

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: P1060274

Luminaire Tested: S124RDRP-S1020D935-X4F0-XX-UDD-BVL-S

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1060274  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2406-143-78)  
Test Lab: INNOVATION CENTER  
Issue Date: 8/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124RDRP-S1020D935-X4F0-XX-UDD-BVL-S  
Description: DEFINE 4 SILVER REGRESSED DIRECT RECESSED HOUSING WITH BLACK STRAIGHT BLADE  
LOUVER WITH DIFFUSER  
CORE LIGHT ENGINE  
Light Source: 3500K CCT, 90 CRI LEDS  
Ballast/Driver: -

**Summary**

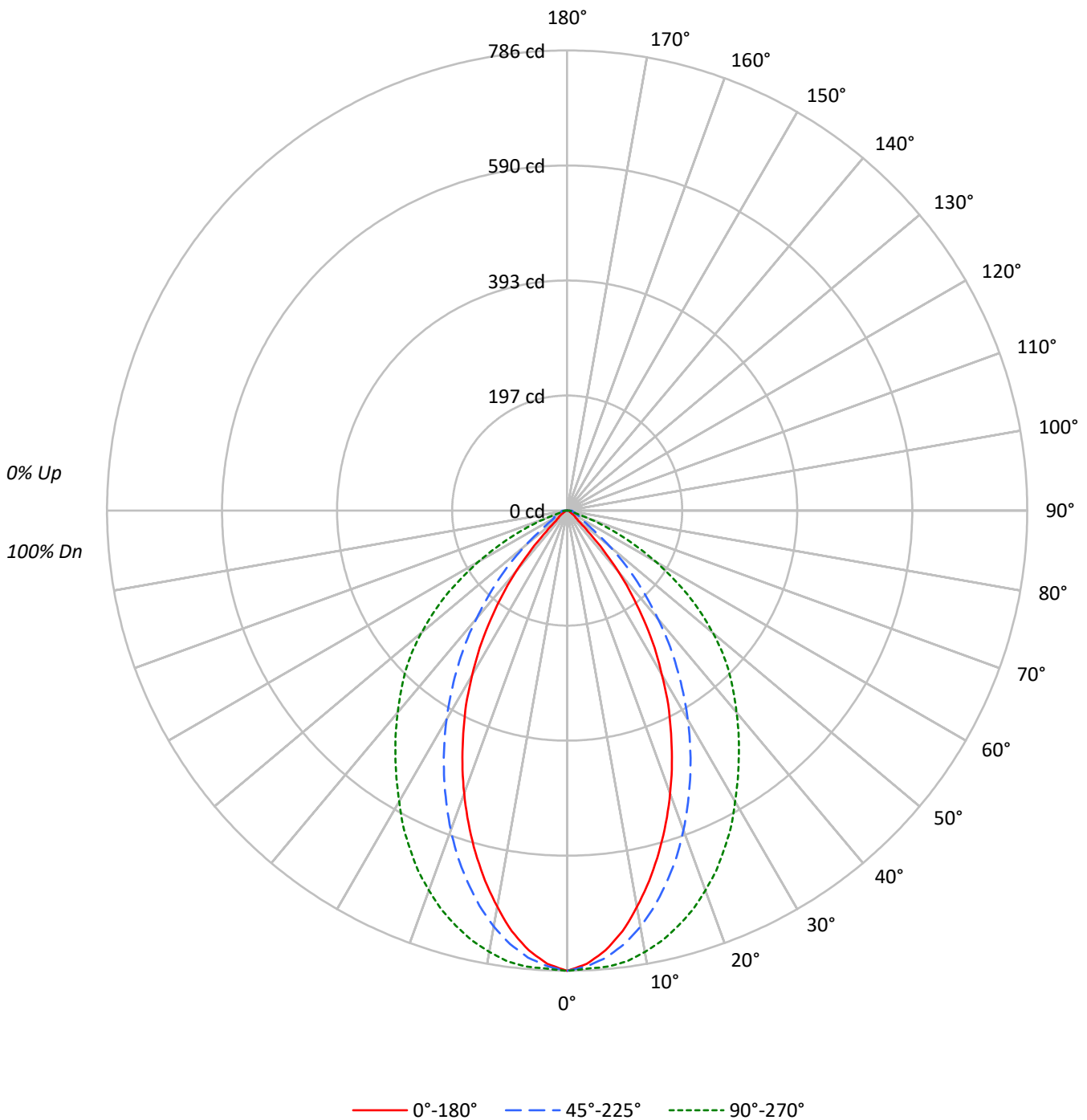
Lumens per Lamp: N/A  
Luminaire Lumens: 986.8 lumens  
Efficiency: N/A  
Efficacy: 28.2 lumens/watt  
Spacing Criteria (0/90/45): 0.79 / 1.11 / 0.97  
Luminous Opening: Rectangular (W 0.31' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 35  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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  | 0   |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |
| 1   | 112 | 108 | 105 | 103 | 109 | 106 | 103 | 101 | 102 | 100 | 98  | 98  | 96  | 95  | 95  | 93  | 92  | 90  |
| 2   | 105 | 99  | 94  | 89  | 102 | 97  | 92  | 88  | 93  | 90  | 86  | 90  | 87  | 84  | 87  | 85  | 83  | 81  |
| 3   | 98  | 90  | 84  | 79  | 96  | 88  | 83  | 78  | 86  | 81  | 77  | 83  | 79  | 76  | 81  | 77  | 74  | 73  |
| 4   | 92  | 82  | 75  | 70  | 90  | 81  | 75  | 70  | 79  | 73  | 69  | 77  | 72  | 68  | 75  | 71  | 67  | 65  |
| 5   | 86  | 76  | 68  | 63  | 84  | 75  | 68  | 63  | 73  | 67  | 62  | 71  | 66  | 62  | 69  | 65  | 61  | 59  |
| 6   | 80  | 70  | 62  | 57  | 79  | 69  | 62  | 57  | 67  | 61  | 57  | 66  | 60  | 56  | 64  | 59  | 56  | 54  |
| 7   | 76  | 64  | 57  | 52  | 74  | 64  | 57  | 52  | 62  | 56  | 52  | 61  | 56  | 51  | 60  | 55  | 51  | 50  |
| 8   | 71  | 60  | 53  | 48  | 70  | 59  | 53  | 48  | 58  | 52  | 48  | 57  | 51  | 47  | 56  | 51  | 47  | 46  |
| 9   | 67  | 56  | 49  | 44  | 66  | 55  | 49  | 44  | 54  | 48  | 44  | 53  | 48  | 44  | 52  | 47  | 44  | 42  |
| 10  | 64  | 52  | 46  | 41  | 62  | 52  | 45  | 41  | 51  | 45  | 41  | 50  | 45  | 41  | 49  | 44  | 41  | 39  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 6770 | 6770 | 6770 |
| 5°  | 6517 | 6625 | 6760 |
| 10° | 6010 | 6311 | 6693 |
| 15° | 5394 | 5858 | 6545 |
| 20° | 4714 | 5325 | 6327 |
| 25° | 3988 | 4730 | 6046 |
| 30° | 3221 | 4101 | 5705 |
| 35° | 2398 | 3426 | 5375 |
| 40° | 1522 | 2716 | 5057 |
| 45° | 609  | 1991 | 4769 |
| 50° | 265  | 1270 | 4353 |
| 55° | 203  | 656  | 3800 |
| 60° | 143  | 448  | 3012 |
| 65° | 106  | 446  | 2058 |
| 70° | 106  | 393  | 944  |
| 75° | 140  | 416  | 383  |
| 80° | 208  | 466  | 412  |
| 85° | 415  | 820  | 613  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 4769 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 72.0   | 7.3       |
| 10°-20°   | 185.6  | 18.8      |
| 20°-30°   | 234.5  | 23.8      |
| 30°-40°   | 215.4  | 21.8      |
| 40°-50°   | 146.8  | 14.9      |
| 50°-60°   | 79.6   | 8.1       |
| 60°-70°   | 33.8   | 3.4       |
| 70°-80°   | 11.7   | 1.2       |
| 80°-90°   | 7.4    | 0.8       |
| 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°    | 492.1  | 49.9      |
| 0°-40°    | 707.4  | 71.7      |
| 0°-60°    | 933.9  | 94.6      |
| 0°-90°    | 986.8  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 986.8  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 786 | 786   | 786 | 786   | 786 |      |
| 5°  | 754 | 765   | 766 | 773   | 782 | 70   |
| 15° | 605 | 625   | 657 | 704   | 734 | 169  |
| 25° | 420 | 447   | 498 | 575   | 636 | 192  |
| 35° | 228 | 258   | 326 | 428   | 511 | 142  |
| 45° | 50  | 80    | 164 | 290   | 392 | 46   |
| 55° | 14  | 15    | 44  | 159   | 253 | 12   |
| 65° | 5   | 6     | 22  | 50    | 101 | 5    |
| 75° | 4   | 12    | 12  | 12    | 12  | 4    |
| 85° | 4   | 8     | 8   | 8     | 6   | 4    |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 786.2 | 786.2 | 786.2 | 786.2 | 786.2 |
| 2.5°  | 774.8 | 784.1 | 778.9 | 781.0 | 783.1 |
| 5°    | 753.9 | 765.4 | 766.4 | 772.7 | 782.1 |
| 7.5°  | 724.8 | 738.3 | 746.7 | 762.3 | 776.9 |
| 10°   | 687.3 | 704.0 | 721.7 | 746.7 | 765.4 |
| 12.5° | 647.7 | 665.4 | 691.5 | 726.9 | 751.9 |
| 15°   | 605.0 | 624.8 | 657.1 | 704.0 | 734.2 |
| 17.5° | 560.3 | 582.1 | 620.7 | 675.8 | 714.4 |
| 20°   | 514.4 | 538.4 | 581.1 | 643.6 | 690.4 |
| 22.5° | 467.6 | 492.6 | 539.4 | 610.2 | 665.4 |
| 25°   | 419.7 | 446.7 | 497.8 | 574.8 | 636.3 |
| 27.5° | 373.8 | 398.8 | 455.1 | 539.4 | 607.1 |
| 30°   | 323.9 | 352.0 | 412.4 | 503.0 | 573.8 |
| 32.5° | 278.0 | 305.1 | 368.6 | 465.5 | 542.6 |
| 35°   | 228.1 | 258.3 | 325.9 | 428.0 | 511.3 |
| 37.5° | 181.2 | 210.4 | 284.3 | 392.6 | 481.1 |
| 40°   | 135.4 | 165.6 | 241.6 | 357.2 | 449.9 |
| 42.5° | 90.6  | 122.9 | 201.0 | 320.7 | 420.7 |
| 45°   | 50.0  | 80.2  | 163.5 | 289.5 | 391.6 |
| 47.5° | 26.0  | 43.7  | 128.1 | 258.3 | 360.3 |
| 50°   | 19.8  | 24.0  | 94.8  | 223.9 | 324.9 |
| 52.5° | 16.7  | 17.7  | 64.6  | 189.5 | 289.5 |
| 55°   | 13.5  | 14.6  | 43.7  | 159.3 | 253.1 |
| 57.5° | 10.4  | 11.5  | 31.2  | 130.2 | 212.4 |
| 60°   | 8.3   | 9.4   | 26.0  | 100.0 | 174.9 |
| 62.5° | 6.2   | 7.3   | 25.0  | 73.9  | 137.5 |
| 65°   | 5.2   | 6.2   | 21.9  | 50.0  | 101.0 |
| 67.5° | 4.2   | 6.2   | 18.7  | 32.3  | 67.7  |
| 70°   | 4.2   | 8.3   | 15.6  | 20.8  | 37.5  |
| 72.5° | 4.2   | 9.4   | 13.5  | 13.5  | 13.5  |
| 75°   | 4.2   | 11.5  | 12.5  | 11.5  | 11.5  |
| 77.5° | 4.2   | 10.4  | 10.4  | 10.4  | 10.4  |
| 80°   | 4.2   | 9.4   | 9.4   | 9.4   | 8.3   |
| 82.5° | 4.2   | 8.3   | 9.4   | 9.4   | 7.3   |
| 85°   | 4.2   | 8.3   | 8.3   | 8.3   | 6.2   |
| 87.5° | 3.1   | 8.3   | 8.3   | 8.3   | 4.2   |
| 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 | 0.00             | 0.00 | 0.00 | 0.00 | 0.00 | 15.09          | 16.36 | 15.45 | 16.68 | 16.99 |
|                 | 3H   | 0.00             | 0.00 | 0.00 | 0.07 | 0.44 | 15.44          | 16.57 | 15.82 | 16.90 | 17.27 |
|                 | 4H   | 0.01             | 1.06 | 0.41 | 1.41 | 1.79 | 15.41          | 16.46 | 15.81 | 16.81 | 17.19 |
|                 | 6H   | 1.38             | 2.34 | 1.79 | 2.71 | 3.11 | 15.38          | 16.35 | 15.80 | 16.72 | 17.11 |
|                 | 8H   | 2.06             | 2.97 | 2.49 | 3.36 | 3.77 | 15.37          | 16.28 | 15.80 | 16.68 | 17.08 |
|                 | 12H  | 2.87             | 3.74 | 3.30 | 4.12 | 4.55 | 15.37          | 16.24 | 15.80 | 16.63 | 17.06 |
| 4H              | 2H   | 0.80             | 1.85 | 1.20 | 2.20 | 2.58 | 14.89          | 15.94 | 15.29 | 16.29 | 16.68 |
|                 | 3H   | 2.21             | 3.07 | 2.63 | 3.47 | 3.88 | 15.28          | 16.14 | 15.70 | 16.55 | 16.95 |
|                 | 4H   | 3.67             | 4.43 | 4.11 | 4.85 | 5.30 | 15.27          | 16.03 | 15.70 | 16.45 | 16.89 |
|                 | 6H   | 4.92             | 5.58 | 5.38 | 6.02 | 6.49 | 15.28          | 15.94 | 15.75 | 16.39 | 16.86 |
|                 | 8H   | 5.49             | 6.10 | 5.96 | 6.55 | 7.02 | 15.29          | 15.91 | 15.76 | 16.36 | 16.83 |
|                 | 12H  | 6.16             | 6.71 | 6.65 | 7.19 | 7.66 | 15.33          | 15.87 | 15.82 | 16.36 | 16.83 |
| 8H              | 4H   | 4.74             | 5.35 | 5.21 | 5.80 | 6.27 | 15.17          | 15.78 | 15.64 | 16.23 | 16.70 |
|                 | 6H   | 6.35             | 6.86 | 6.86 | 7.35 | 7.84 | 15.22          | 15.72 | 15.72 | 16.22 | 16.70 |
|                 | 8H   | 7.18             | 7.64 | 7.71 | 8.15 | 8.65 | 15.27          | 15.73 | 15.80 | 16.24 | 16.73 |
|                 | 12H  | 8.15             | 8.55 | 8.66 | 9.04 | 9.62 | 15.39          | 15.79 | 15.91 | 16.28 | 16.86 |
| 12H             | 4H   | 4.93             | 5.47 | 5.42 | 5.96 | 6.43 | 15.13          | 15.67 | 15.61 | 16.15 | 16.63 |
|                 | 6H   | 6.70             | 7.15 | 7.22 | 7.67 | 8.16 | 15.18          | 15.64 | 15.71 | 16.15 | 16.65 |
|                 | 8H   | 7.72             | 8.12 | 8.23 | 8.61 | 9.19 | 15.29          | 15.69 | 15.80 | 16.18 | 16.76 |