

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: P559748

Luminaire Tested: FSR-12-2-LD4-1HI-50-UNV-81-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P559748
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-12-2-LD4-1HI-50-UNV-81-86-EDD-90
Description: 1X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1539.0 lumens
Efficiency: N/A
Efficacy: 71.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')
CIE Type: Direct

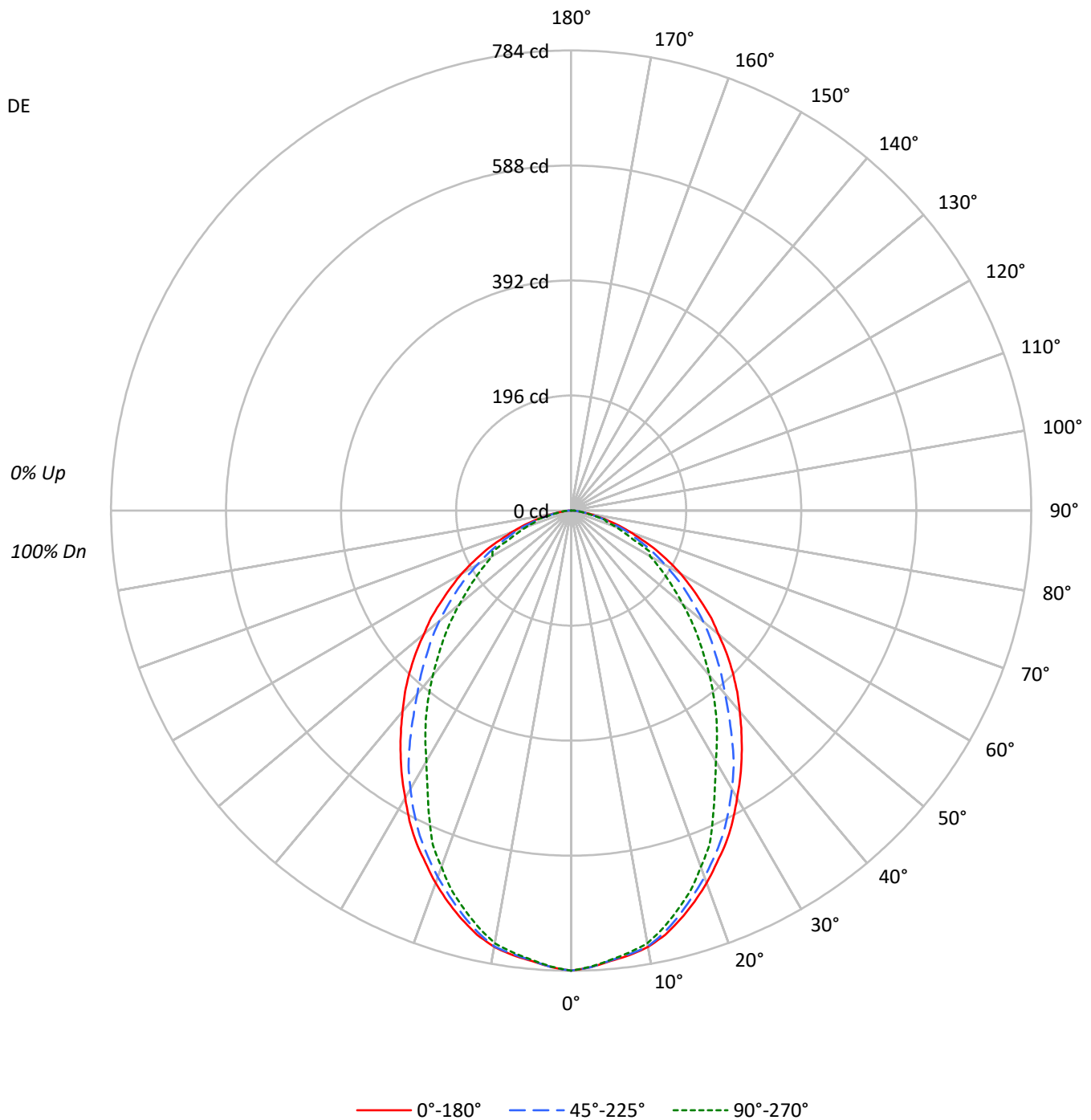
Input Watts (W): 21.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P559748

CATALOG NUMBER: FSR-12-2-LD4-1HI-50-UNV-81-86-EDD-90

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 | 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° | 4219 | 4219 | 4219 |
| 5° | 4162 | 4157 | 4152 |
| 10° | 4126 | 4121 | 4091 |
| 15° | 4014 | 3974 | 3919 |
| 20° | 3867 | 3805 | 3701 |
| 25° | 3708 | 3627 | 3401 |
| 30° | 3514 | 3402 | 3064 |
| 35° | 3328 | 3144 | 2834 |
| 40° | 3139 | 2865 | 2578 |
| 45° | 2959 | 2649 | 2331 |
| 50° | 2740 | 2458 | 2079 |
| 55° | 2534 | 2228 | 1863 |
| 60° | 2322 | 1990 | 1668 |
| 65° | 2043 | 1743 | 1477 |
| 70° | 1682 | 1526 | 1256 |
| 75° | 1337 | 1169 | 1225 |
| 80° | 899 | 843 | 787 |
| 85° | 562 | 673 | 784 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2959 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 73.0 | 4.7 |
| 10°-20° | 200.3 | 13.0 |
| 20°-30° | 277.3 | 18.0 |
| 30°-40° | 295.6 | 19.2 |
| 40°-50° | 269.7 | 17.5 |
| 50°-60° | 211.3 | 13.7 |
| 60°-70° | 137.7 | 8.9 |
| 70°-80° | 61.0 | 4.0 |
| 80°-90° | 13.1 | 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° | 550.5 | 35.8 |
| 0°-40° | 846.2 | 55.0 |
| 0°-60° | 1327.1 | 86.2 |
| 0°-90° | 1539.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1539.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 784 | 784 | 784 | 784 | 784 | |
| 5° | 770 | 769 | 769 | 768 | 768 | 73 |
| 15° | 720 | 720 | 713 | 706 | 703 | 203 |
| 25° | 624 | 621 | 611 | 589 | 573 | 287 |
| 35° | 507 | 503 | 478 | 442 | 431 | 317 |
| 45° | 389 | 381 | 348 | 319 | 306 | 299 |
| 55° | 270 | 262 | 237 | 209 | 198 | 242 |
| 65° | 160 | 151 | 137 | 140 | 116 | 158 |
| 75° | 64 | 60 | 56 | 54 | 59 | 69 |
| 85° | 9 | 10 | 11 | 12 | 13 | 13 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 783.9 | 783.9 | 783.9 | 783.9 | 783.9 |
| 2.5° | 778.5 | 778.5 | 778.5 | 777.6 | 777.6 |
| 5° | 770.4 | 769.4 | 769.4 | 768.5 | 768.5 |
| 7.5° | 764.0 | 763.1 | 762.2 | 761.3 | 759.5 |
| 10° | 754.9 | 754.9 | 754.0 | 749.5 | 748.6 |
| 12.5° | 740.4 | 739.5 | 735.9 | 729.6 | 727.8 |
| 15° | 720.5 | 720.5 | 713.3 | 706.0 | 703.3 |
| 17.5° | 698.8 | 697.8 | 688.8 | 681.5 | 677.9 |
| 20° | 675.2 | 673.4 | 664.3 | 652.5 | 646.2 |
| 22.5° | 648.9 | 648.9 | 638.0 | 622.6 | 616.3 |
| 25° | 624.4 | 620.8 | 610.8 | 589.1 | 572.8 |
| 27.5° | 596.3 | 590.9 | 580.0 | 549.2 | 530.2 |
| 30° | 565.5 | 562.8 | 547.4 | 507.5 | 493.0 |
| 32.5° | 536.5 | 532.0 | 515.7 | 474.0 | 462.2 |
| 35° | 506.6 | 503.0 | 478.5 | 442.3 | 431.4 |
| 37.5° | 476.7 | 472.2 | 441.4 | 412.4 | 398.8 |
| 40° | 446.8 | 441.4 | 407.8 | 381.6 | 367.0 |
| 42.5° | 418.7 | 411.5 | 378.8 | 350.7 | 334.4 |
| 45° | 388.8 | 380.6 | 348.0 | 319.0 | 306.3 |
| 47.5° | 358.9 | 351.6 | 321.7 | 291.8 | 277.3 |
| 50° | 327.2 | 320.8 | 293.6 | 263.7 | 248.3 |
| 52.5° | 300.9 | 290.9 | 264.6 | 234.7 | 222.0 |
| 55° | 270.1 | 261.9 | 237.4 | 209.4 | 198.5 |
| 57.5° | 242.0 | 233.8 | 211.2 | 184.9 | 175.8 |
| 60° | 215.7 | 203.9 | 184.9 | 162.2 | 155.0 |
| 62.5° | 186.7 | 177.6 | 161.3 | 142.3 | 151.4 |
| 65° | 160.4 | 151.4 | 136.9 | 139.6 | 116.0 |
| 67.5° | 131.4 | 126.9 | 114.2 | 101.5 | 97.9 |
| 70° | 106.9 | 101.5 | 97.0 | 83.4 | 79.8 |
| 72.5° | 85.2 | 79.8 | 73.4 | 66.2 | 63.4 |
| 75° | 64.3 | 59.8 | 56.2 | 53.5 | 58.9 |
| 77.5° | 44.4 | 42.6 | 39.9 | 37.2 | 36.3 |
| 80° | 29.0 | 28.1 | 27.2 | 26.3 | 25.4 |
| 82.5° | 17.2 | 17.2 | 17.2 | 17.2 | 17.2 |
| 85° | 9.1 | 10.0 | 10.9 | 11.8 | 12.7 |
| 87.5° | 5.4 | 5.4 | 6.3 | 7.3 | 8.2 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)