

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: P1056022

Luminaire Tested: S124R3DRP-S350D930-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1056022  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-8)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/25/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124R3DRP-S350D930-X4F0-XX-UDD-F-B  
Description: DEFINE 4, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
CORE LIGHT ENGINE  
Light Source: 3000K CCT, 90 CRI LEDS  
Ballast/Driver: -

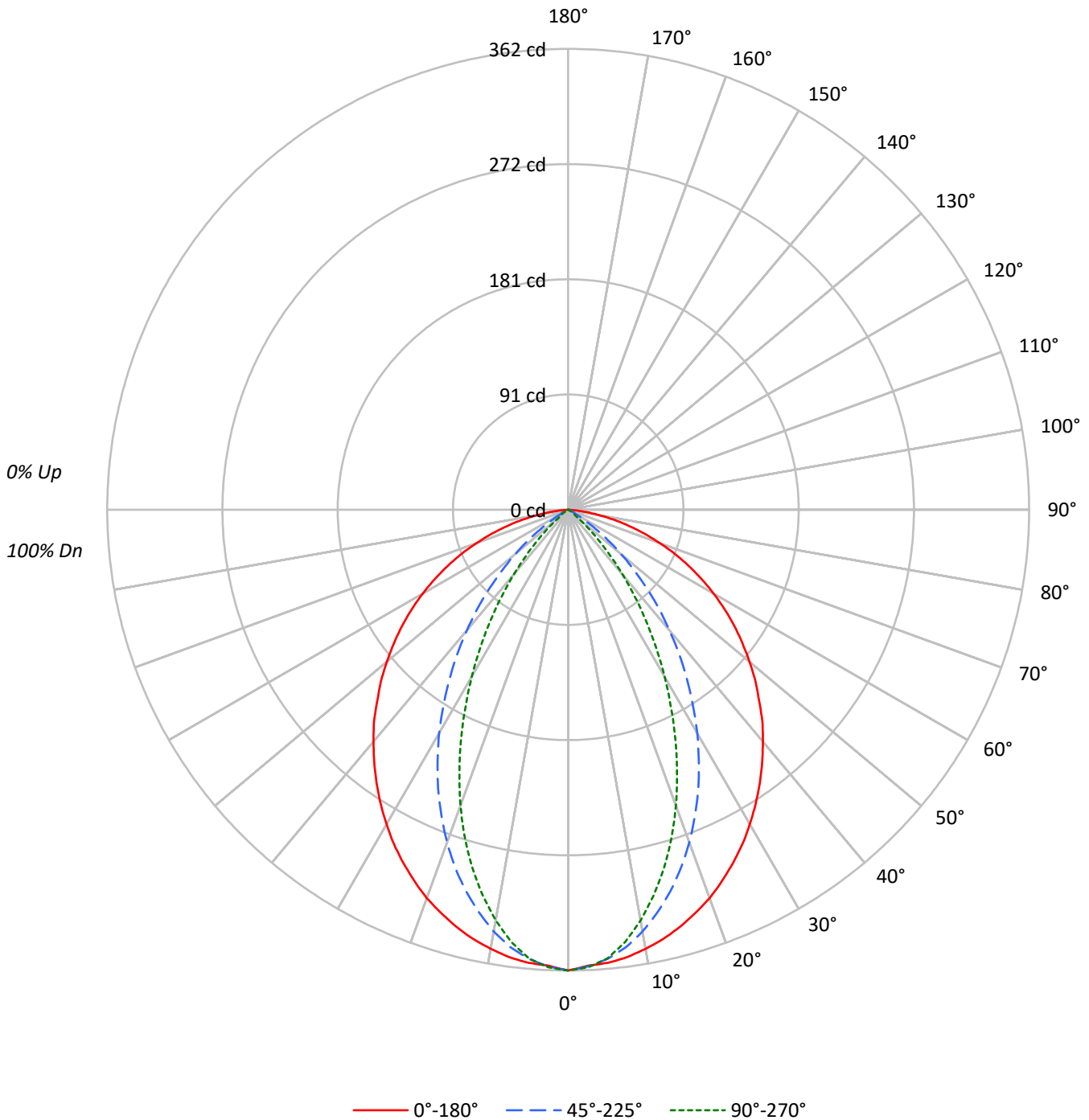
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 505.9 lumens  
Efficiency: N/A  
Efficacy: 40.2 lumens/watt  
Spacing Criteria (0/90/45): 1.18 / 0.81 / 0.97  
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  | 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 | 100 | 102 | 99  | 97  | 98  | 96  | 94  | 95  | 93  | 92  | 90  |
| 2   | 104 | 98  | 93  | 88  | 102 | 96  | 91  | 87  | 93  | 89  | 85  | 90  | 86  | 83  | 87  | 84  | 82  | 80  |
| 3   | 97  | 89  | 82  | 77  | 95  | 87  | 81  | 77  | 84  | 79  | 75  | 82  | 78  | 74  | 79  | 76  | 73  | 71  |
| 4   | 90  | 81  | 74  | 68  | 88  | 80  | 73  | 68  | 77  | 72  | 67  | 75  | 70  | 66  | 73  | 69  | 65  | 64  |
| 5   | 84  | 74  | 66  | 61  | 83  | 73  | 66  | 61  | 71  | 65  | 60  | 69  | 64  | 60  | 67  | 63  | 59  | 57  |
| 6   | 79  | 68  | 60  | 55  | 77  | 67  | 60  | 55  | 65  | 59  | 54  | 64  | 58  | 54  | 62  | 57  | 54  | 52  |
| 7   | 74  | 63  | 55  | 50  | 73  | 62  | 55  | 50  | 60  | 54  | 50  | 59  | 53  | 49  | 58  | 53  | 49  | 47  |
| 8   | 70  | 58  | 51  | 46  | 68  | 57  | 50  | 46  | 56  | 50  | 45  | 55  | 49  | 45  | 54  | 49  | 45  | 43  |
| 9   | 66  | 54  | 47  | 42  | 64  | 53  | 47  | 42  | 52  | 46  | 42  | 51  | 46  | 42  | 50  | 45  | 41  | 40  |
| 10  | 62  | 50  | 43  | 39  | 61  | 50  | 43  | 39  | 49  | 43  | 39  | 48  | 42  | 39  | 47  | 42  | 38  | 37  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 3201 | 3201 | 3201 |
| 5°  | 3171 | 3144 | 3140 |
| 10° | 3145 | 3020 | 2940 |
| 15° | 3106 | 2839 | 2664 |
| 20° | 3055 | 2618 | 2327 |
| 25° | 2987 | 2358 | 1942 |
| 30° | 2913 | 2068 | 1544 |
| 35° | 2830 | 1754 | 1149 |
| 40° | 2745 | 1429 | 766  |
| 45° | 2650 | 1092 | 421  |
| 50° | 2557 | 747  | 117  |
| 55° | 2456 | 405  | 77   |
| 60° | 2334 | 126  | 44   |
| 65° | 2182 | 82   | 23   |
| 70° | 1972 | 36   | 10   |
| 75° | 1698 | 14   | 0    |
| 80° | 1283 | 0    | 0    |
| 85° | 538  | 0    | 0    |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2650 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 33.4   | 6.6       |
| 10°-20°   | 87.7   | 17.3      |
| 20°-30°   | 113.3  | 22.4      |
| 30°-40°   | 108.3  | 21.4      |
| 40°-50°   | 81.0   | 16.0      |
| 50°-60°   | 48.2   | 9.5       |
| 60°-70°   | 24.5   | 4.8       |
| 70°-80°   | 8.5    | 1.7       |
| 80°-90°   | 1.2    | 0.2       |
| 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°    | 234.3  | 46.3      |
| 0°-40°    | 342.6  | 67.7      |
| 0°-60°    | 471.8  | 93.2      |
| 0°-90°    | 505.9  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 505.9  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 362 | 362   | 362 | 362   | 362 |      |
| 5°  | 357 | 360   | 354 | 352   | 354 | 34   |
| 15° | 339 | 332   | 310 | 296   | 291 | 96   |
| 25° | 306 | 285   | 242 | 210   | 199 | 141  |
| 35° | 262 | 226   | 162 | 121   | 106 | 164  |
| 45° | 212 | 162   | 87  | 46    | 34  | 164  |
| 55° | 159 | 99    | 26  | 6     | 5   | 142  |
| 65° | 104 | 40    | 4   | 1     | 1   | 103  |
| 75° | 50  | 5     | 0   | 0     | 0   | 53   |
| 85° | 5   | 0     | 0   | 0     | 0   | 9    |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 362.0 | 362.0 | 362.0 | 362.0 | 362.0 |
| 2.5°  | 358.4 | 362.7 | 359.1 | 359.5 | 359.8 |
| 5°    | 357.3 | 360.2 | 354.2 | 352.4 | 353.8 |
| 7.5°  | 354.5 | 355.6 | 346.7 | 342.1 | 342.4 |
| 10°   | 350.3 | 349.2 | 336.4 | 328.6 | 327.5 |
| 12.5° | 345.3 | 341.7 | 324.0 | 312.6 | 310.2 |
| 15°   | 339.3 | 332.2 | 310.2 | 295.6 | 291.0 |
| 17.5° | 332.2 | 321.9 | 294.9 | 275.7 | 270.1 |
| 20°   | 324.7 | 310.5 | 278.2 | 254.4 | 247.3 |
| 22.5° | 315.8 | 297.7 | 260.1 | 232.1 | 223.2 |
| 25°   | 306.2 | 285.0 | 241.7 | 209.7 | 199.1 |
| 27.5° | 296.3 | 271.1 | 222.1 | 187.0 | 174.6 |
| 30°   | 285.3 | 256.6 | 202.6 | 163.9 | 151.2 |
| 32.5° | 274.0 | 241.7 | 182.4 | 142.7 | 128.5 |
| 35°   | 262.2 | 226.0 | 162.5 | 121.0 | 106.5 |
| 37.5° | 250.2 | 210.4 | 143.4 | 100.4 | 85.5  |
| 40°   | 237.8 | 194.5 | 123.8 | 80.9  | 66.4  |
| 42.5° | 225.7 | 178.5 | 105.4 | 62.5  | 49.0  |
| 45°   | 211.9 | 162.5 | 87.3  | 46.5  | 33.7  |
| 47.5° | 199.4 | 146.9 | 69.9  | 31.6  | 19.9  |
| 50°   | 185.9 | 130.2 | 54.3  | 18.5  | 8.5   |
| 52.5° | 172.5 | 114.6 | 39.7  | 8.2   | 6.4   |
| 55°   | 159.3 | 99.0  | 26.3  | 6.0   | 5.0   |
| 57.5° | 145.5 | 83.4  | 14.2  | 4.6   | 3.5   |
| 60°   | 132.0 | 68.1  | 7.1   | 3.5   | 2.5   |
| 62.5° | 118.2 | 53.6  | 5.7   | 2.1   | 1.4   |
| 65°   | 104.3 | 40.1  | 3.9   | 1.4   | 1.1   |
| 67.5° | 90.5  | 27.3  | 2.5   | 0.7   | 0.4   |
| 70°   | 76.3  | 16.7  | 1.4   | 0.4   | 0.4   |
| 72.5° | 62.8  | 8.5   | 0.7   | 0.4   | 0.4   |
| 75°   | 49.7  | 5.3   | 0.4   | 0.4   | 0.0   |
| 77.5° | 36.9  | 2.8   | 0.4   | 0.4   | 0.0   |
| 80°   | 25.2  | 1.1   | 0.0   | 0.0   | 0.0   |
| 82.5° | 14.5  | 0.4   | 0.0   | 0.0   | 0.0   |
| 85°   | 5.3   | 0.0   | 0.0   | 0.0   | 0.0   |
| 87.5° | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 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 | 14.50            | 15.83 | 14.86 | 16.14 | 16.45 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 3H   | 16.04            | 17.22 | 16.42 | 17.55 | 17.91 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 4H   | 16.63            | 17.73 | 17.04 | 18.08 | 18.46 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 6H   | 17.05            | 18.06 | 17.46 | 18.43 | 18.82 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 8H   | 17.15            | 18.10 | 17.58 | 18.49 | 18.90 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 12H  | 17.17            | 18.08 | 17.60 | 18.46 | 18.89 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
| 4H              | 2H   | 14.27            | 15.37 | 14.68 | 15.72 | 16.10 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 3H   | 15.84            | 16.73 | 16.25 | 17.14 | 17.54 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 4H   | 16.42            | 17.22 | 16.86 | 17.64 | 18.08 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 6H   | 16.88            | 17.57 | 17.34 | 18.01 | 18.48 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 8H   | 17.00            | 17.64 | 17.47 | 18.09 | 18.56 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 12H  | 17.04            | 17.61 | 17.53 | 18.09 | 18.56 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
| 8H              | 4H   | 16.29            | 16.93 | 16.75 | 17.37 | 17.84 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 6H   | 16.73            | 17.25 | 17.23 | 17.74 | 18.23 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 8H   | 16.84            | 17.31 | 17.36 | 17.83 | 18.32 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 12H  | 16.89            | 17.30 | 17.41 | 17.80 | 18.37 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
| 12H             | 4H   | 16.24            | 16.80 | 16.73 | 17.29 | 17.76 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 6H   | 16.66            | 17.13 | 17.19 | 17.65 | 18.14 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 8H   | 16.80            | 17.21 | 17.31 | 17.71 | 18.28 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |