

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: P559464

Luminaire Tested: FSR-12-1-LD4-2STD-35-UNV-93-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P559464
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-35-UNV-93-88-EDD-90
Description: 1X1 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1114.0 lumens
Efficiency: N/A
Efficacy: 67.1 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

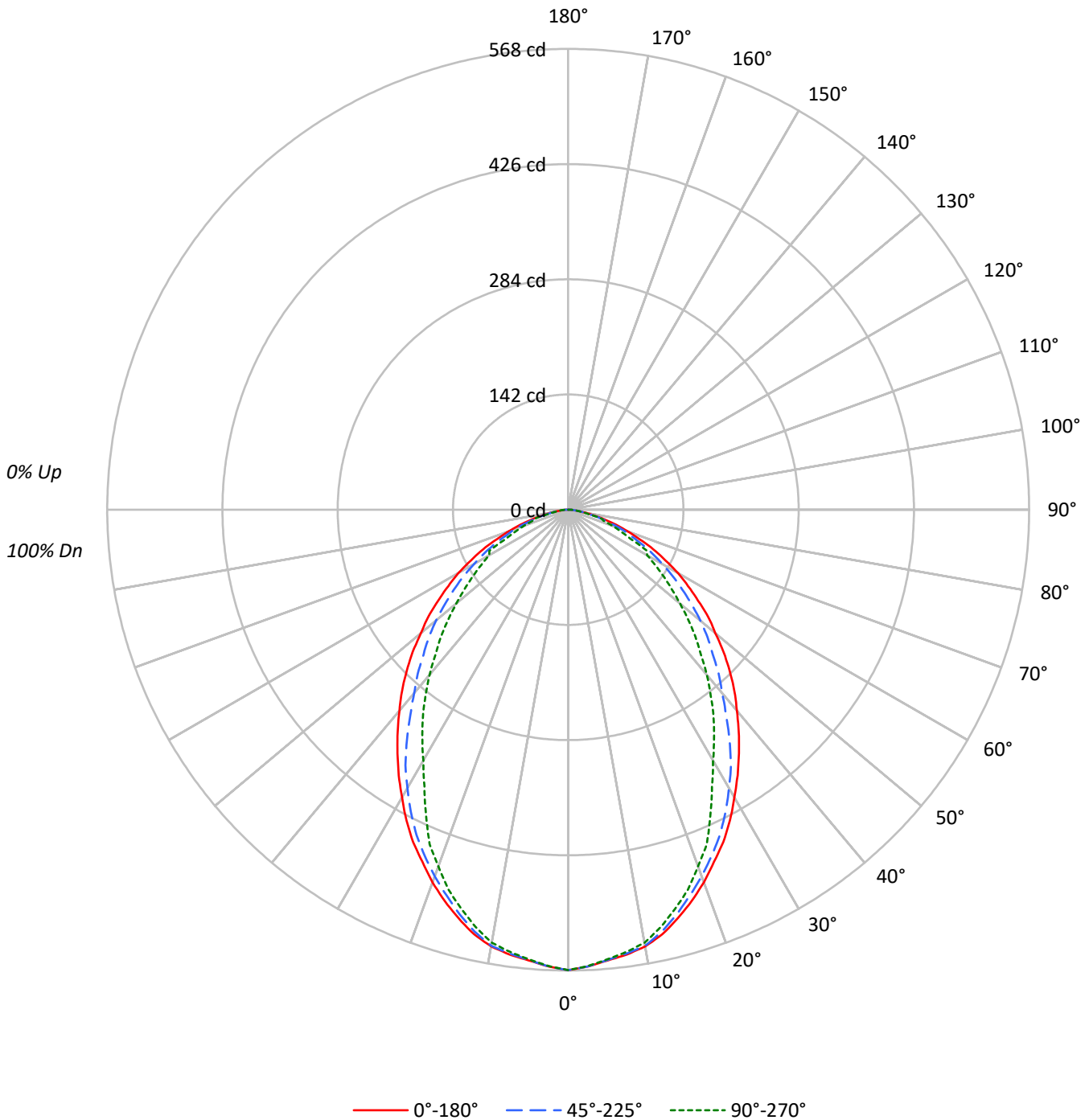
Input Watts (W): 16.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P559464

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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 | 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° | 6109 | 6109 | 6109 |
| 5° | 6025 | 6018 | 6011 |
| 10° | 5973 | 5966 | 5923 |
| 15° | 5811 | 5753 | 5673 |
| 20° | 5598 | 5509 | 5357 |
| 25° | 5368 | 5252 | 4924 |
| 30° | 5088 | 4924 | 4436 |
| 35° | 4819 | 4552 | 4104 |
| 40° | 4544 | 4148 | 3733 |
| 45° | 4284 | 3835 | 3375 |
| 50° | 3965 | 3560 | 3009 |
| 55° | 3669 | 3226 | 2697 |
| 60° | 3360 | 2880 | 2415 |
| 65° | 2957 | 2524 | 2139 |
| 70° | 2436 | 2209 | 1816 |
| 75° | 1938 | 1693 | 1772 |
| 80° | 1302 | 1221 | 1141 |
| 85° | 815 | 976 | 1136 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4284 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 52.8 | 4.7 |
| 10°-20° | 145.0 | 13.0 |
| 20°-30° | 200.7 | 18.0 |
| 30°-40° | 214.0 | 19.2 |
| 40°-50° | 195.2 | 17.5 |
| 50°-60° | 153.0 | 13.7 |
| 60°-70° | 99.7 | 8.9 |
| 70°-80° | 44.2 | 4.0 |
| 80°-90° | 9.5 | 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° | 398.5 | 35.8 |
| 0°-40° | 612.5 | 55.0 |
| 0°-60° | 960.7 | 86.2 |
| 0°-90° | 1114.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1114.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 568 | 568 | 568 | 568 | 568 | |
| 5° | 558 | 557 | 557 | 556 | 556 | 53 |
| 15° | 522 | 522 | 516 | 511 | 509 | 147 |
| 25° | 452 | 449 | 442 | 426 | 415 | 208 |
| 35° | 367 | 364 | 346 | 320 | 312 | 229 |
| 45° | 281 | 276 | 252 | 231 | 222 | 217 |
| 55° | 196 | 190 | 172 | 152 | 144 | 175 |
| 65° | 116 | 110 | 99 | 101 | 84 | 114 |
| 75° | 47 | 43 | 41 | 39 | 43 | 50 |
| 85° | 7 | 7 | 8 | 8 | 9 | 9 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 567.5 | 567.5 | 567.5 | 567.5 | 567.5 |
| 2.5° | 563.5 | 563.5 | 563.5 | 562.9 | 562.9 |
| 5° | 557.6 | 557.0 | 557.0 | 556.3 | 556.3 |
| 7.5° | 553.0 | 552.4 | 551.7 | 551.1 | 549.7 |
| 10° | 546.5 | 546.5 | 545.8 | 542.5 | 541.9 |
| 12.5° | 536.0 | 535.3 | 532.7 | 528.1 | 526.8 |
| 15° | 521.5 | 521.5 | 516.3 | 511.0 | 509.1 |
| 17.5° | 505.8 | 505.1 | 498.6 | 493.3 | 490.7 |
| 20° | 488.7 | 487.4 | 480.9 | 472.3 | 467.7 |
| 22.5° | 469.7 | 469.7 | 461.8 | 450.7 | 446.1 |
| 25° | 452.0 | 449.4 | 442.2 | 426.4 | 414.6 |
| 27.5° | 431.7 | 427.7 | 419.9 | 397.5 | 383.8 |
| 30° | 409.4 | 407.4 | 396.2 | 367.4 | 356.9 |
| 32.5° | 388.4 | 385.1 | 373.3 | 343.1 | 334.6 |
| 35° | 366.7 | 364.1 | 346.4 | 320.1 | 312.3 |
| 37.5° | 345.1 | 341.8 | 319.5 | 298.5 | 288.6 |
| 40° | 323.4 | 319.5 | 295.2 | 276.2 | 265.7 |
| 42.5° | 303.1 | 297.8 | 274.2 | 253.9 | 242.1 |
| 45° | 281.4 | 275.5 | 251.9 | 230.9 | 221.7 |
| 47.5° | 259.8 | 254.5 | 232.9 | 211.2 | 200.7 |
| 50° | 236.8 | 232.2 | 212.6 | 190.9 | 179.7 |
| 52.5° | 217.8 | 210.6 | 191.6 | 169.9 | 160.7 |
| 55° | 195.5 | 189.6 | 171.9 | 151.5 | 143.7 |
| 57.5° | 175.2 | 169.3 | 152.9 | 133.8 | 127.3 |
| 60° | 156.1 | 147.6 | 133.8 | 117.4 | 112.2 |
| 62.5° | 135.1 | 128.6 | 116.8 | 103.0 | 109.6 |
| 65° | 116.1 | 109.6 | 99.1 | 101.0 | 84.0 |
| 67.5° | 95.1 | 91.8 | 82.7 | 73.5 | 70.9 |
| 70° | 77.4 | 73.5 | 70.2 | 60.4 | 57.7 |
| 72.5° | 61.7 | 57.7 | 53.1 | 47.9 | 45.9 |
| 75° | 46.6 | 43.3 | 40.7 | 38.7 | 42.6 |
| 77.5° | 32.1 | 30.8 | 28.9 | 26.9 | 26.2 |
| 80° | 21.0 | 20.3 | 19.7 | 19.0 | 18.4 |
| 82.5° | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 |
| 85° | 6.6 | 7.2 | 7.9 | 8.5 | 9.2 |
| 87.5° | 3.9 | 3.9 | 4.6 | 5.2 | 5.9 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)