

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: P1055684

Luminaire Tested: S123R3DRP-H1000D830-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055684
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-H1000D830-X4F0-XX-UDD-F-S
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

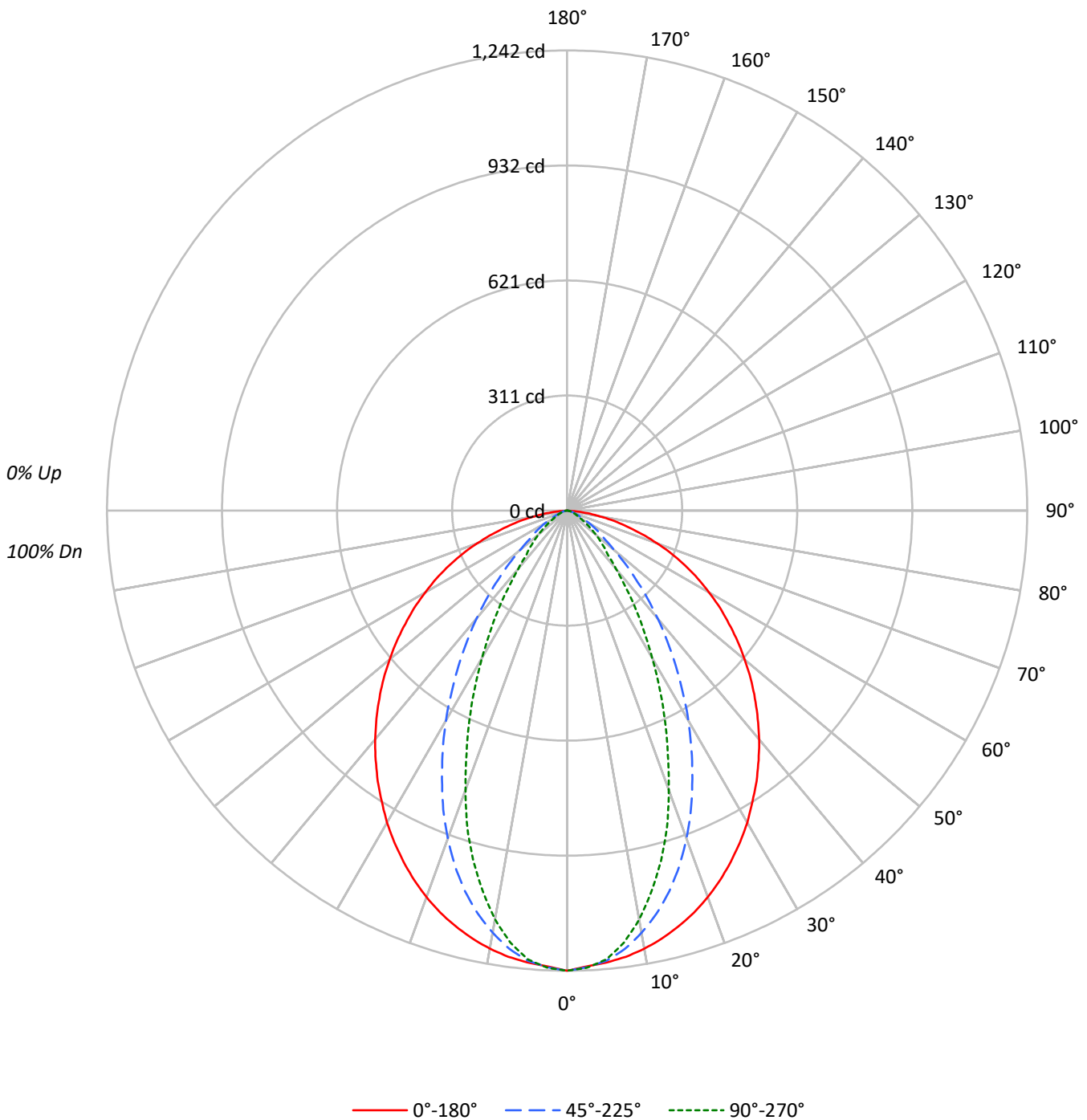
Lumens per Lamp: N/A
Luminaire Lumens: 1727.0 lumens
Efficiency: N/A
Efficacy: 55.9 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.77 / 0.94
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 30.9
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 | 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° | 14972 | 14972 | 14972 |
| 5° | 14816 | 14759 | 14715 |
| 10° | 14698 | 14166 | 13719 |
| 15° | 14501 | 13282 | 12210 |
| 20° | 14241 | 12082 | 10285 |
| 25° | 13905 | 10632 | 8300 |
| 30° | 13536 | 9112 | 6391 |
| 35° | 13115 | 7520 | 4729 |
| 40° | 12690 | 5984 | 3223 |
| 45° | 12222 | 4476 | 2428 |
| 50° | 11723 | 3114 | 1898 |
| 55° | 11208 | 2276 | 1385 |
| 60° | 10672 | 1702 | 993 |
| 65° | 10039 | 1141 | 773 |
| 70° | 9088 | 828 | 624 |
| 75° | 7840 | 601 | 494 |
| 80° | 6290 | 493 | 410 |
| 85° | 3251 | 484 | 332 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 12222 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 114.8 | 6.6 |
| 10°-20° | 298.8 | 17.3 |
| 20°-30° | 375.4 | 21.7 |
| 30°-40° | 349.7 | 20.2 |
| 40°-50° | 267.7 | 15.5 |
| 50°-60° | 177.9 | 10.3 |
| 60°-70° | 95.9 | 5.6 |
| 70°-80° | 39.3 | 2.3 |
| 80°-90° | 7.5 | 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° | 789.0 | 45.7 |
| 0°-40° | 1138.7 | 65.9 |
| 0°-60° | 1584.3 | 91.7 |
| 0°-90° | 1727.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1727.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1242 | 1242 | 1242 | 1242 | 1242 | |
| 5° | 1224 | 1237 | 1220 | 1215 | 1216 | 116 |
| 15° | 1162 | 1143 | 1064 | 1002 | 978 | 327 |
| 25° | 1045 | 975 | 799 | 666 | 624 | 481 |
| 35° | 891 | 759 | 511 | 361 | 321 | 557 |
| 45° | 717 | 530 | 262 | 154 | 142 | 553 |
| 55° | 533 | 308 | 108 | 75 | 66 | 478 |
| 65° | 352 | 119 | 40 | 29 | 27 | 348 |
| 75° | 168 | 28 | 13 | 12 | 11 | 180 |
| 85° | 24 | 4 | 4 | 4 | 2 | 35 |
| 90° | 0 | 0 | 0 | 0 | 0 | |

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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1241.8 | 1241.8 | 1241.8 | 1241.8 | 1241.8 |
| 2.5° | 1231.2 | 1246.5 | 1233.6 | 1234.8 | 1234.8 |
| 5° | 1224.2 | 1237.1 | 1219.5 | 1214.8 | 1215.9 |
| 7.5° | 1214.8 | 1223.0 | 1193.6 | 1178.3 | 1175.9 |
| 10° | 1200.6 | 1203.0 | 1157.1 | 1130.0 | 1120.6 |
| 12.5° | 1183.0 | 1174.7 | 1114.7 | 1070.0 | 1052.3 |
| 15° | 1161.8 | 1143.0 | 1064.1 | 1001.7 | 978.2 |
| 17.5° | 1138.2 | 1106.5 | 1006.4 | 925.2 | 896.9 |
| 20° | 1110.0 | 1065.3 | 941.7 | 840.4 | 801.6 |
| 22.5° | 1079.4 | 1021.7 | 873.4 | 753.3 | 709.8 |
| 25° | 1045.3 | 974.6 | 799.2 | 666.2 | 623.9 |
| 27.5° | 1009.9 | 924.0 | 726.3 | 583.8 | 540.3 |
| 30° | 972.3 | 872.2 | 654.5 | 503.8 | 459.1 |
| 32.5° | 931.1 | 815.7 | 580.3 | 429.6 | 384.9 |
| 35° | 891.1 | 759.2 | 510.9 | 361.4 | 321.3 |
| 37.5° | 848.7 | 702.7 | 443.8 | 301.3 | 256.6 |
| 40° | 806.3 | 645.0 | 380.2 | 242.5 | 204.8 |
| 42.5° | 761.6 | 587.4 | 320.2 | 193.0 | 163.6 |
| 45° | 716.8 | 529.7 | 262.5 | 154.2 | 142.4 |
| 47.5° | 672.1 | 472.0 | 211.9 | 133.0 | 121.2 |
| 50° | 625.0 | 416.7 | 166.0 | 113.0 | 101.2 |
| 52.5° | 580.3 | 361.4 | 129.5 | 93.0 | 82.4 |
| 55° | 533.2 | 308.4 | 108.3 | 75.3 | 65.9 |
| 57.5° | 489.7 | 254.3 | 89.5 | 58.9 | 51.8 |
| 60° | 442.6 | 206.0 | 70.6 | 45.9 | 41.2 |
| 62.5° | 397.9 | 161.3 | 54.1 | 36.5 | 33.0 |
| 65° | 351.9 | 118.9 | 40.0 | 29.4 | 27.1 |
| 67.5° | 306.0 | 85.9 | 30.6 | 23.5 | 22.4 |
| 70° | 257.8 | 64.7 | 23.5 | 18.8 | 17.7 |
| 72.5° | 211.9 | 45.9 | 17.7 | 15.3 | 14.1 |
| 75° | 168.3 | 28.3 | 12.9 | 11.8 | 10.6 |
| 77.5° | 129.5 | 16.5 | 9.4 | 9.4 | 8.2 |
| 80° | 90.6 | 9.4 | 7.1 | 7.1 | 5.9 |
| 82.5° | 55.3 | 5.9 | 4.7 | 4.7 | 4.7 |
| 85° | 23.5 | 3.5 | 3.5 | 3.5 | 2.4 |
| 87.5° | 3.5 | 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 | 19.22 | 20.57 | 19.58 | 20.89 | 21.20 | 7.79 | 9.15 | 8.16 | 9.46 | 9.78 |
| | 3H | 20.97 | 22.17 | 21.35 | 22.50 | 22.87 | 8.45 | 9.66 | 8.83 | 9.99 | 10.35 |
| | 4H | 21.67 | 22.79 | 22.07 | 23.14 | 23.53 | 8.65 | 9.78 | 9.05 | 10.13 | 10.51 |
| | 6H | 22.18 | 23.21 | 22.60 | 23.58 | 23.98 | 8.77 | 9.81 | 9.19 | 10.18 | 10.57 |
| | 8H | 22.32 | 23.30 | 22.75 | 23.69 | 24.10 | 8.81 | 9.79 | 9.24 | 10.18 | 10.58 |
| | 12H | 22.37 | 23.31 | 22.80 | 23.69 | 24.12 | 8.82 | 9.75 | 9.25 | 10.14 | 10.57 |
| 4H | 2H | 19.02 | 20.15 | 19.43 | 20.50 | 20.88 | 8.35 | 9.47 | 8.75 | 9.82 | 10.20 |
| | 3H | 20.82 | 21.74 | 21.23 | 22.14 | 22.54 | 9.15 | 10.07 | 9.56 | 10.47 | 10.87 |
| | 4H | 21.51 | 22.33 | 21.95 | 22.75 | 23.20 | 9.40 | 10.23 | 9.84 | 10.65 | 11.09 |
| | 6H | 22.08 | 22.79 | 22.54 | 23.24 | 23.70 | 9.60 | 10.31 | 10.06 | 10.76 | 11.22 |
| | 8H | 22.26 | 22.92 | 22.72 | 23.37 | 23.84 | 9.65 | 10.32 | 10.12 | 10.76 | 11.23 |
| | 12H | 22.34 | 22.93 | 22.83 | 23.41 | 23.88 | 9.69 | 10.27 | 10.17 | 10.76 | 11.23 |
| 8H | 4H | 21.39 | 22.05 | 21.86 | 22.50 | 22.97 | 9.72 | 10.38 | 10.19 | 10.83 | 11.30 |
| | 6H | 21.94 | 22.48 | 22.44 | 22.98 | 23.46 | 9.97 | 10.51 | 10.47 | 11.00 | 11.48 |
| | 8H | 22.12 | 22.60 | 22.64 | 23.12 | 23.61 | 10.05 | 10.54 | 10.57 | 11.05 | 11.54 |
| | 12H | 22.22 | 22.65 | 22.74 | 23.14 | 23.71 | 10.13 | 10.56 | 10.65 | 11.06 | 11.63 |
| 12H | 4H | 21.34 | 21.93 | 21.83 | 22.41 | 22.89 | 9.76 | 10.35 | 10.25 | 10.83 | 11.30 |
| | 6H | 21.88 | 22.37 | 22.40 | 22.88 | 23.38 | 10.01 | 10.50 | 10.53 | 11.01 | 11.50 |
| | 8H | 22.08 | 22.51 | 22.59 | 23.00 | 23.57 | 10.14 | 10.57 | 10.65 | 11.06 | 11.63 |