

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: P558524

Luminaire Tested: FSR-12-1-LD4-1HI-40-UNV-80-96-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P558524  
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-LD4-1HI-40-UNV-80-96-EDD-90  
Description: 1X1 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

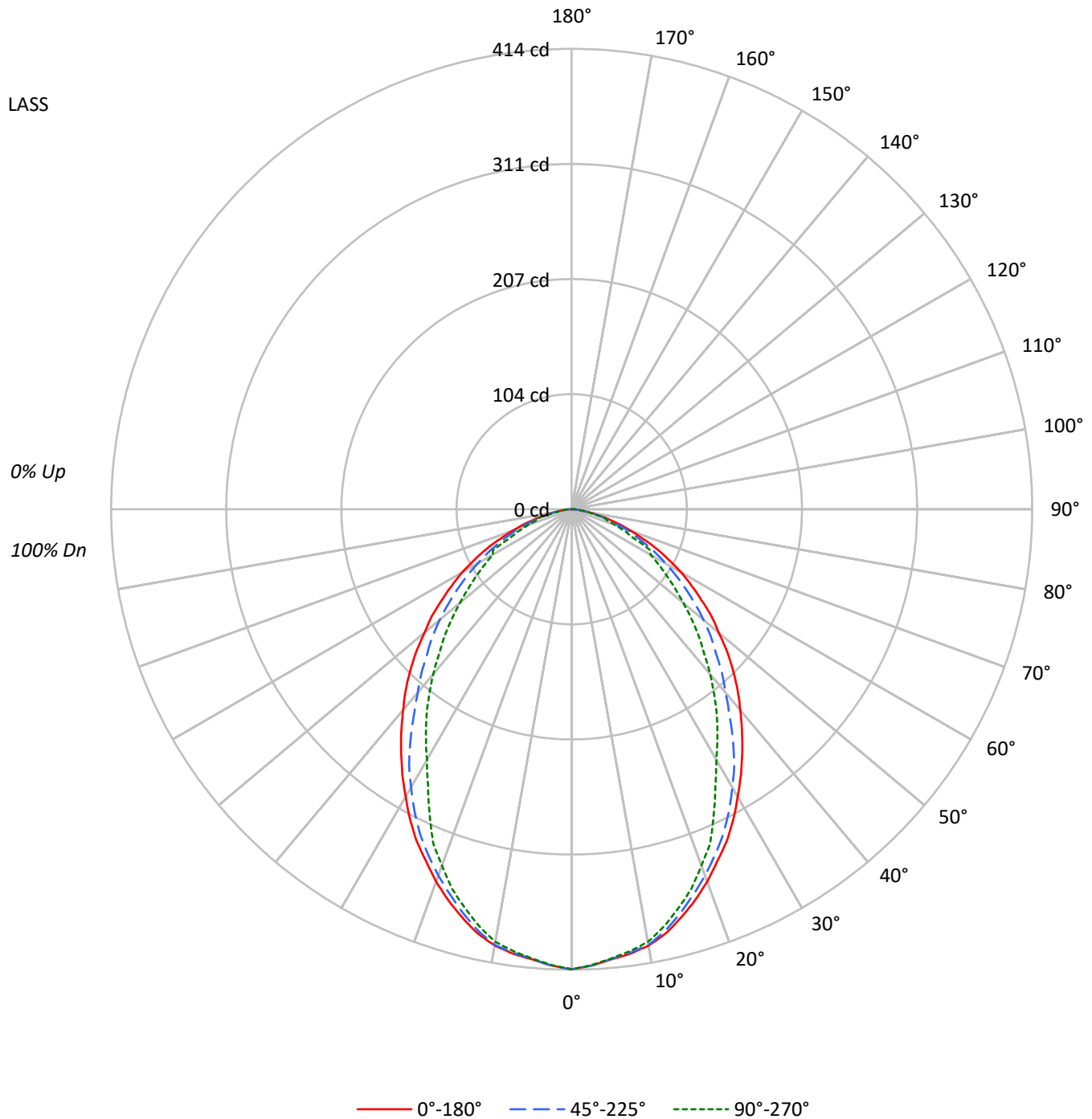
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 812.0 lumens  
Efficiency: N/A  
Efficacy: 75.2 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): 10.8  
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





TEST NUMBER: P558524

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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 | 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°  | 4452 | 4452 | 4452 |
| 5°  | 4391 | 4387 | 4381 |
| 10° | 4353 | 4348 | 4317 |
| 15° | 4236 | 4193 | 4135 |
| 20° | 4080 | 4015 | 3905 |
| 25° | 3913 | 3828 | 3589 |
| 30° | 3709 | 3590 | 3233 |
| 35° | 3512 | 3318 | 2991 |
| 40° | 3312 | 3024 | 2722 |
| 45° | 3122 | 2795 | 2460 |
| 50° | 2890 | 2594 | 2194 |
| 55° | 2674 | 2351 | 1965 |
| 60° | 2450 | 2099 | 1761 |
| 65° | 2155 | 1839 | 1559 |
| 70° | 1775 | 1611 | 1325 |
| 75° | 1414 | 1231 | 1293 |
| 80° | 948  | 886  | 831  |
| 85° | 593  | 704  | 827  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3122 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 38.5   | 4.7       |
| 10°-20°   | 105.7  | 13.0      |
| 20°-30°   | 146.3  | 18.0      |
| 30°-40°   | 156.0  | 19.2      |
| 40°-50°   | 142.3  | 17.5      |
| 50°-60°   | 111.5  | 13.7      |
| 60°-70°   | 72.7   | 8.9       |
| 70°-80°   | 32.2   | 4.0       |
| 80°-90°   | 6.9    | 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°    | 290.5  | 35.8      |
| 0°-40°    | 446.4  | 55.0      |
| 0°-60°    | 700.2  | 86.2      |
| 0°-90°    | 812.0  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 812.0  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 414 | 414   | 414 | 414   | 414 |      |
| 5°  | 406 | 406   | 406 | 406   | 406 | 39   |
| 15° | 380 | 380   | 376 | 372   | 371 | 107  |
| 25° | 330 | 328   | 322 | 311   | 302 | 151  |
| 35° | 267 | 265   | 252 | 233   | 228 | 167  |
| 45° | 205 | 201   | 184 | 168   | 162 | 158  |
| 55° | 142 | 138   | 125 | 110   | 105 | 128  |
| 65° | 85  | 80    | 72  | 74    | 61  | 83   |
| 75° | 34  | 32    | 30  | 28    | 31  | 36   |
| 85° | 5   | 5     | 6   | 6     | 7   | 7    |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 413.6 | 413.6 | 413.6 | 413.6 | 413.6 |
| 2.5°  | 410.8 | 410.8 | 410.8 | 410.3 | 410.3 |
| 5°    | 406.4 | 406.0 | 406.0 | 405.5 | 405.5 |
| 7.5°  | 403.1 | 402.6 | 402.1 | 401.7 | 400.7 |
| 10°   | 398.3 | 398.3 | 397.8 | 395.5 | 395.0 |
| 12.5° | 390.7 | 390.2 | 388.3 | 384.9 | 384.0 |
| 15°   | 380.1 | 380.1 | 376.3 | 372.5 | 371.1 |
| 17.5° | 368.7 | 368.2 | 363.4 | 359.6 | 357.7 |
| 20°   | 356.2 | 355.3 | 350.5 | 344.3 | 340.9 |
| 22.5° | 342.4 | 342.4 | 336.6 | 328.5 | 325.2 |
| 25°   | 329.5 | 327.6 | 322.3 | 310.8 | 302.2 |
| 27.5° | 314.6 | 311.8 | 306.0 | 289.8 | 279.7 |
| 30°   | 298.4 | 296.9 | 288.8 | 267.8 | 260.1 |
| 32.5° | 283.1 | 280.7 | 272.1 | 250.1 | 243.9 |
| 35°   | 267.3 | 265.4 | 252.5 | 233.3 | 227.6 |
| 37.5° | 251.5 | 249.1 | 232.9 | 217.6 | 210.4 |
| 40°   | 235.7 | 232.9 | 215.2 | 201.3 | 193.7 |
| 42.5° | 220.9 | 217.1 | 199.9 | 185.1 | 176.4 |
| 45°   | 205.1 | 200.8 | 183.6 | 168.3 | 161.6 |
| 47.5° | 189.4 | 185.5 | 169.8 | 154.0 | 146.3 |
| 50°   | 172.6 | 169.3 | 154.9 | 139.1 | 131.0 |
| 52.5° | 158.8 | 153.5 | 139.6 | 123.8 | 117.2 |
| 55°   | 142.5 | 138.2 | 125.3 | 110.5 | 104.7 |
| 57.5° | 127.7 | 123.4 | 111.4 | 97.5  | 92.8  |
| 60°   | 113.8 | 107.6 | 97.5  | 85.6  | 81.8  |
| 62.5° | 98.5  | 93.7  | 85.1  | 75.1  | 79.9  |
| 65°   | 84.6  | 79.9  | 72.2  | 73.6  | 61.2  |
| 67.5° | 69.3  | 66.9  | 60.3  | 53.6  | 51.6  |
| 70°   | 56.4  | 53.6  | 51.2  | 44.0  | 42.1  |
| 72.5° | 44.9  | 42.1  | 38.7  | 34.9  | 33.5  |
| 75°   | 34.0  | 31.6  | 29.6  | 28.2  | 31.1  |
| 77.5° | 23.4  | 22.5  | 21.0  | 19.6  | 19.1  |
| 80°   | 15.3  | 14.8  | 14.3  | 13.9  | 13.4  |
| 82.5° | 9.1   | 9.1   | 9.1   | 9.1   | 9.1   |
| 85°   | 4.8   | 5.3   | 5.7   | 6.2   | 6.7   |
| 87.5° | 2.9   | 2.9   | 3.3   | 3.8   | 4.3   |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |

(END OF REPORT)