

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: P1060689

Luminaire Tested: S124RDRP-H1020D940-X4F0-XX-UDD-BVL-W

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1060689  
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: S124RDRP-H1020D940-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: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: -

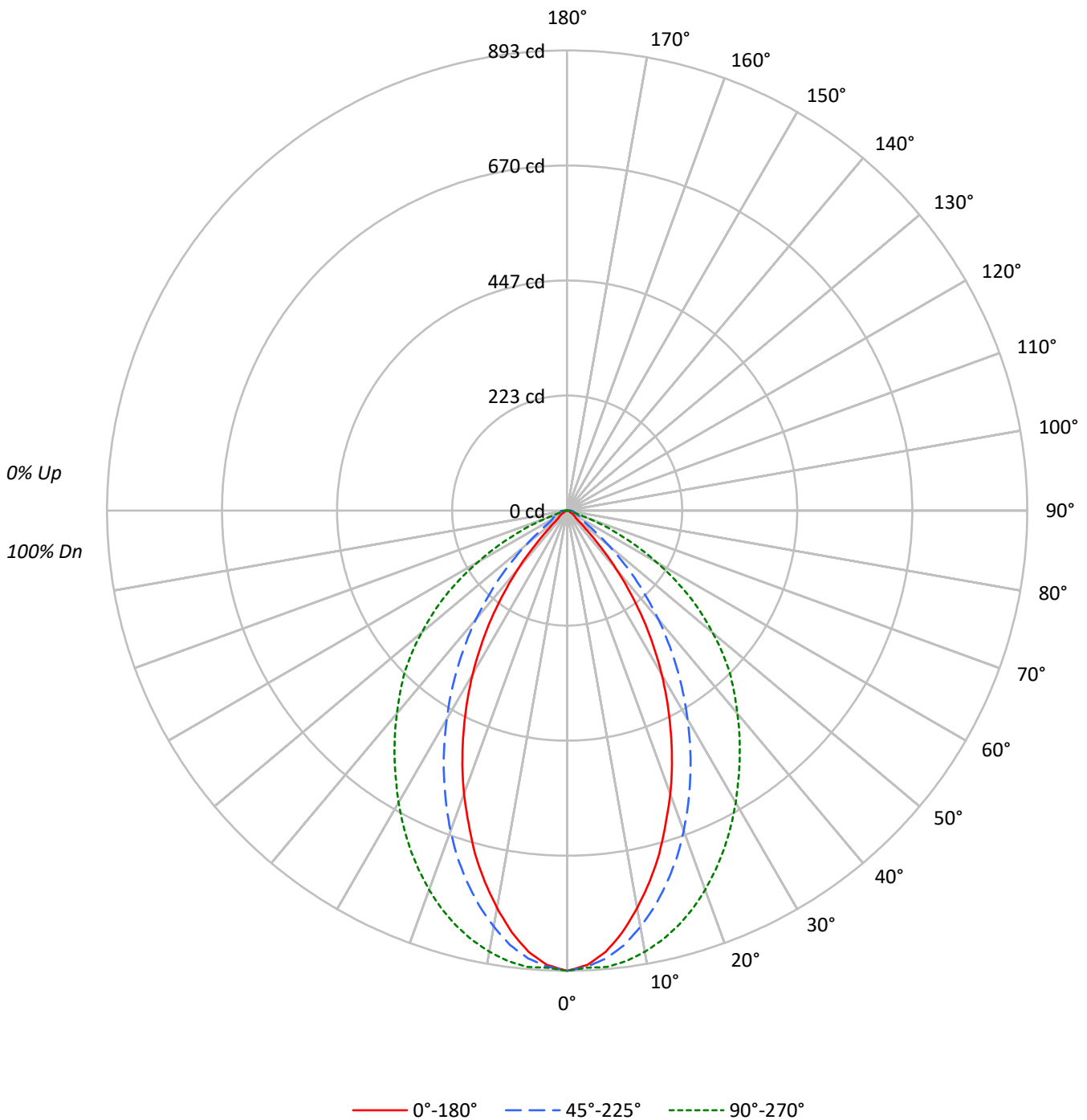
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1125.7 lumens  
Efficiency: N/A  
Efficacy: 36.1 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): 31.2  
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 | 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°  | 7691 | 7691 | 7691 |
| 5°  | 7430 | 7539 | 7685 |
| 10° | 6847 | 7168 | 7599 |
| 15° | 6149 | 6664 | 7430 |
| 20° | 5361 | 6062 | 7176 |
| 25° | 4522 | 5379 | 6863 |
| 30° | 3648 | 4649 | 6505 |
| 35° | 2700 | 3891 | 6138 |
| 40° | 1674 | 3099 | 5775 |
| 45° | 664  | 2260 | 5439 |
| 50° | 295  | 1419 | 4943 |
| 55° | 236  | 740  | 4328 |
| 60° | 162  | 560  | 3448 |
| 65° | 106  | 556  | 2372 |
| 70° | 106  | 501  | 1108 |
| 75° | 140  | 489  | 489  |
| 80° | 208  | 570  | 570  |
| 85° | 415  | 1136 | 830  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 5439 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 81.9   | 7.3       |
| 10°-20°   | 211.5  | 18.8      |
| 20°-30°   | 266.9  | 23.7      |
| 30°-40°   | 244.9  | 21.8      |
| 40°-50°   | 166.8  | 14.8      |
| 50°-60°   | 90.9   | 8.1       |
| 60°-70°   | 39.3   | 3.5       |
| 70°-80°   | 14.3   | 1.3       |
| 80°-90°   | 9.2    | 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°    | 560.3  | 49.8      |
| 0°-40°    | 805.2  | 71.5      |
| 0°-60°    | 1062.8 | 94.4      |
| 0°-90°    | 1125.7 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1125.7 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 893 | 893   | 893 | 893   | 893 |      |
| 5°  | 860 | 871   | 872 | 882   | 889 | 80   |
| 15° | 690 | 714   | 748 | 801   | 833 | 192  |
| 25° | 476 | 510   | 566 | 656   | 722 | 217  |
| 35° | 257 | 295   | 370 | 488   | 584 | 159  |
| 45° | 54  | 91    | 186 | 329   | 447 | 51   |
| 55° | 16  | 17    | 49  | 181   | 288 | 14   |
| 65° | 5   | 7     | 27  | 57    | 116 | 6    |
| 75° | 4   | 14    | 15  | 15    | 15  | 4    |
| 85° | 4   | 9     | 12  | 12    | 8   | 4    |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 893.2 | 893.2 | 893.2 | 893.2 | 893.2 |
| 2.5°  | 882.7 | 893.2 | 885.8 | 887.9 | 887.9 |
| 5°    | 859.6 | 871.2 | 872.2 | 881.6 | 889.0 |
| 7.5°  | 825.0 | 841.8 | 850.2 | 869.1 | 881.6 |
| 10°   | 783.1 | 803.0 | 819.8 | 852.3 | 869.1 |
| 12.5° | 738.0 | 761.1 | 786.2 | 829.2 | 853.3 |
| 15°   | 689.8 | 713.9 | 747.5 | 800.9 | 833.4 |
| 17.5° | 636.3 | 665.7 | 706.6 | 770.5 | 810.4 |
| 20°   | 585.0 | 614.3 | 661.5 | 733.8 | 783.1 |
| 22.5° | 531.5 | 561.9 | 614.3 | 695.0 | 753.7 |
| 25°   | 475.9 | 509.5 | 566.1 | 656.3 | 722.3 |
| 27.5° | 421.4 | 457.1 | 516.8 | 615.4 | 688.8 |
| 30°   | 366.9 | 402.6 | 467.6 | 573.4 | 654.2 |
| 32.5° | 311.4 | 348.0 | 418.3 | 529.4 | 618.5 |
| 35°   | 256.8 | 294.6 | 370.1 | 487.5 | 583.9 |
| 37.5° | 201.3 | 241.1 | 321.8 | 446.6 | 549.3 |
| 40°   | 148.9 | 188.7 | 275.7 | 405.7 | 513.7 |
| 42.5° | 99.6  | 139.4 | 228.5 | 365.9 | 480.1 |
| 45°   | 54.5  | 91.2  | 185.6 | 329.2 | 446.6 |
| 47.5° | 29.4  | 50.3  | 143.6 | 293.5 | 408.8 |
| 50°   | 22.0  | 27.3  | 105.9 | 255.8 | 369.0 |
| 52.5° | 18.9  | 21.0  | 73.4  | 216.0 | 329.2 |
| 55°   | 15.7  | 16.8  | 49.3  | 181.4 | 288.3 |
| 57.5° | 12.6  | 13.6  | 36.7  | 146.8 | 244.3 |
| 60°   | 9.4   | 11.5  | 32.5  | 113.2 | 200.2 |
| 62.5° | 7.3   | 9.4   | 30.4  | 82.8  | 158.3 |
| 65°   | 5.2   | 7.3   | 27.3  | 56.6  | 116.4 |
| 67.5° | 5.2   | 8.4   | 23.1  | 36.7  | 78.6  |
| 70°   | 4.2   | 11.5  | 19.9  | 24.1  | 44.0  |
| 72.5° | 4.2   | 12.6  | 16.8  | 16.8  | 16.8  |
| 75°   | 4.2   | 13.6  | 14.7  | 14.7  | 14.7  |
| 77.5° | 4.2   | 12.6  | 13.6  | 12.6  | 12.6  |
| 80°   | 4.2   | 11.5  | 11.5  | 11.5  | 11.5  |
| 82.5° | 4.2   | 10.5  | 11.5  | 11.5  | 9.4   |
| 85°   | 4.2   | 9.4   | 11.5  | 11.5  | 8.4   |
| 87.5° | 3.1   | 9.4   | 10.5  | 10.5  | 6.3   |
| 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 | 0.02  | 15.50          | 16.78 | 15.86 | 17.09 | 17.40 |
|                 | 3H   | 0.00             | 0.67 | 0.00 | 1.00 | 1.37  | 15.87          | 17.00 | 16.25 | 17.33 | 17.70 |
|                 | 4H   | 0.76             | 1.82 | 1.17 | 2.17 | 2.55  | 15.85          | 16.90 | 16.26 | 17.26 | 17.64 |
|                 | 6H   | 1.95             | 2.92 | 2.37 | 3.29 | 3.68  | 15.84          | 16.81 | 16.26 | 17.18 | 17.57 |
|                 | 8H   | 2.54             | 3.46 | 2.97 | 3.85 | 4.25  | 15.84          | 16.75 | 16.27 | 17.14 | 17.55 |
|                 | 12H  | 3.21             | 4.09 | 3.65 | 4.47 | 4.90  | 15.85          | 16.73 | 16.29 | 17.11 | 17.54 |
| 4H              | 2H   | 1.74             | 2.80 | 2.15 | 3.15 | 3.53  | 15.31          | 16.36 | 15.71 | 16.71 | 17.10 |
|                 | 3H   | 3.33             | 4.18 | 3.74 | 4.59 | 4.99  | 15.73          | 16.59 | 16.14 | 16.99 | 17.40 |
|                 | 4H   | 4.62             | 5.38 | 5.05 | 5.80 | 6.25  | 15.73          | 16.49 | 16.16 | 16.91 | 17.36 |
|                 | 6H   | 5.75             | 6.41 | 6.21 | 6.85 | 7.32  | 15.77          | 16.43 | 16.23 | 16.88 | 17.34 |
|                 | 8H   | 6.26             | 6.87 | 6.73 | 7.32 | 7.79  | 15.79          | 16.41 | 16.26 | 16.86 | 17.33 |
|                 | 12H  | 6.81             | 7.35 | 7.29 | 7.84 | 8.31  | 15.86          | 16.40 | 16.35 | 16.89 | 17.36 |
| 8H              | 4H   | 5.70             | 6.32 | 6.17 | 6.77 | 7.24  | 15.64          | 16.25 | 16.11 | 16.70 | 17.17 |
|                 | 6H   | 7.24             | 7.75 | 7.75 | 8.25 | 8.73  | 15.71          | 16.22 | 16.22 | 16.72 | 17.20 |
|                 | 8H   | 8.05             | 8.51 | 8.58 | 9.02 | 9.52  | 15.80          | 16.25 | 16.32 | 16.77 | 17.26 |
|                 | 12H  | 8.88             | 9.29 | 9.40 | 9.78 | 10.35 | 15.97          | 16.37 | 16.48 | 16.86 | 17.44 |
| 12H             | 4H   | 5.89             | 6.44 | 6.38 | 6.92 | 7.39  | 15.60          | 16.15 | 16.09 | 16.63 | 17.10 |
|                 | 6H   | 7.60             | 8.05 | 8.12 | 8.57 | 9.06  | 15.69          | 16.14 | 16.21 | 16.66 | 17.15 |
|                 | 8H   | 8.61             | 9.01 | 9.13 | 9.51 | 10.08 | 15.82          | 16.23 | 16.34 | 16.72 | 17.29 |