

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: P1032523

Luminaire Tested: S124DIW-B1020D470UB2750-4F0-XX-W2A-F\_5000K

Issue Date: 5/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1032523  
REPORT IS A COMBINATION OF REPORTS P996846 AND P1007351  
Test Lab: INNOVATION CENTER  
Issue Date: 5/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124DIW-B1020D470UB2750-4F0-XX-W2A-F\_5000K  
Description: Define 4 Direct/Indirect Wall Mount with 5000K BioUP LEDs {m-DER=1.015} {m-EER=1.115}  
Light Source: -  
Ballast/Driver: -

**Summary**

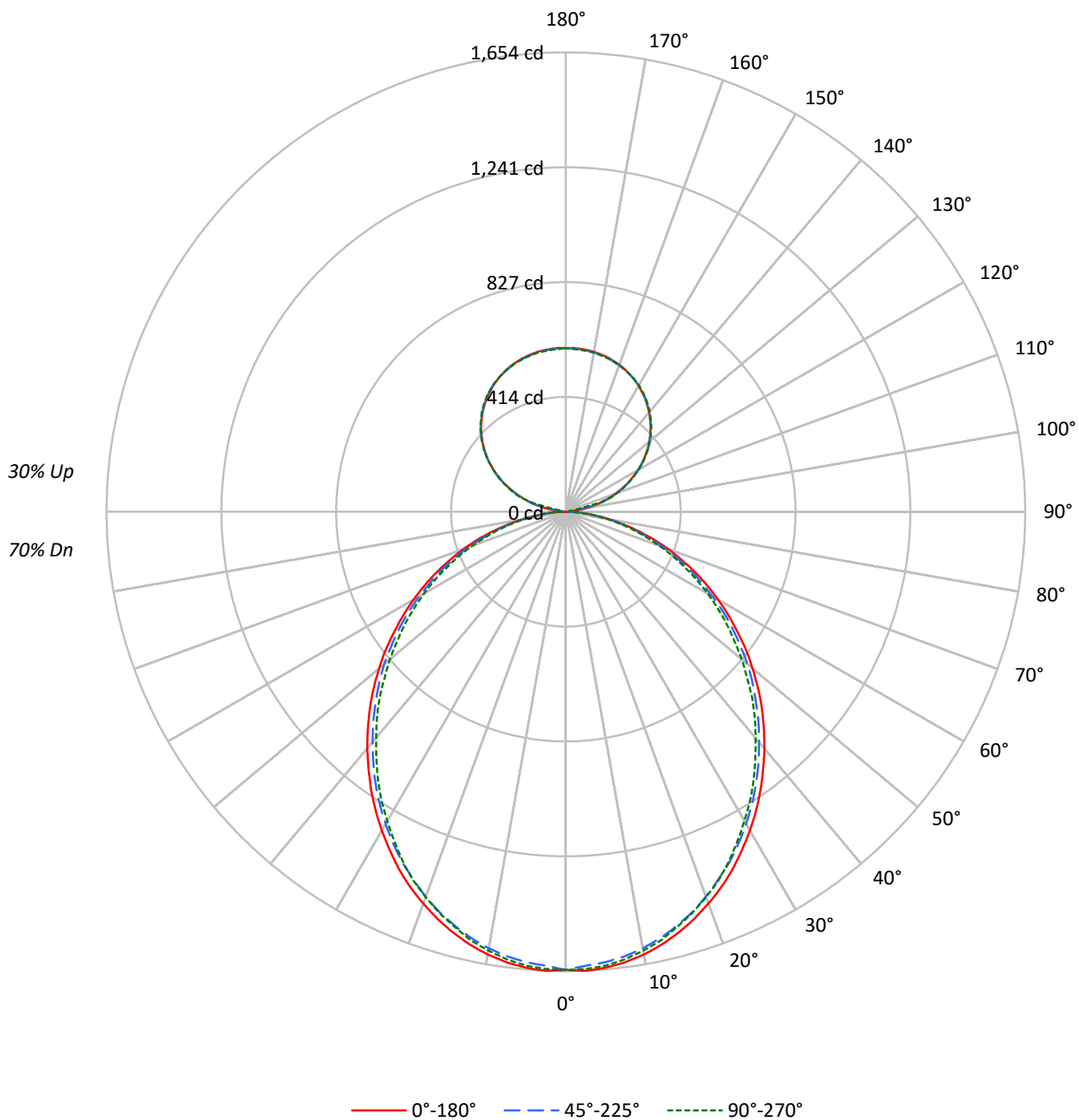
Lumens per Lamp: N/A  
Luminaire Lumens: 6057.0 lumens  
Efficiency: N/A  
Efficacy: 101.0 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.29  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.1')  
CIE Type: Semi-Direct

Input Watts (W): 60  
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   | 112 | 112 | 112 | 112 | 106 | 106 | 106 | 106 | 94 | 94 | 94 | 84 | 84 | 84 | 74 | 74 | 74 |
| 1   | 102 | 98  | 94  | 90  | 96  | 93  | 89  | 86  | 83 | 80 | 78 | 74 | 72 | 70 | 66 | 64 | 63 |
| 2   | 93  | 85  | 79  | 74  | 88  | 81  | 75  | 70  | 73 | 68 | 64 | 65 | 61 | 58 | 58 | 55 | 53 |
| 3   | 85  | 75  | 67  | 61  | 80  | 71  | 64  | 59  | 64 | 59 | 54 | 57 | 53 | 49 | 51 | 48 | 45 |
| 4   | 78  | 67  | 58  | 52  | 73  | 63  | 56  | 50  | 57 | 51 | 46 | 51 | 46 | 42 | 46 | 42 | 39 |
| 5   | 72  | 59  | 51  | 45  | 67  | 57  | 49  | 43  | 51 | 45 | 40 | 46 | 41 | 37 | 41 | 37 | 34 |
| 6   | 66  | 53  | 45  | 39  | 62  | 51  | 43  | 38  | 46 | 40 | 35 | 42 | 36 | 32 | 38 | 33 | 30 |
| 7   | 61  | 48  | 40  | 34  | 58  | 46  | 39  | 33  | 42 | 36 | 31 | 38 | 33 | 29 | 34 | 30 | 27 |
| 8   | 57  | 44  | 36  | 31  | 54  | 42  | 35  | 30  | 38 | 32 | 28 | 35 | 30 | 26 | 32 | 27 | 24 |
| 9   | 53  | 40  | 33  | 27  | 50  | 39  | 31  | 27  | 35 | 29 | 25 | 32 | 27 | 23 | 29 | 25 | 22 |
| 10  | 50  | 37  | 30  | 25  | 47  | 36  | 29  | 24  | 33 | 27 | 22 | 30 | 25 | 21 | 27 | 23 | 20 |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 13448 | 13448 | 13448 |
| 5°  | 13460 | 13062 | 13078 |
| 10° | 13345 | 12698 | 12610 |
| 15° | 13154 | 12268 | 12082 |
| 20° | 12910 | 11802 | 11537 |
| 25° | 12635 | 11309 | 10949 |
| 30° | 12302 | 10776 | 10304 |
| 35° | 11959 | 10230 | 9681  |
| 40° | 11601 | 9644  | 9017  |
| 45° | 11225 | 9055  | 8397  |
| 50° | 10810 | 8485  | 7710  |
| 55° | 10358 | 7818  | 7028  |
| 60° | 9895  | 7088  | 6318  |
| 65° | 9365  | 6335  | 5518  |
| 70° | 8757  | 5427  | 4659  |
| 75° | 7844  | 4374  | 3732  |
| 80° | 6683  | 3162  | 2626  |
| 85° | 5196  | 1760  | 1413  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 11225 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 155.4  | 2.6       |
| 10°-20°   | 437.9  | 7.2       |
| 20°-30°   | 644.5  | 10.6      |
| 30°-40°   | 749.2  | 12.4      |
| 40°-50°   | 749.1  | 12.4      |
| 50°-60°   | 655.2  | 10.8      |
| 60°-70°   | 486.5  | 8.0       |
| 70°-80°   | 276.0  | 4.6       |
| 80°-90°   | 80.3   | 1.3       |
| 90°-100°  | 19.6   | 0.3       |
| 100°-110° | 128.8  | 2.1       |
| 110°-120° | 245.9  | 4.1       |
| 120°-130° | 312.2  | 5.2       |
| 130°-140° | 333.9  | 5.5       |
| 140°-150° | 312.3  | 5.2       |
| 150°-160° | 251.8  | 4.2       |
| 160°-170° | 162.4  | 2.7       |
| 170°-180° | 56.0   | 0.9       |
| 0°-30°    | 1237.9 | 20.4      |
| 0°-40°    | 1987.1 | 32.8      |
| 0°-60°    | 3391.5 | 56.0      |
| 0°-90°    | 4234.2 | 69.9      |
| 90°-120°  | 394.2  | 6.5       |
| 90°-150°  | 1352.6 | 22.3      |
| 90°-180°  | 1823.0 | 30.1      |
| 0°-180°   | 6057.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 1649 | 1649  | 1649 | 1649  | 1649 |      |
| 5°   | 1648 | 1643  | 1628 | 1643  | 1640 | 156  |
| 15°  | 1569 | 1563  | 1544 | 1551  | 1547 | 442  |
| 25°  | 1421 | 1411  | 1393 | 1394  | 1389 | 654  |
| 35°  | 1222 | 1213  | 1195 | 1185  | 1179 | 764  |
| 45°  | 998  | 988   | 967  | 953   | 949  | 769  |
| 55°  | 755  | 751   | 732  | 716   | 708  | 676  |
| 65°  | 511  | 505   | 492  | 478   | 472  | 506  |
| 75°  | 272  | 266   | 259  | 254   | 252  | 289  |
| 85°  | 71   | 71    | 69   | 69    | 67   | 77   |
| 90°  | 1    | 6     | 10   | 12    | 13   | 6    |
| 95°  | 24   | 9     | 10   | 12    | 13   | 30   |
| 105° | 133  | 135   | 138  | 141   | 126  | 139  |
| 115° | 248  | 249   | 248  | 249   | 249  | 244  |
| 125° | 348  | 350   | 349  | 350   | 351  | 311  |
| 135° | 432  | 431   | 433  | 434   | 435  | 333  |
| 145° | 498  | 499   | 499  | 500   | 500  | 311  |
| 155° | 546  | 546   | 545  | 547   | 545  | 252  |
| 165° | 576  | 574   | 574  | 577   | 573  | 163  |
| 175° | 589  | 586   | 587  | 591   | 586  | 56   |
| 180° | 589  | 589   | 589  | 589   | 589  |      |

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**CANDELA DISTRIBUTION (FULL):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 0°     | 1649.2 | 1649.2 | 1649.2 | 1649.2 | 1649.2 |
| 2.5°   | 1654.5 | 1650.5 | 1636.0 | 1649.2 | 1647.9 |
| 5°     | 1647.9 | 1642.6 | 1628.1 | 1642.6 | 1640.0 |
| 7.5°   | 1636.0 | 1630.7 | 1614.8 | 1626.7 | 1625.4 |
| 10°    | 1618.8 | 1613.5 | 1596.3 | 1606.9 | 1604.3 |
| 12.5°  | 1596.3 | 1591.1 | 1572.6 | 1584.5 | 1580.5 |
| 15°    | 1568.6 | 1563.3 | 1543.5 | 1551.4 | 1547.4 |
| 17.5°  | 1536.9 | 1530.3 | 1511.8 | 1517.1 | 1514.4 |
| 20°    | 1501.2 | 1494.6 | 1474.8 | 1478.7 | 1476.1 |
| 22.5°  | 1462.9 | 1453.6 | 1433.8 | 1441.7 | 1436.4 |
| 25°    | 1420.6 | 1411.3 | 1392.8 | 1394.2 | 1388.9 |
| 27.5°  | 1373.0 | 1363.8 | 1346.6 | 1343.9 | 1337.3 |
| 30°    | 1325.4 | 1314.9 | 1297.7 | 1292.4 | 1285.8 |
| 32.5°  | 1275.2 | 1266.0 | 1247.5 | 1240.9 | 1234.3 |
| 35°    | 1222.4 | 1213.1 | 1194.6 | 1185.4 | 1178.8 |
| 37.5°  | 1166.9 | 1158.9 | 1139.1 | 1129.9 | 1120.6 |
| 40°    | 1112.7 | 1102.1 | 1082.3 | 1069.1 | 1062.5 |
| 42.5°  | 1054.5 | 1049.3 | 1026.8 | 1010.9 | 1007.0 |
| 45°    | 997.7  | 988.5  | 967.3  | 952.8  | 948.8  |
| 47.5°  | 938.2  | 931.6  | 911.8  | 896.0  | 885.4  |
| 50°    | 877.5  | 872.2  | 853.7  | 835.2  | 827.2  |
| 52.5°  | 818.0  | 811.4  | 791.6  | 775.7  | 765.1  |
| 55°    | 754.6  | 750.6  | 732.1  | 716.2  | 708.3  |
| 57.5°  | 695.1  | 691.1  | 672.6  | 656.8  | 648.8  |
| 60°    | 633.0  | 626.4  | 609.2  | 597.3  | 590.7  |
| 62.5°  | 572.2  | 566.9  | 548.4  | 537.8  | 531.2  |
| 65°    | 511.4  | 504.8  | 491.6  | 478.4  | 471.8  |
| 67.5°  | 449.3  | 444.0  | 430.8  | 417.6  | 416.3  |
| 70°    | 392.5  | 383.2  | 372.7  | 362.1  | 358.1  |
| 72.5°  | 331.7  | 322.4  | 314.5  | 306.6  | 302.6  |
| 75°    | 272.2  | 265.6  | 259.0  | 253.7  | 252.4  |
| 77.5°  | 214.1  | 211.4  | 204.8  | 203.5  | 199.5  |
| 80°    | 162.5  | 158.6  | 155.9  | 153.3  | 152.0  |
| 82.5°  | 112.3  | 111.0  | 111.0  | 109.7  | 108.4  |
| 85°    | 71.4   | 71.4   | 68.7   | 68.7   | 67.4   |
| 87.5°  | 34.4   | 33.0   | 31.7   | 31.7   | 31.7   |
| 90°    | 1.3    | 6.2    | 9.7    | 12.3   | 13.2   |
| 92.5°  | 6.6    | 5.7    | 9.3    | 11.9   | 11.9   |
| 95°    | 24.2   | 9.3    | 9.7    | 12.3   | 12.8   |
| 97.5°  | 46.3   | 56.0   | 9.7    | 11.9   | 12.3   |
| 100°   | 72.3   | 80.2   | 19.4   | 11.9   | 12.3   |
| 102.5° | 101.3  | 106.6  | 111.9  | 12.8   | 12.8   |
| 105°   | 132.6  | 135.3  | 137.5  | 141.4  | 125.6  |
| 107.5° | 161.3  | 162.6  | 165.7  | 167.9  | 169.6  |
| 110°   | 190.3  | 191.7  | 194.3  | 195.2  | 196.5  |

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**CANDELA DISTRIBUTION (continued):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 112.5° | 218.5 | 221.2 | 222.1 | 221.6 | 223.4 |
| 115°   | 247.6 | 248.9 | 248.5 | 249.4 | 249.4 |
| 117.5° | 273.6 | 275.4 | 276.7 | 276.2 | 276.2 |
| 120°   | 300.0 | 301.8 | 301.4 | 302.2 | 301.4 |
| 122.5° | 324.7 | 325.6 | 326.5 | 326.9 | 326.0 |
| 125°   | 348.1 | 349.8 | 348.9 | 350.3 | 350.7 |
| 127.5° | 370.5 | 371.0 | 373.2 | 372.7 | 372.3 |
| 130°   | 392.1 | 392.6 | 393.9 | 394.3 | 394.3 |
| 132.5° | 412.0 | 412.8 | 414.6 | 415.0 | 414.6 |
| 135°   | 431.8 | 431.3 | 433.1 | 434.0 | 434.9 |
| 137.5° | 449.4 | 449.4 | 451.6 | 452.5 | 452.0 |
| 140°   | 466.6 | 467.5 | 468.3 | 469.7 | 470.1 |
| 142.5° | 482.0 | 483.8 | 484.2 | 485.1 | 485.1 |
| 145°   | 497.9 | 499.2 | 499.2 | 499.6 | 500.5 |
| 147.5° | 510.2 | 512.8 | 512.4 | 512.8 | 513.3 |
| 150°   | 523.9 | 525.6 | 525.2 | 525.2 | 525.6 |
| 152.5° | 535.3 | 536.6 | 535.8 | 536.6 | 536.2 |
| 155°   | 545.9 | 546.3 | 545.0 | 546.8 | 545.4 |
| 157.5° | 555.1 | 555.1 | 553.4 | 555.6 | 553.4 |
| 160°   | 563.1 | 561.8 | 561.3 | 564.0 | 561.3 |
| 162.5° | 570.1 | 568.4 | 567.9 | 570.6 | 567.5 |
| 165°   | 575.9 | 573.6 | 573.6 | 577.2 | 573.2 |
| 167.5° | 580.7 | 578.5 | 578.1 | 582.0 | 577.6 |
| 170°   | 584.7 | 582.0 | 582.5 | 586.0 | 581.6 |
| 172.5° | 587.3 | 584.7 | 585.1 | 588.6 | 583.8 |
| 175°   | 589.1 | 586.4 | 586.9 | 590.8 | 585.5 |
| 177.5° | 590.4 | 587.3 | 588.2 | 591.7 | 586.4 |
| 180°   | 589.1 | 589.1 | 589.1 | 589.1 | 589.1 |

(END OF REPORT)