

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: P563957

Luminaire Tested: FSR-24-4-LD4-4LO-50-UNV-80-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563957
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-LD4-4LO-50-UNV-80-86-EDD
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRON
SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

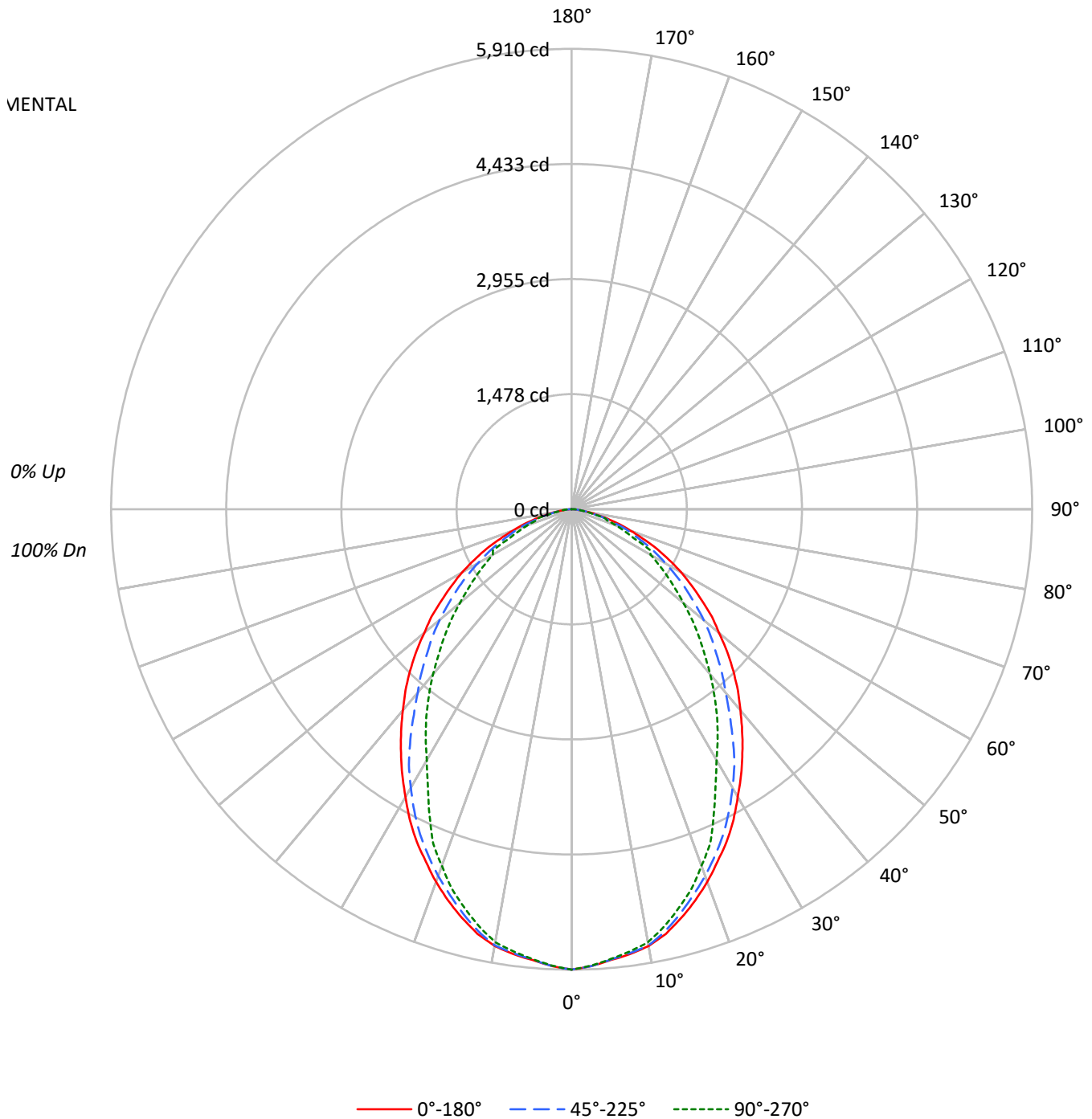
Lumens per Lamp: N/A
Luminaire Lumens: 11602.0 lumens
Efficiency: N/A
Efficacy: 124.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 93.6
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: P563957

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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° | 7952 | 7952 | 7952 |
| 5° | 7844 | 7834 | 7825 |
| 10° | 7776 | 7766 | 7710 |
| 15° | 7566 | 7490 | 7385 |
| 20° | 7288 | 7171 | 6975 |
| 25° | 6989 | 6836 | 6410 |
| 30° | 6624 | 6411 | 5774 |
| 35° | 6273 | 5925 | 5342 |
| 40° | 5916 | 5400 | 4860 |
| 45° | 5577 | 4992 | 4394 |
| 50° | 5163 | 4634 | 3918 |
| 55° | 4776 | 4199 | 3510 |
| 60° | 4376 | 3751 | 3144 |
| 65° | 3850 | 3285 | 2784 |
| 70° | 3172 | 2876 | 2365 |
| 75° | 2522 | 2202 | 2309 |
| 80° | 1694 | 1588 | 1482 |
| 85° | 1054 | 1266 | 1477 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5577 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 550.1 | 4.7 |
| 10°-20° | 1509.8 | 13.0 |
| 20°-30° | 2090.2 | 18.0 |
| 30°-40° | 2228.8 | 19.2 |
| 40°-50° | 2033.3 | 17.5 |
| 50°-60° | 1592.9 | 13.7 |
| 60°-70° | 1038.2 | 8.9 |
| 70°-80° | 460.0 | 4.0 |
| 80°-90° | 98.8 | 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° | 4150.1 | 35.8 |
| 0°-40° | 6378.9 | 55.0 |
| 0°-60° | 10005.1 | 86.2 |
| 0°-90° | 11602.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 11602.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 5910 | 5910 | 5910 | 5910 | 5910 | |
| 5° | 5807 | 5801 | 5801 | 5794 | 5794 | 551 |
| 15° | 5432 | 5432 | 5377 | 5322 | 5302 | 1527 |
| 25° | 4707 | 4680 | 4605 | 4441 | 4318 | 2161 |
| 35° | 3819 | 3792 | 3607 | 3334 | 3252 | 2388 |
| 45° | 2931 | 2870 | 2624 | 2405 | 2309 | 2258 |
| 55° | 2036 | 1974 | 1790 | 1578 | 1496 | 1826 |
| 65° | 1209 | 1141 | 1032 | 1052 | 874 | 1192 |
| 75° | 485 | 451 | 424 | 403 | 444 | 520 |
| 85° | 68 | 75 | 82 | 89 | 96 | 95 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P563957

CATALOG NUMBER: FSR-24-4-LD4-4LO-50-UNV-80-86-EDD

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 5909.9 | 5909.9 | 5909.9 | 5909.9 | 5909.9 |
| 2.5° | 5868.9 | 5868.9 | 5868.9 | 5862.1 | 5862.1 |
| 5° | 5807.4 | 5800.6 | 5800.6 | 5793.8 | 5793.8 |
| 7.5° | 5759.6 | 5752.8 | 5745.9 | 5739.1 | 5725.4 |
| 10° | 5691.3 | 5691.3 | 5684.4 | 5650.3 | 5643.4 |
| 12.5° | 5582.0 | 5575.1 | 5547.8 | 5500.0 | 5486.3 |
| 15° | 5431.6 | 5431.6 | 5377.0 | 5322.3 | 5301.8 |
| 17.5° | 5267.7 | 5260.8 | 5192.5 | 5137.9 | 5110.5 |
| 20° | 5090.0 | 5076.4 | 5008.0 | 4919.2 | 4871.4 |
| 22.5° | 4891.9 | 4891.9 | 4809.9 | 4693.8 | 4645.9 |
| 25° | 4707.4 | 4680.1 | 4604.9 | 4441.0 | 4318.0 |
| 27.5° | 4495.6 | 4454.6 | 4372.6 | 4140.3 | 3996.9 |
| 30° | 4263.3 | 4242.8 | 4126.7 | 3826.1 | 3716.7 |
| 32.5° | 4044.7 | 4010.5 | 3887.6 | 3573.3 | 3484.5 |
| 35° | 3819.2 | 3791.9 | 3607.4 | 3334.1 | 3252.2 |
| 37.5° | 3593.8 | 3559.6 | 3327.3 | 3108.7 | 3006.2 |
| 40° | 3368.3 | 3327.3 | 3074.5 | 2876.4 | 2767.1 |
| 42.5° | 3156.5 | 3101.8 | 2855.9 | 2644.1 | 2521.1 |
| 45° | 2931.0 | 2869.5 | 2623.6 | 2405.0 | 2309.3 |
| 47.5° | 2705.6 | 2650.9 | 2425.5 | 2200.0 | 2090.7 |
| 50° | 2466.4 | 2418.6 | 2213.7 | 1988.2 | 1872.0 |
| 52.5° | 2268.3 | 2193.2 | 1995.0 | 1769.6 | 1673.9 |
| 55° | 2036.0 | 1974.5 | 1790.1 | 1578.3 | 1496.3 |
| 57.5° | 1824.2 | 1762.7 | 1591.9 | 1393.8 | 1325.5 |
| 60° | 1626.1 | 1537.3 | 1393.8 | 1223.0 | 1168.3 |
| 62.5° | 1407.4 | 1339.1 | 1216.1 | 1072.7 | 1141.0 |
| 65° | 1209.3 | 1141.0 | 1031.7 | 1052.2 | 874.5 |
| 67.5° | 990.7 | 956.5 | 860.9 | 765.2 | 737.9 |
| 70° | 806.2 | 765.2 | 731.1 | 628.6 | 601.2 |
| 72.5° | 642.2 | 601.2 | 553.4 | 498.8 | 478.3 |
| 75° | 485.1 | 450.9 | 423.6 | 403.1 | 444.1 |
| 77.5° | 334.8 | 321.1 | 300.6 | 280.1 | 273.3 |
| 80° | 218.6 | 211.8 | 205.0 | 198.1 | 191.3 |
| 82.5° | 129.8 | 129.8 | 129.8 | 129.8 | 129.8 |
| 85° | 68.3 | 75.2 | 82.0 | 88.8 | 95.7 |
| 87.5° | 41.0 | 41.0 | 47.8 | 54.7 | 61.5 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)