

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: P560701

Luminaire Tested: FSR-12-2-LD4-2STD-50-UNV-80-96-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560701  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/20/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FSR-12-2-LD4-2STD-50-UNV-80-96-EDD  
Description: 1X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

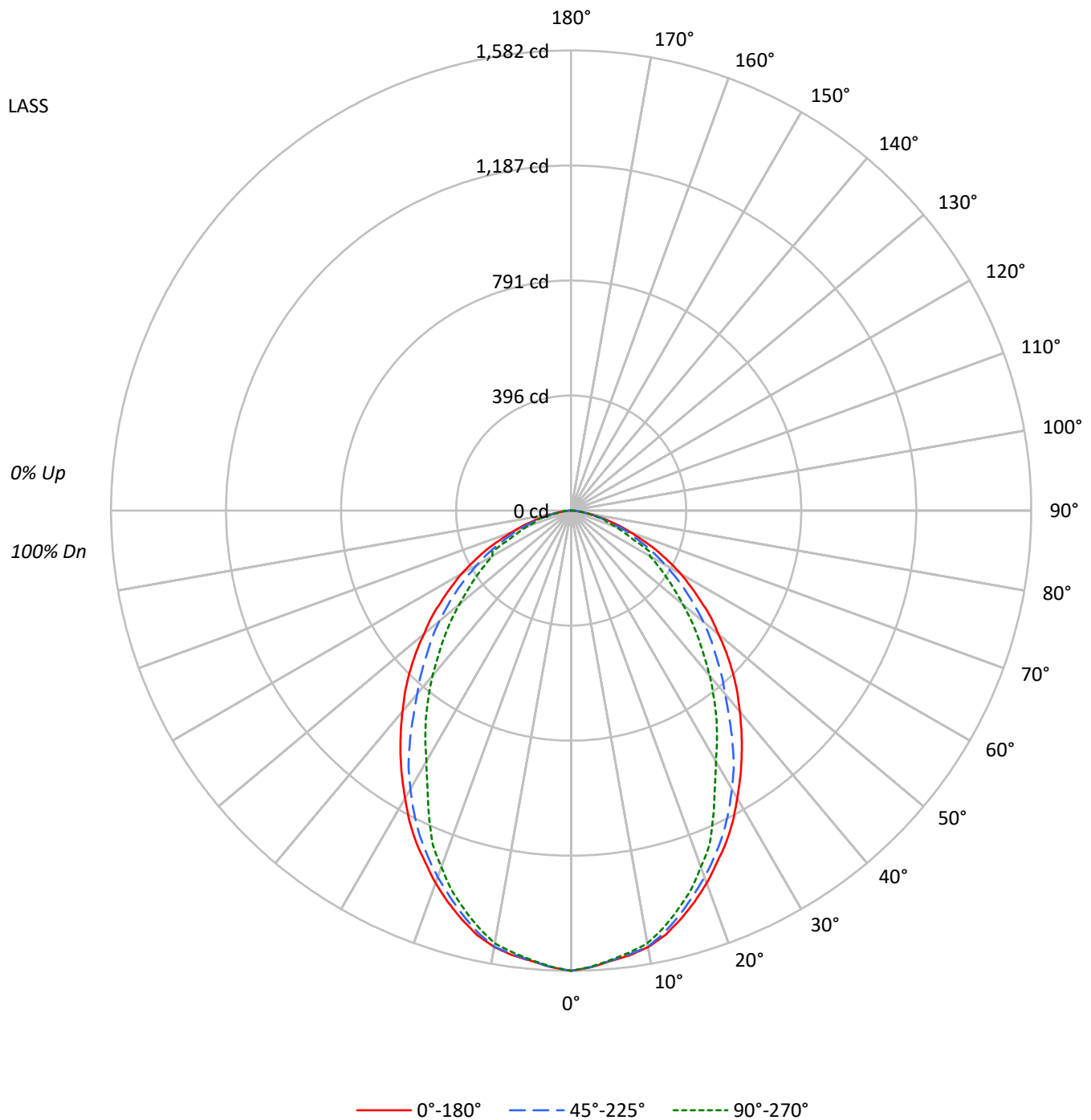
Lumens per Lamp: N/A  
Luminaire Lumens: 3106.0 lumens  
Efficiency: N/A  
Efficacy: 93.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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   | 110 | 106 | 102 | 99  | 108 | 104 | 100 | 97  | 100 | 97  | 94  | 96  | 94  | 91  | 92  | 90  | 89  | 87  |
| 2   | 101 | 94  | 88  | 83  | 99  | 92  | 87  | 82  | 89  | 84  | 80  | 86  | 82  | 78  | 83  | 79  | 77  | 75  |
| 3   | 93  | 84  | 77  | 71  | 91  | 82  | 76  | 70  | 79  | 74  | 69  | 77  | 72  | 68  | 74  | 70  | 67  | 65  |
| 4   | 86  | 75  | 67  | 61  | 84  | 74  | 66  | 61  | 72  | 65  | 60  | 69  | 64  | 59  | 67  | 62  | 58  | 56  |
| 5   | 80  | 68  | 60  | 54  | 78  | 67  | 59  | 53  | 65  | 58  | 53  | 63  | 57  | 52  | 61  | 56  | 52  | 50  |
| 6   | 74  | 62  | 53  | 48  | 72  | 61  | 53  | 47  | 59  | 52  | 47  | 57  | 51  | 47  | 56  | 50  | 46  | 44  |
| 7   | 69  | 56  | 48  | 43  | 67  | 56  | 48  | 42  | 54  | 47  | 42  | 53  | 46  | 42  | 51  | 46  | 42  | 40  |
| 8   | 65  | 52  | 44  | 38  | 63  | 51  | 44  | 38  | 50  | 43  | 38  | 49  | 42  | 38  | 48  | 42  | 38  | 36  |
| 9   | 61  | 48  | 40  | 35  | 59  | 47  | 40  | 35  | 46  | 39  | 35  | 45  | 39  | 34  | 44  | 38  | 34  | 33  |
| 10  | 57  | 44  | 37  | 32  | 56  | 44  | 37  | 32  | 43  | 36  | 32  | 42  | 36  | 32  | 41  | 36  | 32  | 30  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 8515 | 8515 | 8515 |
| 5°  | 8399 | 8390 | 8380 |
| 10° | 8326 | 8317 | 8256 |
| 15° | 8102 | 8021 | 7909 |
| 20° | 7805 | 7679 | 7469 |
| 25° | 7483 | 7321 | 6865 |
| 30° | 7093 | 6866 | 6183 |
| 35° | 6718 | 6345 | 5720 |
| 40° | 6335 | 5783 | 5205 |
| 45° | 5973 | 5346 | 4705 |
| 50° | 5529 | 4962 | 4196 |
| 55° | 5115 | 4496 | 3759 |
| 60° | 4686 | 4016 | 3367 |
| 65° | 4122 | 3517 | 2981 |
| 70° | 3396 | 3079 | 2533 |
| 75° | 2701 | 2358 | 2472 |
| 80° | 1813 | 1702 | 1587 |
| 85° | 1130 | 1352 | 1581 |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5973 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 147.3  | 4.7       |
| 10°-20°   | 404.2  | 13.0      |
| 20°-30°   | 559.6  | 18.0      |
| 30°-40°   | 596.7  | 19.2      |
| 40°-50°   | 544.3  | 17.5      |
| 50°-60°   | 426.4  | 13.7      |
| 60°-70°   | 277.9  | 8.9       |
| 70°-80°   | 123.1  | 4.0       |
| 80°-90°   | 26.4   | 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°    | 1111.0 | 35.8      |
| 0°-40°    | 1707.7 | 55.0      |
| 0°-60°    | 2678.5 | 86.2      |
| 0°-90°    | 3106.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3106.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1582 | 1582  | 1582 | 1582  | 1582 |      |
| 5°  | 1555 | 1553  | 1553 | 1551  | 1551 | 148  |
| 15° | 1454 | 1454  | 1440 | 1425  | 1419 | 409  |
| 25° | 1260 | 1253  | 1233 | 1189  | 1156 | 579  |
| 35° | 1022 | 1015  | 966  | 893   | 871  | 639  |
| 45° | 785  | 768   | 702  | 644   | 618  | 604  |
| 55° | 545  | 529   | 479  | 422   | 401  | 489  |
| 65° | 324  | 306   | 276  | 282   | 234  | 319  |
| 75° | 130  | 121   | 113  | 108   | 119  | 139  |
| 85° | 18   | 20    | 22   | 24    | 26   | 25   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1582.2 | 1582.2 | 1582.2 | 1582.2 | 1582.2 |
| 2.5°  | 1571.2 | 1571.2 | 1571.2 | 1569.4 | 1569.4 |
| 5°    | 1554.7 | 1552.9 | 1552.9 | 1551.1 | 1551.1 |
| 7.5°  | 1541.9 | 1540.1 | 1538.3 | 1536.4 | 1532.8 |
| 10°   | 1523.6 | 1523.6 | 1521.8 | 1512.6 | 1510.8 |
| 12.5° | 1494.4 | 1492.5 | 1485.2 | 1472.4 | 1468.8 |
| 15°   | 1454.1 | 1454.1 | 1439.5 | 1424.9 | 1419.4 |
| 17.5° | 1410.2 | 1408.4 | 1390.1 | 1375.5 | 1368.2 |
| 20°   | 1362.7 | 1359.0 | 1340.7 | 1316.9 | 1304.1 |
| 22.5° | 1309.6 | 1309.6 | 1287.7 | 1256.6 | 1243.8 |
| 25°   | 1260.2 | 1252.9 | 1232.8 | 1188.9 | 1156.0 |
| 27.5° | 1203.5 | 1192.6 | 1170.6 | 1108.4 | 1070.0 |
| 30°   | 1141.3 | 1135.9 | 1104.8 | 1024.3 | 995.0  |
| 32.5° | 1082.8 | 1073.7 | 1040.7 | 956.6  | 932.8  |
| 35°   | 1022.5 | 1015.1 | 965.8  | 892.6  | 870.6  |
| 37.5° | 962.1  | 953.0  | 890.8  | 832.2  | 804.8  |
| 40°   | 901.7  | 890.8  | 823.1  | 770.0  | 740.8  |
| 42.5° | 845.0  | 830.4  | 764.6  | 707.9  | 674.9  |
| 45°   | 784.7  | 768.2  | 702.4  | 643.8  | 618.2  |
| 47.5° | 724.3  | 709.7  | 649.3  | 589.0  | 559.7  |
| 50°   | 660.3  | 647.5  | 592.6  | 532.3  | 501.2  |
| 52.5° | 607.3  | 587.1  | 534.1  | 473.7  | 448.1  |
| 55°   | 545.1  | 528.6  | 479.2  | 422.5  | 400.6  |
| 57.5° | 488.4  | 471.9  | 426.2  | 373.1  | 354.8  |
| 60°   | 435.3  | 411.5  | 373.1  | 327.4  | 312.8  |
| 62.5° | 376.8  | 358.5  | 325.6  | 287.2  | 305.5  |
| 65°   | 323.7  | 305.5  | 276.2  | 281.7  | 234.1  |
| 67.5° | 265.2  | 256.1  | 230.5  | 204.9  | 197.5  |
| 70°   | 215.8  | 204.9  | 195.7  | 168.3  | 161.0  |
| 72.5° | 171.9  | 161.0  | 148.2  | 133.5  | 128.0  |
| 75°   | 129.9  | 120.7  | 113.4  | 107.9  | 118.9  |
| 77.5° | 89.6   | 86.0   | 80.5   | 75.0   | 73.2   |
| 80°   | 58.5   | 56.7   | 54.9   | 53.0   | 51.2   |
| 82.5° | 34.8   | 34.8   | 34.8   | 34.8   | 34.8   |
| 85°   | 18.3   | 20.1   | 21.9   | 23.8   | 25.6   |
| 87.5° | 11.0   | 11.0   | 12.8   | 14.6   | 16.5   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)