

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: P1055313

Luminaire Tested: S122R3DRP-H290D840-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055313
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-1)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S122R3DRP-H290D840-X4F0-XX-UDD-F-W
Description: DEFINE 2, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

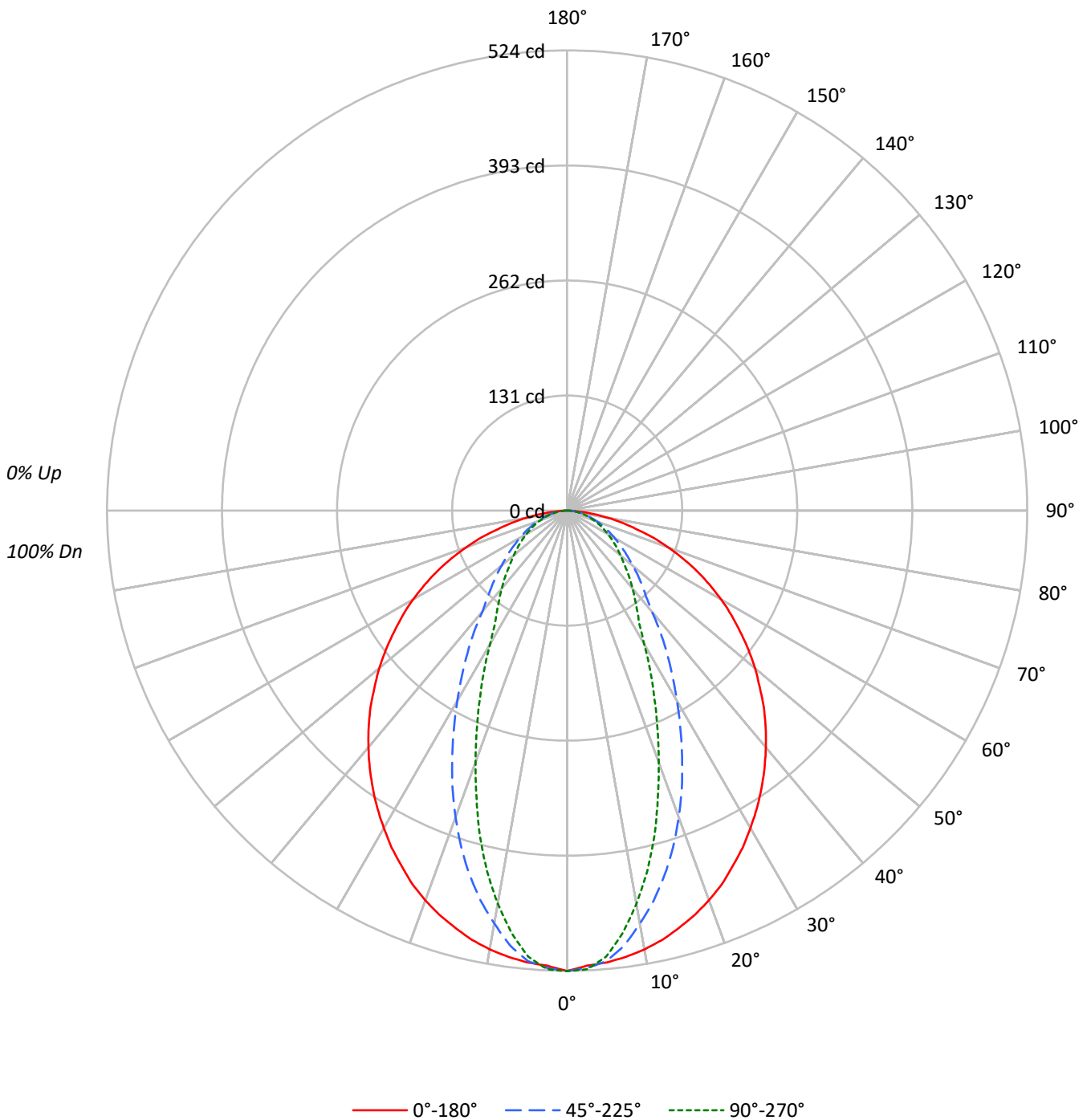
Lumens per Lamp: N/A
Luminaire Lumens: 793.2 lumens
Efficiency: N/A
Efficacy: 67.8 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.71 / 0.9
Luminous Opening: Rectangular (W 0.15' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 11.7
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 | 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 | 110 | 106 | 102 | 99 | 108 | 104 | 101 | 97 | 100 | 97 | 94 | 96 | 94 | 92 | 92 | 91 | 89 | 87 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 102 | 95 | 89 | 84 | 99 | 93 | 87 | 83 | 89 | 85 | 81 | 86 | 82 | 79 | 83 | 80 | 77 | 75 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 94 | 85 | 78 | 72 | 92 | 83 | 77 | 71 | 80 | 75 | 70 | 78 | 73 | 69 | 75 | 71 | 68 | 66 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 87 | 76 | 69 | 63 | 85 | 75 | 68 | 62 | 73 | 66 | 61 | 71 | 65 | 61 | 68 | 64 | 60 | 58 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | 81 | 69 | 61 | 55 | 79 | 68 | 61 | 55 | 66 | 60 | 55 | 64 | 59 | 54 | 63 | 58 | 54 | 52 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 75 | 63 | 55 | 50 | 74 | 63 | 55 | 49 | 61 | 54 | 49 | 59 | 53 | 49 | 58 | 52 | 48 | 46 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | 71 | 58 | 50 | 45 | 69 | 58 | 50 | 45 | 56 | 49 | 44 | 55 | 49 | 44 | 53 | 48 | 44 | 42 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | 66 | 54 | 46 | 41 | 65 | 53 | 46 | 41 | 52 | 45 | 40 | 51 | 45 | 40 | 50 | 44 | 40 | 38 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | 62 | 50 | 43 | 37 | 61 | 49 | 42 | 37 | 48 | 42 | 37 | 47 | 41 | 37 | 46 | 41 | 37 | 35 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | 59 | 47 | 39 | 35 | 58 | 46 | 39 | 34 | 45 | 39 | 34 | 44 | 38 | 34 | 43 | 38 | 34 | 32 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 9935 | 9935 | 9935 |
| 5° | 9823 | 9791 | 9697 |
| 10° | 9759 | 9186 | 8748 |
| 15° | 9650 | 8420 | 7526 |
| 20° | 9520 | 7488 | 6143 |
| 25° | 9332 | 6472 | 4904 |
| 30° | 9131 | 5467 | 3828 |
| 35° | 8925 | 4575 | 3215 |
| 40° | 8708 | 3710 | 2864 |
| 45° | 8483 | 3242 | 2561 |
| 50° | 8232 | 2868 | 2340 |
| 55° | 7951 | 2593 | 2173 |
| 60° | 7677 | 2361 | 2027 |
| 65° | 7312 | 2161 | 1905 |
| 70° | 6775 | 2016 | 1795 |
| 75° | 6002 | 1830 | 1698 |
| 80° | 5117 | 1724 | 1582 |
| 85° | 3522 | 1522 | 1435 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 8483 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 48.1 | 6.1 |
| 10°-20° | 121.3 | 15.3 |
| 20°-30° | 149.5 | 18.8 |
| 30°-40° | 143.4 | 18.1 |
| 40°-50° | 123.7 | 15.6 |
| 50°-60° | 96.0 | 12.1 |
| 60°-70° | 65.7 | 8.3 |
| 70°-80° | 35.7 | 4.5 |
| 80°-90° | 9.8 | 1.2 |
| 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° | 318.9 | 40.2 |
| 0°-40° | 462.3 | 58.3 |
| 0°-60° | 682.0 | 86.0 |
| 0°-90° | 793.2 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 793.2 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 524 | 524 | 524 | 524 | 524 | |
| 5° | 516 | 524 | 515 | 508 | 510 | 49 |
| 15° | 492 | 477 | 429 | 394 | 384 | 139 |
| 25° | 446 | 399 | 310 | 253 | 235 | 206 |
| 35° | 386 | 306 | 198 | 147 | 139 | 241 |
| 45° | 317 | 213 | 121 | 100 | 96 | 244 |
| 55° | 241 | 128 | 78 | 68 | 66 | 215 |
| 65° | 163 | 70 | 48 | 44 | 42 | 161 |
| 75° | 82 | 32 | 25 | 24 | 23 | 88 |
| 85° | 16 | 8 | 7 | 7 | 7 | 21 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 524.4 | 524.4 | 524.4 | 524.4 | 524.4 |
| 2.5° | 518.7 | 527.5 | 521.3 | 521.3 | 522.7 |
| 5° | 516.5 | 524.0 | 514.8 | 508.2 | 509.9 |
| 7.5° | 512.6 | 517.8 | 499.4 | 485.4 | 485.0 |
| 10° | 507.3 | 507.8 | 477.5 | 459.1 | 454.7 |
| 12.5° | 500.7 | 493.7 | 455.1 | 427.5 | 420.9 |
| 15° | 492.0 | 477.1 | 429.3 | 394.2 | 383.7 |
| 17.5° | 482.8 | 460.0 | 401.6 | 357.8 | 343.3 |
| 20° | 472.2 | 439.4 | 371.4 | 321.4 | 304.7 |
| 22.5° | 460.4 | 419.6 | 341.1 | 286.3 | 268.8 |
| 25° | 446.4 | 398.6 | 309.6 | 252.6 | 234.6 |
| 27.5° | 432.8 | 377.1 | 279.3 | 222.7 | 204.3 |
| 30° | 417.4 | 353.8 | 249.9 | 194.2 | 175.0 |
| 32.5° | 402.1 | 330.2 | 222.7 | 167.1 | 152.6 |
| 35° | 385.9 | 306.1 | 197.8 | 147.3 | 139.0 |
| 37.5° | 369.2 | 282.4 | 174.1 | 134.2 | 126.7 |
| 40° | 352.1 | 258.7 | 150.0 | 121.5 | 115.8 |
| 42.5° | 334.6 | 235.5 | 133.3 | 110.9 | 105.7 |
| 45° | 316.6 | 213.1 | 121.0 | 100.0 | 95.6 |
| 47.5° | 297.3 | 190.7 | 109.2 | 90.8 | 86.8 |
| 50° | 279.3 | 169.3 | 97.3 | 82.4 | 79.4 |
| 52.5° | 260.0 | 148.2 | 87.7 | 75.0 | 72.3 |
| 55° | 240.7 | 128.0 | 78.5 | 68.0 | 65.8 |
| 57.5° | 221.9 | 108.7 | 69.7 | 61.4 | 59.6 |
| 60° | 202.6 | 93.4 | 62.3 | 55.2 | 53.5 |
| 62.5° | 182.8 | 81.1 | 55.2 | 49.5 | 47.8 |
| 65° | 163.1 | 69.7 | 48.2 | 43.8 | 42.5 |
| 67.5° | 142.5 | 58.8 | 42.1 | 38.6 | 37.7 |
| 70° | 122.3 | 49.1 | 36.4 | 33.3 | 32.4 |
| 72.5° | 102.6 | 39.9 | 30.7 | 28.5 | 27.6 |
| 75° | 82.0 | 32.0 | 25.0 | 23.7 | 23.2 |
| 77.5° | 64.0 | 25.0 | 20.2 | 19.3 | 18.9 |
| 80° | 46.9 | 18.4 | 15.8 | 14.9 | 14.5 |
| 82.5° | 31.1 | 12.7 | 11.4 | 11.0 | 10.5 |
| 85° | 16.2 | 7.9 | 7.0 | 7.0 | 6.6 |
| 87.5° | 5.3 | 3.5 | 3.5 | 3.5 | 3.1 |
| 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 | 17.59 | 19.05 | 17.95 | 19.37 | 19.68 | 12.39 | 13.86 | 12.76 | 14.17 | 14.49 |
| | 3H | 19.92 | 21.23 | 20.29 | 21.56 | 21.92 | 14.04 | 15.36 | 14.42 | 15.68 | 16.05 |
| | 4H | 20.81 | 22.05 | 21.21 | 22.39 | 22.77 | 14.67 | 15.91 | 15.07 | 16.26 | 16.64 |
| | 6H | 21.47 | 22.61 | 21.89 | 22.98 | 23.37 | 15.17 | 16.31 | 15.58 | 16.68 | 17.07 |
| | 8H | 21.68 | 22.77 | 22.11 | 23.16 | 23.56 | 15.34 | 16.42 | 15.77 | 16.81 | 17.21 |
| | 12H | 21.80 | 22.83 | 22.23 | 23.22 | 23.65 | 15.46 | 16.49 | 15.89 | 16.88 | 17.30 |
| 4H | 2H | 17.60 | 18.84 | 18.00 | 19.18 | 19.56 | 13.11 | 14.34 | 13.51 | 14.69 | 15.07 |
| | 3H | 20.01 | 21.04 | 20.42 | 21.44 | 21.84 | 14.95 | 15.98 | 15.36 | 16.38 | 16.78 |
| | 4H | 20.94 | 21.87 | 21.38 | 22.28 | 22.72 | 15.70 | 16.62 | 16.13 | 17.04 | 17.48 |
| | 6H | 21.72 | 22.52 | 22.18 | 22.97 | 23.43 | 16.32 | 17.12 | 16.78 | 17.56 | 18.02 |
| | 8H | 21.99 | 22.74 | 22.46 | 23.19 | 23.65 | 16.53 | 17.28 | 17.00 | 17.73 | 18.20 |
| | 12H | 22.17 | 22.84 | 22.65 | 23.32 | 23.79 | 16.70 | 17.36 | 17.18 | 17.84 | 18.32 |
| 8H | 4H | 20.94 | 21.69 | 21.40 | 22.13 | 22.60 | 16.08 | 16.83 | 16.55 | 17.27 | 17.74 |
| | 6H | 21.74 | 22.36 | 22.24 | 22.85 | 23.33 | 16.82 | 17.44 | 17.32 | 17.93 | 18.41 |
| | 8H | 22.05 | 22.60 | 22.56 | 23.11 | 23.60 | 17.12 | 17.67 | 17.63 | 18.18 | 18.67 |
| | 12H | 22.28 | 22.76 | 22.79 | 23.26 | 23.82 | 17.36 | 17.85 | 17.87 | 18.34 | 18.91 |
| 12H | 4H | 20.92 | 21.59 | 21.40 | 22.07 | 22.54 | 16.14 | 16.81 | 16.62 | 17.29 | 17.76 |
| | 6H | 21.72 | 22.27 | 22.24 | 22.79 | 23.27 | 16.91 | 17.46 | 17.42 | 17.97 | 18.46 |
| | 8H | 22.05 | 22.54 | 22.56 | 23.04 | 23.60 | 17.26 | 17.75 | 17.77 | 18.24 | 18.81 |