

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: P1055365

Luminaire Tested: S122R3DR-H675D840-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055365
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-H675D840-X4F0-XX-UDD-F-B
Description: DEFINE 2, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

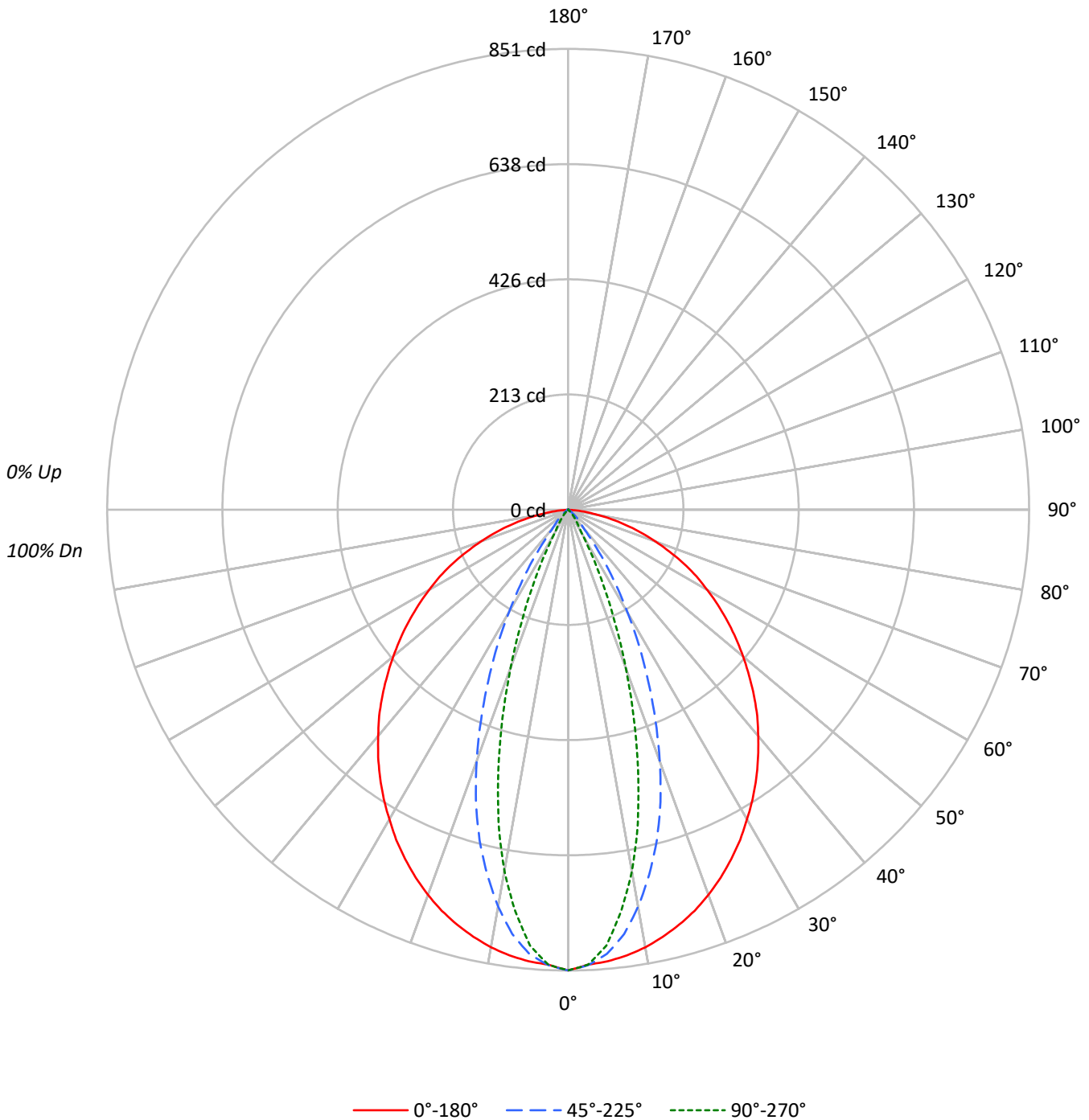
Lumens per Lamp: N/A
Luminaire Lumens: 774.1 lumens
Efficiency: N/A
Efficacy: 32.5 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 0.56 / 0.7
Luminous Opening: Rectangular (W 0.15' x L: 3.9' x H: 0')
CIE Type: Direct

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 | 62 | 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 | 47 | 44 | 43 | | | | | 43 | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 16119 | 16119 | 16119 |
| 5° | 15920 | 15660 | 15363 |
| 10° | 15785 | 14317 | 13038 |
| 15° | 15556 | 12390 | 9764 |
| 20° | 15260 | 9958 | 6250 |
| 25° | 14882 | 7298 | 3209 |
| 30° | 14441 | 4771 | 1048 |
| 35° | 14000 | 2646 | 611 |
| 40° | 13496 | 1063 | 339 |
| 45° | 12998 | 707 | 131 |
| 50° | 12424 | 404 | 59 |
| 55° | 11855 | 195 | 33 |
| 60° | 11227 | 76 | 0 |
| 65° | 10566 | 45 | 0 |
| 70° | 9478 | 55 | 0 |
| 75° | 8162 | 73 | 0 |
| 80° | 6186 | 0 | 0 |
| 85° | 2543 | 217 | 0 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 12998 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 76.3 | 9.9 |
| 10°-20° | 177.2 | 22.9 |
| 20°-30° | 179.9 | 23.2 |
| 30°-40° | 135.0 | 17.4 |
| 40°-50° | 94.5 | 12.2 |
| 50°-60° | 57.9 | 7.5 |
| 60°-70° | 34.5 | 4.5 |
| 70°-80° | 15.9 | 2.1 |
| 80°-90° | 2.9 | 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° | 433.4 | 56.0 |
| 0°-40° | 568.4 | 73.4 |
| 0°-60° | 720.8 | 93.1 |
| 0°-90° | 774.1 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 774.1 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 851 | 851 | 851 | 851 | 851 | |
| 5° | 837 | 845 | 823 | 808 | 808 | 79 |
| 15° | 793 | 750 | 632 | 535 | 498 | 223 |
| 25° | 712 | 587 | 349 | 200 | 154 | 328 |
| 35° | 605 | 394 | 114 | 34 | 26 | 378 |
| 45° | 485 | 208 | 26 | 8 | 5 | 374 |
| 55° | 359 | 64 | 6 | 2 | 1 | 321 |
| 65° | 236 | 19 | 1 | 1 | 0 | 232 |
| 75° | 112 | 2 | 1 | 1 | 0 | 118 |
| 85° | 12 | 0 | 1 | 1 | 0 | 20 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P1055365

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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 850.8 | 850.8 | 850.8 | 850.8 | 850.8 |
| 2.5° | 841.0 | 853.7 | 842.0 | 840.0 | 841.0 |
| 5° | 837.1 | 844.9 | 823.4 | 807.8 | 807.8 |
| 7.5° | 830.3 | 830.3 | 790.2 | 757.9 | 748.1 |
| 10° | 820.5 | 809.7 | 744.2 | 692.4 | 677.7 |
| 12.5° | 807.8 | 782.3 | 690.4 | 617.1 | 593.6 |
| 15° | 793.1 | 750.1 | 631.7 | 534.9 | 497.8 |
| 17.5° | 776.5 | 713.9 | 566.2 | 445.9 | 402.9 |
| 20° | 756.9 | 674.8 | 493.9 | 355.0 | 310.0 |
| 22.5° | 735.4 | 631.7 | 420.5 | 273.8 | 225.9 |
| 25° | 711.9 | 586.8 | 349.1 | 199.5 | 153.5 |
| 27.5° | 687.5 | 539.8 | 283.6 | 136.9 | 93.9 |
| 30° | 660.1 | 490.9 | 218.1 | 81.2 | 47.9 |
| 32.5° | 633.7 | 444.0 | 163.3 | 44.0 | 35.2 |
| 35° | 605.3 | 394.1 | 114.4 | 34.2 | 26.4 |
| 37.5° | 576.0 | 347.2 | 70.4 | 25.4 | 19.6 |
| 40° | 545.7 | 299.2 | 43.0 | 18.6 | 13.7 |
| 42.5° | 516.3 | 254.3 | 34.2 | 12.7 | 8.8 |
| 45° | 485.1 | 208.3 | 26.4 | 7.8 | 4.9 |
| 47.5° | 452.8 | 166.2 | 19.6 | 4.9 | 2.9 |
| 50° | 421.5 | 129.1 | 13.7 | 2.9 | 2.0 |
| 52.5° | 390.2 | 94.9 | 8.8 | 2.0 | 1.0 |
| 55° | 358.9 | 63.6 | 5.9 | 2.0 | 1.0 |
| 57.5° | 327.6 | 45.0 | 3.9 | 1.0 | 1.0 |
| 60° | 296.3 | 35.2 | 2.0 | 1.0 | 0.0 |
| 62.5° | 267.0 | 27.4 | 2.0 | 1.0 | 1.0 |
| 65° | 235.7 | 18.6 | 1.0 | 1.0 | 0.0 |
| 67.5° | 202.4 | 11.7 | 1.0 | 1.0 | 0.0 |
| 70° | 171.1 | 6.8 | 1.0 | 1.0 | 0.0 |
| 72.5° | 140.8 | 3.9 | 1.0 | 1.0 | 0.0 |
| 75° | 111.5 | 2.0 | 1.0 | 1.0 | 0.0 |
| 77.5° | 83.1 | 1.0 | 0.0 | 1.0 | 0.0 |
| 80° | 56.7 | 0.0 | 0.0 | 1.0 | 0.0 |
| 82.5° | 33.2 | 0.0 | 0.0 | 1.0 | 0.0 |
| 85° | 11.7 | 0.0 | 1.0 | 1.0 | 0.0 |
| 87.5° | 0.0 | 0.0 | 1.0 | 1.0 | 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 | 15.87 | 17.13 | 16.24 | 17.44 | 17.76 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 3H | 19.61 | 20.73 | 19.99 | 21.06 | 21.42 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 4H | 20.92 | 21.96 | 21.32 | 22.31 | 22.70 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 6H | 21.78 | 22.73 | 22.19 | 23.10 | 23.50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 8H | 21.99 | 22.89 | 22.42 | 23.28 | 23.69 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 12H | 22.05 | 22.92 | 22.49 | 23.30 | 23.73 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4H | 2H | 15.62 | 16.67 | 16.03 | 17.02 | 17.40 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 3H | 19.36 | 20.22 | 19.78 | 20.62 | 21.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 4H | 20.66 | 21.42 | 21.10 | 21.84 | 22.29 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 6H | 21.58 | 22.24 | 22.04 | 22.68 | 23.15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 8H | 21.84 | 22.45 | 22.31 | 22.90 | 23.37 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 12H | 21.94 | 22.48 | 22.43 | 22.96 | 23.44 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8H | 4H | 20.52 | 21.13 | 20.99 | 21.58 | 22.05 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 6H | 21.42 | 21.91 | 21.92 | 22.41 | 22.89 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 8H | 21.67 | 22.12 | 22.20 | 22.63 | 23.13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 12H | 21.79 | 22.18 | 22.31 | 22.68 | 23.25 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12H | 4H | 20.47 | 21.00 | 20.95 | 21.49 | 21.96 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 6H | 21.35 | 21.80 | 21.88 | 22.31 | 22.81 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 8H | 21.63 | 22.02 | 22.15 | 22.51 | 23.09 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |