

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: P558837

Luminaire Tested: FSR-12-1-LD4-1STD-35-UNV-80-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P558837
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-LD4-1STD-35-UNV-80-86-EDD
Description: 1X1 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRON
SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 763.0 lumens
Efficiency: N/A
Efficacy: 91.9 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

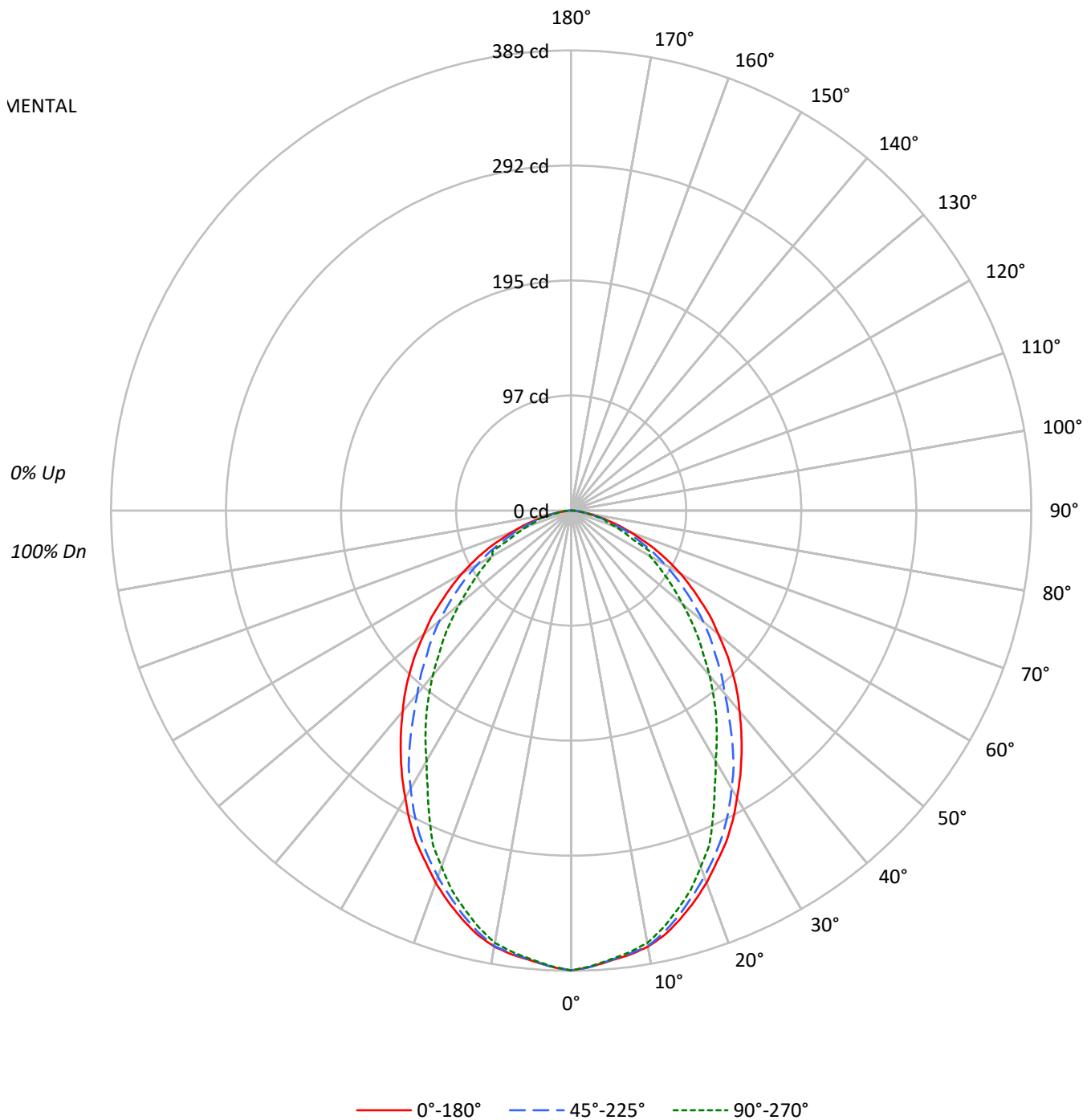
Input Watts (W): 8.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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° | 4184 | 4184 | 4184 |
| 5° | 4126 | 4122 | 4117 |
| 10° | 4091 | 4086 | 4056 |
| 15° | 3981 | 3940 | 3886 |
| 20° | 3834 | 3773 | 3670 |
| 25° | 3677 | 3596 | 3373 |
| 30° | 3485 | 3373 | 3038 |
| 35° | 3301 | 3117 | 2811 |
| 40° | 3112 | 2841 | 2557 |
| 45° | 2935 | 2626 | 2312 |
| 50° | 2716 | 2438 | 2061 |
| 55° | 2513 | 2209 | 1847 |
| 60° | 2301 | 1974 | 1653 |
| 65° | 2025 | 1727 | 1465 |
| 70° | 1668 | 1514 | 1243 |
| 75° | 1327 | 1160 | 1214 |
| 80° | 893 | 837 | 781 |
| 85° | 556 | 667 | 778 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2935 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 36.2 | 4.7 |
| 10°-20° | 99.3 | 13.0 |
| 20°-30° | 137.5 | 18.0 |
| 30°-40° | 146.6 | 19.2 |
| 40°-50° | 133.7 | 17.5 |
| 50°-60° | 104.8 | 13.7 |
| 60°-70° | 68.3 | 8.9 |
| 70°-80° | 30.2 | 4.0 |
| 80°-90° | 6.5 | 0.8 |
| 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° | 272.9 | 35.8 |
| 0°-40° | 419.5 | 55.0 |
| 0°-60° | 658.0 | 86.2 |
| 0°-90° | 763.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 763.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 389 | 389 | 389 | 389 | 389 | |
| 5° | 382 | 382 | 382 | 381 | 381 | 36 |
| 15° | 357 | 357 | 354 | 350 | 349 | 100 |
| 25° | 310 | 308 | 303 | 292 | 284 | 142 |
| 35° | 251 | 249 | 237 | 219 | 214 | 157 |
| 45° | 193 | 189 | 172 | 158 | 152 | 148 |
| 55° | 134 | 130 | 118 | 104 | 98 | 120 |
| 65° | 80 | 75 | 68 | 69 | 58 | 78 |
| 75° | 32 | 30 | 28 | 26 | 29 | 34 |
| 85° | 4 | 5 | 5 | 6 | 6 | 6 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P558837

CATALOG NUMBER: FSR-12-1-LD4-1STD-35-UNV-80-86-EDD

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 388.7 | 388.7 | 388.7 | 388.7 | 388.7 |
| 2.5° | 386.0 | 386.0 | 386.0 | 385.5 | 385.5 |
| 5° | 381.9 | 381.5 | 381.5 | 381.0 | 381.0 |
| 7.5° | 378.8 | 378.3 | 377.9 | 377.4 | 376.5 |
| 10° | 374.3 | 374.3 | 373.8 | 371.6 | 371.1 |
| 12.5° | 367.1 | 366.6 | 364.8 | 361.7 | 360.8 |
| 15° | 357.2 | 357.2 | 353.6 | 350.0 | 348.7 |
| 17.5° | 346.4 | 346.0 | 341.5 | 337.9 | 336.1 |
| 20° | 334.7 | 333.8 | 329.4 | 323.5 | 320.4 |
| 22.5° | 321.7 | 321.7 | 316.3 | 308.7 | 305.5 |
| 25° | 309.6 | 307.8 | 302.8 | 292.1 | 284.0 |
| 27.5° | 295.7 | 293.0 | 287.6 | 272.3 | 262.9 |
| 30° | 280.4 | 279.0 | 271.4 | 251.6 | 244.4 |
| 32.5° | 266.0 | 263.8 | 255.7 | 235.0 | 229.2 |
| 35° | 251.2 | 249.4 | 237.2 | 219.3 | 213.9 |
| 37.5° | 236.3 | 234.1 | 218.8 | 204.4 | 197.7 |
| 40° | 221.5 | 218.8 | 202.2 | 189.2 | 182.0 |
| 42.5° | 207.6 | 204.0 | 187.8 | 173.9 | 165.8 |
| 45° | 192.8 | 188.7 | 172.5 | 158.2 | 151.9 |
| 47.5° | 177.9 | 174.3 | 159.5 | 144.7 | 137.5 |
| 50° | 162.2 | 159.1 | 145.6 | 130.8 | 123.1 |
| 52.5° | 149.2 | 144.2 | 131.2 | 116.4 | 110.1 |
| 55° | 133.9 | 129.9 | 117.7 | 103.8 | 98.4 |
| 57.5° | 120.0 | 115.9 | 104.7 | 91.7 | 87.2 |
| 60° | 106.9 | 101.1 | 91.7 | 80.4 | 76.8 |
| 62.5° | 92.6 | 88.1 | 80.0 | 70.5 | 75.0 |
| 65° | 79.5 | 75.0 | 67.8 | 69.2 | 57.5 |
| 67.5° | 65.2 | 62.9 | 56.6 | 50.3 | 48.5 |
| 70° | 53.0 | 50.3 | 48.1 | 41.3 | 39.5 |
| 72.5° | 42.2 | 39.5 | 36.4 | 32.8 | 31.5 |
| 75° | 31.9 | 29.7 | 27.9 | 26.5 | 29.2 |
| 77.5° | 22.0 | 21.1 | 19.8 | 18.4 | 18.0 |
| 80° | 14.4 | 13.9 | 13.5 | 13.0 | 12.6 |
| 82.5° | 8.5 | 8.5 | 8.5 | 8.5 | 8.5 |
| 85° | 4.5 | 4.9 | 5.4 | 5.8 | 6.3 |
| 87.5° | 2.7 | 2.7 | 3.1 | 3.6 | 4.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)