

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: P973239

Luminaire Tested: FLR2-14-20HE-L940-CP250

Issue Date: 3/13/2025

Test Information

Test Method: LM-79-2019
Report Number: P973239
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-L940-CP250
Description: 1*4 FLR-2.0 2000 Lumen High Efficacy at 4000CCT & 90 CRI with Clear Polycarbonate (0.250" thickness)

Light Source:
Ballast/Driver: -

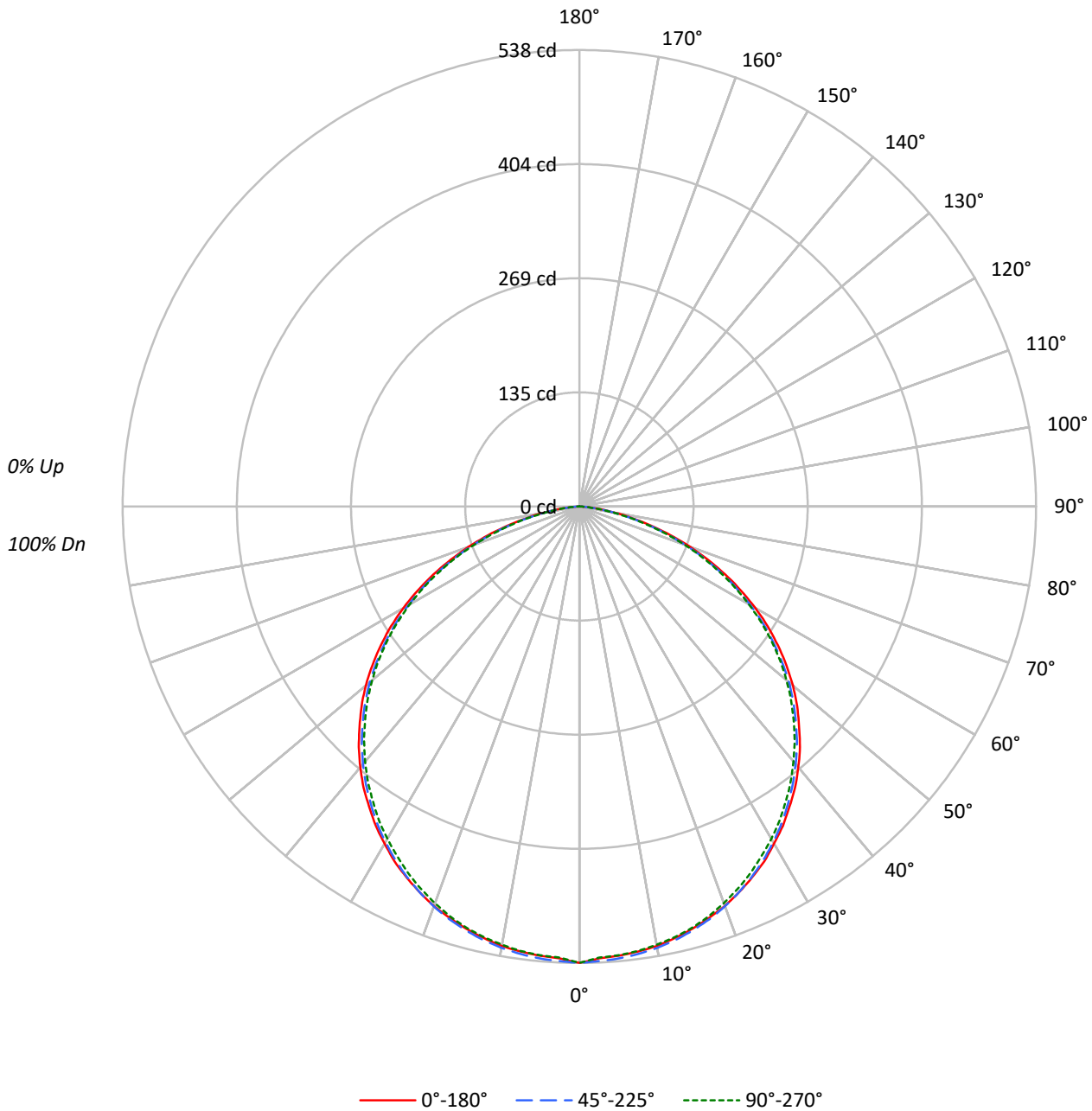
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1505.4 lumens
Efficiency: N/A
Efficacy: 101.7 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

TEST NUMBER: P973239
CATALOG NUMBER: FLR2-14-20HE-L940-CP250

Luminous Intensity Polar Plot





TEST NUMBER: P973239
 CATALOG NUMBER: FLR2-14-20HE-L940-CP250

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 | 31 | 27 | 38 | 31 | 27 | 37 | 31 | 26 | 25 | | | | | | 25 | | | | | | | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 1447 | 1447 | 1447 |
| 5° | 1436 | 1445 | 1434 |
| 10° | 1438 | 1444 | 1433 |
| 15° | 1435 | 1441 | 1432 |
| 20° | 1435 | 1436 | 1425 |
| 25° | 1432 | 1429 | 1416 |
| 30° | 1426 | 1419 | 1406 |
| 35° | 1418 | 1407 | 1393 |
| 40° | 1410 | 1393 | 1379 |
| 45° | 1393 | 1373 | 1359 |
| 50° | 1375 | 1350 | 1334 |
| 55° | 1340 | 1309 | 1296 |
| 60° | 1288 | 1252 | 1241 |
| 65° | 1207 | 1171 | 1158 |
| 70° | 1088 | 1044 | 1035 |
| 75° | 912 | 866 | 857 |
| 80° | 662 | 618 | 600 |
| 85° | 352 | 309 | 281 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1393 cd/sqm



TEST NUMBER: P973239
 CATALOG NUMBER: FLR2-14-20HE-L940-CP250

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 50.9 | 3.4 |
| 10°-20° | 146.3 | 9.7 |
| 20°-30° | 222.3 | 14.8 |
| 30°-40° | 268.9 | 17.9 |
| 40°-50° | 279.5 | 18.6 |
| 50°-60° | 250.2 | 16.6 |
| 60°-70° | 182.5 | 12.1 |
| 70°-80° | 89.9 | 6.0 |
| 80°-90° | 15.0 | 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° | 419.5 | 27.9 |
| 0°-40° | 688.4 | 45.7 |
| 0°-60° | 1218.1 | 80.9 |
| 0°-90° | 1505.4 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1505.4 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 538 | 538 | 538 | 538 | 538 | |
| 5° | 532 | 537 | 535 | 540 | 531 | 51 |
| 15° | 515 | 520 | 517 | 522 | 514 | 146 |
| 25° | 482 | 485 | 481 | 484 | 477 | 222 |
| 35° | 432 | 433 | 428 | 430 | 424 | 270 |
| 45° | 366 | 366 | 361 | 362 | 357 | 283 |
| 55° | 286 | 283 | 279 | 278 | 276 | 255 |
| 65° | 190 | 187 | 184 | 183 | 182 | 187 |
| 75° | 88 | 86 | 83 | 82 | 82 | 93 |
| 85° | 11 | 11 | 10 | 9 | 9 | 16 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P973239
 CATALOG NUMBER: FLR2-14-20HE-L940-CP250

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 537.9 | 537.9 | 537.9 | 537.9 | 537.9 |
| 2.5° | 533.2 | 539.2 | 536.3 | 541.7 | 532.1 |
| 5° | 531.6 | 537.4 | 534.8 | 539.9 | 531.0 |
| 7.5° | 529.0 | 535.0 | 532.1 | 537.0 | 528.5 |
| 10° | 526.1 | 531.4 | 528.3 | 533.2 | 524.5 |
| 12.5° | 521.0 | 526.3 | 523.4 | 527.9 | 519.8 |
| 15° | 515.2 | 519.8 | 517.2 | 521.6 | 514.0 |
| 17.5° | 508.5 | 512.9 | 510.0 | 514.0 | 506.5 |
| 20° | 501.1 | 504.7 | 501.6 | 504.9 | 497.6 |
| 22.5° | 492.0 | 495.3 | 492.0 | 494.2 | 487.8 |
| 25° | 482.2 | 484.7 | 481.3 | 483.5 | 476.9 |
| 27.5° | 471.7 | 473.1 | 469.7 | 471.5 | 464.6 |
| 30° | 458.8 | 460.4 | 456.8 | 459.1 | 452.4 |
| 32.5° | 446.4 | 447.3 | 443.3 | 445.0 | 439.0 |
| 35° | 431.7 | 432.6 | 428.3 | 430.1 | 424.1 |
| 37.5° | 417.7 | 417.4 | 413.0 | 414.1 | 409.0 |
| 40° | 401.4 | 401.2 | 396.5 | 397.4 | 392.5 |
| 42.5° | 384.7 | 383.8 | 379.4 | 379.8 | 375.4 |
| 45° | 366.0 | 365.6 | 360.9 | 361.5 | 357.1 |
| 47.5° | 348.0 | 346.6 | 342.0 | 342.2 | 338.4 |
| 50° | 328.4 | 326.4 | 322.4 | 321.9 | 318.6 |
| 52.5° | 307.4 | 305.2 | 300.8 | 300.3 | 297.9 |
| 55° | 285.6 | 283.2 | 279.0 | 278.3 | 276.3 |
| 57.5° | 263.1 | 260.0 | 256.7 | 255.4 | 253.8 |
| 60° | 239.3 | 236.4 | 232.6 | 231.3 | 230.6 |
| 62.5° | 214.6 | 211.7 | 208.8 | 207.5 | 206.6 |
| 65° | 189.5 | 187.2 | 183.9 | 182.6 | 181.9 |
| 67.5° | 163.9 | 161.9 | 158.7 | 157.2 | 157.0 |
| 70° | 138.3 | 136.2 | 132.7 | 131.8 | 131.6 |
| 72.5° | 112.6 | 110.9 | 107.5 | 106.6 | 106.6 |
| 75° | 87.7 | 86.2 | 83.3 | 82.4 | 82.4 |
| 77.5° | 64.1 | 62.8 | 60.6 | 59.4 | 59.4 |
| 80° | 42.7 | 41.9 | 39.9 | 39.0 | 38.7 |
| 82.5° | 24.7 | 24.3 | 22.5 | 21.6 | 22.0 |
| 85° | 11.4 | 10.9 | 10.0 | 8.9 | 9.1 |
| 87.5° | 2.9 | 2.7 | 2.0 | 1.6 | 2.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)