

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: P1033091

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

Issue Date: 5/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1033091  
REPORT IS A COMBINATION OF REPORTS P996622 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-D  
Description: Define 4 Direct/Indirect Wall Mount with 2700K BioUP LEDs {m-DER=0.473} {m-EER=0.52}  
Light Source: -  
Ballast/Driver: -

**Summary**

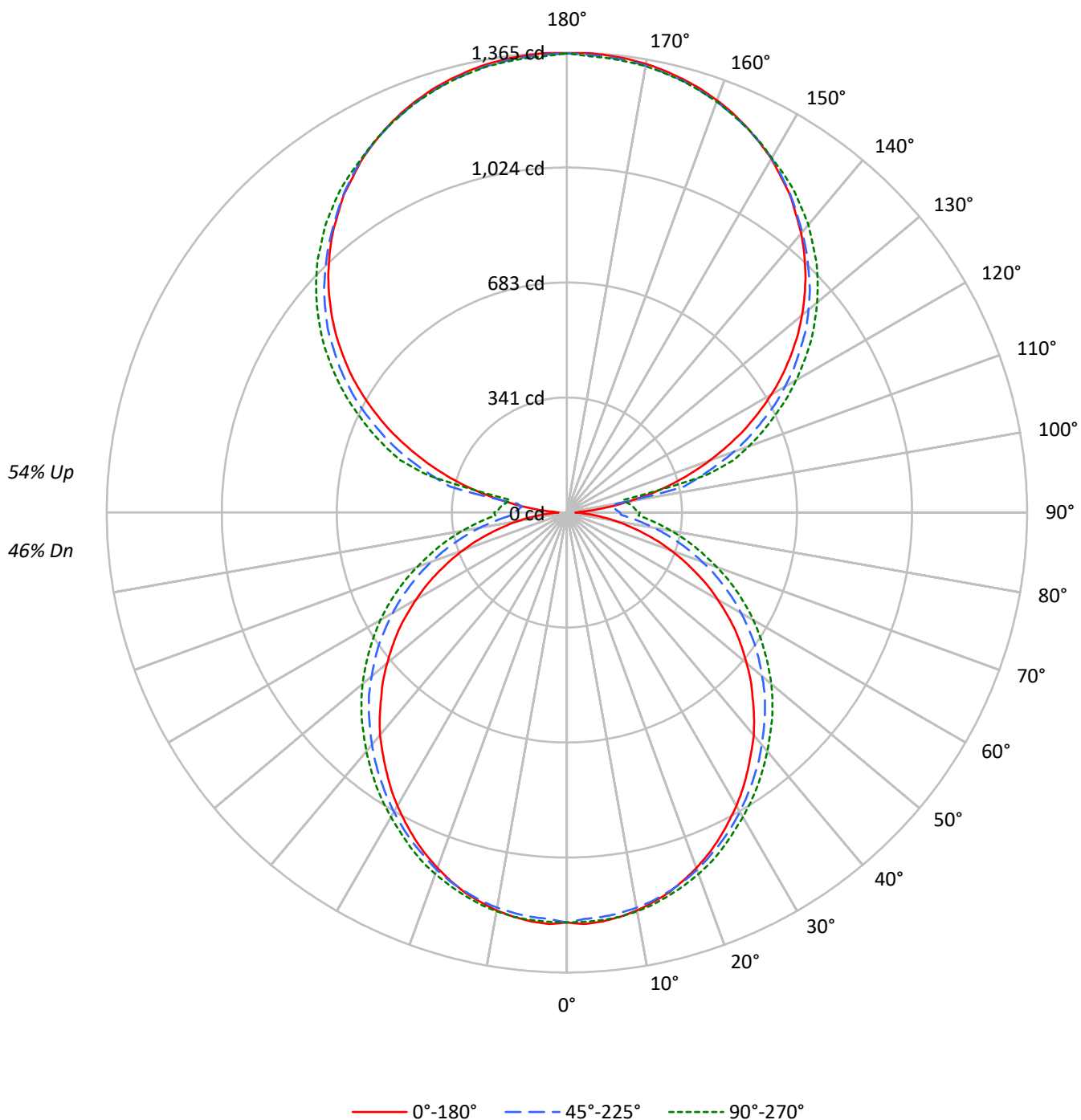
Lumens per Lamp: N/A  
Luminaire Lumens: 8365.0 lumens  
Efficiency: N/A  
Efficacy: 106.8 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.1')  
CIE Type: General Diffuse

Input Watts (W): 78.3  
Input Voltage (V):  
Input Current (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   | 106 | 106 | 106 | 106 | 97 | 97 | 97 | 97 | 81 | 81 | 81 | 66 | 66 | 66 | 52 | 52 | 52 |
| 1   | 96  | 91  | 87  | 83  | 88 | 84 | 80 | 77 | 70 | 67 | 65 | 57 | 55 | 53 | 45 | 44 | 42 |
| 2   | 87  | 79  | 73  | 67  | 79 | 73 | 67 | 62 | 60 | 56 | 53 | 49 | 46 | 44 | 39 | 37 | 35 |
| 3   | 79  | 69  | 62  | 55  | 72 | 64 | 57 | 52 | 53 | 48 | 44 | 43 | 40 | 36 | 34 | 31 | 29 |
| 4   | 72  | 61  | 53  | 47  | 66 | 56 | 49 | 43 | 47 | 41 | 37 | 38 | 34 | 31 | 30 | 27 | 25 |
| 5   | 66  | 54  | 46  | 40  | 60 | 50 | 42 | 37 | 42 | 36 | 32 | 34 | 30 | 27 | 27 | 24 | 22 |
| 6   | 61  | 48  | 40  | 34  | 55 | 45 | 37 | 32 | 37 | 32 | 27 | 31 | 26 | 23 | 25 | 21 | 19 |
| 7   | 56  | 44  | 36  | 30  | 51 | 40 | 33 | 28 | 34 | 28 | 24 | 28 | 24 | 20 | 22 | 19 | 17 |
| 8   | 52  | 40  | 32  | 26  | 48 | 37 | 29 | 25 | 31 | 25 | 21 | 25 | 21 | 18 | 20 | 17 | 15 |
| 9   | 48  | 36  | 28  | 23  | 44 | 33 | 26 | 22 | 28 | 23 | 19 | 23 | 19 | 16 | 19 | 16 | 13 |
| 10  | 45  | 33  | 26  | 21  | 41 | 31 | 24 | 20 | 26 | 21 | 17 | 22 | 17 | 15 | 17 | 14 | 12 |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 9921 | 9921 | 9921 |
| 5°  | 9948 | 9663 | 9680 |
| 10° | 9884 | 9472 | 9445 |
| 15° | 9791 | 9259 | 9181 |
| 20° | 9654 | 9027 | 8923 |
| 25° | 9499 | 8772 | 8646 |
| 30° | 9333 | 8519 | 8363 |
| 35° | 9144 | 8261 | 8111 |
| 40° | 8992 | 8012 | 7851 |
| 45° | 8768 | 7780 | 7620 |
| 50° | 8577 | 7515 | 7378 |
| 55° | 8379 | 7260 | 7098 |
| 60° | 8072 | 6942 | 6834 |
| 65° | 7734 | 6601 | 6517 |
| 70° | 7324 | 6209 | 6151 |
| 75° | 6752 | 5776 | 5802 |
| 80° | 6108 | 5332 | 5436 |
| 85° | 5254 | 4887 | 5140 |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 8768 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 115.3  | 1.4       |
| 10°-20°   | 330.3  | 3.9       |
| 20°-30°   | 499.4  | 6.0       |
| 30°-40°   | 604.2  | 7.2       |
| 40°-50°   | 638.7  | 7.6       |
| 50°-60°   | 601.1  | 7.2       |
| 60°-70°   | 498.8  | 6.0       |
| 70°-80°   | 350.0  | 4.2       |
| 80°-90°   | 200.2  | 2.4       |
| 90°-100°  | 162.7  | 1.9       |
| 100°-110° | 384.7  | 4.6       |
| 110°-120° | 626.9  | 7.5       |
| 120°-130° | 754.6  | 9.0       |
| 130°-140° | 786.3  | 9.4       |
| 140°-150° | 724.8  | 8.7       |
| 150°-160° | 582.2  | 7.0       |
| 160°-170° | 375.5  | 4.5       |
| 170°-180° | 129.4  | 1.5       |
| 0°-30°    | 945.0  | 11.3      |
| 0°-40°    | 1549.1 | 18.5      |
| 0°-60°    | 2789.0 | 33.3      |
| 0°-90°    | 3838.0 | 45.9      |
| 90°-120°  | 1174.3 | 14.0      |
| 90°-150°  | 3439.9 | 41.1      |
| 90°-180°  | 4527.0 | 54.1      |
| 0°-180°   | 8365.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 1217 | 1217  | 1217 | 1217  | 1217 |      |
| 5°   | 1218 | 1214  | 1204 | 1215  | 1214 | 116  |
| 15°  | 1168 | 1169  | 1165 | 1177  | 1176 | 329  |
| 25°  | 1068 | 1076  | 1080 | 1095  | 1097 | 492  |
| 35°  | 935  | 951   | 965  | 984   | 988  | 585  |
| 45°  | 779  | 805   | 831  | 854   | 861  | 602  |
| 55°  | 610  | 639   | 680  | 707   | 715  | 544  |
| 65°  | 422  | 466   | 512  | 546   | 557  | 419  |
| 75°  | 234  | 285   | 342  | 380   | 392  | 249  |
| 85°  | 72   | 129   | 191  | 232   | 245  | 75   |
| 90°  | 25   | 91    | 157  | 203   | 216  | 18   |
| 95°  | 74   | 84    | 141  | 184   | 197  | 83   |
| 105° | 319  | 352   | 408  | 451   | 425  | 335  |
| 115° | 581  | 596   | 638  | 670   | 680  | 572  |
| 125° | 810  | 813   | 845  | 874   | 883  | 724  |
| 135° | 1001 | 1000  | 1014 | 1037  | 1048 | 772  |
| 145° | 1152 | 1154  | 1154 | 1163  | 1171 | 720  |
| 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°     | 1216.6 | 1216.6 | 1216.6 | 1216.6 | 1216.6 |
| 2.5°   | 1222.1 | 1218.0 | 1207.1 | 1216.6 | 1215.3 |
| 5°     | 1218.0 | 1213.9 | 1204.4 | 1215.3 | 1213.9 |
| 7.5°   | 1209.8 | 1207.1 | 1198.9 | 1211.2 | 1209.8 |
| 10°    | 1198.9 | 1197.6 | 1190.7 | 1203.0 | 1201.6 |
| 12.5°  | 1183.9 | 1183.9 | 1179.8 | 1190.7 | 1190.7 |
| 15°    | 1167.6 | 1168.9 | 1164.9 | 1177.1 | 1175.8 |
| 17.5°  | 1145.8 | 1149.9 | 1148.5 | 1160.8 | 1159.4 |
| 20°    | 1122.6 | 1126.7 | 1128.1 | 1141.7 | 1141.7 |
| 22.5°  | 1096.7 | 1102.2 | 1104.9 | 1118.5 | 1121.3 |
| 25°    | 1068.1 | 1076.3 | 1080.4 | 1095.4 | 1096.7 |
| 27.5°  | 1036.8 | 1049.1 | 1054.5 | 1068.1 | 1069.5 |
| 30°    | 1005.5 | 1016.4 | 1025.9 | 1040.9 | 1043.6 |
| 32.5°  | 971.4  | 985.0  | 995.9  | 1013.6 | 1016.4 |
| 35°    | 934.6  | 951.0  | 964.6  | 983.7  | 987.7  |
| 37.5°  | 897.8  | 916.9  | 933.3  | 952.3  | 956.4  |
| 40°    | 862.4  | 880.1  | 899.2  | 919.6  | 925.1  |
| 42.5°  | 821.5  | 842.0  | 865.1  | 888.3  | 892.4  |
| 45°    | 779.3  | 805.2  | 831.1  | 854.2  | 861.0  |
| 47.5°  | 739.8  | 765.7  | 795.6  | 818.8  | 827.0  |
| 50°    | 696.2  | 726.2  | 756.1  | 783.4  | 791.6  |
| 52.5°  | 652.6  | 682.6  | 718.0  | 745.2  | 753.4  |
| 55°    | 610.4  | 639.0  | 679.8  | 707.1  | 715.3  |
| 57.5°  | 562.7  | 598.1  | 637.6  | 670.3  | 677.1  |
| 60°    | 516.4  | 551.8  | 596.7  | 628.1  | 639.0  |
| 62.5°  | 471.4  | 510.9  | 555.9  | 587.2  | 598.1  |
| 65°    | 422.3  | 465.9  | 512.3  | 546.3  | 557.2  |
| 67.5°  | 376.0  | 422.3  | 471.4  | 505.5  | 516.4  |
| 70°    | 328.3  | 374.7  | 426.4  | 463.2  | 472.8  |
| 72.5°  | 282.0  | 329.7  | 385.6  | 421.0  | 431.9  |
| 75°    | 234.3  | 284.7  | 342.0  | 380.1  | 392.4  |
| 77.5°  | 189.4  | 242.5  | 302.5  | 340.6  | 354.2  |
| 80°    | 148.5  | 203.0  | 262.9  | 303.8  | 314.7  |
| 82.5°  | 107.6  | 164.9  | 224.8  | 267.0  | 279.3  |
| 85°    | 72.2   | 129.4  | 190.7  | 231.6  | 245.2  |
| 87.5°  | 45.0   | 100.8  | 160.8  | 200.3  | 212.5  |
| 90°    | 24.9   | 90.6   | 157.3  | 202.9  | 215.9  |
| 92.5°  | 35.7   | 81.3   | 148.1  | 192.4  | 203.3  |
| 95°    | 73.7   | 84.1   | 140.9  | 183.8  | 197.1  |
| 97.5°  | 123.3  | 185.3  | 134.1  | 174.6  | 187.9  |
| 100°   | 182.1  | 235.8  | 148.3  | 167.8  | 178.4  |
| 102.5° | 249.3  | 291.5  | 355.4  | 161.7  | 172.6  |
| 105°   | 318.9  | 352.2  | 407.7  | 451.0  | 425.2  |
| 107.5° | 385.1  | 411.3  | 466.1  | 505.3  | 518.9  |
| 110°   | 450.9  | 473.1  | 526.9  | 560.2  | 574.2  |

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**CANDELA DISTRIBUTION (continued):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 112.5° | 514.7  | 537.2  | 584.2  | 613.2  | 628.1  |
| 115°   | 580.7  | 595.9  | 638.5  | 670.5  | 680.0  |
| 117.5° | 640.8  | 652.9  | 696.9  | 724.5  | 735.4  |
| 120°   | 700.5  | 708.7  | 747.1  | 776.5  | 785.3  |
| 122.5° | 757.5  | 759.6  | 798.4  | 826.6  | 834.2  |
| 125°   | 810.1  | 812.9  | 844.8  | 873.8  | 883.0  |
| 127.5° | 862.1  | 861.8  | 894.1  | 917.7  | 926.1  |
| 130°   | 910.7  | 910.3  | 935.1  | 960.7  | 968.9  |
| 132.5° | 956.5  | 957.1  | 977.6  | 1001.7 | 1008.9 |
| 135°   | 1000.9 | 999.9  | 1013.6 | 1037.4 | 1047.6 |
| 137.5° | 1041.7 | 1040.4 | 1050.9 | 1073.3 | 1079.2 |
| 140°   | 1081.4 | 1082.2 | 1085.5 | 1106.3 | 1114.1 |
| 142.5° | 1115.8 | 1119.8 | 1119.5 | 1136.5 | 1141.9 |
| 145°   | 1152.4 | 1154.1 | 1154.1 | 1163.3 | 1170.8 |
| 147.5° | 1181.0 | 1185.7 | 1184.7 | 1187.1 | 1193.5 |
| 150°   | 1212.5 | 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)