

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: P1439696

Luminaire Tested: S122DR-S485D950-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

**Test Information**

Test Method: LM-79-2024  
Report Number: P1439696  
TEST IS SCALED FROM IESNA LM-79-24 TEST DATA (G2-2602-702-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 4/2/2026  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S122DR-S485D950-X4F0-XX-UDD-FLB-W  
Description: DEFINE 2, DIRECT RECESSED WITH BATWING FLUSH OPTIC  
CORE LIGHT ENGINE  
Light Source: 5000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

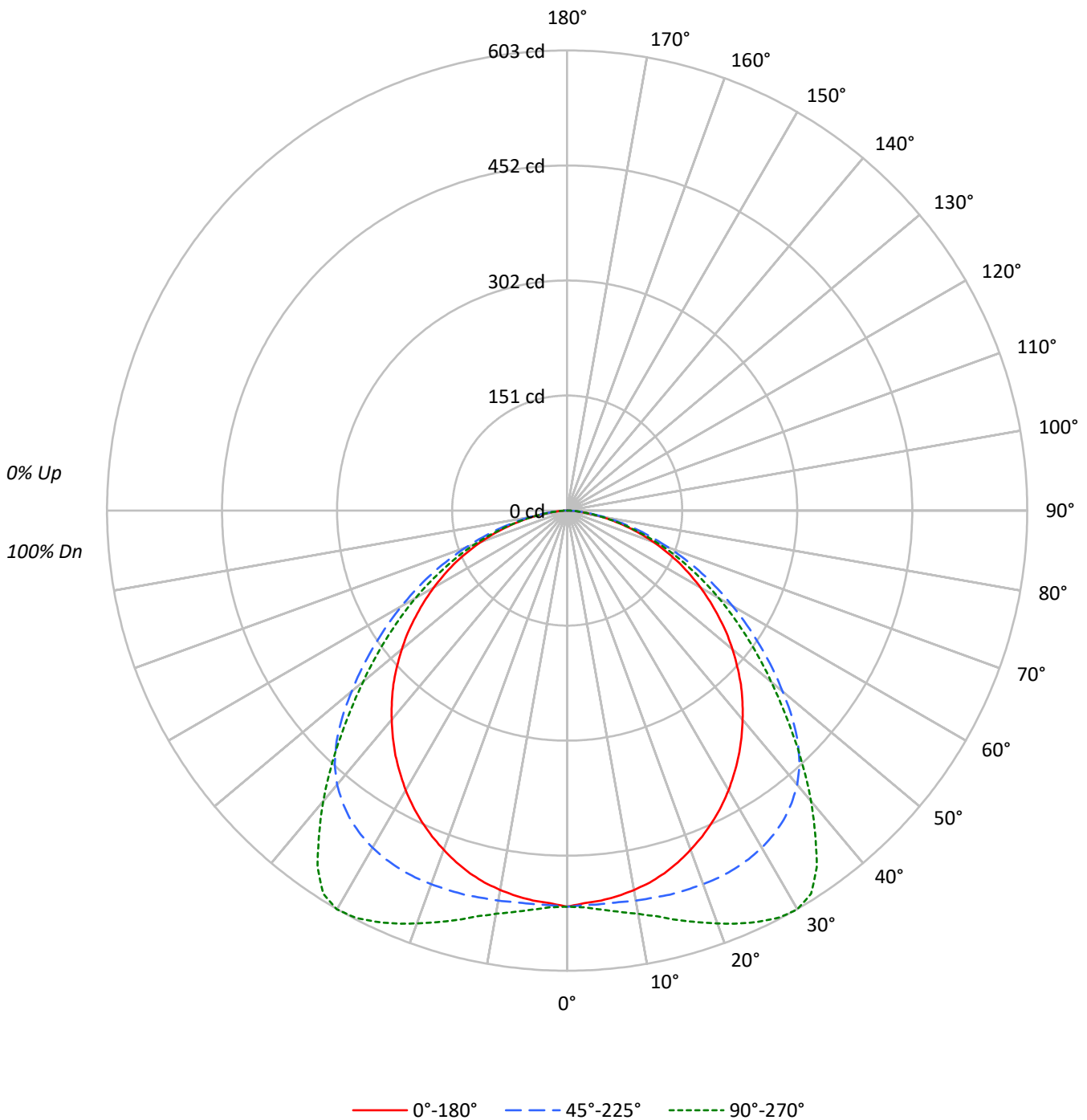
Lumens per Lamp: N/A  
Luminaire Lumens: 1596.1 lumens  
Efficiency: N/A  
Efficacy: 83.6 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.56 / 1.51  
Luminous Opening: Rectangular (W 0.15' x L: 3.9' x H: 0')  
CIE Type: Direct

Input Watts (W): 19.1  
Input Voltage (V): 120  
Input Current (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   | 109 | 105 | 101 | 97  | 107 | 102 | 99  | 95  | 98  | 95  | 92  | 94  | 92  | 89  | 91  | 89  | 87  | 85  |
| 2   | 100 | 91  | 85  | 79  | 97  | 90  | 84  | 78  | 86  | 81  | 76  | 83  | 79  | 75  | 80  | 76  | 73  | 71  |
| 3   | 91  | 80  | 72  | 66  | 88  | 79  | 71  | 66  | 76  | 70  | 64  | 73  | 68  | 63  | 71  | 66  | 62  | 60  |
| 4   | 83  | 71  | 63  | 56  | 81  | 70  | 62  | 56  | 68  | 60  | 55  | 65  | 59  | 54  | 63  | 58  | 53  | 51  |
| 5   | 76  | 64  | 55  | 48  | 74  | 63  | 54  | 48  | 61  | 53  | 47  | 59  | 52  | 47  | 57  | 51  | 46  | 44  |
| 6   | 71  | 57  | 48  | 42  | 69  | 56  | 48  | 42  | 55  | 47  | 42  | 53  | 46  | 41  | 51  | 45  | 41  | 39  |
| 7   | 65  | 52  | 43  | 37  | 64  | 51  | 43  | 37  | 50  | 42  | 37  | 48  | 41  | 36  | 47  | 41  | 36  | 34  |
| 8   | 61  | 47  | 39  | 33  | 59  | 47  | 39  | 33  | 45  | 38  | 33  | 44  | 37  | 33  | 43  | 37  | 32  | 30  |
| 9   | 57  | 43  | 35  | 30  | 55  | 43  | 35  | 30  | 42  | 34  | 29  | 41  | 34  | 29  | 40  | 34  | 29  | 27  |
| 10  | 53  | 40  | 32  | 27  | 52  | 39  | 32  | 27  | 38  | 31  | 27  | 38  | 31  | 26  | 37  | 31  | 26  | 25  |

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

|     | 0°   | 45°   | 90°   |
|-----|------|-------|-------|
| 0°  | 9833 | 9833  | 9833  |
| 5°  | 9754 | 9844  | 9985  |
| 10° | 9711 | 9985  | 10321 |
| 15° | 9650 | 10219 | 10894 |
| 20° | 9539 | 10504 | 11607 |
| 25° | 9409 | 10835 | 12428 |
| 30° | 9256 | 11162 | 13198 |
| 35° | 9069 | 11442 | 13190 |
| 40° | 8847 | 11599 | 12302 |
| 45° | 8625 | 11446 | 11264 |
| 50° | 8335 | 10861 | 10284 |
| 55° | 8003 | 10187 | 9450  |
| 60° | 7647 | 9488  | 8696  |
| 65° | 7231 | 8742  | 7926  |
| 70° | 6653 | 7811  | 7102  |
| 75° | 5878 | 6771  | 6127  |
| 80° | 4855 | 5379  | 4855  |
| 85° | 3217 | 3522  | 3369  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 11537 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 49.6   | 3.1       |
| 10°-20°   | 148.2  | 9.3       |
| 20°-30°   | 240.5  | 15.1      |
| 30°-40°   | 304.3  | 19.1      |
| 40°-50°   | 304.8  | 19.1      |
| 50°-60°   | 255.3  | 16.0      |
| 60°-70°   | 179.9  | 11.3      |
| 70°-80°   | 92.8   | 5.8       |
| 80°-90°   | 20.6   | 1.3       |
| 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°    | 438.4  | 27.5      |
| 0°-40°    | 742.7  | 46.5      |
| 0°-60°    | 1302.8 | 81.6      |
| 0°-90°    | 1596.1 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1596.1 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 519 | 519   | 519 | 519   | 519 |      |
| 5°  | 513 | 522   | 518 | 520   | 525 | 49   |
| 15° | 492 | 506   | 521 | 542   | 555 | 139  |
| 25° | 450 | 474   | 518 | 569   | 594 | 207  |
| 35° | 392 | 424   | 495 | 559   | 570 | 245  |
| 45° | 322 | 356   | 427 | 431   | 420 | 248  |
| 55° | 242 | 272   | 308 | 296   | 286 | 217  |
| 65° | 161 | 180   | 195 | 183   | 177 | 159  |
| 75° | 80  | 88    | 92  | 86    | 84  | 85   |
| 85° | 15  | 16    | 16  | 16    | 16  | 19   |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 519.0 | 519.0 | 519.0 | 519.0 | 519.0 |
| 2.5°  | 514.9 | 523.0 | 517.6 | 518.3 | 520.3 |
| 5°    | 512.9 | 521.7 | 517.6 | 520.3 | 525.0 |
| 7.5°  | 509.5 | 519.0 | 517.6 | 523.0 | 530.4 |
| 10°   | 504.8 | 515.6 | 519.0 | 528.4 | 536.5 |
| 12.5° | 499.4 | 510.9 | 519.6 | 534.5 | 544.6 |
| 15°   | 492.0 | 506.1 | 521.0 | 541.9 | 555.4 |
| 17.5° | 483.2 | 500.1 | 521.0 | 550.0 | 565.5 |
| 20°   | 473.1 | 492.6 | 521.0 | 556.8 | 575.7 |
| 22.5° | 462.3 | 483.9 | 520.3 | 562.8 | 585.8 |
| 25°   | 450.1 | 474.4 | 518.3 | 568.9 | 594.5 |
| 27.5° | 437.3 | 463.6 | 514.9 | 573.6 | 601.3 |
| 30°   | 423.1 | 451.5 | 510.2 | 575.7 | 603.3 |
| 32.5° | 407.6 | 438.7 | 503.4 | 571.6 | 595.2 |
| 35°   | 392.1 | 423.8 | 494.7 | 558.8 | 570.3 |
| 37.5° | 375.2 | 408.3 | 483.2 | 533.8 | 533.8 |
| 40°   | 357.7 | 391.4 | 469.0 | 499.4 | 497.4 |
| 42.5° | 340.1 | 373.9 | 450.8 | 465.7 | 458.9 |
| 45°   | 321.9 | 355.6 | 427.2 | 430.6 | 420.4 |
| 47.5° | 302.3 | 335.4 | 399.5 | 394.8 | 383.3 |
| 50°   | 282.8 | 315.2 | 368.5 | 360.4 | 348.9 |
| 52.5° | 263.2 | 294.2 | 338.8 | 327.3 | 317.2 |
| 55°   | 242.3 | 272.0 | 308.4 | 295.6 | 286.1 |
| 57.5° | 222.0 | 249.7 | 279.4 | 265.2 | 257.1 |
| 60°   | 201.8 | 226.8 | 250.4 | 236.9 | 229.5 |
| 62.5° | 181.5 | 203.1 | 222.7 | 209.2 | 202.5 |
| 65°   | 161.3 | 179.5 | 195.0 | 182.9 | 176.8 |
| 67.5° | 140.4 | 156.6 | 167.4 | 156.6 | 152.5 |
| 70°   | 120.1 | 132.9 | 141.0 | 131.6 | 128.2 |
| 72.5° | 99.9  | 110.7 | 116.1 | 108.7 | 105.3 |
| 75°   | 80.3  | 88.4  | 92.5  | 85.7  | 83.7  |
| 77.5° | 61.4  | 67.5  | 69.5  | 64.8  | 62.1  |
| 80°   | 44.5  | 47.9  | 49.3  | 45.9  | 44.5  |
| 82.5° | 27.7  | 30.4  | 31.7  | 29.0  | 28.3  |
| 85°   | 14.8  | 16.2  | 16.2  | 16.2  | 15.5  |
| 87.5° | 5.4   | 6.7   | 6.7   | 6.7   | 6.1   |
| 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 | 19.43            | 21.04 | 19.79 | 21.35 | 21.67 | 19.94          | 21.55 | 20.30 | 21.87 | 22.18 |
|                 | 3H   | 21.00            | 22.45 | 21.37 | 22.78 | 23.14 | 21.41          | 22.86 | 21.78 | 23.19 | 23.55 |
|                 | 4H   | 21.53            | 22.90 | 21.93 | 23.25 | 23.62 | 21.90          | 23.27 | 22.30 | 23.61 | 23.99 |
|                 | 6H   | 21.88            | 23.14 | 22.29 | 23.51 | 23.90 | 22.20          | 23.47 | 22.61 | 23.83 | 24.22 |
|                 | 8H   | 21.96            | 23.17 | 22.38 | 23.55 | 23.95 | 22.27          | 23.48 | 22.70 | 23.87 | 24.27 |
|                 | 12H  | 22.00            | 23.15 | 22.43 | 23.53 | 23.96 | 22.31          | 23.46 | 22.74 | 23.84 | 24.27 |
| 4H              | 2H   | 20.18            | 21.55 | 20.58 | 21.89 | 22.27 | 20.58          | 21.94 | 20.98 | 22.29 | 22.67 |
|                 | 3H   | 21.95            | 23.09 | 22.36 | 23.49 | 23.89 | 22.25          | 23.38 | 22.65 | 23.78 | 24.18 |
|                 | 4H   | 22.60            | 23.63 | 23.03 | 24.04 | 24.48 | 22.84          | 23.87 | 23.27 | 24.28 | 24.72 |
|                 | 6H   | 23.04            | 23.94 | 23.50 | 24.38 | 24.83 | 23.24          | 24.13 | 23.69 | 24.57 | 25.03 |
|                 | 8H   | 23.15            | 23.99 | 23.61 | 24.43 | 24.90 | 23.34          | 24.17 | 23.80 | 24.62 | 25.08 |
|                 | 12H  | 23.21            | 23.96 | 23.69 | 24.44 | 24.91 | 23.39          | 24.15 | 23.87 | 24.62 | 25.09 |
| 8H              | 4H   | 22.88            | 23.72 | 23.34 | 24.16 | 24.63 | 23.10          | 23.93 | 23.56 | 24.38 | 24.84 |
|                 | 6H   | 23.42            | 24.11 | 23.91 | 24.60 | 25.08 | 23.58          | 24.27 | 24.07 | 24.76 | 25.24 |
|                 | 8H   | 23.58            | 24.20 | 24.09 | 24.71 | 25.20 | 23.72          | 24.35 | 24.23 | 24.85 | 25.34 |
|                 | 12H  | 23.68            | 24.23 | 24.19 | 24.72 | 25.29 | 23.82          | 24.38 | 24.33 | 24.87 | 25.43 |
| 12H             | 4H   | 22.90            | 23.65 | 23.38 | 24.12 | 24.59 | 23.11          | 23.86 | 23.59 | 24.34 | 24.81 |
|                 | 6H   | 23.45            | 24.07 | 23.96 | 24.58 | 25.07 | 23.61          | 24.23 | 24.12 | 24.74 | 25.23 |
|                 | 8H   | 23.65            | 24.21 | 24.16 | 24.70 | 25.26 | 23.80          | 24.35 | 24.30 | 24.84 | 25.40 |