

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: P559769

Luminaire Tested: FSR-12-2-LD4-1HI-50-UNV-82-88-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P559769
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-50-UNV-82-88-EDD
Description: 1X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1509.0 lumens
Efficiency: N/A
Efficacy: 69.9 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

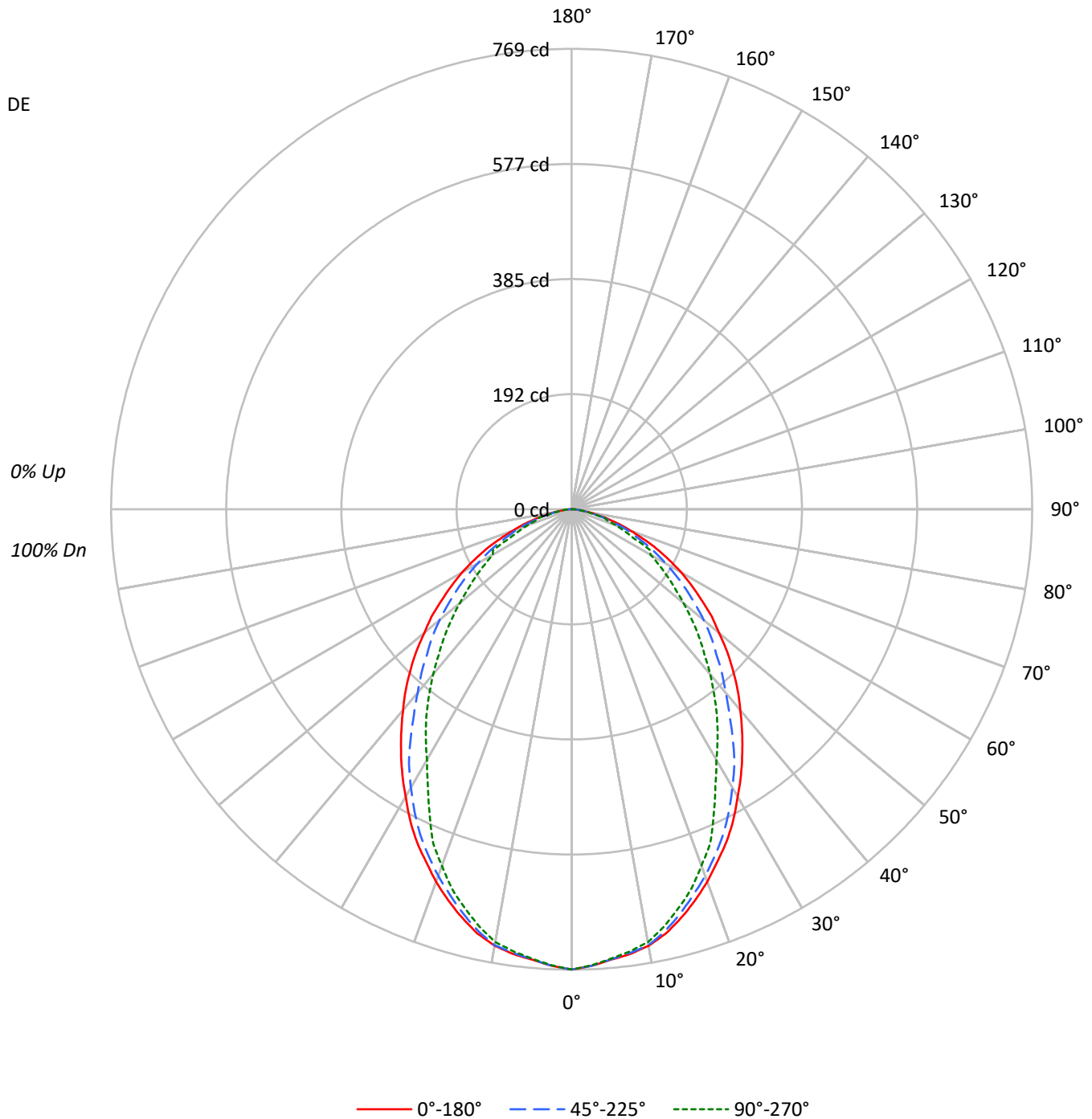
Input Watts (W): 21.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P559769

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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 | | | | | 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° | 4137 | 4137 | 4137 |
| 5° | 4081 | 4076 | 4071 |
| 10° | 4045 | 4040 | 4011 |
| 15° | 3936 | 3897 | 3842 |
| 20° | 3792 | 3731 | 3629 |
| 25° | 3636 | 3556 | 3335 |
| 30° | 3446 | 3335 | 3004 |
| 35° | 3263 | 3083 | 2779 |
| 40° | 3078 | 2810 | 2529 |
| 45° | 2901 | 2597 | 2286 |
| 50° | 2686 | 2411 | 2039 |
| 55° | 2485 | 2184 | 1826 |
| 60° | 2277 | 1951 | 1636 |
| 65° | 2003 | 1709 | 1448 |
| 70° | 1651 | 1496 | 1231 |
| 75° | 1312 | 1146 | 1202 |
| 80° | 880 | 828 | 772 |
| 85° | 550 | 661 | 766 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2901 cd/sqm

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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 71.6 | 4.7 |
| 10°-20° | 196.4 | 13.0 |
| 20°-30° | 271.9 | 18.0 |
| 30°-40° | 289.9 | 19.2 |
| 40°-50° | 264.5 | 17.5 |
| 50°-60° | 207.2 | 13.7 |
| 60°-70° | 135.0 | 8.9 |
| 70°-80° | 59.8 | 4.0 |
| 80°-90° | 12.9 | 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° | 539.8 | 35.8 |
| 0°-40° | 829.7 | 55.0 |
| 0°-60° | 1301.3 | 86.2 |
| 0°-90° | 1509.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1509.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 769 | 769 | 769 | 769 | 769 | |
| 5° | 755 | 754 | 754 | 754 | 754 | 72 |
| 15° | 706 | 706 | 699 | 692 | 690 | 199 |
| 25° | 612 | 609 | 599 | 578 | 562 | 281 |
| 35° | 497 | 493 | 469 | 434 | 423 | 311 |
| 45° | 381 | 373 | 341 | 313 | 300 | 294 |
| 55° | 265 | 257 | 233 | 205 | 195 | 238 |
| 65° | 157 | 148 | 134 | 137 | 114 | 155 |
| 75° | 63 | 59 | 55 | 52 | 58 | 68 |
| 85° | 9 | 10 | 11 | 12 | 12 | 12 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P559769

CATALOG NUMBER: FSR-12-2-LD4-1HI-50-UNV-82-88-EDD

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 768.7 | 768.7 | 768.7 | 768.7 | 768.7 |
| 2.5° | 763.3 | 763.3 | 763.3 | 762.4 | 762.4 |
| 5° | 755.3 | 754.4 | 754.4 | 753.6 | 753.6 |
| 7.5° | 749.1 | 748.2 | 747.3 | 746.4 | 744.7 |
| 10° | 740.2 | 740.2 | 739.3 | 734.9 | 734.0 |
| 12.5° | 726.0 | 725.1 | 721.6 | 715.3 | 713.6 |
| 15° | 706.5 | 706.5 | 699.4 | 692.2 | 689.6 |
| 17.5° | 685.1 | 684.2 | 675.4 | 668.2 | 664.7 |
| 20° | 662.0 | 660.3 | 651.4 | 639.8 | 633.6 |
| 22.5° | 636.3 | 636.3 | 625.6 | 610.5 | 604.3 |
| 25° | 612.3 | 608.7 | 598.9 | 577.6 | 561.6 |
| 27.5° | 584.7 | 579.4 | 568.7 | 538.5 | 519.8 |
| 30° | 554.5 | 551.8 | 536.7 | 497.6 | 483.4 |
| 32.5° | 526.1 | 521.6 | 505.6 | 464.8 | 453.2 |
| 35° | 496.7 | 493.2 | 469.2 | 433.7 | 423.0 |
| 37.5° | 467.4 | 463.0 | 432.8 | 404.3 | 391.0 |
| 40° | 438.1 | 432.8 | 399.9 | 374.1 | 359.9 |
| 42.5° | 410.5 | 403.4 | 371.4 | 343.9 | 327.9 |
| 45° | 381.2 | 373.2 | 341.2 | 312.8 | 300.4 |
| 47.5° | 351.9 | 344.8 | 315.5 | 286.1 | 271.9 |
| 50° | 320.8 | 314.6 | 287.9 | 258.6 | 243.5 |
| 52.5° | 295.0 | 285.3 | 259.5 | 230.2 | 217.7 |
| 55° | 264.8 | 256.8 | 232.8 | 205.3 | 194.6 |
| 57.5° | 237.3 | 229.3 | 207.1 | 181.3 | 172.4 |
| 60° | 211.5 | 199.9 | 181.3 | 159.1 | 152.0 |
| 62.5° | 183.1 | 174.2 | 158.2 | 139.5 | 148.4 |
| 65° | 157.3 | 148.4 | 134.2 | 136.8 | 113.7 |
| 67.5° | 128.9 | 124.4 | 112.0 | 99.5 | 96.0 |
| 70° | 104.9 | 99.5 | 95.1 | 81.8 | 78.2 |
| 72.5° | 83.5 | 78.2 | 72.0 | 64.9 | 62.2 |
| 75° | 63.1 | 58.6 | 55.1 | 52.4 | 57.8 |
| 77.5° | 43.5 | 41.8 | 39.1 | 36.4 | 35.5 |
| 80° | 28.4 | 27.5 | 26.7 | 25.8 | 24.9 |
| 82.5° | 16.9 | 16.9 | 16.9 | 16.9 | 16.9 |
| 85° | 8.9 | 9.8 | 10.7 | 11.6 | 12.4 |
| 87.5° | 5.3 | 5.3 | 6.2 | 7.1 | 8.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)