

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: P1024854

Luminaire Tested: S124DIP-B1020D1205UB27-4F0-XX-W2A-D4

Issue Date: 5/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1024854  
REPORT IS A COMBINATION OF REPORTS P995184 AND P1007351  
Test Lab: INNOVATION CENTER  
Issue Date: 5/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124DIP-B1020D1205UB27-4F0-XX-W2A-D4  
Description: Define 4 Direct/Indirect Pendant with 2700K BioUP LEDs {m-DER=0.473} {m-EER=0.52}  
Light Source: -  
Ballast/Driver: -

**Summary**

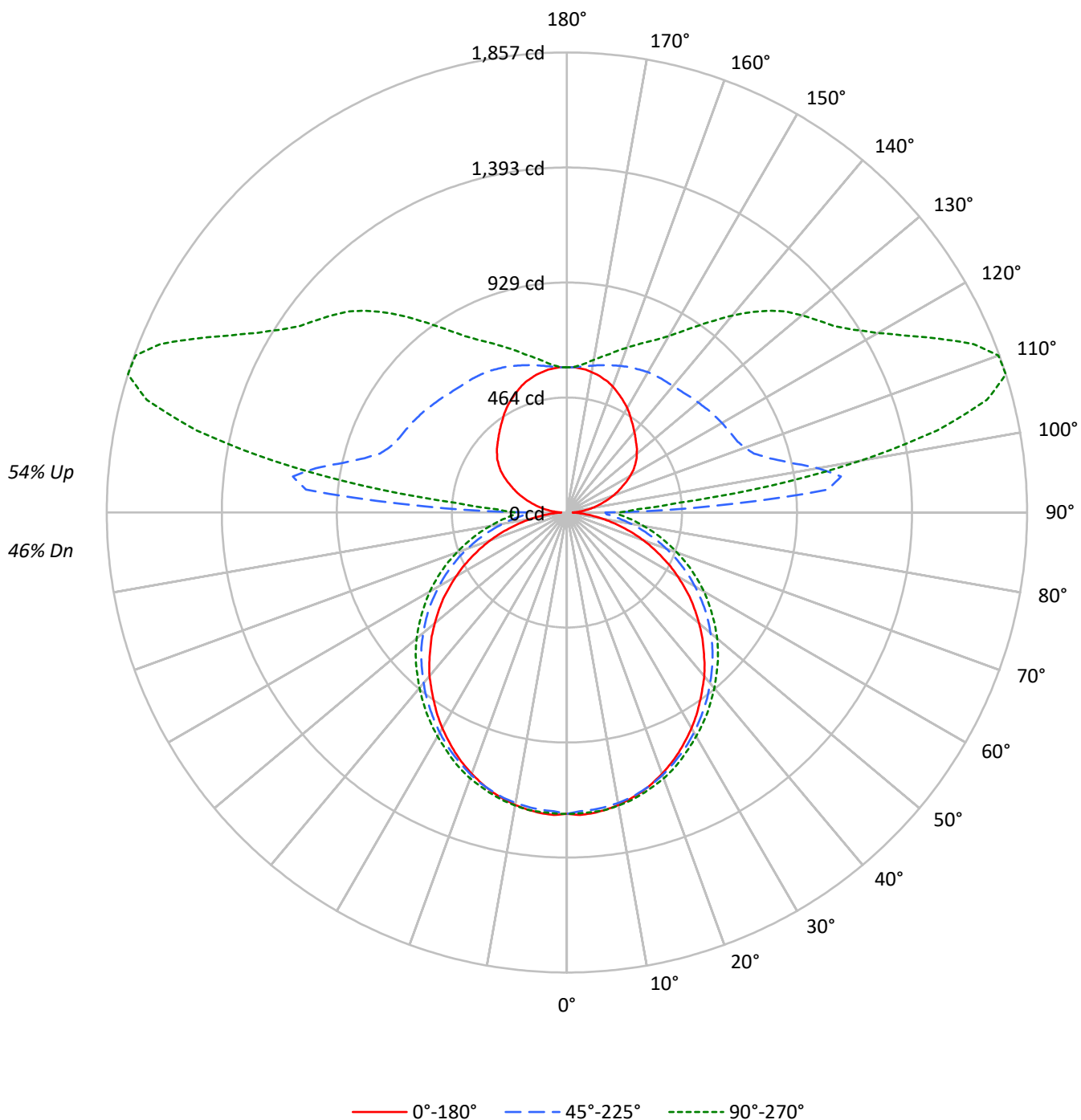
Lumens per Lamp: N/A  
Luminaire Lumens: 8426.5 lumens  
Efficiency: N/A  
Efficacy: 103.0 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.1')  
CIE Type: General Diffuse

Input Watts (W): 81.8  
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 | 69 | 67 | 64 | 56 | 55 | 53 | 45 | 43 | 42 |
| 2   | 87  | 79  | 73  | 67  | 79 | 73 | 67 | 62 | 60 | 56 | 53 | 49 | 46 | 43 | 39 | 37 | 35 |
| 3   | 79  | 69  | 62  | 55  | 72 | 63 | 57 | 51 | 53 | 48 | 44 | 43 | 39 | 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 | 26 | 27 | 24 | 21 |
| 6   | 61  | 48  | 40  | 34  | 55 | 45 | 37 | 32 | 37 | 32 | 27 | 31 | 26 | 23 | 24 | 21 | 19 |
| 7   | 56  | 44  | 35  | 30  | 51 | 40 | 33 | 28 | 34 | 28 | 24 | 28 | 23 | 20 | 22 | 19 | 17 |
| 8   | 52  | 39  | 32  | 26  | 47 | 36 | 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 | 30 | 24 | 19 | 26 | 21 | 17 | 22 | 17 | 14 | 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  | 5.9       |
| 30°-40°   | 604.2  | 7.2       |
| 40°-50°   | 638.7  | 7.6       |
| 50°-60°   | 601.1  | 7.1       |
| 60°-70°   | 498.8  | 5.9       |
| 70°-80°   | 350.0  | 4.2       |
| 80°-90°   | 199.6  | 2.4       |
| 90°-100°  | 552.7  | 6.6       |
| 100°-110° | 972.3  | 11.5      |
| 110°-120° | 847.5  | 10.1      |
| 120°-130° | 695.7  | 8.3       |
| 130°-140° | 567.3  | 6.7       |
| 140°-150° | 425.2  | 5.0       |
| 150°-160° | 296.9  | 3.5       |
| 160°-170° | 174.6  | 2.1       |
| 170°-180° | 56.8   | 0.7       |
| 0°-30°    | 945.0  | 11.2      |
| 0°-40°    | 1549.1 | 18.4      |
| 0°-60°    | 2789.0 | 33.1      |
| 0°-90°    | 3837.4 | 45.5      |
| 90°-120°  | 2372.5 | 28.2      |
| 90°-150°  | 4060.7 | 48.2      |
| 90°-180°  | 4589.0 | 54.5      |
| 0°-180°   | 8426.5 | 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°  | 23   | 86    | 156  | 197   | 210  | 17   |
| 95°  | 56   | 182   | 1057 | 620   | 448  | 56   |
| 105° | 147  | 235   | 845  | 1750  | 1755 | 157  |
| 115° | 245  | 318   | 738  | 1388  | 1659 | 244  |
| 125° | 336  | 397   | 708  | 1165  | 1313 | 300  |
| 135° | 395  | 470   | 676  | 1011  | 1152 | 306  |
| 145° | 454  | 518   | 661  | 832   | 920  | 285  |
| 155° | 515  | 555   | 642  | 728   | 759  | 237  |
| 165° | 561  | 578   | 616  | 652   | 662  | 158  |
| 175° | 585  | 586   | 591  | 599   | 596  | 56   |
| 180° | 586  | 586   | 586  | 586   | 586  |      |

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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°    | 23.0   | 85.5   | 155.6  | 197.4  | 209.5  |
| 92.5°  | 36.5   | 156.8  | 578.0  | 314.0  | 280.6  |
| 95°    | 55.7   | 182.4  | 1056.7 | 619.8  | 448.5  |
| 97.5°  | 79.6   | 188.3  | 1115.5 | 1095.7 | 834.0  |
| 100°   | 102.5  | 200.0  | 1029.1 | 1452.7 | 1205.5 |
| 102.5° | 125.5  | 215.4  | 924.4  | 1672.5 | 1530.3 |
| 105°   | 147.0  | 234.6  | 845.1  | 1750.1 | 1754.6 |
| 107.5° | 173.5  | 255.8  | 791.1  | 1717.4 | 1857.0 |
| 110°   | 198.5  | 275.8  | 763.8  | 1617.1 | 1852.5 |

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**CANDELA DISTRIBUTION (continued):**

|        | 0°    | 22.5° | 45°   | 67.5°  | 90°    |
|--------|-------|-------|-------|--------|--------|
| 112.5° | 222.5 | 297.0 | 746.6 | 1496.0 | 1776.3 |
| 115°   | 245.3 | 318.0 | 737.5 | 1388.0 | 1658.8 |
| 117.5° | 270.7 | 338.7 | 729.5 | 1300.4 | 1544.9 |
| 120°   | 294.6 | 357.4 | 722.7 | 1238.7 | 1449.3 |
| 122.5° | 317.6 | 377.0 | 714.7 | 1196.6 | 1372.0 |
| 125°   | 335.8 | 396.6 | 708.1 | 1165.2 | 1313.2 |
| 127.5° | 354.2 | 417.4 | 699.0 | 1133.4 | 1274.2 |
| 130°   | 367.9 | 436.1 | 691.0 | 1098.3 | 1238.3 |
| 132.5° | 382.8 | 453.4 | 684.5 | 1058.1 | 1200.4 |
| 135°   | 395.3 | 470.1 | 676.5 | 1011.4 | 1152.0 |
| 137.5° | 409.1 | 483.2 | 671.0 | 963.1  | 1096.7 |
| 140°   | 424.0 | 496.4 | 665.8 | 916.0  | 1038.0 |
| 142.5° | 438.9 | 508.5 | 663.1 | 873.2  | 975.9  |
| 145°   | 453.8 | 518.0 | 660.8 | 832.4  | 919.6  |
| 147.5° | 471.1 | 528.4 | 657.3 | 797.4  | 866.7  |
| 150°   | 487.2 | 538.2 | 653.9 | 770.2  | 822.0  |
| 152.5° | 500.8 | 547.4 | 648.1 | 748.2  | 787.4  |
| 155°   | 514.6 | 555.4 | 642.4 | 727.6  | 758.6  |
| 157.5° | 528.4 | 562.9 | 636.6 | 708.0  | 732.2  |
| 160°   | 541.1 | 569.2 | 629.7 | 688.4  | 708.0  |
| 162.5° | 552.6 | 574.4 | 622.8 | 669.4  | 685.0  |
| 165°   | 560.6 | 577.9 | 615.9 | 652.2  | 661.9  |
| 167.5° | 569.8 | 580.8 | 609.0 | 637.2  | 643.5  |
| 170°   | 575.6 | 583.1 | 602.1 | 622.2  | 626.3  |
| 172.5° | 581.4 | 584.8 | 595.2 | 609.0  | 609.0  |
| 175°   | 584.8 | 586.0 | 590.6 | 598.6  | 596.3  |
| 177.5° | 587.1 | 586.0 | 587.1 | 591.2  | 587.1  |
| 180°   | 586.0 | 586.0 | 586.0 | 586.0  | 586.0  |

(END OF REPORT)