

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: P1055212

Luminaire Tested: S122R3DR-S485D930-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055212  
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-S485D930-X4F0-XX-UDD-F-B  
Description: DEFINE 2, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
CORE LIGHT ENGINE  
Light Source: 3000K CCT, 90 CRI LEDS  
Ballast/Driver: -

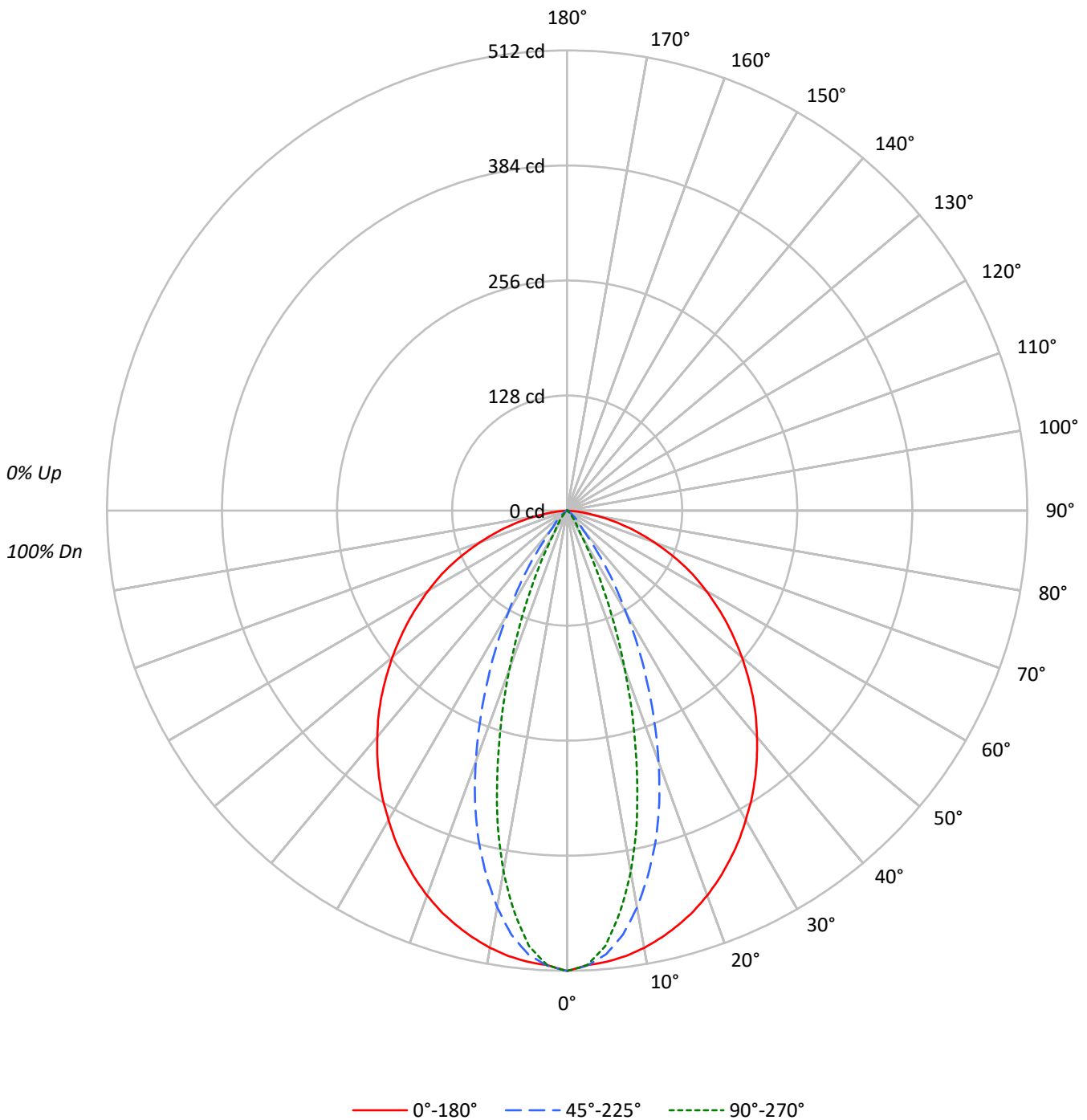
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 466.0 lumens  
Efficiency: N/A  
Efficacy: 24.4 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): 19.1  
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: P105212

CATALOG NUMBER: S122R3DR-S485D930-X4F0-XX-UDD-F-B

### Luminous Intensity Polar Plot





TEST NUMBER: P1055212

CATALOG NUMBER: S122R3DR-S485D930-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  | 62  | 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  | 47  | 44  | 43  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 9704 | 9704 | 9704 |
| 5°  | 9585 | 9427 | 9249 |
| 10° | 9504 | 8621 | 7849 |
| 15° | 9366 | 7459 | 5878 |
| 20° | 9188 | 5994 | 3762 |
| 25° | 8960 | 4394 | 1932 |
| 30° | 8694 | 2872 | 630  |
| 35° | 8428 | 1594 | 368  |
| 40° | 8124 | 641  | 203  |
| 45° | 7824 | 426  | 78   |
| 50° | 7481 | 242  | 35   |
| 55° | 7138 | 116  | 20   |
| 60° | 6760 | 45   | 0    |
| 65° | 6361 | 27   | 0    |
| 70° | 5706 | 33   | 0    |
| 75° | 4912 | 44   | 0    |
| 80° | 3720 | 0    | 0    |
| 85° | 1543 | 130  | 0    |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 7824 cd/sqm

TEST NUMBER: P1055212

CATALOG NUMBER: S122R3DR-S485D930-X4F0-XX-UDD-F-B

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 45.9   | 9.9       |
| 10°-20°   | 106.7  | 22.9      |
| 20°-30°   | 108.3  | 23.2      |
| 30°-40°   | 81.3   | 17.4      |
| 40°-50°   | 56.9   | 12.2      |
| 50°-60°   | 34.8   | 7.5       |
| 60°-70°   | 20.8   | 4.5       |
| 70°-80°   | 9.6    | 2.1       |
| 80°-90°   | 1.7    | 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°    | 260.9  | 56.0      |
| 0°-40°    | 342.2  | 73.4      |
| 0°-60°    | 434.0  | 93.1      |
| 0°-90°    | 466.0  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 466.0  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 512 | 512   | 512 | 512   | 512 |      |
| 5°  | 504 | 509   | 496 | 486   | 486 | 48   |
| 15° | 478 | 452   | 380 | 322   | 300 | 135  |
| 25° | 429 | 353   | 210 | 120   | 92  | 197  |
| 35° | 364 | 237   | 69  | 21    | 16  | 228  |
| 45° | 292 | 125   | 16  | 5     | 3   | 225  |
| 55° | 216 | 38    | 4   | 1     | 1   | 193  |
| 65° | 142 | 11    | 1   | 1     | 0   | 140  |
| 75° | 67  | 1     | 1   | 1     | 0   | 71   |
| 85° | 7   | 0     | 1   | 1     | 0   | 12   |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



TEST NUMBER: P1055212

CATALOG NUMBER: S122R3DR-S485D930-X4F0-XX-UDD-F-B

**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 512.2 | 512.2 | 512.2 | 512.2 | 512.2 |
| 2.5°  | 506.3 | 514.0 | 506.9 | 505.7 | 506.3 |
| 5°    | 504.0 | 508.7 | 495.7 | 486.3 | 486.3 |
| 7.5°  | 499.9 | 499.9 | 475.7 | 456.3 | 450.4 |
| 10°   | 494.0 | 487.5 | 448.1 | 416.8 | 408.0 |
| 12.5° | 486.3 | 471.0 | 415.7 | 371.5 | 357.4 |
| 15°   | 477.5 | 451.6 | 380.3 | 322.1 | 299.7 |
| 17.5° | 467.5 | 429.8 | 340.9 | 268.5 | 242.6 |
| 20°   | 455.7 | 406.2 | 297.3 | 213.7 | 186.6 |
| 22.5° | 442.8 | 380.3 | 253.2 | 164.9 | 136.0 |
| 25°   | 428.6 | 353.3 | 210.2 | 120.1 | 92.4  |
| 27.5° | 413.9 | 325.0 | 170.7 | 82.4  | 56.5  |
| 30°   | 397.4 | 295.6 | 131.3 | 48.9  | 28.8  |
| 32.5° | 381.5 | 267.3 | 98.3  | 26.5  | 21.2  |
| 35°   | 364.4 | 237.3 | 68.9  | 20.6  | 15.9  |
| 37.5° | 346.8 | 209.0 | 42.4  | 15.3  | 11.8  |
| 40°   | 328.5 | 180.2 | 25.9  | 11.2  | 8.2   |
| 42.5° | 310.9 | 153.1 | 20.6  | 7.7   | 5.3   |
| 45°   | 292.0 | 125.4 | 15.9  | 4.7   | 2.9   |
| 47.5° | 272.6 | 100.1 | 11.8  | 2.9   | 1.8   |
| 50°   | 253.8 | 77.7  | 8.2   | 1.8   | 1.2   |
| 52.5° | 234.9 | 57.1  | 5.3   | 1.2   | 0.6   |
| 55°   | 216.1 | 38.3  | 3.5   | 1.2   | 0.6   |
| 57.5° | 197.2 | 27.1  | 2.4   | 0.6   | 0.6   |
| 60°   | 178.4 | 21.2  | 1.2   | 0.6   | 0.0   |
| 62.5° | 160.7 | 16.5  | 1.2   | 0.6   | 0.6   |
| 65°   | 141.9 | 11.2  | 0.6   | 0.6   | 0.0   |
| 67.5° | 121.9 | 7.1   | 0.6   | 0.6   | 0.0   |
| 70°   | 103.0 | 4.1   | 0.6   | 0.6   | 0.0   |
| 72.5° | 84.8  | 2.4   | 0.6   | 0.6   | 0.0   |
| 75°   | 67.1  | 1.2   | 0.6   | 0.6   | 0.0   |
| 77.5° | 50.0  | 0.6   | 0.0   | 0.6   | 0.0   |
| 80°   | 34.1  | 0.0   | 0.0   | 0.6   | 0.0   |
| 82.5° | 20.0  | 0.0   | 0.0   | 0.6   | 0.0   |
| 85°   | 7.1   | 0.0   | 0.6   | 0.6   | 0.0   |
| 87.5° | 0.0   | 0.0   | 0.6   | 0.6   | 0.0   |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |



TEST NUMBER: P1055212  
 CATALOG NUMBER: S122R3DR-S485D930-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 | 14.11            | 15.37 | 14.47 | 15.68 | 16.00 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 3H   | 17.85            | 18.97 | 18.23 | 19.30 | 19.66 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 4H   | 19.16            | 20.20 | 19.56 | 20.55 | 20.94 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 6H   | 20.01            | 20.97 | 20.43 | 21.34 | 21.73 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 8H   | 20.23            | 21.13 | 20.66 | 21.52 | 21.93 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 12H  | 20.29            | 21.15 | 20.72 | 21.54 | 21.97 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
| 4H              | 2H   | 13.86            | 14.90 | 14.27 | 15.25 | 15.64 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 3H   | 17.60            | 18.46 | 18.02 | 18.86 | 19.26 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 4H   | 18.90            | 19.66 | 19.33 | 20.08 | 20.53 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 6H   | 19.82            | 20.47 | 20.28 | 20.92 | 21.39 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 8H   | 20.07            | 20.69 | 20.54 | 21.13 | 21.61 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 12H  | 20.18            | 20.71 | 20.66 | 21.20 | 21.67 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
| 8H              | 4H   | 18.75            | 19.37 | 19.22 | 19.81 | 20.29 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 6H   | 19.65            | 20.15 | 20.16 | 20.65 | 21.13 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 8H   | 19.91            | 20.35 | 20.43 | 20.87 | 21.36 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 12H  | 20.03            | 20.42 | 20.54 | 20.91 | 21.49 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
| 12H             | 4H   | 18.71            | 19.24 | 19.19 | 19.73 | 20.20 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 6H   | 19.59            | 20.03 | 20.11 | 20.55 | 21.04 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 8H   | 19.87            | 20.25 | 20.38 | 20.75 | 21.32 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |