

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: P973086

Luminaire Tested: FLR2-14-42HE-L930-CP080

Issue Date: 3/13/2025

Test Information

Test Method: LM-79-2019
Report Number: P973086
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: FLR2-14-42HE-L930-CP080
Description: 1*4 FLR-2.0 4200 Lumen High Efficacy at 3000CCT & 90 CRI with Clear Polycarbonate (0.080" thickness)

Light Source:
Ballast/Driver: -

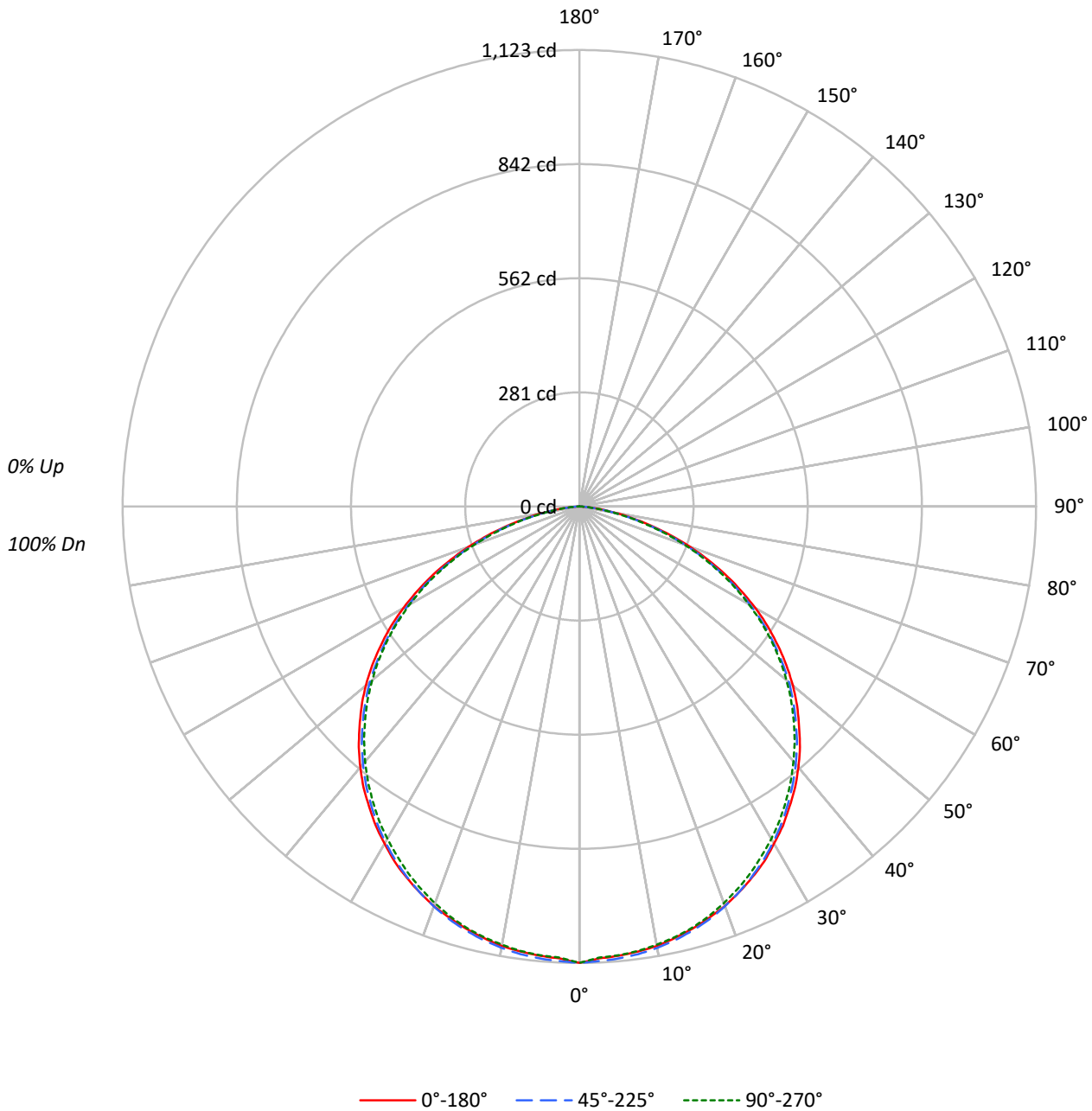
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3142.4 lumens
Efficiency: N/A
Efficacy: 98.5 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): 31.9
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





TEST NUMBER: P973086
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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° | 3021 | 3021 | 3021 |
| 5° | 2998 | 3015 | 2994 |
| 10° | 3001 | 3013 | 2992 |
| 15° | 2996 | 3007 | 2989 |
| 20° | 2996 | 2998 | 2974 |
| 25° | 2989 | 2983 | 2956 |
| 30° | 2976 | 2963 | 2934 |
| 35° | 2960 | 2937 | 2908 |
| 40° | 2943 | 2908 | 2878 |
| 45° | 2907 | 2867 | 2837 |
| 50° | 2870 | 2817 | 2784 |
| 55° | 2797 | 2732 | 2706 |
| 60° | 2689 | 2613 | 2591 |
| 65° | 2518 | 2444 | 2418 |
| 70° | 2271 | 2179 | 2161 |
| 75° | 1904 | 1807 | 1787 |
| 80° | 1382 | 1289 | 1254 |
| 85° | 732 | 645 | 590 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2907 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 106.4 | 3.4 |
| 10°-20° | 305.4 | 9.7 |
| 20°-30° | 464.0 | 14.8 |
| 30°-40° | 561.3 | 17.9 |
| 40°-50° | 583.3 | 18.6 |
| 50°-60° | 522.3 | 16.6 |
| 60°-70° | 380.9 | 12.1 |
| 70°-80° | 187.6 | 6.0 |
| 80°-90° | 31.4 | 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° | 875.7 | 27.9 |
| 0°-40° | 1437.0 | 45.7 |
| 0°-60° | 2542.6 | 80.9 |
| 0°-90° | 3142.4 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3142.4 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1123 | 1123 | 1123 | 1123 | 1123 | |
| 5° | 1110 | 1122 | 1116 | 1127 | 1108 | 106 |
| 15° | 1075 | 1085 | 1080 | 1089 | 1073 | 304 |
| 25° | 1007 | 1012 | 1005 | 1009 | 995 | 464 |
| 35° | 901 | 903 | 894 | 898 | 885 | 564 |
| 45° | 764 | 763 | 753 | 755 | 745 | 590 |
| 55° | 596 | 591 | 582 | 581 | 577 | 532 |
| 65° | 396 | 391 | 384 | 381 | 380 | 391 |
| 75° | 183 | 180 | 174 | 172 | 172 | 195 |
| 85° | 24 | 23 | 21 | 19 | 19 | 34 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P973086
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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|---------------|---------------|---------------|---------------|---------------|
| 0° | 1122.8 | 1122.8 | 1122.8 | <i>1122.8</i> | 1122.8 |
| 2.5° | <i>1113.0</i> | <i>1125.5</i> | <i>1119.5</i> | <i>1130.7</i> | <i>1110.7</i> |
| 5° | 1109.7 | 1121.8 | 1116.3 | <i>1126.9</i> | 1108.4 |
| 7.5° | 1104.2 | 1116.7 | 1110.7 | <i>1120.9</i> | 1103.2 |
| 10° | 1098.1 | 1109.3 | 1102.8 | <i>1113.0</i> | 1094.9 |
| 12.5° | 1087.4 | 1098.6 | 1092.6 | <i>1101.8</i> | 1085.1 |
| 15° | 1075.4 | 1085.1 | 1079.5 | <i>1088.8</i> | 1073.0 |
| 17.5° | 1061.4 | 1070.7 | 1064.7 | <i>1073.0</i> | 1057.2 |
| 20° | 1046.1 | 1053.5 | 1047.0 | <i>1054.0</i> | 1038.6 |
| 22.5° | 1027.0 | 1034.0 | 1027.0 | <i>1031.7</i> | 1018.2 |
| 25° | 1006.6 | 1011.7 | 1004.7 | <i>1009.4</i> | 995.4 |
| 27.5° | 984.7 | 987.5 | 980.6 | <i>984.3</i> | 969.9 |
| 30° | 957.8 | 961.0 | 953.6 | <i>958.2</i> | 944.3 |
| 32.5° | 931.8 | 933.6 | 925.3 | <i>929.0</i> | 916.4 |
| 35° | 901.1 | 902.9 | 894.1 | <i>897.8</i> | 885.3 |
| 37.5° | 871.8 | 871.3 | 862.1 | <i>864.4</i> | 853.7 |
| 40° | 837.9 | 837.4 | 827.7 | <i>829.5</i> | 819.3 |
| 42.5° | 803.0 | 801.2 | 791.9 | <i>792.8</i> | 783.5 |
| 45° | 764.0 | 763.1 | 753.3 | <i>754.7</i> | 745.4 |
| 47.5° | 726.4 | 723.6 | 713.8 | <i>714.3</i> | 706.4 |
| 50° | 685.5 | 681.3 | 672.9 | <i>672.0</i> | 665.0 |
| 52.5° | 641.8 | 637.1 | 627.8 | <i>626.9</i> | 621.8 |
| 55° | 596.2 | 591.1 | 582.3 | <i>580.9</i> | 576.7 |
| 57.5° | 549.3 | 542.8 | 535.8 | <i>533.0</i> | 529.8 |
| 60° | 499.6 | 493.5 | 485.6 | <i>482.8</i> | 481.4 |
| 62.5° | 448.0 | 441.9 | 435.9 | <i>433.1</i> | 431.3 |
| 65° | 395.5 | 390.8 | 383.9 | <i>381.1</i> | 379.7 |
| 67.5° | 342.0 | 337.8 | 331.3 | <i>328.1</i> | 327.6 |
| 70° | 288.6 | 284.4 | 277.0 | <i>275.1</i> | 274.6 |
| 72.5° | 235.1 | 231.4 | 224.5 | <i>222.6</i> | 222.6 |
| 75° | 183.1 | 179.8 | 173.8 | <i>171.9</i> | 171.9 |
| 77.5° | 133.8 | 131.1 | 126.4 | <i>124.1</i> | 124.1 |
| 80° | 89.2 | 87.4 | 83.2 | <i>81.3</i> | 80.9 |
| 82.5° | 51.6 | 50.7 | 46.9 | <i>45.1</i> | 46.0 |
| 85° | 23.7 | 22.8 | 20.9 | <i>18.6</i> | 19.1 |
| 87.5° | 6.0 | 5.6 | 4.2 | <i>3.3</i> | 4.2 |
| 90° | 0.0 | 0.0 | 0.0 | <i>0.0</i> | 0.0 |

(END OF REPORT)