

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: P973365

Luminaire Tested: FLR2-14-20-L930-CA080

Issue Date: 3/13/2025

Test Information

Test Method: LM-79-2019
Report Number: P973365
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-L930-CA080
Description: 1*4 FLR-2.0 2000 LUMEN at 3000CCT & 90CRI with Clear Acrylic (0.080" thickness)

Light Source:
Ballast/Driver: -

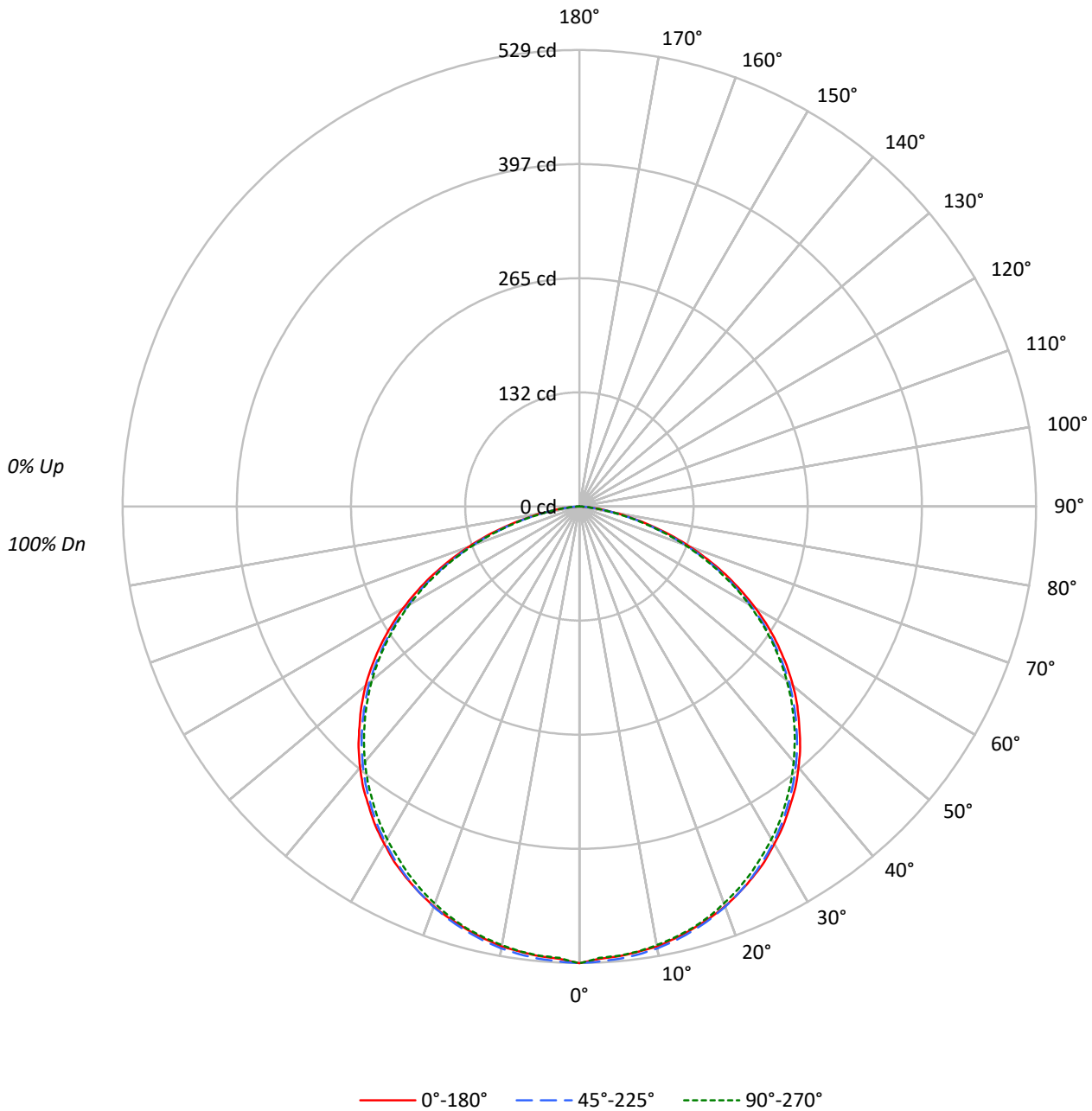
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1481.7 lumens
Efficiency: N/A
Efficacy: 90.3 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: P973365
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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° | 1425 | 1425 | 1425 |
| 5° | 1414 | 1422 | 1412 |
| 10° | 1415 | 1421 | 1411 |
| 15° | 1412 | 1418 | 1409 |
| 20° | 1412 | 1414 | 1402 |
| 25° | 1409 | 1406 | 1394 |
| 30° | 1403 | 1397 | 1383 |
| 35° | 1396 | 1385 | 1371 |
| 40° | 1388 | 1371 | 1357 |
| 45° | 1371 | 1352 | 1338 |
| 50° | 1353 | 1328 | 1313 |
| 55° | 1319 | 1288 | 1276 |
| 60° | 1268 | 1232 | 1222 |
| 65° | 1188 | 1152 | 1140 |
| 70° | 1071 | 1028 | 1019 |
| 75° | 897 | 853 | 843 |
| 80° | 652 | 607 | 590 |
| 85° | 346 | 306 | 278 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1371 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 50.1 | 3.4 |
| 10°-20° | 144.0 | 9.7 |
| 20°-30° | 218.8 | 14.8 |
| 30°-40° | 264.6 | 17.9 |
| 40°-50° | 275.0 | 18.6 |
| 50°-60° | 246.2 | 16.6 |
| 60°-70° | 179.6 | 12.1 |
| 70°-80° | 88.4 | 6.0 |
| 80°-90° | 14.8 | 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° | 412.9 | 27.9 |
| 0°-40° | 677.5 | 45.7 |
| 0°-60° | 1198.8 | 80.9 |
| 0°-90° | 1481.7 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1481.7 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 529 | 529 | 529 | 529 | 529 | |
| 5° | 523 | 529 | 526 | 531 | 523 | 50 |
| 15° | 507 | 512 | 509 | 513 | 506 | 143 |
| 25° | 475 | 477 | 474 | 476 | 469 | 219 |
| 35° | 425 | 426 | 422 | 423 | 417 | 266 |
| 45° | 360 | 360 | 355 | 356 | 352 | 278 |
| 55° | 281 | 279 | 275 | 274 | 272 | 251 |
| 65° | 186 | 184 | 181 | 180 | 179 | 184 |
| 75° | 86 | 85 | 82 | 81 | 81 | 92 |
| 85° | 11 | 11 | 10 | 9 | 9 | 16 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P973365
 CATALOG NUMBER: FLR2-14-20-L930-CA080

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 529.4 | 529.4 | 529.4 | 529.4 | 529.4 |
| 2.5° | 524.8 | 530.7 | 527.9 | 533.1 | 523.7 |
| 5° | 523.3 | 529.0 | 526.3 | 531.4 | 522.6 |
| 7.5° | 520.6 | 526.5 | 523.7 | 528.5 | 520.2 |
| 10° | 517.8 | 523.0 | 520.0 | 524.8 | 516.2 |
| 12.5° | 512.7 | 518.0 | 515.1 | 519.5 | 511.6 |
| 15° | 507.0 | 511.6 | 509.0 | 513.4 | 505.9 |
| 17.5° | 500.5 | 504.8 | 502.0 | 505.9 | 498.5 |
| 20° | 493.2 | 496.7 | 493.7 | 497.0 | 489.7 |
| 22.5° | 484.3 | 487.5 | 484.3 | 486.4 | 480.1 |
| 25° | 474.6 | 477.0 | 473.7 | 475.9 | 469.4 |
| 27.5° | 464.3 | 465.6 | 462.3 | 464.1 | 457.3 |
| 30° | 451.6 | 453.1 | 449.6 | 451.8 | 445.2 |
| 32.5° | 439.3 | 440.2 | 436.3 | 438.0 | 432.1 |
| 35° | 424.9 | 425.7 | 421.6 | 423.3 | 417.4 |
| 37.5° | 411.1 | 410.8 | 406.5 | 407.6 | 402.5 |
| 40° | 395.1 | 394.9 | 390.3 | 391.1 | 386.3 |
| 42.5° | 378.6 | 377.8 | 373.4 | 373.8 | 369.4 |
| 45° | 360.2 | 359.8 | 355.2 | 355.8 | 351.5 |
| 47.5° | 342.5 | 341.2 | 336.6 | 336.8 | 333.1 |
| 50° | 323.2 | 321.2 | 317.3 | 316.8 | 313.6 |
| 52.5° | 302.6 | 300.4 | 296.0 | 295.6 | 293.2 |
| 55° | 281.1 | 278.7 | 274.6 | 273.9 | 271.9 |
| 57.5° | 259.0 | 255.9 | 252.6 | 251.3 | 249.8 |
| 60° | 235.6 | 232.7 | 229.0 | 227.7 | 227.0 |
| 62.5° | 211.2 | 208.4 | 205.5 | 204.2 | 203.3 |
| 65° | 186.5 | 184.3 | 181.0 | 179.7 | 179.0 |
| 67.5° | 161.3 | 159.3 | 156.2 | 154.7 | 154.5 |
| 70° | 136.1 | 134.1 | 130.6 | 129.7 | 129.5 |
| 72.5° | 110.9 | 109.1 | 105.8 | 105.0 | 105.0 |
| 75° | 86.3 | 84.8 | 82.0 | 81.1 | 81.1 |
| 77.5° | 63.1 | 61.8 | 59.6 | 58.5 | 58.5 |
| 80° | 42.1 | 41.2 | 39.2 | 38.3 | 38.1 |
| 82.5° | 24.3 | 23.9 | 22.1 | 21.3 | 21.7 |
| 85° | 11.2 | 10.7 | 9.9 | 8.8 | 9.0 |
| 87.5° | 2.8 | 2.6 | 2.0 | 1.5 | 2.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)