

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: P559869

Luminaire Tested: FSR-12-2-LD4-1LO-40-UNV-80-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P559869
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-LD4-1LO-40-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 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

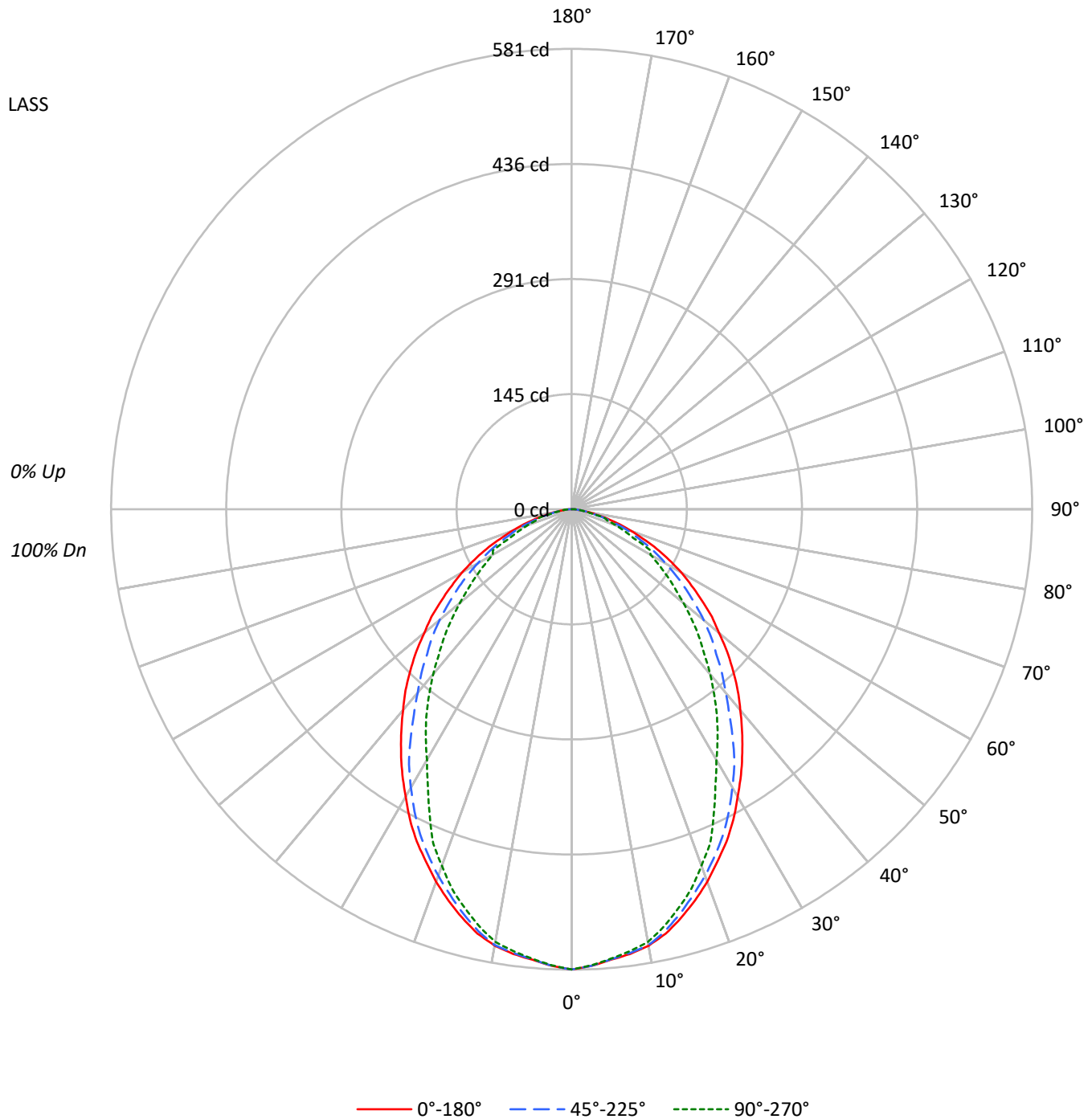
Lumens per Lamp: N/A
Luminaire Lumens: 1140.0 lumens
Efficiency: N/A
Efficacy: 97.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 11.7
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: P559869

CATALOG NUMBER: FSR-12-2-LD4-1LO-40-UNV-80-96-EDD

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 | | | | | 87 | | | |
| 2 | 101 | 94 | 88 | 83 | 99 | 92 | 87 | 82 | 89 | 84 | 80 | 86 | 82 | 78 | 83 | 79 | 77 | 75 | | | | | 75 | | | |
| 3 | 93 | 84 | 77 | 71 | 91 | 82 | 76 | 70 | 79 | 74 | 69 | 77 | 72 | 68 | 74 | 70 | 67 | 65 | | | | | 65 | | | |
| 4 | 86 | 75 | 67 | 61 | 84 | 74 | 66 | 61 | 72 | 65 | 60 | 69 | 64 | 59 | 67 | 62 | 58 | 56 | | | | | 56 | | | |
| 5 | 80 | 68 | 60 | 54 | 78 | 67 | 59 | 53 | 65 | 58 | 53 | 63 | 57 | 52 | 61 | 56 | 52 | 50 | | | | | 50 | | | |
| 6 | 74 | 62 | 53 | 48 | 72 | 61 | 53 | 47 | 59 | 52 | 47 | 57 | 51 | 47 | 56 | 50 | 46 | 44 | | | | | 44 | | | |
| 7 | 69 | 56 | 48 | 43 | 67 | 56 | 48 | 42 | 54 | 47 | 42 | 53 | 46 | 42 | 51 | 46 | 42 | 40 | | | | | 40 | | | |
| 8 | 65 | 52 | 44 | 38 | 63 | 51 | 44 | 38 | 50 | 43 | 38 | 49 | 42 | 38 | 48 | 42 | 38 | 36 | | | | | 36 | | | |
| 9 | 61 | 48 | 40 | 35 | 59 | 47 | 40 | 35 | 46 | 39 | 35 | 45 | 39 | 34 | 44 | 38 | 34 | 33 | | | | | 33 | | | |
| 10 | 57 | 44 | 37 | 32 | 56 | 44 | 37 | 32 | 43 | 36 | 32 | 42 | 36 | 32 | 41 | 36 | 32 | 30 | | | | | 30 | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 3125 | 3125 | 3125 |
| 5° | 3083 | 3079 | 3076 |
| 10° | 3056 | 3052 | 3030 |
| 15° | 2974 | 2944 | 2903 |
| 20° | 2864 | 2818 | 2742 |
| 25° | 2746 | 2687 | 2520 |
| 30° | 2603 | 2520 | 2270 |
| 35° | 2466 | 2329 | 2100 |
| 40° | 2325 | 2122 | 1910 |
| 45° | 2192 | 1962 | 1727 |
| 50° | 2030 | 1821 | 1540 |
| 55° | 1878 | 1650 | 1379 |
| 60° | 1720 | 1475 | 1236 |
| 65° | 1513 | 1291 | 1094 |
| 70° | 1246 | 1130 | 930 |
| 75° | 992 | 865 | 907 |
| 80° | 666 | 623 | 583 |
| 85° | 414 | 500 | 580 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2192 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 54.1 | 4.7 |
| 10°-20° | 148.3 | 13.0 |
| 20°-30° | 205.4 | 18.0 |
| 30°-40° | 219.0 | 19.2 |
| 40°-50° | 199.8 | 17.5 |
| 50°-60° | 156.5 | 13.7 |
| 60°-70° | 102.0 | 8.9 |
| 70°-80° | 45.2 | 4.0 |
| 80°-90° | 9.7 | 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° | 407.8 | 35.8 |
| 0°-40° | 626.8 | 55.0 |
| 0°-60° | 983.1 | 86.2 |
| 0°-90° | 1140.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1140.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 581 | 581 | 581 | 581 | 581 | |
| 5° | 571 | 570 | 570 | 569 | 569 | 54 |
| 15° | 534 | 534 | 528 | 523 | 521 | 150 |
| 25° | 462 | 460 | 452 | 436 | 424 | 212 |
| 35° | 375 | 373 | 354 | 328 | 320 | 235 |
| 45° | 288 | 282 | 258 | 236 | 227 | 222 |
| 55° | 200 | 194 | 176 | 155 | 147 | 179 |
| 65° | 119 | 112 | 101 | 103 | 86 | 117 |
| 75° | 48 | 44 | 42 | 40 | 44 | 51 |
| 85° | 7 | 7 | 8 | 9 | 9 | 9 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P559869

CATALOG NUMBER: FSR-12-2-LD4-1LO-40-UNV-80-96-EDD

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 580.7 | 580.7 | 580.7 | 580.7 | 580.7 |
| 2.5° | 576.7 | 576.7 | 576.7 | 576.0 | 576.0 |
| 5° | 570.6 | 570.0 | 570.0 | 569.3 | 569.3 |
| 7.5° | 565.9 | 565.3 | 564.6 | 563.9 | 562.6 |
| 10° | 559.2 | 559.2 | 558.5 | 555.2 | 554.5 |
| 12.5° | 548.5 | 547.8 | 545.1 | 540.4 | 539.1 |
| 15° | 533.7 | 533.7 | 528.3 | 523.0 | 521.0 |
| 17.5° | 517.6 | 516.9 | 510.2 | 504.8 | 502.2 |
| 20° | 500.1 | 498.8 | 492.1 | 483.4 | 478.7 |
| 22.5° | 480.7 | 480.7 | 472.6 | 461.2 | 456.5 |
| 25° | 462.5 | 459.9 | 452.5 | 436.4 | 424.3 |
| 27.5° | 441.7 | 437.7 | 429.7 | 406.8 | 392.7 |
| 30° | 418.9 | 416.9 | 405.5 | 375.9 | 365.2 |
| 32.5° | 397.4 | 394.1 | 382.0 | 351.1 | 342.4 |
| 35° | 375.3 | 372.6 | 354.5 | 327.6 | 319.6 |
| 37.5° | 353.1 | 349.8 | 326.9 | 305.5 | 295.4 |
| 40° | 331.0 | 326.9 | 302.1 | 282.6 | 271.9 |
| 42.5° | 310.2 | 304.8 | 280.6 | 259.8 | 247.7 |
| 45° | 288.0 | 282.0 | 257.8 | 236.3 | 226.9 |
| 47.5° | 265.8 | 260.5 | 238.3 | 216.2 | 205.4 |
| 50° | 242.4 | 237.7 | 217.5 | 195.4 | 183.9 |
| 52.5° | 222.9 | 215.5 | 196.0 | 173.9 | 164.5 |
| 55° | 200.1 | 194.0 | 175.9 | 155.1 | 147.0 |
| 57.5° | 179.2 | 173.2 | 156.4 | 137.0 | 130.2 |
| 60° | 159.8 | 151.0 | 137.0 | 120.2 | 114.8 |
| 62.5° | 138.3 | 131.6 | 119.5 | 105.4 | 112.1 |
| 65° | 118.8 | 112.1 | 101.4 | 103.4 | 85.9 |
| 67.5° | 97.3 | 94.0 | 84.6 | 75.2 | 72.5 |
| 70° | 79.2 | 75.2 | 71.8 | 61.8 | 59.1 |
| 72.5° | 63.1 | 59.1 | 54.4 | 49.0 | 47.0 |
| 75° | 47.7 | 44.3 | 41.6 | 39.6 | 43.6 |
| 77.5° | 32.9 | 31.6 | 29.5 | 27.5 | 26.9 |
| 80° | 21.5 | 20.8 | 20.1 | 19.5 | 18.8 |
| 82.5° | 12.8 | 12.8 | 12.8 | 12.8 | 12.8 |
| 85° | 6.7 | 7.4 | 8.1 | 8.7 | 9.4 |
| 87.5° | 4.0 | 4.0 | 4.7 | 5.4 | 6.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)