

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: P973985

Luminaire Tested: FLR2-22-20HE-L850-CP187

Issue Date: 3/13/2025

Test Information

Test Method: LM-79-2019
Report Number: P973985
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-L850-CP187
Description: SHAPER SENSE CIRCLE

Light Source:
Ballast/Driver: -

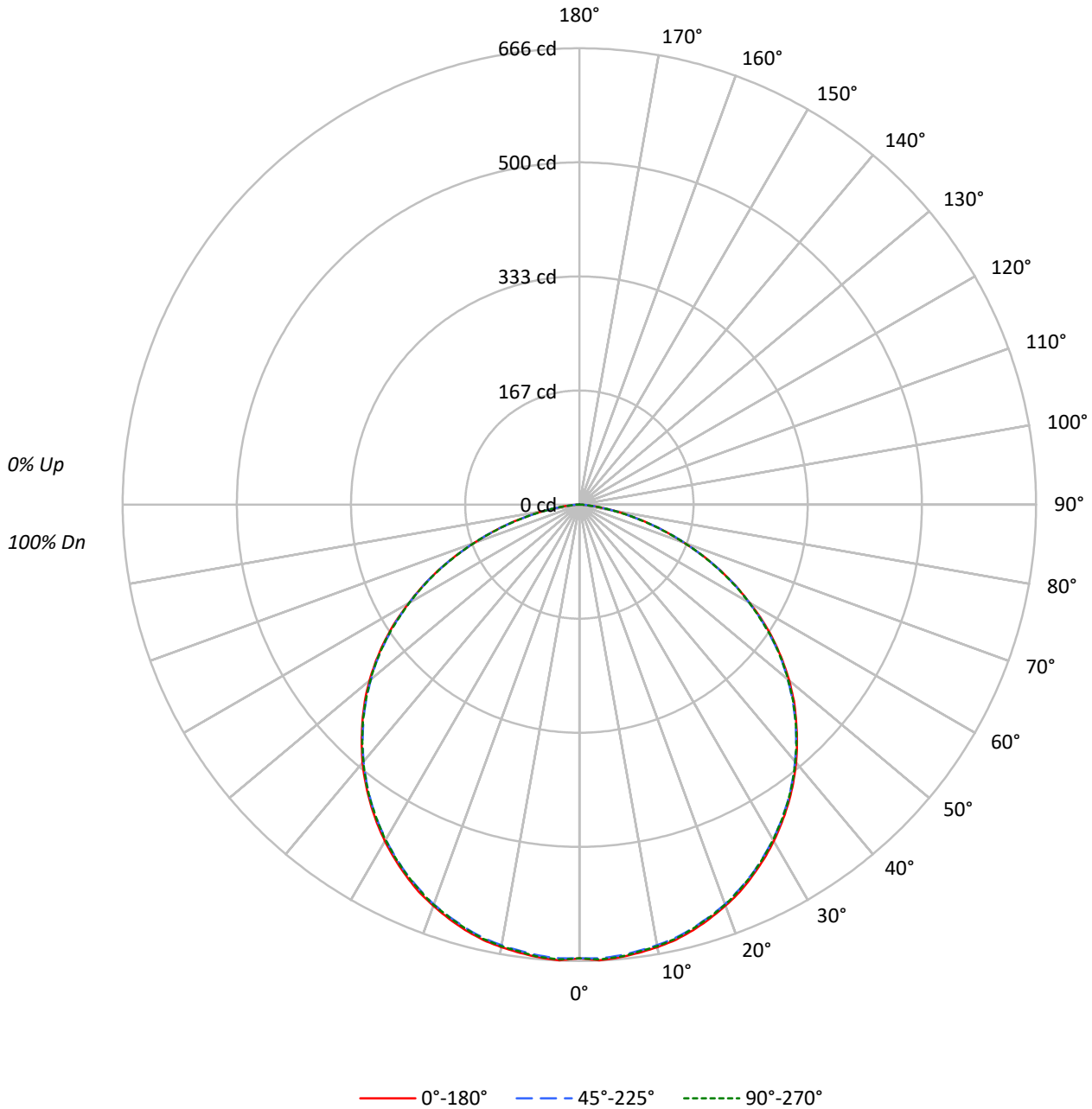
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1851.3 lumens
Efficiency: N/A
Efficacy: 125.1 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





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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 | 89 | 91 | 89 | 87 | 85 |
| 2 | 99 | 91 | 85 | 79 | 97 | 90 | 83 | 78 | 86 | 81 | 76 | 83 | 78 | 75 | 80 | 76 | 73 | 71 |
| 3 | 91 | 80 | 72 | 66 | 88 | 79 | 71 | 65 | 76 | 69 | 64 | 73 | 68 | 63 | 70 | 66 | 62 | 60 |
| 4 | 83 | 71 | 63 | 56 | 81 | 70 | 62 | 55 | 67 | 60 | 55 | 65 | 59 | 54 | 63 | 58 | 53 | 51 |
| 5 | 76 | 64 | 55 | 48 | 74 | 62 | 54 | 48 | 60 | 53 | 47 | 58 | 52 | 47 | 57 | 51 | 46 | 44 |
| 6 | 71 | 57 | 48 | 42 | 69 | 56 | 48 | 42 | 54 | 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 | 32 | 43 | 37 | 32 | 30 |
| 9 | 57 | 43 | 35 | 30 | 55 | 43 | 35 | 30 | 42 | 34 | 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° | 1781 | 1781 | 1781 |
| 5° | 1793 | 1785 | 1790 |
| 10° | 1792 | 1784 | 1788 |
| 15° | 1791 | 1783 | 1785 |
| 20° | 1784 | 1777 | 1780 |
| 25° | 1775 | 1768 | 1769 |
| 30° | 1762 | 1755 | 1756 |
| 35° | 1746 | 1739 | 1741 |
| 40° | 1728 | 1719 | 1721 |
| 45° | 1702 | 1695 | 1698 |
| 50° | 1672 | 1660 | 1664 |
| 55° | 1625 | 1612 | 1617 |
| 60° | 1545 | 1538 | 1538 |
| 65° | 1442 | 1440 | 1435 |
| 70° | 1277 | 1283 | 1280 |
| 75° | 1075 | 1067 | 1058 |
| 80° | 773 | 761 | 755 |
| 85° | 404 | 404 | 392 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1702 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 62.7 | 3.4 |
| 10°-20° | 180.3 | 9.7 |
| 20°-30° | 273.9 | 14.8 |
| 30°-40° | 331.1 | 17.9 |
| 40°-50° | 343.7 | 18.6 |
| 50°-60° | 307.3 | 16.6 |
| 60°-70° | 223.4 | 12.1 |
| 70°-80° | 109.9 | 5.9 |
| 80°-90° | 19.1 | 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° | 516.9 | 27.9 |
| 0°-40° | 848.0 | 45.8 |
| 0°-60° | 1499.0 | 81.0 |
| 0°-90° | 1851.3 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1851.3 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 662 | 662 | 662 | 662 | 662 | |
| 5° | 664 | 656 | 661 | 658 | 663 | 63 |
| 15° | 643 | 635 | 640 | 638 | 641 | 181 |
| 25° | 598 | 591 | 595 | 594 | 596 | 276 |
| 35° | 532 | 528 | 530 | 530 | 530 | 333 |
| 45° | 447 | 445 | 445 | 446 | 446 | 345 |
| 55° | 346 | 344 | 344 | 344 | 345 | 309 |
| 65° | 226 | 227 | 226 | 226 | 225 | 223 |
| 75° | 103 | 104 | 103 | 103 | 102 | 110 |
| 85° | 13 | 14 | 13 | 13 | 13 | 19 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 662.0 | 662.0 | 662.0 | 662.0 | 662.0 |
| 2.5° | 665.7 | 657.9 | 662.8 | 659.9 | 664.4 |
| 5° | 663.6 | 655.9 | 660.8 | 658.3 | 662.8 |
| 7.5° | 659.9 | 652.2 | 657.1 | 654.6 | 658.3 |
| 10° | 655.9 | 647.7 | 653.0 | 650.5 | 654.2 |
| 12.5° | 650.5 | 642.8 | 647.7 | 645.6 | 648.9 |
| 15° | 642.8 | 635.4 | 639.9 | 638.3 | 640.7 |
| 17.5° | 633.4 | 626.0 | 630.5 | 629.3 | 631.3 |
| 20° | 623.1 | 616.2 | 620.7 | 619.5 | 621.5 |
| 22.5° | 611.7 | 604.3 | 608.4 | 607.6 | 609.2 |
| 25° | 597.8 | 591.3 | 595.3 | 594.1 | 595.8 |
| 27.5° | 583.1 | 576.9 | 580.2 | 580.2 | 581.0 |
| 30° | 567.1 | 561.4 | 564.7 | 564.7 | 565.1 |
| 32.5° | 550.0 | 545.5 | 547.5 | 547.9 | 547.9 |
| 35° | 531.6 | 527.9 | 529.5 | 529.9 | 529.9 |
| 37.5° | 512.3 | 508.7 | 509.9 | 510.7 | 510.7 |
| 40° | 491.9 | 488.6 | 489.4 | 490.3 | 489.8 |
| 42.5° | 469.8 | 467.4 | 467.8 | 468.6 | 468.6 |
| 45° | 447.3 | 445.3 | 445.3 | 446.1 | 446.1 |
| 47.5° | 424.4 | 422.4 | 421.6 | 422.4 | 422.4 |
| 50° | 399.5 | 397.4 | 396.6 | 397.4 | 397.4 |
| 52.5° | 373.3 | 371.3 | 371.3 | 371.3 | 371.7 |
| 55° | 346.3 | 344.3 | 343.5 | 344.3 | 344.7 |
| 57.5° | 317.7 | 316.9 | 315.7 | 316.1 | 314.8 |
| 60° | 287.0 | 287.0 | 285.8 | 286.6 | 285.8 |
| 62.5° | 257.2 | 258.0 | 256.8 | 256.8 | 256.0 |
| 65° | 226.5 | 227.3 | 226.1 | 226.1 | 225.3 |
| 67.5° | 195.0 | 196.3 | 194.6 | 194.6 | 193.8 |
| 70° | 162.3 | 164.8 | 163.1 | 163.6 | 162.7 |
| 72.5° | 132.9 | 134.1 | 132.5 | 132.5 | 131.7 |
| 75° | 103.4 | 104.3 | 102.6 | 103.0 | 101.8 |
| 77.5° | 74.4 | 75.6 | 74.0 | 74.4 | 74.0 |
| 80° | 49.9 | 50.3 | 49.1 | 49.5 | 48.7 |
| 82.5° | 29.0 | 29.4 | 29.0 | 28.6 | 28.2 |
| 85° | 13.1 | 13.5 | 13.1 | 13.1 | 12.7 |
| 87.5° | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)