

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: P559274

Luminaire Tested: FSR-12-1-LD4-2LO-35-UNV-93-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P559274
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-93-94-EDD-90
Description: 1X1 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 988.0 lumens
Efficiency: N/A
Efficacy: 84.4 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

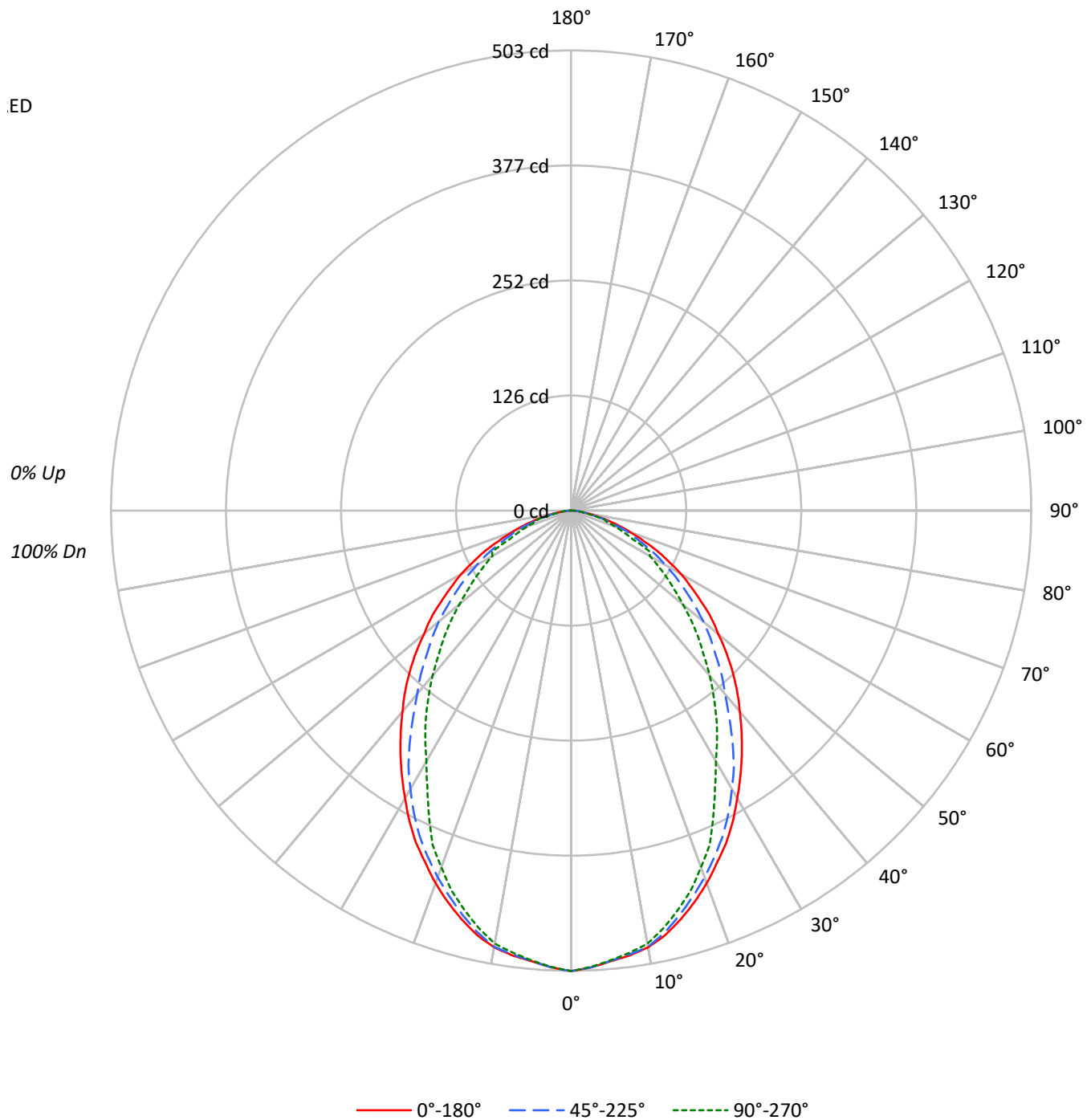
Input Watts (W): 11.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P559274

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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 | 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 | 47 | 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° | 5417 | 5417 | 5417 |
| 5° | 5343 | 5338 | 5331 |
| 10° | 5298 | 5291 | 5253 |
| 15° | 5154 | 5103 | 5031 |
| 20° | 4966 | 4885 | 4751 |
| 25° | 4761 | 4657 | 4367 |
| 30° | 4513 | 4368 | 3934 |
| 35° | 4273 | 4037 | 3639 |
| 40° | 4030 | 3679 | 3310 |
| 45° | 3800 | 3401 | 2994 |
| 50° | 3517 | 3157 | 2669 |
| 55° | 3254 | 2860 | 2391 |
| 60° | 2982 | 2555 | 2142 |
| 65° | 2623 | 2239 | 1897 |
| 70° | 2162 | 1961 | 1611 |
| 75° | 1718 | 1501 | 1572 |
| 80° | 1153 | 1085 | 1010 |
| 85° | 716 | 865 | 1000 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3800 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 46.8 | 4.7 |
| 10°-20° | 128.6 | 13.0 |
| 20°-30° | 178.0 | 18.0 |
| 30°-40° | 189.8 | 19.2 |
| 40°-50° | 173.1 | 17.5 |
| 50°-60° | 135.6 | 13.7 |
| 60°-70° | 88.4 | 8.9 |
| 70°-80° | 39.2 | 4.0 |
| 80°-90° | 8.4 | 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° | 353.4 | 35.8 |
| 0°-40° | 543.2 | 55.0 |
| 0°-60° | 852.0 | 86.2 |
| 0°-90° | 988.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 988.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 503 | 503 | 503 | 503 | 503 | |
| 5° | 494 | 494 | 494 | 493 | 493 | 47 |
| 15° | 462 | 462 | 458 | 453 | 452 | 130 |
| 25° | 401 | 398 | 392 | 378 | 368 | 184 |
| 35° | 325 | 323 | 307 | 284 | 277 | 203 |
| 45° | 250 | 244 | 223 | 205 | 197 | 192 |
| 55° | 173 | 168 | 152 | 134 | 127 | 156 |
| 65° | 103 | 97 | 88 | 90 | 74 | 102 |
| 75° | 41 | 38 | 36 | 34 | 38 | 44 |
| 85° | 6 | 6 | 7 | 8 | 8 | 8 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P559274

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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 503.3 | 503.3 | 503.3 | 503.3 | 503.3 |
| 2.5° | 499.8 | 499.8 | 499.8 | 499.2 | 499.2 |
| 5° | 494.5 | 494.0 | 494.0 | 493.4 | 493.4 |
| 7.5° | 490.5 | 489.9 | 489.3 | 488.7 | 487.6 |
| 10° | 484.7 | 484.7 | 484.1 | 481.2 | 480.6 |
| 12.5° | 475.3 | 474.8 | 472.4 | 468.4 | 467.2 |
| 15° | 462.5 | 462.5 | 457.9 | 453.2 | 451.5 |
| 17.5° | 448.6 | 448.0 | 442.2 | 437.5 | 435.2 |
| 20° | 433.5 | 432.3 | 426.5 | 418.9 | 414.8 |
| 22.5° | 416.6 | 416.6 | 409.6 | 399.7 | 395.6 |
| 25° | 400.9 | 398.5 | 392.1 | 378.2 | 367.7 |
| 27.5° | 382.8 | 379.3 | 372.4 | 352.6 | 340.4 |
| 30° | 363.1 | 361.3 | 351.4 | 325.8 | 316.5 |
| 32.5° | 344.4 | 341.5 | 331.1 | 304.3 | 296.7 |
| 35° | 325.2 | 322.9 | 307.2 | 283.9 | 276.9 |
| 37.5° | 306.0 | 303.1 | 283.3 | 264.7 | 256.0 |
| 40° | 286.8 | 283.3 | 261.8 | 244.9 | 235.6 |
| 42.5° | 268.8 | 264.1 | 243.2 | 225.2 | 214.7 |
| 45° | 249.6 | 244.4 | 223.4 | 204.8 | 196.7 |
| 47.5° | 230.4 | 225.7 | 206.5 | 187.3 | 178.0 |
| 50° | 210.0 | 206.0 | 188.5 | 169.3 | 159.4 |
| 52.5° | 193.2 | 186.8 | 169.9 | 150.7 | 142.5 |
| 55° | 173.4 | 168.1 | 152.4 | 134.4 | 127.4 |
| 57.5° | 155.3 | 150.1 | 135.6 | 118.7 | 112.9 |
| 60° | 138.5 | 130.9 | 118.7 | 104.1 | 99.5 |
| 62.5° | 119.9 | 114.0 | 103.6 | 91.3 | 97.2 |
| 65° | 103.0 | 97.2 | 87.9 | 89.6 | 74.5 |
| 67.5° | 84.4 | 81.5 | 73.3 | 65.2 | 62.8 |
| 70° | 68.7 | 65.2 | 62.3 | 53.5 | 51.2 |
| 72.5° | 54.7 | 51.2 | 47.1 | 42.5 | 40.7 |
| 75° | 41.3 | 38.4 | 36.1 | 34.3 | 37.8 |
| 77.5° | 28.5 | 27.3 | 25.6 | 23.9 | 23.3 |
| 80° | 18.6 | 18.0 | 17.5 | 16.9 | 16.3 |
| 82.5° | 11.1 | 11.1 | 11.1 | 11.1 | 11.1 |
| 85° | 5.8 | 6.4 | 7.0 | 7.6 | 8.1 |
| 87.5° | 3.5 | 3.5 | 4.1 | 4.7 | 5.2 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)