

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: P998472

Luminaire Tested: S124DR-B1195DB35-4F0-XX-W2A-F

Issue Date: 5/2/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P998472  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 5/2/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124DR-B1195DB35-4F0-XX-W2A-F  
Description: Define 4 Direct Recessed with 3500K BioUP LEDs {m-DER=0.721} {m-EER=0.792}  
Light Source: -  
Ballast/Driver: -

**Summary**

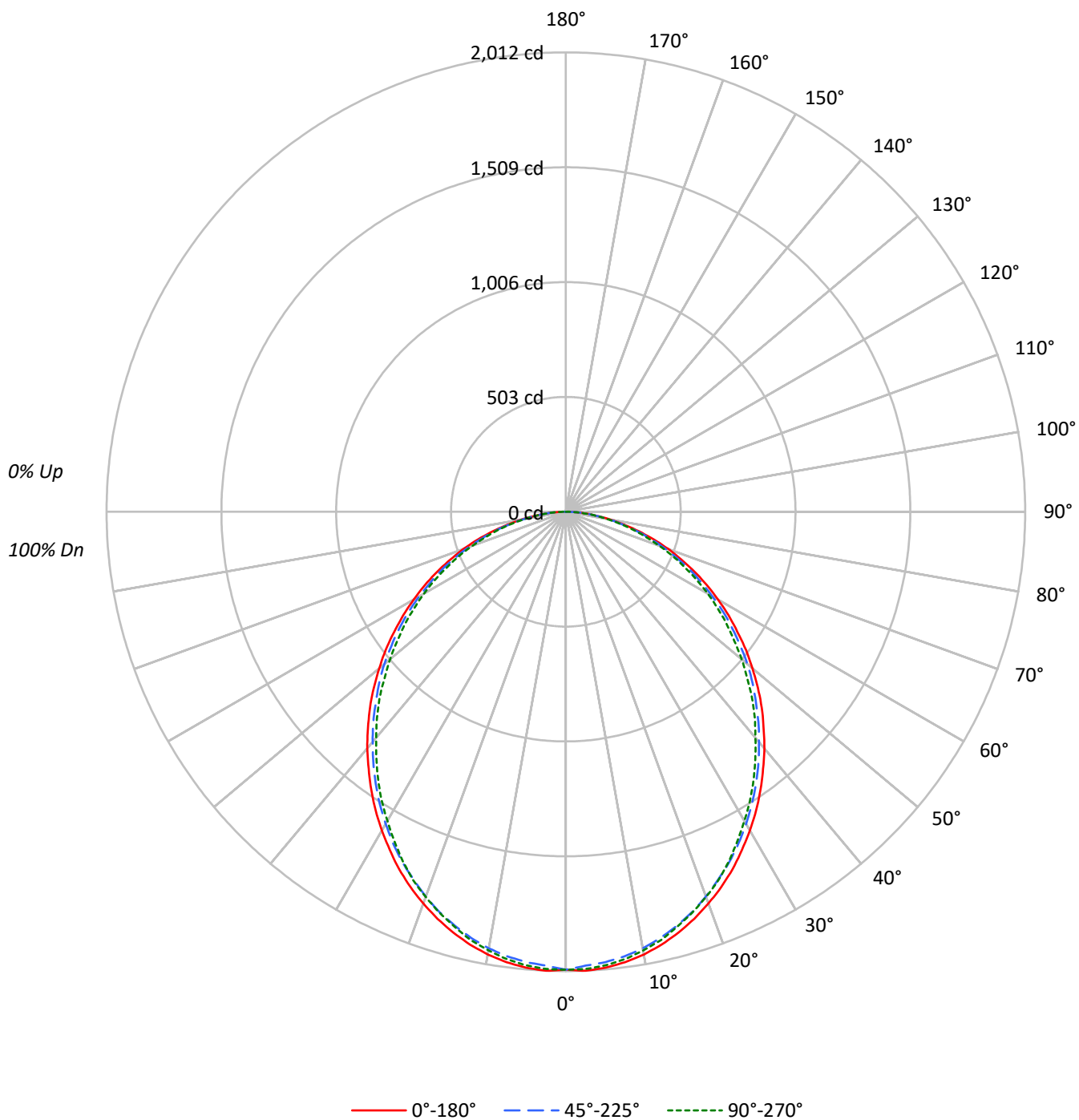
Lumens per Lamp: N/A  
Luminaire Lumens: 5148.0 lumens  
Efficiency: N/A  
Efficacy: 84.0 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.29  
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 61.3  
Input Voltage (V):  
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  |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  |  | 50  | 30  | 10  |  | 50  |
| RCR |     |     |     |     |     |     |     |     |     |     |     |  |     |     |     |  |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 |  | 106 | 106 | 106 |  | 102 |
| 1   | 109 | 104 | 100 | 96  | 106 | 102 | 98  | 95  | 98  | 95  | 92  |  | 94  | 91  | 89  |  | 90  |
| 2   | 99  | 91  | 84  | 79  | 97  | 89  | 83  | 78  | 86  | 80  | 76  |  | 82  | 78  | 74  |  | 79  |
| 3   | 91  | 80  | 72  | 66  | 88  | 79  | 71  | 65  | 76  | 69  | 64  |  | 73  | 67  | 63  |  | 70  |
| 4   | 83  | 71  | 63  | 56  | 81  | 70  | 62  | 56  | 67  | 60  | 55  |  | 65  | 59  | 54  |  | 63  |
| 5   | 77  | 64  | 55  | 48  | 74  | 63  | 54  | 48  | 61  | 53  | 48  |  | 59  | 52  | 47  |  | 57  |
| 6   | 71  | 58  | 49  | 42  | 69  | 57  | 48  | 42  | 55  | 47  | 42  |  | 53  | 47  | 41  |  | 52  |
| 7   | 66  | 52  | 44  | 38  | 64  | 52  | 43  | 37  | 50  | 43  | 37  |  | 49  | 42  | 37  |  | 47  |
| 8   | 61  | 48  | 39  | 34  | 60  | 47  | 39  | 34  | 46  | 39  | 33  |  | 45  | 38  | 33  |  | 43  |
| 9   | 57  | 44  | 36  | 30  | 56  | 43  | 36  | 30  | 42  | 35  | 30  |  | 41  | 35  | 30  |  | 40  |
| 10  | 54  | 41  | 33  | 28  | 52  | 40  | 33  | 28  | 39  | 32  | 27  |  | 38  | 32  | 27  |  | 37  |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 16355 | 16355 | 16355 |
| 5°  | 16405 | 16208 | 16325 |
| 10° | 16301 | 16075 | 16156 |
| 15° | 16105 | 15847 | 15887 |
| 20° | 15843 | 15565 | 15578 |
| 25° | 15545 | 15241 | 15198 |
| 30° | 15178 | 14860 | 14724 |
| 35° | 14799 | 14462 | 14271 |
| 40° | 14405 | 14011 | 13754 |
| 45° | 13993 | 13566 | 13307 |
| 50° | 13537 | 13171 | 12764 |
| 55° | 13047 | 12657 | 12246 |
| 60° | 12555 | 12083 | 11716 |
| 65° | 12002 | 11537 | 11070 |
| 70° | 11380 | 10805 | 10383 |
| 75° | 10432 | 9925  | 9672  |
| 80° | 9284  | 8904  | 8678  |
| 85° | 8121  | 7822  | 7672  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 13993 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 189.0  | 3.7       |
| 10°-20°   | 532.6  | 10.3      |
| 20°-30°   | 783.8  | 15.2      |
| 30°-40°   | 911.2  | 17.7      |
| 40°-50°   | 911.1  | 17.7      |
| 50°-60°   | 796.9  | 15.5      |
| 60°-70°   | 591.6  | 11.5      |
| 70°-80°   | 335.7  | 6.5       |
| 80°-90°   | 96.2   | 1.9       |
| 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°    | 1505.5 | 29.2      |
| 0°-40°    | 2416.7 | 46.9      |
| 0°-60°    | 4124.6 | 80.1      |
| 0°-90°    | 5148.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 5148.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 2006 | 2006  | 2006 | 2006  | 2006 |      |
| 5°  | 2004 | 1998  | 1980 | 1998  | 1994 | 190  |
| 15° | 1908 | 1901  | 1877 | 1887  | 1882 | 538  |
| 25° | 1728 | 1716  | 1694 | 1696  | 1689 | 795  |
| 35° | 1487 | 1475  | 1453 | 1442  | 1434 | 930  |
| 45° | 1213 | 1202  | 1176 | 1159  | 1154 | 935  |
| 55° | 918  | 913   | 890  | 871   | 861  | 822  |
| 65° | 622  | 614   | 598  | 582   | 574  | 616  |
| 75° | 331  | 323   | 315  | 309   | 307  | 351  |
| 85° | 87   | 87    | 84   | 84    | 82   | 99   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |

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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 2005.7 | 2005.7 | 2005.7 | 2005.7 | 2005.7 |
| 2.5°  | 2012.1 | 2007.3 | 1989.6 | 2005.7 | 2004.1 |
| 5°    | 2004.1 | 1997.7 | 1980.0 | 1997.7 | 1994.4 |
| 7.5°  | 1989.6 | 1983.2 | 1963.9 | 1978.4 | 1976.8 |
| 10°   | 1968.7 | 1962.3 | 1941.4 | 1954.3 | 1951.1 |
| 12.5° | 1941.4 | 1935.0 | 1912.5 | 1926.9 | 1922.1 |
| 15°   | 1907.7 | 1901.2 | 1877.1 | 1886.8 | 1881.9 |
| 17.5° | 1869.1 | 1861.1 | 1838.6 | 1845.0 | 1841.8 |
| 20°   | 1825.7 | 1817.7 | 1793.6 | 1798.4 | 1795.2 |
| 22.5° | 1779.1 | 1767.8 | 1743.7 | 1753.4 | 1746.9 |
| 25°   | 1727.7 | 1716.4 | 1693.9 | 1695.5 | 1689.1 |
| 27.5° | 1669.8 | 1658.6 | 1637.7 | 1634.4 | 1626.4 |
| 30°   | 1611.9 | 1599.1 | 1578.2 | 1571.8 | 1563.7 |
| 32.5° | 1550.9 | 1539.6 | 1517.1 | 1509.1 | 1501.1 |
| 35°   | 1486.6 | 1475.3 | 1452.8 | 1441.6 | 1433.6 |
| 37.5° | 1419.1 | 1409.4 | 1385.3 | 1374.1 | 1362.8 |
| 40°   | 1353.2 | 1340.3 | 1316.2 | 1300.2 | 1292.1 |
| 42.5° | 1282.5 | 1276.1 | 1248.7 | 1229.5 | 1224.6 |
| 45°   | 1213.4 | 1202.1 | 1176.4 | 1158.7 | 1153.9 |
| 47.5° | 1141.1 | 1133.0 | 1108.9 | 1089.6 | 1076.8 |
| 50°   | 1067.1 | 1060.7 | 1038.2 | 1015.7 | 1006.1 |
| 52.5° | 994.8  | 986.8  | 962.7  | 943.4  | 930.5  |
| 55°   | 917.7  | 912.8  | 890.3  | 871.1  | 861.4  |
| 57.5° | 845.3  | 840.5  | 818.0  | 798.7  | 789.1  |
| 60°   | 769.8  | 761.8  | 740.9  | 726.4  | 718.4  |
| 62.5° | 695.9  | 689.5  | 667.0  | 654.1  | 646.1  |
| 65°   | 622.0  | 613.9  | 597.9  | 581.8  | 573.7  |
| 67.5° | 546.4  | 540.0  | 523.9  | 507.9  | 506.2  |
| 70°   | 477.3  | 466.1  | 453.2  | 440.4  | 435.5  |
| 72.5° | 403.4  | 392.1  | 382.5  | 372.9  | 368.0  |
| 75°   | 331.1  | 323.0  | 315.0  | 308.6  | 307.0  |
| 77.5° | 260.4  | 257.1  | 249.1  | 247.5  | 242.7  |
| 80°   | 197.7  | 192.9  | 189.6  | 186.4  | 184.8  |
| 82.5° | 136.6  | 135.0  | 135.0  | 133.4  | 131.8  |
| 85°   | 86.8   | 86.8   | 83.6   | 83.6   | 82.0   |
| 87.5° | 41.8   | 40.2   | 38.6   | 38.6   | 38.6   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)