

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: P973168

Luminaire Tested: FLR2-14-80HE-L935-CP187

Issue Date: 3/13/2025

Test Information

Test Method: LM-79-2019
Report Number: P973168
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-L935-CP187
Description: 1*4 FLR-2.0 8000 Lumen High Efficacy at 3500CCT & 90 CRI with Clear Polycarbonate (0.187" thickness)

Light Source:
Ballast/Driver: -

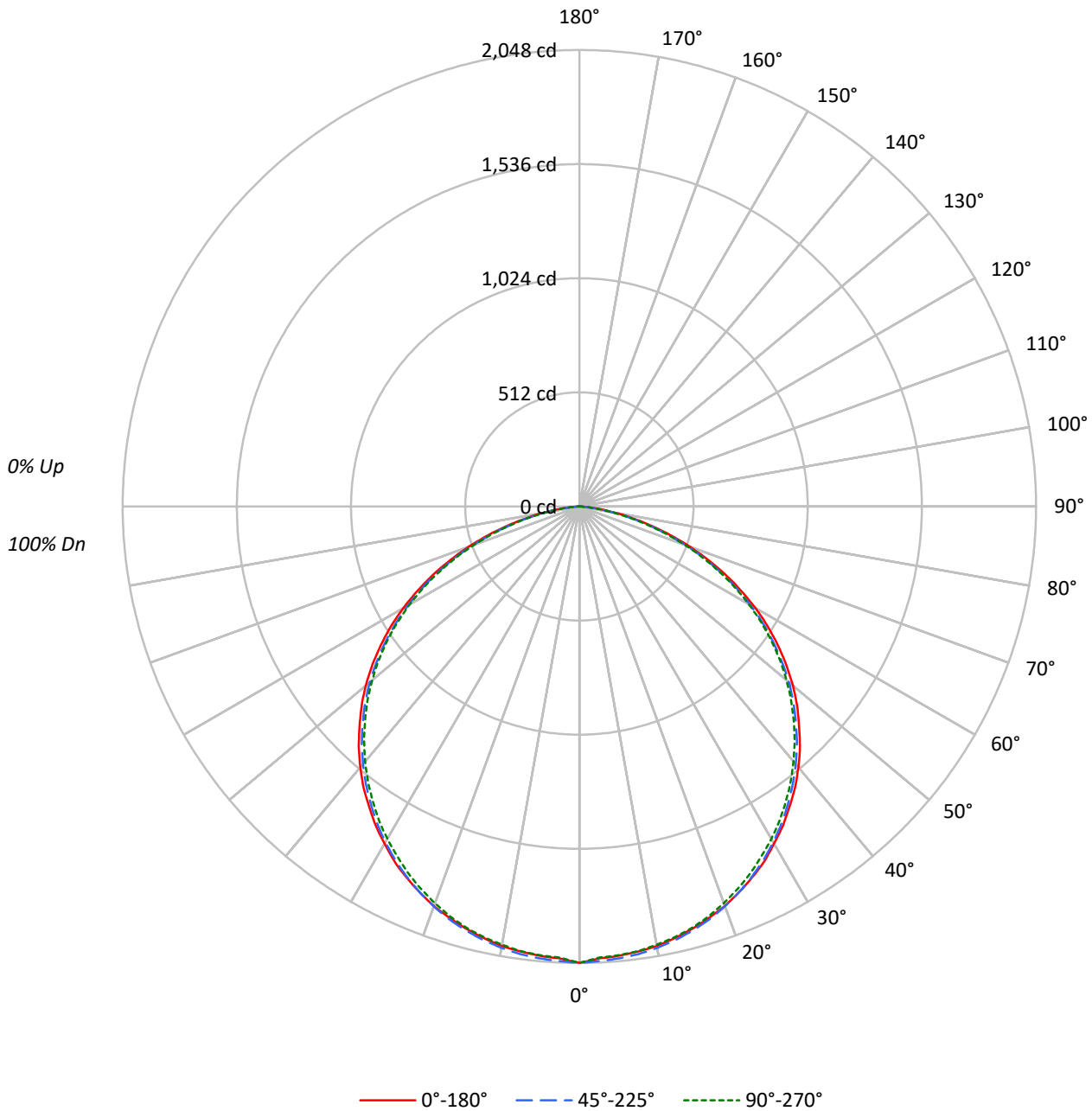
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5730.9 lumens
Efficiency: N/A
Efficacy: 92.6 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): 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° | 5510 | 5510 | 5510 |
| 5° | 5467 | 5499 | 5460 |
| 10° | 5472 | 5496 | 5456 |
| 15° | 5463 | 5485 | 5452 |
| 20° | 5463 | 5468 | 5424 |
| 25° | 5450 | 5440 | 5390 |
| 30° | 5427 | 5404 | 5351 |
| 35° | 5398 | 5357 | 5304 |
| 40° | 5368 | 5302 | 5249 |
| 45° | 5302 | 5228 | 5173 |
| 50° | 5233 | 5138 | 5077 |
| 55° | 5102 | 4982 | 4935 |
| 60° | 4904 | 4767 | 4725 |
| 65° | 4592 | 4457 | 4409 |
| 70° | 4141 | 3974 | 3941 |
| 75° | 3472 | 3296 | 3261 |
| 80° | 2521 | 2351 | 2286 |
| 85° | 1334 | 1176 | 1071 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5302 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 194.0 | 3.4 |
| 10°-20° | 557.0 | 9.7 |
| 20°-30° | 846.2 | 14.8 |
| 30°-40° | 1023.6 | 17.9 |
| 40°-50° | 1063.8 | 18.6 |
| 50°-60° | 952.5 | 16.6 |
| 60°-70° | 694.7 | 12.1 |
| 70°-80° | 342.1 | 6.0 |
| 80°-90° | 57.2 | 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° | 1597.1 | 27.9 |
| 0°-40° | 2620.7 | 45.7 |
| 0°-60° | 4636.9 | 80.9 |
| 0°-90° | 5730.9 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 5730.9 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 2048 | 2048 | 2048 | 2048 | 2048 | |
| 5° | 2024 | 2046 | 2036 | 2055 | 2021 | 193 |
| 15° | 1961 | 1979 | 1969 | 1986 | 1957 | 554 |
| 25° | 1836 | 1845 | 1832 | 1841 | 1815 | 846 |
| 35° | 1643 | 1647 | 1631 | 1637 | 1614 | 1029 |
| 45° | 1393 | 1392 | 1374 | 1376 | 1359 | 1076 |
| 55° | 1087 | 1078 | 1062 | 1059 | 1052 | 971 |
| 65° | 721 | 713 | 700 | 695 | 692 | 712 |
| 75° | 334 | 328 | 317 | 314 | 314 | 356 |
| 85° | 43 | 42 | 38 | 34 | 35 | 62 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P973168
 CATALOG NUMBER: FLR2-14-80HE-L935-CP187

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 2047.6 | 2047.6 | 2047.6 | 2047.6 | 2047.6 |
| 2.5° | 2029.8 | 2052.7 | 2041.7 | 2062.0 | 2025.6 |
| 5° | 2023.9 | 2045.9 | 2035.7 | 2055.2 | 2021.3 |
| 7.5° | 2013.7 | 2036.6 | 2025.6 | 2044.2 | 2012.0 |
| 10° | 2002.7 | 2023.0 | 2011.2 | 2029.8 | 1996.7 |
| 12.5° | 1983.2 | 2003.5 | 1992.5 | 2009.5 | 1978.9 |
| 15° | 1961.1 | 1978.9 | 1968.8 | 1985.7 | 1956.9 |
| 17.5° | 1935.7 | 1952.7 | 1941.7 | 1956.9 | 1928.1 |
| 20° | 1907.8 | 1921.3 | 1909.5 | 1922.2 | 1894.2 |
| 22.5° | 1873.0 | 1885.7 | 1873.0 | 1881.5 | 1856.9 |
| 25° | 1835.7 | 1845.0 | 1832.3 | 1840.8 | 1815.4 |
| 27.5° | 1795.9 | 1801.0 | 1788.3 | 1795.0 | 1768.8 |
| 30° | 1746.7 | 1752.7 | 1739.1 | 1747.6 | 1722.2 |
| 32.5° | 1699.3 | 1702.7 | 1687.4 | 1694.2 | 1671.3 |
| 35° | 1643.3 | 1646.7 | 1630.6 | 1637.4 | 1614.5 |
| 37.5° | 1589.9 | 1589.1 | 1572.1 | 1576.4 | 1556.9 |
| 40° | 1528.1 | 1527.2 | 1509.4 | 1512.8 | 1494.2 |
| 42.5° | 1464.5 | 1461.1 | 1444.2 | 1445.9 | 1428.9 |
| 45° | 1393.3 | 1391.6 | 1373.8 | 1376.4 | 1359.4 |
| 47.5° | 1324.7 | 1319.6 | 1301.8 | 1302.6 | 1288.2 |
| 50° | 1250.1 | 1242.5 | 1227.2 | 1225.5 | 1212.8 |
| 52.5° | 1170.4 | 1161.9 | 1145.0 | 1143.3 | 1134.0 |
| 55° | 1087.4 | 1078.0 | 1061.9 | 1059.4 | 1051.8 |
| 57.5° | 1001.8 | 989.9 | 977.2 | 972.1 | 966.2 |
| 60° | 911.1 | 900.1 | 885.7 | 880.6 | 878.0 |
| 62.5° | 817.0 | 806.0 | 795.0 | 789.9 | 786.5 |
| 65° | 721.2 | 712.8 | 700.0 | 695.0 | 692.4 |
| 67.5° | 623.8 | 616.1 | 604.3 | 598.3 | 597.5 |
| 70° | 526.3 | 518.7 | 505.1 | 501.7 | 500.9 |
| 72.5° | 428.8 | 422.1 | 409.3 | 406.0 | 406.0 |
| 75° | 333.9 | 328.0 | 317.0 | 313.6 | 313.6 |
| 77.5° | 244.1 | 239.0 | 230.5 | 226.3 | 226.3 |
| 80° | 162.7 | 159.3 | 151.7 | 148.3 | 147.5 |
| 82.5° | 94.1 | 92.4 | 85.6 | 82.2 | 83.9 |
| 85° | 43.2 | 41.5 | 38.1 | 33.9 | 34.7 |
| 87.5° | 11.0 | 10.2 | 7.6 | 5.9 | 7.6 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)