

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: P1059518

Luminaire Tested: S123RDRP-H1165D850-X4F0-XX-UDD-BVL-S

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1059518  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2406-143-69)  
Test Lab: INNOVATION CENTER  
Issue Date: 8/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123RDRP-H1165D850-X4F0-XX-UDD-BVL-S  
Description: DEFINE 3 SILVER REGRESSED DIRECT RECESSED HOUSING WITH BLACK STRAIGHT BLADE  
LOUVER WITH DIFFUSER  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 5000K CCT, 80 CRI LEDS  
Ballast/Driver: -

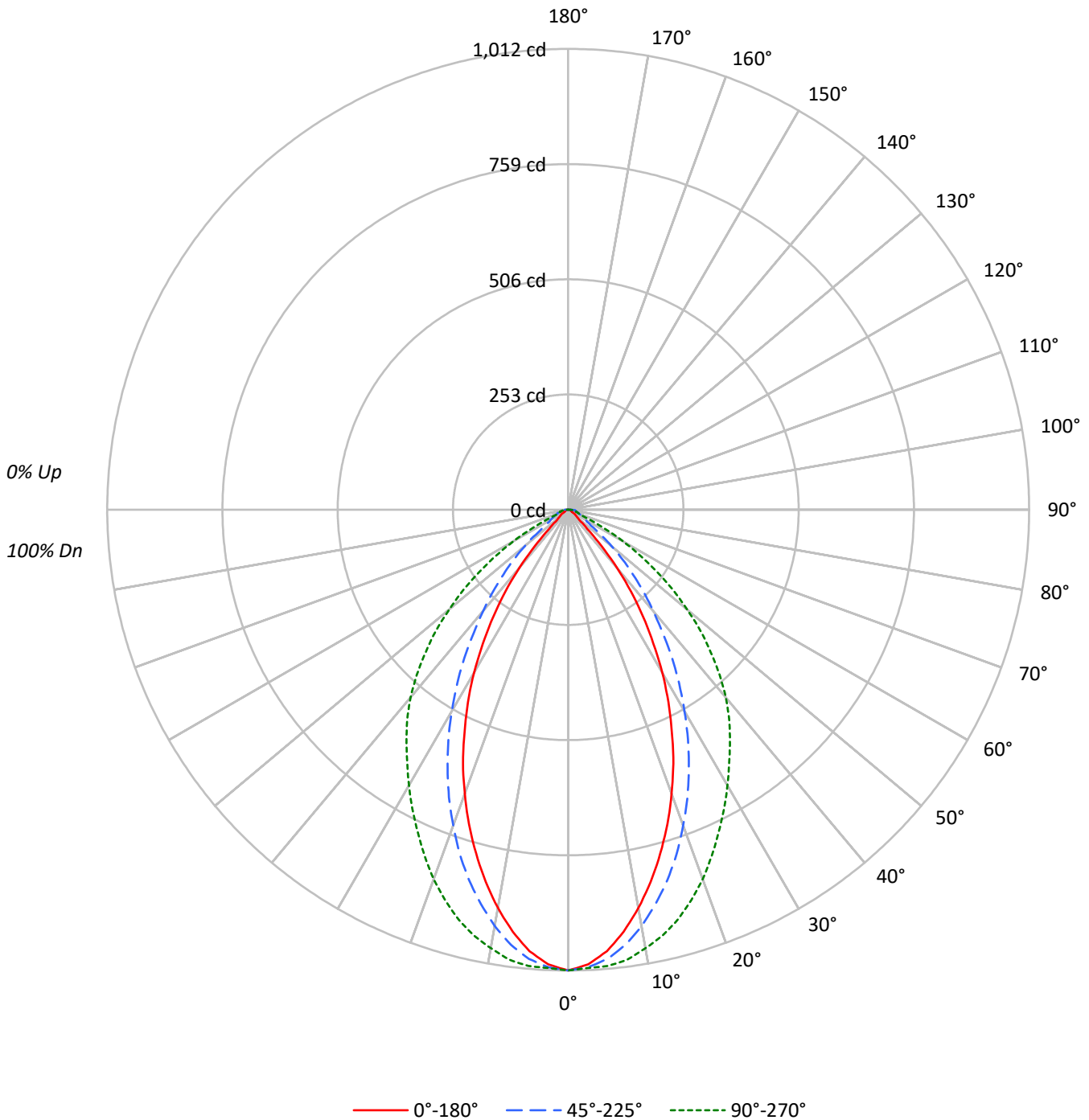
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1215.4 lumens  
Efficiency: N/A  
Efficacy: 33.3 lumens/watt  
Spacing Criteria (0/90/45): 0.79 / 1.06 / 0.94  
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  | 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 |    |    |    |    | 100 |   |  |   |
| 1   | 112 | 108 | 105 | 102 | 109 | 106 | 103 | 101 | 102 | 100 | 98  | 98  | 96  | 95  | 95  | 93  | 92  | 90  |    |    |    |    | 90  |   |  |   |
| 2   | 105 | 99  | 94  | 89  | 102 | 97  | 92  | 88  | 94  | 90  | 86  | 90  | 87  | 85  | 88  | 85  | 83  | 81  |    |    |    |    | 81  |   |  |   |
| 3   | 98  | 90  | 84  | 79  | 96  | 89  | 83  | 78  | 86  | 81  | 77  | 83  | 79  | 76  | 81  | 78  | 75  | 73  |    |    |    |    | 73  |   |  |   |
| 4   | 92  | 83  | 76  | 71  | 90  | 81  | 75  | 70  | 79  | 74  | 69  | 77  | 72  | 69  | 75  | 71  | 68  | 66  |    |    |    |    | 66  |   |  |   |
| 5   | 86  | 76  | 69  | 64  | 84  | 75  | 68  | 64  | 73  | 67  | 63  | 71  | 66  | 62  | 70  | 65  | 62  | 60  |    |    |    |    | 60  |   |  |   |
| 6   | 81  | 70  | 63  | 58  | 79  | 69  | 63  | 58  | 68  | 62  | 57  | 66  | 61  | 57  | 65  | 60  | 57  | 55  |    |    |    |    | 55  |   |  |   |
| 7   | 76  | 65  | 58  | 53  | 75  | 64  | 58  | 53  | 63  | 57  | 53  | 62  | 56  | 52  | 61  | 56  | 52  | 50  |    |    |    |    | 50  |   |  |   |
| 8   | 72  | 61  | 54  | 49  | 70  | 60  | 53  | 49  | 59  | 53  | 48  | 58  | 52  | 48  | 57  | 52  | 48  | 46  |    |    |    |    | 46  |   |  |   |
| 9   | 68  | 57  | 50  | 45  | 67  | 56  | 50  | 45  | 55  | 49  | 45  | 54  | 49  | 45  | 53  | 48  | 45  | 43  |    |    |    |    | 43  |   |  |   |
| 10  | 64  | 53  | 46  | 42  | 63  | 53  | 46  | 42  | 52  | 46  | 42  | 51  | 45  | 42  | 50  | 45  | 41  | 40  |    |    |    |    | 40  |   |  |   |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 11881 | 11881 | 11881 |
| 5°  | 11471 | 11672 | 11854 |
| 10° | 10589 | 11069 | 11659 |
| 15° | 9498  | 10232 | 11323 |
| 20° | 8294  | 9222  | 10788 |
| 25° | 6976  | 8118  | 10123 |
| 30° | 5601  | 6923  | 9482  |
| 35° | 4103  | 5700  | 8872  |
| 40° | 2537  | 4435  | 8253  |
| 45° | 976   | 3340  | 7348  |
| 50° | 480   | 2289  | 6218  |
| 55° | 381   | 1267  | 4879  |
| 60° | 254   | 1054  | 3269  |
| 65° | 214   | 945   | 1461  |
| 70° | 213   | 851   | 851   |
| 75° | 281   | 912   | 844   |
| 80° | 419   | 1150  | 940   |
| 85° | 620   | 1873  | 1253  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 7348 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 92.8   | 7.6       |
| 10°-20°   | 237.5  | 19.5      |
| 20°-30°   | 294.8  | 24.3      |
| 30°-40°   | 264.1  | 21.7      |
| 40°-50°   | 173.6  | 14.3      |
| 50°-60°   | 87.0   | 7.2       |
| 60°-70°   | 34.3   | 2.8       |
| 70°-80°   | 19.2   | 1.6       |
| 80°-90°   | 12.1   | 1.0       |
| 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°    | 625.1  | 51.4      |
| 0°-40°    | 889.2  | 73.2      |
| 0°-60°    | 1149.8 | 94.6      |
| 0°-90°    | 1215.4 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1215.4 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1012 | 1012  | 1012 | 1012  | 1012 |      |
| 5°  | 973  | 989   | 990  | 996   | 1006 | 90   |
| 15° | 781  | 806   | 842  | 899   | 931  | 218  |
| 25° | 538  | 572   | 627  | 715   | 781  | 246  |
| 35° | 286  | 325   | 398  | 520   | 619  | 178  |
| 45° | 59   | 98    | 201  | 339   | 442  | 56   |
| 55° | 19   | 22    | 62   | 167   | 238  | 17   |
| 65° | 8    | 22    | 34   | 43    | 53   | 8    |
| 75° | 6    | 20    | 20   | 19    | 19   | 7    |
| 85° | 5    | 14    | 14   | 14    | 9    | 5    |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1011.8 | 1011.8 | 1011.8 | 1011.8 | 1011.8 |
| 2.5°  | 999.5  | 1013.4 | 1005.7 | 1005.7 | 1007.2 |
| 5°    | 973.2  | 988.6  | 990.2  | 996.4  | 1005.7 |
| 7.5°  | 934.5  | 954.6  | 963.9  | 982.5  | 996.4  |
| 10°   | 888.1  | 909.7  | 928.3  | 960.8  | 977.8  |
| 12.5° | 837.0  | 858.7  | 886.5  | 931.4  | 957.7  |
| 15°   | 781.3  | 806.1  | 841.7  | 898.9  | 931.4  |
| 17.5° | 724.1  | 748.8  | 792.2  | 857.1  | 898.9  |
| 20°   | 663.7  | 691.6  | 738.0  | 812.3  | 863.3  |
| 22.5° | 603.4  | 634.3  | 683.8  | 764.3  | 823.1  |
| 25°   | 538.4  | 572.5  | 626.6  | 714.8  | 781.3  |
| 27.5° | 476.5  | 512.1  | 569.4  | 665.3  | 741.1  |
| 30°   | 413.1  | 448.7  | 510.6  | 614.2  | 699.3  |
| 32.5° | 348.1  | 388.3  | 453.3  | 566.3  | 657.5  |
| 35°   | 286.2  | 324.9  | 397.6  | 519.8  | 618.9  |
| 37.5° | 225.9  | 264.6  | 340.4  | 475.0  | 580.2  |
| 40°   | 165.5  | 205.8  | 289.3  | 431.7  | 538.4  |
| 42.5° | 108.3  | 150.1  | 244.5  | 388.3  | 492.0  |
| 45°   | 58.8   | 97.5   | 201.1  | 338.8  | 442.5  |
| 47.5° | 32.5   | 52.6   | 162.5  | 292.4  | 394.5  |
| 50°   | 26.3   | 29.4   | 125.3  | 249.1  | 340.4  |
| 52.5° | 21.7   | 24.8   | 89.7   | 207.3  | 290.9  |
| 55°   | 18.6   | 21.7   | 61.9   | 167.1  | 238.3  |
| 57.5° | 15.5   | 18.6   | 49.5   | 128.4  | 187.2  |
| 60°   | 10.8   | 18.6   | 44.9   | 94.4   | 139.2  |
| 62.5° | 9.3    | 18.6   | 38.7   | 65.0   | 92.8   |
| 65°   | 7.7    | 21.7   | 34.0   | 43.3   | 52.6   |
| 67.5° | 6.2    | 21.7   | 29.4   | 27.8   | 27.8   |
| 70°   | 6.2    | 21.7   | 24.8   | 23.2   | 24.8   |
| 72.5° | 6.2    | 23.2   | 23.2   | 21.7   | 21.7   |
| 75°   | 6.2    | 20.1   | 20.1   | 18.6   | 18.6   |
| 77.5° | 6.2    | 18.6   | 18.6   | 17.0   | 17.0   |
| 80°   | 6.2    | 17.0   | 17.0   | 15.5   | 13.9   |
| 82.5° | 6.2    | 15.5   | 15.5   | 13.9   | 12.4   |
| 85°   | 4.6    | 13.9   | 13.9   | 13.9   | 9.3    |
| 87.5° | 4.6    | 12.4   | 13.9   | 12.4   | 7.7    |
| 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 | 1.07             | 2.33  | 1.43  | 2.64  | 2.95  | 15.14          | 16.40 | 15.51 | 16.71 | 17.03 |
|                 | 3H   | 3.59             | 4.71  | 3.97  | 5.04  | 5.40  | 15.22          | 16.34 | 15.60 | 16.67 | 17.03 |
|                 | 4H   | 4.76             | 5.79  | 5.16  | 6.14  | 6.53  | 15.29          | 16.32 | 15.69 | 16.67 | 17.06 |
|                 | 6H   | 5.81             | 6.76  | 6.22  | 7.13  | 7.52  | 15.38          | 16.34 | 15.80 | 16.71 | 17.10 |
|                 | 8H   | 6.35             | 7.25  | 6.78  | 7.64  | 8.04  | 15.45          | 16.34 | 15.88 | 16.74 | 17.14 |
|                 | 12H  | 6.82             | 7.68  | 7.26  | 8.07  | 8.50  | 15.52          | 16.38 | 15.95 | 16.76 | 17.19 |
| 4H              | 2H   | 4.32             | 5.35  | 4.72  | 5.71  | 6.09  | 15.00          | 16.04 | 15.41 | 16.39 | 16.78 |
|                 | 3H   | 6.78             | 7.63  | 7.20  | 8.04  | 8.44  | 15.18          | 16.02 | 15.59 | 16.43 | 16.83 |
|                 | 4H   | 8.13             | 8.89  | 8.56  | 9.31  | 9.75  | 15.31          | 16.06 | 15.74 | 16.48 | 16.93 |
|                 | 6H   | 9.26             | 9.91  | 9.73  | 10.36 | 10.83 | 15.52          | 16.18 | 15.99 | 16.62 | 17.09 |
|                 | 8H   | 9.77             | 10.38 | 10.24 | 10.83 | 11.30 | 15.65          | 16.26 | 16.12 | 16.71 | 17.18 |
|                 | 12H  | 10.23            | 10.76 | 10.71 | 11.25 | 11.72 | 15.81          | 16.35 | 16.29 | 16.83 | 17.31 |
| 8H              | 4H   | 9.04             | 9.66  | 9.52  | 10.10 | 10.58 | 15.31          | 15.92 | 15.78 | 16.37 | 16.84 |
|                 | 6H   | 10.64            | 11.14 | 11.15 | 11.64 | 12.12 | 15.64          | 16.14 | 16.14 | 16.64 | 17.12 |
|                 | 8H   | 11.47            | 11.92 | 12.00 | 12.44 | 12.93 | 15.87          | 16.32 | 16.39 | 16.84 | 17.33 |
|                 | 12H  | 12.25            | 12.65 | 12.76 | 13.14 | 13.72 | 16.19          | 16.59 | 16.71 | 17.09 | 17.66 |
| 12H             | 4H   | 9.21             | 9.75  | 9.70  | 10.24 | 10.71 | 15.30          | 15.84 | 15.79 | 16.32 | 16.80 |
|                 | 6H   | 10.96            | 11.41 | 11.48 | 11.93 | 12.42 | 15.67          | 16.12 | 16.19 | 16.64 | 17.13 |
|                 | 8H   | 11.97            | 12.37 | 12.49 | 12.86 | 13.44 | 15.98          | 16.38 | 16.50 | 16.88 | 17.45 |