

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: P998738

Luminaire Tested: S124R3DR-B1020DB50-4F0-XX-W2A-F

Issue Date: 5/2/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P998738  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-26)  
Test Lab: INNOVATION CENTER  
Issue Date: 5/2/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124R3DR-B1020DB50-4F0-XX-W2A-F  
Description: Define 4 3in Regressed Direct Recessed with 5000K BioUP LEDs {m-DER=1.015} {m-EER=1.115  
Light Source: -  
Ballast/Driver: -

**Summary**

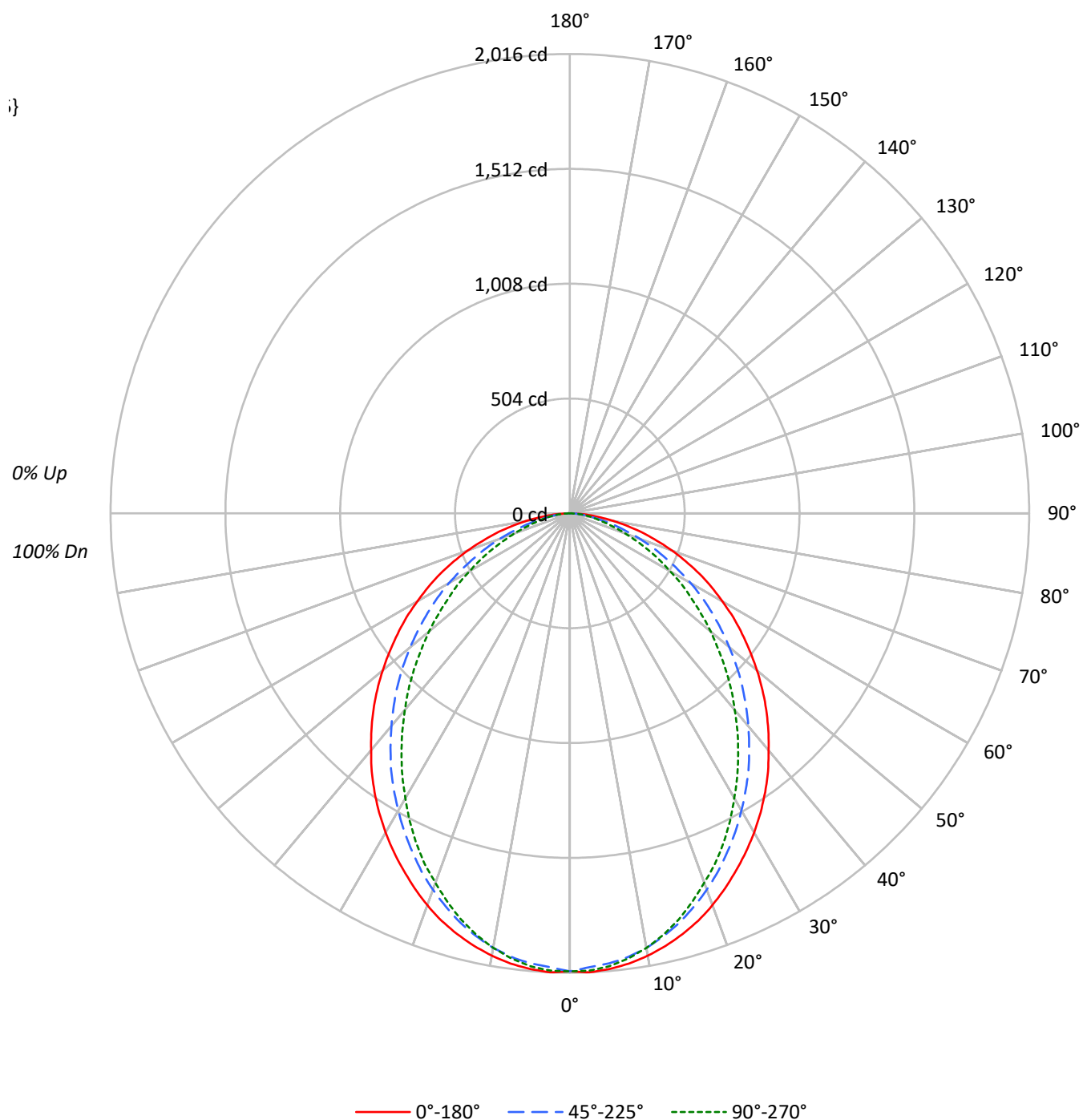
Lumens per Lamp: N/A  
Luminaire Lumens: 4644.0 lumens  
Efficiency: N/A  
Efficacy: 75.8 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24  
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')  
CIE Type: Direct

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   | 110 | 105 | 101 | 98  | 107 | 103 | 99  | 96  | 99  | 96  | 93  |  | 95  | 92  | 90  |  | 91  |
| 2   | 100 | 93  | 86  | 81  | 98  | 91  | 85  | 80  | 87  | 82  | 78  |  | 84  | 80  | 76  |  | 81  |
| 3   | 92  | 82  | 74  | 68  | 89  | 80  | 73  | 67  | 77  | 71  | 66  |  | 75  | 69  | 65  |  | 72  |
| 4   | 84  | 73  | 65  | 58  | 82  | 72  | 64  | 58  | 69  | 62  | 57  |  | 67  | 61  | 56  |  | 65  |
| 5   | 78  | 66  | 57  | 51  | 76  | 65  | 56  | 50  | 62  | 55  | 50  |  | 61  | 54  | 49  |  | 59  |
| 6   | 72  | 59  | 51  | 45  | 70  | 58  | 50  | 44  | 57  | 49  | 44  |  | 55  | 49  | 44  |  | 53  |
| 7   | 67  | 54  | 46  | 40  | 65  | 53  | 45  | 40  | 52  | 45  | 39  |  | 50  | 44  | 39  |  | 49  |
| 8   | 63  | 50  | 41  | 36  | 61  | 49  | 41  | 36  | 48  | 40  | 35  |  | 46  | 40  | 35  |  | 45  |
| 9   | 59  | 46  | 38  | 32  | 57  | 45  | 37  | 32  | 44  | 37  | 32  |  | 43  | 36  | 32  |  | 42  |
| 10  | 55  | 42  | 35  | 29  | 54  | 42  | 34  | 29  | 41  | 34  | 29  |  | 40  | 33  | 29  |  | 39  |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 16390 | 16390 | 16390 |
| 5°  | 16427 | 16226 | 16326 |
| 10° | 16324 | 16031 | 16031 |
| 15° | 16136 | 15694 | 15577 |
| 20° | 15879 | 15251 | 14971 |
| 25° | 15549 | 14732 | 14359 |
| 30° | 15229 | 14186 | 13592 |
| 35° | 14875 | 13619 | 12823 |
| 40° | 14448 | 12974 | 11992 |
| 45° | 14055 | 12335 | 11146 |
| 50° | 13607 | 11596 | 10249 |
| 55° | 13128 | 10830 | 9277  |
| 60° | 12600 | 9989  | 8283  |
| 65° | 12115 | 8938  | 7305  |
| 70° | 11411 | 7780  | 6201  |
| 75° | 10523 | 6449  | 5044  |
| 80° | 9176  | 4912  | 4626  |
| 85° | 7775  | 4463  | 4173  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 14055 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 189.0  | 4.1       |
| 10°-20°   | 527.0  | 11.3      |
| 20°-30°   | 760.8  | 16.4      |
| 30°-40°   | 862.2  | 18.6      |
| 40°-50°   | 832.5  | 17.9      |
| 50°-60°   | 692.1  | 14.9      |
| 60°-70°   | 477.7  | 10.3      |
| 70°-80°   | 241.4  | 5.2       |
| 80°-90°   | 61.3   | 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°    | 1476.7 | 31.8      |
| 0°-40°    | 2339.0 | 50.4      |
| 0°-60°    | 3863.6 | 83.2      |
| 0°-90°    | 4644.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 4644.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 2010 | 2010  | 2010 | 2010  | 2010 |      |
| 5°  | 2007 | 2001  | 1982 | 1998  | 1994 | 190  |
| 15° | 1911 | 1898  | 1859 | 1856  | 1845 | 539  |
| 25° | 1728 | 1700  | 1637 | 1611  | 1596 | 796  |
| 35° | 1494 | 1445  | 1368 | 1316  | 1288 | 934  |
| 45° | 1219 | 1162  | 1070 | 994   | 966  | 940  |
| 55° | 923  | 862   | 762  | 682   | 652  | 826  |
| 65° | 628  | 562   | 463  | 397   | 379  | 620  |
| 75° | 334  | 277   | 205  | 169   | 160  | 352  |
| 85° | 83   | 52    | 48   | 45    | 45   | 96   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |

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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 2009.9 | 2009.9 | 2009.9 | 2009.9 | 2009.9 |
| 2.5°  | 2016.0 | 2009.9 | 1992.9 | 2009.9 | 2008.3 |
| 5°    | 2006.8 | 2000.6 | 1982.2 | 1997.6 | 1994.5 |
| 7.5°  | 1992.9 | 1986.8 | 1963.7 | 1974.5 | 1969.8 |
| 10°   | 1971.4 | 1963.7 | 1936.0 | 1942.1 | 1936.0 |
| 12.5° | 1943.7 | 1934.5 | 1900.6 | 1903.7 | 1894.4 |
| 15°   | 1911.4 | 1897.5 | 1859.0 | 1856.0 | 1845.2 |
| 17.5° | 1874.4 | 1854.4 | 1809.8 | 1802.1 | 1786.7 |
| 20°   | 1829.8 | 1809.8 | 1757.5 | 1745.2 | 1725.2 |
| 22.5° | 1780.6 | 1757.5 | 1700.5 | 1680.5 | 1665.1 |
| 25°   | 1728.2 | 1700.5 | 1637.4 | 1611.3 | 1595.9 |
| 27.5° | 1674.4 | 1640.5 | 1574.3 | 1543.6 | 1522.0 |
| 30°   | 1617.4 | 1579.0 | 1506.6 | 1468.2 | 1443.5 |
| 32.5° | 1557.4 | 1512.8 | 1437.4 | 1391.2 | 1368.1 |
| 35°   | 1494.3 | 1445.1 | 1368.1 | 1315.8 | 1288.1 |
| 37.5° | 1428.1 | 1377.4 | 1292.7 | 1235.8 | 1208.1 |
| 40°   | 1357.3 | 1306.6 | 1218.8 | 1154.2 | 1126.5 |
| 42.5° | 1289.6 | 1235.8 | 1143.4 | 1077.3 | 1048.0 |
| 45°   | 1218.8 | 1161.9 | 1069.6 | 994.2  | 966.5  |
| 47.5° | 1146.5 | 1088.0 | 992.6  | 914.1  | 883.4  |
| 50°   | 1072.6 | 1012.6 | 914.1  | 837.2  | 807.9  |
| 52.5° | 997.2  | 938.8  | 837.2  | 758.7  | 727.9  |
| 55°   | 923.4  | 861.8  | 761.8  | 681.8  | 652.5  |
| 57.5° | 851.0  | 786.4  | 687.9  | 606.3  | 584.8  |
| 60°   | 772.6  | 711.0  | 612.5  | 532.5  | 507.9  |
| 62.5° | 701.8  | 637.1  | 535.6  | 463.2  | 444.8  |
| 65°   | 627.9  | 561.7  | 463.2  | 397.0  | 378.6  |
| 67.5° | 550.9  | 487.8  | 395.5  | 337.0  | 315.5  |
| 70°   | 478.6  | 414.0  | 326.3  | 275.5  | 260.1  |
| 72.5° | 401.7  | 344.7  | 263.2  | 221.6  | 207.8  |
| 75°   | 334.0  | 277.0  | 204.7  | 169.3  | 160.1  |
| 77.5° | 263.2  | 213.9  | 152.4  | 127.7  | 124.7  |
| 80°   | 195.4  | 150.8  | 104.6  | 100.0  | 98.5   |
| 82.5° | 137.0  | 97.0   | 75.4   | 72.3   | 70.8   |
| 85°   | 83.1   | 52.3   | 47.7   | 44.6   | 44.6   |
| 87.5° | 35.4   | 23.1   | 21.5   | 20.0   | 21.5   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)