

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: P1037618

Luminaire Tested: S124DS-B1195DB2750-4F0-XX-W2A-D\_3000K

Issue Date: 5/2/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1037618  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-16)  
Test Lab: INNOVATION CENTER  
Issue Date: 5/2/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124DS-B1195DB2750-4F0-XX-W2A-D\_3000K  
Description: Define 4 Direct Surface with 3000K BioUP LEDs {m-DER=0.589} {m-EER=0.647}  
Light Source: -  
Ballast/Driver: -

**Summary**

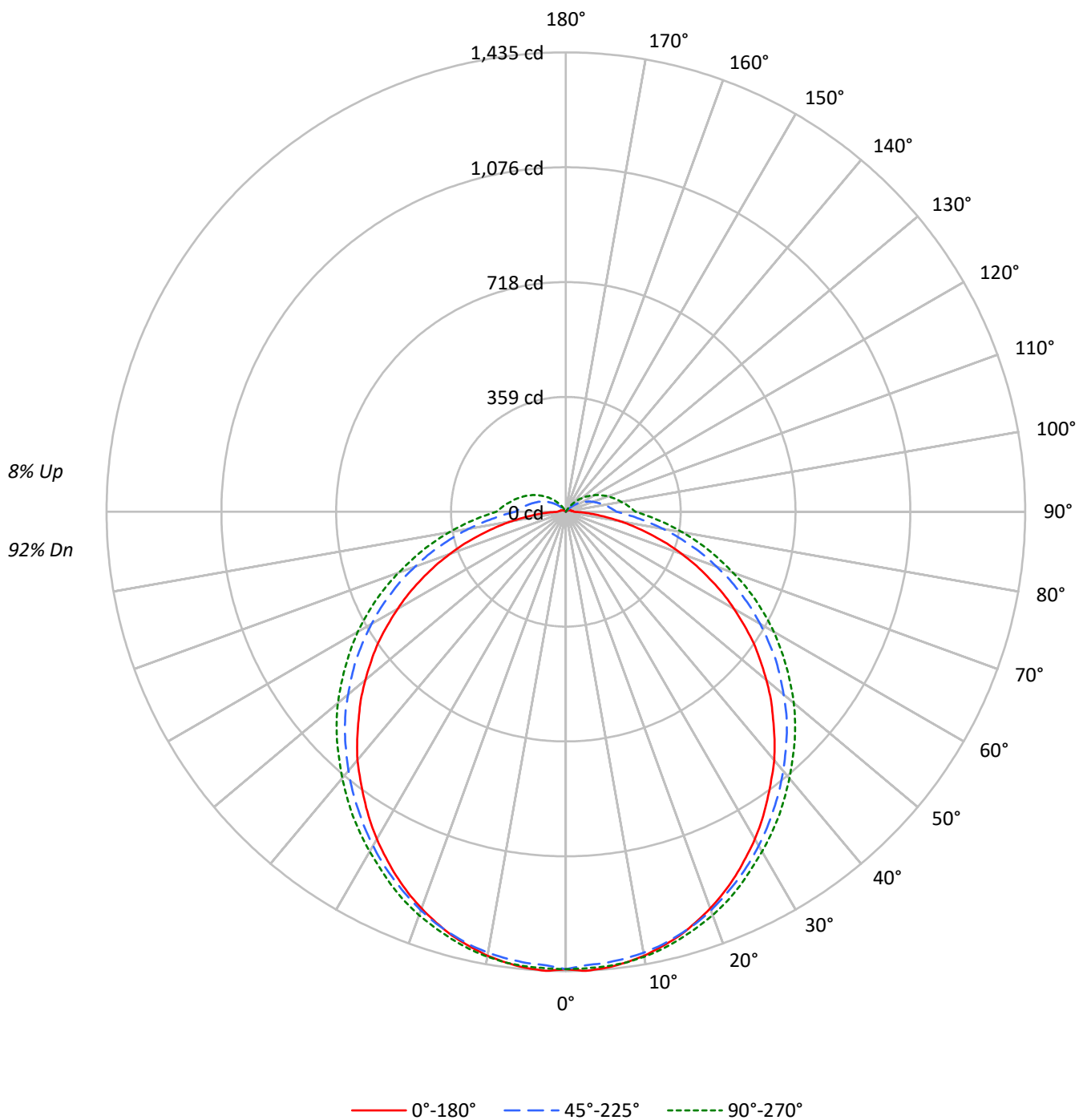
Lumens per Lamp: N/A  
Luminaire Lumens: 4872.0 lumens  
Efficiency: N/A  
Efficacy: 79.5 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 61.3  
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 |    |    | 0  |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50 | 30 | 10 | 50 | 30 | 10 |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |    |
| 0   | 117 | 117 | 117 | 117 | 114 | 114 | 114 | 114 | 107 | 107 | 107 | 101 | 101 | 101 | 95 | 95 | 95 | 95 | 95 | 92 |
| 1   | 105 | 100 | 95  | 91  | 102 | 97  | 93  | 89  | 91  | 88  | 84  | 86  | 83  | 80  | 81 | 79 | 77 | 77 | 77 | 74 |
| 2   | 95  | 86  | 79  | 73  | 92  | 84  | 77  | 71  | 79  | 73  | 68  | 74  | 70  | 66  | 70 | 67 | 63 | 63 | 63 | 60 |
| 3   | 87  | 75  | 67  | 60  | 83  | 73  | 65  | 59  | 69  | 62  | 57  | 65  | 60  | 55  | 62 | 57 | 53 | 53 | 53 | 50 |
| 4   | 79  | 66  | 57  | 50  | 76  | 65  | 56  | 49  | 61  | 54  | 48  | 58  | 52  | 47  | 55 | 49 | 45 | 45 | 45 | 43 |
| 5   | 73  | 59  | 50  | 43  | 70  | 58  | 49  | 42  | 55  | 47  | 41  | 52  | 45  | 40  | 49 | 44 | 39 | 39 | 39 | 37 |
| 6   | 67  | 53  | 44  | 37  | 64  | 52  | 43  | 37  | 49  | 42  | 36  | 47  | 40  | 35  | 45 | 39 | 34 | 34 | 34 | 32 |
| 7   | 62  | 48  | 39  | 33  | 60  | 47  | 38  | 32  | 45  | 37  | 32  | 43  | 36  | 31  | 41 | 35 | 30 | 30 | 30 | 28 |
| 8   | 58  | 44  | 35  | 29  | 56  | 43  | 35  | 29  | 41  | 33  | 28  | 39  | 32  | 28  | 37 | 31 | 27 | 27 | 27 | 25 |
| 9   | 54  | 40  | 32  | 26  | 52  | 39  | 31  | 26  | 38  | 30  | 25  | 36  | 29  | 25  | 34 | 29 | 24 | 24 | 24 | 22 |
| 10  | 50  | 37  | 29  | 24  | 49  | 36  | 29  | 23  | 35  | 28  | 23  | 33  | 27  | 23  | 32 | 26 | 22 | 22 | 22 | 20 |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 11653 | 11653 | 11653 |
| 5°  | 11710 | 11579 | 11671 |
| 10° | 11660 | 11581 | 11687 |
| 15° | 11578 | 11551 | 11659 |
| 20° | 11443 | 11498 | 11637 |
| 25° | 11288 | 11418 | 11591 |
| 30° | 11120 | 11346 | 11542 |
| 35° | 10927 | 11278 | 11550 |
| 40° | 10782 | 11242 | 11566 |
| 45° | 10555 | 11257 | 11662 |
| 50° | 10373 | 11267 | 11794 |
| 55° | 10192 | 11352 | 11944 |
| 60° | 9891  | 11431 | 12240 |
| 65° | 9572  | 11610 | 12629 |
| 70° | 9196  | 11943 | 13240 |
| 75° | 8671  | 12656 | 14521 |
| 80° | 8190  | 14501 | 17356 |
| 85° | 7934  | 20958 | 26946 |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°

Vertical Angle: 87.5°

Luminance: 46662 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 135.4  | 2.8       |
| 10°-20°   | 387.9  | 8.0       |
| 20°-30°   | 586.6  | 12.0      |
| 30°-40°   | 709.6  | 14.6      |
| 40°-50°   | 750.2  | 15.4      |
| 50°-60°   | 706.0  | 14.5      |
| 60°-70°   | 585.9  | 12.0      |
| 70°-80°   | 411.1  | 8.4       |
| 80°-90°   | 231.8  | 4.8       |
| 90°-100°  | 138.0  | 2.8       |
| 100°-110° | 102.2  | 2.1       |
| 110°-120° | 68.6   | 1.4       |
| 120°-130° | 38.6   | 0.8       |
| 130°-140° | 16.7   | 0.3       |
| 140°-150° | 3.3    | 0.1       |
| 150°-160° | 0.0    | 0.0       |
| 160°-170° | 0.0    | 0.0       |
| 170°-180° | 0.0    | 0.0       |
| 0°-30°    | 1109.9 | 22.8      |
| 0°-40°    | 1819.6 | 37.3      |
| 0°-60°    | 3275.8 | 67.2      |
| 0°-90°    | 4504.6 | 92.5      |
| 90°-120°  | 308.7  | 6.3       |
| 90°-150°  | 367.3  | 7.5       |
| 90°-180°  | 367.0  | 7.5       |
| 0°-180°   | 4872.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 1429 | 1429  | 1429 | 1429  | 1429 |      |
| 5°   | 1431 | 1426  | 1415 | 1427  | 1426 | 136  |
| 15°  | 1371 | 1373  | 1368 | 1383  | 1381 | 386  |
| 25°  | 1255 | 1264  | 1269 | 1287  | 1288 | 578  |
| 35°  | 1098 | 1117  | 1133 | 1155  | 1160 | 687  |
| 45°  | 915  | 946   | 976  | 1003  | 1011 | 707  |
| 55°  | 717  | 750   | 798  | 830   | 840  | 639  |
| 65°  | 496  | 547   | 602  | 642   | 654  | 492  |
| 75°  | 275  | 334   | 402  | 446   | 461  | 292  |
| 85°  | 85   | 152   | 224  | 272   | 288  | 88   |
| 90°  | 26   | 90    | 158  | 205   | 218  | 18   |
| 95°  | 21   | 74    | 139  | 182   | 197  | 17   |
| 105° | 14   | 46    | 106  | 146   | 158  | 16   |
| 115° | 10   | 24    | 75   | 110   | 122  | 10   |
| 125° | 6    | 5     | 45   | 75    | 85   | 6    |
| 135° | 3    | 3     | 14   | 40    | 50   | 3    |
| 145° | 2    | 0     | 0    | 10    | 16   | 1    |
| 155° | 0    | 0     | 0    | 0     | 0    | 0    |
| 165° | 0    | 0     | 0    | 0     | 0    | 0    |
| 175° | 0    | 0     | 0    | 0     | 0    | 0    |
| 180° | 0    | 0     | 0    | 0     | 0    | 0    |

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**CANDELA DISTRIBUTION (FULL):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 0°     | 1429.0 | 1429.0 | 1429.0 | 1429.0 | 1429.0 |
| 2.5°   | 1435.4 | 1430.6 | 1417.8 | 1429.0 | 1427.4 |
| 5°     | 1430.6 | 1425.8 | 1414.6 | 1427.4 | 1425.8 |
| 7.5°   | 1421.0 | 1417.8 | 1408.2 | 1422.6 | 1421.0 |
| 10°    | 1408.2 | 1406.6 | 1398.6 | 1413.0 | 1411.4 |
| 12.5°  | 1390.6 | 1390.6 | 1385.8 | 1398.6 | 1398.6 |
| 15°    | 1371.4 | 1373.0 | 1368.2 | 1382.6 | 1381.0 |
| 17.5°  | 1345.8 | 1350.6 | 1349.0 | 1363.4 | 1361.8 |
| 20°    | 1318.6 | 1323.4 | 1325.0 | 1341.0 | 1341.0 |
| 22.5°  | 1288.2 | 1294.6 | 1297.8 | 1313.8 | 1317.0 |
| 25°    | 1254.6 | 1264.2 | 1269.0 | 1286.6 | 1288.2 |
| 27.5°  | 1217.8 | 1232.2 | 1238.6 | 1254.6 | 1256.2 |
| 30°    | 1181.0 | 1193.8 | 1205.0 | 1222.6 | 1225.8 |
| 32.5°  | 1140.9 | 1157.0 | 1169.8 | 1190.6 | 1193.8 |
| 35°    | 1097.7 | 1116.9 | 1132.9 | 1155.4 | 1160.2 |
| 37.5°  | 1054.5 | 1076.9 | 1096.1 | 1118.5 | 1123.3 |
| 40°    | 1012.9 | 1033.7 | 1056.1 | 1080.1 | 1086.5 |
| 42.5°  | 964.9  | 988.9  | 1016.1 | 1043.3 | 1048.1 |
| 45°    | 915.3  | 945.7  | 976.1  | 1003.3 | 1011.3 |
| 47.5°  | 868.9  | 899.3  | 934.5  | 961.7  | 971.3  |
| 50°    | 817.7  | 852.9  | 888.1  | 920.1  | 929.7  |
| 52.5°  | 766.5  | 801.7  | 843.3  | 875.3  | 884.9  |
| 55°    | 716.9  | 750.5  | 798.5  | 830.5  | 840.1  |
| 57.5°  | 660.9  | 702.5  | 748.9  | 787.3  | 795.3  |
| 60°    | 606.5  | 648.1  | 700.9  | 737.7  | 750.5  |
| 62.5°  | 553.7  | 600.1  | 652.9  | 689.7  | 702.5  |
| 65°    | 496.1  | 547.3  | 601.7  | 641.7  | 654.5  |
| 67.5°  | 441.7  | 496.1  | 553.7  | 593.7  | 606.5  |
| 70°    | 385.7  | 440.1  | 500.9  | 544.1  | 555.3  |
| 72.5°  | 331.2  | 387.3  | 452.9  | 494.5  | 507.3  |
| 75°    | 275.2  | 334.4  | 401.7  | 446.5  | 460.9  |
| 77.5°  | 222.4  | 284.8  | 355.2  | 400.1  | 416.1  |
| 80°    | 174.4  | 238.4  | 308.8  | 356.8  | 369.6  |
| 82.5°  | 126.4  | 193.6  | 264.0  | 313.6  | 328.0  |
| 85°    | 84.8   | 152.0  | 224.0  | 272.0  | 288.0  |
| 87.5°  | 52.8   | 118.4  | 188.8  | 235.2  | 249.6  |
| 90°    | 25.6   | 89.6   | 158.4  | 204.8  | 217.6  |
| 92.5°  | 24.0   | 80.0   | 148.8  | 193.6  | 206.4  |
| 95°    | 20.8   | 73.6   | 139.2  | 182.4  | 196.8  |
| 97.5°  | 19.2   | 65.6   | 131.2  | 172.8  | 187.2  |
| 100°   | 17.6   | 59.2   | 121.6  | 164.8  | 176.0  |
| 102.5° | 17.6   | 52.8   | 113.6  | 155.2  | 168.0  |
| 105°   | 14.4   | 46.4   | 105.6  | 145.6  | 158.4  |
| 107.5° | 14.4   | 41.6   | 97.6   | 137.6  | 148.8  |
| 110°   | 12.8   | 35.2   | 91.2   | 128.0  | 140.8  |



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**CANDELA DISTRIBUTION (continued):**

|        | 0°   | 22.5° | 45°  | 67.5° | 90°   |
|--------|------|-------|------|-------|-------|
| 112.5° | 11.2 | 30.4  | 83.2 | 118.4 | 131.2 |
| 115°   | 9.6  | 24.0  | 75.2 | 110.4 | 121.6 |
| 117.5° | 9.6  | 19.2  | 67.2 | 100.8 | 113.6 |
| 120°   | 8.0  | 12.8  | 59.2 | 91.2  | 104.0 |
| 122.5° | 8.0  | 8.0   | 51.2 | 83.2  | 94.4  |
| 125°   | 6.4  | 4.8   | 44.8 | 75.2  | 84.8  |
| 127.5° | 6.4  | 4.8   | 36.8 | 65.6  | 76.8  |
| 130°   | 4.8  | 3.2   | 28.8 | 57.6  | 67.2  |
| 132.5° | 4.8  | 3.2   | 22.4 | 49.6  | 59.2  |
| 135°   | 3.2  | 3.2   | 14.4 | 40.0  | 49.6  |
| 137.5° | 3.2  | 1.6   | 8.0  | 32.0  | 40.0  |
| 140°   | 3.2  | 1.6   | 3.2  | 24.0  | 32.0  |
| 142.5° | 1.6  | 1.6   | 0.0  | 17.6  | 24.0  |
| 145°   | 1.6  | 0.0   | 0.0  | 9.6   | 16.0  |
| 147.5° | 1.6  | 0.0   | 0.0  | 1.6   | 8.0   |
| 150°   | 1.6  | 0.0   | 0.0  | 0.0   | 0.0   |
| 152.5° | 0.0  | 0.0   | 0.0  | 0.0   | 0.0   |
| 155°   | 0.0  | 0.0   | 0.0  | 0.0   | 0.0   |
| 157.5° | 0.0  | 0.0   | 0.0  | 0.0   | 0.0   |
| 160°   | 0.0  | 0.0   | 0.0  | 0.0   | 0.0   |
| 162.5° | 0.0  | 0.0   | 0.0  | 0.0   | 0.0   |
| 165°   | 0.0  | 0.0   | 0.0  | 0.0   | 0.0   |
| 167.5° | 0.0  | 0.0   | 0.0  | 0.0   | 0.0   |
| 170°   | 0.0  | 0.0   | 0.0  | 0.0   | 0.0   |
| 172.5° | 0.0  | 0.0   | 0.0  | 0.0   | 0.0   |
| 175°   | 0.0  | 0.0   | 0.0  | 0.0   | 0.0   |
| 177.5° | 0.0  | 0.0   | 0.0  | 0.0   | 0.0   |
| 180°   | 0.0  | 0.0   | 0.0  | 0.0   | 0.0   |

(END OF REPORT)