

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: P688090

Luminaire Tested: FLR-WL-24-45-40-CP375

Issue Date: 5/22/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P688090  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2207-724-15)  
Test Lab: INNOVATION CENTER  
Issue Date: 5/22/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FLR-WL-24-45-40-CP375  
Description: Fail-Safe - FLR Fully Luminous Recessed 2X4 4000K Luminaire for Wet location  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

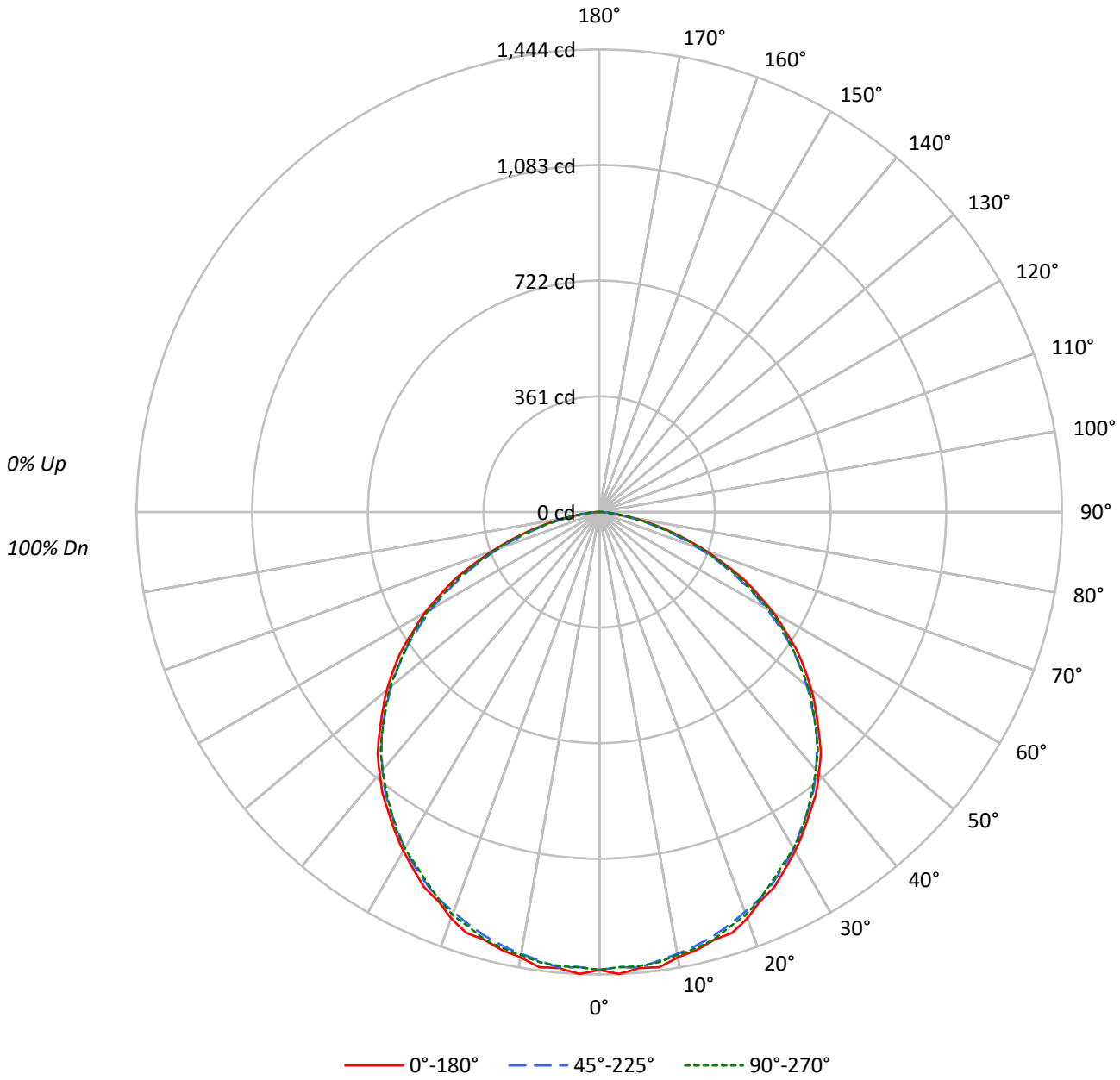
Lumens per Lamp: N/A  
Luminaire Lumens: 3940.1 lumens  
Efficiency: N/A  
Efficacy: 101.5 lumens/watt  
Spacing Criteria (0/90/45): 1.27 / 1.26 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 38.8  
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  | 96  | 98  | 95  | 93  | 94  | 92  | 90  | 91  | 89  | 87  | 85  |
| 2   | 100 | 92  | 85  | 80  | 97  | 90  | 84  | 79  | 86  | 81  | 77  | 83  | 79  | 75  | 80  | 76  | 73  | 71  |
| 3   | 91  | 81  | 73  | 66  | 88  | 79  | 72  | 66  | 76  | 70  | 65  | 73  | 68  | 63  | 71  | 66  | 62  | 60  |
| 4   | 83  | 72  | 63  | 56  | 81  | 70  | 62  | 56  | 68  | 61  | 55  | 65  | 59  | 54  | 63  | 58  | 54  | 51  |
| 5   | 77  | 64  | 55  | 48  | 75  | 63  | 54  | 48  | 61  | 53  | 48  | 59  | 52  | 47  | 57  | 51  | 47  | 45  |
| 6   | 71  | 58  | 49  | 42  | 69  | 57  | 48  | 42  | 55  | 47  | 42  | 53  | 46  | 41  | 52  | 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  | 46  | 38  | 33  | 44  | 38  | 33  | 43  | 37  | 33  | 31  |
| 9   | 57  | 44  | 35  | 30  | 56  | 43  | 35  | 30  | 42  | 35  | 30  | 41  | 34  | 30  | 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°  | 1923 | 1923 | 1923 |
| 5°  | 1931 | 1929 | 1922 |
| 10° | 1930 | 1915 | 1920 |
| 15° | 1927 | 1911 | 1925 |
| 20° | 1934 | 1903 | 1917 |
| 25° | 1920 | 1900 | 1892 |
| 30° | 1900 | 1886 | 1885 |
| 35° | 1882 | 1868 | 1864 |
| 40° | 1873 | 1849 | 1848 |
| 45° | 1844 | 1824 | 1818 |
| 50° | 1812 | 1774 | 1786 |
| 55° | 1766 | 1712 | 1722 |
| 60° | 1690 | 1621 | 1659 |
| 65° | 1584 | 1481 | 1529 |
| 70° | 1387 | 1297 | 1347 |
| 75° | 1148 | 1035 | 1091 |
| 80° | 814  | 728  | 759  |
| 85° | 411  | 363  | 387  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1844 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 135.3  | 3.4       |
| 10°-20°   | 388.4  | 9.9       |
| 20°-30°   | 589.7  | 15.0      |
| 30°-40°   | 711.6  | 18.1      |
| 40°-50°   | 737.8  | 18.7      |
| 50°-60°   | 653.6  | 16.6      |
| 60°-70°   | 466.6  | 11.8      |
| 70°-80°   | 221.0  | 5.6       |
| 80°-90°   | 36.2   | 0.9       |
| 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°    | 1113.3 | 28.3      |
| 0°-40°    | 1825.0 | 46.3      |
| 0°-60°    | 3216.3 | 81.6      |
| 0°-90°    | 3940.1 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3940.1 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1430 | 1430  | 1430 | 1430  | 1430 |      |
| 5°  | 1430 | 1422  | 1428 | 1418  | 1423 | 136  |
| 15° | 1383 | 1376  | 1372 | 1379  | 1382 | 392  |
| 25° | 1293 | 1272  | 1280 | 1281  | 1274 | 594  |
| 35° | 1146 | 1134  | 1137 | 1133  | 1135 | 718  |
| 45° | 969  | 955   | 959  | 956   | 956  | 748  |
| 55° | 753  | 732   | 730  | 727   | 734  | 669  |
| 65° | 497  | 465   | 465  | 468   | 480  | 486  |
| 75° | 221  | 203   | 199  | 204   | 210  | 235  |
| 85° | 27   | 24    | 24   | 23    | 25   | 40   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |

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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1429.5 | 1429.5 | 1429.5 | 1429.5 | 1429.5 |
| 2.5°  | 1443.6 | 1418.6 | 1422.5 | 1425.6 | 1422.5 |
| 5°    | 1429.5 | 1422.5 | 1428.0 | 1417.8 | 1423.3 |
| 7.5°  | 1433.4 | 1416.2 | 1413.9 | 1410.7 | 1417.8 |
| 10°   | 1412.3 | 1402.1 | 1401.3 | 1406.8 | 1405.2 |
| 12.5° | 1401.3 | 1392.7 | 1388.0 | 1388.8 | 1395.1 |
| 15°   | 1383.3 | 1375.5 | 1371.6 | 1379.4 | 1381.7 |
| 17.5° | 1378.6 | 1351.2 | 1351.2 | 1352.8 | 1357.5 |
| 20°   | 1350.4 | 1332.4 | 1329.3 | 1332.4 | 1338.7 |
| 22.5° | 1314.4 | 1308.1 | 1308.1 | 1310.5 | 1308.9 |
| 25°   | 1293.2 | 1272.1 | 1279.9 | 1280.7 | 1274.4 |
| 27.5° | 1256.4 | 1248.6 | 1247.0 | 1243.9 | 1241.5 |
| 30°   | 1222.7 | 1210.2 | 1214.1 | 1214.1 | 1213.3 |
| 32.5° | 1185.1 | 1176.5 | 1172.6 | 1173.4 | 1177.3 |
| 35°   | 1146.0 | 1134.2 | 1137.3 | 1132.6 | 1135.0 |
| 37.5° | 1110.7 | 1095.0 | 1098.2 | 1095.8 | 1093.5 |
| 40°   | 1066.1 | 1053.5 | 1052.8 | 1048.8 | 1052.0 |
| 42.5° | 1023.8 | 1005.8 | 1005.0 | 1005.8 | 1009.7 |
| 45°   | 968.9  | 954.8  | 958.8  | 955.6  | 955.6  |
| 47.5° | 916.5  | 907.1  | 900.0  | 900.8  | 903.9  |
| 50°   | 865.5  | 847.5  | 847.5  | 841.3  | 853.0  |
| 52.5° | 809.1  | 791.1  | 788.8  | 791.1  | 789.6  |
| 55°   | 752.7  | 731.6  | 730.0  | 726.9  | 733.9  |
| 57.5° | 684.6  | 664.2  | 665.8  | 667.4  | 677.6  |
| 60°   | 628.2  | 600.8  | 602.4  | 603.9  | 616.5  |
| 62.5° | 558.5  | 535.8  | 535.0  | 537.3  | 540.5  |
| 65°   | 497.4  | 465.3  | 465.3  | 468.4  | 480.2  |
| 67.5° | 419.8  | 400.3  | 399.5  | 403.4  | 408.1  |
| 70°   | 352.5  | 329.8  | 329.8  | 334.5  | 342.3  |
| 72.5° | 285.1  | 266.3  | 263.2  | 270.2  | 275.7  |
| 75°   | 220.9  | 202.9  | 199.0  | 203.7  | 209.9  |
| 77.5° | 158.2  | 146.5  | 143.3  | 148.0  | 149.6  |
| 80°   | 105.0  | 94.8   | 94.0   | 96.3   | 97.9   |
| 82.5° | 60.3   | 54.0   | 51.7   | 54.0   | 54.8   |
| 85°   | 26.6   | 24.3   | 23.5   | 22.7   | 25.1   |
| 87.5° | 6.3    | 6.3    | 6.3    | 6.3    | 7.0    |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)