

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: P559626

Luminaire Tested: FSR-12-2-LD4-1HI-35-UNV-81-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P559626
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-35-UNV-81-94-EDD-90
Description: 1X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1491.0 lumens
Efficiency: N/A
Efficacy: 69.0 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

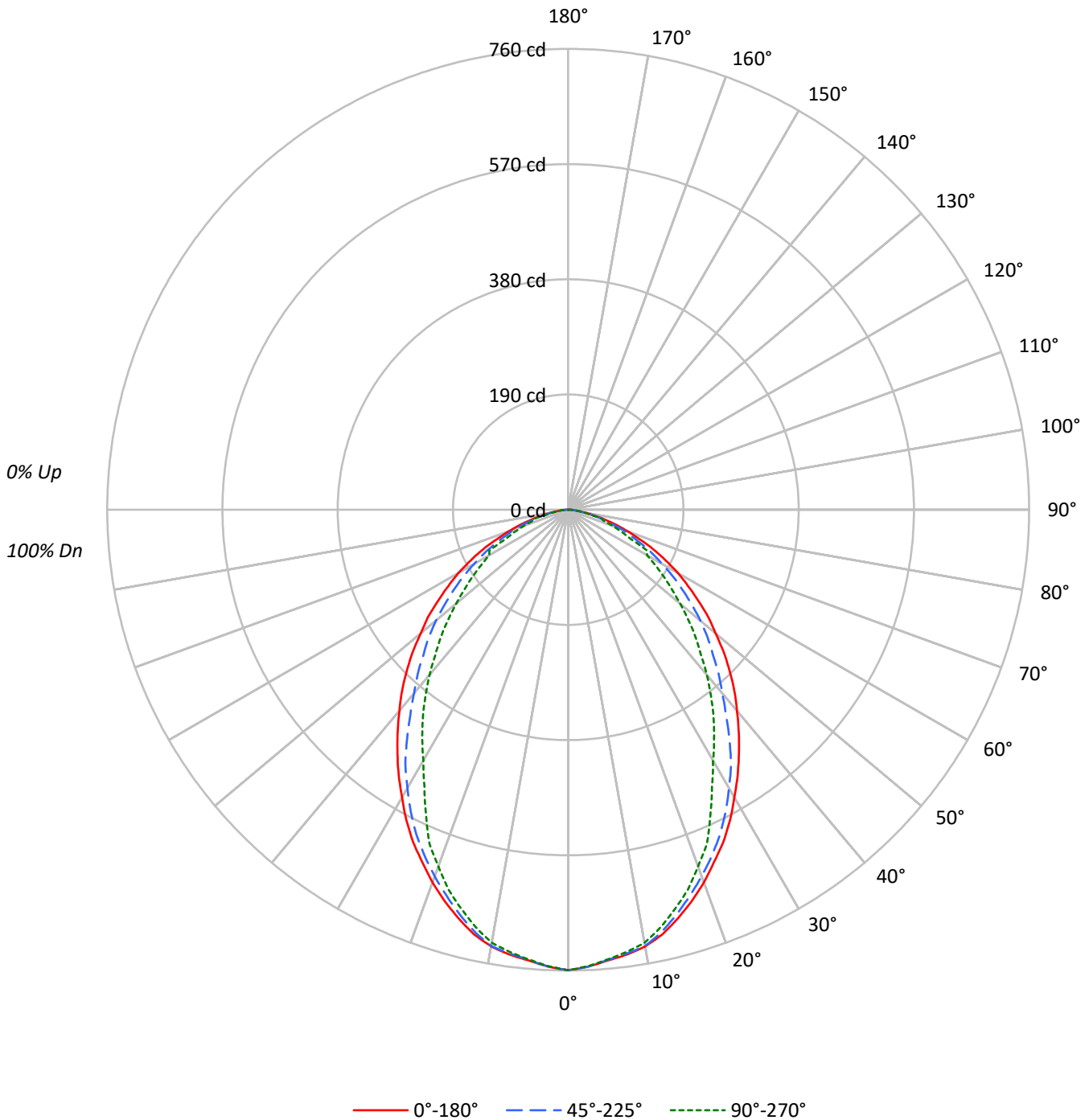
Input Watts (W): 21.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P559626

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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 | 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° | 4088 | 4088 | 4088 |
| 5° | 4032 | 4027 | 4023 |
| 10° | 3997 | 3992 | 3964 |
| 15° | 3889 | 3850 | 3797 |
| 20° | 3746 | 3686 | 3585 |
| 25° | 3593 | 3514 | 3295 |
| 30° | 3405 | 3296 | 2968 |
| 35° | 3225 | 3046 | 2746 |
| 40° | 3041 | 2776 | 2498 |
| 45° | 2867 | 2567 | 2259 |
| 50° | 2654 | 2382 | 2015 |
| 55° | 2456 | 2158 | 1804 |
| 60° | 2250 | 1928 | 1616 |
| 65° | 1979 | 1689 | 1431 |
| 70° | 1630 | 1478 | 1216 |
| 75° | 1295 | 1131 | 1187 |
| 80° | 871 | 815 | 762 |
| 85° | 543 | 648 | 760 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2867 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 70.7 | 4.7 |
| 10°-20° | 194.0 | 13.0 |
| 20°-30° | 268.6 | 18.0 |
| 30°-40° | 286.4 | 19.2 |
| 40°-50° | 261.3 | 17.5 |
| 50°-60° | 204.7 | 13.7 |
| 60°-70° | 133.4 | 8.9 |
| 70°-80° | 59.1 | 4.0 |
| 80°-90° | 12.7 | 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° | 533.3 | 35.8 |
| 0°-40° | 819.8 | 55.0 |
| 0°-60° | 1285.8 | 86.2 |
| 0°-90° | 1491.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1491.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 760 | 760 | 760 | 760 | 760 | |
| 5° | 746 | 745 | 745 | 745 | 745 | 71 |
| 15° | 698 | 698 | 691 | 684 | 681 | 196 |
| 25° | 605 | 602 | 592 | 571 | 555 | 278 |
| 35° | 491 | 487 | 464 | 428 | 418 | 307 |
| 45° | 377 | 369 | 337 | 309 | 297 | 290 |
| 55° | 262 | 254 | 230 | 203 | 192 | 235 |
| 65° | 155 | 147 | 133 | 135 | 112 | 153 |
| 75° | 62 | 58 | 54 | 52 | 57 | 67 |
| 85° | 9 | 10 | 10 | 11 | 12 | 12 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 759.5 | 759.5 | 759.5 | 759.5 | 759.5 |
| 2.5° | 754.2 | 754.2 | 754.2 | 753.3 | 753.3 |
| 5° | 746.3 | 745.4 | 745.4 | 744.6 | 744.6 |
| 7.5° | 740.2 | 739.3 | 738.4 | 737.5 | 735.8 |
| 10° | 731.4 | 731.4 | 730.5 | 726.1 | 725.3 |
| 12.5° | 717.4 | 716.5 | 713.0 | 706.8 | 705.1 |
| 15° | 698.0 | 698.0 | 691.0 | 684.0 | 681.4 |
| 17.5° | 677.0 | 676.1 | 667.3 | 660.3 | 656.8 |
| 20° | 654.1 | 652.4 | 643.6 | 632.2 | 626.0 |
| 22.5° | 628.7 | 628.7 | 618.1 | 603.2 | 597.1 |
| 25° | 605.0 | 601.5 | 591.8 | 570.7 | 554.9 |
| 27.5° | 577.7 | 572.5 | 561.9 | 532.1 | 513.6 |
| 30° | 547.9 | 545.3 | 530.3 | 491.7 | 477.6 |
| 32.5° | 519.8 | 515.4 | 499.6 | 459.2 | 447.8 |
| 35° | 490.8 | 487.3 | 463.6 | 428.5 | 417.9 |
| 37.5° | 461.8 | 457.5 | 427.6 | 399.5 | 386.3 |
| 40° | 432.9 | 427.6 | 395.1 | 369.7 | 355.6 |
| 42.5° | 405.6 | 398.6 | 367.0 | 339.8 | 324.0 |
| 45° | 376.7 | 368.8 | 337.2 | 309.1 | 296.8 |
| 47.5° | 347.7 | 340.7 | 311.7 | 282.7 | 268.7 |
| 50° | 317.0 | 310.8 | 284.5 | 255.5 | 240.6 |
| 52.5° | 291.5 | 281.8 | 256.4 | 227.4 | 215.1 |
| 55° | 261.7 | 253.8 | 230.0 | 202.8 | 192.3 |
| 57.5° | 234.4 | 226.5 | 204.6 | 179.1 | 170.3 |
| 60° | 209.0 | 197.6 | 179.1 | 157.2 | 150.1 |
| 62.5° | 180.9 | 172.1 | 156.3 | 137.9 | 146.6 |
| 65° | 155.4 | 146.6 | 132.6 | 135.2 | 112.4 |
| 67.5° | 127.3 | 122.9 | 110.6 | 98.3 | 94.8 |
| 70° | 103.6 | 98.3 | 93.9 | 80.8 | 77.3 |
| 72.5° | 82.5 | 77.3 | 71.1 | 64.1 | 61.5 |
| 75° | 62.3 | 57.9 | 54.4 | 51.8 | 57.1 |
| 77.5° | 43.0 | 41.3 | 38.6 | 36.0 | 35.1 |
| 80° | 28.1 | 27.2 | 26.3 | 25.5 | 24.6 |
| 82.5° | 16.7 | 16.7 | 16.7 | 16.7 | 16.7 |
| 85° | 8.8 | 9.7 | 10.5 | 11.4 | 12.3 |
| 87.5° | 5.3 | 5.3 | 6.1 | 7.0 | 7.9 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)