

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: P559287

Luminaire Tested: FSR-12-1-LD4-2LO-40-UNV-80-87-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P559287
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-80-87-EDD
Description: 1X1 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRON
SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

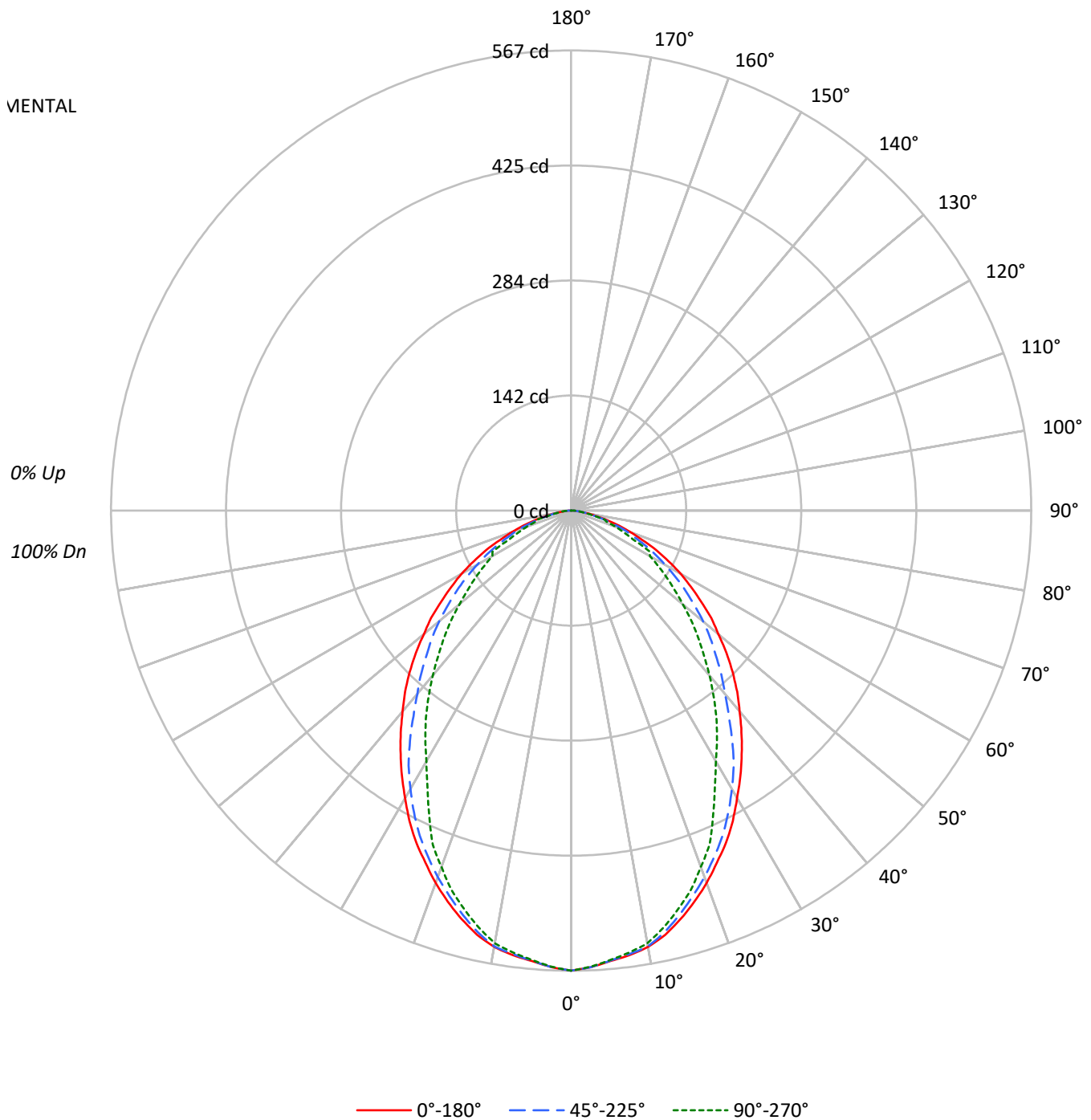
Lumens per Lamp: N/A
Luminaire Lumens: 1113.0 lumens
Efficiency: N/A
Efficacy: 95.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
CIE Type: Direct

Input Watts (W): 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





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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° | 6102 | 6102 | 6102 |
| 5° | 6019 | 6013 | 6005 |
| 10° | 5968 | 5960 | 5917 |
| 15° | 5807 | 5748 | 5668 |
| 20° | 5593 | 5503 | 5353 |
| 25° | 5364 | 5247 | 4919 |
| 30° | 5084 | 4921 | 4432 |
| 35° | 4815 | 4548 | 4100 |
| 40° | 4540 | 4144 | 3729 |
| 45° | 4281 | 3831 | 3372 |
| 50° | 3962 | 3557 | 3008 |
| 55° | 3665 | 3222 | 2693 |
| 60° | 3358 | 2878 | 2413 |
| 65° | 2954 | 2521 | 2137 |
| 70° | 2433 | 2206 | 1816 |
| 75° | 1934 | 1688 | 1772 |
| 80° | 1302 | 1221 | 1141 |
| 85° | 815 | 976 | 1136 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4281 cd/sqm

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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 52.8 | 4.7 |
| 10°-20° | 144.8 | 13.0 |
| 20°-30° | 200.5 | 18.0 |
| 30°-40° | 213.8 | 19.2 |
| 40°-50° | 195.1 | 17.5 |
| 50°-60° | 152.8 | 13.7 |
| 60°-70° | 99.6 | 8.9 |
| 70°-80° | 44.1 | 4.0 |
| 80°-90° | 9.5 | 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° | 398.1 | 35.8 |
| 0°-40° | 611.9 | 55.0 |
| 0°-60° | 959.8 | 86.2 |
| 0°-90° | 1113.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1113.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 567 | 567 | 567 | 567 | 567 | |
| 5° | 557 | 556 | 556 | 556 | 556 | 53 |
| 15° | 521 | 521 | 516 | 511 | 509 | 146 |
| 25° | 452 | 449 | 442 | 426 | 414 | 207 |
| 35° | 366 | 364 | 346 | 320 | 312 | 229 |
| 45° | 281 | 275 | 252 | 231 | 222 | 217 |
| 55° | 195 | 189 | 172 | 151 | 144 | 175 |
| 65° | 116 | 110 | 99 | 101 | 84 | 114 |
| 75° | 46 | 43 | 41 | 39 | 43 | 50 |
| 85° | 7 | 7 | 8 | 8 | 9 | 9 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P559287

CATALOG NUMBER: FSR-12-1-LD4-2LO-40-UNV-80-87-EDD

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 566.9 | 566.9 | 566.9 | 566.9 | 566.9 |
| 2.5° | 563.0 | 563.0 | 563.0 | 562.4 | 562.4 |
| 5° | 557.1 | 556.5 | 556.5 | 555.8 | 555.8 |
| 7.5° | 552.5 | 551.9 | 551.2 | 550.6 | 549.3 |
| 10° | 546.0 | 546.0 | 545.3 | 542.0 | 541.4 |
| 12.5° | 535.5 | 534.8 | 532.2 | 527.6 | 526.3 |
| 15° | 521.1 | 521.1 | 515.8 | 510.6 | 508.6 |
| 17.5° | 505.3 | 504.7 | 498.1 | 492.9 | 490.3 |
| 20° | 488.3 | 487.0 | 480.4 | 471.9 | 467.3 |
| 22.5° | 469.3 | 469.3 | 461.4 | 450.3 | 445.7 |
| 25° | 451.6 | 449.0 | 441.8 | 426.0 | 414.2 |
| 27.5° | 431.3 | 427.3 | 419.5 | 397.2 | 383.4 |
| 30° | 409.0 | 407.0 | 395.9 | 367.0 | 356.6 |
| 32.5° | 388.0 | 384.7 | 372.9 | 342.8 | 334.3 |
| 35° | 366.4 | 363.8 | 346.1 | 319.9 | 312.0 |
| 37.5° | 344.8 | 341.5 | 319.2 | 298.2 | 288.4 |
| 40° | 323.1 | 319.2 | 294.9 | 275.9 | 265.4 |
| 42.5° | 302.8 | 297.6 | 274.0 | 253.7 | 241.9 |
| 45° | 281.2 | 275.3 | 251.7 | 230.7 | 221.5 |
| 47.5° | 259.6 | 254.3 | 232.7 | 211.0 | 200.6 |
| 50° | 236.6 | 232.0 | 212.4 | 190.7 | 179.6 |
| 52.5° | 217.6 | 210.4 | 191.4 | 169.8 | 160.6 |
| 55° | 195.3 | 189.4 | 171.7 | 151.4 | 143.5 |
| 57.5° | 175.0 | 169.1 | 152.7 | 133.7 | 127.2 |
| 60° | 156.0 | 147.5 | 133.7 | 117.3 | 112.1 |
| 62.5° | 135.0 | 128.5 | 116.7 | 102.9 | 109.5 |
| 65° | 116.0 | 109.5 | 99.0 | 100.9 | 83.9 |
| 67.5° | 95.0 | 91.8 | 82.6 | 73.4 | 70.8 |
| 70° | 77.3 | 73.4 | 70.1 | 60.3 | 57.7 |
| 72.5° | 61.6 | 57.7 | 53.1 | 47.8 | 45.9 |
| 75° | 46.5 | 43.3 | 40.6 | 38.7 | 42.6 |
| 77.5° | 32.1 | 30.8 | 28.8 | 26.9 | 26.2 |
| 80° | 21.0 | 20.3 | 19.7 | 19.0 | 18.4 |
| 82.5° | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 |
| 85° | 6.6 | 7.2 | 7.9 | 8.5 | 9.2 |
| 87.5° | 3.9 | 3.9 | 4.6 | 5.2 | 5.9 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)