

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: P1060859

Luminaire Tested: S124RDR-H350D950-X4F0-XX-UDD-BVL-S

Issue Date: 8/7/2025

Test Information

Test Method: LM-79-2019
Report Number: P1060859
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2406-143-78)
Test Lab: INNOVATION CENTER
Issue Date: 8/7/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124RDR-H350D950-X4F0-XX-UDD-BVL-S
Description: DEFINE 4 SILVER 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

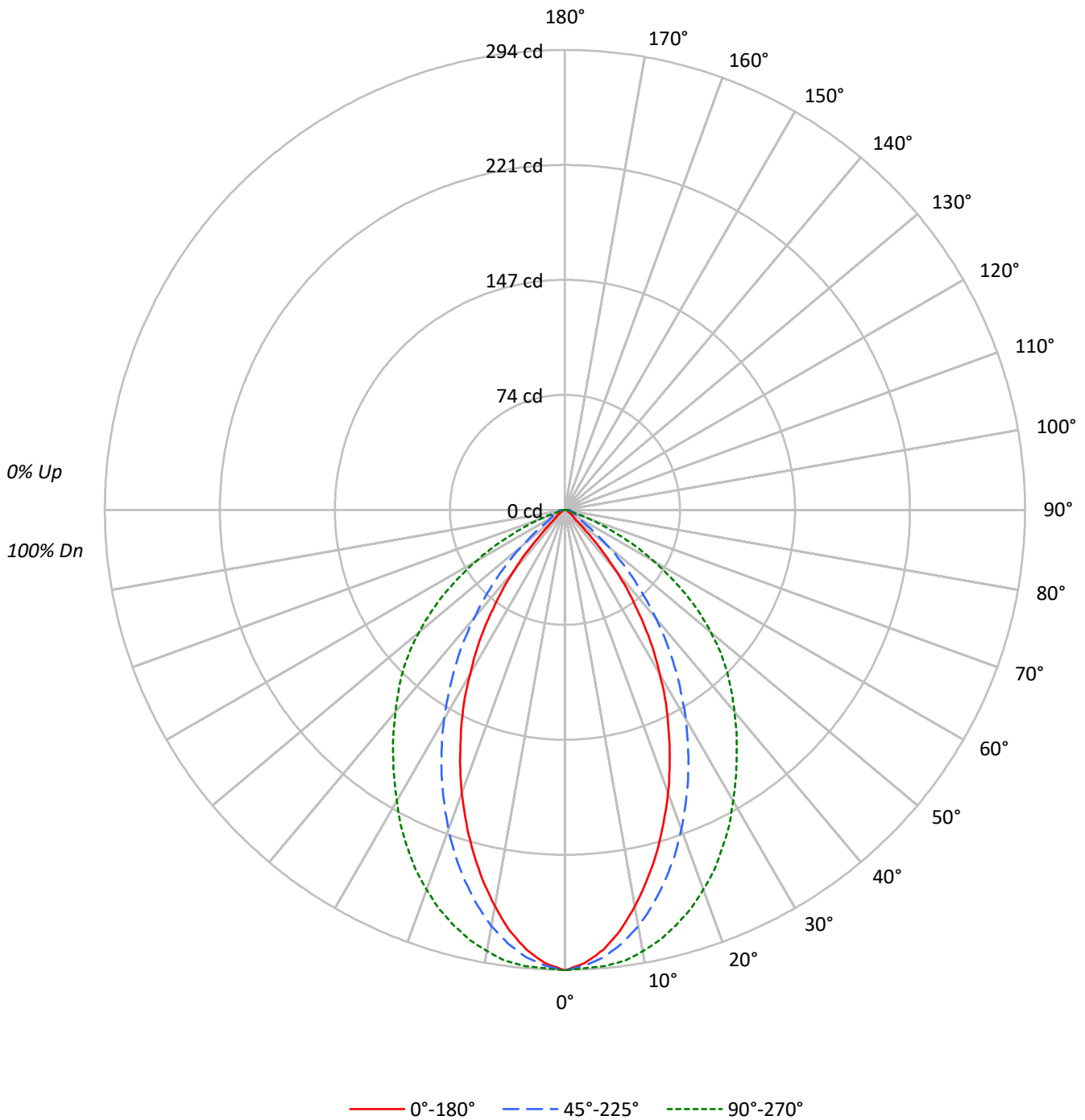
Lumens per Lamp: N/A
Luminaire Lumens: 369.4 lumens
Efficiency: N/A
Efficacy: 31.6 lumens/watt
Spacing Criteria (0/90/45): 0.79 / 1.11 / 0.97
Luminous Opening: Rectangular (W 0.31' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 11.7
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 | 103 | 109 | 106 | 103 | 101 | 102 | 100 | 98 | 98 | 96 | 95 | 95 | 93 | 92 | 90 |
| 2 | 105 | 99 | 94 | 89 | 102 | 97 | 92 | 88 | 93 | 90 | 86 | 90 | 87 | 84 | 87 | 85 | 83 | 81 |
| 3 | 98 | 90 | 84 | 79 | 96 | 88 | 83 | 78 | 86 | 81 | 77 | 83 | 79 | 76 | 81 | 77 | 74 | 73 |
| 4 | 92 | 82 | 75 | 70 | 90 | 81 | 75 | 70 | 79 | 73 | 69 | 77 | 72 | 68 | 75 | 71 | 67 | 65 |
| 5 | 86 | 76 | 68 | 63 | 84 | 75 | 68 | 63 | 73 | 67 | 62 | 71 | 66 | 62 | 69 | 65 | 61 | 59 |
| 6 | 80 | 70 | 62 | 57 | 79 | 69 | 62 | 57 | 67 | 61 | 57 | 66 | 60 | 56 | 64 | 59 | 56 | 54 |
| 7 | 76 | 64 | 57 | 52 | 74 | 64 | 57 | 52 | 62 | 56 | 52 | 61 | 56 | 51 | 60 | 55 | 51 | 50 |
| 8 | 71 | 60 | 53 | 48 | 70 | 59 | 53 | 48 | 58 | 52 | 48 | 57 | 51 | 47 | 56 | 51 | 47 | 46 |
| 9 | 67 | 56 | 49 | 44 | 66 | 55 | 49 | 44 | 54 | 48 | 44 | 53 | 48 | 44 | 52 | 47 | 44 | 42 |
| 10 | 64 | 52 | 46 | 41 | 62 | 52 | 45 | 41 | 51 | 45 | 41 | 50 | 45 | 41 | 49 | 44 | 41 | 39 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 2534 | 2534 | 2534 |
| 5° | 2440 | 2480 | 2531 |
| 10° | 2250 | 2363 | 2505 |
| 15° | 2019 | 2193 | 2450 |
| 20° | 1765 | 1993 | 2369 |
| 25° | 1493 | 1771 | 2263 |
| 30° | 1205 | 1535 | 2136 |
| 35° | 898 | 1282 | 2012 |
| 40° | 570 | 1016 | 1893 |
| 45° | 228 | 745 | 1785 |
| 50° | 99 | 476 | 1629 |
| 55° | 77 | 246 | 1422 |
| 60° | 53 | 167 | 1128 |
| 65° | 39 | 167 | 770 |
| 70° | 40 | 146 | 352 |
| 75° | 53 | 156 | 143 |
| 80° | 79 | 174 | 154 |
| 85° | 158 | 306 | 227 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 1785 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 26.9 | 7.3 |
| 10°-20° | 69.5 | 18.8 |
| 20°-30° | 87.8 | 23.8 |
| 30°-40° | 80.6 | 21.8 |
| 40°-50° | 55.0 | 14.9 |
| 50°-60° | 29.8 | 8.1 |
| 60°-70° | 12.6 | 3.4 |
| 70°-80° | 4.4 | 1.2 |
| 80°-90° | 2.8 | 0.7 |
| 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° | 184.2 | 49.9 |
| 0°-40° | 264.8 | 71.7 |
| 0°-60° | 349.6 | 94.6 |
| 0°-90° | 369.4 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 369.4 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 294 | 294 | 294 | 294 | 294 | |
| 5° | 282 | 286 | 287 | 289 | 293 | 26 |
| 15° | 226 | 234 | 246 | 264 | 275 | 63 |
| 25° | 157 | 167 | 186 | 215 | 238 | 72 |
| 35° | 85 | 97 | 122 | 160 | 191 | 53 |
| 45° | 19 | 30 | 61 | 108 | 147 | 17 |
| 55° | 5 | 6 | 16 | 60 | 95 | 5 |
| 65° | 2 | 2 | 8 | 19 | 38 | 2 |
| 75° | 2 | 4 | 5 | 4 | 4 | 2 |
| 85° | 2 | 3 | 3 | 3 | 2 | 1 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P1060859

CATALOG NUMBER: S124RDR-H350D950-X4F0-XX-UDD-BVL-S

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 294.3 | 294.3 | 294.3 | 294.3 | 294.3 |
| 2.5° | 290.1 | 293.6 | 291.6 | 292.4 | 293.2 |
| 5° | 282.3 | 286.5 | 286.9 | 289.3 | 292.8 |
| 7.5° | 271.3 | 276.4 | 279.5 | 285.4 | 290.8 |
| 10° | 257.3 | 263.5 | 270.2 | 279.5 | 286.5 |
| 12.5° | 242.5 | 249.1 | 258.9 | 272.1 | 281.5 |
| 15° | 226.5 | 233.9 | 246.0 | 263.5 | 274.8 |
| 17.5° | 209.7 | 217.9 | 232.4 | 253.0 | 267.4 |
| 20° | 192.6 | 201.6 | 217.5 | 240.9 | 258.5 |
| 22.5° | 175.0 | 184.4 | 201.9 | 228.5 | 249.1 |
| 25° | 157.1 | 167.2 | 186.4 | 215.2 | 238.2 |
| 27.5° | 140.0 | 149.3 | 170.4 | 201.9 | 227.3 |
| 30° | 121.2 | 131.8 | 154.4 | 188.3 | 214.8 |
| 32.5° | 104.1 | 114.2 | 138.0 | 174.3 | 203.1 |
| 35° | 85.4 | 96.7 | 122.0 | 160.2 | 191.4 |
| 37.5° | 67.8 | 78.8 | 106.4 | 147.0 | 180.1 |
| 40° | 50.7 | 62.0 | 90.4 | 133.7 | 168.4 |
| 42.5° | 33.9 | 46.0 | 75.2 | 120.1 | 157.5 |
| 45° | 18.7 | 30.0 | 61.2 | 108.4 | 146.6 |
| 47.5° | 9.7 | 16.4 | 48.0 | 96.7 | 134.9 |
| 50° | 7.4 | 9.0 | 35.5 | 83.8 | 121.6 |
| 52.5° | 6.2 | 6.6 | 24.2 | 71.0 | 108.4 |
| 55° | 5.1 | 5.5 | 16.4 | 59.6 | 94.7 |
| 57.5° | 3.9 | 4.3 | 11.7 | 48.7 | 79.5 |
| 60° | 3.1 | 3.5 | 9.7 | 37.4 | 65.5 |
| 62.5° | 2.3 | 2.7 | 9.4 | 27.7 | 51.5 |
| 65° | 1.9 | 2.3 | 8.2 | 18.7 | 37.8 |
| 67.5° | 1.6 | 2.3 | 7.0 | 12.1 | 25.3 |
| 70° | 1.6 | 3.1 | 5.8 | 7.8 | 14.0 |
| 72.5° | 1.6 | 3.5 | 5.1 | 5.1 | 5.1 |
| 75° | 1.6 | 4.3 | 4.7 | 4.3 | 4.3 |
| 77.5° | 1.6 | 3.9 | 3.9 | 3.9 | 3.9 |
| 80° | 1.6 | 3.5 | 3.5 | 3.5 | 3.1 |
| 82.5° | 1.6 | 3.1 | 3.5 | 3.5 | 2.7 |
| 85° | 1.6 | 3.1 | 3.1 | 3.1 | 2.3 |
| 87.5° | 1.2 | 3.1 | 3.1 | 3.1 | 1.6 |
| 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 | 0.00 | 11.67 | 12.95 | 12.04 | 13.26 | 13.57 |
| | 3H | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 12.02 | 13.15 | 12.40 | 13.48 | 13.85 |
| | 4H | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 11.99 | 13.04 | 12.40 | 13.39 | 13.78 |
| | 6H | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 11.97 | 12.93 | 12.38 | 13.30 | 13.69 |
| | 8H | 0.00 | 0.00 | 0.00 | 0.00 | 0.39 | 11.96 | 12.87 | 12.39 | 13.26 | 13.66 |
| | 12H | 0.00 | 0.37 | 0.00 | 0.76 | 1.19 | 11.95 | 12.82 | 12.39 | 13.21 | 13.64 |
| 4H | 2H | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 11.47 | 12.52 | 11.88 | 12.87 | 13.26 |
| | 3H | 0.00 | 0.00 | 0.00 | 0.06 | 0.46 | 11.87 | 12.72 | 12.28 | 13.13 | 13.53 |
| | 4H | 0.26 | 1.02 | 0.69 | 1.44 | 1.89 | 11.85 | 12.61 | 12.28 | 13.03 | 13.48 |
| | 6H | 1.51 | 2.17 | 1.98 | 2.62 | 3.09 | 11.87 | 12.52 | 12.33 | 12.97 | 13.44 |
| | 8H | 2.09 | 2.70 | 2.56 | 3.15 | 3.62 | 11.87 | 12.49 | 12.35 | 12.94 | 13.41 |
| | 12H | 2.77 | 3.32 | 3.26 | 3.80 | 4.28 | 11.91 | 12.45 | 12.40 | 12.94 | 13.41 |
| 8H | 4H | 1.33 | 1.95 | 1.80 | 2.40 | 2.87 | 11.75 | 12.36 | 12.22 | 12.81 | 13.28 |
| | 6H | 2.94 | 3.45 | 3.45 | 3.94 | 4.43 | 11.80 | 12.30 | 12.30 | 12.80 | 13.28 |
| | 8H | 3.78 | 4.23 | 4.30 | 4.74 | 5.24 | 11.85 | 12.31 | 12.38 | 12.82 | 13.32 |
| | 12H | 4.75 | 5.15 | 5.26 | 5.64 | 6.21 | 11.97 | 12.37 | 12.48 | 12.86 | 13.44 |
| 12H | 4H | 1.52 | 2.06 | 2.01 | 2.55 | 3.02 | 11.71 | 12.25 | 12.20 | 12.74 | 13.21 |
| | 6H | 3.29 | 3.74 | 3.81 | 4.26 | 4.75 | 11.77 | 12.22 | 12.29 | 12.73 | 13.23 |
| | 8H | 4.30 | 4.70 | 4.82 | 5.20 | 5.77 | 11.87 | 12.27 | 12.38 | 12.76 | 13.34 |