

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: P1056032

Luminaire Tested: S124R3DRP-S350D950-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1056032
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-9)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124R3DRP-S350D950-X4F0-XX-UDD-F-S
Description: DEFINE 4, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

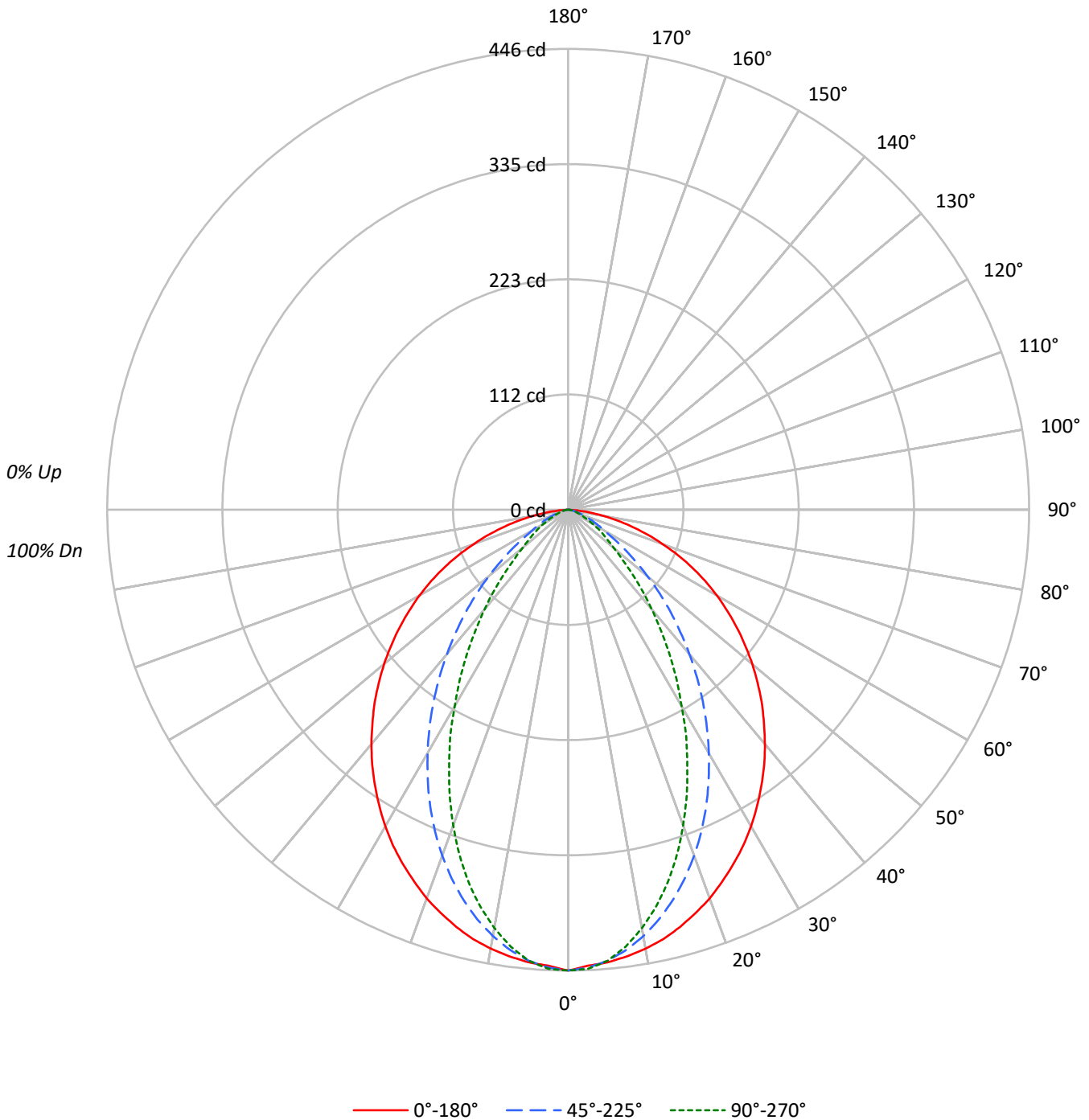
Lumens per Lamp: N/A
Luminaire Lumens: 721.1 lumens
Efficiency: N/A
Efficacy: 57.2 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.87 / 1.03
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 12.6
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 | 107 | 104 | 101 | 108 | 105 | 102 | 99 | 101 | 98 | 96 | 97 | 95 | 93 | 94 | 92 | 90 | 89 | | | | | 89 | | | |
| 2 | 103 | 96 | 91 | 86 | 101 | 94 | 89 | 85 | 91 | 87 | 83 | 88 | 84 | 81 | 85 | 82 | 79 | 78 | | | | | 78 | | | |
| 3 | 95 | 87 | 80 | 74 | 93 | 85 | 79 | 74 | 82 | 77 | 73 | 80 | 75 | 71 | 77 | 73 | 70 | 68 | | | | | 68 | | | |
| 4 | 89 | 78 | 71 | 65 | 86 | 77 | 70 | 65 | 75 | 69 | 64 | 73 | 67 | 63 | 71 | 66 | 62 | 60 | | | | | 60 | | | |
| 5 | 82 | 71 | 64 | 58 | 80 | 70 | 63 | 58 | 68 | 62 | 57 | 66 | 61 | 56 | 65 | 60 | 56 | 54 | | | | | 54 | | | |
| 6 | 77 | 65 | 57 | 52 | 75 | 64 | 57 | 52 | 63 | 56 | 51 | 61 | 55 | 51 | 60 | 54 | 50 | 48 | | | | | 48 | | | |
| 7 | 72 | 60 | 52 | 47 | 70 | 59 | 52 | 47 | 58 | 51 | 46 | 56 | 50 | 46 | 55 | 50 | 46 | 44 | | | | | 44 | | | |
| 8 | 67 | 55 | 48 | 42 | 66 | 55 | 47 | 42 | 53 | 47 | 42 | 52 | 46 | 42 | 51 | 46 | 42 | 40 | | | | | 40 | | | |
| 9 | 63 | 51 | 44 | 39 | 62 | 51 | 44 | 39 | 50 | 43 | 39 | 49 | 43 | 38 | 48 | 42 | 38 | 37 | | | | | 37 | | | |
| 10 | 60 | 48 | 41 | 36 | 59 | 47 | 40 | 36 | 46 | 40 | 36 | 45 | 40 | 35 | 45 | 39 | 35 | 34 | | | | | 34 | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 3943 | 3943 | 3943 |
| 5° | 3902 | 3888 | 3888 |
| 10° | 3873 | 3762 | 3691 |
| 15° | 3827 | 3581 | 3413 |
| 20° | 3766 | 3352 | 3059 |
| 25° | 3690 | 3083 | 2657 |
| 30° | 3612 | 2777 | 2238 |
| 35° | 3519 | 2451 | 1842 |
| 40° | 3417 | 2104 | 1452 |
| 45° | 3312 | 1749 | 1085 |
| 50° | 3198 | 1377 | 794 |
| 55° | 3072 | 1017 | 634 |
| 60° | 2937 | 706 | 485 |
| 65° | 2762 | 548 | 356 |
| 70° | 2502 | 385 | 279 |
| 75° | 2183 | 270 | 212 |
| 80° | 1757 | 214 | 188 |
| 85° | 974 | 172 | 172 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3312 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 41.4 | 5.7 |
| 10°-20° | 110.5 | 15.3 |
| 20°-30° | 147.4 | 20.4 |
| 30°-40° | 148.4 | 20.6 |
| 40°-50° | 121.7 | 16.9 |
| 50°-60° | 83.2 | 11.5 |
| 60°-70° | 46.5 | 6.4 |
| 70°-80° | 18.4 | 2.6 |
| 80°-90° | 3.5 | 0.5 |
| 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° | 299.3 | 41.5 |
| 0°-40° | 447.7 | 62.1 |
| 0°-60° | 652.7 | 90.5 |
| 0°-90° | 721.1 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 721.1 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 446 | 446 | 446 | 446 | 446 | |
| 5° | 440 | 445 | 438 | 436 | 438 | 42 |
| 15° | 418 | 414 | 391 | 378 | 373 | 118 |
| 25° | 378 | 360 | 316 | 284 | 272 | 174 |
| 35° | 326 | 292 | 227 | 184 | 171 | 204 |
| 45° | 265 | 216 | 140 | 98 | 87 | 204 |
| 55° | 199 | 140 | 66 | 44 | 41 | 178 |
| 65° | 132 | 66 | 26 | 19 | 17 | 130 |
| 75° | 64 | 17 | 8 | 7 | 6 | 69 |
| 85° | 10 | 2 | 2 | 2 | 2 | 14 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P1056032

CATALOG NUMBER: S124R3DRP-S350D950-X4F0-XX-UDD-F-S

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 446.0 | 446.0 | 446.0 | 446.0 | 446.0 |
| 2.5° | 441.8 | 447.2 | 443.5 | 443.9 | 444.7 |
| 5° | 439.7 | 444.7 | 438.1 | 436.0 | 438.1 |
| 7.5° | 436.0 | 439.7 | 429.8 | 425.6 | 426.4 |
| 10° | 431.4 | 432.7 | 419.0 | 411.9 | 411.1 |
| 12.5° | 425.6 | 424.0 | 406.1 | 395.7 | 393.2 |
| 15° | 418.1 | 413.6 | 391.2 | 377.5 | 372.9 |
| 17.5° | 409.4 | 401.5 | 374.5 | 356.7 | 350.0 |
| 20° | 400.3 | 388.7 | 356.3 | 333.4 | 325.1 |
| 22.5° | 389.5 | 375.0 | 336.8 | 308.9 | 299.4 |
| 25° | 378.3 | 359.6 | 316.0 | 284.0 | 272.4 |
| 27.5° | 366.7 | 343.8 | 294.4 | 258.7 | 247.1 |
| 30° | 353.8 | 326.8 | 272.0 | 233.4 | 219.2 |
| 32.5° | 340.1 | 309.4 | 249.6 | 208.4 | 195.2 |
| 35° | 326.0 | 291.5 | 227.1 | 183.9 | 170.7 |
| 37.5° | 311.4 | 273.2 | 204.7 | 160.7 | 147.4 |
| 40° | 296.1 | 254.5 | 182.3 | 138.7 | 125.8 |
| 42.5° | 280.3 | 235.4 | 160.7 | 117.9 | 105.9 |
| 45° | 264.9 | 216.3 | 139.9 | 98.4 | 86.8 |
| 47.5° | 248.7 | 197.2 | 119.6 | 80.1 | 70.2 |
| 50° | 232.5 | 178.1 | 100.1 | 64.4 | 57.7 |
| 52.5° | 215.9 | 159.0 | 82.2 | 52.7 | 48.2 |
| 55° | 199.3 | 139.9 | 66.0 | 44.0 | 41.1 |
| 57.5° | 182.7 | 120.8 | 51.1 | 37.4 | 34.0 |
| 60° | 166.1 | 102.1 | 39.9 | 30.3 | 27.4 |
| 62.5° | 149.1 | 83.5 | 32.8 | 24.1 | 21.6 |
| 65° | 132.0 | 66.4 | 26.2 | 18.7 | 17.0 |
| 67.5° | 115.0 | 50.7 | 19.9 | 14.5 | 13.3 |
| 70° | 96.8 | 36.1 | 14.9 | 11.2 | 10.8 |
| 72.5° | 81.0 | 24.5 | 10.8 | 8.7 | 8.3 |
| 75° | 63.9 | 17.4 | 7.9 | 6.6 | 6.2 |
| 77.5° | 49.4 | 11.2 | 5.8 | 5.4 | 5.0 |
| 80° | 34.5 | 6.2 | 4.2 | 3.7 | 3.7 |
| 82.5° | 21.2 | 3.3 | 2.9 | 2.5 | 2.5 |
| 85° | 9.6 | 1.7 | 1.7 | 1.7 | 1.7 |
| 87.5° | 1.7 | 0.8 | 0.8 | 0.8 | 0.8 |
| 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 | 15.49 | 16.90 | 15.85 | 17.21 | 17.52 | 6.58 | 7.99 | 6.95 | 8.30 | 8.62 |
| | 3H | 17.08 | 18.33 | 17.46 | 18.66 | 19.02 | 7.17 | 8.43 | 7.55 | 8.75 | 9.12 |
| | 4H | 17.67 | 18.84 | 18.07 | 19.19 | 19.57 | 7.33 | 8.50 | 7.73 | 8.85 | 9.23 |
| | 6H | 18.10 | 19.18 | 18.52 | 19.55 | 19.94 | 7.44 | 8.51 | 7.85 | 8.88 | 9.27 |
| | 8H | 18.22 | 19.24 | 18.64 | 19.63 | 20.03 | 7.46 | 8.48 | 7.88 | 8.87 | 9.27 |
| | 12H | 18.26 | 19.23 | 18.69 | 19.62 | 20.05 | 7.46 | 8.44 | 7.90 | 8.82 | 9.25 |
| 4H | 2H | 15.34 | 16.51 | 15.75 | 16.86 | 17.24 | 7.17 | 8.34 | 7.57 | 8.69 | 9.07 |
| | 3H | 16.99 | 17.95 | 17.40 | 18.35 | 18.76 | 7.88 | 8.84 | 8.29 | 9.24 | 9.64 |
| | 4H | 17.60 | 18.45 | 18.03 | 18.87 | 19.31 | 8.08 | 8.94 | 8.51 | 9.36 | 9.80 |
| | 6H | 18.09 | 18.83 | 18.55 | 19.28 | 19.74 | 8.24 | 8.99 | 8.71 | 9.43 | 9.90 |
| | 8H | 18.23 | 18.92 | 18.70 | 19.37 | 19.84 | 8.28 | 8.97 | 8.74 | 9.41 | 9.88 |
| | 12H | 18.31 | 18.92 | 18.79 | 19.40 | 19.87 | 8.30 | 8.92 | 8.79 | 9.40 | 9.87 |
| 8H | 4H | 17.49 | 18.18 | 17.96 | 18.63 | 19.10 | 8.35 | 9.04 | 8.82 | 9.49 | 9.96 |
| | 6H | 17.97 | 18.54 | 18.47 | 19.03 | 19.51 | 8.55 | 9.12 | 9.05 | 9.61 | 10.09 |
| | 8H | 18.12 | 18.62 | 18.64 | 19.14 | 19.63 | 8.61 | 9.12 | 9.13 | 9.63 | 10.12 |
| | 12H | 18.21 | 18.66 | 18.72 | 19.15 | 19.72 | 8.67 | 9.12 | 9.19 | 9.61 | 10.18 |
| 12H | 4H | 17.45 | 18.06 | 17.94 | 18.55 | 19.02 | 8.38 | 8.99 | 8.86 | 9.47 | 9.95 |
| | 6H | 17.92 | 18.43 | 18.44 | 18.94 | 19.43 | 8.58 | 9.09 | 9.10 | 9.60 | 10.09 |
| | 8H | 18.08 | 18.53 | 18.59 | 19.02 | 19.59 | 8.67 | 9.12 | 9.19 | 9.62 | 10.19 |