

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: P1059441

Luminaire Tested: S123RDR-H1000D850-X4F0-XX-UDD-SVL-W

Issue Date: 8/7/2025

Test Information

Test Method: LM-79-2019
Report Number: P1059441
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2406-143-65)
Test Lab: INNOVATION CENTER
Issue Date: 8/7/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123RDR-H1000D850-X4F0-XX-UDD-SVL-W
Description: DEFINE 3 WHITE REGRESSED DIRECT RECESSED HOUSING WITH SILVER STRAIGHT BLADE
LOUVER WITH DIFFUSER
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

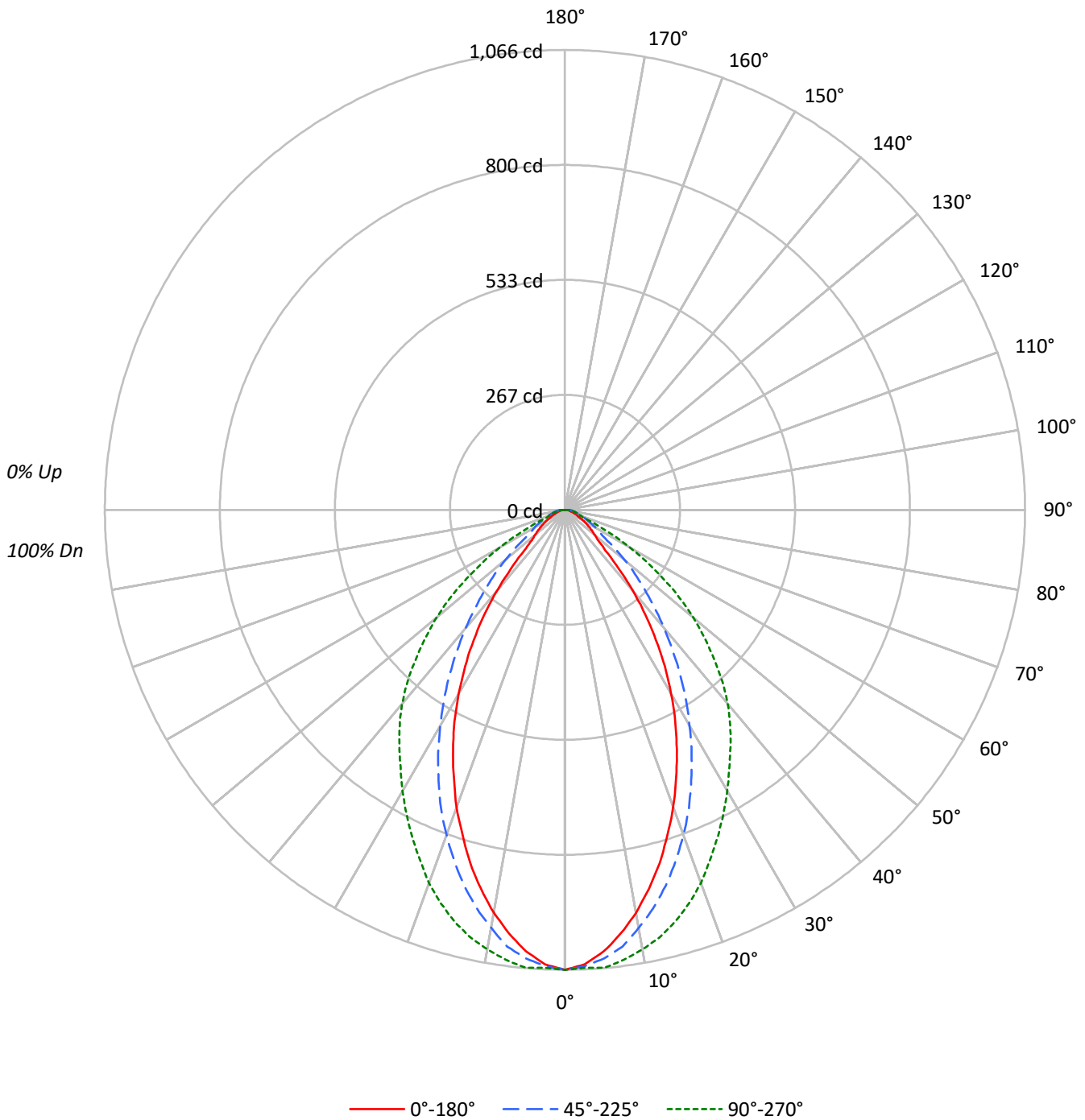
Lumens per Lamp: N/A
Luminaire Lumens: 1431.3 lumens
Efficiency: N/A
Efficacy: 45.9 lumens/watt
Spacing Criteria (0/90/45): 0.83 / 1.08 / 0.98
Luminous Opening: Rectangular (W 0.23' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 31.2
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 | 111 | 108 | 105 | 102 | 109 | 106 | 103 | 100 | 102 | 99 | 97 | 98 | 96 | 94 | 94 | 93 | 91 | 89 | | | | 89 |
| 2 | 104 | 98 | 92 | 88 | 102 | 96 | 91 | 87 | 92 | 88 | 85 | 89 | 86 | 83 | 86 | 84 | 81 | 79 | | | | 79 |
| 3 | 97 | 89 | 82 | 77 | 95 | 87 | 81 | 77 | 84 | 79 | 75 | 82 | 78 | 74 | 79 | 76 | 73 | 71 | | | | 71 |
| 4 | 90 | 81 | 74 | 68 | 88 | 80 | 73 | 68 | 77 | 72 | 67 | 75 | 70 | 66 | 73 | 69 | 66 | 64 | | | | 64 |
| 5 | 85 | 74 | 67 | 61 | 83 | 73 | 66 | 61 | 71 | 65 | 60 | 69 | 64 | 60 | 68 | 63 | 59 | 58 | | | | 58 |
| 6 | 79 | 68 | 61 | 55 | 78 | 67 | 60 | 55 | 66 | 59 | 55 | 64 | 59 | 54 | 63 | 58 | 54 | 52 | | | | 52 |
| 7 | 74 | 63 | 56 | 51 | 73 | 62 | 55 | 50 | 61 | 55 | 50 | 60 | 54 | 50 | 58 | 53 | 49 | 48 | | | | 48 |
| 8 | 70 | 58 | 51 | 46 | 69 | 58 | 51 | 46 | 57 | 50 | 46 | 55 | 50 | 46 | 54 | 49 | 45 | 44 | | | | 44 |
| 9 | 66 | 54 | 47 | 43 | 65 | 54 | 47 | 43 | 53 | 47 | 42 | 52 | 46 | 42 | 51 | 46 | 42 | 40 | | | | 40 |
| 10 | 62 | 51 | 44 | 39 | 61 | 50 | 44 | 39 | 49 | 43 | 39 | 49 | 43 | 39 | 48 | 43 | 39 | 37 | | | | 37 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 12520 | 12520 | 12520 |
| 5° | 12115 | 12302 | 12552 |
| 10° | 11307 | 11734 | 12334 |
| 15° | 10305 | 10965 | 12012 |
| 20° | 9170 | 10029 | 11503 |
| 25° | 7945 | 8975 | 10846 |
| 30° | 6663 | 7830 | 10200 |
| 35° | 5278 | 6664 | 9589 |
| 40° | 3736 | 5482 | 8993 |
| 45° | 2199 | 4333 | 8094 |
| 50° | 1646 | 3290 | 7090 |
| 55° | 1382 | 2223 | 5693 |
| 60° | 1120 | 1898 | 4044 |
| 65° | 884 | 1620 | 2134 |
| 70° | 772 | 1411 | 1318 |
| 75° | 721 | 1320 | 1261 |
| 80° | 717 | 1434 | 1251 |
| 85° | 889 | 2142 | 1603 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 8094 cd/sqm

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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 98.1 | 6.9 |
| 10°-20° | 255.0 | 17.8 |
| 20°-30° | 324.8 | 22.7 |
| 30°-40° | 305.5 | 21.3 |
| 40°-50° | 220.0 | 15.4 |
| 50°-60° | 127.1 | 8.9 |
| 60°-70° | 58.1 | 4.1 |
| 70°-80° | 29.0 | 2.0 |
| 80°-90° | 13.7 | 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° | 677.9 | 47.4 |
| 0°-40° | 983.4 | 68.7 |
| 0°-60° | 1330.5 | 93.0 |
| 0°-90° | 1431.3 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1431.3 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1066 | 1066 | 1066 | 1066 | 1066 | |
| 5° | 1028 | 1045 | 1044 | 1054 | 1065 | 96 |
| 15° | 848 | 878 | 902 | 952 | 988 | 236 |
| 25° | 613 | 645 | 693 | 770 | 837 | 280 |
| 35° | 368 | 400 | 465 | 572 | 669 | 228 |
| 45° | 132 | 166 | 261 | 392 | 487 | 112 |
| 55° | 68 | 70 | 109 | 207 | 278 | 61 |
| 65° | 32 | 45 | 58 | 65 | 77 | 33 |
| 75° | 16 | 30 | 29 | 28 | 28 | 17 |
| 85° | 7 | 15 | 16 | 15 | 12 | 7 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1066.2 | 1066.2 | 1066.2 | 1066.2 | 1066.2 |
| 2.5° | 1054.3 | 1067.5 | 1058.3 | 1059.6 | 1062.2 |
| 5° | 1027.8 | 1045.0 | 1043.7 | 1054.3 | 1064.9 |
| 7.5° | 990.7 | 1010.6 | 1021.2 | 1037.1 | 1051.6 |
| 10° | 948.3 | 970.8 | 984.1 | 1013.2 | 1034.4 |
| 12.5° | 899.3 | 928.5 | 945.7 | 984.1 | 1014.6 |
| 15° | 847.7 | 878.1 | 902.0 | 952.3 | 988.1 |
| 17.5° | 789.4 | 822.5 | 853.0 | 912.6 | 956.3 |
| 20° | 733.8 | 765.5 | 802.6 | 867.5 | 920.5 |
| 22.5° | 672.8 | 707.3 | 749.7 | 818.5 | 878.1 |
| 25° | 613.2 | 645.0 | 692.7 | 769.5 | 837.1 |
| 27.5° | 553.6 | 585.4 | 635.7 | 720.5 | 794.7 |
| 30° | 491.4 | 524.5 | 577.5 | 671.5 | 752.3 |
| 32.5° | 430.5 | 462.2 | 521.8 | 623.8 | 708.6 |
| 35° | 368.2 | 400.0 | 464.9 | 572.2 | 668.9 |
| 37.5° | 307.3 | 340.4 | 409.3 | 529.8 | 629.1 |
| 40° | 243.7 | 279.5 | 357.6 | 486.1 | 586.7 |
| 42.5° | 184.1 | 222.5 | 306.0 | 441.1 | 540.4 |
| 45° | 132.4 | 165.6 | 260.9 | 392.0 | 487.4 |
| 47.5° | 103.3 | 120.5 | 219.9 | 341.7 | 438.4 |
| 50° | 90.1 | 92.7 | 180.1 | 295.4 | 388.1 |
| 52.5° | 78.1 | 80.8 | 141.7 | 251.7 | 335.1 |
| 55° | 67.5 | 70.2 | 108.6 | 206.6 | 278.1 |
| 57.5° | 57.0 | 60.9 | 90.1 | 164.2 | 223.8 |
| 60° | 47.7 | 53.0 | 80.8 | 125.8 | 172.2 |
| 62.5° | 38.4 | 47.7 | 68.9 | 92.7 | 123.2 |
| 65° | 31.8 | 45.0 | 58.3 | 64.9 | 76.8 |
| 67.5° | 26.5 | 41.1 | 49.0 | 46.4 | 45.0 |
| 70° | 22.5 | 37.1 | 41.1 | 37.1 | 38.4 |
| 72.5° | 18.5 | 34.4 | 34.4 | 31.8 | 31.8 |
| 75° | 15.9 | 30.5 | 29.1 | 27.8 | 27.8 |
| 77.5° | 13.2 | 26.5 | 25.2 | 23.8 | 22.5 |
| 80° | 10.6 | 21.2 | 21.2 | 19.9 | 18.5 |
| 82.5° | 9.3 | 17.2 | 17.2 | 17.2 | 14.6 |
| 85° | 6.6 | 14.6 | 15.9 | 14.6 | 11.9 |
| 87.5° | 5.3 | 13.2 | 13.2 | 11.9 | 7.9 |
| 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 | 8.75 | 10.07 | 9.12 | 10.38 | 10.70 | 16.11 | 17.43 | 16.48 | 17.74 | 18.06 |
| | 3H | 10.14 | 11.31 | 10.52 | 11.64 | 12.00 | 16.34 | 17.51 | 16.72 | 17.84 | 18.21 |
| | 4H | 10.69 | 11.78 | 11.10 | 12.13 | 12.52 | 16.46 | 17.55 | 16.86 | 17.90 | 18.28 |
| | 6H | 11.13 | 12.13 | 11.54 | 12.50 | 12.89 | 16.57 | 17.57 | 16.99 | 17.94 | 18.34 |
| | 8H | 11.30 | 12.25 | 11.73 | 12.64 | 13.05 | 16.62 | 17.57 | 17.05 | 17.96 | 18.37 |
| | 12H | 11.46 | 12.37 | 11.89 | 12.75 | 13.18 | 16.68 | 17.59 | 17.12 | 17.97 | 18.40 |
| 4H | 2H | 9.85 | 10.94 | 10.25 | 11.29 | 11.68 | 16.07 | 17.16 | 16.47 | 17.51 | 17.90 |
| | 3H | 11.51 | 12.41 | 11.93 | 12.81 | 13.21 | 16.43 | 17.33 | 16.84 | 17.73 | 18.13 |
| | 4H | 12.33 | 13.13 | 12.76 | 13.54 | 13.99 | 16.63 | 17.43 | 17.06 | 17.85 | 18.29 |
| | 6H | 12.96 | 13.65 | 13.42 | 14.10 | 14.56 | 16.86 | 17.55 | 17.32 | 17.99 | 18.46 |
| | 8H | 13.20 | 13.84 | 13.66 | 14.29 | 14.76 | 16.96 | 17.61 | 17.43 | 18.05 | 18.52 |
| | 12H | 13.41 | 13.98 | 13.90 | 14.46 | 14.94 | 17.09 | 17.66 | 17.57 | 18.14 | 18.62 |
| 8H | 4H | 12.77 | 13.41 | 13.24 | 13.86 | 14.33 | 16.67 | 17.31 | 17.14 | 17.76 | 18.23 |
| | 6H | 13.68 | 14.21 | 14.18 | 14.70 | 15.19 | 16.99 | 17.52 | 17.50 | 18.02 | 18.50 |
| | 8H | 14.10 | 14.57 | 14.62 | 15.09 | 15.58 | 17.18 | 17.66 | 17.71 | 18.18 | 18.67 |
| | 12H | 14.51 | 14.94 | 15.03 | 15.43 | 16.00 | 17.43 | 17.86 | 17.95 | 18.35 | 18.92 |
| 12H | 4H | 12.82 | 13.40 | 13.31 | 13.88 | 14.35 | 16.66 | 17.23 | 17.14 | 17.71 | 18.18 |
| | 6H | 13.81 | 14.29 | 14.33 | 14.80 | 15.30 | 17.01 | 17.49 | 17.53 | 18.00 | 18.49 |
| | 8H | 14.35 | 14.77 | 14.86 | 15.27 | 15.84 | 17.27 | 17.69 | 17.78 | 18.18 | 18.75 |