

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: P973455

Luminaire Tested: FLR2-14-20-L850-CP080

Issue Date: 3/13/2025

Test Information

Test Method: LM-79-2019
Report Number: P973455
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2411-281-1)
Test Lab: INNOVATION CENTER
Issue Date: 3/13/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FLR2-14-20-L850-CP080
Description: 1*4 FLR-2.0 2000 LUMEN at 5000 CCT & 80CRI with Clear Polycarbonate (0.080" thickness)

Light Source:
Ballast/Driver: -

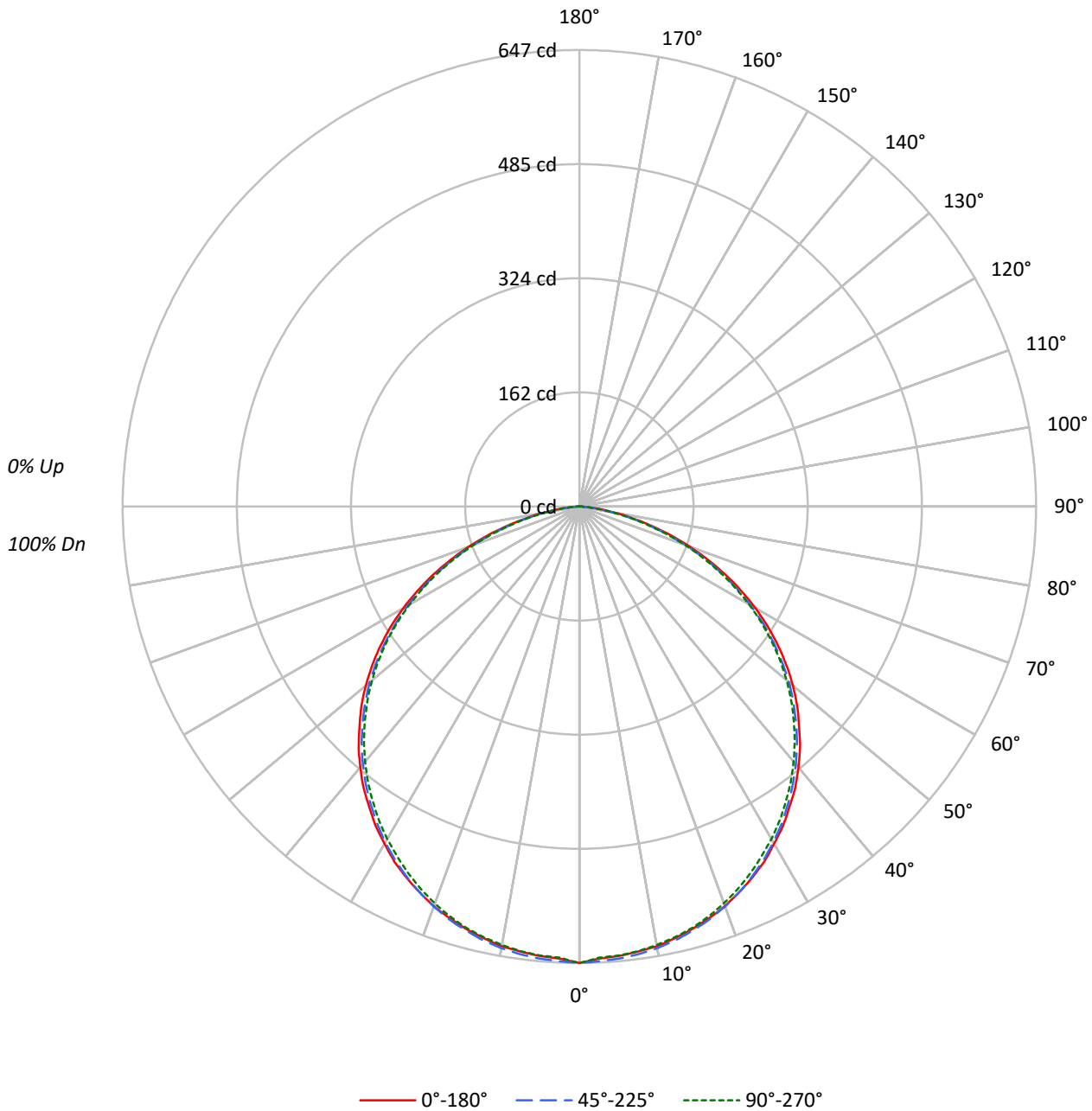
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1811.1 lumens
Efficiency: N/A
Efficacy: 110.4 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.25 / 1.38
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 16.4
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: P973455
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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 | 62 | 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 | 70 | 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 | 49 | 42 | 37 | 48 | 41 | 36 | 47 | 41 | 36 | 34 | | | | | | 34 | | | | | | | | | | | | | | |
| 8 | 61 | 47 | 39 | 33 | 59 | 47 | 38 | 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 | 39 | 32 | 27 | 38 | 32 | 27 | 38 | 31 | 27 | 37 | 31 | 26 | 25 | | | | | | 25 | | | | | | | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 1741 | 1741 | 1741 |
| 5° | 1728 | 1738 | 1726 |
| 10° | 1729 | 1737 | 1724 |
| 15° | 1727 | 1733 | 1723 |
| 20° | 1727 | 1728 | 1714 |
| 25° | 1722 | 1719 | 1703 |
| 30° | 1715 | 1708 | 1691 |
| 35° | 1706 | 1693 | 1676 |
| 40° | 1696 | 1676 | 1659 |
| 45° | 1676 | 1652 | 1635 |
| 50° | 1654 | 1623 | 1605 |
| 55° | 1612 | 1574 | 1559 |
| 60° | 1549 | 1506 | 1493 |
| 65° | 1451 | 1408 | 1393 |
| 70° | 1308 | 1256 | 1245 |
| 75° | 1097 | 1042 | 1030 |
| 80° | 797 | 742 | 722 |
| 85° | 423 | 374 | 340 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1676 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 61.3 | 3.4 |
| 10°-20° | 176.0 | 9.7 |
| 20°-30° | 267.4 | 14.8 |
| 30°-40° | 323.5 | 17.9 |
| 40°-50° | 336.2 | 18.6 |
| 50°-60° | 301.0 | 16.6 |
| 60°-70° | 219.5 | 12.1 |
| 70°-80° | 108.1 | 6.0 |
| 80°-90° | 18.1 | 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° | 504.7 | 27.9 |
| 0°-40° | 828.2 | 45.7 |
| 0°-60° | 1465.4 | 80.9 |
| 0°-90° | 1811.1 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1811.1 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 647 | 647 | 647 | 647 | 647 | |
| 5° | 640 | 646 | 643 | 650 | 639 | 61 |
| 15° | 620 | 625 | 622 | 628 | 618 | 175 |
| 25° | 580 | 583 | 579 | 582 | 574 | 267 |
| 35° | 519 | 520 | 515 | 517 | 510 | 325 |
| 45° | 440 | 440 | 434 | 435 | 430 | 340 |
| 55° | 344 | 341 | 336 | 335 | 332 | 307 |
| 65° | 228 | 225 | 221 | 220 | 219 | 225 |
| 75° | 106 | 104 | 100 | 99 | 99 | 112 |
| 85° | 14 | 13 | 12 | 11 | 11 | 20 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P973455
 CATALOG NUMBER: FLR2-14-20-L850-CP080

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 647.1 | 647.1 | 647.1 | 647.1 | 647.1 |
| 2.5° | 641.5 | 648.7 | 645.2 | 651.6 | 640.1 |
| 5° | 639.6 | 646.5 | 643.3 | 649.5 | 638.8 |
| 7.5° | 636.4 | 643.6 | 640.1 | 646.0 | 635.8 |
| 10° | 632.9 | 639.3 | 635.6 | 641.5 | 631.0 |
| 12.5° | 626.7 | 633.1 | 629.7 | 635.0 | 625.4 |
| 15° | 619.8 | 625.4 | 622.2 | 627.5 | 618.4 |
| 17.5° | 611.7 | 617.1 | 613.6 | 618.4 | 609.3 |
| 20° | 602.9 | 607.2 | 603.4 | 607.4 | 598.6 |
| 22.5° | 591.9 | 595.9 | 591.9 | 594.6 | 586.8 |
| 25° | 580.1 | 583.1 | 579.0 | 581.7 | 573.7 |
| 27.5° | 567.5 | 569.1 | 565.1 | 567.3 | 559.0 |
| 30° | 552.0 | 553.9 | 549.6 | 552.3 | 544.2 |
| 32.5° | 537.0 | 538.1 | 533.2 | 535.4 | 528.2 |
| 35° | 519.3 | 520.4 | 515.3 | 517.4 | 510.2 |
| 37.5° | 502.4 | 502.2 | 496.8 | 498.2 | 492.0 |
| 40° | 482.9 | 482.6 | 477.0 | 478.1 | 472.2 |
| 42.5° | 462.8 | 461.7 | 456.4 | 456.9 | 451.6 |
| 45° | 440.3 | 439.8 | 434.2 | 435.0 | 429.6 |
| 47.5° | 418.6 | 417.0 | 411.4 | 411.7 | 407.1 |
| 50° | 395.0 | 392.6 | 387.8 | 387.3 | 383.3 |
| 52.5° | 369.9 | 367.2 | 361.8 | 361.3 | 358.4 |
| 55° | 343.6 | 340.7 | 335.6 | 334.8 | 332.4 |
| 57.5° | 316.6 | 312.8 | 308.8 | 307.2 | 305.3 |
| 60° | 287.9 | 284.4 | 279.9 | 278.3 | 277.5 |
| 62.5° | 258.2 | 254.7 | 251.2 | 249.6 | 248.5 |
| 65° | 227.9 | 225.2 | 221.2 | 219.6 | 218.8 |
| 67.5° | 197.1 | 194.7 | 191.0 | 189.1 | 188.8 |
| 70° | 166.3 | 163.9 | 159.6 | 158.6 | 158.3 |
| 72.5° | 135.5 | 133.4 | 129.4 | 128.3 | 128.3 |
| 75° | 105.5 | 103.6 | 100.2 | 99.1 | 99.1 |
| 77.5° | 77.1 | 75.5 | 72.8 | 71.5 | 71.5 |
| 80° | 51.4 | 50.4 | 47.9 | 46.9 | 46.6 |
| 82.5° | 29.7 | 29.2 | 27.1 | 26.0 | 26.5 |
| 85° | 13.7 | 13.1 | 12.1 | 10.7 | 11.0 |
| 87.5° | 3.5 | 3.2 | 2.4 | 1.9 | 2.4 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)