

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: P1000734

Luminaire Tested: SA4XXDIP-B1020D590UB40-4F0-XX-W2A-F

Issue Date: 5/6/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1000734  
REPORT IS A COMBINATION OF REPORTS P995347 AND P1007351  
Test Lab: INNOVATION CENTER  
Issue Date: 5/6/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: SA4XXDIP-B1020D590UB40-4F0-XX-W2A-F  
Description: Define 4 Direct/Indirect Pendant with 4000K BioUP LEDs {m-DER=0.865} {m-EER=0.951}  
Light Source: -  
Ballast/Driver: -

**Summary**

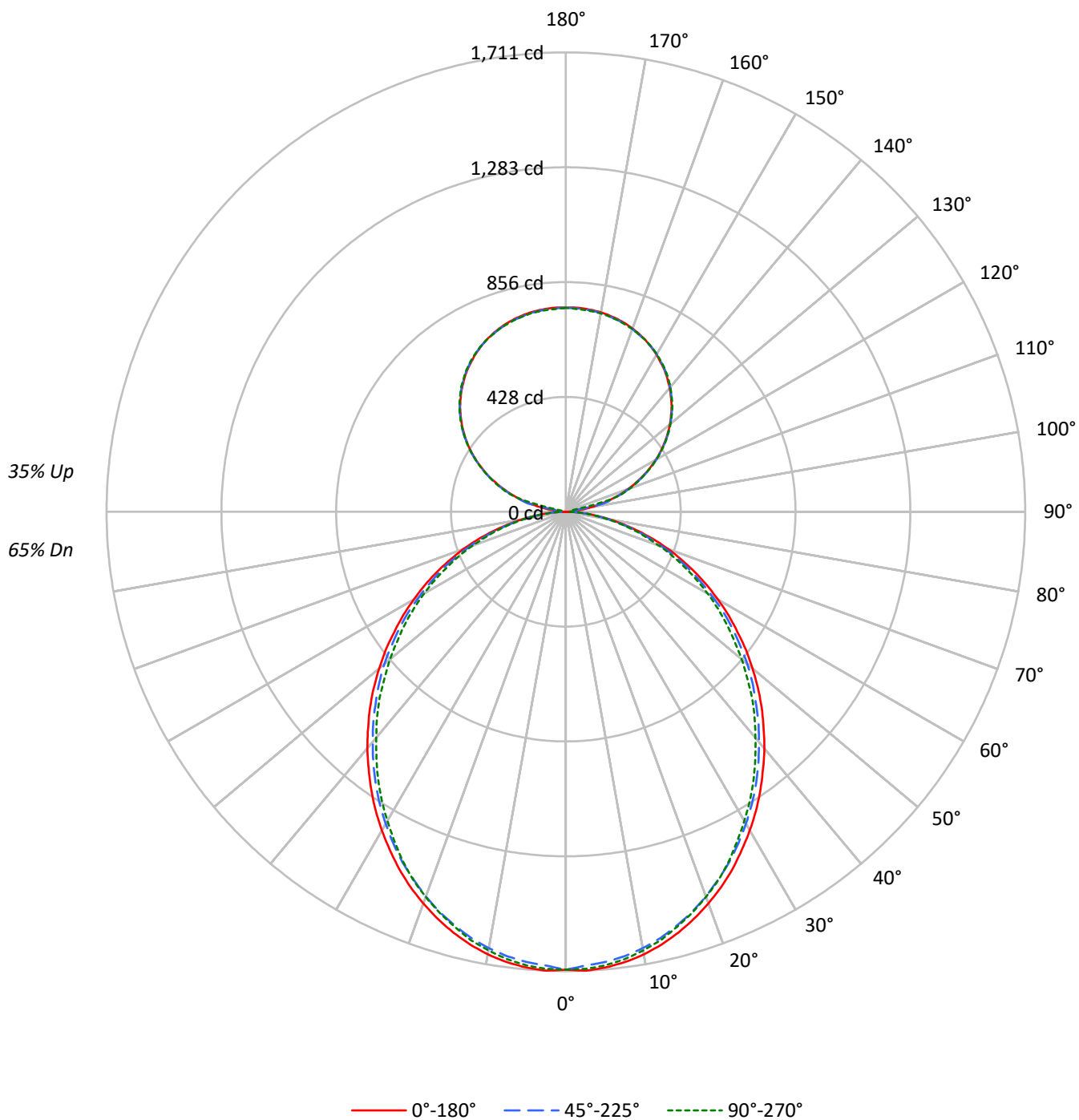
Lumens per Lamp: N/A  
Luminaire Lumens: 6730.0 lumens  
Efficiency: N/A  
Efficacy: 108.2 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.29  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.1')  
CIE Type: Semi-Direct

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

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 13906 | 13906 | 13906 |
| 5°  | 13917 | 13506 | 13522 |
| 10° | 13800 | 13130 | 13039 |
| 15° | 13602 | 12685 | 12494 |
| 20° | 13349 | 12203 | 11929 |
| 25° | 13064 | 11693 | 11321 |
| 30° | 12721 | 11142 | 10654 |
| 35° | 12365 | 10579 | 10010 |
| 40° | 11995 | 9972  | 9324  |
| 45° | 11608 | 9363  | 8683  |
| 50° | 11177 | 8773  | 7973  |
| 55° | 10710 | 8084  | 7267  |
| 60° | 10231 | 7329  | 6533  |
| 65° | 9684  | 6550  | 5705  |
| 70° | 9053  | 5611  | 4818  |
| 75° | 8112  | 4522  | 3859  |
| 80° | 6914  | 3269  | 2714  |
| 85° | 5370  | 1822  | 1461  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 11608 cd/sqm

TEST NUMBER: P1000734

CATALOG NUMBER: SA4XXDIP-B1020D590UB40-4F0-XX-W2A-F

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 160.7  | 2.4       |
| 10°-20°   | 452.8  | 6.7       |
| 20°-30°   | 666.4  | 9.9       |
| 30°-40°   | 774.7  | 11.5      |
| 40°-50°   | 774.6  | 11.5      |
| 50°-60°   | 677.5  | 10.1      |
| 60°-70°   | 503.0  | 7.5       |
| 70°-80°   | 285.4  | 4.2       |
| 80°-90°   | 83.3   | 1.2       |
| 90°-100°  | 25.2   | 0.4       |
| 100°-110° | 166.1  | 2.5       |
| 110°-120° | 317.2  | 4.7       |
| 120°-130° | 402.7  | 6.0       |
| 130°-140° | 430.8  | 6.4       |
| 140°-150° | 402.8  | 6.0       |
| 150°-160° | 324.8  | 4.8       |
| 160°-170° | 209.5  | 3.1       |
| 170°-180° | 72.2   | 1.1       |
| 0°-30°    | 1280.0 | 19.0      |
| 0°-40°    | 2054.7 | 30.5      |
| 0°-60°    | 3506.8 | 52.1      |
| 0°-90°    | 4378.6 | 65.1      |
| 90°-120°  | 508.5  | 7.6       |
| 90°-150°  | 1744.9 | 25.9      |
| 90°-180°  | 2351.0 | 34.9      |
| 0°-180°   | 6730.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 1705 | 1705  | 1705 | 1705  | 1705 |      |
| 5°   | 1704 | 1698  | 1683 | 1698  | 1696 | 162  |
| 15°  | 1622 | 1616  | 1596 | 1604  | 1600 | 457  |
| 25°  | 1469 | 1459  | 1440 | 1442  | 1436 | 676  |
| 35°  | 1264 | 1254  | 1235 | 1226  | 1219 | 790  |
| 45°  | 1032 | 1022  | 1000 | 985   | 981  | 795  |
| 55°  | 780  | 776   | 757  | 741   | 732  | 699  |
| 65°  | 529  | 522   | 508  | 495   | 488  | 523  |
| 75°  | 282  | 275   | 268  | 262   | 261  | 299  |
| 85°  | 74   | 74    | 71   | 71    | 70   | 79   |
| 90°  | 2    | 8     | 12   | 16    | 17   | 6    |
| 95°  | 31   | 12    | 12   | 16    | 16   | 39   |
| 105° | 171  | 174   | 177  | 182   | 162  | 179  |
| 115° | 319  | 321   | 321  | 322   | 322  | 314  |
| 125° | 449  | 451   | 450  | 452   | 452  | 401  |
| 135° | 557  | 556   | 559  | 560   | 561  | 429  |
| 145° | 642  | 644   | 644  | 644   | 646  | 401  |
| 155° | 704  | 705   | 703  | 705   | 704  | 325  |
| 165° | 743  | 740   | 740  | 745   | 739  | 210  |
| 175° | 760  | 756   | 757  | 762   | 755  | 72   |
| 180° | 760  | 760   | 760  | 760   | 760  |      |

TEST NUMBER: P1000734

CATALOG NUMBER: SA4XXDIP-B1020D590UB40-4F0-XX-W2A-F

**CANDELA DISTRIBUTION (FULL):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 0°     | 1705.3 | 1705.3 | 1705.3 | 1705.3 | 1705.3 |
| 2.5°   | 1710.8 | 1706.7 | 1691.6 | 1705.3 | 1703.9 |
| 5°     | 1703.9 | 1698.5 | 1683.4 | 1698.5 | 1695.7 |
| 7.5°   | 1691.6 | 1686.2 | 1669.8 | 1682.1 | 1680.7 |
| 10°    | 1673.9 | 1668.4 | 1650.6 | 1661.6 | 1658.8 |
| 12.5°  | 1650.6 | 1645.2 | 1626.1 | 1638.4 | 1634.3 |
| 15°    | 1622.0 | 1616.5 | 1596.0 | 1604.2 | 1600.1 |
| 17.5°  | 1589.2 | 1582.3 | 1563.2 | 1568.7 | 1565.9 |
| 20°    | 1552.3 | 1545.4 | 1524.9 | 1529.0 | 1526.3 |
| 22.5°  | 1512.6 | 1503.1 | 1482.6 | 1490.8 | 1485.3 |
| 25°    | 1468.9 | 1459.3 | 1440.2 | 1441.6 | 1436.1 |
| 27.5°  | 1419.7 | 1410.2 | 1392.4 | 1389.7 | 1382.8 |
| 30°    | 1370.5 | 1359.6 | 1341.8 | 1336.4 | 1329.5 |
| 32.5°  | 1318.6 | 1309.0 | 1289.9 | 1283.1 | 1276.2 |
| 35°    | 1263.9 | 1254.4 | 1235.3 | 1225.7 | 1218.9 |
| 37.5°  | 1206.6 | 1198.4 | 1177.9 | 1168.3 | 1158.7 |
| 40°    | 1150.5 | 1139.6 | 1119.1 | 1105.4 | 1098.6 |
| 42.5°  | 1090.4 | 1084.9 | 1061.7 | 1045.3 | 1041.2 |
| 45°    | 1031.7 | 1022.1 | 1000.2 | 985.2  | 981.1  |
| 47.5°  | 970.2  | 963.3  | 942.8  | 926.4  | 915.5  |
| 50°    | 907.3  | 901.8  | 882.7  | 863.6  | 855.4  |
| 52.5°  | 845.8  | 839.0  | 818.5  | 802.1  | 791.2  |
| 55°    | 780.2  | 776.1  | 757.0  | 740.6  | 732.4  |
| 57.5°  | 718.7  | 714.6  | 695.5  | 679.1  | 670.9  |
| 60°    | 654.5  | 647.7  | 629.9  | 617.6  | 610.8  |
| 62.5°  | 591.7  | 586.2  | 567.1  | 556.1  | 549.3  |
| 65°    | 528.8  | 522.0  | 508.3  | 494.6  | 487.8  |
| 67.5°  | 464.6  | 459.1  | 445.5  | 431.8  | 430.4  |
| 70°    | 405.8  | 396.3  | 385.3  | 374.4  | 370.3  |
| 72.5°  | 343.0  | 333.4  | 325.2  | 317.0  | 312.9  |
| 75°    | 281.5  | 274.7  | 267.8  | 262.4  | 261.0  |
| 77.5°  | 221.4  | 218.6  | 211.8  | 210.4  | 206.3  |
| 80°    | 168.1  | 164.0  | 161.2  | 158.5  | 157.1  |
| 82.5°  | 116.1  | 114.8  | 114.8  | 113.4  | 112.0  |
| 85°    | 73.8   | 73.8   | 71.1   | 71.1   | 69.7   |
| 87.5°  | 35.5   | 34.2   | 32.8   | 32.8   | 32.8   |
| 90°    | 1.7    | 8.0    | 12.5   | 15.9   | 17.1   |
| 92.5°  | 8.5    | 7.4    | 11.9   | 15.3   | 15.3   |
| 95°    | 31.3   | 11.9   | 12.5   | 15.9   | 16.5   |
| 97.5°  | 59.7   | 72.2   | 12.5   | 15.3   | 15.9   |
| 100°   | 93.2   | 103.4  | 25.0   | 15.3   | 15.9   |
| 102.5° | 130.7  | 137.5  | 144.4  | 16.5   | 16.5   |
| 105°   | 171.1  | 174.5  | 177.3  | 182.4  | 162.0  |
| 107.5° | 208.0  | 209.7  | 213.7  | 216.5  | 218.8  |
| 110°   | 245.5  | 247.2  | 250.7  | 251.8  | 253.5  |

TEST NUMBER: P1000734

CATALOG NUMBER: SA4XXDIP-B1020D590UB40-4F0-XX-W2A-F

**CANDELA DISTRIBUTION (continued):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 112.5° | 281.9 | 285.3 | 286.5 | 285.9 | 288.2 |
| 115°   | 319.4 | 321.1 | 320.6 | 321.7 | 321.7 |
| 117.5° | 353.0 | 355.2 | 356.9 | 356.4 | 356.4 |
| 120°   | 387.1 | 389.3 | 388.8 | 389.9 | 388.8 |
| 122.5° | 418.9 | 420.0 | 421.2 | 421.7 | 420.6 |
| 125°   | 449.0 | 451.3 | 450.1 | 451.9 | 452.4 |
| 127.5° | 478.0 | 478.6 | 481.4 | 480.8 | 480.3 |
| 130°   | 505.8 | 506.4 | 508.1 | 508.7 | 508.7 |
| 132.5° | 531.4 | 532.6 | 534.8 | 535.4 | 534.8 |
| 135°   | 557.0 | 556.4 | 558.7 | 559.8 | 561.0 |
| 137.5° | 579.7 | 579.7 | 582.6 | 583.7 | 583.1 |
| 140°   | 601.9 | 603.0 | 604.2 | 605.9 | 606.5 |
| 142.5° | 621.8 | 624.1 | 624.6 | 625.8 | 625.8 |
| 145°   | 642.3 | 644.0 | 644.0 | 644.5 | 645.7 |
| 147.5° | 658.2 | 661.6 | 661.0 | 661.6 | 662.2 |
| 150°   | 675.8 | 678.1 | 677.5 | 677.5 | 678.1 |
| 152.5° | 690.6 | 692.3 | 691.1 | 692.3 | 691.7 |
| 155°   | 704.2 | 704.8 | 703.1 | 705.3 | 703.6 |
| 157.5° | 716.1 | 716.1 | 713.9 | 716.7 | 713.9 |
| 160°   | 726.4 | 724.7 | 724.1 | 727.5 | 724.1 |
| 162.5° | 735.5 | 733.2 | 732.6 | 736.0 | 732.1 |
| 165°   | 742.9 | 740.0 | 740.0 | 744.6 | 739.4 |
| 167.5° | 749.1 | 746.3 | 745.7 | 750.8 | 745.1 |
| 170°   | 754.2 | 750.8 | 751.4 | 755.9 | 750.2 |
| 172.5° | 757.6 | 754.2 | 754.8 | 759.3 | 753.1 |
| 175°   | 759.9 | 756.5 | 757.1 | 762.2 | 755.4 |
| 177.5° | 761.6 | 757.6 | 758.8 | 763.3 | 756.5 |
| 180°   | 759.9 | 759.9 | 759.9 | 759.9 | 759.9 |

(END OF REPORT)