

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: P1055377

Luminaire Tested: S122R3DR-H675D935-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055377
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-2)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S122R3DR-H675D935-X4F0-XX-UDD-F-B
Description: DEFINE 2, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

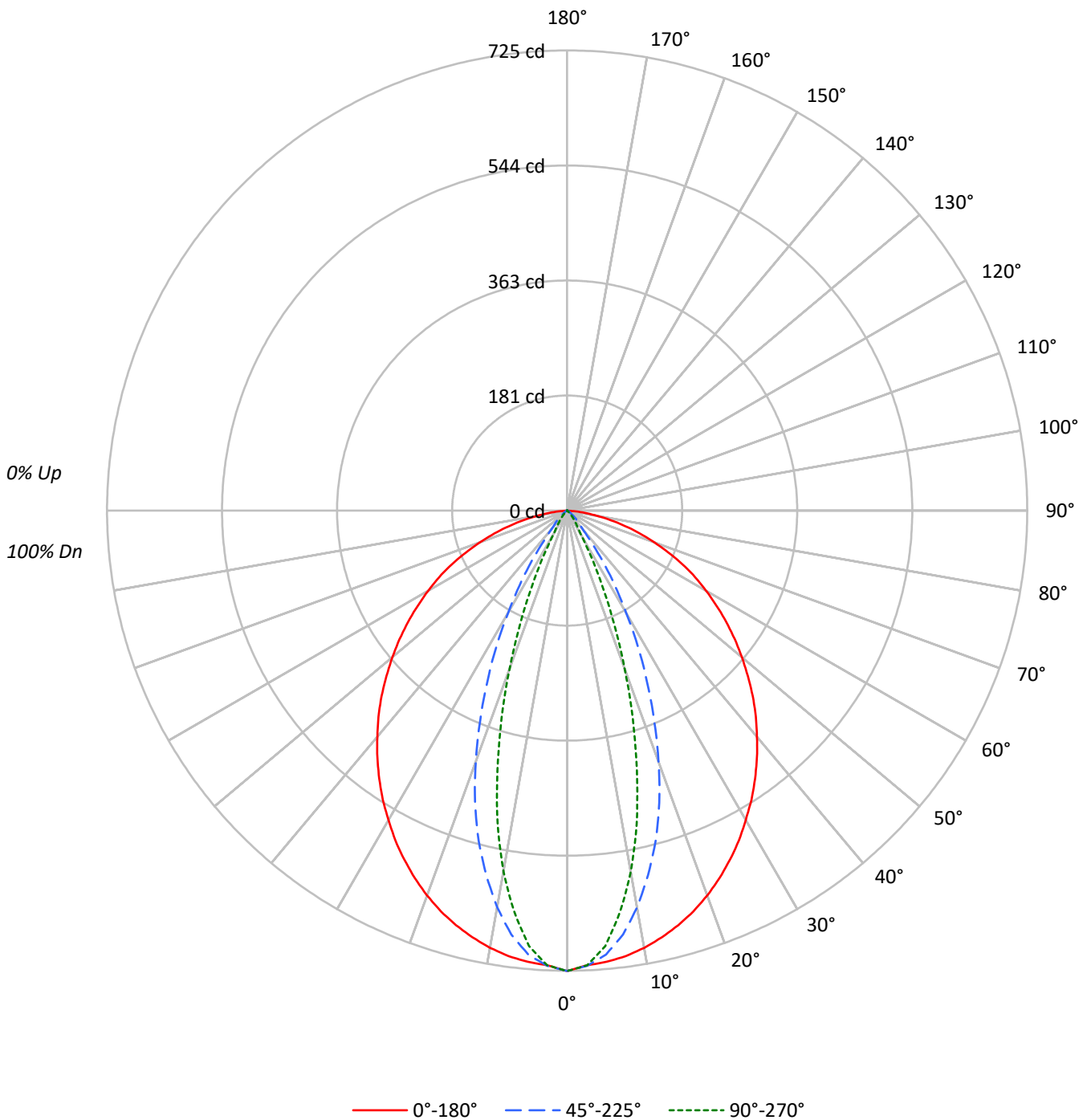
Lumens per Lamp: N/A
Luminaire Lumens: 659.9 lumens
Efficiency: N/A
Efficacy: 27.7 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 0.56 / 0.7
Luminous Opening: Rectangular (W 0.15' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 23.8
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 | 112 | 109 | 106 | 103 | 110 | 106 | 104 | 101 | 102 | 100 | 98 | 99 | 97 | 95 | 95 | 94 | 92 | 91 | | | | | 91 | | | |
| 2 | 105 | 99 | 94 | 90 | 103 | 97 | 93 | 89 | 94 | 90 | 87 | 91 | 88 | 85 | 88 | 86 | 83 | 81 | | | | | 81 | | | |
| 3 | 98 | 91 | 85 | 80 | 96 | 89 | 84 | 79 | 86 | 82 | 78 | 84 | 80 | 77 | 82 | 78 | 75 | 74 | | | | | 74 | | | |
| 4 | 92 | 83 | 77 | 72 | 90 | 82 | 76 | 71 | 80 | 75 | 70 | 78 | 73 | 70 | 76 | 72 | 69 | 67 | | | | | 67 | | | |
| 5 | 87 | 77 | 70 | 65 | 85 | 76 | 70 | 65 | 74 | 69 | 64 | 72 | 68 | 64 | 71 | 66 | 63 | 61 | | | | | 61 | | | |
| 6 | 82 | 72 | 65 | 60 | 80 | 71 | 64 | 59 | 69 | 63 | 59 | 68 | 63 | 59 | 66 | 62 | 58 | 56 | | | | | 56 | | | |
| 7 | 77 | 67 | 60 | 55 | 76 | 66 | 59 | 55 | 65 | 59 | 55 | 63 | 58 | 54 | 62 | 57 | 54 | 52 | | | | | 52 | | | |
| 8 | 73 | 62 | 56 | 51 | 72 | 62 | 55 | 51 | 61 | 55 | 51 | 60 | 54 | 50 | 59 | 54 | 50 | 49 | | | | | 49 | | | |
| 9 | 70 | 59 | 52 | 48 | 68 | 58 | 52 | 47 | 57 | 51 | 47 | 56 | 51 | 47 | 55 | 50 | 47 | 45 | | | | | 45 | | | |
| 10 | 66 | 55 | 49 | 45 | 65 | 55 | 49 | 44 | 54 | 48 | 44 | 53 | 48 | 44 | 52 | 48 | 44 | 43 | | | | | 43 | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 13743 | 13743 | 13743 |
| 5° | 13573 | 13351 | 13098 |
| 10° | 13457 | 12207 | 11116 |
| 15° | 13263 | 10564 | 8324 |
| 20° | 13010 | 8490 | 5329 |
| 25° | 12689 | 6223 | 2736 |
| 30° | 12312 | 4067 | 895 |
| 35° | 11937 | 2257 | 520 |
| 40° | 11505 | 908 | 289 |
| 45° | 11079 | 603 | 113 |
| 50° | 10593 | 345 | 50 |
| 55° | 10108 | 165 | 26 |
| 60° | 9571 | 64 | 0 |
| 65° | 9006 | 36 | 0 |
| 70° | 8082 | 44 | 0 |
| 75° | 6954 | 59 | 0 |
| 80° | 5281 | 0 | 0 |
| 85° | 2174 | 174 | 0 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 11079 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 65.0 | 9.9 |
| 10°-20° | 151.1 | 22.9 |
| 20°-30° | 153.4 | 23.2 |
| 30°-40° | 115.1 | 17.4 |
| 40°-50° | 80.6 | 12.2 |
| 50°-60° | 49.3 | 7.5 |
| 60°-70° | 29.4 | 4.4 |
| 70°-80° | 13.5 | 2.1 |
| 80°-90° | 2.4 | 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° | 369.5 | 56.0 |
| 0°-40° | 484.6 | 73.4 |
| 0°-60° | 614.6 | 93.1 |
| 0°-90° | 659.9 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 659.9 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 725 | 725 | 725 | 725 | 725 | |
| 5° | 714 | 720 | 702 | 689 | 689 | 68 |
| 15° | 676 | 640 | 539 | 456 | 424 | 191 |
| 25° | 607 | 500 | 298 | 170 | 131 | 279 |
| 35° | 516 | 336 | 98 | 29 | 22 | 323 |
| 45° | 414 | 178 | 22 | 7 | 4 | 319 |
| 55° | 306 | 54 | 5 | 2 | 1 | 274 |
| 65° | 201 | 16 | 1 | 1 | 0 | 198 |
| 75° | 95 | 2 | 1 | 1 | 0 | 101 |
| 85° | 10 | 0 | 1 | 1 | 0 | 17 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 725.4 | 725.4 | 725.4 | 725.4 | 725.4 |
| 2.5° | 717.0 | 727.9 | 717.9 | 716.2 | 717.0 |
| 5° | 713.7 | 720.4 | 702.0 | 688.7 | 688.7 |
| 7.5° | 707.9 | 707.9 | 673.7 | 646.2 | 637.8 |
| 10° | 699.5 | 690.4 | 634.5 | 590.3 | 577.8 |
| 12.5° | 688.7 | 667.0 | 588.6 | 526.1 | 506.1 |
| 15° | 676.2 | 639.5 | 538.6 | 456.1 | 424.4 |
| 17.5° | 662.0 | 608.7 | 482.8 | 380.2 | 343.5 |
| 20° | 645.3 | 575.3 | 421.1 | 302.7 | 264.3 |
| 22.5° | 627.0 | 538.6 | 358.5 | 233.5 | 192.6 |
| 25° | 607.0 | 500.3 | 297.7 | 170.1 | 130.9 |
| 27.5° | 586.1 | 460.2 | 241.8 | 116.7 | 80.0 |
| 30° | 562.8 | 418.6 | 185.9 | 69.2 | 40.9 |
| 32.5° | 540.3 | 378.5 | 139.2 | 37.5 | 30.0 |
| 35° | 516.1 | 336.0 | 97.6 | 29.2 | 22.5 |
| 37.5° | 491.1 | 296.0 | 60.0 | 21.7 | 16.7 |
| 40° | 465.2 | 255.1 | 36.7 | 15.8 | 11.7 |
| 42.5° | 440.2 | 216.8 | 29.2 | 10.8 | 7.5 |
| 45° | 413.5 | 177.6 | 22.5 | 6.7 | 4.2 |
| 47.5° | 386.0 | 141.7 | 16.7 | 4.2 | 2.5 |
| 50° | 359.4 | 110.1 | 11.7 | 2.5 | 1.7 |
| 52.5° | 332.7 | 80.9 | 7.5 | 1.7 | 0.8 |
| 55° | 306.0 | 54.2 | 5.0 | 1.7 | 0.8 |
| 57.5° | 279.3 | 38.4 | 3.3 | 0.8 | 0.8 |
| 60° | 252.6 | 30.0 | 1.7 | 0.8 | 0.0 |
| 62.5° | 227.6 | 23.3 | 1.7 | 0.8 | 0.8 |
| 65° | 200.9 | 15.8 | 0.8 | 0.8 | 0.0 |
| 67.5° | 172.6 | 10.0 | 0.8 | 0.8 | 0.0 |
| 70° | 145.9 | 5.8 | 0.8 | 0.8 | 0.0 |
| 72.5° | 120.1 | 3.3 | 0.8 | 0.8 | 0.0 |
| 75° | 95.0 | 1.7 | 0.8 | 0.8 | 0.0 |
| 77.5° | 70.9 | 0.8 | 0.0 | 0.8 | 0.0 |
| 80° | 48.4 | 0.0 | 0.0 | 0.8 | 0.0 |
| 82.5° | 28.3 | 0.0 | 0.0 | 0.8 | 0.0 |
| 85° | 10.0 | 0.0 | 0.8 | 0.8 | 0.0 |
| 87.5° | 0.0 | 0.0 | 0.8 | 0.8 | 0.0 |
| 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 | 15.32 | 16.58 | 15.68 | 16.89 | 17.21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 3H | 19.06 | 20.18 | 19.44 | 20.51 | 20.87 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 4H | 20.37 | 21.41 | 20.77 | 21.76 | 22.14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 6H | 21.22 | 22.18 | 21.64 | 22.55 | 22.95 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 8H | 21.44 | 22.34 | 21.87 | 22.73 | 23.14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 12H | 21.50 | 22.36 | 21.93 | 22.75 | 23.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4H | 2H | 15.07 | 16.11 | 15.48 | 16.46 | 16.85 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 3H | 18.81 | 19.66 | 19.23 | 20.07 | 20.47 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 4H | 20.11 | 20.87 | 20.54 | 21.29 | 21.73 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 6H | 21.03 | 21.68 | 21.49 | 22.13 | 22.60 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 8H | 21.28 | 21.90 | 21.76 | 22.34 | 22.82 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 12H | 21.39 | 21.92 | 21.87 | 22.41 | 22.88 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8H | 4H | 19.96 | 20.57 | 20.43 | 21.02 | 21.49 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 6H | 20.86 | 21.36 | 21.37 | 21.86 | 22.34 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 8H | 21.12 | 21.57 | 21.65 | 22.08 | 22.57 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 12H | 21.24 | 21.63 | 21.75 | 22.12 | 22.70 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12H | 4H | 19.91 | 20.45 | 20.40 | 20.94 | 21.41 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 6H | 20.80 | 21.25 | 21.32 | 21.76 | 22.25 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 8H | 21.08 | 21.47 | 21.59 | 21.96 | 22.53 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |