

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: P1056601

Luminaire Tested: S125R3DR-H850D830-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1056601  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-11)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/25/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S125R3DR-H850D830-X4F0-XX-UDD-F-B  
Description: DEFINE 5, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

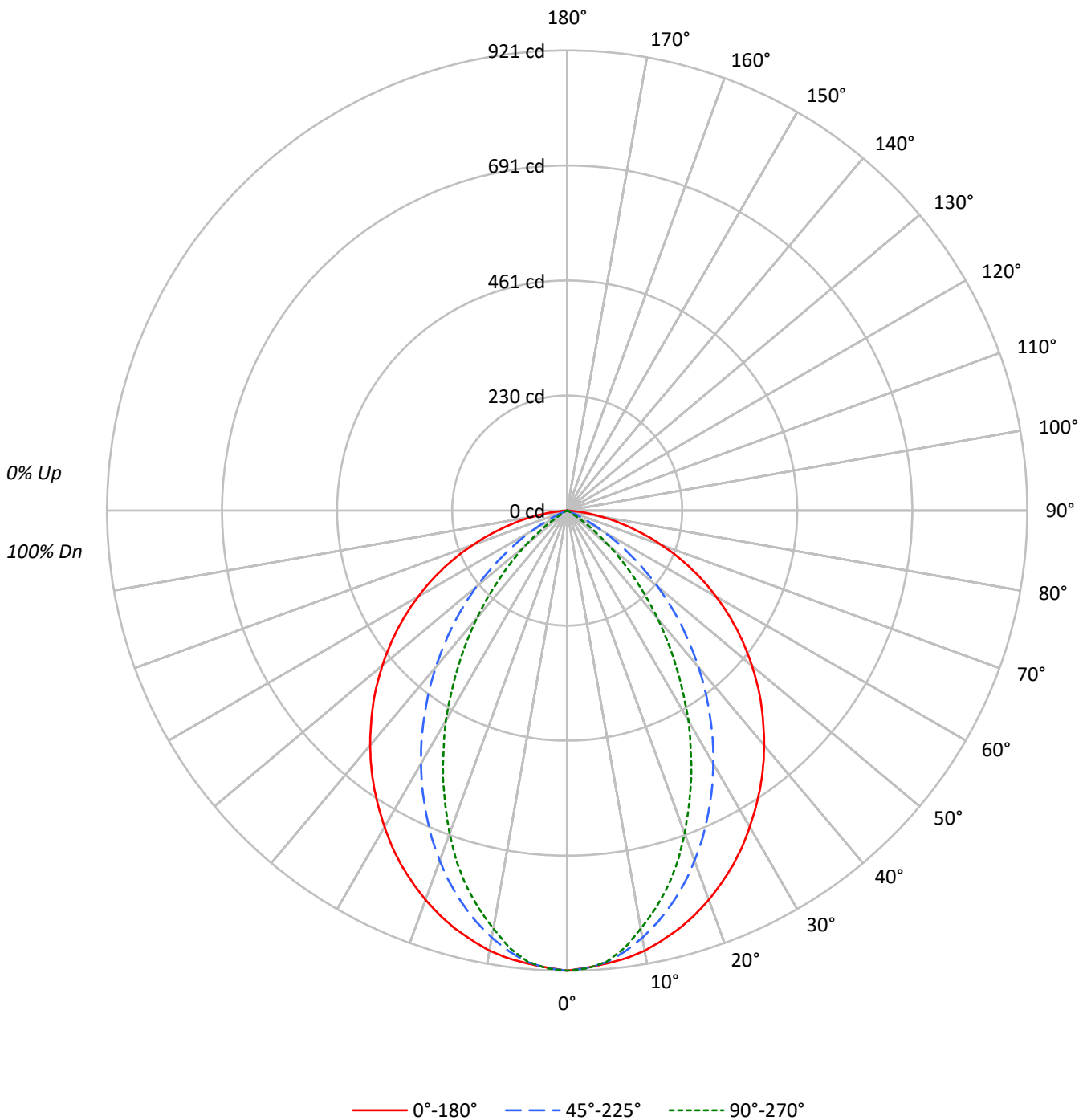
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1492.7 lumens  
Efficiency: N/A  
Efficacy: 62.7 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 0.89 / 1.07  
Luminous Opening: Rectangular (W 0.39' x L: 3.9' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.8  
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   | 111 | 108 | 104 | 101 | 109 | 106 | 103 | 100 | 101 | 99  | 97  | 98  | 96  | 94  | 94  | 93  | 91  | 89  |
| 2   | 103 | 97  | 91  | 87  | 101 | 95  | 90  | 86  | 92  | 88  | 84  | 89  | 85  | 82  | 86  | 83  | 80  | 78  |
| 3   | 96  | 87  | 81  | 75  | 94  | 86  | 80  | 75  | 83  | 78  | 74  | 80  | 76  | 72  | 78  | 74  | 71  | 69  |
| 4   | 89  | 79  | 72  | 66  | 87  | 78  | 71  | 66  | 76  | 70  | 65  | 73  | 68  | 64  | 71  | 67  | 63  | 61  |
| 5   | 83  | 72  | 64  | 59  | 81  | 71  | 64  | 58  | 69  | 63  | 58  | 67  | 62  | 57  | 65  | 61  | 57  | 55  |
| 6   | 77  | 66  | 58  | 53  | 76  | 65  | 58  | 52  | 63  | 57  | 52  | 62  | 56  | 52  | 60  | 55  | 51  | 49  |
| 7   | 72  | 61  | 53  | 47  | 71  | 60  | 52  | 47  | 58  | 52  | 47  | 57  | 51  | 47  | 56  | 50  | 46  | 45  |
| 8   | 68  | 56  | 48  | 43  | 66  | 55  | 48  | 43  | 54  | 47  | 43  | 53  | 47  | 43  | 52  | 46  | 42  | 41  |
| 9   | 64  | 52  | 44  | 39  | 62  | 51  | 44  | 39  | 50  | 44  | 39  | 49  | 43  | 39  | 48  | 43  | 39  | 37  |
| 10  | 60  | 48  | 41  | 36  | 59  | 48  | 41  | 36  | 47  | 40  | 36  | 46  | 40  | 36  | 45  | 40  | 36  | 34  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 6510 | 6510 | 6510 |
| 5°  | 6458 | 6439 | 6431 |
| 10° | 6421 | 6231 | 6100 |
| 15° | 6339 | 5952 | 5698 |
| 20° | 6235 | 5610 | 5171 |
| 25° | 6115 | 5211 | 4585 |
| 30° | 5968 | 4776 | 3964 |
| 35° | 5821 | 4293 | 3277 |
| 40° | 5661 | 3773 | 2594 |
| 45° | 5494 | 3221 | 1880 |
| 50° | 5310 | 2600 | 1214 |
| 55° | 5107 | 1902 | 540  |
| 60° | 4865 | 1175 | 156  |
| 65° | 4565 | 428  | 92   |
| 70° | 4132 | 151  | 37   |
| 75° | 3589 | 49   | 25   |
| 80° | 2748 | 37   | 0    |
| 85° | 1257 | 0    | 0    |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5494 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 85.5   | 5.7       |
| 10°-20°   | 229.7  | 15.4      |
| 20°-30°   | 310.7  | 20.8      |
| 30°-40°   | 319.2  | 21.4      |
| 40°-50°   | 264.5  | 17.7      |
| 50°-60°   | 169.8  | 11.4      |
| 60°-70°   | 82.0   | 5.5       |
| 70°-80°   | 27.7   | 1.9       |
| 80°-90°   | 3.6    | 0.2       |
| 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°    | 626.0  | 41.9      |
| 0°-40°    | 945.2  | 63.3      |
| 0°-60°    | 1379.4 | 92.4      |
| 0°-90°    | 1492.7 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1492.7 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 921 | 921   | 921 | 921   | 921 |      |
| 5°  | 910 | 917   | 907 | 902   | 906 | 86   |
| 15° | 866 | 855   | 813 | 785   | 779 | 244  |
| 25° | 784 | 746   | 668 | 608   | 588 | 361  |
| 35° | 674 | 610   | 497 | 411   | 380 | 422  |
| 45° | 550 | 459   | 322 | 223   | 188 | 424  |
| 55° | 414 | 304   | 154 | 68    | 44  | 370  |
| 65° | 273 | 151   | 26  | 7     | 6   | 270  |
| 75° | 131 | 28    | 2   | 1     | 1   | 139  |
| 85° | 16  | 0     | 0   | 0     | 0   | 25   |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 920.9 | 920.9 | 920.9 | 920.9 | 920.9 |
| 2.5°  | 915.5 | 922.8 | 916.4 | 915.5 | 917.3 |
| 5°    | 910.0 | 917.3 | 907.3 | 901.8 | 906.3 |
| 7.5°  | 903.6 | 907.3 | 889.9 | 880.8 | 882.6 |
| 10°   | 894.5 | 893.6 | 868.0 | 852.5 | 849.8 |
| 12.5° | 880.8 | 876.2 | 842.5 | 820.5 | 816.0 |
| 15°   | 866.2 | 855.2 | 813.2 | 784.9 | 778.6 |
| 17.5° | 848.8 | 831.5 | 781.3 | 744.8 | 735.7 |
| 20°   | 828.8 | 805.0 | 745.7 | 701.0 | 687.3 |
| 22.5° | 806.9 | 776.7 | 708.3 | 655.3 | 637.1 |
| 25°   | 784.0 | 745.7 | 668.1 | 607.9 | 587.8 |
| 27.5° | 758.5 | 713.8 | 628.0 | 559.5 | 534.9 |
| 30°   | 731.1 | 680.0 | 585.1 | 510.2 | 485.6 |
| 32.5° | 702.8 | 646.2 | 542.2 | 460.9 | 430.8 |
| 35°   | 674.5 | 609.7 | 497.4 | 410.7 | 379.7 |
| 37.5° | 644.4 | 573.2 | 453.6 | 363.3 | 329.5 |
| 40°   | 613.4 | 535.8 | 408.9 | 314.0 | 281.1 |
| 42.5° | 581.4 | 497.4 | 364.2 | 267.4 | 233.7 |
| 45°   | 549.5 | 459.1 | 322.2 | 222.7 | 188.0 |
| 47.5° | 516.6 | 419.9 | 278.4 | 178.9 | 148.8 |
| 50°   | 482.8 | 381.5 | 236.4 | 139.6 | 110.4 |
| 52.5° | 449.1 | 342.3 | 193.5 | 101.3 | 74.8  |
| 55°   | 414.4 | 303.9 | 154.3 | 67.5  | 43.8  |
| 57.5° | 379.7 | 264.7 | 117.7 | 37.4  | 16.4  |
| 60°   | 344.1 | 227.3 | 83.1  | 12.8  | 11.0  |
| 62.5° | 309.4 | 187.1 | 52.0  | 10.0  | 8.2   |
| 65°   | 272.9 | 150.6 | 25.6  | 7.3   | 5.5   |
| 67.5° | 237.3 | 115.9 | 11.0  | 4.6   | 2.7   |
| 70°   | 199.9 | 84.0  | 7.3   | 2.7   | 1.8   |
| 72.5° | 165.2 | 53.9  | 4.6   | 1.8   | 0.9   |
| 75°   | 131.4 | 28.3  | 1.8   | 0.9   | 0.9   |
| 77.5° | 98.6  | 11.9  | 0.9   | 0.9   | 0.9   |
| 80°   | 67.5  | 5.5   | 0.9   | 0.9   | 0.0   |
| 82.5° | 40.2  | 1.8   | 0.9   | 0.9   | 0.0   |
| 85°   | 15.5  | 0.0   | 0.0   | 0.0   | 0.0   |
| 87.5° | 0.9   | 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 | 17.58            | 18.96 | 17.94 | 19.28 | 19.59 | 2.44           | 3.82 | 2.80 | 4.14 | 4.45 |
|                 | 3H   | 19.13            | 20.36 | 19.51 | 20.68 | 21.05 | 2.36           | 3.59 | 2.74 | 3.92 | 4.28 |
|                 | 4H   | 19.65            | 20.79 | 20.05 | 21.14 | 21.53 | 2.29           | 3.44 | 2.69 | 3.79 | 4.17 |
|                 | 6H   | 19.99            | 21.04 | 20.40 | 21.41 | 21.80 | 2.22           | 3.27 | 2.64 | 3.64 | 4.04 |
|                 | 8H   | 20.07            | 21.07 | 20.50 | 21.46 | 21.86 | 2.18           | 3.18 | 2.61 | 3.57 | 3.97 |
|                 | 12H  | 20.09            | 21.04 | 20.52 | 21.42 | 21.85 | 2.14           | 3.09 | 2.57 | 3.48 | 3.91 |
| 4H              | 2H   | 17.38            | 18.53 | 17.78 | 18.88 | 19.26 | 3.31           | 4.45 | 3.71 | 4.80 | 5.18 |
|                 | 3H   | 18.99            | 19.93 | 19.41 | 20.33 | 20.73 | 3.25           | 4.19 | 3.67 | 4.59 | 4.99 |
|                 | 4H   | 19.52            | 20.35 | 19.95 | 20.77 | 21.21 | 3.18           | 4.01 | 3.61 | 4.43 | 4.87 |
|                 | 6H   | 19.89            | 20.61 | 20.35 | 21.06 | 21.52 | 3.11           | 3.83 | 3.57 | 4.27 | 4.74 |
|                 | 8H   | 19.99            | 20.66 | 20.46 | 21.11 | 21.58 | 3.06           | 3.73 | 3.53 | 4.18 | 4.65 |
|                 | 12H  | 20.03            | 20.62 | 20.51 | 21.10 | 21.58 | 3.02           | 3.61 | 3.50 | 4.09 | 4.57 |
| 8H              | 4H   | 19.39            | 20.06 | 19.86 | 20.51 | 20.98 | 4.20           | 4.87 | 4.67 | 5.32 | 5.79 |
|                 | 6H   | 19.75            | 20.29 | 20.25 | 20.79 | 21.27 | 4.12           | 4.66 | 4.62 | 5.16 | 5.64 |
|                 | 8H   | 19.84            | 20.33 | 20.36 | 20.85 | 21.34 | 4.06           | 4.56 | 4.58 | 5.07 | 5.56 |
|                 | 12H  | 19.88            | 20.32 | 20.40 | 20.81 | 21.38 | 4.02           | 4.46 | 4.54 | 4.95 | 5.52 |
| 12H             | 4H   | 19.35            | 19.94 | 19.83 | 20.42 | 20.90 | 4.28           | 4.87 | 4.76 | 5.35 | 5.83 |
|                 | 6H   | 19.68            | 20.18 | 20.21 | 20.69 | 21.18 | 4.18           | 4.67 | 4.70 | 5.19 | 5.68 |
|                 | 8H   | 19.80            | 20.23 | 20.31 | 20.73 | 21.30 | 4.15           | 4.58 | 4.66 | 5.08 | 5.65 |