

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: P559038

Luminaire Tested: FSR-12-1-LD4-2HI-35-UNV-80-97-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P559038
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-LD4-2HI-35-UNV-80-97-EDD-90
Description: 1X1 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 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: 1544.0 lumens
Efficiency: N/A
Efficacy: 71.5 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

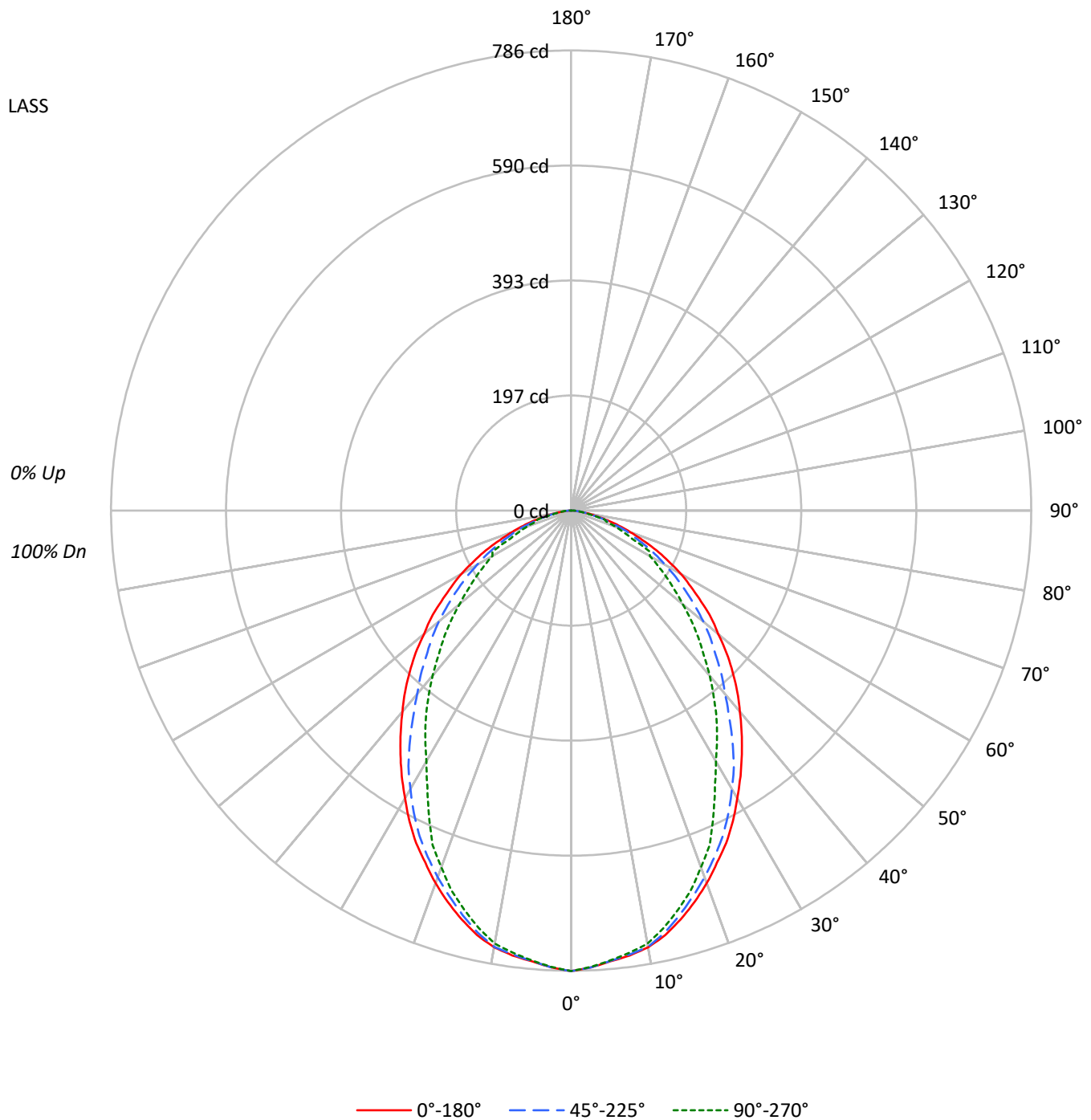
Input Watts (W): 21.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P559038

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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 | 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 | | | | |
| 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° | 8466 | 8466 | 8466 |
| 5° | 8351 | 8340 | 8331 |
| 10° | 8278 | 8269 | 8208 |
| 15° | 8055 | 7974 | 7863 |
| 20° | 7759 | 7635 | 7426 |
| 25° | 7441 | 7278 | 6824 |
| 30° | 7052 | 6826 | 6147 |
| 35° | 6679 | 6309 | 5687 |
| 40° | 6299 | 5750 | 5174 |
| 45° | 5938 | 5314 | 4678 |
| 50° | 5496 | 4933 | 4171 |
| 55° | 5086 | 4470 | 3736 |
| 60° | 4659 | 3993 | 3348 |
| 65° | 4098 | 3497 | 2965 |
| 70° | 3377 | 3062 | 2518 |
| 75° | 2687 | 2346 | 2458 |
| 80° | 1804 | 1692 | 1581 |
| 85° | 1124 | 1346 | 1568 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5938 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 73.2 | 4.7 |
| 10°-20° | 200.9 | 13.0 |
| 20°-30° | 278.2 | 18.0 |
| 30°-40° | 296.6 | 19.2 |
| 40°-50° | 270.6 | 17.5 |
| 50°-60° | 212.0 | 13.7 |
| 60°-70° | 138.2 | 8.9 |
| 70°-80° | 61.2 | 4.0 |
| 80°-90° | 13.2 | 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° | 552.3 | 35.8 |
| 0°-40° | 848.9 | 55.0 |
| 0°-60° | 1331.5 | 86.2 |
| 0°-90° | 1544.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1544.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 786 | 786 | 786 | 786 | 786 | |
| 5° | 773 | 772 | 772 | 771 | 771 | 73 |
| 15° | 723 | 723 | 716 | 708 | 706 | 203 |
| 25° | 626 | 623 | 613 | 591 | 575 | 288 |
| 35° | 508 | 505 | 480 | 444 | 433 | 318 |
| 45° | 390 | 382 | 349 | 320 | 307 | 300 |
| 55° | 271 | 263 | 238 | 210 | 199 | 243 |
| 65° | 161 | 152 | 137 | 140 | 116 | 159 |
| 75° | 65 | 60 | 56 | 54 | 59 | 69 |
| 85° | 9 | 10 | 11 | 12 | 13 | 13 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P559038

CATALOG NUMBER: FSR-12-1-LD4-2HI-35-UNV-80-97-EDD-90

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 786.5 | 786.5 | 786.5 | 786.5 | 786.5 |
| 2.5° | 781.0 | 781.0 | 781.0 | 780.1 | 780.1 |
| 5° | 772.9 | 771.9 | 771.9 | 771.0 | 771.0 |
| 7.5° | 766.5 | 765.6 | 764.7 | 763.8 | 761.9 |
| 10° | 757.4 | 757.4 | 756.5 | 751.9 | 751.0 |
| 12.5° | 742.8 | 741.9 | 738.3 | 731.9 | 730.1 |
| 15° | 722.8 | 722.8 | 715.6 | 708.3 | 705.6 |
| 17.5° | 701.0 | 700.1 | 691.0 | 683.7 | 680.1 |
| 20° | 677.4 | 675.6 | 666.5 | 654.7 | 648.3 |
| 22.5° | 651.0 | 651.0 | 640.1 | 624.6 | 618.3 |
| 25° | 626.5 | 622.8 | 612.8 | 591.0 | 574.6 |
| 27.5° | 598.3 | 592.8 | 581.9 | 551.0 | 531.9 |
| 30° | 567.4 | 564.6 | 549.2 | 509.2 | 494.6 |
| 32.5° | 538.3 | 533.7 | 517.4 | 475.5 | 463.7 |
| 35° | 508.3 | 504.6 | 480.1 | 443.7 | 432.8 |
| 37.5° | 478.3 | 473.7 | 442.8 | 413.7 | 400.1 |
| 40° | 448.3 | 442.8 | 409.2 | 382.8 | 368.2 |
| 42.5° | 420.1 | 412.8 | 380.1 | 351.9 | 335.5 |
| 45° | 390.1 | 381.9 | 349.1 | 320.1 | 307.3 |
| 47.5° | 360.1 | 352.8 | 322.8 | 292.8 | 278.2 |
| 50° | 328.2 | 321.9 | 294.6 | 264.6 | 249.1 |
| 52.5° | 301.9 | 291.9 | 265.5 | 235.5 | 222.8 |
| 55° | 271.0 | 262.8 | 238.2 | 210.0 | 199.1 |
| 57.5° | 242.8 | 234.6 | 211.9 | 185.5 | 176.4 |
| 60° | 216.4 | 204.6 | 185.5 | 162.8 | 155.5 |
| 62.5° | 187.3 | 178.2 | 161.8 | 142.8 | 151.8 |
| 65° | 160.9 | 151.8 | 137.3 | 140.0 | 116.4 |
| 67.5° | 131.8 | 127.3 | 114.6 | 101.8 | 98.2 |
| 70° | 107.3 | 101.8 | 97.3 | 83.7 | 80.0 |
| 72.5° | 85.5 | 80.0 | 73.6 | 66.4 | 63.6 |
| 75° | 64.6 | 60.0 | 56.4 | 53.6 | 59.1 |
| 77.5° | 44.6 | 42.7 | 40.0 | 37.3 | 36.4 |
| 80° | 29.1 | 28.2 | 27.3 | 26.4 | 25.5 |
| 82.5° | 17.3 | 17.3 | 17.3 | 17.3 | 17.3 |
| 85° | 9.1 | 10.0 | 10.9 | 11.8 | 12.7 |
| 87.5° | 5.5 | 5.5 | 6.4 | 7.3 | 8.2 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)