

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: P1059670

Luminaire Tested: S123RDRP-H560D840-X4F0-XX-UDD-BVL-B

Issue Date: 8/7/2025

Test Information

Test Method: LM-79-2024
Report Number: P1059670
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2406-143-30)
Test Lab: INNOVATION CENTER
Issue Date: 8/7/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123RDRP-H560D840-X4F0-XX-UDD-BVL-B
Description: DEFINE 3 BLACK REGRESSED DIRECT RECESSED HOUSING WITH BLACK STRAIGHT BLADE LOUVER WITH DIFFUSER
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

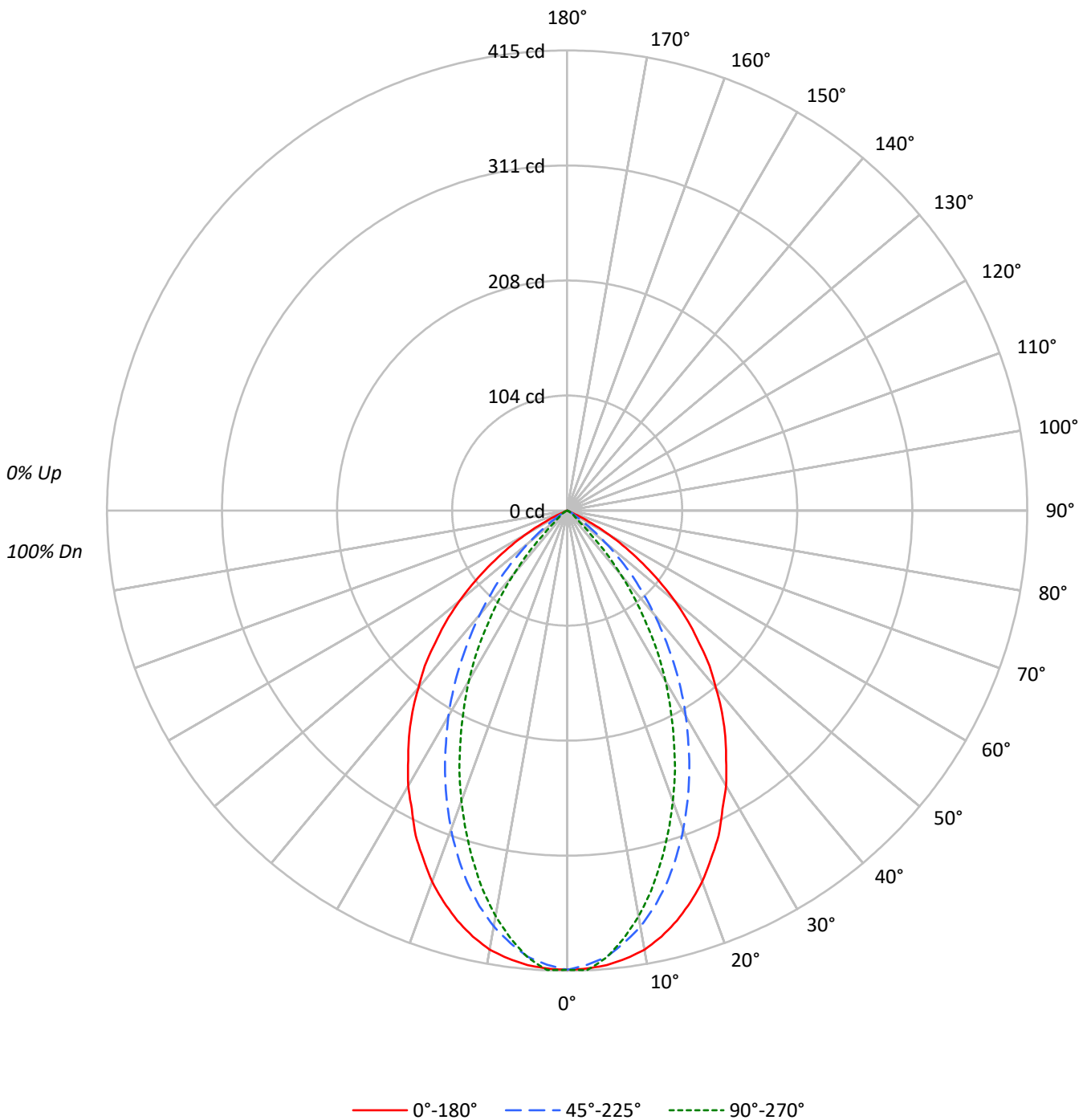
Lumens per Lamp: N/A
Luminaire Lumens: 472.6 lumens
Efficiency: N/A
Efficacy: 27.2 lumens/watt
Spacing Criteria (0/90/45): 1.06 / 0.81 / 0.94
Luminous Opening: Rectangular (W 0.23' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 17.4
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 | 0 |
| RCR | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |
| 1 | 113 | 110 | 107 | 104 | 110 | 107 | 105 | 103 | 103 | 101 | 100 | 100 | 98 | 97 | 96 | 95 | 94 | 92 |
| 2 | 106 | 101 | 96 | 92 | 104 | 99 | 95 | 91 | 96 | 92 | 89 | 93 | 90 | 87 | 90 | 87 | 85 | 84 |
| 3 | 100 | 92 | 87 | 82 | 98 | 91 | 86 | 82 | 88 | 84 | 80 | 86 | 82 | 79 | 83 | 80 | 78 | 76 |
| 4 | 94 | 85 | 79 | 74 | 92 | 84 | 78 | 74 | 82 | 77 | 73 | 80 | 75 | 72 | 78 | 74 | 71 | 69 |
| 5 | 88 | 79 | 72 | 67 | 86 | 78 | 71 | 67 | 76 | 70 | 66 | 74 | 69 | 65 | 72 | 68 | 65 | 63 |
| 6 | 83 | 73 | 66 | 61 | 81 | 72 | 66 | 61 | 70 | 65 | 60 | 69 | 64 | 60 | 67 | 63 | 60 | 58 |
| 7 | 78 | 68 | 61 | 56 | 77 | 67 | 60 | 56 | 66 | 60 | 56 | 64 | 59 | 55 | 63 | 58 | 55 | 53 |
| 8 | 74 | 63 | 56 | 52 | 72 | 62 | 56 | 51 | 61 | 55 | 51 | 60 | 55 | 51 | 59 | 54 | 51 | 49 |
| 9 | 70 | 59 | 52 | 48 | 68 | 58 | 52 | 48 | 57 | 52 | 47 | 56 | 51 | 47 | 55 | 51 | 47 | 46 |
| 10 | 66 | 55 | 49 | 44 | 65 | 55 | 48 | 44 | 54 | 48 | 44 | 53 | 48 | 44 | 52 | 47 | 44 | 42 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 4863 | 4863 | 4863 |
| 5° | 4849 | 4763 | 4771 |
| 10° | 4794 | 4540 | 4428 |
| 15° | 4654 | 4223 | 3980 |
| 20° | 4450 | 3825 | 3483 |
| 25° | 4190 | 3378 | 2946 |
| 30° | 3887 | 2903 | 2405 |
| 35° | 3565 | 2400 | 1788 |
| 40° | 3199 | 1881 | 1145 |
| 45° | 2790 | 1373 | 477 |
| 50° | 2315 | 817 | 183 |
| 55° | 1707 | 342 | 137 |
| 60° | 1033 | 124 | 78 |
| 65° | 278 | 75 | 36 |
| 70° | 0 | 24 | 24 |
| 75° | 0 | 0 | 32 |
| 80° | 0 | 0 | 0 |
| 85° | 0 | 0 | 0 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2790 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 38.1 | 8.1 |
| 10°-20° | 98.4 | 20.8 |
| 20°-30° | 122.6 | 25.9 |
| 30°-40° | 109.6 | 23.2 |
| 40°-50° | 69.2 | 14.6 |
| 50°-60° | 29.0 | 6.1 |
| 60°-70° | 5.4 | 1.2 |
| 70°-80° | 0.2 | 0.0 |
| 80°-90° | 0.0 | 0.0 |
| 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° | 259.1 | 54.8 |
| 0°-40° | 368.8 | 78.0 |
| 0°-60° | 466.9 | 98.8 |
| 0°-90° | 472.6 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 472.6 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 414 | 414 | 414 | 414 | 414 | |
| 5° | 411 | 411 | 404 | 405 | 405 | 39 |
| 15° | 383 | 373 | 347 | 333 | 327 | 107 |
| 25° | 323 | 297 | 261 | 238 | 227 | 148 |
| 35° | 249 | 213 | 167 | 137 | 125 | 155 |
| 45° | 168 | 131 | 83 | 44 | 29 | 130 |
| 55° | 83 | 57 | 17 | 7 | 7 | 75 |
| 65° | 10 | 7 | 3 | 1 | 1 | 14 |
| 75° | 0 | 0 | 0 | 0 | 1 | 0 |
| 85° | 0 | 0 | 0 | 0 | 0 | 0 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P1059670

CATALOG NUMBER: S123RDRP-H560D840-X4F0-XX-UDD-BVL-B

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 414.1 | 414.1 | 414.1 | 414.1 | 414.1 |
| 2.5° | 413.4 | 414.1 | 410.1 | 414.1 | 414.8 |
| 5° | 411.4 | 410.8 | 404.1 | 405.4 | 404.8 |
| 7.5° | 407.4 | 405.4 | 393.4 | 390.8 | 389.4 |
| 10° | 402.1 | 396.8 | 380.8 | 374.1 | 371.4 |
| 12.5° | 393.4 | 386.1 | 365.4 | 354.8 | 350.8 |
| 15° | 382.8 | 373.4 | 347.4 | 332.8 | 327.4 |
| 17.5° | 370.1 | 356.8 | 327.4 | 311.4 | 303.4 |
| 20° | 356.1 | 337.4 | 306.1 | 286.7 | 278.7 |
| 22.5° | 339.4 | 318.8 | 283.4 | 262.7 | 254.1 |
| 25° | 323.4 | 297.4 | 260.7 | 238.1 | 227.4 |
| 27.5° | 303.4 | 276.1 | 236.7 | 213.4 | 202.1 |
| 30° | 286.7 | 255.4 | 214.1 | 188.1 | 177.4 |
| 32.5° | 266.7 | 234.1 | 190.7 | 162.0 | 152.0 |
| 35° | 248.7 | 212.7 | 167.4 | 137.4 | 124.7 |
| 37.5° | 229.4 | 192.1 | 144.0 | 112.7 | 100.7 |
| 40° | 208.7 | 171.4 | 122.7 | 88.0 | 74.7 |
| 42.5° | 190.1 | 150.7 | 101.4 | 65.4 | 52.0 |
| 45° | 168.0 | 130.7 | 82.7 | 44.0 | 28.7 |
| 47.5° | 148.0 | 112.0 | 62.7 | 24.7 | 15.3 |
| 50° | 126.7 | 92.7 | 44.7 | 12.7 | 10.0 |
| 52.5° | 104.7 | 74.0 | 29.3 | 8.7 | 8.0 |
| 55° | 83.4 | 57.3 | 16.7 | 6.7 | 6.7 |
| 57.5° | 62.7 | 41.3 | 8.7 | 5.3 | 4.7 |
| 60° | 44.0 | 27.3 | 5.3 | 4.0 | 3.3 |
| 62.5° | 25.3 | 16.0 | 4.0 | 2.7 | 2.7 |
| 65° | 10.0 | 7.3 | 2.7 | 1.3 | 1.3 |
| 67.5° | 0.7 | 2.0 | 1.3 | 0.7 | 0.7 |
| 70° | 0.0 | 0.0 | 0.7 | 0.7 | 0.7 |
| 72.5° | 0.0 | 0.0 | 0.7 | 0.7 | 0.7 |
| 75° | 0.0 | 0.0 | 0.0 | 0.0 | 0.7 |
| 77.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 82.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 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 | 10.68 | 11.86 | 11.04 | 12.17 | 12.48 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 3H | 10.52 | 11.55 | 10.90 | 11.88 | 12.25 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 4H | 10.43 | 11.39 | 10.84 | 11.74 | 12.13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 6H | 10.34 | 11.21 | 10.76 | 11.59 | 11.98 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 8H | 10.29 | 11.11 | 10.72 | 11.51 | 11.91 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 12H | 10.24 | 11.03 | 10.68 | 11.41 | 11.84 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4H | 2H | 10.44 | 11.39 | 10.84 | 11.75 | 12.13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 3H | 10.27 | 11.04 | 10.69 | 11.45 | 11.85 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 4H | 10.17 | 10.85 | 10.61 | 11.27 | 11.72 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 6H | 10.07 | 10.66 | 10.54 | 11.11 | 11.58 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 8H | 10.01 | 10.55 | 10.48 | 11.00 | 11.48 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 12H | 9.95 | 10.43 | 10.44 | 10.91 | 11.39 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8H | 4H | 10.01 | 10.55 | 10.48 | 11.00 | 11.48 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 6H | 9.89 | 10.33 | 10.40 | 10.83 | 11.32 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 8H | 9.82 | 10.22 | 10.35 | 10.74 | 11.23 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 12H | 9.77 | 10.12 | 10.28 | 10.61 | 11.19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12H | 4H | 9.95 | 10.43 | 10.44 | 10.91 | 11.39 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 6H | 9.82 | 10.22 | 10.35 | 10.74 | 11.23 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 8H | 9.77 | 10.12 | 10.28 | 10.61 | 11.19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |