

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: P1055591

Luminaire Tested: S123R3DRP-S1165D930-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055591
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: S123R3DRP-S1165D930-X4F0-XX-UDD-F-S
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

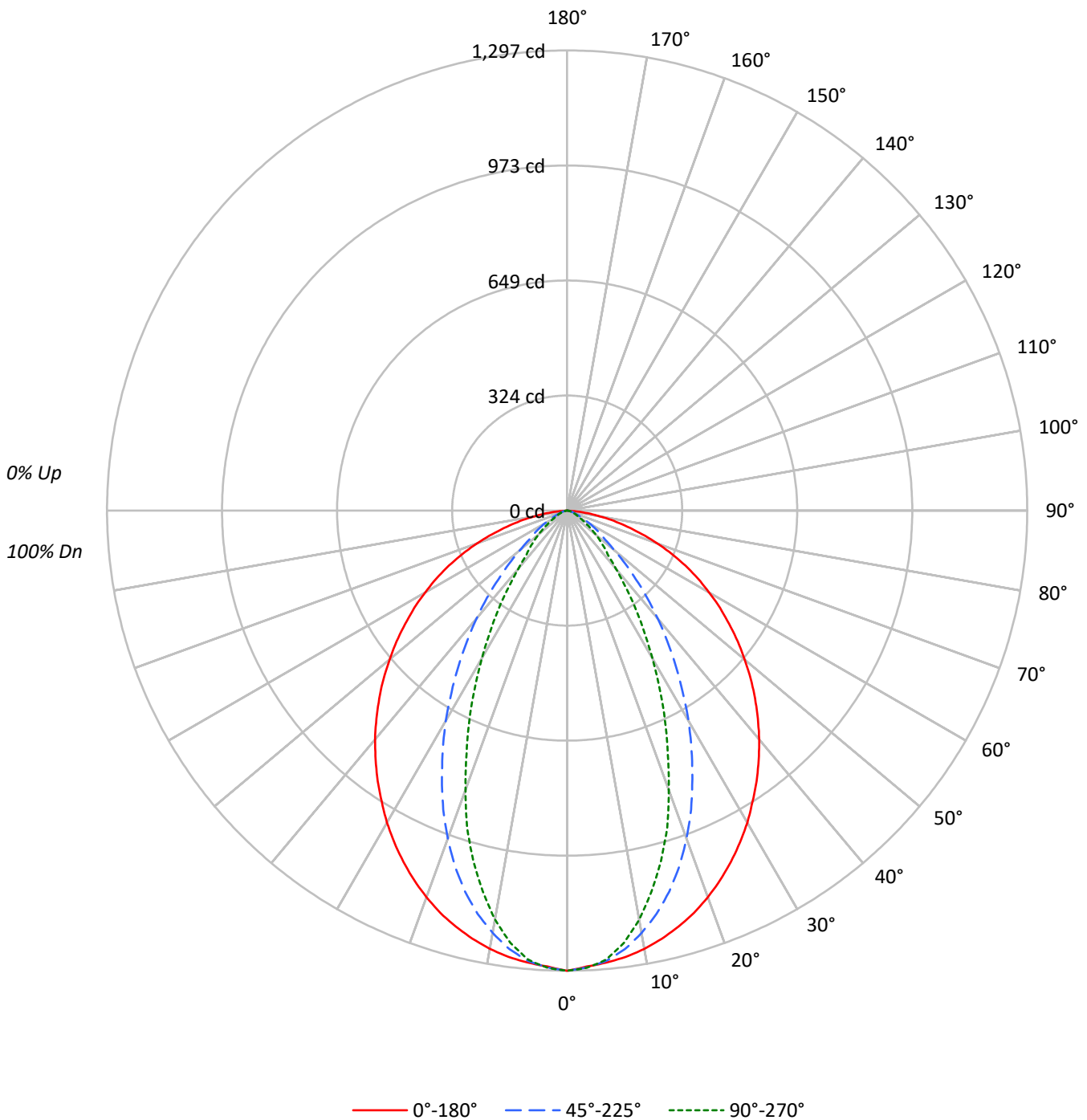
Lumens per Lamp: N/A
Luminaire Lumens: 1804.0 lumens
Efficiency: N/A
Efficacy: 43.1 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.77 / 0.94
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 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 | 111 | 108 | 104 | 102 | 109 | 106 | 103 | 100 | 101 | 99 | 97 | 98 | 96 | 94 | 94 | 93 | 91 | 89 |
| 2 | 104 | 97 | 92 | 87 | 101 | 95 | 90 | 86 | 92 | 88 | 84 | 89 | 85 | 82 | 86 | 83 | 81 | 79 |
| 3 | 96 | 88 | 81 | 76 | 94 | 86 | 80 | 76 | 84 | 78 | 74 | 81 | 77 | 73 | 79 | 75 | 72 | 70 |
| 4 | 90 | 80 | 73 | 67 | 88 | 79 | 72 | 67 | 76 | 71 | 66 | 74 | 69 | 65 | 72 | 68 | 64 | 62 |
| 5 | 84 | 73 | 66 | 60 | 82 | 72 | 65 | 60 | 70 | 64 | 59 | 68 | 63 | 59 | 67 | 62 | 58 | 56 |
| 6 | 78 | 67 | 60 | 54 | 77 | 66 | 59 | 54 | 65 | 58 | 53 | 63 | 57 | 53 | 62 | 57 | 53 | 51 |
| 7 | 73 | 62 | 54 | 49 | 72 | 61 | 54 | 49 | 60 | 53 | 49 | 58 | 53 | 48 | 57 | 52 | 48 | 46 |
| 8 | 69 | 57 | 50 | 45 | 68 | 57 | 50 | 45 | 56 | 49 | 45 | 54 | 49 | 44 | 53 | 48 | 44 | 42 |
| 9 | 65 | 53 | 46 | 41 | 64 | 53 | 46 | 41 | 52 | 45 | 41 | 51 | 45 | 41 | 50 | 45 | 41 | 39 |
| 10 | 62 | 50 | 43 | 38 | 60 | 49 | 43 | 38 | 48 | 42 | 38 | 48 | 42 | 38 | 47 | 42 | 38 | 36 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 15640 | 15640 | 15640 |
| 5° | 15477 | 15417 | 15373 |
| 10° | 15354 | 14797 | 14331 |
| 15° | 15148 | 13875 | 12754 |
| 20° | 14877 | 12621 | 10744 |
| 25° | 14525 | 11106 | 8669 |
| 30° | 14139 | 9518 | 6675 |
| 35° | 13700 | 7854 | 4941 |
| 40° | 13257 | 6251 | 3366 |
| 45° | 12767 | 4675 | 2537 |
| 50° | 12246 | 3252 | 1983 |
| 55° | 11708 | 2377 | 1448 |
| 60° | 11147 | 1780 | 1037 |
| 65° | 10487 | 1192 | 807 |
| 70° | 9493 | 867 | 649 |
| 75° | 8189 | 629 | 517 |
| 80° | 6575 | 514 | 424 |
| 85° | 3403 | 512 | 346 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 12767 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 119.9 | 6.6 |
| 10°-20° | 312.1 | 17.3 |
| 20°-30° | 392.2 | 21.7 |
| 30°-40° | 365.3 | 20.2 |
| 40°-50° | 279.6 | 15.5 |
| 50°-60° | 185.9 | 10.3 |
| 60°-70° | 100.2 | 5.6 |
| 70°-80° | 41.0 | 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° | 824.2 | 45.7 |
| 0°-40° | 1189.5 | 65.9 |
| 0°-60° | 1655.0 | 91.7 |
| 0°-90° | 1804.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1804.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1297 | 1297 | 1297 | 1297 | 1297 | |
| 5° | 1279 | 1292 | 1274 | 1269 | 1270 | 121 |
| 15° | 1214 | 1194 | 1112 | 1046 | 1022 | 342 |
| 25° | 1092 | 1018 | 835 | 696 | 652 | 503 |
| 35° | 931 | 793 | 534 | 378 | 336 | 582 |
| 45° | 749 | 553 | 274 | 161 | 149 | 578 |
| 55° | 557 | 322 | 113 | 79 | 69 | 499 |
| 65° | 368 | 124 | 42 | 31 | 28 | 363 |
| 75° | 176 | 30 | 14 | 12 | 11 | 188 |
| 85° | 25 | 4 | 4 | 4 | 2 | 36 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1297.2 | 1297.2 | 1297.2 | 1297.2 | 1297.2 |
| 2.5° | 1286.2 | 1302.1 | 1288.6 | 1289.8 | 1289.8 |
| 5° | 1278.8 | 1292.3 | 1273.9 | 1268.9 | 1270.2 |
| 7.5° | 1268.9 | 1277.5 | 1246.8 | 1230.8 | 1228.4 |
| 10° | 1254.2 | 1256.6 | 1208.7 | 1180.4 | 1170.6 |
| 12.5° | 1235.7 | 1227.1 | 1164.4 | 1117.7 | 1099.3 |
| 15° | 1213.6 | 1193.9 | 1111.6 | 1046.4 | 1021.8 |
| 17.5° | 1189.0 | 1155.8 | 1051.3 | 966.5 | 936.9 |
| 20° | 1159.5 | 1112.8 | 983.7 | 877.9 | 837.4 |
| 22.5° | 1127.5 | 1067.3 | 912.4 | 786.9 | 741.4 |
| 25° | 1091.9 | 1018.1 | 834.9 | 695.9 | 651.7 |
| 27.5° | 1055.0 | 965.2 | 758.7 | 609.9 | 564.4 |
| 30° | 1015.6 | 911.1 | 683.7 | 526.3 | 479.5 |
| 32.5° | 972.6 | 852.1 | 606.2 | 448.8 | 402.1 |
| 35° | 930.8 | 793.1 | 533.6 | 377.5 | 335.7 |
| 37.5° | 886.5 | 734.1 | 463.6 | 314.8 | 268.1 |
| 40° | 842.3 | 673.8 | 397.2 | 253.3 | 213.9 |
| 42.5° | 795.5 | 613.6 | 334.4 | 201.7 | 170.9 |
| 45° | 748.8 | 553.3 | 274.2 | 161.1 | 148.8 |
| 47.5° | 702.1 | 493.1 | 221.3 | 138.9 | 126.6 |
| 50° | 652.9 | 435.3 | 173.4 | 118.0 | 105.7 |
| 52.5° | 606.2 | 377.5 | 135.3 | 97.1 | 86.1 |
| 55° | 557.0 | 322.2 | 113.1 | 78.7 | 68.9 |
| 57.5° | 511.5 | 265.6 | 93.4 | 61.5 | 54.1 |
| 60° | 462.3 | 215.2 | 73.8 | 48.0 | 43.0 |
| 62.5° | 415.6 | 168.5 | 56.6 | 38.1 | 34.4 |
| 65° | 367.6 | 124.2 | 41.8 | 30.7 | 28.3 |
| 67.5° | 319.7 | 89.8 | 32.0 | 24.6 | 23.4 |
| 70° | 269.3 | 67.6 | 24.6 | 19.7 | 18.4 |
| 72.5° | 221.3 | 48.0 | 18.4 | 16.0 | 14.8 |
| 75° | 175.8 | 29.5 | 13.5 | 12.3 | 11.1 |
| 77.5° | 135.3 | 17.2 | 9.8 | 9.8 | 8.6 |
| 80° | 94.7 | 9.8 | 7.4 | 7.4 | 6.1 |
| 82.5° | 57.8 | 6.1 | 4.9 | 4.9 | 4.9 |
| 85° | 24.6 | 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 | 19.37 | 20.72 | 19.73 | 21.04 | 21.35 | 7.94 | 9.30 | 8.31 | 9.61 | 9.93 |
| | 3H | 21.12 | 22.33 | 21.50 | 22.66 | 23.02 | 8.61 | 9.81 | 8.98 | 10.14 | 10.50 |
| | 4H | 21.82 | 22.94 | 22.22 | 23.29 | 23.68 | 8.80 | 9.93 | 9.21 | 10.28 | 10.66 |
| | 6H | 22.33 | 23.37 | 22.75 | 23.74 | 24.13 | 8.92 | 9.96 | 9.34 | 10.33 | 10.72 |
| | 8H | 22.47 | 23.45 | 22.90 | 23.84 | 24.25 | 8.96 | 9.94 | 9.39 | 10.33 | 10.73 |
| | 12H | 22.52 | 23.46 | 22.96 | 23.84 | 24.27 | 8.97 | 9.90 | 9.40 | 10.29 | 10.72 |
| 4H | 2H | 19.18 | 20.30 | 19.58 | 20.65 | 21.03 | 8.50 | 9.62 | 8.90 | 9.97 | 10.35 |
| | 3H | 20.97 | 21.89 | 21.38 | 22.29 | 22.69 | 9.30 | 10.22 | 9.71 | 10.62 | 11.02 |
| | 4H | 21.66 | 22.49 | 22.10 | 22.90 | 23.35 | 9.56 | 10.38 | 9.99 | 10.80 | 11.24 |
| | 6H | 22.23 | 22.94 | 22.69 | 23.39 | 23.85 | 9.75 | 10.46 | 10.21 | 10.91 | 11.37 |
| | 8H | 22.41 | 23.07 | 22.88 | 23.52 | 23.99 | 9.80 | 10.47 | 10.27 | 10.91 | 11.38 |
| | 12H | 22.49 | 23.08 | 22.98 | 23.56 | 24.04 | 9.84 | 10.42 | 10.32 | 10.91 | 11.38 |
| 8H | 4H | 21.54 | 22.20 | 22.01 | 22.65 | 23.12 | 9.87 | 10.53 | 10.34 | 10.98 | 11.45 |
| | 6H | 22.09 | 22.63 | 22.59 | 23.13 | 23.61 | 10.12 | 10.66 | 10.62 | 11.15 | 11.63 |
| | 8H | 22.27 | 22.75 | 22.79 | 23.27 | 23.76 | 10.20 | 10.69 | 10.72 | 11.20 | 11.69 |
| | 12H | 22.37 | 22.80 | 22.89 | 23.30 | 23.87 | 10.28 | 10.71 | 10.80 | 11.21 | 11.78 |
| 12H | 4H | 21.50 | 22.08 | 21.98 | 22.56 | 23.04 | 9.91 | 10.50 | 10.40 | 10.98 | 11.46 |
| | 6H | 22.03 | 22.52 | 22.56 | 23.04 | 23.53 | 10.16 | 10.65 | 10.68 | 11.16 | 11.65 |
| | 8H | 22.23 | 22.66 | 22.74 | 23.15 | 23.72 | 10.29 | 10.71 | 10.80 | 11.21 | 11.78 |