

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: P562862

Luminaire Tested: FSR-24-4-LD4-2LO-50-UNV-93-97-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562862
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-24-4-LD4-2LO-50-UNV-93-97-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4987.0 lumens
Efficiency: N/A
Efficacy: 106.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

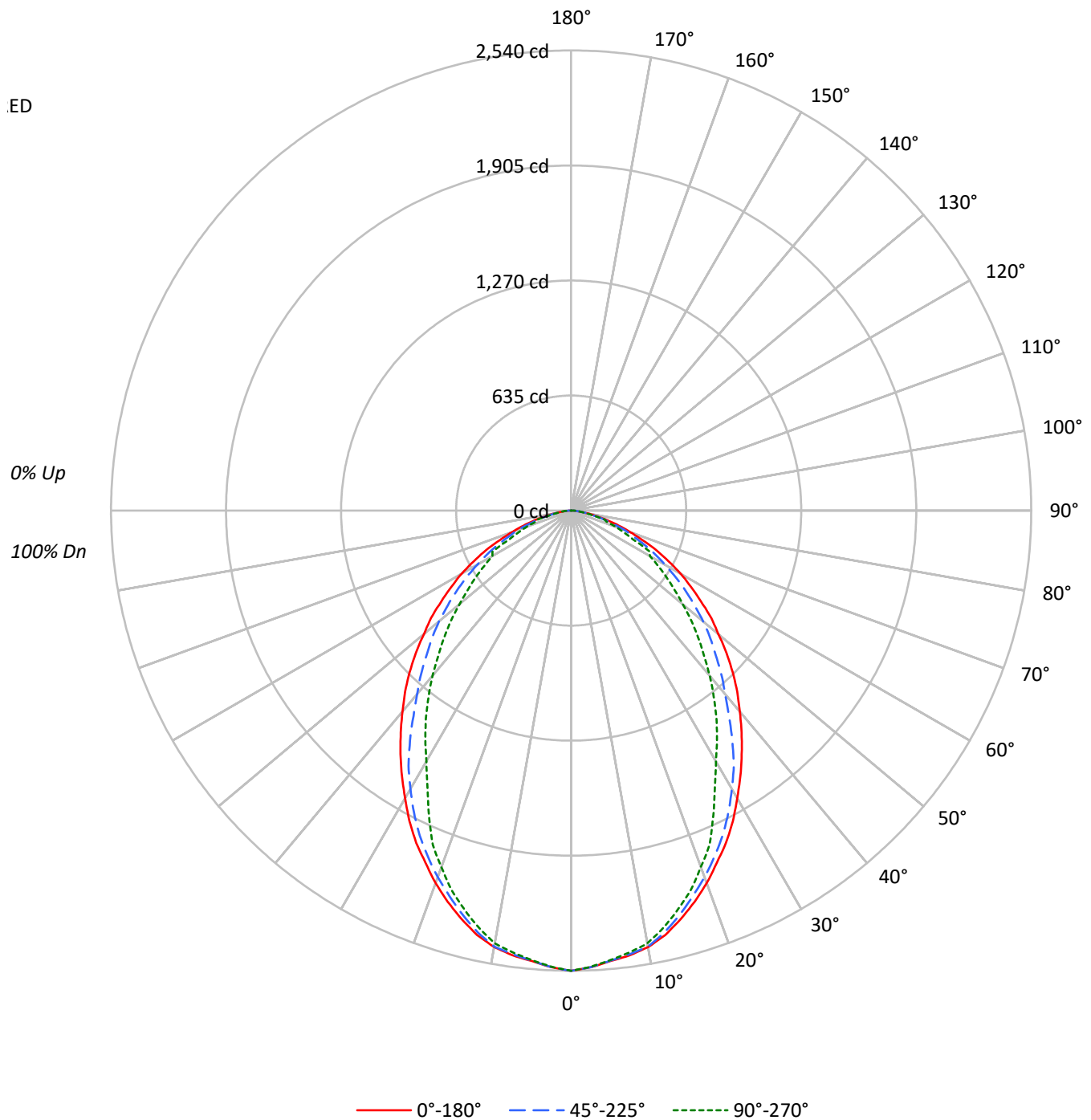
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P562862

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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 | 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° | 3418 | 3418 | 3418 |
| 5° | 3372 | 3368 | 3364 |
| 10° | 3342 | 3338 | 3314 |
| 15° | 3252 | 3219 | 3174 |
| 20° | 3133 | 3082 | 2998 |
| 25° | 3004 | 2939 | 2755 |
| 30° | 2847 | 2756 | 2482 |
| 35° | 2697 | 2547 | 2296 |
| 40° | 2543 | 2321 | 2089 |
| 45° | 2397 | 2146 | 1889 |
| 50° | 2219 | 1992 | 1684 |
| 55° | 2053 | 1805 | 1509 |
| 60° | 1881 | 1612 | 1351 |
| 65° | 1655 | 1412 | 1197 |
| 70° | 1363 | 1236 | 1017 |
| 75° | 1084 | 947 | 992 |
| 80° | 728 | 683 | 637 |
| 85° | 454 | 543 | 634 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2397 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 236.5 | 4.7 |
| 10°-20° | 649.0 | 13.0 |
| 20°-30° | 898.5 | 18.0 |
| 30°-40° | 958.0 | 19.2 |
| 40°-50° | 874.0 | 17.5 |
| 50°-60° | 684.7 | 13.7 |
| 60°-70° | 446.2 | 8.9 |
| 70°-80° | 197.7 | 4.0 |
| 80°-90° | 42.4 | 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° | 1783.9 | 35.8 |
| 0°-40° | 2741.9 | 55.0 |
| 0°-60° | 4300.6 | 86.2 |
| 0°-90° | 4987.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 4987.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 2540 | 2540 | 2540 | 2540 | 2540 | |
| 5° | 2496 | 2493 | 2493 | 2490 | 2490 | 237 |
| 15° | 2335 | 2335 | 2311 | 2288 | 2279 | 656 |
| 25° | 2023 | 2012 | 1979 | 1909 | 1856 | 929 |
| 35° | 1642 | 1630 | 1551 | 1433 | 1398 | 1026 |
| 45° | 1260 | 1233 | 1128 | 1034 | 993 | 970 |
| 55° | 875 | 849 | 769 | 678 | 643 | 785 |
| 65° | 520 | 490 | 444 | 452 | 376 | 512 |
| 75° | 208 | 194 | 182 | 173 | 191 | 223 |
| 85° | 29 | 32 | 35 | 38 | 41 | 41 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P562862

CATALOG NUMBER: FSR-24-4-LD4-2LO-50-UNV-93-97-EDD-90

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 2540.3 | 2540.3 | 2540.3 | 2540.3 | 2540.3 |
| 2.5° | 2522.7 | 2522.7 | 2522.7 | 2519.8 | 2519.8 |
| 5° | 2496.3 | 2493.3 | 2493.3 | 2490.4 | 2490.4 |
| 7.5° | 2475.7 | 2472.8 | 2469.8 | 2466.9 | 2461.0 |
| 10° | 2446.3 | 2446.3 | 2443.4 | 2428.7 | 2425.8 |
| 12.5° | 2399.3 | 2396.4 | 2384.7 | 2364.1 | 2358.2 |
| 15° | 2334.7 | 2334.7 | 2311.2 | 2287.7 | 2278.9 |
| 17.5° | 2264.3 | 2261.3 | 2231.9 | 2208.5 | 2196.7 |
| 20° | 2187.9 | 2182.0 | 2152.7 | 2114.5 | 2093.9 |
| 22.5° | 2102.7 | 2102.7 | 2067.5 | 2017.6 | 1997.0 |
| 25° | 2023.4 | 2011.7 | 1979.4 | 1908.9 | 1856.0 |
| 27.5° | 1932.4 | 1914.8 | 1879.5 | 1779.7 | 1718.0 |
| 30° | 1832.5 | 1823.7 | 1773.8 | 1644.6 | 1597.6 |
| 32.5° | 1738.6 | 1723.9 | 1671.0 | 1535.9 | 1497.8 |
| 35° | 1641.7 | 1629.9 | 1550.6 | 1433.1 | 1397.9 |
| 37.5° | 1544.7 | 1530.1 | 1430.2 | 1336.2 | 1292.2 |
| 40° | 1447.8 | 1430.2 | 1321.5 | 1236.4 | 1189.4 |
| 42.5° | 1356.8 | 1333.3 | 1227.6 | 1136.5 | 1083.7 |
| 45° | 1259.9 | 1233.4 | 1127.7 | 1033.7 | 992.6 |
| 47.5° | 1163.0 | 1139.5 | 1042.6 | 945.6 | 898.7 |
| 50° | 1060.2 | 1039.6 | 951.5 | 854.6 | 804.7 |
| 52.5° | 975.0 | 942.7 | 857.5 | 760.6 | 719.5 |
| 55° | 875.2 | 848.7 | 769.4 | 678.4 | 643.2 |
| 57.5° | 784.1 | 757.7 | 684.3 | 599.1 | 569.7 |
| 60° | 699.0 | 660.8 | 599.1 | 525.7 | 502.2 |
| 62.5° | 605.0 | 575.6 | 522.7 | 461.1 | 490.4 |
| 65° | 519.8 | 490.4 | 443.5 | 452.3 | 375.9 |
| 67.5° | 425.8 | 411.1 | 370.0 | 328.9 | 317.2 |
| 70° | 346.5 | 328.9 | 314.2 | 270.2 | 258.4 |
| 72.5° | 276.1 | 258.4 | 237.9 | 214.4 | 205.6 |
| 75° | 208.5 | 193.8 | 182.1 | 173.3 | 190.9 |
| 77.5° | 143.9 | 138.0 | 129.2 | 120.4 | 117.5 |
| 80° | 94.0 | 91.0 | 88.1 | 85.2 | 82.2 |
| 82.5° | 55.8 | 55.8 | 55.8 | 55.8 | 55.8 |
| 85° | 29.4 | 32.3 | 35.2 | 38.2 | 41.1 |
| 87.5° | 17.6 | 17.6 | 20.6 | 23.5 | 26.4 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)