

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: P1059085

Luminaire Tested: S123RDRP-S1165D830-X4F0-XX-UDD-BVL-B

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1059085  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2406-143-30)  
Test Lab: INNOVATION CENTER  
Issue Date: 8/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123RDRP-S1165D830-X4F0-XX-UDD-BVL-B  
Description: DEFINE 3 BLACK REGRESSED DIRECT RECESSED HOUSING WITH BLACK STRAIGHT BLADE  
LOUVER WITH DIFFUSER  
CORE LIGHT ENGINE  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

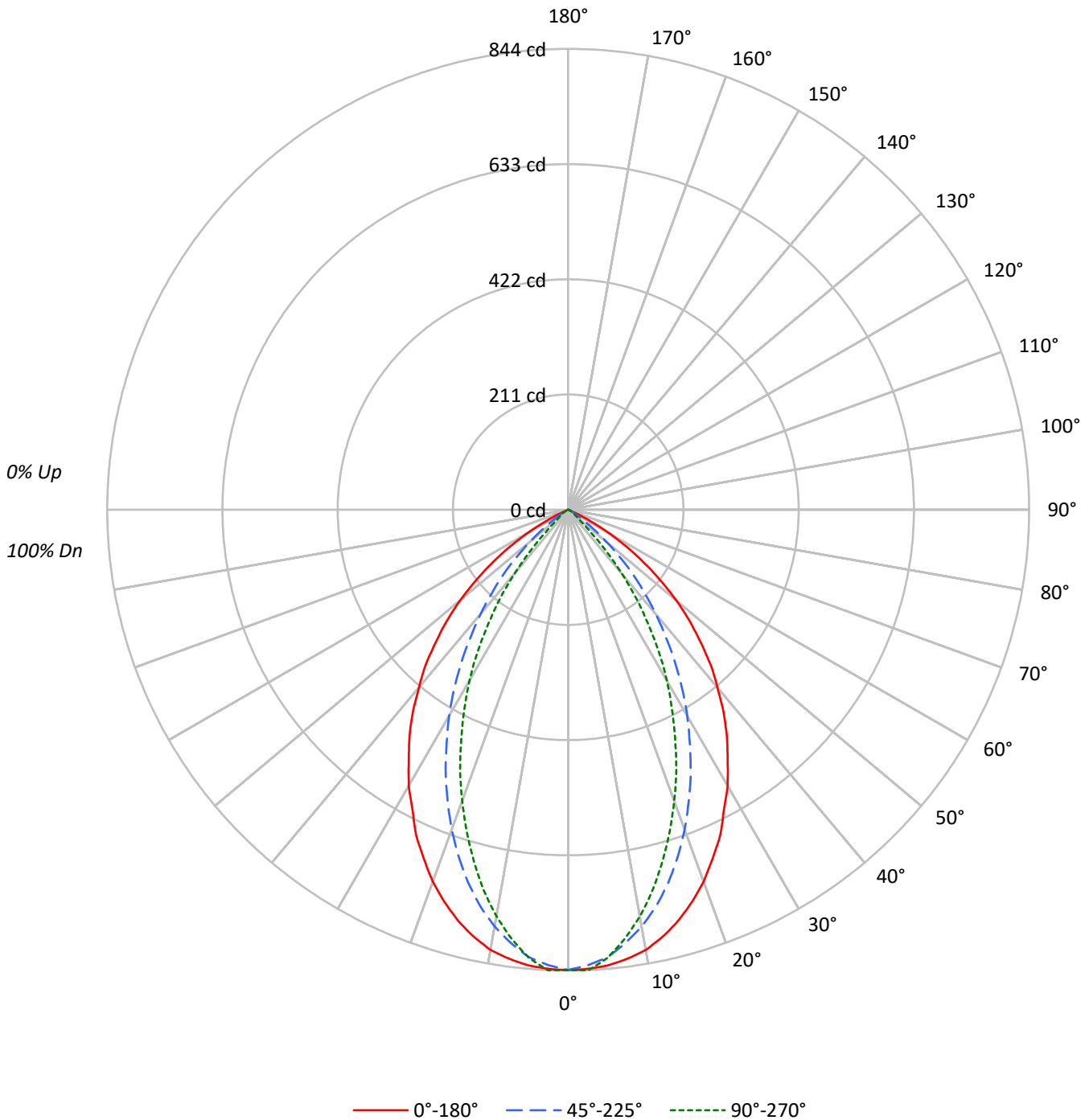
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 962.0 lumens  
Efficiency: N/A  
Efficacy: 23.0 lumens/watt  
Spacing Criteria (0/90/45): 1.06 / 0.81 / 0.94  
Luminous Opening: Rectangular (W 0.23' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 41.8  
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   | 113 | 110 | 107 | 104 | 110 | 107 | 105 | 103 | 103 | 101 | 100 | 100 | 98  | 97  | 96  | 95  | 94  | 92  |
| 2   | 106 | 101 | 96  | 92  | 104 | 99  | 95  | 91  | 96  | 92  | 89  | 93  | 90  | 87  | 90  | 87  | 85  | 84  |
| 3   | 100 | 92  | 87  | 82  | 98  | 91  | 86  | 82  | 88  | 84  | 80  | 86  | 82  | 79  | 83  | 80  | 78  | 76  |
| 4   | 94  | 85  | 79  | 74  | 92  | 84  | 78  | 74  | 82  | 77  | 73  | 80  | 75  | 72  | 78  | 74  | 71  | 69  |
| 5   | 88  | 79  | 72  | 67  | 86  | 78  | 71  | 67  | 76  | 70  | 66  | 74  | 69  | 65  | 72  | 68  | 65  | 63  |
| 6   | 83  | 73  | 66  | 61  | 81  | 72  | 66  | 61  | 70  | 65  | 60  | 69  | 64  | 60  | 67  | 63  | 60  | 58  |
| 7   | 78  | 68  | 61  | 56  | 77  | 67  | 60  | 56  | 66  | 60  | 56  | 64  | 59  | 55  | 63  | 58  | 55  | 53  |
| 8   | 74  | 63  | 56  | 52  | 72  | 62  | 56  | 51  | 61  | 55  | 51  | 60  | 55  | 51  | 59  | 54  | 51  | 49  |
| 9   | 70  | 59  | 52  | 48  | 68  | 58  | 52  | 48  | 57  | 52  | 47  | 56  | 51  | 47  | 55  | 51  | 47  | 46  |
| 10  | 66  | 55  | 49  | 44  | 65  | 55  | 48  | 44  | 54  | 48  | 44  | 53  | 48  | 44  | 52  | 47  | 44  | 42  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 9899 | 9899 | 9899 |
| 5°  | 9873 | 9697 | 9713 |
| 10° | 9761 | 9243 | 9015 |
| 15° | 9472 | 8598 | 8104 |
| 20° | 9058 | 7786 | 7092 |
| 25° | 8530 | 6877 | 5997 |
| 30° | 7914 | 5909 | 4896 |
| 35° | 7259 | 4884 | 3640 |
| 40° | 6513 | 3829 | 2330 |
| 45° | 5681 | 2795 | 970  |
| 50° | 4711 | 1662 | 373  |
| 55° | 3474 | 694  | 278  |
| 60° | 2104 | 256  | 160  |
| 65° | 567  | 150  | 75   |
| 70° | 0    | 48   | 48   |
| 75° | 0    | 0    | 64   |
| 80° | 0    | 0    | 0    |
| 85° | 0    | 0    | 0    |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5681 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 77.6   | 8.1       |
| 10°-20°   | 200.3  | 20.8      |
| 20°-30°   | 249.6  | 25.9      |
| 30°-40°   | 223.2  | 23.2      |
| 40°-50°   | 140.9  | 14.6      |
| 50°-60°   | 58.9   | 6.1       |
| 60°-70°   | 11.1   | 1.2       |
| 70°-80°   | 0.4    | 0.0       |
| 80°-90°   | 0.0    | 0.0       |
| 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°    | 527.5  | 54.8      |
| 0°-40°    | 750.7  | 78.0      |
| 0°-60°    | 950.5  | 98.8      |
| 0°-90°    | 962.0  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 962.0  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 843 | 843   | 843 | 843   | 843 |      |
| 5°  | 838 | 836   | 823 | 825   | 824 | 79   |
| 15° | 779 | 760   | 707 | 677   | 667 | 219  |
| 25° | 658 | 606   | 531 | 485   | 463 | 301  |
| 35° | 506 | 433   | 341 | 280   | 254 | 315  |
| 45° | 342 | 266   | 168 | 90    | 58  | 264  |
| 55° | 170 | 117   | 34  | 14    | 14  | 152  |
| 65° | 20  | 15    | 5   | 3     | 3   | 29   |
| 75° | 0   | 0     | 0   | 0     | 1   | 0    |
| 85° | 0   | 0     | 0   | 0     | 0   | 0    |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 843.0 | 843.0 | 843.0 | 843.0 | 843.0 |
| 2.5°  | 841.7 | 843.0 | 834.9 | 843.0 | 844.4 |
| 5°    | 837.6 | 836.2 | 822.7 | 825.4 | 824.0 |
| 7.5°  | 829.5 | 825.4 | 800.9 | 795.5 | 792.8 |
| 10°   | 818.6 | 807.7 | 775.2 | 761.6 | 756.1 |
| 12.5° | 800.9 | 786.0 | 743.9 | 722.2 | 714.1 |
| 15°   | 779.2 | 760.2 | 707.3 | 677.4 | 666.6 |
| 17.5° | 753.4 | 726.3 | 666.6 | 634.0 | 617.7 |
| 20°   | 724.9 | 686.9 | 623.1 | 583.7 | 567.5 |
| 22.5° | 691.0 | 648.9 | 577.0 | 534.9 | 517.2 |
| 25°   | 658.4 | 605.5 | 530.8 | 484.6 | 462.9 |
| 27.5° | 617.7 | 562.0 | 481.9 | 434.4 | 411.3 |
| 30°   | 583.7 | 519.9 | 435.8 | 382.8 | 361.1 |
| 32.5° | 543.0 | 476.5 | 388.3 | 329.9 | 309.5 |
| 35°   | 506.4 | 433.1 | 340.7 | 279.7 | 253.9 |
| 37.5° | 467.0 | 391.0 | 293.2 | 229.4 | 205.0 |
| 40°   | 424.9 | 348.9 | 249.8 | 179.2 | 152.0 |
| 42.5° | 386.9 | 306.8 | 206.3 | 133.0 | 105.9 |
| 45°   | 342.1 | 266.1 | 168.3 | 89.6  | 58.4  |
| 47.5° | 301.4 | 228.1 | 127.6 | 50.2  | 31.2  |
| 50°   | 257.9 | 188.7 | 91.0  | 25.8  | 20.4  |
| 52.5° | 213.1 | 150.7 | 59.7  | 17.6  | 16.3  |
| 55°   | 169.7 | 116.7 | 33.9  | 13.6  | 13.6  |
| 57.5° | 127.6 | 84.2  | 17.6  | 10.9  | 9.5   |
| 60°   | 89.6  | 55.7  | 10.9  | 8.1   | 6.8   |
| 62.5° | 51.6  | 32.6  | 8.1   | 5.4   | 5.4   |
| 65°   | 20.4  | 14.9  | 5.4   | 2.7   | 2.7   |
| 67.5° | 1.4   | 4.1   | 2.7   | 1.4   | 1.4   |
| 70°   | 0.0   | 0.0   | 1.4   | 1.4   | 1.4   |
| 72.5° | 0.0   | 0.0   | 1.4   | 1.4   | 1.4   |
| 75°   | 0.0   | 0.0   | 0.0   | 0.0   | 1.4   |
| 77.5° | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 80°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 82.5° | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 85°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 87.5° | 0.0   | 0.0   | 0.0   | 0.0   | 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 | 13.16            | 14.33 | 13.52 | 14.65 | 14.96 | 0.00           | 0.00 | 0.00 | 0.00 | 0.01 |
|                 | 3H   | 13.00            | 14.03 | 13.38 | 14.36 | 14.73 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 4H   | 12.91            | 13.87 | 13.32 | 14.22 | 14.60 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 6H   | 12.82            | 13.69 | 13.24 | 14.06 | 14.46 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 8H   | 12.77            | 13.59 | 13.20 | 13.98 | 14.39 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 12H  | 12.72            | 13.50 | 13.15 | 13.89 | 14.32 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
| 4H              | 2H   | 12.92            | 13.87 | 13.32 | 14.22 | 14.61 | 0.00           | 0.00 | 0.00 | 0.00 | 0.10 |
|                 | 3H   | 12.75            | 13.52 | 13.17 | 13.93 | 14.33 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 4H   | 12.65            | 13.33 | 13.08 | 13.75 | 14.20 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 6H   | 12.55            | 13.13 | 13.02 | 13.58 | 14.05 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 8H   | 12.48            | 13.03 | 12.96 | 13.48 | 13.95 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 12H  | 12.43            | 12.90 | 12.92 | 13.39 | 13.87 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
| 8H              | 4H   | 12.49            | 13.03 | 12.96 | 13.48 | 13.95 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 6H   | 12.37            | 12.81 | 12.88 | 13.31 | 13.79 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 8H   | 12.30            | 12.69 | 12.82 | 13.21 | 13.71 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 12H  | 12.24            | 12.59 | 12.76 | 13.09 | 13.67 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
| 12H             | 4H   | 12.43            | 12.90 | 12.92 | 13.39 | 13.87 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 6H   | 12.30            | 12.69 | 12.82 | 13.21 | 13.71 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 8H   | 12.24            | 12.59 | 12.76 | 13.09 | 13.67 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |