

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: P1060238

Luminaire Tested: S124RDR-S1020D840-X4F0-XX-UDD-BVL-S

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1060238  
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: S124RDR-S1020D840-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: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: -

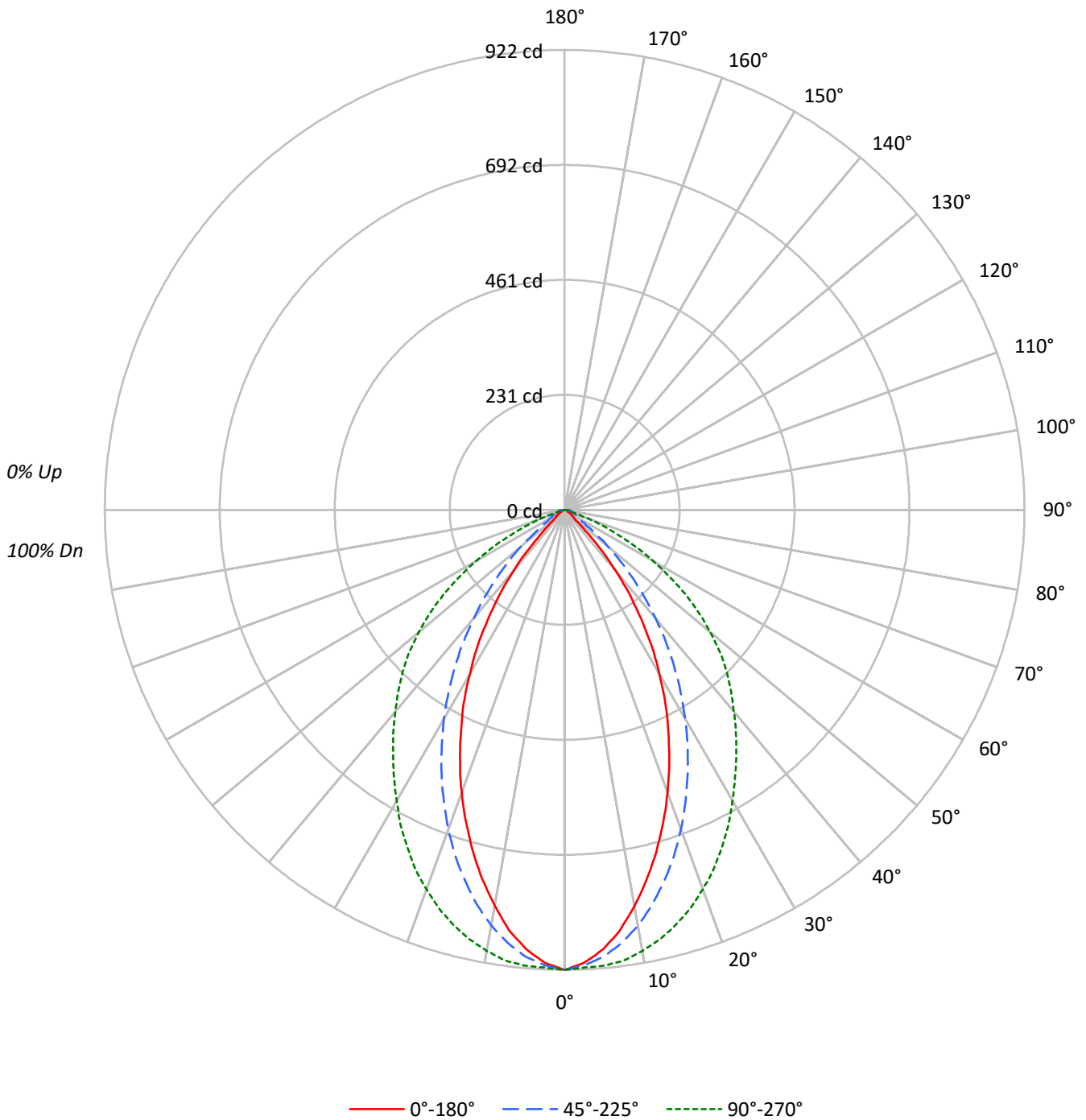
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1157.4 lumens  
Efficiency: N/A  
Efficacy: 33.1 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 (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   | 112 | 108 | 105 | 102 | 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°  | 7941 | 7941 | 7941 |
| 5°  | 7644 | 7771 | 7929 |
| 10° | 7049 | 7401 | 7849 |
| 15° | 6326 | 6871 | 7677 |
| 20° | 5529 | 6246 | 7421 |
| 25° | 4677 | 5547 | 7091 |
| 30° | 3777 | 4810 | 6692 |
| 35° | 2812 | 4019 | 6304 |
| 40° | 1785 | 3186 | 5932 |
| 45° | 714  | 2336 | 5593 |
| 50° | 311  | 1488 | 5105 |
| 55° | 239  | 770  | 4456 |
| 60° | 169  | 525  | 3534 |
| 65° | 124  | 522  | 2415 |
| 70° | 123  | 461  | 1108 |
| 75° | 163  | 489  | 446  |
| 80° | 243  | 545  | 486  |
| 85° | 484  | 968  | 721  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 5593 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 84.4   | 7.3       |
| 10°-20°   | 217.7  | 18.8      |
| 20°-30°   | 275.0  | 23.8      |
| 30°-40°   | 252.6  | 21.8      |
| 40°-50°   | 172.2  | 14.9      |
| 50°-60°   | 93.4   | 8.1       |
| 60°-70°   | 39.6   | 3.4       |
| 70°-80°   | 13.7   | 1.2       |
| 80°-90°   | 8.7    | 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°    | 577.1  | 49.9      |
| 0°-40°    | 829.7  | 71.7      |
| 0°-60°    | 1095.3 | 94.6      |
| 0°-90°    | 1157.4 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1157.4 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 922 | 922   | 922 | 922   | 922 |      |
| 5°  | 884 | 898   | 899 | 906   | 917 | 82   |
| 15° | 710 | 733   | 771 | 826   | 861 | 198  |
| 25° | 492 | 524   | 584 | 674   | 746 | 225  |
| 35° | 268 | 303   | 382 | 502   | 600 | 166  |
| 45° | 59  | 94    | 192 | 340   | 459 | 54   |
| 55° | 16  | 17    | 51  | 187   | 297 | 14   |
| 65° | 6   | 7     | 26  | 59    | 118 | 6    |
| 75° | 5   | 13    | 15  | 13    | 13  | 5    |
| 85° | 5   | 10    | 10  | 10    | 7   | 4    |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 922.2 | 922.2 | 922.2 | 922.2 | 922.2 |
| 2.5°  | 908.7 | 919.7 | 913.6 | 916.1 | 918.5 |
| 5°    | 884.3 | 897.7 | 899.0 | 906.3 | 917.3 |
| 7.5°  | 850.1 | 866.0 | 875.8 | 894.1 | 911.2 |
| 10°   | 806.1 | 825.7 | 846.4 | 875.8 | 897.7 |
| 12.5° | 759.7 | 780.5 | 811.0 | 852.5 | 881.9 |
| 15°   | 709.6 | 732.9 | 770.7 | 825.7 | 861.1 |
| 17.5° | 657.1 | 682.8 | 728.0 | 792.7 | 837.9 |
| 20°   | 603.4 | 631.5 | 681.6 | 754.8 | 809.8 |
| 22.5° | 548.4 | 577.7 | 632.7 | 715.8 | 780.5 |
| 25°   | 492.2 | 524.0 | 583.8 | 674.2 | 746.3 |
| 27.5° | 438.5 | 467.8 | 533.8 | 632.7 | 712.1 |
| 30°   | 379.9 | 412.8 | 483.7 | 589.9 | 673.0 |
| 32.5° | 326.1 | 357.9 | 432.4 | 546.0 | 636.4 |
| 35°   | 267.5 | 302.9 | 382.3 | 502.0 | 599.7 |
| 37.5° | 212.5 | 246.7 | 333.4 | 460.5 | 564.3 |
| 40°   | 158.8 | 194.2 | 283.4 | 418.9 | 527.7 |
| 42.5° | 106.3 | 144.1 | 235.7 | 376.2 | 493.5 |
| 45°   | 58.6  | 94.0  | 191.8 | 339.6 | 459.3 |
| 47.5° | 30.5  | 51.3  | 150.2 | 302.9 | 422.6 |
| 50°   | 23.2  | 28.1  | 111.1 | 262.6 | 381.1 |
| 52.5° | 19.5  | 20.8  | 75.7  | 222.3 | 339.6 |
| 55°   | 15.9  | 17.1  | 51.3  | 186.9 | 296.8 |
| 57.5° | 12.2  | 13.4  | 36.6  | 152.7 | 249.2 |
| 60°   | 9.8   | 11.0  | 30.5  | 117.3 | 205.2 |
| 62.5° | 7.3   | 8.5   | 29.3  | 86.7  | 161.2 |
| 65°   | 6.1   | 7.3   | 25.6  | 58.6  | 118.5 |
| 67.5° | 4.9   | 7.3   | 22.0  | 37.9  | 79.4  |
| 70°   | 4.9   | 9.8   | 18.3  | 24.4  | 44.0  |
| 72.5° | 4.9   | 11.0  | 15.9  | 15.9  | 15.9  |
| 75°   | 4.9   | 13.4  | 14.7  | 13.4  | 13.4  |
| 77.5° | 4.9   | 12.2  | 12.2  | 12.2  | 12.2  |
| 80°   | 4.9   | 11.0  | 11.0  | 11.0  | 9.8   |
| 82.5° | 4.9   | 9.8   | 11.0  | 11.0  | 8.5   |
| 85°   | 4.9   | 9.8   | 9.8   | 9.8   | 7.3   |
| 87.5° | 3.7   | 9.8   | 9.8   | 9.8   | 4.9   |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |

(END OF REPORT)