

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: P558469

Luminaire Tested: FSR-12-1-LD4-1HI-35-UNV-81-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P558469
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-35-UNV-81-86-EDD
Description: 1X1 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 889.0 lumens
Efficiency: N/A
Efficacy: 82.3 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

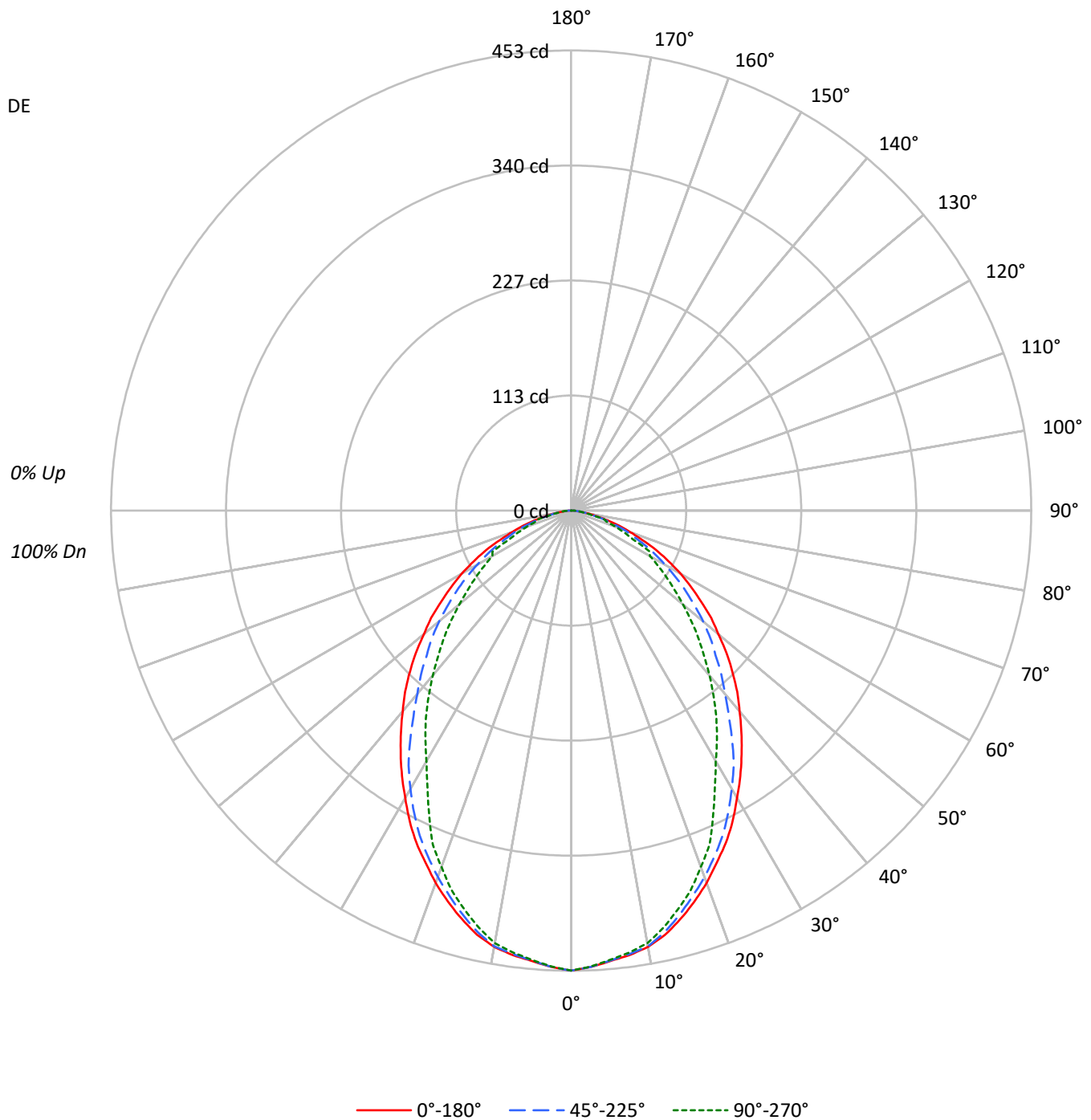
Input Watts (W): 10.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P558469

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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° | 4874 | 4874 | 4874 |
| 5° | 4808 | 4803 | 4796 |
| 10° | 4767 | 4761 | 4726 |
| 15° | 4638 | 4591 | 4528 |
| 20° | 4467 | 4395 | 4276 |
| 25° | 4284 | 4191 | 3930 |
| 30° | 4061 | 3930 | 3540 |
| 35° | 3845 | 3632 | 3275 |
| 40° | 3627 | 3310 | 2979 |
| 45° | 3419 | 3060 | 2693 |
| 50° | 3165 | 2840 | 2401 |
| 55° | 2928 | 2575 | 2152 |
| 60° | 2682 | 2299 | 1927 |
| 65° | 2361 | 2015 | 1706 |
| 70° | 1945 | 1762 | 1451 |
| 75° | 1547 | 1352 | 1414 |
| 80° | 1041 | 973 | 911 |
| 85° | 642 | 778 | 902 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3419 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 42.2 | 4.7 |
| 10°-20° | 115.7 | 13.0 |
| 20°-30° | 160.2 | 18.0 |
| 30°-40° | 170.8 | 19.2 |
| 40°-50° | 155.8 | 17.5 |
| 50°-60° | 122.1 | 13.7 |
| 60°-70° | 79.5 | 8.9 |
| 70°-80° | 35.3 | 4.0 |
| 80°-90° | 7.6 | 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° | 318.0 | 35.8 |
| 0°-40° | 488.8 | 55.0 |
| 0°-60° | 766.6 | 86.2 |
| 0°-90° | 889.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 889.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 453 | 453 | 453 | 453 | 453 | |
| 5° | 445 | 444 | 444 | 444 | 444 | 42 |
| 15° | 416 | 416 | 412 | 408 | 406 | 117 |
| 25° | 361 | 359 | 353 | 340 | 331 | 166 |
| 35° | 293 | 291 | 276 | 256 | 249 | 183 |
| 45° | 225 | 220 | 201 | 184 | 177 | 173 |
| 55° | 156 | 151 | 137 | 121 | 115 | 140 |
| 65° | 93 | 87 | 79 | 81 | 67 | 91 |
| 75° | 37 | 35 | 32 | 31 | 34 | 40 |
| 85° | 5 | 6 | 6 | 7 | 7 | 7 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P558469

CATALOG NUMBER: FSR-12-1-LD4-1HI-35-UNV-81-86-EDD

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 452.8 | 452.8 | 452.8 | 452.8 | 452.8 |
| 2.5° | 449.7 | 449.7 | 449.7 | 449.2 | 449.2 |
| 5° | 445.0 | 444.5 | 444.5 | 443.9 | 443.9 |
| 7.5° | 441.3 | 440.8 | 440.3 | 439.8 | 438.7 |
| 10° | 436.1 | 436.1 | 435.6 | 433.0 | 432.4 |
| 12.5° | 427.7 | 427.2 | 425.1 | 421.4 | 420.4 |
| 15° | 416.2 | 416.2 | 412.0 | 407.8 | 406.3 |
| 17.5° | 403.6 | 403.1 | 397.9 | 393.7 | 391.6 |
| 20° | 390.0 | 389.0 | 383.7 | 376.9 | 373.3 |
| 22.5° | 374.8 | 374.8 | 368.6 | 359.7 | 356.0 |
| 25° | 360.7 | 358.6 | 352.9 | 340.3 | 330.9 |
| 27.5° | 344.5 | 341.3 | 335.1 | 317.3 | 306.3 |
| 30° | 326.7 | 325.1 | 316.2 | 293.2 | 284.8 |
| 32.5° | 309.9 | 307.3 | 297.9 | 273.8 | 267.0 |
| 35° | 292.6 | 290.6 | 276.4 | 255.5 | 249.2 |
| 37.5° | 275.4 | 272.8 | 255.0 | 238.2 | 230.3 |
| 40° | 258.1 | 255.0 | 235.6 | 220.4 | 212.0 |
| 42.5° | 241.9 | 237.7 | 218.8 | 202.6 | 193.2 |
| 45° | 224.6 | 219.9 | 201.0 | 184.3 | 176.9 |
| 47.5° | 207.3 | 203.1 | 185.8 | 168.6 | 160.2 |
| 50° | 189.0 | 185.3 | 169.6 | 152.3 | 143.4 |
| 52.5° | 173.8 | 168.0 | 152.9 | 135.6 | 128.3 |
| 55° | 156.0 | 151.3 | 137.2 | 120.9 | 114.7 |
| 57.5° | 139.8 | 135.1 | 122.0 | 106.8 | 101.6 |
| 60° | 124.6 | 117.8 | 106.8 | 93.7 | 89.5 |
| 62.5° | 107.8 | 102.6 | 93.2 | 82.2 | 87.4 |
| 65° | 92.7 | 87.4 | 79.1 | 80.6 | 67.0 |
| 67.5° | 75.9 | 73.3 | 66.0 | 58.6 | 56.5 |
| 70° | 61.8 | 58.6 | 56.0 | 48.2 | 46.1 |
| 72.5° | 49.2 | 46.1 | 42.4 | 38.2 | 36.6 |
| 75° | 37.2 | 34.6 | 32.5 | 30.9 | 34.0 |
| 77.5° | 25.7 | 24.6 | 23.0 | 21.5 | 20.9 |
| 80° | 16.8 | 16.2 | 15.7 | 15.2 | 14.7 |
| 82.5° | 9.9 | 9.9 | 9.9 | 9.9 | 9.9 |
| 85° | 5.2 | 5.8 | 6.3 | 6.8 | 7.3 |
| 87.5° | 3.1 | 3.1 | 3.7 | 4.2 | 4.7 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)