

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: P1059447

Luminaire Tested: S123RDR-H1000D927-X4F0-XX-UDD-BVL-W

Issue Date: 8/7/2025

Test Information

Test Method: LM-79-2019
Report Number: P1059447
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-H1000D927-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: 2700K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

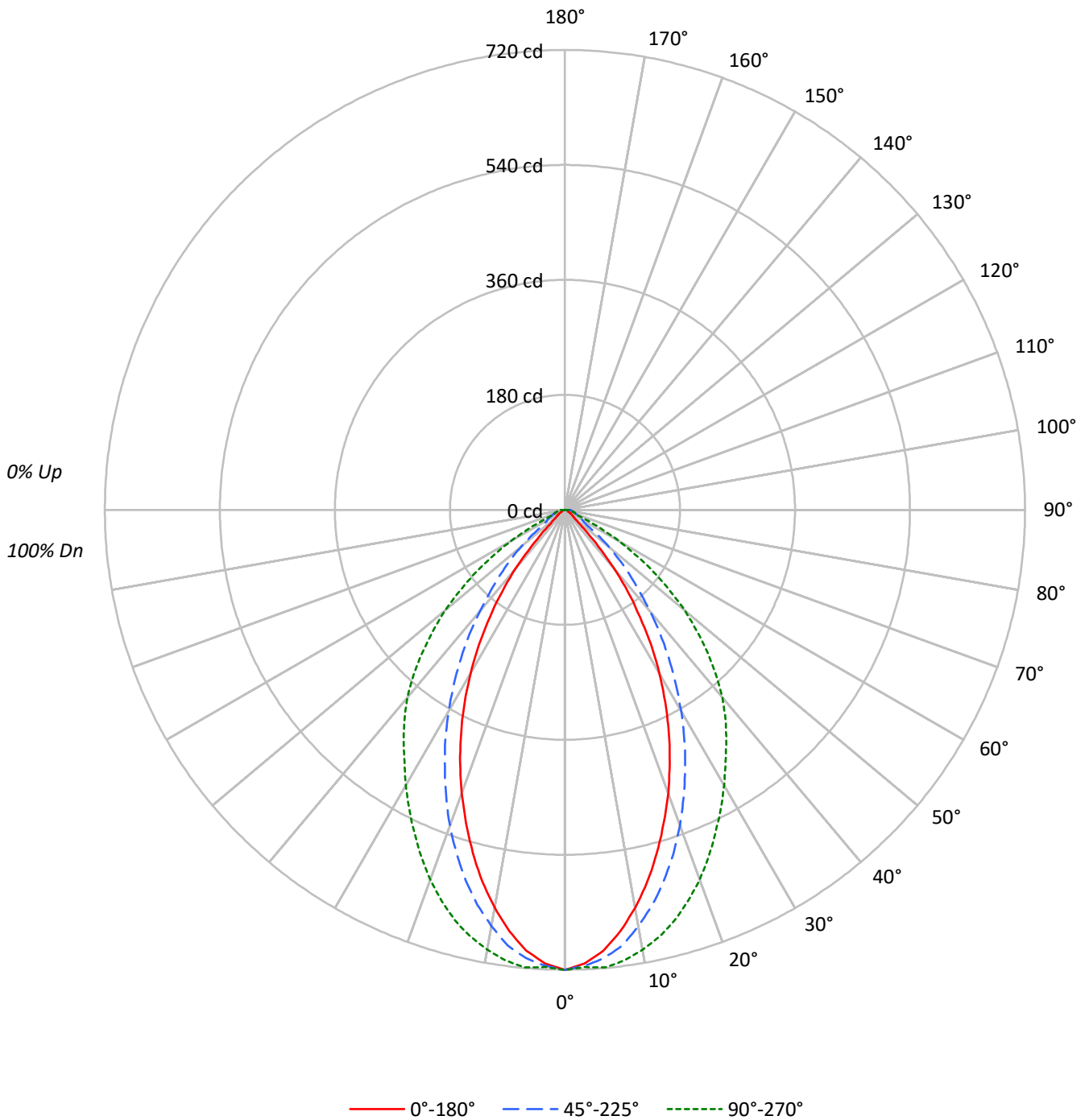
Lumens per Lamp: N/A
Luminaire Lumens: 864.6 lumens
Efficiency: N/A
Efficacy: 27.7 lumens/watt
Spacing Criteria (0/90/45): 0.79 / 1.06 / 0.94
Luminous Opening: Rectangular (W 0.23' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 31.2
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 | 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° | 8457 | 8457 | 8457 |
| 5° | 8165 | 8299 | 8477 |
| 10° | 7537 | 7887 | 8338 |
| 15° | 6764 | 7294 | 8088 |
| 20° | 5901 | 6575 | 7699 |
| 25° | 4978 | 5763 | 7222 |
| 30° | 4004 | 4927 | 6750 |
| 35° | 2930 | 4057 | 6307 |
| 40° | 1827 | 3162 | 5875 |
| 45° | 691 | 2356 | 5233 |
| 50° | 329 | 1626 | 4461 |
| 55° | 252 | 891 | 3448 |
| 60° | 178 | 756 | 2266 |
| 65° | 131 | 659 | 947 |
| 70° | 130 | 618 | 618 |
| 75° | 172 | 644 | 644 |
| 80° | 257 | 771 | 703 |
| 85° | 512 | 1280 | 1024 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 5233 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 66.1 | 7.6 |
| 10°-20° | 169.5 | 19.6 |
| 20°-30° | 209.8 | 24.3 |
| 30°-40° | 188.1 | 21.8 |
| 40°-50° | 123.3 | 14.3 |
| 50°-60° | 61.7 | 7.1 |
| 60°-70° | 24.1 | 2.8 |
| 70°-80° | 13.6 | 1.6 |
| 80°-90° | 8.4 | 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° | 445.5 | 51.5 |
| 0°-40° | 633.6 | 73.3 |
| 0°-60° | 818.6 | 94.7 |
| 0°-90° | 864.6 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 864.6 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 720 | 720 | 720 | 720 | 720 | |
| 5° | 693 | 704 | 704 | 712 | 719 | 64 |
| 15° | 556 | 579 | 600 | 640 | 665 | 155 |
| 25° | 384 | 408 | 445 | 508 | 557 | 175 |
| 35° | 204 | 232 | 283 | 368 | 440 | 127 |
| 45° | 42 | 67 | 142 | 243 | 315 | 40 |
| 55° | 12 | 15 | 44 | 119 | 168 | 11 |
| 65° | 5 | 14 | 24 | 31 | 34 | 5 |
| 75° | 4 | 14 | 14 | 14 | 14 | 4 |
| 85° | 4 | 10 | 10 | 10 | 8 | 3 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 720.2 | 720.2 | 720.2 | 720.2 | 720.2 |
| 2.5° | 710.7 | 721.1 | 714.5 | 715.4 | 716.4 |
| 5° | 692.7 | 704.1 | 704.1 | 711.6 | 719.2 |
| 7.5° | 665.3 | 678.5 | 688.0 | 701.2 | 711.6 |
| 10° | 632.1 | 648.2 | 661.5 | 685.1 | 699.3 |
| 12.5° | 596.2 | 616.1 | 633.1 | 664.3 | 684.2 |
| 15° | 556.4 | 579.2 | 600.0 | 639.7 | 665.3 |
| 17.5° | 513.9 | 536.6 | 564.0 | 610.4 | 641.6 |
| 20° | 472.2 | 494.9 | 526.2 | 578.2 | 616.1 |
| 22.5° | 428.7 | 452.3 | 485.5 | 543.2 | 587.7 |
| 25° | 384.2 | 407.9 | 444.8 | 508.2 | 557.4 |
| 27.5° | 339.7 | 363.4 | 405.0 | 474.1 | 528.1 |
| 30° | 295.3 | 318.9 | 363.4 | 437.2 | 497.8 |
| 32.5° | 250.8 | 276.3 | 322.7 | 403.1 | 467.5 |
| 35° | 204.4 | 231.9 | 283.0 | 368.1 | 440.0 |
| 37.5° | 161.8 | 187.4 | 245.1 | 337.8 | 412.6 |
| 40° | 119.2 | 146.7 | 206.3 | 308.5 | 383.3 |
| 42.5° | 77.6 | 106.9 | 171.3 | 276.3 | 350.1 |
| 45° | 41.6 | 67.2 | 141.9 | 243.2 | 315.1 |
| 47.5° | 22.7 | 36.9 | 114.5 | 208.2 | 279.2 |
| 50° | 18.0 | 20.8 | 89.0 | 177.9 | 244.2 |
| 52.5° | 15.1 | 17.0 | 63.4 | 149.5 | 205.4 |
| 55° | 12.3 | 15.1 | 43.5 | 119.2 | 168.4 |
| 57.5° | 10.4 | 13.2 | 34.1 | 92.7 | 131.5 |
| 60° | 7.6 | 11.4 | 32.2 | 68.1 | 96.5 |
| 62.5° | 5.7 | 12.3 | 28.4 | 47.3 | 63.4 |
| 65° | 4.7 | 14.2 | 23.7 | 31.2 | 34.1 |
| 67.5° | 3.8 | 15.1 | 20.8 | 19.9 | 19.9 |
| 70° | 3.8 | 14.2 | 18.0 | 17.0 | 18.0 |
| 72.5° | 3.8 | 15.1 | 16.1 | 15.1 | 16.1 |
| 75° | 3.8 | 14.2 | 14.2 | 14.2 | 14.2 |
| 77.5° | 3.8 | 13.2 | 13.2 | 12.3 | 12.3 |
| 80° | 3.8 | 11.4 | 11.4 | 11.4 | 10.4 |
| 82.5° | 3.8 | 10.4 | 10.4 | 10.4 | 8.5 |
| 85° | 3.8 | 9.5 | 9.5 | 9.5 | 7.6 |
| 87.5° | 2.8 | 8.5 | 9.5 | 8.5 | 5.7 |
| 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 | 1.01 | 0.12 | 1.32 | 1.64 | 14.02 | 15.27 | 14.38 | 15.59 | 15.90 |
| | 3H | 2.10 | 3.21 | 2.48 | 3.54 | 3.90 | 14.10 | 15.21 | 14.48 | 15.54 | 15.91 |
| | 4H | 3.20 | 4.24 | 3.61 | 4.59 | 4.97 | 14.18 | 15.21 | 14.58 | 15.56 | 15.95 |
| | 6H | 4.20 | 5.15 | 4.61 | 5.52 | 5.91 | 14.28 | 15.23 | 14.70 | 15.60 | 16.00 |
| | 8H | 4.68 | 5.58 | 5.11 | 5.97 | 6.38 | 14.34 | 15.24 | 14.77 | 15.63 | 16.03 |
| | 12H | 5.24 | 6.10 | 5.68 | 6.49 | 6.92 | 14.42 | 15.28 | 14.85 | 15.66 | 16.09 |
| 4H | 2H | 3.02 | 4.06 | 3.43 | 4.41 | 4.79 | 13.87 | 14.91 | 14.28 | 15.26 | 15.64 |
| | 3H | 5.34 | 6.19 | 5.75 | 6.59 | 6.99 | 14.05 | 14.90 | 14.46 | 15.30 | 15.70 |
| | 4H | 6.71 | 7.47 | 7.15 | 7.89 | 8.33 | 14.20 | 14.96 | 14.64 | 15.38 | 15.82 |
| | 6H | 7.80 | 8.45 | 8.26 | 8.90 | 9.37 | 14.43 | 15.08 | 14.89 | 15.53 | 15.99 |
| | 8H | 8.26 | 8.87 | 8.73 | 9.32 | 9.79 | 14.55 | 15.16 | 15.02 | 15.61 | 16.08 |
| | 12H | 8.76 | 9.29 | 9.24 | 9.78 | 10.25 | 14.73 | 15.26 | 15.21 | 15.75 | 16.22 |
| 8H | 4H | 7.68 | 8.29 | 8.16 | 8.74 | 9.21 | 14.20 | 14.81 | 14.67 | 15.26 | 15.73 |
| | 6H | 9.21 | 9.71 | 9.71 | 10.21 | 10.69 | 14.54 | 15.04 | 15.04 | 15.53 | 16.02 |
| | 8H | 9.98 | 10.43 | 10.51 | 10.95 | 11.44 | 14.77 | 15.22 | 15.29 | 15.74 | 16.23 |
| | 12H | 10.79 | 11.19 | 11.31 | 11.69 | 12.26 | 15.11 | 15.50 | 15.62 | 16.00 | 16.57 |
| 12H | 4H | 7.86 | 8.40 | 8.35 | 8.88 | 9.36 | 14.18 | 14.72 | 14.67 | 15.21 | 15.68 |
| | 6H | 9.53 | 9.98 | 10.05 | 10.49 | 10.98 | 14.56 | 15.01 | 15.08 | 15.52 | 16.02 |
| | 8H | 10.48 | 10.88 | 11.00 | 11.38 | 11.95 | 14.87 | 15.26 | 15.38 | 15.76 | 16.33 |