

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: P973194

Luminaire Tested: FLR2-14-20HE-L840-CP125

Issue Date: 3/13/2025

Test Information

Test Method: LM-79-2019
Report Number: P973194
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: FLR2-14-20HE-L840-CP125
Description: 1*4 FLR-2.0 2000 Lumen High Efficacy at 4000CCT & 80CRI with Clear Polycarbonate (0.125" thickness)

Light Source:
Ballast/Driver: -

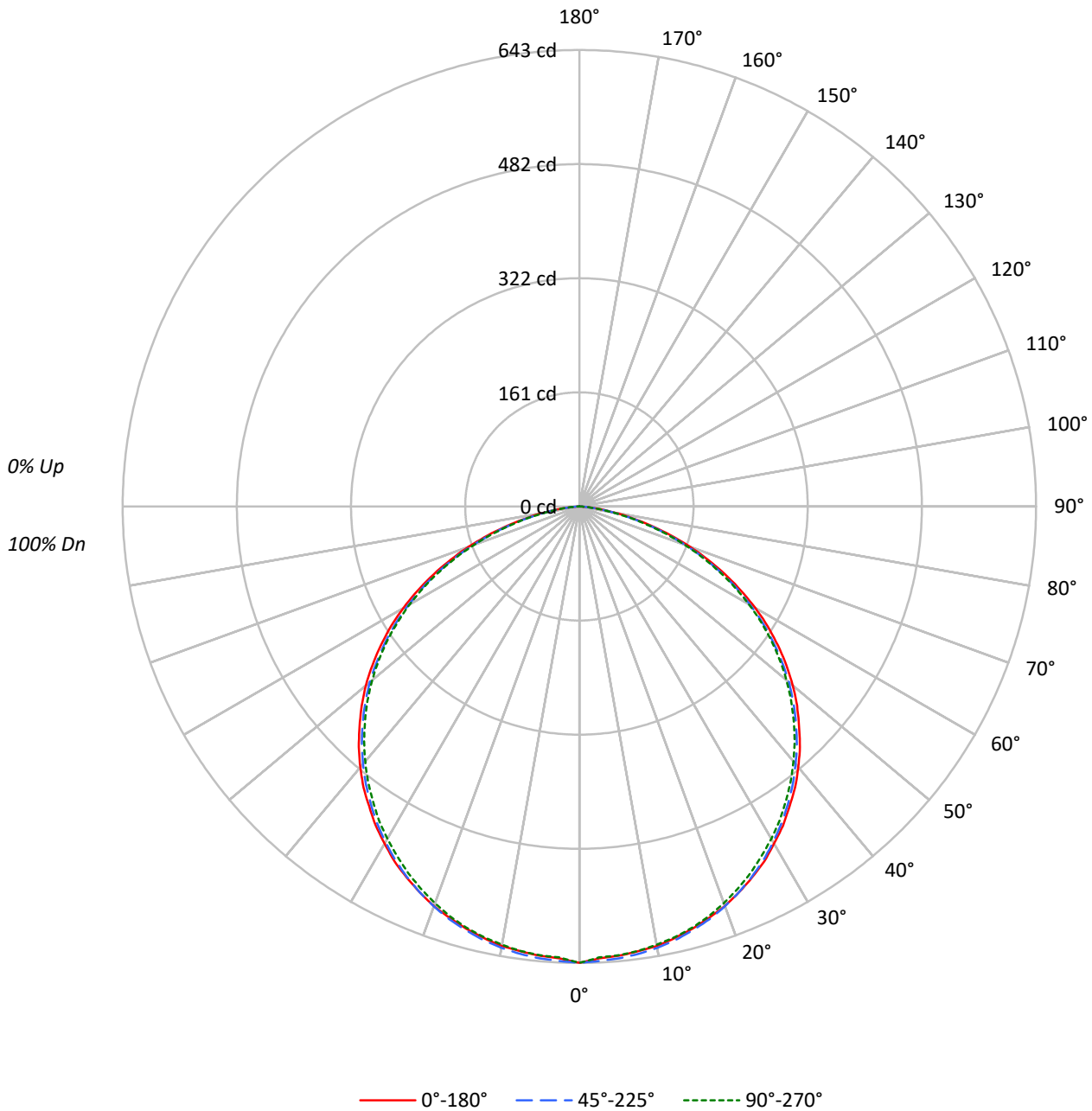
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1799.0 lumens
Efficiency: N/A
Efficacy: 121.6 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): 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: P973194
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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° | 1730 | 1730 | 1730 |
| 5° | 1716 | 1726 | 1714 |
| 10° | 1718 | 1725 | 1713 |
| 15° | 1715 | 1722 | 1711 |
| 20° | 1715 | 1716 | 1703 |
| 25° | 1711 | 1708 | 1692 |
| 30° | 1704 | 1696 | 1680 |
| 35° | 1695 | 1682 | 1665 |
| 40° | 1685 | 1664 | 1648 |
| 45° | 1665 | 1641 | 1624 |
| 50° | 1643 | 1613 | 1594 |
| 55° | 1601 | 1564 | 1549 |
| 60° | 1539 | 1496 | 1483 |
| 65° | 1442 | 1400 | 1384 |
| 70° | 1300 | 1248 | 1237 |
| 75° | 1090 | 1035 | 1023 |
| 80° | 792 | 738 | 717 |
| 85° | 420 | 371 | 337 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1665 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 60.9 | 3.4 |
| 10°-20° | 174.8 | 9.7 |
| 20°-30° | 265.6 | 14.8 |
| 30°-40° | 321.3 | 17.9 |
| 40°-50° | 333.9 | 18.6 |
| 50°-60° | 299.0 | 16.6 |
| 60°-70° | 218.1 | 12.1 |
| 70°-80° | 107.4 | 6.0 |
| 80°-90° | 18.0 | 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° | 501.4 | 27.9 |
| 0°-40° | 822.7 | 45.7 |
| 0°-60° | 1455.6 | 80.9 |
| 0°-90° | 1799.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1799.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 643 | 643 | 643 | 643 | 643 | |
| 5° | 635 | 642 | 639 | 645 | 634 | 60 |
| 15° | 616 | 621 | 618 | 623 | 614 | 174 |
| 25° | 576 | 579 | 575 | 578 | 570 | 266 |
| 35° | 516 | 517 | 512 | 514 | 507 | 323 |
| 45° | 437 | 437 | 431 | 432 | 427 | 338 |
| 55° | 341 | 338 | 333 | 333 | 330 | 305 |
| 65° | 226 | 224 | 220 | 218 | 217 | 224 |
| 75° | 105 | 103 | 100 | 98 | 98 | 112 |
| 85° | 14 | 13 | 12 | 11 | 11 | 20 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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 CATALOG NUMBER: FLR2-14-20HE-L840-CP125

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 642.8 | 642.8 | 642.8 | 642.8 | 642.8 |
| 2.5° | 637.2 | 644.4 | 640.9 | 647.3 | 635.9 |
| 5° | 635.3 | 642.2 | 639.0 | 645.2 | 634.5 |
| 7.5° | 632.1 | 639.3 | 635.9 | 641.7 | 631.6 |
| 10° | 628.7 | 635.1 | 631.3 | 637.2 | 626.8 |
| 12.5° | 622.6 | 628.9 | 625.5 | 630.8 | 621.2 |
| 15° | 615.6 | 621.2 | 618.0 | 623.3 | 614.3 |
| 17.5° | 607.7 | 613.0 | 609.5 | 614.3 | 605.3 |
| 20° | 598.9 | 603.1 | 599.4 | 603.4 | 594.6 |
| 22.5° | 588.0 | 592.0 | 588.0 | 590.6 | 582.9 |
| 25° | 576.3 | 579.2 | 575.2 | 577.9 | 569.9 |
| 27.5° | 563.8 | 565.4 | 561.4 | 563.5 | 555.2 |
| 30° | 548.3 | 550.2 | 545.9 | 548.6 | 540.6 |
| 32.5° | 533.4 | 534.5 | 529.7 | 531.8 | 524.6 |
| 35° | 515.9 | 516.9 | 511.9 | 514.0 | 506.8 |
| 37.5° | 499.1 | 498.8 | 493.5 | 494.8 | 488.7 |
| 40° | 479.7 | 479.4 | 473.8 | 474.9 | 469.0 |
| 42.5° | 459.7 | 458.7 | 453.3 | 453.9 | 448.6 |
| 45° | 437.4 | 436.8 | 431.3 | 432.1 | 426.7 |
| 47.5° | 415.8 | 414.2 | 408.6 | 408.9 | 404.4 |
| 50° | 392.4 | 390.0 | 385.2 | 384.7 | 380.7 |
| 52.5° | 367.4 | 364.8 | 359.4 | 358.9 | 356.0 |
| 55° | 341.3 | 338.4 | 333.4 | 332.6 | 330.2 |
| 57.5° | 314.5 | 310.7 | 306.8 | 305.2 | 303.3 |
| 60° | 286.0 | 282.5 | 278.0 | 276.4 | 275.6 |
| 62.5° | 256.5 | 253.0 | 249.6 | 248.0 | 246.9 |
| 65° | 226.4 | 223.7 | 219.8 | 218.2 | 217.4 |
| 67.5° | 195.8 | 193.4 | 189.7 | 187.8 | 187.6 |
| 70° | 165.2 | 162.8 | 158.6 | 157.5 | 157.2 |
| 72.5° | 134.6 | 132.5 | 128.5 | 127.4 | 127.4 |
| 75° | 104.8 | 103.0 | 99.5 | 98.4 | 98.4 |
| 77.5° | 76.6 | 75.0 | 72.4 | 71.0 | 71.0 |
| 80° | 51.1 | 50.0 | 47.6 | 46.6 | 46.3 |
| 82.5° | 29.5 | 29.0 | 26.9 | 25.8 | 26.3 |
| 85° | 13.6 | 13.0 | 12.0 | 10.6 | 10.9 |
| 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)