

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: P558811

Luminaire Tested: FSR-12-1-LD4-1LO-50-UNV-82-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P558811
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-82-94-EDD
Description: 1X1 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 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: 563.0 lumens
Efficiency: N/A
Efficacy: 97.1 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

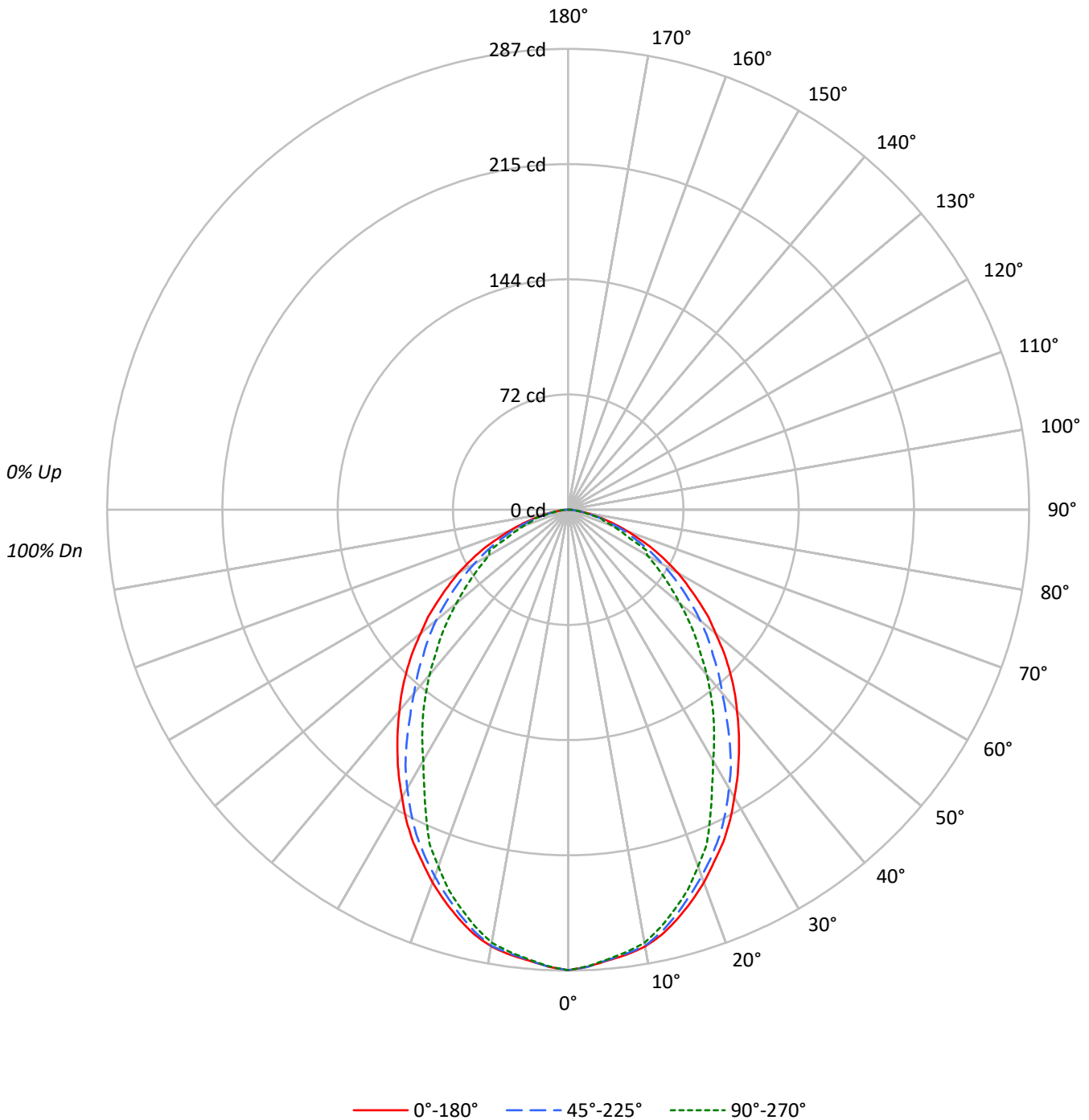
Input Watts (W): 5.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P558811

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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° | 3087 | 3087 | 3087 |
| 5° | 3045 | 3042 | 3037 |
| 10° | 3019 | 3014 | 2994 |
| 15° | 2937 | 2907 | 2867 |
| 20° | 2829 | 2783 | 2708 |
| 25° | 2713 | 2654 | 2488 |
| 30° | 2572 | 2490 | 2242 |
| 35° | 2435 | 2301 | 2074 |
| 40° | 2297 | 2096 | 1887 |
| 45° | 2165 | 1938 | 1706 |
| 50° | 2004 | 1798 | 1521 |
| 55° | 1854 | 1631 | 1362 |
| 60° | 1699 | 1455 | 1221 |
| 65° | 1495 | 1276 | 1080 |
| 70° | 1231 | 1117 | 919 |
| 75° | 977 | 857 | 898 |
| 80° | 657 | 614 | 576 |
| 85° | 408 | 494 | 568 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2165 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 26.7 | 4.7 |
| 10°-20° | 73.3 | 13.0 |
| 20°-30° | 101.4 | 18.0 |
| 30°-40° | 108.2 | 19.2 |
| 40°-50° | 98.7 | 17.5 |
| 50°-60° | 77.3 | 13.7 |
| 60°-70° | 50.4 | 8.9 |
| 70°-80° | 22.3 | 4.0 |
| 80°-90° | 4.8 | 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° | 201.4 | 35.8 |
| 0°-40° | 309.6 | 55.0 |
| 0°-60° | 485.5 | 86.2 |
| 0°-90° | 563.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 563.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 287 | 287 | 287 | 287 | 287 | |
| 5° | 282 | 282 | 282 | 281 | 281 | 27 |
| 15° | 264 | 264 | 261 | 258 | 257 | 74 |
| 25° | 228 | 227 | 224 | 216 | 210 | 105 |
| 35° | 185 | 184 | 175 | 162 | 158 | 116 |
| 45° | 142 | 139 | 127 | 117 | 112 | 110 |
| 55° | 99 | 96 | 87 | 77 | 73 | 89 |
| 65° | 59 | 55 | 50 | 51 | 42 | 58 |
| 75° | 24 | 22 | 21 | 20 | 22 | 25 |
| 85° | 3 | 4 | 4 | 4 | 5 | 5 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P558811

CATALOG NUMBER: FSR-12-1-LD4-1LO-50-UNV-82-94-EDD

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 286.8 | 286.8 | 286.8 | 286.8 | 286.8 |
| 2.5° | 284.8 | 284.8 | 284.8 | 284.5 | 284.5 |
| 5° | 281.8 | 281.5 | 281.5 | 281.1 | 281.1 |
| 7.5° | 279.5 | 279.2 | 278.8 | 278.5 | 277.8 |
| 10° | 276.2 | 276.2 | 275.8 | 274.2 | 273.9 |
| 12.5° | 270.9 | 270.5 | 269.2 | 266.9 | 266.2 |
| 15° | 263.6 | 263.6 | 260.9 | 258.3 | 257.3 |
| 17.5° | 255.6 | 255.3 | 252.0 | 249.3 | 248.0 |
| 20° | 247.0 | 246.3 | 243.0 | 238.7 | 236.4 |
| 22.5° | 237.4 | 237.4 | 233.4 | 227.8 | 225.4 |
| 25° | 228.4 | 227.1 | 223.5 | 215.5 | 209.5 |
| 27.5° | 218.2 | 216.2 | 212.2 | 200.9 | 194.0 |
| 30° | 206.9 | 205.9 | 200.3 | 185.7 | 180.4 |
| 32.5° | 196.3 | 194.6 | 188.6 | 173.4 | 169.1 |
| 35° | 185.3 | 184.0 | 175.1 | 161.8 | 157.8 |
| 37.5° | 174.4 | 172.7 | 161.5 | 150.9 | 145.9 |
| 40° | 163.5 | 161.5 | 149.2 | 139.6 | 134.3 |
| 42.5° | 153.2 | 150.5 | 138.6 | 128.3 | 122.3 |
| 45° | 142.2 | 139.2 | 127.3 | 116.7 | 112.1 |
| 47.5° | 131.3 | 128.6 | 117.7 | 106.8 | 101.5 |
| 50° | 119.7 | 117.4 | 107.4 | 96.5 | 90.8 |
| 52.5° | 110.1 | 106.4 | 96.8 | 85.9 | 81.2 |
| 55° | 98.8 | 95.8 | 86.9 | 76.6 | 72.6 |
| 57.5° | 88.5 | 85.5 | 77.2 | 67.6 | 64.3 |
| 60° | 78.9 | 74.6 | 67.6 | 59.3 | 56.7 |
| 62.5° | 68.3 | 65.0 | 59.0 | 52.1 | 55.4 |
| 65° | 58.7 | 55.4 | 50.1 | 51.1 | 42.4 |
| 67.5° | 48.1 | 46.4 | 41.8 | 37.1 | 35.8 |
| 70° | 39.1 | 37.1 | 35.5 | 30.5 | 29.2 |
| 72.5° | 31.2 | 29.2 | 26.9 | 24.2 | 23.2 |
| 75° | 23.5 | 21.9 | 20.6 | 19.6 | 21.6 |
| 77.5° | 16.2 | 15.6 | 14.6 | 13.6 | 13.3 |
| 80° | 10.6 | 10.3 | 9.9 | 9.6 | 9.3 |
| 82.5° | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 |
| 85° | 3.3 | 3.6 | 4.0 | 4.3 | 4.6 |
| 87.5° | 2.0 | 2.0 | 2.3 | 2.7 | 3.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)