

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P1060739

Luminaire Tested: S124RDR-H1195D850-X4F0-XX-UDD-WVL-S

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1060739  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2406-143-76)  
Test Lab: INNOVATION CENTER  
Issue Date: 8/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124RDR-H1195D850-X4F0-XX-UDD-WVL-S  
Description: DEFINE 4 SILVER REGRESSED DIRECT RECESSED HOUSING WITH WHITE STRAIGHT BLADE LOUVER WITH DIFFUSER  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 5000K CCT, 80 CRI LEDS  
Ballast/Driver: -

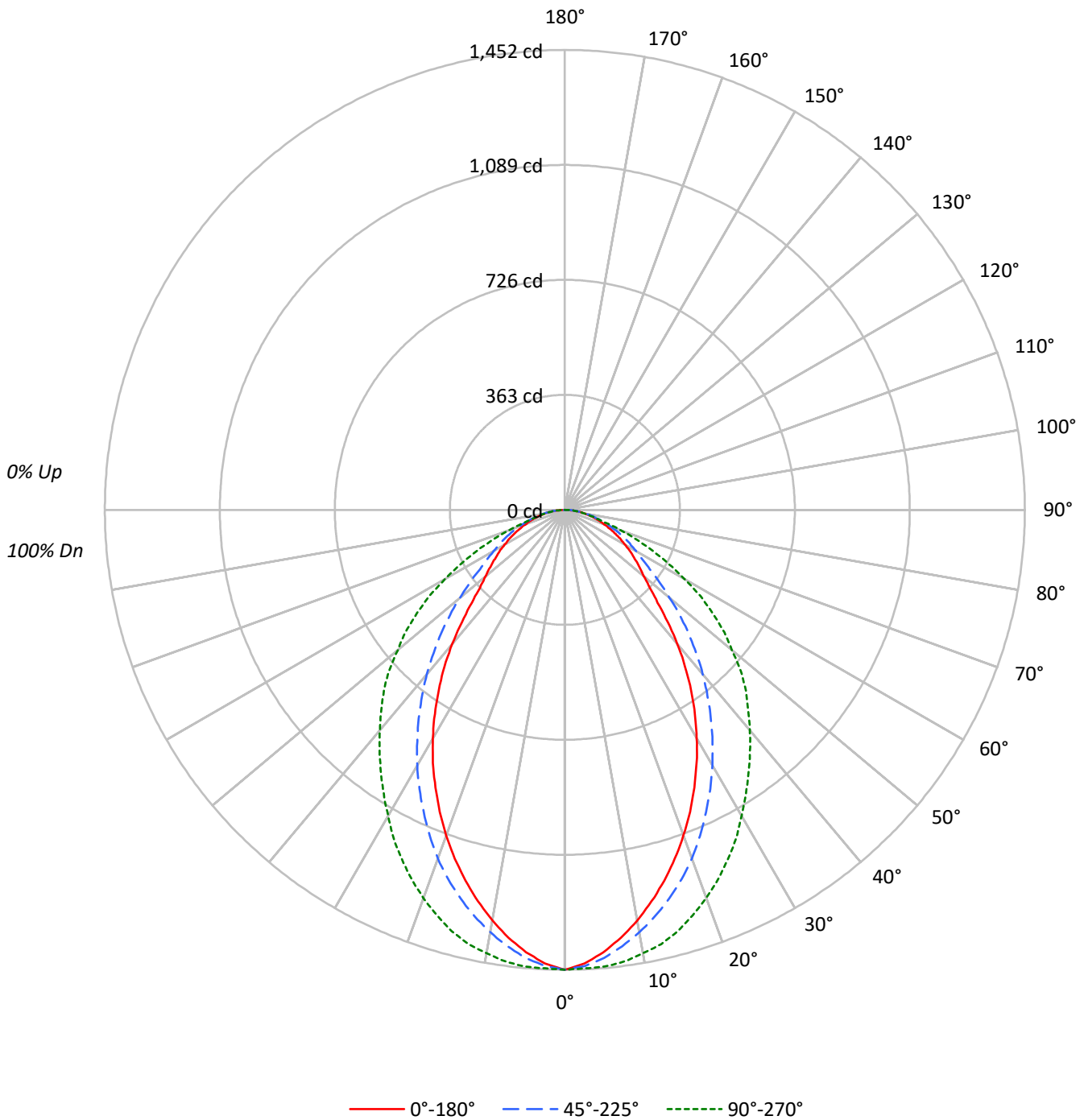
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2643.3 lumens  
Efficiency: N/A  
Efficacy: 72.4 lumens/watt  
Spacing Criteria (0/90/45): 0.93 / 1.15 / 1.1  
Luminous Opening: Rectangular (W 0.31' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 36.5  
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  | 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   | 110 | 106 | 102 | 99  | 108 | 104 | 100 | 97  | 100 | 97  | 94  | 96  | 93  | 91  | 92  | 90  | 89  | 87  |    |    |    |   |
| 2   | 102 | 94  | 88  | 83  | 99  | 92  | 87  | 82  | 89  | 84  | 80  | 86  | 82  | 79  | 83  | 80  | 77  | 75  |    |    |    |   |
| 3   | 94  | 84  | 77  | 71  | 91  | 83  | 76  | 71  | 80  | 74  | 69  | 77  | 72  | 68  | 75  | 71  | 67  | 65  |    |    |    |   |
| 4   | 87  | 76  | 68  | 62  | 84  | 74  | 67  | 61  | 72  | 66  | 61  | 70  | 64  | 60  | 68  | 63  | 59  | 57  |    |    |    |   |
| 5   | 80  | 69  | 60  | 54  | 78  | 68  | 60  | 54  | 65  | 59  | 54  | 64  | 58  | 53  | 62  | 57  | 52  | 50  |    |    |    |   |
| 6   | 75  | 62  | 54  | 48  | 73  | 62  | 54  | 48  | 60  | 53  | 48  | 58  | 52  | 47  | 57  | 51  | 47  | 45  |    |    |    |   |
| 7   | 70  | 57  | 49  | 43  | 68  | 56  | 49  | 43  | 55  | 48  | 43  | 54  | 47  | 43  | 52  | 47  | 42  | 41  |    |    |    |   |
| 8   | 65  | 53  | 45  | 39  | 64  | 52  | 44  | 39  | 51  | 44  | 39  | 50  | 43  | 39  | 48  | 43  | 39  | 37  |    |    |    |   |
| 9   | 61  | 49  | 41  | 36  | 60  | 48  | 41  | 36  | 47  | 40  | 36  | 46  | 40  | 35  | 45  | 39  | 35  | 34  |    |    |    |   |
| 10  | 58  | 45  | 38  | 33  | 56  | 45  | 38  | 33  | 44  | 37  | 33  | 43  | 37  | 33  | 42  | 36  | 32  | 31  |    |    |    |   |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 12503 | 12503 | 12503 |
| 5°  | 12116 | 12275 | 12511 |
| 10° | 11511 | 11844 | 12430 |
| 15° | 10800 | 11329 | 12278 |
| 20° | 10028 | 10739 | 11952 |
| 25° | 9182  | 10007 | 11568 |
| 30° | 8278  | 9261  | 11093 |
| 35° | 7296  | 8448  | 10639 |
| 40° | 6211  | 7614  | 10214 |
| 45° | 5042  | 6728  | 9841  |
| 50° | 4363  | 5790  | 9215  |
| 55° | 4045  | 4912  | 8545  |
| 60° | 3775  | 4430  | 7497  |
| 65° | 3535  | 4155  | 6233  |
| 70° | 3296  | 3832  | 4713  |
| 75° | 3141  | 3543  | 3394  |
| 80° | 2946  | 3243  | 2866  |
| 85° | 2707  | 3004  | 2253  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 9841 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 134.1  | 5.1       |
| 10°-20°   | 360.3  | 13.6      |
| 20°-30°   | 492.0  | 18.6      |
| 30°-40°   | 515.5  | 19.5      |
| 40°-50°   | 446.2  | 16.9      |
| 50°-60°   | 335.2  | 12.7      |
| 60°-70°   | 216.2  | 8.2       |
| 70°-80°   | 110.8  | 4.2       |
| 80°-90°   | 33.1   | 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°    | 986.4  | 37.3      |
| 0°-40°    | 1501.8 | 56.8      |
| 0°-60°    | 2283.2 | 86.4      |
| 0°-90°    | 2643.3 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2643.3 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1452 | 1452  | 1452 | 1452  | 1452 |      |
| 5°  | 1402 | 1423  | 1420 | 1431  | 1447 | 131  |
| 15° | 1212 | 1242  | 1271 | 1329  | 1377 | 340  |
| 25° | 966  | 1003  | 1053 | 1135  | 1218 | 443  |
| 35° | 694  | 734   | 804  | 910   | 1012 | 432  |
| 45° | 414  | 457   | 552  | 688   | 808  | 326  |
| 55° | 269  | 278   | 327  | 467   | 569  | 242  |
| 65° | 174  | 176   | 204  | 247   | 306  | 172  |
| 75° | 94   | 105   | 106  | 105   | 102  | 100  |
| 85° | 27   | 32    | 30   | 29    | 23   | 31   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1451.9 | 1451.9 | 1451.9 | 1451.9 | 1451.9 |
| 2.5°  | 1433.7 | 1451.9 | 1441.3 | 1444.3 | 1448.9 |
| 5°    | 1401.7 | 1423.0 | 1420.0 | 1430.6 | 1447.4 |
| 7.5°  | 1362.1 | 1385.0 | 1389.5 | 1413.9 | 1438.2 |
| 10°   | 1316.5 | 1342.3 | 1354.5 | 1391.0 | 1421.5 |
| 12.5° | 1266.2 | 1293.6 | 1314.9 | 1360.6 | 1404.7 |
| 15°   | 1211.5 | 1241.9 | 1270.8 | 1328.6 | 1377.3 |
| 17.5° | 1155.1 | 1185.6 | 1223.6 | 1287.5 | 1342.3 |
| 20°   | 1094.3 | 1127.7 | 1171.9 | 1238.8 | 1304.3 |
| 22.5° | 1031.9 | 1066.9 | 1114.1 | 1187.1 | 1263.2 |
| 25°   | 966.4  | 1002.9 | 1053.2 | 1135.4 | 1217.5 |
| 27.5° | 901.0  | 937.5  | 993.8  | 1080.6 | 1170.4 |
| 30°   | 832.5  | 870.5  | 931.4  | 1025.8 | 1115.6 |
| 32.5° | 764.0  | 805.1  | 867.5  | 967.9  | 1063.8 |
| 35°   | 694.0  | 733.6  | 803.6  | 910.1  | 1012.1 |
| 37.5° | 624.0  | 665.1  | 739.7  | 853.8  | 960.3  |
| 40°   | 552.5  | 595.1  | 677.3  | 797.5  | 908.6  |
| 42.5° | 480.9  | 526.6  | 613.3  | 739.7  | 856.8  |
| 45°   | 414.0  | 456.6  | 552.5  | 687.9  | 808.1  |
| 47.5° | 363.7  | 392.7  | 491.6  | 637.7  | 753.4  |
| 50°   | 325.7  | 340.9  | 432.2  | 582.9  | 687.9  |
| 52.5° | 296.8  | 307.4  | 377.4  | 523.5  | 634.6  |
| 55°   | 269.4  | 278.5  | 327.2  | 467.2  | 569.2  |
| 57.5° | 245.0  | 249.6  | 289.2  | 412.4  | 506.8  |
| 60°   | 219.2  | 223.7  | 257.2  | 353.1  | 435.3  |
| 62.5° | 196.3  | 199.4  | 231.3  | 296.8  | 369.8  |
| 65°   | 173.5  | 176.5  | 203.9  | 246.6  | 305.9  |
| 67.5° | 152.2  | 156.8  | 178.1  | 200.9  | 243.5  |
| 70°   | 130.9  | 140.0  | 152.2  | 162.8  | 187.2  |
| 72.5° | 112.6  | 121.8  | 127.8  | 130.9  | 132.4  |
| 75°   | 94.4   | 105.0  | 106.5  | 105.0  | 102.0  |
| 77.5° | 76.1   | 85.2   | 85.2   | 82.2   | 79.1   |
| 80°   | 59.4   | 67.0   | 65.4   | 62.4   | 57.8   |
| 82.5° | 44.1   | 48.7   | 47.2   | 44.1   | 39.6   |
| 85°   | 27.4   | 32.0   | 30.4   | 28.9   | 22.8   |
| 87.5° | 13.7   | 18.3   | 16.7   | 15.2   | 9.1    |
| 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 | 15.21            | 16.69 | 15.57 | 17.01 | 17.32 | 18.98          | 20.47 | 19.35 | 20.78 | 21.09 |
|                 | 3H   | 16.86            | 18.19 | 17.24 | 18.52 | 18.88 | 20.10          | 21.42 | 20.47 | 21.75 | 22.11 |
|                 | 4H   | 17.53            | 18.78 | 17.93 | 19.13 | 19.51 | 20.39          | 21.63 | 20.79 | 21.98 | 22.36 |
|                 | 6H   | 18.05            | 19.20 | 18.46 | 19.56 | 19.96 | 20.58          | 21.73 | 21.00 | 22.10 | 22.49 |
|                 | 8H   | 18.23            | 19.32 | 18.66 | 19.71 | 20.11 | 20.64          | 21.73 | 21.06 | 22.12 | 22.52 |
|                 | 12H  | 18.35            | 19.40 | 18.78 | 19.78 | 20.21 | 20.66          | 21.71 | 21.09 | 22.09 | 22.52 |
| 4H              | 2H   | 15.99            | 17.24 | 16.39 | 17.59 | 17.96 | 19.14          | 20.39 | 19.54 | 20.73 | 21.11 |
|                 | 3H   | 17.85            | 18.89 | 18.26 | 19.29 | 19.69 | 20.45          | 21.48 | 20.86 | 21.89 | 22.29 |
|                 | 4H   | 18.66            | 19.59 | 19.09 | 20.01 | 20.45 | 20.86          | 21.79 | 21.29 | 22.21 | 22.64 |
|                 | 6H   | 19.31            | 20.12 | 19.77 | 20.56 | 21.02 | 21.18          | 21.98 | 21.63 | 22.43 | 22.89 |
|                 | 8H   | 19.54            | 20.29 | 20.00 | 20.74 | 21.20 | 21.27          | 22.02 | 21.73 | 22.47 | 22.94 |
|                 | 12H  | 19.71            | 20.38 | 20.19 | 20.86 | 21.33 | 21.33          | 22.00 | 21.81 | 22.48 | 22.95 |
| 8H              | 4H   | 19.01            | 19.76 | 19.47 | 20.21 | 20.68 | 20.99          | 21.75 | 21.46 | 22.19 | 22.66 |
|                 | 6H   | 19.80            | 20.43 | 20.30 | 20.92 | 21.40 | 21.40          | 22.03 | 21.90 | 22.52 | 23.00 |
|                 | 8H   | 20.12            | 20.68 | 20.64 | 21.19 | 21.68 | 21.56          | 22.12 | 22.07 | 22.63 | 23.11 |
|                 | 12H  | 20.39            | 20.88 | 20.90 | 21.38 | 21.94 | 21.68          | 22.17 | 22.19 | 22.67 | 23.23 |
| 12H             | 4H   | 19.04            | 19.71 | 19.52 | 20.19 | 20.66 | 21.00          | 21.67 | 21.48 | 22.15 | 22.62 |
|                 | 6H   | 19.87            | 20.43 | 20.38 | 20.94 | 21.43 | 21.43          | 21.99 | 21.94 | 22.50 | 22.99 |
|                 | 8H   | 20.25            | 20.75 | 20.76 | 21.24 | 21.81 | 21.63          | 22.12 | 22.14 | 22.62 | 23.18 |