

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: P558648

Luminaire Tested: FSR-12-1-LD4-1LO-35-UNV-80-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P558648
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-LD4-1LO-35-UNV-80-88-EDD-90
Description: 1X1 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .500 CLEAR PC ENVIRON
SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 415.0 lumens
Efficiency: N/A
Efficacy: 71.6 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

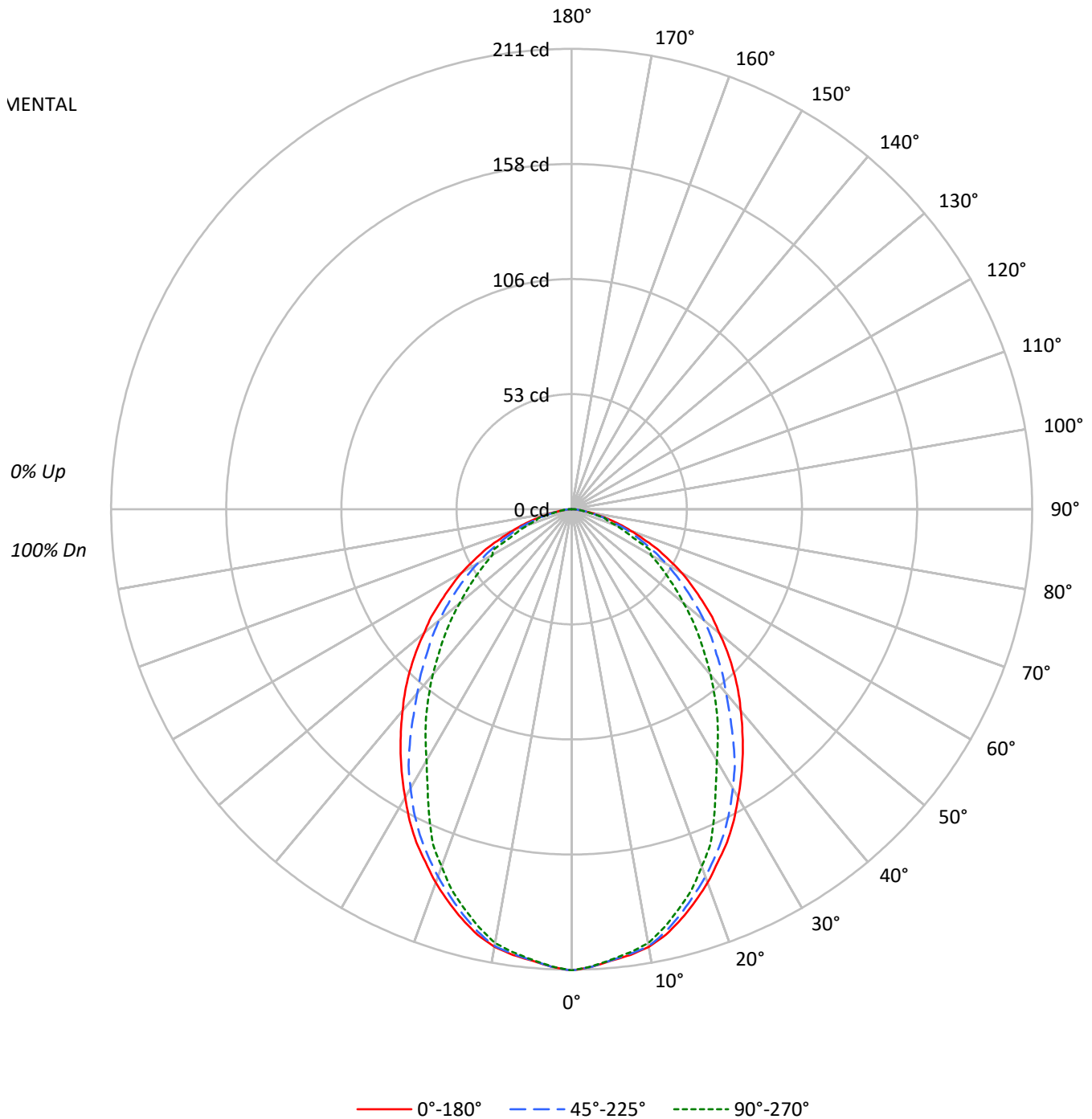
Input Watts (W): 5.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P558648

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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° | 2275 | 2275 | 2275 |
| 5° | 2244 | 2242 | 2239 |
| 10° | 2225 | 2222 | 2207 |
| 15° | 2165 | 2143 | 2113 |
| 20° | 2086 | 2052 | 1995 |
| 25° | 2000 | 1956 | 1835 |
| 30° | 1895 | 1835 | 1652 |
| 35° | 1795 | 1695 | 1528 |
| 40° | 1693 | 1546 | 1391 |
| 45° | 1595 | 1428 | 1257 |
| 50° | 1477 | 1326 | 1122 |
| 55° | 1366 | 1201 | 1004 |
| 60° | 1253 | 1074 | 900 |
| 65° | 1103 | 940 | 797 |
| 70° | 906 | 821 | 677 |
| 75° | 724 | 632 | 661 |
| 80° | 483 | 453 | 422 |
| 85° | 296 | 358 | 420 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1595 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 19.7 | 4.7 |
| 10°-20° | 54.0 | 13.0 |
| 20°-30° | 74.8 | 18.0 |
| 30°-40° | 79.7 | 19.2 |
| 40°-50° | 72.7 | 17.5 |
| 50°-60° | 57.0 | 13.7 |
| 60°-70° | 37.1 | 8.9 |
| 70°-80° | 16.5 | 4.0 |
| 80°-90° | 3.5 | 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° | 148.4 | 35.8 |
| 0°-40° | 228.2 | 55.0 |
| 0°-60° | 357.9 | 86.2 |
| 0°-90° | 415.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 415.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 211 | 211 | 211 | 211 | 211 | |
| 5° | 208 | 208 | 208 | 207 | 207 | 20 |
| 15° | 194 | 194 | 192 | 190 | 190 | 55 |
| 25° | 168 | 167 | 165 | 159 | 154 | 77 |
| 35° | 137 | 136 | 129 | 119 | 116 | 85 |
| 45° | 105 | 103 | 94 | 86 | 83 | 81 |
| 55° | 73 | 71 | 64 | 56 | 54 | 65 |
| 65° | 43 | 41 | 37 | 38 | 31 | 43 |
| 75° | 17 | 16 | 15 | 14 | 16 | 19 |
| 85° | 2 | 3 | 3 | 3 | 3 | 3 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P558648

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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 211.4 | 211.4 | 211.4 | 211.4 | 211.4 |
| 2.5° | 209.9 | 209.9 | 209.9 | 209.7 | 209.7 |
| 5° | 207.7 | 207.5 | 207.5 | 207.2 | 207.2 |
| 7.5° | 206.0 | 205.8 | 205.5 | 205.3 | 204.8 |
| 10° | 203.6 | 203.6 | 203.3 | 202.1 | 201.9 |
| 12.5° | 199.7 | 199.4 | 198.4 | 196.7 | 196.2 |
| 15° | 194.3 | 194.3 | 192.3 | 190.4 | 189.6 |
| 17.5° | 188.4 | 188.2 | 185.7 | 183.8 | 182.8 |
| 20° | 182.1 | 181.6 | 179.1 | 176.0 | 174.2 |
| 22.5° | 175.0 | 175.0 | 172.0 | 167.9 | 166.2 |
| 25° | 168.4 | 167.4 | 164.7 | 158.9 | 154.5 |
| 27.5° | 160.8 | 159.3 | 156.4 | 148.1 | 143.0 |
| 30° | 152.5 | 151.8 | 147.6 | 136.9 | 132.9 |
| 32.5° | 144.7 | 143.5 | 139.1 | 127.8 | 124.6 |
| 35° | 136.6 | 135.6 | 129.0 | 119.3 | 116.3 |
| 37.5° | 128.5 | 127.3 | 119.0 | 111.2 | 107.5 |
| 40° | 120.5 | 119.0 | 110.0 | 102.9 | 99.0 |
| 42.5° | 112.9 | 111.0 | 102.2 | 94.6 | 90.2 |
| 45° | 104.8 | 102.6 | 93.8 | 86.0 | 82.6 |
| 47.5° | 96.8 | 94.8 | 86.8 | 78.7 | 74.8 |
| 50° | 88.2 | 86.5 | 79.2 | 71.1 | 67.0 |
| 52.5° | 81.1 | 78.4 | 71.4 | 63.3 | 59.9 |
| 55° | 72.8 | 70.6 | 64.0 | 56.5 | 53.5 |
| 57.5° | 65.3 | 63.1 | 56.9 | 49.9 | 47.4 |
| 60° | 58.2 | 55.0 | 49.9 | 43.7 | 41.8 |
| 62.5° | 50.3 | 47.9 | 43.5 | 38.4 | 40.8 |
| 65° | 43.3 | 40.8 | 36.9 | 37.6 | 31.3 |
| 67.5° | 35.4 | 34.2 | 30.8 | 27.4 | 26.4 |
| 70° | 28.8 | 27.4 | 26.1 | 22.5 | 21.5 |
| 72.5° | 23.0 | 21.5 | 19.8 | 17.8 | 17.1 |
| 75° | 17.4 | 16.1 | 15.2 | 14.4 | 15.9 |
| 77.5° | 12.0 | 11.5 | 10.8 | 10.0 | 9.8 |
| 80° | 7.8 | 7.6 | 7.3 | 7.1 | 6.8 |
| 82.5° | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 |
| 85° | 2.4 | 2.7 | 2.9 | 3.2 | 3.4 |
| 87.5° | 1.5 | 1.5 | 1.7 | 2.0 | 2.2 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)