

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: P560147

Luminaire Tested: FSR-12-2-LD4-1STD-50-UNV-82-85-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560147
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-LD4-1STD-50-UNV-82-85-EDD
Description: 1X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1428.0 lumens
Efficiency: N/A
Efficacy: 86.0 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

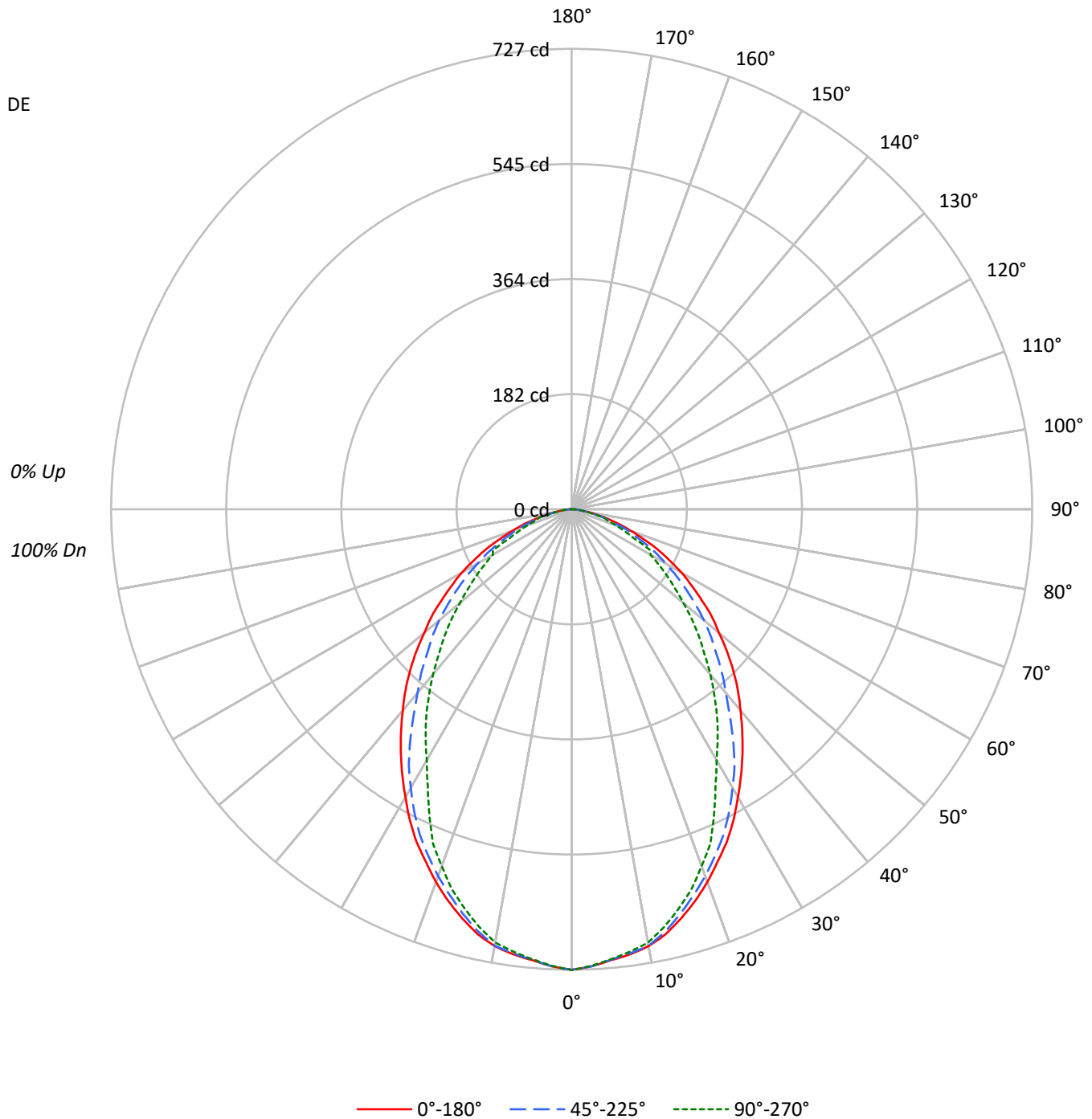
Input Watts (W): 16.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P560147

CATALOG NUMBER: FSR-12-2-LD4-1STD-50-UNV-82-85-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 | 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° | 3915 | 3915 | 3915 |
| 5° | 3862 | 3857 | 3853 |
| 10° | 3828 | 3824 | 3796 |
| 15° | 3725 | 3687 | 3636 |
| 20° | 3588 | 3530 | 3434 |
| 25° | 3441 | 3366 | 3156 |
| 30° | 3261 | 3156 | 2843 |
| 35° | 3089 | 2917 | 2630 |
| 40° | 2913 | 2659 | 2393 |
| 45° | 2746 | 2458 | 2163 |
| 50° | 2542 | 2282 | 1929 |
| 55° | 2351 | 2067 | 1728 |
| 60° | 2154 | 1846 | 1548 |
| 65° | 1895 | 1617 | 1370 |
| 70° | 1561 | 1416 | 1164 |
| 75° | 1241 | 1083 | 1137 |
| 80° | 834 | 781 | 728 |
| 85° | 519 | 624 | 729 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2746 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 67.7 | 4.7 |
| 10°-20° | 185.8 | 13.0 |
| 20°-30° | 257.3 | 18.0 |
| 30°-40° | 274.3 | 19.2 |
| 40°-50° | 250.3 | 17.5 |
| 50°-60° | 196.1 | 13.7 |
| 60°-70° | 127.8 | 8.9 |
| 70°-80° | 56.6 | 4.0 |
| 80°-90° | 12.2 | 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° | 510.8 | 35.8 |
| 0°-40° | 785.1 | 55.0 |
| 0°-60° | 1231.4 | 86.2 |
| 0°-90° | 1428.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1428.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 727 | 727 | 727 | 727 | 727 | |
| 5° | 715 | 714 | 714 | 713 | 713 | 68 |
| 15° | 668 | 668 | 662 | 655 | 653 | 188 |
| 25° | 579 | 576 | 567 | 547 | 532 | 266 |
| 35° | 470 | 467 | 444 | 410 | 400 | 294 |
| 45° | 361 | 353 | 323 | 296 | 284 | 278 |
| 55° | 251 | 243 | 220 | 194 | 184 | 225 |
| 65° | 149 | 140 | 127 | 130 | 108 | 147 |
| 75° | 60 | 56 | 52 | 50 | 55 | 64 |
| 85° | 8 | 9 | 10 | 11 | 12 | 12 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P560147

CATALOG NUMBER: FSR-12-2-LD4-1STD-50-UNV-82-85-EDD

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 727.4 | 727.4 | 727.4 | 727.4 | 727.4 |
| 2.5° | 722.4 | 722.4 | 722.4 | 721.5 | 721.5 |
| 5° | 714.8 | 713.9 | 713.9 | 713.1 | 713.1 |
| 7.5° | 708.9 | 708.1 | 707.2 | 706.4 | 704.7 |
| 10° | 700.5 | 700.5 | 699.7 | 695.4 | 694.6 |
| 12.5° | 687.0 | 686.2 | 682.8 | 676.9 | 675.3 |
| 15° | 668.5 | 668.5 | 661.8 | 655.1 | 652.6 |
| 17.5° | 648.4 | 647.5 | 639.1 | 632.4 | 629.0 |
| 20° | 626.5 | 624.8 | 616.4 | 605.5 | 599.6 |
| 22.5° | 602.1 | 602.1 | 592.0 | 577.7 | 571.8 |
| 25° | 579.4 | 576.0 | 566.8 | 546.6 | 531.5 |
| 27.5° | 553.3 | 548.3 | 538.2 | 509.6 | 491.9 |
| 30° | 524.7 | 522.2 | 507.9 | 470.9 | 457.5 |
| 32.5° | 497.8 | 493.6 | 478.5 | 439.8 | 428.9 |
| 35° | 470.1 | 466.7 | 444.0 | 410.4 | 400.3 |
| 37.5° | 442.3 | 438.1 | 409.5 | 382.6 | 370.0 |
| 40° | 414.6 | 409.5 | 378.4 | 354.0 | 340.6 |
| 42.5° | 388.5 | 381.8 | 351.5 | 325.4 | 310.3 |
| 45° | 360.8 | 353.2 | 322.9 | 296.0 | 284.2 |
| 47.5° | 333.0 | 326.3 | 298.5 | 270.8 | 257.3 |
| 50° | 303.6 | 297.7 | 272.5 | 244.7 | 230.4 |
| 52.5° | 279.2 | 269.9 | 245.6 | 217.8 | 206.0 |
| 55° | 250.6 | 243.0 | 220.3 | 194.3 | 184.2 |
| 57.5° | 224.5 | 217.0 | 195.9 | 171.5 | 163.1 |
| 60° | 200.1 | 189.2 | 171.5 | 150.5 | 143.8 |
| 62.5° | 173.2 | 164.8 | 149.7 | 132.0 | 140.4 |
| 65° | 148.8 | 140.4 | 127.0 | 129.5 | 107.6 |
| 67.5° | 121.9 | 117.7 | 106.0 | 94.2 | 90.8 |
| 70° | 99.2 | 94.2 | 90.0 | 77.4 | 74.0 |
| 72.5° | 79.0 | 74.0 | 68.1 | 61.4 | 58.9 |
| 75° | 59.7 | 55.5 | 52.1 | 49.6 | 54.7 |
| 77.5° | 41.2 | 39.5 | 37.0 | 34.5 | 33.6 |
| 80° | 26.9 | 26.1 | 25.2 | 24.4 | 23.5 |
| 82.5° | 16.0 | 16.0 | 16.0 | 16.0 | 16.0 |
| 85° | 8.4 | 9.3 | 10.1 | 10.9 | 11.8 |
| 87.5° | 5.0 | 5.0 | 5.9 | 6.7 | 7.6 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)