

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: P1000648

Luminaire Tested: SA4XXDIP-B1020D365UB2750-4F0-XX-W2A-F\_3500K

Issue Date: 5/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1000648  
REPORT IS A COMBINATION OF REPORTS P995260 AND P1007351  
Test Lab: INNOVATION CENTER  
Issue Date: 5/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: SA4XXDIP-B1020D365UB2750-4F0-XX-W2A-F\_3500K  
Description: Define 4 Direct/Indirect Pendant with 3500K BioUP LEDs {m-DER=0.721} {m-EER=0.792}  
Light Source: -  
Ballast/Driver: -

**Summary**

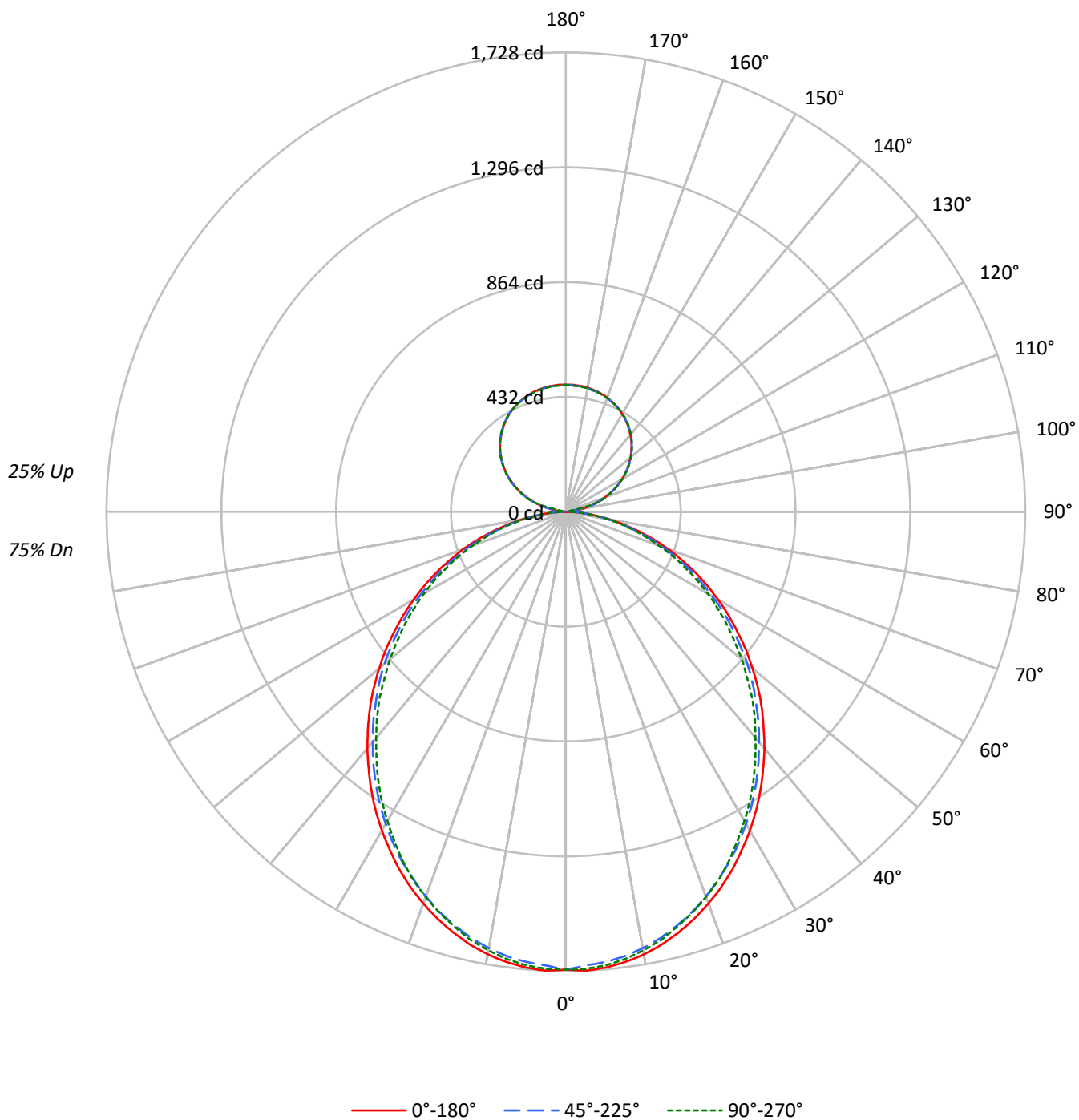
Lumens per Lamp: N/A  
Luminaire Lumens: 5899.0 lumens  
Efficiency: N/A  
Efficacy: 105.2 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.29  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.1')  
CIE Type: Semi-Direct

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 | 50 | 30 | 10 |
| RCR |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |    |    |    |    |    |
| 0   | 113 | 113 | 113 | 113 | 108 | 108 | 108 | 108 | 97 | 97 | 97 | 88 | 88 | 88 | 79 | 79 | 79 | 79 | 79 | 79 |
| 1   | 103 | 99  | 95  | 91  | 98  | 94  | 91  | 87  | 85 | 83 | 80 | 77 | 75 | 73 | 70 | 68 | 67 | 67 | 67 | 63 |
| 2   | 94  | 86  | 80  | 74  | 89  | 82  | 77  | 72  | 75 | 70 | 66 | 68 | 64 | 61 | 61 | 59 | 56 | 56 | 56 | 53 |
| 3   | 86  | 76  | 68  | 62  | 81  | 73  | 66  | 60  | 66 | 60 | 56 | 60 | 56 | 52 | 54 | 51 | 48 | 48 | 48 | 45 |
| 4   | 79  | 67  | 59  | 53  | 75  | 64  | 57  | 51  | 59 | 53 | 48 | 54 | 49 | 44 | 49 | 45 | 41 | 41 | 41 | 38 |
| 5   | 72  | 60  | 52  | 45  | 69  | 58  | 50  | 44  | 53 | 46 | 41 | 48 | 43 | 39 | 44 | 40 | 36 | 36 | 36 | 33 |
| 6   | 67  | 54  | 46  | 40  | 63  | 52  | 44  | 38  | 48 | 41 | 36 | 44 | 38 | 34 | 40 | 35 | 32 | 32 | 32 | 29 |
| 7   | 62  | 49  | 41  | 35  | 59  | 47  | 39  | 34  | 43 | 37 | 32 | 40 | 34 | 30 | 36 | 32 | 28 | 28 | 28 | 26 |
| 8   | 58  | 45  | 37  | 31  | 55  | 43  | 35  | 30  | 40 | 33 | 29 | 36 | 31 | 27 | 34 | 29 | 25 | 25 | 25 | 23 |
| 9   | 54  | 41  | 33  | 28  | 51  | 39  | 32  | 27  | 36 | 30 | 26 | 34 | 28 | 24 | 31 | 26 | 23 | 23 | 23 | 21 |
| 10  | 50  | 38  | 30  | 25  | 48  | 36  | 29  | 25  | 34 | 28 | 23 | 31 | 26 | 22 | 29 | 24 | 21 | 21 | 21 | 19 |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 14045 | 14045 | 14045 |
| 5°  | 14058 | 13642 | 13658 |
| 10° | 13938 | 13262 | 13170 |
| 15° | 13739 | 12812 | 12620 |
| 20° | 13483 | 12326 | 12049 |
| 25° | 13196 | 11811 | 11436 |
| 30° | 12849 | 11254 | 10762 |
| 35° | 12491 | 10685 | 10110 |
| 40° | 12116 | 10073 | 9418  |
| 45° | 11723 | 9457  | 8771  |
| 50° | 11289 | 8861  | 8053  |
| 55° | 10818 | 8165  | 7341  |
| 60° | 10334 | 7403  | 6598  |
| 65° | 9781  | 6615  | 5762  |
| 70° | 9145  | 5668  | 4866  |
| 75° | 8193  | 4568  | 3897  |
| 80° | 6984  | 3304  | 2741  |
| 85° | 5421  | 1840  | 1476  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 11723 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 162.3  | 2.8       |
| 10°-20°   | 457.4  | 7.8       |
| 20°-30°   | 673.1  | 11.4      |
| 30°-40°   | 782.5  | 13.3      |
| 40°-50°   | 782.4  | 13.3      |
| 50°-60°   | 684.3  | 11.6      |
| 60°-70°   | 508.0  | 8.6       |
| 70°-80°   | 288.3  | 4.9       |
| 80°-90°   | 83.5   | 1.4       |
| 90°-100°  | 15.8   | 0.3       |
| 100°-110° | 104.3  | 1.8       |
| 110°-120° | 199.2  | 3.4       |
| 120°-130° | 252.9  | 4.3       |
| 130°-140° | 270.6  | 4.6       |
| 140°-150° | 253.0  | 4.3       |
| 150°-160° | 204.0  | 3.5       |
| 160°-170° | 131.6  | 2.2       |
| 170°-180° | 45.4   | 0.8       |
| 0°-30°    | 1292.9 | 21.9      |
| 0°-40°    | 2075.4 | 35.2      |
| 0°-60°    | 3542.1 | 60.0      |
| 0°-90°    | 4422.0 | 75.0      |
| 90°-120°  | 319.4  | 5.4       |
| 90°-150°  | 1096.0 | 18.6      |
| 90°-180°  | 1477.0 | 25.0      |
| 0°-180°   | 5899.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 1722 | 1722  | 1722 | 1722  | 1722 |      |
| 5°   | 1721 | 1716  | 1700 | 1716  | 1713 | 163  |
| 15°  | 1638 | 1633  | 1612 | 1620  | 1616 | 462  |
| 25°  | 1484 | 1474  | 1455 | 1456  | 1451 | 683  |
| 35°  | 1277 | 1267  | 1248 | 1238  | 1231 | 798  |
| 45°  | 1042 | 1032  | 1010 | 995   | 991  | 803  |
| 55°  | 788  | 784   | 765  | 748   | 740  | 706  |
| 65°  | 534  | 527   | 513  | 500   | 493  | 529  |
| 75°  | 284  | 277   | 270  | 265   | 264  | 302  |
| 85°  | 74   | 74    | 72   | 72    | 70   | 80   |
| 90°  | 1    | 5     | 8    | 10    | 11   | 6    |
| 95°  | 20   | 8     | 8    | 10    | 10   | 24   |
| 105° | 108  | 110   | 111  | 115   | 102  | 112  |
| 115° | 201  | 202   | 201  | 202   | 202  | 197  |
| 125° | 282  | 284   | 283  | 284   | 284  | 252  |
| 135° | 350  | 350   | 351  | 352   | 352  | 270  |
| 145° | 403  | 404   | 404  | 405   | 406  | 252  |
| 155° | 442  | 443   | 442  | 443   | 442  | 204  |
| 165° | 467  | 465   | 465  | 468   | 464  | 132  |
| 175° | 477  | 475   | 476  | 479   | 474  | 45   |
| 180° | 477  | 477   | 477  | 477   | 477  |      |

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**CANDELA DISTRIBUTION (FULL):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 0°     | 1722.4 | 1722.4 | 1722.4 | 1722.4 | 1722.4 |
| 2.5°   | 1728.0 | 1723.8 | 1708.6 | 1722.4 | 1721.1 |
| 5°     | 1721.1 | 1715.5 | 1700.4 | 1715.5 | 1712.8 |
| 7.5°   | 1708.6 | 1703.1 | 1686.6 | 1699.0 | 1697.6 |
| 10°    | 1690.7 | 1685.2 | 1667.2 | 1678.3 | 1675.5 |
| 12.5°  | 1667.2 | 1661.7 | 1642.4 | 1654.8 | 1650.7 |
| 15°    | 1638.3 | 1632.7 | 1612.0 | 1620.3 | 1616.2 |
| 17.5°  | 1605.1 | 1598.2 | 1578.9 | 1584.4 | 1581.7 |
| 20°    | 1567.9 | 1561.0 | 1540.3 | 1544.4 | 1541.6 |
| 22.5°  | 1527.8 | 1518.2 | 1497.5 | 1505.8 | 1500.2 |
| 25°    | 1483.7 | 1474.0 | 1454.7 | 1456.1 | 1450.6 |
| 27.5°  | 1434.0 | 1424.3 | 1406.4 | 1403.6 | 1396.7 |
| 30°    | 1384.3 | 1373.3 | 1355.3 | 1349.8 | 1342.9 |
| 32.5°  | 1331.9 | 1322.2 | 1302.9 | 1296.0 | 1289.1 |
| 35°    | 1276.7 | 1267.0 | 1247.7 | 1238.0 | 1231.1 |
| 37.5°  | 1218.7 | 1210.4 | 1189.7 | 1180.0 | 1170.4 |
| 40°    | 1162.1 | 1151.1 | 1130.4 | 1116.6 | 1109.7 |
| 42.5°  | 1101.4 | 1095.9 | 1072.4 | 1055.8 | 1051.7 |
| 45°    | 1042.0 | 1032.4 | 1010.3 | 995.1  | 991.0  |
| 47.5°  | 979.9  | 973.0  | 952.3  | 935.8  | 924.7  |
| 50°    | 916.4  | 910.9  | 891.6  | 872.3  | 864.0  |
| 52.5°  | 854.3  | 847.4  | 826.7  | 810.2  | 799.1  |
| 55°    | 788.1  | 783.9  | 764.6  | 748.1  | 739.8  |
| 57.5°  | 726.0  | 721.8  | 702.5  | 685.9  | 677.7  |
| 60°    | 661.1  | 654.2  | 636.3  | 623.8  | 616.9  |
| 62.5°  | 597.6  | 592.1  | 572.8  | 561.7  | 554.8  |
| 65°    | 534.1  | 527.2  | 513.4  | 499.6  | 492.7  |
| 67.5°  | 469.3  | 463.7  | 449.9  | 436.1  | 434.8  |
| 70°    | 409.9  | 400.2  | 389.2  | 378.2  | 374.0  |
| 72.5°  | 346.4  | 336.8  | 328.5  | 320.2  | 316.1  |
| 75°    | 284.3  | 277.4  | 270.5  | 265.0  | 263.6  |
| 77.5°  | 223.6  | 220.8  | 213.9  | 212.5  | 208.4  |
| 80°    | 169.8  | 165.6  | 162.9  | 160.1  | 158.7  |
| 82.5°  | 117.3  | 115.9  | 115.9  | 114.6  | 113.2  |
| 85°    | 74.5   | 74.5   | 71.8   | 71.8   | 70.4   |
| 87.5°  | 35.9   | 34.5   | 33.1   | 33.1   | 33.1   |
| 90°    | 1.1    | 5.0    | 7.9    | 10.0   | 10.7   |
| 92.5°  | 5.4    | 4.6    | 7.5    | 9.6    | 9.6    |
| 95°    | 19.6   | 7.5    | 7.9    | 10.0   | 10.4   |
| 97.5°  | 37.5   | 45.3   | 7.9    | 9.6    | 10.0   |
| 100°   | 58.6   | 65.0   | 15.7   | 9.6    | 10.0   |
| 102.5° | 82.1   | 86.4   | 90.7   | 10.4   | 10.4   |
| 105°   | 107.5  | 109.6  | 111.4  | 114.6  | 101.7  |
| 107.5° | 130.7  | 131.7  | 134.2  | 136.0  | 137.4  |
| 110°   | 154.2  | 155.3  | 157.4  | 158.2  | 159.2  |



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**CANDELA DISTRIBUTION (continued):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 112.5° | 177.1 | 179.2 | 179.9 | 179.6 | 181.0 |
| 115°   | 200.6 | 201.7 | 201.4 | 202.1 | 202.1 |
| 117.5° | 221.7 | 223.1 | 224.2 | 223.8 | 223.8 |
| 120°   | 243.1 | 244.6 | 244.2 | 244.9 | 244.2 |
| 122.5° | 263.1 | 263.8 | 264.5 | 264.9 | 264.2 |
| 125°   | 282.0 | 283.5 | 282.8 | 283.8 | 284.2 |
| 127.5° | 300.2 | 300.6 | 302.4 | 302.0 | 301.7 |
| 130°   | 317.7 | 318.1 | 319.2 | 319.5 | 319.5 |
| 132.5° | 333.8 | 334.5 | 335.9 | 336.3 | 335.9 |
| 135°   | 349.9 | 349.5 | 350.9 | 351.7 | 352.4 |
| 137.5° | 364.2 | 364.2 | 365.9 | 366.7 | 366.3 |
| 140°   | 378.1 | 378.8 | 379.5 | 380.6 | 380.9 |
| 142.5° | 390.6 | 392.0 | 392.4 | 393.1 | 393.1 |
| 145°   | 403.4 | 404.5 | 404.5 | 404.9 | 405.6 |
| 147.5° | 413.4 | 415.6 | 415.2 | 415.6 | 415.9 |
| 150°   | 424.5 | 425.9 | 425.6 | 425.6 | 425.9 |
| 152.5° | 433.8 | 434.8 | 434.1 | 434.8 | 434.5 |
| 155°   | 442.3 | 442.7 | 441.6 | 443.1 | 442.0 |
| 157.5° | 449.8 | 449.8 | 448.4 | 450.2 | 448.4 |
| 160°   | 456.3 | 455.2 | 454.8 | 457.0 | 454.8 |
| 162.5° | 462.0 | 460.5 | 460.2 | 462.3 | 459.8 |
| 165°   | 466.6 | 464.8 | 464.8 | 467.7 | 464.5 |
| 167.5° | 470.5 | 468.8 | 468.4 | 471.6 | 468.0 |
| 170°   | 473.8 | 471.6 | 472.0 | 474.8 | 471.3 |
| 172.5° | 475.9 | 473.8 | 474.1 | 477.0 | 473.0 |
| 175°   | 477.3 | 475.2 | 475.5 | 478.8 | 474.5 |
| 177.5° | 478.4 | 475.9 | 476.6 | 479.5 | 475.2 |
| 180°   | 477.3 | 477.3 | 477.3 | 477.3 | 477.3 |

(END OF REPORT)