

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: P1217360

Luminaire Tested: S124DRP-H290D930-X4F0-XX-UDD-G-W

Issue Date: 4/9/2026

**Test Information**

Test Method: LM-79-2024  
Report Number: P1217360  
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-H290D930-X4F0-XX-UDD-G-W  
Description: DEFINE 4, DIRECT RECESSED WITH GRAZE FLUSH OPTIC  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3000K CCT, 90 CRI LEDS  
Ballast/Driver: -

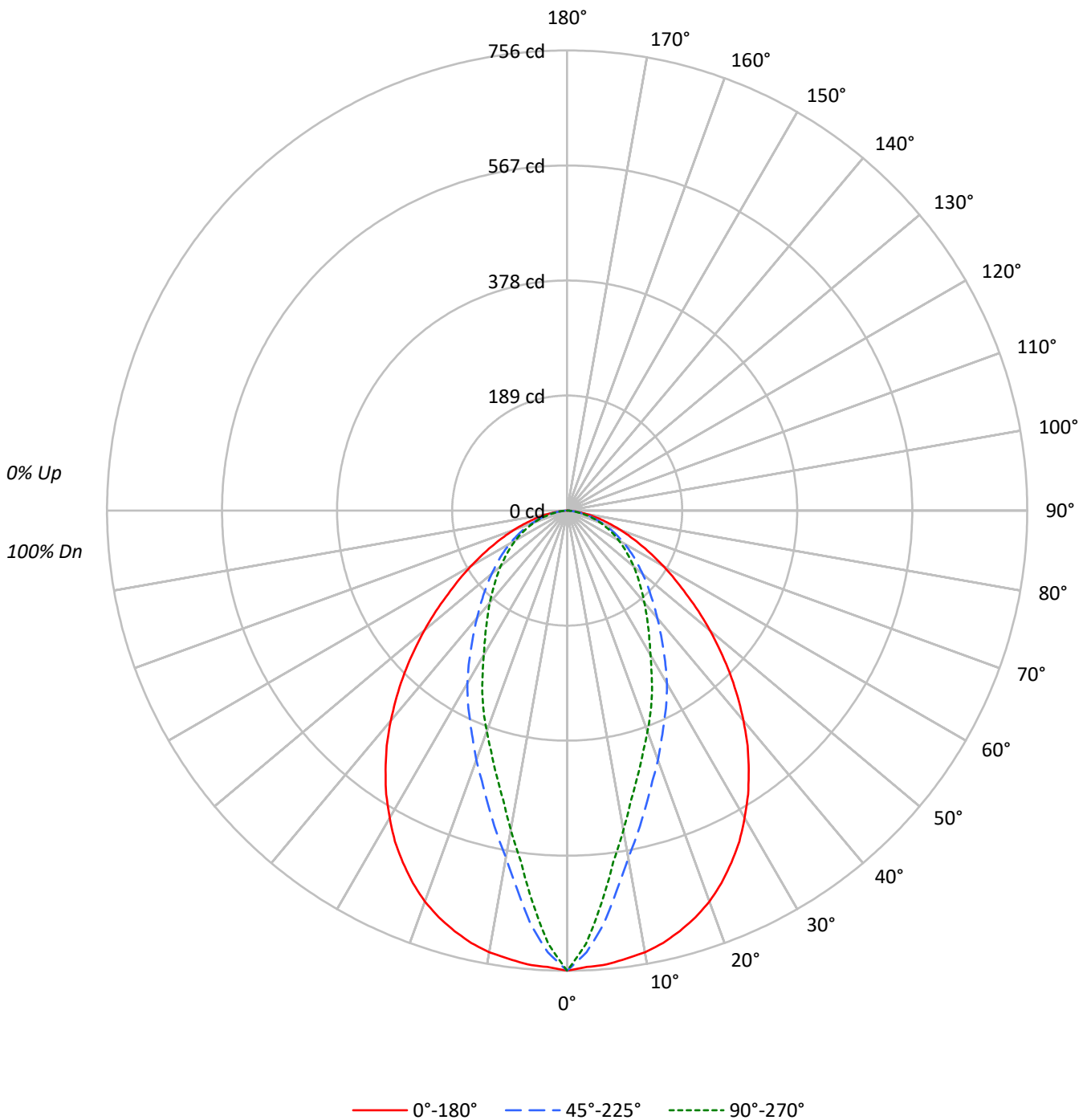
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1060.0 lumens  
Efficiency: N/A  
Efficacy: 90.6 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): 11.7  
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 |   |  |   |
| 1   | 110 | 106 | 102 | 99  | 108 | 104 | 100 | 97  | 100 | 97  | 94  | 96  | 94  | 92  | 92  | 90  | 89  |     |    |    |    | 87 |     |   |  |   |
| 2   | 102 | 94  | 88  | 83  | 99  | 92  | 87  | 82  | 89  | 84  | 80  | 86  | 82  | 79  | 83  | 80  | 77  |     |    |    |    | 75 |     |   |  |   |
| 3   | 94  | 84  | 77  | 71  | 91  | 83  | 76  | 71  | 80  | 74  | 69  | 77  | 72  | 68  | 75  | 71  | 67  |     |    |    |    | 65 |     |   |  |   |
| 4   | 87  | 76  | 68  | 62  | 84  | 75  | 67  | 62  | 72  | 66  | 61  | 70  | 64  | 60  | 68  | 63  | 59  |     |    |    |    | 57 |     |   |  |   |
| 5   | 80  | 69  | 61  | 55  | 78  | 68  | 60  | 54  | 66  | 59  | 54  | 64  | 58  | 53  | 62  | 57  | 53  |     |    |    |    | 51 |     |   |  |   |
| 6   | 75  | 63  | 55  | 49  | 73  | 62  | 54  | 49  | 60  | 53  | 48  | 58  | 52  | 48  | 57  | 52  | 47  |     |    |    |    | 45 |     |   |  |   |
| 7   | 70  | 58  | 50  | 44  | 68  | 57  | 49  | 44  | 55  | 48  | 43  | 54  | 48  | 43  | 53  | 47  | 43  |     |    |    |    | 41 |     |   |  |   |
| 8   | 66  | 53  | 45  | 40  | 64  | 52  | 45  | 40  | 51  | 44  | 40  | 50  | 44  | 39  | 49  | 43  | 39  |     |    |    |    | 37 |     |   |  |   |
| 9   | 62  | 49  | 42  | 36  | 60  | 49  | 41  | 36  | 48  | 41  | 36  | 47  | 40  | 36  | 46  | 40  | 36  |     |    |    |    | 34 |     |   |  |   |
| 10  | 58  | 46  | 38  | 34  | 57  | 45  | 38  | 34  | 44  | 38  | 33  | 43  | 37  | 33  | 43  | 37  | 33  |     |    |    |    | 31 |     |   |  |   |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 6682 | 6682 | 6682 |
| 5°  | 6643 | 6061 | 5745 |
| 10° | 6615 | 5196 | 4781 |
| 15° | 6546 | 4585 | 4113 |
| 20° | 6432 | 4102 | 3633 |
| 25° | 6227 | 3691 | 3217 |
| 30° | 5953 | 3347 | 2793 |
| 35° | 5615 | 2967 | 2500 |
| 40° | 5201 | 2658 | 2278 |
| 45° | 4728 | 2418 | 2102 |
| 50° | 4212 | 2224 | 1964 |
| 55° | 3673 | 2067 | 1836 |
| 60° | 3225 | 1924 | 1729 |
| 65° | 2793 | 1776 | 1615 |
| 70° | 2417 | 1608 | 1489 |
| 75° | 2012 | 1421 | 1308 |
| 80° | 1558 | 1151 | 1069 |
| 85° | 984  | 781  | 710  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4728 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 63.3   | 6.0       |
| 10°-20°   | 150.3  | 14.2      |
| 20°-30°   | 192.1  | 18.1      |
| 30°-40°   | 195.1  | 18.4      |
| 40°-50°   | 172.9  | 16.3      |
| 50°-60°   | 135.9  | 12.8      |
| 60°-70°   | 92.5   | 8.7       |
| 70°-80°   | 47.5   | 4.5       |
| 80°-90°   | 10.5   | 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°    | 405.6  | 38.3      |
| 0°-40°    | 600.7  | 56.7      |
| 0°-60°    | 909.5  | 85.8      |
| 0°-90°    | 1060.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1060.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 756 | 756   | 756 | 756   | 756 |      |
| 5°  | 748 | 730   | 683 | 657   | 647 | 71   |
| 15° | 715 | 597   | 501 | 460   | 449 | 201  |
| 25° | 638 | 468   | 378 | 342   | 330 | 293  |
| 35° | 520 | 354   | 275 | 240   | 232 | 325  |
| 45° | 378 | 255   | 193 | 173   | 168 | 291  |
| 55° | 238 | 170   | 134 | 122   | 119 | 215  |
| 65° | 134 | 103   | 85  | 79    | 77  | 134  |
| 75° | 59  | 49    | 42  | 40    | 38  | 63   |
| 85° | 10  | 9     | 8   | 8     | 7   | 13   |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 755.8 | 755.8 | 755.8 | 755.8 | 755.8 |
| 2.5°  | 750.5 | 751.5 | 726.5 | 717.5 | 712.2 |
| 5°    | 748.5 | 729.5 | 682.9 | 656.6 | 647.3 |
| 7.5°  | 742.5 | 701.2 | 627.7 | 591.4 | 581.8 |
| 10°   | 736.8 | 668.9 | 578.8 | 542.8 | 532.5 |
| 12.5° | 727.5 | 633.3 | 539.5 | 498.2 | 485.9 |
| 15°   | 715.2 | 597.1 | 500.9 | 459.6 | 449.3 |
| 17.5° | 700.6 | 562.5 | 465.9 | 426.3 | 415.0 |
| 20°   | 683.6 | 530.5 | 436.0 | 395.4 | 386.1 |
| 22.5° | 662.3 | 498.9 | 405.4 | 368.8 | 358.4 |
| 25°   | 638.3 | 467.9 | 378.4 | 342.1 | 329.8 |
| 27.5° | 612.7 | 438.0 | 353.4 | 313.2 | 300.2 |
| 30°   | 583.1 | 409.4 | 327.8 | 285.6 | 273.6 |
| 32.5° | 553.1 | 381.1 | 300.9 | 260.9 | 251.3 |
| 35°   | 520.2 | 354.4 | 274.9 | 240.0 | 231.6 |
| 37.5° | 486.9 | 328.8 | 251.6 | 221.0 | 213.7 |
| 40°   | 450.6 | 303.9 | 230.3 | 203.3 | 197.4 |
| 42.5° | 414.3 | 278.9 | 211.0 | 187.7 | 182.0 |
| 45°   | 378.1 | 255.3 | 193.4 | 173.4 | 168.1 |
| 47.5° | 341.5 | 232.0 | 177.1 | 159.4 | 155.1 |
| 50°   | 306.2 | 210.0 | 161.7 | 146.4 | 142.8 |
| 52.5° | 271.9 | 189.4 | 147.1 | 134.1 | 130.1 |
| 55°   | 238.3 | 170.1 | 134.1 | 122.1 | 119.1 |
| 57.5° | 209.7 | 152.1 | 121.1 | 110.8 | 108.5 |
| 60°   | 182.4 | 134.8 | 108.8 | 100.2 | 97.8  |
| 62.5° | 156.8 | 118.8 | 96.5  | 89.5  | 87.9  |
| 65°   | 133.5 | 103.2 | 84.9  | 78.9  | 77.2  |
| 67.5° | 112.2 | 88.9  | 72.9  | 68.6  | 67.2  |
| 70°   | 93.5  | 74.5  | 62.2  | 58.6  | 57.6  |
| 72.5° | 74.9  | 60.9  | 51.6  | 48.9  | 47.9  |
| 75°   | 58.9  | 48.6  | 41.6  | 39.6  | 38.3  |
| 77.5° | 44.3  | 36.9  | 31.9  | 30.3  | 29.3  |
| 80°   | 30.6  | 26.3  | 22.6  | 22.0  | 21.0  |
| 82.5° | 19.3  | 16.6  | 14.6  | 14.3  | 13.3  |
| 85°   | 9.7   | 9.0   | 7.7   | 7.7   | 7.0   |
| 87.5° | 3.3   | 3.0   | 3.0   | 3.0   | 2.7   |
| 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 | 15.50            | 16.99 | 15.87 | 17.30 | 17.62 | 12.83          | 14.31 | 13.19 | 14.63 | 14.94 |
|                 | 3H   | 17.10            | 18.43 | 17.48 | 18.76 | 19.12 | 14.43          | 15.76 | 14.81 | 16.09 | 16.45 |
|                 | 4H   | 17.63            | 18.88 | 18.03 | 19.23 | 19.60 | 14.99          | 16.24 | 15.39 | 16.58 | 16.96 |
|                 | 6H   | 17.96            | 19.11 | 18.37 | 19.48 | 19.87 | 15.34          | 16.50 | 15.75 | 16.86 | 17.26 |
|                 | 8H   | 18.04            | 19.13 | 18.46 | 19.52 | 19.93 | 15.43          | 16.53 | 15.86 | 16.92 | 17.32 |
|                 | 12H  | 18.07            | 19.12 | 18.50 | 19.50 | 19.93 | 15.46          | 16.52 | 15.90 | 16.90 | 17.33 |
| 4H              | 2H   | 15.73            | 16.98 | 16.13 | 17.33 | 17.71 | 13.50          | 14.75 | 13.90 | 15.10 | 15.48 |
|                 | 3H   | 17.52            | 18.55 | 17.93 | 18.95 | 19.36 | 15.29          | 16.33 | 15.70 | 16.73 | 17.13 |
|                 | 4H   | 18.16            | 19.09 | 18.59 | 19.51 | 19.94 | 15.96          | 16.89 | 16.39 | 17.30 | 17.74 |
|                 | 6H   | 18.60            | 19.41 | 19.06 | 19.86 | 20.32 | 16.41          | 17.22 | 16.87 | 17.67 | 18.13 |
|                 | 8H   | 18.71            | 19.47 | 19.18 | 19.92 | 20.38 | 16.53          | 17.29 | 16.99 | 17.73 | 18.20 |
|                 | 12H  | 18.77            | 19.45 | 19.26 | 19.93 | 20.40 | 16.59          | 17.27 | 17.07 | 17.74 | 18.22 |
| 8H              | 4H   | 18.26            | 19.02 | 18.72 | 19.46 | 19.93 | 16.26          | 17.01 | 16.72 | 17.46 | 17.92 |
|                 | 6H   | 18.78            | 19.40 | 19.28 | 19.89 | 20.37 | 16.81          | 17.43 | 17.30 | 17.92 | 18.40 |
|                 | 8H   | 18.93            | 19.49 | 19.45 | 20.00 | 20.49 | 16.97          | 17.53 | 17.49 | 18.04 | 18.53 |
|                 | 12H  | 19.03            | 19.53 | 19.54 | 20.02 | 20.59 | 17.08          | 17.57 | 17.59 | 18.07 | 18.63 |
| 12H             | 4H   | 18.25            | 18.93 | 18.73 | 19.40 | 19.88 | 16.28          | 16.95 | 16.76 | 17.43 | 17.90 |
|                 | 6H   | 18.77            | 19.33 | 19.29 | 19.84 | 20.33 | 16.84          | 17.40 | 17.36 | 17.91 | 18.40 |
|                 | 8H   | 18.96            | 19.46 | 19.47 | 19.95 | 20.51 | 17.06          | 17.55 | 17.57 | 18.04 | 18.61 |