

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: P1056116

Luminaire Tested: S124R3DR-H1195D830-X4F0-XX-UDD-FLL-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2019
Report Number: P1056116
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-9)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124R3DR-H1195D830-X4F0-XX-UDD-FLL-S
Description: DEFINE 4, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

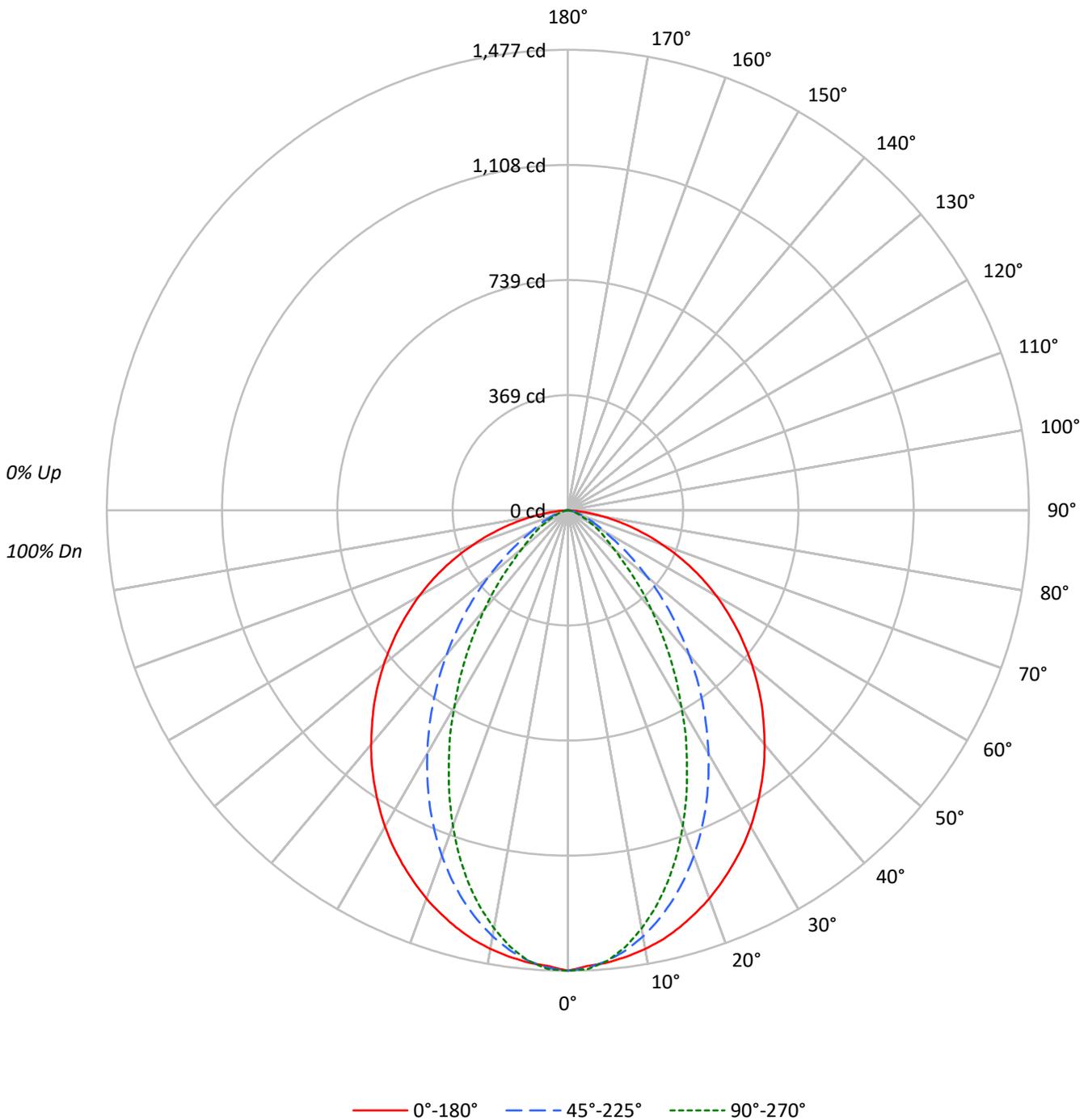
Lumens per Lamp: N/A
Luminaire Lumens: 2388.0 lumens
Efficiency: N/A
Efficacy: 65.2 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.87 / 1.03
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 36.6
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 | 0 |
| RCR | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |
| 1 | 111 | 107 | 104 | 101 | 108 | 105 | 102 | 99 | 101 | 98 | 96 | 97 | 95 | 93 | 94 | 92 | 90 | 89 |
| 2 | 103 | 96 | 91 | 86 | 101 | 94 | 89 | 85 | 91 | 87 | 83 | 88 | 84 | 81 | 85 | 82 | 79 | 78 |
| 3 | 95 | 87 | 80 | 74 | 93 | 85 | 79 | 74 | 82 | 77 | 73 | 80 | 75 | 71 | 77 | 73 | 70 | 68 |
| 4 | 89 | 78 | 71 | 65 | 86 | 77 | 70 | 65 | 75 | 69 | 64 | 73 | 67 | 63 | 71 | 66 | 62 | 60 |
| 5 | 82 | 71 | 64 | 58 | 80 | 70 | 63 | 58 | 68 | 62 | 57 | 66 | 61 | 56 | 65 | 60 | 56 | 54 |
| 6 | 77 | 65 | 57 | 52 | 75 | 64 | 57 | 52 | 63 | 56 | 51 | 61 | 55 | 51 | 60 | 54 | 50 | 48 |
| 7 | 72 | 60 | 52 | 47 | 70 | 59 | 52 | 47 | 58 | 51 | 46 | 56 | 50 | 46 | 55 | 50 | 46 | 44 |
| 8 | 67 | 55 | 48 | 42 | 66 | 55 | 47 | 42 | 53 | 47 | 42 | 52 | 46 | 42 | 51 | 46 | 42 | 40 |
| 9 | 63 | 51 | 44 | 39 | 62 | 51 | 44 | 39 | 50 | 43 | 39 | 49 | 43 | 38 | 48 | 42 | 38 | 37 |
| 10 | 60 | 48 | 41 | 36 | 59 | 47 | 40 | 36 | 46 | 40 | 36 | 45 | 40 | 35 | 45 | 39 | 35 | 34 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 13057 | 13057 | 13057 |
| 5° | 12924 | 12875 | 12875 |
| 10° | 12827 | 12456 | 12221 |
| 15° | 12675 | 11856 | 11302 |
| 20° | 12472 | 11100 | 10130 |
| 25° | 12221 | 10208 | 8799 |
| 30° | 11960 | 9195 | 7412 |
| 35° | 11650 | 8119 | 6099 |
| 40° | 11315 | 6968 | 4808 |
| 45° | 10969 | 5794 | 3594 |
| 50° | 10591 | 4558 | 2629 |
| 55° | 10174 | 3370 | 2098 |
| 60° | 9726 | 2334 | 1606 |
| 65° | 9149 | 1812 | 1180 |
| 70° | 8282 | 1280 | 925 |
| 75° | 7235 | 892 | 704 |
| 80° | 5809 | 703 | 631 |
| 85° | 3206 | 558 | 558 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 10969 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 137.0 | 5.7 |
| 10°-20° | 366.0 | 15.3 |
| 20°-30° | 488.2 | 20.4 |
| 30°-40° | 491.5 | 20.6 |
| 40°-50° | 403.1 | 16.9 |
| 50°-60° | 275.5 | 11.5 |
| 60°-70° | 154.0 | 6.4 |
| 70°-80° | 61.0 | 2.6 |
| 80°-90° | 11.6 | 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° | 991.2 | 41.5 |
| 0°-40° | 1482.7 | 62.1 |
| 0°-60° | 2161.3 | 90.5 |
| 0°-90° | 2388.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2388.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1477 | 1477 | 1477 | 1477 | 1477 | |
| 5° | 1456 | 1473 | 1451 | 1444 | 1451 | 138 |
| 15° | 1385 | 1370 | 1295 | 1250 | 1235 | 390 |
| 25° | 1253 | 1191 | 1046 | 940 | 902 | 577 |
| 35° | 1079 | 965 | 752 | 609 | 565 | 675 |
| 45° | 877 | 716 | 463 | 326 | 287 | 676 |
| 55° | 660 | 463 | 219 | 146 | 136 | 590 |
| 65° | 437 | 220 | 87 | 62 | 56 | 432 |
| 75° | 212 | 58 | 26 | 22 | 21 | 227 |
| 85° | 32 | 6 | 6 | 6 | 6 | 45 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P1056116

CATALOG NUMBER: S124R3DR-H1195D830-X4F0-XX-UDD-FLL-S

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1476.8 | 1476.8 | 1476.8 | 1476.8 | 1476.8 |
| 2.5° | 1463.1 | 1480.9 | 1468.6 | 1469.9 | 1472.7 |
| 5° | 1456.2 | 1472.7 | 1450.7 | 1443.8 | 1450.7 |
| 7.5° | 1443.8 | 1456.2 | 1423.2 | 1409.4 | 1412.2 |
| 10° | 1428.7 | 1432.8 | 1387.4 | 1364.1 | 1361.3 |
| 12.5° | 1409.4 | 1403.9 | 1344.8 | 1310.4 | 1302.2 |
| 15° | 1384.7 | 1369.6 | 1295.3 | 1249.9 | 1234.8 |
| 17.5° | 1355.8 | 1329.7 | 1240.3 | 1181.2 | 1159.2 |
| 20° | 1325.6 | 1287.1 | 1179.8 | 1104.2 | 1076.7 |
| 22.5° | 1289.8 | 1241.7 | 1115.2 | 1023.0 | 991.4 |
| 25° | 1252.7 | 1190.8 | 1046.4 | 940.5 | 902.0 |
| 27.5° | 1214.2 | 1138.5 | 974.9 | 856.7 | 818.2 |
| 30° | 1171.5 | 1082.2 | 900.7 | 772.8 | 726.0 |
| 32.5° | 1126.2 | 1024.4 | 826.4 | 690.3 | 646.3 |
| 35° | 1079.4 | 965.3 | 752.2 | 609.2 | 565.1 |
| 37.5° | 1031.3 | 904.8 | 677.9 | 532.1 | 488.1 |
| 40° | 980.4 | 842.9 | 603.7 | 459.3 | 416.6 |
| 42.5° | 928.2 | 779.7 | 532.1 | 390.5 | 350.6 |
| 45° | 877.3 | 716.4 | 463.4 | 325.9 | 287.4 |
| 47.5° | 823.7 | 653.2 | 396.0 | 265.4 | 232.4 |
| 50° | 770.0 | 589.9 | 331.4 | 213.1 | 191.1 |
| 52.5° | 715.0 | 526.6 | 272.3 | 174.6 | 159.5 |
| 55° | 660.0 | 463.4 | 218.6 | 145.8 | 136.1 |
| 57.5° | 605.0 | 400.1 | 169.1 | 123.8 | 112.8 |
| 60° | 550.0 | 338.3 | 132.0 | 100.4 | 90.8 |
| 62.5° | 493.6 | 276.4 | 108.6 | 79.8 | 71.5 |
| 65° | 437.3 | 220.0 | 86.6 | 61.9 | 56.4 |
| 67.5° | 380.9 | 167.8 | 66.0 | 48.1 | 44.0 |
| 70° | 320.4 | 119.6 | 49.5 | 37.1 | 35.8 |
| 72.5° | 268.1 | 81.1 | 35.8 | 28.9 | 27.5 |
| 75° | 211.8 | 57.8 | 26.1 | 22.0 | 20.6 |
| 77.5° | 163.6 | 37.1 | 19.3 | 17.9 | 16.5 |
| 80° | 114.1 | 20.6 | 13.8 | 12.4 | 12.4 |
| 82.5° | 70.1 | 11.0 | 9.6 | 8.3 | 8.3 |
| 85° | 31.6 | 5.5 | 5.5 | 5.5 | 5.5 |
| 87.5° | 5.5 | 2.8 | 2.8 | 2.8 | 2.8 |
| 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 | 19.65 | 21.06 | 20.02 | 21.37 | 21.68 | 10.74 | 12.15 | 11.11 | 12.46 | 12.78 |
| | 3H | 21.24 | 22.49 | 21.62 | 22.82 | 23.18 | 11.33 | 12.59 | 11.71 | 12.92 | 13.28 |
| | 4H | 21.83 | 23.00 | 22.23 | 23.35 | 23.73 | 11.49 | 12.66 | 11.89 | 13.01 | 13.39 |
| | 6H | 22.26 | 23.34 | 22.68 | 23.71 | 24.10 | 11.60 | 12.67 | 12.01 | 13.04 | 13.44 |
| | 8H | 22.38 | 23.40 | 22.80 | 23.79 | 24.19 | 11.62 | 12.64 | 12.05 | 13.03 | 13.43 |
| | 12H | 22.42 | 23.39 | 22.85 | 23.78 | 24.21 | 11.63 | 12.60 | 12.06 | 12.99 | 13.42 |
| 4H | 2H | 19.50 | 20.67 | 19.91 | 21.02 | 21.40 | 11.33 | 12.49 | 11.73 | 12.84 | 13.23 |
| | 3H | 21.15 | 22.11 | 21.56 | 22.51 | 22.92 | 12.04 | 13.00 | 12.45 | 13.40 | 13.80 |
| | 4H | 21.76 | 22.62 | 22.19 | 23.03 | 23.48 | 12.24 | 13.10 | 12.68 | 13.52 | 13.96 |
| | 6H | 22.25 | 22.99 | 22.71 | 23.44 | 23.90 | 12.41 | 13.15 | 12.87 | 13.59 | 14.06 |
| | 8H | 22.39 | 23.08 | 22.86 | 23.53 | 24.00 | 12.44 | 13.13 | 12.91 | 13.58 | 14.05 |
| | 12H | 22.47 | 23.08 | 22.95 | 23.56 | 24.03 | 12.47 | 13.08 | 12.95 | 13.56 | 14.04 |
| 8H | 4H | 21.65 | 22.34 | 22.12 | 22.79 | 23.26 | 12.51 | 13.20 | 12.98 | 13.65 | 14.12 |
| | 6H | 22.13 | 22.70 | 22.63 | 23.19 | 23.67 | 12.72 | 13.28 | 13.22 | 13.78 | 14.26 |
| | 8H | 22.28 | 22.78 | 22.80 | 23.30 | 23.79 | 12.78 | 13.28 | 13.29 | 13.80 | 14.29 |
| | 12H | 22.37 | 22.82 | 22.88 | 23.31 | 23.88 | 12.84 | 13.28 | 13.35 | 13.78 | 14.35 |
| 12H | 4H | 21.61 | 22.23 | 22.10 | 22.71 | 23.18 | 12.54 | 13.15 | 13.02 | 13.63 | 14.11 |
| | 6H | 22.08 | 22.59 | 22.60 | 23.10 | 23.59 | 12.75 | 13.25 | 13.27 | 13.77 | 14.26 |
| | 8H | 22.24 | 22.69 | 22.75 | 23.18 | 23.75 | 12.84 | 13.29 | 13.35 | 13.78 | 14.35 |