

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: P1025008

Luminaire Tested: S124DIP-B1020D810UB35-4F0-XX-W2A-F

Issue Date: 5/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1025008  
REPORT IS A COMBINATION OF REPORTS P995398 AND P1007351  
Test Lab: INNOVATION CENTER  
Issue Date: 5/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124DIP-B1020D810UB35-4F0-XX-W2A-F  
Description: Define 4 Direct/Indirect Pendant with 3500K BioUP LEDs {m-DER=0.721} {m-EER=0.792}  
Light Source: -  
Ballast/Driver: -

**Summary**

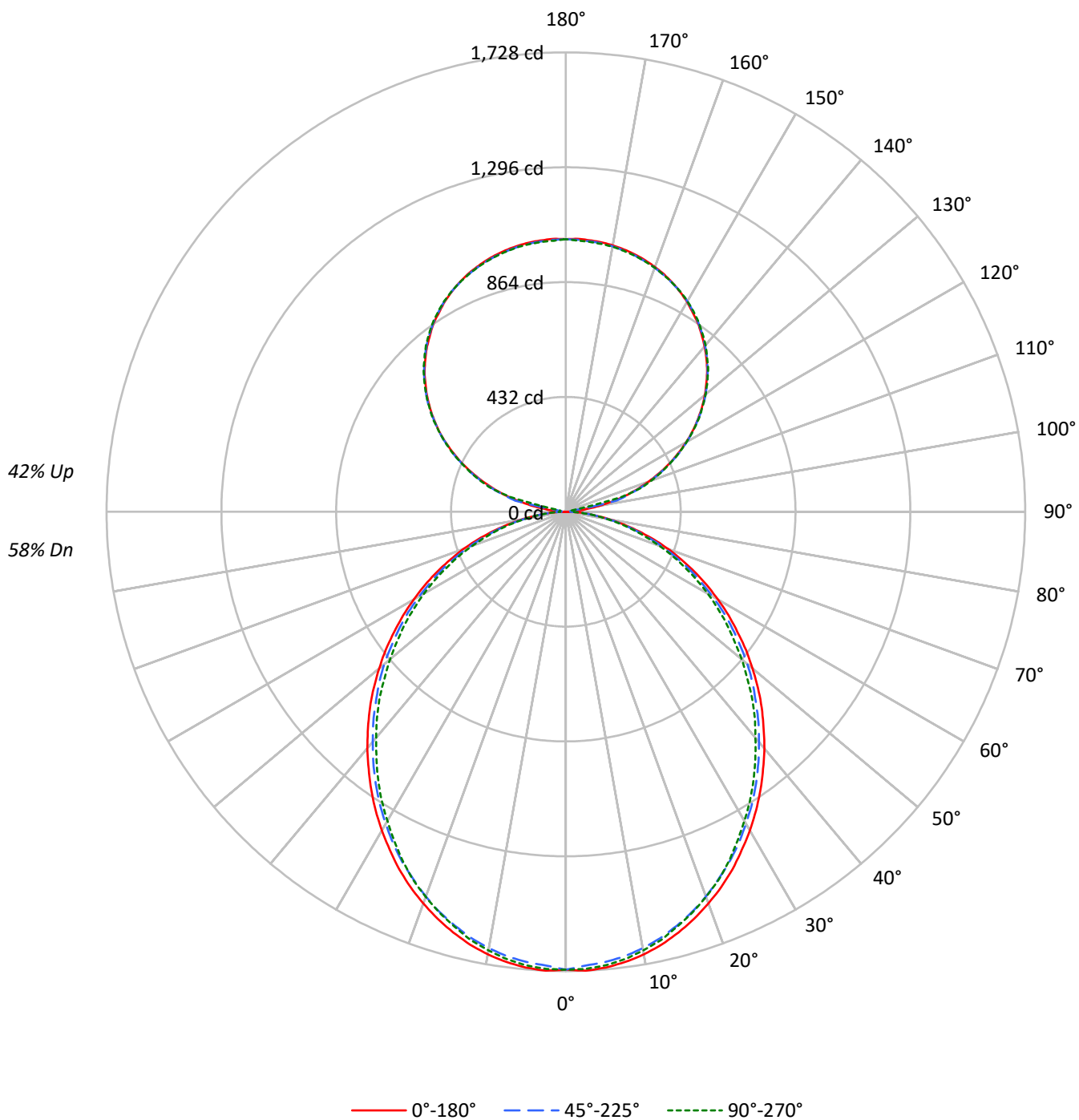
Lumens per Lamp: N/A  
Luminaire Lumens: 7596.0 lumens  
Efficiency: N/A  
Efficacy: 111.9 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.29  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.1')  
CIE Type: General Diffuse

Input Watts (W): 67.9  
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   | 109 | 109 | 109 | 109 | 102 | 102 | 102 | 102 | 88 | 88 | 88 | 75 | 75 | 75 | 64 | 64 | 64 |
| 1   | 100 | 95  | 91  | 88  | 93  | 89  | 85  | 82  | 77 | 75 | 72 | 66 | 64 | 63 | 56 | 55 | 54 |
| 2   | 91  | 83  | 77  | 72  | 84  | 78  | 72  | 68  | 68 | 63 | 60 | 58 | 55 | 52 | 49 | 47 | 45 |
| 3   | 83  | 73  | 66  | 60  | 77  | 68  | 62  | 56  | 60 | 54 | 50 | 51 | 48 | 44 | 44 | 41 | 38 |
| 4   | 76  | 65  | 57  | 51  | 70  | 61  | 53  | 48  | 53 | 47 | 43 | 46 | 41 | 38 | 39 | 36 | 33 |
| 5   | 70  | 58  | 49  | 43  | 65  | 54  | 47  | 41  | 47 | 42 | 37 | 41 | 37 | 33 | 35 | 32 | 29 |
| 6   | 64  | 52  | 44  | 38  | 60  | 49  | 41  | 36  | 43 | 37 | 32 | 37 | 33 | 29 | 32 | 28 | 25 |
| 7   | 59  | 47  | 39  | 33  | 55  | 44  | 37  | 32  | 39 | 33 | 29 | 34 | 29 | 26 | 29 | 26 | 23 |
| 8   | 55  | 43  | 35  | 29  | 51  | 40  | 33  | 28  | 35 | 30 | 25 | 31 | 26 | 23 | 27 | 23 | 20 |
| 9   | 51  | 39  | 31  | 26  | 48  | 37  | 30  | 25  | 33 | 27 | 23 | 29 | 24 | 21 | 25 | 21 | 18 |
| 10  | 48  | 36  | 28  | 24  | 45  | 34  | 27  | 23  | 30 | 24 | 21 | 26 | 22 | 19 | 23 | 19 | 17 |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 14045 | 14045 | 14045 |
| 5°  | 14058 | 13642 | 13658 |
| 10° | 13938 | 13262 | 13170 |
| 15° | 13739 | 12812 | 12620 |
| 20° | 13483 | 12326 | 12049 |
| 25° | 13196 | 11811 | 11436 |
| 30° | 12849 | 11254 | 10762 |
| 35° | 12491 | 10685 | 10110 |
| 40° | 12116 | 10073 | 9418  |
| 45° | 11723 | 9457  | 8771  |
| 50° | 11289 | 8861  | 8053  |
| 55° | 10818 | 8165  | 7341  |
| 60° | 10334 | 7403  | 6598  |
| 65° | 9781  | 6615  | 5762  |
| 70° | 9145  | 5668  | 4866  |
| 75° | 8193  | 4568  | 3897  |
| 80° | 6984  | 3304  | 2741  |
| 85° | 5421  | 1840  | 1476  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 11723 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 162.3  | 2.1       |
| 10°-20°   | 457.4  | 6.0       |
| 20°-30°   | 673.1  | 8.9       |
| 30°-40°   | 782.5  | 10.3      |
| 40°-50°   | 782.4  | 10.3      |
| 50°-60°   | 684.3  | 9.0       |
| 60°-70°   | 508.0  | 6.7       |
| 70°-80°   | 288.3  | 3.8       |
| 80°-90°   | 84.7   | 1.1       |
| 90°-100°  | 34.0   | 0.4       |
| 100°-110° | 224.1  | 3.0       |
| 110°-120° | 428.0  | 5.6       |
| 120°-130° | 543.4  | 7.2       |
| 130°-140° | 581.3  | 7.7       |
| 140°-150° | 543.6  | 7.2       |
| 150°-160° | 438.3  | 5.8       |
| 160°-170° | 282.7  | 3.7       |
| 170°-180° | 97.4   | 1.3       |
| 0°-30°    | 1292.9 | 17.0      |
| 0°-40°    | 2075.4 | 27.3      |
| 0°-60°    | 3542.1 | 46.6      |
| 0°-90°    | 4423.1 | 58.2      |
| 90°-120°  | 686.2  | 9.0       |
| 90°-150°  | 2354.4 | 31.0      |
| 90°-180°  | 3173.0 | 41.8      |
| 0°-180°   | 7596.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 1722 | 1722  | 1722 | 1722  | 1722 |      |
| 5°   | 1721 | 1716  | 1700 | 1716  | 1713 | 163  |
| 15°  | 1638 | 1633  | 1612 | 1620  | 1616 | 462  |
| 25°  | 1484 | 1474  | 1455 | 1456  | 1451 | 683  |
| 35°  | 1277 | 1267  | 1248 | 1238  | 1231 | 798  |
| 45°  | 1042 | 1032  | 1010 | 995   | 991  | 803  |
| 55°  | 788  | 784   | 765  | 748   | 740  | 706  |
| 65°  | 534  | 527   | 513  | 500   | 493  | 529  |
| 75°  | 284  | 277   | 270  | 265   | 264  | 302  |
| 85°  | 74   | 74    | 72   | 72    | 70   | 80   |
| 90°  | 2    | 11    | 17   | 22    | 23   | 7    |
| 95°  | 42   | 16    | 17   | 22    | 22   | 52   |
| 105° | 231  | 235   | 239  | 246   | 219  | 242  |
| 115° | 431  | 433   | 432  | 434   | 434  | 424  |
| 125° | 606  | 609   | 607  | 610   | 610  | 541  |
| 135° | 752  | 751   | 754  | 755   | 757  | 579  |
| 145° | 867  | 869   | 869  | 870   | 871  | 542  |
| 155° | 950  | 951   | 949  | 952   | 950  | 438  |
| 165° | 1002 | 998   | 998  | 1005  | 998  | 283  |
| 175° | 1025 | 1021  | 1022 | 1028  | 1019 | 98   |
| 180° | 1025 | 1025  | 1025 | 1025  | 1025 |      |

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**CANDELA DISTRIBUTION (FULL):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 0°     | 1722.4 | 1722.4 | 1722.4 | 1722.4 | 1722.4 |
| 2.5°   | 1728.0 | 1723.8 | 1708.6 | 1722.4 | 1721.1 |
| 5°     | 1721.1 | 1715.5 | 1700.4 | 1715.5 | 1712.8 |
| 7.5°   | 1708.6 | 1703.1 | 1686.6 | 1699.0 | 1697.6 |
| 10°    | 1690.7 | 1685.2 | 1667.2 | 1678.3 | 1675.5 |
| 12.5°  | 1667.2 | 1661.7 | 1642.4 | 1654.8 | 1650.7 |
| 15°    | 1638.3 | 1632.7 | 1612.0 | 1620.3 | 1616.2 |
| 17.5°  | 1605.1 | 1598.2 | 1578.9 | 1584.4 | 1581.7 |
| 20°    | 1567.9 | 1561.0 | 1540.3 | 1544.4 | 1541.6 |
| 22.5°  | 1527.8 | 1518.2 | 1497.5 | 1505.8 | 1500.2 |
| 25°    | 1483.7 | 1474.0 | 1454.7 | 1456.1 | 1450.6 |
| 27.5°  | 1434.0 | 1424.3 | 1406.4 | 1403.6 | 1396.7 |
| 30°    | 1384.3 | 1373.3 | 1355.3 | 1349.8 | 1342.9 |
| 32.5°  | 1331.9 | 1322.2 | 1302.9 | 1296.0 | 1289.1 |
| 35°    | 1276.7 | 1267.0 | 1247.7 | 1238.0 | 1231.1 |
| 37.5°  | 1218.7 | 1210.4 | 1189.7 | 1180.0 | 1170.4 |
| 40°    | 1162.1 | 1151.1 | 1130.4 | 1116.6 | 1109.7 |
| 42.5°  | 1101.4 | 1095.9 | 1072.4 | 1055.8 | 1051.7 |
| 45°    | 1042.0 | 1032.4 | 1010.3 | 995.1  | 991.0  |
| 47.5°  | 979.9  | 973.0  | 952.3  | 935.8  | 924.7  |
| 50°    | 916.4  | 910.9  | 891.6  | 872.3  | 864.0  |
| 52.5°  | 854.3  | 847.4  | 826.7  | 810.2  | 799.1  |
| 55°    | 788.1  | 783.9  | 764.6  | 748.1  | 739.8  |
| 57.5°  | 726.0  | 721.8  | 702.5  | 685.9  | 677.7  |
| 60°    | 661.1  | 654.2  | 636.3  | 623.8  | 616.9  |
| 62.5°  | 597.6  | 592.1  | 572.8  | 561.7  | 554.8  |
| 65°    | 534.1  | 527.2  | 513.4  | 499.6  | 492.7  |
| 67.5°  | 469.3  | 463.7  | 449.9  | 436.1  | 434.8  |
| 70°    | 409.9  | 400.2  | 389.2  | 378.2  | 374.0  |
| 72.5°  | 346.4  | 336.8  | 328.5  | 320.2  | 316.1  |
| 75°    | 284.3  | 277.4  | 270.5  | 265.0  | 263.6  |
| 77.5°  | 223.6  | 220.8  | 213.9  | 212.5  | 208.4  |
| 80°    | 169.8  | 165.6  | 162.9  | 160.1  | 158.7  |
| 82.5°  | 117.3  | 115.9  | 115.9  | 114.6  | 113.2  |
| 85°    | 74.5   | 74.5   | 71.8   | 71.8   | 70.4   |
| 87.5°  | 35.9   | 34.5   | 33.1   | 33.1   | 33.1   |
| 90°    | 2.3    | 10.7   | 16.9   | 21.5   | 23.0   |
| 92.5°  | 11.5   | 10.0   | 16.1   | 20.7   | 20.7   |
| 95°    | 42.2   | 16.1   | 16.9   | 21.5   | 22.2   |
| 97.5°  | 80.5   | 97.4   | 16.9   | 20.7   | 21.5   |
| 100°   | 125.8  | 139.6  | 33.7   | 20.7   | 21.5   |
| 102.5° | 176.4  | 185.6  | 194.8  | 22.2   | 22.2   |
| 105°   | 230.8  | 235.4  | 239.3  | 246.2  | 218.6  |
| 107.5° | 280.7  | 283.0  | 288.4  | 292.2  | 295.3  |
| 110°   | 331.3  | 333.6  | 338.2  | 339.7  | 342.0  |

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**CANDELA DISTRIBUTION (continued):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 112.5° | 380.4  | 385.0  | 386.5  | 385.8  | 388.8  |
| 115°   | 431.0  | 433.3  | 432.5  | 434.1  | 434.1  |
| 117.5° | 476.3  | 479.3  | 481.6  | 480.9  | 480.9  |
| 120°   | 522.3  | 525.3  | 524.6  | 526.1  | 524.6  |
| 122.5° | 565.2  | 566.8  | 568.3  | 569.1  | 567.5  |
| 125°   | 605.9  | 608.9  | 607.4  | 609.7  | 610.5  |
| 127.5° | 645.0  | 645.8  | 649.6  | 648.8  | 648.1  |
| 130°   | 682.6  | 683.3  | 685.6  | 686.4  | 686.4  |
| 132.5° | 717.1  | 718.6  | 721.7  | 722.4  | 721.7  |
| 135°   | 751.6  | 750.8  | 753.9  | 755.4  | 757.0  |
| 137.5° | 782.3  | 782.3  | 786.1  | 787.6  | 786.9  |
| 140°   | 812.2  | 813.7  | 815.2  | 817.5  | 818.3  |
| 142.5° | 839.0  | 842.1  | 842.9  | 844.4  | 844.4  |
| 145°   | 866.6  | 868.9  | 868.9  | 869.7  | 871.2  |
| 147.5° | 888.1  | 892.7  | 891.9  | 892.7  | 893.5  |
| 150°   | 911.9  | 914.9  | 914.2  | 914.2  | 914.9  |
| 152.5° | 931.8  | 934.1  | 932.6  | 934.1  | 933.3  |
| 155°   | 950.2  | 951.0  | 948.7  | 951.8  | 949.5  |
| 157.5° | 966.3  | 966.3  | 963.3  | 967.1  | 963.3  |
| 160°   | 980.1  | 977.8  | 977.1  | 981.7  | 977.1  |
| 162.5° | 992.4  | 989.3  | 988.6  | 993.2  | 987.8  |
| 165°   | 1002.4 | 998.5  | 998.5  | 1004.7 | 997.8  |
| 167.5° | 1010.8 | 1007.0 | 1006.2 | 1013.1 | 1005.4 |
| 170°   | 1017.7 | 1013.1 | 1013.9 | 1020.0 | 1012.3 |
| 172.5° | 1022.3 | 1017.7 | 1018.5 | 1024.6 | 1016.2 |
| 175°   | 1025.4 | 1020.8 | 1021.5 | 1028.4 | 1019.2 |
| 177.5° | 1027.7 | 1022.3 | 1023.8 | 1030.0 | 1020.8 |
| 180°   | 1025.4 | 1025.4 | 1025.4 | 1025.4 | 1025.4 |

(END OF REPORT)