

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: P973919

Luminaire Tested: FLR2-22-20HE-L840-CA080

Issue Date: 3/13/2025

Test Information

Test Method: LM-79-2019
Report Number: P973919
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: FLR2-22-20HE-L840-CA080
Description: SHAPER SENSE CIRCLE

Light Source:
Ballast/Driver: -

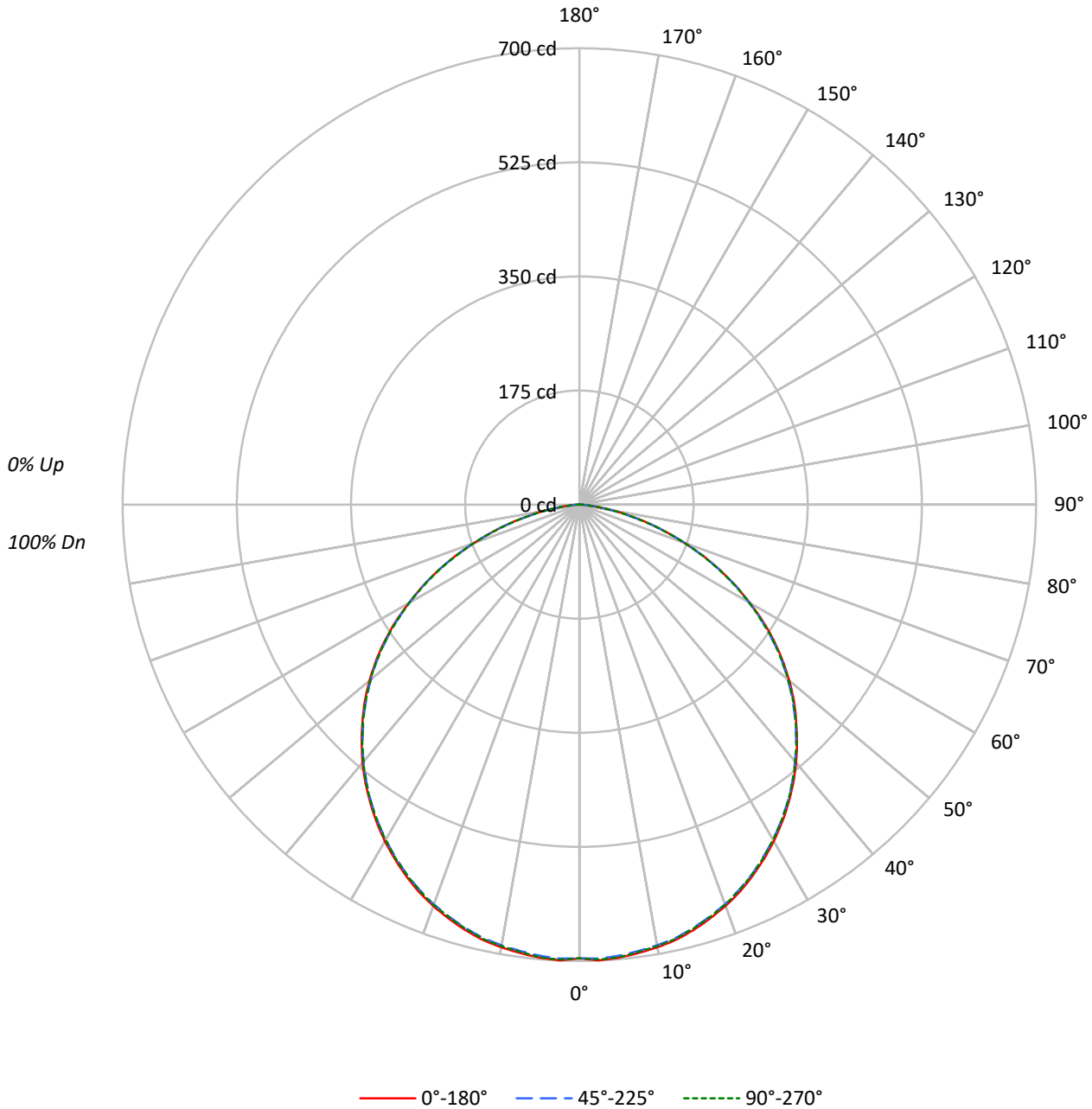
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1946.1 lumens
Efficiency: N/A
Efficacy: 131.5 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): 14.8
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: P973919
 CATALOG NUMBER: FLR2-22-20HE-L840-CA080

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° | 1873 | 1873 | 1873 |
| 5° | 1884 | 1876 | 1882 |
| 10° | 1884 | 1876 | 1879 |
| 15° | 1882 | 1874 | 1876 |
| 20° | 1876 | 1869 | 1871 |
| 25° | 1866 | 1858 | 1860 |
| 30° | 1853 | 1844 | 1846 |
| 35° | 1836 | 1828 | 1830 |
| 40° | 1816 | 1807 | 1809 |
| 45° | 1789 | 1781 | 1784 |
| 50° | 1758 | 1745 | 1749 |
| 55° | 1708 | 1694 | 1700 |
| 60° | 1624 | 1617 | 1617 |
| 65° | 1516 | 1514 | 1508 |
| 70° | 1342 | 1349 | 1346 |
| 75° | 1130 | 1122 | 1112 |
| 80° | 812 | 800 | 793 |
| 85° | 426 | 426 | 411 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1789 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 65.9 | 3.4 |
| 10°-20° | 189.5 | 9.7 |
| 20°-30° | 288.0 | 14.8 |
| 30°-40° | 348.1 | 17.9 |
| 40°-50° | 361.3 | 18.6 |
| 50°-60° | 323.0 | 16.6 |
| 60°-70° | 234.8 | 12.1 |
| 70°-80° | 115.5 | 5.9 |
| 80°-90° | 20.0 | 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° | 543.4 | 27.9 |
| 0°-40° | 891.5 | 45.8 |
| 0°-60° | 1575.7 | 81.0 |
| 0°-90° | 1946.1 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1946.1 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 696 | 696 | 696 | 696 | 696 | |
| 5° | 698 | 690 | 695 | 692 | 697 | 66 |
| 15° | 676 | 668 | 673 | 671 | 674 | 191 |
| 25° | 628 | 622 | 626 | 624 | 626 | 290 |
| 35° | 559 | 555 | 557 | 557 | 557 | 350 |
| 45° | 470 | 468 | 468 | 469 | 469 | 363 |
| 55° | 364 | 362 | 361 | 362 | 362 | 325 |
| 65° | 238 | 239 | 238 | 238 | 237 | 235 |
| 75° | 109 | 110 | 108 | 108 | 107 | 115 |
| 85° | 14 | 14 | 14 | 14 | 13 | 20 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P973919
 CATALOG NUMBER: FLR2-22-20HE-L840-CA080

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 695.9 | 695.9 | 695.9 | 695.9 | 695.9 |
| 2.5° | 699.8 | 691.6 | 696.8 | 693.8 | 698.5 |
| 5° | 697.6 | 689.5 | 694.6 | 692.0 | 696.8 |
| 7.5° | 693.8 | 685.6 | 690.7 | 688.2 | 692.0 |
| 10° | 689.5 | 680.9 | 686.4 | 683.9 | 687.7 |
| 12.5° | 683.9 | 675.7 | 680.9 | 678.7 | 682.1 |
| 15° | 675.7 | 668.0 | 672.7 | 671.0 | 673.5 |
| 17.5° | 665.8 | 658.1 | 662.8 | 661.5 | 663.7 |
| 20° | 655.1 | 647.8 | 652.5 | 651.2 | 653.3 |
| 22.5° | 643.0 | 635.3 | 639.6 | 638.7 | 640.5 |
| 25° | 628.4 | 621.5 | 625.8 | 624.5 | 626.3 |
| 27.5° | 612.9 | 606.5 | 609.9 | 609.9 | 610.8 |
| 30° | 596.2 | 590.2 | 593.6 | 593.6 | 594.0 |
| 32.5° | 578.1 | 573.4 | 575.5 | 576.0 | 576.0 |
| 35° | 558.8 | 554.9 | 556.6 | 557.1 | 557.1 |
| 37.5° | 538.6 | 534.7 | 536.0 | 536.9 | 536.9 |
| 40° | 517.1 | 513.7 | 514.5 | 515.4 | 514.9 |
| 42.5° | 493.9 | 491.3 | 491.7 | 492.6 | 492.6 |
| 45° | 470.2 | 468.1 | 468.1 | 468.9 | 468.9 |
| 47.5° | 446.2 | 444.0 | 443.2 | 444.0 | 444.0 |
| 50° | 419.9 | 417.8 | 416.9 | 417.8 | 417.8 |
| 52.5° | 392.4 | 390.3 | 390.3 | 390.3 | 390.7 |
| 55° | 364.1 | 361.9 | 361.1 | 361.9 | 362.3 |
| 57.5° | 334.0 | 333.1 | 331.8 | 332.3 | 331.0 |
| 60° | 301.7 | 301.7 | 300.5 | 301.3 | 300.5 |
| 62.5° | 270.4 | 271.2 | 269.9 | 269.9 | 269.1 |
| 65° | 238.1 | 239.0 | 237.7 | 237.7 | 236.8 |
| 67.5° | 205.0 | 206.3 | 204.6 | 204.6 | 203.7 |
| 70° | 170.6 | 173.2 | 171.5 | 171.9 | 171.1 |
| 72.5° | 139.7 | 141.0 | 139.3 | 139.3 | 138.4 |
| 75° | 108.7 | 109.6 | 107.9 | 108.3 | 107.0 |
| 77.5° | 78.2 | 79.5 | 77.8 | 78.2 | 77.8 |
| 80° | 52.4 | 52.9 | 51.6 | 52.0 | 51.2 |
| 82.5° | 30.5 | 30.9 | 30.5 | 30.1 | 29.7 |
| 85° | 13.8 | 14.2 | 13.8 | 13.8 | 13.3 |
| 87.5° | 3.4 | 3.4 | 3.4 | 3.4 | 3.4 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)