

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: P1060864

Luminaire Tested: S124RDR-H350D950-X4F0-XX-UDD-WVL-B

Issue Date: 8/7/2025

Test Information

Test Method: LM-79-2019
Report Number: P1060864
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2406-143-37)
Test Lab: INNOVATION CENTER
Issue Date: 8/7/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124RDR-H350D950-X4F0-XX-UDD-WVL-B
Description: DEFINE 4 BLACK REGRESSED DIRECT RECESSED HOUSING WITH WHITE STRAIGHT BLADE
LOUVER WITH DIFFUSER
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

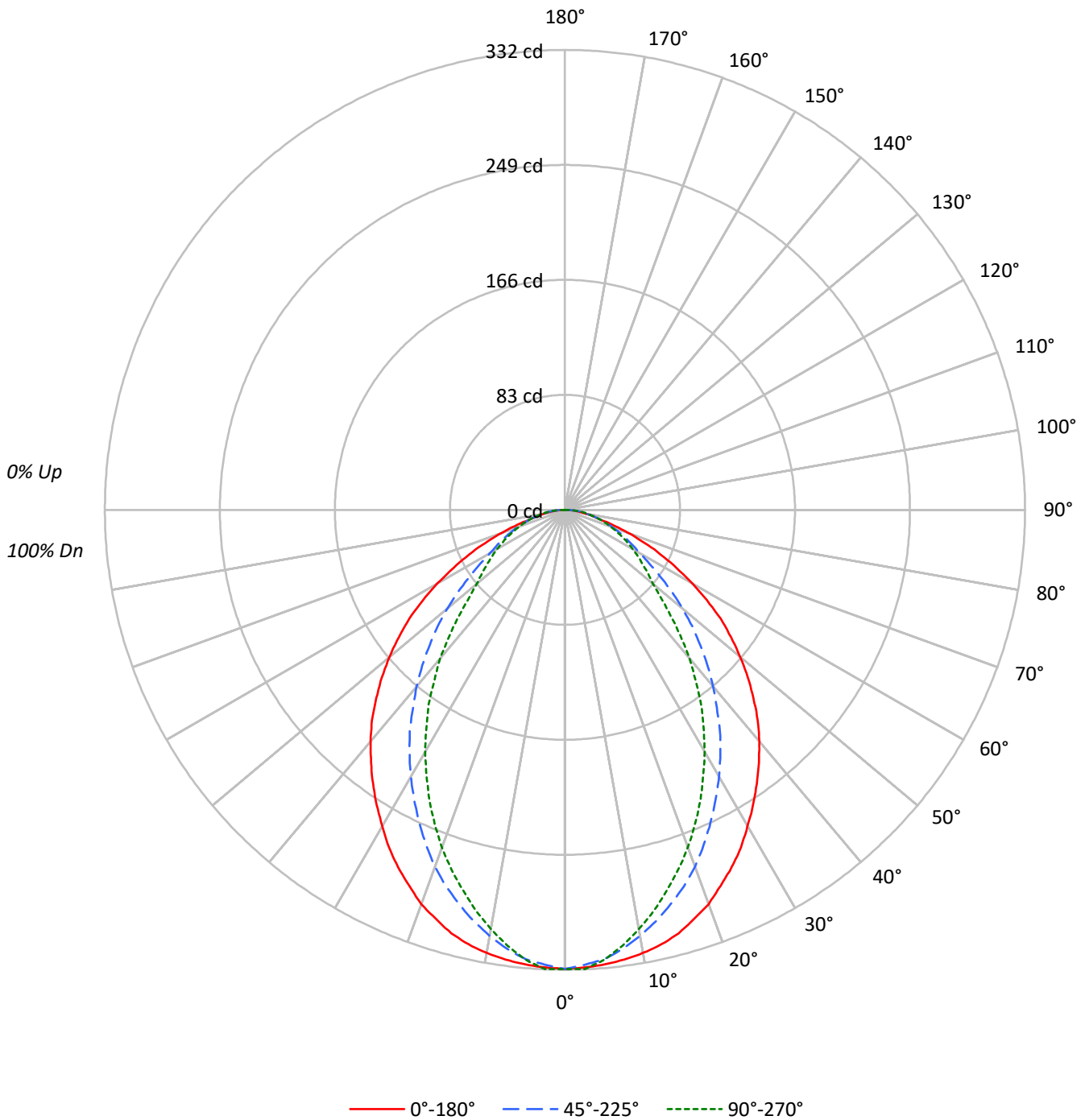
Lumens per Lamp: N/A
Luminaire Lumens: 639.0 lumens
Efficiency: N/A
Efficacy: 54.6 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.96 / 1.12
Luminous Opening: Rectangular (W 0.31' x L: 4' x H: 0')
CIE Type: Direct

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 | 110 | 106 | 102 | 99 | 107 | 104 | 100 | 97 | 99 | 97 | 94 | 96 | 93 | 91 | 92 | 90 | 88 | 86 |
| 2 | 101 | 94 | 88 | 83 | 99 | 92 | 86 | 82 | 89 | 84 | 80 | 85 | 82 | 78 | 82 | 79 | 76 | 74 |
| 3 | 93 | 84 | 76 | 71 | 91 | 82 | 75 | 70 | 79 | 74 | 69 | 77 | 72 | 68 | 74 | 70 | 66 | 64 |
| 4 | 86 | 75 | 67 | 61 | 84 | 74 | 67 | 61 | 72 | 65 | 60 | 69 | 64 | 59 | 67 | 62 | 58 | 56 |
| 5 | 80 | 68 | 60 | 54 | 78 | 67 | 59 | 53 | 65 | 58 | 53 | 63 | 57 | 52 | 61 | 56 | 52 | 50 |
| 6 | 74 | 62 | 54 | 48 | 72 | 61 | 53 | 47 | 59 | 52 | 47 | 58 | 51 | 47 | 56 | 51 | 46 | 44 |
| 7 | 69 | 57 | 48 | 43 | 68 | 56 | 48 | 43 | 54 | 47 | 42 | 53 | 47 | 42 | 52 | 46 | 42 | 40 |
| 8 | 65 | 52 | 44 | 39 | 63 | 51 | 44 | 39 | 50 | 43 | 38 | 49 | 43 | 38 | 48 | 42 | 38 | 36 |
| 9 | 61 | 48 | 40 | 35 | 59 | 48 | 40 | 35 | 46 | 40 | 35 | 45 | 39 | 35 | 44 | 39 | 35 | 33 |
| 10 | 57 | 45 | 37 | 32 | 56 | 44 | 37 | 32 | 43 | 37 | 32 | 42 | 36 | 32 | 41 | 36 | 32 | 30 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 2854 | 2854 | 2854 |
| 5° | 2848 | 2814 | 2818 |
| 10° | 2840 | 2731 | 2687 |
| 15° | 2822 | 2628 | 2535 |
| 20° | 2777 | 2513 | 2377 |
| 25° | 2705 | 2364 | 2198 |
| 30° | 2621 | 2211 | 2006 |
| 35° | 2538 | 2051 | 1801 |
| 40° | 2452 | 1869 | 1571 |
| 45° | 2343 | 1679 | 1314 |
| 50° | 2212 | 1482 | 1111 |
| 55° | 2058 | 1257 | 1028 |
| 60° | 1824 | 1066 | 973 |
| 65° | 1555 | 984 | 921 |
| 70° | 1216 | 911 | 874 |
| 75° | 828 | 842 | 842 |
| 80° | 714 | 793 | 813 |
| 85° | 613 | 771 | 850 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2343 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 30.8 | 4.8 |
| 10°-20° | 83.7 | 13.1 |
| 20°-30° | 116.2 | 18.2 |
| 30°-40° | 124.6 | 19.5 |
| 40°-50° | 110.4 | 17.3 |
| 50°-60° | 83.2 | 13.0 |
| 60°-70° | 53.9 | 8.4 |
| 70°-80° | 27.6 | 4.3 |
| 80°-90° | 8.5 | 1.3 |
| 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° | 230.8 | 36.1 |
| 0°-40° | 355.4 | 55.6 |
| 0°-60° | 549.0 | 85.9 |
| 0°-90° | 639.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 639.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 331 | 331 | 331 | 331 | 331 | |
| 5° | 330 | 330 | 326 | 326 | 326 | 31 |
| 15° | 317 | 310 | 295 | 287 | 284 | 89 |
| 25° | 285 | 270 | 249 | 236 | 231 | 131 |
| 35° | 241 | 220 | 195 | 178 | 171 | 151 |
| 45° | 192 | 168 | 138 | 116 | 108 | 148 |
| 55° | 137 | 114 | 84 | 70 | 68 | 122 |
| 65° | 76 | 62 | 48 | 46 | 45 | 76 |
| 75° | 25 | 26 | 25 | 25 | 25 | 29 |
| 85° | 6 | 7 | 8 | 9 | 9 | 7 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P1060864

CATALOG NUMBER: S124RDR-H350D950-X4F0-XX-UDD-WVL-B

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 331.4 | 331.4 | 331.4 | 331.4 | 331.4 |
| 2.5° | 330.6 | 331.8 | 328.7 | 331.0 | 331.8 |
| 5° | 329.5 | 329.8 | 325.6 | 326.0 | 326.0 |
| 7.5° | 327.5 | 326.7 | 319.7 | 317.8 | 317.4 |
| 10° | 324.8 | 322.4 | 312.3 | 308.4 | 307.3 |
| 12.5° | 321.3 | 317.0 | 304.1 | 298.7 | 296.4 |
| 15° | 316.6 | 309.6 | 294.8 | 287.4 | 284.3 |
| 17.5° | 309.6 | 300.6 | 285.1 | 275.7 | 272.2 |
| 20° | 303.0 | 290.9 | 274.2 | 262.5 | 259.4 |
| 22.5° | 293.6 | 280.8 | 261.7 | 249.2 | 245.3 |
| 25° | 284.7 | 269.5 | 248.8 | 235.6 | 231.3 |
| 27.5° | 274.9 | 257.8 | 235.6 | 221.6 | 216.1 |
| 30° | 263.6 | 245.3 | 222.4 | 207.6 | 201.7 |
| 32.5° | 252.7 | 233.3 | 208.7 | 192.4 | 186.1 |
| 35° | 241.4 | 219.6 | 195.1 | 177.6 | 171.3 |
| 37.5° | 229.8 | 206.8 | 179.9 | 162.8 | 154.6 |
| 40° | 218.1 | 193.9 | 166.3 | 146.8 | 139.8 |
| 42.5° | 206.0 | 180.7 | 152.3 | 132.0 | 123.1 |
| 45° | 192.4 | 167.5 | 137.9 | 116.4 | 107.9 |
| 47.5° | 179.1 | 154.6 | 124.6 | 101.3 | 93.5 |
| 50° | 165.1 | 141.0 | 110.6 | 88.0 | 82.9 |
| 52.5° | 151.1 | 127.0 | 97.0 | 77.9 | 75.5 |
| 55° | 137.1 | 114.1 | 83.7 | 70.5 | 68.5 |
| 57.5° | 121.5 | 100.9 | 72.0 | 63.9 | 62.3 |
| 60° | 105.9 | 86.5 | 61.9 | 57.6 | 56.5 |
| 62.5° | 90.7 | 74.0 | 54.9 | 51.4 | 50.6 |
| 65° | 76.3 | 61.5 | 48.3 | 45.6 | 45.2 |
| 67.5° | 62.3 | 50.6 | 42.1 | 40.5 | 39.7 |
| 70° | 48.3 | 40.5 | 36.2 | 35.4 | 34.7 |
| 72.5° | 35.8 | 32.7 | 30.8 | 30.4 | 30.0 |
| 75° | 24.9 | 26.1 | 25.3 | 25.3 | 25.3 |
| 77.5° | 19.9 | 20.3 | 20.6 | 21.0 | 20.6 |
| 80° | 14.4 | 15.6 | 16.0 | 16.7 | 16.4 |
| 82.5° | 10.1 | 10.9 | 12.1 | 12.5 | 12.9 |
| 85° | 6.2 | 6.6 | 7.8 | 8.6 | 8.6 |
| 87.5° | 2.7 | 3.1 | 3.9 | 4.7 | 5.1 |
| 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 | 14.08 | 15.58 | 14.45 | 15.90 | 16.21 | 10.65 | 12.15 | 11.01 | 12.46 | 12.78 |
| | 3H | 15.29 | 16.63 | 15.67 | 16.96 | 17.32 | 12.34 | 13.69 | 12.72 | 14.01 | 14.38 |
| | 4H | 15.59 | 16.85 | 15.99 | 17.20 | 17.58 | 13.02 | 14.28 | 13.42 | 14.63 | 15.01 |
| | 6H | 15.80 | 16.96 | 16.21 | 17.33 | 17.72 | 13.57 | 14.73 | 13.98 | 15.10 | 15.49 |
| | 8H | 15.86 | 16.96 | 16.28 | 17.35 | 17.75 | 13.79 | 14.89 | 14.21 | 15.28 | 15.69 |
| | 12H | 15.89 | 16.95 | 16.32 | 17.33 | 17.76 | 13.96 | 15.02 | 14.39 | 15.40 | 15.83 |
| 4H | 2H | 14.23 | 15.49 | 14.63 | 15.83 | 16.21 | 11.31 | 12.57 | 11.71 | 12.92 | 13.30 |
| | 3H | 15.63 | 16.67 | 16.04 | 17.07 | 17.47 | 13.22 | 14.26 | 13.63 | 14.66 | 15.06 |
| | 4H | 16.05 | 16.99 | 16.49 | 17.41 | 17.85 | 14.02 | 14.96 | 14.45 | 15.37 | 15.81 |
| | 6H | 16.38 | 17.20 | 16.84 | 17.64 | 18.10 | 14.71 | 15.52 | 15.16 | 15.97 | 16.43 |
| | 8H | 16.48 | 17.24 | 16.94 | 17.69 | 18.15 | 14.98 | 15.74 | 15.44 | 16.19 | 16.66 |
| | 12H | 16.55 | 17.23 | 17.03 | 17.71 | 18.18 | 15.21 | 15.90 | 15.70 | 16.37 | 16.85 |
| 8H | 4H | 16.18 | 16.94 | 16.64 | 17.39 | 17.86 | 14.34 | 15.10 | 14.80 | 15.54 | 16.01 |
| | 6H | 16.60 | 17.23 | 17.10 | 17.73 | 18.20 | 15.16 | 15.79 | 15.66 | 16.29 | 16.76 |
| | 8H | 16.76 | 17.33 | 17.27 | 17.84 | 18.33 | 15.53 | 16.10 | 16.04 | 16.61 | 17.10 |
| | 12H | 16.89 | 17.39 | 17.40 | 17.88 | 18.45 | 15.87 | 16.37 | 16.38 | 16.86 | 17.43 |
| 12H | 4H | 16.19 | 16.87 | 16.67 | 17.35 | 17.82 | 14.36 | 15.05 | 14.85 | 15.53 | 16.00 |
| | 6H | 16.63 | 17.20 | 17.14 | 17.71 | 18.19 | 15.22 | 15.79 | 15.74 | 16.30 | 16.79 |
| | 8H | 16.84 | 17.34 | 17.35 | 17.83 | 18.40 | 15.66 | 16.16 | 16.17 | 16.65 | 17.22 |