

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



Scaled data based on original data using
LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P1055654

Luminaire Tested: S123R3DRP-S560D950-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055654
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-6)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123R3DRP-S560D950-X4F0-XX-UDD-F-S
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

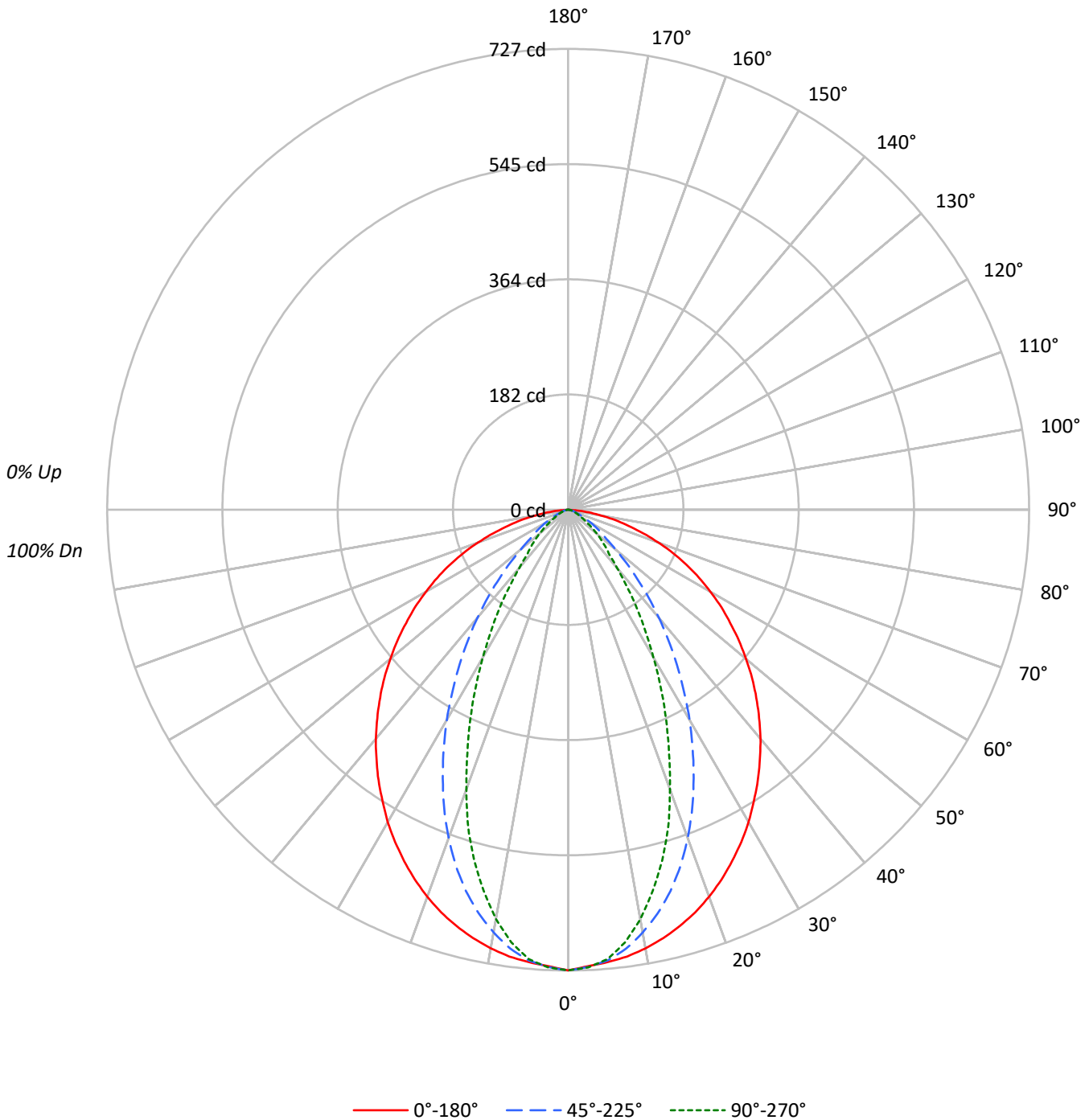
Lumens per Lamp: N/A
Luminaire Lumens: 1010.8 lumens
Efficiency: N/A
Efficacy: 52.9 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.77 / 0.94
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 19.1
Input Voltage (V): 120
Input Current (A_{in}): 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 | 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 | 111 | 108 | 104 | 102 | 109 | 106 | 103 | 100 | 101 | 99 | 97 | 98 | 96 | 94 | 94 | 93 | 91 | 89 | | | | | 89 | | | |
| 2 | 104 | 97 | 92 | 87 | 101 | 95 | 90 | 86 | 92 | 88 | 84 | 89 | 85 | 82 | 86 | 83 | 81 | 79 | | | | | 79 | | | |
| 3 | 96 | 88 | 81 | 76 | 94 | 86 | 80 | 76 | 84 | 78 | 74 | 81 | 77 | 73 | 79 | 75 | 72 | 70 | | | | | 70 | | | |
| 4 | 90 | 80 | 73 | 67 | 88 | 79 | 72 | 67 | 76 | 71 | 66 | 74 | 69 | 65 | 72 | 68 | 64 | 62 | | | | | 62 | | | |
| 5 | 84 | 73 | 66 | 60 | 82 | 72 | 65 | 60 | 70 | 64 | 59 | 68 | 63 | 59 | 67 | 62 | 58 | 56 | | | | | 56 | | | |
| 6 | 78 | 67 | 60 | 54 | 77 | 66 | 59 | 54 | 65 | 58 | 53 | 63 | 57 | 53 | 62 | 57 | 53 | 51 | | | | | 51 | | | |
| 7 | 73 | 62 | 54 | 49 | 72 | 61 | 54 | 49 | 60 | 53 | 49 | 58 | 53 | 48 | 57 | 52 | 48 | 46 | | | | | 46 | | | |
| 8 | 69 | 57 | 50 | 45 | 68 | 57 | 50 | 45 | 56 | 49 | 45 | 54 | 49 | 44 | 53 | 48 | 44 | 42 | | | | | 42 | | | |
| 9 | 65 | 53 | 46 | 41 | 64 | 53 | 46 | 41 | 52 | 45 | 41 | 51 | 45 | 41 | 50 | 45 | 41 | 39 | | | | | 39 | | | |
| 10 | 62 | 50 | 43 | 38 | 60 | 49 | 43 | 38 | 48 | 42 | 38 | 48 | 42 | 38 | 47 | 42 | 38 | 36 | | | | | 36 | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 8763 | 8763 | 8763 |
| 5° | 8671 | 8638 | 8613 |
| 10° | 8603 | 8291 | 8030 |
| 15° | 8488 | 7774 | 7146 |
| 20° | 8336 | 7071 | 6020 |
| 25° | 8139 | 6223 | 4857 |
| 30° | 7923 | 5332 | 3741 |
| 35° | 7676 | 4401 | 2768 |
| 40° | 7427 | 3502 | 1887 |
| 45° | 7154 | 2619 | 1422 |
| 50° | 6861 | 1821 | 1110 |
| 55° | 6560 | 1333 | 811 |
| 60° | 6245 | 996 | 581 |
| 65° | 5877 | 668 | 451 |
| 70° | 5319 | 486 | 363 |
| 75° | 4588 | 354 | 289 |
| 80° | 3680 | 285 | 236 |
| 85° | 1909 | 290 | 194 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7154 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 67.2 | 6.6 |
| 10°-20° | 174.9 | 17.3 |
| 20°-30° | 219.7 | 21.7 |
| 30°-40° | 204.7 | 20.2 |
| 40°-50° | 156.7 | 15.5 |
| 50°-60° | 104.1 | 10.3 |
| 60°-70° | 56.1 | 5.6 |
| 70°-80° | 23.0 | 2.3 |
| 80°-90° | 4.4 | 0.4 |
| 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° | 461.8 | 45.7 |
| 0°-40° | 666.5 | 65.9 |
| 0°-60° | 927.2 | 91.7 |
| 0°-90° | 1010.8 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1010.8 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 727 | 727 | 727 | 727 | 727 | |
| 5° | 716 | 724 | 714 | 711 | 712 | 68 |
| 15° | 680 | 669 | 623 | 586 | 572 | 192 |
| 25° | 612 | 570 | 468 | 390 | 365 | 282 |
| 35° | 522 | 444 | 299 | 212 | 188 | 326 |
| 45° | 420 | 310 | 154 | 90 | 83 | 324 |
| 55° | 312 | 180 | 63 | 44 | 39 | 280 |
| 65° | 206 | 70 | 23 | 17 | 16 | 204 |
| 75° | 98 | 16 | 8 | 7 | 6 | 105 |
| 85° | 14 | 2 | 2 | 2 | 1 | 20 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 726.8 | 726.8 | 726.8 | 726.8 | 726.8 |
| 2.5° | 720.6 | 729.6 | 722.0 | 722.7 | 722.7 |
| 5° | 716.5 | 724.1 | 713.7 | 711.0 | 711.7 |
| 7.5° | 711.0 | 715.8 | 698.6 | 689.6 | 688.2 |
| 10° | 702.7 | 704.1 | 677.2 | 661.4 | 655.9 |
| 12.5° | 692.4 | 687.5 | 652.4 | 626.2 | 615.9 |
| 15° | 680.0 | 668.9 | 622.8 | 586.3 | 572.5 |
| 17.5° | 666.2 | 647.6 | 589.0 | 541.5 | 525.0 |
| 20° | 649.7 | 623.5 | 551.1 | 491.9 | 469.2 |
| 22.5° | 631.7 | 598.0 | 511.2 | 440.9 | 415.4 |
| 25° | 611.8 | 570.4 | 467.8 | 389.9 | 365.1 |
| 27.5° | 591.1 | 540.8 | 425.1 | 341.7 | 316.2 |
| 30° | 569.1 | 510.5 | 383.0 | 294.9 | 268.7 |
| 32.5° | 544.9 | 477.4 | 339.6 | 251.5 | 225.3 |
| 35° | 521.5 | 444.4 | 299.0 | 211.5 | 188.1 |
| 37.5° | 496.7 | 411.3 | 259.7 | 176.4 | 150.2 |
| 40° | 471.9 | 377.5 | 222.5 | 141.9 | 119.9 |
| 42.5° | 445.7 | 343.8 | 187.4 | 113.0 | 95.8 |
| 45° | 419.6 | 310.0 | 153.6 | 90.2 | 83.4 |
| 47.5° | 393.4 | 276.3 | 124.0 | 77.8 | 71.0 |
| 50° | 365.8 | 243.9 | 97.1 | 66.1 | 59.2 |
| 52.5° | 339.6 | 211.5 | 75.8 | 54.4 | 48.2 |
| 55° | 312.1 | 180.5 | 63.4 | 44.1 | 38.6 |
| 57.5° | 286.6 | 148.8 | 52.4 | 34.4 | 30.3 |
| 60° | 259.0 | 120.6 | 41.3 | 26.9 | 24.1 |
| 62.5° | 232.9 | 94.4 | 31.7 | 21.4 | 19.3 |
| 65° | 206.0 | 69.6 | 23.4 | 17.2 | 15.8 |
| 67.5° | 179.1 | 50.3 | 17.9 | 13.8 | 13.1 |
| 70° | 150.9 | 37.9 | 13.8 | 11.0 | 10.3 |
| 72.5° | 124.0 | 26.9 | 10.3 | 9.0 | 8.3 |
| 75° | 98.5 | 16.5 | 7.6 | 6.9 | 6.2 |
| 77.5° | 75.8 | 9.6 | 5.5 | 5.5 | 4.8 |
| 80° | 53.0 | 5.5 | 4.1 | 4.1 | 3.4 |
| 82.5° | 32.4 | 3.4 | 2.8 | 2.8 | 2.8 |
| 85° | 13.8 | 2.1 | 2.1 | 2.1 | 1.4 |
| 87.5° | 2.1 | 0.7 | 0.7 | 0.7 | 0.7 |
| 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 | 17.35 | 18.71 | 17.72 | 19.02 | 19.34 | 5.92 | 7.28 | 6.28 | 7.59 | 7.90 |
| | 3H | 19.11 | 20.31 | 19.49 | 20.64 | 21.01 | 6.58 | 7.79 | 6.96 | 8.12 | 8.48 |
| | 4H | 19.81 | 20.93 | 20.21 | 21.28 | 21.66 | 6.78 | 7.91 | 7.18 | 8.26 | 8.64 |
| | 6H | 20.32 | 21.35 | 20.73 | 21.72 | 22.12 | 6.90 | 7.93 | 7.32 | 8.30 | 8.70 |
| | 8H | 20.46 | 21.44 | 20.89 | 21.83 | 22.23 | 6.94 | 7.92 | 7.37 | 8.31 | 8.71 |
| | 12H | 20.51 | 21.45 | 20.94 | 21.83 | 22.26 | 6.95 | 7.89 | 7.38 | 8.27 | 8.70 |
| 4H | 2H | 17.16 | 18.29 | 17.56 | 18.64 | 19.02 | 6.48 | 7.60 | 6.88 | 7.95 | 8.33 |
| | 3H | 18.95 | 19.88 | 19.37 | 20.28 | 20.68 | 7.28 | 8.20 | 7.69 | 8.60 | 9.00 |
| | 4H | 19.65 | 20.47 | 20.08 | 20.89 | 21.33 | 7.54 | 8.36 | 7.97 | 8.78 | 9.22 |
| | 6H | 20.22 | 20.93 | 20.68 | 21.38 | 21.84 | 7.73 | 8.44 | 8.19 | 8.89 | 9.35 |
| | 8H | 20.39 | 21.06 | 20.86 | 21.50 | 21.97 | 7.79 | 8.45 | 8.25 | 8.90 | 9.37 |
| | 12H | 20.48 | 21.07 | 20.97 | 21.55 | 22.02 | 7.82 | 8.41 | 8.31 | 8.89 | 9.36 |
| 8H | 4H | 19.53 | 20.19 | 19.99 | 20.64 | 21.11 | 7.85 | 8.51 | 8.32 | 8.96 | 9.43 |
| | 6H | 20.08 | 20.62 | 20.58 | 21.12 | 21.60 | 8.10 | 8.64 | 8.60 | 9.13 | 9.61 |
| | 8H | 20.26 | 20.74 | 20.78 | 21.26 | 21.75 | 8.19 | 8.67 | 8.71 | 9.19 | 9.68 |
| | 12H | 20.36 | 20.79 | 20.87 | 21.28 | 21.85 | 8.27 | 8.70 | 8.78 | 9.19 | 9.76 |
| 12H | 4H | 19.48 | 20.07 | 19.97 | 20.55 | 21.03 | 7.90 | 8.48 | 8.38 | 8.96 | 9.44 |
| | 6H | 20.02 | 20.51 | 20.54 | 21.02 | 21.51 | 8.14 | 8.63 | 8.66 | 9.14 | 9.63 |
| | 8H | 20.22 | 20.64 | 20.73 | 21.14 | 21.71 | 8.27 | 8.70 | 8.79 | 9.19 | 9.76 |