

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: P973203

Luminaire Tested: FLR2-14-80HE-L840-CP187

Issue Date: 3/13/2025

Test Information

Test Method: LM-79-2019
Report Number: P973203
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: FLR2-14-80HE-L840-CP187
Description: 1*4 FLR-2.0 8000 Lumen High Efficacy at 4000CCT & 80CRI with Clear Polycarbonate (0.187" thickness)

Light Source:
Ballast/Driver: -

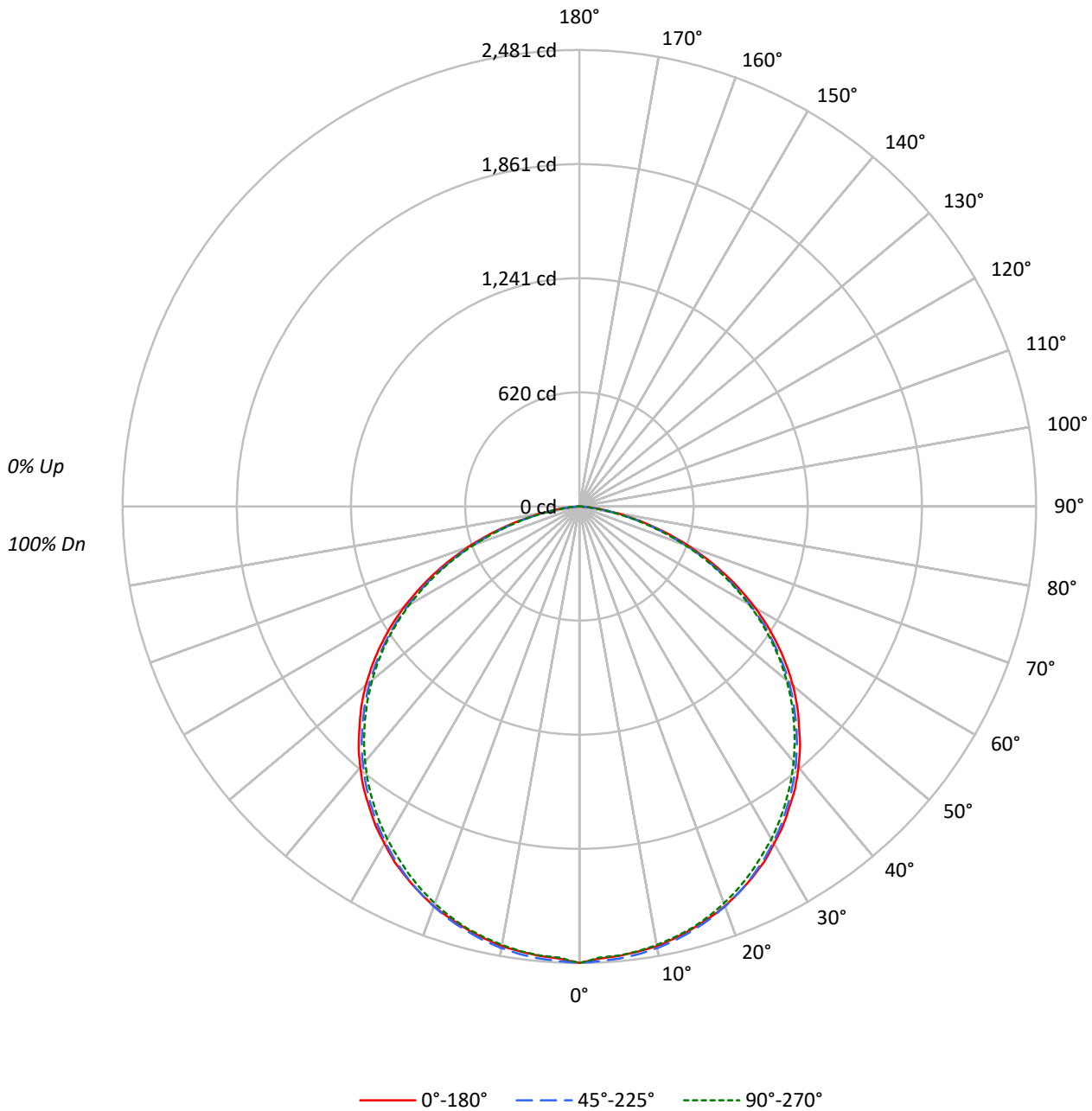
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6944.5 lumens
Efficiency: N/A
Efficacy: 112.2 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): 61.9
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 | 62 | 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 | 70 | 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 | 49 | 42 | 37 | 48 | 41 | 36 | 47 | 41 | 36 | 34 |
| 8 | 61 | 47 | 39 | 33 | 59 | 47 | 38 | 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 | 39 | 32 | 27 | 38 | 32 | 27 | 38 | 31 | 27 | 37 | 31 | 26 | 25 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 6677 | 6677 | 6677 |
| 5° | 6625 | 6663 | 6616 |
| 10° | 6631 | 6659 | 6612 |
| 15° | 6621 | 6646 | 6606 |
| 20° | 6620 | 6626 | 6573 |
| 25° | 6605 | 6592 | 6532 |
| 30° | 6577 | 6548 | 6484 |
| 35° | 6542 | 6491 | 6427 |
| 40° | 6505 | 6425 | 6360 |
| 45° | 6425 | 6335 | 6269 |
| 50° | 6342 | 6226 | 6152 |
| 55° | 6182 | 6037 | 5979 |
| 60° | 5942 | 5776 | 5726 |
| 65° | 5565 | 5401 | 5342 |
| 70° | 5018 | 4816 | 4776 |
| 75° | 4207 | 3994 | 3951 |
| 80° | 3056 | 2848 | 2769 |
| 85° | 1618 | 1426 | 1300 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6425 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 235.0 | 3.4 |
| 10°-20° | 674.9 | 9.7 |
| 20°-30° | 1025.4 | 14.8 |
| 30°-40° | 1240.3 | 17.9 |
| 40°-50° | 1289.1 | 18.6 |
| 50°-60° | 1154.2 | 16.6 |
| 60°-70° | 841.8 | 12.1 |
| 70°-80° | 414.5 | 6.0 |
| 80°-90° | 69.3 | 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° | 1935.3 | 27.9 |
| 0°-40° | 3175.6 | 45.7 |
| 0°-60° | 5618.9 | 80.9 |
| 0°-90° | 6944.5 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 6944.5 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 2481 | 2481 | 2481 | 2481 | 2481 | |
| 5° | 2452 | 2479 | 2467 | 2490 | 2449 | 233 |
| 15° | 2376 | 2398 | 2386 | 2406 | 2371 | 671 |
| 25° | 2224 | 2236 | 2220 | 2231 | 2200 | 1025 |
| 35° | 1991 | 1995 | 1976 | 1984 | 1956 | 1247 |
| 45° | 1688 | 1686 | 1665 | 1668 | 1647 | 1304 |
| 55° | 1318 | 1306 | 1287 | 1284 | 1274 | 1176 |
| 65° | 874 | 864 | 848 | 842 | 839 | 863 |
| 75° | 405 | 397 | 384 | 380 | 380 | 431 |
| 85° | 52 | 50 | 46 | 41 | 42 | 76 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P973203
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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 2481.2 | 2481.2 | 2481.2 | 2481.2 | 2481.2 |
| 2.5° | 2459.6 | 2487.4 | 2474.0 | 2498.7 | 2454.5 |
| 5° | 2452.4 | 2479.2 | 2466.8 | 2490.4 | 2449.4 |
| 7.5° | 2440.1 | 2467.9 | 2454.5 | 2477.1 | 2438.1 |
| 10° | 2426.8 | 2451.4 | 2437.0 | 2459.6 | 2419.6 |
| 12.5° | 2403.2 | 2427.8 | 2414.5 | 2435.0 | 2398.0 |
| 15° | 2376.5 | 2398.0 | 2385.7 | 2406.2 | 2371.3 |
| 17.5° | 2345.6 | 2366.2 | 2352.8 | 2371.3 | 2336.4 |
| 20° | 2311.8 | 2328.2 | 2313.8 | 2329.2 | 2295.3 |
| 22.5° | 2269.6 | 2285.0 | 2269.6 | 2279.9 | 2250.1 |
| 25° | 2224.5 | 2235.8 | 2220.3 | 2230.6 | 2199.8 |
| 27.5° | 2176.2 | 2182.4 | 2166.9 | 2175.2 | 2143.3 |
| 30° | 2116.6 | 2123.8 | 2107.4 | 2117.7 | 2086.8 |
| 32.5° | 2059.1 | 2063.2 | 2044.7 | 2053.0 | 2025.2 |
| 35° | 1991.3 | 1995.4 | 1975.9 | 1984.1 | 1956.4 |
| 37.5° | 1926.6 | 1925.6 | 1905.1 | 1910.2 | 1886.6 |
| 40° | 1851.7 | 1850.6 | 1829.1 | 1833.2 | 1810.6 |
| 42.5° | 1774.6 | 1770.5 | 1750.0 | 1752.0 | 1731.5 |
| 45° | 1688.4 | 1686.3 | 1664.7 | 1667.8 | 1647.3 |
| 47.5° | 1605.2 | 1599.0 | 1577.5 | 1578.5 | 1561.0 |
| 50° | 1514.8 | 1505.6 | 1487.1 | 1485.0 | 1469.6 |
| 52.5° | 1418.3 | 1408.0 | 1387.5 | 1385.4 | 1374.1 |
| 55° | 1317.6 | 1306.3 | 1286.8 | 1283.7 | 1274.5 |
| 57.5° | 1213.9 | 1199.5 | 1184.1 | 1178.0 | 1170.8 |
| 60° | 1104.0 | 1090.7 | 1073.2 | 1067.0 | 1064.0 |
| 62.5° | 990.0 | 976.7 | 963.3 | 957.2 | 953.0 |
| 65° | 874.0 | 863.7 | 848.3 | 842.1 | 839.0 |
| 67.5° | 755.9 | 746.6 | 732.2 | 725.1 | 724.0 |
| 70° | 637.8 | 628.5 | 612.1 | 608.0 | 607.0 |
| 72.5° | 519.7 | 511.4 | 496.0 | 491.9 | 491.9 |
| 75° | 404.6 | 397.4 | 384.1 | 380.0 | 380.0 |
| 77.5° | 295.8 | 289.6 | 279.3 | 274.2 | 274.2 |
| 80° | 197.2 | 193.1 | 183.8 | 179.7 | 178.7 |
| 82.5° | 114.0 | 111.9 | 103.7 | 99.6 | 101.7 |
| 85° | 52.4 | 50.3 | 46.2 | 41.1 | 42.1 |
| 87.5° | 13.4 | 12.3 | 9.2 | 7.2 | 9.2 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)