

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: P558632

Luminaire Tested: FSR-12-1-LD4-1HI-50-UNV-93-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P558632
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-93-88-EDD-90
Description: 1X1 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 730.0 lumens
Efficiency: N/A
Efficacy: 67.6 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

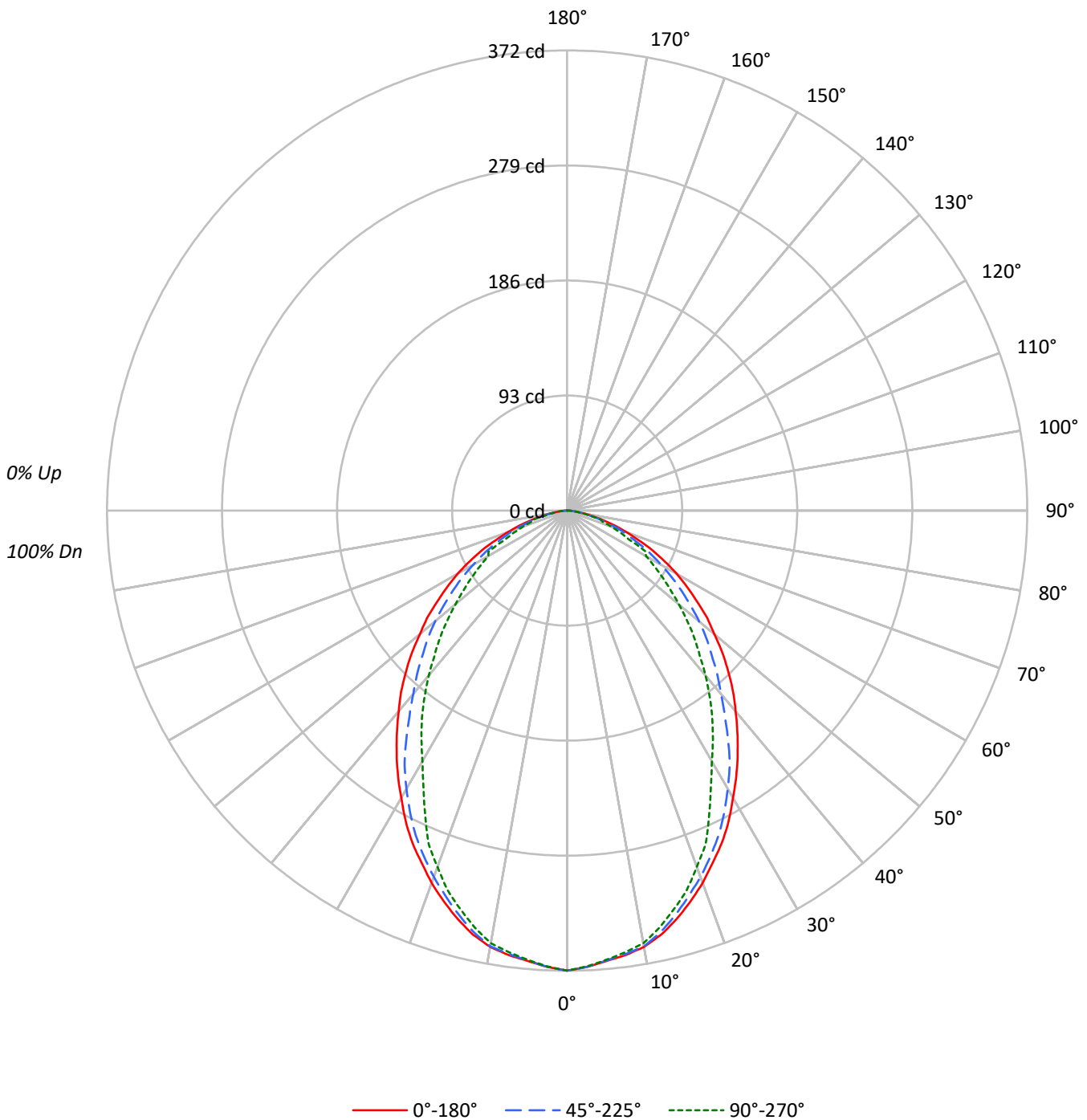
Input Watts (W): 10.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P558632

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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° | 4003 | 4003 | 4003 |
| 5° | 3948 | 3944 | 3938 |
| 10° | 3914 | 3910 | 3881 |
| 15° | 3809 | 3770 | 3718 |
| 20° | 3669 | 3609 | 3511 |
| 25° | 3518 | 3441 | 3227 |
| 30° | 3333 | 3228 | 2907 |
| 35° | 3158 | 2983 | 2689 |
| 40° | 2977 | 2718 | 2446 |
| 45° | 2807 | 2513 | 2212 |
| 50° | 2599 | 2333 | 1973 |
| 55° | 2404 | 2113 | 1766 |
| 60° | 2202 | 1888 | 1582 |
| 65° | 1938 | 1653 | 1401 |
| 70° | 1596 | 1448 | 1190 |
| 75° | 1268 | 1110 | 1160 |
| 80° | 855 | 800 | 744 |
| 85° | 531 | 642 | 741 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2807 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 34.6 | 4.7 |
| 10°-20° | 95.0 | 13.0 |
| 20°-30° | 131.5 | 18.0 |
| 30°-40° | 140.2 | 19.2 |
| 40°-50° | 127.9 | 17.5 |
| 50°-60° | 100.2 | 13.7 |
| 60°-70° | 65.3 | 8.9 |
| 70°-80° | 28.9 | 4.0 |
| 80°-90° | 6.2 | 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° | 261.1 | 35.8 |
| 0°-40° | 401.4 | 55.0 |
| 0°-60° | 629.5 | 86.2 |
| 0°-90° | 730.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 730.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 372 | 372 | 372 | 372 | 372 | |
| 5° | 365 | 365 | 365 | 364 | 364 | 35 |
| 15° | 342 | 342 | 338 | 335 | 334 | 96 |
| 25° | 296 | 294 | 290 | 279 | 272 | 136 |
| 35° | 240 | 239 | 227 | 210 | 205 | 150 |
| 45° | 184 | 181 | 165 | 151 | 145 | 142 |
| 55° | 128 | 124 | 113 | 99 | 94 | 115 |
| 65° | 76 | 72 | 65 | 66 | 55 | 75 |
| 75° | 30 | 28 | 27 | 25 | 28 | 33 |
| 85° | 4 | 5 | 5 | 6 | 6 | 6 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P558632

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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 371.9 | 371.9 | 371.9 | 371.9 | 371.9 |
| 2.5° | 369.3 | 369.3 | 369.3 | 368.8 | 368.8 |
| 5° | 365.4 | 365.0 | 365.0 | 364.5 | 364.5 |
| 7.5° | 362.4 | 362.0 | 361.5 | 361.1 | 360.2 |
| 10° | 358.1 | 358.1 | 357.7 | 355.5 | 355.1 |
| 12.5° | 351.2 | 350.8 | 349.1 | 346.1 | 345.2 |
| 15° | 341.8 | 341.8 | 338.3 | 334.9 | 333.6 |
| 17.5° | 331.4 | 331.0 | 326.7 | 323.3 | 321.6 |
| 20° | 320.3 | 319.4 | 315.1 | 309.5 | 306.5 |
| 22.5° | 307.8 | 307.8 | 302.6 | 295.3 | 292.3 |
| 25° | 296.2 | 294.5 | 289.7 | 279.4 | 271.7 |
| 27.5° | 282.9 | 280.3 | 275.1 | 260.5 | 251.5 |
| 30° | 268.2 | 267.0 | 259.7 | 240.7 | 233.9 |
| 32.5° | 254.5 | 252.3 | 244.6 | 224.8 | 219.2 |
| 35° | 240.3 | 238.6 | 227.0 | 209.8 | 204.6 |
| 37.5° | 226.1 | 224.0 | 209.4 | 195.6 | 189.2 |
| 40° | 211.9 | 209.4 | 193.4 | 181.0 | 174.1 |
| 42.5° | 198.6 | 195.2 | 179.7 | 166.4 | 158.6 |
| 45° | 184.4 | 180.6 | 165.1 | 151.3 | 145.3 |
| 47.5° | 170.2 | 166.8 | 152.6 | 138.4 | 131.5 |
| 50° | 155.2 | 152.2 | 139.3 | 125.1 | 117.8 |
| 52.5° | 142.7 | 138.0 | 125.5 | 111.3 | 105.3 |
| 55° | 128.1 | 124.2 | 112.6 | 99.3 | 94.1 |
| 57.5° | 114.8 | 110.9 | 100.2 | 87.7 | 83.4 |
| 60° | 102.3 | 96.7 | 87.7 | 76.9 | 73.5 |
| 62.5° | 88.6 | 84.3 | 76.5 | 67.5 | 71.8 |
| 65° | 76.1 | 71.8 | 64.9 | 66.2 | 55.0 |
| 67.5° | 62.3 | 60.2 | 54.2 | 48.1 | 46.4 |
| 70° | 50.7 | 48.1 | 46.0 | 39.5 | 37.8 |
| 72.5° | 40.4 | 37.8 | 34.8 | 31.4 | 30.1 |
| 75° | 30.5 | 28.4 | 26.7 | 25.4 | 27.9 |
| 77.5° | 21.1 | 20.2 | 18.9 | 17.6 | 17.2 |
| 80° | 13.8 | 13.3 | 12.9 | 12.5 | 12.0 |
| 82.5° | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 |
| 85° | 4.3 | 4.7 | 5.2 | 5.6 | 6.0 |
| 87.5° | 2.6 | 2.6 | 3.0 | 3.4 | 3.9 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)