

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: P1055757

Luminaire Tested: S123R3DR-H340D935-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055757
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-4)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123R3DR-H340D935-X4F0-XX-UDD-F-W
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

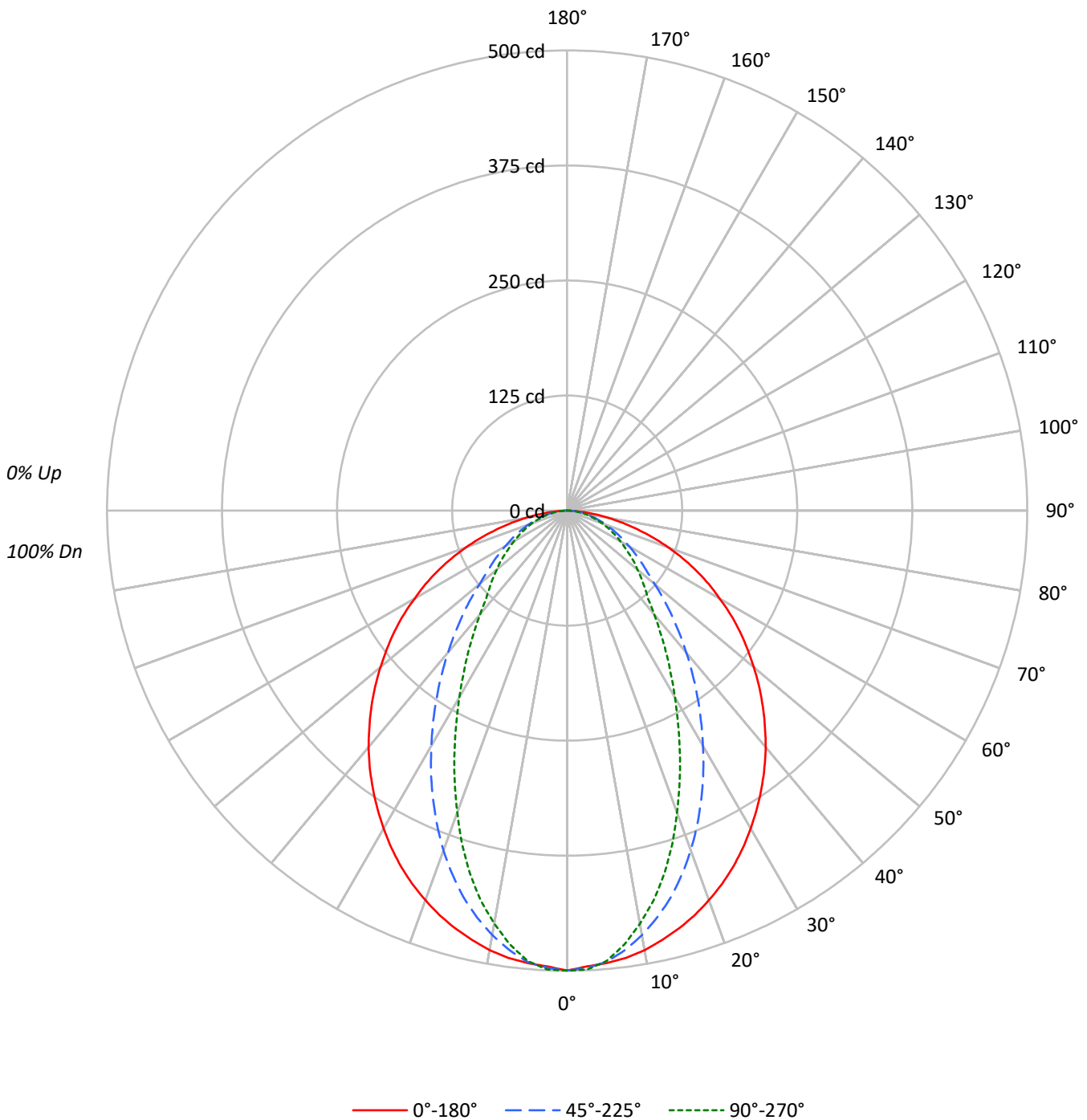
Lumens per Lamp: N/A
Luminaire Lumens: 876.6 lumens
Efficiency: N/A
Efficacy: 74.9 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.83 / 1.02
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 11.7
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: P1055757

CATALOG NUMBER: S123R3DR-H340D935-X4F0-XX-UDD-F-W

Luminous Intensity Polar Plot





TEST NUMBER: P1055757

CATALOG NUMBER: S123R3DR-H340D935-X4F0-XX-UDD-F-W

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 | 107 | 104 | 100 | 97 | 99 | 97 | 94 | 96 | 93 | 91 | 92 | 90 | 88 | 86 |
| 2 | 101 | 94 | 88 | 83 | 99 | 92 | 87 | 82 | 89 | 84 | 80 | 85 | 82 | 78 | 83 | 79 | 76 | 74 |
| 3 | 93 | 84 | 77 | 71 | 91 | 82 | 76 | 70 | 80 | 74 | 69 | 77 | 72 | 68 | 74 | 70 | 67 | 65 |
| 4 | 86 | 75 | 68 | 61 | 84 | 74 | 67 | 61 | 72 | 65 | 60 | 70 | 64 | 59 | 67 | 63 | 59 | 57 |
| 5 | 80 | 68 | 60 | 54 | 78 | 67 | 60 | 54 | 65 | 58 | 53 | 63 | 57 | 53 | 62 | 56 | 52 | 50 |
| 6 | 75 | 62 | 54 | 48 | 73 | 61 | 54 | 48 | 60 | 53 | 48 | 58 | 52 | 47 | 57 | 51 | 47 | 45 |
| 7 | 70 | 57 | 49 | 43 | 68 | 56 | 49 | 43 | 55 | 48 | 43 | 53 | 47 | 43 | 52 | 47 | 42 | 40 |
| 8 | 65 | 53 | 45 | 39 | 64 | 52 | 44 | 39 | 51 | 44 | 39 | 49 | 43 | 39 | 48 | 43 | 39 | 37 |
| 9 | 61 | 49 | 41 | 36 | 60 | 48 | 41 | 36 | 47 | 40 | 36 | 46 | 40 | 35 | 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° | 6026 | 6026 | 6026 |
| 5° | 5973 | 5958 | 5945 |
| 10° | 5936 | 5734 | 5579 |
| 15° | 5865 | 5431 | 5095 |
| 20° | 5780 | 5041 | 4480 |
| 25° | 5679 | 4591 | 3854 |
| 30° | 5553 | 4107 | 3258 |
| 35° | 5419 | 3631 | 2751 |
| 40° | 5283 | 3171 | 2312 |
| 45° | 5125 | 2735 | 2039 |
| 50° | 4965 | 2328 | 1872 |
| 55° | 4818 | 2075 | 1728 |
| 60° | 4615 | 1876 | 1613 |
| 65° | 4425 | 1717 | 1515 |
| 70° | 4124 | 1583 | 1424 |
| 75° | 3694 | 1463 | 1342 |
| 80° | 3166 | 1347 | 1243 |
| 85° | 2227 | 1245 | 1190 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5125 cd/sqm



TEST NUMBER: P1055757

CATALOG NUMBER: S123R3DR-H340D935-X4F0-XX-UDD-F-W

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 46.3 | 5.3 |
| 10°-20° | 122.6 | 14.0 |
| 20°-30° | 161.5 | 18.4 |
| 30°-40° | 163.9 | 18.7 |
| 40°-50° | 142.5 | 16.3 |
| 50°-60° | 111.6 | 12.7 |
| 60°-70° | 75.8 | 8.7 |
| 70°-80° | 41.1 | 4.7 |
| 80°-90° | 11.3 | 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° | 330.4 | 37.7 |
| 0°-40° | 494.3 | 56.4 |
| 0°-60° | 748.4 | 85.4 |
| 0°-90° | 876.6 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 876.6 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 500 | 500 | 500 | 500 | 500 | |
| 5° | 494 | 499 | 492 | 488 | 491 | 47 |
| 15° | 470 | 463 | 435 | 414 | 408 | 132 |
| 25° | 427 | 401 | 345 | 302 | 290 | 197 |
| 35° | 368 | 324 | 247 | 200 | 187 | 230 |
| 45° | 301 | 241 | 160 | 124 | 120 | 232 |
| 55° | 229 | 159 | 99 | 84 | 82 | 205 |
| 65° | 155 | 86 | 60 | 54 | 53 | 153 |
| 75° | 79 | 40 | 31 | 29 | 29 | 85 |
| 85° | 16 | 10 | 9 | 8 | 9 | 20 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P1055757

CATALOG NUMBER: S123R3DR-H340D935-X4F0-XX-UDD-F-W

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 499.8 | 499.8 | 499.8 | 499.8 | 499.8 |
| 2.5° | 495.7 | 502.1 | 497.2 | 497.6 | 499.1 |
| 5° | 493.5 | 499.4 | 492.3 | 487.9 | 491.2 |
| 7.5° | 490.1 | 494.6 | 481.5 | 474.4 | 475.5 |
| 10° | 484.9 | 486.4 | 468.4 | 457.2 | 455.7 |
| 12.5° | 477.8 | 475.1 | 452.7 | 436.3 | 433.7 |
| 15° | 469.9 | 463.2 | 435.1 | 413.8 | 408.2 |
| 17.5° | 460.9 | 449.7 | 414.6 | 388.4 | 379.8 |
| 20° | 450.5 | 434.8 | 392.9 | 359.6 | 349.2 |
| 22.5° | 439.3 | 419.1 | 369.4 | 330.1 | 319.3 |
| 25° | 426.9 | 401.1 | 345.1 | 302.1 | 289.7 |
| 27.5° | 413.5 | 383.2 | 320.4 | 274.4 | 260.6 |
| 30° | 398.9 | 364.5 | 295.0 | 247.5 | 234.0 |
| 32.5° | 383.9 | 344.7 | 270.7 | 222.4 | 209.3 |
| 35° | 368.2 | 324.5 | 246.7 | 199.6 | 186.9 |
| 37.5° | 352.2 | 303.9 | 223.6 | 177.9 | 166.0 |
| 40° | 335.7 | 283.0 | 201.5 | 157.8 | 146.9 |
| 42.5° | 318.1 | 262.1 | 180.2 | 138.7 | 130.5 |
| 45° | 300.6 | 241.1 | 160.4 | 123.7 | 119.6 |
| 47.5° | 283.0 | 219.8 | 141.7 | 113.3 | 109.5 |
| 50° | 264.7 | 199.3 | 124.1 | 103.6 | 99.8 |
| 52.5° | 246.7 | 179.1 | 109.5 | 94.2 | 91.6 |
| 55° | 229.2 | 159.3 | 98.7 | 84.1 | 82.2 |
| 57.5° | 210.8 | 139.8 | 87.9 | 76.3 | 74.0 |
| 60° | 191.4 | 121.1 | 77.8 | 68.0 | 66.9 |
| 62.5° | 173.8 | 103.6 | 68.8 | 60.9 | 59.8 |
| 65° | 155.1 | 86.0 | 60.2 | 53.8 | 53.1 |
| 67.5° | 136.1 | 71.4 | 52.3 | 47.1 | 46.7 |
| 70° | 117.0 | 60.2 | 44.9 | 40.7 | 40.4 |
| 72.5° | 98.3 | 49.7 | 37.8 | 35.1 | 34.4 |
| 75° | 79.3 | 39.6 | 31.4 | 29.2 | 28.8 |
| 77.5° | 62.1 | 30.7 | 25.0 | 23.6 | 23.2 |
| 80° | 45.6 | 22.8 | 19.4 | 18.3 | 17.9 |
| 82.5° | 29.9 | 15.7 | 13.8 | 13.1 | 13.1 |
| 85° | 16.1 | 9.7 | 9.0 | 8.2 | 8.6 |
| 87.5° | 5.6 | 4.1 | 4.1 | 3.7 | 4.1 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



TEST NUMBER: P1055757
 CATALOG NUMBER: S123R3DR-H340D935-X4F0-XX-UDD-F-W

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 | 16.80 | 18.29 | 17.16 | 18.60 | 18.92 | 11.95 | 13.44 | 12.31 | 13.76 | 14.07 |
| | 3H | 18.68 | 20.02 | 19.06 | 20.35 | 20.71 | 13.58 | 14.91 | 13.95 | 15.24 | 15.60 |
| | 4H | 19.44 | 20.70 | 19.84 | 21.05 | 21.43 | 14.21 | 15.47 | 14.61 | 15.82 | 16.20 |
| | 6H | 20.01 | 21.17 | 20.42 | 21.53 | 21.93 | 14.70 | 15.86 | 15.11 | 16.23 | 16.62 |
| | 8H | 20.18 | 21.28 | 20.61 | 21.67 | 22.07 | 14.87 | 15.98 | 15.30 | 16.37 | 16.77 |
| | 12H | 20.28 | 21.33 | 20.71 | 21.72 | 22.14 | 15.00 | 16.05 | 15.43 | 16.44 | 16.87 |
| 4H | 2H | 16.84 | 18.10 | 17.24 | 18.45 | 18.83 | 12.68 | 13.93 | 13.08 | 14.28 | 14.66 |
| | 3H | 18.86 | 19.90 | 19.27 | 20.31 | 20.71 | 14.50 | 15.54 | 14.91 | 15.94 | 16.34 |
| | 4H | 19.68 | 20.62 | 20.11 | 21.03 | 21.47 | 15.24 | 16.18 | 15.68 | 16.60 | 17.04 |
| | 6H | 20.36 | 21.18 | 20.82 | 21.62 | 22.08 | 15.85 | 16.67 | 16.31 | 17.11 | 17.57 |
| | 8H | 20.59 | 21.36 | 21.06 | 21.80 | 22.27 | 16.07 | 16.83 | 16.53 | 17.28 | 17.74 |
| | 12H | 20.74 | 21.43 | 21.23 | 21.91 | 22.38 | 16.24 | 16.92 | 16.72 | 17.40 | 17.87 |
| 8H | 4H | 19.70 | 20.47 | 20.17 | 20.91 | 21.38 | 15.63 | 16.39 | 16.09 | 16.84 | 17.30 |
| | 6H | 20.43 | 21.06 | 20.93 | 21.56 | 22.03 | 16.36 | 16.99 | 16.85 | 17.48 | 17.96 |
| | 8H | 20.70 | 21.27 | 21.22 | 21.78 | 22.27 | 16.64 | 17.21 | 17.16 | 17.72 | 18.21 |
| | 12H | 20.91 | 21.41 | 21.42 | 21.90 | 22.47 | 16.89 | 17.39 | 17.40 | 17.88 | 18.45 |
| 12H | 4H | 19.69 | 20.37 | 20.17 | 20.85 | 21.32 | 15.68 | 16.36 | 16.16 | 16.84 | 17.31 |
| | 6H | 20.42 | 20.98 | 20.93 | 21.49 | 21.98 | 16.44 | 17.00 | 16.95 | 17.51 | 18.00 |
| | 8H | 20.72 | 21.22 | 21.23 | 21.71 | 22.28 | 16.78 | 17.28 | 17.29 | 17.78 | 18.34 |