

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: P558617

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

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P558617
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-LD4-1HI-50-UNV-82-88-EDD
Description: 1X1 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: 778.0 lumens
Efficiency: N/A
Efficacy: 72.0 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

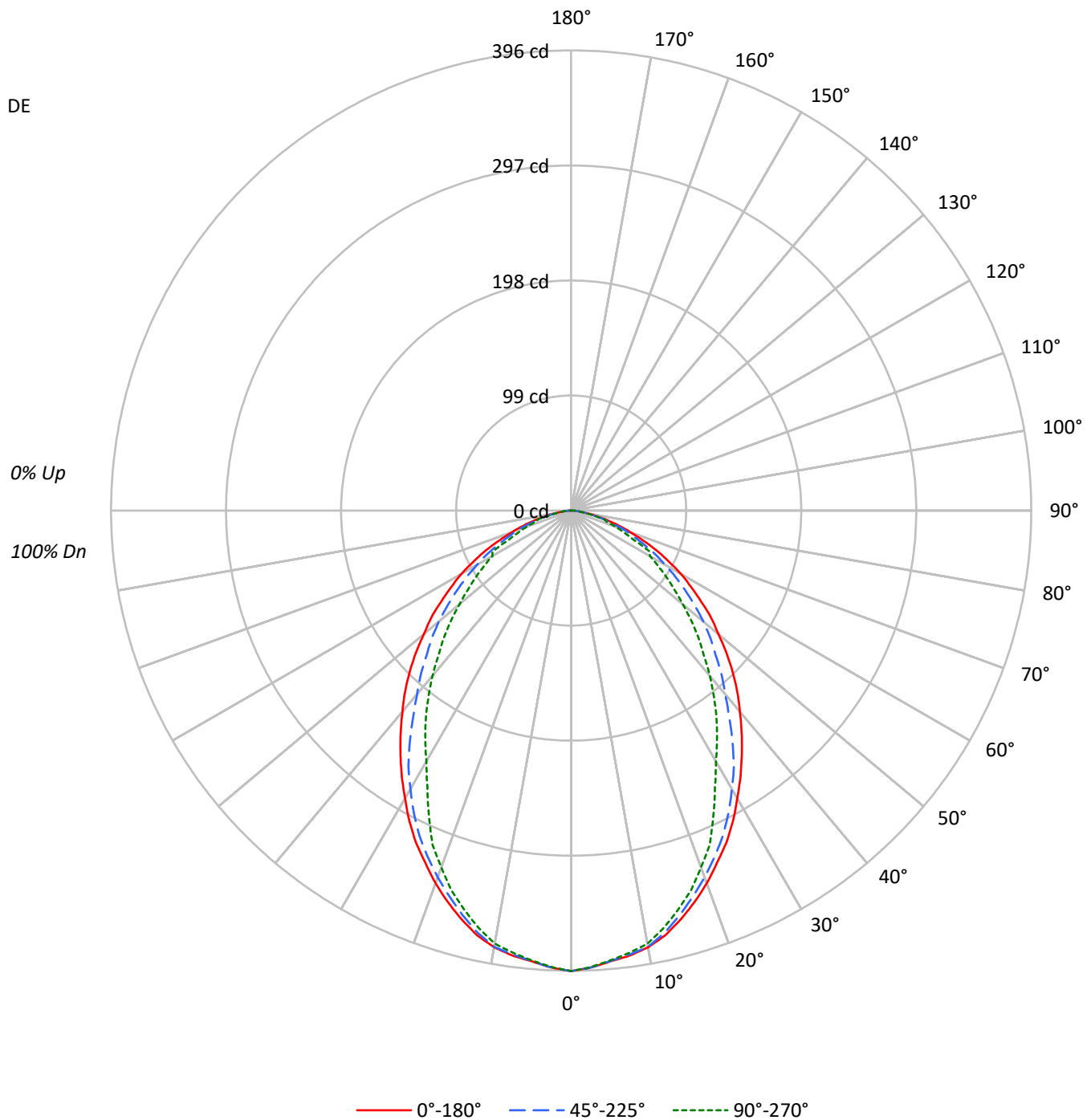
Input Watts (W): 10.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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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 | 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° | 4266 | 4266 | 4266 |
| 5° | 4207 | 4203 | 4198 |
| 10° | 4171 | 4167 | 4136 |
| 15° | 4059 | 4018 | 3962 |
| 20° | 3909 | 3846 | 3742 |
| 25° | 3749 | 3668 | 3439 |
| 30° | 3553 | 3439 | 3097 |
| 35° | 3365 | 3179 | 2866 |
| 40° | 3174 | 2897 | 2608 |
| 45° | 2991 | 2678 | 2358 |
| 50° | 2770 | 2485 | 2102 |
| 55° | 2562 | 2252 | 1882 |
| 60° | 2347 | 2013 | 1686 |
| 65° | 2066 | 1762 | 1493 |
| 70° | 1703 | 1542 | 1268 |
| 75° | 1352 | 1181 | 1239 |
| 80° | 911 | 849 | 793 |
| 85° | 568 | 679 | 790 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2991 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 36.9 | 4.7 |
| 10°-20° | 101.2 | 13.0 |
| 20°-30° | 140.2 | 18.0 |
| 30°-40° | 149.5 | 19.2 |
| 40°-50° | 136.3 | 17.5 |
| 50°-60° | 106.8 | 13.7 |
| 60°-70° | 69.6 | 8.9 |
| 70°-80° | 30.8 | 4.0 |
| 80°-90° | 6.6 | 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° | 278.3 | 35.8 |
| 0°-40° | 427.7 | 55.0 |
| 0°-60° | 670.9 | 86.2 |
| 0°-90° | 778.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 778.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 396 | 396 | 396 | 396 | 396 | |
| 5° | 389 | 389 | 389 | 388 | 388 | 37 |
| 15° | 364 | 364 | 361 | 357 | 356 | 102 |
| 25° | 316 | 314 | 309 | 298 | 290 | 145 |
| 35° | 256 | 254 | 242 | 224 | 218 | 160 |
| 45° | 196 | 192 | 176 | 161 | 155 | 151 |
| 55° | 136 | 132 | 120 | 106 | 100 | 122 |
| 65° | 81 | 76 | 69 | 71 | 59 | 80 |
| 75° | 32 | 30 | 28 | 27 | 30 | 35 |
| 85° | 5 | 5 | 6 | 6 | 6 | 6 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P558617

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

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 396.3 | 396.3 | 396.3 | 396.3 | 396.3 |
| 2.5° | 393.6 | 393.6 | 393.6 | 393.1 | 393.1 |
| 5° | 389.4 | 389.0 | 389.0 | 388.5 | 388.5 |
| 7.5° | 386.2 | 385.8 | 385.3 | 384.8 | 383.9 |
| 10° | 381.6 | 381.6 | 381.2 | 378.9 | 378.4 |
| 12.5° | 374.3 | 373.9 | 372.0 | 368.8 | 367.9 |
| 15° | 364.2 | 364.2 | 360.6 | 356.9 | 355.5 |
| 17.5° | 353.2 | 352.8 | 348.2 | 344.5 | 342.7 |
| 20° | 341.3 | 340.4 | 335.8 | 329.9 | 326.7 |
| 22.5° | 328.0 | 328.0 | 322.5 | 314.8 | 311.5 |
| 25° | 315.7 | 313.8 | 308.8 | 297.8 | 289.6 |
| 27.5° | 301.5 | 298.7 | 293.2 | 277.6 | 268.0 |
| 30° | 285.9 | 284.5 | 276.7 | 256.6 | 249.2 |
| 32.5° | 271.2 | 268.9 | 260.7 | 239.6 | 233.7 |
| 35° | 256.1 | 254.3 | 241.9 | 223.6 | 218.1 |
| 37.5° | 241.0 | 238.7 | 223.1 | 208.5 | 201.6 |
| 40° | 225.9 | 223.1 | 206.2 | 192.9 | 185.6 |
| 42.5° | 211.7 | 208.0 | 191.5 | 177.3 | 169.1 |
| 45° | 196.5 | 192.4 | 175.9 | 161.3 | 154.9 |
| 47.5° | 181.4 | 177.8 | 162.6 | 147.5 | 140.2 |
| 50° | 165.4 | 162.2 | 148.4 | 133.3 | 125.5 |
| 52.5° | 152.1 | 147.1 | 133.8 | 118.7 | 112.2 |
| 55° | 136.5 | 132.4 | 120.0 | 105.8 | 100.3 |
| 57.5° | 122.3 | 118.2 | 106.7 | 93.5 | 88.9 |
| 60° | 109.0 | 103.1 | 93.5 | 82.0 | 78.3 |
| 62.5° | 94.4 | 89.8 | 81.6 | 71.9 | 76.5 |
| 65° | 81.1 | 76.5 | 69.2 | 70.6 | 58.6 |
| 67.5° | 66.4 | 64.1 | 57.7 | 51.3 | 49.5 |
| 70° | 54.1 | 51.3 | 49.0 | 42.2 | 40.3 |
| 72.5° | 43.1 | 40.3 | 37.1 | 33.4 | 32.1 |
| 75° | 32.5 | 30.2 | 28.4 | 27.0 | 29.8 |
| 77.5° | 22.4 | 21.5 | 20.2 | 18.8 | 18.3 |
| 80° | 14.7 | 14.2 | 13.7 | 13.3 | 12.8 |
| 82.5° | 8.7 | 8.7 | 8.7 | 8.7 | 8.7 |
| 85° | 4.6 | 5.0 | 5.5 | 6.0 | 6.4 |
| 87.5° | 2.7 | 2.7 | 3.2 | 3.7 | 4.1 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)