

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: P973934

Luminaire Tested: FLR2-22-45HE-L940-CP080

Issue Date: 3/13/2025

Test Information

Test Method: LM-79-2019
Report Number: P973934
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2411-281-2)
Test Lab: INNOVATION CENTER
Issue Date: 3/13/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FLR2-22-45HE-L940-CP080
Description: SHAPER SENSE CIRCLE

Light Source:
Ballast/Driver: -

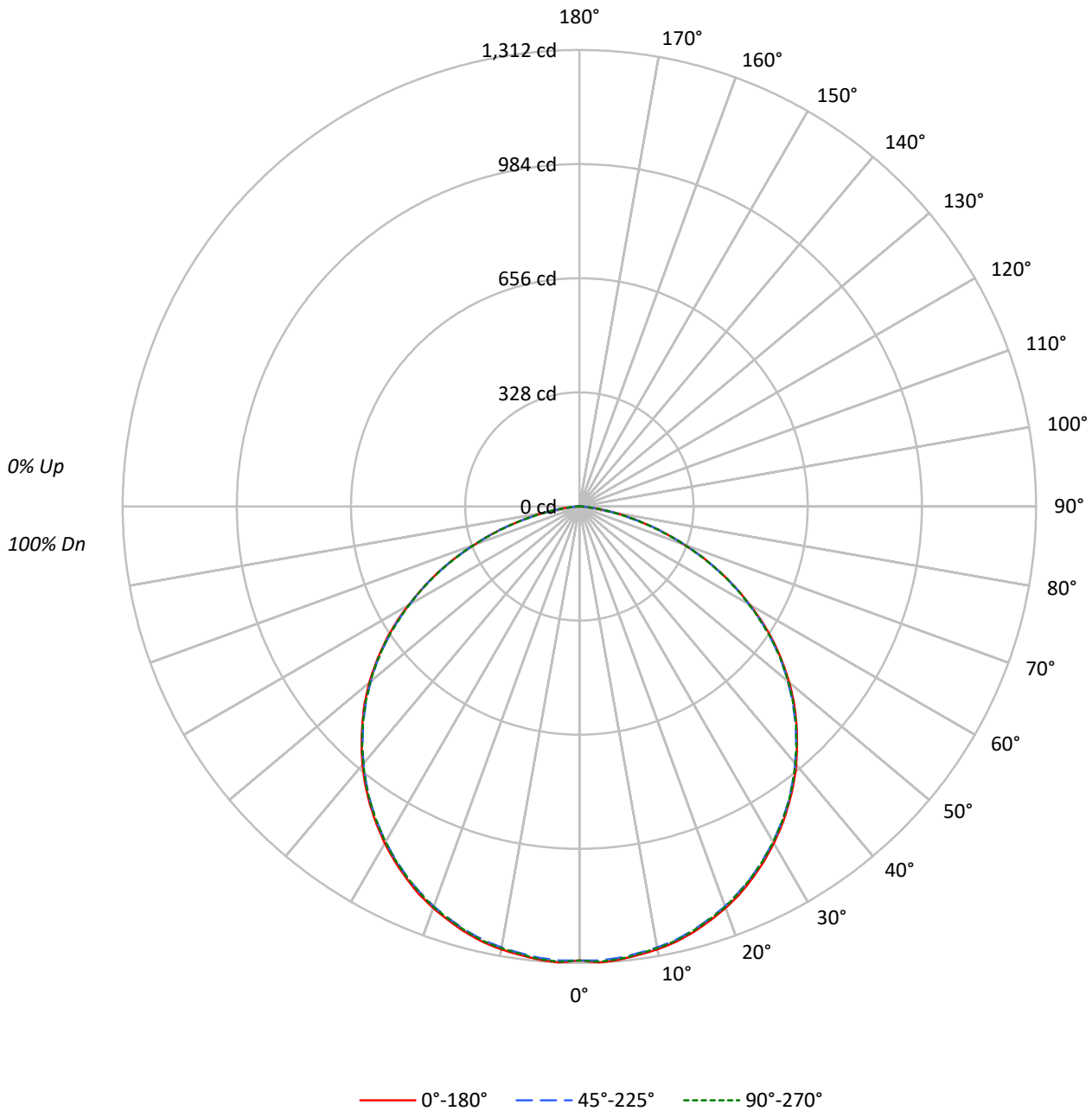
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3648.5 lumens
Efficiency: N/A
Efficacy: 100.8 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.27 / 1.38
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 36.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor:
Total Harmonic Distortion (THDi):
Frequency (hertz): 60
Stabilization Time: HR
Operation Time: HR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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Luminous Intensity Polar Plot





TEST NUMBER: P973934
 CATALOG NUMBER: FLR2-22-45HE-L940-CP080

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|-----|--|--|--|----|--|--|--|--|--|--|--|--|----|---|
| RF | 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 | 0 | | | | | | | | | | | | | | |
| RCR | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 | | | | | | 100 | | | | | | | | | | | | | | |
| 1 | 109 | 105 | 101 | 97 | 107 | 102 | 99 | 95 | 98 | 95 | 92 | 94 | 92 | 89 | 91 | 89 | 87 | 85 | | | | | | 85 | | | | | | | | | | | | | | |
| 2 | 99 | 91 | 85 | 79 | 97 | 90 | 83 | 78 | 86 | 81 | 76 | 83 | 78 | 75 | 80 | 76 | 73 | 71 | | | | | | 71 | | | | | | | | | | | | | | |
| 3 | 91 | 80 | 72 | 66 | 88 | 79 | 71 | 65 | 76 | 69 | 64 | 73 | 68 | 63 | 70 | 66 | 62 | 60 | | | | | | 60 | | | | | | | | | | | | | | |
| 4 | 83 | 71 | 63 | 56 | 81 | 70 | 62 | 55 | 67 | 60 | 55 | 65 | 59 | 54 | 63 | 58 | 53 | 51 | | | | | | 51 | | | | | | | | | | | | | | |
| 5 | 76 | 64 | 55 | 48 | 74 | 62 | 54 | 48 | 60 | 53 | 47 | 58 | 52 | 47 | 57 | 51 | 46 | 44 | | | | | | 44 | | | | | | | | | | | | | | |
| 6 | 71 | 57 | 48 | 42 | 69 | 56 | 48 | 42 | 54 | 47 | 41 | 53 | 46 | 41 | 51 | 45 | 41 | 39 | | | | | | 39 | | | | | | | | | | | | | | |
| 7 | 65 | 52 | 43 | 37 | 64 | 51 | 43 | 37 | 50 | 42 | 37 | 48 | 41 | 36 | 47 | 41 | 36 | 34 | | | | | | 34 | | | | | | | | | | | | | | |
| 8 | 61 | 47 | 39 | 33 | 59 | 47 | 39 | 33 | 45 | 38 | 33 | 44 | 37 | 32 | 43 | 37 | 32 | 30 | | | | | | 30 | | | | | | | | | | | | | | |
| 9 | 57 | 43 | 35 | 30 | 55 | 43 | 35 | 30 | 42 | 34 | 29 | 41 | 34 | 29 | 40 | 34 | 29 | 27 | | | | | | 27 | | | | | | | | | | | | | | |
| 10 | 53 | 40 | 32 | 27 | 52 | 40 | 32 | 27 | 39 | 32 | 27 | 38 | 31 | 27 | 37 | 31 | 26 | 25 | | | | | | 25 | | | | | | | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 3511 | 3511 | 3511 |
| 5° | 3533 | 3518 | 3529 |
| 10° | 3532 | 3516 | 3523 |
| 15° | 3529 | 3514 | 3518 |
| 20° | 3517 | 3503 | 3508 |
| 25° | 3498 | 3484 | 3486 |
| 30° | 3473 | 3458 | 3461 |
| 35° | 3441 | 3428 | 3431 |
| 40° | 3405 | 3388 | 3391 |
| 45° | 3355 | 3340 | 3346 |
| 50° | 3296 | 3273 | 3279 |
| 55° | 3202 | 3176 | 3187 |
| 60° | 3045 | 3032 | 3032 |
| 65° | 2842 | 2837 | 2827 |
| 70° | 2517 | 2530 | 2523 |
| 75° | 2120 | 2103 | 2087 |
| 80° | 1523 | 1499 | 1486 |
| 85° | 797 | 797 | 772 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3355 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 123.5 | 3.4 |
| 10°-20° | 355.3 | 9.7 |
| 20°-30° | 539.9 | 14.8 |
| 30°-40° | 652.6 | 17.9 |
| 40°-50° | 677.3 | 18.6 |
| 50°-60° | 605.6 | 16.6 |
| 60°-70° | 440.3 | 12.1 |
| 70°-80° | 216.5 | 5.9 |
| 80°-90° | 37.5 | 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° | 1018.7 | 27.9 |
| 0°-40° | 1671.3 | 45.8 |
| 0°-60° | 2954.2 | 81.0 |
| 0°-90° | 3648.5 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3648.5 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1305 | 1305 | 1305 | 1305 | 1305 | |
| 5° | 1308 | 1293 | 1302 | 1297 | 1306 | 124 |
| 15° | 1267 | 1252 | 1261 | 1258 | 1263 | 357 |
| 25° | 1178 | 1165 | 1173 | 1171 | 1174 | 543 |
| 35° | 1048 | 1040 | 1044 | 1044 | 1044 | 655 |
| 45° | 882 | 878 | 878 | 879 | 879 | 680 |
| 55° | 683 | 678 | 677 | 678 | 679 | 608 |
| 65° | 446 | 448 | 446 | 446 | 444 | 440 |
| 75° | 204 | 206 | 202 | 203 | 201 | 216 |
| 85° | 26 | 27 | 26 | 26 | 25 | 38 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P973934
 CATALOG NUMBER: FLR2-22-45HE-L940-CP080

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1304.7 | 1304.7 | 1304.7 | 1304.7 | 1304.7 |
| 2.5° | 1311.9 | 1296.6 | 1306.3 | 1300.6 | 1309.5 |
| 5° | 1307.9 | 1292.6 | 1302.3 | 1297.4 | 1306.3 |
| 7.5° | 1300.6 | 1285.3 | 1295.0 | 1290.2 | 1297.4 |
| 10° | 1292.6 | 1276.5 | 1286.9 | 1282.1 | 1289.4 |
| 12.5° | 1282.1 | 1266.8 | 1276.5 | 1272.4 | 1278.9 |
| 15° | 1266.8 | 1252.3 | 1261.2 | 1257.9 | 1262.8 |
| 17.5° | 1248.3 | 1233.8 | 1242.6 | 1240.2 | 1244.2 |
| 20° | 1228.1 | 1214.4 | 1223.3 | 1220.9 | 1224.9 |
| 22.5° | 1205.6 | 1191.1 | 1199.1 | 1197.5 | 1200.7 |
| 25° | 1178.2 | 1165.3 | 1173.3 | 1170.9 | 1174.1 |
| 27.5° | 1149.1 | 1137.1 | 1143.5 | 1143.5 | 1145.1 |
| 30° | 1117.7 | 1106.4 | 1112.9 | 1112.9 | 1113.7 |
| 32.5° | 1083.9 | 1075.0 | 1079.0 | 1079.8 | 1079.8 |
| 35° | 1047.6 | 1040.4 | 1043.6 | 1044.4 | 1044.4 |
| 37.5° | 1009.7 | 1002.5 | 1004.9 | 1006.5 | 1006.5 |
| 40° | 969.4 | 963.0 | 964.6 | 966.2 | 965.4 |
| 42.5° | 925.9 | 921.1 | 921.9 | 923.5 | 923.5 |
| 45° | 881.6 | 877.6 | 877.6 | 879.2 | 879.2 |
| 47.5° | 836.5 | 832.4 | 830.8 | 832.4 | 832.4 |
| 50° | 787.3 | 783.3 | 781.7 | 783.3 | 783.3 |
| 52.5° | 735.7 | 731.7 | 731.7 | 731.7 | 732.5 |
| 55° | 682.6 | 678.5 | 676.9 | 678.5 | 679.3 |
| 57.5° | 626.1 | 624.5 | 622.1 | 622.9 | 620.5 |
| 60° | 565.7 | 565.7 | 563.3 | 564.9 | 563.3 |
| 62.5° | 506.9 | 508.5 | 506.1 | 506.1 | 504.5 |
| 65° | 446.4 | 448.1 | 445.6 | 445.6 | 444.0 |
| 67.5° | 384.4 | 386.8 | 383.6 | 383.6 | 382.0 |
| 70° | 319.9 | 324.8 | 321.5 | 322.3 | 320.7 |
| 72.5° | 261.9 | 264.3 | 261.1 | 261.1 | 259.5 |
| 75° | 203.9 | 205.5 | 202.3 | 203.1 | 200.7 |
| 77.5° | 146.7 | 149.1 | 145.9 | 146.7 | 145.9 |
| 80° | 98.3 | 99.1 | 96.7 | 97.5 | 95.9 |
| 82.5° | 57.2 | 58.0 | 57.2 | 56.4 | 55.6 |
| 85° | 25.8 | 26.6 | 25.8 | 25.8 | 25.0 |
| 87.5° | 6.4 | 6.4 | 6.4 | 6.4 | 6.4 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)