

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: P558572

Luminaire Tested: FSR-12-1-LD4-1HI-40-UNV-93-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P558572
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-LD4-1HI-40-UNV-93-96-EDD-90
Description: 1X1 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 814.0 lumens
Efficiency: N/A
Efficacy: 75.4 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

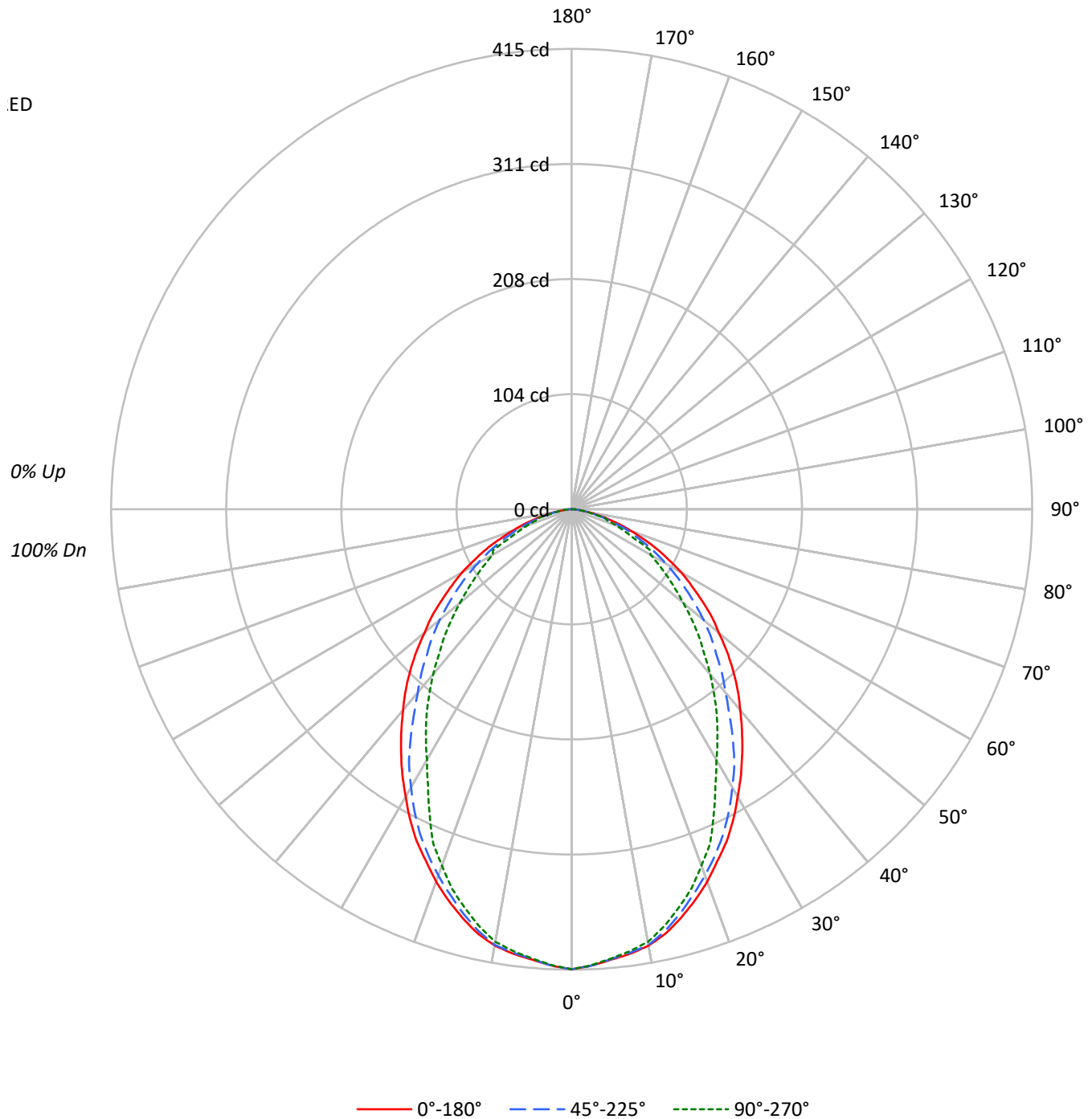
Input Watts (W): 10.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P558572

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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° | 4463 | 4463 | 4463 |
| 5° | 4403 | 4398 | 4392 |
| 10° | 4364 | 4359 | 4327 |
| 15° | 4247 | 4204 | 4145 |
| 20° | 4090 | 4025 | 3915 |
| 25° | 3923 | 3837 | 3599 |
| 30° | 3718 | 3598 | 3242 |
| 35° | 3522 | 3326 | 2999 |
| 40° | 3320 | 3031 | 2727 |
| 45° | 3130 | 2802 | 2466 |
| 50° | 2897 | 2601 | 2199 |
| 55° | 2680 | 2357 | 1970 |
| 60° | 2456 | 2105 | 1765 |
| 65° | 2160 | 1844 | 1564 |
| 70° | 1781 | 1614 | 1328 |
| 75° | 1414 | 1235 | 1298 |
| 80° | 948 | 893 | 831 |
| 85° | 593 | 716 | 827 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3130 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 38.6 | 4.7 |
| 10°-20° | 105.9 | 13.0 |
| 20°-30° | 146.7 | 18.0 |
| 30°-40° | 156.4 | 19.2 |
| 40°-50° | 142.7 | 17.5 |
| 50°-60° | 111.8 | 13.7 |
| 60°-70° | 72.9 | 8.9 |
| 70°-80° | 32.3 | 4.0 |
| 80°-90° | 6.9 | 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° | 291.2 | 35.8 |
| 0°-40° | 447.5 | 55.0 |
| 0°-60° | 702.0 | 86.2 |
| 0°-90° | 814.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 814.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 415 | 415 | 415 | 415 | 415 | |
| 5° | 408 | 407 | 407 | 406 | 406 | 39 |
| 15° | 381 | 381 | 377 | 373 | 372 | 107 |
| 25° | 330 | 328 | 323 | 312 | 303 | 152 |
| 35° | 268 | 266 | 253 | 234 | 228 | 168 |
| 45° | 206 | 201 | 184 | 169 | 162 | 158 |
| 55° | 143 | 138 | 126 | 111 | 105 | 128 |
| 65° | 85 | 80 | 72 | 74 | 61 | 84 |
| 75° | 34 | 32 | 30 | 28 | 31 | 36 |
| 85° | 5 | 5 | 6 | 6 | 7 | 7 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P558572

CATALOG NUMBER: FSR-12-1-LD4-1HI-40-UNV-93-96-EDD-90

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 414.6 | 414.6 | 414.6 | 414.6 | 414.6 |
| 2.5° | 411.8 | 411.8 | 411.8 | 411.3 | 411.3 |
| 5° | 407.5 | 407.0 | 407.0 | 406.5 | 406.5 |
| 7.5° | 404.1 | 403.6 | 403.1 | 402.7 | 401.7 |
| 10° | 399.3 | 399.3 | 398.8 | 396.4 | 395.9 |
| 12.5° | 391.6 | 391.2 | 389.2 | 385.9 | 384.9 |
| 15° | 381.1 | 381.1 | 377.3 | 373.4 | 372.0 |
| 17.5° | 369.6 | 369.1 | 364.3 | 360.5 | 358.6 |
| 20° | 357.1 | 356.2 | 351.4 | 345.1 | 341.8 |
| 22.5° | 343.2 | 343.2 | 337.5 | 329.3 | 326.0 |
| 25° | 330.3 | 328.4 | 323.1 | 311.6 | 303.0 |
| 27.5° | 315.4 | 312.5 | 306.8 | 290.5 | 280.4 |
| 30° | 299.1 | 297.7 | 289.5 | 268.4 | 260.8 |
| 32.5° | 283.8 | 281.4 | 272.8 | 250.7 | 244.5 |
| 35° | 268.0 | 266.0 | 253.1 | 233.9 | 228.2 |
| 37.5° | 252.1 | 249.7 | 233.4 | 218.1 | 210.9 |
| 40° | 236.3 | 233.4 | 215.7 | 201.8 | 194.1 |
| 42.5° | 221.5 | 217.6 | 200.4 | 185.5 | 176.9 |
| 45° | 205.6 | 201.3 | 184.1 | 168.7 | 162.0 |
| 47.5° | 189.8 | 186.0 | 170.2 | 154.4 | 146.7 |
| 50° | 173.0 | 169.7 | 155.3 | 139.5 | 131.3 |
| 52.5° | 159.1 | 153.9 | 140.0 | 124.2 | 117.4 |
| 55° | 142.8 | 138.5 | 125.6 | 110.7 | 105.0 |
| 57.5° | 128.0 | 123.7 | 111.7 | 97.8 | 93.0 |
| 60° | 114.1 | 107.9 | 97.8 | 85.8 | 82.0 |
| 62.5° | 98.7 | 94.0 | 85.3 | 75.3 | 80.1 |
| 65° | 84.8 | 80.1 | 72.4 | 73.8 | 61.4 |
| 67.5° | 69.5 | 67.1 | 60.4 | 53.7 | 51.8 |
| 70° | 56.6 | 53.7 | 51.3 | 44.1 | 42.2 |
| 72.5° | 45.1 | 42.2 | 38.8 | 35.0 | 33.6 |
| 75° | 34.0 | 31.6 | 29.7 | 28.3 | 31.2 |
| 77.5° | 23.5 | 22.5 | 21.1 | 19.7 | 19.2 |
| 80° | 15.3 | 14.9 | 14.4 | 13.9 | 13.4 |
| 82.5° | 9.1 | 9.1 | 9.1 | 9.1 | 9.1 |
| 85° | 4.8 | 5.3 | 5.8 | 6.2 | 6.7 |
| 87.5° | 2.9 | 2.9 | 3.4 | 3.8 | 4.3 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)