

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: P1055401

Luminaire Tested: S122R3DR-H865D930-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055401  
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: S122R3DR-H865D930-X4F0-XX-UDD-F-B  
Description: DEFINE 2, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3000K CCT, 90 CRI LEDS  
Ballast/Driver: -

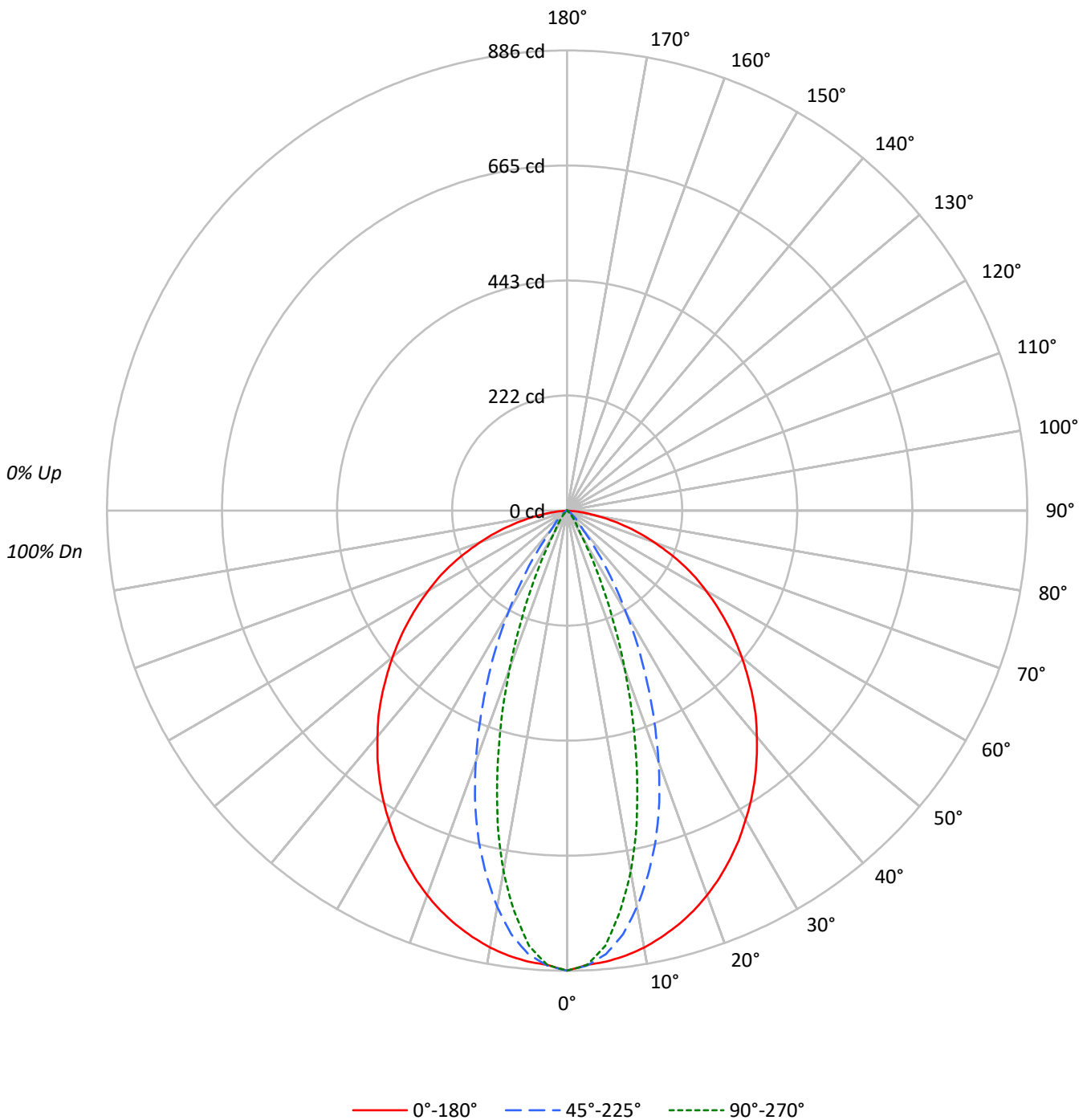
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 805.9 lumens  
Efficiency: N/A  
Efficacy: 26.1 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

TEST NUMBER: P1055401

CATALOG NUMBER: S122R3DR-H865D930-X4F0-XX-UDD-F-B

### Luminous Intensity Polar Plot





TEST NUMBER: P1055401

CATALOG NUMBER: S122R3DR-H865D930-X4F0-XX-UDD-F-B

**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 | 109 | 106 | 103 | 110 | 106 | 104 | 101 | 102 | 100 | 98  | 99  | 97  | 95  | 95  | 94  | 92  | 91  |
| 2   | 105 | 99  | 94  | 90  | 103 | 97  | 93  | 89  | 94  | 90  | 87  | 91  | 88  | 85  | 88  | 86  | 83  | 81  |
| 3   | 98  | 91  | 85  | 80  | 96  | 89  | 84  | 79  | 86  | 82  | 78  | 84  | 80  | 77  | 82  | 78  | 75  | 74  |
| 4   | 92  | 83  | 77  | 72  | 90  | 82  | 76  | 71  | 80  | 75  | 70  | 78  | 73  | 70  | 76  | 72  | 69  | 67  |
| 5   | 87  | 77  | 70  | 65  | 85  | 76  | 70  | 65  | 74  | 69  | 64  | 72  | 68  | 64  | 71  | 66  | 63  | 61  |
| 6   | 82  | 72  | 65  | 60  | 80  | 71  | 64  | 59  | 69  | 63  | 59  | 68  | 63  | 59  | 66  | 62  | 58  | 56  |
| 7   | 77  | 67  | 60  | 55  | 76  | 66  | 59  | 55  | 65  | 59  | 55  | 63  | 58  | 54  | 62  | 57  | 54  | 52  |
| 8   | 73  | 62  | 56  | 51  | 72  | 62  | 55  | 51  | 61  | 55  | 51  | 60  | 54  | 50  | 59  | 54  | 50  | 49  |
| 9   | 70  | 59  | 52  | 48  | 68  | 58  | 52  | 47  | 57  | 51  | 47  | 56  | 51  | 47  | 55  | 50  | 47  | 45  |
| 10  | 66  | 55  | 49  | 45  | 65  | 55  | 49  | 44  | 54  | 48  | 44  | 53  | 48  | 44  | 52  | 48  | 44  | 43  |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 16782 | 16782 | 16782 |
| 5°  | 16576 | 16304 | 15994 |
| 10° | 16435 | 14906 | 13574 |
| 15° | 16197 | 12900 | 10166 |
| 20° | 15889 | 10367 | 6508  |
| 25° | 15494 | 7599  | 3343  |
| 30° | 15036 | 4968  | 1092  |
| 35° | 14578 | 2755  | 636   |
| 40° | 14050 | 1108  | 354   |
| 45° | 13531 | 737   | 137   |
| 50° | 12933 | 421   | 59    |
| 55° | 12344 | 201   | 33    |
| 60° | 11690 | 76    | 0     |
| 65° | 11001 | 45    | 0     |
| 70° | 9871  | 55    | 0     |
| 75° | 8499  | 73    | 0     |
| 80° | 6448  | 0     | 0     |
| 85° | 2652  | 217   | 0     |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 13531 cd/sqm

TEST NUMBER: P1055401

CATALOG NUMBER: S122R3DR-H865D930-X4F0-XX-UDD-F-B

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 79.4   | 9.9       |
| 10°-20°   | 184.5  | 22.9      |
| 20°-30°   | 187.3  | 23.2      |
| 30°-40°   | 140.6  | 17.4      |
| 40°-50°   | 98.4   | 12.2      |
| 50°-60°   | 60.2   | 7.5       |
| 60°-70°   | 35.9   | 4.5       |
| 70°-80°   | 16.5   | 2.1       |
| 80°-90°   | 3.0    | 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°    | 451.3  | 56.0      |
| 0°-40°    | 591.8  | 73.4      |
| 0°-60°    | 750.5  | 93.1      |
| 0°-90°    | 805.9  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 805.9  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 886 | 886   | 886 | 886   | 886 |      |
| 5°  | 872 | 880   | 857 | 841   | 841 | 83   |
| 15° | 826 | 781   | 658 | 557   | 518 | 233  |
| 25° | 741 | 611   | 364 | 208   | 160 | 341  |
| 35° | 630 | 410   | 119 | 36    | 28  | 394  |
| 45° | 505 | 217   | 28  | 8     | 5   | 389  |
| 55° | 374 | 66    | 6   | 2     | 1   | 334  |
| 65° | 245 | 19    | 1   | 1     | 0   | 242  |
| 75° | 116 | 2     | 1   | 1     | 0   | 123  |
| 85° | 12  | 0     | 1   | 1     | 0   | 21   |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



TEST NUMBER: P1055401

CATALOG NUMBER: S122R3DR-H865D930-X4F0-XX-UDD-F-B

**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 885.8 | 885.8 | 885.8 | 885.8 | 885.8 |
| 2.5°  | 875.6 | 888.9 | 876.7 | 874.6 | 875.6 |
| 5°    | 871.6 | 879.7 | 857.3 | 841.0 | 841.0 |
| 7.5°  | 864.4 | 864.4 | 822.7 | 789.1 | 778.9 |
| 10°   | 854.3 | 843.1 | 774.8 | 720.9 | 705.6 |
| 12.5° | 841.0 | 814.6 | 718.8 | 642.5 | 618.0 |
| 15°   | 825.8 | 780.9 | 657.7 | 556.9 | 518.3 |
| 17.5° | 808.4 | 743.3 | 589.5 | 464.3 | 419.5 |
| 20°   | 788.1 | 702.5 | 514.2 | 369.6 | 322.8 |
| 22.5° | 765.7 | 657.7 | 437.8 | 285.1 | 235.2 |
| 25°   | 741.2 | 610.9 | 363.5 | 207.7 | 159.9 |
| 27.5° | 715.8 | 562.0 | 295.3 | 142.5 | 97.7  |
| 30°   | 687.3 | 511.1 | 227.1 | 84.5  | 49.9  |
| 32.5° | 659.8 | 462.3 | 170.0 | 45.8  | 36.7  |
| 35°   | 630.3 | 410.3 | 119.1 | 35.6  | 27.5  |
| 37.5° | 599.7 | 361.5 | 73.3  | 26.5  | 20.4  |
| 40°   | 568.1 | 311.6 | 44.8  | 19.3  | 14.3  |
| 42.5° | 537.6 | 264.7 | 35.6  | 13.2  | 9.2   |
| 45°   | 505.0 | 216.9 | 27.5  | 8.1   | 5.1   |
| 47.5° | 471.4 | 173.1 | 20.4  | 5.1   | 3.1   |
| 50°   | 438.8 | 134.4 | 14.3  | 3.1   | 2.0   |
| 52.5° | 406.3 | 98.8  | 9.2   | 2.0   | 1.0   |
| 55°   | 373.7 | 66.2  | 6.1   | 2.0   | 1.0   |
| 57.5° | 341.1 | 46.8  | 4.1   | 1.0   | 1.0   |
| 60°   | 308.5 | 36.7  | 2.0   | 1.0   | 0.0   |
| 62.5° | 278.0 | 28.5  | 2.0   | 1.0   | 1.0   |
| 65°   | 245.4 | 19.3  | 1.0   | 1.0   | 0.0   |
| 67.5° | 210.8 | 12.2  | 1.0   | 1.0   | 0.0   |
| 70°   | 178.2 | 7.1   | 1.0   | 1.0   | 0.0   |
| 72.5° | 146.6 | 4.1   | 1.0   | 1.0   | 0.0   |
| 75°   | 116.1 | 2.0   | 1.0   | 1.0   | 0.0   |
| 77.5° | 86.5  | 1.0   | 0.0   | 1.0   | 0.0   |
| 80°   | 59.1  | 0.0   | 0.0   | 1.0   | 0.0   |
| 82.5° | 34.6  | 0.0   | 0.0   | 1.0   | 0.0   |
| 85°   | 12.2  | 0.0   | 1.0   | 1.0   | 0.0   |
| 87.5° | 0.0   | 0.0   | 1.0   | 1.0   | 0.0   |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |



TEST NUMBER: P1055401  
 CATALOG NUMBER: S122R3DR-H865D930-X4F0-XX-UDD-F-B

**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 | 16.01            | 17.27 | 16.37 | 17.58 | 17.90 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 3H   | 19.75            | 20.87 | 20.13 | 21.20 | 21.57 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 4H   | 21.06            | 22.10 | 21.47 | 22.45 | 22.84 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 6H   | 21.92            | 22.87 | 22.33 | 23.24 | 23.64 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 8H   | 22.13            | 23.03 | 22.56 | 23.43 | 23.83 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 12H  | 22.19            | 23.06 | 22.63 | 23.44 | 23.87 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
| 4H              | 2H   | 15.76            | 16.80 | 16.17 | 17.15 | 17.54 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 3H   | 19.51            | 20.36 | 19.92 | 20.76 | 21.17 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 4H   | 20.80            | 21.56 | 21.24 | 21.98 | 22.43 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 6H   | 21.72            | 22.38 | 22.18 | 22.82 | 23.29 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 8H   | 21.98            | 22.59 | 22.45 | 23.04 | 23.51 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 12H  | 22.08            | 22.62 | 22.57 | 23.10 | 23.58 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
| 8H              | 4H   | 20.66            | 21.27 | 21.13 | 21.72 | 22.19 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 6H   | 21.56            | 22.05 | 22.06 | 22.55 | 23.03 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 8H   | 21.81            | 22.26 | 22.34 | 22.78 | 23.27 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 12H  | 21.93            | 22.32 | 22.45 | 22.82 | 23.39 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
| 12H             | 4H   | 20.61            | 21.15 | 21.09 | 21.63 | 22.10 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 6H   | 21.49            | 21.94 | 22.02 | 22.45 | 22.95 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 8H   | 21.77            | 22.16 | 22.29 | 22.66 | 23.23 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |