

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: P1055776

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

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055776  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-5)  
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-B  
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 2700K CCT, 90 CRI LEDS  
Ballast/Driver: -

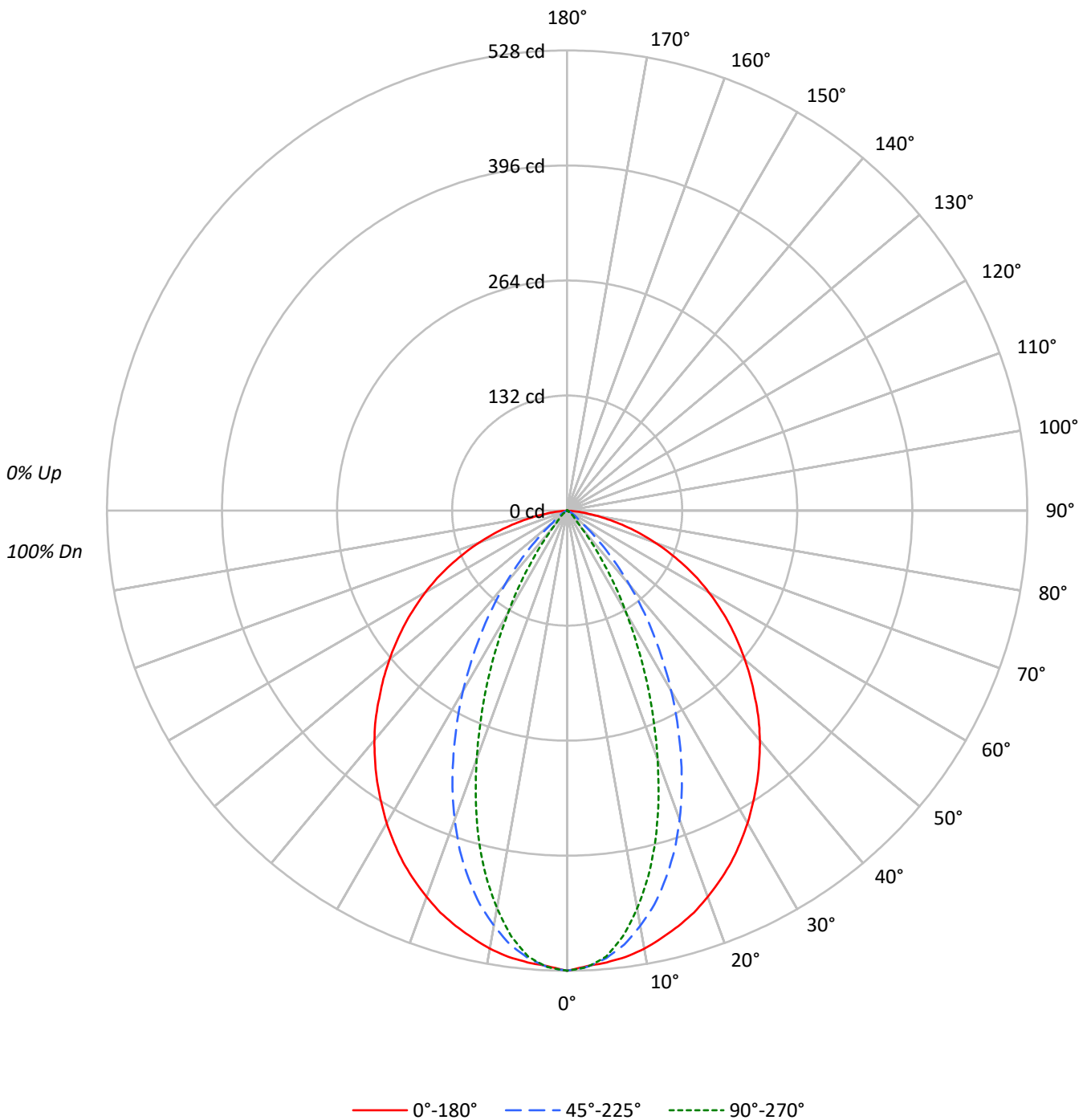
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 617.9 lumens  
Efficiency: N/A  
Efficacy: 35.7 lumens/watt  
Spacing Criteria (0/90/45): 1.17 / 0.7 / 0.86  
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 (Ain): 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 | 108 | 105 | 103 | 109 | 106 | 104 | 101 | 102 | 100 | 98  | 98  | 97  | 95  | 95  | 93  | 92  | 90  |    |    |    |    | 90  |   |  |   |
| 2   | 105 | 99  | 94  | 89  | 102 | 97  | 92  | 88  | 93  | 90  | 86  | 90  | 87  | 84  | 87  | 85  | 83  | 81  |    |    |    |    | 81  |   |  |   |
| 3   | 98  | 90  | 84  | 79  | 96  | 88  | 83  | 78  | 86  | 81  | 77  | 83  | 79  | 76  | 81  | 77  | 74  | 73  |    |    |    |    | 73  |   |  |   |
| 4   | 92  | 82  | 75  | 70  | 90  | 81  | 75  | 70  | 79  | 73  | 69  | 77  | 72  | 68  | 75  | 71  | 67  | 65  |    |    |    |    | 65  |   |  |   |
| 5   | 86  | 76  | 69  | 63  | 84  | 75  | 68  | 63  | 73  | 67  | 62  | 71  | 66  | 62  | 69  | 65  | 61  | 59  |    |    |    |    | 59  |   |  |   |
| 6   | 81  | 70  | 63  | 58  | 79  | 69  | 62  | 57  | 67  | 61  | 57  | 66  | 61  | 56  | 64  | 60  | 56  | 54  |    |    |    |    | 54  |   |  |   |
| 7   | 76  | 65  | 58  | 53  | 74  | 64  | 57  | 52  | 63  | 57  | 52  | 61  | 56  | 52  | 60  | 55  | 52  | 50  |    |    |    |    | 50  |   |  |   |
| 8   | 71  | 60  | 53  | 48  | 70  | 60  | 53  | 48  | 58  | 52  | 48  | 57  | 52  | 48  | 56  | 51  | 48  | 46  |    |    |    |    | 46  |   |  |   |
| 9   | 68  | 56  | 49  | 45  | 66  | 56  | 49  | 45  | 55  | 49  | 45  | 54  | 48  | 44  | 53  | 48  | 44  | 43  |    |    |    |    | 43  |   |  |   |
| 10  | 64  | 53  | 46  | 42  | 63  | 52  | 46  | 42  | 51  | 46  | 41  | 51  | 45  | 41  | 50  | 45  | 41  | 40  |    |    |    |    | 40  |   |  |   |

**AVERAGE LUMINANCE (cd/sqm):**

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 6366 | 6366 | 6366 |
| 5°  | 6298 | 6238 | 6218 |
| 10° | 6250 | 5922 | 5673 |
| 15° | 6160 | 5456 | 4888 |
| 20° | 6051 | 4842 | 3894 |
| 25° | 5924 | 4103 | 2871 |
| 30° | 5765 | 3324 | 1884 |
| 35° | 5594 | 2532 | 1032 |
| 40° | 5414 | 1750 | 354  |
| 45° | 5202 | 1018 | 206  |
| 50° | 4993 | 401  | 124  |
| 55° | 4778 | 254  | 57   |
| 60° | 4531 | 159  | 27   |
| 65° | 4219 | 77   | 14   |
| 70° | 3786 | 39   | 18   |
| 75° | 3214 | 23   | 23   |
| 80° | 2395 | 35   | 0    |
| 85° | 913  | 0    | 0    |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5202 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 48.4   | 7.8       |
| 10°-20°   | 122.9  | 19.9      |
| 20°-30°   | 146.6  | 23.7      |
| 30°-40°   | 124.3  | 20.1      |
| 40°-50°   | 84.5   | 13.7      |
| 50°-60°   | 52.4   | 8.5       |
| 60°-70°   | 26.5   | 4.3       |
| 70°-80°   | 10.8   | 1.7       |
| 80°-90°   | 1.6    | 0.3       |
| 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°    | 317.8  | 51.4      |
| 0°-40°    | 442.1  | 71.6      |
| 0°-60°    | 579.0  | 93.7      |
| 0°-90°    | 617.9  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 617.9  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 528 | 528   | 528 | 528   | 528 |      |
| 5°  | 520 | 525   | 515 | 512   | 514 | 49   |
| 15° | 494 | 481   | 437 | 403   | 392 | 139  |
| 25° | 445 | 404   | 308 | 238   | 216 | 205  |
| 35° | 380 | 305   | 172 | 93    | 70  | 238  |
| 45° | 305 | 200   | 60  | 15    | 12  | 236  |
| 55° | 227 | 101   | 12  | 4     | 3   | 203  |
| 65° | 148 | 25    | 3   | 0     | 0   | 146  |
| 75° | 69  | 4     | 0   | 0     | 0   | 73   |
| 85° | 7   | 0     | 0   | 0     | 0   | 12   |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 528.0 | 528.0 | 528.0 | 528.0 | 528.0 |
| 2.5°  | 523.1 | 530.2 | 524.2 | 523.7 | 524.2 |
| 5°    | 520.4 | 525.3 | 515.4 | 511.6 | 513.8 |
| 7.5°  | 516.5 | 518.7 | 502.3 | 492.4 | 492.4 |
| 10°   | 510.5 | 508.9 | 483.7 | 467.2 | 463.4 |
| 12.5° | 502.3 | 495.7 | 462.9 | 437.1 | 430.0 |
| 15°   | 493.5 | 480.9 | 437.1 | 402.6 | 391.6 |
| 17.5° | 483.7 | 464.5 | 409.2 | 364.3 | 348.4 |
| 20°   | 471.6 | 445.9 | 377.4 | 322.6 | 303.5 |
| 22.5° | 459.0 | 425.6 | 344.0 | 279.9 | 258.5 |
| 25°   | 445.3 | 403.7 | 308.4 | 238.3 | 215.8 |
| 27.5° | 430.0 | 380.7 | 273.3 | 198.3 | 173.6 |
| 30°   | 414.1 | 356.6 | 238.8 | 159.9 | 135.3 |
| 32.5° | 397.1 | 331.4 | 204.3 | 124.9 | 101.9 |
| 35°   | 380.1 | 305.1 | 172.0 | 92.6  | 70.1  |
| 37.5° | 362.1 | 278.8 | 140.8 | 64.1  | 44.4  |
| 40°   | 344.0 | 253.1 | 111.2 | 40.5  | 22.5  |
| 42.5° | 325.4 | 226.2 | 84.4  | 20.3  | 15.3  |
| 45°   | 305.1 | 199.9 | 59.7  | 14.8  | 12.1  |
| 47.5° | 285.9 | 174.7 | 39.4  | 12.1  | 9.3   |
| 50°   | 266.2 | 149.5 | 21.4  | 8.8   | 6.6   |
| 52.5° | 246.5 | 125.4 | 15.3  | 6.6   | 4.4   |
| 55°   | 227.3 | 100.8 | 12.1  | 4.4   | 2.7   |
| 57.5° | 207.6 | 79.4  | 9.3   | 2.7   | 1.6   |
| 60°   | 187.9 | 58.6  | 6.6   | 1.6   | 1.1   |
| 62.5° | 168.2 | 40.5  | 4.4   | 1.1   | 0.5   |
| 65°   | 147.9 | 24.6  | 2.7   | 0.5   | 0.5   |
| 67.5° | 127.1 | 17.0  | 1.6   | 0.5   | 0.5   |
| 70°   | 107.4 | 12.1  | 1.1   | 0.5   | 0.5   |
| 72.5° | 87.6  | 7.7   | 0.5   | 0.5   | 0.0   |
| 75°   | 69.0  | 4.4   | 0.5   | 0.5   | 0.5   |
| 77.5° | 50.9  | 1.6   | 0.5   | 0.5   | 0.0   |
| 80°   | 34.5  | 0.5   | 0.5   | 0.5   | 0.0   |
| 82.5° | 19.2  | 0.0   | 0.5   | 0.5   | 0.0   |
| 85°   | 6.6   | 0.0   | 0.0   | 0.5   | 0.0   |
| 87.5° | 0.0   | 0.0   | 0.0   | 0.5   | 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 | 15.48            | 16.76 | 15.84 | 17.07 | 17.39 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 3H   | 17.43            | 18.56 | 17.81 | 18.89 | 19.26 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 4H   | 18.25            | 19.31 | 18.66 | 19.66 | 20.04 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 6H   | 18.80            | 19.77 | 19.22 | 20.14 | 20.54 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 8H   | 18.93            | 19.85 | 19.36 | 20.24 | 20.64 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 12H  | 18.96            | 19.83 | 19.39 | 20.21 | 20.64 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
| 4H              | 2H   | 15.24            | 16.30 | 15.64 | 16.65 | 17.03 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 3H   | 17.20            | 18.06 | 17.61 | 18.46 | 18.87 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 4H   | 18.01            | 18.78 | 18.45 | 19.20 | 19.64 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 6H   | 18.61            | 19.27 | 19.07 | 19.72 | 20.19 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 8H   | 18.76            | 19.38 | 19.23 | 19.83 | 20.30 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 12H  | 18.81            | 19.35 | 19.30 | 19.84 | 20.31 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
| 8H              | 4H   | 17.87            | 18.49 | 18.34 | 18.93 | 19.40 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 6H   | 18.45            | 18.95 | 18.95 | 19.45 | 19.93 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 8H   | 18.60            | 19.05 | 19.12 | 19.56 | 20.06 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 12H  | 18.66            | 19.05 | 19.17 | 19.55 | 20.12 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
| 12H             | 4H   | 17.82            | 18.36 | 18.31 | 18.85 | 19.32 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 6H   | 18.38            | 18.83 | 18.91 | 19.35 | 19.84 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 8H   | 18.55            | 18.95 | 19.07 | 19.44 | 20.02 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |