

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: P1055552

Luminaire Tested: S123R3DR-S1000D835-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055552
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-S1000D835-X4F0-XX-UDD-F-S
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

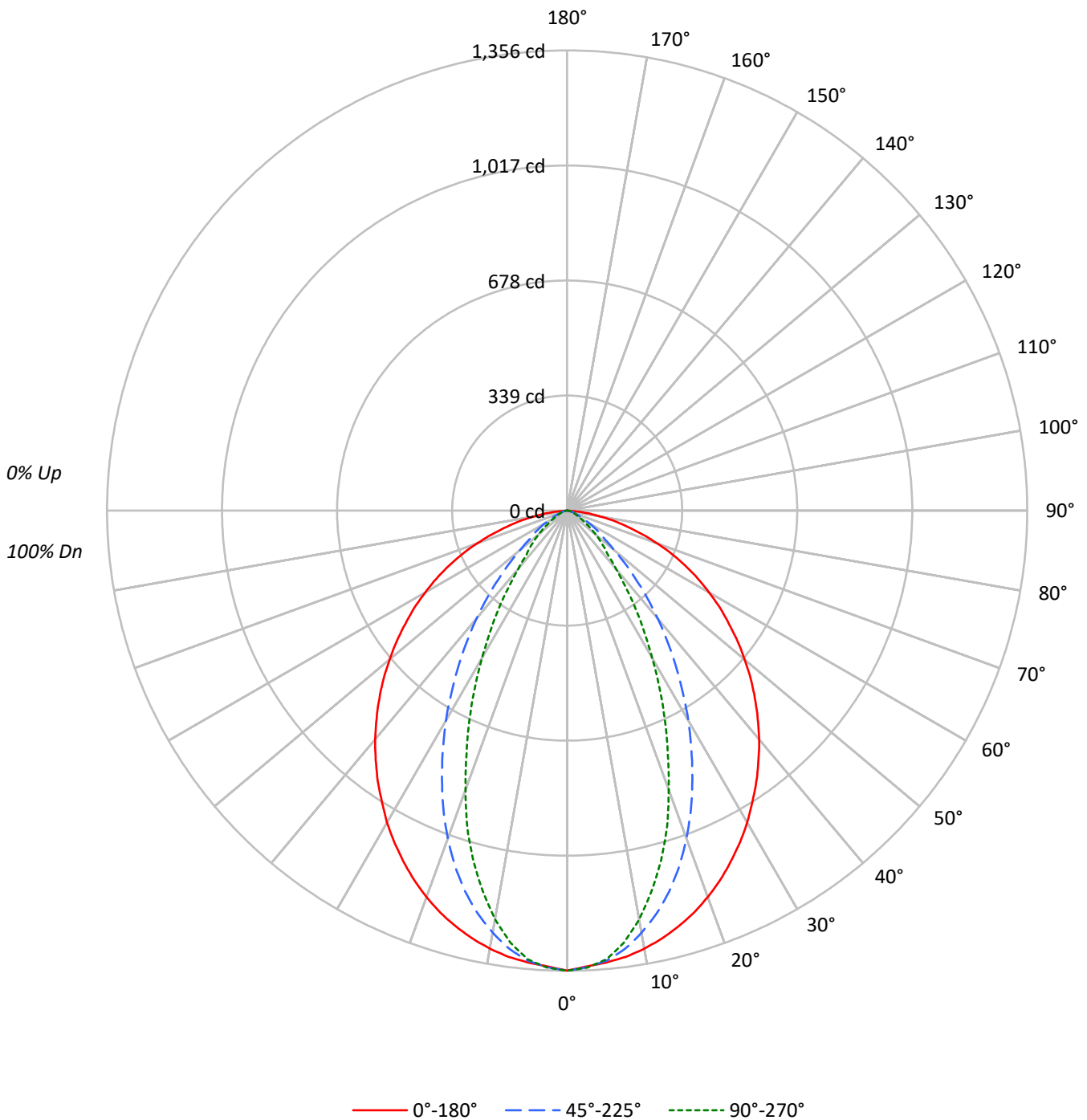
Lumens per Lamp: N/A
Luminaire Lumens: 1885.4 lumens
Efficiency: N/A
Efficacy: 54.3 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.77 / 0.94
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

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

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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 | 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° | 16345 | 16345 | 16345 |
| 5° | 16175 | 16112 | 16066 |
| 10° | 16047 | 15465 | 14977 |
| 15° | 15832 | 14500 | 13329 |
| 20° | 15548 | 13189 | 11228 |
| 25° | 15180 | 11608 | 9061 |
| 30° | 14778 | 9947 | 6977 |
| 35° | 14318 | 8208 | 5163 |
| 40° | 13855 | 6533 | 3519 |
| 45° | 13344 | 4887 | 2651 |
| 50° | 12799 | 3399 | 2073 |
| 55° | 12236 | 2485 | 1513 |
| 60° | 11651 | 1859 | 1085 |
| 65° | 10960 | 1247 | 844 |
| 70° | 9920 | 906 | 680 |
| 75° | 8562 | 657 | 540 |
| 80° | 6867 | 535 | 444 |
| 85° | 3555 | 539 | 360 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 13344 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 125.3 | 6.6 |
| 10°-20° | 326.2 | 17.3 |
| 20°-30° | 409.9 | 21.7 |
| 30°-40° | 381.7 | 20.2 |
| 40°-50° | 292.2 | 15.5 |
| 50°-60° | 194.2 | 10.3 |
| 60°-70° | 104.7 | 5.6 |
| 70°-80° | 42.9 | 2.3 |
| 80°-90° | 8.2 | 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° | 861.4 | 45.7 |
| 0°-40° | 1243.1 | 65.9 |
| 0°-60° | 1729.6 | 91.7 |
| 0°-90° | 1885.4 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1885.4 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1356 | 1356 | 1356 | 1356 | 1356 | |
| 5° | 1336 | 1351 | 1331 | 1326 | 1328 | 127 |
| 15° | 1268 | 1248 | 1162 | 1094 | 1068 | 357 |
| 25° | 1141 | 1064 | 873 | 727 | 681 | 525 |
| 35° | 973 | 829 | 558 | 394 | 351 | 608 |
| 45° | 783 | 578 | 287 | 168 | 156 | 604 |
| 55° | 582 | 337 | 118 | 82 | 72 | 522 |
| 65° | 384 | 130 | 44 | 32 | 30 | 380 |
| 75° | 184 | 31 | 14 | 13 | 12 | 197 |
| 85° | 26 | 4 | 4 | 4 | 3 | 38 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P105552

CATALOG NUMBER: S123R3DR-S1000D835-X4F0-XX-UDD-F-S

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1355.7 | 1355.7 | 1355.7 | 1355.7 | 1355.7 |
| 2.5° | 1344.2 | 1360.9 | 1346.7 | 1348.0 | 1348.0 |
| 5° | 1336.5 | 1350.6 | 1331.3 | 1326.2 | 1327.5 |
| 7.5° | 1326.2 | 1335.2 | 1303.1 | 1286.3 | 1283.8 |
| 10° | 1310.8 | 1313.3 | 1263.2 | 1233.7 | 1223.4 |
| 12.5° | 1291.5 | 1282.5 | 1217.0 | 1168.1 | 1148.8 |
| 15° | 1268.4 | 1247.8 | 1161.7 | 1093.6 | 1067.9 |
| 17.5° | 1242.7 | 1208.0 | 1098.7 | 1010.1 | 979.2 |
| 20° | 1211.8 | 1163.0 | 1028.0 | 917.5 | 875.1 |
| 22.5° | 1178.4 | 1115.4 | 953.5 | 822.4 | 774.9 |
| 25° | 1141.1 | 1064.0 | 872.6 | 727.3 | 681.1 |
| 27.5° | 1102.6 | 1008.8 | 792.9 | 637.4 | 589.8 |
| 30° | 1061.5 | 952.2 | 714.5 | 550.0 | 501.2 |
| 32.5° | 1016.5 | 890.5 | 633.5 | 469.0 | 420.2 |
| 35° | 972.8 | 828.9 | 557.7 | 394.5 | 350.8 |
| 37.5° | 926.5 | 767.2 | 484.5 | 329.0 | 280.1 |
| 40° | 880.3 | 704.2 | 415.1 | 264.7 | 223.6 |
| 42.5° | 831.4 | 641.2 | 349.5 | 210.8 | 178.6 |
| 45° | 782.6 | 578.3 | 286.6 | 168.3 | 155.5 |
| 47.5° | 733.8 | 515.3 | 231.3 | 145.2 | 132.4 |
| 50° | 682.4 | 454.9 | 181.2 | 123.4 | 110.5 |
| 52.5° | 633.5 | 394.5 | 141.4 | 101.5 | 90.0 |
| 55° | 582.1 | 336.7 | 118.2 | 82.2 | 72.0 |
| 57.5° | 534.6 | 277.6 | 97.7 | 64.3 | 56.5 |
| 60° | 483.2 | 224.9 | 77.1 | 50.1 | 45.0 |
| 62.5° | 434.4 | 176.1 | 59.1 | 39.8 | 36.0 |
| 65° | 384.2 | 129.8 | 43.7 | 32.1 | 29.6 |
| 67.5° | 334.1 | 93.8 | 33.4 | 25.7 | 24.4 |
| 70° | 281.4 | 70.7 | 25.7 | 20.6 | 19.3 |
| 72.5° | 231.3 | 50.1 | 19.3 | 16.7 | 15.4 |
| 75° | 183.8 | 30.8 | 14.1 | 12.9 | 11.6 |
| 77.5° | 141.4 | 18.0 | 10.3 | 10.3 | 9.0 |
| 80° | 98.9 | 10.3 | 7.7 | 7.7 | 6.4 |
| 82.5° | 60.4 | 6.4 | 5.1 | 5.1 | 5.1 |
| 85° | 25.7 | 3.9 | 3.9 | 3.9 | 2.6 |
| 87.5° | 3.9 | 1.3 | 1.3 | 1.3 | 1.3 |
| 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 | 19.52 | 20.88 | 19.88 | 21.19 | 21.50 | 8.10 | 9.45 | 8.46 | 9.77 | 10.08 |
| | 3H | 21.27 | 22.48 | 21.65 | 22.81 | 23.17 | 8.76 | 9.96 | 9.14 | 10.29 | 10.66 |
| | 4H | 21.97 | 23.10 | 22.38 | 23.45 | 23.83 | 8.96 | 10.08 | 9.36 | 10.43 | 10.81 |
| | 6H | 22.49 | 23.52 | 22.90 | 23.89 | 24.28 | 9.08 | 10.11 | 9.49 | 10.48 | 10.87 |
| | 8H | 22.63 | 23.61 | 23.06 | 24.00 | 24.40 | 9.11 | 10.09 | 9.54 | 10.48 | 10.89 |
| | 12H | 22.68 | 23.61 | 23.11 | 24.00 | 24.43 | 9.12 | 10.06 | 9.55 | 10.44 | 10.87 |
| 4H | 2H | 19.33 | 20.45 | 19.73 | 20.80 | 21.19 | 8.65 | 9.78 | 9.05 | 10.13 | 10.51 |
| | 3H | 21.12 | 22.04 | 21.53 | 22.44 | 22.85 | 9.45 | 10.37 | 9.86 | 10.78 | 11.18 |
| | 4H | 21.82 | 22.64 | 22.25 | 23.06 | 23.50 | 9.71 | 10.53 | 10.15 | 10.95 | 11.40 |
| | 6H | 22.39 | 23.10 | 22.85 | 23.54 | 24.01 | 9.91 | 10.62 | 10.37 | 11.06 | 11.53 |
| | 8H | 22.56 | 23.22 | 23.03 | 23.67 | 24.14 | 9.96 | 10.62 | 10.43 | 11.07 | 11.54 |
| | 12H | 22.65 | 23.23 | 23.13 | 23.72 | 24.19 | 9.99 | 10.58 | 10.48 | 11.06 | 11.54 |
| 8H | 4H | 21.69 | 22.36 | 22.16 | 22.80 | 23.27 | 10.02 | 10.69 | 10.49 | 11.13 | 11.60 |
| | 6H | 22.25 | 22.79 | 22.75 | 23.28 | 23.76 | 10.27 | 10.81 | 10.77 | 11.31 | 11.79 |
| | 8H | 22.42 | 22.91 | 22.94 | 23.42 | 23.91 | 10.36 | 10.84 | 10.88 | 11.36 | 11.85 |
| | 12H | 22.53 | 22.96 | 23.04 | 23.45 | 24.02 | 10.44 | 10.87 | 10.95 | 11.36 | 11.93 |
| 12H | 4H | 21.65 | 22.24 | 22.13 | 22.72 | 23.19 | 10.07 | 10.66 | 10.55 | 11.14 | 11.61 |
| | 6H | 22.19 | 22.67 | 22.71 | 23.19 | 23.68 | 10.32 | 10.80 | 10.84 | 11.32 | 11.81 |
| | 8H | 22.38 | 22.81 | 22.90 | 23.31 | 23.88 | 10.44 | 10.87 | 10.96 | 11.36 | 11.93 |