

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: P1024942

Luminaire Tested: S124DIP-B1020D590UB27-4F0-XX-W2A-D

Issue Date: 5/6/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1024942  
REPORT IS A COMBINATION OF REPORTS P995302 AND P1007351  
Test Lab: INNOVATION CENTER  
Issue Date: 5/6/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124DIP-B1020D590UB27-4F0-XX-W2A-D  
Description: Define 4 Direct/Indirect Pendant with 2700K BioUP LEDs {m-DER=0.473} {m-EER=0.52}  
Light Source: -  
Ballast/Driver: -

**Summary**

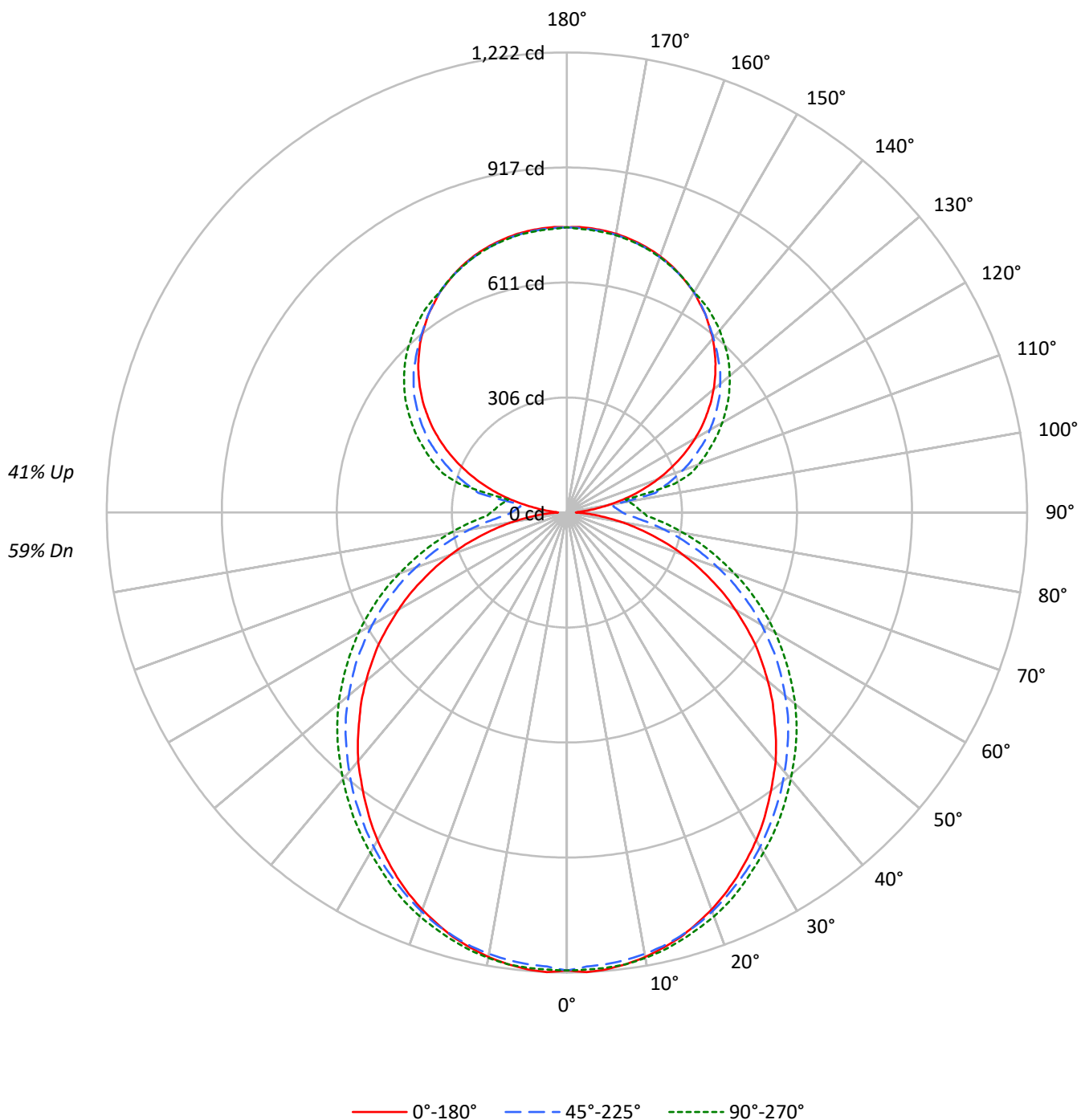
Lumens per Lamp: N/A  
Luminaire Lumens: 6493.9 lumens  
Efficiency: N/A  
Efficacy: 104.4 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.1')  
CIE Type: General Diffuse

Input Watts (W): 62.2  
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 | 76 | 76 | 76 | 64 | 64 | 64 |
| 1   | 99  | 94  | 89  | 85  | 92  | 87  | 84  | 80  | 76 | 73 | 70 | 65 | 63 | 61 | 55 | 54 | 52 |
| 2   | 89  | 81  | 74  | 69  | 83  | 76  | 70  | 65  | 66 | 61 | 57 | 56 | 53 | 50 | 48 | 45 | 43 |
| 3   | 81  | 71  | 63  | 57  | 75  | 66  | 59  | 54  | 58 | 52 | 47 | 49 | 45 | 42 | 42 | 39 | 36 |
| 4   | 74  | 63  | 54  | 48  | 69  | 59  | 51  | 45  | 51 | 45 | 40 | 44 | 39 | 35 | 37 | 34 | 31 |
| 5   | 68  | 56  | 47  | 41  | 63  | 52  | 44  | 39  | 45 | 39 | 34 | 39 | 34 | 30 | 33 | 30 | 26 |
| 6   | 63  | 50  | 41  | 35  | 58  | 47  | 39  | 33  | 41 | 35 | 30 | 35 | 30 | 26 | 30 | 26 | 23 |
| 7   | 58  | 45  | 37  | 31  | 54  | 42  | 35  | 29  | 37 | 31 | 26 | 32 | 27 | 23 | 28 | 24 | 20 |
| 8   | 54  | 41  | 33  | 27  | 50  | 38  | 31  | 26  | 34 | 28 | 23 | 29 | 24 | 21 | 25 | 21 | 18 |
| 9   | 50  | 37  | 29  | 24  | 46  | 35  | 28  | 23  | 31 | 25 | 21 | 27 | 22 | 19 | 23 | 19 | 16 |
| 10  | 47  | 34  | 27  | 22  | 43  | 32  | 25  | 21  | 28 | 23 | 19 | 25 | 20 | 17 | 22 | 18 | 15 |

**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  | 1.8       |
| 10°-20°   | 330.3  | 5.1       |
| 20°-30°   | 499.4  | 7.7       |
| 30°-40°   | 604.2  | 9.3       |
| 40°-50°   | 638.7  | 9.8       |
| 50°-60°   | 601.1  | 9.3       |
| 60°-70°   | 498.8  | 7.7       |
| 70°-80°   | 350.0  | 5.4       |
| 80°-90°   | 198.9  | 3.1       |
| 90°-100°  | 142.6  | 2.2       |
| 100°-110° | 252.6  | 3.9       |
| 110°-120° | 374.6  | 5.8       |
| 120°-130° | 434.4  | 6.7       |
| 130°-140° | 443.7  | 6.8       |
| 140°-150° | 404.4  | 6.2       |
| 150°-160° | 323.9  | 5.0       |
| 160°-170° | 208.9  | 3.2       |
| 170°-180° | 72.0   | 1.1       |
| 0°-30°    | 945.0  | 14.6      |
| 0°-40°    | 1549.1 | 23.9      |
| 0°-60°    | 2789.0 | 42.9      |
| 0°-90°    | 3836.8 | 59.1      |
| 90°-120°  | 769.9  | 11.9      |
| 90°-150°  | 2052.4 | 31.6      |
| 90°-180°  | 2657.0 | 40.9      |
| 0°-180°   | 6493.9 | 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°  | 24   | 84    | 147  | 190   | 202  | 17   |
| 95°  | 49   | 75    | 131  | 171   | 184  | 53   |
| 105° | 183  | 214   | 267  | 306   | 296  | 192  |
| 115° | 327  | 341   | 384  | 415   | 424  | 322  |
| 125° | 453  | 454   | 487  | 514   | 523  | 405  |
| 135° | 558  | 558   | 569  | 592   | 602  | 430  |
| 145° | 642  | 642   | 642  | 651   | 657  | 401  |
| 155° | 702  | 703   | 701  | 703   | 702  | 324  |
| 165° | 741  | 738   | 738  | 742   | 737  | 209  |
| 175° | 758  | 754   | 755  | 760   | 753  | 72   |
| 180° | 758  | 758   | 758  | 758   | 758  |      |

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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°    | 23.5   | 84.2   | 147.4  | 190.3  | 202.3  |
| 92.5°  | 28.9   | 75.5   | 138.6  | 180.2  | 191.1  |
| 95°    | 48.9   | 74.6   | 131.0  | 171.2  | 184.0  |
| 97.5°  | 75.8   | 127.9  | 124.2  | 162.4  | 175.3  |
| 100°   | 107.9  | 153.5  | 128.4  | 155.6  | 165.8  |
| 102.5° | 145.3  | 182.1  | 240.6  | 148.6  | 159.5  |
| 105°   | 182.9  | 213.5  | 266.7  | 305.9  | 296.4  |
| 107.5° | 219.7  | 244.5  | 296.2  | 333.1  | 344.9  |
| 110°   | 255.7  | 276.5  | 327.6  | 360.0  | 372.6  |

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**CANDELA DISTRIBUTION (continued):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 112.5° | 290.6 | 310.4 | 356.4 | 385.8 | 399.0 |
| 115°   | 326.7 | 340.6 | 383.6 | 414.7 | 424.2 |
| 117.5° | 360.1 | 370.5 | 413.1 | 441.1 | 452.0 |
| 120°   | 392.7 | 399.1 | 438.0 | 466.4 | 476.2 |
| 122.5° | 424.4 | 425.6 | 463.5 | 491.3 | 499.7 |
| 125°   | 453.1 | 454.0 | 486.9 | 514.5 | 523.3 |
| 127.5° | 482.0 | 481.2 | 511.3 | 535.3 | 544.2 |
| 130°   | 508.4 | 507.6 | 531.1 | 556.2 | 564.4 |
| 132.5° | 533.9 | 533.7 | 552.3 | 576.0 | 583.6 |
| 135°   | 558.0 | 557.5 | 569.3 | 592.3 | 601.5 |
| 137.5° | 580.7 | 579.4 | 587.6 | 609.2 | 615.5 |
| 140°   | 602.8 | 602.6 | 605.1 | 624.5 | 631.8 |
| 142.5° | 621.3 | 623.6 | 622.8 | 638.9 | 644.3 |
| 145°   | 641.7 | 642.0 | 642.0 | 650.8 | 657.3 |
| 147.5° | 657.6 | 659.6 | 659.0 | 661.0 | 667.0 |
| 150°   | 675.2 | 676.0 | 675.5 | 675.5 | 676.0 |
| 152.5° | 688.5 | 690.2 | 689.1 | 690.2 | 689.6 |
| 155°   | 702.1 | 702.7 | 701.0 | 703.2 | 701.5 |
| 157.5° | 714.0 | 714.0 | 711.7 | 714.6 | 711.7 |
| 160°   | 724.2 | 722.5 | 721.9 | 725.3 | 721.9 |
| 162.5° | 733.3 | 731.0 | 730.4 | 733.8 | 729.9 |
| 165°   | 740.6 | 737.8 | 737.8 | 742.3 | 737.2 |
| 167.5° | 746.9 | 744.0 | 743.5 | 748.6 | 742.9 |
| 170°   | 752.0 | 748.6 | 749.1 | 753.7 | 748.0 |
| 172.5° | 755.4 | 752.0 | 752.5 | 757.1 | 750.8 |
| 175°   | 757.6 | 754.2 | 754.8 | 759.9 | 753.1 |
| 177.5° | 759.3 | 755.4 | 756.5 | 761.0 | 754.2 |
| 180°   | 757.6 | 757.6 | 757.6 | 757.6 | 757.6 |

(END OF REPORT)