

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: P1055357

Luminaire Tested: S122R3DR-H485D950-X4F0-XX-UDD-FLL-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2019
Report Number: P1055357
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-3)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S122R3DR-H485D950-X4F0-XX-UDD-FLL-S
Description: DEFINE 2, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

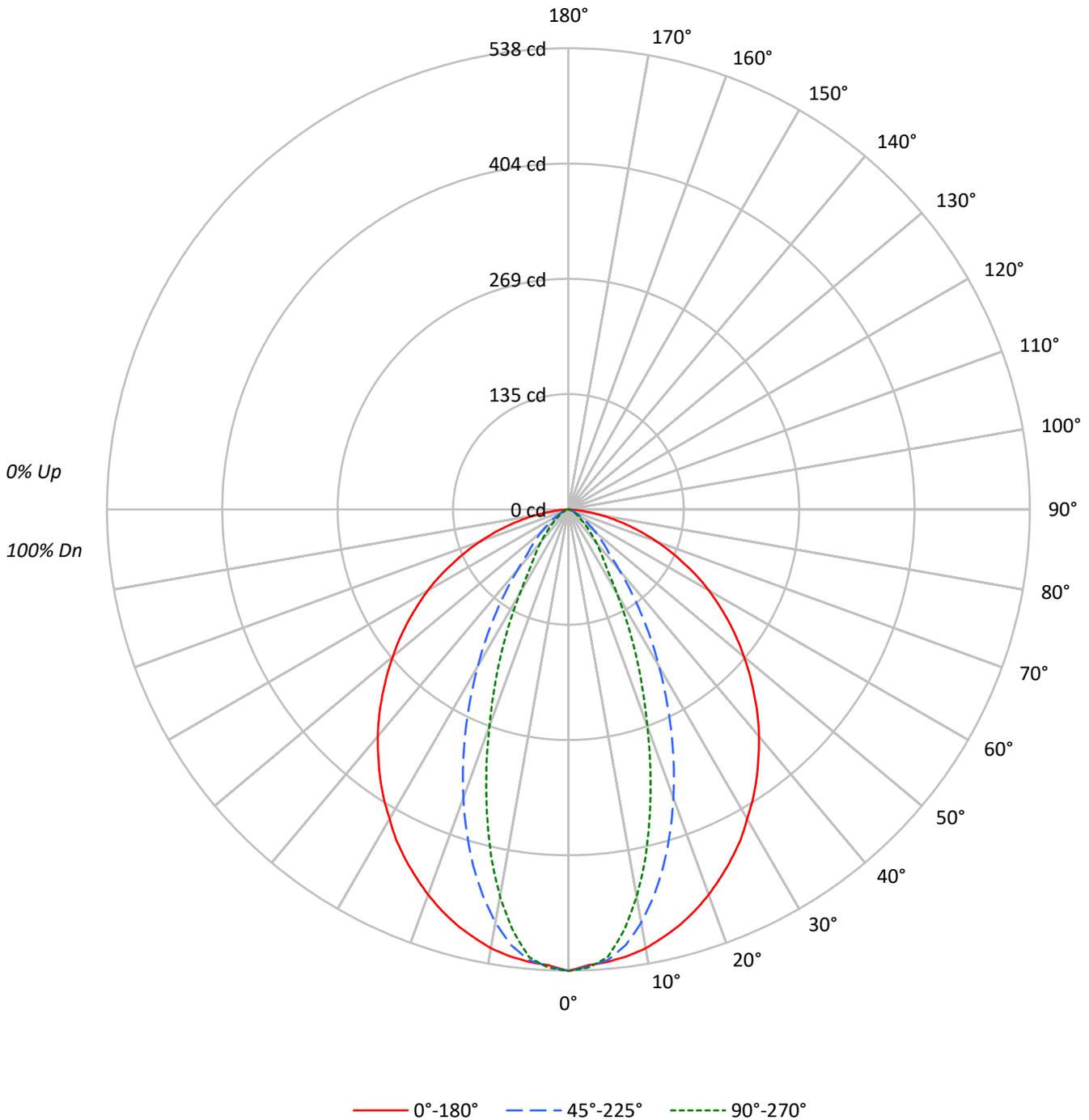
Lumens per Lamp: N/A
Luminaire Lumens: 616.9 lumens
Efficiency: N/A
Efficacy: 35.7 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 0.64 / 0.81
Luminous Opening: Rectangular (W 0.15' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 17.3
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

TEST NUMBER: P1055357

CATALOG NUMBER: S122R3DR-H485D950-X4F0-XX-UDD-FLL-S

Luminous Intensity Polar Plot





TEST NUMBER: P1055357

CATALOG NUMBER: S122R3DR-H485D950-X4F0-XX-UDD-FLL-S

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 | 100 | 102 | 99 | 97 | 98 | 96 | 94 | 94 | 93 | 92 | 90 |
| 2 | 104 | 98 | 93 | 88 | 102 | 96 | 91 | 87 | 93 | 89 | 85 | 90 | 86 | 83 | 87 | 84 | 82 | 80 |
| 3 | 97 | 89 | 83 | 78 | 95 | 88 | 82 | 77 | 85 | 80 | 76 | 82 | 78 | 74 | 80 | 76 | 73 | 71 |
| 4 | 91 | 81 | 74 | 69 | 89 | 80 | 74 | 69 | 78 | 72 | 68 | 76 | 71 | 67 | 74 | 70 | 66 | 64 |
| 5 | 85 | 75 | 67 | 62 | 83 | 74 | 67 | 62 | 72 | 66 | 61 | 70 | 65 | 61 | 68 | 64 | 60 | 58 |
| 6 | 80 | 69 | 62 | 56 | 78 | 68 | 61 | 56 | 66 | 60 | 56 | 65 | 59 | 55 | 63 | 59 | 55 | 53 |
| 7 | 75 | 64 | 57 | 52 | 74 | 63 | 56 | 51 | 62 | 56 | 51 | 60 | 55 | 51 | 59 | 54 | 50 | 49 |
| 8 | 71 | 59 | 52 | 47 | 69 | 59 | 52 | 47 | 58 | 51 | 47 | 56 | 51 | 47 | 55 | 50 | 47 | 45 |
| 9 | 67 | 56 | 49 | 44 | 66 | 55 | 48 | 44 | 54 | 48 | 44 | 53 | 47 | 43 | 52 | 47 | 43 | 42 |
| 10 | 63 | 52 | 45 | 41 | 62 | 52 | 45 | 41 | 51 | 45 | 41 | 50 | 44 | 40 | 49 | 44 | 40 | 39 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 10199 | 10199 | 10199 |
| 5° | 10074 | 10036 | 9973 |
| 10° | 10000 | 9417 | 8821 |
| 15° | 9846 | 8422 | 7194 |
| 20° | 9641 | 7222 | 5426 |
| 25° | 9405 | 5916 | 3876 |
| 30° | 9120 | 4618 | 2468 |
| 35° | 8849 | 3386 | 1647 |
| 40° | 8550 | 2285 | 1239 |
| 45° | 8218 | 1608 | 884 |
| 50° | 7876 | 1226 | 622 |
| 55° | 7538 | 849 | 459 |
| 60° | 7173 | 576 | 375 |
| 65° | 6653 | 412 | 296 |
| 70° | 6066 | 327 | 255 |
| 75° | 5263 | 293 | 190 |
| 80° | 4179 | 218 | 218 |
| 85° | 2304 | 283 | 152 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 8218 cd/sqm



TEST NUMBER: P1055357

CATALOG NUMBER: S122R3DR-H485D950-X4F0-XX-UDD-FLL-S

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 49.2 | 8.0 |
| 10°-20° | 120.8 | 19.6 |
| 20°-30° | 138.0 | 22.4 |
| 30°-40° | 117.0 | 19.0 |
| 40°-50° | 87.3 | 14.2 |
| 50°-60° | 56.4 | 9.1 |
| 60°-70° | 31.5 | 5.1 |
| 70°-80° | 13.8 | 2.2 |
| 80°-90° | 2.9 | 0.5 |
| 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° | 308.0 | 49.9 |
| 0°-40° | 425.0 | 68.9 |
| 0°-60° | 568.7 | 92.2 |
| 0°-90° | 616.9 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 616.9 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 538 | 538 | 538 | 538 | 538 | |
| 5° | 530 | 536 | 528 | 522 | 524 | 50 |
| 15° | 502 | 490 | 429 | 384 | 367 | 141 |
| 25° | 450 | 397 | 283 | 207 | 185 | 207 |
| 35° | 383 | 288 | 146 | 80 | 71 | 239 |
| 45° | 307 | 182 | 60 | 39 | 33 | 237 |
| 55° | 228 | 86 | 26 | 16 | 14 | 204 |
| 65° | 148 | 32 | 9 | 7 | 7 | 148 |
| 75° | 72 | 7 | 4 | 3 | 3 | 77 |
| 85° | 11 | 1 | 1 | 1 | 1 | 15 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P1055357

CATALOG NUMBER: S122R3DR-H485D950-X4F0-XX-UDD-FLL-S

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 538.3 | 538.3 | 538.3 | 538.3 | 538.3 |
| 2.5° | 532.3 | 540.2 | 533.7 | 533.7 | 535.0 |
| 5° | 529.7 | 536.3 | 527.7 | 522.4 | 524.4 |
| 7.5° | 525.7 | 530.4 | 512.5 | 496.7 | 495.4 |
| 10° | 519.8 | 521.8 | 489.5 | 465.0 | 458.5 |
| 12.5° | 511.2 | 506.6 | 461.1 | 426.8 | 415.6 |
| 15° | 502.0 | 489.5 | 429.4 | 383.9 | 366.8 |
| 17.5° | 490.8 | 468.3 | 394.5 | 339.1 | 317.9 |
| 20° | 478.2 | 446.6 | 358.2 | 292.2 | 269.1 |
| 22.5° | 464.4 | 422.2 | 320.6 | 248.0 | 224.9 |
| 25° | 449.9 | 397.1 | 283.0 | 207.1 | 185.4 |
| 27.5° | 434.7 | 370.7 | 246.0 | 170.2 | 146.4 |
| 30° | 416.9 | 343.7 | 211.1 | 134.6 | 112.8 |
| 32.5° | 400.4 | 315.3 | 178.8 | 104.2 | 85.8 |
| 35° | 382.6 | 288.3 | 146.4 | 79.8 | 71.2 |
| 37.5° | 364.1 | 261.2 | 118.1 | 67.3 | 60.0 |
| 40° | 345.7 | 234.2 | 92.4 | 56.7 | 50.1 |
| 42.5° | 326.5 | 207.8 | 71.2 | 47.5 | 40.9 |
| 45° | 306.7 | 182.1 | 60.0 | 38.9 | 33.0 |
| 47.5° | 286.9 | 156.3 | 50.1 | 31.0 | 26.4 |
| 50° | 267.2 | 131.9 | 41.6 | 24.4 | 21.1 |
| 52.5° | 248.0 | 108.8 | 33.0 | 19.8 | 17.2 |
| 55° | 228.2 | 86.4 | 25.7 | 15.8 | 13.9 |
| 57.5° | 208.4 | 67.3 | 19.8 | 13.2 | 11.9 |
| 60° | 189.3 | 50.8 | 15.2 | 10.6 | 9.9 |
| 62.5° | 169.5 | 40.9 | 11.9 | 8.6 | 7.9 |
| 65° | 148.4 | 31.7 | 9.2 | 7.3 | 6.6 |
| 67.5° | 129.3 | 23.1 | 7.3 | 5.9 | 5.3 |
| 70° | 109.5 | 15.8 | 5.9 | 5.3 | 4.6 |
| 72.5° | 90.4 | 9.9 | 4.6 | 4.0 | 4.0 |
| 75° | 71.9 | 6.6 | 4.0 | 3.3 | 2.6 |
| 77.5° | 54.8 | 4.0 | 2.6 | 2.6 | 2.0 |
| 80° | 38.3 | 2.6 | 2.0 | 2.0 | 2.0 |
| 82.5° | 23.7 | 2.0 | 1.3 | 1.3 | 1.3 |
| 85° | 10.6 | 0.7 | 1.3 | 0.7 | 0.7 |
| 87.5° | 2.0 | 0.7 | 0.7 | 0.7 | 0.7 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

TEST NUMBER: P1055357

CATALOG NUMBER: S122R3DR-H485D950-X4F0-XX-UDD-FLL-S

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 | 16.32 | 17.64 | 16.69 | 17.95 | 18.27 | 2.64 | 3.96 | 3.00 | 4.27 | 4.58 |
| | 3H | 18.79 | 19.96 | 19.17 | 20.29 | 20.66 | 3.48 | 4.66 | 3.86 | 4.99 | 5.35 |
| | 4H | 19.75 | 20.84 | 20.15 | 21.19 | 21.57 | 3.76 | 4.85 | 4.16 | 5.20 | 5.58 |
| | 6H | 20.43 | 21.44 | 20.85 | 21.81 | 22.20 | 3.95 | 4.95 | 4.37 | 5.33 | 5.72 |
| | 8H | 20.63 | 21.58 | 21.06 | 21.97 | 22.38 | 4.02 | 4.98 | 4.45 | 5.37 | 5.77 |
| | 12H | 20.71 | 21.62 | 21.14 | 22.00 | 22.43 | 4.05 | 4.96 | 4.48 | 5.34 | 5.77 |
| 4H | 2H | 16.10 | 17.20 | 16.51 | 17.55 | 17.93 | 3.20 | 4.29 | 3.61 | 4.65 | 5.03 |
| | 3H | 18.59 | 19.48 | 19.00 | 19.89 | 20.29 | 4.23 | 5.13 | 4.65 | 5.53 | 5.94 |
| | 4H | 19.53 | 20.33 | 19.97 | 20.75 | 21.19 | 4.60 | 5.40 | 5.04 | 5.82 | 6.26 |
| | 6H | 20.29 | 20.98 | 20.75 | 21.43 | 21.89 | 4.90 | 5.59 | 5.36 | 6.03 | 6.50 |
| | 8H | 20.53 | 21.18 | 21.00 | 21.62 | 22.09 | 4.99 | 5.64 | 5.46 | 6.08 | 6.56 |
| | 12H | 20.66 | 21.23 | 21.15 | 21.71 | 22.19 | 5.04 | 5.61 | 5.53 | 6.09 | 6.57 |
| 8H | 4H | 19.40 | 20.04 | 19.87 | 20.49 | 20.96 | 4.97 | 5.62 | 5.44 | 6.06 | 6.53 |
| | 6H | 20.14 | 20.66 | 20.64 | 21.16 | 21.64 | 5.33 | 5.86 | 5.84 | 6.36 | 6.84 |
| | 8H | 20.38 | 20.85 | 20.91 | 21.37 | 21.86 | 5.47 | 5.94 | 5.99 | 6.46 | 6.95 |
| | 12H | 20.53 | 20.95 | 21.05 | 21.44 | 22.02 | 5.56 | 5.98 | 6.08 | 6.47 | 7.04 |
| 12H | 4H | 19.35 | 19.92 | 19.84 | 20.41 | 20.88 | 5.09 | 5.66 | 5.58 | 6.15 | 6.62 |
| | 6H | 20.08 | 20.55 | 20.60 | 21.07 | 21.56 | 5.45 | 5.93 | 5.98 | 6.44 | 6.93 |
| | 8H | 20.34 | 20.76 | 20.86 | 21.25 | 21.82 | 5.63 | 6.04 | 6.15 | 6.54 | 7.11 |