

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: P688387

Luminaire Tested: FLR-HA-22-L3C3 (MED)-40-CA125

Issue Date: 5/22/2023

Test Information

Test Method: LM-79-2019
Report Number: P688387
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2303-938-2)
Test Lab: INNOVATION CENTER
Issue Date: 5/22/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FLR-HA-22-L3C3 (MED)-40-CA125
Description: Fail-Safe - FLR Fully Luminous Recessed 2X2 4000K Luminaire at Midium Lumen setting for High Abuse
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

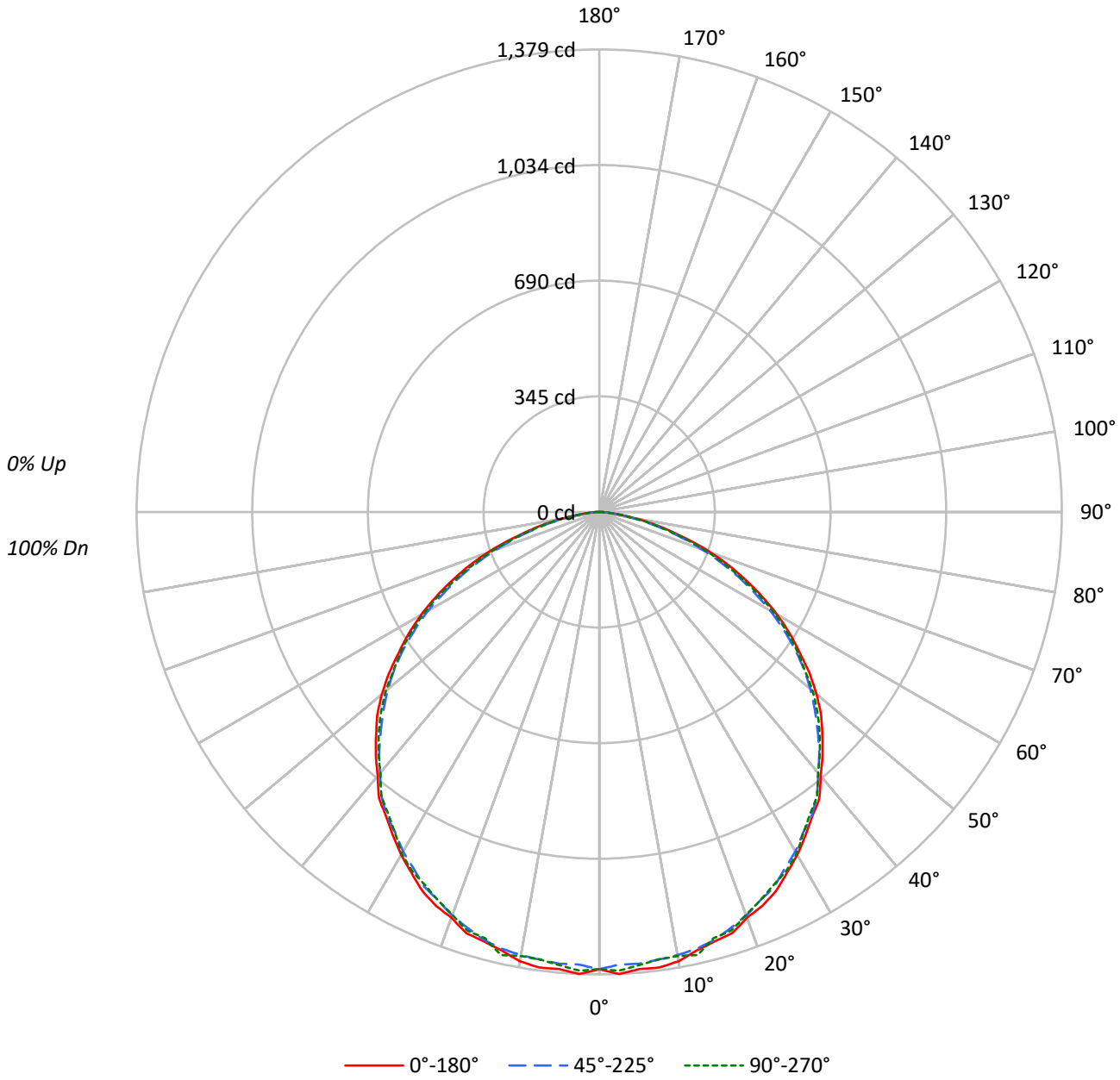
Lumens per Lamp: N/A
Luminaire Lumens: 3830.2 lumens
Efficiency: N/A
Efficacy: 132.5 lumens/watt
Spacing Criteria (0/90/45): 1.28 / 1.27 / 1.38
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 28.9
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



TEST NUMBER: P688387

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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 | 102 | 99 | 95 | 98 | 95 | 92 | 94 | 92 | 90 | 91 | 89 | 87 | 85 |
| 2 | 100 | 91 | 85 | 79 | 97 | 90 | 83 | 78 | 86 | 81 | 76 | 83 | 79 | 75 | 80 | 76 | 73 | 71 |
| 3 | 91 | 80 | 72 | 66 | 88 | 79 | 71 | 65 | 76 | 69 | 64 | 73 | 68 | 63 | 71 | 66 | 62 | 60 |
| 4 | 83 | 71 | 63 | 56 | 81 | 70 | 62 | 56 | 67 | 60 | 55 | 65 | 59 | 54 | 63 | 58 | 53 | 51 |
| 5 | 76 | 64 | 55 | 48 | 74 | 63 | 54 | 48 | 60 | 53 | 47 | 58 | 52 | 47 | 57 | 51 | 46 | 44 |
| 6 | 71 | 57 | 48 | 42 | 69 | 56 | 48 | 42 | 55 | 47 | 41 | 53 | 46 | 41 | 51 | 45 | 41 | 39 |
| 7 | 65 | 52 | 43 | 37 | 64 | 51 | 43 | 37 | 50 | 42 | 37 | 48 | 41 | 36 | 47 | 41 | 36 | 34 |
| 8 | 61 | 47 | 39 | 33 | 59 | 47 | 39 | 33 | 45 | 38 | 33 | 44 | 37 | 33 | 43 | 37 | 32 | 30 |
| 9 | 57 | 43 | 35 | 30 | 55 | 43 | 35 | 30 | 42 | 35 | 29 | 41 | 34 | 29 | 40 | 34 | 29 | 27 |
| 10 | 53 | 40 | 32 | 27 | 52 | 40 | 32 | 27 | 39 | 32 | 27 | 38 | 31 | 27 | 37 | 31 | 26 | 25 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 3669 | 3669 | 3669 |
| 5° | 3696 | 3653 | 3664 |
| 10° | 3718 | 3667 | 3674 |
| 15° | 3695 | 3683 | 3666 |
| 20° | 3688 | 3668 | 3662 |
| 25° | 3703 | 3662 | 3646 |
| 30° | 3668 | 3634 | 3657 |
| 35° | 3638 | 3629 | 3604 |
| 40° | 3608 | 3569 | 3564 |
| 45° | 3579 | 3503 | 3535 |
| 50° | 3540 | 3439 | 3477 |
| 55° | 3415 | 3338 | 3377 |
| 60° | 3293 | 3167 | 3238 |
| 65° | 3077 | 2907 | 2977 |
| 70° | 2781 | 2553 | 2666 |
| 75° | 2273 | 2080 | 2151 |
| 80° | 1630 | 1460 | 1523 |
| 85° | 892 | 763 | 784 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3579 cd/sqm

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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 129.3 | 3.4 |
| 10°-20° | 372.5 | 9.7 |
| 20°-30° | 567.0 | 14.8 |
| 30°-40° | 687.5 | 17.9 |
| 40°-50° | 714.8 | 18.7 |
| 50°-60° | 638.8 | 16.7 |
| 60°-70° | 460.5 | 12.0 |
| 70°-80° | 221.9 | 5.8 |
| 80°-90° | 38.0 | 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° | 1068.8 | 27.9 |
| 0°-40° | 1756.2 | 45.9 |
| 0°-60° | 3109.8 | 81.2 |
| 0°-90° | 3830.2 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3830.2 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1363 | 1363 | 1363 | 1363 | 1363 | |
| 5° | 1368 | 1356 | 1352 | 1359 | 1356 | 131 |
| 15° | 1326 | 1316 | 1322 | 1314 | 1316 | 375 |
| 25° | 1247 | 1228 | 1233 | 1227 | 1228 | 573 |
| 35° | 1108 | 1095 | 1105 | 1098 | 1097 | 694 |
| 45° | 940 | 928 | 920 | 925 | 929 | 726 |
| 55° | 728 | 718 | 712 | 710 | 720 | 653 |
| 65° | 483 | 472 | 456 | 460 | 468 | 478 |
| 75° | 219 | 212 | 200 | 202 | 207 | 235 |
| 85° | 29 | 27 | 25 | 25 | 25 | 40 |
| 90° | 0 | 0 | 0 | 0 | 0 | |

TEST NUMBER: P688387

CATALOG NUMBER: FLR-HA-22-L3C3 (MED)-40-CA125

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1363.3 | 1363.3 | 1363.3 | 1363.3 | 1363.3 |
| 2.5° | 1379.1 | 1368.1 | 1350.9 | 1359.2 | 1368.8 |
| 5° | 1368.1 | 1356.4 | 1352.3 | 1359.2 | 1356.4 |
| 7.5° | 1370.2 | 1352.3 | 1346.8 | 1354.3 | 1346.1 |
| 10° | 1360.5 | 1344.7 | 1342.0 | 1345.4 | 1344.7 |
| 12.5° | 1339.9 | 1336.5 | 1334.4 | 1328.9 | 1353.0 |
| 15° | 1326.2 | 1316.5 | 1322.0 | 1313.8 | 1315.9 |
| 17.5° | 1317.2 | 1294.5 | 1301.4 | 1300.0 | 1309.0 |
| 20° | 1287.7 | 1282.2 | 1280.8 | 1276.7 | 1278.7 |
| 22.5° | 1271.2 | 1258.1 | 1254.0 | 1252.6 | 1254.0 |
| 25° | 1247.1 | 1227.9 | 1233.4 | 1227.2 | 1227.9 |
| 27.5° | 1212.7 | 1191.4 | 1198.3 | 1197.6 | 1207.2 |
| 30° | 1180.4 | 1164.6 | 1169.4 | 1165.3 | 1177.0 |
| 32.5° | 1144.0 | 1130.2 | 1132.3 | 1131.6 | 1133.0 |
| 35° | 1107.5 | 1095.2 | 1104.8 | 1097.9 | 1097.2 |
| 37.5° | 1078.0 | 1053.2 | 1066.3 | 1058.7 | 1067.0 |
| 40° | 1027.1 | 1017.5 | 1016.1 | 1011.3 | 1014.7 |
| 42.5° | 985.2 | 972.8 | 970.7 | 973.5 | 973.5 |
| 45° | 940.5 | 928.1 | 920.5 | 924.7 | 928.8 |
| 47.5° | 897.2 | 881.4 | 871.7 | 873.8 | 882.0 |
| 50° | 845.6 | 825.0 | 821.5 | 824.3 | 830.5 |
| 52.5° | 789.9 | 773.4 | 768.6 | 767.9 | 770.7 |
| 55° | 728.0 | 718.4 | 711.5 | 709.5 | 719.8 |
| 57.5° | 672.4 | 657.9 | 649.7 | 653.1 | 662.7 |
| 60° | 611.9 | 596.1 | 588.5 | 591.2 | 601.6 |
| 62.5° | 548.6 | 532.8 | 521.1 | 526.6 | 538.3 |
| 65° | 483.3 | 471.6 | 456.5 | 459.9 | 467.5 |
| 67.5° | 420.1 | 407.0 | 391.2 | 393.2 | 401.5 |
| 70° | 353.4 | 339.6 | 324.5 | 327.9 | 338.9 |
| 72.5° | 283.2 | 274.3 | 260.6 | 261.9 | 271.6 |
| 75° | 218.6 | 212.4 | 200.1 | 202.1 | 206.9 |
| 77.5° | 162.2 | 154.0 | 144.4 | 146.4 | 152.6 |
| 80° | 105.2 | 102.4 | 94.2 | 95.6 | 98.3 |
| 82.5° | 59.8 | 59.8 | 56.4 | 55.0 | 58.4 |
| 85° | 28.9 | 26.8 | 24.7 | 25.4 | 25.4 |
| 87.5° | 6.9 | 7.6 | 6.9 | 6.2 | 6.9 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)