

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: P1001032

Luminaire Tested: SA4XXDIP-B1195D590UB40-4F0-XX-W2A-F1

Issue Date: 5/6/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1001032  
REPORT IS A COMBINATION OF REPORTS P995648 AND P1007351  
Test Lab: INNOVATION CENTER  
Issue Date: 5/6/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: SA4XXDIP-B1195D590UB40-4F0-XX-W2A-F1  
Description: Define 4 Direct/Indirect Pendant with 4000K BioUP LEDs {m-DER=0.865} {m-EER=0.951}  
Light Source: -  
Ballast/Driver: -

**Summary**

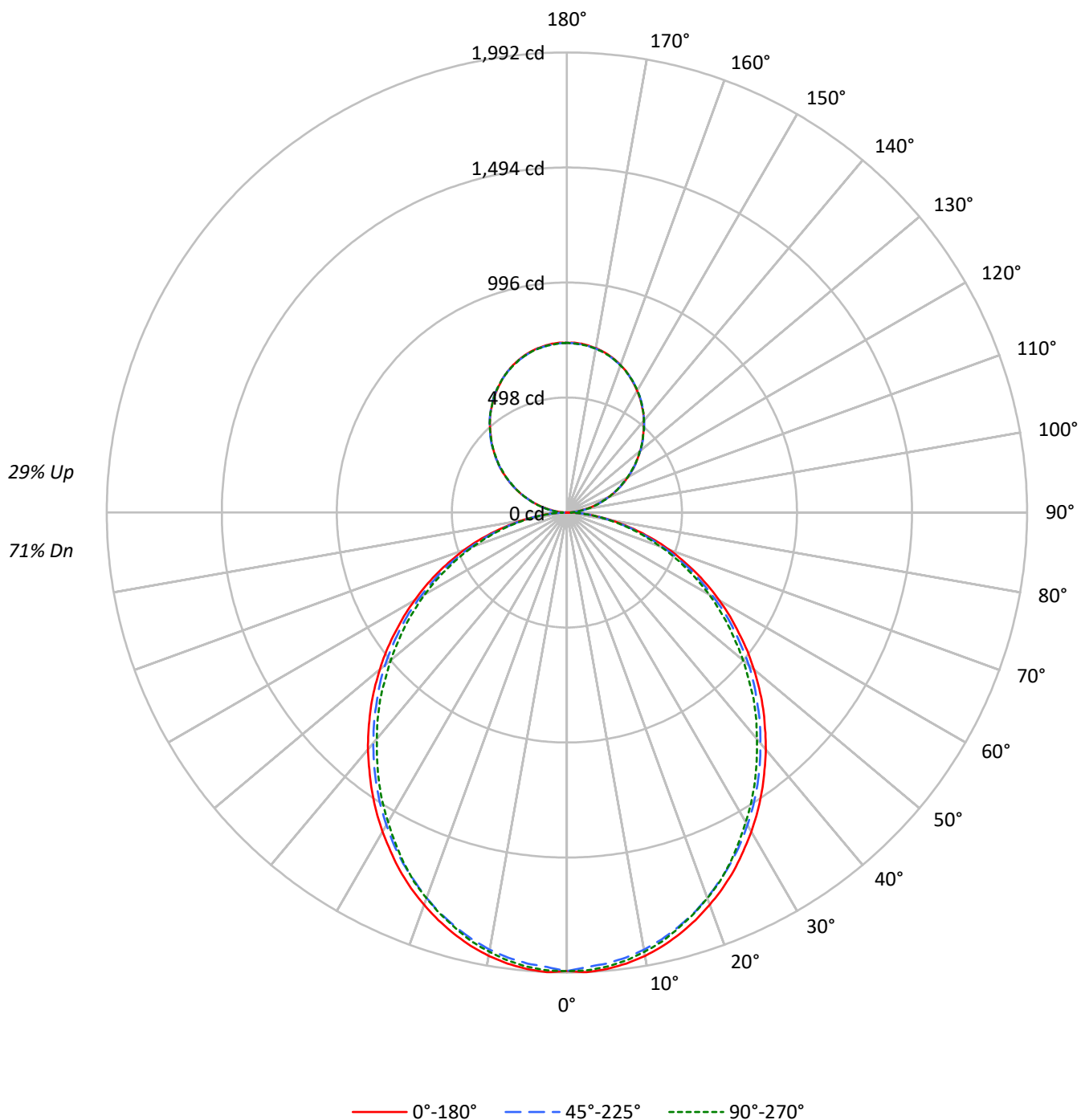
Lumens per Lamp: N/A  
Luminaire Lumens: 7137.0 lumens  
Efficiency: N/A  
Efficacy: 93.1 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.29  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.1')  
CIE Type: Semi-Direct

Input Watts (W): 76.7  
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 | 76 | 76 | 76 |
| 1   | 103 | 98  | 94  | 90  | 97  | 93  | 89  | 86  | 84 | 81 | 78 | 75 | 73 | 71 | 67 | 65 | 64 |
| 2   | 93  | 86  | 79  | 74  | 88  | 81  | 76  | 71  | 73 | 69 | 65 | 66 | 62 | 59 | 59 | 56 | 54 |
| 3   | 85  | 75  | 68  | 62  | 80  | 72  | 65  | 59  | 65 | 59 | 55 | 58 | 54 | 50 | 52 | 49 | 46 |
| 4   | 78  | 67  | 59  | 52  | 74  | 64  | 56  | 50  | 58 | 51 | 47 | 52 | 47 | 43 | 47 | 43 | 40 |
| 5   | 72  | 60  | 51  | 45  | 68  | 57  | 49  | 43  | 52 | 45 | 40 | 47 | 41 | 37 | 42 | 38 | 35 |
| 6   | 66  | 54  | 45  | 39  | 63  | 51  | 43  | 38  | 47 | 40 | 35 | 42 | 37 | 33 | 38 | 34 | 30 |
| 7   | 61  | 49  | 40  | 35  | 58  | 46  | 39  | 33  | 42 | 36 | 31 | 39 | 33 | 29 | 35 | 30 | 27 |
| 8   | 57  | 44  | 36  | 31  | 54  | 42  | 35  | 30  | 39 | 32 | 28 | 35 | 30 | 26 | 32 | 28 | 24 |
| 9   | 53  | 41  | 33  | 27  | 50  | 39  | 32  | 27  | 36 | 29 | 25 | 33 | 27 | 24 | 30 | 25 | 22 |
| 10  | 50  | 37  | 30  | 25  | 47  | 36  | 29  | 24  | 33 | 27 | 23 | 30 | 25 | 21 | 28 | 23 | 20 |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 16193 | 16193 | 16193 |
| 5°  | 16206 | 15728 | 15747 |
| 10° | 16069 | 15291 | 15184 |
| 15° | 15839 | 14772 | 14549 |
| 20° | 15545 | 14210 | 13892 |
| 25° | 15213 | 13617 | 13184 |
| 30° | 14814 | 12976 | 12407 |
| 35° | 14400 | 12318 | 11656 |
| 40° | 13969 | 11612 | 10857 |
| 45° | 13517 | 10904 | 10111 |
| 50° | 13016 | 10216 | 9284  |
| 55° | 12472 | 9414  | 8463  |
| 60° | 11915 | 8534  | 7608  |
| 65° | 11277 | 7627  | 6644  |
| 70° | 10544 | 6534  | 5610  |
| 75° | 9446  | 5267  | 4493  |
| 80° | 8049  | 3809  | 3161  |
| 85° | 6251  | 2119  | 1702  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 13517 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 187.2  | 2.6       |
| 10°-20°   | 527.3  | 7.4       |
| 20°-30°   | 776.1  | 10.9      |
| 30°-40°   | 902.1  | 12.6      |
| 40°-50°   | 902.1  | 12.6      |
| 50°-60°   | 789.0  | 11.1      |
| 60°-70°   | 585.7  | 8.2       |
| 70°-80°   | 332.3  | 4.7       |
| 80°-90°   | 96.8   | 1.4       |
| 90°-100°  | 47.9   | 0.7       |
| 100°-110° | 143.4  | 2.0       |
| 110°-120° | 243.7  | 3.4       |
| 120°-130° | 321.4  | 4.5       |
| 130°-140° | 360.9  | 5.1       |
| 140°-150° | 354.8  | 5.0       |
| 150°-160° | 298.4  | 4.2       |
| 160°-170° | 198.5  | 2.8       |
| 170°-180° | 69.5   | 1.0       |
| 0°-30°    | 1490.6 | 20.9      |
| 0°-40°    | 2392.7 | 33.5      |
| 0°-60°    | 4083.7 | 57.2      |
| 0°-90°    | 5098.6 | 71.4      |
| 90°-120°  | 435.0  | 6.1       |
| 90°-150°  | 1472.0 | 20.6      |
| 90°-180°  | 2038.0 | 28.6      |
| 0°-180°   | 7137.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 1986 | 1986  | 1986 | 1986  | 1986 |      |
| 5°   | 1984 | 1978  | 1960 | 1978  | 1975 | 188  |
| 15°  | 1889 | 1882  | 1858 | 1868  | 1863 | 532  |
| 25°  | 1710 | 1699  | 1677 | 1679  | 1672 | 787  |
| 35°  | 1472 | 1461  | 1438 | 1427  | 1419 | 920  |
| 45°  | 1201 | 1190  | 1165 | 1147  | 1142 | 926  |
| 55°  | 909  | 904   | 882  | 862   | 853  | 814  |
| 65°  | 616  | 608   | 592  | 576   | 568  | 609  |
| 75°  | 328  | 320   | 312  | 306   | 304  | 348  |
| 85°  | 86   | 86    | 83   | 83    | 81   | 92   |
| 90°  | 2    | 8     | 12   | 16    | 17   | 8    |
| 95°  | 34   | 39    | 43   | 45    | 45   | 37   |
| 105° | 132  | 133   | 135  | 137   | 139  | 140  |
| 115° | 248  | 248   | 247  | 246   | 246  | 244  |
| 125° | 361  | 361   | 360  | 359   | 358  | 322  |
| 135° | 465  | 469   | 469  | 468   | 466  | 360  |
| 145° | 565  | 568   | 568  | 568   | 566  | 354  |
| 155° | 648  | 648   | 647  | 649   | 647  | 298  |
| 165° | 705  | 703   | 702  | 706   | 703  | 199  |
| 175° | 734  | 731   | 730  | 734   | 730  | 70   |
| 180° | 735  | 735   | 735  | 735   | 735  |      |

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**CANDELA DISTRIBUTION (FULL):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 0°     | 1985.8 | 1985.8 | 1985.8 | 1985.8 | 1985.8 |
| 2.5°   | 1992.2 | 1987.4 | 1969.9 | 1985.8 | 1984.2 |
| 5°     | 1984.2 | 1977.9 | 1960.4 | 1977.9 | 1974.7 |
| 7.5°   | 1969.9 | 1963.5 | 1944.5 | 1958.8 | 1957.2 |
| 10°    | 1949.2 | 1942.9 | 1922.2 | 1934.9 | 1931.7 |
| 12.5°  | 1922.2 | 1915.8 | 1893.5 | 1907.9 | 1903.1 |
| 15°    | 1888.8 | 1882.4 | 1858.5 | 1868.1 | 1863.3 |
| 17.5°  | 1850.6 | 1842.6 | 1820.3 | 1826.7 | 1823.5 |
| 20°    | 1807.6 | 1799.7 | 1775.8 | 1780.6 | 1777.4 |
| 22.5°  | 1761.5 | 1750.3 | 1726.5 | 1736.0 | 1729.6 |
| 25°    | 1710.5 | 1699.4 | 1677.1 | 1678.7 | 1672.4 |
| 27.5°  | 1653.3 | 1642.1 | 1621.4 | 1618.3 | 1610.3 |
| 30°    | 1596.0 | 1583.2 | 1562.6 | 1556.2 | 1548.2 |
| 32.5°  | 1535.5 | 1524.4 | 1502.1 | 1494.1 | 1486.2 |
| 35°    | 1471.9 | 1460.7 | 1438.4 | 1427.3 | 1419.4 |
| 37.5°  | 1405.0 | 1395.5 | 1371.6 | 1360.5 | 1349.3 |
| 40°    | 1339.8 | 1327.1 | 1303.2 | 1287.3 | 1279.3 |
| 42.5°  | 1269.8 | 1263.4 | 1236.4 | 1217.3 | 1212.5 |
| 45°    | 1201.4 | 1190.2 | 1164.8 | 1147.3 | 1142.5 |
| 47.5°  | 1129.8 | 1121.8 | 1097.9 | 1078.8 | 1066.1 |
| 50°    | 1056.6 | 1050.2 | 1027.9 | 1005.6 | 996.1  |
| 52.5°  | 985.0  | 977.0  | 953.1  | 934.0  | 921.3  |
| 55°    | 908.6  | 903.8  | 881.5  | 862.4  | 852.9  |
| 57.5°  | 837.0  | 832.2  | 809.9  | 790.8  | 781.3  |
| 60°    | 762.2  | 754.2  | 733.5  | 719.2  | 711.3  |
| 62.5°  | 689.0  | 682.6  | 660.3  | 647.6  | 639.7  |
| 65°    | 615.8  | 607.8  | 591.9  | 576.0  | 568.1  |
| 67.5°  | 541.0  | 534.6  | 518.7  | 502.8  | 501.2  |
| 70°    | 472.6  | 461.4  | 448.7  | 436.0  | 431.2  |
| 72.5°  | 399.4  | 388.3  | 378.7  | 369.2  | 364.4  |
| 75°    | 327.8  | 319.8  | 311.9  | 305.5  | 303.9  |
| 77.5°  | 257.8  | 254.6  | 246.6  | 245.0  | 240.3  |
| 80°    | 195.7  | 190.9  | 187.8  | 184.6  | 183.0  |
| 82.5°  | 135.3  | 133.7  | 133.7  | 132.1  | 130.5  |
| 85°    | 85.9   | 85.9   | 82.7   | 82.7   | 81.2   |
| 87.5°  | 41.4   | 39.8   | 38.2   | 38.2   | 38.2   |
| 90°    | 1.7    | 8.0    | 12.5   | 15.9   | 17.0   |
| 92.5°  | 14.8   | 22.2   | 25.0   | 26.7   | 27.3   |
| 95°    | 34.1   | 39.2   | 43.2   | 44.9   | 44.9   |
| 97.5°  | 54.5   | 59.1   | 63.6   | 65.9   | 65.9   |
| 100°   | 79.5   | 81.8   | 86.9   | 88.1   | 88.1   |
| 102.5° | 105.7  | 106.3  | 110.8  | 112.5  | 113.1  |
| 105°   | 132.4  | 133.0  | 135.2  | 136.9  | 138.6  |
| 107.5° | 160.2  | 160.8  | 161.4  | 163.6  | 163.1  |
| 110°   | 188.6  | 189.8  | 189.2  | 188.1  | 189.8  |



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**CANDELA DISTRIBUTION (continued):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 112.5° | 218.2 | 218.2 | 217.0 | 217.0 | 217.0 |
| 115°   | 247.7 | 247.7 | 246.6 | 246.0 | 245.5 |
| 117.5° | 275.6 | 275.6 | 275.0 | 273.3 | 271.6 |
| 120°   | 303.4 | 305.7 | 304.0 | 301.1 | 302.3 |
| 122.5° | 332.4 | 333.0 | 332.4 | 330.7 | 327.8 |
| 125°   | 360.8 | 360.8 | 360.2 | 359.1 | 358.0 |
| 127.5° | 386.4 | 388.1 | 386.9 | 385.8 | 385.2 |
| 130°   | 413.6 | 415.3 | 415.3 | 414.2 | 411.9 |
| 132.5° | 441.5 | 442.6 | 442.0 | 440.9 | 440.3 |
| 135°   | 465.3 | 468.8 | 468.8 | 467.6 | 465.9 |
| 137.5° | 492.1 | 493.8 | 494.9 | 493.2 | 493.8 |
| 140°   | 518.8 | 519.9 | 519.9 | 519.3 | 518.8 |
| 142.5° | 543.2 | 544.3 | 543.8 | 543.8 | 543.8 |
| 145°   | 565.3 | 567.6 | 568.2 | 567.6 | 565.9 |
| 147.5° | 588.1 | 590.9 | 590.3 | 589.8 | 589.2 |
| 150°   | 608.5 | 610.8 | 610.8 | 610.8 | 610.2 |
| 152.5° | 627.8 | 629.0 | 629.6 | 631.3 | 629.6 |
| 155°   | 647.7 | 647.7 | 647.2 | 649.4 | 647.2 |
| 157.5° | 664.8 | 663.6 | 663.6 | 665.3 | 663.6 |
| 160°   | 679.6 | 679.0 | 678.4 | 680.1 | 677.3 |
| 162.5° | 693.2 | 691.5 | 690.9 | 694.3 | 691.5 |
| 165°   | 705.1 | 703.4 | 702.3 | 705.7 | 703.4 |
| 167.5° | 714.8 | 712.5 | 712.5 | 715.9 | 712.5 |
| 170°   | 722.7 | 719.9 | 720.5 | 723.9 | 719.9 |
| 172.5° | 728.4 | 726.1 | 726.1 | 730.1 | 726.1 |
| 175°   | 733.5 | 730.7 | 730.1 | 734.1 | 730.1 |
| 177.5° | 735.8 | 733.0 | 733.0 | 736.9 | 732.4 |
| 180°   | 734.7 | 734.7 | 734.7 | 734.7 | 734.7 |

(END OF REPORT)