

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: P559578

Luminaire Tested: FSR-12-1-LD4-2STD-50-UNV-82-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P559578
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-82-94-EDD-90
Description: 1X1 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1311.0 lumens
Efficiency: N/A
Efficacy: 79.0 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

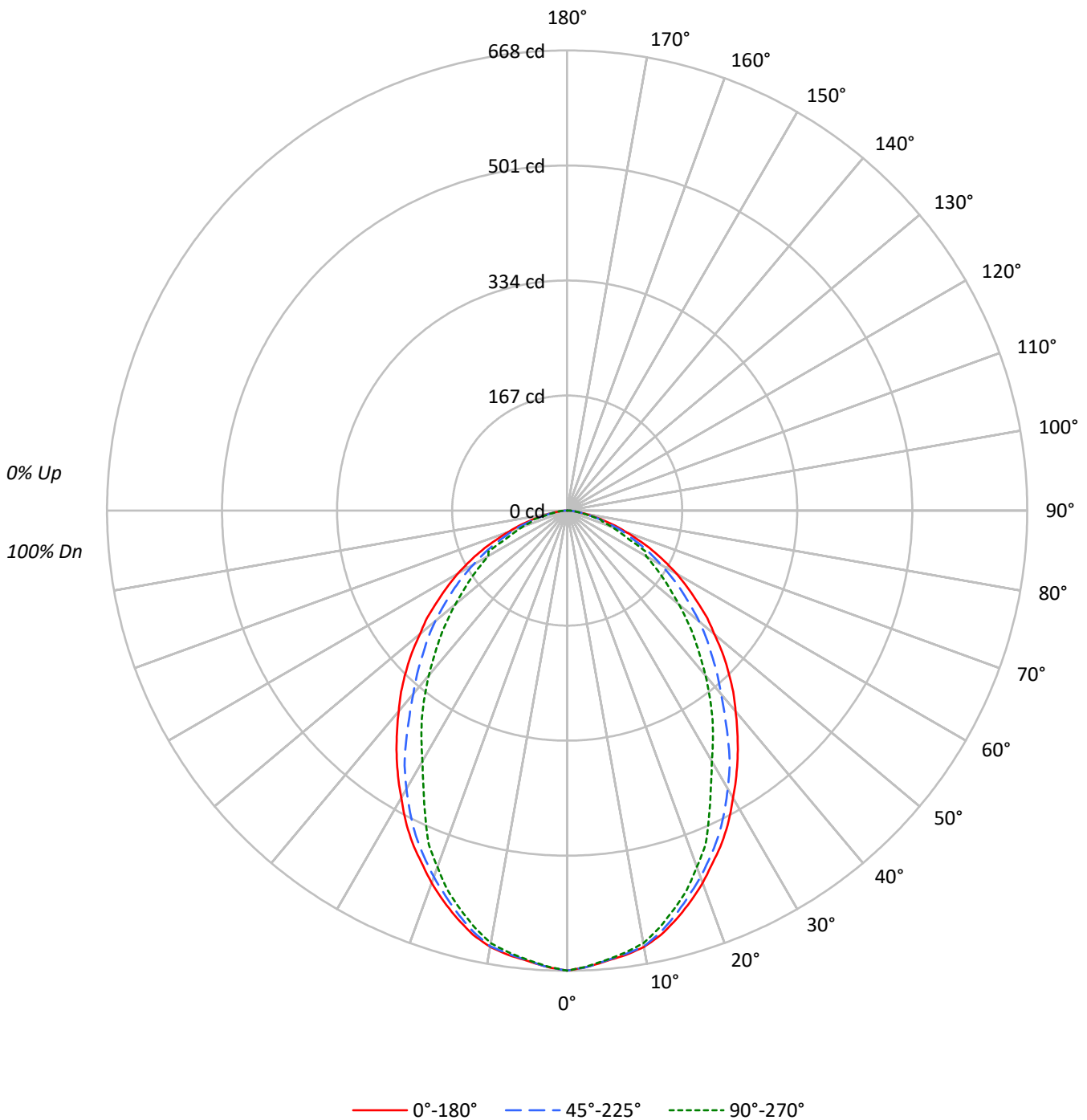
Input Watts (W): 16.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P559578

CATALOG NUMBER: FSR-12-1-LD4-2STD-50-UNV-82-94-EDD-90

Luminous Intensity Polar Plot





TEST NUMBER: P559578

CATALOG NUMBER: FSR-12-1-LD4-2STD-50-UNV-82-94-EDD-90

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° | 7188 | 7188 | 7188 |
| 5° | 7090 | 7083 | 7074 |
| 10° | 7029 | 7020 | 6970 |
| 15° | 6840 | 6771 | 6676 |
| 20° | 6589 | 6482 | 6306 |
| 25° | 6317 | 6179 | 5795 |
| 30° | 5987 | 5796 | 5220 |
| 35° | 5671 | 5356 | 4829 |
| 40° | 5348 | 4881 | 4394 |
| 45° | 5042 | 4513 | 3972 |
| 50° | 4667 | 4188 | 3542 |
| 55° | 4318 | 3796 | 3173 |
| 60° | 3955 | 3391 | 2842 |
| 65° | 3479 | 2970 | 2516 |
| 70° | 2867 | 2600 | 2137 |
| 75° | 2279 | 1992 | 2088 |
| 80° | 1531 | 1438 | 1339 |
| 85° | 951 | 1149 | 1334 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5042 cd/sqm



TEST NUMBER: P559578

CATALOG NUMBER: FSR-12-1-LD4-2STD-50-UNV-82-94-EDD-90

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 62.2 | 4.7 |
| 10°-20° | 170.6 | 13.0 |
| 20°-30° | 236.2 | 18.0 |
| 30°-40° | 251.8 | 19.2 |
| 40°-50° | 229.8 | 17.5 |
| 50°-60° | 180.0 | 13.7 |
| 60°-70° | 117.3 | 8.9 |
| 70°-80° | 52.0 | 4.0 |
| 80°-90° | 11.2 | 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° | 469.0 | 35.8 |
| 0°-40° | 720.8 | 55.0 |
| 0°-60° | 1130.6 | 86.2 |
| 0°-90° | 1311.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1311.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 668 | 668 | 668 | 668 | 668 | |
| 5° | 656 | 656 | 656 | 655 | 655 | 62 |
| 15° | 614 | 614 | 608 | 601 | 599 | 173 |
| 25° | 532 | 529 | 520 | 502 | 488 | 244 |
| 35° | 432 | 428 | 408 | 377 | 368 | 270 |
| 45° | 331 | 324 | 296 | 272 | 261 | 255 |
| 55° | 230 | 223 | 202 | 178 | 169 | 206 |
| 65° | 137 | 129 | 117 | 119 | 99 | 135 |
| 75° | 55 | 51 | 48 | 46 | 50 | 59 |
| 85° | 8 | 8 | 9 | 10 | 11 | 11 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P559578

CATALOG NUMBER: FSR-12-1-LD4-2STD-50-UNV-82-94-EDD-90

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 667.8 | 667.8 | 667.8 | 667.8 | 667.8 |
| 2.5° | 663.2 | 663.2 | 663.2 | 662.4 | 662.4 |
| 5° | 656.2 | 655.5 | 655.5 | 654.7 | 654.7 |
| 7.5° | 650.8 | 650.0 | 649.3 | 648.5 | 647.0 |
| 10° | 643.1 | 643.1 | 642.3 | 638.5 | 637.7 |
| 12.5° | 630.7 | 630.0 | 626.9 | 621.5 | 619.9 |
| 15° | 613.8 | 613.8 | 607.6 | 601.4 | 599.1 |
| 17.5° | 595.2 | 594.5 | 586.7 | 580.6 | 577.5 |
| 20° | 575.2 | 573.6 | 565.9 | 555.9 | 550.5 |
| 22.5° | 552.8 | 552.8 | 543.5 | 530.4 | 525.0 |
| 25° | 531.9 | 528.8 | 520.3 | 501.8 | 487.9 |
| 27.5° | 508.0 | 503.4 | 494.1 | 467.9 | 451.6 |
| 30° | 481.7 | 479.4 | 466.3 | 432.3 | 420.0 |
| 32.5° | 457.0 | 453.2 | 439.3 | 403.8 | 393.7 |
| 35° | 431.6 | 428.5 | 407.6 | 376.8 | 367.5 |
| 37.5° | 406.1 | 402.2 | 376.0 | 351.3 | 339.7 |
| 40° | 380.6 | 376.0 | 347.4 | 325.0 | 312.7 |
| 42.5° | 356.7 | 350.5 | 322.7 | 298.8 | 284.9 |
| 45° | 331.2 | 324.3 | 296.5 | 271.8 | 260.9 |
| 47.5° | 305.7 | 299.5 | 274.1 | 248.6 | 236.2 |
| 50° | 278.7 | 273.3 | 250.1 | 224.7 | 211.5 |
| 52.5° | 256.3 | 247.8 | 225.4 | 200.0 | 189.1 |
| 55° | 230.1 | 223.1 | 202.3 | 178.3 | 169.1 |
| 57.5° | 206.1 | 199.2 | 179.9 | 157.5 | 149.8 |
| 60° | 183.7 | 173.7 | 157.5 | 138.2 | 132.0 |
| 62.5° | 159.0 | 151.3 | 137.4 | 121.2 | 128.9 |
| 65° | 136.6 | 128.9 | 116.6 | 118.9 | 98.8 |
| 67.5° | 111.9 | 108.1 | 97.3 | 86.5 | 83.4 |
| 70° | 91.1 | 86.5 | 82.6 | 71.0 | 67.9 |
| 72.5° | 72.6 | 67.9 | 62.5 | 56.4 | 54.0 |
| 75° | 54.8 | 51.0 | 47.9 | 45.5 | 50.2 |
| 77.5° | 37.8 | 36.3 | 34.0 | 31.7 | 30.9 |
| 80° | 24.7 | 23.9 | 23.2 | 22.4 | 21.6 |
| 82.5° | 14.7 | 14.7 | 14.7 | 14.7 | 14.7 |
| 85° | 7.7 | 8.5 | 9.3 | 10.0 | 10.8 |
| 87.5° | 4.6 | 4.6 | 5.4 | 6.2 | 6.9 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)