

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: P1000715

Luminaire Tested: SA4XXDIP-B1020D590UB30-4F0-XX-W2A-D4

Issue Date: 5/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1000715  
REPORT IS A COMBINATION OF REPORTS P995328 AND P1007351  
Test Lab: INNOVATION CENTER  
Issue Date: 5/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: SA4XXDIP-B1020D590UB30-4F0-XX-W2A-D4  
Description: Define 4 Direct/Indirect Pendant with 3000K BioUP LEDs {m-DER=0.589} {m-EER=0.647}  
Light Source: -  
Ballast/Driver: -

**Summary**

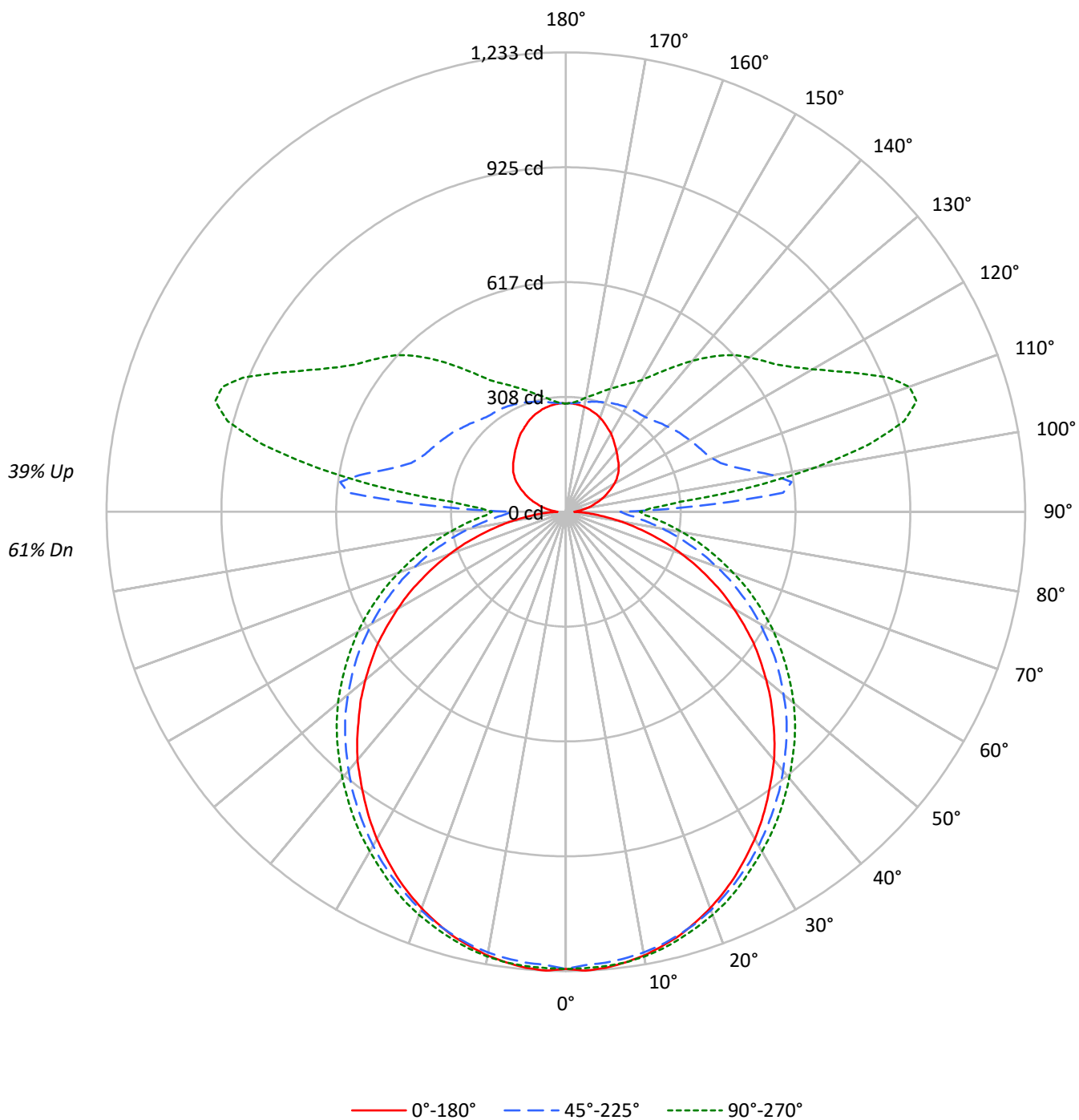
Lumens per Lamp: N/A  
Luminaire Lumens: 6308.2 lumens  
Efficiency: N/A  
Efficacy: 101.4 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.1')  
CIE Type: Semi-Direct

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

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 10007 | 10007 | 10007 |
| 5°  | 10035 | 9746  | 9764  |
| 10° | 9969  | 9555  | 9527  |
| 15° | 9876  | 9339  | 9260  |
| 20° | 9738  | 9106  | 9001  |
| 25° | 9582  | 8848  | 8722  |
| 30° | 9414  | 8593  | 8436  |
| 35° | 9223  | 8333  | 8182  |
| 40° | 9070  | 8082  | 7919  |
| 45° | 8844  | 7847  | 7686  |
| 50° | 8650  | 7580  | 7441  |
| 55° | 8452  | 7323  | 7159  |
| 60° | 8141  | 7003  | 6893  |
| 65° | 7801  | 6658  | 6574  |
| 70° | 7389  | 6263  | 6205  |
| 75° | 6813  | 5825  | 5852  |
| 80° | 6161  | 5378  | 5483  |
| 85° | 5298  | 4930  | 5186  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
Vertical Angle: 45°  
Luminance: 8844 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 116.3  | 1.8       |
| 10°-20°   | 333.2  | 5.3       |
| 20°-30°   | 503.7  | 8.0       |
| 30°-40°   | 609.4  | 9.7       |
| 40°-50°   | 644.3  | 10.2      |
| 50°-60°   | 606.3  | 9.6       |
| 60°-70°   | 503.1  | 8.0       |
| 70°-80°   | 353.1  | 5.6       |
| 80°-90°   | 200.2  | 3.2       |
| 90°-100°  | 334.6  | 5.3       |
| 100°-110° | 527.3  | 8.4       |
| 110°-120° | 450.6  | 7.1       |
| 120°-130° | 362.2  | 5.7       |
| 130°-140° | 288.9  | 4.6       |
| 140°-150° | 212.6  | 3.4       |
| 150°-160° | 147.4  | 2.3       |
| 160°-170° | 86.7   | 1.4       |
| 170°-180° | 28.2   | 0.4       |
| 0°-30°    | 953.2  | 15.1      |
| 0°-40°    | 1562.6 | 24.8      |
| 0°-60°    | 2813.2 | 44.6      |
| 0°-90°    | 3869.6 | 61.3      |
| 90°-120°  | 1312.5 | 20.8      |
| 90°-150°  | 2176.2 | 34.5      |
| 90°-180°  | 2439.0 | 38.7      |
| 0°-180°   | 6308.2 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 1227 | 1227  | 1227 | 1227  | 1227 |      |
| 5°   | 1229 | 1224  | 1215 | 1226  | 1224 | 117  |
| 15°  | 1178 | 1179  | 1175 | 1187  | 1186 | 332  |
| 25°  | 1077 | 1086  | 1090 | 1105  | 1106 | 496  |
| 35°  | 943  | 959   | 973  | 992   | 996  | 590  |
| 45°  | 786  | 812   | 838  | 862   | 868  | 608  |
| 55°  | 616  | 644   | 686  | 713   | 722  | 549  |
| 65°  | 426  | 470   | 517  | 551   | 562  | 422  |
| 75°  | 236  | 287   | 345  | 383   | 396  | 251  |
| 85°  | 73   | 131   | 192  | 234   | 247  | 76   |
| 90°  | 23   | 82    | 146  | 187   | 199  | 16   |
| 95°  | 37   | 123   | 585  | 387   | 308  | 35   |
| 105° | 79   | 137   | 466  | 932   | 940  | 85   |
| 115° | 126  | 168   | 399  | 737   | 877  | 125  |
| 125° | 170  | 199   | 371  | 611   | 689  | 151  |
| 135° | 198  | 235   | 342  | 520   | 594  | 153  |
| 145° | 226  | 257   | 328  | 417   | 464  | 142  |
| 155° | 256  | 276   | 319  | 361   | 377  | 118  |
| 165° | 278  | 287   | 306  | 324   | 329  | 79   |
| 175° | 290  | 291   | 293  | 297   | 296  | 28   |
| 180° | 291  | 291   | 291  | 291   | 291  |      |

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**CANDELA DISTRIBUTION (FULL):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 0°     | 1227.2 | 1227.2 | 1227.2 | 1227.2 | 1227.2 |
| 2.5°   | 1232.7 | 1228.6 | 1217.6 | 1227.2 | 1225.8 |
| 5°     | 1228.6 | 1224.4 | 1214.8 | 1225.8 | 1224.4 |
| 7.5°   | 1220.3 | 1217.6 | 1209.3 | 1221.7 | 1220.3 |
| 10°    | 1209.3 | 1208.0 | 1201.1 | 1213.4 | 1212.1 |
| 12.5°  | 1194.2 | 1194.2 | 1190.1 | 1201.1 | 1201.1 |
| 15°    | 1177.7 | 1179.1 | 1175.0 | 1187.3 | 1186.0 |
| 17.5°  | 1155.7 | 1159.9 | 1158.5 | 1170.8 | 1169.5 |
| 20°    | 1132.4 | 1136.5 | 1137.9 | 1151.6 | 1151.6 |
| 22.5°  | 1106.3 | 1111.8 | 1114.5 | 1128.2 | 1131.0 |
| 25°    | 1077.4 | 1085.6 | 1089.8 | 1104.9 | 1106.3 |
| 27.5°  | 1045.8 | 1058.2 | 1063.7 | 1077.4 | 1078.8 |
| 30°    | 1014.2 | 1025.2 | 1034.8 | 1049.9 | 1052.7 |
| 32.5°  | 979.8  | 993.6  | 1004.6 | 1022.4 | 1025.2 |
| 35°    | 942.7  | 959.2  | 973.0  | 992.2  | 996.3  |
| 37.5°  | 905.6  | 924.9  | 941.4  | 960.6  | 964.7  |
| 40°    | 869.9  | 887.8  | 907.0  | 927.6  | 933.1  |
| 42.5°  | 828.7  | 849.3  | 872.6  | 896.0  | 900.1  |
| 45°    | 786.1  | 812.2  | 838.3  | 861.6  | 868.5  |
| 47.5°  | 746.2  | 772.3  | 802.6  | 825.9  | 834.2  |
| 50°    | 702.2  | 732.5  | 762.7  | 790.2  | 798.4  |
| 52.5°  | 658.3  | 688.5  | 724.2  | 751.7  | 760.0  |
| 55°    | 615.7  | 644.5  | 685.7  | 713.2  | 721.5  |
| 57.5°  | 567.6  | 603.3  | 643.1  | 676.1  | 683.0  |
| 60°    | 520.8  | 556.6  | 601.9  | 633.5  | 644.5  |
| 62.5°  | 475.5  | 515.3  | 560.7  | 592.3  | 603.3  |
| 65°    | 426.0  | 470.0  | 516.7  | 551.1  | 562.1  |
| 67.5°  | 379.3  | 426.0  | 475.5  | 509.8  | 520.8  |
| 70°    | 331.2  | 377.9  | 430.1  | 467.2  | 476.9  |
| 72.5°  | 284.5  | 332.6  | 388.9  | 424.6  | 435.6  |
| 75°    | 236.4  | 287.2  | 344.9  | 383.4  | 395.8  |
| 77.5°  | 191.0  | 244.6  | 305.1  | 343.6  | 357.3  |
| 80°    | 149.8  | 204.8  | 265.2  | 306.5  | 317.4  |
| 82.5°  | 108.6  | 166.3  | 226.7  | 269.4  | 281.7  |
| 85°    | 72.8   | 130.6  | 192.4  | 233.6  | 247.4  |
| 87.5°  | 45.3   | 101.7  | 162.2  | 202.0  | 214.4  |
| 90°    | 22.6   | 81.6   | 146.3  | 187.3  | 198.9  |
| 92.5°  | 28.6   | 112.7  | 351.8  | 240.4  | 229.3  |
| 95°    | 36.8   | 122.6  | 585.4  | 387.3  | 308.5  |
| 97.5°  | 47.9   | 122.0  | 611.1  | 619.4  | 495.7  |
| 100°   | 58.5   | 125.1  | 563.9  | 793.0  | 675.3  |
| 102.5° | 70.0   | 129.9  | 508.5  | 898.0  | 833.0  |
| 105°   | 79.3   | 136.8  | 465.6  | 932.4  | 940.2  |
| 107.5° | 92.4   | 145.2  | 435.3  | 912.7  | 986.8  |
| 110°   | 104.2  | 152.2  | 418.9  | 858.6  | 981.1  |

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**CANDELA DISTRIBUTION (continued):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 112.5° | 115.3 | 160.7 | 407.0 | 794.4 | 939.2 |
| 115°   | 125.9 | 168.4 | 399.0 | 737.2 | 876.6 |
| 117.5° | 138.5 | 176.5 | 391.5 | 689.6 | 816.6 |
| 120°   | 149.8 | 183.0 | 384.6 | 654.7 | 764.9 |
| 122.5° | 161.2 | 190.6 | 377.2 | 630.4 | 722.4 |
| 125°   | 169.5 | 199.0 | 371.1 | 611.3 | 688.9 |
| 127.5° | 178.7 | 209.3 | 363.1 | 591.2 | 666.1 |
| 130°   | 184.7 | 217.9 | 355.6 | 570.4 | 644.1 |
| 132.5° | 192.1 | 226.4 | 349.6 | 547.0 | 621.8 |
| 135°   | 197.6 | 234.8 | 342.2 | 519.6 | 593.6 |
| 137.5° | 204.5 | 240.6 | 336.7 | 492.2 | 561.9 |
| 140°   | 211.9 | 247.2 | 331.9 | 465.3 | 529.3 |
| 142.5° | 218.6 | 253.2 | 329.2 | 441.2 | 495.0 |
| 145°   | 226.0 | 257.2 | 328.1 | 417.4 | 463.5 |
| 147.5° | 234.6 | 262.4 | 326.4 | 396.6 | 433.9 |
| 150°   | 242.6 | 267.2 | 324.6 | 382.4 | 408.1 |
| 152.5° | 248.6 | 271.8 | 321.8 | 371.5 | 390.9 |
| 155°   | 255.5 | 275.8 | 318.9 | 361.2 | 376.7 |
| 157.5° | 262.3 | 279.5 | 316.1 | 351.5 | 363.5 |
| 160°   | 268.6 | 282.6 | 312.6 | 341.8 | 351.5 |
| 162.5° | 274.3 | 285.2 | 309.2 | 332.4 | 340.1 |
| 165°   | 278.3 | 286.9 | 305.8 | 323.8 | 328.6 |
| 167.5° | 282.9 | 288.4 | 302.4 | 316.4 | 319.5 |
| 170°   | 285.8 | 289.5 | 298.9 | 309.0 | 310.9 |
| 172.5° | 288.6 | 290.4 | 295.5 | 302.4 | 302.4 |
| 175°   | 290.4 | 290.9 | 293.2 | 297.2 | 296.1 |
| 177.5° | 291.5 | 290.9 | 291.5 | 293.5 | 291.5 |
| 180°   | 290.9 | 290.9 | 290.9 | 290.9 | 290.9 |

(END OF REPORT)