

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: P1055407

Luminaire Tested: S122R3DRP-H865D940-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055407  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-2)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/25/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S122R3DRP-H865D940-X4F0-XX-UDD-F-B  
Description: DEFINE 2, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: -

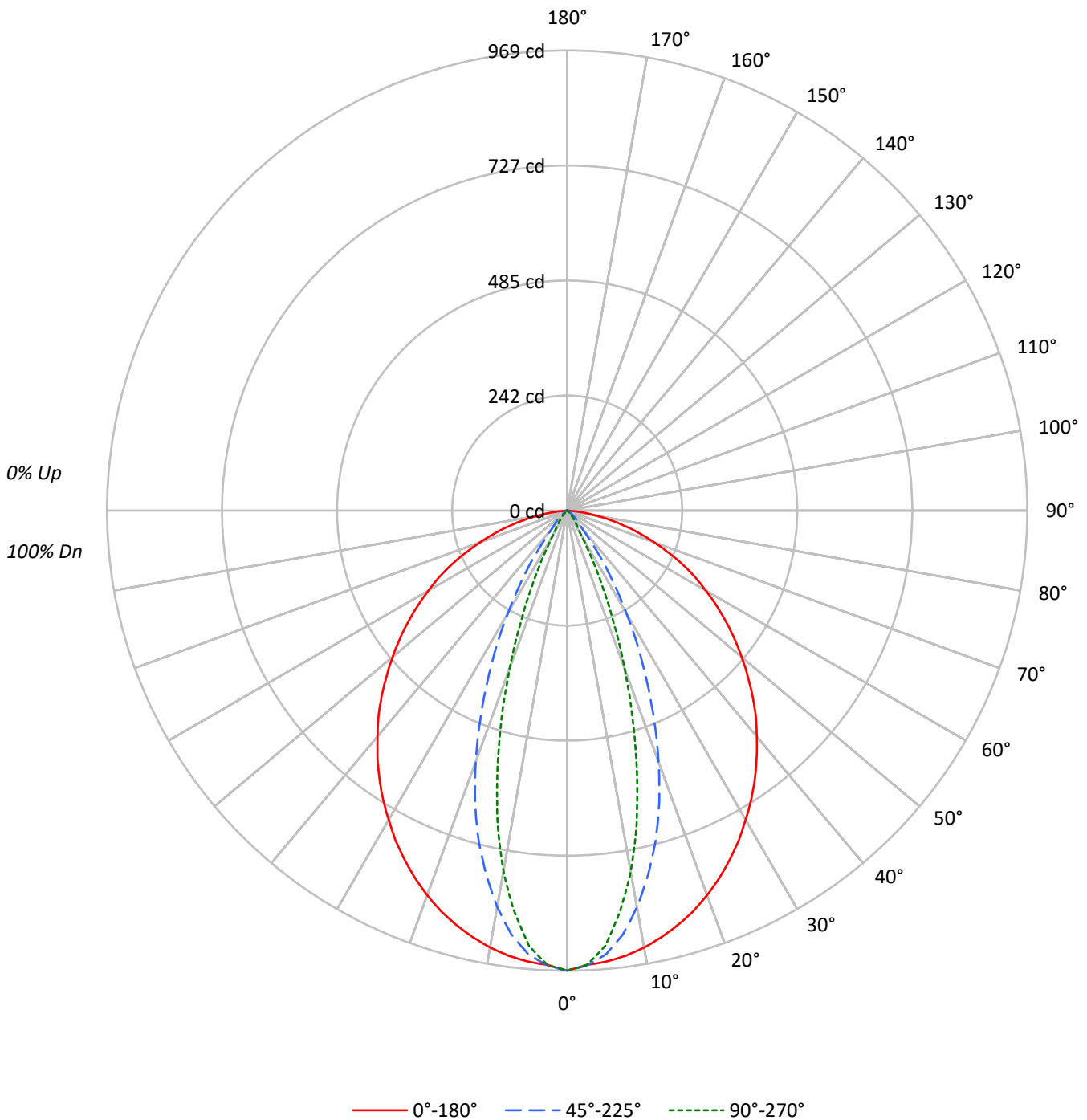
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 881.4 lumens  
Efficiency: N/A  
Efficacy: 28.5 lumens/watt  
Spacing Criteria (0/90/45): 1.16 / 0.56 / 0.7  
Luminous Opening: Rectangular (W 0.15' x L: 3.9' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 30.9  
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   | 112 | 109 | 106 | 103 | 110 | 106 | 104 | 101 | 102 | 100 | 98  | 99  | 97  | 95  | 95  | 94  | 92  | 91  |    |    |    |    | 91  |   |  |   |
| 2   | 105 | 99  | 94  | 90  | 103 | 97  | 93  | 89  | 94  | 90  | 87  | 91  | 88  | 85  | 88  | 86  | 83  | 81  |    |    |    |    | 81  |   |  |   |
| 3   | 98  | 91  | 85  | 80  | 96  | 89  | 84  | 79  | 86  | 82  | 78  | 84  | 80  | 77  | 82  | 78  | 75  | 74  |    |    |    |    | 74  |   |  |   |
| 4   | 92  | 83  | 77  | 72  | 90  | 82  | 76  | 71  | 80  | 75  | 70  | 78  | 73  | 70  | 76  | 72  | 69  | 67  |    |    |    |    | 67  |   |  |   |
| 5   | 87  | 77  | 70  | 65  | 85  | 76  | 70  | 65  | 74  | 69  | 64  | 72  | 68  | 64  | 71  | 66  | 63  | 61  |    |    |    |    | 61  |   |  |   |
| 6   | 82  | 72  | 65  | 60  | 80  | 71  | 64  | 59  | 69  | 63  | 59  | 68  | 62  | 59  | 66  | 62  | 58  | 56  |    |    |    |    | 56  |   |  |   |
| 7   | 77  | 67  | 60  | 55  | 76  | 66  | 59  | 55  | 65  | 59  | 55  | 63  | 58  | 54  | 62  | 57  | 54  | 52  |    |    |    |    | 52  |   |  |   |
| 8   | 73  | 62  | 56  | 51  | 72  | 62  | 55  | 51  | 61  | 55  | 51  | 60  | 54  | 50  | 59  | 54  | 50  | 49  |    |    |    |    | 49  |   |  |   |
| 9   | 70  | 59  | 52  | 48  | 68  | 58  | 52  | 47  | 57  | 51  | 47  | 56  | 51  | 47  | 55  | 50  | 47  | 45  |    |    |    |    | 45  |   |  |   |
| 10  | 66  | 55  | 49  | 45  | 65  | 55  | 49  | 44  | 54  | 48  | 44  | 53  | 48  | 44  | 52  | 47  | 44  | 43  |    |    |    |    | 43  |   |  |   |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 18355 | 18355 | 18355 |
| 5°  | 18130 | 17833 | 17493 |
| 10° | 17974 | 16304 | 14846 |
| 15° | 17714 | 14110 | 11117 |
| 20° | 17377 | 11339 | 7117  |
| 25° | 16947 | 8312  | 3654  |
| 30° | 16445 | 5432  | 1194  |
| 35° | 15943 | 3014  | 696   |
| 40° | 15368 | 1212  | 386   |
| 45° | 14801 | 806   | 150   |
| 50° | 14148 | 460   | 65    |
| 55° | 13500 | 221   | 36    |
| 60° | 12785 | 83    | 0     |
| 65° | 12032 | 49    | 0     |
| 70° | 10796 | 61    | 0     |
| 75° | 9297  | 81    | 0     |
| 80° | 7048  | 0     | 0     |
| 85° | 2913  | 239   | 0     |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 14801 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 86.9   | 9.9       |
| 10°-20°   | 201.8  | 22.9      |
| 20°-30°   | 204.9  | 23.2      |
| 30°-40°   | 153.7  | 17.4      |
| 40°-50°   | 107.7  | 12.2      |
| 50°-60°   | 65.9   | 7.5       |
| 60°-70°   | 39.2   | 4.5       |
| 70°-80°   | 18.1   | 2.1       |
| 80°-90°   | 3.3    | 0.4       |
| 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°    | 493.6  | 56.0      |
| 0°-40°    | 647.3  | 73.4      |
| 0°-60°    | 820.8  | 93.1      |
| 0°-90°    | 881.4  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 881.4  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 969 | 969   | 969 | 969   | 969 |      |
| 5°  | 953 | 962   | 938 | 920   | 920 | 90   |
| 15° | 903 | 854   | 719 | 609   | 567 | 254  |
| 25° | 811 | 668   | 398 | 227   | 175 | 373  |
| 35° | 689 | 449   | 130 | 39    | 30  | 431  |
| 45° | 552 | 237   | 30  | 9     | 6   | 426  |
| 55° | 409 | 72    | 7   | 2     | 1   | 365  |
| 65° | 268 | 21    | 1   | 1     | 0   | 264  |
| 75° | 127 | 2     | 1   | 1     | 0   | 135  |
| 85° | 13  | 0     | 1   | 1     | 0   | 23   |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 968.8 | 968.8 | 968.8 | 968.8 | 968.8 |
| 2.5°  | 957.7 | 972.2 | 958.8 | 956.6 | 957.7 |
| 5°    | 953.3 | 962.2 | 937.7 | 919.8 | 919.8 |
| 7.5°  | 945.5 | 945.5 | 899.8 | 863.1 | 851.9 |
| 10°   | 934.3 | 922.1 | 847.5 | 788.4 | 771.7 |
| 12.5° | 919.8 | 890.9 | 786.2 | 702.7 | 676.0 |
| 15°   | 903.1 | 854.1 | 719.4 | 609.1 | 566.8 |
| 17.5° | 884.2 | 812.9 | 644.8 | 507.8 | 458.8 |
| 20°   | 861.9 | 768.4 | 562.4 | 404.2 | 353.0 |
| 22.5° | 837.4 | 719.4 | 478.9 | 311.8 | 257.2 |
| 25°   | 810.7 | 668.2 | 397.6 | 227.2 | 174.8 |
| 27.5° | 782.9 | 614.7 | 322.9 | 155.9 | 106.9 |
| 30°   | 751.7 | 559.0 | 248.3 | 92.4  | 54.6  |
| 32.5° | 721.6 | 505.6 | 186.0 | 50.1  | 40.1  |
| 35°   | 689.3 | 448.8 | 130.3 | 39.0  | 30.1  |
| 37.5° | 655.9 | 395.3 | 80.2  | 29.0  | 22.3  |
| 40°   | 621.4 | 340.8 | 49.0  | 21.2  | 15.6  |
| 42.5° | 588.0 | 289.5 | 39.0  | 14.5  | 10.0  |
| 45°   | 552.4 | 237.2 | 30.1  | 8.9   | 5.6   |
| 47.5° | 515.6 | 189.3 | 22.3  | 5.6   | 3.3   |
| 50°   | 480.0 | 147.0 | 15.6  | 3.3   | 2.2   |
| 52.5° | 444.3 | 108.0 | 10.0  | 2.2   | 1.1   |
| 55°   | 408.7 | 72.4  | 6.7   | 2.2   | 1.1   |
| 57.5° | 373.1 | 51.2  | 4.5   | 1.1   | 1.1   |
| 60°   | 337.4 | 40.1  | 2.2   | 1.1   | 0.0   |
| 62.5° | 304.0 | 31.2  | 2.2   | 1.1   | 1.1   |
| 65°   | 268.4 | 21.2  | 1.1   | 1.1   | 0.0   |
| 67.5° | 230.5 | 13.4  | 1.1   | 1.1   | 0.0   |
| 70°   | 194.9 | 7.8   | 1.1   | 1.1   | 0.0   |
| 72.5° | 160.4 | 4.5   | 1.1   | 1.1   | 0.0   |
| 75°   | 127.0 | 2.2   | 1.1   | 1.1   | 0.0   |
| 77.5° | 94.7  | 1.1   | 0.0   | 1.1   | 0.0   |
| 80°   | 64.6  | 0.0   | 0.0   | 1.1   | 0.0   |
| 82.5° | 37.9  | 0.0   | 0.0   | 1.1   | 0.0   |
| 85°   | 13.4  | 0.0   | 1.1   | 1.1   | 0.0   |
| 87.5° | 0.0   | 0.0   | 1.1   | 1.1   | 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 | 16.32            | 17.58 | 16.69 | 17.89 | 18.21 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 3H   | 20.06            | 21.18 | 20.44 | 21.51 | 21.88 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 4H   | 21.37            | 22.42 | 21.78 | 22.77 | 23.15 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 6H   | 22.23            | 23.19 | 22.65 | 23.56 | 23.95 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 8H   | 22.44            | 23.35 | 22.87 | 23.74 | 24.14 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 12H  | 22.51            | 23.37 | 22.94 | 23.75 | 24.19 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
| 4H              | 2H   | 16.07            | 17.12 | 16.48 | 17.47 | 17.85 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 3H   | 19.82            | 20.67 | 20.23 | 21.07 | 21.48 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 4H   | 21.11            | 21.88 | 21.55 | 22.30 | 22.74 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 6H   | 22.03            | 22.69 | 22.50 | 23.14 | 23.60 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 8H   | 22.29            | 22.90 | 22.76 | 23.35 | 23.82 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 12H  | 22.39            | 22.93 | 22.88 | 23.42 | 23.89 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
| 8H              | 4H   | 20.97            | 21.58 | 21.44 | 22.03 | 22.50 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 6H   | 21.87            | 22.37 | 22.37 | 22.86 | 23.35 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 8H   | 22.13            | 22.57 | 22.65 | 23.09 | 23.58 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 12H  | 22.25            | 22.63 | 22.76 | 23.13 | 23.70 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
| 12H             | 4H   | 20.92            | 21.46 | 21.41 | 21.94 | 22.42 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 6H   | 21.81            | 22.25 | 22.33 | 22.77 | 23.26 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 8H   | 22.08            | 22.47 | 22.60 | 22.97 | 23.54 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |