

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: P1000681

Luminaire Tested: SA4XXDIP-B1020D365UB50-4F0-XX-W2A-D1

Issue Date: 5/6/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1000681  
REPORT IS A COMBINATION OF REPORTS P995294 AND P1007351  
Test Lab: INNOVATION CENTER  
Issue Date: 5/6/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: SA4XXDIP-B1020D365UB50-4F0-XX-W2A-D1  
Description: Define 4 Direct/Indirect Pendant with 5000K BioUP LEDs {m-DER=1.015} {m-EER=1.115}  
Light Source: -  
Ballast/Driver: -

**Summary**

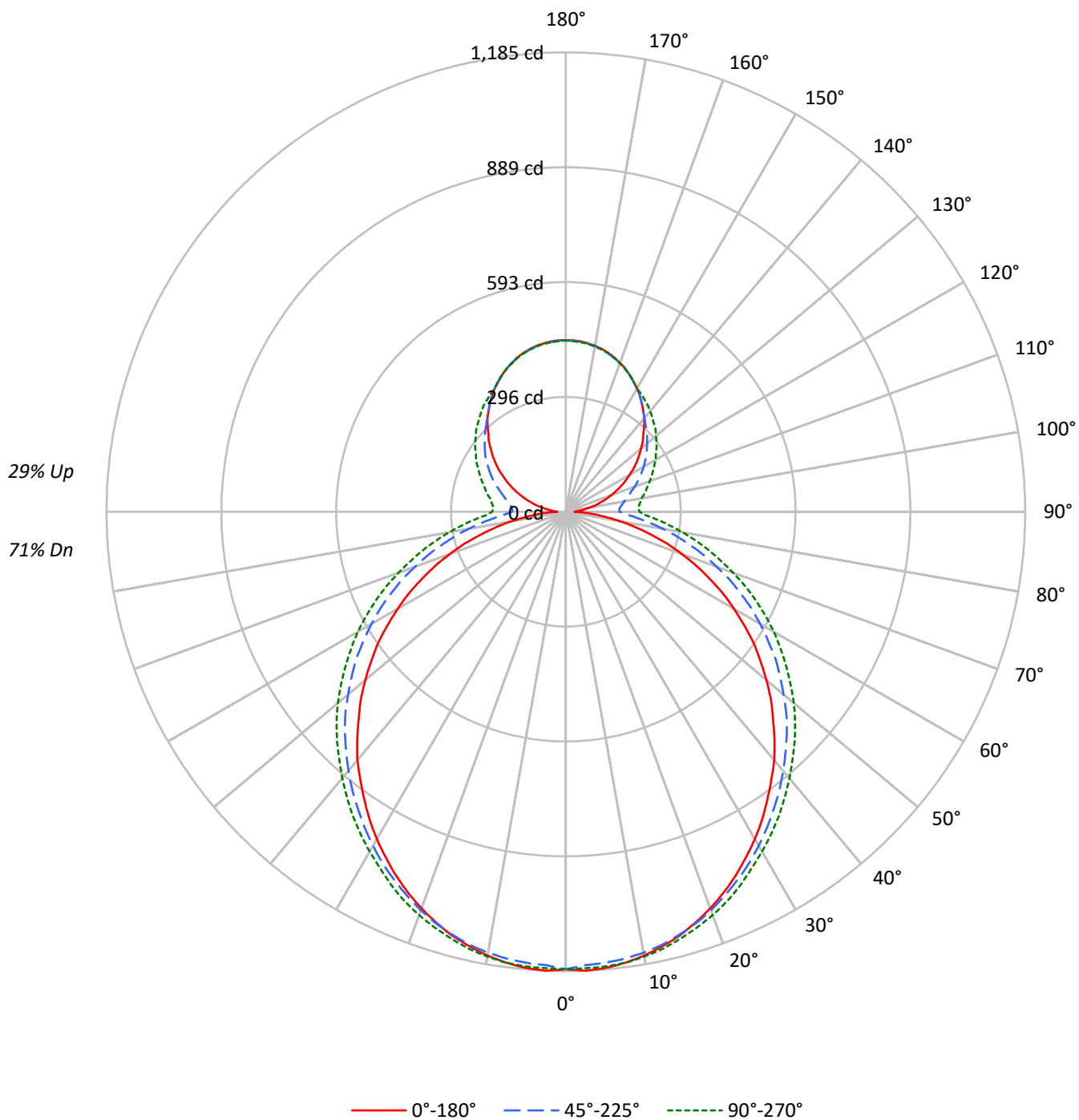
Lumens per Lamp: N/A  
Luminaire Lumens: 5250.0 lumens  
Efficiency: N/A  
Efficacy: 93.6 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.1')  
CIE Type: Semi-Direct

Input Watts (W): 56.1  
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   | 112 | 112 | 112 | 112 | 106 | 106 | 106 | 106 | 95 | 95 | 95 | 85 | 85 | 85 | 75 | 75 | 75 |
| 1   | 101 | 96  | 91  | 87  | 95  | 91  | 87  | 83  | 81 | 78 | 75 | 72 | 70 | 68 | 64 | 63 | 61 |
| 2   | 91  | 83  | 76  | 70  | 86  | 79  | 72  | 67  | 70 | 65 | 61 | 63 | 59 | 55 | 56 | 53 | 50 |
| 3   | 83  | 72  | 64  | 58  | 78  | 69  | 61  | 55  | 62 | 56 | 51 | 55 | 50 | 46 | 49 | 45 | 42 |
| 4   | 76  | 64  | 55  | 49  | 71  | 61  | 53  | 47  | 54 | 48 | 43 | 49 | 44 | 39 | 43 | 39 | 36 |
| 5   | 70  | 57  | 48  | 41  | 65  | 54  | 46  | 40  | 49 | 42 | 37 | 44 | 38 | 34 | 39 | 34 | 31 |
| 6   | 64  | 51  | 42  | 36  | 60  | 48  | 40  | 35  | 44 | 37 | 32 | 39 | 34 | 30 | 35 | 31 | 27 |
| 7   | 59  | 46  | 37  | 31  | 56  | 44  | 36  | 30  | 40 | 33 | 28 | 36 | 30 | 26 | 32 | 27 | 24 |
| 8   | 55  | 42  | 34  | 28  | 52  | 40  | 32  | 27  | 36 | 30 | 25 | 33 | 27 | 23 | 29 | 25 | 21 |
| 9   | 51  | 38  | 30  | 25  | 48  | 36  | 29  | 24  | 33 | 27 | 22 | 30 | 25 | 21 | 27 | 23 | 19 |
| 10  | 48  | 35  | 27  | 22  | 45  | 34  | 26  | 22  | 31 | 24 | 20 | 28 | 23 | 19 | 25 | 21 | 17 |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 9622 | 9622 | 9622 |
| 5°  | 9649 | 9371 | 9388 |
| 10° | 9586 | 9187 | 9160 |
| 15° | 9496 | 8980 | 8904 |
| 20° | 9363 | 8755 | 8654 |
| 25° | 9213 | 8507 | 8386 |
| 30° | 9052 | 8262 | 8112 |
| 35° | 8868 | 8012 | 7867 |
| 40° | 8720 | 7771 | 7614 |
| 45° | 8503 | 7545 | 7391 |
| 50° | 8318 | 7289 | 7155 |
| 55° | 8126 | 7042 | 6883 |
| 60° | 7829 | 6734 | 6628 |
| 65° | 7501 | 6402 | 6320 |
| 70° | 7103 | 6023 | 5965 |
| 75° | 6550 | 5602 | 5627 |
| 80° | 5923 | 5172 | 5272 |
| 85° | 5094 | 4741 | 4985 |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 8503 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 111.8  | 2.1       |
| 10°-20°   | 320.3  | 6.1       |
| 20°-30°   | 484.4  | 9.2       |
| 30°-40°   | 586.0  | 11.2      |
| 40°-50°   | 619.5  | 11.8      |
| 50°-60°   | 583.0  | 11.1      |
| 60°-70°   | 483.8  | 9.2       |
| 70°-80°   | 339.5  | 6.5       |
| 80°-90°   | 192.3  | 3.7       |
| 90°-100°  | 142.8  | 2.7       |
| 100°-110° | 170.6  | 3.3       |
| 110°-120° | 203.2  | 3.9       |
| 120°-130° | 225.2  | 4.3       |
| 130°-140° | 230.9  | 4.4       |
| 140°-150° | 216.1  | 4.1       |
| 150°-160° | 179.5  | 3.4       |
| 160°-170° | 119.4  | 2.3       |
| 170°-180° | 41.8   | 0.8       |
| 0°-30°    | 916.5  | 17.5      |
| 0°-40°    | 1502.5 | 28.6      |
| 0°-60°    | 2705.0 | 51.5      |
| 0°-90°    | 3720.6 | 70.9      |
| 90°-120°  | 516.6  | 9.8       |
| 90°-150°  | 1188.7 | 22.6      |
| 90°-180°  | 1529.0 | 29.1      |
| 0°-180°   | 5250.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 1180 | 1180  | 1180 | 1180  | 1180 |      |
| 5°   | 1181 | 1177  | 1168 | 1179  | 1177 | 112  |
| 15°  | 1132 | 1134  | 1130 | 1142  | 1140 | 319  |
| 25°  | 1036 | 1044  | 1048 | 1062  | 1064 | 477  |
| 35°  | 906  | 922   | 936  | 954   | 958  | 568  |
| 45°  | 756  | 781   | 806  | 828   | 835  | 584  |
| 55°  | 592  | 620   | 659  | 686   | 694  | 528  |
| 65°  | 410  | 452   | 497  | 530   | 540  | 406  |
| 75°  | 227  | 276   | 332  | 369   | 381  | 241  |
| 85°  | 70   | 126   | 185  | 225   | 238  | 73   |
| 90°  | 22   | 79    | 138  | 179   | 190  | 16   |
| 95°  | 38   | 84    | 141  | 178   | 190  | 36   |
| 105° | 92   | 118   | 168  | 203   | 214  | 98   |
| 115° | 157  | 169   | 210  | 239   | 248  | 155  |
| 125° | 222  | 221   | 254  | 278   | 285  | 199  |
| 135° | 282  | 284   | 294  | 314   | 321  | 219  |
| 145° | 341  | 341   | 342  | 349   | 354  | 214  |
| 155° | 390  | 390   | 389  | 391   | 389  | 179  |
| 165° | 424  | 423   | 422  | 424   | 423  | 120  |
| 175° | 441  | 440   | 439  | 442   | 439  | 42   |
| 180° | 442  | 442   | 442  | 442   | 442  |      |

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**CANDELA DISTRIBUTION (FULL):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 0°     | 1180.0 | 1180.0 | 1180.0 | 1180.0 | 1180.0 |
| 2.5°   | 1185.3 | 1181.3 | 1170.7 | 1180.0 | 1178.6 |
| 5°     | 1181.3 | 1177.3 | 1168.1 | 1178.6 | 1177.3 |
| 7.5°   | 1173.4 | 1170.7 | 1162.8 | 1174.7 | 1173.4 |
| 10°    | 1162.8 | 1161.5 | 1154.9 | 1166.8 | 1165.4 |
| 12.5°  | 1148.3 | 1148.3 | 1144.3 | 1154.9 | 1154.9 |
| 15°    | 1132.4 | 1133.7 | 1129.8 | 1141.7 | 1140.3 |
| 17.5°  | 1111.3 | 1115.2 | 1113.9 | 1125.8 | 1124.5 |
| 20°    | 1088.8 | 1092.8 | 1094.1 | 1107.3 | 1107.3 |
| 22.5°  | 1063.7 | 1069.0 | 1071.6 | 1084.8 | 1087.5 |
| 25°    | 1035.9 | 1043.9 | 1047.8 | 1062.4 | 1063.7 |
| 27.5°  | 1005.6 | 1017.4 | 1022.7 | 1035.9 | 1037.3 |
| 30°    | 975.2  | 985.7  | 995.0  | 1009.5 | 1012.2 |
| 32.5°  | 942.1  | 955.3  | 965.9  | 983.1  | 985.7  |
| 35°    | 906.4  | 922.3  | 935.5  | 954.0  | 958.0  |
| 37.5°  | 870.8  | 889.3  | 905.1  | 923.6  | 927.6  |
| 40°    | 836.4  | 853.6  | 872.1  | 891.9  | 897.2  |
| 42.5°  | 796.8  | 816.6  | 839.1  | 861.5  | 865.5  |
| 45°    | 755.8  | 780.9  | 806.0  | 828.5  | 835.1  |
| 47.5°  | 717.5  | 742.6  | 771.7  | 794.1  | 802.1  |
| 50°    | 675.2  | 704.3  | 733.4  | 759.8  | 767.7  |
| 52.5°  | 632.9  | 662.0  | 696.4  | 722.8  | 730.7  |
| 55°    | 592.0  | 619.7  | 659.4  | 685.8  | 693.7  |
| 57.5°  | 545.7  | 580.1  | 618.4  | 650.1  | 656.7  |
| 60°    | 500.8  | 535.1  | 578.8  | 609.1  | 619.7  |
| 62.5°  | 457.2  | 495.5  | 539.1  | 569.5  | 580.1  |
| 65°    | 409.6  | 451.9  | 496.8  | 529.9  | 540.4  |
| 67.5°  | 364.7  | 409.6  | 457.2  | 490.2  | 500.8  |
| 70°    | 318.4  | 363.4  | 413.6  | 449.3  | 458.5  |
| 72.5°  | 273.5  | 319.8  | 373.9  | 408.3  | 418.9  |
| 75°    | 227.3  | 276.2  | 331.7  | 368.7  | 380.6  |
| 77.5°  | 183.7  | 235.2  | 293.3  | 330.3  | 343.6  |
| 80°    | 144.0  | 196.9  | 255.0  | 294.7  | 305.2  |
| 82.5°  | 104.4  | 159.9  | 218.0  | 259.0  | 270.9  |
| 85°    | 70.0   | 125.5  | 185.0  | 224.6  | 237.8  |
| 87.5°  | 43.6   | 97.8   | 155.9  | 194.2  | 206.1  |
| 90°    | 22.1   | 78.8   | 138.3  | 178.7  | 190.0  |
| 92.5°  | 28.7   | 79.4   | 137.9  | 176.0  | 186.9  |
| 95°    | 37.7   | 84.4   | 141.0  | 177.6  | 189.5  |
| 97.5°  | 48.7   | 89.7   | 146.7  | 182.3  | 194.2  |
| 100°   | 62.3   | 98.1   | 152.7  | 189.1  | 198.3  |
| 102.5° | 78.1   | 107.5  | 160.4  | 195.9  | 206.7  |
| 105°   | 91.5   | 118.3  | 168.5  | 202.6  | 214.2  |
| 107.5° | 108.3  | 131.1  | 177.7  | 212.0  | 221.0  |
| 110°   | 124.1  | 143.2  | 189.1  | 218.8  | 230.4  |



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**CANDELA DISTRIBUTION (continued):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 112.5° | 140.4 | 156.3 | 199.2 | 228.3 | 238.9 |
| 115°   | 156.9 | 168.8 | 210.4 | 239.2 | 248.0 |
| 117.5° | 173.6 | 181.6 | 220.9 | 247.6 | 257.2 |
| 120°   | 189.1 | 194.5 | 231.7 | 256.4 | 267.7 |
| 122.5° | 206.5 | 206.9 | 242.2 | 267.6 | 275.2 |
| 125°   | 222.3 | 221.0 | 253.7 | 278.1 | 285.3 |
| 127.5° | 237.7 | 237.4 | 263.1 | 286.2 | 295.1 |
| 130°   | 252.8 | 252.4 | 273.6 | 296.7 | 303.3 |
| 132.5° | 269.5 | 268.8 | 284.4 | 306.2 | 313.8 |
| 135°   | 282.5 | 284.5 | 293.8 | 314.3 | 321.2 |
| 137.5° | 298.6 | 298.3 | 304.3 | 323.0 | 330.0 |
| 140°   | 314.6 | 314.0 | 315.3 | 332.2 | 338.4 |
| 142.5° | 328.0 | 328.7 | 327.1 | 341.6 | 346.9 |
| 145°   | 341.3 | 341.4 | 341.7 | 349.3 | 353.6 |
| 147.5° | 355.0 | 355.4 | 355.1 | 356.0 | 361.0 |
| 150°   | 367.3 | 367.4 | 367.4 | 367.4 | 367.0 |
| 152.5° | 377.6 | 378.3 | 378.7 | 379.7 | 378.7 |
| 155°   | 389.6 | 389.6 | 389.3 | 390.6 | 389.3 |
| 157.5° | 399.8 | 399.2 | 399.2 | 400.2 | 399.2 |
| 160°   | 408.7 | 408.4 | 408.0 | 409.1 | 407.4 |
| 162.5° | 416.9 | 415.9 | 415.6 | 417.6 | 415.9 |
| 165°   | 424.1 | 423.1 | 422.4 | 424.5 | 423.1 |
| 167.5° | 429.9 | 428.6 | 428.6 | 430.6 | 428.6 |
| 170°   | 434.7 | 433.0 | 433.3 | 435.4 | 433.0 |
| 172.5° | 438.1 | 436.8 | 436.8 | 439.1 | 436.8 |
| 175°   | 441.2 | 439.5 | 439.1 | 441.5 | 439.1 |
| 177.5° | 442.6 | 440.9 | 440.9 | 443.2 | 440.5 |
| 180°   | 441.9 | 441.9 | 441.9 | 441.9 | 441.9 |

(END OF REPORT)