

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: P559610

Luminaire Tested: FSR-12-2-LD4-1HI-35-UNV-80-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P559610
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-LD4-1HI-35-UNV-80-94-EDD-90
Description: 1X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

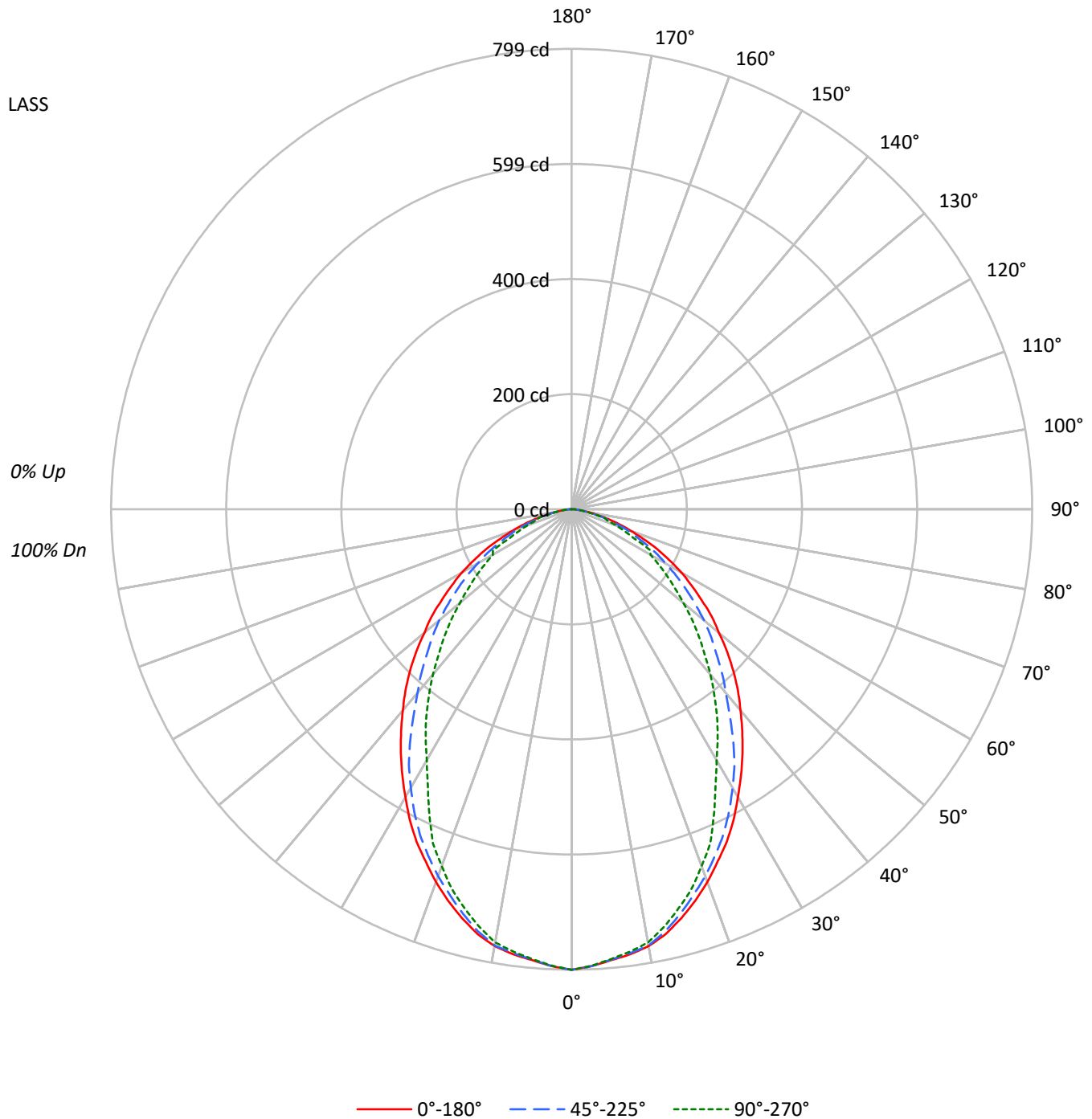
Lumens per Lamp: N/A
Luminaire Lumens: 1569.0 lumens
Efficiency: N/A
Efficacy: 72.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 21.6
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: P559610

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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 | 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° | 4301 | 4301 | 4301 |
| 5° | 4243 | 4238 | 4233 |
| 10° | 4206 | 4201 | 4171 |
| 15° | 4093 | 4052 | 3995 |
| 20° | 3943 | 3879 | 3773 |
| 25° | 3780 | 3698 | 3467 |
| 30° | 3583 | 3468 | 3123 |
| 35° | 3393 | 3206 | 2890 |
| 40° | 3200 | 2921 | 2629 |
| 45° | 3017 | 2700 | 2377 |
| 50° | 2793 | 2507 | 2120 |
| 55° | 2583 | 2272 | 1898 |
| 60° | 2367 | 2029 | 1701 |
| 65° | 2082 | 1777 | 1507 |
| 70° | 1715 | 1556 | 1279 |
| 75° | 1364 | 1192 | 1250 |
| 80° | 917 | 859 | 803 |
| 85° | 568 | 685 | 797 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3017 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 74.4 | 4.7 |
| 10°-20° | 204.2 | 13.0 |
| 20°-30° | 282.7 | 18.0 |
| 30°-40° | 301.4 | 19.2 |
| 40°-50° | 275.0 | 17.5 |
| 50°-60° | 215.4 | 13.7 |
| 60°-70° | 140.4 | 8.9 |
| 70°-80° | 62.2 | 4.0 |
| 80°-90° | 13.4 | 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° | 561.3 | 35.8 |
| 0°-40° | 862.7 | 55.0 |
| 0°-60° | 1353.1 | 86.2 |
| 0°-90° | 1569.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1569.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 799 | 799 | 799 | 799 | 799 | |
| 5° | 785 | 784 | 784 | 784 | 784 | 75 |
| 15° | 735 | 735 | 727 | 720 | 717 | 207 |
| 25° | 637 | 633 | 623 | 601 | 584 | 292 |
| 35° | 516 | 513 | 488 | 451 | 440 | 323 |
| 45° | 396 | 388 | 355 | 325 | 312 | 305 |
| 55° | 275 | 267 | 242 | 213 | 202 | 247 |
| 65° | 164 | 154 | 140 | 142 | 118 | 161 |
| 75° | 66 | 61 | 57 | 54 | 60 | 70 |
| 85° | 9 | 10 | 11 | 12 | 13 | 13 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P559610

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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 799.2 | 799.2 | 799.2 | 799.2 | 799.2 |
| 2.5° | 793.7 | 793.7 | 793.7 | 792.8 | 792.8 |
| 5° | 785.4 | 784.4 | 784.4 | 783.5 | 783.5 |
| 7.5° | 778.9 | 778.0 | 777.1 | 776.1 | 774.3 |
| 10° | 769.7 | 769.7 | 768.7 | 764.1 | 763.2 |
| 12.5° | 754.9 | 754.0 | 750.3 | 743.8 | 741.9 |
| 15° | 734.6 | 734.6 | 727.2 | 719.8 | 717.0 |
| 17.5° | 712.4 | 711.5 | 702.2 | 694.8 | 691.1 |
| 20° | 688.4 | 686.5 | 677.3 | 665.3 | 658.8 |
| 22.5° | 661.6 | 661.6 | 650.5 | 634.8 | 628.3 |
| 25° | 636.6 | 632.9 | 622.8 | 600.6 | 583.9 |
| 27.5° | 608.0 | 602.4 | 591.3 | 559.9 | 540.5 |
| 30° | 576.6 | 573.8 | 558.1 | 517.4 | 502.6 |
| 32.5° | 547.0 | 542.4 | 525.7 | 483.2 | 471.2 |
| 35° | 516.5 | 512.8 | 487.9 | 450.9 | 439.8 |
| 37.5° | 486.0 | 481.4 | 450.0 | 420.4 | 406.5 |
| 40° | 455.5 | 450.0 | 415.8 | 389.0 | 374.2 |
| 42.5° | 426.9 | 419.5 | 386.2 | 357.6 | 340.9 |
| 45° | 396.4 | 388.1 | 354.8 | 325.2 | 312.3 |
| 47.5° | 365.9 | 358.5 | 328.0 | 297.5 | 282.7 |
| 50° | 333.6 | 327.1 | 299.4 | 268.9 | 253.2 |
| 52.5° | 306.8 | 296.6 | 269.8 | 239.3 | 226.4 |
| 55° | 275.3 | 267.0 | 242.1 | 213.4 | 202.3 |
| 57.5° | 246.7 | 238.4 | 215.3 | 188.5 | 179.2 |
| 60° | 219.9 | 207.9 | 188.5 | 165.4 | 158.0 |
| 62.5° | 190.3 | 181.1 | 164.5 | 145.1 | 154.3 |
| 65° | 163.5 | 154.3 | 139.5 | 142.3 | 118.3 |
| 67.5° | 134.0 | 129.4 | 116.4 | 103.5 | 99.8 |
| 70° | 109.0 | 103.5 | 98.9 | 85.0 | 81.3 |
| 72.5° | 86.9 | 81.3 | 74.8 | 67.4 | 64.7 |
| 75° | 65.6 | 61.0 | 57.3 | 54.5 | 60.1 |
| 77.5° | 45.3 | 43.4 | 40.7 | 37.9 | 37.0 |
| 80° | 29.6 | 28.6 | 27.7 | 26.8 | 25.9 |
| 82.5° | 17.6 | 17.6 | 17.6 | 17.6 | 17.6 |
| 85° | 9.2 | 10.2 | 11.1 | 12.0 | 12.9 |
| 87.5° | 5.5 | 5.5 | 6.5 | 7.4 | 8.3 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)