

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: P560023

Luminaire Tested: FSR-12-2-LD4-1STD-35-UNV-82-87-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560023
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-12-2-LD4-1STD-35-UNV-82-87-EDD
Description: 1X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1330.0 lumens
Efficiency: N/A
Efficacy: 80.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')
CIE Type: Direct

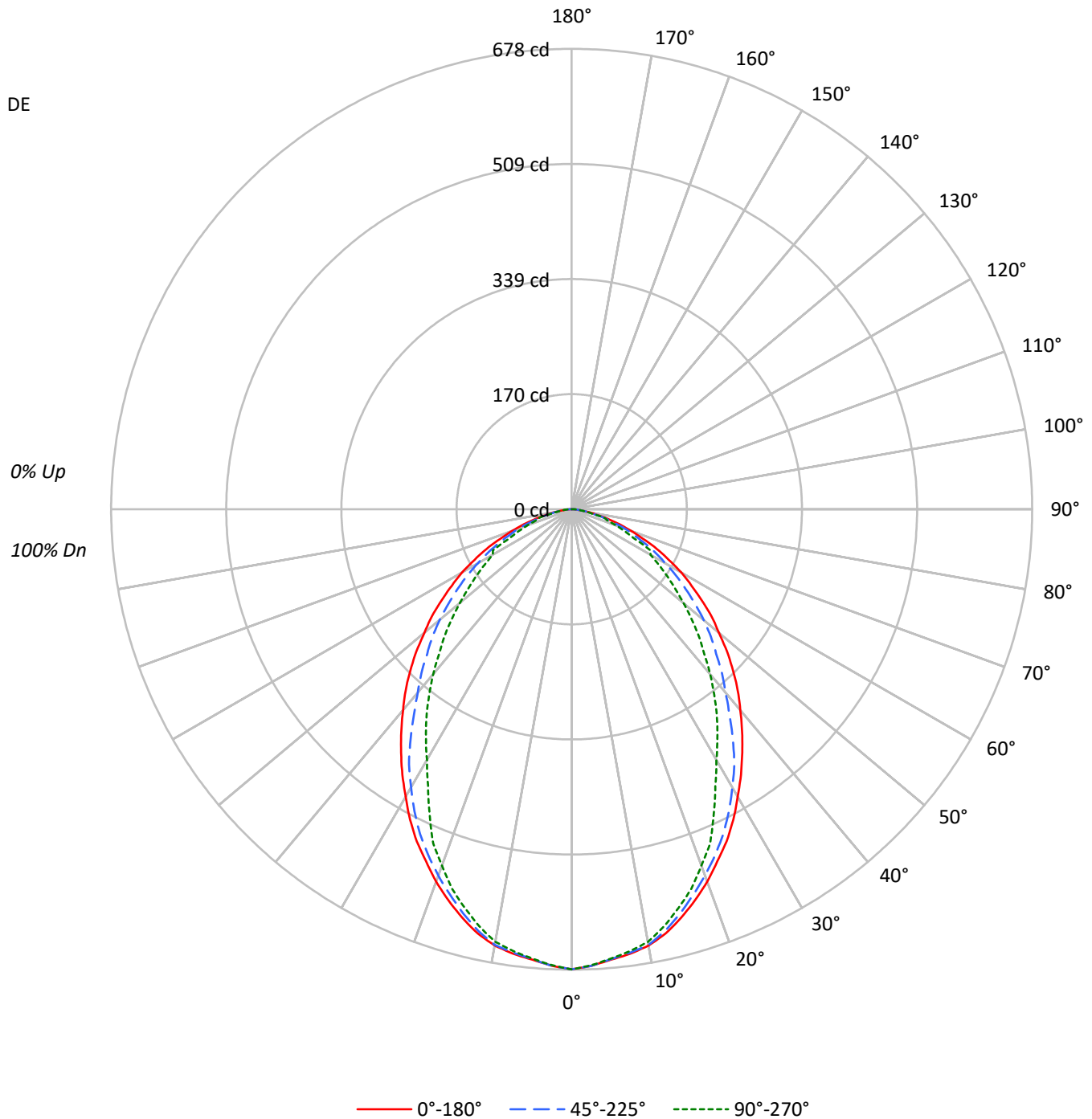
Input Watts (W): 16.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P560023

CATALOG NUMBER: FSR-12-2-LD4-1STD-35-UNV-82-87-EDD

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° | 3646 | 3646 | 3646 |
| 5° | 3596 | 3593 | 3588 |
| 10° | 3565 | 3561 | 3535 |
| 15° | 3470 | 3434 | 3387 |
| 20° | 3342 | 3288 | 3198 |
| 25° | 3204 | 3135 | 2939 |
| 30° | 3037 | 2940 | 2648 |
| 35° | 2876 | 2717 | 2449 |
| 40° | 2713 | 2476 | 2229 |
| 45° | 2557 | 2289 | 2015 |
| 50° | 2367 | 2125 | 1797 |
| 55° | 2190 | 1925 | 1609 |
| 60° | 2006 | 1720 | 1441 |
| 65° | 1765 | 1507 | 1277 |
| 70° | 1454 | 1319 | 1084 |
| 75° | 1156 | 1011 | 1058 |
| 80° | 778 | 728 | 679 |
| 85° | 482 | 580 | 679 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2557 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 63.1 | 4.7 |
| 10°-20° | 173.1 | 13.0 |
| 20°-30° | 239.6 | 18.0 |
| 30°-40° | 255.5 | 19.2 |
| 40°-50° | 233.1 | 17.5 |
| 50°-60° | 182.6 | 13.7 |
| 60°-70° | 119.0 | 8.9 |
| 70°-80° | 52.7 | 4.0 |
| 80°-90° | 11.3 | 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° | 475.8 | 35.8 |
| 0°-40° | 731.2 | 55.0 |
| 0°-60° | 1146.9 | 86.2 |
| 0°-90° | 1330.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1330.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 678 | 678 | 678 | 678 | 678 | |
| 5° | 666 | 665 | 665 | 664 | 664 | 63 |
| 15° | 623 | 623 | 616 | 610 | 608 | 175 |
| 25° | 540 | 536 | 528 | 509 | 495 | 248 |
| 35° | 438 | 435 | 414 | 382 | 373 | 274 |
| 45° | 336 | 329 | 301 | 276 | 265 | 259 |
| 55° | 233 | 226 | 205 | 181 | 172 | 209 |
| 65° | 139 | 131 | 118 | 121 | 100 | 137 |
| 75° | 56 | 52 | 49 | 46 | 51 | 60 |
| 85° | 8 | 9 | 9 | 10 | 11 | 11 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P560023

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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 677.5 | 677.5 | 677.5 | 677.5 | 677.5 |
| 2.5° | 672.8 | 672.8 | 672.8 | 672.0 | 672.0 |
| 5° | 665.7 | 665.0 | 665.0 | 664.2 | 664.2 |
| 7.5° | 660.3 | 659.5 | 658.7 | 657.9 | 656.3 |
| 10° | 652.4 | 652.4 | 651.6 | 647.7 | 646.9 |
| 12.5° | 639.9 | 639.1 | 636.0 | 630.5 | 628.9 |
| 15° | 622.7 | 622.7 | 616.4 | 610.1 | 607.8 |
| 17.5° | 603.9 | 603.1 | 595.2 | 589.0 | 585.8 |
| 20° | 583.5 | 581.9 | 574.1 | 563.9 | 558.4 |
| 22.5° | 560.8 | 560.8 | 551.4 | 538.1 | 532.6 |
| 25° | 539.6 | 536.5 | 527.9 | 509.1 | 495.0 |
| 27.5° | 515.4 | 510.7 | 501.3 | 474.6 | 458.2 |
| 30° | 488.7 | 486.4 | 473.1 | 438.6 | 426.1 |
| 32.5° | 463.7 | 459.7 | 445.7 | 409.6 | 399.4 |
| 35° | 437.8 | 434.7 | 413.5 | 382.2 | 372.8 |
| 37.5° | 412.0 | 408.1 | 381.4 | 356.4 | 344.6 |
| 40° | 386.1 | 381.4 | 352.4 | 329.7 | 317.2 |
| 42.5° | 361.8 | 355.6 | 327.4 | 303.1 | 289.0 |
| 45° | 336.0 | 329.0 | 300.8 | 275.7 | 264.7 |
| 47.5° | 310.2 | 303.9 | 278.0 | 252.2 | 239.7 |
| 50° | 282.7 | 277.3 | 253.8 | 227.9 | 214.6 |
| 52.5° | 260.0 | 251.4 | 228.7 | 202.9 | 191.9 |
| 55° | 233.4 | 226.4 | 205.2 | 180.9 | 171.5 |
| 57.5° | 209.1 | 202.1 | 182.5 | 159.8 | 151.9 |
| 60° | 186.4 | 176.2 | 159.8 | 140.2 | 133.9 |
| 62.5° | 161.3 | 153.5 | 139.4 | 123.0 | 130.8 |
| 65° | 138.6 | 130.8 | 118.3 | 120.6 | 100.3 |
| 67.5° | 113.6 | 109.7 | 98.7 | 87.7 | 84.6 |
| 70° | 92.4 | 87.7 | 83.8 | 72.1 | 68.9 |
| 72.5° | 73.6 | 68.9 | 63.4 | 57.2 | 54.8 |
| 75° | 55.6 | 51.7 | 48.6 | 46.2 | 50.9 |
| 77.5° | 38.4 | 36.8 | 34.5 | 32.1 | 31.3 |
| 80° | 25.1 | 24.3 | 23.5 | 22.7 | 21.9 |
| 82.5° | 14.9 | 14.9 | 14.9 | 14.9 | 14.9 |
| 85° | 7.8 | 8.6 | 9.4 | 10.2 | 11.0 |
| 87.5° | 4.7 | 4.7 | 5.5 | 6.3 | 7.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)