

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: P1059258

Luminaire Tested: S123RDRP-S560D835-X4F0-XX-UDD-BVL-W

Issue Date: 8/7/2025

Test Information

Test Method: LM-79-2024
Report Number: P1059258
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2406-143-66)
Test Lab: INNOVATION CENTER
Issue Date: 8/7/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123RDRP-S560D835-X4F0-XX-UDD-BVL-W
Description: DEFINE 3 WHITE REGRESSED DIRECT RECESSED HOUSING WITH BLACK STRAIGHT BLADE
LOUVER WITH DIFFUSER
CORE LIGHT ENGINE
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

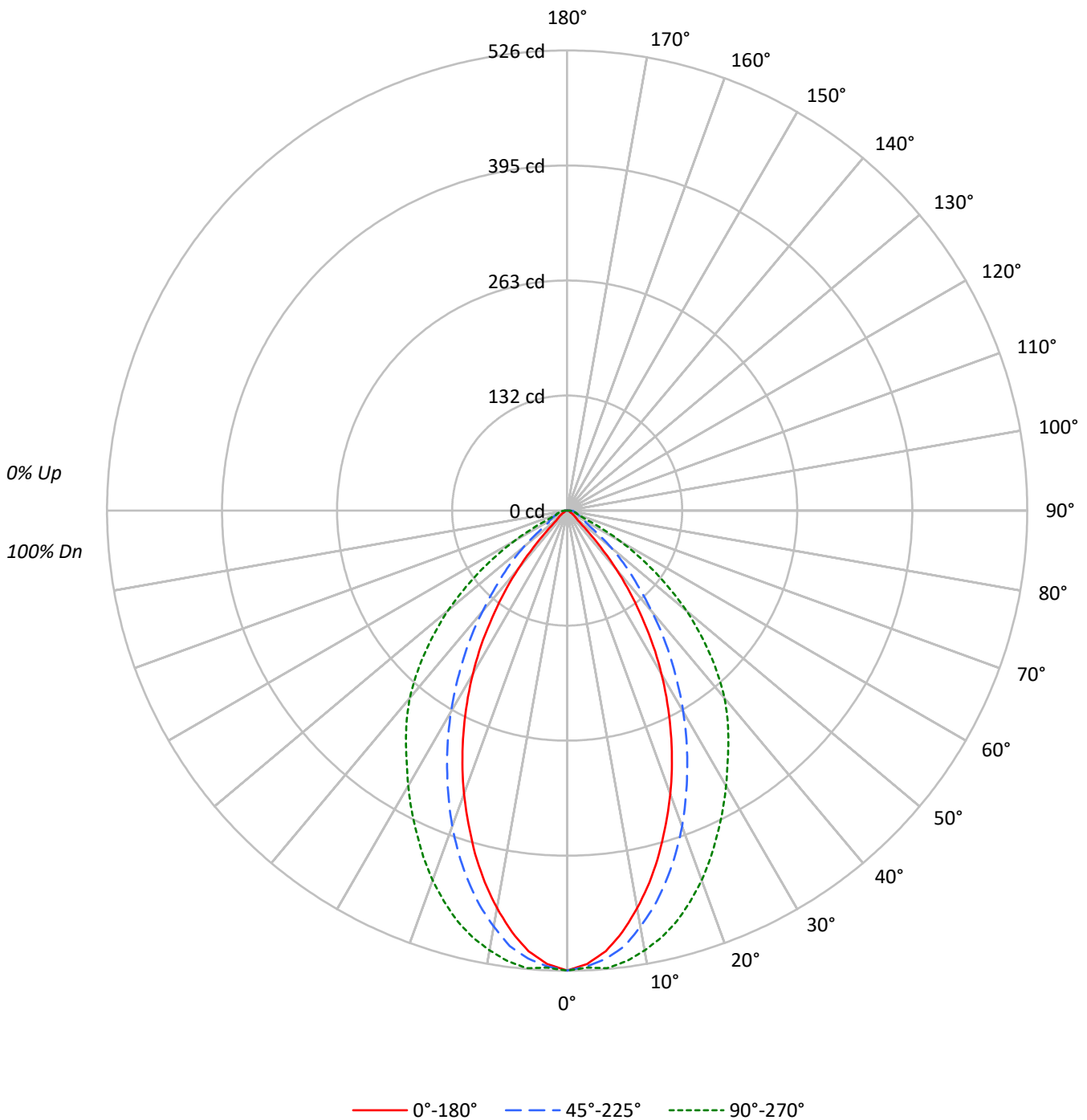
Lumens per Lamp: N/A
Luminaire Lumens: 631.2 lumens
Efficiency: N/A
Efficacy: 32.2 lumens/watt
Spacing Criteria (0/90/45): 0.79 / 1.06 / 0.94
Luminous Opening: Rectangular (W 0.23' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 19.6
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 | 112 | 108 | 105 | 102 | 109 | 106 | 103 | 101 | 102 | 100 | 98 | 98 | 96 | 95 | 95 | 93 | 92 | 90 |
| 2 | 105 | 99 | 94 | 90 | 102 | 97 | 92 | 88 | 94 | 90 | 86 | 91 | 87 | 85 | 88 | 85 | 83 | 81 |
| 3 | 98 | 90 | 84 | 79 | 96 | 89 | 83 | 79 | 86 | 81 | 77 | 83 | 79 | 76 | 81 | 78 | 75 | 73 |
| 4 | 92 | 83 | 76 | 71 | 90 | 81 | 75 | 70 | 79 | 74 | 70 | 77 | 72 | 69 | 75 | 71 | 68 | 66 |
| 5 | 86 | 76 | 69 | 64 | 84 | 75 | 69 | 64 | 73 | 67 | 63 | 71 | 66 | 62 | 70 | 65 | 62 | 60 |
| 6 | 81 | 70 | 63 | 58 | 79 | 69 | 63 | 58 | 68 | 62 | 57 | 66 | 61 | 57 | 65 | 60 | 57 | 55 |
| 7 | 76 | 65 | 58 | 53 | 75 | 65 | 58 | 53 | 63 | 57 | 53 | 62 | 56 | 52 | 61 | 56 | 52 | 50 |
| 8 | 72 | 61 | 54 | 49 | 70 | 60 | 53 | 49 | 59 | 53 | 49 | 58 | 52 | 48 | 57 | 52 | 48 | 47 |
| 9 | 68 | 57 | 50 | 45 | 67 | 56 | 50 | 45 | 55 | 49 | 45 | 54 | 49 | 45 | 53 | 48 | 45 | 43 |
| 10 | 64 | 53 | 46 | 42 | 63 | 53 | 46 | 42 | 52 | 46 | 42 | 51 | 45 | 42 | 50 | 45 | 42 | 40 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 6173 | 6173 | 6173 |
| 5° | 5960 | 6057 | 6188 |
| 10° | 5502 | 5757 | 6087 |
| 15° | 4938 | 5323 | 5903 |
| 20° | 4307 | 4800 | 5619 |
| 25° | 3634 | 4207 | 5272 |
| 30° | 2922 | 3597 | 4926 |
| 35° | 2139 | 2960 | 4604 |
| 40° | 1334 | 2308 | 4289 |
| 45° | 505 | 1720 | 3819 |
| 50° | 239 | 1186 | 3255 |
| 55° | 184 | 651 | 2518 |
| 60° | 129 | 552 | 1656 |
| 65° | 97 | 481 | 692 |
| 70° | 96 | 450 | 450 |
| 75° | 127 | 472 | 472 |
| 80° | 189 | 561 | 514 |
| 85° | 377 | 930 | 741 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 3819 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 48.3 | 7.6 |
| 10°-20° | 123.7 | 19.6 |
| 20°-30° | 153.2 | 24.3 |
| 30°-40° | 137.3 | 21.8 |
| 40°-50° | 90.0 | 14.3 |
| 50°-60° | 45.1 | 7.1 |
| 60°-70° | 17.6 | 2.8 |
| 70°-80° | 9.9 | 1.6 |
| 80°-90° | 6.1 | 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° | 325.2 | 51.5 |
| 0°-40° | 462.5 | 73.3 |
| 0°-60° | 597.6 | 94.7 |
| 0°-90° | 631.2 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 631.2 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 526 | 526 | 526 | 526 | 526 | |
| 5° | 506 | 514 | 514 | 520 | 525 | 47 |
| 15° | 406 | 423 | 438 | 467 | 486 | 113 |
| 25° | 280 | 298 | 325 | 371 | 407 | 128 |
| 35° | 149 | 169 | 206 | 269 | 321 | 93 |
| 45° | 30 | 49 | 104 | 178 | 230 | 29 |
| 55° | 9 | 11 | 32 | 87 | 123 | 8 |
| 65° | 4 | 10 | 17 | 23 | 25 | 4 |
| 75° | 3 | 10 | 10 | 10 | 10 | 3 |
| 85° | 3 | 7 | 7 | 7 | 6 | 2 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 525.7 | 525.7 | 525.7 | 525.7 | 525.7 |
| 2.5° | 518.8 | 526.4 | 521.5 | 522.2 | 522.9 |
| 5° | 505.6 | 513.9 | 513.9 | 519.5 | 525.0 |
| 7.5° | 485.6 | 495.3 | 502.2 | 511.9 | 519.5 |
| 10° | 461.4 | 473.2 | 482.8 | 500.1 | 510.5 |
| 12.5° | 435.2 | 449.7 | 462.1 | 484.9 | 499.4 |
| 15° | 406.2 | 422.7 | 437.9 | 467.0 | 485.6 |
| 17.5° | 375.1 | 391.7 | 411.7 | 445.5 | 468.3 |
| 20° | 344.7 | 361.3 | 384.1 | 422.1 | 449.7 |
| 22.5° | 312.9 | 330.2 | 354.4 | 396.5 | 429.0 |
| 25° | 280.5 | 297.7 | 324.7 | 370.9 | 406.9 |
| 27.5° | 248.0 | 265.3 | 295.6 | 346.1 | 385.4 |
| 30° | 215.5 | 232.8 | 265.3 | 319.1 | 363.3 |
| 32.5° | 183.1 | 201.7 | 235.6 | 294.3 | 341.2 |
| 35° | 149.2 | 169.2 | 206.5 | 268.7 | 321.2 |
| 37.5° | 118.1 | 136.8 | 178.9 | 246.6 | 301.2 |
| 40° | 87.0 | 107.1 | 150.6 | 225.2 | 279.8 |
| 42.5° | 56.6 | 78.1 | 125.0 | 201.7 | 255.6 |
| 45° | 30.4 | 49.0 | 103.6 | 177.5 | 230.0 |
| 47.5° | 16.6 | 26.9 | 83.6 | 152.0 | 203.8 |
| 50° | 13.1 | 15.2 | 64.9 | 129.9 | 178.2 |
| 52.5° | 11.1 | 12.4 | 46.3 | 109.1 | 149.9 |
| 55° | 9.0 | 11.1 | 31.8 | 87.0 | 123.0 |
| 57.5° | 7.6 | 9.7 | 24.9 | 67.7 | 96.0 |
| 60° | 5.5 | 8.3 | 23.5 | 49.7 | 70.5 |
| 62.5° | 4.1 | 9.0 | 20.7 | 34.5 | 46.3 |
| 65° | 3.5 | 10.4 | 17.3 | 22.8 | 24.9 |
| 67.5° | 2.8 | 11.1 | 15.2 | 14.5 | 14.5 |
| 70° | 2.8 | 10.4 | 13.1 | 12.4 | 13.1 |
| 72.5° | 2.8 | 11.1 | 11.7 | 11.1 | 11.7 |
| 75° | 2.8 | 10.4 | 10.4 | 10.4 | 10.4 |
| 77.5° | 2.8 | 9.7 | 9.7 | 9.0 | 9.0 |
| 80° | 2.8 | 8.3 | 8.3 | 8.3 | 7.6 |
| 82.5° | 2.8 | 7.6 | 7.6 | 7.6 | 6.2 |
| 85° | 2.8 | 6.9 | 6.9 | 6.9 | 5.5 |
| 87.5° | 2.1 | 6.2 | 6.9 | 6.2 | 4.1 |
| 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 | 0.00 | 0.00 | 0.00 | 0.27 | 0.58 | 12.93 | 14.18 | 13.29 | 14.50 | 14.81 |
| | 3H | 1.04 | 2.15 | 1.42 | 2.48 | 2.85 | 13.01 | 14.12 | 13.39 | 14.45 | 14.82 |
| | 4H | 2.15 | 3.18 | 2.55 | 3.54 | 3.92 | 13.09 | 14.12 | 13.49 | 14.47 | 14.86 |
| | 6H | 3.15 | 4.09 | 3.56 | 4.47 | 4.86 | 13.19 | 14.14 | 13.61 | 14.51 | 14.91 |
| | 8H | 3.63 | 4.53 | 4.06 | 4.92 | 5.33 | 13.25 | 14.15 | 13.68 | 14.54 | 14.94 |
| | 12H | 4.19 | 5.05 | 4.62 | 5.43 | 5.86 | 13.33 | 14.19 | 13.76 | 14.57 | 15.00 |
| 4H | 2H | 1.94 | 2.98 | 2.35 | 3.33 | 3.71 | 12.78 | 13.82 | 13.19 | 14.17 | 14.55 |
| | 3H | 4.27 | 5.11 | 4.68 | 5.51 | 5.92 | 12.96 | 13.80 | 13.37 | 14.21 | 14.61 |
| | 4H | 5.64 | 6.40 | 6.08 | 6.82 | 7.26 | 13.11 | 13.87 | 13.55 | 14.29 | 14.73 |
| | 6H | 6.73 | 7.38 | 7.19 | 7.83 | 8.30 | 13.34 | 13.99 | 13.80 | 14.44 | 14.90 |
| | 8H | 7.19 | 7.80 | 7.66 | 8.25 | 8.72 | 13.46 | 14.07 | 13.93 | 14.52 | 14.99 |
| | 12H | 7.68 | 8.22 | 8.17 | 8.71 | 9.18 | 13.63 | 14.17 | 14.12 | 14.66 | 15.13 |
| 8H | 4H | 6.61 | 7.22 | 7.08 | 7.67 | 8.14 | 13.11 | 13.72 | 13.58 | 14.17 | 14.64 |
| | 6H | 8.13 | 8.63 | 8.64 | 9.13 | 9.61 | 13.45 | 13.95 | 13.95 | 14.44 | 14.93 |
| | 8H | 8.91 | 9.36 | 9.43 | 9.87 | 10.37 | 13.68 | 14.13 | 14.20 | 14.64 | 15.14 |
| | 12H | 9.71 | 10.11 | 10.23 | 10.60 | 11.18 | 14.01 | 14.41 | 14.53 | 14.91 | 15.48 |
| 12H | 4H | 6.79 | 7.33 | 7.28 | 7.81 | 8.29 | 13.09 | 13.63 | 13.58 | 14.11 | 14.59 |
| | 6H | 8.45 | 8.90 | 8.97 | 9.41 | 9.91 | 13.47 | 13.92 | 13.99 | 14.43 | 14.92 |
| | 8H | 9.40 | 9.80 | 9.92 | 10.29 | 10.87 | 13.78 | 14.17 | 14.29 | 14.67 | 15.24 |