

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: P1056000

Luminaire Tested: S124R3DR-S1195D935-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1056000
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-7)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124R3DR-S1195D935-X4F0-XX-UDD-F-W
Description: DEFINE 4, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

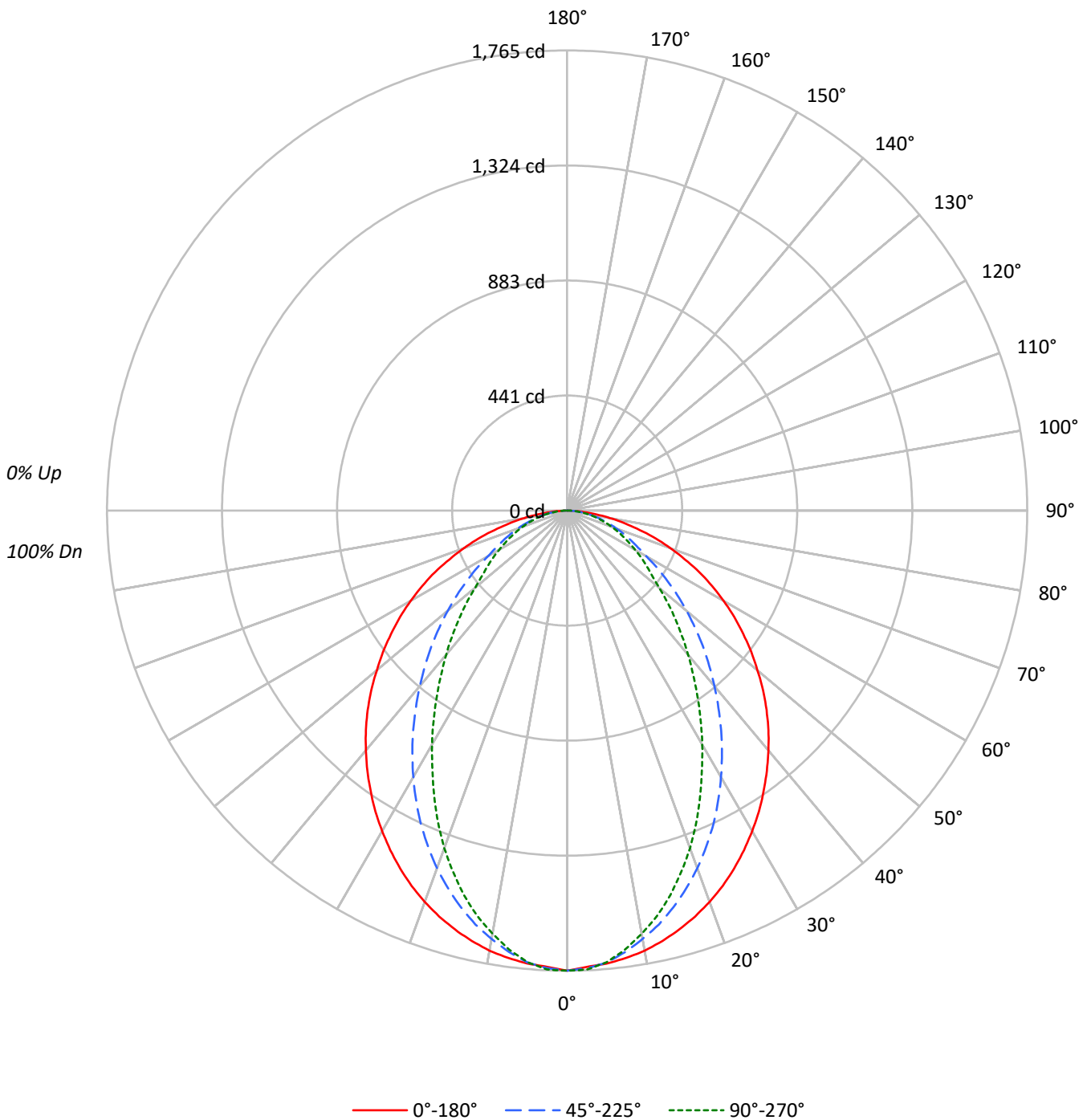
Lumens per Lamp: N/A
Luminaire Lumens: 3514.8 lumens
Efficiency: N/A
Efficacy: 83.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.95 / 1.12
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 41.9
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

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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 | 110 | 105 | 102 | 98 | 107 | 103 | 100 | 97 | 99 | 96 | 93 | 95 | 93 | 91 | 92 | 90 | 88 | 86 |
| 2 | 101 | 93 | 87 | 82 | 98 | 91 | 86 | 81 | 88 | 83 | 79 | 85 | 81 | 77 | 82 | 78 | 76 | 73 |
| 3 | 93 | 83 | 75 | 69 | 90 | 81 | 74 | 69 | 79 | 73 | 68 | 76 | 71 | 67 | 73 | 69 | 65 | 63 |
| 4 | 85 | 74 | 66 | 60 | 83 | 73 | 65 | 60 | 71 | 64 | 59 | 68 | 63 | 58 | 66 | 61 | 57 | 55 |
| 5 | 79 | 67 | 59 | 53 | 77 | 66 | 58 | 52 | 64 | 57 | 52 | 62 | 56 | 51 | 60 | 55 | 51 | 49 |
| 6 | 73 | 61 | 53 | 47 | 72 | 60 | 52 | 46 | 58 | 51 | 46 | 57 | 50 | 46 | 55 | 50 | 45 | 43 |
| 7 | 68 | 56 | 47 | 42 | 67 | 55 | 47 | 42 | 53 | 46 | 41 | 52 | 46 | 41 | 51 | 45 | 41 | 39 |
| 8 | 64 | 51 | 43 | 38 | 62 | 51 | 43 | 38 | 49 | 42 | 37 | 48 | 42 | 37 | 47 | 41 | 37 | 35 |
| 9 | 60 | 47 | 39 | 34 | 59 | 47 | 39 | 34 | 46 | 39 | 34 | 45 | 38 | 34 | 44 | 38 | 34 | 32 |
| 10 | 56 | 44 | 36 | 31 | 55 | 43 | 36 | 31 | 42 | 36 | 31 | 41 | 35 | 31 | 41 | 35 | 31 | 29 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 15602 | 15602 | 15602 |
| 5° | 15477 | 15443 | 15431 |
| 10° | 15388 | 14980 | 14794 |
| 15° | 15226 | 14417 | 13978 |
| 20° | 15028 | 13732 | 12962 |
| 25° | 14783 | 12946 | 11781 |
| 30° | 14490 | 12051 | 10579 |
| 35° | 14184 | 11114 | 9418 |
| 40° | 13863 | 10146 | 8333 |
| 45° | 13525 | 9206 | 7322 |
| 50° | 13110 | 8216 | 6323 |
| 55° | 12711 | 7226 | 5745 |
| 60° | 12261 | 6200 | 5328 |
| 65° | 11709 | 5623 | 4971 |
| 70° | 10875 | 5204 | 4700 |
| 75° | 9848 | 4789 | 4437 |
| 80° | 8595 | 4430 | 4165 |
| 85° | 6584 | 4088 | 3824 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 13525 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 164.3 | 4.7 |
| 10°-20° | 445.7 | 12.7 |
| 20°-30° | 617.1 | 17.6 |
| 30°-40° | 662.3 | 18.8 |
| 40°-50° | 602.3 | 17.1 |
| 50°-60° | 474.3 | 13.5 |
| 60°-70° | 324.6 | 9.2 |
| 70°-80° | 174.8 | 5.0 |
| 80°-90° | 49.5 | 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° | 1227.0 | 34.9 |
| 0°-40° | 1889.3 | 53.8 |
| 0°-60° | 2965.9 | 84.4 |
| 0°-90° | 3514.8 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3514.8 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1765 | 1765 | 1765 | 1765 | 1765 | |
| 5° | 1744 | 1763 | 1740 | 1731 | 1739 | 166 |
| 15° | 1663 | 1645 | 1575 | 1532 | 1527 | 469 |
| 25° | 1515 | 1453 | 1327 | 1231 | 1208 | 698 |
| 35° | 1314 | 1212 | 1030 | 905 | 873 | 822 |
| 45° | 1082 | 944 | 736 | 609 | 586 | 834 |
| 55° | 825 | 667 | 469 | 378 | 373 | 737 |
| 65° | 560 | 400 | 269 | 239 | 238 | 552 |
| 75° | 288 | 175 | 140 | 129 | 130 | 308 |
| 85° | 65 | 44 | 40 | 38 | 38 | 78 |
| 90° | 0 | 0 | 0 | 0 | 0 | |

TEST NUMBER: P1056000

CATALOG NUMBER: S124R3DR-S1195D935-X4F0-XX-UDD-F-W

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1764.7 | 1764.7 | 1764.7 | 1764.7 | 1764.7 |
| 2.5° | 1751.7 | 1772.5 | 1756.9 | 1759.5 | 1762.1 |
| 5° | 1743.9 | 1763.4 | 1740.0 | 1730.9 | 1738.7 |
| 7.5° | 1730.9 | 1743.9 | 1707.6 | 1690.7 | 1698.5 |
| 10° | 1714.0 | 1716.6 | 1668.6 | 1643.9 | 1647.8 |
| 12.5° | 1690.7 | 1684.2 | 1625.7 | 1590.7 | 1593.3 |
| 15° | 1663.4 | 1645.2 | 1575.1 | 1532.3 | 1527.1 |
| 17.5° | 1632.2 | 1602.4 | 1519.3 | 1464.7 | 1454.3 |
| 20° | 1597.2 | 1556.9 | 1459.5 | 1389.4 | 1377.7 |
| 22.5° | 1558.2 | 1506.3 | 1394.6 | 1311.5 | 1294.6 |
| 25° | 1515.4 | 1453.0 | 1327.1 | 1231.0 | 1207.6 |
| 27.5° | 1468.6 | 1395.9 | 1254.4 | 1149.2 | 1119.3 |
| 30° | 1419.3 | 1336.2 | 1180.4 | 1067.4 | 1036.2 |
| 32.5° | 1368.6 | 1275.1 | 1105.0 | 985.6 | 953.1 |
| 35° | 1314.1 | 1211.5 | 1029.7 | 905.1 | 872.6 |
| 37.5° | 1258.3 | 1145.3 | 953.1 | 827.2 | 793.4 |
| 40° | 1201.1 | 1079.1 | 879.1 | 749.2 | 722.0 |
| 42.5° | 1142.7 | 1011.5 | 806.4 | 676.5 | 651.9 |
| 45° | 1081.7 | 944.0 | 736.3 | 609.0 | 585.6 |
| 47.5° | 1019.3 | 875.2 | 664.8 | 545.4 | 523.3 |
| 50° | 953.1 | 806.4 | 597.3 | 483.0 | 459.7 |
| 52.5° | 889.5 | 736.3 | 532.4 | 422.0 | 410.3 |
| 55° | 824.6 | 667.4 | 468.8 | 377.9 | 372.7 |
| 57.5° | 759.6 | 598.6 | 410.3 | 342.8 | 337.6 |
| 60° | 693.4 | 531.1 | 350.6 | 306.5 | 301.3 |
| 62.5° | 627.2 | 464.9 | 306.5 | 271.4 | 268.8 |
| 65° | 559.7 | 399.9 | 268.8 | 238.9 | 237.6 |
| 67.5° | 488.2 | 337.6 | 235.0 | 210.4 | 209.1 |
| 70° | 420.7 | 275.3 | 201.3 | 181.8 | 181.8 |
| 72.5° | 357.1 | 218.2 | 170.1 | 154.5 | 154.5 |
| 75° | 288.3 | 175.3 | 140.2 | 128.6 | 129.9 |
| 77.5° | 227.2 | 137.6 | 113.0 | 105.2 | 105.2 |
| 80° | 168.8 | 102.6 | 87.0 | 80.5 | 81.8 |
| 82.5° | 114.3 | 71.4 | 62.3 | 58.4 | 58.4 |
| 85° | 64.9 | 44.1 | 40.3 | 37.7 | 37.7 |
| 87.5° | 23.4 | 20.8 | 19.5 | 16.9 | 18.2 |
| 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 | 20.69 | 22.21 | 21.05 | 22.53 | 22.84 | 16.46 | 17.99 | 16.83 | 18.30 | 18.62 |
| | 3H | 22.46 | 23.83 | 22.84 | 24.16 | 24.52 | 18.08 | 19.45 | 18.45 | 19.77 | 20.14 |
| | 4H | 23.13 | 24.42 | 23.53 | 24.77 | 25.15 | 18.71 | 19.99 | 19.11 | 20.34 | 20.72 |
| | 6H | 23.64 | 24.83 | 24.06 | 25.20 | 25.59 | 19.21 | 20.40 | 19.62 | 20.76 | 21.15 |
| | 8H | 23.81 | 24.94 | 24.23 | 25.33 | 25.73 | 19.38 | 20.51 | 19.80 | 20.90 | 21.30 |
| | 12H | 23.91 | 24.99 | 24.34 | 25.37 | 25.80 | 19.50 | 20.58 | 19.93 | 20.97 | 21.39 |
| 4H | 2H | 20.78 | 22.07 | 21.18 | 22.42 | 22.80 | 17.18 | 18.47 | 17.58 | 18.82 | 19.20 |
| | 3H | 22.73 | 23.80 | 23.14 | 24.20 | 24.60 | 18.99 | 20.06 | 19.40 | 20.46 | 20.86 |
| | 4H | 23.48 | 24.45 | 23.91 | 24.86 | 25.30 | 19.73 | 20.69 | 20.16 | 21.11 | 21.55 |
| | 6H | 24.12 | 24.96 | 24.57 | 25.40 | 25.86 | 20.34 | 21.18 | 20.80 | 21.63 | 22.09 |
| | 8H | 24.34 | 25.12 | 24.80 | 25.57 | 26.03 | 20.56 | 21.34 | 21.02 | 21.79 | 22.26 |
| | 12H | 24.49 | 25.19 | 24.97 | 25.67 | 26.14 | 20.73 | 21.43 | 21.21 | 21.91 | 22.38 |
| 8H | 4H | 23.54 | 24.33 | 24.00 | 24.77 | 25.24 | 20.12 | 20.90 | 20.58 | 21.35 | 21.81 |
| | 6H | 24.24 | 24.89 | 24.74 | 25.38 | 25.86 | 20.85 | 21.50 | 21.34 | 21.99 | 22.47 |
| | 8H | 24.51 | 25.09 | 25.02 | 25.60 | 26.09 | 21.14 | 21.72 | 21.65 | 22.23 | 22.72 |
| | 12H | 24.72 | 25.24 | 25.23 | 25.73 | 26.30 | 21.38 | 21.90 | 21.89 | 22.39 | 22.95 |
| 12H | 4H | 23.53 | 24.23 | 24.01 | 24.71 | 25.18 | 20.17 | 20.87 | 20.65 | 21.35 | 21.82 |
| | 6H | 24.23 | 24.82 | 24.75 | 25.32 | 25.81 | 20.93 | 21.51 | 21.44 | 22.02 | 22.51 |
| | 8H | 24.54 | 25.06 | 25.05 | 25.55 | 26.11 | 21.28 | 21.79 | 21.79 | 22.29 | 22.85 |