

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: P1060860

Luminaire Tested: S124RDR-H350D950-X4F0-XX-UDD-BVL-W

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1060860  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2406-143-75)  
Test Lab: INNOVATION CENTER  
Issue Date: 8/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124RDR-H350D950-X4F0-XX-UDD-BVL-W  
Description: DEFINE 4 WHITE REGRESSED DIRECT RECESSED HOUSING WITH BLACK STRAIGHT BLADE  
LOUVER WITH DIFFUSER  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 5000K CCT, 90 CRI LEDS  
Ballast/Driver: -

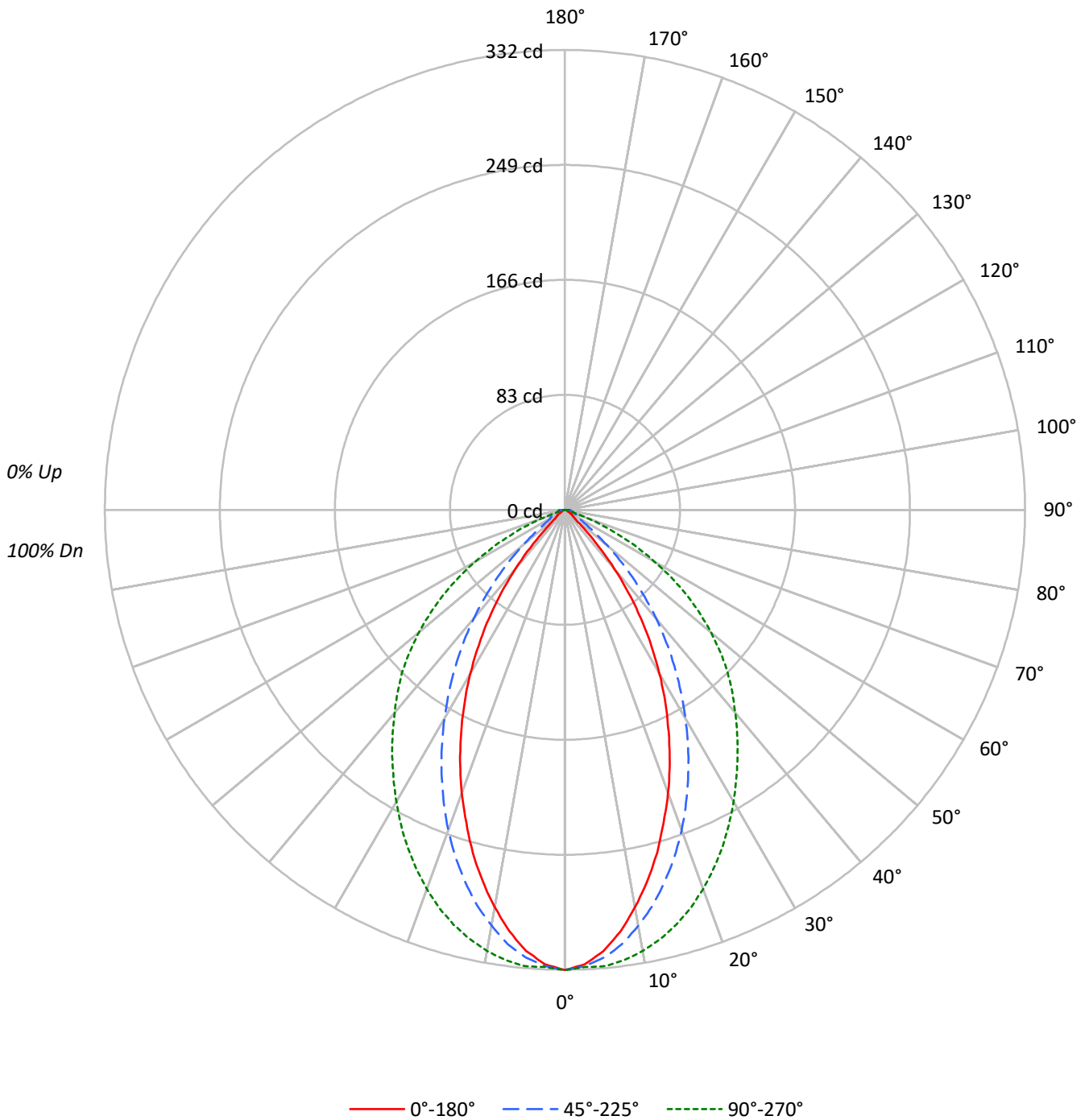
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 418.7 lumens  
Efficiency: N/A  
Efficacy: 35.8 lumens/watt  
Spacing Criteria (0/90/45): 0.79 / 1.11 / 0.96  
Luminous Opening: Rectangular (W 0.31' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 11.7  
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  | 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 | 98  | 93  | 89  | 102 | 97  | 92  | 88  | 93  | 89  | 86  | 90  | 87  | 84  | 87  | 85  | 82  | 81  |
| 3   | 98  | 90  | 84  | 79  | 96  | 88  | 83  | 78  | 86  | 81  | 77  | 83  | 79  | 75  | 81  | 77  | 74  | 72  |
| 4   | 91  | 82  | 75  | 70  | 89  | 81  | 75  | 70  | 79  | 73  | 69  | 76  | 72  | 68  | 74  | 70  | 67  | 65  |
| 5   | 86  | 75  | 68  | 63  | 84  | 74  | 68  | 63  | 72  | 67  | 62  | 71  | 66  | 62  | 69  | 65  | 61  | 59  |
| 6   | 80  | 70  | 62  | 57  | 79  | 69  | 62  | 57  | 67  | 61  | 56  | 66  | 60  | 56  | 64  | 59  | 56  | 54  |
| 7   | 75  | 64  | 57  | 52  | 74  | 64  | 57  | 52  | 62  | 56  | 52  | 61  | 55  | 51  | 60  | 55  | 51  | 49  |
| 8   | 71  | 60  | 53  | 48  | 70  | 59  | 52  | 48  | 58  | 52  | 48  | 57  | 51  | 47  | 56  | 51  | 47  | 45  |
| 9   | 67  | 56  | 49  | 44  | 66  | 55  | 49  | 44  | 54  | 48  | 44  | 53  | 48  | 44  | 52  | 47  | 44  | 42  |
| 10  | 63  | 52  | 45  | 41  | 62  | 52  | 45  | 41  | 51  | 45  | 41  | 50  | 44  | 41  | 49  | 44  | 40  | 39  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 2861 | 2861 | 2861 |
| 5°  | 2763 | 2804 | 2859 |
| 10° | 2547 | 2666 | 2827 |
| 15° | 2288 | 2478 | 2764 |
| 20° | 1994 | 2255 | 2669 |
| 25° | 1682 | 2001 | 2553 |
| 30° | 1357 | 1729 | 2419 |
| 35° | 1004 | 1446 | 2283 |
| 40° | 623  | 1153 | 2148 |
| 45° | 247  | 840  | 2023 |
| 50° | 110  | 528  | 1839 |
| 55° | 87   | 275  | 1609 |
| 60° | 60   | 208  | 1283 |
| 65° | 39   | 206  | 882  |
| 70° | 40   | 186  | 413  |
| 75° | 53   | 183  | 183  |
| 80° | 79   | 213  | 213  |
| 85° | 158  | 425  | 306  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 2023 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 30.5   | 7.3       |
| 10°-20°   | 78.7   | 18.8      |
| 20°-30°   | 99.3   | 23.7      |
| 30°-40°   | 91.1   | 21.8      |
| 40°-50°   | 62.0   | 14.8      |
| 50°-60°   | 33.8   | 8.1       |
| 60°-70°   | 14.6   | 3.5       |
| 70°-80°   | 5.3    | 1.3       |
| 80°-90°   | 3.4    | 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°    | 208.4  | 49.8      |
| 0°-40°    | 299.5  | 71.5      |
| 0°-60°    | 395.3  | 94.4      |
| 0°-90°    | 418.7  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 418.7  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 332 | 332   | 332 | 332   | 332 |      |
| 5°  | 320 | 324   | 324 | 328   | 331 | 30   |
| 15° | 257 | 266   | 278 | 298   | 310 | 71   |
| 25° | 177 | 190   | 211 | 244   | 269 | 81   |
| 35° | 96  | 110   | 138 | 181   | 217 | 59   |
| 45° | 20  | 34    | 69  | 122   | 166 | 19   |
| 55° | 6   | 6     | 18  | 68    | 107 | 5    |
| 65° | 2   | 3     | 10  | 21    | 43  | 2    |
| 75° | 2   | 5     | 6   | 6     | 6   | 2    |
| 85° | 2   | 4     | 4   | 4     | 3   | 1    |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 332.2 | 332.2 | 332.2 | 332.2 | 332.2 |
| 2.5°  | 328.3 | 332.2 | 329.5 | 330.3 | 330.3 |
| 5°    | 319.7 | 324.0 | 324.4 | 327.9 | 330.7 |
| 7.5°  | 306.9 | 313.1 | 316.2 | 323.3 | 327.9 |
| 10°   | 291.3 | 298.7 | 304.9 | 317.0 | 323.3 |
| 12.5° | 274.5 | 283.1 | 292.5 | 308.4 | 317.4 |
| 15°   | 256.6 | 265.5 | 278.0 | 297.9 | 310.0 |
| 17.5° | 236.7 | 247.6 | 262.8 | 286.6 | 301.4 |
| 20°   | 217.6 | 228.5 | 246.1 | 273.0 | 291.3 |
| 22.5° | 197.7 | 209.0 | 228.5 | 258.5 | 280.4 |
| 25°   | 177.0 | 189.5 | 210.6 | 244.1 | 268.7 |
| 27.5° | 156.8 | 170.0 | 192.2 | 228.9 | 256.2 |
| 30°   | 136.5 | 149.7 | 173.9 | 213.3 | 243.3 |
| 32.5° | 115.8 | 129.5 | 155.6 | 196.9 | 230.1 |
| 35°   | 95.5  | 109.6 | 137.6 | 181.3 | 217.2 |
| 37.5° | 74.9  | 89.7  | 119.7 | 166.1 | 204.3 |
| 40°   | 55.4  | 70.2  | 102.6 | 150.9 | 191.1 |
| 42.5° | 37.0  | 51.9  | 85.0  | 136.1 | 178.6 |
| 45°   | 20.3  | 33.9  | 69.0  | 122.4 | 166.1 |
| 47.5° | 10.9  | 18.7  | 53.4  | 109.2 | 152.1 |
| 50°   | 8.2   | 10.1  | 39.4  | 95.1  | 137.3 |
| 52.5° | 7.0   | 7.8   | 27.3  | 80.3  | 122.4 |
| 55°   | 5.8   | 6.2   | 18.3  | 67.5  | 107.2 |
| 57.5° | 4.7   | 5.1   | 13.6  | 54.6  | 90.9  |
| 60°   | 3.5   | 4.3   | 12.1  | 42.1  | 74.5  |
| 62.5° | 2.7   | 3.5   | 11.3  | 30.8  | 58.9  |
| 65°   | 1.9   | 2.7   | 10.1  | 21.1  | 43.3  |
| 67.5° | 1.9   | 3.1   | 8.6   | 13.6  | 29.2  |
| 70°   | 1.6   | 4.3   | 7.4   | 9.0   | 16.4  |
| 72.5° | 1.6   | 4.7   | 6.2   | 6.2   | 6.2   |
| 75°   | 1.6   | 5.1   | 5.5   | 5.5   | 5.5   |
| 77.5° | 1.6   | 4.7   | 5.1   | 4.7   | 4.7   |
| 80°   | 1.6   | 4.3   | 4.3   | 4.3   | 4.3   |
| 82.5° | 1.6   | 3.9   | 4.3   | 4.3   | 3.5   |
| 85°   | 1.6   | 3.5   | 4.3   | 4.3   | 3.1   |
| 87.5° | 1.2   | 3.5   | 3.9   | 3.9   | 2.3   |
| 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 | 12.06          | 13.34 | 12.43 | 13.65 | 13.97 |
|                 | 3H   | 0.00             | 0.00 | 0.00 | 0.00 | 0.00 | 12.44          | 13.57 | 12.82 | 13.90 | 14.26 |
|                 | 4H   | 0.00             | 0.00 | 0.00 | 0.00 | 0.00 | 12.42          | 13.47 | 12.82 | 13.82 | 14.20 |
|                 | 6H   | 0.00             | 0.00 | 0.00 | 0.00 | 0.31 | 12.40          | 13.37 | 12.82 | 13.74 | 14.14 |
|                 | 8H   | 0.00             | 0.09 | 0.00 | 0.48 | 0.89 | 12.40          | 13.32 | 12.84 | 13.71 | 14.12 |
|                 | 12H  | 0.00             | 0.73 | 0.29 | 1.12 | 1.55 | 12.42          | 13.29 | 12.85 | 13.67 | 14.10 |
| 4H              | 2H   | 0.00             | 0.00 | 0.00 | 0.00 | 0.09 | 11.87          | 12.92 | 12.28 | 13.28 | 13.66 |
|                 | 3H   | 0.00             | 0.74 | 0.30 | 1.15 | 1.55 | 12.29          | 13.15 | 12.70 | 13.55 | 13.96 |
|                 | 4H   | 1.20             | 1.97 | 1.63 | 2.39 | 2.83 | 12.29          | 13.06 | 12.73 | 13.48 | 13.92 |
|                 | 6H   | 2.34             | 3.00 | 2.80 | 3.45 | 3.92 | 12.33          | 12.99 | 12.80 | 13.44 | 13.91 |
|                 | 8H   | 2.86             | 3.47 | 3.33 | 3.92 | 4.39 | 12.36          | 12.98 | 12.83 | 13.42 | 13.90 |
|                 | 12H  | 3.42             | 3.96 | 3.90 | 4.44 | 4.92 | 12.42          | 12.97 | 12.91 | 13.45 | 13.93 |
| 8H              | 4H   | 2.29             | 2.91 | 2.76 | 3.35 | 3.82 | 12.20          | 12.82 | 12.67 | 13.27 | 13.74 |
|                 | 6H   | 3.84             | 4.34 | 4.34 | 4.84 | 5.32 | 12.28          | 12.79 | 12.78 | 13.28 | 13.76 |
|                 | 8H   | 4.65             | 5.10 | 5.17 | 5.62 | 6.11 | 12.36          | 12.82 | 12.89 | 13.33 | 13.83 |
|                 | 12H  | 5.48             | 5.88 | 6.00 | 6.38 | 6.95 | 12.53          | 12.94 | 13.05 | 13.43 | 14.00 |
| 12H             | 4H   | 2.48             | 3.02 | 2.96 | 3.51 | 3.98 | 12.16          | 12.71 | 12.65 | 13.19 | 13.67 |
|                 | 6H   | 4.19             | 4.65 | 4.72 | 5.16 | 5.66 | 12.25          | 12.71 | 12.78 | 13.22 | 13.72 |
|                 | 8H   | 5.20             | 5.61 | 5.72 | 6.10 | 6.67 | 12.39          | 12.79 | 12.91 | 13.29 | 13.86 |