

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: P1024944

Luminaire Tested: S124DIP-B1020D590UB27-4F0-XX-W2A-D4

Issue Date: 5/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1024944  
REPORT IS A COMBINATION OF REPORTS P995304 AND P1007351  
Test Lab: INNOVATION CENTER  
Issue Date: 5/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124DIP-B1020D590UB27-4F0-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**

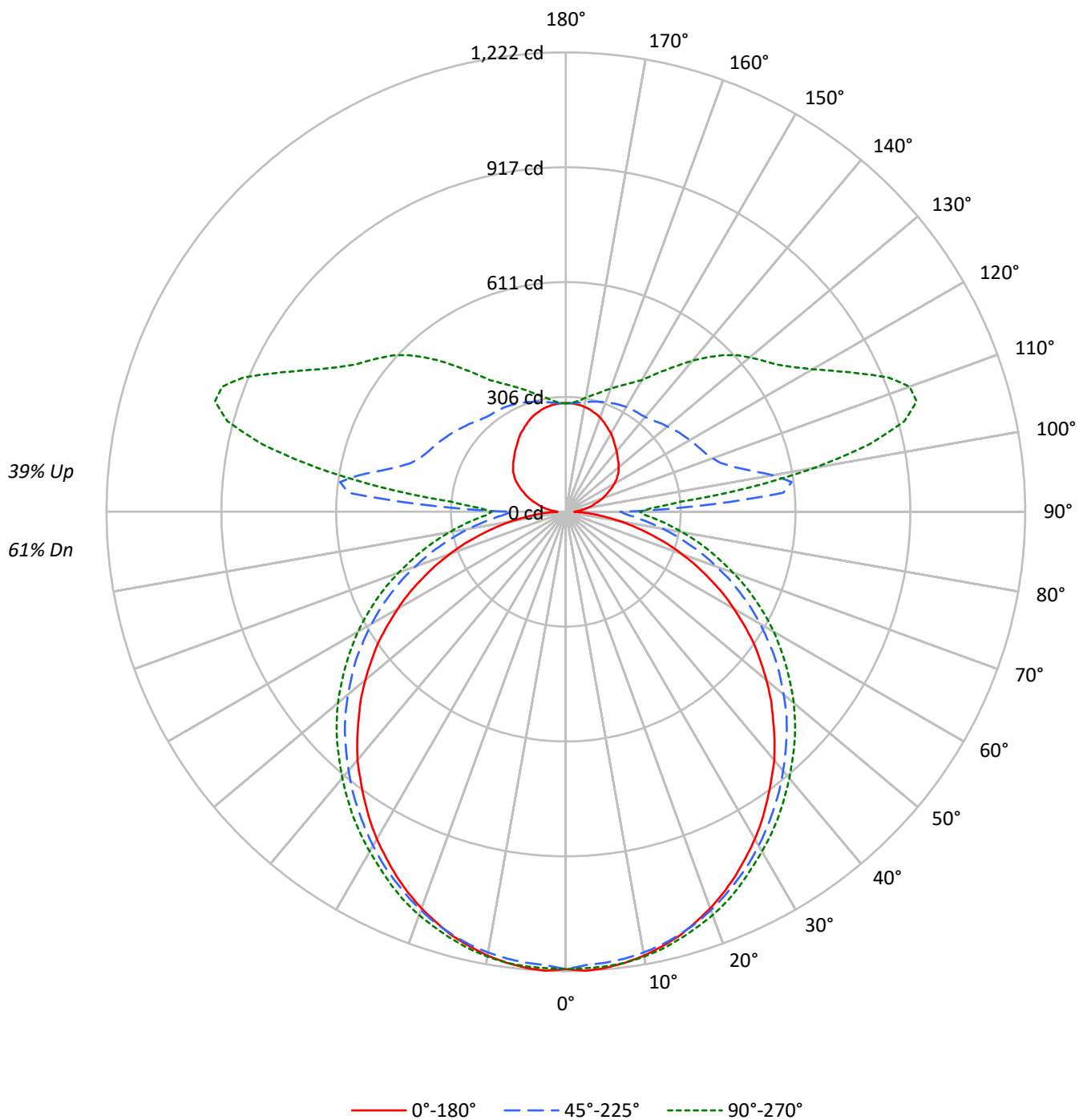
Lumens per Lamp: N/A  
Luminaire Lumens: 6254.2 lumens  
Efficiency: N/A  
Efficacy: 100.5 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.1')  
CIE Type: Semi-Direct

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 | 0  |
| RCR |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |    |    |    |
| 0   | 110 | 110 | 110 | 110 | 103 | 103 | 103 | 103 | 90 | 90 | 90 | 78 | 78 | 78 | 67 | 67 | 67 | 61 |
| 1   | 99  | 94  | 90  | 86  | 92  | 88  | 84  | 81  | 77 | 74 | 71 | 66 | 64 | 62 | 57 | 55 | 54 | 49 |
| 2   | 90  | 82  | 75  | 69  | 84  | 76  | 70  | 65  | 67 | 62 | 58 | 58 | 54 | 51 | 49 | 47 | 44 | 40 |
| 3   | 82  | 71  | 63  | 57  | 76  | 67  | 60  | 54  | 58 | 53 | 48 | 51 | 46 | 43 | 43 | 40 | 37 | 33 |
| 4   | 74  | 63  | 54  | 48  | 69  | 59  | 51  | 45  | 52 | 45 | 41 | 45 | 40 | 36 | 38 | 35 | 32 | 28 |
| 5   | 68  | 56  | 47  | 41  | 63  | 52  | 45  | 39  | 46 | 40 | 35 | 40 | 35 | 31 | 34 | 30 | 27 | 24 |
| 6   | 63  | 50  | 41  | 35  | 58  | 47  | 39  | 34  | 41 | 35 | 30 | 36 | 31 | 27 | 31 | 27 | 24 | 21 |
| 7   | 58  | 45  | 37  | 31  | 54  | 42  | 35  | 29  | 37 | 31 | 27 | 33 | 28 | 24 | 28 | 24 | 21 | 19 |
| 8   | 54  | 41  | 33  | 27  | 50  | 39  | 31  | 26  | 34 | 28 | 24 | 30 | 25 | 21 | 26 | 22 | 19 | 17 |
| 9   | 50  | 37  | 30  | 24  | 47  | 35  | 28  | 23  | 31 | 25 | 21 | 28 | 23 | 19 | 24 | 20 | 17 | 15 |
| 10  | 47  | 34  | 27  | 22  | 44  | 32  | 25  | 21  | 29 | 23 | 19 | 25 | 21 | 17 | 22 | 18 | 15 | 13 |

**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  | 5.3       |
| 20°-30°   | 499.4  | 8.0       |
| 30°-40°   | 604.2  | 9.7       |
| 40°-50°   | 638.7  | 10.2      |
| 50°-60°   | 601.1  | 9.6       |
| 60°-70°   | 498.8  | 8.0       |
| 70°-80°   | 350.0  | 5.6       |
| 80°-90°   | 198.4  | 3.2       |
| 90°-100°  | 331.8  | 5.3       |
| 100°-110° | 522.8  | 8.4       |
| 110°-120° | 446.8  | 7.1       |
| 120°-130° | 359.2  | 5.7       |
| 130°-140° | 286.5  | 4.6       |
| 140°-150° | 210.8  | 3.4       |
| 150°-160° | 146.2  | 2.3       |
| 160°-170° | 86.0   | 1.4       |
| 170°-180° | 28.0   | 0.4       |
| 0°-30°    | 945.0  | 15.1      |
| 0°-40°    | 1549.1 | 24.8      |
| 0°-60°    | 2789.0 | 44.6      |
| 0°-90°    | 3836.3 | 61.3      |
| 90°-120°  | 1301.4 | 20.8      |
| 90°-150°  | 2157.8 | 34.5      |
| 90°-180°  | 2418.0 | 38.7      |
| 0°-180°   | 6254.2 | 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°  | 22   | 81    | 145  | 186   | 197  | 16   |
| 95°  | 36   | 122   | 580  | 384   | 306  | 35   |
| 105° | 79   | 136   | 462  | 924   | 932  | 85   |
| 115° | 125  | 167   | 396  | 731   | 869  | 124  |
| 125° | 168  | 197   | 368  | 606   | 683  | 150  |
| 135° | 196  | 233   | 339  | 515   | 588  | 152  |
| 145° | 224  | 255   | 325  | 414   | 460  | 141  |
| 155° | 253  | 273   | 316  | 358   | 374  | 117  |
| 165° | 276  | 284   | 303  | 321   | 326  | 78   |
| 175° | 288  | 288   | 291  | 295   | 294  | 27   |
| 180° | 288  | 288   | 288  | 288   | 288  |      |

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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°    | 22.4   | 80.8   | 145.1  | 185.7  | 197.2  |
| 92.5°  | 28.3   | 111.8  | 348.8  | 238.3  | 227.4  |
| 95°    | 36.4   | 121.6  | 580.4  | 384.0  | 305.9  |
| 97.5°  | 47.5   | 121.1  | 605.9  | 614.0  | 491.5  |
| 100°   | 58.1   | 124.0  | 559.1  | 786.3  | 669.6  |
| 102.5° | 69.4   | 128.9  | 504.2  | 890.4  | 826.0  |
| 105°   | 78.6   | 135.6  | 461.7  | 924.4  | 932.3  |
| 107.5° | 91.6   | 143.9  | 431.6  | 904.9  | 978.5  |
| 110°   | 103.3  | 151.0  | 415.5  | 851.4  | 972.8  |



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**CANDELA DISTRIBUTION (continued):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 112.5° | 114.3 | 159.4 | 403.5 | 787.6 | 931.2 |
| 115°   | 124.9 | 166.8 | 395.5 | 731.0 | 869.1 |
| 117.5° | 137.4 | 175.0 | 388.2 | 683.7 | 809.6 |
| 120°   | 148.5 | 181.5 | 381.4 | 649.2 | 758.4 |
| 122.5° | 159.8 | 189.0 | 374.0 | 625.0 | 716.2 |
| 125°   | 168.0 | 197.4 | 367.9 | 606.0 | 683.1 |
| 127.5° | 177.1 | 207.6 | 360.0 | 586.4 | 660.4 |
| 130°   | 183.2 | 216.0 | 352.6 | 565.6 | 638.6 |
| 132.5° | 190.5 | 224.6 | 346.7 | 542.3 | 616.5 |
| 135°   | 195.9 | 232.8 | 339.3 | 515.2 | 588.5 |
| 137.5° | 202.7 | 238.6 | 333.8 | 488.0 | 557.2 |
| 140°   | 210.1 | 245.1 | 329.1 | 461.3 | 524.8 |
| 142.5° | 216.7 | 251.0 | 326.4 | 437.5 | 490.8 |
| 145°   | 224.1 | 255.0 | 325.3 | 414.0 | 459.6 |
| 147.5° | 232.6 | 260.1 | 323.6 | 393.3 | 430.1 |
| 150°   | 240.5 | 264.9 | 321.9 | 379.1 | 404.6 |
| 152.5° | 246.5 | 269.5 | 319.1 | 368.4 | 387.6 |
| 155°   | 253.3 | 273.4 | 316.2 | 358.2 | 373.5 |
| 157.5° | 260.1 | 277.1 | 313.4 | 348.5 | 360.4 |
| 160°   | 266.4 | 280.2 | 310.0 | 338.9 | 348.5 |
| 162.5° | 272.0 | 282.8 | 306.6 | 329.6 | 337.2 |
| 165°   | 276.0 | 284.5 | 303.2 | 321.0 | 325.9 |
| 167.5° | 280.5 | 285.9 | 299.8 | 313.6 | 316.8 |
| 170°   | 283.4 | 287.0 | 296.4 | 306.4 | 308.3 |
| 172.5° | 286.2 | 287.9 | 293.0 | 299.8 | 299.8 |
| 175°   | 287.9 | 288.5 | 290.7 | 294.7 | 293.6 |
| 177.5° | 289.0 | 288.5 | 289.0 | 291.0 | 289.0 |
| 180°   | 288.5 | 288.5 | 288.5 | 288.5 | 288.5 |

(END OF REPORT)