

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: P1012896

Luminaire Tested: S124DIP-B1020D590UB2750-4F0-XX-W2A-F\_2700K

Issue Date: 5/6/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1012896  
REPORT IS A COMBINATION OF REPORTS P995318 AND P1007351  
Test Lab: INNOVATION CENTER  
Issue Date: 5/6/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124DIP-B1020D590UB2750-4F0-XX-W2A-F\_2700K  
Description: Define 4 Direct/Indirect Pendant with 2700K BioUP LEDs {m-DER=0.473} {m-EER=0.52}  
Light Source: -  
Ballast/Driver: -

**Summary**

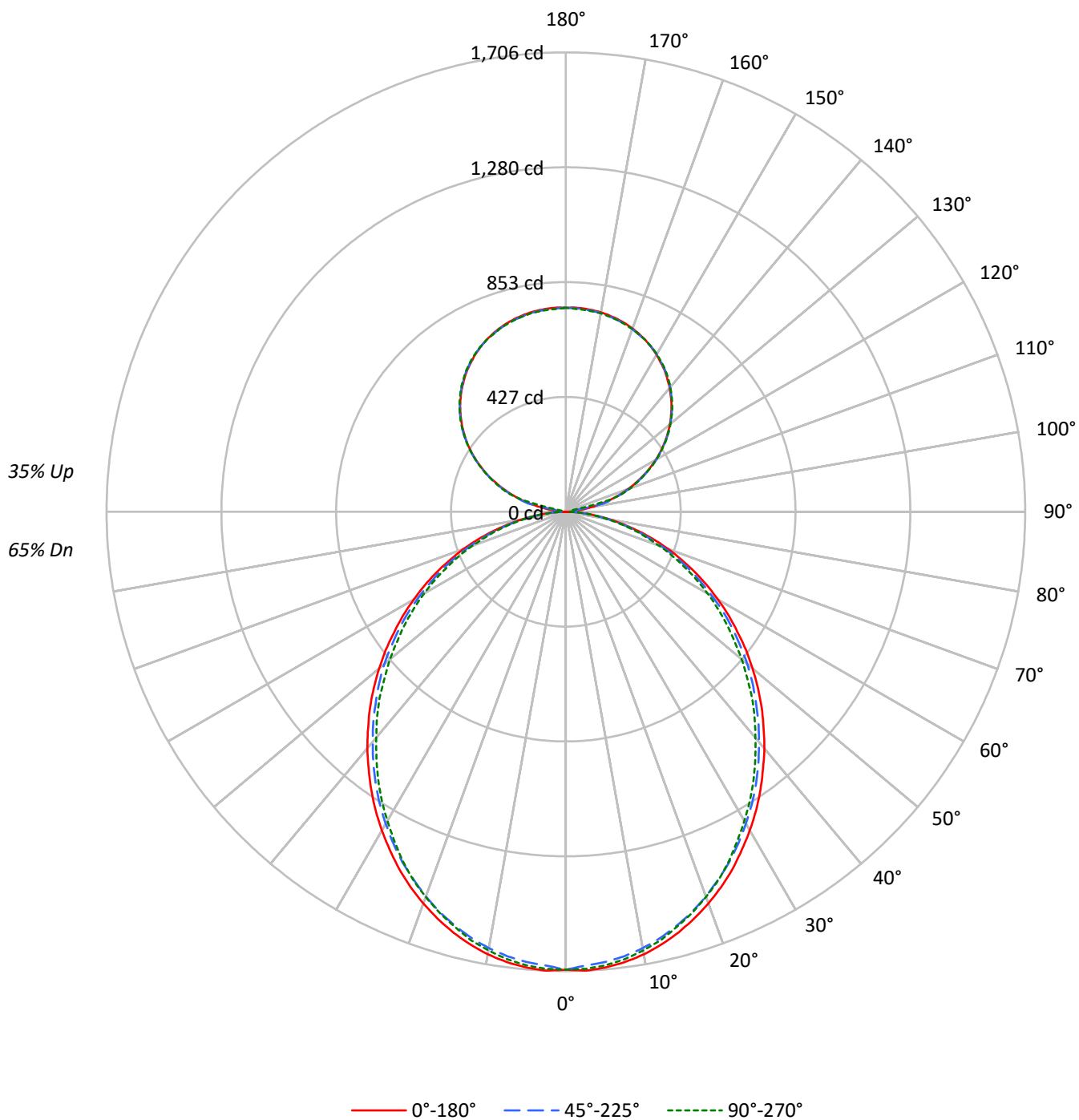
Lumens per Lamp: N/A  
Luminaire Lumens: 6710.0 lumens  
Efficiency: N/A  
Efficacy: 107.9 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.29  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.1')  
CIE Type: Semi-Direct

Input Watts (W): 62.2  
Input Voltage (V): 120  
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   | 111 | 111 | 111 | 111 | 104 | 104 | 104 | 104 | 92 | 92 | 92 | 80 | 80 | 80 | 70 | 70 | 70 | 65 |    |    |
| 1   | 101 | 97  | 93  | 89  | 95  | 91  | 88  | 84  | 80 | 78 | 75 | 71 | 69 | 67 | 62 | 60 | 59 | 55 |    |    |
| 2   | 92  | 84  | 78  | 73  | 86  | 80  | 74  | 69  | 71 | 66 | 62 | 62 | 59 | 56 | 54 | 52 | 50 | 46 |    |    |
| 3   | 84  | 74  | 67  | 61  | 79  | 70  | 63  | 58  | 62 | 57 | 53 | 55 | 51 | 47 | 48 | 45 | 42 | 39 |    |    |
| 4   | 77  | 66  | 58  | 51  | 72  | 62  | 55  | 49  | 55 | 49 | 45 | 49 | 44 | 41 | 43 | 39 | 36 | 33 |    |    |
| 5   | 71  | 59  | 50  | 44  | 66  | 56  | 48  | 42  | 50 | 43 | 39 | 44 | 39 | 35 | 39 | 35 | 32 | 29 |    |    |
| 6   | 65  | 53  | 44  | 38  | 61  | 50  | 42  | 37  | 45 | 39 | 34 | 40 | 35 | 31 | 35 | 31 | 28 | 25 |    |    |
| 7   | 60  | 48  | 40  | 34  | 57  | 45  | 38  | 33  | 41 | 34 | 30 | 36 | 31 | 27 | 32 | 28 | 25 | 23 |    |    |
| 8   | 56  | 43  | 35  | 30  | 53  | 41  | 34  | 29  | 37 | 31 | 27 | 33 | 28 | 25 | 30 | 25 | 22 | 20 |    |    |
| 9   | 52  | 40  | 32  | 27  | 49  | 38  | 31  | 26  | 34 | 28 | 24 | 31 | 26 | 22 | 27 | 23 | 20 | 18 |    |    |
| 10  | 49  | 37  | 29  | 24  | 46  | 35  | 28  | 23  | 31 | 26 | 22 | 28 | 23 | 20 | 25 | 21 | 18 | 17 |    |    |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 13864 | 13864 | 13864 |
| 5°  | 13876 | 13466 | 13482 |
| 10° | 13758 | 13091 | 13000 |
| 15° | 13561 | 12648 | 12456 |
| 20° | 13310 | 12167 | 11894 |
| 25° | 13026 | 11658 | 11288 |
| 30° | 12684 | 11109 | 10623 |
| 35° | 12329 | 10547 | 9980  |
| 40° | 11960 | 9942  | 9296  |
| 45° | 11573 | 9336  | 8657  |
| 50° | 11144 | 8747  | 7948  |
| 55° | 10678 | 8061  | 7246  |
| 60° | 10201 | 7308  | 6513  |
| 65° | 9655  | 6530  | 5688  |
| 70° | 9027  | 5595  | 4803  |
| 75° | 8086  | 4509  | 3847  |
| 80° | 6893  | 3261  | 2707  |
| 85° | 5356  | 1814  | 1457  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 11573 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 160.3  | 2.4       |
| 10°-20°   | 451.5  | 6.7       |
| 20°-30°   | 664.5  | 9.9       |
| 30°-40°   | 772.4  | 11.5      |
| 40°-50°   | 772.3  | 11.5      |
| 50°-60°   | 675.5  | 10.1      |
| 60°-70°   | 501.5  | 7.5       |
| 70°-80°   | 284.5  | 4.2       |
| 80°-90°   | 83.1   | 1.2       |
| 90°-100°  | 25.2   | 0.4       |
| 100°-110° | 165.6  | 2.5       |
| 110°-120° | 316.3  | 4.7       |
| 120°-130° | 401.5  | 6.0       |
| 130°-140° | 429.5  | 6.4       |
| 140°-150° | 401.6  | 6.0       |
| 150°-160° | 323.9  | 4.8       |
| 160°-170° | 208.9  | 3.1       |
| 170°-180° | 72.0   | 1.1       |
| 0°-30°    | 1276.2 | 19.0      |
| 0°-40°    | 2048.6 | 30.5      |
| 0°-60°    | 3496.5 | 52.1      |
| 0°-90°    | 4365.6 | 65.1      |
| 90°-120°  | 507.0  | 7.6       |
| 90°-150°  | 1739.7 | 25.9      |
| 90°-180°  | 2344.0 | 34.9      |
| 0°-180°   | 6710.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 1700 | 1700  | 1700 | 1700  | 1700 |      |
| 5°   | 1699 | 1693  | 1678 | 1693  | 1691 | 161  |
| 15°  | 1617 | 1612  | 1591 | 1599  | 1595 | 456  |
| 25°  | 1465 | 1455  | 1436 | 1437  | 1432 | 674  |
| 35°  | 1260 | 1251  | 1232 | 1222  | 1215 | 788  |
| 45°  | 1029 | 1019  | 997  | 982   | 978  | 793  |
| 55°  | 778  | 774   | 755  | 738   | 730  | 697  |
| 65°  | 527  | 520   | 507  | 493   | 486  | 522  |
| 75°  | 281  | 274   | 267  | 262   | 260  | 298  |
| 85°  | 74   | 74    | 71   | 71    | 70   | 79   |
| 90°  | 2    | 8     | 12   | 16    | 17   | 6    |
| 95°  | 31   | 12    | 12   | 16    | 16   | 38   |
| 105° | 171  | 174   | 177  | 182   | 162  | 179  |
| 115° | 318  | 320   | 320  | 321   | 321  | 313  |
| 125° | 448  | 450   | 449  | 450   | 451  | 400  |
| 135° | 555  | 555   | 557  | 558   | 559  | 428  |
| 145° | 640  | 642   | 642  | 643   | 644  | 400  |
| 155° | 702  | 703   | 701  | 703   | 702  | 324  |
| 165° | 741  | 738   | 738  | 742   | 737  | 209  |
| 175° | 758  | 754   | 755  | 760   | 753  | 72   |
| 180° | 758  | 758   | 758  | 758   | 758  |      |

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**CANDELA DISTRIBUTION (FULL):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 0°     | 1700.2 | 1700.2 | 1700.2 | 1700.2 | 1700.2 |
| 2.5°   | 1705.7 | 1701.6 | 1686.6 | 1700.2 | 1698.9 |
| 5°     | 1698.9 | 1693.4 | 1678.4 | 1693.4 | 1690.7 |
| 7.5°   | 1686.6 | 1681.2 | 1664.8 | 1677.1 | 1675.7 |
| 10°    | 1668.9 | 1663.5 | 1645.7 | 1656.6 | 1653.9 |
| 12.5°  | 1645.7 | 1640.3 | 1621.2 | 1633.5 | 1629.4 |
| 15°    | 1617.1 | 1611.7 | 1591.3 | 1599.4 | 1595.3 |
| 17.5°  | 1584.4 | 1577.6 | 1558.6 | 1564.0 | 1561.3 |
| 20°    | 1547.7 | 1540.8 | 1520.4 | 1524.5 | 1521.8 |
| 22.5°  | 1508.1 | 1498.6 | 1478.2 | 1486.3 | 1480.9 |
| 25°    | 1464.6 | 1455.0 | 1435.9 | 1437.3 | 1431.9 |
| 27.5°  | 1415.5 | 1406.0 | 1388.3 | 1385.5 | 1378.7 |
| 30°    | 1366.5 | 1355.6 | 1337.8 | 1332.4 | 1325.6 |
| 32.5°  | 1314.7 | 1305.2 | 1286.1 | 1279.3 | 1272.5 |
| 35°    | 1260.2 | 1250.7 | 1231.6 | 1222.0 | 1215.2 |
| 37.5°  | 1203.0 | 1194.8 | 1174.4 | 1164.8 | 1155.3 |
| 40°    | 1147.1 | 1136.2 | 1115.8 | 1102.2 | 1095.3 |
| 42.5°  | 1087.2 | 1081.7 | 1058.6 | 1042.2 | 1038.1 |
| 45°    | 1028.6 | 1019.1 | 997.3  | 982.3  | 978.2  |
| 47.5°  | 967.3  | 960.5  | 940.0  | 923.7  | 912.8  |
| 50°    | 904.6  | 899.2  | 880.1  | 861.0  | 852.8  |
| 52.5°  | 843.3  | 836.5  | 816.1  | 799.7  | 788.8  |
| 55°    | 777.9  | 773.8  | 754.8  | 738.4  | 730.2  |
| 57.5°  | 716.6  | 712.5  | 693.4  | 677.1  | 668.9  |
| 60°    | 652.6  | 645.8  | 628.1  | 615.8  | 609.0  |
| 62.5°  | 589.9  | 584.5  | 565.4  | 554.5  | 547.7  |
| 65°    | 527.2  | 520.4  | 506.8  | 493.2  | 486.4  |
| 67.5°  | 463.2  | 457.8  | 444.1  | 430.5  | 429.1  |
| 70°    | 404.6  | 395.1  | 384.2  | 373.3  | 369.2  |
| 72.5°  | 342.0  | 332.4  | 324.2  | 316.1  | 312.0  |
| 75°    | 280.6  | 273.8  | 267.0  | 261.6  | 260.2  |
| 77.5°  | 220.7  | 218.0  | 211.2  | 209.8  | 205.7  |
| 80°    | 167.6  | 163.5  | 160.8  | 158.0  | 156.7  |
| 82.5°  | 115.8  | 114.4  | 114.4  | 113.1  | 111.7  |
| 85°    | 73.6   | 73.6   | 70.8   | 70.8   | 69.5   |
| 87.5°  | 35.4   | 34.1   | 32.7   | 32.7   | 32.7   |
| 90°    | 1.7    | 7.9    | 12.5   | 15.9   | 17.0   |
| 92.5°  | 8.5    | 7.4    | 11.9   | 15.3   | 15.3   |
| 95°    | 31.2   | 11.9   | 12.5   | 15.9   | 16.4   |
| 97.5°  | 59.5   | 72.0   | 12.5   | 15.3   | 15.9   |
| 100°   | 92.9   | 103.1  | 24.9   | 15.3   | 15.9   |
| 102.5° | 130.3  | 137.1  | 143.9  | 16.4   | 16.4   |
| 105°   | 170.6  | 174.0  | 176.8  | 181.9  | 161.5  |
| 107.5° | 207.4  | 209.1  | 213.1  | 215.9  | 218.2  |
| 110°   | 244.8  | 246.5  | 249.9  | 251.0  | 252.7  |

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**CANDELA DISTRIBUTION (continued):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 112.5° | 281.1 | 284.5 | 285.6 | 285.0 | 287.3 |
| 115°   | 318.5 | 320.2 | 319.6 | 320.7 | 320.7 |
| 117.5° | 351.9 | 354.2 | 355.9 | 355.3 | 355.3 |
| 120°   | 385.9 | 388.2 | 387.6 | 388.7 | 387.6 |
| 122.5° | 417.6 | 418.8 | 419.9 | 420.5 | 419.3 |
| 125°   | 447.7 | 449.9 | 448.8 | 450.5 | 451.1 |
| 127.5° | 476.6 | 477.1 | 480.0 | 479.4 | 478.8 |
| 130°   | 504.3 | 504.9 | 506.6 | 507.2 | 507.2 |
| 132.5° | 529.8 | 531.0 | 533.2 | 533.8 | 533.2 |
| 135°   | 555.3 | 554.8 | 557.0 | 558.2 | 559.3 |
| 137.5° | 578.0 | 578.0 | 580.8 | 582.0 | 581.4 |
| 140°   | 600.1 | 601.2 | 602.4 | 604.1 | 604.6 |
| 142.5° | 619.9 | 622.2 | 622.8 | 623.9 | 623.9 |
| 145°   | 640.3 | 642.0 | 642.0 | 642.6 | 643.7 |
| 147.5° | 656.2 | 659.6 | 659.0 | 659.6 | 660.2 |
| 150°   | 673.8 | 676.0 | 675.5 | 675.5 | 676.0 |
| 152.5° | 688.5 | 690.2 | 689.1 | 690.2 | 689.6 |
| 155°   | 702.1 | 702.7 | 701.0 | 703.2 | 701.5 |
| 157.5° | 714.0 | 714.0 | 711.7 | 714.6 | 711.7 |
| 160°   | 724.2 | 722.5 | 721.9 | 725.3 | 721.9 |
| 162.5° | 733.3 | 731.0 | 730.4 | 733.8 | 729.9 |
| 165°   | 740.6 | 737.8 | 737.8 | 742.3 | 737.2 |
| 167.5° | 746.9 | 744.0 | 743.5 | 748.6 | 742.9 |
| 170°   | 752.0 | 748.6 | 749.1 | 753.7 | 748.0 |
| 172.5° | 755.4 | 752.0 | 752.5 | 757.1 | 750.8 |
| 175°   | 757.6 | 754.2 | 754.8 | 759.9 | 753.1 |
| 177.5° | 759.3 | 755.4 | 756.5 | 761.0 | 754.2 |
| 180°   | 757.6 | 757.6 | 757.6 | 757.6 | 757.6 |

(END OF REPORT)