

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: P1055341

Luminaire Tested: S122R3DRP-H485D850-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055341  
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-H485D850-X4F0-XX-UDD-F-B  
Description: DEFINE 2, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 5000K CCT, 80 CRI LEDS  
Ballast/Driver: -

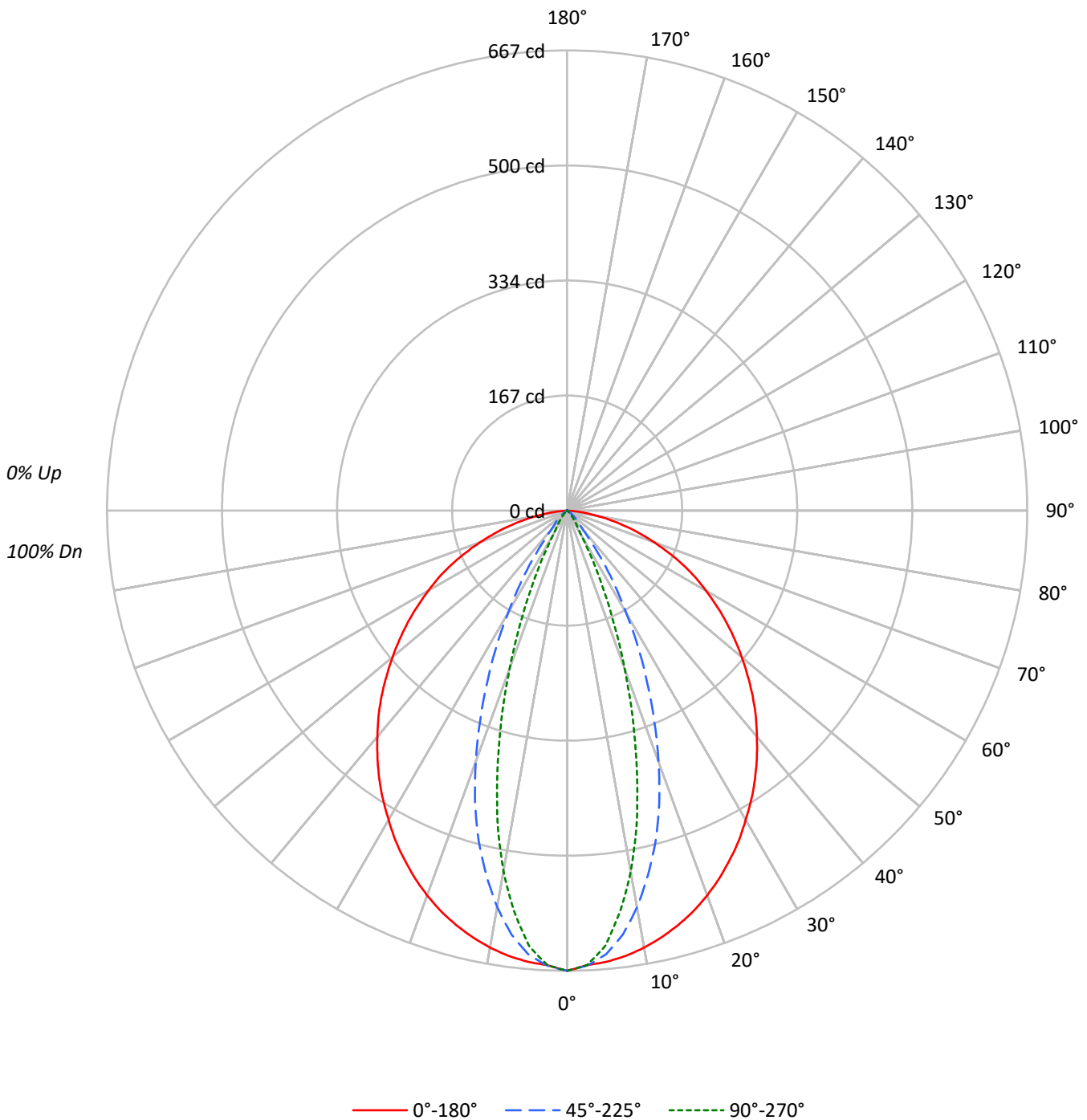
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 607.0 lumens  
Efficiency: N/A  
Efficacy: 35.1 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): 17.3  
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 | 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°  | 12639 | 12639 | 12639 |
| 5°  | 12484 | 12280 | 12046 |
| 10° | 12378 | 11227 | 10223 |
| 15° | 12198 | 9717  | 7655  |
| 20° | 11966 | 7807  | 4901  |
| 25° | 11669 | 5724  | 2517  |
| 30° | 11323 | 3741  | 823   |
| 35° | 10979 | 2075  | 479   |
| 40° | 10583 | 833   | 265   |
| 45° | 10190 | 555   | 102   |
| 50° | 9741  | 315   | 44    |
| 55° | 9295  | 152   | 26    |
| 60° | 8802  | 57    | 0     |
| 65° | 8285  | 36    | 0     |
| 70° | 7434  | 44    | 0     |
| 75° | 6398  | 59    | 0     |
| 80° | 4855  | 0     | 0     |
| 85° | 2000  | 174   | 0     |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 10190 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 59.8   | 9.9       |
| 10°-20°   | 139.0  | 22.9      |
| 20°-30°   | 141.1  | 23.2      |
| 30°-40°   | 105.9  | 17.4      |
| 40°-50°   | 74.1   | 12.2      |
| 50°-60°   | 45.4   | 7.5       |
| 60°-70°   | 27.0   | 4.5       |
| 70°-80°   | 12.5   | 2.1       |
| 80°-90°   | 2.3    | 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°    | 339.9  | 56.0      |
| 0°-40°    | 445.7  | 73.4      |
| 0°-60°    | 565.2  | 93.1      |
| 0°-90°    | 607.0  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 607.0  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 667 | 667   | 667 | 667   | 667 |      |
| 5°  | 656 | 662   | 646 | 633   | 633 | 62   |
| 15° | 622 | 588   | 495 | 420   | 390 | 175  |
| 25° | 558 | 460   | 274 | 156   | 120 | 257  |
| 35° | 475 | 309   | 90  | 27    | 21  | 297  |
| 45° | 380 | 163   | 21  | 6     | 4   | 293  |
| 55° | 281 | 50    | 5   | 2     | 1   | 252  |
| 65° | 185 | 15    | 1   | 1     | 0   | 182  |
| 75° | 87  | 2     | 1   | 1     | 0   | 93   |
| 85° | 9   | 0     | 1   | 1     | 0   | 16   |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 667.1 | 667.1 | 667.1 | 667.1 | 667.1 |
| 2.5°  | 659.5 | 669.4 | 660.2 | 658.7 | 659.5 |
| 5°    | 656.4 | 662.5 | 645.7 | 633.4 | 633.4 |
| 7.5°  | 651.0 | 651.0 | 619.6 | 594.3 | 586.6 |
| 10°   | 643.4 | 634.9 | 583.6 | 542.9 | 531.4 |
| 12.5° | 633.4 | 613.5 | 541.4 | 483.9 | 465.5 |
| 15°   | 621.9 | 588.2 | 495.4 | 419.5 | 390.3 |
| 17.5° | 608.9 | 559.8 | 444.0 | 349.7 | 315.9 |
| 20°   | 593.5 | 529.1 | 387.2 | 278.4 | 243.1 |
| 22.5° | 576.7 | 495.4 | 329.7 | 214.7 | 177.1 |
| 25°   | 558.2 | 460.1 | 273.8 | 156.4 | 120.4 |
| 27.5° | 539.1 | 423.3 | 222.4 | 107.4 | 73.6  |
| 30°   | 517.6 | 384.9 | 171.0 | 63.6  | 37.6  |
| 32.5° | 496.9 | 348.1 | 128.1 | 34.5  | 27.6  |
| 35°   | 474.7 | 309.0 | 89.7  | 26.8  | 20.7  |
| 37.5° | 451.7 | 272.2 | 55.2  | 19.9  | 15.3  |
| 40°   | 427.9 | 234.6 | 33.7  | 14.6  | 10.7  |
| 42.5° | 404.9 | 199.4 | 26.8  | 10.0  | 6.9   |
| 45°   | 380.3 | 163.3 | 20.7  | 6.1   | 3.8   |
| 47.5° | 355.0 | 130.4 | 15.3  | 3.8   | 2.3   |
| 50°   | 330.5 | 101.2 | 10.7  | 2.3   | 1.5   |
| 52.5° | 306.0 | 74.4  | 6.9   | 1.5   | 0.8   |
| 55°   | 281.4 | 49.8  | 4.6   | 1.5   | 0.8   |
| 57.5° | 256.9 | 35.3  | 3.1   | 0.8   | 0.8   |
| 60°   | 232.3 | 27.6  | 1.5   | 0.8   | 0.0   |
| 62.5° | 209.3 | 21.5  | 1.5   | 0.8   | 0.8   |
| 65°   | 184.8 | 14.6  | 0.8   | 0.8   | 0.0   |
| 67.5° | 158.7 | 9.2   | 0.8   | 0.8   | 0.0   |
| 70°   | 134.2 | 5.4   | 0.8   | 0.8   | 0.0   |
| 72.5° | 110.4 | 3.1   | 0.8   | 0.8   | 0.0   |
| 75°   | 87.4  | 1.5   | 0.8   | 0.8   | 0.0   |
| 77.5° | 65.2  | 0.8   | 0.0   | 0.8   | 0.0   |
| 80°   | 44.5  | 0.0   | 0.0   | 0.8   | 0.0   |
| 82.5° | 26.1  | 0.0   | 0.0   | 0.8   | 0.0   |
| 85°   | 9.2   | 0.0   | 0.8   | 0.8   | 0.0   |
| 87.5° | 0.0   | 0.0   | 0.8   | 0.8   | 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 | 15.03            | 16.29 | 15.39 | 16.60 | 16.91 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 3H   | 18.77            | 19.88 | 19.15 | 20.22 | 20.58 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 4H   | 20.08            | 21.12 | 20.48 | 21.47 | 21.85 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 6H   | 20.93            | 21.89 | 21.35 | 22.26 | 22.65 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 8H   | 21.15            | 22.05 | 21.58 | 22.44 | 22.85 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 12H  | 21.21            | 22.07 | 21.64 | 22.46 | 22.89 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
| 4H              | 2H   | 14.78            | 15.82 | 15.18 | 16.17 | 16.56 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 3H   | 18.52            | 19.37 | 18.93 | 19.78 | 20.18 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 4H   | 19.82            | 20.58 | 20.25 | 21.00 | 21.44 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 6H   | 20.74            | 21.39 | 21.20 | 21.84 | 22.31 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 8H   | 20.99            | 21.61 | 21.47 | 22.05 | 22.53 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 12H  | 21.10            | 21.63 | 21.58 | 22.12 | 22.59 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
| 8H              | 4H   | 19.67            | 20.28 | 20.14 | 20.73 | 21.20 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 6H   | 20.57            | 21.07 | 21.08 | 21.57 | 22.05 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 8H   | 20.83            | 21.28 | 21.36 | 21.79 | 22.28 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 12H  | 20.95            | 21.34 | 21.47 | 21.83 | 22.41 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
| 12H             | 4H   | 19.62            | 20.16 | 20.11 | 20.64 | 21.12 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 6H   | 20.51            | 20.95 | 21.03 | 21.47 | 21.96 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 8H   | 20.79            | 21.18 | 21.30 | 21.67 | 22.24 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |