

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P1055296

Luminaire Tested: S122R3DR-H1005D935-X4F0-XX-UDD-FLL-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1055296  
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-H1005D935-X4F0-XX-UDD-FLL-B  
Description: DEFINE 2, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3500K CCT, 90 CRI LEDS  
Ballast/Driver: -

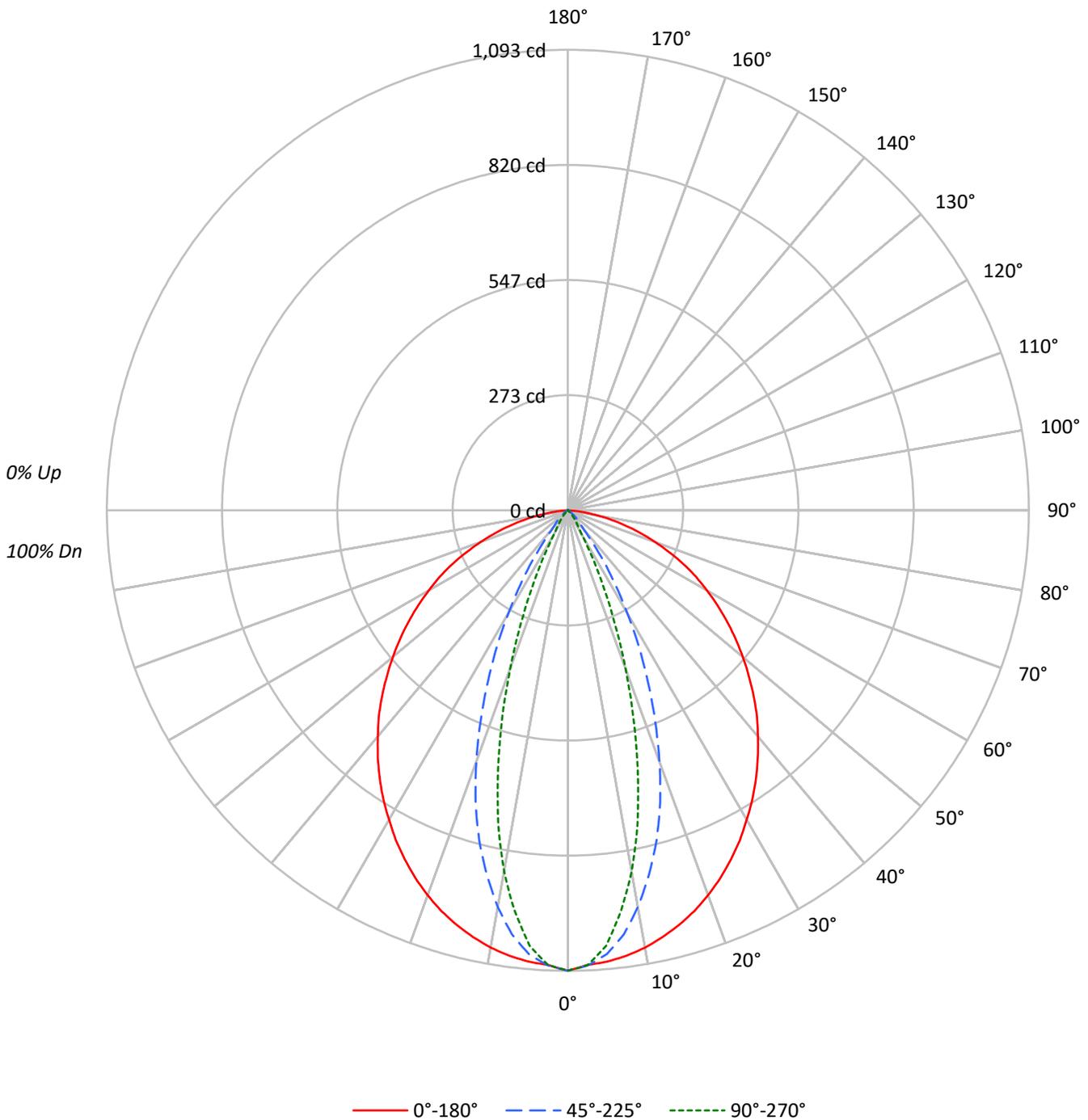
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 994.3 lumens  
Efficiency: N/A  
Efficacy: 27.2 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): 36.6  
Input Voltage (V): 120  
Input Current (Ain): 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 | 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°  | 20704 | 20704 | 20704 |
| 5°  | 20448 | 20114 | 19731 |
| 10° | 20275 | 18390 | 16747 |
| 15° | 19981 | 15915 | 12541 |
| 20° | 19601 | 12789 | 8028  |
| 25° | 19115 | 9374  | 4122  |
| 30° | 18549 | 6128  | 1345  |
| 35° | 17982 | 3400  | 784   |
| 40° | 17335 | 1368  | 435   |
| 45° | 16692 | 908   | 169   |
| 50° | 15958 | 519   | 74    |
| 55° | 15227 | 248   | 43    |
| 60° | 14422 | 95    | 0     |
| 65° | 13570 | 58    | 0     |
| 70° | 12176 | 72    | 0     |
| 75° | 10482 | 95    | 0     |
| 80° | 7954  | 0     | 0     |
| 85° | 3282  | 283   | 0     |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 16692 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 98.0   | 9.9       |
| 10°-20°   | 227.6  | 22.9      |
| 20°-30°   | 231.1  | 23.2      |
| 30°-40°   | 173.4  | 17.4      |
| 40°-50°   | 121.4  | 12.2      |
| 50°-60°   | 74.3   | 7.5       |
| 60°-70°   | 44.3   | 4.5       |
| 70°-80°   | 20.4   | 2.1       |
| 80°-90°   | 3.7    | 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°    | 556.7  | 56.0      |
| 0°-40°    | 730.1  | 73.4      |
| 0°-60°    | 925.9  | 93.1      |
| 0°-90°    | 994.3  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 994.3  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1093 | 1093  | 1093 | 1093  | 1093 |      |
| 5°  | 1075 | 1085  | 1058 | 1038  | 1038 | 102  |
| 15° | 1019 | 963   | 811  | 687   | 639  | 287  |
| 25° | 914  | 754   | 448  | 256   | 197  | 421  |
| 35° | 778  | 506   | 147  | 44    | 34   | 486  |
| 45° | 623  | 268   | 34   | 10    | 6    | 480  |
| 55° | 461  | 82    | 8    | 2     | 1    | 412  |
| 65° | 303  | 24    | 1    | 1     | 0    | 298  |
| 75° | 143  | 2     | 1    | 1     | 0    | 152  |
| 85° | 15   | 0     | 1    | 1     | 0    | 26   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1092.8 | 1092.8 | 1092.8 | 1092.8 | 1092.8 |
| 2.5°  | 1080.2 | 1096.6 | 1081.5 | 1079.0 | 1080.2 |
| 5°    | 1075.2 | 1085.3 | 1057.6 | 1037.5 | 1037.5 |
| 7.5°  | 1066.4 | 1066.4 | 1014.9 | 973.5  | 960.9  |
| 10°   | 1053.9 | 1040.1 | 955.9  | 889.3  | 870.5  |
| 12.5° | 1037.5 | 1004.9 | 886.8  | 792.6  | 762.5  |
| 15°   | 1018.7 | 963.4  | 811.4  | 687.1  | 639.4  |
| 17.5° | 997.3  | 917.0  | 727.3  | 572.8  | 517.5  |
| 20°   | 972.2  | 866.7  | 634.3  | 456.0  | 398.2  |
| 22.5° | 944.6  | 811.4  | 540.1  | 351.7  | 290.2  |
| 25°   | 914.4  | 753.7  | 448.4  | 256.2  | 197.2  |
| 27.5° | 883.0  | 693.4  | 364.3  | 175.9  | 120.6  |
| 30°   | 847.9  | 630.6  | 280.1  | 104.3  | 61.5   |
| 32.5° | 814.0  | 570.3  | 209.8  | 56.5   | 45.2   |
| 35°   | 777.5  | 506.2  | 147.0  | 44.0   | 33.9   |
| 37.5° | 739.8  | 445.9  | 90.4   | 32.7   | 25.1   |
| 40°   | 700.9  | 384.4  | 55.3   | 23.9   | 17.6   |
| 42.5° | 663.2  | 326.6  | 44.0   | 16.3   | 11.3   |
| 45°   | 623.0  | 267.5  | 33.9   | 10.0   | 6.3    |
| 47.5° | 581.6  | 213.5  | 25.1   | 6.3    | 3.8    |
| 50°   | 541.4  | 165.8  | 17.6   | 3.8    | 2.5    |
| 52.5° | 501.2  | 121.8  | 11.3   | 2.5    | 1.3    |
| 55°   | 461.0  | 81.6   | 7.5    | 2.5    | 1.3    |
| 57.5° | 420.8  | 57.8   | 5.0    | 1.3    | 1.3    |
| 60°   | 380.6  | 45.2   | 2.5    | 1.3    | 0.0    |
| 62.5° | 342.9  | 35.2   | 2.5    | 1.3    | 1.3    |
| 65°   | 302.7  | 23.9   | 1.3    | 1.3    | 0.0    |
| 67.5° | 260.0  | 15.1   | 1.3    | 1.3    | 0.0    |
| 70°   | 219.8  | 8.8    | 1.3    | 1.3    | 0.0    |
| 72.5° | 180.9  | 5.0    | 1.3    | 1.3    | 0.0    |
| 75°   | 143.2  | 2.5    | 1.3    | 1.3    | 0.0    |
| 77.5° | 106.8  | 1.3    | 0.0    | 1.3    | 0.0    |
| 80°   | 72.9   | 0.0    | 0.0    | 1.3    | 0.0    |
| 82.5° | 42.7   | 0.0    | 0.0    | 1.3    | 0.0    |
| 85°   | 15.1   | 0.0    | 1.3    | 1.3    | 0.0    |
| 87.5° | 0.0    | 0.0    | 1.3    | 1.3    | 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 | 16.74            | 18.00 | 17.11 | 18.31 | 18.63 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 3H   | 20.48            | 21.60 | 20.86 | 21.93 | 22.29 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 4H   | 21.79            | 22.83 | 22.20 | 23.18 | 23.57 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 6H   | 22.65            | 23.60 | 23.06 | 23.97 | 24.37 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 8H   | 22.86            | 23.76 | 23.29 | 24.16 | 24.56 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 12H  | 22.93            | 23.79 | 23.36 | 24.17 | 24.60 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
| 4H              | 2H   | 16.49            | 17.53 | 16.90 | 17.89 | 18.27 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 3H   | 20.24            | 21.09 | 20.65 | 21.49 | 21.90 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 4H   | 21.53            | 22.29 | 21.97 | 22.71 | 23.16 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 6H   | 22.45            | 23.11 | 22.91 | 23.55 | 24.02 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 8H   | 22.71            | 23.32 | 23.18 | 23.77 | 24.24 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 12H  | 22.81            | 23.35 | 23.30 | 23.83 | 24.31 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
| 8H              | 4H   | 21.39            | 22.00 | 21.86 | 22.45 | 22.92 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 6H   | 22.29            | 22.78 | 22.79 | 23.28 | 23.76 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 8H   | 22.55            | 22.99 | 23.07 | 23.51 | 24.00 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 12H  | 22.66            | 23.05 | 23.18 | 23.55 | 24.12 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
| 12H             | 4H   | 21.34            | 21.88 | 21.82 | 22.36 | 22.83 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 6H   | 22.22            | 22.67 | 22.75 | 23.19 | 23.68 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 8H   | 22.50            | 22.89 | 23.02 | 23.39 | 23.96 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |