

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: P1059579

Luminaire Tested: S123RDR-H340D830-X4F0-XX-UDD-WVL-W

Issue Date: 8/7/2025

Test Information

Test Method: LM-79-2019
Report Number: P1059579
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2406-143-64)
Test Lab: INNOVATION CENTER
Issue Date: 8/7/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123RDR-H340D830-X4F0-XX-UDD-WVL-W
Description: DEFINE 3 WHITE REGRESSED DIRECT RECESSED HOUSING WITH WHITE STRAIGHT BLADE LOUVER WITH DIFFUSER
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

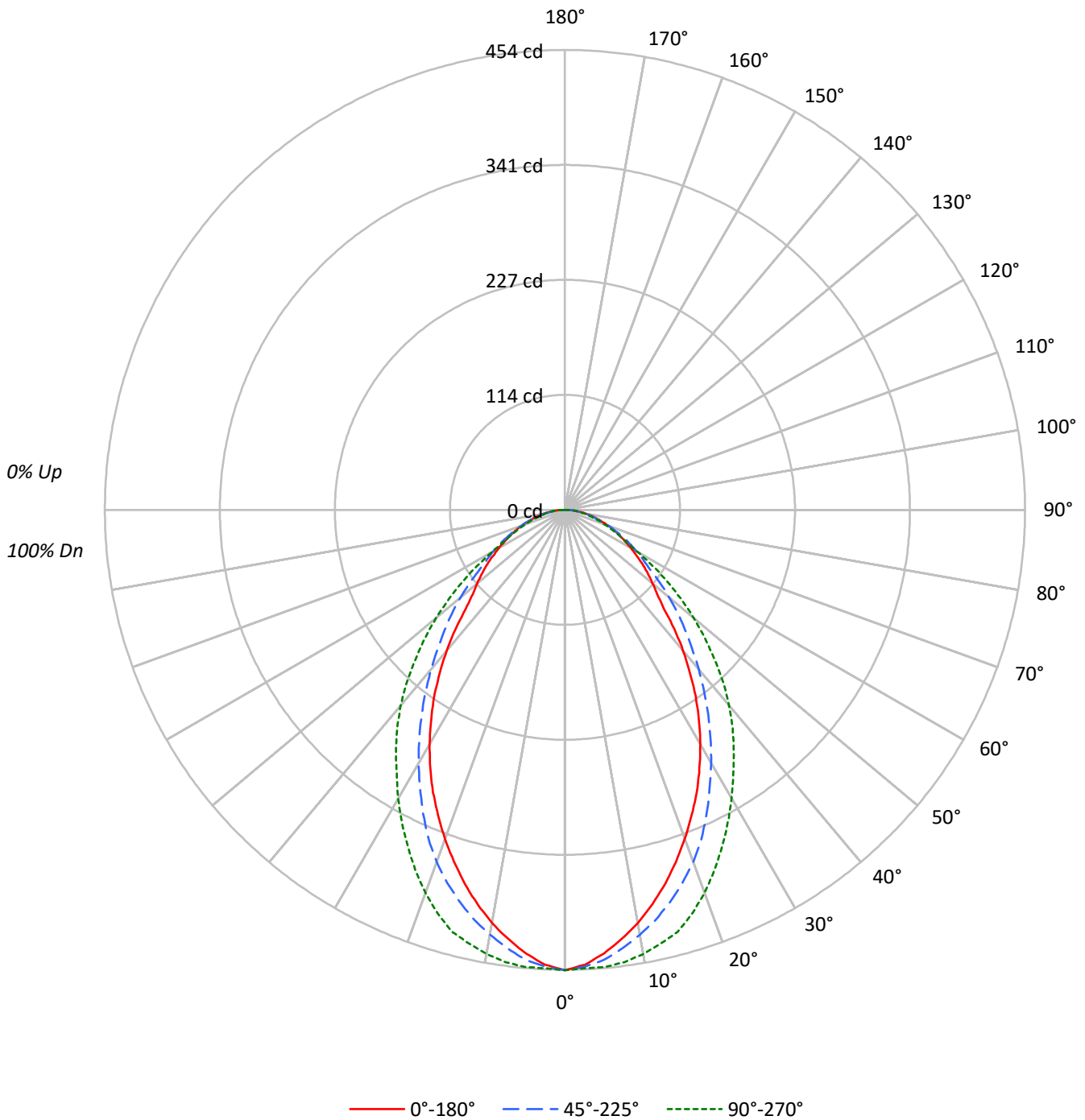
Lumens per Lamp: N/A
Luminaire Lumens: 798.6 lumens
Efficiency: N/A
Efficacy: 68.3 lumens/watt
Spacing Criteria (0/90/45): 0.94 / 1.1 / 1.09
Luminous Opening: Rectangular (W 0.23' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 11.7
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 | 110 | 106 | 102 | 99 | 108 | 104 | 101 | 97 | 100 | 97 | 94 | 96 | 94 | 92 | 92 | 91 | 89 | 87 | | | | 87 |
| 2 | 102 | 95 | 89 | 84 | 99 | 93 | 87 | 83 | 89 | 85 | 81 | 86 | 82 | 79 | 83 | 80 | 77 | 75 | | | | 75 |
| 3 | 94 | 85 | 77 | 72 | 92 | 83 | 76 | 71 | 80 | 75 | 70 | 78 | 73 | 69 | 75 | 71 | 68 | 66 | | | | 66 |
| 4 | 87 | 76 | 69 | 63 | 85 | 75 | 68 | 62 | 73 | 66 | 61 | 70 | 65 | 61 | 68 | 64 | 60 | 58 | | | | 58 |
| 5 | 81 | 69 | 61 | 55 | 79 | 68 | 61 | 55 | 66 | 59 | 54 | 64 | 58 | 54 | 62 | 57 | 53 | 51 | | | | 51 |
| 6 | 75 | 63 | 55 | 49 | 73 | 62 | 55 | 49 | 61 | 54 | 49 | 59 | 53 | 48 | 57 | 52 | 48 | 46 | | | | 46 |
| 7 | 70 | 58 | 50 | 44 | 69 | 57 | 50 | 44 | 56 | 49 | 44 | 54 | 48 | 44 | 53 | 48 | 43 | 41 | | | | 41 |
| 8 | 66 | 53 | 46 | 40 | 64 | 53 | 45 | 40 | 51 | 45 | 40 | 50 | 44 | 40 | 49 | 44 | 39 | 38 | | | | 38 |
| 9 | 62 | 49 | 42 | 37 | 60 | 49 | 42 | 37 | 48 | 41 | 36 | 47 | 41 | 36 | 46 | 40 | 36 | 34 | | | | 34 |
| 10 | 58 | 46 | 39 | 34 | 57 | 45 | 38 | 34 | 45 | 38 | 34 | 44 | 38 | 33 | 43 | 37 | 33 | 32 | | | | 32 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 5337 | 5337 | 5337 |
| 5° | 5182 | 5256 | 5338 |
| 10° | 4939 | 5078 | 5307 |
| 15° | 4645 | 4874 | 5240 |
| 20° | 4321 | 4624 | 5030 |
| 25° | 3988 | 4287 | 4754 |
| 30° | 3622 | 3913 | 4460 |
| 35° | 3224 | 3532 | 4166 |
| 40° | 2782 | 3147 | 3861 |
| 45° | 2300 | 2787 | 3462 |
| 50° | 2064 | 2457 | 3022 |
| 55° | 1914 | 2098 | 2506 |
| 60° | 1764 | 1912 | 1919 |
| 65° | 1642 | 1728 | 1609 |
| 70° | 1545 | 1572 | 1411 |
| 75° | 1456 | 1402 | 1243 |
| 80° | 1373 | 1271 | 1163 |
| 85° | 1320 | 1428 | 1320 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 3462 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 42.1 | 5.3 |
| 10°-20° | 113.4 | 14.2 |
| 20°-30° | 153.4 | 19.2 |
| 30°-40° | 157.6 | 19.7 |
| 40°-50° | 132.4 | 16.6 |
| 50°-60° | 94.9 | 11.9 |
| 60°-70° | 60.4 | 7.6 |
| 70°-80° | 33.2 | 4.2 |
| 80°-90° | 11.1 | 1.4 |
| 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° | 308.9 | 38.7 |
| 0°-40° | 466.6 | 58.4 |
| 0°-60° | 693.9 | 86.9 |
| 0°-90° | 798.6 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 798.6 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 454 | 454 | 454 | 454 | 454 | |
| 5° | 440 | 447 | 446 | 449 | 453 | 41 |
| 15° | 382 | 393 | 401 | 418 | 431 | 107 |
| 25° | 308 | 320 | 331 | 349 | 367 | 141 |
| 35° | 225 | 237 | 246 | 268 | 291 | 140 |
| 45° | 138 | 151 | 168 | 192 | 208 | 109 |
| 55° | 94 | 95 | 102 | 116 | 122 | 83 |
| 65° | 59 | 63 | 62 | 59 | 58 | 59 |
| 75° | 32 | 35 | 31 | 29 | 27 | 34 |
| 85° | 10 | 10 | 11 | 11 | 10 | 11 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P1059579

CATALOG NUMBER: S123RDR-H340D830-X4F0-XX-UDD-WVL-W

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 454.5 | 454.5 | 454.5 | 454.5 | 454.5 |
| 2.5° | 449.4 | 455.7 | 451.4 | 451.7 | 452.9 |
| 5° | 439.6 | 447.4 | 445.9 | 449.0 | 452.9 |
| 7.5° | 427.5 | 436.1 | 436.5 | 443.9 | 450.2 |
| 10° | 414.2 | 423.2 | 425.9 | 437.3 | 445.1 |
| 12.5° | 398.6 | 408.3 | 414.2 | 428.3 | 438.4 |
| 15° | 382.1 | 392.7 | 400.9 | 418.1 | 431.0 |
| 17.5° | 364.1 | 375.5 | 386.0 | 404.4 | 417.7 |
| 20° | 345.8 | 357.9 | 370.0 | 387.2 | 402.5 |
| 22.5° | 326.6 | 339.1 | 351.6 | 368.4 | 385.3 |
| 25° | 307.8 | 319.5 | 330.9 | 348.9 | 366.9 |
| 27.5° | 287.5 | 299.6 | 309.4 | 329.3 | 348.1 |
| 30° | 267.1 | 279.3 | 288.6 | 309.4 | 328.9 |
| 32.5° | 246.0 | 258.5 | 267.1 | 288.6 | 309.0 |
| 35° | 224.9 | 237.0 | 246.4 | 268.3 | 290.6 |
| 37.5° | 202.6 | 215.9 | 225.3 | 249.9 | 271.8 |
| 40° | 181.5 | 194.0 | 205.3 | 231.2 | 251.9 |
| 42.5° | 159.6 | 172.5 | 185.4 | 212.0 | 231.2 |
| 45° | 138.5 | 150.6 | 167.8 | 192.0 | 208.5 |
| 47.5° | 123.2 | 131.0 | 151.0 | 171.3 | 187.0 |
| 50° | 113.0 | 116.2 | 134.5 | 152.5 | 165.4 |
| 52.5° | 102.9 | 105.2 | 117.7 | 134.2 | 143.9 |
| 55° | 93.5 | 95.4 | 102.5 | 116.2 | 122.4 |
| 57.5° | 83.3 | 85.3 | 91.1 | 99.0 | 102.5 |
| 60° | 75.1 | 76.7 | 81.4 | 82.5 | 81.7 |
| 62.5° | 66.9 | 69.2 | 71.6 | 68.8 | 67.7 |
| 65° | 59.1 | 62.6 | 62.2 | 58.7 | 57.9 |
| 67.5° | 52.0 | 55.5 | 53.6 | 50.1 | 48.9 |
| 70° | 45.0 | 48.5 | 45.8 | 42.2 | 41.1 |
| 72.5° | 38.3 | 42.2 | 37.9 | 34.8 | 34.0 |
| 75° | 32.1 | 35.2 | 30.9 | 28.6 | 27.4 |
| 77.5° | 26.2 | 28.6 | 24.6 | 22.7 | 21.9 |
| 80° | 20.3 | 21.9 | 18.8 | 17.6 | 17.2 |
| 82.5° | 14.9 | 15.6 | 13.7 | 14.5 | 14.1 |
| 85° | 9.8 | 10.2 | 10.6 | 11.0 | 9.8 |
| 87.5° | 4.7 | 6.6 | 6.6 | 6.3 | 5.1 |
| 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 | 13.01 | 14.47 | 13.37 | 14.78 | 15.10 | 14.07 | 15.54 | 14.44 | 15.85 | 16.17 |
| | 3H | 14.70 | 16.01 | 15.08 | 16.34 | 16.70 | 15.16 | 16.47 | 15.54 | 16.80 | 17.16 |
| | 4H | 15.35 | 16.58 | 15.76 | 16.93 | 17.31 | 15.56 | 16.79 | 15.96 | 17.14 | 17.52 |
| | 6H | 15.86 | 16.99 | 16.27 | 17.36 | 17.75 | 15.87 | 17.00 | 16.28 | 17.37 | 17.76 |
| | 8H | 16.03 | 17.11 | 16.46 | 17.50 | 17.90 | 16.01 | 17.08 | 16.43 | 17.47 | 17.88 |
| | 12H | 16.16 | 17.19 | 16.59 | 17.57 | 18.00 | 16.13 | 17.16 | 16.56 | 17.54 | 17.97 |
| 4H | 2H | 13.61 | 14.83 | 14.01 | 15.18 | 15.56 | 14.48 | 15.71 | 14.88 | 16.06 | 16.44 |
| | 3H | 15.53 | 16.55 | 15.94 | 16.95 | 17.35 | 15.80 | 16.81 | 16.21 | 17.21 | 17.62 |
| | 4H | 16.34 | 17.26 | 16.78 | 17.68 | 18.12 | 16.32 | 17.23 | 16.75 | 17.65 | 18.09 |
| | 6H | 16.99 | 17.79 | 17.45 | 18.23 | 18.69 | 16.75 | 17.54 | 17.21 | 17.99 | 18.45 |
| | 8H | 17.21 | 17.96 | 17.68 | 18.40 | 18.87 | 16.94 | 17.68 | 17.40 | 18.13 | 18.60 |
| | 12H | 17.39 | 18.05 | 17.87 | 18.53 | 19.00 | 17.12 | 17.79 | 17.60 | 18.27 | 18.74 |
| 8H | 4H | 16.58 | 17.33 | 17.05 | 17.77 | 18.24 | 16.56 | 17.31 | 17.03 | 17.75 | 18.22 |
| | 6H | 17.37 | 17.98 | 17.87 | 18.48 | 18.95 | 17.11 | 17.72 | 17.61 | 18.22 | 18.69 |
| | 8H | 17.68 | 18.23 | 18.20 | 18.75 | 19.23 | 17.39 | 17.94 | 17.90 | 18.45 | 18.94 |
| | 12H | 17.95 | 18.44 | 18.46 | 18.93 | 19.50 | 17.68 | 18.17 | 18.19 | 18.66 | 19.23 |
| 12H | 4H | 16.59 | 17.26 | 17.08 | 17.74 | 18.21 | 16.59 | 17.25 | 17.07 | 17.73 | 18.20 |
| | 6H | 17.40 | 17.96 | 17.92 | 18.47 | 18.96 | 17.16 | 17.71 | 17.68 | 18.23 | 18.71 |
| | 8H | 17.78 | 18.27 | 18.29 | 18.76 | 19.33 | 17.50 | 17.99 | 18.01 | 18.48 | 19.05 |