

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: P1033093

Luminaire Tested: S124DIW-B1020D1050UB27-4F0-XX-W2A-F

Issue Date: 5/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1033093  
REPORT IS A COMBINATION OF REPORTS P996625 AND P1007351  
Test Lab: INNOVATION CENTER  
Issue Date: 5/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124DIW-B1020D1050UB27-4F0-XX-W2A-F  
Description: Define 4 Direct/Indirect Wall Mount with 2700K BioUP LEDs {m-DER=0.473} {m-EER=0.52}  
Light Source: -  
Ballast/Driver: -

**Summary**

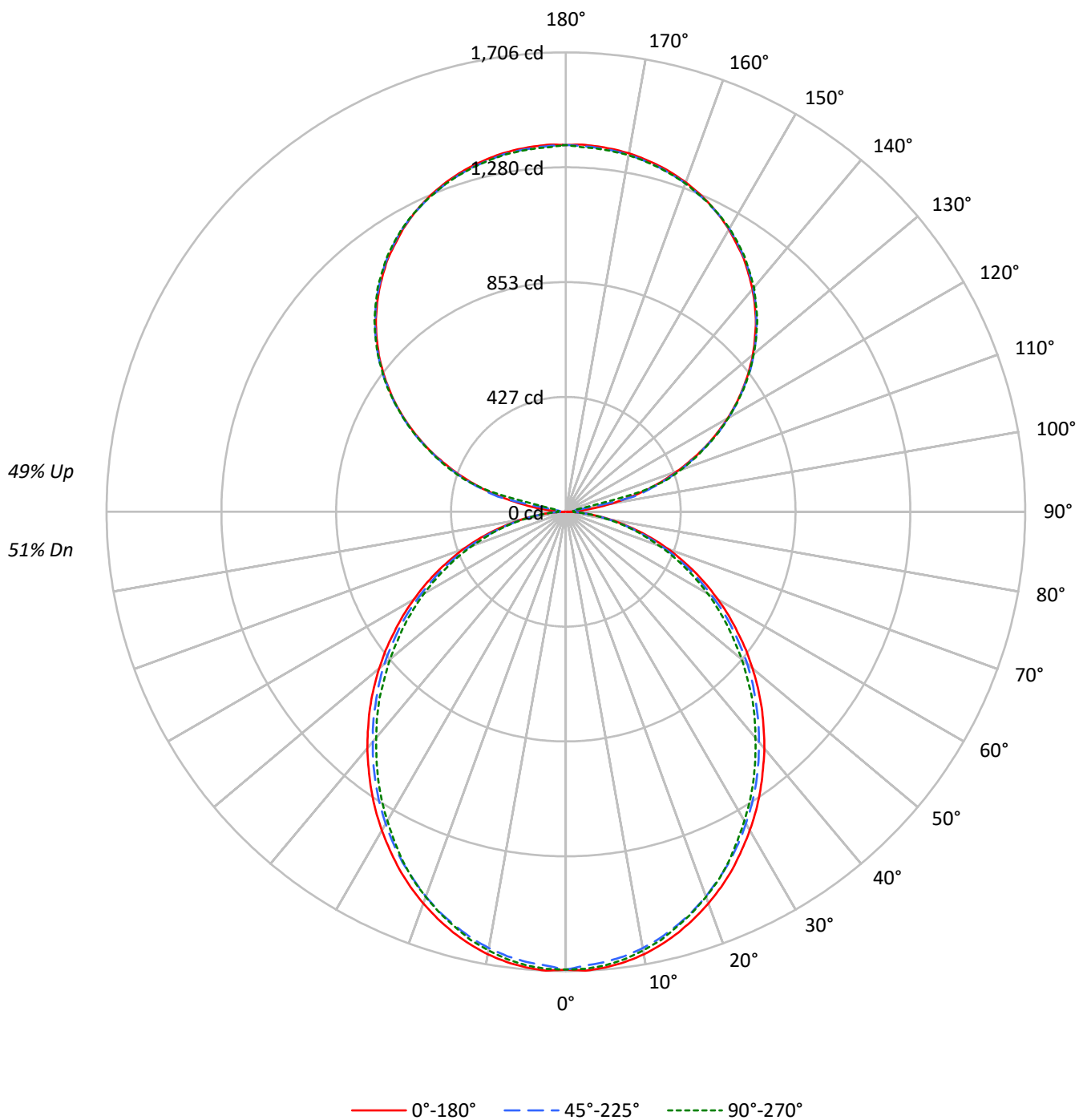
Lumens per Lamp: N/A  
Luminaire Lumens: 8581.0 lumens  
Efficiency: N/A  
Efficacy: 109.6 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.29  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.1')  
CIE Type: General Diffuse

Input Watts (W): 78.3  
Input Voltage (V):  
Input Current (A<sub>in</sub>): 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   | 107 | 107 | 107 | 107 | 99 | 99 | 99 | 99 | 84 | 84 | 84 | 70 | 70 | 70 | 57 | 57 | 57 |
| 1   | 98  | 94  | 90  | 86  | 90 | 87 | 83 | 80 | 73 | 71 | 69 | 61 | 60 | 58 | 50 | 49 | 48 |
| 2   | 89  | 82  | 76  | 70  | 82 | 76 | 70 | 66 | 64 | 60 | 57 | 54 | 51 | 48 | 44 | 42 | 40 |
| 3   | 81  | 72  | 64  | 59  | 75 | 67 | 60 | 55 | 57 | 52 | 48 | 48 | 44 | 41 | 39 | 37 | 34 |
| 4   | 74  | 64  | 56  | 50  | 68 | 59 | 52 | 47 | 50 | 45 | 41 | 42 | 38 | 35 | 35 | 32 | 30 |
| 5   | 68  | 57  | 48  | 42  | 63 | 53 | 45 | 40 | 45 | 39 | 35 | 38 | 34 | 30 | 32 | 28 | 26 |
| 6   | 63  | 51  | 43  | 37  | 58 | 47 | 40 | 35 | 41 | 35 | 31 | 34 | 30 | 27 | 29 | 25 | 23 |
| 7   | 58  | 46  | 38  | 32  | 54 | 43 | 36 | 31 | 37 | 31 | 27 | 31 | 27 | 24 | 26 | 23 | 20 |
| 8   | 54  | 42  | 34  | 29  | 50 | 39 | 32 | 27 | 34 | 28 | 24 | 29 | 24 | 21 | 24 | 21 | 18 |
| 9   | 50  | 38  | 31  | 25  | 46 | 36 | 29 | 24 | 31 | 25 | 22 | 26 | 22 | 19 | 22 | 19 | 16 |
| 10  | 47  | 35  | 28  | 23  | 43 | 33 | 26 | 22 | 28 | 23 | 19 | 24 | 20 | 17 | 21 | 17 | 15 |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 13864 | 13864 | 13864 |
| 5°  | 13876 | 13466 | 13482 |
| 10° | 13758 | 13091 | 13000 |
| 15° | 13561 | 12648 | 12456 |
| 20° | 13310 | 12167 | 11894 |
| 25° | 13026 | 11658 | 11288 |
| 30° | 12684 | 11109 | 10623 |
| 35° | 12329 | 10547 | 9980  |
| 40° | 11960 | 9942  | 9296  |
| 45° | 11573 | 9336  | 8657  |
| 50° | 11144 | 8747  | 7948  |
| 55° | 10678 | 8061  | 7246  |
| 60° | 10201 | 7308  | 6513  |
| 65° | 9655  | 6530  | 5688  |
| 70° | 9027  | 5595  | 4803  |
| 75° | 8086  | 4509  | 3847  |
| 80° | 6893  | 3261  | 2707  |
| 85° | 5356  | 1814  | 1457  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 11573 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 160.3  | 1.9       |
| 10°-20°   | 451.5  | 5.3       |
| 20°-30°   | 664.5  | 7.7       |
| 30°-40°   | 772.4  | 9.0       |
| 40°-50°   | 772.3  | 9.0       |
| 50°-60°   | 675.5  | 7.9       |
| 60°-70°   | 501.5  | 5.8       |
| 70°-80°   | 284.5  | 3.3       |
| 80°-90°   | 84.3   | 1.0       |
| 90°-100°  | 45.2   | 0.5       |
| 100°-110° | 297.7  | 3.5       |
| 110°-120° | 568.5  | 6.6       |
| 120°-130° | 721.7  | 8.4       |
| 130°-140° | 772.1  | 9.0       |
| 140°-150° | 721.9  | 8.4       |
| 150°-160° | 582.2  | 6.8       |
| 160°-170° | 375.5  | 4.4       |
| 170°-180° | 129.4  | 1.5       |
| 0°-30°    | 1276.2 | 14.9      |
| 0°-40°    | 2048.6 | 23.9      |
| 0°-60°    | 3496.5 | 40.7      |
| 0°-90°    | 4366.8 | 50.9      |
| 90°-120°  | 911.4  | 10.6      |
| 90°-150°  | 3127.1 | 36.4      |
| 90°-180°  | 4214.0 | 49.1      |
| 0°-180°   | 8581.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 1700 | 1700  | 1700 | 1700  | 1700 |      |
| 5°   | 1699 | 1693  | 1678 | 1693  | 1691 | 161  |
| 15°  | 1617 | 1612  | 1591 | 1599  | 1595 | 456  |
| 25°  | 1465 | 1455  | 1436 | 1437  | 1432 | 674  |
| 35°  | 1260 | 1251  | 1232 | 1222  | 1215 | 788  |
| 45°  | 1029 | 1019  | 997  | 982   | 978  | 793  |
| 55°  | 778  | 774   | 755  | 738   | 730  | 697  |
| 65°  | 527  | 520   | 507  | 493   | 486  | 522  |
| 75°  | 281  | 274   | 267  | 262   | 260  | 298  |
| 85°  | 74   | 74    | 71   | 71    | 70   | 79   |
| 90°  | 3    | 14    | 22   | 28    | 31   | 8    |
| 95°  | 56   | 21    | 22   | 28    | 30   | 69   |
| 105° | 307  | 313   | 318  | 327   | 290  | 321  |
| 115° | 572  | 576   | 574  | 576   | 576  | 563  |
| 125° | 805  | 809   | 807  | 810   | 811  | 719  |
| 135° | 998  | 997   | 1001 | 1003  | 1005 | 769  |
| 145° | 1151 | 1154  | 1154 | 1155  | 1157 | 719  |
| 155° | 1262 | 1263  | 1260 | 1264  | 1261 | 582  |
| 165° | 1331 | 1326  | 1326 | 1334  | 1325 | 376  |
| 175° | 1362 | 1356  | 1357 | 1366  | 1354 | 130  |
| 180° | 1362 | 1362  | 1362 | 1362  | 1362 |      |

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**CANDELA DISTRIBUTION (FULL):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 0°     | 1700.2 | 1700.2 | 1700.2 | 1700.2 | 1700.2 |
| 2.5°   | 1705.7 | 1701.6 | 1686.6 | 1700.2 | 1698.9 |
| 5°     | 1698.9 | 1693.4 | 1678.4 | 1693.4 | 1690.7 |
| 7.5°   | 1686.6 | 1681.2 | 1664.8 | 1677.1 | 1675.7 |
| 10°    | 1668.9 | 1663.5 | 1645.7 | 1656.6 | 1653.9 |
| 12.5°  | 1645.7 | 1640.3 | 1621.2 | 1633.5 | 1629.4 |
| 15°    | 1617.1 | 1611.7 | 1591.3 | 1599.4 | 1595.3 |
| 17.5°  | 1584.4 | 1577.6 | 1558.6 | 1564.0 | 1561.3 |
| 20°    | 1547.7 | 1540.8 | 1520.4 | 1524.5 | 1521.8 |
| 22.5°  | 1508.1 | 1498.6 | 1478.2 | 1486.3 | 1480.9 |
| 25°    | 1464.6 | 1455.0 | 1435.9 | 1437.3 | 1431.9 |
| 27.5°  | 1415.5 | 1406.0 | 1388.3 | 1385.5 | 1378.7 |
| 30°    | 1366.5 | 1355.6 | 1337.8 | 1332.4 | 1325.6 |
| 32.5°  | 1314.7 | 1305.2 | 1286.1 | 1279.3 | 1272.5 |
| 35°    | 1260.2 | 1250.7 | 1231.6 | 1222.0 | 1215.2 |
| 37.5°  | 1203.0 | 1194.8 | 1174.4 | 1164.8 | 1155.3 |
| 40°    | 1147.1 | 1136.2 | 1115.8 | 1102.2 | 1095.3 |
| 42.5°  | 1087.2 | 1081.7 | 1058.6 | 1042.2 | 1038.1 |
| 45°    | 1028.6 | 1019.1 | 997.3  | 982.3  | 978.2  |
| 47.5°  | 967.3  | 960.5  | 940.0  | 923.7  | 912.8  |
| 50°    | 904.6  | 899.2  | 880.1  | 861.0  | 852.8  |
| 52.5°  | 843.3  | 836.5  | 816.1  | 799.7  | 788.8  |
| 55°    | 777.9  | 773.8  | 754.8  | 738.4  | 730.2  |
| 57.5°  | 716.6  | 712.5  | 693.4  | 677.1  | 668.9  |
| 60°    | 652.6  | 645.8  | 628.1  | 615.8  | 609.0  |
| 62.5°  | 589.9  | 584.5  | 565.4  | 554.5  | 547.7  |
| 65°    | 527.2  | 520.4  | 506.8  | 493.2  | 486.4  |
| 67.5°  | 463.2  | 457.8  | 444.1  | 430.5  | 429.1  |
| 70°    | 404.6  | 395.1  | 384.2  | 373.3  | 369.2  |
| 72.5°  | 342.0  | 332.4  | 324.2  | 316.1  | 312.0  |
| 75°    | 280.6  | 273.8  | 267.0  | 261.6  | 260.2  |
| 77.5°  | 220.7  | 218.0  | 211.2  | 209.8  | 205.7  |
| 80°    | 167.6  | 163.5  | 160.8  | 158.0  | 156.7  |
| 82.5°  | 115.8  | 114.4  | 114.4  | 113.1  | 111.7  |
| 85°    | 73.6   | 73.6   | 70.8   | 70.8   | 69.5   |
| 87.5°  | 35.4   | 34.1   | 32.7   | 32.7   | 32.7   |
| 90°    | 3.1    | 14.3   | 22.4   | 28.5   | 30.6   |
| 92.5°  | 15.3   | 13.2   | 21.4   | 27.5   | 27.5   |
| 95°    | 56.0   | 21.4   | 22.4   | 28.5   | 29.5   |
| 97.5°  | 107.0  | 129.4  | 22.4   | 27.5   | 28.5   |
| 100°   | 167.1  | 185.4  | 44.8   | 27.5   | 28.5   |
| 102.5° | 234.3  | 246.5  | 258.7  | 29.5   | 29.5   |
| 105°   | 306.6  | 312.7  | 317.8  | 327.0  | 290.3  |
| 107.5° | 372.8  | 375.9  | 383.0  | 388.1  | 392.2  |
| 110°   | 440.0  | 443.1  | 449.2  | 451.2  | 454.3  |

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**CANDELA DISTRIBUTION (continued):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 112.5° | 505.2  | 511.3  | 513.4  | 512.4  | 516.4  |
| 115°   | 572.5  | 575.5  | 574.5  | 576.5  | 576.5  |
| 117.5° | 632.6  | 636.6  | 639.7  | 638.7  | 638.7  |
| 120°   | 693.7  | 697.8  | 696.7  | 698.8  | 696.7  |
| 122.5° | 750.7  | 752.8  | 754.8  | 755.8  | 753.8  |
| 125°   | 804.7  | 808.8  | 806.7  | 809.8  | 810.8  |
| 127.5° | 856.7  | 857.7  | 862.8  | 861.8  | 860.7  |
| 130°   | 906.6  | 907.6  | 910.6  | 911.7  | 911.7  |
| 132.5° | 952.4  | 954.4  | 958.5  | 959.5  | 958.5  |
| 135°   | 998.2  | 997.2  | 1001.3 | 1003.3 | 1005.4 |
| 137.5° | 1039.0 | 1039.0 | 1044.1 | 1046.1 | 1045.1 |
| 140°   | 1078.7 | 1080.8 | 1082.8 | 1085.9 | 1086.9 |
| 142.5° | 1114.4 | 1118.4 | 1119.5 | 1121.5 | 1121.5 |
| 145°   | 1151.0 | 1154.1 | 1154.1 | 1155.1 | 1157.2 |
| 147.5° | 1179.6 | 1185.7 | 1184.7 | 1185.7 | 1186.7 |
| 150°   | 1211.1 | 1215.2 | 1214.2 | 1214.2 | 1215.2 |
| 152.5° | 1237.6 | 1240.7 | 1238.6 | 1240.7 | 1239.7 |
| 155°   | 1262.1 | 1263.1 | 1260.0 | 1264.1 | 1261.1 |
| 157.5° | 1283.5 | 1283.5 | 1279.4 | 1284.5 | 1279.4 |
| 160°   | 1301.8 | 1298.7 | 1297.7 | 1303.8 | 1297.7 |
| 162.5° | 1318.1 | 1314.0 | 1313.0 | 1319.1 | 1312.0 |
| 165°   | 1331.3 | 1326.2 | 1326.2 | 1334.4 | 1325.2 |
| 167.5° | 1342.5 | 1337.4 | 1336.4 | 1345.6 | 1335.4 |
| 170°   | 1351.7 | 1345.6 | 1346.6 | 1354.8 | 1344.6 |
| 172.5° | 1357.8 | 1351.7 | 1352.7 | 1360.9 | 1349.7 |
| 175°   | 1361.9 | 1355.8 | 1356.8 | 1366.0 | 1353.7 |
| 177.5° | 1365.0 | 1357.8 | 1359.9 | 1368.0 | 1355.8 |
| 180°   | 1361.9 | 1361.9 | 1361.9 | 1361.9 | 1361.9 |

(END OF REPORT)