

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: P1059523

Luminaire Tested: S123RDRP-H1165D850-X4F0-XX-UDD-WVL-B

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1059523  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2406-143-28)  
Test Lab: INNOVATION CENTER  
Issue Date: 8/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123RDRP-H1165D850-X4F0-XX-UDD-WVL-B  
Description: DEFINE 3 BLACK REGRESSED DIRECT RECESSED HOUSING WITH WHITE STRAIGHT BLADE  
LOUVER WITH DIFFUSER  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 5000K CCT, 80 CRI LEDS  
Ballast/Driver: -

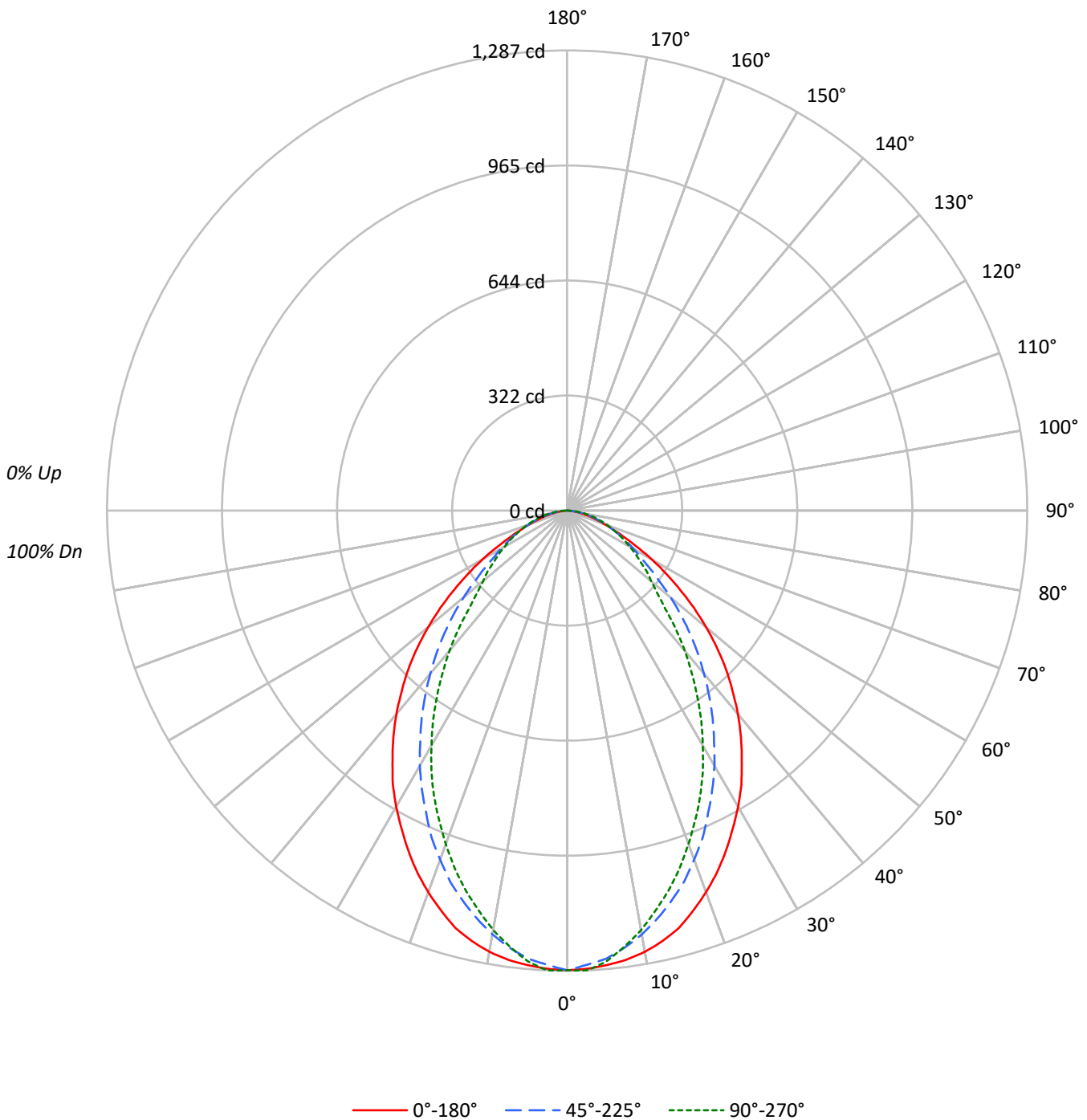
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2248.5 lumens  
Efficiency: N/A  
Efficacy: 61.6 lumens/watt  
Spacing Criteria (0/90/45): 1.12 / 0.95 / 1.09  
Luminous Opening: Rectangular (W 0.23' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 36.5  
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   | 111 | 107 | 103 | 100 | 108 | 104 | 101 | 98  | 100 | 98  | 95  | 96  | 94  | 92  | 93  | 91  | 89  | 88  |
| 2   | 102 | 95  | 89  | 84  | 100 | 93  | 88  | 83  | 90  | 85  | 81  | 87  | 83  | 80  | 84  | 81  | 78  | 76  |
| 3   | 94  | 85  | 78  | 73  | 92  | 84  | 77  | 72  | 81  | 75  | 71  | 78  | 73  | 69  | 76  | 72  | 68  | 66  |
| 4   | 87  | 77  | 69  | 63  | 85  | 76  | 68  | 63  | 73  | 67  | 62  | 71  | 66  | 61  | 69  | 64  | 60  | 58  |
| 5   | 81  | 70  | 62  | 56  | 79  | 69  | 61  | 56  | 67  | 60  | 55  | 65  | 59  | 54  | 63  | 58  | 54  | 52  |
| 6   | 76  | 64  | 56  | 50  | 74  | 63  | 55  | 50  | 61  | 54  | 49  | 59  | 53  | 49  | 58  | 53  | 48  | 47  |
| 7   | 71  | 58  | 50  | 45  | 69  | 58  | 50  | 45  | 56  | 49  | 44  | 55  | 49  | 44  | 53  | 48  | 44  | 42  |
| 8   | 66  | 54  | 46  | 41  | 65  | 53  | 46  | 41  | 52  | 45  | 40  | 51  | 45  | 40  | 50  | 44  | 40  | 38  |
| 9   | 62  | 50  | 42  | 37  | 61  | 49  | 42  | 37  | 48  | 41  | 37  | 47  | 41  | 37  | 46  | 41  | 37  | 35  |
| 10  | 58  | 46  | 39  | 34  | 57  | 46  | 39  | 34  | 45  | 38  | 34  | 44  | 38  | 34  | 43  | 38  | 34  | 32  |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 15096 | 15096 | 15096 |
| 5°  | 15044 | 14826 | 14917 |
| 10° | 14943 | 14352 | 14205 |
| 15° | 14689 | 13731 | 13355 |
| 20° | 14192 | 12976 | 12396 |
| 25° | 13613 | 12092 | 11412 |
| 30° | 12969 | 11167 | 10287 |
| 35° | 12205 | 10166 | 9104  |
| 40° | 11392 | 9119  | 7841  |
| 45° | 10444 | 8057  | 6440  |
| 50° | 9258  | 6916  | 5588  |
| 55° | 7878  | 5790  | 5124  |
| 60° | 6423  | 5045  | 4753  |
| 65° | 4896  | 4465  | 4423  |
| 70° | 3821  | 3979  | 4137  |
| 75° | 3085  | 3575  | 3856  |
| 80° | 2299  | 2928  | 3550  |
| 85° | 1253  | 1873  | 3126  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 10444 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 119.3  | 5.3       |
| 10°-20°   | 321.1  | 14.3      |
| 20°-30°   | 436.5  | 19.4      |
| 30°-40°   | 452.5  | 20.1      |
| 40°-50°   | 381.6  | 17.0      |
| 50°-60°   | 270.9  | 12.0      |
| 60°-70°   | 165.6  | 7.4       |
| 70°-80°   | 82.4   | 3.7       |
| 80°-90°   | 18.7   | 0.8       |
| 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°    | 876.9  | 39.0      |
| 0°-40°    | 1329.4 | 59.1      |
| 0°-60°    | 1981.9 | 88.1      |
| 0°-90°    | 2248.5 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2248.5 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1286 | 1286  | 1286 | 1286  | 1286 |      |
| 5°  | 1276 | 1276  | 1258 | 1266  | 1266 | 121  |
| 15° | 1208 | 1185  | 1130 | 1109  | 1099 | 339  |
| 25° | 1051 | 1004  | 933  | 899   | 881  | 483  |
| 35° | 851  | 786   | 709  | 660   | 635  | 532  |
| 45° | 629  | 562   | 485  | 419   | 388  | 483  |
| 55° | 385  | 345   | 283  | 258   | 250  | 345  |
| 65° | 176  | 170   | 161  | 161   | 159  | 180  |
| 75° | 68   | 73    | 79   | 82    | 85   | 73   |
| 85° | 9    | 11    | 14   | 20    | 23   | 13   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1285.6 | 1285.6 | 1285.6 | 1285.6 | 1285.6 |
| 2.5°  | 1282.5 | 1284.1 | 1271.7 | 1285.6 | 1287.1 |
| 5°    | 1276.3 | 1276.3 | 1257.8 | 1265.5 | 1265.5 |
| 7.5°  | 1267.1 | 1264.0 | 1233.1 | 1233.1 | 1230.0 |
| 10°   | 1253.2 | 1243.9 | 1203.7 | 1196.0 | 1191.3 |
| 12.5° | 1233.1 | 1217.6 | 1168.2 | 1154.3 | 1145.0 |
| 15°   | 1208.3 | 1185.2 | 1129.5 | 1109.4 | 1098.6 |
| 17.5° | 1172.8 | 1149.6 | 1087.8 | 1060.0 | 1047.6 |
| 20°   | 1135.7 | 1101.7 | 1038.4 | 1010.6 | 992.0  |
| 22.5° | 1095.5 | 1052.3 | 990.5  | 956.5  | 936.4  |
| 25°   | 1050.7 | 1004.4 | 933.3  | 899.3  | 880.8  |
| 27.5° | 1002.8 | 951.8  | 879.2  | 840.6  | 822.0  |
| 30°   | 956.5  | 897.8  | 823.6  | 780.3  | 758.7  |
| 32.5° | 907.0  | 840.6  | 764.9  | 720.1  | 698.4  |
| 35°   | 851.4  | 786.5  | 709.2  | 659.8  | 635.1  |
| 37.5° | 798.9  | 732.4  | 652.1  | 599.5  | 571.7  |
| 40°   | 743.2  | 676.8  | 594.9  | 540.8  | 511.5  |
| 42.5° | 684.5  | 621.2  | 540.8  | 477.5  | 449.7  |
| 45°   | 628.9  | 562.5  | 485.2  | 418.7  | 387.8  |
| 47.5° | 568.6  | 506.8  | 431.1  | 363.1  | 341.5  |
| 50°   | 506.8  | 449.7  | 378.6  | 316.8  | 305.9  |
| 52.5° | 446.6  | 398.7  | 326.0  | 285.9  | 281.2  |
| 55°   | 384.8  | 344.6  | 282.8  | 258.0  | 250.3  |
| 57.5° | 327.6  | 298.2  | 242.6  | 230.2  | 227.1  |
| 60°   | 273.5  | 248.8  | 214.8  | 207.1  | 202.4  |
| 62.5° | 221.0  | 207.1  | 187.0  | 183.9  | 180.8  |
| 65°   | 176.2  | 170.0  | 160.7  | 160.7  | 159.2  |
| 67.5° | 139.1  | 139.1  | 137.5  | 140.6  | 139.1  |
| 70°   | 111.3  | 112.8  | 115.9  | 119.0  | 120.5  |
| 72.5° | 88.1   | 92.7   | 95.8   | 100.4  | 102.0  |
| 75°   | 68.0   | 72.6   | 78.8   | 81.9   | 85.0   |
| 77.5° | 49.4   | 54.1   | 60.3   | 64.9   | 68.0   |
| 80°   | 34.0   | 37.1   | 43.3   | 49.4   | 52.5   |
| 82.5° | 21.6   | 23.2   | 27.8   | 34.0   | 37.1   |
| 85°   | 9.3    | 10.8   | 13.9   | 20.1   | 23.2   |
| 87.5° | 0.0    | 0.0    | 1.5    | 6.2    | 10.8   |
| 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 | 18.24            | 19.69 | 18.60 | 20.00 | 20.32 | 16.34          | 17.79 | 16.70 | 18.10 | 18.41 |
|                 | 3H   | 19.14            | 20.43 | 19.52 | 20.76 | 21.12 | 17.91          | 19.20 | 18.29 | 19.53 | 19.90 |
|                 | 4H   | 19.42            | 20.63 | 19.82 | 20.98 | 21.36 | 18.50          | 19.72 | 18.91 | 20.07 | 20.45 |
|                 | 6H   | 19.57            | 20.69 | 19.98 | 21.05 | 21.45 | 18.96          | 20.07 | 19.37 | 20.44 | 20.83 |
|                 | 8H   | 19.59            | 20.65 | 20.02 | 21.04 | 21.45 | 19.10          | 20.17 | 19.53 | 20.56 | 20.96 |
|                 | 12H  | 19.59            | 20.60 | 20.02 | 20.98 | 21.41 | 19.20          | 20.22 | 19.63 | 20.60 | 21.03 |
| 4H              | 2H   | 18.48            | 19.70 | 18.88 | 20.05 | 20.43 | 16.88          | 18.09 | 17.28 | 18.44 | 18.82 |
|                 | 3H   | 19.60            | 20.60 | 20.01 | 21.00 | 21.40 | 18.65          | 19.65 | 19.06 | 20.05 | 20.46 |
|                 | 4H   | 19.99            | 20.89 | 20.42 | 21.30 | 21.74 | 19.36          | 20.26 | 19.80 | 20.68 | 21.12 |
|                 | 6H   | 20.23            | 21.01 | 20.69 | 21.45 | 21.91 | 19.93          | 20.71 | 20.39 | 21.16 | 21.62 |
|                 | 8H   | 20.27            | 21.00 | 20.74 | 21.44 | 21.91 | 20.13          | 20.85 | 20.59 | 21.30 | 21.77 |
|                 | 12H  | 20.28            | 20.93 | 20.76 | 21.41 | 21.88 | 20.27          | 20.91 | 20.75 | 21.39 | 21.86 |
| 8H              | 4H   | 20.15            | 20.87 | 20.61 | 21.32 | 21.79 | 19.57          | 20.30 | 20.04 | 20.75 | 21.21 |
|                 | 6H   | 20.46            | 21.06 | 20.96 | 21.55 | 22.03 | 20.25          | 20.85 | 20.75 | 21.34 | 21.82 |
|                 | 8H   | 20.53            | 21.07 | 21.05 | 21.58 | 22.07 | 20.51          | 21.04 | 21.02 | 21.55 | 22.04 |
|                 | 12H  | 20.57            | 21.04 | 21.08 | 21.54 | 22.10 | 20.71          | 21.19 | 21.23 | 21.68 | 22.25 |
| 12H             | 4H   | 20.15            | 20.80 | 20.63 | 21.28 | 21.75 | 19.57          | 20.22 | 20.05 | 20.70 | 21.17 |
|                 | 6H   | 20.47            | 21.01 | 20.99 | 21.52 | 22.01 | 20.26          | 20.79 | 20.77 | 21.31 | 21.80 |
|                 | 8H   | 20.59            | 21.06 | 21.10 | 21.55 | 22.12 | 20.56          | 21.03 | 21.07 | 21.53 | 22.09 |