

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: P1055405

Luminaire Tested: S122R3DR-H865D935-X4F0-XX-UDD-FLL-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2019
Report Number: P1055405
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-3)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S122R3DR-H865D935-X4F0-XX-UDD-FLL-S
Description: DEFINE 2, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

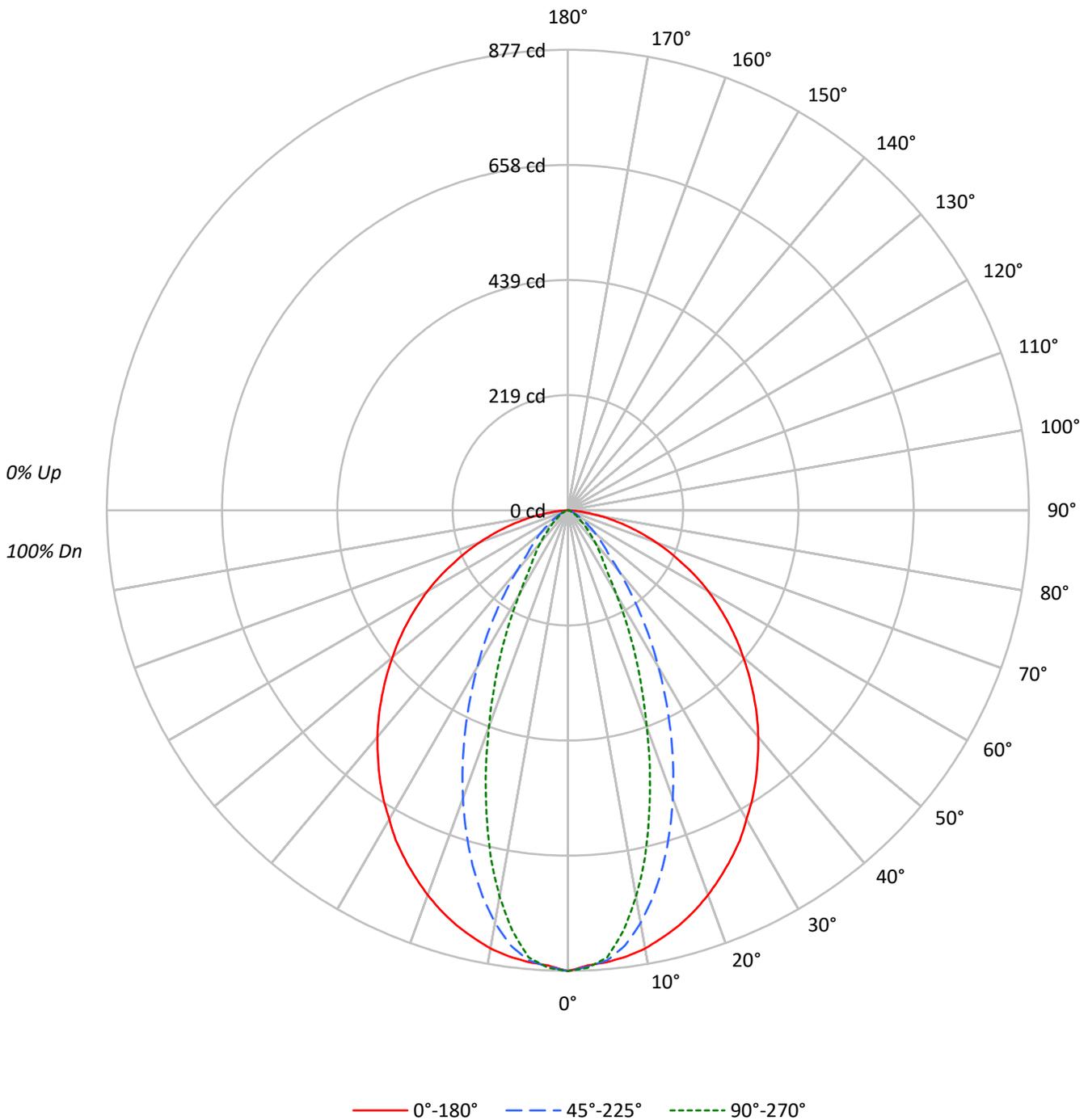
Lumens per Lamp: N/A
Luminaire Lumens: 1005.6 lumens
Efficiency: N/A
Efficacy: 32.5 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 0.64 / 0.81
Luminous Opening: Rectangular (W 0.15' x L: 3.9' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P1055405

CATALOG NUMBER: S122R3DR-H865D935-X4F0-XX-UDD-FLL-S

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 | 112 | 108 | 105 | 102 | 109 | 106 | 103 | 100 | 102 | 99 | 97 | 98 | 96 | 94 | 94 | 93 | 92 | 90 |
| 2 | 104 | 98 | 93 | 88 | 102 | 96 | 91 | 87 | 93 | 89 | 85 | 90 | 86 | 83 | 87 | 84 | 82 | 80 |
| 3 | 97 | 89 | 83 | 78 | 95 | 88 | 82 | 77 | 85 | 80 | 76 | 82 | 78 | 74 | 80 | 76 | 73 | 71 |
| 4 | 91 | 81 | 74 | 69 | 89 | 80 | 74 | 69 | 78 | 72 | 68 | 76 | 71 | 67 | 74 | 70 | 66 | 64 |
| 5 | 85 | 75 | 67 | 62 | 83 | 74 | 67 | 62 | 72 | 66 | 61 | 70 | 65 | 61 | 68 | 64 | 60 | 58 |
| 6 | 80 | 69 | 62 | 56 | 78 | 68 | 61 | 56 | 66 | 60 | 56 | 65 | 59 | 55 | 63 | 59 | 55 | 53 |
| 7 | 75 | 64 | 57 | 52 | 74 | 63 | 56 | 51 | 62 | 56 | 51 | 60 | 55 | 51 | 59 | 54 | 50 | 49 |
| 8 | 71 | 59 | 52 | 47 | 69 | 59 | 52 | 47 | 58 | 51 | 47 | 56 | 51 | 47 | 55 | 50 | 47 | 45 |
| 9 | 67 | 56 | 49 | 44 | 66 | 55 | 48 | 44 | 54 | 48 | 44 | 53 | 47 | 43 | 52 | 47 | 43 | 42 |
| 10 | 63 | 52 | 45 | 41 | 62 | 52 | 45 | 41 | 51 | 45 | 41 | 50 | 44 | 40 | 49 | 44 | 40 | 39 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 16623 | 16623 | 16623 |
| 5° | 16420 | 16359 | 16257 |
| 10° | 16300 | 15348 | 14377 |
| 15° | 16050 | 13730 | 11725 |
| 20° | 15718 | 11772 | 8845 |
| 25° | 15329 | 9643 | 6315 |
| 30° | 14867 | 7528 | 4023 |
| 35° | 14423 | 5521 | 2685 |
| 40° | 13934 | 3722 | 2021 |
| 45° | 13397 | 2620 | 1441 |
| 50° | 12836 | 1995 | 1014 |
| 55° | 12288 | 1384 | 747 |
| 60° | 11693 | 936 | 610 |
| 65° | 10844 | 677 | 484 |
| 70° | 9888 | 537 | 415 |
| 75° | 8579 | 476 | 315 |
| 80° | 6808 | 349 | 349 |
| 85° | 3739 | 478 | 239 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 13397 cd/sqm

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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 80.2 | 8.0 |
| 10°-20° | 196.9 | 19.6 |
| 20°-30° | 224.9 | 22.4 |
| 30°-40° | 190.7 | 19.0 |
| 40°-50° | 142.3 | 14.2 |
| 50°-60° | 92.0 | 9.1 |
| 60°-70° | 51.3 | 5.1 |
| 70°-80° | 22.5 | 2.2 |
| 80°-90° | 4.7 | 0.5 |
| 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° | 502.0 | 49.9 |
| 0°-40° | 692.8 | 68.9 |
| 0°-60° | 927.1 | 92.2 |
| 0°-90° | 1005.6 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1005.6 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 877 | 877 | 877 | 877 | 877 | |
| 5° | 863 | 874 | 860 | 852 | 855 | 82 |
| 15° | 818 | 798 | 700 | 626 | 598 | 230 |
| 25° | 733 | 647 | 461 | 338 | 302 | 338 |
| 35° | 624 | 470 | 239 | 130 | 116 | 390 |
| 45° | 500 | 297 | 98 | 63 | 54 | 386 |
| 55° | 372 | 141 | 42 | 26 | 23 | 333 |
| 65° | 242 | 52 | 15 | 12 | 11 | 240 |
| 75° | 117 | 11 | 6 | 5 | 4 | 125 |
| 85° | 17 | 1 | 2 | 1 | 1 | 25 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P1055405

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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 877.4 | 877.4 | 877.4 | 877.4 | 877.4 |
| 2.5° | 867.7 | 880.6 | 869.9 | 869.9 | 872.0 |
| 5° | 863.4 | 874.2 | 860.2 | 851.6 | 854.8 |
| 7.5° | 857.0 | 864.5 | 835.5 | 809.7 | 807.5 |
| 10° | 847.3 | 850.5 | 797.8 | 758.1 | 747.3 |
| 12.5° | 833.3 | 825.8 | 751.6 | 695.7 | 677.4 |
| 15° | 818.3 | 797.8 | 700.0 | 625.8 | 597.8 |
| 17.5° | 800.0 | 763.4 | 643.0 | 552.7 | 518.3 |
| 20° | 779.6 | 727.9 | 583.9 | 476.3 | 438.7 |
| 22.5° | 757.0 | 688.2 | 522.6 | 404.3 | 366.7 |
| 25° | 733.3 | 647.3 | 461.3 | 337.6 | 302.1 |
| 27.5° | 708.6 | 604.3 | 401.1 | 277.4 | 238.7 |
| 30° | 679.6 | 560.2 | 344.1 | 219.4 | 183.9 |
| 32.5° | 652.7 | 514.0 | 291.4 | 169.9 | 139.8 |
| 35° | 623.6 | 469.9 | 238.7 | 130.1 | 116.1 |
| 37.5° | 593.5 | 425.8 | 192.5 | 109.7 | 97.8 |
| 40° | 563.4 | 381.7 | 150.5 | 92.5 | 81.7 |
| 42.5° | 532.3 | 338.7 | 116.1 | 77.4 | 66.7 |
| 45° | 500.0 | 296.8 | 97.8 | 63.4 | 53.8 |
| 47.5° | 467.7 | 254.8 | 81.7 | 50.5 | 43.0 |
| 50° | 435.5 | 215.1 | 67.7 | 39.8 | 34.4 |
| 52.5° | 404.3 | 177.4 | 53.8 | 32.3 | 28.0 |
| 55° | 372.0 | 140.9 | 41.9 | 25.8 | 22.6 |
| 57.5° | 339.8 | 109.7 | 32.3 | 21.5 | 19.4 |
| 60° | 308.6 | 82.8 | 24.7 | 17.2 | 16.1 |
| 62.5° | 276.3 | 66.7 | 19.4 | 14.0 | 12.9 |
| 65° | 241.9 | 51.6 | 15.1 | 11.8 | 10.8 |
| 67.5° | 210.7 | 37.6 | 11.8 | 9.7 | 8.6 |
| 70° | 178.5 | 25.8 | 9.7 | 8.6 | 7.5 |
| 72.5° | 147.3 | 16.1 | 7.5 | 6.5 | 6.5 |
| 75° | 117.2 | 10.8 | 6.5 | 5.4 | 4.3 |
| 77.5° | 89.2 | 6.5 | 4.3 | 4.3 | 3.2 |
| 80° | 62.4 | 4.3 | 3.2 | 3.2 | 3.2 |
| 82.5° | 38.7 | 3.2 | 2.2 | 2.2 | 2.2 |
| 85° | 17.2 | 1.1 | 2.2 | 1.1 | 1.1 |
| 87.5° | 3.2 | 1.1 | 1.1 | 1.1 | 1.1 |
| 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 | 18.02 | 19.34 | 18.38 | 19.65 | 19.97 | 4.33 | 5.65 | 4.69 | 5.96 | 6.28 |
| | 3H | 20.49 | 21.66 | 20.87 | 21.99 | 22.35 | 5.18 | 6.35 | 5.56 | 6.68 | 7.04 |
| | 4H | 21.44 | 22.53 | 21.85 | 22.89 | 23.27 | 5.45 | 6.55 | 5.86 | 6.90 | 7.28 |
| | 6H | 22.13 | 23.13 | 22.55 | 23.50 | 23.90 | 5.64 | 6.65 | 6.06 | 7.02 | 7.41 |
| | 8H | 22.33 | 23.28 | 22.76 | 23.67 | 24.07 | 5.72 | 6.67 | 6.15 | 7.06 | 7.47 |
| | 12H | 22.41 | 23.32 | 22.84 | 23.70 | 24.13 | 5.75 | 6.66 | 6.18 | 7.04 | 7.47 |
| 4H | 2H | 17.80 | 18.90 | 18.21 | 19.25 | 19.63 | 4.90 | 6.00 | 5.31 | 6.35 | 6.73 |
| | 3H | 20.29 | 21.18 | 20.70 | 21.58 | 21.99 | 5.94 | 6.83 | 6.35 | 7.23 | 7.64 |
| | 4H | 21.23 | 22.03 | 21.66 | 22.45 | 22.89 | 6.31 | 7.11 | 6.74 | 7.53 | 7.97 |
| | 6H | 21.98 | 22.68 | 22.45 | 23.12 | 23.59 | 6.59 | 7.28 | 7.06 | 7.73 | 8.20 |
| | 8H | 22.23 | 22.87 | 22.70 | 23.32 | 23.79 | 6.70 | 7.34 | 7.17 | 7.79 | 8.26 |
| | 12H | 22.36 | 22.93 | 22.84 | 23.41 | 23.88 | 6.75 | 7.31 | 7.23 | 7.80 | 8.27 |
| 8H | 4H | 21.10 | 21.74 | 21.57 | 22.19 | 22.66 | 6.68 | 7.32 | 7.15 | 7.77 | 8.24 |
| | 6H | 21.84 | 22.36 | 22.34 | 22.86 | 23.34 | 7.03 | 7.56 | 7.54 | 8.05 | 8.54 |
| | 8H | 22.08 | 22.55 | 22.60 | 23.07 | 23.56 | 7.18 | 7.65 | 7.70 | 8.16 | 8.66 |
| | 12H | 22.23 | 22.64 | 22.75 | 23.14 | 23.71 | 7.27 | 7.68 | 7.78 | 8.18 | 8.75 |
| 12H | 4H | 21.05 | 21.62 | 21.54 | 22.10 | 22.58 | 6.80 | 7.37 | 7.29 | 7.85 | 8.33 |
| | 6H | 21.78 | 22.25 | 22.30 | 22.76 | 23.25 | 7.15 | 7.62 | 7.68 | 8.14 | 8.63 |
| | 8H | 22.04 | 22.45 | 22.55 | 22.95 | 23.52 | 7.34 | 7.75 | 7.85 | 8.25 | 8.82 |