

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: P559361

Luminaire Tested: FSR-12-1-LD4-2LO-50-UNV-81-84-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P559361
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-LD4-2LO-50-UNV-81-84-EDD
Description: 1X1 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1147.0 lumens
Efficiency: N/A
Efficacy: 98.0 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

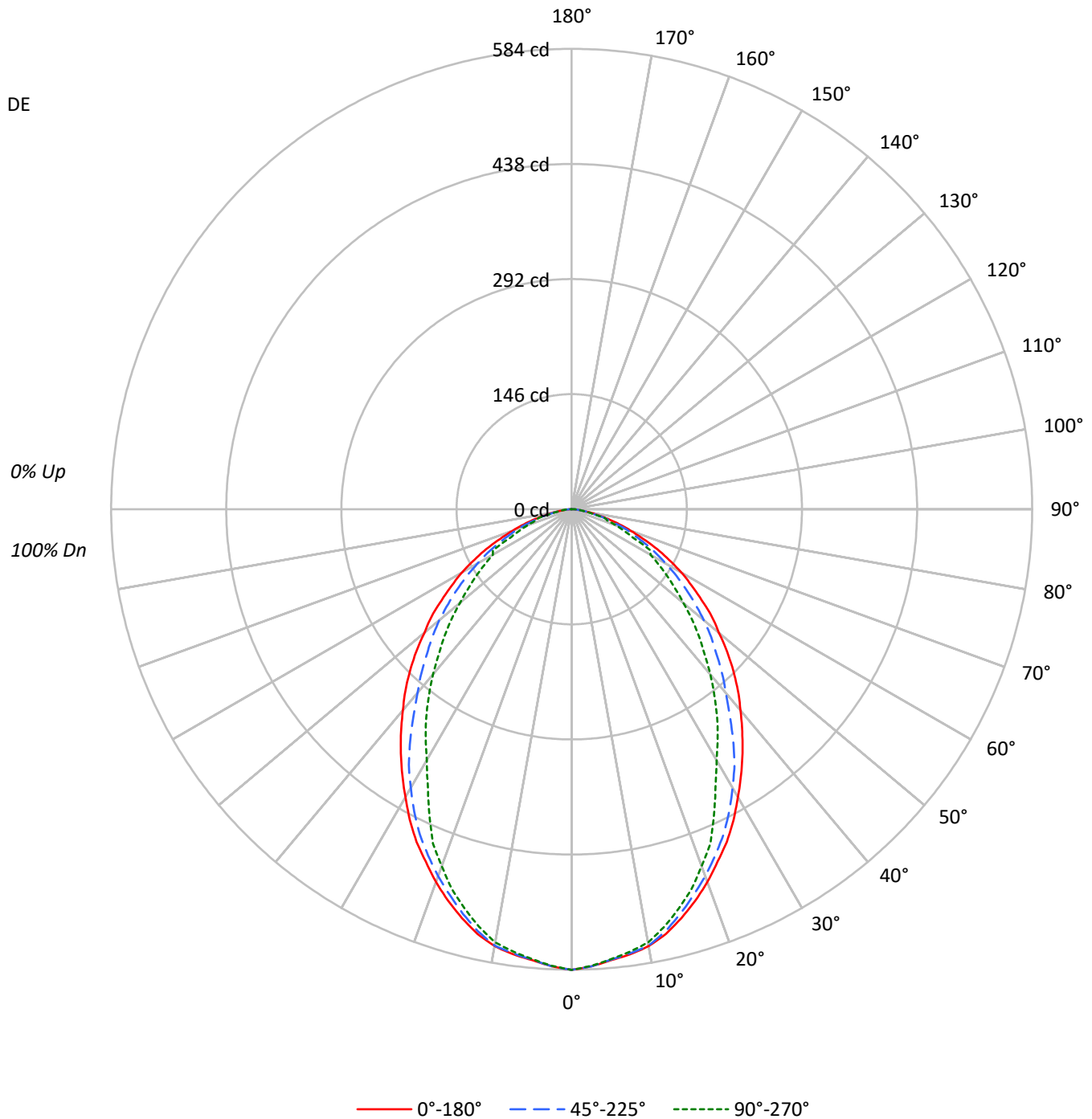
Input Watts (W): 11.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P559361

CATALOG NUMBER: FSR-12-1-LD4-2LO-50-UNV-81-84-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 | 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° | 6289 | 6289 | 6289 |
| 5° | 6203 | 6197 | 6189 |
| 10° | 6150 | 6143 | 6098 |
| 15° | 5984 | 5924 | 5841 |
| 20° | 5764 | 5671 | 5517 |
| 25° | 5527 | 5407 | 5070 |
| 30° | 5239 | 5071 | 4566 |
| 35° | 4962 | 4686 | 4225 |
| 40° | 4679 | 4272 | 3844 |
| 45° | 4411 | 3949 | 3475 |
| 50° | 4083 | 3664 | 3100 |
| 55° | 3778 | 3322 | 2776 |
| 60° | 3462 | 2967 | 2486 |
| 65° | 3046 | 2598 | 2203 |
| 70° | 2508 | 2275 | 1869 |
| 75° | 1996 | 1743 | 1826 |
| 80° | 1339 | 1258 | 1172 |
| 85° | 840 | 1000 | 1173 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4411 cd/sqm

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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 54.4 | 4.7 |
| 10°-20° | 149.3 | 13.0 |
| 20°-30° | 206.6 | 18.0 |
| 30°-40° | 220.3 | 19.2 |
| 40°-50° | 201.0 | 17.5 |
| 50°-60° | 157.5 | 13.7 |
| 60°-70° | 102.6 | 8.9 |
| 70°-80° | 45.5 | 4.0 |
| 80°-90° | 9.8 | 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° | 410.3 | 35.8 |
| 0°-40° | 630.6 | 55.0 |
| 0°-60° | 989.1 | 86.2 |
| 0°-90° | 1147.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1147.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 584 | 584 | 584 | 584 | 584 | |
| 5° | 574 | 574 | 574 | 573 | 573 | 54 |
| 15° | 537 | 537 | 532 | 526 | 524 | 151 |
| 25° | 465 | 463 | 455 | 439 | 427 | 214 |
| 35° | 378 | 375 | 357 | 330 | 322 | 236 |
| 45° | 290 | 284 | 259 | 238 | 228 | 223 |
| 55° | 201 | 195 | 177 | 156 | 148 | 181 |
| 65° | 120 | 113 | 102 | 104 | 86 | 118 |
| 75° | 48 | 45 | 42 | 40 | 44 | 51 |
| 85° | 7 | 7 | 8 | 9 | 10 | 9 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P559361

CATALOG NUMBER: FSR-12-1-LD4-2LO-50-UNV-81-84-EDD

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 584.3 | 584.3 | 584.3 | 584.3 | 584.3 |
| 2.5° | 580.2 | 580.2 | 580.2 | 579.5 | 579.5 |
| 5° | 574.1 | 573.5 | 573.5 | 572.8 | 572.8 |
| 7.5° | 569.4 | 568.7 | 568.1 | 567.4 | 566.0 |
| 10° | 562.7 | 562.7 | 562.0 | 558.6 | 557.9 |
| 12.5° | 551.8 | 551.2 | 548.5 | 543.7 | 542.4 |
| 15° | 537.0 | 537.0 | 531.6 | 526.2 | 524.2 |
| 17.5° | 520.8 | 520.1 | 513.3 | 507.9 | 505.2 |
| 20° | 503.2 | 501.9 | 495.1 | 486.3 | 481.6 |
| 22.5° | 483.6 | 483.6 | 475.5 | 464.0 | 459.3 |
| 25° | 465.4 | 462.7 | 455.3 | 439.0 | 426.9 |
| 27.5° | 444.4 | 440.4 | 432.3 | 409.3 | 395.1 |
| 30° | 421.5 | 419.5 | 408.0 | 378.3 | 367.4 |
| 32.5° | 399.9 | 396.5 | 384.3 | 353.3 | 344.5 |
| 35° | 377.6 | 374.9 | 356.6 | 329.6 | 321.5 |
| 37.5° | 355.3 | 351.9 | 328.9 | 307.3 | 297.2 |
| 40° | 333.0 | 328.9 | 304.0 | 284.4 | 273.6 |
| 42.5° | 312.1 | 306.7 | 282.3 | 261.4 | 249.2 |
| 45° | 289.8 | 283.7 | 259.4 | 237.8 | 228.3 |
| 47.5° | 267.5 | 262.1 | 239.8 | 217.5 | 206.7 |
| 50° | 243.8 | 239.1 | 218.8 | 196.6 | 185.1 |
| 52.5° | 224.3 | 216.8 | 197.2 | 174.9 | 165.5 |
| 55° | 201.3 | 195.2 | 177.0 | 156.0 | 147.9 |
| 57.5° | 180.3 | 174.3 | 157.4 | 137.8 | 131.0 |
| 60° | 160.8 | 152.0 | 137.8 | 120.9 | 115.5 |
| 62.5° | 139.1 | 132.4 | 120.2 | 106.0 | 112.8 |
| 65° | 119.6 | 112.8 | 102.0 | 104.0 | 86.5 |
| 67.5° | 97.9 | 94.6 | 85.1 | 75.7 | 72.9 |
| 70° | 79.7 | 75.7 | 72.3 | 62.1 | 59.4 |
| 72.5° | 63.5 | 59.4 | 54.7 | 49.3 | 47.3 |
| 75° | 48.0 | 44.6 | 41.9 | 39.9 | 43.9 |
| 77.5° | 33.1 | 31.7 | 29.7 | 27.7 | 27.0 |
| 80° | 21.6 | 20.9 | 20.3 | 19.6 | 18.9 |
| 82.5° | 12.8 | 12.8 | 12.8 | 12.8 | 12.8 |
| 85° | 6.8 | 7.4 | 8.1 | 8.8 | 9.5 |
| 87.5° | 4.1 | 4.1 | 4.7 | 5.4 | 6.1 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)