

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: P560562

Luminaire Tested: FSR-12-2-LD4-2STD-35-UNV-80-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560562
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-LD4-2STD-35-UNV-80-85-EDD-90
Description: 1X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRON
SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2502.0 lumens
Efficiency: N/A
Efficacy: 75.1 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

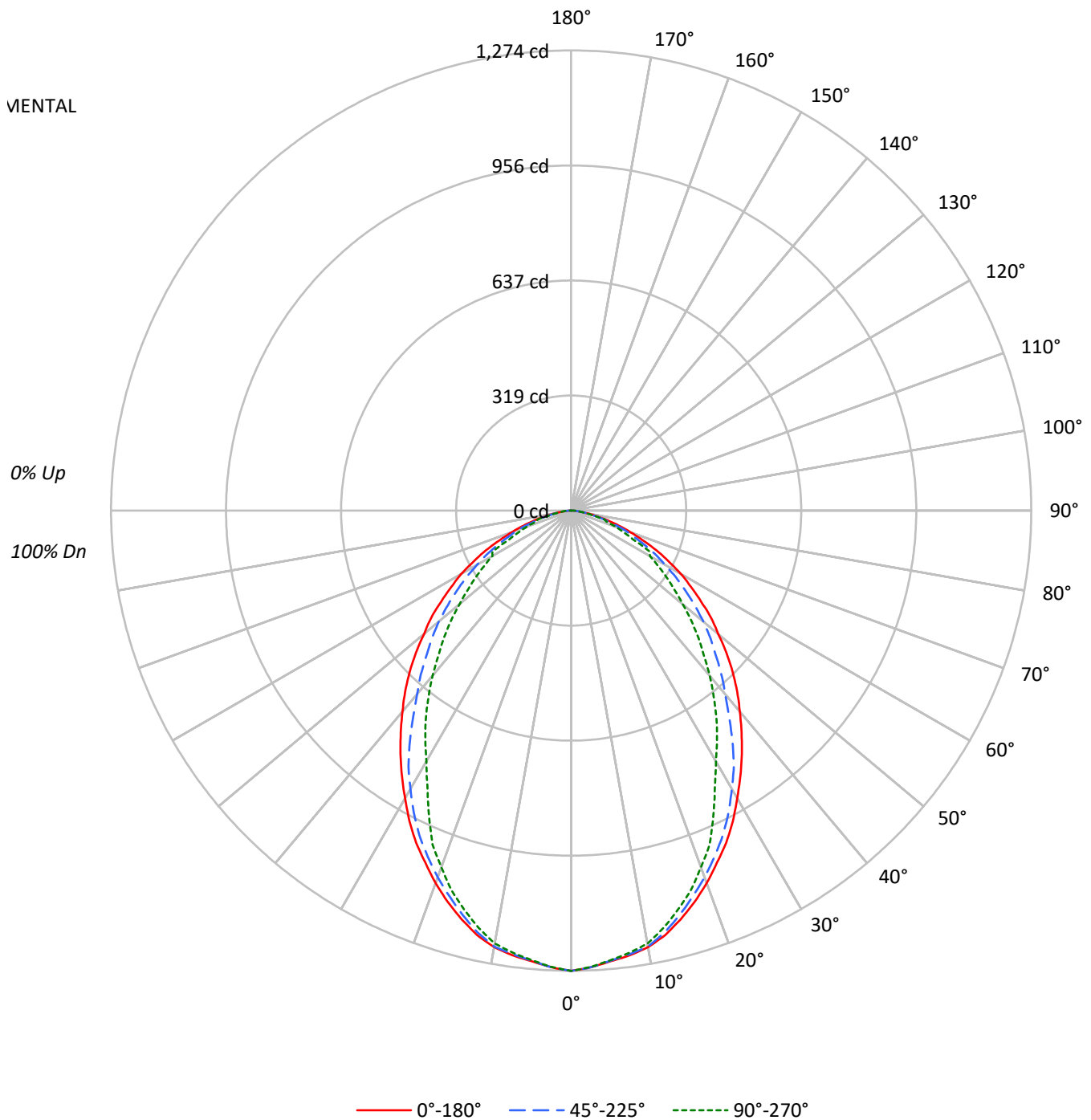
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P560562

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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 | 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° | 6859 | 6859 | 6859 |
| 5° | 6766 | 6758 | 6750 |
| 10° | 6707 | 6700 | 6651 |
| 15° | 6526 | 6461 | 6371 |
| 20° | 6287 | 6186 | 6017 |
| 25° | 6029 | 5897 | 5530 |
| 30° | 5714 | 5530 | 4981 |
| 35° | 5411 | 5112 | 4608 |
| 40° | 5103 | 4658 | 4192 |
| 45° | 4811 | 4306 | 3790 |
| 50° | 4454 | 3997 | 3380 |
| 55° | 4120 | 3622 | 3028 |
| 60° | 3775 | 3236 | 2713 |
| 65° | 3321 | 2833 | 2402 |
| 70° | 2736 | 2482 | 2041 |
| 75° | 2175 | 1901 | 1992 |
| 80° | 1460 | 1370 | 1280 |
| 85° | 908 | 1093 | 1272 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4811 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 118.6 | 4.7 |
| 10°-20° | 325.6 | 13.0 |
| 20°-30° | 450.8 | 18.0 |
| 30°-40° | 480.6 | 19.2 |
| 40°-50° | 438.5 | 17.5 |
| 50°-60° | 343.5 | 13.7 |
| 60°-70° | 223.9 | 8.9 |
| 70°-80° | 99.2 | 4.0 |
| 80°-90° | 21.3 | 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° | 895.0 | 35.8 |
| 0°-40° | 1375.6 | 55.0 |
| 0°-60° | 2157.6 | 86.2 |
| 0°-90° | 2502.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2502.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1274 | 1274 | 1274 | 1274 | 1274 | |
| 5° | 1252 | 1251 | 1251 | 1249 | 1249 | 119 |
| 15° | 1171 | 1171 | 1160 | 1148 | 1143 | 329 |
| 25° | 1015 | 1009 | 993 | 958 | 931 | 466 |
| 35° | 824 | 818 | 778 | 719 | 701 | 515 |
| 45° | 632 | 619 | 566 | 519 | 498 | 487 |
| 55° | 439 | 426 | 386 | 340 | 323 | 394 |
| 65° | 261 | 246 | 222 | 227 | 189 | 257 |
| 75° | 105 | 97 | 91 | 87 | 96 | 112 |
| 85° | 15 | 16 | 18 | 19 | 21 | 20 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1274.5 | 1274.5 | 1274.5 | 1274.5 | 1274.5 |
| 2.5° | 1265.6 | 1265.6 | 1265.6 | 1264.2 | 1264.2 |
| 5° | 1252.4 | 1250.9 | 1250.9 | 1249.4 | 1249.4 |
| 7.5° | 1242.1 | 1240.6 | 1239.1 | 1237.7 | 1234.7 |
| 10° | 1227.3 | 1227.3 | 1225.9 | 1218.5 | 1217.0 |
| 12.5° | 1203.8 | 1202.3 | 1196.4 | 1186.1 | 1183.1 |
| 15° | 1171.3 | 1171.3 | 1159.6 | 1147.8 | 1143.4 |
| 17.5° | 1136.0 | 1134.5 | 1119.8 | 1108.0 | 1102.1 |
| 20° | 1097.7 | 1094.7 | 1080.0 | 1060.8 | 1050.5 |
| 22.5° | 1054.9 | 1054.9 | 1037.3 | 1012.2 | 1001.9 |
| 25° | 1015.2 | 1009.3 | 993.1 | 957.7 | 931.2 |
| 27.5° | 969.5 | 960.7 | 943.0 | 892.9 | 861.9 |
| 30° | 919.4 | 915.0 | 889.9 | 825.1 | 801.5 |
| 32.5° | 872.2 | 864.9 | 838.4 | 770.6 | 751.4 |
| 35° | 823.6 | 817.7 | 778.0 | 719.0 | 701.3 |
| 37.5° | 775.0 | 767.6 | 717.5 | 670.4 | 648.3 |
| 40° | 726.4 | 717.5 | 663.0 | 620.3 | 596.7 |
| 42.5° | 680.7 | 668.9 | 615.9 | 570.2 | 543.7 |
| 45° | 632.1 | 618.8 | 565.8 | 518.6 | 498.0 |
| 47.5° | 583.5 | 571.7 | 523.1 | 474.4 | 450.9 |
| 50° | 531.9 | 521.6 | 477.4 | 428.8 | 403.7 |
| 52.5° | 489.2 | 473.0 | 430.2 | 381.6 | 361.0 |
| 55° | 439.1 | 425.8 | 386.0 | 340.4 | 322.7 |
| 57.5° | 393.4 | 380.1 | 343.3 | 300.6 | 285.8 |
| 60° | 350.7 | 331.5 | 300.6 | 263.7 | 252.0 |
| 62.5° | 303.5 | 288.8 | 262.3 | 231.3 | 246.1 |
| 65° | 260.8 | 246.1 | 222.5 | 226.9 | 188.6 |
| 67.5° | 213.6 | 206.3 | 185.6 | 165.0 | 159.1 |
| 70° | 173.9 | 165.0 | 157.7 | 135.6 | 129.7 |
| 72.5° | 138.5 | 129.7 | 119.3 | 107.6 | 103.1 |
| 75° | 104.6 | 97.2 | 91.4 | 86.9 | 95.8 |
| 77.5° | 72.2 | 69.2 | 64.8 | 60.4 | 58.9 |
| 80° | 47.1 | 45.7 | 44.2 | 42.7 | 41.3 |
| 82.5° | 28.0 | 28.0 | 28.0 | 28.0 | 28.0 |
| 85° | 14.7 | 16.2 | 17.7 | 19.2 | 20.6 |
| 87.5° | 8.8 | 8.8 | 10.3 | 11.8 | 13.3 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)