

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: P558804

Luminaire Tested: FSR-12-1-LD4-1LO-50-UNV-82-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P558804
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-82-86-EDD-90
Description: 1X1 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 473.0 lumens
Efficiency: N/A
Efficacy: 81.6 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

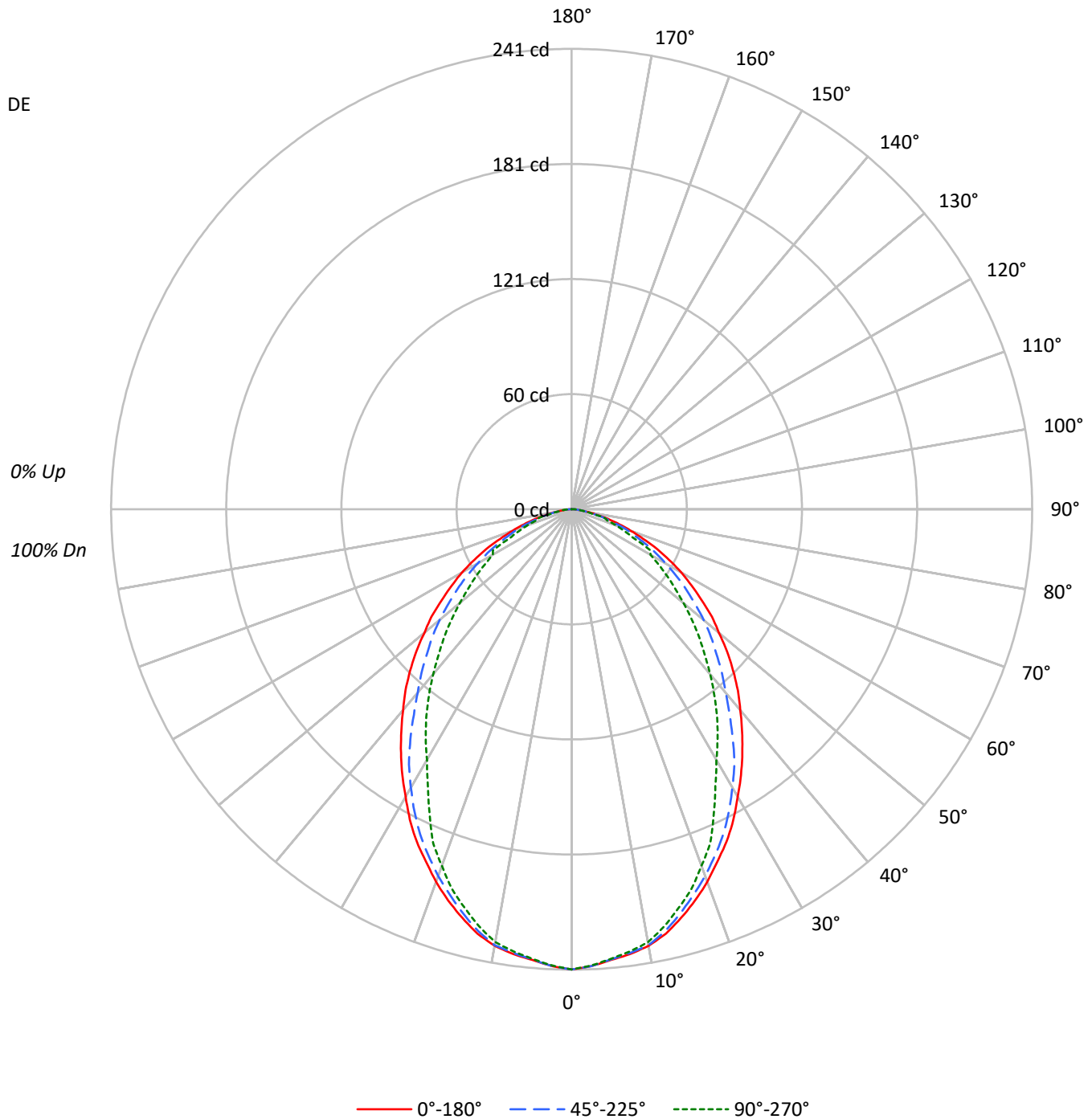
Input Watts (W): 5.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot



TEST NUMBER: P558804

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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 | 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° | 2593 | 2593 | 2593 |
| 5° | 2559 | 2555 | 2552 |
| 10° | 2536 | 2532 | 2515 |
| 15° | 2467 | 2443 | 2408 |
| 20° | 2377 | 2339 | 2275 |
| 25° | 2279 | 2229 | 2090 |
| 30° | 2160 | 2091 | 1883 |
| 35° | 2046 | 1933 | 1742 |
| 40° | 1929 | 1761 | 1585 |
| 45° | 1819 | 1629 | 1432 |
| 50° | 1685 | 1510 | 1278 |
| 55° | 1558 | 1370 | 1145 |
| 60° | 1427 | 1223 | 1025 |
| 65° | 1256 | 1072 | 909 |
| 70° | 1035 | 938 | 771 |
| 75° | 823 | 719 | 753 |
| 80° | 552 | 521 | 483 |
| 85° | 346 | 408 | 482 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1819 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 22.4 | 4.7 |
| 10°-20° | 61.6 | 13.0 |
| 20°-30° | 85.2 | 18.0 |
| 30°-40° | 90.9 | 19.2 |
| 40°-50° | 82.9 | 17.5 |
| 50°-60° | 64.9 | 13.7 |
| 60°-70° | 42.3 | 8.9 |
| 70°-80° | 18.8 | 4.0 |
| 80°-90° | 4.0 | 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° | 169.2 | 35.8 |
| 0°-40° | 260.1 | 55.0 |
| 0°-60° | 407.9 | 86.2 |
| 0°-90° | 473.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 473.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 241 | 241 | 241 | 241 | 241 | |
| 5° | 237 | 236 | 236 | 236 | 236 | 22 |
| 15° | 221 | 221 | 219 | 217 | 216 | 62 |
| 25° | 192 | 191 | 188 | 181 | 176 | 88 |
| 35° | 156 | 155 | 147 | 136 | 133 | 97 |
| 45° | 120 | 117 | 107 | 98 | 94 | 92 |
| 55° | 83 | 80 | 73 | 64 | 61 | 74 |
| 65° | 49 | 46 | 42 | 43 | 36 | 49 |
| 75° | 20 | 18 | 17 | 16 | 18 | 21 |
| 85° | 3 | 3 | 3 | 4 | 4 | 4 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P558804

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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 240.9 | 240.9 | 240.9 | 240.9 | 240.9 |
| 2.5° | 239.3 | 239.3 | 239.3 | 239.0 | 239.0 |
| 5° | 236.8 | 236.5 | 236.5 | 236.2 | 236.2 |
| 7.5° | 234.8 | 234.5 | 234.3 | 234.0 | 233.4 |
| 10° | 232.0 | 232.0 | 231.7 | 230.4 | 230.1 |
| 12.5° | 227.6 | 227.3 | 226.2 | 224.2 | 223.7 |
| 15° | 221.4 | 221.4 | 219.2 | 217.0 | 216.1 |
| 17.5° | 214.8 | 214.5 | 211.7 | 209.5 | 208.4 |
| 20° | 207.5 | 207.0 | 204.2 | 200.6 | 198.6 |
| 22.5° | 199.4 | 199.4 | 196.1 | 191.4 | 189.4 |
| 25° | 191.9 | 190.8 | 187.7 | 181.1 | 176.0 |
| 27.5° | 183.3 | 181.6 | 178.3 | 168.8 | 162.9 |
| 30° | 173.8 | 173.0 | 168.2 | 156.0 | 151.5 |
| 32.5° | 164.9 | 163.5 | 158.5 | 145.7 | 142.1 |
| 35° | 155.7 | 154.6 | 147.1 | 135.9 | 132.6 |
| 37.5° | 146.5 | 145.1 | 135.7 | 126.7 | 122.6 |
| 40° | 137.3 | 135.7 | 125.3 | 117.3 | 112.8 |
| 42.5° | 128.7 | 126.5 | 116.4 | 107.8 | 102.8 |
| 45° | 119.5 | 117.0 | 107.0 | 98.0 | 94.1 |
| 47.5° | 110.3 | 108.1 | 98.9 | 89.7 | 85.2 |
| 50° | 100.6 | 98.6 | 90.2 | 81.1 | 76.3 |
| 52.5° | 92.5 | 89.4 | 81.3 | 72.1 | 68.2 |
| 55° | 83.0 | 80.5 | 73.0 | 64.3 | 61.0 |
| 57.5° | 74.4 | 71.9 | 64.9 | 56.8 | 54.0 |
| 60° | 66.3 | 62.7 | 56.8 | 49.9 | 47.6 |
| 62.5° | 57.4 | 54.6 | 49.6 | 43.7 | 46.5 |
| 65° | 49.3 | 46.5 | 42.1 | 42.9 | 35.7 |
| 67.5° | 40.4 | 39.0 | 35.1 | 31.2 | 30.1 |
| 70° | 32.9 | 31.2 | 29.8 | 25.6 | 24.5 |
| 72.5° | 26.2 | 24.5 | 22.6 | 20.3 | 19.5 |
| 75° | 19.8 | 18.4 | 17.3 | 16.4 | 18.1 |
| 77.5° | 13.6 | 13.1 | 12.3 | 11.4 | 11.1 |
| 80° | 8.9 | 8.6 | 8.4 | 8.1 | 7.8 |
| 82.5° | 5.3 | 5.3 | 5.3 | 5.3 | 5.3 |
| 85° | 2.8 | 3.1 | 3.3 | 3.6 | 3.9 |
| 87.5° | 1.7 | 1.7 | 1.9 | 2.2 | 2.5 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)