

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



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: NEO-RAY

Report Number: P1059726

Luminaire Tested: S123RDR-H560D950-X4F0-XX-UDD-BVL-W

Issue Date: 8/7/2025

Test Information

Test Method: LM-79-2019
Report Number: P1059726
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2406-143-66)
Test Lab: INNOVATION CENTER
Issue Date: 8/7/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123RDR-H560D950-X4F0-XX-UDD-BVL-W
Description: DEFINE 3 WHITE REGRESSED DIRECT RECESSED HOUSING WITH BLACK STRAIGHT BLADE LOUVER WITH DIFFUSER
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

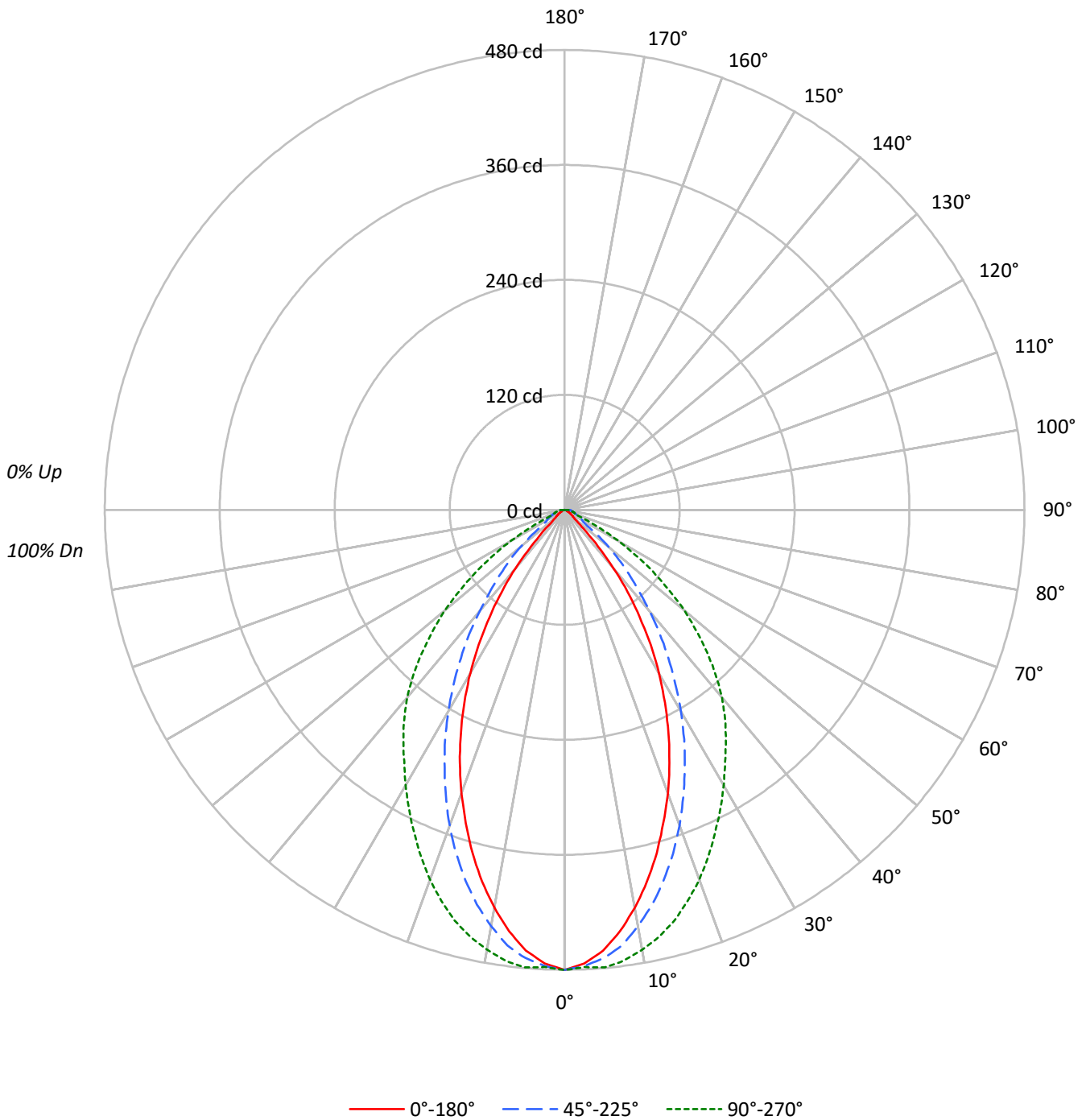
Lumens per Lamp: N/A
Luminaire Lumens: 576.5 lumens
Efficiency: N/A
Efficacy: 33.1 lumens/watt
Spacing Criteria (0/90/45): 0.79 / 1.06 / 0.94
Luminous Opening: Rectangular (W 0.23' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 17.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
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 | 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 | 112 | 108 | 105 | 102 | 109 | 106 | 103 | 101 | 102 | 100 | 98 | 98 | 96 | 95 | 95 | 93 | 92 | 90 | | | | |
| 2 | 105 | 99 | 94 | 90 | 102 | 97 | 92 | 88 | 94 | 90 | 87 | 91 | 87 | 85 | 88 | 85 | 83 | 81 | | | | |
| 3 | 98 | 90 | 84 | 79 | 96 | 89 | 83 | 79 | 86 | 81 | 77 | 83 | 79 | 76 | 81 | 78 | 75 | 73 | | | | |
| 4 | 92 | 83 | 76 | 71 | 90 | 81 | 75 | 70 | 79 | 74 | 70 | 77 | 72 | 69 | 75 | 71 | 68 | 66 | | | | |
| 5 | 86 | 76 | 69 | 64 | 84 | 75 | 69 | 64 | 73 | 67 | 63 | 71 | 66 | 62 | 70 | 65 | 62 | 60 | | | | |
| 6 | 81 | 70 | 63 | 58 | 79 | 69 | 63 | 58 | 68 | 62 | 57 | 66 | 61 | 57 | 65 | 60 | 57 | 55 | | | | |
| 7 | 76 | 65 | 58 | 53 | 75 | 65 | 58 | 53 | 63 | 57 | 53 | 62 | 56 | 52 | 61 | 56 | 52 | 50 | | | | |
| 8 | 72 | 61 | 54 | 49 | 70 | 60 | 53 | 49 | 59 | 53 | 49 | 58 | 52 | 48 | 57 | 52 | 48 | 47 | | | | |
| 9 | 68 | 57 | 50 | 45 | 67 | 56 | 50 | 45 | 55 | 49 | 45 | 54 | 49 | 45 | 53 | 48 | 45 | 43 | | | | |
| 10 | 64 | 53 | 46 | 42 | 63 | 53 | 46 | 42 | 52 | 46 | 42 | 51 | 45 | 42 | 50 | 45 | 42 | 40 | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 5639 | 5639 | 5639 |
| 5° | 5445 | 5534 | 5652 |
| 10° | 5026 | 5259 | 5560 |
| 15° | 4510 | 4863 | 5393 |
| 20° | 3935 | 4384 | 5133 |
| 25° | 3319 | 3843 | 4815 |
| 30° | 2670 | 3285 | 4500 |
| 35° | 1954 | 2705 | 4206 |
| 40° | 1219 | 2109 | 3916 |
| 45° | 462 | 1571 | 3489 |
| 50° | 219 | 1083 | 2974 |
| 55° | 168 | 594 | 2299 |
| 60° | 117 | 505 | 1512 |
| 65° | 89 | 439 | 631 |
| 70° | 86 | 412 | 412 |
| 75° | 113 | 431 | 431 |
| 80° | 169 | 514 | 467 |
| 85° | 337 | 849 | 674 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 3489 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 44.1 | 7.6 |
| 10°-20° | 113.0 | 19.6 |
| 20°-30° | 139.9 | 24.3 |
| 30°-40° | 125.4 | 21.8 |
| 40°-50° | 82.2 | 14.3 |
| 50°-60° | 41.2 | 7.1 |
| 60°-70° | 16.1 | 2.8 |
| 70°-80° | 9.0 | 1.6 |
| 80°-90° | 5.6 | 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° | 297.0 | 51.5 |
| 0°-40° | 422.4 | 73.3 |
| 0°-60° | 545.8 | 94.7 |
| 0°-90° | 576.5 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 576.5 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 480 | 480 | 480 | 480 | 480 | |
| 5° | 462 | 470 | 470 | 474 | 480 | 43 |
| 15° | 371 | 386 | 400 | 426 | 444 | 103 |
| 25° | 256 | 272 | 297 | 339 | 372 | 117 |
| 35° | 136 | 155 | 189 | 246 | 293 | 85 |
| 45° | 28 | 45 | 95 | 162 | 210 | 26 |
| 55° | 8 | 10 | 29 | 80 | 112 | 8 |
| 65° | 3 | 10 | 16 | 21 | 23 | 3 |
| 75° | 2 | 10 | 10 | 10 | 10 | 3 |
| 85° | 2 | 6 | 6 | 6 | 5 | 2 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 480.2 | 480.2 | 480.2 | 480.2 | 480.2 |
| 2.5° | 473.9 | 480.8 | 476.4 | 477.0 | 477.7 |
| 5° | 461.9 | 469.5 | 469.5 | 474.5 | 479.5 |
| 7.5° | 443.6 | 452.4 | 458.7 | 467.6 | 474.5 |
| 10° | 421.5 | 432.2 | 441.1 | 456.8 | 466.3 |
| 12.5° | 397.5 | 410.8 | 422.1 | 443.0 | 456.2 |
| 15° | 371.0 | 386.2 | 400.0 | 426.5 | 443.6 |
| 17.5° | 342.6 | 357.8 | 376.1 | 407.0 | 427.8 |
| 20° | 314.9 | 330.0 | 350.8 | 385.5 | 410.8 |
| 22.5° | 285.8 | 301.6 | 323.7 | 362.2 | 391.8 |
| 25° | 256.2 | 272.0 | 296.6 | 338.8 | 371.6 |
| 27.5° | 226.5 | 242.3 | 270.1 | 316.1 | 352.1 |
| 30° | 196.9 | 212.6 | 242.3 | 291.5 | 331.9 |
| 32.5° | 167.2 | 184.2 | 215.2 | 268.8 | 311.7 |
| 35° | 136.3 | 154.6 | 188.7 | 245.5 | 293.4 |
| 37.5° | 107.9 | 124.9 | 163.4 | 225.3 | 275.1 |
| 40° | 79.5 | 97.8 | 137.6 | 205.7 | 255.5 |
| 42.5° | 51.7 | 71.3 | 114.2 | 184.2 | 233.5 |
| 45° | 27.8 | 44.8 | 94.6 | 162.2 | 210.1 |
| 47.5° | 15.1 | 24.6 | 76.3 | 138.8 | 186.1 |
| 50° | 12.0 | 13.9 | 59.3 | 118.6 | 162.8 |
| 52.5° | 10.1 | 11.4 | 42.3 | 99.7 | 136.9 |
| 55° | 8.2 | 10.1 | 29.0 | 79.5 | 112.3 |
| 57.5° | 6.9 | 8.8 | 22.7 | 61.8 | 87.7 |
| 60° | 5.0 | 7.6 | 21.5 | 45.4 | 64.4 |
| 62.5° | 3.8 | 8.2 | 18.9 | 31.5 | 42.3 |
| 65° | 3.2 | 9.5 | 15.8 | 20.8 | 22.7 |
| 67.5° | 2.5 | 10.1 | 13.9 | 13.3 | 13.3 |
| 70° | 2.5 | 9.5 | 12.0 | 11.4 | 12.0 |
| 72.5° | 2.5 | 10.1 | 10.7 | 10.1 | 10.7 |
| 75° | 2.5 | 9.5 | 9.5 | 9.5 | 9.5 |
| 77.5° | 2.5 | 8.8 | 8.8 | 8.2 | 8.2 |
| 80° | 2.5 | 7.6 | 7.6 | 7.6 | 6.9 |
| 82.5° | 2.5 | 6.9 | 6.9 | 6.9 | 5.7 |
| 85° | 2.5 | 6.3 | 6.3 | 6.3 | 5.0 |
| 87.5° | 1.9 | 5.7 | 6.3 | 5.7 | 3.8 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



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CIE UGR TABLE:

| Reflectances: | | | | | | | | | | | |
|-----------------|------|------------------|------|------|-------|-------|----------------|-------|-------|-------|-------|
| Ceiling | | 0.7 | 0.7 | 0.5 | 0.5 | 0.3 | 0.7 | 0.7 | 0.5 | 0.5 | 0.3 |
| Wall | | 0.5 | 0.3 | 0.5 | 0.3 | 0.3 | 0.5 | 0.3 | 0.5 | 0.3 | 0.3 |
| Reference plane | | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| Room dimensions | | Viewed crosswise | | | | | Viewed endwise | | | | |
| X=2H | Y=2H | 0.00 | 0.00 | 0.00 | 0.00 | 0.22 | 12.61 | 13.87 | 12.98 | 14.18 | 14.49 |
| | 3H | 0.68 | 1.79 | 1.06 | 2.12 | 2.49 | 12.69 | 13.80 | 13.07 | 14.13 | 14.50 |
| | 4H | 1.79 | 2.82 | 2.19 | 3.17 | 3.56 | 12.77 | 13.80 | 13.17 | 14.16 | 14.54 |
| | 6H | 2.77 | 3.72 | 3.19 | 4.09 | 4.49 | 12.87 | 13.82 | 13.29 | 14.19 | 14.59 |
| | 8H | 3.25 | 4.15 | 3.68 | 4.54 | 4.95 | 12.93 | 13.83 | 13.36 | 14.22 | 14.63 |
| | 12H | 3.80 | 4.66 | 4.24 | 5.05 | 5.48 | 13.01 | 13.87 | 13.45 | 14.25 | 14.68 |
| 4H | 2H | 1.61 | 2.65 | 2.02 | 3.00 | 3.38 | 12.47 | 13.50 | 12.87 | 13.85 | 14.24 |
| | 3H | 3.93 | 4.78 | 4.35 | 5.18 | 5.59 | 12.64 | 13.49 | 13.06 | 13.89 | 14.30 |
| | 4H | 5.31 | 6.06 | 5.74 | 6.48 | 6.93 | 12.80 | 13.55 | 13.23 | 13.97 | 14.42 |
| | 6H | 6.39 | 7.04 | 6.85 | 7.49 | 7.96 | 13.02 | 13.67 | 13.49 | 14.12 | 14.59 |
| | 8H | 6.84 | 7.45 | 7.31 | 7.90 | 8.37 | 13.14 | 13.75 | 13.62 | 14.20 | 14.67 |
| | 12H | 7.33 | 7.87 | 7.82 | 8.35 | 8.83 | 13.32 | 13.86 | 13.80 | 14.34 | 14.81 |
| 8H | 4H | 6.28 | 6.89 | 6.75 | 7.34 | 7.81 | 12.79 | 13.40 | 13.26 | 13.85 | 14.32 |
| | 6H | 7.80 | 8.30 | 8.30 | 8.80 | 9.28 | 13.13 | 13.63 | 13.63 | 14.13 | 14.61 |
| | 8H | 8.57 | 9.02 | 9.09 | 9.53 | 10.02 | 13.36 | 13.81 | 13.88 | 14.33 | 14.82 |
| | 12H | 9.37 | 9.76 | 9.88 | 10.26 | 10.83 | 13.69 | 14.09 | 14.21 | 14.59 | 15.16 |
| 12H | 4H | 6.46 | 7.00 | 6.95 | 7.48 | 7.95 | 12.78 | 13.32 | 13.26 | 13.80 | 14.27 |
| | 6H | 8.11 | 8.56 | 8.64 | 9.08 | 9.57 | 13.15 | 13.60 | 13.67 | 14.12 | 14.61 |
| | 8H | 9.06 | 9.46 | 9.58 | 9.95 | 10.53 | 13.46 | 13.86 | 13.97 | 14.35 | 14.92 |