

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: P1055153

Luminaire Tested: S122R3DR-S1005D850-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055153  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-3)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/25/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S122R3DR-S1005D850-X4F0-XX-UDD-F-S  
Description: DEFINE 2, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
CORE LIGHT ENGINE  
Light Source: 5000K CCT, 80 CRI LEDS  
Ballast/Driver: -

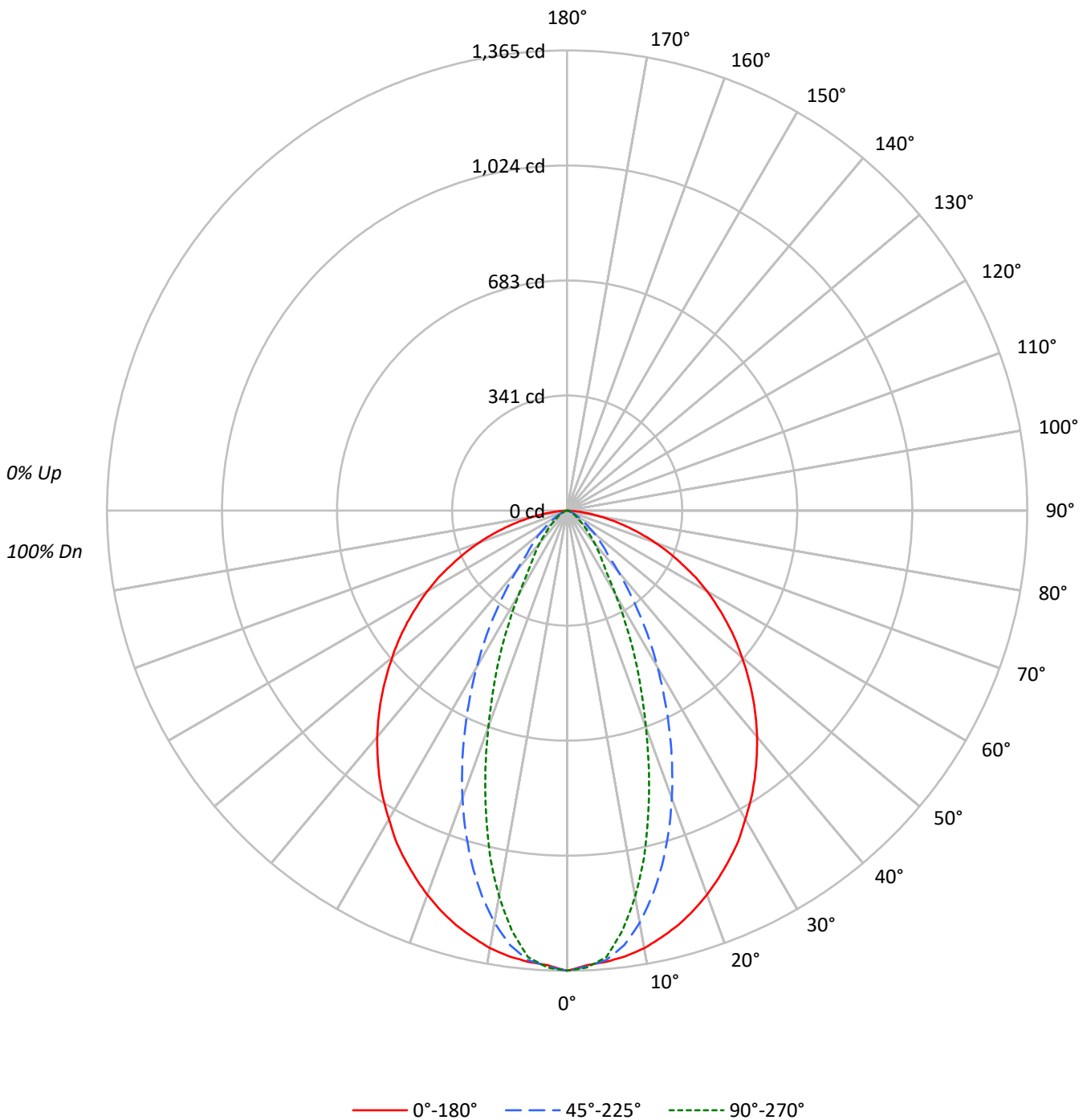
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1564.1 lumens  
Efficiency: N/A  
Efficacy: 37.3 lumens/watt  
Spacing Criteria (0/90/45): 1.16 / 0.64 / 0.81  
Luminous Opening: Rectangular (W 0.15' x L: 3.9' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 41.9  
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  | 0   |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |
| 1   | 112 | 108 | 105 | 102 | 109 | 106 | 103 | 100 | 102 | 99  | 97  | 98  | 96  | 94  | 94  | 93  | 92  | 90  |
| 2   | 104 | 98  | 93  | 88  | 102 | 96  | 91  | 87  | 93  | 89  | 85  | 90  | 86  | 83  | 87  | 84  | 82  | 80  |
| 3   | 97  | 89  | 83  | 78  | 95  | 88  | 82  | 77  | 85  | 80  | 76  | 82  | 78  | 74  | 80  | 76  | 73  | 71  |
| 4   | 91  | 81  | 74  | 69  | 89  | 80  | 74  | 69  | 78  | 72  | 68  | 76  | 71  | 67  | 74  | 70  | 66  | 64  |
| 5   | 85  | 75  | 67  | 62  | 83  | 74  | 67  | 62  | 72  | 66  | 61  | 70  | 65  | 61  | 68  | 64  | 60  | 58  |
| 6   | 80  | 69  | 62  | 56  | 78  | 68  | 61  | 56  | 66  | 60  | 56  | 65  | 59  | 55  | 63  | 59  | 55  | 53  |
| 7   | 75  | 64  | 57  | 52  | 74  | 63  | 56  | 51  | 62  | 56  | 51  | 60  | 55  | 51  | 59  | 54  | 50  | 49  |
| 8   | 71  | 59  | 52  | 47  | 69  | 59  | 52  | 47  | 58  | 51  | 47  | 56  | 51  | 47  | 55  | 50  | 47  | 45  |
| 9   | 67  | 56  | 49  | 44  | 66  | 55  | 48  | 44  | 54  | 48  | 44  | 53  | 47  | 43  | 52  | 47  | 43  | 42  |
| 10  | 63  | 52  | 45  | 41  | 62  | 52  | 45  | 41  | 51  | 45  | 41  | 50  | 44  | 40  | 49  | 44  | 40  | 39  |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 25857 | 25857 | 25857 |
| 5°  | 25543 | 25446 | 25289 |
| 10° | 25356 | 23875 | 22362 |
| 15° | 24965 | 21356 | 18239 |
| 20° | 24448 | 18311 | 13758 |
| 25° | 23846 | 14999 | 9825  |
| 30° | 23124 | 11708 | 6257  |
| 35° | 22437 | 8588  | 4177  |
| 40° | 21675 | 5792  | 3143  |
| 45° | 20837 | 4078  | 2240  |
| 50° | 19966 | 3107  | 1577  |
| 55° | 19115 | 2154  | 1159  |
| 60° | 18188 | 1459  | 951   |
| 65° | 16869 | 1049  | 749   |
| 70° | 15377 | 836   | 648   |
| 75° | 13345 | 732   | 490   |
| 80° | 10583 | 546   | 546   |
| 85° | 5826  | 717   | 370   |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 20837 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 124.8  | 8.0       |
| 10°-20°   | 306.3  | 19.6      |
| 20°-30°   | 349.9  | 22.4      |
| 30°-40°   | 296.7  | 19.0      |
| 40°-50°   | 221.4  | 14.2      |
| 50°-60°   | 143.1  | 9.1       |
| 60°-70°   | 79.8   | 5.1       |
| 70°-80°   | 35.0   | 2.2       |
| 80°-90°   | 7.2    | 0.5       |
| 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°    | 780.9  | 49.9      |
| 0°-40°    | 1077.6 | 68.9      |
| 0°-60°    | 1442.1 | 92.2      |
| 0°-90°    | 1564.1 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1564.1 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1365 | 1365  | 1365 | 1365  | 1365 |      |
| 5°  | 1343 | 1360  | 1338 | 1325  | 1330 | 127  |
| 15° | 1273 | 1241  | 1089 | 973   | 930  | 358  |
| 25° | 1141 | 1007  | 718  | 525   | 470  | 525  |
| 35° | 970  | 731   | 371  | 202   | 181  | 606  |
| 45° | 778  | 462   | 152  | 99    | 84   | 600  |
| 55° | 579  | 219   | 65   | 40    | 35   | 517  |
| 65° | 376  | 80    | 23   | 18    | 17   | 374  |
| 75° | 182  | 17    | 10   | 8     | 7    | 194  |
| 85° | 27   | 2     | 3    | 2     | 2    | 38   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1364.8 | 1364.8 | 1364.8 | 1364.8 | 1364.8 |
| 2.5°  | 1349.7 | 1369.8 | 1353.1 | 1353.1 | 1356.4 |
| 5°    | 1343.1 | 1359.8 | 1338.0 | 1324.7 | 1329.7 |
| 7.5°  | 1333.0 | 1344.7 | 1299.6 | 1259.4 | 1256.1 |
| 10°   | 1318.0 | 1323.0 | 1241.0 | 1179.1 | 1162.4 |
| 12.5° | 1296.2 | 1284.5 | 1169.1 | 1082.1 | 1053.7 |
| 15°   | 1272.8 | 1241.0 | 1088.8 | 973.4  | 929.9  |
| 17.5° | 1244.4 | 1187.5 | 1000.2 | 859.7  | 806.2  |
| 20°   | 1212.6 | 1132.3 | 908.2  | 740.9  | 682.4  |
| 22.5° | 1177.5 | 1070.4 | 812.9  | 628.9  | 570.3  |
| 25°   | 1140.7 | 1006.9 | 717.5  | 525.2  | 470.0  |
| 27.5° | 1102.2 | 940.0  | 623.9  | 431.5  | 371.3  |
| 30°   | 1057.0 | 871.4  | 535.2  | 341.2  | 286.0  |
| 32.5° | 1015.2 | 799.5  | 453.3  | 264.3  | 217.4  |
| 35°   | 970.1  | 730.9  | 371.3  | 202.4  | 180.6  |
| 37.5° | 923.2  | 662.3  | 299.4  | 170.6  | 152.2  |
| 40°   | 876.4  | 593.8  | 234.2  | 143.8  | 127.1  |
| 42.5° | 827.9  | 526.9  | 180.6  | 120.4  | 103.7  |
| 45°   | 777.7  | 461.6  | 152.2  | 98.7   | 83.6   |
| 47.5° | 727.6  | 396.4  | 127.1  | 78.6   | 66.9   |
| 50°   | 677.4  | 334.5  | 105.4  | 61.9   | 53.5   |
| 52.5° | 628.9  | 276.0  | 83.6   | 50.2   | 43.5   |
| 55°   | 578.7  | 219.1  | 65.2   | 40.1   | 35.1   |
| 57.5° | 528.5  | 170.6  | 50.2   | 33.5   | 30.1   |
| 60°   | 480.0  | 128.8  | 38.5   | 26.8   | 25.1   |
| 62.5° | 429.8  | 103.7  | 30.1   | 21.7   | 20.1   |
| 65°   | 376.3  | 80.3   | 23.4   | 18.4   | 16.7   |
| 67.5° | 327.8  | 58.5   | 18.4   | 15.1   | 13.4   |
| 70°   | 277.6  | 40.1   | 15.1   | 13.4   | 11.7   |
| 72.5° | 229.1  | 25.1   | 11.7   | 10.0   | 10.0   |
| 75°   | 182.3  | 16.7   | 10.0   | 8.4    | 6.7    |
| 77.5° | 138.8  | 10.0   | 6.7    | 6.7    | 5.0    |
| 80°   | 97.0   | 6.7    | 5.0    | 5.0    | 5.0    |
| 82.5° | 60.2   | 5.0    | 3.3    | 3.3    | 3.3    |
| 85°   | 26.8   | 1.7    | 3.3    | 1.7    | 1.7    |
| 87.5° | 5.0    | 1.7    | 1.7    | 1.7    | 1.7    |
| 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 | 19.55            | 20.87 | 19.92 | 21.18 | 21.50 | 5.87           | 7.19 | 6.24 | 7.50 | 7.82  |
|                 | 3H   | 22.02            | 23.19 | 22.40 | 23.52 | 23.89 | 6.72           | 7.89 | 7.10 | 8.22 | 8.59  |
|                 | 4H   | 22.98            | 24.07 | 23.38 | 24.42 | 24.80 | 7.00           | 8.09 | 7.40 | 8.44 | 8.82  |
|                 | 6H   | 23.66            | 24.67 | 24.08 | 25.04 | 25.43 | 7.18           | 8.19 | 7.60 | 8.56 | 8.95  |
|                 | 8H   | 23.86            | 24.81 | 24.29 | 25.20 | 25.61 | 7.26           | 8.21 | 7.69 | 8.60 | 9.00  |
|                 | 12H  | 23.94            | 24.85 | 24.37 | 25.23 | 25.66 | 7.28           | 8.19 | 7.71 | 8.57 | 9.00  |
| 4H              | 2H   | 19.34            | 20.43 | 19.74 | 20.78 | 21.16 | 6.44           | 7.53 | 6.84 | 7.88 | 8.27  |
|                 | 3H   | 21.82            | 22.72 | 22.23 | 23.12 | 23.52 | 7.47           | 8.37 | 7.89 | 8.77 | 9.17  |
|                 | 4H   | 22.76            | 23.56 | 23.20 | 23.98 | 24.43 | 7.84           | 8.64 | 8.28 | 9.06 | 9.50  |
|                 | 6H   | 23.52            | 24.21 | 23.98 | 24.66 | 25.12 | 8.13           | 8.82 | 8.59 | 9.27 | 9.73  |
|                 | 8H   | 23.76            | 24.41 | 24.23 | 24.85 | 25.32 | 8.23           | 8.87 | 8.70 | 9.32 | 9.79  |
|                 | 12H  | 23.89            | 24.46 | 24.38 | 24.94 | 25.42 | 8.27           | 8.84 | 8.76 | 9.32 | 9.80  |
| 8H              | 4H   | 22.63            | 23.28 | 23.10 | 23.72 | 24.19 | 8.21           | 8.86 | 8.68 | 9.30 | 9.77  |
|                 | 6H   | 23.37            | 23.89 | 23.87 | 24.39 | 24.87 | 8.57           | 9.09 | 9.07 | 9.59 | 10.07 |
|                 | 8H   | 23.61            | 24.09 | 24.14 | 24.60 | 25.09 | 8.70           | 9.17 | 9.23 | 9.69 | 10.18 |
|                 | 12H  | 23.77            | 24.18 | 24.28 | 24.67 | 25.25 | 8.79           | 9.20 | 9.30 | 9.70 | 10.27 |
| 12H             | 4H   | 22.59            | 23.16 | 23.07 | 23.64 | 24.11 | 8.33           | 8.90 | 8.82 | 9.38 | 9.86  |
|                 | 6H   | 23.31            | 23.78 | 23.83 | 24.30 | 24.79 | 8.69           | 9.16 | 9.21 | 9.67 | 10.16 |
|                 | 8H   | 23.57            | 23.99 | 24.09 | 24.48 | 25.05 | 8.86           | 9.28 | 9.38 | 9.77 | 10.34 |