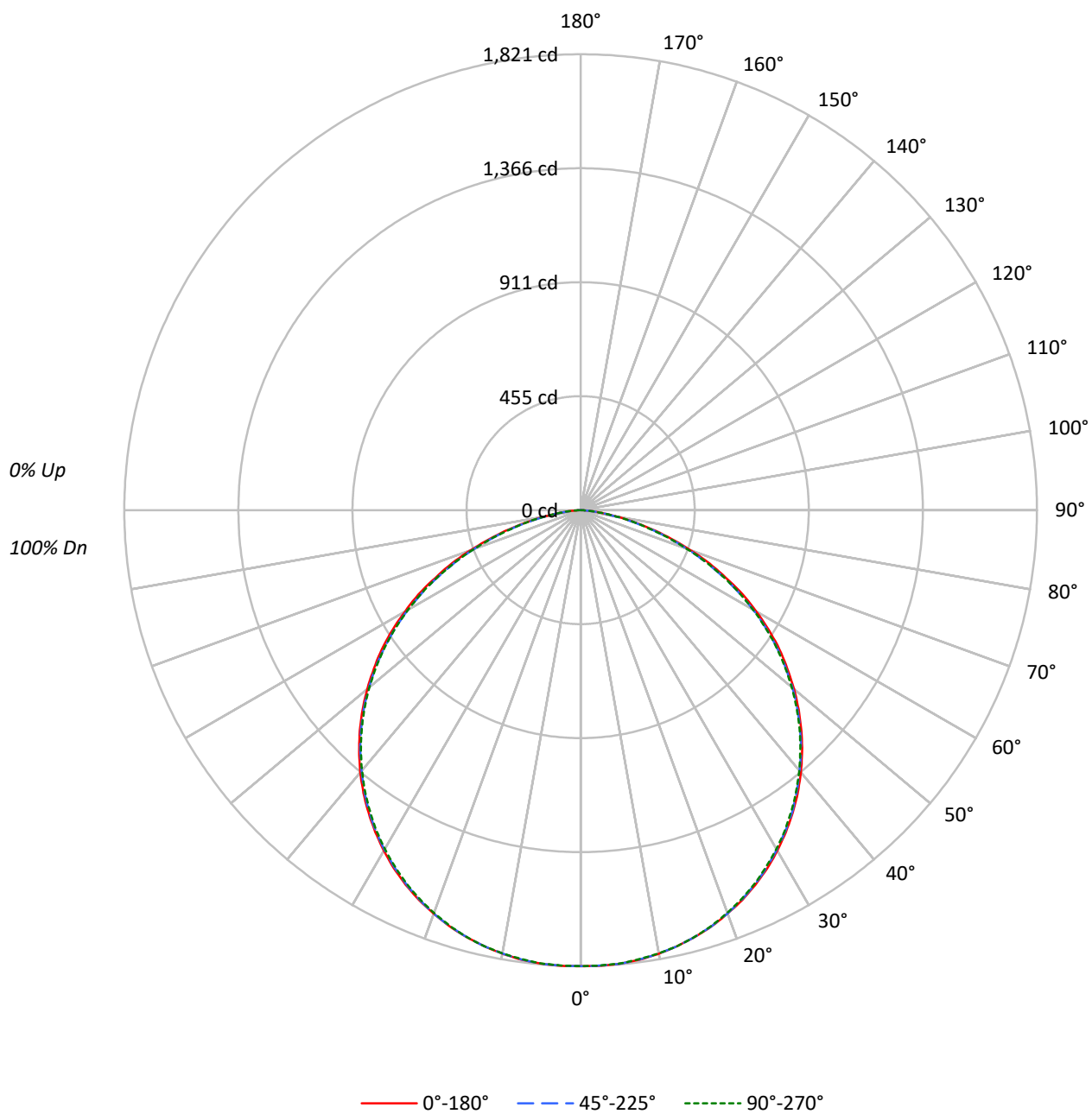
Lumens per Lamp: N/A  
Luminaire Lumens: 5147.9 lumens  
Efficiency: N/A  
Efficacy: 96.4 lumens/watt  
Spacing Criteria (0/90/45): 1.28 / 1.27 / 1.39  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 53.4  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor:  
Total Harmonic Distortion (THDi):  
Frequency (hertz): 60  
Stabilization Time: HR  
Operation Time: HR  
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  |     |     |     |    | 0   |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30 | 0   |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |    | 100 |
| 1   | 109 | 105 | 100 | 97  | 106 | 102 | 99  | 95  | 98  | 95  | 92  | 94  | 92  | 89  | 91  | 89  | 87  | 85  |    | 85  |
| 2   | 99  | 91  | 85  | 79  | 97  | 89  | 83  | 78  | 86  | 81  | 76  | 83  | 78  | 75  | 80  | 76  | 73  | 71  |    | 71  |
| 3   | 91  | 80  | 72  | 66  | 88  | 79  | 71  | 65  | 76  | 69  | 64  | 73  | 68  | 63  | 70  | 66  | 62  | 60  |    | 60  |
| 4   | 83  | 71  | 62  | 56  | 81  | 70  | 62  | 55  | 67  | 60  | 55  | 65  | 59  | 54  | 63  | 57  | 53  | 51  |    | 51  |
| 5   | 76  | 64  | 55  | 48  | 74  | 62  | 54  | 48  | 60  | 53  | 47  | 58  | 52  | 47  | 56  | 51  | 46  | 44  |    | 44  |
| 6   | 70  | 57  | 48  | 42  | 69  | 56  | 48  | 42  | 54  | 47  | 41  | 53  | 46  | 41  | 51  | 45  | 41  | 38  |    | 38  |
| 7   | 65  | 52  | 43  | 37  | 64  | 51  | 43  | 37  | 49  | 42  | 37  | 48  | 41  | 36  | 47  | 41  | 36  | 34  |    | 34  |
| 8   | 61  | 47  | 39  | 33  | 59  | 47  | 38  | 33  | 45  | 38  | 33  | 44  | 37  | 32  | 43  | 37  | 32  | 30  |    | 30  |
| 9   | 57  | 43  | 35  | 30  | 55  | 43  | 35  | 30  | 42  | 34  | 29  | 41  | 34  | 29  | 39  | 33  | 29  | 27  |    | 27  |
| 10  | 53  | 40  | 32  | 27  | 52  | 39  | 32  | 27  | 38  | 31  | 27  | 38  | 31  | 26  | 37  | 31  | 26  | 25  |    | 25  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 2451 | 2451 | 2451 |
| 5°  | 2456 | 2456 | 2454 |
| 10° | 2457 | 2456 | 2456 |
| 15° | 2458 | 2457 | 2457 |
| 20° | 2455 | 2455 | 2451 |
| 25° | 2451 | 2446 | 2442 |
| 30° | 2440 | 2433 | 2428 |
| 35° | 2424 | 2417 | 2409 |
| 40° | 2403 | 2388 | 2384 |
| 45° | 2371 | 2358 | 2350 |
| 50° | 2327 | 2309 | 2302 |
| 55° | 2272 | 2240 | 2237 |
| 60° | 2177 | 2139 | 2139 |
| 65° | 2037 | 1989 | 1996 |
| 70° | 1833 | 1777 | 1771 |
| 75° | 1539 | 1478 | 1471 |
| 80° | 1124 | 1068 | 1114 |
| 85° | 636  | 585  | 596  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2371 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 172.9  | 3.4       |
| 10°-20°   | 498.1  | 9.7       |
| 20°-30°   | 759.4  | 14.8      |
| 30°-40°   | 920.1  | 17.9      |
| 40°-50°   | 955.7  | 18.6      |
| 50°-60°   | 854.9  | 16.6      |
| 60°-70°   | 623.1  | 12.1      |
| 70°-80°   | 308.6  | 6.0       |
| 80°-90°   | 55.2   | 1.1       |
| 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°    | 1430.4 | 27.8      |
| 0°-40°    | 2350.4 | 45.7      |
| 0°-60°    | 4161.1 | 80.8      |
| 0°-90°    | 5147.9 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 5147.9 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1821 | 1821  | 1821 | 1821  | 1821 |      |
| 5°  | 1818 | 1819  | 1818 | 1818  | 1817 | 173  |
| 15° | 1765 | 1764  | 1764 | 1765  | 1764 | 498  |
| 25° | 1651 | 1649  | 1648 | 1647  | 1645 | 761  |
| 35° | 1476 | 1474  | 1472 | 1469  | 1467 | 923  |
| 45° | 1246 | 1244  | 1239 | 1236  | 1235 | 960  |
| 55° | 969  | 961   | 955  | 955   | 954  | 863  |
| 65° | 640  | 635   | 625  | 627   | 627  | 634  |
| 75° | 296  | 292   | 284  | 290   | 283  | 316  |
| 85° | 41   | 38    | 38   | 39    | 39   | 57   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |

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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1821.4 | 1821.4 | 1821.4 | 1821.4 | 1821.4 |
| 2.5°  | 1821.4 | 1820.8 | 1820.8 | 1821.4 | 1820.1 |
| 5°    | 1818.2 | 1818.8 | 1818.2 | 1818.2 | 1816.9 |
| 7.5°  | 1811.0 | 1810.3 | 1809.7 | 1810.3 | 1808.4 |
| 10°   | 1798.6 | 1798.6 | 1797.9 | 1798.6 | 1797.3 |
| 12.5° | 1783.5 | 1783.5 | 1783.5 | 1784.2 | 1783.5 |
| 15°   | 1764.6 | 1763.9 | 1763.9 | 1765.2 | 1763.9 |
| 17.5° | 1742.4 | 1741.7 | 1741.7 | 1741.0 | 1739.7 |
| 20°   | 1714.9 | 1714.9 | 1714.3 | 1713.6 | 1711.6 |
| 22.5° | 1685.5 | 1684.8 | 1682.9 | 1682.9 | 1680.3 |
| 25°   | 1650.9 | 1648.9 | 1647.6 | 1646.9 | 1645.0 |
| 27.5° | 1613.0 | 1610.3 | 1608.4 | 1607.1 | 1605.1 |
| 30°   | 1570.5 | 1567.9 | 1565.9 | 1563.9 | 1562.6 |
| 32.5° | 1524.7 | 1523.4 | 1520.1 | 1519.5 | 1516.9 |
| 35°   | 1475.7 | 1473.7 | 1471.8 | 1469.2 | 1466.6 |
| 37.5° | 1423.4 | 1421.5 | 1416.9 | 1415.6 | 1413.6 |
| 40°   | 1367.9 | 1365.3 | 1359.4 | 1359.4 | 1357.4 |
| 42.5° | 1308.4 | 1305.8 | 1301.9 | 1299.3 | 1297.9 |
| 45°   | 1246.3 | 1243.7 | 1239.1 | 1236.5 | 1235.2 |
| 47.5° | 1180.3 | 1178.3 | 1173.1 | 1171.2 | 1169.2 |
| 50°   | 1111.7 | 1109.1 | 1103.2 | 1101.9 | 1099.9 |
| 52.5° | 1039.8 | 1038.5 | 1030.6 | 1030.0 | 1028.0 |
| 55°   | 968.6  | 961.4  | 954.8  | 954.8  | 953.5  |
| 57.5° | 890.1  | 884.9  | 876.4  | 876.4  | 875.1  |
| 60°   | 809.1  | 804.5  | 794.7  | 796.0  | 794.7  |
| 62.5° | 730.0  | 720.2  | 711.1  | 715.0  | 711.7  |
| 65°   | 639.8  | 634.6  | 624.8  | 627.4  | 626.8  |
| 67.5° | 557.5  | 547.7  | 538.5  | 543.8  | 541.1  |
| 70°   | 466.0  | 460.8  | 451.6  | 456.8  | 450.3  |
| 72.5° | 379.7  | 375.1  | 366.0  | 371.9  | 365.3  |
| 75°   | 296.1  | 291.5  | 284.3  | 289.5  | 283.0  |
| 77.5° | 217.0  | 213.7  | 207.2  | 212.4  | 213.7  |
| 80°   | 145.1  | 141.2  | 137.9  | 142.5  | 143.8  |
| 82.5° | 85.0   | 82.3   | 81.0   | 81.7   | 85.0   |
| 85°   | 41.2   | 37.9   | 37.9   | 38.6   | 38.6   |
| 87.5° | 11.1   | 9.8    | 11.1   | 11.8   | 12.4   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)