

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: P1055778

Luminaire Tested: S123R3DRP-H560D927-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055778
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-4)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123R3DRP-H560D927-X4F0-XX-UDD-F-W
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

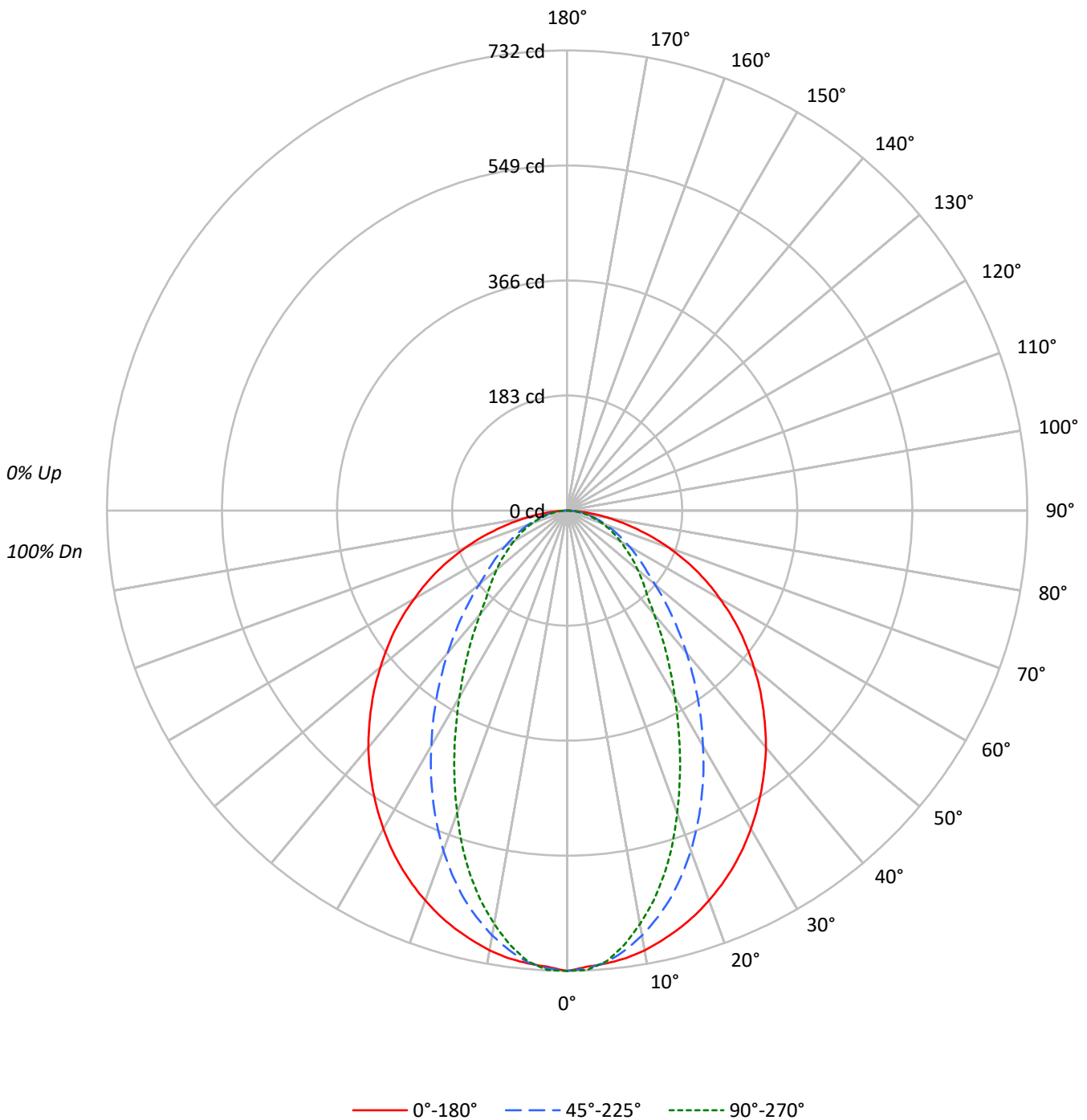
Lumens per Lamp: N/A
Luminaire Lumens: 1284.4 lumens
Efficiency: N/A
Efficacy: 74.2 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.83 / 1.02
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 17.3
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 | 0 | |
| RCR | | | | | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 | | | | 100 |
| 1 | 110 | 106 | 102 | 99 | 107 | 104 | 100 | 97 | 99 | 97 | 94 | 96 | 93 | 91 | 92 | 90 | 88 | | | | 86 | |
| 2 | 101 | 94 | 88 | 83 | 99 | 92 | 87 | 82 | 89 | 84 | 80 | 85 | 82 | 78 | 83 | 79 | 76 | | | | 74 | |
| 3 | 93 | 84 | 77 | 71 | 91 | 82 | 76 | 70 | 80 | 74 | 69 | 77 | 72 | 68 | 74 | 70 | 67 | | | | 65 | |
| 4 | 86 | 75 | 68 | 61 | 84 | 74 | 67 | 61 | 72 | 65 | 60 | 70 | 64 | 59 | 67 | 63 | 59 | | | | 57 | |
| 5 | 80 | 68 | 60 | 54 | 78 | 67 | 60 | 54 | 65 | 58 | 53 | 63 | 57 | 53 | 62 | 56 | 52 | | | | 50 | |
| 6 | 75 | 62 | 54 | 48 | 73 | 61 | 54 | 48 | 60 | 53 | 48 | 58 | 52 | 47 | 57 | 51 | 47 | | | | 45 | |
| 7 | 70 | 57 | 49 | 43 | 68 | 56 | 49 | 43 | 55 | 48 | 43 | 53 | 47 | 43 | 52 | 47 | 42 | | | | 40 | |
| 8 | 65 | 53 | 45 | 39 | 64 | 52 | 44 | 39 | 51 | 44 | 39 | 49 | 43 | 39 | 48 | 43 | 39 | | | | 37 | |
| 9 | 61 | 49 | 41 | 36 | 60 | 48 | 41 | 36 | 47 | 40 | 36 | 46 | 40 | 35 | 45 | 39 | 35 | | | | 34 | |
| 10 | 58 | 45 | 38 | 33 | 56 | 45 | 38 | 33 | 44 | 37 | 33 | 43 | 37 | 33 | 42 | 37 | 33 | | | | 31 | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 8829 | 8829 | 8829 |
| 5° | 8750 | 8731 | 8710 |
| 10° | 8697 | 8402 | 8174 |
| 15° | 8594 | 7958 | 7465 |
| 20° | 8468 | 7386 | 6564 |
| 25° | 8321 | 6726 | 5647 |
| 30° | 8137 | 6017 | 4774 |
| 35° | 7940 | 5321 | 4031 |
| 40° | 7742 | 4646 | 3389 |
| 45° | 7509 | 4007 | 2989 |
| 50° | 7274 | 3412 | 2744 |
| 55° | 7058 | 3039 | 2533 |
| 60° | 6761 | 2746 | 2363 |
| 65° | 6484 | 2516 | 2219 |
| 70° | 6042 | 2316 | 2087 |
| 75° | 5408 | 2143 | 1966 |
| 80° | 4638 | 1979 | 1826 |
| 85° | 3265 | 1812 | 1743 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7509 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 67.9 | 5.3 |
| 10°-20° | 179.6 | 14.0 |
| 20°-30° | 236.6 | 18.4 |
| 30°-40° | 240.1 | 18.7 |
| 40°-50° | 208.7 | 16.3 |
| 50°-60° | 163.5 | 12.7 |
| 60°-70° | 111.1 | 8.7 |
| 70°-80° | 60.2 | 4.7 |
| 80°-90° | 16.6 | 1.3 |
| 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° | 484.1 | 37.7 |
| 0°-40° | 724.2 | 56.4 |
| 0°-60° | 1096.5 | 85.4 |
| 0°-90° | 1284.4 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1284.4 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 732 | 732 | 732 | 732 | 732 | |
| 5° | 723 | 732 | 721 | 715 | 720 | 69 |
| 15° | 688 | 679 | 638 | 606 | 598 | 194 |
| 25° | 626 | 588 | 506 | 443 | 424 | 288 |
| 35° | 540 | 476 | 362 | 292 | 274 | 337 |
| 45° | 440 | 353 | 235 | 181 | 175 | 340 |
| 55° | 336 | 233 | 145 | 123 | 120 | 300 |
| 65° | 227 | 126 | 88 | 79 | 78 | 224 |
| 75° | 116 | 58 | 46 | 43 | 42 | 124 |
| 85° | 24 | 14 | 13 | 12 | 13 | 30 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 732.3 | 732.3 | 732.3 | 732.3 | 732.3 |
| 2.5° | 726.3 | 735.6 | 728.5 | 729.1 | 731.3 |
| 5° | 723.0 | 731.8 | 721.4 | 714.8 | 719.7 |
| 7.5° | 718.1 | 724.7 | 705.5 | 695.1 | 696.7 |
| 10° | 710.4 | 712.6 | 686.3 | 669.9 | 667.7 |
| 12.5° | 700.0 | 696.2 | 663.3 | 639.2 | 635.4 |
| 15° | 688.5 | 678.7 | 637.6 | 606.4 | 598.1 |
| 17.5° | 675.4 | 658.9 | 607.5 | 569.1 | 556.5 |
| 20° | 660.0 | 637.0 | 575.7 | 526.9 | 511.6 |
| 22.5° | 643.6 | 614.0 | 541.2 | 483.7 | 467.8 |
| 25° | 625.5 | 587.7 | 505.6 | 442.6 | 424.5 |
| 27.5° | 605.8 | 561.4 | 469.4 | 402.1 | 381.8 |
| 30° | 584.5 | 534.1 | 432.2 | 362.6 | 342.9 |
| 32.5° | 562.5 | 505.0 | 396.6 | 325.9 | 306.7 |
| 35° | 539.5 | 475.5 | 361.5 | 292.5 | 273.9 |
| 37.5° | 516.0 | 445.3 | 327.6 | 260.7 | 243.2 |
| 40° | 491.9 | 414.6 | 295.2 | 231.2 | 215.3 |
| 42.5° | 466.1 | 384.0 | 264.0 | 203.2 | 191.2 |
| 45° | 440.4 | 353.3 | 235.0 | 181.3 | 175.3 |
| 47.5° | 414.6 | 322.1 | 207.6 | 166.0 | 160.5 |
| 50° | 387.8 | 292.0 | 181.9 | 151.7 | 146.3 |
| 52.5° | 361.5 | 262.4 | 160.5 | 138.0 | 134.2 |
| 55° | 335.8 | 233.3 | 144.6 | 123.2 | 120.5 |
| 57.5° | 308.9 | 204.9 | 128.7 | 111.7 | 108.5 |
| 60° | 280.4 | 177.5 | 113.9 | 99.7 | 98.0 |
| 62.5° | 254.7 | 151.7 | 100.8 | 89.3 | 87.6 |
| 65° | 227.3 | 126.0 | 88.2 | 78.9 | 77.8 |
| 67.5° | 199.4 | 104.6 | 76.7 | 69.0 | 68.5 |
| 70° | 171.4 | 88.2 | 65.7 | 59.7 | 59.2 |
| 72.5° | 144.1 | 72.9 | 55.3 | 51.5 | 50.4 |
| 75° | 116.1 | 58.1 | 46.0 | 42.7 | 42.2 |
| 77.5° | 90.9 | 44.9 | 36.7 | 34.5 | 34.0 |
| 80° | 66.8 | 33.4 | 28.5 | 26.8 | 26.3 |
| 82.5° | 43.8 | 23.0 | 20.3 | 19.2 | 19.2 |
| 85° | 23.6 | 14.2 | 13.1 | 12.1 | 12.6 |
| 87.5° | 8.2 | 6.0 | 6.0 | 5.5 | 6.0 |
| 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 | 18.13 | 19.62 | 18.49 | 19.93 | 20.25 | 13.27 | 14.77 | 13.64 | 15.08 | 15.39 |
| | 3H | 20.01 | 21.35 | 20.39 | 21.68 | 22.04 | 14.90 | 16.24 | 15.28 | 16.57 | 16.93 |
| | 4H | 20.77 | 22.02 | 21.17 | 22.37 | 22.75 | 15.54 | 16.79 | 15.94 | 17.14 | 17.52 |
| | 6H | 21.33 | 22.49 | 21.75 | 22.86 | 23.25 | 16.03 | 17.19 | 16.44 | 17.56 | 17.95 |
| | 8H | 21.51 | 22.61 | 21.93 | 23.00 | 23.40 | 16.20 | 17.30 | 16.63 | 17.69 | 18.10 |
| | 12H | 21.60 | 22.66 | 22.03 | 23.04 | 23.47 | 16.32 | 17.38 | 16.76 | 17.76 | 18.19 |
| 4H | 2H | 18.17 | 19.43 | 18.57 | 19.78 | 20.16 | 14.00 | 15.26 | 14.40 | 15.61 | 15.99 |
| | 3H | 20.19 | 21.23 | 20.60 | 21.63 | 22.03 | 15.82 | 16.87 | 16.23 | 17.27 | 17.67 |
| | 4H | 21.01 | 21.95 | 21.44 | 22.36 | 22.80 | 16.57 | 17.51 | 17.00 | 17.93 | 18.36 |
| | 6H | 21.69 | 22.51 | 22.15 | 22.95 | 23.41 | 17.18 | 18.00 | 17.64 | 18.44 | 18.90 |
| | 8H | 21.92 | 22.68 | 22.38 | 23.13 | 23.59 | 17.39 | 18.16 | 17.86 | 18.60 | 19.07 |
| | 12H | 22.07 | 22.75 | 22.55 | 23.23 | 23.70 | 17.56 | 18.24 | 18.05 | 18.72 | 19.19 |
| 8H | 4H | 21.03 | 21.79 | 21.49 | 22.24 | 22.71 | 16.95 | 17.72 | 17.42 | 18.16 | 18.63 |
| | 6H | 21.76 | 22.39 | 22.26 | 22.88 | 23.36 | 17.68 | 18.31 | 18.18 | 18.80 | 19.28 |
| | 8H | 22.03 | 22.59 | 22.54 | 23.10 | 23.59 | 17.97 | 18.54 | 18.48 | 19.05 | 19.53 |
| | 12H | 22.24 | 22.74 | 22.75 | 23.23 | 23.80 | 18.22 | 18.72 | 18.73 | 19.21 | 19.77 |
| 12H | 4H | 21.02 | 21.70 | 21.50 | 22.18 | 22.65 | 17.01 | 17.69 | 17.49 | 18.17 | 18.64 |
| | 6H | 21.74 | 22.31 | 22.26 | 22.82 | 23.31 | 17.76 | 18.33 | 18.28 | 18.84 | 19.33 |
| | 8H | 22.05 | 22.55 | 22.56 | 23.04 | 23.61 | 18.11 | 18.61 | 18.62 | 19.10 | 19.67 |