

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: P560513

Luminaire Tested: FSR-12-2-LD4-2LO-50-UNV-81-84-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560513
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-LD4-2LO-50-UNV-81-84-EDD
Description: 1X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2223.0 lumens
Efficiency: N/A
Efficacy: 95.0 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

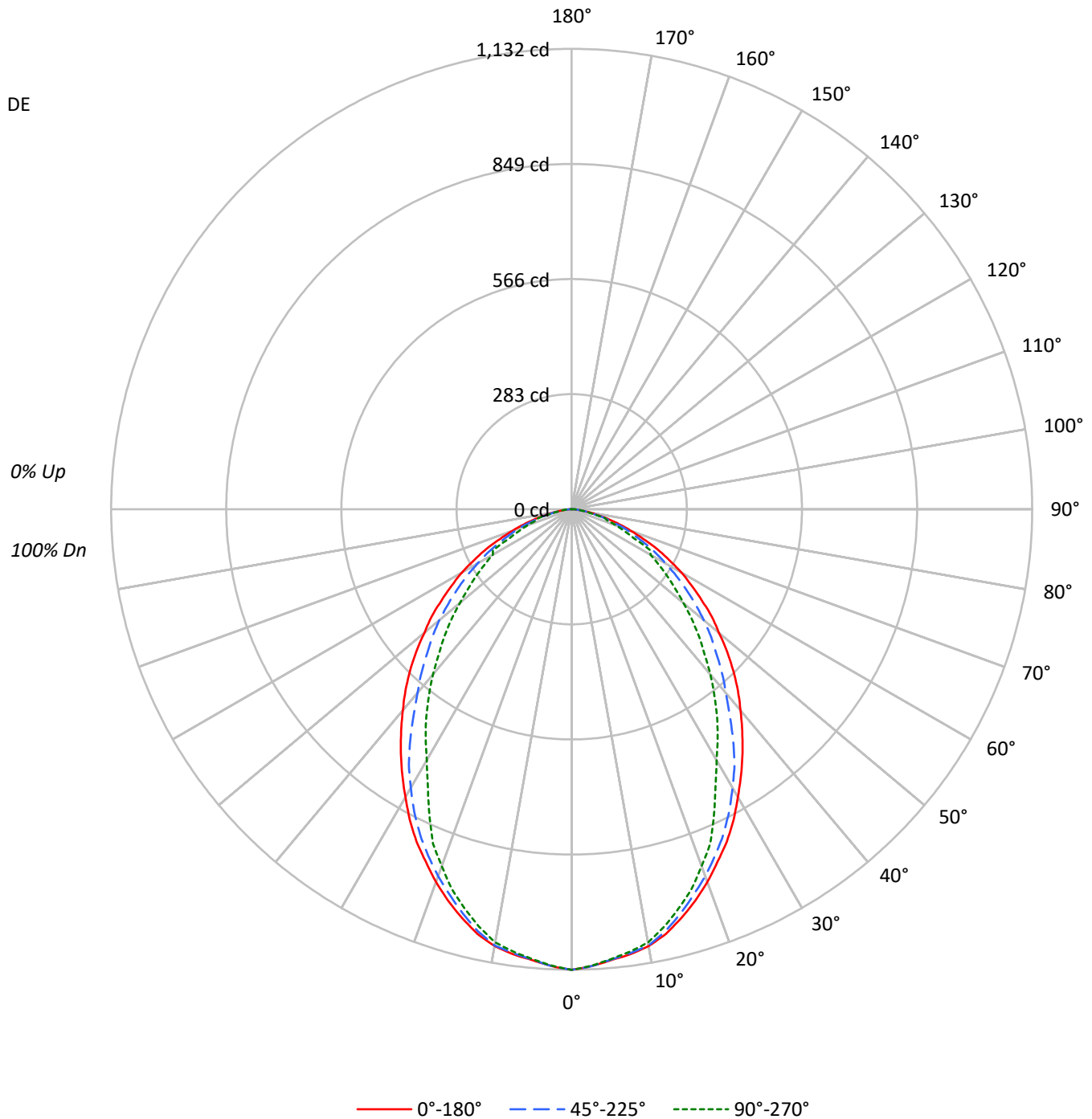
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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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 | 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° | 6095 | 6095 | 6095 |
| 5° | 6011 | 6004 | 5997 |
| 10° | 5960 | 5952 | 5909 |
| 15° | 5799 | 5741 | 5660 |
| 20° | 5586 | 5496 | 5346 |
| 25° | 5356 | 5239 | 4913 |
| 30° | 5077 | 4914 | 4425 |
| 35° | 4808 | 4541 | 4094 |
| 40° | 4534 | 4139 | 3725 |
| 45° | 4274 | 3826 | 3368 |
| 50° | 3957 | 3551 | 3003 |
| 55° | 3660 | 3218 | 2690 |
| 60° | 3354 | 2875 | 2410 |
| 65° | 2951 | 2518 | 2134 |
| 70° | 2431 | 2205 | 1813 |
| 75° | 1932 | 1688 | 1770 |
| 80° | 1299 | 1218 | 1137 |
| 85° | 809 | 969 | 1130 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4274 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 105.4 | 4.7 |
| 10°-20° | 289.3 | 13.0 |
| 20°-30° | 400.5 | 18.0 |
| 30°-40° | 427.0 | 19.2 |
| 40°-50° | 389.6 | 17.5 |
| 50°-60° | 305.2 | 13.7 |
| 60°-70° | 198.9 | 8.9 |
| 70°-80° | 88.1 | 4.0 |
| 80°-90° | 18.9 | 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° | 795.2 | 35.8 |
| 0°-40° | 1222.2 | 55.0 |
| 0°-60° | 1917.0 | 86.2 |
| 0°-90° | 2223.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2223.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1132 | 1132 | 1132 | 1132 | 1132 | |
| 5° | 1113 | 1111 | 1111 | 1110 | 1110 | 106 |
| 15° | 1041 | 1041 | 1030 | 1020 | 1016 | 293 |
| 25° | 902 | 897 | 882 | 851 | 827 | 414 |
| 35° | 732 | 726 | 691 | 639 | 623 | 458 |
| 45° | 562 | 550 | 503 | 461 | 442 | 433 |
| 55° | 390 | 378 | 343 | 302 | 287 | 350 |
| 65° | 232 | 219 | 198 | 202 | 168 | 228 |
| 75° | 93 | 86 | 81 | 77 | 85 | 100 |
| 85° | 13 | 14 | 16 | 17 | 18 | 18 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P560513

CATALOG NUMBER: FSR-12-2-LD4-2LO-50-UNV-81-84-EDD

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1132.4 | 1132.4 | 1132.4 | 1132.4 | 1132.4 |
| 2.5° | 1124.5 | 1124.5 | 1124.5 | 1123.2 | 1123.2 |
| 5° | 1112.7 | 1111.4 | 1111.4 | 1110.1 | 1110.1 |
| 7.5° | 1103.6 | 1102.3 | 1100.9 | 1099.6 | 1097.0 |
| 10° | 1090.5 | 1090.5 | 1089.2 | 1082.6 | 1081.3 |
| 12.5° | 1069.5 | 1068.2 | 1063.0 | 1053.8 | 1051.2 |
| 15° | 1040.7 | 1040.7 | 1030.3 | 1019.8 | 1015.9 |
| 17.5° | 1009.3 | 1008.0 | 994.9 | 984.4 | 979.2 |
| 20° | 975.3 | 972.7 | 959.6 | 942.5 | 933.4 |
| 22.5° | 937.3 | 937.3 | 921.6 | 899.3 | 890.2 |
| 25° | 902.0 | 896.7 | 882.3 | 850.9 | 827.3 |
| 27.5° | 861.4 | 853.5 | 837.8 | 793.3 | 765.8 |
| 30° | 816.9 | 812.9 | 790.7 | 733.1 | 712.1 |
| 32.5° | 775.0 | 768.4 | 744.9 | 684.7 | 667.6 |
| 35° | 731.8 | 726.5 | 691.2 | 638.8 | 623.1 |
| 37.5° | 688.6 | 682.0 | 637.5 | 595.6 | 576.0 |
| 40° | 645.4 | 637.5 | 589.1 | 551.1 | 530.2 |
| 42.5° | 604.8 | 594.3 | 547.2 | 506.6 | 483.1 |
| 45° | 561.6 | 549.8 | 502.7 | 460.8 | 442.5 |
| 47.5° | 518.4 | 507.9 | 464.7 | 421.5 | 400.6 |
| 50° | 472.6 | 463.4 | 424.1 | 380.9 | 358.7 |
| 52.5° | 434.6 | 420.2 | 382.3 | 339.1 | 320.7 |
| 55° | 390.1 | 378.3 | 343.0 | 302.4 | 286.7 |
| 57.5° | 349.5 | 337.7 | 305.0 | 267.1 | 254.0 |
| 60° | 311.6 | 294.5 | 267.1 | 234.3 | 223.9 |
| 62.5° | 269.7 | 256.6 | 233.0 | 205.5 | 218.6 |
| 65° | 231.7 | 218.6 | 197.7 | 201.6 | 167.6 |
| 67.5° | 189.8 | 183.3 | 164.9 | 146.6 | 141.4 |
| 70° | 154.5 | 146.6 | 140.1 | 120.4 | 115.2 |
| 72.5° | 123.1 | 115.2 | 106.0 | 95.6 | 91.6 |
| 75° | 92.9 | 86.4 | 81.2 | 77.2 | 85.1 |
| 77.5° | 64.1 | 61.5 | 57.6 | 53.7 | 52.4 |
| 80° | 41.9 | 40.6 | 39.3 | 38.0 | 36.7 |
| 82.5° | 24.9 | 24.9 | 24.9 | 24.9 | 24.9 |
| 85° | 13.1 | 14.4 | 15.7 | 17.0 | 18.3 |
| 87.5° | 7.9 | 7.9 | 9.2 | 10.5 | 11.8 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)