

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: P559282

Luminaire Tested: FSR-12-1-LD4-2LO-40-UNV-80-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P559282
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-LD4-2LO-40-UNV-80-85-EDD-90
Description: 1X1 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRONM
SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 977.0 lumens
Efficiency: N/A
Efficacy: 83.5 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

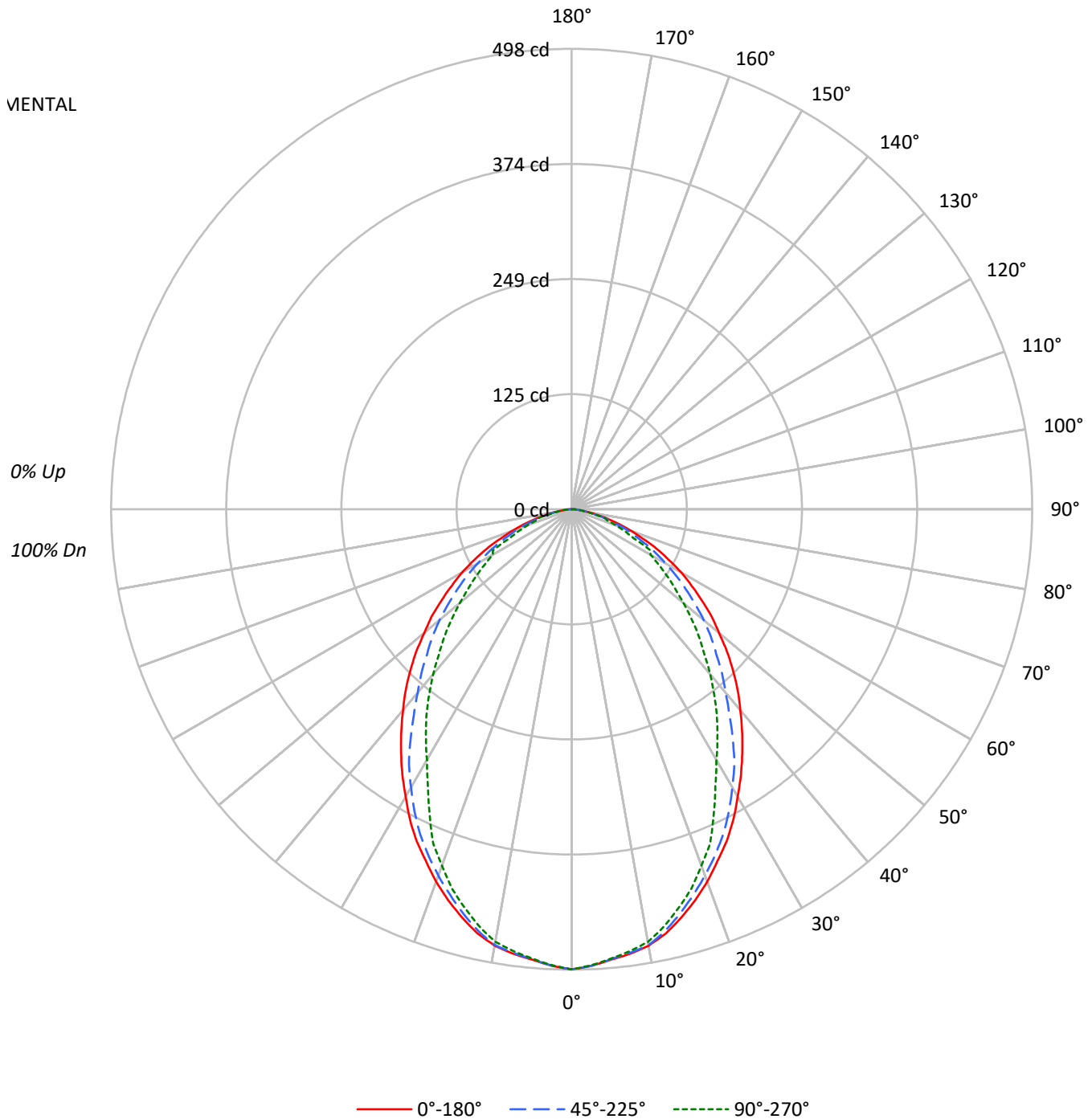
Input Watts (W): 11.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P559282

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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° | 5357 | 5357 | 5357 |
| 5° | 5284 | 5278 | 5272 |
| 10° | 5239 | 5232 | 5194 |
| 15° | 5097 | 5046 | 4976 |
| 20° | 4909 | 4830 | 4699 |
| 25° | 4708 | 4606 | 4318 |
| 30° | 4462 | 4319 | 3890 |
| 35° | 4226 | 3992 | 3599 |
| 40° | 3985 | 3638 | 3274 |
| 45° | 3757 | 3363 | 2961 |
| 50° | 3478 | 3121 | 2639 |
| 55° | 3218 | 2828 | 2365 |
| 60° | 2947 | 2527 | 2118 |
| 65° | 2593 | 2213 | 1875 |
| 70° | 2137 | 1939 | 1592 |
| 75° | 1697 | 1485 | 1555 |
| 80° | 1141 | 1072 | 998 |
| 85° | 716 | 852 | 1000 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3757 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 46.3 | 4.7 |
| 10°-20° | 127.1 | 13.0 |
| 20°-30° | 176.0 | 18.0 |
| 30°-40° | 187.7 | 19.2 |
| 40°-50° | 171.2 | 17.5 |
| 50°-60° | 134.1 | 13.7 |
| 60°-70° | 87.4 | 8.9 |
| 70°-80° | 38.7 | 4.0 |
| 80°-90° | 8.3 | 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° | 349.5 | 35.8 |
| 0°-40° | 537.2 | 55.0 |
| 0°-60° | 842.5 | 86.2 |
| 0°-90° | 977.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 977.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 498 | 498 | 498 | 498 | 498 | |
| 5° | 489 | 488 | 488 | 488 | 488 | 46 |
| 15° | 457 | 457 | 453 | 448 | 446 | 129 |
| 25° | 396 | 394 | 388 | 374 | 364 | 182 |
| 35° | 322 | 319 | 304 | 281 | 274 | 201 |
| 45° | 247 | 242 | 221 | 202 | 194 | 190 |
| 55° | 172 | 166 | 151 | 133 | 126 | 154 |
| 65° | 102 | 96 | 87 | 89 | 74 | 100 |
| 75° | 41 | 38 | 36 | 34 | 37 | 44 |
| 85° | 6 | 6 | 7 | 8 | 8 | 8 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P559282

CATALOG NUMBER: FSR-12-1-LD4-2LO-40-UNV-80-85-EDD-90

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 497.7 | 497.7 | 497.7 | 497.7 | 497.7 |
| 2.5° | 494.2 | 494.2 | 494.2 | 493.6 | 493.6 |
| 5° | 489.0 | 488.5 | 488.5 | 487.9 | 487.9 |
| 7.5° | 485.0 | 484.4 | 483.9 | 483.3 | 482.1 |
| 10° | 479.3 | 479.3 | 478.7 | 475.8 | 475.2 |
| 12.5° | 470.1 | 469.5 | 467.2 | 463.2 | 462.0 |
| 15° | 457.4 | 457.4 | 452.8 | 448.2 | 446.5 |
| 17.5° | 443.6 | 443.0 | 437.3 | 432.7 | 430.4 |
| 20° | 428.6 | 427.5 | 421.7 | 414.2 | 410.2 |
| 22.5° | 411.9 | 411.9 | 405.0 | 395.3 | 391.2 |
| 25° | 396.4 | 394.1 | 387.8 | 374.0 | 363.6 |
| 27.5° | 378.6 | 375.1 | 368.2 | 348.7 | 336.6 |
| 30° | 359.0 | 357.3 | 347.5 | 322.2 | 313.0 |
| 32.5° | 340.6 | 337.7 | 327.4 | 300.9 | 293.4 |
| 35° | 321.6 | 319.3 | 303.8 | 280.8 | 273.9 |
| 37.5° | 302.6 | 299.8 | 280.2 | 261.8 | 253.2 |
| 40° | 283.6 | 280.2 | 258.9 | 242.2 | 233.0 |
| 42.5° | 265.8 | 261.2 | 240.5 | 222.7 | 212.3 |
| 45° | 246.8 | 241.6 | 220.9 | 202.5 | 194.5 |
| 47.5° | 227.8 | 223.2 | 204.2 | 185.3 | 176.1 |
| 50° | 207.7 | 203.7 | 186.4 | 167.4 | 157.6 |
| 52.5° | 191.0 | 184.7 | 168.0 | 149.0 | 141.0 |
| 55° | 171.5 | 166.3 | 150.7 | 132.9 | 126.0 |
| 57.5° | 153.6 | 148.4 | 134.1 | 117.4 | 111.6 |
| 60° | 136.9 | 129.5 | 117.4 | 103.0 | 98.4 |
| 62.5° | 118.5 | 112.8 | 102.4 | 90.3 | 96.1 |
| 65° | 101.8 | 96.1 | 86.9 | 88.6 | 73.6 |
| 67.5° | 83.4 | 80.5 | 72.5 | 64.4 | 62.1 |
| 70° | 67.9 | 64.4 | 61.6 | 52.9 | 50.6 |
| 72.5° | 54.1 | 50.6 | 46.6 | 42.0 | 40.3 |
| 75° | 40.8 | 38.0 | 35.7 | 33.9 | 37.4 |
| 77.5° | 28.2 | 27.0 | 25.3 | 23.6 | 23.0 |
| 80° | 18.4 | 17.8 | 17.3 | 16.7 | 16.1 |
| 82.5° | 10.9 | 10.9 | 10.9 | 10.9 | 10.9 |
| 85° | 5.8 | 6.3 | 6.9 | 7.5 | 8.1 |
| 87.5° | 3.5 | 3.5 | 4.0 | 4.6 | 5.2 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)