

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: P558796

Luminaire Tested: FSR-12-1-LD4-1LO-50-UNV-81-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P558796
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-LD4-1LO-50-UNV-81-96-EDD-90
Description: 1X1 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 494.0 lumens
Efficiency: N/A
Efficacy: 85.2 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

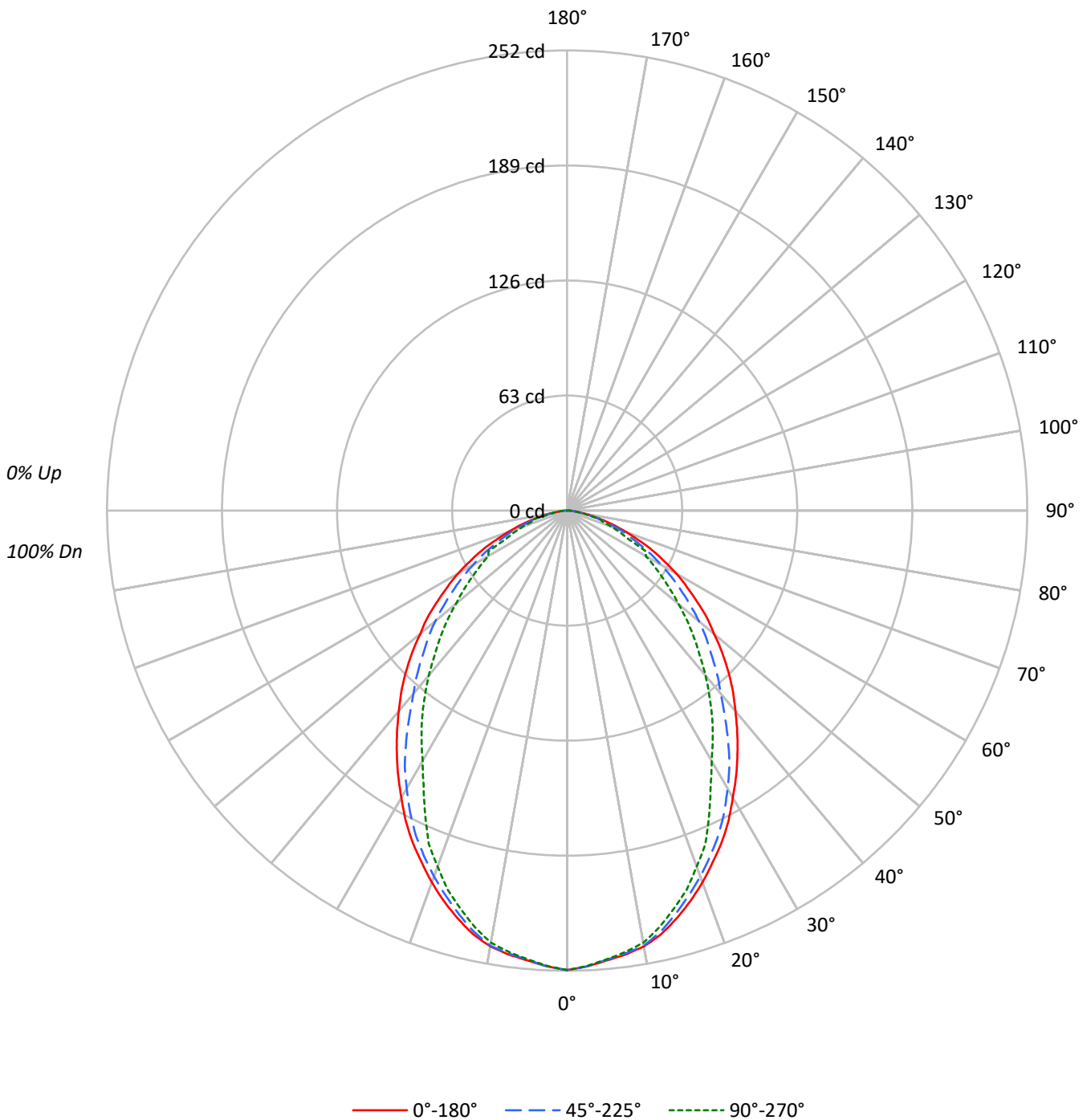
Input Watts (W): 5.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P558796

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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° | 2708 | 2708 | 2708 |
| 5° | 2672 | 2669 | 2666 |
| 10° | 2648 | 2645 | 2626 |
| 15° | 2578 | 2551 | 2515 |
| 20° | 2482 | 2442 | 2376 |
| 25° | 2380 | 2329 | 2184 |
| 30° | 2256 | 2184 | 1968 |
| 35° | 2137 | 2018 | 1820 |
| 40° | 2015 | 1839 | 1655 |
| 45° | 1900 | 1700 | 1496 |
| 50° | 1758 | 1579 | 1335 |
| 55° | 1627 | 1430 | 1195 |
| 60° | 1490 | 1277 | 1070 |
| 65° | 1312 | 1118 | 947 |
| 70° | 1079 | 979 | 806 |
| 75° | 861 | 749 | 786 |
| 80° | 576 | 539 | 502 |
| 85° | 358 | 432 | 506 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1900 cd/sqm

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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 23.4 | 4.7 |
| 10°-20° | 64.3 | 13.0 |
| 20°-30° | 89.0 | 18.0 |
| 30°-40° | 94.9 | 19.2 |
| 40°-50° | 86.6 | 17.5 |
| 50°-60° | 67.8 | 13.7 |
| 60°-70° | 44.2 | 8.9 |
| 70°-80° | 19.6 | 4.0 |
| 80°-90° | 4.2 | 0.8 |
| 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° | 176.7 | 35.8 |
| 0°-40° | 271.6 | 55.0 |
| 0°-60° | 426.0 | 86.2 |
| 0°-90° | 494.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 494.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 252 | 252 | 252 | 252 | 252 | |
| 5° | 247 | 247 | 247 | 247 | 247 | 23 |
| 15° | 231 | 231 | 229 | 227 | 226 | 65 |
| 25° | 200 | 199 | 196 | 189 | 184 | 92 |
| 35° | 163 | 162 | 154 | 142 | 138 | 102 |
| 45° | 125 | 122 | 112 | 102 | 98 | 96 |
| 55° | 87 | 84 | 76 | 67 | 64 | 78 |
| 65° | 52 | 49 | 44 | 45 | 37 | 51 |
| 75° | 21 | 19 | 18 | 17 | 19 | 22 |
| 85° | 3 | 3 | 4 | 4 | 4 | 4 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P558796

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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 251.6 | 251.6 | 251.6 | 251.6 | 251.6 |
| 2.5° | 249.9 | 249.9 | 249.9 | 249.6 | 249.6 |
| 5° | 247.3 | 247.0 | 247.0 | 246.7 | 246.7 |
| 7.5° | 245.2 | 244.9 | 244.7 | 244.4 | 243.8 |
| 10° | 242.3 | 242.3 | 242.0 | 240.6 | 240.3 |
| 12.5° | 237.7 | 237.4 | 236.2 | 234.2 | 233.6 |
| 15° | 231.3 | 231.3 | 228.9 | 226.6 | 225.7 |
| 17.5° | 224.3 | 224.0 | 221.1 | 218.8 | 217.6 |
| 20° | 216.7 | 216.1 | 213.2 | 209.5 | 207.4 |
| 22.5° | 208.3 | 208.3 | 204.8 | 199.9 | 197.8 |
| 25° | 200.4 | 199.3 | 196.1 | 189.1 | 183.9 |
| 27.5° | 191.4 | 189.7 | 186.2 | 176.3 | 170.2 |
| 30° | 181.5 | 180.7 | 175.7 | 162.9 | 158.3 |
| 32.5° | 172.2 | 170.8 | 165.5 | 152.1 | 148.4 |
| 35° | 162.6 | 161.5 | 153.6 | 142.0 | 138.5 |
| 37.5° | 153.0 | 151.6 | 141.7 | 132.4 | 128.0 |
| 40° | 143.4 | 141.7 | 130.9 | 122.5 | 117.8 |
| 42.5° | 134.4 | 132.1 | 121.6 | 112.6 | 107.3 |
| 45° | 124.8 | 122.2 | 111.7 | 102.4 | 98.3 |
| 47.5° | 115.2 | 112.9 | 103.3 | 93.7 | 89.0 |
| 50° | 105.0 | 103.0 | 94.3 | 84.7 | 79.7 |
| 52.5° | 96.6 | 93.4 | 84.9 | 75.3 | 71.3 |
| 55° | 86.7 | 84.1 | 76.2 | 67.2 | 63.7 |
| 57.5° | 77.7 | 75.1 | 67.8 | 59.3 | 56.4 |
| 60° | 69.2 | 65.5 | 59.3 | 52.1 | 49.7 |
| 62.5° | 59.9 | 57.0 | 51.8 | 45.7 | 48.6 |
| 65° | 51.5 | 48.6 | 43.9 | 44.8 | 37.2 |
| 67.5° | 42.2 | 40.7 | 36.7 | 32.6 | 31.4 |
| 70° | 34.3 | 32.6 | 31.1 | 26.8 | 25.6 |
| 72.5° | 27.3 | 25.6 | 23.6 | 21.2 | 20.4 |
| 75° | 20.7 | 19.2 | 18.0 | 17.2 | 18.9 |
| 77.5° | 14.3 | 13.7 | 12.8 | 11.9 | 11.6 |
| 80° | 9.3 | 9.0 | 8.7 | 8.4 | 8.1 |
| 82.5° | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 |
| 85° | 2.9 | 3.2 | 3.5 | 3.8 | 4.1 |
| 87.5° | 1.7 | 1.7 | 2.0 | 2.3 | 2.6 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)