

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: P688284

Luminaire Tested: FLR-HA-14-40-35-CP125

Issue Date: 5/22/2023

Test Information

Test Method: LM-79-2019
Report Number: P688284
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2207-724-12)
Test Lab: INNOVATION CENTER
Issue Date: 5/22/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FLR-HA-14-40-35-CP125
Description: Fail-Safe - FLR Fully Luminous Recessed 1X4 3500K Luminaire for High Abuse
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

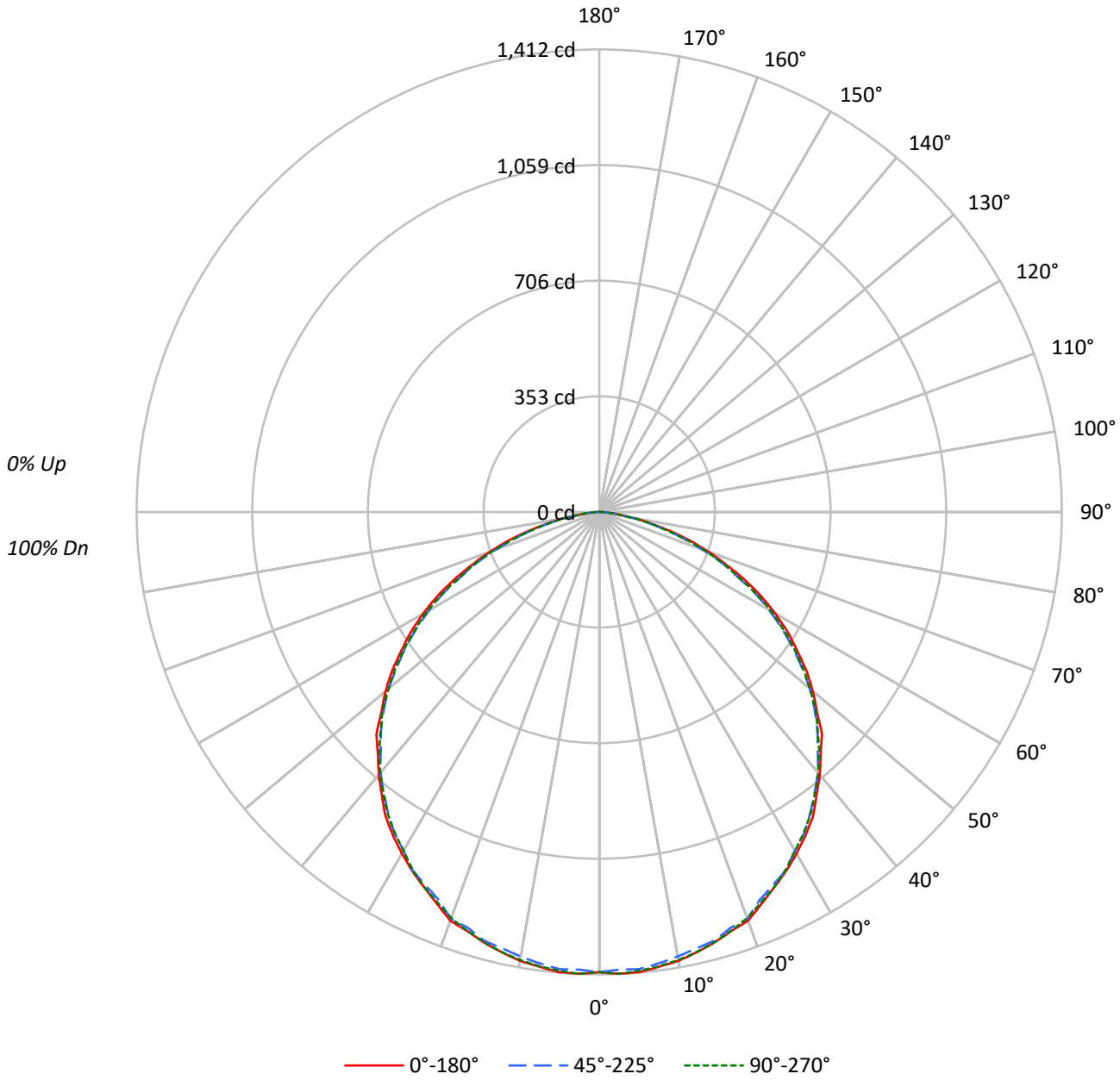
Lumens per Lamp: N/A
Luminaire Lumens: 3898.0 lumens
Efficiency: N/A
Efficacy: 98.9 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.27 / 1.38
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 39.4
Input Voltage (V): 120
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 | 109 | 105 | 101 | 97 | 107 | 103 | 99 | 95 | 98 | 95 | 92 | 94 | 92 | 90 | 91 | 89 | 87 | 85 |
| 2 | 100 | 92 | 85 | 79 | 97 | 90 | 84 | 78 | 86 | 81 | 77 | 83 | 79 | 75 | 80 | 76 | 73 | 71 |
| 3 | 91 | 81 | 73 | 66 | 88 | 79 | 72 | 66 | 76 | 70 | 64 | 73 | 68 | 63 | 71 | 66 | 62 | 60 |
| 4 | 83 | 71 | 63 | 56 | 81 | 70 | 62 | 56 | 68 | 61 | 55 | 65 | 59 | 54 | 63 | 58 | 54 | 51 |
| 5 | 77 | 64 | 55 | 48 | 74 | 63 | 54 | 48 | 61 | 53 | 48 | 59 | 52 | 47 | 57 | 51 | 47 | 44 |
| 6 | 71 | 57 | 49 | 42 | 69 | 56 | 48 | 42 | 55 | 47 | 42 | 53 | 46 | 41 | 51 | 46 | 41 | 39 |
| 7 | 66 | 52 | 43 | 37 | 64 | 51 | 43 | 37 | 50 | 42 | 37 | 48 | 42 | 37 | 47 | 41 | 36 | 34 |
| 8 | 61 | 48 | 39 | 33 | 59 | 47 | 39 | 33 | 45 | 38 | 33 | 44 | 38 | 33 | 43 | 37 | 33 | 31 |
| 9 | 57 | 44 | 35 | 30 | 56 | 43 | 35 | 30 | 42 | 35 | 30 | 41 | 34 | 29 | 40 | 34 | 29 | 28 |
| 10 | 53 | 40 | 32 | 27 | 52 | 40 | 32 | 27 | 39 | 32 | 27 | 38 | 31 | 27 | 37 | 31 | 27 | 25 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 3781 | 3781 | 3781 |
| 5° | 3810 | 3786 | 3797 |
| 10° | 3803 | 3766 | 3795 |
| 15° | 3791 | 3776 | 3789 |
| 20° | 3803 | 3786 | 3780 |
| 25° | 3754 | 3730 | 3752 |
| 30° | 3743 | 3710 | 3713 |
| 35° | 3733 | 3689 | 3697 |
| 40° | 3677 | 3648 | 3654 |
| 45° | 3659 | 3584 | 3589 |
| 50° | 3561 | 3512 | 3512 |
| 55° | 3456 | 3379 | 3400 |
| 60° | 3335 | 3219 | 3263 |
| 65° | 3107 | 2946 | 2974 |
| 70° | 2784 | 2627 | 2668 |
| 75° | 2294 | 2155 | 2147 |
| 80° | 1605 | 1514 | 1514 |
| 85° | 868 | 778 | 778 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3659 cd/sqm

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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 133.3 | 3.4 |
| 10°-20° | 382.4 | 9.8 |
| 20°-30° | 581.2 | 14.9 |
| 30°-40° | 703.0 | 18.0 |
| 40°-50° | 727.7 | 18.7 |
| 50°-60° | 646.5 | 16.6 |
| 60°-70° | 464.5 | 11.9 |
| 70°-80° | 222.1 | 5.7 |
| 80°-90° | 37.4 | 1.0 |
| 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° | 1096.8 | 28.1 |
| 0°-40° | 1799.8 | 46.2 |
| 0°-60° | 3174.0 | 81.4 |
| 0°-90° | 3898.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3898.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1405 | 1405 | 1405 | 1405 | 1405 | |
| 5° | 1410 | 1401 | 1401 | 1403 | 1406 | 134 |
| 15° | 1361 | 1352 | 1356 | 1352 | 1360 | 384 |
| 25° | 1264 | 1258 | 1256 | 1262 | 1264 | 584 |
| 35° | 1136 | 1129 | 1123 | 1122 | 1125 | 708 |
| 45° | 962 | 948 | 942 | 939 | 943 | 736 |
| 55° | 737 | 729 | 720 | 716 | 725 | 660 |
| 65° | 488 | 483 | 463 | 451 | 467 | 482 |
| 75° | 221 | 217 | 207 | 190 | 206 | 237 |
| 85° | 28 | 27 | 25 | 24 | 25 | 40 |
| 90° | 0 | 0 | 0 | 0 | 0 | |

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CATALOG NUMBER: FLR-HA-14-40-35-CP125

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1405.1 | 1405.1 | 1405.1 | 1405.1 | 1405.1 |
| 2.5° | 1411.0 | 1400.6 | 1398.4 | 1411.7 | 1411.7 |
| 5° | 1410.3 | 1400.6 | 1401.4 | 1402.9 | 1405.8 |
| 7.5° | 1400.6 | 1395.5 | 1390.3 | 1395.5 | 1399.2 |
| 10° | 1391.8 | 1379.9 | 1378.4 | 1380.7 | 1388.8 |
| 12.5° | 1377.0 | 1363.6 | 1365.1 | 1368.8 | 1376.2 |
| 15° | 1360.7 | 1351.8 | 1355.5 | 1352.5 | 1359.9 |
| 17.5° | 1341.4 | 1341.4 | 1331.8 | 1329.6 | 1340.7 |
| 20° | 1328.1 | 1309.6 | 1322.2 | 1311.1 | 1320.0 |
| 22.5° | 1294.8 | 1284.4 | 1281.5 | 1290.3 | 1290.3 |
| 25° | 1264.4 | 1257.8 | 1256.3 | 1261.5 | 1263.7 |
| 27.5° | 1235.6 | 1231.9 | 1233.3 | 1232.6 | 1232.6 |
| 30° | 1204.5 | 1194.8 | 1194.1 | 1194.1 | 1194.8 |
| 32.5° | 1171.2 | 1164.5 | 1163.7 | 1159.3 | 1161.5 |
| 35° | 1136.4 | 1129.0 | 1123.0 | 1121.6 | 1125.3 |
| 37.5° | 1089.7 | 1080.8 | 1080.1 | 1081.6 | 1081.6 |
| 40° | 1046.8 | 1037.2 | 1038.6 | 1033.5 | 1040.1 |
| 42.5° | 1000.1 | 992.0 | 986.8 | 985.3 | 993.5 |
| 45° | 961.6 | 947.6 | 941.7 | 938.7 | 943.1 |
| 47.5° | 900.9 | 897.2 | 891.3 | 886.1 | 896.5 |
| 50° | 850.6 | 852.8 | 838.8 | 833.6 | 838.8 |
| 52.5° | 797.3 | 787.7 | 778.1 | 769.2 | 784.0 |
| 55° | 736.6 | 729.2 | 720.3 | 715.9 | 724.8 |
| 57.5° | 681.1 | 672.9 | 659.6 | 649.2 | 664.8 |
| 60° | 619.6 | 612.2 | 598.2 | 587.1 | 606.3 |
| 62.5° | 556.7 | 548.6 | 535.2 | 517.5 | 537.5 |
| 65° | 487.9 | 482.7 | 462.7 | 450.8 | 467.1 |
| 67.5° | 418.3 | 415.3 | 403.5 | 383.5 | 407.2 |
| 70° | 353.9 | 347.9 | 333.9 | 316.1 | 339.1 |
| 72.5° | 290.2 | 279.8 | 269.5 | 252.4 | 271.7 |
| 75° | 220.6 | 216.9 | 207.3 | 189.5 | 206.5 |
| 77.5° | 159.9 | 156.2 | 149.5 | 136.2 | 149.5 |
| 80° | 103.6 | 102.9 | 97.7 | 88.1 | 97.7 |
| 82.5° | 59.2 | 59.2 | 55.5 | 51.8 | 55.5 |
| 85° | 28.1 | 26.7 | 25.2 | 23.7 | 25.2 |
| 87.5° | 7.4 | 7.4 | 7.4 | 7.4 | 8.1 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)