

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: P1055573

Luminaire Tested: S123R3DR-S1000D950-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055573
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-6)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123R3DR-S1000D950-X4F0-XX-UDD-F-S
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

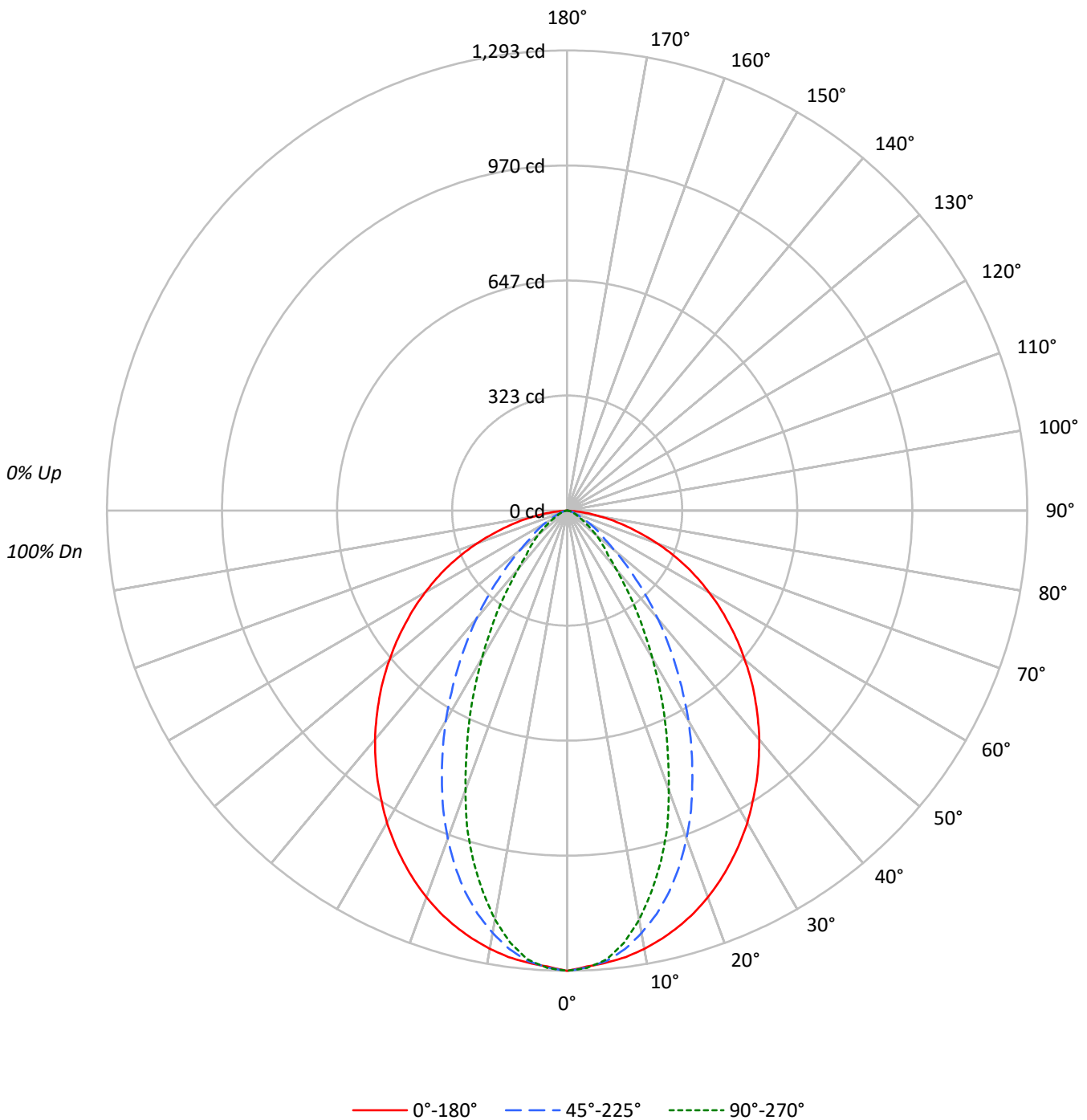
Lumens per Lamp: N/A
Luminaire Lumens: 1798.7 lumens
Efficiency: N/A
Efficacy: 51.8 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.77 / 0.94
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 34.7
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: P1055573

CATALOG NUMBER: S123R3DR-S1000D950-X4F0-XX-UDD-F-S

Luminous Intensity Polar Plot





TEST NUMBER: P105573

CATALOG NUMBER: S123R3DR-S1000D950-X4F0-XX-UDD-F-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 | 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 | 104 | 102 | 109 | 106 | 103 | 100 | 101 | 99 | 97 | 98 | 96 | 94 | 94 | 93 | 91 | 89 | | | | | 89 | | | |
| 2 | 104 | 97 | 92 | 87 | 101 | 95 | 90 | 86 | 92 | 88 | 84 | 89 | 85 | 82 | 86 | 83 | 81 | 79 | | | | | 79 | | | |
| 3 | 96 | 88 | 81 | 76 | 94 | 86 | 80 | 76 | 84 | 78 | 74 | 81 | 77 | 73 | 79 | 75 | 72 | 70 | | | | | 70 | | | |
| 4 | 90 | 80 | 73 | 67 | 88 | 79 | 72 | 67 | 76 | 71 | 66 | 74 | 69 | 65 | 72 | 68 | 64 | 62 | | | | | 62 | | | |
| 5 | 84 | 73 | 66 | 60 | 82 | 72 | 65 | 60 | 70 | 64 | 59 | 68 | 63 | 59 | 67 | 62 | 58 | 56 | | | | | 56 | | | |
| 6 | 78 | 67 | 60 | 54 | 77 | 66 | 59 | 54 | 65 | 58 | 53 | 63 | 57 | 53 | 62 | 57 | 53 | 51 | | | | | 51 | | | |
| 7 | 73 | 62 | 54 | 49 | 72 | 61 | 54 | 49 | 60 | 53 | 49 | 58 | 53 | 48 | 57 | 52 | 48 | 46 | | | | | 46 | | | |
| 8 | 69 | 57 | 50 | 45 | 68 | 57 | 50 | 45 | 56 | 49 | 45 | 54 | 49 | 44 | 53 | 48 | 44 | 42 | | | | | 42 | | | |
| 9 | 65 | 53 | 46 | 41 | 64 | 53 | 46 | 41 | 52 | 45 | 41 | 51 | 45 | 41 | 50 | 45 | 41 | 39 | | | | | 39 | | | |
| 10 | 62 | 50 | 43 | 38 | 60 | 49 | 43 | 38 | 48 | 42 | 38 | 48 | 42 | 38 | 47 | 42 | 38 | 36 | | | | | 36 | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 15594 | 15594 | 15594 |
| 5° | 15431 | 15371 | 15327 |
| 10° | 15309 | 14753 | 14288 |
| 15° | 15103 | 13833 | 12716 |
| 20° | 14833 | 12584 | 10712 |
| 25° | 14481 | 11073 | 8644 |
| 30° | 14097 | 9489 | 6656 |
| 35° | 13658 | 7832 | 4926 |
| 40° | 13217 | 6232 | 3357 |
| 45° | 12730 | 4662 | 2529 |
| 50° | 12210 | 3243 | 1977 |
| 55° | 11674 | 2371 | 1444 |
| 60° | 11116 | 1775 | 1034 |
| 65° | 10458 | 1190 | 804 |
| 70° | 9465 | 864 | 649 |
| 75° | 8166 | 629 | 512 |
| 80° | 6554 | 514 | 424 |
| 85° | 3389 | 512 | 346 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 12730 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 119.6 | 6.6 |
| 10°-20° | 311.2 | 17.3 |
| 20°-30° | 391.0 | 21.7 |
| 30°-40° | 364.2 | 20.2 |
| 40°-50° | 278.8 | 15.5 |
| 50°-60° | 185.3 | 10.3 |
| 60°-70° | 99.9 | 5.6 |
| 70°-80° | 40.9 | 2.3 |
| 80°-90° | 7.8 | 0.4 |
| 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° | 821.8 | 45.7 |
| 0°-40° | 1186.0 | 65.9 |
| 0°-60° | 1650.1 | 91.7 |
| 0°-90° | 1798.7 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1798.7 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1293 | 1293 | 1293 | 1293 | 1293 | |
| 5° | 1275 | 1288 | 1270 | 1265 | 1266 | 121 |
| 15° | 1210 | 1190 | 1108 | 1043 | 1019 | 341 |
| 25° | 1089 | 1015 | 832 | 694 | 650 | 501 |
| 35° | 928 | 791 | 532 | 376 | 335 | 580 |
| 45° | 747 | 552 | 273 | 161 | 148 | 576 |
| 55° | 555 | 321 | 113 | 78 | 69 | 498 |
| 65° | 367 | 124 | 42 | 31 | 28 | 362 |
| 75° | 175 | 29 | 14 | 12 | 11 | 188 |
| 85° | 24 | 4 | 4 | 4 | 2 | 36 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P1055573

CATALOG NUMBER: S123R3DR-S1000D950-X4F0-XX-UDD-F-S

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1293.4 | 1293.4 | 1293.4 | 1293.4 | 1293.4 |
| 2.5° | 1282.3 | 1298.3 | 1284.8 | 1286.0 | 1286.0 |
| 5° | 1275.0 | 1288.5 | 1270.1 | 1265.2 | 1266.4 |
| 7.5° | 1265.2 | 1273.8 | 1243.1 | 1227.2 | 1224.7 |
| 10° | 1250.5 | 1252.9 | 1205.1 | 1176.9 | 1167.1 |
| 12.5° | 1232.1 | 1223.5 | 1161.0 | 1114.4 | 1096.0 |
| 15° | 1210.0 | 1190.4 | 1108.3 | 1043.3 | 1018.8 |
| 17.5° | 1185.5 | 1152.4 | 1048.2 | 963.6 | 934.2 |
| 20° | 1156.1 | 1109.5 | 980.8 | 875.3 | 834.9 |
| 22.5° | 1124.2 | 1064.1 | 909.7 | 784.6 | 739.2 |
| 25° | 1088.6 | 1015.1 | 832.4 | 693.9 | 649.8 |
| 27.5° | 1051.9 | 962.4 | 756.4 | 608.1 | 562.7 |
| 30° | 1012.6 | 908.4 | 681.6 | 524.7 | 478.1 |
| 32.5° | 969.7 | 849.6 | 604.4 | 447.5 | 400.9 |
| 35° | 928.0 | 790.7 | 532.1 | 376.4 | 334.7 |
| 37.5° | 883.9 | 731.9 | 462.2 | 313.8 | 267.3 |
| 40° | 839.8 | 671.8 | 396.0 | 252.5 | 213.3 |
| 42.5° | 793.2 | 611.7 | 333.5 | 201.1 | 170.4 |
| 45° | 746.6 | 551.7 | 273.4 | 160.6 | 148.3 |
| 47.5° | 700.0 | 491.6 | 220.7 | 138.5 | 126.3 |
| 50° | 651.0 | 434.0 | 172.9 | 117.7 | 105.4 |
| 52.5° | 604.4 | 376.4 | 134.9 | 96.8 | 85.8 |
| 55° | 555.4 | 321.2 | 112.8 | 78.5 | 68.7 |
| 57.5° | 510.0 | 264.8 | 93.2 | 61.3 | 53.9 |
| 60° | 461.0 | 214.5 | 73.6 | 47.8 | 42.9 |
| 62.5° | 414.4 | 168.0 | 56.4 | 38.0 | 34.3 |
| 65° | 366.6 | 123.8 | 41.7 | 30.6 | 28.2 |
| 67.5° | 318.7 | 89.5 | 31.9 | 24.5 | 23.3 |
| 70° | 268.5 | 67.4 | 24.5 | 19.6 | 18.4 |
| 72.5° | 220.7 | 47.8 | 18.4 | 15.9 | 14.7 |
| 75° | 175.3 | 29.4 | 13.5 | 12.3 | 11.0 |
| 77.5° | 134.9 | 17.2 | 9.8 | 9.8 | 8.6 |
| 80° | 94.4 | 9.8 | 7.4 | 7.4 | 6.1 |
| 82.5° | 57.6 | 6.1 | 4.9 | 4.9 | 4.9 |
| 85° | 24.5 | 3.7 | 3.7 | 3.7 | 2.5 |
| 87.5° | 3.7 | 1.2 | 1.2 | 1.2 | 1.2 |
| 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 | 19.36 | 20.71 | 19.72 | 21.03 | 21.34 | 7.93 | 9.29 | 8.29 | 9.60 | 9.91 |
| | 3H | 21.11 | 22.31 | 21.49 | 22.64 | 23.01 | 8.59 | 9.80 | 8.97 | 10.13 | 10.49 |
| | 4H | 21.81 | 22.93 | 22.21 | 23.28 | 23.67 | 8.79 | 9.91 | 9.19 | 10.26 | 10.65 |
| | 6H | 22.32 | 23.36 | 22.74 | 23.73 | 24.12 | 8.91 | 9.94 | 9.32 | 10.31 | 10.71 |
| | 8H | 22.46 | 23.44 | 22.89 | 23.83 | 24.24 | 8.94 | 9.92 | 9.37 | 10.31 | 10.72 |
| | 12H | 22.51 | 23.45 | 22.95 | 23.83 | 24.26 | 8.96 | 9.89 | 9.39 | 10.27 | 10.70 |
| 4H | 2H | 19.16 | 20.29 | 19.57 | 20.64 | 21.02 | 8.49 | 9.61 | 8.89 | 9.96 | 10.34 |
| | 3H | 20.96 | 21.88 | 21.37 | 22.28 | 22.68 | 9.28 | 10.21 | 9.70 | 10.61 | 11.01 |
| | 4H | 21.65 | 22.47 | 22.09 | 22.89 | 23.34 | 9.54 | 10.37 | 9.98 | 10.79 | 11.23 |
| | 6H | 22.22 | 22.93 | 22.68 | 23.38 | 23.84 | 9.74 | 10.45 | 10.20 | 10.90 | 11.36 |
| | 8H | 22.40 | 23.06 | 22.87 | 23.51 | 23.98 | 9.79 | 10.46 | 10.26 | 10.90 | 11.37 |
| | 12H | 22.48 | 23.07 | 22.97 | 23.55 | 24.03 | 9.83 | 10.41 | 10.31 | 10.90 | 11.37 |
| 8H | 4H | 21.53 | 22.19 | 22.00 | 22.64 | 23.11 | 9.86 | 10.52 | 10.33 | 10.97 | 11.44 |
| | 6H | 22.08 | 22.62 | 22.58 | 23.12 | 23.60 | 10.11 | 10.65 | 10.61 | 11.14 | 11.62 |
| | 8H | 22.26 | 22.74 | 22.78 | 23.26 | 23.75 | 10.19 | 10.68 | 10.71 | 11.19 | 11.69 |
| | 12H | 22.36 | 22.79 | 22.88 | 23.29 | 23.86 | 10.28 | 10.70 | 10.79 | 11.20 | 11.77 |
| 12H | 4H | 21.49 | 22.07 | 21.97 | 22.55 | 23.03 | 9.90 | 10.49 | 10.39 | 10.97 | 11.44 |
| | 6H | 22.02 | 22.51 | 22.55 | 23.02 | 23.52 | 10.15 | 10.64 | 10.67 | 11.15 | 11.64 |
| | 8H | 22.22 | 22.65 | 22.73 | 23.14 | 23.71 | 10.28 | 10.71 | 10.79 | 11.20 | 11.77 |