

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P1059452

Luminaire Tested: S123RDR-H1000D927-X4F0-XX-UDD-WVL-S

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1059452  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2406-143-67 )  
Test Lab: INNOVATION CENTER  
Issue Date: 8/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123RDR-H1000D927-X4F0-XX-UDD-WVL-S  
Description: DEFINE 3 SILVER REGRESSED DIRECT RECESSED HOUSING WITH WHITE STRAIGHT BLADE  
LOUVER WITH DIFFUSER  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 2700K CCT, 90 CRI LEDS  
Ballast/Driver: -

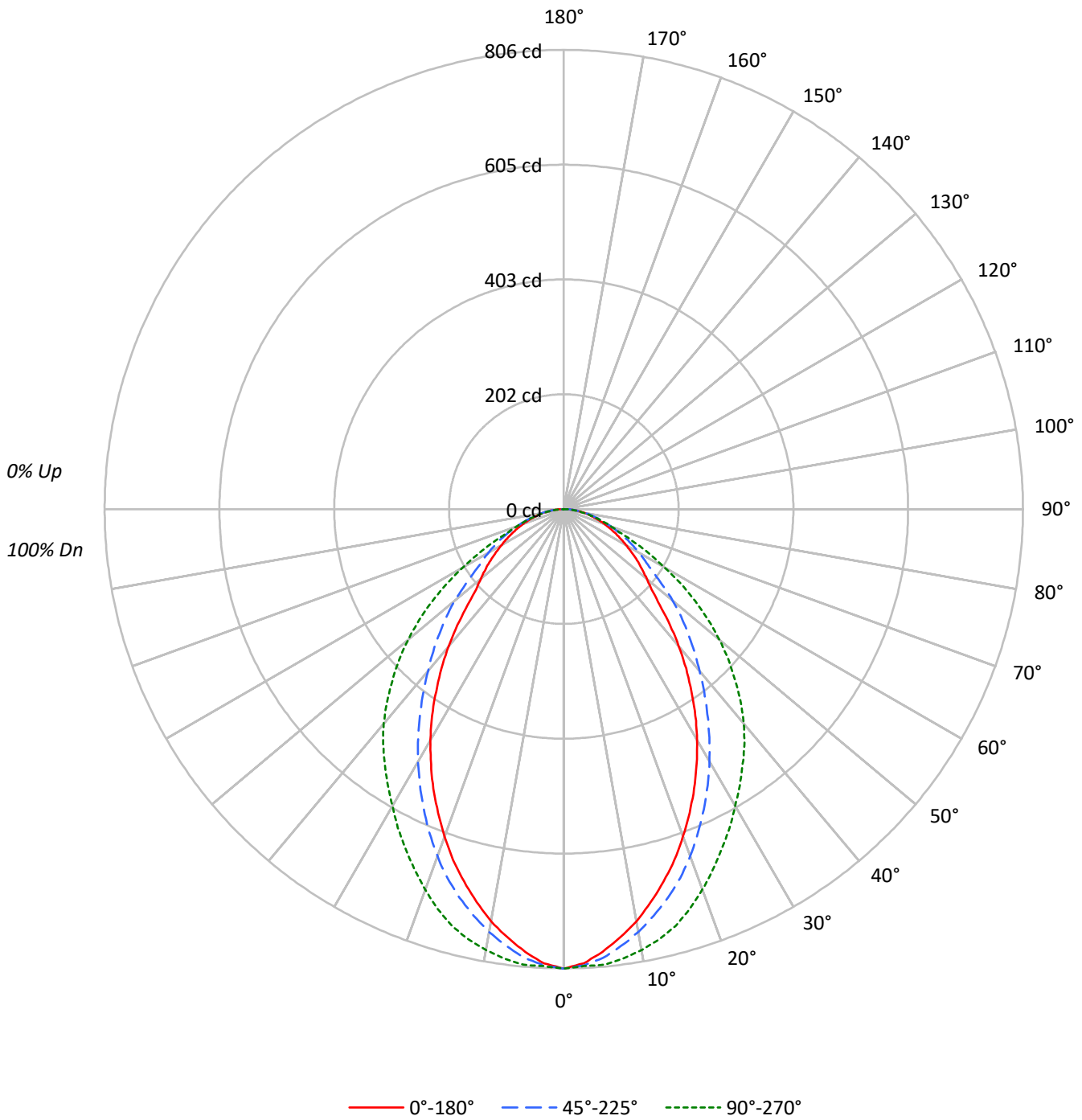
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1456.7 lumens  
Efficiency: N/A  
Efficacy: 46.7 lumens/watt  
Spacing Criteria (0/90/45): 0.93 / 1.12 / 1.1  
Luminous Opening: Rectangular (W 0.23' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 31.2  
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 | 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 | 100 | 97  | 100 | 97  | 94  | 96  | 93  | 91  | 92  | 90  | 89  | 87  |    |    |    |   |
| 2   | 102 | 94  | 88  | 83  | 99  | 92  | 87  | 82  | 89  | 84  | 80  | 86  | 82  | 78  | 83  | 80  | 77  | 75  |    |    |    |   |
| 3   | 94  | 84  | 77  | 71  | 91  | 83  | 76  | 71  | 80  | 74  | 69  | 77  | 72  | 68  | 75  | 71  | 67  | 65  |    |    |    |   |
| 4   | 87  | 76  | 68  | 62  | 84  | 74  | 67  | 61  | 72  | 66  | 61  | 70  | 64  | 60  | 68  | 63  | 59  | 57  |    |    |    |   |
| 5   | 80  | 69  | 60  | 54  | 78  | 68  | 60  | 54  | 66  | 59  | 54  | 64  | 58  | 53  | 62  | 57  | 53  | 51  |    |    |    |   |
| 6   | 75  | 63  | 54  | 48  | 73  | 62  | 54  | 48  | 60  | 53  | 48  | 58  | 52  | 47  | 57  | 51  | 47  | 45  |    |    |    |   |
| 7   | 70  | 57  | 49  | 44  | 68  | 56  | 49  | 43  | 55  | 48  | 43  | 54  | 47  | 43  | 52  | 47  | 43  | 41  |    |    |    |   |
| 8   | 65  | 53  | 45  | 39  | 64  | 52  | 45  | 39  | 51  | 44  | 39  | 50  | 43  | 39  | 48  | 43  | 39  | 37  |    |    |    |   |
| 9   | 61  | 49  | 41  | 36  | 60  | 48  | 41  | 36  | 47  | 40  | 36  | 46  | 40  | 36  | 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°  | 9469 | 9469 | 9469 |
| 5°  | 9194 | 9317 | 9462 |
| 10° | 8759 | 8984 | 9367 |
| 15° | 8229 | 8585 | 9206 |
| 20° | 7644 | 8105 | 8885 |
| 25° | 7018 | 7533 | 8514 |
| 30° | 6346 | 6935 | 8153 |
| 35° | 5598 | 6302 | 7847 |
| 40° | 4812 | 5681 | 7536 |
| 45° | 3956 | 5118 | 7064 |
| 50° | 3471 | 4560 | 6511 |
| 55° | 3212 | 3890 | 5767 |
| 60° | 2952 | 3574 | 4774 |
| 65° | 2759 | 3284 | 3757 |
| 70° | 2596 | 2987 | 2987 |
| 75° | 2445 | 2745 | 2572 |
| 80° | 2299 | 2495 | 2171 |
| 85° | 2169 | 2425 | 1657 |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 7064 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 74.6   | 5.1       |
| 10°-20°   | 199.9  | 13.7      |
| 20°-30°   | 271.0  | 18.6      |
| 30°-40°   | 283.4  | 19.5      |
| 40°-50°   | 245.8  | 16.9      |
| 50°-60°   | 182.8  | 12.6      |
| 60°-70°   | 117.3  | 8.1       |
| 70°-80°   | 62.9   | 4.3       |
| 80°-90°   | 19.0   | 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°    | 545.5  | 37.4      |
| 0°-40°    | 828.9  | 56.9      |
| 0°-60°    | 1257.5 | 86.3      |
| 0°-90°    | 1456.7 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1456.7 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 806 | 806   | 806 | 806   | 806 |      |
| 5°  | 780 | 793   | 790 | 796   | 803 | 73   |
| 15° | 677 | 693   | 706 | 735   | 757 | 190  |
| 25° | 542 | 559   | 581 | 620   | 657 | 248  |
| 35° | 390 | 409   | 440 | 495   | 547 | 244  |
| 45° | 238 | 256   | 308 | 374   | 425 | 187  |
| 55° | 157 | 161   | 190 | 244   | 282 | 140  |
| 65° | 99  | 108   | 118 | 126   | 135 | 99   |
| 75° | 54  | 62    | 60  | 58    | 57  | 57   |
| 85° | 16  | 20    | 18  | 15    | 12  | 18   |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 806.4 | 806.4 | 806.4 | 806.4 | 806.4 |
| 2.5°  | 797.9 | 809.3 | 801.7 | 801.7 | 802.7 |
| 5°    | 780.0 | 793.2 | 790.4 | 796.0 | 802.7 |
| 7.5°  | 758.2 | 772.4 | 773.4 | 786.6 | 796.0 |
| 10°   | 734.6 | 748.8 | 753.5 | 772.4 | 785.6 |
| 12.5° | 706.2 | 722.3 | 730.8 | 754.5 | 773.4 |
| 15°   | 676.9 | 693.0 | 706.2 | 734.6 | 757.3 |
| 17.5° | 645.7 | 661.8 | 678.8 | 711.0 | 735.5 |
| 20°   | 611.7 | 628.7 | 648.6 | 680.7 | 711.0 |
| 22.5° | 576.7 | 594.7 | 615.5 | 650.5 | 684.5 |
| 25°   | 541.7 | 558.7 | 581.4 | 620.2 | 657.1 |
| 27.5° | 504.9 | 522.8 | 546.5 | 589.0 | 630.6 |
| 30°   | 468.0 | 485.9 | 511.5 | 556.9 | 601.3 |
| 32.5° | 430.2 | 448.1 | 475.5 | 526.6 | 574.8 |
| 35°   | 390.5 | 409.4 | 439.6 | 495.4 | 547.4 |
| 37.5° | 352.6 | 370.6 | 404.6 | 466.1 | 520.9 |
| 40°   | 313.9 | 332.8 | 370.6 | 436.8 | 491.6 |
| 42.5° | 276.1 | 295.0 | 339.4 | 405.6 | 459.5 |
| 45°   | 238.2 | 256.2 | 308.2 | 374.4 | 425.4 |
| 47.5° | 208.9 | 222.2 | 278.9 | 341.3 | 392.4 |
| 50°   | 190.0 | 194.8 | 249.6 | 309.2 | 356.4 |
| 52.5° | 173.0 | 176.8 | 217.4 | 277.0 | 319.6 |
| 55°   | 156.9 | 160.7 | 190.0 | 243.9 | 281.7 |
| 57.5° | 140.9 | 145.6 | 169.2 | 209.9 | 243.9 |
| 60°   | 125.7 | 131.4 | 152.2 | 179.6 | 203.3 |
| 62.5° | 112.5 | 119.1 | 135.2 | 152.2 | 168.3 |
| 65°   | 99.3  | 107.8 | 118.2 | 125.7 | 135.2 |
| 67.5° | 87.0  | 96.4  | 102.1 | 104.0 | 104.9 |
| 70°   | 75.6  | 85.1  | 87.0  | 87.0  | 87.0  |
| 72.5° | 64.3  | 74.7  | 72.8  | 71.9  | 70.9  |
| 75°   | 53.9  | 62.4  | 60.5  | 57.7  | 56.7  |
| 77.5° | 43.5  | 51.1  | 48.2  | 46.3  | 43.5  |
| 80°   | 34.0  | 39.7  | 36.9  | 35.0  | 32.1  |
| 82.5° | 25.5  | 29.3  | 26.5  | 24.6  | 21.7  |
| 85°   | 16.1  | 19.9  | 18.0  | 15.1  | 12.3  |
| 87.5° | 8.5   | 11.3  | 9.5   | 8.5   | 4.7   |
| 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 | 14.60            | 16.08 | 14.96 | 16.39 | 16.71 | 17.35          | 18.84 | 17.72 | 19.15 | 19.46 |
|                 | 3H   | 16.31            | 17.64 | 16.68 | 17.96 | 18.33 | 18.37          | 19.70 | 18.75 | 20.03 | 20.39 |
|                 | 4H   | 16.97            | 18.21 | 17.37 | 18.56 | 18.94 | 18.74          | 19.98 | 19.14 | 20.33 | 20.71 |
|                 | 6H   | 17.47            | 18.62 | 17.88 | 18.98 | 19.38 | 18.99          | 20.14 | 19.41 | 20.51 | 20.90 |
|                 | 8H   | 17.65            | 18.74 | 18.07 | 19.13 | 19.53 | 19.06          | 20.16 | 19.49 | 20.55 | 20.95 |
|                 | 12H  | 17.77            | 18.82 | 18.20 | 19.20 | 19.63 | 19.10          | 20.15 | 19.53 | 20.53 | 20.96 |
| 4H              | 2H   | 15.37            | 16.62 | 15.77 | 16.97 | 17.35 | 17.62          | 18.87 | 18.02 | 19.22 | 19.60 |
|                 | 3H   | 17.30            | 18.33 | 17.71 | 18.73 | 19.13 | 18.88          | 19.91 | 19.29 | 20.31 | 20.71 |
|                 | 4H   | 18.11            | 19.04 | 18.54 | 19.45 | 19.89 | 19.37          | 20.29 | 19.80 | 20.71 | 21.15 |
|                 | 6H   | 18.75            | 19.56 | 19.21 | 20.00 | 20.46 | 19.75          | 20.55 | 20.20 | 21.00 | 21.46 |
|                 | 8H   | 18.98            | 19.73 | 19.44 | 20.18 | 20.64 | 19.86          | 20.61 | 20.32 | 21.06 | 21.53 |
|                 | 12H  | 19.15            | 19.82 | 19.63 | 20.30 | 20.77 | 19.93          | 20.60 | 20.41 | 21.08 | 21.55 |
| 8H              | 4H   | 18.43            | 19.18 | 18.89 | 19.63 | 20.10 | 19.56          | 20.31 | 20.02 | 20.76 | 21.22 |
|                 | 6H   | 19.22            | 19.85 | 19.72 | 20.34 | 20.82 | 20.04          | 20.67 | 20.54 | 21.16 | 21.64 |
|                 | 8H   | 19.55            | 20.11 | 20.06 | 20.62 | 21.11 | 20.22          | 20.78 | 20.74 | 21.29 | 21.78 |
|                 | 12H  | 19.83            | 20.32 | 20.34 | 20.81 | 21.38 | 20.35          | 20.85 | 20.86 | 21.34 | 21.91 |
| 12H             | 4H   | 18.45            | 19.13 | 18.94 | 19.61 | 20.08 | 19.57          | 20.25 | 20.05 | 20.72 | 21.20 |
|                 | 6H   | 19.27            | 19.84 | 19.79 | 20.35 | 20.84 | 20.08          | 20.64 | 20.60 | 21.15 | 21.64 |
|                 | 8H   | 19.67            | 20.16 | 20.18 | 20.66 | 21.22 | 20.31          | 20.81 | 20.82 | 21.30 | 21.87 |