

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: P999531

Luminaire Tested: SA2XXRDIP-B290D330UB35-4F0-XX-W2A-F1

Issue Date: 5/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P999531  
REPORT IS A COMBINATION OF REPORTS P988084 AND P1007351  
Test Lab: INNOVATION CENTER  
Issue Date: 5/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: SA2XXRDIP-B290D330UB35-4F0-XX-W2A-F1  
Description: Define 2 Regressed Direct/Indirect Pendant with 3500K BioUP LEDs {m-DER=0.721}  
{m-EER=0.792}  
Light Source: -  
Ballast/Driver: -

**Summary**

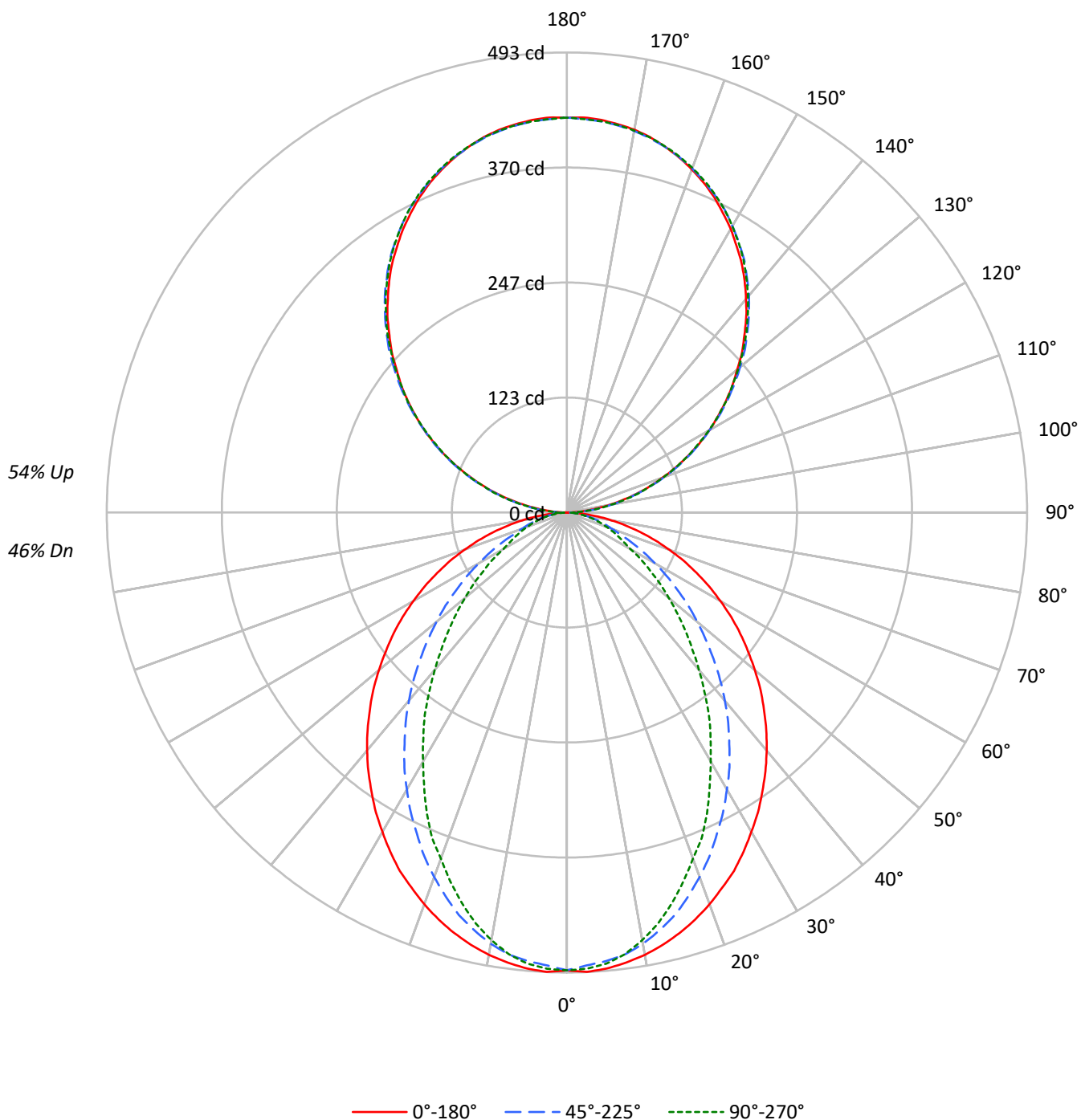
Lumens per Lamp: N/A  
Luminaire Lumens: 2193.0 lumens  
Efficiency: N/A  
Efficacy: 98.3 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.1')  
CIE Type: General Diffuse

Input Watts (W): 22.3  
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   | 106 | 106 | 106 | 106 | 97 | 97 | 97 | 97 | 81 | 81 | 81 | 66 | 66 | 66 | 53 | 53 | 53 |
| 1   | 97  | 93  | 89  | 86  | 89 | 86 | 83 | 80 | 72 | 70 | 67 | 59 | 57 | 56 | 47 | 46 | 45 |
| 2   | 89  | 82  | 76  | 71  | 81 | 75 | 70 | 66 | 63 | 60 | 57 | 52 | 50 | 47 | 42 | 40 | 39 |
| 3   | 81  | 72  | 65  | 60  | 75 | 67 | 61 | 56 | 56 | 52 | 48 | 47 | 43 | 41 | 38 | 35 | 33 |
| 4   | 75  | 64  | 57  | 51  | 68 | 59 | 53 | 48 | 50 | 45 | 41 | 42 | 38 | 35 | 34 | 31 | 29 |
| 5   | 69  | 58  | 50  | 44  | 63 | 53 | 46 | 41 | 45 | 40 | 36 | 38 | 34 | 31 | 31 | 28 | 26 |
| 6   | 63  | 52  | 44  | 38  | 58 | 48 | 41 | 36 | 41 | 36 | 32 | 34 | 30 | 27 | 28 | 25 | 23 |
| 7   | 59  | 47  | 39  | 34  | 54 | 43 | 37 | 32 | 37 | 32 | 28 | 31 | 27 | 24 | 26 | 23 | 20 |
| 8   | 55  | 43  | 35  | 30  | 50 | 40 | 33 | 28 | 34 | 29 | 25 | 29 | 25 | 22 | 24 | 21 | 18 |
| 9   | 51  | 39  | 32  | 27  | 47 | 36 | 30 | 25 | 31 | 26 | 22 | 26 | 22 | 20 | 22 | 19 | 17 |
| 10  | 48  | 36  | 29  | 24  | 44 | 33 | 27 | 23 | 29 | 24 | 20 | 25 | 21 | 18 | 20 | 17 | 15 |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 7766 | 7766 | 7766 |
| 5°  | 7778 | 7388 | 7334 |
| 10° | 7702 | 7007 | 6776 |
| 15° | 7596 | 6558 | 6141 |
| 20° | 7457 | 6047 | 5476 |
| 25° | 7313 | 5522 | 4868 |
| 30° | 7121 | 5011 | 4204 |
| 35° | 6932 | 4494 | 3634 |
| 40° | 6740 | 3989 | 3046 |
| 45° | 6517 | 3467 | 2534 |
| 50° | 6284 | 2963 | 2063 |
| 55° | 6046 | 2459 | 1638 |
| 60° | 5765 | 1967 | 1239 |
| 65° | 5446 | 1500 | 1007 |
| 70° | 5058 | 1088 | 801  |
| 75° | 4570 | 829  | 612  |
| 80° | 3864 | 561  | 410  |
| 85° | 2698 | 256  | 198  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
Vertical Angle: 45°  
Luminance: 6517 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 46.0   | 2.1       |
| 10°-20°   | 126.2  | 5.8       |
| 20°-30°   | 177.2  | 8.1       |
| 30°-40°   | 193.2  | 8.8       |
| 40°-50°   | 177.6  | 8.1       |
| 50°-60°   | 139.4  | 6.4       |
| 60°-70°   | 90.8   | 4.1       |
| 70°-80°   | 46.7   | 2.1       |
| 80°-90°   | 13.1   | 0.6       |
| 90°-100°  | 26.2   | 1.2       |
| 100°-110° | 83.2   | 3.8       |
| 110°-120° | 142.4  | 6.5       |
| 120°-130° | 187.2  | 8.5       |
| 130°-140° | 210.2  | 9.6       |
| 140°-150° | 206.1  | 9.4       |
| 150°-160° | 172.9  | 7.9       |
| 160°-170° | 114.7  | 5.2       |
| 170°-180° | 40.1   | 1.8       |
| 0°-30°    | 349.4  | 15.9      |
| 0°-40°    | 542.6  | 24.7      |
| 0°-60°    | 859.6  | 39.2      |
| 0°-90°    | 1010.2 | 46.1      |
| 90°-120°  | 251.7  | 11.5      |
| 90°-150°  | 855.2  | 39.0      |
| 90°-180°  | 1183.0 | 53.9      |
| 0°-180°   | 2193.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|------|-----|-------|-----|-------|-----|------|
| 0°   | 491 | 491   | 491 | 491   | 491 |      |
| 5°   | 491 | 488   | 483 | 487   | 485 | 47   |
| 15°  | 467 | 462   | 447 | 438   | 434 | 131  |
| 25°  | 424 | 409   | 380 | 362   | 355 | 195  |
| 35°  | 365 | 342   | 303 | 275   | 266 | 228  |
| 45°  | 298 | 269   | 222 | 190   | 180 | 230  |
| 55°  | 227 | 192   | 144 | 118   | 109 | 203  |
| 65°  | 153 | 117   | 77  | 62    | 61  | 152  |
| 75°  | 82  | 51    | 36  | 32    | 32  | 86   |
| 85°  | 19  | 10    | 8   | 8     | 8   | 22   |
| 90°  | 0   | 5     | 12  | 12    | 12  | 2    |
| 95°  | 19  | 22    | 23  | 23    | 22  | 21   |
| 105° | 77  | 78    | 78  | 79    | 79  | 81   |
| 115° | 143 | 145   | 144 | 144   | 143 | 141  |
| 125° | 208 | 211   | 210 | 209   | 208 | 186  |
| 135° | 269 | 273   | 274 | 273   | 272 | 208  |
| 145° | 326 | 329   | 331 | 331   | 330 | 204  |
| 155° | 373 | 374   | 375 | 377   | 376 | 172  |
| 165° | 406 | 406   | 406 | 408   | 406 | 115  |
| 175° | 422 | 421   | 421 | 423   | 421 | 40   |
| 180° | 423 | 423   | 423 | 423   | 423 |      |

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**CANDELA DISTRIBUTION (FULL):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 0°     | 490.6 | 490.6 | 490.6 | 490.6 | 490.6 |
| 2.5°   | 492.8 | 490.6 | 485.7 | 490.2 | 489.3 |
| 5°     | 490.6 | 488.4 | 482.6 | 486.6 | 485.3 |
| 7.5°   | 486.6 | 483.9 | 477.7 | 479.5 | 477.3 |
| 10°    | 481.3 | 478.2 | 469.3 | 468.0 | 465.3 |
| 12.5°  | 474.6 | 470.6 | 458.6 | 456.0 | 451.1 |
| 15°    | 466.6 | 461.7 | 446.7 | 438.2 | 433.8 |
| 17.5°  | 457.3 | 450.2 | 431.6 | 421.8 | 414.7 |
| 20°    | 446.7 | 437.8 | 415.6 | 404.5 | 394.7 |
| 22.5°  | 435.1 | 424.9 | 399.1 | 384.1 | 377.4 |
| 25°    | 423.6 | 409.4 | 380.1 | 361.9 | 355.2 |
| 27.5°  | 409.8 | 394.7 | 362.3 | 341.4 | 331.2 |
| 30°    | 395.2 | 378.3 | 342.8 | 320.1 | 308.1 |
| 32.5°  | 380.9 | 360.5 | 324.1 | 297.5 | 286.4 |
| 35°    | 365.0 | 342.3 | 303.2 | 275.3 | 265.5 |
| 37.5°  | 349.4 | 325.0 | 283.7 | 253.1 | 242.0 |
| 40°    | 333.0 | 306.4 | 263.3 | 231.8 | 220.2 |
| 42.5°  | 316.1 | 287.7 | 242.9 | 210.0 | 198.9 |
| 45°    | 298.4 | 268.6 | 222.0 | 190.5 | 179.8 |
| 47.5°  | 281.5 | 250.0 | 202.0 | 170.5 | 160.7 |
| 50°    | 262.8 | 231.3 | 182.5 | 151.8 | 142.5 |
| 52.5°  | 244.6 | 211.3 | 163.8 | 134.5 | 126.1 |
| 55°    | 226.9 | 192.2 | 144.3 | 117.7 | 109.2 |
| 57.5°  | 208.7 | 173.2 | 127.0 | 102.1 | 95.0  |
| 60°    | 190.0 | 154.5 | 108.8 | 86.1  | 79.0  |
| 62.5°  | 171.8 | 136.3 | 93.2  | 71.9  | 68.4  |
| 65°    | 153.2 | 117.2 | 77.3  | 62.2  | 60.8  |
| 67.5°  | 135.4 | 99.5  | 62.2  | 54.6  | 53.3  |
| 70°    | 116.8 | 82.1  | 51.5  | 47.1  | 45.3  |
| 72.5°  | 99.0  | 66.2  | 43.1  | 39.5  | 38.6  |
| 75°    | 81.7  | 50.6  | 35.5  | 32.4  | 32.0  |
| 77.5°  | 64.4  | 36.0  | 28.0  | 26.2  | 25.3  |
| 80°    | 48.4  | 25.8  | 21.3  | 19.5  | 19.5  |
| 82.5°  | 33.7  | 17.3  | 14.7  | 13.8  | 13.8  |
| 85°    | 19.1  | 9.8   | 8.4   | 8.4   | 8.4   |
| 87.5°  | 7.1   | 3.6   | 3.6   | 3.1   | 3.1   |
| 90°    | 0.4   | 4.6   | 12.5  | 11.8  | 12.1  |
| 92.5°  | 7.9   | 10.7  | 11.1  | 11.4  | 11.4  |
| 95°    | 18.6  | 22.1  | 22.8  | 22.8  | 22.1  |
| 97.5°  | 31.1  | 34.3  | 35.7  | 35.7  | 35.7  |
| 100°   | 45.3  | 48.2  | 49.3  | 49.3  | 48.9  |
| 102.5° | 60.3  | 62.5  | 63.9  | 64.3  | 63.9  |
| 105°   | 76.8  | 77.8  | 78.5  | 79.3  | 79.3  |
| 107.5° | 93.2  | 94.6  | 94.6  | 95.0  | 93.2  |
| 110°   | 108.9 | 111.0 | 111.0 | 111.0 | 110.0 |

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**CANDELA DISTRIBUTION (continued):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 112.5° | 126.0 | 128.2 | 127.8 | 126.7 | 126.0 |
| 115°   | 142.8 | 144.9 | 144.2 | 143.9 | 142.8 |
| 117.5° | 159.6 | 162.4 | 160.7 | 159.6 | 158.5 |
| 120°   | 176.4 | 179.2 | 176.4 | 176.4 | 175.3 |
| 122.5° | 191.7 | 195.3 | 193.5 | 192.4 | 191.7 |
| 125°   | 207.8 | 211.0 | 209.9 | 208.9 | 208.5 |
| 127.5° | 223.5 | 227.4 | 226.0 | 224.6 | 223.5 |
| 130°   | 238.1 | 242.8 | 242.1 | 241.3 | 239.9 |
| 132.5° | 254.6 | 258.1 | 258.5 | 256.7 | 255.6 |
| 135°   | 268.8 | 272.8 | 273.5 | 273.1 | 272.0 |
| 137.5° | 284.5 | 287.8 | 288.5 | 288.1 | 286.7 |
| 140°   | 298.5 | 301.7 | 303.5 | 303.5 | 302.0 |
| 142.5° | 312.7 | 316.0 | 317.0 | 317.4 | 316.0 |
| 145°   | 326.3 | 328.8 | 331.0 | 331.3 | 329.9 |
| 147.5° | 338.4 | 341.7 | 343.1 | 343.8 | 342.4 |
| 150°   | 350.9 | 353.1 | 354.5 | 355.6 | 354.5 |
| 152.5° | 362.0 | 364.2 | 365.9 | 367.4 | 365.9 |
| 155°   | 373.1 | 374.1 | 375.2 | 377.0 | 375.9 |
| 157.5° | 382.7 | 383.4 | 384.1 | 386.6 | 384.9 |
| 160°   | 391.3 | 392.0 | 392.4 | 394.5 | 393.1 |
| 162.5° | 399.1 | 399.1 | 399.5 | 402.0 | 400.2 |
| 165°   | 405.9 | 405.6 | 405.6 | 408.1 | 406.3 |
| 167.5° | 412.0 | 410.9 | 410.9 | 413.4 | 411.6 |
| 170°   | 416.6 | 415.6 | 415.2 | 417.7 | 415.6 |
| 172.5° | 419.8 | 418.8 | 418.4 | 420.9 | 418.8 |
| 175°   | 422.3 | 421.3 | 420.6 | 423.1 | 420.9 |
| 177.5° | 423.8 | 422.7 | 422.0 | 424.1 | 422.0 |
| 180°   | 423.1 | 423.1 | 423.1 | 423.1 | 423.1 |

(END OF REPORT)