

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: P1013220

Luminaire Tested: S124RDIP-B1020D1205UB2750-4F0-XX-W2A-F\_3000K

Issue Date: 5/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1013220  
REPORT IS A COMBINATION OF REPORTS P998871 AND P1007351  
Test Lab: INNOVATION CENTER  
Issue Date: 5/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124RDIP-B1020D1205UB2750-4F0-XX-W2A-F\_3000K  
Description: Define 4 Regressed Direct/Indirect Pendant with 3000K BioUP LEDs {m-DER=0.589}  
{m-EER=0.647}  
Light Source: -  
Ballast/Driver: -

**Summary**

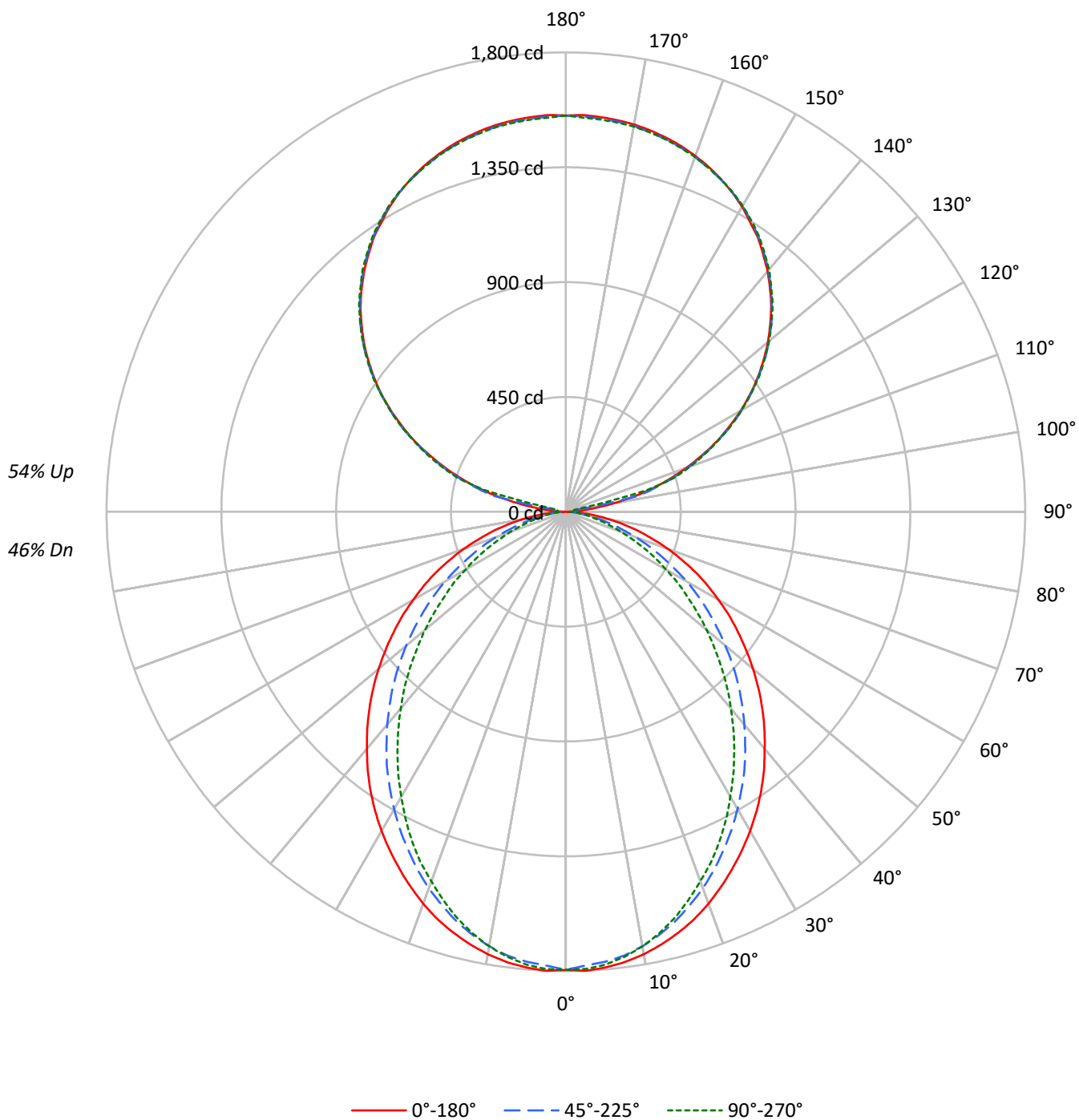
Lumens per Lamp: N/A  
Luminaire Lumens: 8954.0 lumens  
Efficiency: N/A  
Efficacy: 109.5 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.1')  
CIE Type: General Diffuse

Input Watts (W): 81.8  
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 | 50 | 30 | 10 |
| RCR |     |     |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 0   | 106 | 106 | 106 | 106 | 98 | 98 | 98 | 98 | 81 | 81 | 81 | 66 | 66 | 66 | 53 | 53 | 53 |    |    | 46 |
| 1   | 97  | 93  | 89  | 86  | 89 | 86 | 82 | 79 | 72 | 69 | 67 | 59 | 57 | 56 | 47 | 46 | 45 |    |    | 40 |
| 2   | 89  | 82  | 76  | 71  | 81 | 75 | 70 | 66 | 63 | 59 | 56 | 52 | 49 | 47 | 42 | 40 | 38 |    |    | 34 |
| 3   | 81  | 72  | 65  | 59  | 74 | 66 | 60 | 55 | 56 | 51 | 47 | 46 | 43 | 40 | 37 | 35 | 33 |    |    | 29 |
| 4   | 74  | 64  | 56  | 50  | 68 | 59 | 52 | 47 | 50 | 45 | 41 | 41 | 37 | 34 | 33 | 31 | 28 |    |    | 25 |
| 5   | 68  | 57  | 49  | 43  | 62 | 53 | 46 | 40 | 45 | 39 | 35 | 37 | 33 | 30 | 30 | 27 | 25 |    |    | 22 |
| 6   | 63  | 51  | 43  | 37  | 58 | 47 | 40 | 35 | 40 | 35 | 31 | 34 | 29 | 26 | 27 | 24 | 22 |    |    | 19 |
| 7   | 58  | 46  | 38  | 33  | 53 | 43 | 36 | 31 | 36 | 31 | 27 | 31 | 26 | 23 | 25 | 22 | 20 |    |    | 17 |
| 8   | 54  | 42  | 34  | 29  | 50 | 39 | 32 | 27 | 33 | 28 | 24 | 28 | 24 | 21 | 23 | 20 | 18 |    |    | 15 |
| 9   | 50  | 38  | 31  | 26  | 46 | 36 | 29 | 24 | 31 | 25 | 22 | 26 | 22 | 19 | 21 | 18 | 16 |    |    | 14 |
| 10  | 47  | 35  | 28  | 23  | 43 | 33 | 26 | 22 | 28 | 23 | 19 | 24 | 20 | 17 | 20 | 17 | 15 |    |    | 13 |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 14636 | 14636 | 14636 |
| 5°  | 14637 | 14200 | 14202 |
| 10° | 14513 | 13752 | 13589 |
| 15° | 14313 | 13195 | 12865 |
| 20° | 14052 | 12559 | 12040 |
| 25° | 13726 | 11872 | 11235 |
| 30° | 13406 | 11172 | 10330 |
| 35° | 13055 | 10462 | 9446  |
| 40° | 12638 | 9698  | 8537  |
| 45° | 12245 | 8941  | 7638  |
| 50° | 11800 | 8113  | 6725  |
| 55° | 11318 | 7265  | 5782  |
| 60° | 10785 | 6364  | 4850  |
| 65° | 10268 | 5329  | 3954  |
| 70° | 9535  | 4242  | 3021  |
| 75° | 8593  | 3087  | 2113  |
| 80° | 7177  | 1894  | 1520  |
| 85° | 5399  | 1092  | 836   |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 12245 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 168.8  | 1.9       |
| 10°-20°   | 470.6  | 5.3       |
| 20°-30°   | 679.4  | 7.6       |
| 30°-40°   | 769.9  | 8.6       |
| 40°-50°   | 743.4  | 8.3       |
| 50°-60°   | 618.1  | 6.9       |
| 60°-70°   | 426.6  | 4.8       |
| 70°-80°   | 215.6  | 2.4       |
| 80°-90°   | 57.9   | 0.6       |
| 90°-100°  | 51.5   | 0.6       |
| 100°-110° | 339.4  | 3.8       |
| 110°-120° | 648.0  | 7.2       |
| 120°-130° | 822.7  | 9.2       |
| 130°-140° | 880.1  | 9.8       |
| 140°-150° | 823.0  | 9.2       |
| 150°-160° | 663.6  | 7.4       |
| 160°-170° | 428.0  | 4.8       |
| 170°-180° | 147.5  | 1.6       |
| 0°-30°    | 1318.7 | 14.7      |
| 0°-40°    | 2088.6 | 23.3      |
| 0°-60°    | 3450.1 | 38.5      |
| 0°-90°    | 4150.2 | 46.4      |
| 90°-120°  | 1039.0 | 11.6      |
| 90°-150°  | 3564.7 | 39.8      |
| 90°-180°  | 4804.0 | 53.7      |
| 0°-180°   | 8954.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 1795 | 1795  | 1795 | 1795  | 1795 |      |
| 5°   | 1792 | 1786  | 1770 | 1784  | 1781 | 170  |
| 15°  | 1707 | 1694  | 1660 | 1657  | 1648 | 481  |
| 25°  | 1543 | 1518  | 1462 | 1439  | 1425 | 711  |
| 35°  | 1334 | 1290  | 1222 | 1175  | 1150 | 834  |
| 45°  | 1088 | 1038  | 955  | 888   | 863  | 839  |
| 55°  | 824  | 770   | 680  | 609   | 583  | 738  |
| 65°  | 561  | 502   | 414  | 355   | 338  | 554  |
| 75°  | 298  | 247   | 183  | 151   | 143  | 315  |
| 85°  | 74   | 47    | 43   | 40    | 40   | 81   |
| 90°  | 4    | 16    | 26   | 32    | 35   | 8    |
| 95°  | 64   | 24    | 26   | 32    | 34   | 79   |
| 105° | 350  | 356   | 362  | 373   | 331  | 366  |
| 115° | 653  | 656   | 655  | 657   | 657  | 642  |
| 125° | 917  | 922   | 920  | 923   | 924  | 819  |
| 135° | 1138 | 1137  | 1141 | 1144  | 1146 | 877  |
| 145° | 1312 | 1316  | 1316 | 1317  | 1319 | 820  |
| 155° | 1439 | 1440  | 1436 | 1441  | 1438 | 663  |
| 165° | 1518 | 1512  | 1512 | 1521  | 1511 | 429  |
| 175° | 1552 | 1546  | 1547 | 1557  | 1543 | 148  |
| 180° | 1552 | 1552  | 1552 | 1552  | 1552 |      |

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**CANDELA DISTRIBUTION (FULL):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 0°     | 1794.8 | 1794.8 | 1794.8 | 1794.8 | 1794.8 |
| 2.5°   | 1800.3 | 1794.8 | 1779.7 | 1794.8 | 1793.4 |
| 5°     | 1792.0 | 1786.5 | 1770.0 | 1783.8 | 1781.0 |
| 7.5°   | 1779.7 | 1774.2 | 1753.5 | 1763.2 | 1759.0 |
| 10°    | 1760.4 | 1753.5 | 1728.8 | 1734.3 | 1728.8 |
| 12.5°  | 1735.7 | 1727.4 | 1697.2 | 1699.9 | 1691.7 |
| 15°    | 1706.8 | 1694.4 | 1660.1 | 1657.3 | 1647.7 |
| 17.5°  | 1673.8 | 1656.0 | 1616.1 | 1609.2 | 1595.5 |
| 20°    | 1634.0 | 1616.1 | 1569.4 | 1558.4 | 1540.5 |
| 22.5°  | 1590.0 | 1569.4 | 1518.5 | 1500.7 | 1486.9 |
| 25°    | 1543.3 | 1518.5 | 1462.2 | 1438.8 | 1425.1 |
| 27.5°  | 1495.2 | 1464.9 | 1405.9 | 1378.4 | 1359.1 |
| 30°    | 1444.3 | 1410.0 | 1345.4 | 1311.0 | 1289.0 |
| 32.5°  | 1390.7 | 1350.9 | 1283.5 | 1242.3 | 1221.7 |
| 35°    | 1334.4 | 1290.4 | 1221.7 | 1175.0 | 1150.2 |
| 37.5°  | 1275.3 | 1230.0 | 1154.4 | 1103.5 | 1078.8 |
| 40°    | 1212.1 | 1166.7 | 1088.4 | 1030.7 | 1005.9 |
| 42.5°  | 1151.6 | 1103.5 | 1021.1 | 962.0  | 935.9  |
| 45°    | 1088.4 | 1037.6 | 955.1  | 887.8  | 863.0  |
| 47.5°  | 1023.8 | 971.6  | 886.4  | 816.3  | 788.8  |
| 50°    | 957.9  | 904.3  | 816.3  | 747.6  | 721.5  |
| 52.5°  | 890.5  | 838.3  | 747.6  | 677.5  | 650.0  |
| 55°    | 824.5  | 769.6  | 680.3  | 608.8  | 582.7  |
| 57.5°  | 760.0  | 702.2  | 614.3  | 541.5  | 522.2  |
| 60°    | 689.9  | 634.9  | 547.0  | 475.5  | 453.5  |
| 62.5°  | 626.7  | 568.9  | 478.2  | 413.6  | 397.2  |
| 65°    | 560.7  | 501.6  | 413.6  | 354.6  | 338.1  |
| 67.5°  | 492.0  | 435.6  | 353.2  | 301.0  | 281.7  |
| 70°    | 427.4  | 369.7  | 291.3  | 246.0  | 232.2  |
| 72.5°  | 358.7  | 307.8  | 235.0  | 197.9  | 185.5  |
| 75°    | 298.2  | 247.4  | 182.8  | 151.2  | 142.9  |
| 77.5°  | 235.0  | 191.0  | 136.1  | 114.1  | 111.3  |
| 80°    | 174.5  | 134.7  | 93.4   | 89.3   | 88.0   |
| 82.5°  | 122.3  | 86.6   | 67.3   | 64.6   | 63.2   |
| 85°    | 74.2   | 46.7   | 42.6   | 39.9   | 39.9   |
| 87.5°  | 31.6   | 20.6   | 19.2   | 17.9   | 19.2   |
| 90°    | 3.5    | 16.3   | 25.5   | 32.5   | 34.8   |
| 92.5°  | 17.4   | 15.1   | 24.4   | 31.4   | 31.4   |
| 95°    | 63.9   | 24.4   | 25.5   | 32.5   | 33.7   |
| 97.5°  | 121.9  | 147.5  | 25.5   | 31.4   | 32.5   |
| 100°   | 190.4  | 211.3  | 51.1   | 31.4   | 32.5   |
| 102.5° | 267.1  | 281.0  | 294.9  | 33.7   | 33.7   |
| 105°   | 349.5  | 356.5  | 362.3  | 372.7  | 330.9  |
| 107.5° | 425.0  | 428.5  | 436.6  | 442.4  | 447.0  |
| 110°   | 501.6  | 505.1  | 512.1  | 514.4  | 517.9  |

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**CANDELA DISTRIBUTION (continued):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 112.5° | 575.9  | 582.9  | 585.2  | 584.1  | 588.7  |
| 115°   | 652.6  | 656.0  | 654.9  | 657.2  | 657.2  |
| 117.5° | 721.1  | 725.7  | 729.2  | 728.0  | 728.0  |
| 120°   | 790.7  | 795.4  | 794.2  | 796.5  | 794.2  |
| 122.5° | 855.8  | 858.1  | 860.4  | 861.6  | 859.2  |
| 125°   | 917.3  | 921.9  | 919.6  | 923.1  | 924.3  |
| 127.5° | 976.5  | 977.7  | 983.5  | 982.3  | 981.2  |
| 130°   | 1033.4 | 1034.6 | 1038.1 | 1039.2 | 1039.2 |
| 132.5° | 1085.7 | 1088.0 | 1092.6 | 1093.8 | 1092.6 |
| 135°   | 1137.9 | 1136.8 | 1141.4 | 1143.7 | 1146.0 |
| 137.5° | 1184.4 | 1184.4 | 1190.2 | 1192.5 | 1191.3 |
| 140°   | 1229.6 | 1232.0 | 1234.3 | 1237.8 | 1238.9 |
| 142.5° | 1270.3 | 1274.9 | 1276.1 | 1278.4 | 1278.4 |
| 145°   | 1312.1 | 1315.6 | 1315.6 | 1316.7 | 1319.1 |
| 147.5° | 1344.6 | 1351.6 | 1350.4 | 1351.6 | 1352.7 |
| 150°   | 1380.6 | 1385.2 | 1384.1 | 1384.1 | 1385.2 |
| 152.5° | 1410.8 | 1414.3 | 1411.9 | 1414.3 | 1413.1 |
| 155°   | 1438.6 | 1439.8 | 1436.3 | 1441.0 | 1437.5 |
| 157.5° | 1463.0 | 1463.0 | 1458.4 | 1464.2 | 1458.4 |
| 160°   | 1483.9 | 1480.4 | 1479.3 | 1486.3 | 1479.3 |
| 162.5° | 1502.5 | 1497.9 | 1496.7 | 1503.7 | 1495.5 |
| 165°   | 1517.6 | 1511.8 | 1511.8 | 1521.1 | 1510.6 |
| 167.5° | 1530.4 | 1524.6 | 1523.4 | 1533.9 | 1522.2 |
| 170°   | 1540.8 | 1533.9 | 1535.0 | 1544.3 | 1532.7 |
| 172.5° | 1547.8 | 1540.8 | 1542.0 | 1551.3 | 1538.5 |
| 175°   | 1552.4 | 1545.5 | 1546.6 | 1557.1 | 1543.1 |
| 177.5° | 1555.9 | 1547.8 | 1550.1 | 1559.4 | 1545.5 |
| 180°   | 1552.4 | 1552.4 | 1552.4 | 1552.4 | 1552.4 |

(END OF REPORT)