

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: P558702

Luminaire Tested: FSR-12-1-LD4-1LO-35-UNV-93-97-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P558702
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-93-97-EDD-90
Description: 1X1 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 471.0 lumens
Efficiency: N/A
Efficacy: 81.2 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

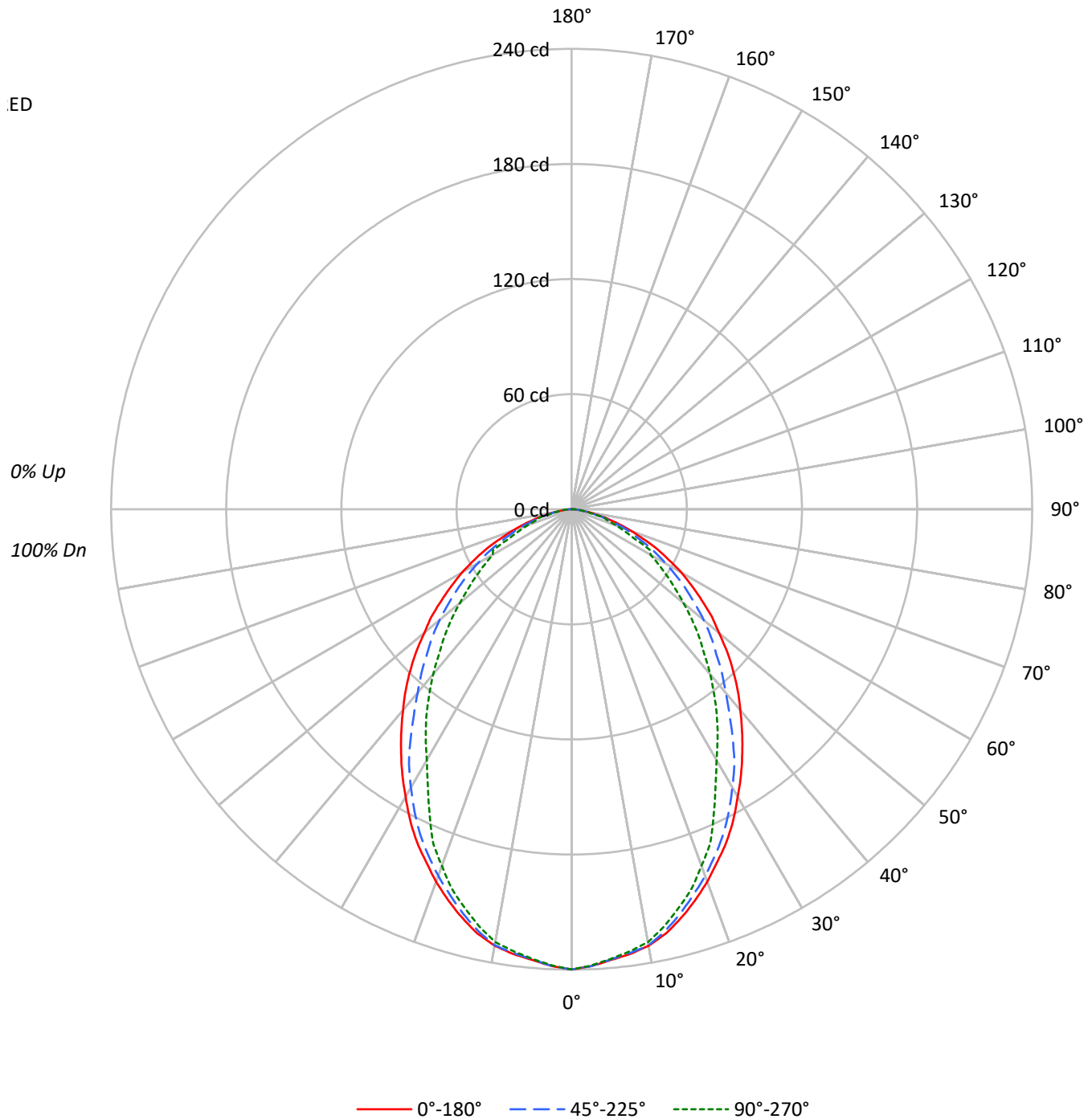
Input Watts (W): 5.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P558702

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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° | 2582 | 2582 | 2582 |
| 5° | 2548 | 2545 | 2541 |
| 10° | 2525 | 2523 | 2504 |
| 15° | 2457 | 2433 | 2398 |
| 20° | 2367 | 2329 | 2266 |
| 25° | 2270 | 2220 | 2082 |
| 30° | 2151 | 2082 | 1876 |
| 35° | 2037 | 1924 | 1735 |
| 40° | 1921 | 1754 | 1578 |
| 45° | 1811 | 1621 | 1426 |
| 50° | 1676 | 1505 | 1273 |
| 55° | 1552 | 1364 | 1139 |
| 60° | 1421 | 1218 | 1020 |
| 65° | 1251 | 1067 | 904 |
| 70° | 1029 | 935 | 768 |
| 75° | 819 | 715 | 749 |
| 80° | 552 | 514 | 483 |
| 85° | 346 | 408 | 482 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1811 cd/sqm

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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 22.3 | 4.7 |
| 10°-20° | 61.3 | 13.0 |
| 20°-30° | 84.9 | 18.0 |
| 30°-40° | 90.5 | 19.2 |
| 40°-50° | 82.5 | 17.5 |
| 50°-60° | 64.7 | 13.7 |
| 60°-70° | 42.1 | 8.9 |
| 70°-80° | 18.7 | 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° | 168.5 | 35.8 |
| 0°-40° | 259.0 | 55.0 |
| 0°-60° | 406.2 | 86.2 |
| 0°-90° | 471.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 471.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 240 | 240 | 240 | 240 | 240 | |
| 5° | 236 | 236 | 236 | 235 | 235 | 22 |
| 15° | 220 | 220 | 218 | 216 | 215 | 62 |
| 25° | 191 | 190 | 187 | 180 | 175 | 88 |
| 35° | 155 | 154 | 146 | 135 | 132 | 97 |
| 45° | 119 | 116 | 106 | 98 | 94 | 92 |
| 55° | 83 | 80 | 73 | 64 | 61 | 74 |
| 65° | 49 | 46 | 42 | 43 | 36 | 48 |
| 75° | 20 | 18 | 17 | 16 | 18 | 21 |
| 85° | 3 | 3 | 3 | 4 | 4 | 4 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P558702

CATALOG NUMBER: FSR-12-1-LD4-1LO-35-UNV-93-97-EDD-90

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 239.9 | 239.9 | 239.9 | 239.9 | 239.9 |
| 2.5° | 238.3 | 238.3 | 238.3 | 238.0 | 238.0 |
| 5° | 235.8 | 235.5 | 235.5 | 235.2 | 235.2 |
| 7.5° | 233.8 | 233.5 | 233.3 | 233.0 | 232.4 |
| 10° | 231.0 | 231.0 | 230.8 | 229.4 | 229.1 |
| 12.5° | 226.6 | 226.3 | 225.2 | 223.3 | 222.7 |
| 15° | 220.5 | 220.5 | 218.3 | 216.1 | 215.2 |
| 17.5° | 213.8 | 213.6 | 210.8 | 208.6 | 207.5 |
| 20° | 206.6 | 206.1 | 203.3 | 199.7 | 197.8 |
| 22.5° | 198.6 | 198.6 | 195.3 | 190.6 | 188.6 |
| 25° | 191.1 | 190.0 | 186.9 | 180.3 | 175.3 |
| 27.5° | 182.5 | 180.8 | 177.5 | 168.1 | 162.3 |
| 30° | 173.1 | 172.2 | 167.5 | 155.3 | 150.9 |
| 32.5° | 164.2 | 162.8 | 157.8 | 145.1 | 141.5 |
| 35° | 155.0 | 153.9 | 146.4 | 135.4 | 132.0 |
| 37.5° | 145.9 | 144.5 | 135.1 | 126.2 | 122.0 |
| 40° | 136.7 | 135.1 | 124.8 | 116.8 | 112.3 |
| 42.5° | 128.1 | 125.9 | 115.9 | 107.3 | 102.3 |
| 45° | 119.0 | 116.5 | 106.5 | 97.6 | 93.7 |
| 47.5° | 109.8 | 107.6 | 98.5 | 89.3 | 84.9 |
| 50° | 100.1 | 98.2 | 89.9 | 80.7 | 76.0 |
| 52.5° | 92.1 | 89.0 | 81.0 | 71.8 | 68.0 |
| 55° | 82.7 | 80.2 | 72.7 | 64.1 | 60.7 |
| 57.5° | 74.1 | 71.6 | 64.6 | 56.6 | 53.8 |
| 60° | 66.0 | 62.4 | 56.6 | 49.6 | 47.4 |
| 62.5° | 57.1 | 54.4 | 49.4 | 43.5 | 46.3 |
| 65° | 49.1 | 46.3 | 41.9 | 42.7 | 35.5 |
| 67.5° | 40.2 | 38.8 | 34.9 | 31.1 | 30.0 |
| 70° | 32.7 | 31.1 | 29.7 | 25.5 | 24.4 |
| 72.5° | 26.1 | 24.4 | 22.5 | 20.2 | 19.4 |
| 75° | 19.7 | 18.3 | 17.2 | 16.4 | 18.0 |
| 77.5° | 13.6 | 13.0 | 12.2 | 11.4 | 11.1 |
| 80° | 8.9 | 8.6 | 8.3 | 8.0 | 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)