

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: P558640

Luminaire Tested: FSR-12-1-LD4-1LO-35-UNV-80-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P558640
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-35-UNV-80-84-EDD-90
Description: 1X1 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .125 CLEAR PC ENVIRON
SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 492.0 lumens
Efficiency: N/A
Efficacy: 84.8 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

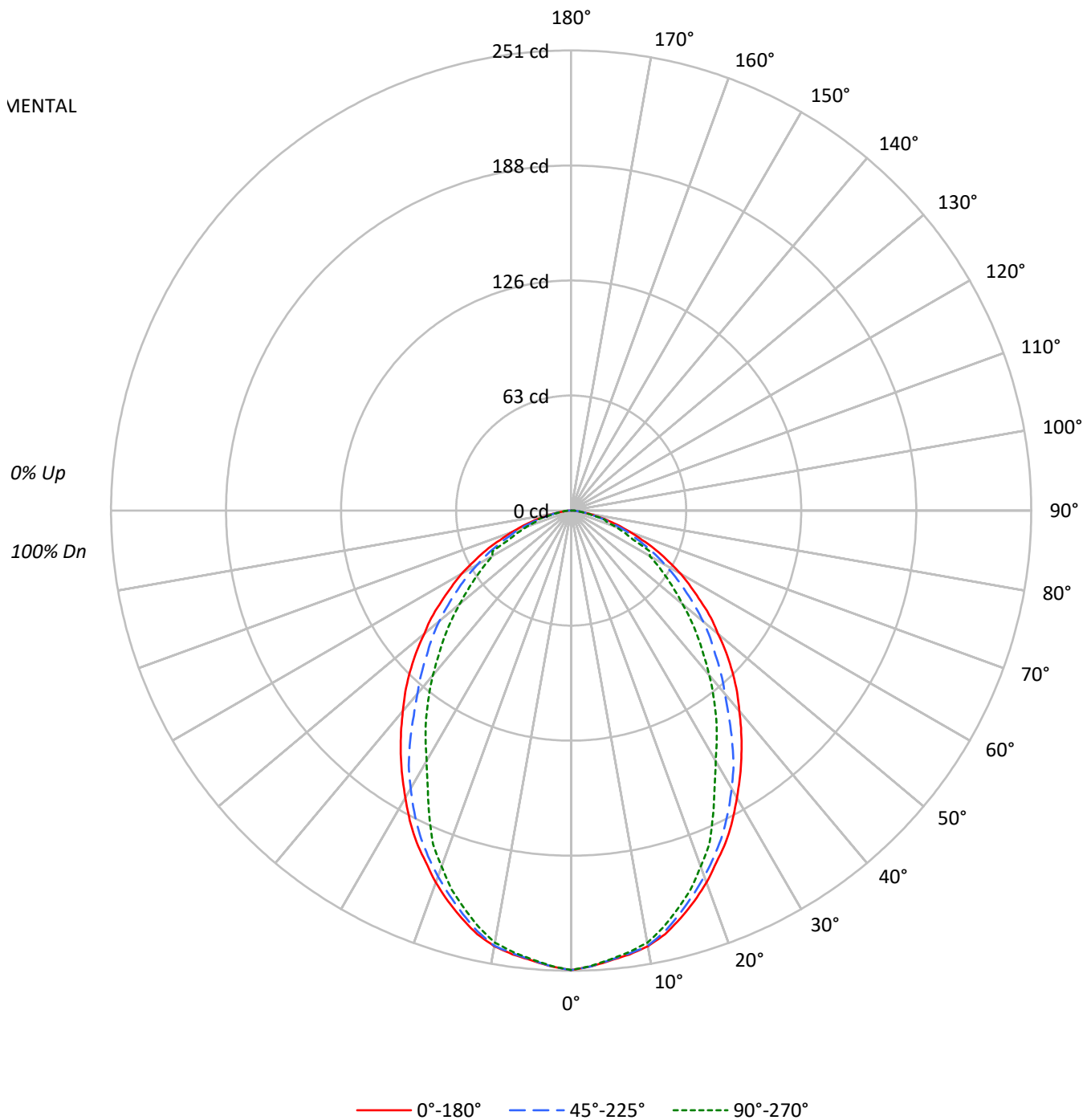
Input Watts (W): 5.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P558640

CATALOG NUMBER: FSR-12-1-LD4-1LO-35-UNV-80-84-EDD-90

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 | | | | | | | | | | | | | 100 | | | | | | | | | | | | | | | |
| 1 | 110 | 106 | 102 | 99 | 108 | 104 | 100 | 97 | 100 | 97 | 94 | 96 | 94 | 91 | 92 | 90 | 89 | 87 | | | | | | | | | | | | | 87 | | | | | | | | | | | | | | | |
| 2 | 101 | 94 | 88 | 83 | 99 | 92 | 87 | 82 | 89 | 84 | 80 | 86 | 82 | 78 | 83 | 79 | 77 | 75 | | | | | | | | | | | | | 75 | | | | | | | | | | | | | | | |
| 3 | 93 | 84 | 77 | 71 | 91 | 82 | 76 | 70 | 79 | 74 | 69 | 77 | 72 | 68 | 74 | 70 | 67 | 65 | | | | | | | | | | | | | 65 | | | | | | | | | | | | | | | |
| 4 | 86 | 75 | 67 | 61 | 84 | 74 | 66 | 61 | 72 | 65 | 60 | 69 | 64 | 59 | 67 | 62 | 58 | 56 | | | | | | | | | | | | | 56 | | | | | | | | | | | | | | | |
| 5 | 80 | 68 | 60 | 54 | 78 | 67 | 59 | 53 | 65 | 58 | 53 | 63 | 57 | 52 | 61 | 56 | 52 | 50 | | | | | | | | | | | | | 50 | | | | | | | | | | | | | | | |
| 6 | 74 | 62 | 53 | 48 | 72 | 61 | 53 | 47 | 59 | 52 | 47 | 57 | 51 | 47 | 56 | 50 | 46 | 44 | | | | | | | | | | | | | 44 | | | | | | | | | | | | | | | |
| 7 | 69 | 56 | 48 | 43 | 67 | 56 | 48 | 42 | 54 | 47 | 42 | 53 | 46 | 42 | 51 | 46 | 42 | 40 | | | | | | | | | | | | | 40 | | | | | | | | | | | | | | | |
| 8 | 65 | 52 | 44 | 38 | 63 | 51 | 44 | 38 | 50 | 43 | 38 | 49 | 42 | 38 | 48 | 42 | 38 | 36 | | | | | | | | | | | | | 36 | | | | | | | | | | | | | | | |
| 9 | 61 | 48 | 40 | 35 | 59 | 47 | 40 | 35 | 46 | 39 | 35 | 45 | 39 | 34 | 44 | 38 | 34 | 33 | | | | | | | | | | | | | 33 | | | | | | | | | | | | | | | |
| 10 | 57 | 44 | 37 | 32 | 56 | 44 | 37 | 32 | 43 | 36 | 32 | 42 | 36 | 32 | 41 | 36 | 32 | 30 | | | | | | | | | | | | | 30 | | | | | | | | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 2697 | 2697 | 2697 |
| 5° | 2661 | 2658 | 2655 |
| 10° | 2637 | 2635 | 2616 |
| 15° | 2566 | 2541 | 2505 |
| 20° | 2473 | 2433 | 2367 |
| 25° | 2371 | 2320 | 2175 |
| 30° | 2247 | 2175 | 1959 |
| 35° | 2129 | 2010 | 1812 |
| 40° | 2007 | 1832 | 1648 |
| 45° | 1892 | 1694 | 1490 |
| 50° | 1752 | 1572 | 1330 |
| 55° | 1620 | 1424 | 1192 |
| 60° | 1485 | 1272 | 1066 |
| 65° | 1307 | 1113 | 945 |
| 70° | 1076 | 976 | 803 |
| 75° | 857 | 749 | 782 |
| 80° | 576 | 539 | 502 |
| 85° | 358 | 432 | 506 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1892 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 23.3 | 4.7 |
| 10°-20° | 64.0 | 13.0 |
| 20°-30° | 88.6 | 18.0 |
| 30°-40° | 94.5 | 19.2 |
| 40°-50° | 86.2 | 17.5 |
| 50°-60° | 67.6 | 13.7 |
| 60°-70° | 44.0 | 8.9 |
| 70°-80° | 19.5 | 4.0 |
| 80°-90° | 4.2 | 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° | 176.0 | 35.8 |
| 0°-40° | 270.5 | 55.0 |
| 0°-60° | 424.3 | 86.2 |
| 0°-90° | 492.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 492.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 251 | 251 | 251 | 251 | 251 | |
| 5° | 246 | 246 | 246 | 246 | 246 | 23 |
| 15° | 230 | 230 | 228 | 226 | 225 | 65 |
| 25° | 200 | 198 | 195 | 188 | 183 | 92 |
| 35° | 162 | 161 | 153 | 141 | 138 | 101 |
| 45° | 124 | 122 | 111 | 102 | 98 | 96 |
| 55° | 86 | 84 | 76 | 67 | 64 | 77 |
| 65° | 51 | 48 | 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: P558640

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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 250.6 | 250.6 | 250.6 | 250.6 | 250.6 |
| 2.5° | 248.9 | 248.9 | 248.9 | 248.6 | 248.6 |
| 5° | 246.3 | 246.0 | 246.0 | 245.7 | 245.7 |
| 7.5° | 244.2 | 244.0 | 243.7 | 243.4 | 242.8 |
| 10° | 241.3 | 241.3 | 241.1 | 239.6 | 239.3 |
| 12.5° | 236.7 | 236.4 | 235.3 | 233.2 | 232.7 |
| 15° | 230.3 | 230.3 | 228.0 | 225.7 | 224.8 |
| 17.5° | 223.4 | 223.1 | 220.2 | 217.9 | 216.7 |
| 20° | 215.9 | 215.3 | 212.4 | 208.6 | 206.6 |
| 22.5° | 207.4 | 207.4 | 204.0 | 199.0 | 197.0 |
| 25° | 199.6 | 198.5 | 195.3 | 188.3 | 183.1 |
| 27.5° | 190.6 | 188.9 | 185.4 | 175.6 | 169.5 |
| 30° | 180.8 | 179.9 | 175.0 | 162.2 | 157.6 |
| 32.5° | 171.5 | 170.1 | 164.9 | 151.5 | 147.8 |
| 35° | 162.0 | 160.8 | 153.0 | 141.4 | 137.9 |
| 37.5° | 152.4 | 151.0 | 141.1 | 131.8 | 127.5 |
| 40° | 142.8 | 141.1 | 130.4 | 122.0 | 117.3 |
| 42.5° | 133.9 | 131.5 | 121.1 | 112.1 | 106.9 |
| 45° | 124.3 | 121.7 | 111.3 | 102.0 | 97.9 |
| 47.5° | 114.7 | 112.4 | 102.9 | 93.3 | 88.7 |
| 50° | 104.6 | 102.6 | 93.9 | 84.3 | 79.4 |
| 52.5° | 96.2 | 93.0 | 84.6 | 75.0 | 71.0 |
| 55° | 86.3 | 83.7 | 75.9 | 66.9 | 63.5 |
| 57.5° | 77.4 | 74.8 | 67.5 | 59.1 | 56.2 |
| 60° | 69.0 | 65.2 | 59.1 | 51.9 | 49.5 |
| 62.5° | 59.7 | 56.8 | 51.6 | 45.5 | 48.4 |
| 65° | 51.3 | 48.4 | 43.7 | 44.6 | 37.1 |
| 67.5° | 42.0 | 40.6 | 36.5 | 32.4 | 31.3 |
| 70° | 34.2 | 32.4 | 31.0 | 26.7 | 25.5 |
| 72.5° | 27.2 | 25.5 | 23.5 | 21.2 | 20.3 |
| 75° | 20.6 | 19.1 | 18.0 | 17.1 | 18.8 |
| 77.5° | 14.2 | 13.6 | 12.7 | 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)