

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P1058344

Luminaire Tested: S122RDR-H290D940-X4F0-XX-UDD-WVL-B

Issue Date: 8/7/2025

Test Information

Test Method: LM-79-2019
Report Number: P1058344
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2406-143-19)
Test Lab: INNOVATION CENTER
Issue Date: 8/7/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S122RDR-H290D940-X4F0-XX-UDD-WVL-B
Description: DEFINE 2 BLACK REGRESSED DIRECT RECESSED HOUSING WITH WHITE STRAIGHT BLADE
LOUVER WITH DIFFUSER
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

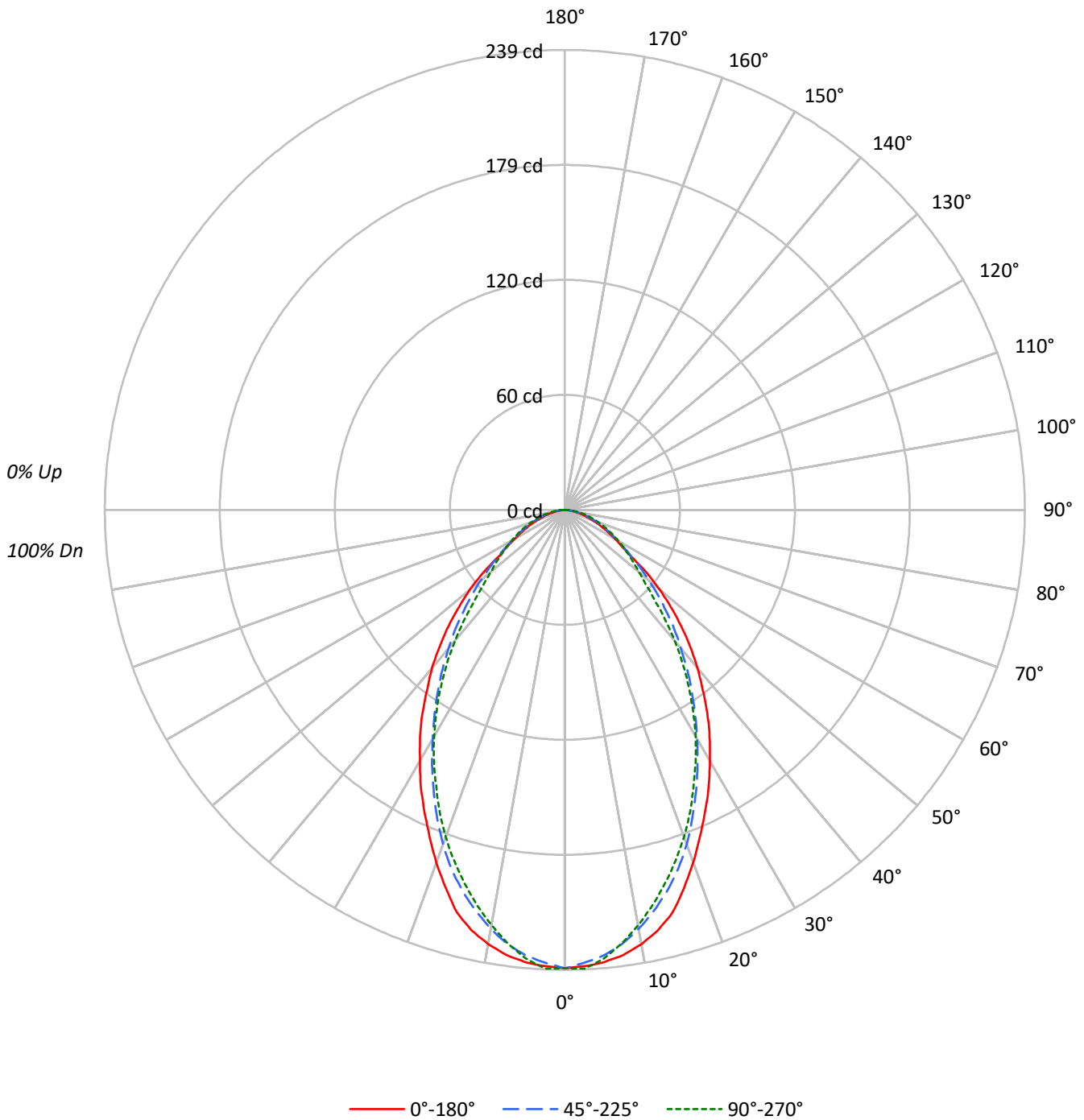
Lumens per Lamp: N/A
Luminaire Lumens: 361.7 lumens
Efficiency: N/A
Efficacy: 30.9 lumens/watt
Spacing Criteria (0/90/45): 1 / 0.92 / 1.02
Luminous Opening: Rectangular (W 0.15' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 11.7
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 | 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 | 107 | 104 | 101 | 108 | 105 | 102 | 99 | 101 | 98 | 96 | 97 | 95 | 93 | 93 | 92 | 90 | 88 | | | | 88 |
| 2 | 103 | 96 | 91 | 86 | 100 | 94 | 89 | 85 | 91 | 87 | 83 | 88 | 84 | 81 | 85 | 82 | 79 | 77 | | | | 77 |
| 3 | 95 | 87 | 80 | 74 | 93 | 85 | 79 | 74 | 82 | 77 | 73 | 80 | 75 | 71 | 77 | 73 | 70 | 68 | | | | 68 |
| 4 | 89 | 79 | 71 | 65 | 87 | 77 | 70 | 65 | 75 | 69 | 64 | 73 | 68 | 63 | 71 | 66 | 63 | 61 | | | | 61 |
| 5 | 83 | 72 | 64 | 58 | 81 | 71 | 63 | 58 | 69 | 62 | 57 | 67 | 61 | 57 | 65 | 60 | 56 | 54 | | | | 54 |
| 6 | 77 | 66 | 58 | 52 | 75 | 65 | 57 | 52 | 63 | 56 | 52 | 61 | 56 | 51 | 60 | 55 | 51 | 49 | | | | 49 |
| 7 | 72 | 60 | 53 | 47 | 71 | 60 | 52 | 47 | 58 | 52 | 47 | 57 | 51 | 47 | 56 | 50 | 46 | 44 | | | | 44 |
| 8 | 68 | 56 | 48 | 43 | 66 | 55 | 48 | 43 | 54 | 47 | 43 | 53 | 47 | 43 | 52 | 46 | 42 | 41 | | | | 41 |
| 9 | 64 | 52 | 45 | 40 | 63 | 51 | 44 | 39 | 50 | 44 | 39 | 49 | 43 | 39 | 48 | 43 | 39 | 37 | | | | 37 |
| 10 | 60 | 48 | 41 | 36 | 59 | 48 | 41 | 36 | 47 | 41 | 36 | 46 | 40 | 36 | 45 | 40 | 36 | 34 | | | | 34 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 4395 | 4395 | 4395 |
| 5° | 4370 | 4307 | 4334 |
| 10° | 4293 | 4143 | 4107 |
| 15° | 4138 | 3920 | 3840 |
| 20° | 3829 | 3635 | 3552 |
| 25° | 3514 | 3282 | 3221 |
| 30° | 3209 | 2925 | 2894 |
| 35° | 2906 | 2588 | 2530 |
| 40° | 2585 | 2257 | 2139 |
| 45° | 2226 | 1939 | 1712 |
| 50° | 1840 | 1633 | 1438 |
| 55° | 1329 | 1354 | 1293 |
| 60° | 1107 | 1163 | 1177 |
| 65° | 943 | 1009 | 1078 |
| 70° | 777 | 901 | 982 |
| 75° | 649 | 756 | 891 |
| 80° | 489 | 606 | 808 |
| 85° | 169 | 318 | 720 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2226 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 22.0 | 6.1 |
| 10°-20° | 58.0 | 16.0 |
| 20°-30° | 75.0 | 20.7 |
| 30°-40° | 73.6 | 20.3 |
| 40°-50° | 57.9 | 16.0 |
| 50°-60° | 38.0 | 10.5 |
| 60°-70° | 23.1 | 6.4 |
| 70°-80° | 11.6 | 3.2 |
| 80°-90° | 2.5 | 0.7 |
| 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° | 155.0 | 42.9 |
| 0°-40° | 228.6 | 63.2 |
| 0°-60° | 324.6 | 89.7 |
| 0°-90° | 361.7 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 361.7 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 238 | 238 | 238 | 238 | 238 | |
| 5° | 236 | 236 | 232 | 234 | 234 | 22 |
| 15° | 217 | 214 | 205 | 202 | 201 | 60 |
| 25° | 173 | 167 | 161 | 160 | 158 | 79 |
| 35° | 129 | 122 | 115 | 114 | 112 | 80 |
| 45° | 85 | 80 | 74 | 69 | 66 | 66 |
| 55° | 41 | 44 | 42 | 41 | 40 | 39 |
| 65° | 22 | 22 | 23 | 24 | 25 | 21 |
| 75° | 9 | 10 | 11 | 12 | 12 | 10 |
| 85° | 1 | 1 | 2 | 3 | 3 | 2 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CATALOG NUMBER: S122RDR-H290D940-X4F0-XX-UDD-WVL-B

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 238.2 | 238.2 | 238.2 | 238.2 | 238.2 |
| 2.5° | 237.4 | 237.8 | 235.5 | 237.8 | 238.6 |
| 5° | 235.9 | 235.9 | 232.5 | 234.0 | 234.0 |
| 7.5° | 233.3 | 232.9 | 227.6 | 227.6 | 227.2 |
| 10° | 229.1 | 227.6 | 221.1 | 220.0 | 219.2 |
| 12.5° | 223.8 | 221.1 | 213.5 | 211.6 | 210.5 |
| 15° | 216.6 | 213.5 | 205.2 | 202.5 | 201.0 |
| 17.5° | 206.0 | 202.9 | 195.7 | 192.7 | 191.2 |
| 20° | 195.0 | 190.4 | 185.1 | 182.4 | 180.9 |
| 22.5° | 183.6 | 178.3 | 173.3 | 171.4 | 169.9 |
| 25° | 172.6 | 166.9 | 161.2 | 160.4 | 158.2 |
| 27.5° | 162.0 | 155.1 | 149.4 | 149.1 | 147.2 |
| 30° | 150.6 | 143.4 | 137.3 | 137.7 | 135.8 |
| 32.5° | 140.0 | 133.1 | 125.9 | 126.3 | 124.0 |
| 35° | 129.0 | 121.8 | 114.9 | 114.5 | 112.3 |
| 37.5° | 117.6 | 110.8 | 104.3 | 102.8 | 100.5 |
| 40° | 107.3 | 100.5 | 93.7 | 91.0 | 88.8 |
| 42.5° | 96.3 | 90.3 | 84.2 | 80.0 | 77.0 |
| 45° | 85.3 | 80.0 | 74.3 | 69.0 | 65.6 |
| 47.5° | 74.7 | 70.5 | 65.6 | 59.2 | 56.9 |
| 50° | 64.1 | 61.1 | 56.9 | 51.2 | 50.1 |
| 52.5° | 53.1 | 52.0 | 49.3 | 45.5 | 45.1 |
| 55° | 41.3 | 43.6 | 42.1 | 40.6 | 40.2 |
| 57.5° | 34.9 | 35.3 | 36.4 | 36.0 | 36.0 |
| 60° | 30.0 | 30.0 | 31.5 | 31.9 | 31.9 |
| 62.5° | 25.4 | 25.8 | 27.3 | 28.1 | 28.1 |
| 65° | 21.6 | 22.0 | 23.1 | 24.3 | 24.7 |
| 67.5° | 17.8 | 18.6 | 19.7 | 20.9 | 21.2 |
| 70° | 14.4 | 15.2 | 16.7 | 17.8 | 18.2 |
| 72.5° | 11.8 | 12.1 | 13.7 | 14.8 | 15.2 |
| 75° | 9.1 | 9.5 | 10.6 | 12.1 | 12.5 |
| 77.5° | 6.4 | 7.2 | 8.3 | 9.5 | 10.2 |
| 80° | 4.6 | 4.9 | 5.7 | 7.2 | 7.6 |
| 82.5° | 2.7 | 3.0 | 3.8 | 4.9 | 5.3 |
| 85° | 0.8 | 1.1 | 1.5 | 2.7 | 3.4 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.8 | 1.5 |
| 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 | 11.27 | 12.67 | 11.64 | 12.98 | 13.30 | 11.44 | 12.84 | 11.81 | 13.15 | 13.46 |
| | 3H | 12.40 | 13.65 | 12.78 | 13.98 | 14.34 | 12.90 | 14.15 | 13.28 | 14.48 | 14.84 |
| | 4H | 12.75 | 13.92 | 13.16 | 14.27 | 14.65 | 13.44 | 14.61 | 13.84 | 14.96 | 15.34 |
| | 6H | 12.94 | 14.01 | 13.35 | 14.38 | 14.77 | 13.86 | 14.93 | 14.27 | 15.30 | 15.69 |
| | 8H | 12.97 | 13.98 | 13.39 | 14.37 | 14.78 | 13.98 | 15.00 | 14.41 | 15.39 | 15.79 |
| | 12H | 12.95 | 13.92 | 13.38 | 14.31 | 14.74 | 14.07 | 15.04 | 14.50 | 15.42 | 15.85 |
| 4H | 2H | 11.73 | 12.89 | 12.13 | 13.24 | 13.62 | 11.87 | 13.03 | 12.27 | 13.38 | 13.76 |
| | 3H | 13.07 | 14.02 | 13.48 | 14.43 | 14.83 | 13.54 | 14.50 | 13.95 | 14.90 | 15.30 |
| | 4H | 13.51 | 14.37 | 13.94 | 14.79 | 15.23 | 14.20 | 15.06 | 14.64 | 15.48 | 15.92 |
| | 6H | 13.78 | 14.52 | 14.24 | 14.97 | 15.43 | 14.74 | 15.48 | 15.20 | 15.93 | 16.39 |
| | 8H | 13.83 | 14.52 | 14.29 | 14.97 | 15.44 | 14.91 | 15.60 | 15.37 | 16.05 | 16.52 |
| | 12H | 13.82 | 14.44 | 14.31 | 14.92 | 15.39 | 15.03 | 15.64 | 15.51 | 16.12 | 16.60 |
| 8H | 4H | 13.72 | 14.42 | 14.19 | 14.86 | 15.33 | 14.35 | 15.05 | 14.82 | 15.49 | 15.96 |
| | 6H | 14.07 | 14.64 | 14.57 | 15.13 | 15.61 | 14.98 | 15.55 | 15.48 | 16.05 | 16.53 |
| | 8H | 14.15 | 14.66 | 14.67 | 15.17 | 15.66 | 15.22 | 15.73 | 15.74 | 16.24 | 16.73 |
| | 12H | 14.16 | 14.61 | 14.68 | 15.11 | 15.68 | 15.40 | 15.85 | 15.92 | 16.35 | 16.92 |
| 12H | 4H | 13.73 | 14.35 | 14.22 | 14.83 | 15.30 | 14.34 | 14.95 | 14.82 | 15.44 | 15.91 |
| | 6H | 14.09 | 14.60 | 14.61 | 15.12 | 15.61 | 14.98 | 15.49 | 15.50 | 16.00 | 16.49 |
| | 8H | 14.21 | 14.66 | 14.72 | 15.15 | 15.72 | 15.25 | 15.70 | 15.77 | 16.20 | 16.77 |