

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: P1439903

Luminaire Tested: S124DR-H1005D950-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439903
TEST IS SCALED FROM IESNA LM-79-24 TEST DATA (G2-2509-563-1)
Test Lab: INNOVATION CENTER
Issue Date: 4/2/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124DR-H1005D950-X4F0-XX-UDD-FLB-W
Description: DEFINE 4, DIRECT RECESSED WITH BATWING FLUSH OPTIC
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

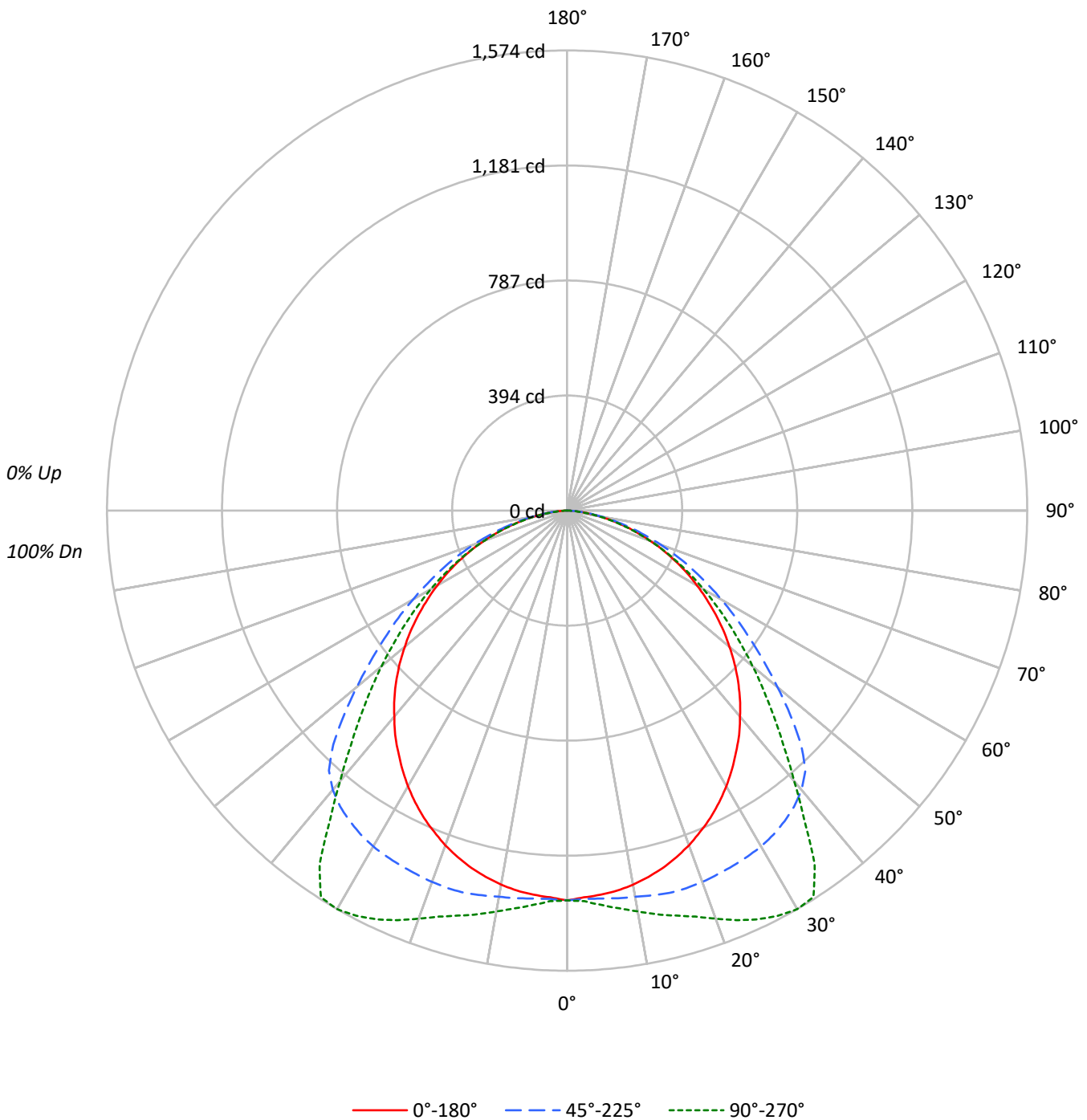
Lumens per Lamp: N/A
Luminaire Lumens: 4052.1 lumens
Efficiency: N/A
Efficacy: 110.7 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.53 / 1.51
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

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 | 109 | 105 | 101 | 97 | 107 | 103 | 99 | 95 | 98 | 95 | 92 | 94 | 92 | 90 | 91 | 89 | 87 | 85 |
| 2 | 100 | 92 | 85 | 80 | 97 | 90 | 84 | 79 | 86 | 81 | 77 | 83 | 79 | 75 | 80 | 77 | 73 | 71 |
| 3 | 91 | 81 | 73 | 67 | 89 | 79 | 72 | 66 | 76 | 70 | 65 | 74 | 68 | 64 | 71 | 66 | 63 | 60 |
| 4 | 83 | 72 | 63 | 57 | 81 | 70 | 62 | 56 | 68 | 61 | 55 | 66 | 60 | 55 | 63 | 58 | 54 | 52 |
| 5 | 77 | 64 | 55 | 49 | 75 | 63 | 55 | 49 | 61 | 54 | 48 | 59 | 53 | 47 | 57 | 52 | 47 | 45 |
| 6 | 71 | 58 | 49 | 43 | 69 | 57 | 48 | 42 | 55 | 48 | 42 | 53 | 47 | 42 | 52 | 46 | 41 | 39 |
| 7 | 66 | 52 | 44 | 38 | 64 | 52 | 43 | 37 | 50 | 43 | 37 | 49 | 42 | 37 | 47 | 41 | 37 | 35 |
| 8 | 61 | 48 | 39 | 34 | 60 | 47 | 39 | 33 | 46 | 38 | 33 | 44 | 38 | 33 | 43 | 37 | 33 | 31 |
| 9 | 57 | 44 | 36 | 30 | 56 | 43 | 35 | 30 | 42 | 35 | 30 | 41 | 34 | 30 | 40 | 34 | 30 | 28 |
| 10 | 53 | 40 | 32 | 27 | 52 | 40 | 32 | 27 | 39 | 32 | 27 | 38 | 31 | 27 | 37 | 31 | 27 | 25 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 11788 | 11788 | 11788 |
| 5° | 11706 | 11822 | 12020 |
| 10° | 11665 | 12041 | 12499 |
| 15° | 11582 | 12396 | 13127 |
| 20° | 11462 | 12718 | 13973 |
| 25° | 11309 | 13084 | 15050 |
| 30° | 11115 | 13545 | 16070 |
| 35° | 10874 | 13996 | 15931 |
| 40° | 10617 | 14392 | 13939 |
| 45° | 10340 | 14152 | 12532 |
| 50° | 9971 | 12923 | 11393 |
| 55° | 9560 | 11758 | 10408 |
| 60° | 9092 | 10783 | 9533 |
| 65° | 8540 | 9826 | 8705 |
| 70° | 7815 | 8794 | 7781 |
| 75° | 6883 | 7553 | 6750 |
| 80° | 5662 | 6064 | 5463 |
| 85° | 3987 | 4119 | 3713 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 14152 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 128.0 | 3.2 |
| 10°-20° | 383.4 | 9.5 |
| 20°-30° | 624.1 | 15.4 |
| 30°-40° | 792.5 | 19.6 |
| 40°-50° | 772.2 | 19.1 |
| 50°-60° | 633.2 | 15.6 |
| 60°-70° | 441.8 | 10.9 |
| 70°-80° | 226.7 | 5.6 |
| 80°-90° | 50.3 | 1.2 |
| 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° | 1135.4 | 28.0 |
| 0°-40° | 1928.0 | 47.6 |
| 0°-60° | 3333.4 | 82.3 |
| 0°-90° | 4052.1 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 4052.1 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1333 | 1333 | 1333 | 1333 | 1333 | |
| 5° | 1319 | 1339 | 1332 | 1341 | 1354 | 125 |
| 15° | 1265 | 1305 | 1354 | 1408 | 1434 | 357 |
| 25° | 1159 | 1234 | 1341 | 1480 | 1543 | 534 |
| 35° | 1008 | 1106 | 1297 | 1485 | 1476 | 631 |
| 45° | 827 | 929 | 1132 | 1038 | 1002 | 637 |
| 55° | 620 | 716 | 763 | 699 | 675 | 554 |
| 65° | 408 | 467 | 470 | 432 | 416 | 404 |
| 75° | 202 | 224 | 221 | 205 | 198 | 215 |
| 85° | 39 | 41 | 41 | 38 | 37 | 50 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CATALOG NUMBER: S124DR-H1005D950-X4F0-XX-UDD-FLB-W

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1333.3 | 1333.3 | 1333.3 | 1333.3 | 1333.3 |
| 2.5° | 1324.2 | 1341.2 | 1329.4 | 1334.7 | 1337.3 |
| 5° | 1319.0 | 1338.6 | 1332.0 | 1341.2 | 1354.3 |
| 7.5° | 1311.1 | 1333.3 | 1337.3 | 1355.6 | 1372.6 |
| 10° | 1299.3 | 1325.5 | 1341.2 | 1372.6 | 1392.2 |
| 12.5° | 1283.6 | 1316.3 | 1347.7 | 1390.9 | 1414.5 |
| 15° | 1265.3 | 1304.6 | 1354.3 | 1407.9 | 1434.1 |
| 17.5° | 1243.1 | 1290.2 | 1354.3 | 1421.0 | 1456.3 |
| 20° | 1218.2 | 1273.2 | 1351.7 | 1438.0 | 1485.1 |
| 22.5° | 1189.4 | 1254.8 | 1346.4 | 1457.7 | 1516.5 |
| 25° | 1159.3 | 1233.9 | 1341.2 | 1479.9 | 1542.7 |
| 27.5° | 1125.3 | 1209.0 | 1334.7 | 1496.9 | 1562.3 |
| 30° | 1088.7 | 1178.9 | 1326.8 | 1504.8 | 1574.1 |
| 32.5° | 1049.4 | 1143.6 | 1313.7 | 1504.8 | 1567.6 |
| 35° | 1007.5 | 1105.7 | 1296.7 | 1485.1 | 1476.0 |
| 37.5° | 967.0 | 1065.1 | 1275.8 | 1389.6 | 1332.0 |
| 40° | 919.9 | 1021.9 | 1247.0 | 1254.8 | 1207.7 |
| 42.5° | 875.4 | 976.1 | 1206.4 | 1141.0 | 1099.1 |
| 45° | 827.0 | 929.0 | 1131.8 | 1037.6 | 1002.3 |
| 47.5° | 777.2 | 878.0 | 1035.0 | 944.7 | 912.0 |
| 50° | 724.9 | 827.0 | 939.5 | 857.1 | 828.3 |
| 52.5° | 673.9 | 772.0 | 847.9 | 775.9 | 748.5 |
| 55° | 620.2 | 715.7 | 762.8 | 698.7 | 675.2 |
| 57.5° | 566.6 | 658.2 | 685.6 | 626.8 | 604.5 |
| 60° | 514.2 | 596.7 | 609.8 | 558.7 | 539.1 |
| 62.5° | 461.9 | 532.6 | 537.8 | 493.3 | 476.3 |
| 65° | 408.2 | 467.1 | 469.7 | 431.8 | 416.1 |
| 67.5° | 355.9 | 404.3 | 404.3 | 371.6 | 358.5 |
| 70° | 302.3 | 342.8 | 340.2 | 314.0 | 301.0 |
| 72.5° | 251.2 | 280.0 | 277.4 | 257.8 | 248.6 |
| 75° | 201.5 | 223.8 | 221.1 | 205.4 | 197.6 |
| 77.5° | 154.4 | 170.1 | 167.5 | 157.0 | 150.5 |
| 80° | 111.2 | 120.4 | 119.1 | 111.2 | 107.3 |
| 82.5° | 73.3 | 78.5 | 75.9 | 70.7 | 68.0 |
| 85° | 39.3 | 40.6 | 40.6 | 37.9 | 36.6 |
| 87.5° | 14.4 | 14.4 | 14.4 | 14.4 | 13.1 |
| 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 | 20.26 | 21.86 | 20.62 | 22.17 | 22.48 | 20.04 | 21.64 | 20.41 | 21.95 | 22.27 |
| | 3H | 21.76 | 23.20 | 22.14 | 23.53 | 23.89 | 21.51 | 22.95 | 21.89 | 23.28 | 23.64 |
| | 4H | 22.26 | 23.62 | 22.66 | 23.96 | 24.34 | 22.01 | 23.36 | 22.41 | 23.71 | 24.09 |
| | 6H | 22.58 | 23.84 | 22.99 | 24.20 | 24.59 | 22.32 | 23.58 | 22.74 | 23.94 | 24.33 |
| | 8H | 22.67 | 23.86 | 23.09 | 24.25 | 24.65 | 22.40 | 23.59 | 22.82 | 23.98 | 24.38 |
| | 12H | 22.70 | 23.85 | 23.13 | 24.23 | 24.66 | 22.43 | 23.58 | 22.86 | 23.96 | 24.39 |
| 4H | 2H | 20.88 | 22.23 | 21.28 | 22.58 | 22.96 | 20.71 | 22.06 | 21.11 | 22.41 | 22.79 |
| | 3H | 22.61 | 23.74 | 23.02 | 24.13 | 24.53 | 22.38 | 23.50 | 22.79 | 23.90 | 24.30 |
| | 4H | 23.24 | 24.25 | 23.67 | 24.67 | 25.10 | 22.97 | 23.99 | 23.40 | 24.40 | 24.84 |
| | 6H | 23.66 | 24.55 | 24.12 | 24.99 | 25.45 | 23.39 | 24.27 | 23.84 | 24.71 | 25.17 |
| | 8H | 23.78 | 24.60 | 24.24 | 25.05 | 25.51 | 23.49 | 24.32 | 23.95 | 24.76 | 25.23 |
| | 12H | 23.84 | 24.58 | 24.32 | 25.06 | 25.53 | 23.55 | 24.29 | 24.03 | 24.77 | 25.24 |
| 8H | 4H | 23.48 | 24.31 | 23.94 | 24.75 | 25.21 | 23.24 | 24.07 | 23.71 | 24.52 | 24.98 |
| | 6H | 24.00 | 24.69 | 24.50 | 25.18 | 25.65 | 23.75 | 24.43 | 24.24 | 24.92 | 25.40 |
| | 8H | 24.17 | 24.78 | 24.68 | 25.29 | 25.78 | 23.89 | 24.51 | 24.40 | 25.02 | 25.50 |
| | 12H | 24.28 | 24.82 | 24.78 | 25.31 | 25.87 | 23.99 | 24.54 | 24.50 | 25.03 | 25.59 |
| 12H | 4H | 23.49 | 24.23 | 23.97 | 24.71 | 25.18 | 23.26 | 24.01 | 23.74 | 24.48 | 24.95 |
| | 6H | 24.02 | 24.64 | 24.53 | 25.15 | 25.63 | 23.78 | 24.39 | 24.29 | 24.90 | 25.39 |
| | 8H | 24.23 | 24.78 | 24.74 | 25.27 | 25.83 | 23.97 | 24.51 | 24.48 | 25.00 | 25.57 |