

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: P559219

Luminaire Tested: FSR-12-1-LD4-2LO-35-UNV-80-85-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P559219
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-35-UNV-80-85-EDD
Description: 1X1 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRONM
SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1152.0 lumens
Efficiency: N/A
Efficacy: 98.5 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

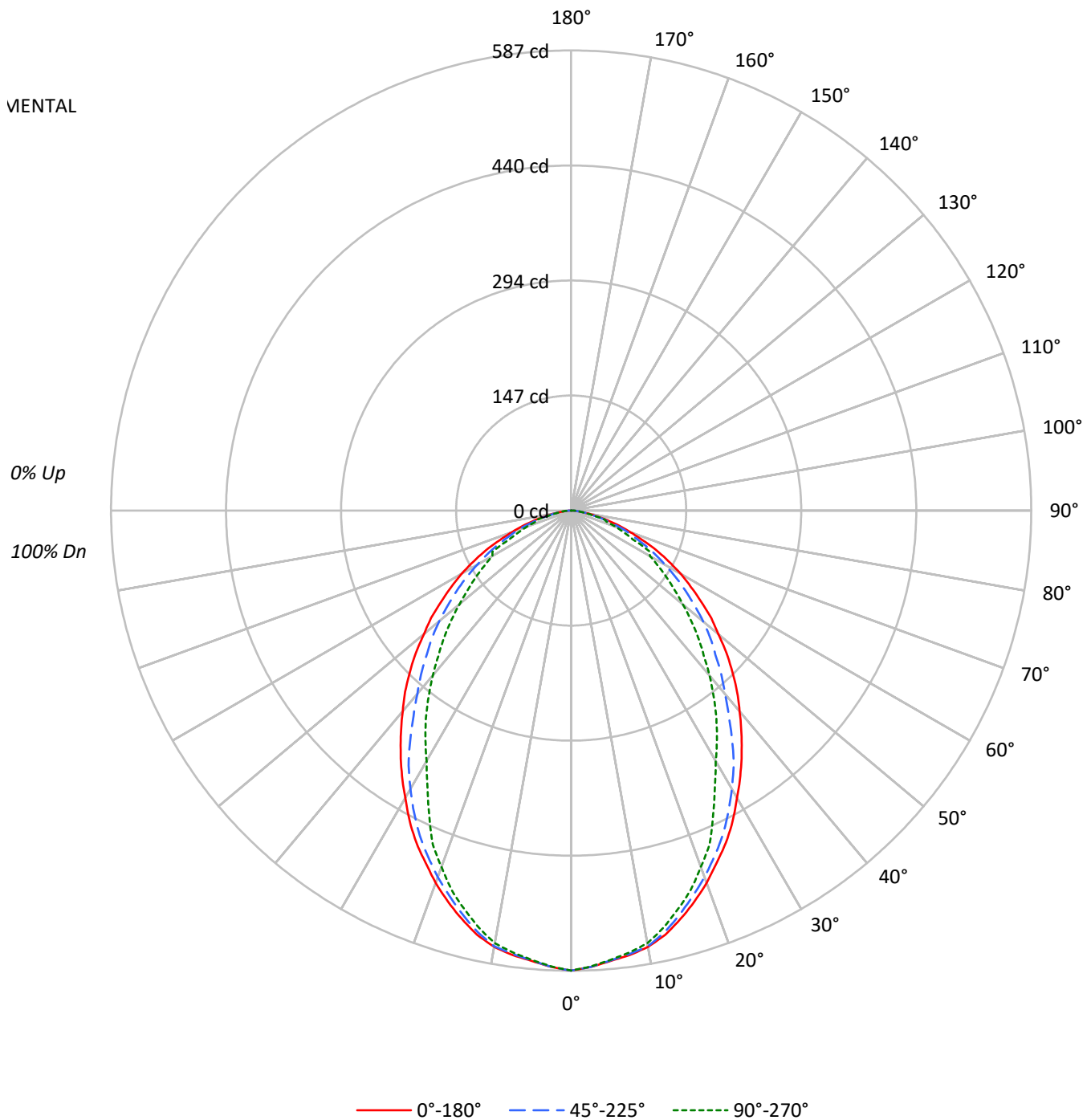
Input Watts (W): 11.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P559219

CATALOG NUMBER: FSR-12-1-LD4-2LO-35-UNV-80-85-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P559219

CATALOG NUMBER: FSR-12-1-LD4-2LO-35-UNV-80-85-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 | 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° | 6316 | 6316 | 6316 |
| 5° | 6230 | 6224 | 6216 |
| 10° | 6177 | 6169 | 6125 |
| 15° | 6010 | 5950 | 5866 |
| 20° | 5789 | 5696 | 5541 |
| 25° | 5551 | 5430 | 5092 |
| 30° | 5261 | 5093 | 4586 |
| 35° | 4983 | 4707 | 4243 |
| 40° | 4699 | 4290 | 3861 |
| 45° | 4430 | 3965 | 3491 |
| 50° | 4101 | 3681 | 3113 |
| 55° | 3795 | 3335 | 2789 |
| 60° | 3477 | 2979 | 2497 |
| 65° | 3059 | 2608 | 2211 |
| 70° | 2521 | 2285 | 1879 |
| 75° | 2005 | 1751 | 1834 |
| 80° | 1345 | 1265 | 1178 |
| 85° | 840 | 1000 | 1173 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4430 cd/sqm



TEST NUMBER: P559219

CATALOG NUMBER: FSR-12-1-LD4-2LO-35-UNV-80-85-EDD

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 54.6 | 4.7 |
| 10°-20° | 149.9 | 13.0 |
| 20°-30° | 207.5 | 18.0 |
| 30°-40° | 221.3 | 19.2 |
| 40°-50° | 201.9 | 17.5 |
| 50°-60° | 158.2 | 13.7 |
| 60°-70° | 103.1 | 8.9 |
| 70°-80° | 45.7 | 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° | 412.1 | 35.8 |
| 0°-40° | 633.4 | 55.0 |
| 0°-60° | 993.4 | 86.2 |
| 0°-90° | 1152.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1152.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 587 | 587 | 587 | 587 | 587 | |
| 5° | 577 | 576 | 576 | 575 | 575 | 55 |
| 15° | 539 | 539 | 534 | 528 | 526 | 152 |
| 25° | 467 | 465 | 457 | 441 | 429 | 215 |
| 35° | 379 | 376 | 358 | 331 | 323 | 237 |
| 45° | 291 | 285 | 260 | 239 | 229 | 224 |
| 55° | 202 | 196 | 178 | 157 | 149 | 181 |
| 65° | 120 | 113 | 102 | 104 | 87 | 118 |
| 75° | 48 | 45 | 42 | 40 | 44 | 52 |
| 85° | 7 | 8 | 8 | 9 | 10 | 9 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P559219

CATALOG NUMBER: FSR-12-1-LD4-2LO-35-UNV-80-85-EDD

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 586.8 | 586.8 | 586.8 | 586.8 | 586.8 |
| 2.5° | 582.7 | 582.7 | 582.7 | 582.1 | 582.1 |
| 5° | 576.6 | 576.0 | 576.0 | 575.3 | 575.3 |
| 7.5° | 571.9 | 571.2 | 570.5 | 569.9 | 568.5 |
| 10° | 565.1 | 565.1 | 564.4 | 561.0 | 560.4 |
| 12.5° | 554.3 | 553.6 | 550.9 | 546.1 | 544.8 |
| 15° | 539.3 | 539.3 | 533.9 | 528.5 | 526.4 |
| 17.5° | 523.0 | 522.4 | 515.6 | 510.2 | 507.4 |
| 20° | 505.4 | 504.0 | 497.3 | 488.4 | 483.7 |
| 22.5° | 485.7 | 485.7 | 477.6 | 466.1 | 461.3 |
| 25° | 467.4 | 464.7 | 457.2 | 441.0 | 428.7 |
| 27.5° | 446.4 | 442.3 | 434.2 | 411.1 | 396.9 |
| 30° | 423.3 | 421.3 | 409.8 | 379.9 | 369.0 |
| 32.5° | 401.6 | 398.2 | 386.0 | 354.8 | 346.0 |
| 35° | 379.2 | 376.5 | 358.2 | 331.1 | 322.9 |
| 37.5° | 356.8 | 353.4 | 330.4 | 308.7 | 298.5 |
| 40° | 334.4 | 330.4 | 305.3 | 285.6 | 274.8 |
| 42.5° | 313.4 | 308.0 | 283.6 | 262.5 | 250.3 |
| 45° | 291.0 | 284.9 | 260.5 | 238.8 | 229.3 |
| 47.5° | 268.6 | 263.2 | 240.8 | 218.4 | 207.6 |
| 50° | 244.9 | 240.2 | 219.8 | 197.4 | 185.9 |
| 52.5° | 225.2 | 217.8 | 198.1 | 175.7 | 166.2 |
| 55° | 202.2 | 196.1 | 177.7 | 156.7 | 148.6 |
| 57.5° | 181.1 | 175.0 | 158.1 | 138.4 | 131.6 |
| 60° | 161.5 | 152.6 | 138.4 | 121.4 | 116.0 |
| 62.5° | 139.7 | 133.0 | 120.8 | 106.5 | 113.3 |
| 65° | 120.1 | 113.3 | 102.4 | 104.5 | 86.8 |
| 67.5° | 98.4 | 95.0 | 85.5 | 76.0 | 73.3 |
| 70° | 80.1 | 76.0 | 72.6 | 62.4 | 59.7 |
| 72.5° | 63.8 | 59.7 | 55.0 | 49.5 | 47.5 |
| 75° | 48.2 | 44.8 | 42.1 | 40.0 | 44.1 |
| 77.5° | 33.2 | 31.9 | 29.8 | 27.8 | 27.1 |
| 80° | 21.7 | 21.0 | 20.4 | 19.7 | 19.0 |
| 82.5° | 12.9 | 12.9 | 12.9 | 12.9 | 12.9 |
| 85° | 6.8 | 7.5 | 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)