

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: P1059638

Luminaire Tested: S123RDR-H340D940-X4F0-XX-UDD-SVL-S

Issue Date: 8/7/2025

Test Information

Test Method: LM-79-2019
Report Number: P1059638
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2406-143-68)
Test Lab: INNOVATION CENTER
Issue Date: 8/7/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123RDR-H340D940-X4F0-XX-UDD-SVL-S
Description: DEFINE 3 SILVER REGRESSED DIRECT RECESSED HOUSING WITH SILVER STRAIGHT BLADE LOUVER WITH DIFFUSER
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

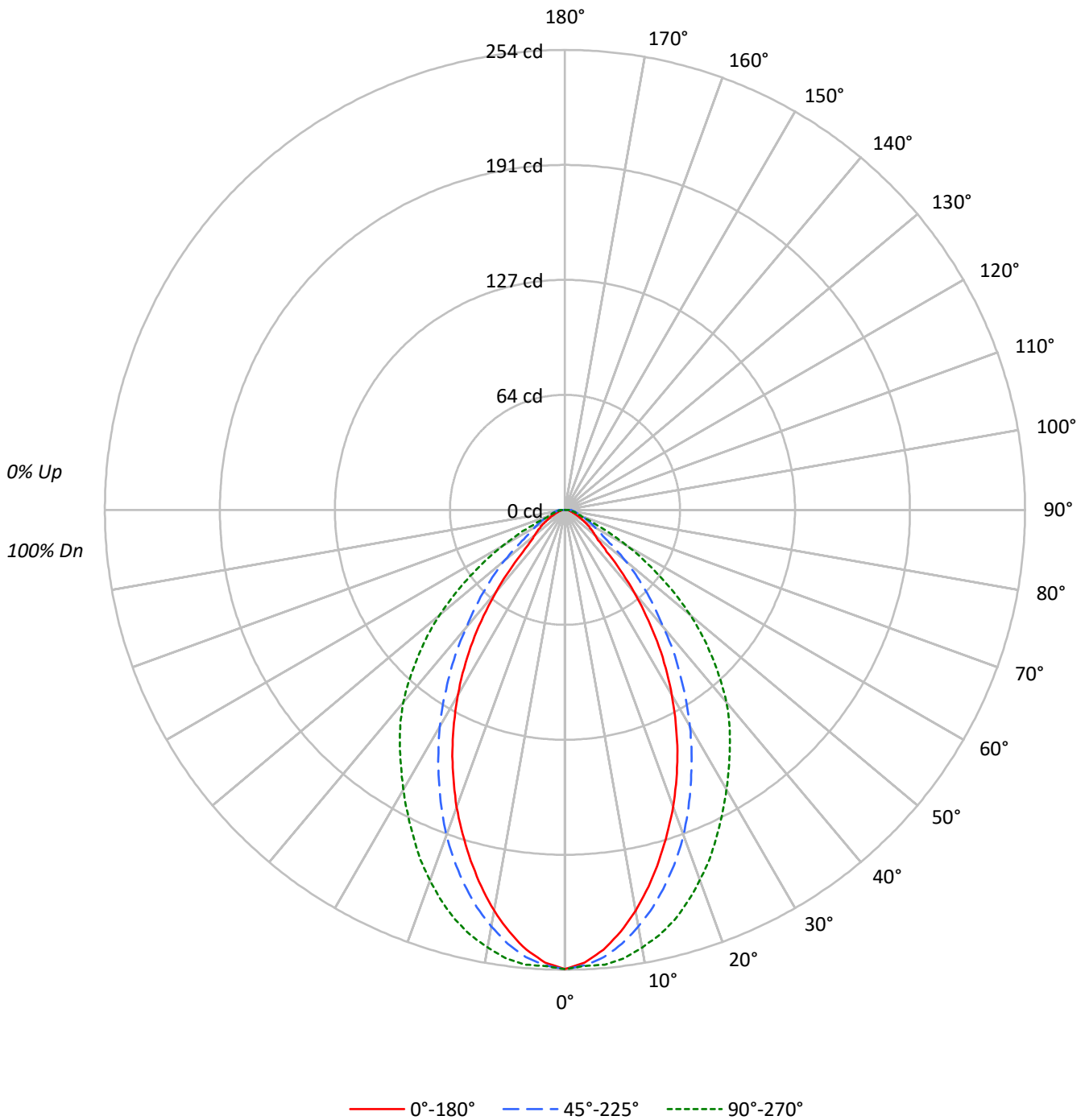
Lumens per Lamp: N/A
Luminaire Lumens: 339.6 lumens
Efficiency: N/A
Efficacy: 29.0 lumens/watt
Spacing Criteria (0/90/45): 0.83 / 1.07 / 0.98
Luminous Opening: Rectangular (W 0.23' x L: 4' x H: 0')
CIE Type: Direct

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 | 111 | 108 | 105 | 102 | 109 | 106 | 103 | 100 | 101 | 99 | 97 | 98 | 96 | 94 | 94 | 93 | 91 | 89 |
| 2 | 104 | 98 | 92 | 88 | 102 | 96 | 91 | 87 | 92 | 88 | 85 | 89 | 86 | 83 | 86 | 84 | 81 | 79 |
| 3 | 97 | 89 | 82 | 77 | 95 | 87 | 81 | 77 | 84 | 79 | 75 | 82 | 78 | 74 | 79 | 76 | 73 | 71 |
| 4 | 91 | 81 | 74 | 69 | 88 | 80 | 73 | 68 | 77 | 72 | 67 | 75 | 70 | 66 | 73 | 69 | 66 | 64 |
| 5 | 85 | 74 | 67 | 61 | 83 | 73 | 66 | 61 | 71 | 65 | 61 | 69 | 64 | 60 | 68 | 63 | 59 | 58 |
| 6 | 79 | 68 | 61 | 56 | 78 | 67 | 60 | 55 | 66 | 60 | 55 | 64 | 59 | 54 | 63 | 58 | 54 | 52 |
| 7 | 74 | 63 | 56 | 51 | 73 | 62 | 55 | 50 | 61 | 55 | 50 | 60 | 54 | 50 | 58 | 53 | 49 | 48 |
| 8 | 70 | 58 | 51 | 46 | 69 | 58 | 51 | 46 | 57 | 50 | 46 | 56 | 50 | 46 | 54 | 49 | 45 | 44 |
| 9 | 66 | 54 | 47 | 43 | 65 | 54 | 47 | 43 | 53 | 47 | 42 | 52 | 46 | 42 | 51 | 46 | 42 | 40 |
| 10 | 62 | 51 | 44 | 39 | 61 | 50 | 44 | 39 | 50 | 43 | 39 | 49 | 43 | 39 | 48 | 43 | 39 | 37 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 2978 | 2978 | 2978 |
| 5° | 2875 | 2923 | 2972 |
| 10° | 2679 | 2785 | 2926 |
| 15° | 2439 | 2605 | 2848 |
| 20° | 2183 | 2392 | 2720 |
| 25° | 1905 | 2134 | 2571 |
| 30° | 1601 | 1872 | 2419 |
| 35° | 1273 | 1587 | 2276 |
| 40° | 907 | 1294 | 2128 |
| 45° | 541 | 1040 | 1906 |
| 50° | 398 | 791 | 1650 |
| 55° | 334 | 538 | 1310 |
| 60° | 270 | 444 | 921 |
| 65° | 217 | 381 | 495 |
| 70° | 179 | 330 | 306 |
| 75° | 168 | 318 | 286 |
| 80° | 176 | 352 | 277 |
| 85° | 256 | 498 | 350 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 1906 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 23.3 | 6.9 |
| 10°-20° | 60.5 | 17.8 |
| 20°-30° | 77.2 | 22.7 |
| 30°-40° | 72.6 | 21.4 |
| 40°-50° | 52.2 | 15.4 |
| 50°-60° | 29.9 | 8.8 |
| 60°-70° | 13.7 | 4.0 |
| 70°-80° | 6.9 | 2.0 |
| 80°-90° | 3.3 | 1.0 |
| 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° | 161.0 | 47.4 |
| 0°-40° | 233.6 | 68.8 |
| 0°-60° | 315.7 | 93.0 |
| 0°-90° | 339.6 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 339.6 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 254 | 254 | 254 | 254 | 254 | |
| 5° | 244 | 249 | 248 | 250 | 252 | 23 |
| 15° | 201 | 208 | 214 | 226 | 234 | 56 |
| 25° | 147 | 154 | 165 | 182 | 198 | 67 |
| 35° | 89 | 95 | 111 | 136 | 159 | 55 |
| 45° | 33 | 40 | 63 | 92 | 115 | 27 |
| 55° | 16 | 17 | 26 | 48 | 64 | 15 |
| 65° | 8 | 11 | 14 | 15 | 18 | 8 |
| 75° | 4 | 7 | 7 | 6 | 6 | 4 |
| 85° | 2 | 4 | 4 | 3 | 3 | 2 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 253.6 | 253.6 | 253.6 | 253.6 | 253.6 |
| 2.5° | 250.2 | 253.9 | 251.7 | 251.7 | 252.1 |
| 5° | 243.9 | 248.8 | 248.0 | 249.9 | 252.1 |
| 7.5° | 235.1 | 240.2 | 241.7 | 246.2 | 249.9 |
| 10° | 224.7 | 230.6 | 233.6 | 240.6 | 245.4 |
| 12.5° | 213.2 | 219.9 | 224.7 | 233.6 | 240.6 |
| 15° | 200.6 | 207.7 | 214.3 | 225.8 | 234.3 |
| 17.5° | 187.7 | 194.7 | 203.2 | 216.6 | 226.5 |
| 20° | 174.7 | 181.8 | 191.4 | 205.4 | 217.7 |
| 22.5° | 160.7 | 167.7 | 178.1 | 194.0 | 208.8 |
| 25° | 147.0 | 153.6 | 164.7 | 182.5 | 198.4 |
| 27.5° | 132.5 | 139.2 | 151.4 | 170.7 | 188.4 |
| 30° | 118.1 | 124.7 | 138.1 | 158.8 | 178.4 |
| 32.5° | 103.6 | 109.9 | 124.4 | 147.3 | 168.4 |
| 35° | 88.8 | 95.1 | 110.7 | 135.9 | 158.8 |
| 37.5° | 73.7 | 80.0 | 98.1 | 125.5 | 149.2 |
| 40° | 59.2 | 66.3 | 84.4 | 115.1 | 138.8 |
| 42.5° | 45.2 | 52.6 | 73.3 | 104.0 | 127.0 |
| 45° | 32.6 | 39.6 | 62.6 | 92.2 | 114.8 |
| 47.5° | 24.8 | 28.5 | 52.9 | 80.3 | 102.9 |
| 50° | 21.8 | 22.2 | 43.3 | 69.6 | 90.3 |
| 52.5° | 18.9 | 19.2 | 33.7 | 59.2 | 77.0 |
| 55° | 16.3 | 16.7 | 26.3 | 48.5 | 64.0 |
| 57.5° | 13.7 | 14.4 | 21.5 | 38.5 | 51.5 |
| 60° | 11.5 | 13.0 | 18.9 | 29.2 | 39.2 |
| 62.5° | 9.3 | 11.8 | 16.3 | 21.5 | 28.1 |
| 65° | 7.8 | 10.7 | 13.7 | 15.2 | 17.8 |
| 67.5° | 6.3 | 10.0 | 11.5 | 10.7 | 10.7 |
| 70° | 5.2 | 8.9 | 9.6 | 8.9 | 8.9 |
| 72.5° | 4.4 | 8.5 | 8.1 | 7.4 | 7.4 |
| 75° | 3.7 | 7.4 | 7.0 | 6.3 | 6.3 |
| 77.5° | 3.3 | 6.3 | 5.9 | 5.6 | 5.2 |
| 80° | 2.6 | 5.2 | 5.2 | 4.8 | 4.1 |
| 82.5° | 2.2 | 4.4 | 4.4 | 4.1 | 3.3 |
| 85° | 1.9 | 3.7 | 3.7 | 3.3 | 2.6 |
| 87.5° | 1.5 | 3.3 | 3.3 | 3.0 | 1.9 |
| 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 | 3.76 | 5.08 | 4.13 | 5.39 | 5.71 | 11.00 | 12.32 | 11.36 | 12.63 | 12.95 |
| | 3H | 5.17 | 6.34 | 5.55 | 6.67 | 7.04 | 11.23 | 12.40 | 11.61 | 12.73 | 13.10 |
| | 4H | 5.73 | 6.82 | 6.13 | 7.17 | 7.55 | 11.34 | 12.43 | 11.74 | 12.78 | 13.17 |
| | 6H | 6.19 | 7.19 | 6.60 | 7.56 | 7.96 | 11.45 | 12.45 | 11.87 | 12.82 | 13.22 |
| | 8H | 6.37 | 7.32 | 6.80 | 7.71 | 8.12 | 11.50 | 12.45 | 11.93 | 12.84 | 13.24 |
| | 12H | 6.57 | 7.48 | 7.00 | 7.86 | 8.29 | 11.55 | 12.46 | 11.98 | 12.84 | 13.27 |
| 4H | 2H | 4.84 | 5.93 | 5.24 | 6.28 | 6.67 | 10.96 | 12.05 | 11.36 | 12.40 | 12.78 |
| | 3H | 6.54 | 7.43 | 6.95 | 7.83 | 8.23 | 11.33 | 12.22 | 11.74 | 12.62 | 13.03 |
| | 4H | 7.37 | 8.17 | 7.80 | 8.59 | 9.03 | 11.51 | 12.31 | 11.95 | 12.73 | 13.17 |
| | 6H | 8.03 | 8.72 | 8.49 | 9.16 | 9.63 | 11.74 | 12.43 | 12.20 | 12.87 | 13.34 |
| | 8H | 8.28 | 8.92 | 8.75 | 9.37 | 9.84 | 11.84 | 12.48 | 12.31 | 12.93 | 13.40 |
| | 12H | 8.54 | 9.11 | 9.02 | 9.59 | 10.07 | 11.95 | 12.52 | 12.44 | 13.01 | 13.48 |
| 8H | 4H | 7.80 | 8.45 | 8.27 | 8.89 | 9.36 | 11.56 | 12.20 | 12.02 | 12.65 | 13.12 |
| | 6H | 8.76 | 9.29 | 9.26 | 9.78 | 10.26 | 11.89 | 12.42 | 12.39 | 12.92 | 13.40 |
| | 8H | 9.21 | 9.69 | 9.74 | 10.21 | 10.70 | 12.08 | 12.56 | 12.60 | 13.07 | 13.56 |
| | 12H | 9.70 | 10.12 | 10.21 | 10.61 | 11.18 | 12.31 | 12.73 | 12.83 | 13.23 | 13.80 |
| 12H | 4H | 7.86 | 8.43 | 8.35 | 8.92 | 9.39 | 11.55 | 12.12 | 12.04 | 12.60 | 13.08 |
| | 6H | 8.90 | 9.38 | 9.42 | 9.89 | 10.39 | 11.92 | 12.39 | 12.44 | 12.91 | 13.40 |
| | 8H | 9.49 | 9.91 | 10.00 | 10.40 | 10.98 | 12.18 | 12.60 | 12.69 | 13.09 | 13.67 |