

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: P558891

Luminaire Tested: FSR-12-1-LD4-1STD-35-UNV-93-94-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P558891  
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-12-1-LD4-1STD-35-UNV-93-94-EDD  
Description: 1X1 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

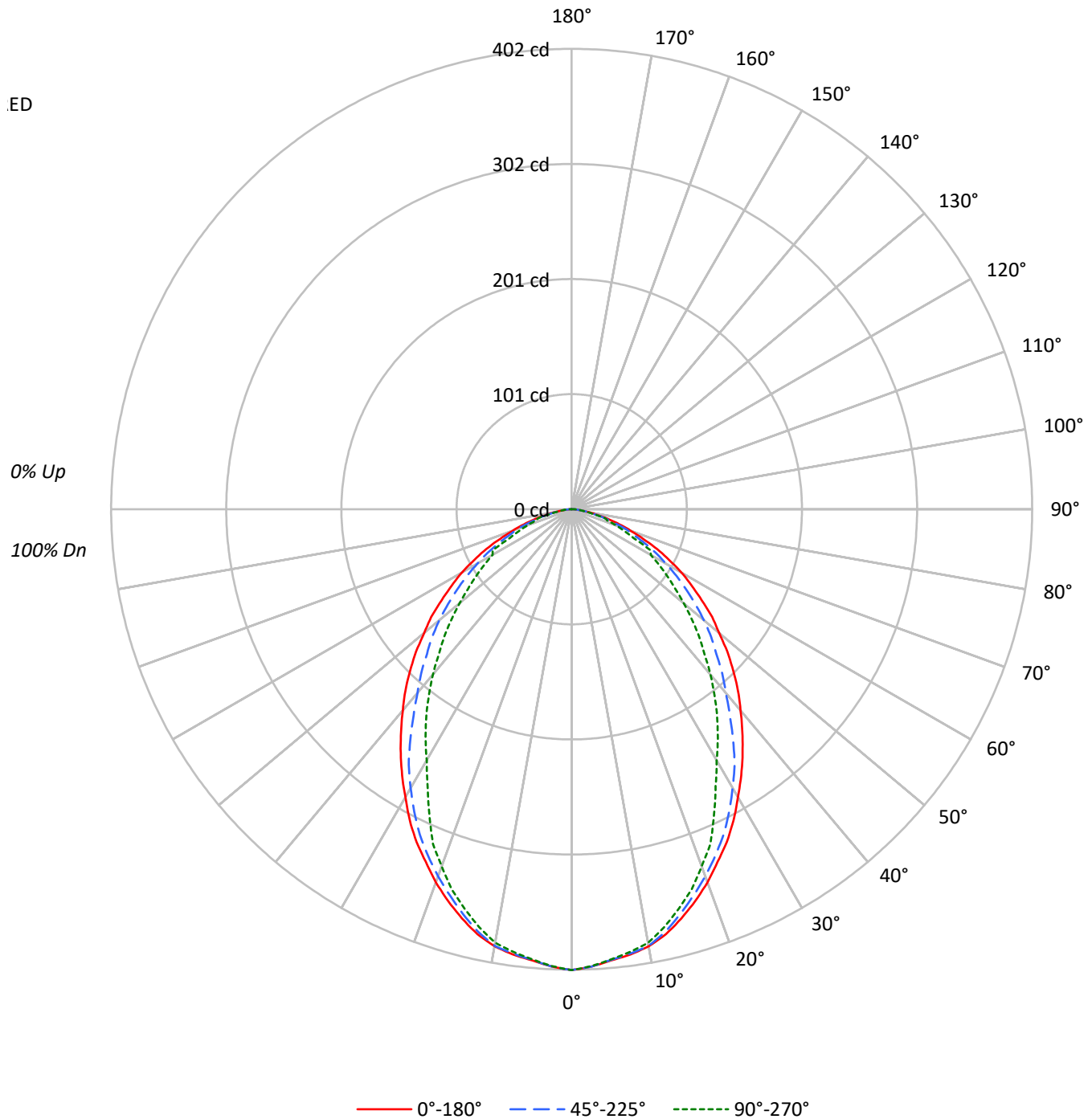
Lumens per Lamp: N/A  
Luminaire Lumens: 790.0 lumens  
Efficiency: N/A  
Efficacy: 95.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 8.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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  | 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 |    |    |    |    | 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°  | 4331 | 4331 | 4331 |
| 5°  | 4272 | 4268 | 4263 |
| 10° | 4235 | 4231 | 4200 |
| 15° | 4122 | 4080 | 4023 |
| 20° | 3970 | 3906 | 3800 |
| 25° | 3806 | 3725 | 3492 |
| 30° | 3608 | 3493 | 3146 |
| 35° | 3418 | 3227 | 2909 |
| 40° | 3223 | 2941 | 2647 |
| 45° | 3038 | 2719 | 2393 |
| 50° | 2812 | 2524 | 2135 |
| 55° | 2601 | 2288 | 1912 |
| 60° | 2383 | 2043 | 1714 |
| 65° | 2096 | 1788 | 1515 |
| 70° | 1728 | 1567 | 1287 |
| 75° | 1372 | 1198 | 1256 |
| 80° | 924  | 868  | 806  |
| 85° | 580  | 692  | 803  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3038 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 37.5   | 4.7       |
| 10°-20°   | 102.8  | 13.0      |
| 20°-30°   | 142.3  | 18.0      |
| 30°-40°   | 151.8  | 19.2      |
| 40°-50°   | 138.5  | 17.5      |
| 50°-60°   | 108.5  | 13.7      |
| 60°-70°   | 70.7   | 8.9       |
| 70°-80°   | 31.3   | 4.0       |
| 80°-90°   | 6.7    | 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°    | 282.6  | 35.8      |
| 0°-40°    | 434.4  | 55.0      |
| 0°-60°    | 681.3  | 86.2      |
| 0°-90°    | 790.0  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 790.0  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 402 | 402   | 402 | 402   | 402 |      |
| 5°  | 395 | 395   | 395 | 394   | 394 | 38   |
| 15° | 370 | 370   | 366 | 362   | 361 | 104  |
| 25° | 320 | 319   | 314 | 302   | 294 | 147  |
| 35° | 260 | 258   | 246 | 227   | 221 | 163  |
| 45° | 200 | 195   | 179 | 164   | 157 | 154  |
| 55° | 139 | 134   | 122 | 108   | 102 | 124  |
| 65° | 82  | 78    | 70  | 72    | 60  | 81   |
| 75° | 33  | 31    | 29  | 27    | 30  | 35   |
| 85° | 5   | 5     | 6   | 6     | 6   | 6    |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 402.4 | 402.4 | 402.4 | 402.4 | 402.4 |
| 2.5°  | 399.6 | 399.6 | 399.6 | 399.2 | 399.2 |
| 5°    | 395.4 | 395.0 | 395.0 | 394.5 | 394.5 |
| 7.5°  | 392.2 | 391.7 | 391.3 | 390.8 | 389.9 |
| 10°   | 387.5 | 387.5 | 387.1 | 384.7 | 384.3 |
| 12.5° | 380.1 | 379.6 | 377.8 | 374.5 | 373.6 |
| 15°   | 369.9 | 369.9 | 366.1 | 362.4 | 361.0 |
| 17.5° | 358.7 | 358.2 | 353.6 | 349.8 | 348.0 |
| 20°   | 346.6 | 345.7 | 341.0 | 335.0 | 331.7 |
| 22.5° | 333.1 | 333.1 | 327.5 | 319.6 | 316.3 |
| 25°   | 320.5 | 318.7 | 313.6 | 302.4 | 294.0 |
| 27.5° | 306.1 | 303.3 | 297.7 | 281.9 | 272.2 |
| 30°   | 290.3 | 288.9 | 281.0 | 260.5 | 253.1 |
| 32.5° | 275.4 | 273.1 | 264.7 | 243.3 | 237.3 |
| 35°   | 260.1 | 258.2 | 245.6 | 227.0 | 221.4 |
| 37.5° | 244.7 | 242.4 | 226.6 | 211.7 | 204.7 |
| 40°   | 229.4 | 226.6 | 209.3 | 195.9 | 188.4 |
| 42.5° | 214.9 | 211.2 | 194.5 | 180.0 | 171.7 |
| 45°   | 199.6 | 195.4 | 178.6 | 163.8 | 157.2 |
| 47.5° | 184.2 | 180.5 | 165.2 | 149.8 | 142.4 |
| 50°   | 167.9 | 164.7 | 150.7 | 135.4 | 127.5 |
| 52.5° | 154.5 | 149.3 | 135.8 | 120.5 | 114.0 |
| 55°   | 138.6 | 134.4 | 121.9 | 107.5 | 101.9 |
| 57.5° | 124.2 | 120.0 | 108.4 | 94.9  | 90.3  |
| 60°   | 110.7 | 104.7 | 94.9  | 83.3  | 79.6  |
| 62.5° | 95.8  | 91.2  | 82.8  | 73.0  | 77.7  |
| 65°   | 82.3  | 77.7  | 70.2  | 71.6  | 59.5  |
| 67.5° | 67.5  | 65.1  | 58.6  | 52.1  | 50.2  |
| 70°   | 54.9  | 52.1  | 49.8  | 42.8  | 40.9  |
| 72.5° | 43.7  | 40.9  | 37.7  | 34.0  | 32.6  |
| 75°   | 33.0  | 30.7  | 28.8  | 27.4  | 30.2  |
| 77.5° | 22.8  | 21.9  | 20.5  | 19.1  | 18.6  |
| 80°   | 14.9  | 14.4  | 14.0  | 13.5  | 13.0  |
| 82.5° | 8.8   | 8.8   | 8.8   | 8.8   | 8.8   |
| 85°   | 4.7   | 5.1   | 5.6   | 6.0   | 6.5   |
| 87.5° | 2.8   | 2.8   | 3.3   | 3.7   | 4.2   |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |

(END OF REPORT)