

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: P1059200

Luminaire Tested: S123RDRP-S340D850-X4F0-XX-UDD-WVL-S

Issue Date: 8/7/2025

Test Information

Test Method: LM-79-2024
Report Number: P1059200
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2406-143-67)
Test Lab: INNOVATION CENTER
Issue Date: 8/7/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123RDRP-S340D850-X4F0-XX-UDD-WVL-S
Description: DEFINE 3 SILVER REGRESSED DIRECT RECESSED HOUSING WITH WHITE STRAIGHT BLADE
LOUVER WITH DIFFUSER
CORE LIGHT ENGINE
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

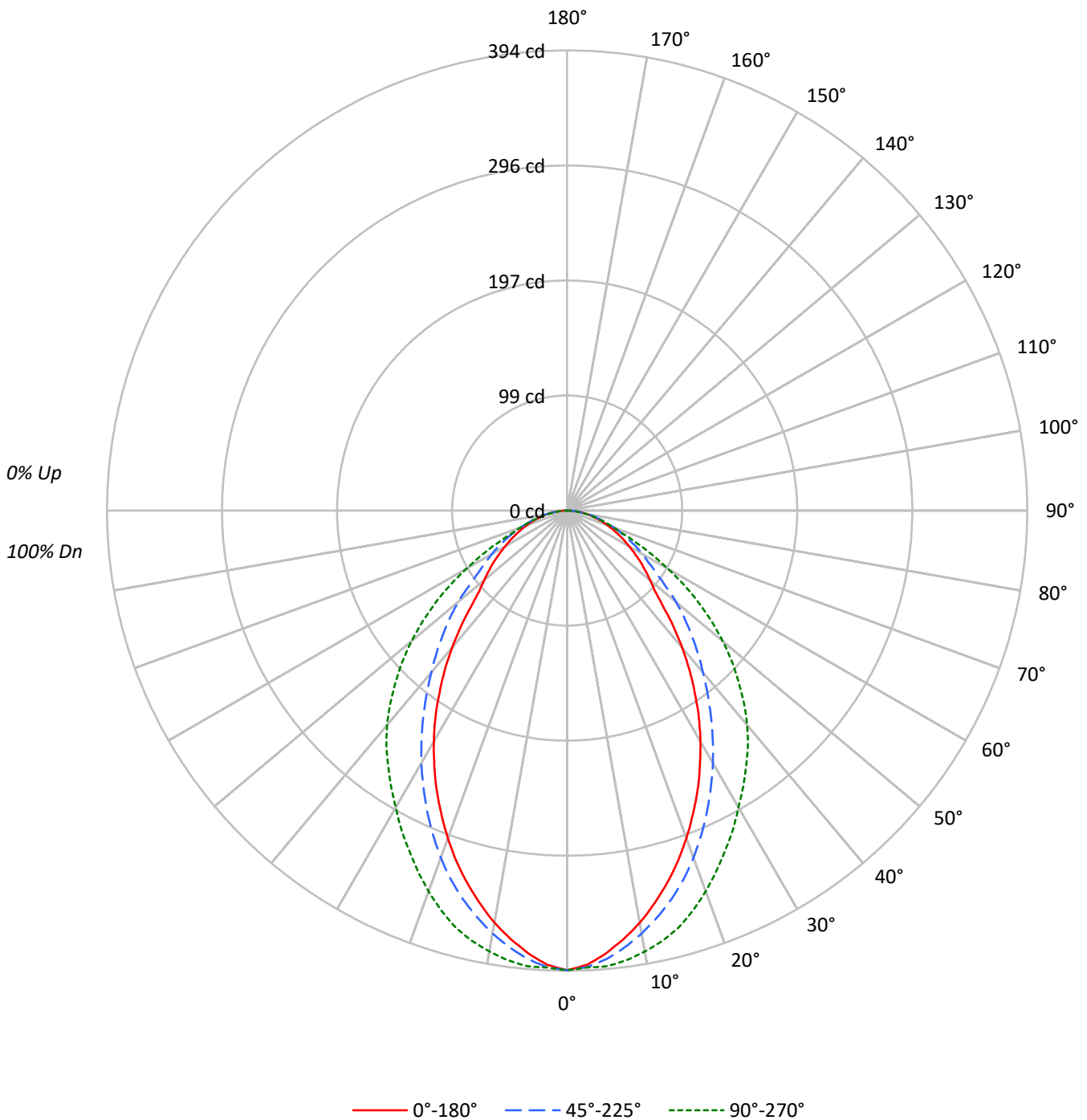
Lumens per Lamp: N/A
Luminaire Lumens: 710.8 lumens
Efficiency: N/A
Efficacy: 56.9 lumens/watt
Spacing Criteria (0/90/45): 0.93 / 1.12 / 1.1
Luminous Opening: Rectangular (W 0.23' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 12.5
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 | 110 | 106 | 102 | 99 | 108 | 104 | 100 | 97 | 100 | 97 | 94 | 96 | 93 | 91 | 92 | 90 | 89 | 87 |
| 2 | 102 | 94 | 88 | 83 | 99 | 92 | 87 | 82 | 89 | 84 | 80 | 86 | 82 | 78 | 83 | 80 | 77 | 75 |
| 3 | 94 | 84 | 77 | 71 | 91 | 83 | 76 | 71 | 80 | 74 | 69 | 77 | 72 | 68 | 75 | 71 | 67 | 65 |
| 4 | 87 | 76 | 68 | 62 | 84 | 74 | 67 | 61 | 72 | 66 | 61 | 70 | 64 | 60 | 68 | 63 | 59 | 57 |
| 5 | 80 | 69 | 60 | 54 | 78 | 68 | 60 | 54 | 66 | 59 | 54 | 64 | 58 | 53 | 62 | 57 | 53 | 51 |
| 6 | 75 | 63 | 54 | 48 | 73 | 62 | 54 | 48 | 60 | 53 | 48 | 58 | 52 | 47 | 57 | 51 | 47 | 45 |
| 7 | 70 | 57 | 49 | 44 | 68 | 56 | 49 | 43 | 55 | 48 | 43 | 54 | 47 | 43 | 52 | 47 | 43 | 41 |
| 8 | 65 | 53 | 45 | 39 | 64 | 52 | 45 | 39 | 51 | 44 | 39 | 50 | 43 | 39 | 48 | 43 | 39 | 37 |
| 9 | 61 | 49 | 41 | 36 | 60 | 48 | 41 | 36 | 47 | 40 | 36 | 46 | 40 | 36 | 45 | 39 | 35 | 34 |
| 10 | 58 | 45 | 38 | 33 | 56 | 45 | 38 | 33 | 44 | 37 | 33 | 43 | 37 | 33 | 42 | 37 | 33 | 31 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 4621 | 4621 | 4621 |
| 5° | 4486 | 4545 | 4616 |
| 10° | 4273 | 4383 | 4570 |
| 15° | 4015 | 4189 | 4492 |
| 20° | 3730 | 3954 | 4335 |
| 25° | 3424 | 3676 | 4154 |
| 30° | 3096 | 3384 | 3978 |
| 35° | 2731 | 3075 | 3829 |
| 40° | 2347 | 2771 | 3677 |
| 45° | 1930 | 2498 | 3447 |
| 50° | 1693 | 2225 | 3177 |
| 55° | 1568 | 1898 | 2815 |
| 60° | 1442 | 1745 | 2330 |
| 65° | 1345 | 1603 | 1834 |
| 70° | 1267 | 1456 | 1456 |
| 75° | 1193 | 1338 | 1257 |
| 80° | 1123 | 1217 | 1062 |
| 85° | 1051 | 1186 | 808 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 3447 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 36.4 | 5.1 |
| 10°-20° | 97.5 | 13.7 |
| 20°-30° | 132.2 | 18.6 |
| 30°-40° | 138.3 | 19.5 |
| 40°-50° | 119.9 | 16.9 |
| 50°-60° | 89.2 | 12.6 |
| 60°-70° | 57.2 | 8.1 |
| 70°-80° | 30.7 | 4.3 |
| 80°-90° | 9.3 | 1.3 |
| 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° | 266.2 | 37.4 |
| 0°-40° | 404.4 | 56.9 |
| 0°-60° | 613.6 | 86.3 |
| 0°-90° | 710.8 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 710.8 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 394 | 394 | 394 | 394 | 394 | |
| 5° | 381 | 387 | 386 | 388 | 392 | 36 |
| 15° | 330 | 338 | 345 | 358 | 370 | 93 |
| 25° | 264 | 273 | 284 | 303 | 321 | 121 |
| 35° | 190 | 200 | 214 | 242 | 267 | 119 |
| 45° | 116 | 125 | 150 | 183 | 208 | 91 |
| 55° | 77 | 78 | 93 | 119 | 138 | 69 |
| 65° | 48 | 53 | 58 | 61 | 66 | 48 |
| 75° | 26 | 30 | 30 | 28 | 28 | 28 |
| 85° | 8 | 10 | 9 | 7 | 6 | 9 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 393.5 | 393.5 | 393.5 | 393.5 | 393.5 |
| 2.5° | 389.3 | 394.9 | 391.2 | 391.2 | 391.6 |
| 5° | 380.6 | 387.0 | 385.6 | 388.4 | 391.6 |
| 7.5° | 370.0 | 376.9 | 377.3 | 383.8 | 388.4 |
| 10° | 358.4 | 365.3 | 367.6 | 376.9 | 383.3 |
| 12.5° | 344.6 | 352.4 | 356.6 | 368.1 | 377.3 |
| 15° | 330.3 | 338.1 | 344.6 | 358.4 | 369.5 |
| 17.5° | 315.1 | 322.9 | 331.2 | 346.9 | 358.9 |
| 20° | 298.5 | 306.8 | 316.4 | 332.1 | 346.9 |
| 22.5° | 281.4 | 290.2 | 300.3 | 317.4 | 334.0 |
| 25° | 264.3 | 272.6 | 283.7 | 302.6 | 320.6 |
| 27.5° | 246.3 | 255.1 | 266.6 | 287.4 | 307.7 |
| 30° | 228.3 | 237.1 | 249.6 | 271.7 | 293.4 |
| 32.5° | 209.9 | 218.7 | 232.0 | 256.9 | 280.5 |
| 35° | 190.5 | 199.7 | 214.5 | 241.7 | 267.1 |
| 37.5° | 172.1 | 180.8 | 197.4 | 227.4 | 254.2 |
| 40° | 153.1 | 162.4 | 180.8 | 213.1 | 239.9 |
| 42.5° | 134.7 | 143.9 | 165.6 | 197.9 | 224.2 |
| 45° | 116.2 | 125.0 | 150.4 | 182.7 | 207.6 |
| 47.5° | 101.9 | 108.4 | 136.1 | 166.5 | 191.4 |
| 50° | 92.7 | 95.0 | 121.8 | 150.8 | 173.9 |
| 52.5° | 84.4 | 86.3 | 106.1 | 135.2 | 155.9 |
| 55° | 76.6 | 78.4 | 92.7 | 119.0 | 137.5 |
| 57.5° | 68.7 | 71.0 | 82.6 | 102.4 | 119.0 |
| 60° | 61.4 | 64.1 | 74.3 | 87.6 | 99.2 |
| 62.5° | 54.9 | 58.1 | 66.0 | 74.3 | 82.1 |
| 65° | 48.4 | 52.6 | 57.7 | 61.4 | 66.0 |
| 67.5° | 42.4 | 47.1 | 49.8 | 50.7 | 51.2 |
| 70° | 36.9 | 41.5 | 42.4 | 42.4 | 42.4 |
| 72.5° | 31.4 | 36.4 | 35.5 | 35.1 | 34.6 |
| 75° | 26.3 | 30.4 | 29.5 | 28.1 | 27.7 |
| 77.5° | 21.2 | 24.9 | 23.5 | 22.6 | 21.2 |
| 80° | 16.6 | 19.4 | 18.0 | 17.1 | 15.7 |
| 82.5° | 12.5 | 14.3 | 12.9 | 12.0 | 10.6 |
| 85° | 7.8 | 9.7 | 8.8 | 7.4 | 6.0 |
| 87.5° | 4.2 | 5.5 | 4.6 | 4.2 | 2.3 |
| 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 | 12.10 | 13.58 | 12.46 | 13.90 | 14.21 | 14.86 | 16.34 | 15.22 | 16.66 | 16.97 |
| | 3H | 13.81 | 15.14 | 14.19 | 15.47 | 15.83 | 15.88 | 17.21 | 16.26 | 17.54 | 17.90 |
| | 4H | 14.47 | 15.72 | 14.87 | 16.07 | 16.45 | 16.24 | 17.49 | 16.64 | 17.84 | 18.22 |
| | 6H | 14.97 | 16.12 | 15.38 | 16.49 | 16.88 | 16.50 | 17.65 | 16.91 | 18.02 | 18.41 |
| | 8H | 15.15 | 16.25 | 15.58 | 16.64 | 17.04 | 16.57 | 17.66 | 17.00 | 18.05 | 18.46 |
| | 12H | 15.28 | 16.33 | 15.71 | 16.71 | 17.14 | 16.61 | 17.65 | 17.04 | 18.03 | 18.46 |
| 4H | 2H | 12.88 | 14.12 | 13.28 | 14.47 | 14.85 | 15.13 | 16.38 | 15.53 | 16.73 | 17.10 |
| | 3H | 14.80 | 15.84 | 15.21 | 16.24 | 16.64 | 16.38 | 17.42 | 16.79 | 17.82 | 18.22 |
| | 4H | 15.61 | 16.54 | 16.05 | 16.96 | 17.40 | 16.87 | 17.80 | 17.30 | 18.22 | 18.66 |
| | 6H | 16.25 | 17.06 | 16.71 | 17.50 | 17.97 | 17.25 | 18.06 | 17.71 | 18.50 | 18.96 |
| | 8H | 16.48 | 17.24 | 16.95 | 17.68 | 18.15 | 17.36 | 18.12 | 17.83 | 18.56 | 19.03 |
| | 12H | 16.66 | 17.33 | 17.14 | 17.81 | 18.28 | 17.43 | 18.11 | 17.92 | 18.59 | 19.06 |
| 8H | 4H | 15.93 | 16.69 | 16.40 | 17.13 | 17.60 | 17.06 | 17.82 | 17.53 | 18.26 | 18.73 |
| | 6H | 16.73 | 17.35 | 17.22 | 17.84 | 18.32 | 17.55 | 18.17 | 18.05 | 18.67 | 19.14 |
| | 8H | 17.05 | 17.61 | 17.57 | 18.12 | 18.61 | 17.73 | 18.29 | 18.24 | 18.80 | 19.29 |
| | 12H | 17.33 | 17.83 | 17.84 | 18.32 | 18.89 | 17.86 | 18.36 | 18.37 | 18.85 | 19.41 |
| 12H | 4H | 15.96 | 16.63 | 16.44 | 17.11 | 17.58 | 17.08 | 17.75 | 17.56 | 18.23 | 18.70 |
| | 6H | 16.78 | 17.34 | 17.29 | 17.85 | 18.34 | 17.59 | 18.15 | 18.10 | 18.66 | 19.15 |
| | 8H | 17.17 | 17.67 | 17.68 | 18.16 | 18.73 | 17.82 | 18.31 | 18.33 | 18.81 | 19.37 |