

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: P1059511

Luminaire Tested: S123RDR-H1165D840-X4F0-XX-UDD-SVL-B

Issue Date: 8/7/2025

Test Information

Test Method: LM-79-2019
Report Number: P1059511
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2406-143-29)
Test Lab: INNOVATION CENTER
Issue Date: 8/7/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123RDR-H1165D840-X4F0-XX-UDD-SVL-B
Description: DEFINE 3 BLACK REGRESSED DIRECT RECESSED HOUSING WITH SILVER STRAIGHT BLADE
LOUVER WITH DIFFUSER
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

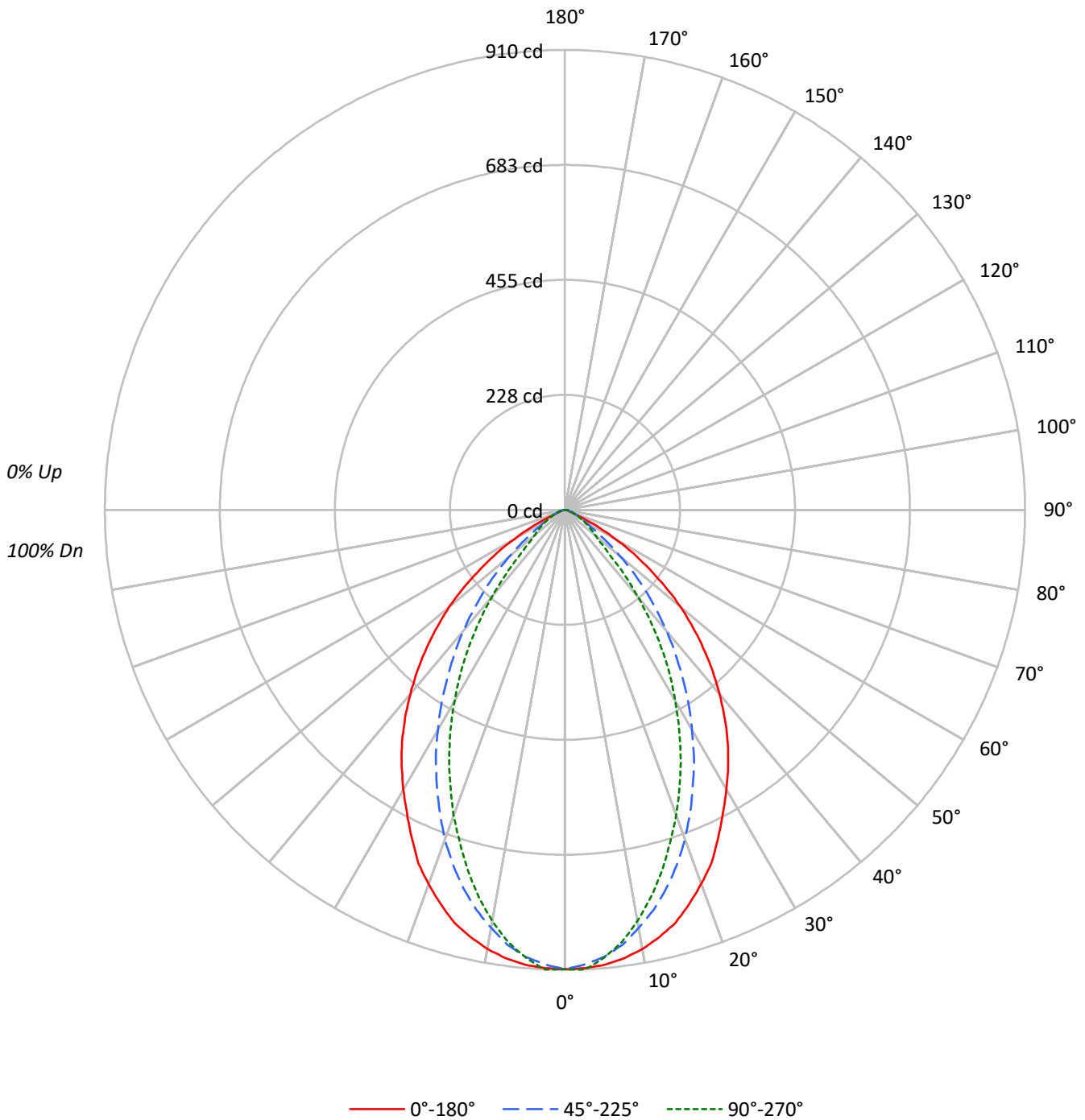
Lumens per Lamp: N/A
Luminaire Lumens: 1173.4 lumens
Efficiency: N/A
Efficacy: 32.1 lumens/watt
Spacing Criteria (0/90/45): 1.08 / 0.85 / 0.98
Luminous Opening: Rectangular (W 0.23' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 36.5
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 | | | | 100 |
| 1 | 112 | 109 | 106 | 103 | 110 | 107 | 104 | 102 | 103 | 100 | 98 | 99 | 97 | 95 | 95 | 94 | 93 | 91 | | | | 91 |
| 2 | 105 | 99 | 94 | 90 | 103 | 97 | 93 | 89 | 94 | 90 | 87 | 91 | 88 | 85 | 88 | 86 | 83 | 82 | | | | 82 |
| 3 | 98 | 90 | 84 | 80 | 96 | 89 | 83 | 79 | 86 | 82 | 78 | 84 | 80 | 76 | 81 | 78 | 75 | 73 | | | | 73 |
| 4 | 92 | 83 | 76 | 71 | 90 | 82 | 75 | 71 | 79 | 74 | 70 | 77 | 73 | 69 | 75 | 71 | 68 | 66 | | | | 66 |
| 5 | 86 | 76 | 69 | 64 | 84 | 75 | 68 | 63 | 73 | 67 | 63 | 71 | 66 | 62 | 70 | 65 | 62 | 60 | | | | 60 |
| 6 | 81 | 70 | 63 | 58 | 79 | 69 | 62 | 58 | 68 | 62 | 57 | 66 | 61 | 57 | 65 | 60 | 56 | 55 | | | | 55 |
| 7 | 76 | 65 | 58 | 53 | 74 | 64 | 57 | 53 | 63 | 57 | 52 | 61 | 56 | 52 | 60 | 55 | 52 | 50 | | | | 50 |
| 8 | 71 | 60 | 53 | 48 | 70 | 60 | 53 | 48 | 58 | 52 | 48 | 57 | 52 | 48 | 56 | 51 | 48 | 46 | | | | 46 |
| 9 | 67 | 56 | 49 | 45 | 66 | 56 | 49 | 44 | 55 | 49 | 44 | 54 | 48 | 44 | 53 | 48 | 44 | 42 | | | | 42 |
| 10 | 64 | 52 | 46 | 41 | 63 | 52 | 46 | 41 | 51 | 45 | 41 | 50 | 45 | 41 | 49 | 44 | 41 | 39 | | | | 39 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 10674 | 10674 | 10674 |
| 5° | 10649 | 10466 | 10482 |
| 10° | 10519 | 10016 | 9849 |
| 15° | 10281 | 9425 | 8997 |
| 20° | 9847 | 8669 | 8035 |
| 25° | 9279 | 7766 | 7018 |
| 30° | 8661 | 6811 | 5914 |
| 35° | 8048 | 5808 | 4761 |
| 40° | 7290 | 4789 | 3450 |
| 45° | 6427 | 3715 | 2079 |
| 50° | 5449 | 2596 | 1414 |
| 55° | 4148 | 1556 | 1181 |
| 60° | 2710 | 991 | 925 |
| 65° | 1134 | 742 | 742 |
| 70° | 388 | 532 | 580 |
| 75° | 318 | 381 | 445 |
| 80° | 189 | 284 | 379 |
| 85° | 189 | 189 | 377 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6427 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 83.9 | 7.2 |
| 10°-20° | 219.7 | 18.7 |
| 20°-30° | 281.7 | 24.0 |
| 30°-40° | 264.4 | 22.5 |
| 40°-50° | 184.4 | 15.7 |
| 50°-60° | 95.4 | 8.1 |
| 60°-70° | 32.6 | 2.8 |
| 70°-80° | 9.3 | 0.8 |
| 80°-90° | 2.0 | 0.2 |
| 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° | 585.4 | 49.9 |
| 0°-40° | 849.8 | 72.4 |
| 0°-60° | 1129.6 | 96.3 |
| 0°-90° | 1173.4 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1173.4 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 909 | 909 | 909 | 909 | 909 | |
| 5° | 903 | 902 | 888 | 892 | 889 | 86 |
| 15° | 846 | 825 | 775 | 750 | 740 | 237 |
| 25° | 716 | 671 | 599 | 559 | 542 | 329 |
| 35° | 561 | 492 | 405 | 353 | 332 | 350 |
| 45° | 387 | 317 | 224 | 155 | 125 | 298 |
| 55° | 203 | 152 | 76 | 59 | 58 | 182 |
| 65° | 41 | 35 | 27 | 25 | 27 | 48 |
| 75° | 7 | 7 | 8 | 10 | 10 | 7 |
| 85° | 1 | 1 | 1 | 1 | 3 | 1 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P1059511

CATALOG NUMBER: S123RDR-H1165D840-X4F0-XX-UDD-SVL-B

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 909.0 | 909.0 | 909.0 | 909.0 | 909.0 |
| 2.5° | 907.6 | 909.0 | 900.5 | 909.0 | 910.4 |
| 5° | 903.4 | 901.9 | 887.9 | 892.1 | 889.3 |
| 7.5° | 894.9 | 890.7 | 868.2 | 862.5 | 862.5 |
| 10° | 882.2 | 873.8 | 840.0 | 830.2 | 826.0 |
| 12.5° | 865.4 | 854.1 | 810.5 | 792.2 | 785.2 |
| 15° | 845.7 | 824.6 | 775.3 | 750.0 | 740.1 |
| 17.5° | 817.5 | 789.4 | 735.9 | 706.4 | 690.9 |
| 20° | 788.0 | 752.8 | 693.7 | 658.5 | 643.0 |
| 22.5° | 757.0 | 714.8 | 647.3 | 609.3 | 592.4 |
| 25° | 716.2 | 671.2 | 599.4 | 558.6 | 541.7 |
| 27.5° | 676.8 | 629.0 | 553.0 | 506.6 | 489.7 |
| 30° | 638.8 | 582.5 | 502.3 | 457.3 | 436.2 |
| 32.5° | 600.8 | 537.5 | 454.5 | 405.2 | 385.5 |
| 35° | 561.4 | 492.5 | 405.2 | 353.2 | 332.1 |
| 37.5° | 519.2 | 448.9 | 358.8 | 302.5 | 277.2 |
| 40° | 475.6 | 402.4 | 312.4 | 249.1 | 225.1 |
| 42.5° | 432.0 | 360.2 | 265.9 | 201.2 | 173.1 |
| 45° | 387.0 | 316.6 | 223.7 | 154.8 | 125.2 |
| 47.5° | 341.9 | 273.0 | 182.9 | 112.6 | 94.3 |
| 50° | 298.3 | 232.2 | 142.1 | 83.0 | 77.4 |
| 52.5° | 250.5 | 192.8 | 106.9 | 68.9 | 67.5 |
| 55° | 202.6 | 152.0 | 76.0 | 59.1 | 57.7 |
| 57.5° | 160.4 | 118.2 | 54.9 | 49.2 | 47.8 |
| 60° | 115.4 | 84.4 | 42.2 | 40.8 | 39.4 |
| 62.5° | 76.0 | 57.7 | 33.8 | 32.4 | 32.4 |
| 65° | 40.8 | 35.2 | 26.7 | 25.3 | 26.7 |
| 67.5° | 16.9 | 19.7 | 19.7 | 21.1 | 21.1 |
| 70° | 11.3 | 12.7 | 15.5 | 16.9 | 16.9 |
| 72.5° | 8.4 | 9.8 | 11.3 | 12.7 | 12.7 |
| 75° | 7.0 | 7.0 | 8.4 | 9.8 | 9.8 |
| 77.5° | 4.2 | 5.6 | 5.6 | 7.0 | 8.4 |
| 80° | 2.8 | 4.2 | 4.2 | 5.6 | 5.6 |
| 82.5° | 1.4 | 2.8 | 2.8 | 4.2 | 4.2 |
| 85° | 1.4 | 1.4 | 1.4 | 1.4 | 2.8 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 1.4 |
| 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 | 14.56 | 15.82 | 14.92 | 16.13 | 16.45 | 8.06 | 9.32 | 8.42 | 9.63 | 9.95 |
| | 3H | 14.51 | 15.62 | 14.89 | 15.95 | 16.32 | 8.83 | 9.94 | 9.22 | 10.27 | 10.64 |
| | 4H | 14.46 | 15.49 | 14.86 | 15.84 | 16.23 | 9.04 | 10.07 | 9.44 | 10.42 | 10.80 |
| | 6H | 14.39 | 15.33 | 14.80 | 15.70 | 16.10 | 9.18 | 10.12 | 9.59 | 10.49 | 10.89 |
| | 8H | 14.35 | 15.24 | 14.78 | 15.63 | 16.04 | 9.21 | 10.10 | 9.65 | 10.50 | 10.90 |
| | 12H | 14.30 | 15.15 | 14.74 | 15.54 | 15.97 | 9.23 | 10.08 | 9.66 | 10.46 | 10.90 |
| 4H | 2H | 14.41 | 15.44 | 14.81 | 15.79 | 16.17 | 8.32 | 9.34 | 8.72 | 9.70 | 10.08 |
| | 3H | 14.39 | 15.23 | 14.81 | 15.63 | 16.04 | 9.23 | 10.06 | 9.64 | 10.47 | 10.87 |
| | 4H | 14.34 | 15.08 | 14.77 | 15.50 | 15.95 | 9.50 | 10.24 | 9.93 | 10.66 | 11.10 |
| | 6H | 14.28 | 14.92 | 14.75 | 15.37 | 15.84 | 9.71 | 10.35 | 10.17 | 10.80 | 11.26 |
| | 8H | 14.23 | 14.82 | 14.70 | 15.27 | 15.74 | 9.77 | 10.37 | 10.24 | 10.81 | 11.29 |
| | 12H | 14.18 | 14.71 | 14.67 | 15.19 | 15.67 | 9.81 | 10.33 | 10.30 | 10.82 | 11.29 |
| 8H | 4H | 14.23 | 14.82 | 14.70 | 15.27 | 15.74 | 9.48 | 10.07 | 9.95 | 10.52 | 10.99 |
| | 6H | 14.16 | 14.65 | 14.67 | 15.14 | 15.63 | 9.75 | 10.23 | 10.25 | 10.73 | 11.21 |
| | 8H | 14.11 | 14.55 | 14.64 | 15.06 | 15.56 | 9.85 | 10.29 | 10.38 | 10.80 | 11.30 |
| | 12H | 14.07 | 14.46 | 14.59 | 14.95 | 15.53 | 9.92 | 10.31 | 10.44 | 10.80 | 11.38 |
| 12H | 4H | 14.18 | 14.70 | 14.67 | 15.19 | 15.66 | 9.44 | 9.97 | 9.93 | 10.45 | 10.92 |
| | 6H | 14.10 | 14.54 | 14.63 | 15.06 | 15.55 | 9.71 | 10.14 | 10.23 | 10.66 | 11.15 |
| | 8H | 14.07 | 14.46 | 14.59 | 14.96 | 15.53 | 9.84 | 10.23 | 10.36 | 10.72 | 11.30 |