

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: P558815

Luminaire Tested: FSR-12-1-LD4-1LO-50-UNV-82-97-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P558815
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-82-97-EDD
Description: 1X1 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 548.0 lumens
Efficiency: N/A
Efficacy: 94.5 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

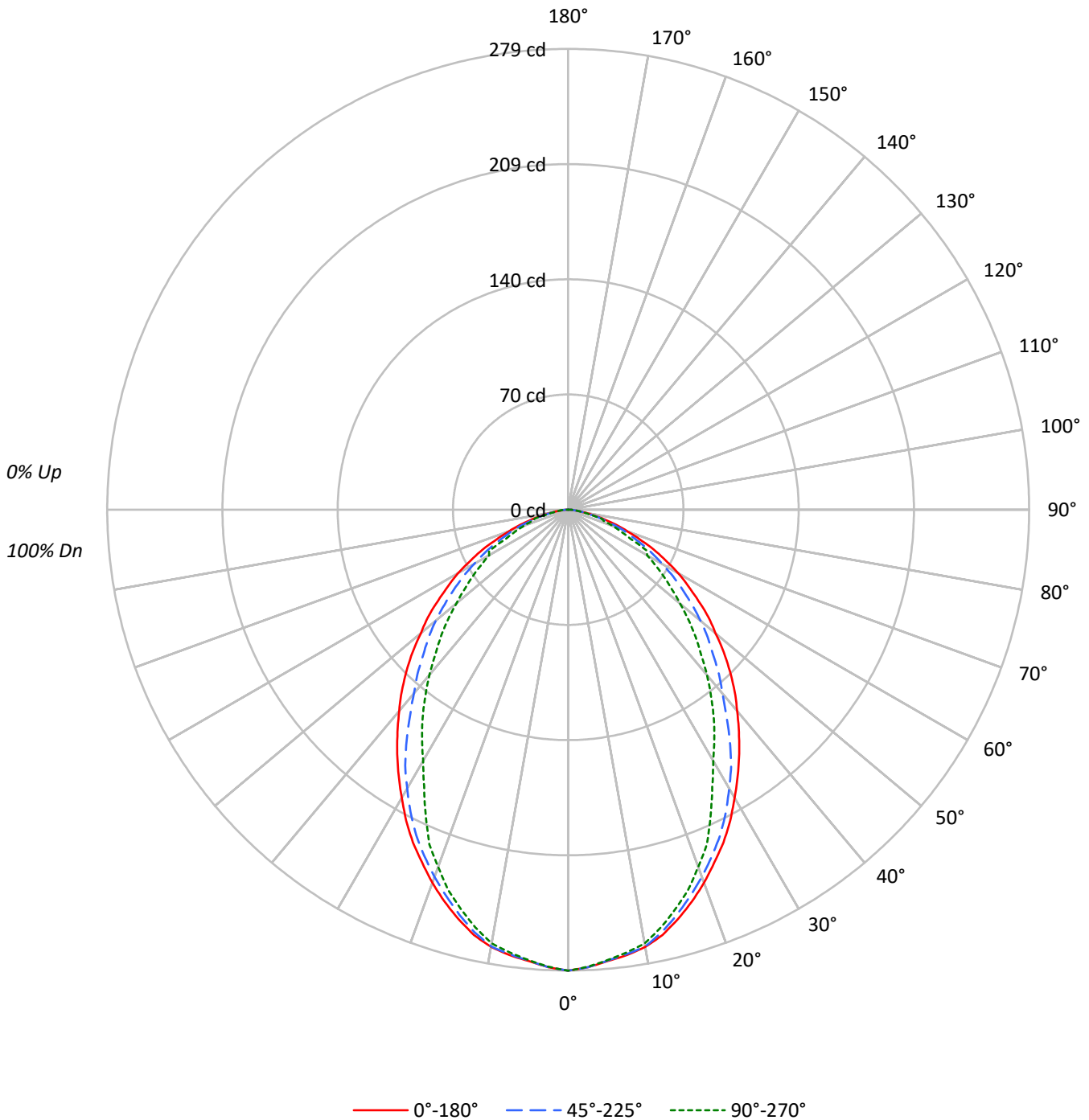
Input Watts (W): 5.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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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° | 3004 | 3004 | 3004 |
| 5° | 2964 | 2961 | 2957 |
| 10° | 2938 | 2935 | 2914 |
| 15° | 2859 | 2830 | 2790 |
| 20° | 2754 | 2709 | 2636 |
| 25° | 2640 | 2583 | 2423 |
| 30° | 2503 | 2422 | 2183 |
| 35° | 2371 | 2239 | 2018 |
| 40° | 2236 | 2040 | 1837 |
| 45° | 2107 | 1886 | 1661 |
| 50° | 1951 | 1752 | 1480 |
| 55° | 1805 | 1586 | 1327 |
| 60° | 1653 | 1417 | 1188 |
| 65° | 1454 | 1240 | 1052 |
| 70° | 1199 | 1086 | 894 |
| 75° | 952 | 832 | 873 |
| 80° | 638 | 601 | 558 |
| 85° | 395 | 482 | 556 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2107 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 26.0 | 4.7 |
| 10°-20° | 71.3 | 13.0 |
| 20°-30° | 98.7 | 18.0 |
| 30°-40° | 105.3 | 19.2 |
| 40°-50° | 96.0 | 17.5 |
| 50°-60° | 75.2 | 13.7 |
| 60°-70° | 49.0 | 8.9 |
| 70°-80° | 21.7 | 4.0 |
| 80°-90° | 4.7 | 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° | 196.0 | 35.8 |
| 0°-40° | 301.3 | 55.0 |
| 0°-60° | 472.6 | 86.2 |
| 0°-90° | 548.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 548.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 279 | 279 | 279 | 279 | 279 | |
| 5° | 274 | 274 | 274 | 274 | 274 | 26 |
| 15° | 257 | 257 | 254 | 251 | 250 | 72 |
| 25° | 222 | 221 | 218 | 210 | 204 | 102 |
| 35° | 180 | 179 | 170 | 158 | 154 | 113 |
| 45° | 138 | 136 | 124 | 114 | 109 | 107 |
| 55° | 96 | 93 | 84 | 74 | 71 | 86 |
| 65° | 57 | 54 | 49 | 50 | 41 | 56 |
| 75° | 23 | 21 | 20 | 19 | 21 | 25 |
| 85° | 3 | 4 | 4 | 4 | 4 | 4 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P558815

CATALOG NUMBER: FSR-12-1-LD4-1LO-50-UNV-82-97-EDD

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 279.1 | 279.1 | 279.1 | 279.1 | 279.1 |
| 2.5° | 277.2 | 277.2 | 277.2 | 276.9 | 276.9 |
| 5° | 274.3 | 274.0 | 274.0 | 273.7 | 273.7 |
| 7.5° | 272.0 | 271.7 | 271.4 | 271.1 | 270.4 |
| 10° | 268.8 | 268.8 | 268.5 | 266.9 | 266.6 |
| 12.5° | 263.7 | 263.3 | 262.0 | 259.8 | 259.1 |
| 15° | 256.6 | 256.6 | 254.0 | 251.4 | 250.4 |
| 17.5° | 248.8 | 248.5 | 245.3 | 242.7 | 241.4 |
| 20° | 240.4 | 239.8 | 236.5 | 232.4 | 230.1 |
| 22.5° | 231.1 | 231.1 | 227.2 | 221.7 | 219.4 |
| 25° | 222.3 | 221.1 | 217.5 | 209.8 | 204.0 |
| 27.5° | 212.3 | 210.4 | 206.5 | 195.6 | 188.8 |
| 30° | 201.4 | 200.4 | 194.9 | 180.7 | 175.6 |
| 32.5° | 191.0 | 189.4 | 183.6 | 168.8 | 164.6 |
| 35° | 180.4 | 179.1 | 170.4 | 157.5 | 153.6 |
| 37.5° | 169.7 | 168.1 | 157.2 | 146.8 | 142.0 |
| 40° | 159.1 | 157.2 | 145.2 | 135.9 | 130.7 |
| 42.5° | 149.1 | 146.5 | 134.9 | 124.9 | 119.1 |
| 45° | 138.4 | 135.5 | 123.9 | 113.6 | 109.1 |
| 47.5° | 127.8 | 125.2 | 114.6 | 103.9 | 98.7 |
| 50° | 116.5 | 114.2 | 104.6 | 93.9 | 88.4 |
| 52.5° | 107.1 | 103.6 | 94.2 | 83.6 | 79.1 |
| 55° | 96.2 | 93.3 | 84.5 | 74.5 | 70.7 |
| 57.5° | 86.2 | 83.3 | 75.2 | 65.8 | 62.6 |
| 60° | 76.8 | 72.6 | 65.8 | 57.8 | 55.2 |
| 62.5° | 66.5 | 63.3 | 57.4 | 50.7 | 53.9 |
| 65° | 57.1 | 53.9 | 48.7 | 49.7 | 41.3 |
| 67.5° | 46.8 | 45.2 | 40.7 | 36.1 | 34.9 |
| 70° | 38.1 | 36.1 | 34.5 | 29.7 | 28.4 |
| 72.5° | 30.3 | 28.4 | 26.1 | 23.6 | 22.6 |
| 75° | 22.9 | 21.3 | 20.0 | 19.0 | 21.0 |
| 77.5° | 15.8 | 15.2 | 14.2 | 13.2 | 12.9 |
| 80° | 10.3 | 10.0 | 9.7 | 9.4 | 9.0 |
| 82.5° | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 |
| 85° | 3.2 | 3.5 | 3.9 | 4.2 | 4.5 |
| 87.5° | 1.9 | 1.9 | 2.3 | 2.6 | 2.9 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)