

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: P1217400

Luminaire Tested: S124DRP-S290D830-X4F0-XX-UDD-G-W

Issue Date: 4/9/2026

**Test Information**

Test Method: LM-79-2024  
Report Number: P1217400  
TEST IS SCALED FROM IESNA LM-79-24 TEST DATA (G2-2509-563-3)  
Test Lab: INNOVATION CENTER  
Issue Date: 4/9/2026  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124DRP-S290D830-X4F0-XX-UDD-G-W  
Description: DEFINE 4, DIRECT RECESSED WITH GRAZE FLUSH OPTIC  
CORE LIGHT ENGINE  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

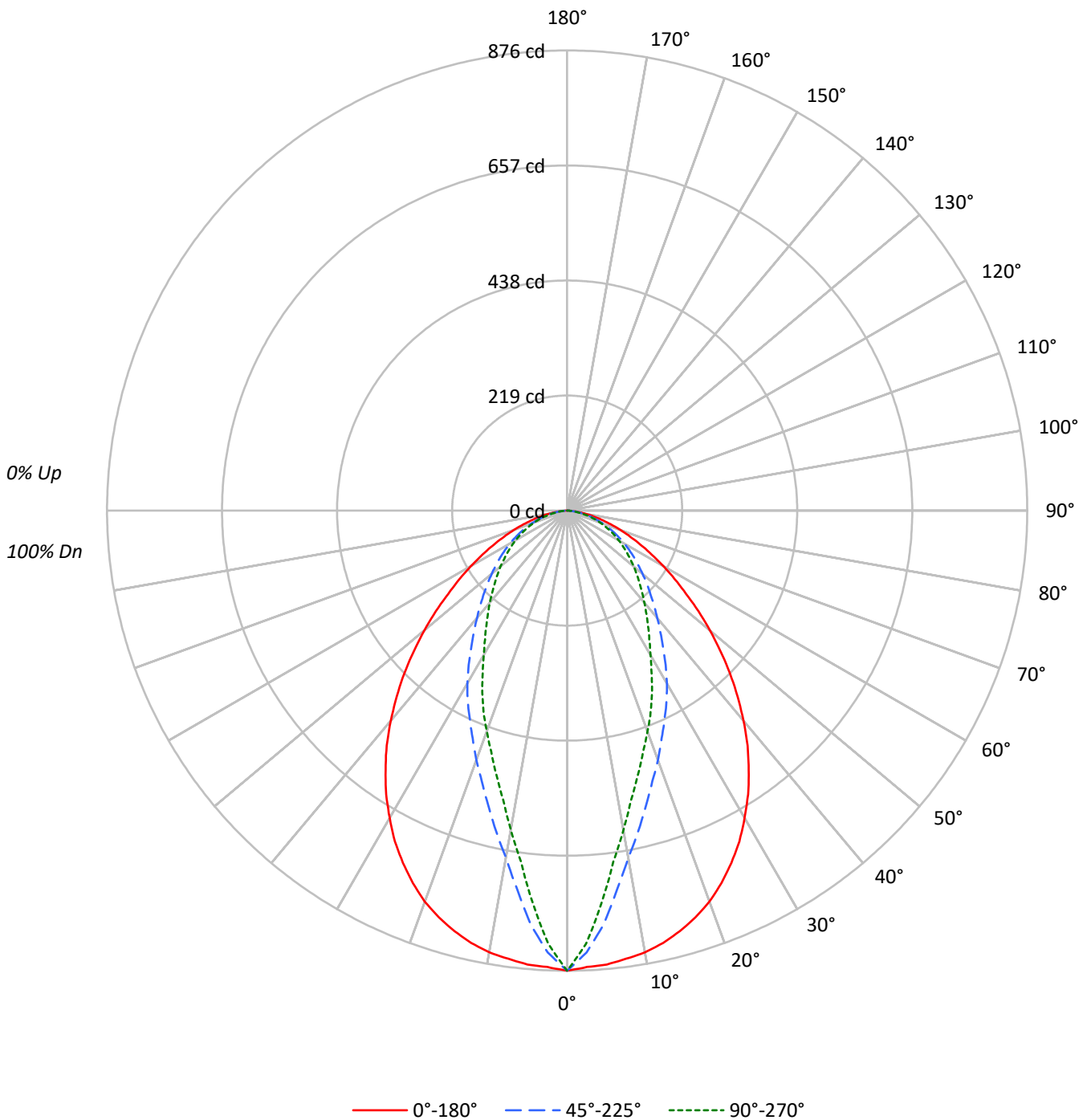
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1228.5 lumens  
Efficiency: N/A  
Efficacy: 97.5 lumens/watt  
Spacing Criteria (0/90/45): 1.16 / 0.59 / 0.87  
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 12.6  
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  | 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 | 100 | 100 | 100 | 100 | 100 | 100 |  |   |
| 1   | 110 | 106 | 102 | 99  | 108 | 104 | 100 | 97  | 100 | 97  | 94  | 96  | 94  | 92  | 92  | 90  | 89  | 87  | 87  | 87  | 87  | 87  | 87  | 87  |  |   |
| 2   | 102 | 94  | 88  | 83  | 99  | 92  | 87  | 82  | 89  | 84  | 80  | 86  | 82  | 79  | 83  | 80  | 77  | 75  | 75  | 75  | 75  | 75  | 75  | 75  |  |   |
| 3   | 94  | 84  | 77  | 71  | 91  | 83  | 76  | 71  | 80  | 74  | 69  | 77  | 72  | 68  | 75  | 71  | 67  | 65  | 65  | 65  | 65  | 65  | 65  | 65  |  |   |
| 4   | 87  | 76  | 68  | 62  | 84  | 75  | 67  | 62  | 72  | 66  | 61  | 70  | 64  | 60  | 68  | 63  | 59  | 57  | 57  | 57  | 57  | 57  | 57  | 57  |  |   |
| 5   | 80  | 69  | 61  | 55  | 78  | 68  | 60  | 54  | 66  | 59  | 54  | 64  | 58  | 53  | 62  | 57  | 53  | 51  | 51  | 51  | 51  | 51  | 51  | 51  |  |   |
| 6   | 75  | 63  | 55  | 49  | 73  | 62  | 54  | 49  | 60  | 53  | 48  | 58  | 52  | 48  | 57  | 52  | 47  | 45  | 45  | 45  | 45  | 45  | 45  | 45  |  |   |
| 7   | 70  | 58  | 50  | 44  | 68  | 57  | 49  | 44  | 55  | 48  | 43  | 54  | 48  | 43  | 53  | 47  | 43  | 41  | 41  | 41  | 41  | 41  | 41  | 41  |  |   |
| 8   | 66  | 53  | 45  | 40  | 64  | 52  | 45  | 40  | 51  | 44  | 40  | 50  | 44  | 39  | 49  | 43  | 39  | 37  | 37  | 37  | 37  | 37  | 37  | 37  |  |   |
| 9   | 62  | 49  | 42  | 36  | 60  | 49  | 41  | 36  | 48  | 41  | 36  | 47  | 40  | 36  | 46  | 40  | 36  | 34  | 34  | 34  | 34  | 34  | 34  | 34  |  |   |
| 10  | 58  | 46  | 38  | 34  | 57  | 45  | 38  | 34  | 44  | 38  | 33  | 43  | 37  | 33  | 43  | 37  | 33  | 31  | 31  | 31  | 31  | 31  | 31  | 31  |  |   |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 7744 | 7744 | 7744 |
| 5°  | 7698 | 7025 | 6658 |
| 10° | 7666 | 6021 | 5540 |
| 15° | 7587 | 5313 | 4766 |
| 20° | 7454 | 4754 | 4209 |
| 25° | 7217 | 4278 | 3729 |
| 30° | 6898 | 3878 | 3236 |
| 35° | 6506 | 3439 | 2897 |
| 40° | 6027 | 3080 | 2640 |
| 45° | 5479 | 2802 | 2436 |
| 50° | 4880 | 2578 | 2276 |
| 55° | 4257 | 2395 | 2129 |
| 60° | 3738 | 2230 | 2005 |
| 65° | 3236 | 2059 | 1872 |
| 70° | 2802 | 1864 | 1724 |
| 75° | 2333 | 1647 | 1517 |
| 80° | 1807 | 1334 | 1237 |
| 85° | 1136 | 903  | 822  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5479 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 73.3   | 6.0       |
| 10°-20°   | 174.2  | 14.2      |
| 20°-30°   | 222.6  | 18.1      |
| 30°-40°   | 226.0  | 18.4      |
| 40°-50°   | 200.4  | 16.3      |
| 50°-60°   | 157.5  | 12.8      |
| 60°-70°   | 107.2  | 8.7       |
| 70°-80°   | 55.0   | 4.5       |
| 80°-90°   | 12.2   | 1.0       |
| 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°    | 470.1  | 38.3      |
| 0°-40°    | 696.1  | 56.7      |
| 0°-60°    | 1054.0 | 85.8      |
| 0°-90°    | 1228.5 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1228.5 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 876 | 876   | 876 | 876   | 876 |      |
| 5°  | 867 | 845   | 792 | 761   | 750 | 82   |
| 15° | 829 | 692   | 580 | 533   | 521 | 233  |
| 25° | 740 | 542   | 438 | 396   | 382 | 340  |
| 35° | 603 | 411   | 319 | 278   | 268 | 376  |
| 45° | 438 | 296   | 224 | 201   | 195 | 338  |
| 55° | 276 | 197   | 155 | 142   | 138 | 249  |
| 65° | 155 | 120   | 98  | 91    | 90  | 155  |
| 75° | 68  | 56    | 48  | 46    | 44  | 73   |
| 85° | 11  | 10    | 9   | 9     | 8   | 15   |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 875.9 | 875.9 | 875.9 | 875.9 | 875.9 |
| 2.5°  | 869.7 | 870.9 | 842.0 | 831.6 | 825.4 |
| 5°    | 867.4 | 845.4 | 791.5 | 761.0 | 750.2 |
| 7.5°  | 860.5 | 812.7 | 727.4 | 685.4 | 674.2 |
| 10°   | 853.9 | 775.3 | 670.7 | 629.1 | 617.1 |
| 12.5° | 843.1 | 734.0 | 625.2 | 577.4 | 563.1 |
| 15°   | 828.9 | 691.9 | 580.5 | 532.6 | 520.7 |
| 17.5° | 811.9 | 651.8 | 540.0 | 494.1 | 481.0 |
| 20°   | 792.2 | 614.8 | 505.3 | 458.2 | 447.4 |
| 22.5° | 767.5 | 578.2 | 469.8 | 427.4 | 415.4 |
| 25°   | 739.8 | 542.3 | 438.5 | 396.5 | 382.2 |
| 27.5° | 710.1 | 507.6 | 409.6 | 362.9 | 347.9 |
| 30°   | 675.7 | 474.4 | 379.9 | 330.9 | 317.0 |
| 32.5° | 641.0 | 441.6 | 348.7 | 302.4 | 291.2 |
| 35°   | 602.8 | 410.8 | 318.6 | 278.1 | 268.4 |
| 37.5° | 564.3 | 381.1 | 291.6 | 256.1 | 247.6 |
| 40°   | 522.2 | 352.1 | 266.9 | 235.7 | 228.7 |
| 42.5° | 480.2 | 323.2 | 244.5 | 217.5 | 211.0 |
| 45°   | 438.2 | 295.8 | 224.1 | 200.9 | 194.8 |
| 47.5° | 395.7 | 268.8 | 205.2 | 184.7 | 179.7 |
| 50°   | 354.8 | 243.4 | 187.4 | 169.7 | 165.5 |
| 52.5° | 315.1 | 219.5 | 170.5 | 155.4 | 150.8 |
| 55°   | 276.2 | 197.1 | 155.4 | 141.6 | 138.1 |
| 57.5° | 243.0 | 176.3 | 140.4 | 128.4 | 125.7 |
| 60°   | 211.4 | 156.2 | 126.1 | 116.1 | 113.4 |
| 62.5° | 181.7 | 137.7 | 111.9 | 103.8 | 101.8 |
| 65°   | 154.7 | 119.6 | 98.4  | 91.4  | 89.5  |
| 67.5° | 130.0 | 103.0 | 84.5  | 79.5  | 77.9  |
| 70°   | 108.4 | 86.4  | 72.1  | 67.9  | 66.7  |
| 72.5° | 86.8  | 70.6  | 59.8  | 56.7  | 55.5  |
| 75°   | 68.3  | 56.3  | 48.2  | 45.9  | 44.4  |
| 77.5° | 51.3  | 42.8  | 37.0  | 35.1  | 33.9  |
| 80°   | 35.5  | 30.5  | 26.2  | 25.5  | 24.3  |
| 82.5° | 22.4  | 19.3  | 17.0  | 16.6  | 15.4  |
| 85°   | 11.2  | 10.4  | 8.9   | 8.9   | 8.1   |
| 87.5° | 3.9   | 3.5   | 3.5   | 3.5   | 3.1   |
| 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 | 16.02            | 17.50 | 16.38 | 17.82 | 18.13 | 13.34          | 14.83 | 13.70 | 15.14 | 15.45 |
|                 | 3H   | 17.61            | 18.94 | 17.99 | 19.27 | 19.63 | 14.94          | 16.27 | 15.32 | 16.60 | 16.96 |
|                 | 4H   | 18.14            | 19.39 | 18.54 | 19.74 | 20.12 | 15.50          | 16.75 | 15.90 | 17.10 | 17.48 |
|                 | 6H   | 18.47            | 19.63 | 18.88 | 19.99 | 20.38 | 15.85          | 17.01 | 16.27 | 17.37 | 17.77 |
|                 | 8H   | 18.55            | 19.65 | 18.98 | 20.04 | 20.44 | 15.94          | 17.04 | 16.37 | 17.43 | 17.83 |
|                 | 12H  | 18.58            | 19.63 | 19.01 | 20.01 | 20.44 | 15.98          | 17.03 | 16.41 | 17.41 | 17.84 |
| 4H              | 2H   | 16.25            | 17.50 | 16.65 | 17.85 | 18.22 | 14.02          | 15.27 | 14.42 | 15.62 | 15.99 |
|                 | 3H   | 18.03            | 19.07 | 18.44 | 19.47 | 19.87 | 15.80          | 16.84 | 16.22 | 17.24 | 17.64 |
|                 | 4H   | 18.67            | 19.60 | 19.10 | 20.02 | 20.46 | 16.47          | 17.40 | 16.90 | 17.82 | 18.26 |
|                 | 6H   | 19.12            | 19.93 | 19.57 | 20.37 | 20.83 | 16.93          | 17.74 | 17.38 | 18.18 | 18.64 |
|                 | 8H   | 19.23            | 19.98 | 19.69 | 20.43 | 20.90 | 17.04          | 17.80 | 17.51 | 18.24 | 18.71 |
|                 | 12H  | 19.29            | 19.96 | 19.77 | 20.44 | 20.91 | 17.10          | 17.78 | 17.58 | 18.26 | 18.73 |
| 8H              | 4H   | 18.77            | 19.53 | 19.24 | 19.97 | 20.44 | 16.77          | 17.52 | 17.23 | 17.97 | 18.44 |
|                 | 6H   | 19.29            | 19.91 | 19.79 | 20.41 | 20.88 | 17.32          | 17.94 | 17.82 | 18.43 | 18.91 |
|                 | 8H   | 19.45            | 20.01 | 19.96 | 20.52 | 21.01 | 17.49          | 18.04 | 18.00 | 18.55 | 19.04 |
|                 | 12H  | 19.55            | 20.04 | 20.06 | 20.53 | 21.10 | 17.59          | 18.08 | 18.10 | 18.58 | 19.14 |
| 12H             | 4H   | 18.76            | 19.44 | 19.25 | 19.92 | 20.39 | 16.79          | 17.47 | 17.27 | 17.95 | 18.42 |
|                 | 6H   | 19.28            | 19.84 | 19.80 | 20.35 | 20.84 | 17.35          | 17.91 | 17.87 | 18.42 | 18.91 |
|                 | 8H   | 19.48            | 19.97 | 19.99 | 20.46 | 21.03 | 17.57          | 18.06 | 18.08 | 18.55 | 19.12 |