

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: P1060787

Luminaire Tested: S124RDR-H350D830-X4F0-XX-UDD-BVL-S

Issue Date: 8/7/2025

Test Information

Test Method: LM-79-2019
Report Number: P1060787
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-H350D830-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: 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

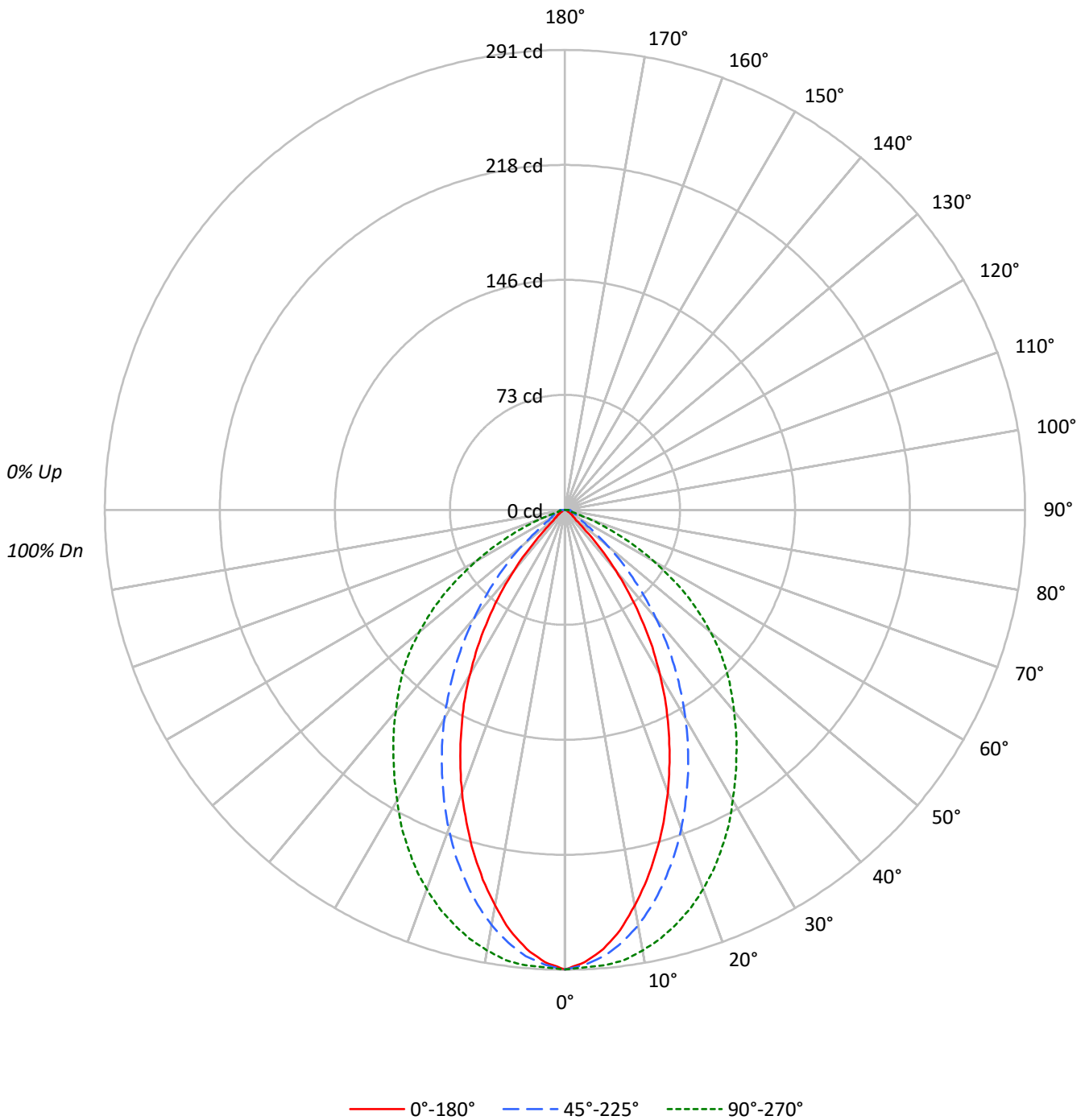
Lumens per Lamp: N/A
Luminaire Lumens: 365.0 lumens
Efficiency: N/A
Efficacy: 31.2 lumens/watt
Spacing Criteria (0/90/45): 0.79 / 1.11 / 0.97
Luminous Opening: Rectangular (W 0.31' x L: 4' x H: 0')
CIE Type: Direct

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 | 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 | 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° | 2504 | 2504 | 2504 |
| 5° | 2411 | 2451 | 2501 |
| 10° | 2223 | 2334 | 2475 |
| 15° | 1995 | 2166 | 2420 |
| 20° | 1744 | 1969 | 2340 |
| 25° | 1475 | 1749 | 2236 |
| 30° | 1191 | 1516 | 2110 |
| 35° | 887 | 1268 | 1988 |
| 40° | 563 | 1005 | 1871 |
| 45° | 225 | 737 | 1763 |
| 50° | 98 | 470 | 1610 |
| 55° | 75 | 243 | 1405 |
| 60° | 53 | 165 | 1114 |
| 65° | 39 | 165 | 762 |
| 70° | 38 | 146 | 350 |
| 75° | 50 | 153 | 140 |
| 80° | 74 | 174 | 154 |
| 85° | 148 | 306 | 227 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 1763 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 26.6 | 7.3 |
| 10°-20° | 68.7 | 18.8 |
| 20°-30° | 86.7 | 23.8 |
| 30°-40° | 79.7 | 21.8 |
| 40°-50° | 54.3 | 14.9 |
| 50°-60° | 29.5 | 8.1 |
| 60°-70° | 12.5 | 3.4 |
| 70°-80° | 4.3 | 1.2 |
| 80°-90° | 2.8 | 0.8 |
| 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° | 182.0 | 49.9 |
| 0°-40° | 261.7 | 71.7 |
| 0°-60° | 345.4 | 94.6 |
| 0°-90° | 365.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 365.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 291 | 291 | 291 | 291 | 291 | |
| 5° | 279 | 283 | 284 | 286 | 289 | 26 |
| 15° | 224 | 231 | 243 | 260 | 272 | 62 |
| 25° | 155 | 165 | 184 | 213 | 235 | 71 |
| 35° | 84 | 96 | 121 | 158 | 189 | 52 |
| 45° | 18 | 30 | 60 | 107 | 145 | 17 |
| 55° | 5 | 5 | 16 | 59 | 94 | 5 |
| 65° | 2 | 2 | 8 | 18 | 37 | 2 |
| 75° | 2 | 4 | 5 | 4 | 4 | 2 |
| 85° | 2 | 3 | 3 | 3 | 2 | 1 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P1060787

CATALOG NUMBER: S124RDR-H350D830-X4F0-XX-UDD-BVL-S

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 290.8 | 290.8 | 290.8 | 290.8 | 290.8 |
| 2.5° | 286.6 | 290.0 | 288.1 | 288.9 | 289.7 |
| 5° | 278.9 | 283.1 | 283.5 | 285.8 | 289.3 |
| 7.5° | 268.1 | 273.1 | 276.2 | 281.9 | 287.3 |
| 10° | 254.2 | 260.4 | 266.9 | 276.2 | 283.1 |
| 12.5° | 239.6 | 246.1 | 255.8 | 268.9 | 278.1 |
| 15° | 223.8 | 231.1 | 243.0 | 260.4 | 271.5 |
| 17.5° | 207.2 | 215.3 | 229.6 | 250.0 | 264.2 |
| 20° | 190.3 | 199.1 | 214.9 | 238.0 | 255.4 |
| 22.5° | 172.9 | 182.2 | 199.5 | 225.7 | 246.1 |
| 25° | 155.2 | 165.2 | 184.1 | 212.6 | 235.3 |
| 27.5° | 138.3 | 147.5 | 168.3 | 199.5 | 224.6 |
| 30° | 119.8 | 130.2 | 152.5 | 186.0 | 212.2 |
| 32.5° | 102.8 | 112.9 | 136.4 | 172.2 | 200.7 |
| 35° | 84.4 | 95.5 | 120.6 | 158.3 | 189.1 |
| 37.5° | 67.0 | 77.8 | 105.2 | 145.2 | 178.0 |
| 40° | 50.1 | 61.2 | 89.4 | 132.1 | 166.4 |
| 42.5° | 33.5 | 45.5 | 74.3 | 118.6 | 155.6 |
| 45° | 18.5 | 29.7 | 60.5 | 107.1 | 144.8 |
| 47.5° | 9.6 | 16.2 | 47.4 | 95.5 | 133.3 |
| 50° | 7.3 | 8.9 | 35.1 | 82.8 | 120.2 |
| 52.5° | 6.2 | 6.5 | 23.9 | 70.1 | 107.1 |
| 55° | 5.0 | 5.4 | 16.2 | 58.9 | 93.6 |
| 57.5° | 3.9 | 4.2 | 11.6 | 48.1 | 78.6 |
| 60° | 3.1 | 3.5 | 9.6 | 37.0 | 64.7 |
| 62.5° | 2.3 | 2.7 | 9.2 | 27.3 | 50.8 |
| 65° | 1.9 | 2.3 | 8.1 | 18.5 | 37.4 |
| 67.5° | 1.5 | 2.3 | 6.9 | 11.9 | 25.0 |
| 70° | 1.5 | 3.1 | 5.8 | 7.7 | 13.9 |
| 72.5° | 1.5 | 3.5 | 5.0 | 5.0 | 5.0 |
| 75° | 1.5 | 4.2 | 4.6 | 4.2 | 4.2 |
| 77.5° | 1.5 | 3.9 | 3.9 | 3.9 | 3.9 |
| 80° | 1.5 | 3.5 | 3.5 | 3.5 | 3.1 |
| 82.5° | 1.5 | 3.1 | 3.5 | 3.5 | 2.7 |
| 85° | 1.5 | 3.1 | 3.1 | 3.1 | 2.3 |
| 87.5° | 1.2 | 3.1 | 3.1 | 3.1 | 1.5 |
| 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 | 11.63 | 12.90 | 11.99 | 13.22 | 13.53 |
| | 3H | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 11.98 | 13.11 | 12.36 | 13.44 | 13.81 |
| | 4H | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 11.95 | 13.00 | 12.35 | 13.35 | 13.73 |
| | 6H | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 11.92 | 12.89 | 12.34 | 13.26 | 13.65 |
| | 8H | 0.00 | 0.00 | 0.00 | 0.00 | 0.22 | 11.91 | 12.83 | 12.35 | 13.22 | 13.62 |
| | 12H | 0.00 | 0.17 | 0.00 | 0.55 | 0.98 | 11.91 | 12.78 | 12.35 | 13.17 | 13.60 |
| 4H | 2H | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 11.43 | 12.48 | 11.83 | 12.83 | 13.21 |
| | 3H | 0.00 | 0.00 | 0.00 | 0.01 | 0.41 | 11.82 | 12.68 | 12.24 | 13.08 | 13.49 |
| | 4H | 0.18 | 0.94 | 0.61 | 1.36 | 1.81 | 11.80 | 12.57 | 12.24 | 12.99 | 13.43 |
| | 6H | 1.43 | 2.09 | 1.90 | 2.54 | 3.01 | 11.82 | 12.48 | 12.29 | 12.93 | 13.40 |
| | 8H | 2.00 | 2.61 | 2.47 | 3.06 | 3.53 | 11.84 | 12.45 | 12.31 | 12.90 | 13.37 |
| | 12H | 2.66 | 3.20 | 3.14 | 3.68 | 4.16 | 11.87 | 12.41 | 12.36 | 12.90 | 13.37 |
| 8H | 4H | 1.27 | 1.88 | 1.74 | 2.33 | 2.80 | 11.70 | 12.32 | 12.17 | 12.77 | 13.24 |
| | 6H | 2.90 | 3.40 | 3.40 | 3.90 | 4.38 | 11.76 | 12.26 | 12.26 | 12.76 | 13.24 |
| | 8H | 3.73 | 4.18 | 4.25 | 4.70 | 5.19 | 11.82 | 12.27 | 12.34 | 12.79 | 13.28 |
| | 12H | 4.68 | 5.08 | 5.20 | 5.58 | 6.15 | 11.93 | 12.33 | 12.45 | 12.83 | 13.40 |
| 12H | 4H | 1.46 | 2.00 | 1.95 | 2.49 | 2.96 | 11.67 | 12.21 | 12.15 | 12.69 | 13.17 |
| | 6H | 3.25 | 3.70 | 3.77 | 4.22 | 4.71 | 11.73 | 12.18 | 12.25 | 12.70 | 13.19 |
| | 8H | 4.27 | 4.67 | 4.78 | 5.16 | 5.74 | 11.83 | 12.23 | 12.35 | 12.73 | 13.30 |