

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: P1000649

Luminaire Tested: SA4XXDIP-B1020D365UB2750-4F0-XX-W2A-F\_4000K

Issue Date: 5/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1000649  
REPORT IS A COMBINATION OF REPORTS P995261 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\_4000K  
Description: Define 4 Direct/Indirect Pendant with 4000K BioUP LEDs {m-DER=0.865} {m-EER=0.951}  
Light Source: -  
Ballast/Driver: -

**Summary**

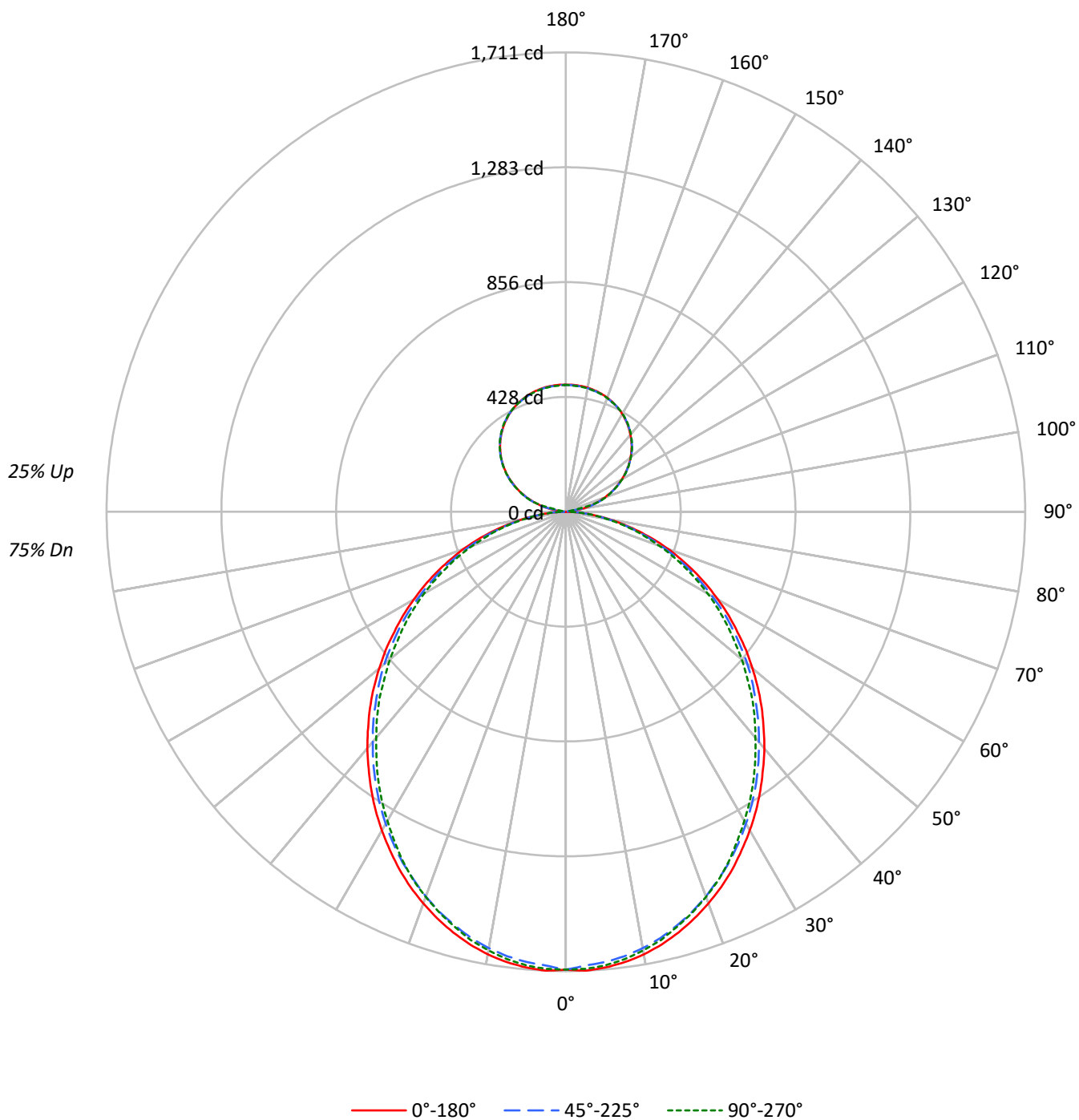
Lumens per Lamp: N/A  
Luminaire Lumens: 5841.0 lumens  
Efficiency: N/A  
Efficacy: 104.1 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.29  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.1')  
CIE Type: Semi-Direct

Input Watts (W): 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 | 67 |
| 2   | 94  | 86  | 80  | 74  | 89  | 82  | 77  | 72  | 75 | 70 | 66 | 68 | 64 | 61 | 61 | 59 | 56 | 56 | 56 | 56 |
| 3   | 86  | 76  | 68  | 62  | 81  | 73  | 66  | 60  | 66 | 60 | 56 | 60 | 56 | 52 | 54 | 51 | 48 | 48 | 48 | 48 |
| 4   | 79  | 67  | 59  | 53  | 75  | 64  | 57  | 51  | 59 | 53 | 48 | 54 | 48 | 44 | 49 | 45 | 41 | 41 | 41 | 41 |
| 5   | 72  | 60  | 52  | 45  | 69  | 58  | 50  | 44  | 53 | 46 | 41 | 48 | 43 | 39 | 44 | 40 | 36 | 36 | 36 | 36 |
| 6   | 67  | 54  | 46  | 40  | 63  | 52  | 44  | 38  | 48 | 41 | 36 | 44 | 38 | 34 | 40 | 35 | 32 | 32 | 32 | 32 |
| 7   | 62  | 49  | 41  | 35  | 59  | 47  | 39  | 34  | 43 | 37 | 32 | 40 | 34 | 30 | 36 | 32 | 28 | 28 | 28 | 28 |
| 8   | 58  | 45  | 37  | 31  | 55  | 43  | 35  | 30  | 40 | 33 | 29 | 36 | 31 | 27 | 34 | 29 | 25 | 25 | 25 | 25 |
| 9   | 54  | 41  | 33  | 28  | 51  | 39  | 32  | 27  | 36 | 30 | 26 | 34 | 28 | 24 | 31 | 26 | 23 | 23 | 23 | 23 |
| 10  | 50  | 38  | 30  | 25  | 48  | 36  | 29  | 25  | 34 | 28 | 23 | 31 | 26 | 22 | 29 | 24 | 21 | 21 | 21 | 21 |

**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

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 160.7  | 2.8       |
| 10°-20°   | 452.8  | 7.8       |
| 20°-30°   | 666.4  | 11.4      |
| 30°-40°   | 774.7  | 13.3      |
| 40°-50°   | 774.6  | 13.3      |
| 50°-60°   | 677.5  | 11.6      |
| 60°-70°   | 503.0  | 8.6       |
| 70°-80°   | 285.4  | 4.9       |
| 80°-90°   | 82.7   | 1.4       |
| 90°-100°  | 15.7   | 0.3       |
| 100°-110° | 103.4  | 1.8       |
| 110°-120° | 197.4  | 3.4       |
| 120°-130° | 250.5  | 4.3       |
| 130°-140° | 268.0  | 4.6       |
| 140°-150° | 250.6  | 4.3       |
| 150°-160° | 202.1  | 3.5       |
| 160°-170° | 130.3  | 2.2       |
| 170°-180° | 44.9   | 0.8       |
| 0°-30°    | 1280.0 | 21.9      |
| 0°-40°    | 2054.7 | 35.2      |
| 0°-60°    | 3506.8 | 60.0      |
| 0°-90°    | 4378.0 | 75.0      |
| 90°-120°  | 316.4  | 5.4       |
| 90°-150°  | 1085.6 | 18.6      |
| 90°-180°  | 1463.0 | 25.0      |
| 0°-180°   | 5841.0 | 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°  | 1    | 5     | 8    | 10    | 11   | 6    |
| 95°  | 19   | 7     | 8    | 10    | 10   | 24   |
| 105° | 106  | 109   | 110  | 114   | 101  | 111  |
| 115° | 199  | 200   | 199  | 200   | 200  | 196  |
| 125° | 279  | 281   | 280  | 281   | 282  | 249  |
| 135° | 347  | 346   | 348  | 348   | 349  | 267  |
| 145° | 400  | 401   | 401  | 401   | 402  | 250  |
| 155° | 438  | 438   | 437  | 439   | 438  | 202  |
| 165° | 462  | 460   | 460  | 463   | 460  | 131  |
| 175° | 473  | 471   | 471  | 474   | 470  | 45   |
| 180° | 473  | 473   | 473  | 473   | 473  |      |

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**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°    | 1.1    | 5.0    | 7.8    | 9.9    | 10.6   |
| 92.5°  | 5.3    | 4.6    | 7.4    | 9.5    | 9.5    |
| 95°    | 19.4   | 7.4    | 7.8    | 9.9    | 10.3   |
| 97.5°  | 37.1   | 44.9   | 7.8    | 9.5    | 9.9    |
| 100°   | 58.0   | 64.4   | 15.6   | 9.5    | 9.9    |
| 102.5° | 81.3   | 85.6   | 89.8   | 10.3   | 10.3   |
| 105°   | 106.4  | 108.6  | 110.3  | 113.5  | 100.8  |
| 107.5° | 129.4  | 130.5  | 133.0  | 134.7  | 136.1  |
| 110°   | 152.8  | 153.8  | 156.0  | 156.7  | 157.7  |



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**CANDELA DISTRIBUTION (continued):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 112.5° | 175.4 | 177.5 | 178.2 | 177.9 | 179.3 |
| 115°   | 198.7 | 199.8 | 199.4 | 200.2 | 200.2 |
| 117.5° | 219.6 | 221.0 | 222.1 | 221.7 | 221.7 |
| 120°   | 240.8 | 242.2 | 241.9 | 242.6 | 241.9 |
| 122.5° | 260.6 | 261.3 | 262.0 | 262.4 | 261.7 |
| 125°   | 279.4 | 280.8 | 280.1 | 281.1 | 281.5 |
| 127.5° | 297.4 | 297.8 | 299.5 | 299.2 | 298.8 |
| 130°   | 314.7 | 315.1 | 316.1 | 316.5 | 316.5 |
| 132.5° | 330.6 | 331.4 | 332.8 | 333.1 | 332.8 |
| 135°   | 346.6 | 346.2 | 347.6 | 348.3 | 349.0 |
| 137.5° | 360.7 | 360.7 | 362.5 | 363.2 | 362.8 |
| 140°   | 374.5 | 375.2 | 375.9 | 377.0 | 377.3 |
| 142.5° | 386.9 | 388.3 | 388.6 | 389.3 | 389.3 |
| 145°   | 399.6 | 400.7 | 400.7 | 401.0 | 401.7 |
| 147.5° | 409.5 | 411.6 | 411.3 | 411.6 | 412.0 |
| 150°   | 420.5 | 421.9 | 421.5 | 421.5 | 421.9 |
| 152.5° | 429.7 | 430.7 | 430.0 | 430.7 | 430.4 |
| 155°   | 438.1 | 438.5 | 437.4 | 438.9 | 437.8 |
| 157.5° | 445.6 | 445.6 | 444.2 | 445.9 | 444.2 |
| 160°   | 451.9 | 450.9 | 450.5 | 452.6 | 450.5 |
| 162.5° | 457.6 | 456.2 | 455.8 | 458.0 | 455.5 |
| 165°   | 462.2 | 460.4 | 460.4 | 463.3 | 460.1 |
| 167.5° | 466.1 | 464.3 | 464.0 | 467.1 | 463.6 |
| 170°   | 469.3 | 467.1 | 467.5 | 470.3 | 466.8 |
| 172.5° | 471.4 | 469.3 | 469.6 | 472.5 | 468.6 |
| 175°   | 472.8 | 470.7 | 471.0 | 474.2 | 470.0 |
| 177.5° | 473.9 | 471.4 | 472.1 | 474.9 | 470.7 |
| 180°   | 472.8 | 472.8 | 472.8 | 472.8 | 472.8 |

(END OF REPORT)