

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: P559599

Luminaire Tested: FSR-12-1-LD4-2STD-50-UNV-93-97-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P559599
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-LD4-2STD-50-UNV-93-97-EDD
Description: 1X1 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1548.0 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: 1' x H: 0')
CIE Type: Direct

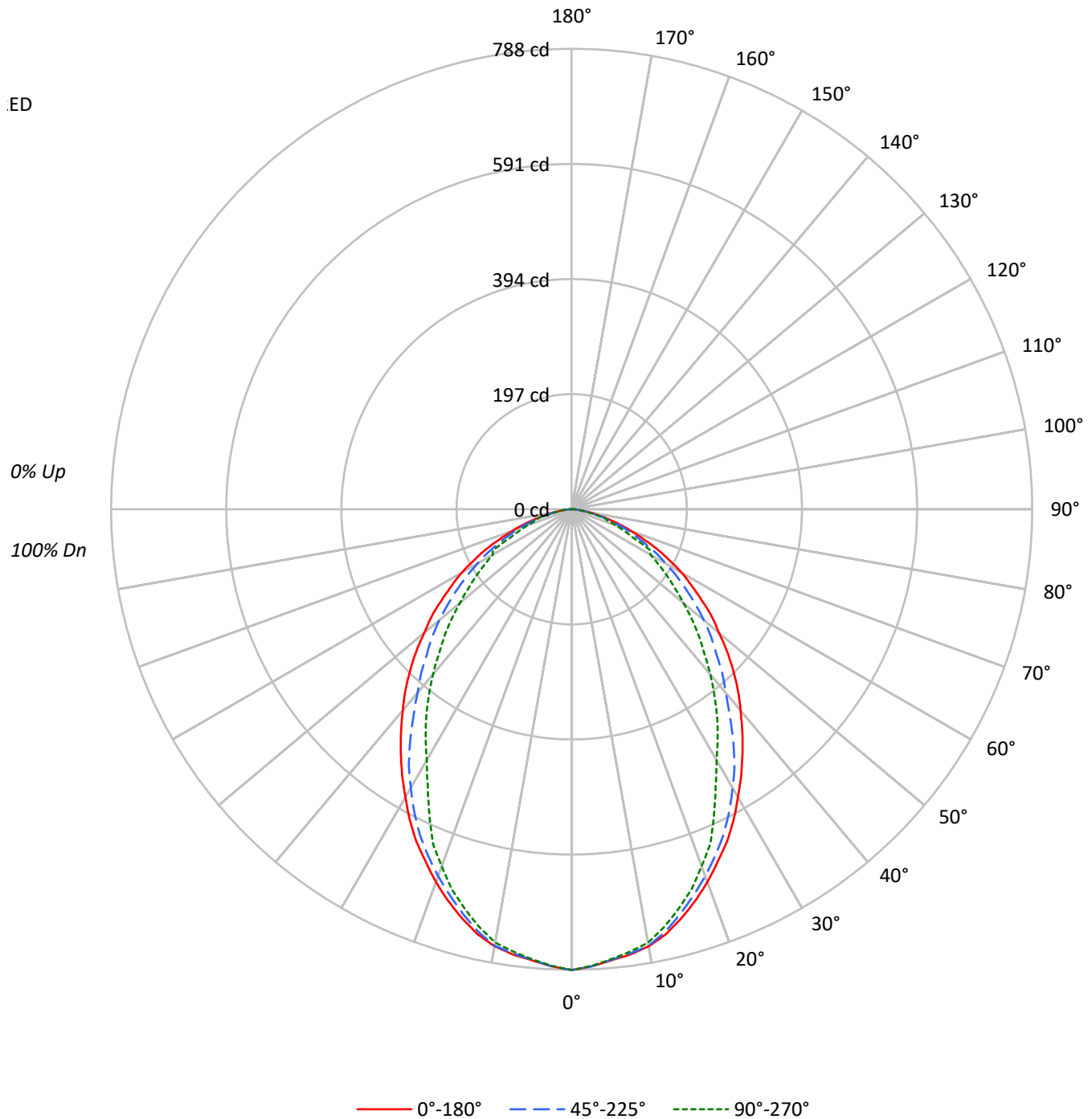
Input Watts (W): 16.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P559599

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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° | 8487 | 8487 | 8487 |
| 5° | 8373 | 8362 | 8352 |
| 10° | 8300 | 8289 | 8230 |
| 15° | 8076 | 7994 | 7883 |
| 20° | 7779 | 7654 | 7446 |
| 25° | 7460 | 7297 | 6842 |
| 30° | 7070 | 6843 | 6164 |
| 35° | 6696 | 6324 | 5702 |
| 40° | 6315 | 5764 | 5188 |
| 45° | 5954 | 5329 | 4690 |
| 50° | 5511 | 4947 | 4183 |
| 55° | 5099 | 4481 | 3746 |
| 60° | 4672 | 4004 | 3356 |
| 65° | 4111 | 3507 | 2972 |
| 70° | 3386 | 3068 | 2524 |
| 75° | 2691 | 2350 | 2466 |
| 80° | 1810 | 1692 | 1581 |
| 85° | 1124 | 1346 | 1581 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5954 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 73.4 | 4.7 |
| 10°-20° | 201.4 | 13.0 |
| 20°-30° | 278.9 | 18.0 |
| 30°-40° | 297.4 | 19.2 |
| 40°-50° | 271.3 | 17.5 |
| 50°-60° | 212.5 | 13.7 |
| 60°-70° | 138.5 | 8.9 |
| 70°-80° | 61.4 | 4.0 |
| 80°-90° | 13.2 | 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° | 553.7 | 35.8 |
| 0°-40° | 851.1 | 55.0 |
| 0°-60° | 1334.9 | 86.2 |
| 0°-90° | 1548.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1548.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 788 | 788 | 788 | 788 | 788 | |
| 5° | 775 | 774 | 774 | 773 | 773 | 74 |
| 15° | 725 | 725 | 717 | 710 | 707 | 204 |
| 25° | 628 | 624 | 614 | 592 | 576 | 288 |
| 35° | 510 | 506 | 481 | 445 | 434 | 319 |
| 45° | 391 | 383 | 350 | 321 | 308 | 301 |
| 55° | 272 | 264 | 239 | 211 | 200 | 244 |
| 65° | 161 | 152 | 138 | 140 | 117 | 159 |
| 75° | 65 | 60 | 56 | 54 | 59 | 69 |
| 85° | 9 | 10 | 11 | 12 | 13 | 13 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P559599

CATALOG NUMBER: FSR-12-1-LD4-2STD-50-UNV-93-97-EDD

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 788.5 | 788.5 | 788.5 | 788.5 | 788.5 |
| 2.5° | 783.1 | 783.1 | 783.1 | 782.1 | 782.1 |
| 5° | 774.9 | 773.9 | 773.9 | 773.0 | 773.0 |
| 7.5° | 768.5 | 767.6 | 766.7 | 765.7 | 763.9 |
| 10° | 759.4 | 759.4 | 758.4 | 753.9 | 753.0 |
| 12.5° | 744.8 | 743.9 | 740.2 | 733.8 | 732.0 |
| 15° | 724.7 | 724.7 | 717.4 | 710.1 | 707.4 |
| 17.5° | 702.8 | 701.9 | 692.8 | 685.5 | 681.9 |
| 20° | 679.1 | 677.3 | 668.2 | 656.3 | 650.0 |
| 22.5° | 652.7 | 652.7 | 641.8 | 626.3 | 619.9 |
| 25° | 628.1 | 624.4 | 614.4 | 592.5 | 576.1 |
| 27.5° | 599.8 | 594.4 | 583.4 | 552.4 | 533.3 |
| 30° | 568.8 | 566.1 | 550.6 | 510.5 | 495.9 |
| 32.5° | 539.7 | 535.1 | 518.7 | 476.8 | 464.9 |
| 35° | 509.6 | 505.9 | 481.3 | 444.9 | 433.9 |
| 37.5° | 479.5 | 474.9 | 443.9 | 414.8 | 401.1 |
| 40° | 449.4 | 443.9 | 410.2 | 383.8 | 369.2 |
| 42.5° | 421.2 | 413.9 | 381.0 | 352.8 | 336.4 |
| 45° | 391.1 | 382.9 | 350.1 | 320.9 | 308.1 |
| 47.5° | 361.0 | 353.7 | 323.6 | 293.5 | 278.9 |
| 50° | 329.1 | 322.7 | 295.4 | 265.3 | 249.8 |
| 52.5° | 302.6 | 292.6 | 266.2 | 236.1 | 223.3 |
| 55° | 271.7 | 263.5 | 238.8 | 210.6 | 199.6 |
| 57.5° | 243.4 | 235.2 | 212.4 | 186.0 | 176.8 |
| 60° | 217.0 | 205.1 | 186.0 | 163.2 | 155.9 |
| 62.5° | 187.8 | 178.7 | 162.3 | 143.1 | 152.2 |
| 65° | 161.4 | 152.2 | 137.7 | 140.4 | 116.7 |
| 67.5° | 132.2 | 127.6 | 114.9 | 102.1 | 98.5 |
| 70° | 107.6 | 102.1 | 97.5 | 83.9 | 80.2 |
| 72.5° | 85.7 | 80.2 | 73.8 | 66.5 | 63.8 |
| 75° | 64.7 | 60.2 | 56.5 | 53.8 | 59.3 |
| 77.5° | 44.7 | 42.8 | 40.1 | 37.4 | 36.5 |
| 80° | 29.2 | 28.3 | 27.3 | 26.4 | 25.5 |
| 82.5° | 17.3 | 17.3 | 17.3 | 17.3 | 17.3 |
| 85° | 9.1 | 10.0 | 10.9 | 11.9 | 12.8 |
| 87.5° | 5.5 | 5.5 | 6.4 | 7.3 | 8.2 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)