

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: P1026023

Luminaire Tested: S124RDIP-B1020D590UB27-4F0-XX-W2A-F1

Issue Date: 5/6/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1026023  
REPORT IS A COMBINATION OF REPORTS P998943 AND P1007351  
Test Lab: INNOVATION CENTER  
Issue Date: 5/6/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124RDIP-B1020D590UB27-4F0-XX-W2A-F1  
Description: Define 4 Regressed Direct/Indirect Pendant with 2700K BioUP LEDs {m-DER=0.473}  
{m-EER=0.52}  
Light Source: -  
Ballast/Driver: -

**Summary**

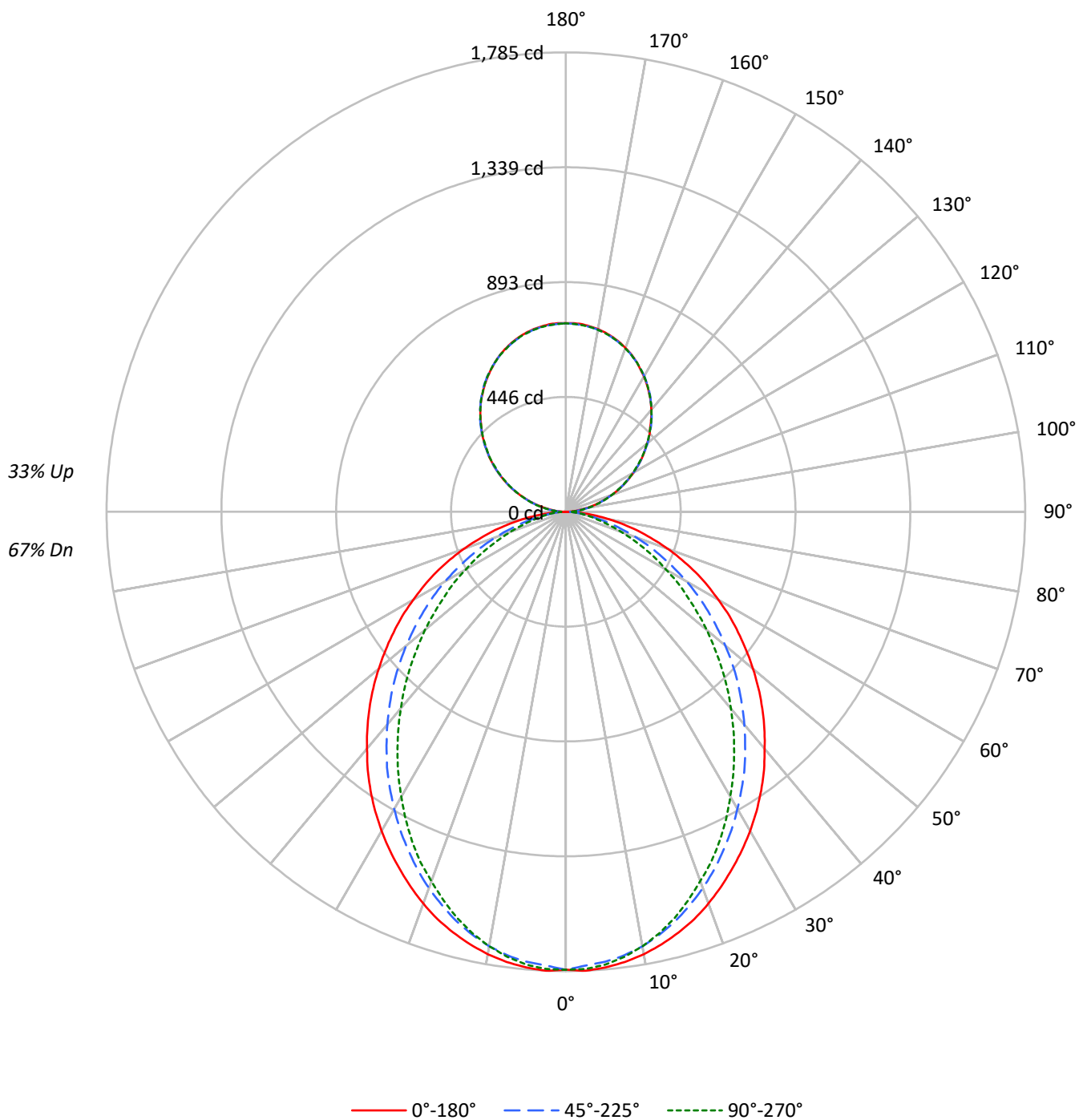
Lumens per Lamp: N/A  
Luminaire Lumens: 6146.0 lumens  
Efficiency: N/A  
Efficacy: 98.8 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.1')  
CIE Type: Semi-Direct

Input Watts (W): 62.2  
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 | 30 | 10 |
| RCR |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |    |    |
| 0   | 111 | 111 | 111 | 111 | 105 | 105 | 105 | 105 | 93 | 93 | 93 | 82 | 82 | 82 | 72 | 72 | 72 |
| 1   | 102 | 98  | 94  | 90  | 96  | 92  | 89  | 86  | 82 | 79 | 77 | 73 | 71 | 69 | 64 | 63 | 61 |
| 2   | 93  | 86  | 80  | 74  | 88  | 81  | 76  | 71  | 72 | 68 | 64 | 64 | 61 | 58 | 57 | 54 | 52 |
| 3   | 85  | 76  | 68  | 62  | 80  | 72  | 65  | 60  | 64 | 59 | 55 | 57 | 53 | 50 | 51 | 47 | 45 |
| 4   | 78  | 67  | 59  | 53  | 73  | 64  | 57  | 51  | 57 | 51 | 47 | 51 | 47 | 43 | 45 | 42 | 39 |
| 5   | 72  | 60  | 52  | 46  | 68  | 57  | 50  | 44  | 51 | 45 | 41 | 46 | 41 | 37 | 41 | 37 | 34 |
| 6   | 66  | 54  | 46  | 40  | 62  | 52  | 44  | 39  | 47 | 40 | 36 | 42 | 37 | 33 | 37 | 33 | 30 |
| 7   | 62  | 49  | 41  | 35  | 58  | 47  | 39  | 34  | 42 | 36 | 32 | 38 | 33 | 29 | 34 | 30 | 27 |
| 8   | 57  | 45  | 37  | 32  | 54  | 43  | 36  | 30  | 39 | 33 | 28 | 35 | 30 | 26 | 32 | 27 | 24 |
| 9   | 53  | 41  | 33  | 28  | 50  | 39  | 32  | 27  | 36 | 30 | 26 | 32 | 27 | 24 | 29 | 25 | 22 |
| 10  | 50  | 38  | 30  | 26  | 47  | 36  | 29  | 25  | 33 | 27 | 23 | 30 | 25 | 22 | 27 | 23 | 20 |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 14512 | 14512 | 14512 |
| 5°  | 14513 | 14081 | 14082 |
| 10° | 14391 | 13636 | 13474 |
| 15° | 14192 | 13083 | 12757 |
| 20° | 13933 | 12452 | 11939 |
| 25° | 13610 | 11772 | 11140 |
| 30° | 13293 | 11077 | 10243 |
| 35° | 12945 | 10374 | 9366  |
| 40° | 12531 | 9616  | 8466  |
| 45° | 12142 | 8865  | 7573  |
| 50° | 11701 | 8044  | 6668  |
| 55° | 11223 | 7203  | 5733  |
| 60° | 10692 | 6309  | 4810  |
| 65° | 10182 | 5286  | 3920  |
| 70° | 9455  | 4207  | 2996  |
| 75° | 8521  | 3060  | 2095  |
| 80° | 7119  | 1880  | 1506  |
| 85° | 5356  | 1081  | 828   |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 12142 cd/sqm

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CATALOG NUMBER: S124RDIP-B1020D590UB27-4F0-XX-W2A-F1

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 167.3  | 2.7       |
| 10°-20°   | 466.6  | 7.6       |
| 20°-30°   | 673.6  | 11.0      |
| 30°-40°   | 763.5  | 12.4      |
| 40°-50°   | 737.1  | 12.0      |
| 50°-60°   | 612.8  | 10.0      |
| 60°-70°   | 423.0  | 6.9       |
| 70°-80°   | 213.7  | 3.5       |
| 80°-90°   | 55.8   | 0.9       |
| 90°-100°  | 47.7   | 0.8       |
| 100°-110° | 143.0  | 2.3       |
| 110°-120° | 242.9  | 4.0       |
| 120°-130° | 320.4  | 5.2       |
| 130°-140° | 359.9  | 5.9       |
| 140°-150° | 353.7  | 5.8       |
| 150°-160° | 297.5  | 4.8       |
| 160°-170° | 197.9  | 3.2       |
| 170°-180° | 69.3   | 1.1       |
| 0°-30°    | 1307.6 | 21.3      |
| 0°-40°    | 2071.0 | 33.7      |
| 0°-60°    | 3421.0 | 55.7      |
| 0°-90°    | 4113.6 | 66.9      |
| 90°-120°  | 433.7  | 7.1       |
| 90°-150°  | 1467.7 | 23.9      |
| 90°-180°  | 2032.0 | 33.1      |
| 0°-180°   | 6146.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 1780 | 1780  | 1780 | 1780  | 1780 |      |
| 5°   | 1777 | 1771  | 1755 | 1769  | 1766 | 169  |
| 15°  | 1692 | 1680  | 1646 | 1643  | 1634 | 477  |
| 25°  | 1530 | 1506  | 1450 | 1427  | 1413 | 705  |
| 35°  | 1323 | 1280  | 1211 | 1165  | 1140 | 827  |
| 45°  | 1079 | 1029  | 947  | 880   | 856  | 832  |
| 55°  | 818  | 763   | 674  | 604   | 578  | 731  |
| 65°  | 556  | 497   | 410  | 352   | 335  | 549  |
| 75°  | 296  | 245   | 181  | 150   | 142  | 312  |
| 85°  | 74   | 46    | 42   | 40    | 40   | 81   |
| 90°  | 2    | 8     | 12   | 16    | 17   | 7    |
| 95°  | 34   | 39    | 43   | 45    | 45   | 37   |
| 105° | 132  | 133   | 135  | 136   | 138  | 140  |
| 115° | 247  | 247   | 246  | 245   | 245  | 244  |
| 125° | 360  | 360   | 359  | 358   | 357  | 321  |
| 135° | 464  | 467   | 467  | 466   | 464  | 359  |
| 145° | 564  | 566   | 566  | 566   | 564  | 353  |
| 155° | 646  | 646   | 645  | 648   | 645  | 297  |
| 165° | 703  | 701   | 700  | 704   | 701  | 198  |
| 175° | 731  | 728   | 728  | 732   | 728  | 69   |
| 180° | 732  | 732   | 732  | 732   | 732  |      |

TEST NUMBER: P1026023

CATALOG NUMBER: S124RDIP-B1020D590UB27-4F0-XX-W2A-F1

**CANDELA DISTRIBUTION (FULL):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 0°     | 1779.6 | 1779.6 | 1779.6 | 1779.6 | 1779.6 |
| 2.5°   | 1785.1 | 1779.6 | 1764.6 | 1779.6 | 1778.3 |
| 5°     | 1776.9 | 1771.4 | 1755.1 | 1768.7 | 1766.0 |
| 7.5°   | 1764.6 | 1759.2 | 1738.7 | 1748.3 | 1744.2 |
| 10°    | 1745.6 | 1738.7 | 1714.2 | 1719.7 | 1714.2 |
| 12.5°  | 1721.0 | 1712.8 | 1682.9 | 1685.6 | 1677.4 |
| 15°    | 1692.4 | 1680.1 | 1646.1 | 1643.4 | 1633.8 |
| 17.5°  | 1659.7 | 1642.0 | 1602.5 | 1595.7 | 1582.0 |
| 20°    | 1620.2 | 1602.5 | 1556.1 | 1545.2 | 1527.5 |
| 22.5°  | 1576.6 | 1556.1 | 1505.7 | 1488.0 | 1474.4 |
| 25°    | 1530.3 | 1505.7 | 1449.9 | 1426.7 | 1413.1 |
| 27.5°  | 1482.6 | 1452.6 | 1394.0 | 1366.7 | 1347.7 |
| 30°    | 1432.1 | 1398.1 | 1334.0 | 1300.0 | 1278.2 |
| 32.5°  | 1379.0 | 1339.5 | 1272.7 | 1231.8 | 1211.4 |
| 35°    | 1323.1 | 1279.5 | 1211.4 | 1165.1 | 1140.5 |
| 37.5°  | 1264.5 | 1219.6 | 1144.6 | 1094.2 | 1069.7 |
| 40°    | 1201.9 | 1156.9 | 1079.2 | 1022.0 | 997.5  |
| 42.5°  | 1141.9 | 1094.2 | 1012.4 | 953.9  | 928.0  |
| 45°    | 1079.2 | 1028.8 | 947.0  | 880.3  | 855.7  |
| 47.5°  | 1015.2 | 963.4  | 878.9  | 809.4  | 782.2  |
| 50°    | 949.8  | 896.6  | 809.4  | 741.3  | 715.4  |
| 52.5°  | 883.0  | 831.2  | 741.3  | 671.8  | 644.5  |
| 55°    | 817.6  | 763.1  | 674.5  | 603.7  | 577.8  |
| 57.5°  | 753.5  | 696.3  | 609.1  | 536.9  | 517.8  |
| 60°    | 684.0  | 629.5  | 542.3  | 471.5  | 449.7  |
| 62.5°  | 621.4  | 564.1  | 474.2  | 410.2  | 393.8  |
| 65°    | 556.0  | 497.4  | 410.2  | 351.6  | 335.2  |
| 67.5°  | 487.8  | 432.0  | 350.2  | 298.4  | 279.3  |
| 70°    | 423.8  | 366.6  | 288.9  | 243.9  | 230.3  |
| 72.5°  | 355.7  | 305.2  | 233.0  | 196.2  | 184.0  |
| 75°    | 295.7  | 245.3  | 181.2  | 149.9  | 141.7  |
| 77.5°  | 233.0  | 189.4  | 134.9  | 113.1  | 110.4  |
| 80°    | 173.1  | 133.5  | 92.7   | 88.6   | 87.2   |
| 82.5°  | 121.3  | 85.8   | 66.8   | 64.0   | 62.7   |
| 85°    | 73.6   | 46.3   | 42.2   | 39.5   | 39.5   |
| 87.5°  | 31.3   | 20.4   | 19.1   | 17.7   | 19.1   |
| 90°    | 1.7    | 7.9    | 12.5   | 15.9   | 17.0   |
| 92.5°  | 14.7   | 22.1   | 24.9   | 26.6   | 27.2   |
| 95°    | 34.0   | 39.1   | 43.1   | 44.8   | 44.8   |
| 97.5°  | 54.4   | 58.9   | 63.4   | 65.7   | 65.7   |
| 100°   | 79.3   | 81.6   | 86.7   | 87.8   | 87.8   |
| 102.5° | 105.4  | 105.9  | 110.5  | 112.2  | 112.7  |
| 105°   | 132.0  | 132.6  | 134.8  | 136.5  | 138.2  |
| 107.5° | 159.8  | 160.3  | 160.9  | 163.2  | 162.6  |
| 110°   | 188.1  | 189.2  | 188.6  | 187.5  | 189.2  |

TEST NUMBER: P1026023

CATALOG NUMBER: S124RDIP-B1020D590UB27-4F0-XX-W2A-F1

**CANDELA DISTRIBUTION (continued):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 112.5° | 217.5 | 217.5 | 216.4 | 216.4 | 216.4 |
| 115°   | 247.0 | 247.0 | 245.9 | 245.3 | 244.7 |
| 117.5° | 274.8 | 274.8 | 274.2 | 272.5 | 270.8 |
| 120°   | 302.5 | 304.8 | 303.1 | 300.3 | 301.4 |
| 122.5° | 331.4 | 332.0 | 331.4 | 329.7 | 326.9 |
| 125°   | 359.7 | 359.7 | 359.2 | 358.0 | 356.9 |
| 127.5° | 385.2 | 386.9 | 385.8 | 384.7 | 384.1 |
| 130°   | 412.4 | 414.1 | 414.1 | 413.0 | 410.7 |
| 132.5° | 440.2 | 441.3 | 440.7 | 439.6 | 439.1 |
| 135°   | 464.0 | 467.4 | 467.4 | 466.2 | 464.5 |
| 137.5° | 490.6 | 492.3 | 493.4 | 491.7 | 492.3 |
| 140°   | 517.2 | 518.4 | 518.4 | 517.8 | 517.2 |
| 142.5° | 541.6 | 542.7 | 542.2 | 542.2 | 542.2 |
| 145°   | 563.7 | 565.9 | 566.5 | 565.9 | 564.3 |
| 147.5° | 586.3 | 589.2 | 588.6 | 588.0 | 587.5 |
| 150°   | 606.7 | 609.0 | 609.0 | 609.0 | 608.4 |
| 152.5° | 626.0 | 627.1 | 627.7 | 629.4 | 627.7 |
| 155°   | 645.8 | 645.8 | 645.3 | 647.5 | 645.3 |
| 157.5° | 662.8 | 661.7 | 661.7 | 663.4 | 661.7 |
| 160°   | 677.6 | 677.0 | 676.4 | 678.1 | 675.3 |
| 162.5° | 691.2 | 689.5 | 688.9 | 692.3 | 689.5 |
| 165°   | 703.0 | 701.3 | 700.2 | 703.6 | 701.3 |
| 167.5° | 712.7 | 710.4 | 710.4 | 713.8 | 710.4 |
| 170°   | 720.6 | 717.8 | 718.3 | 721.7 | 717.8 |
| 172.5° | 726.3 | 724.0 | 724.0 | 728.0 | 724.0 |
| 175°   | 731.4 | 728.5 | 728.0 | 731.9 | 728.0 |
| 177.5° | 733.6 | 730.8 | 730.8 | 734.8 | 730.2 |
| 180°   | 732.5 | 732.5 | 732.5 | 732.5 | 732.5 |

(END OF REPORT)