

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



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: P997671

Luminaire Tested: SA2XXDP-B865DB2750-4F0-XX-W2A-F\_5000K

Issue Date: 5/2/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P997671  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-10)  
Test Lab: INNOVATION CENTER  
Issue Date: 5/2/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: SA2XXDP-B865DB2750-4F0-XX-W2A-F\_5000K  
Description: Define 2 Direct Recessed with 5000K BioUP LEDs {m-DER=1.015} {m-EER=1.115}  
Light Source: -  
Ballast/Driver: -

**Summary**

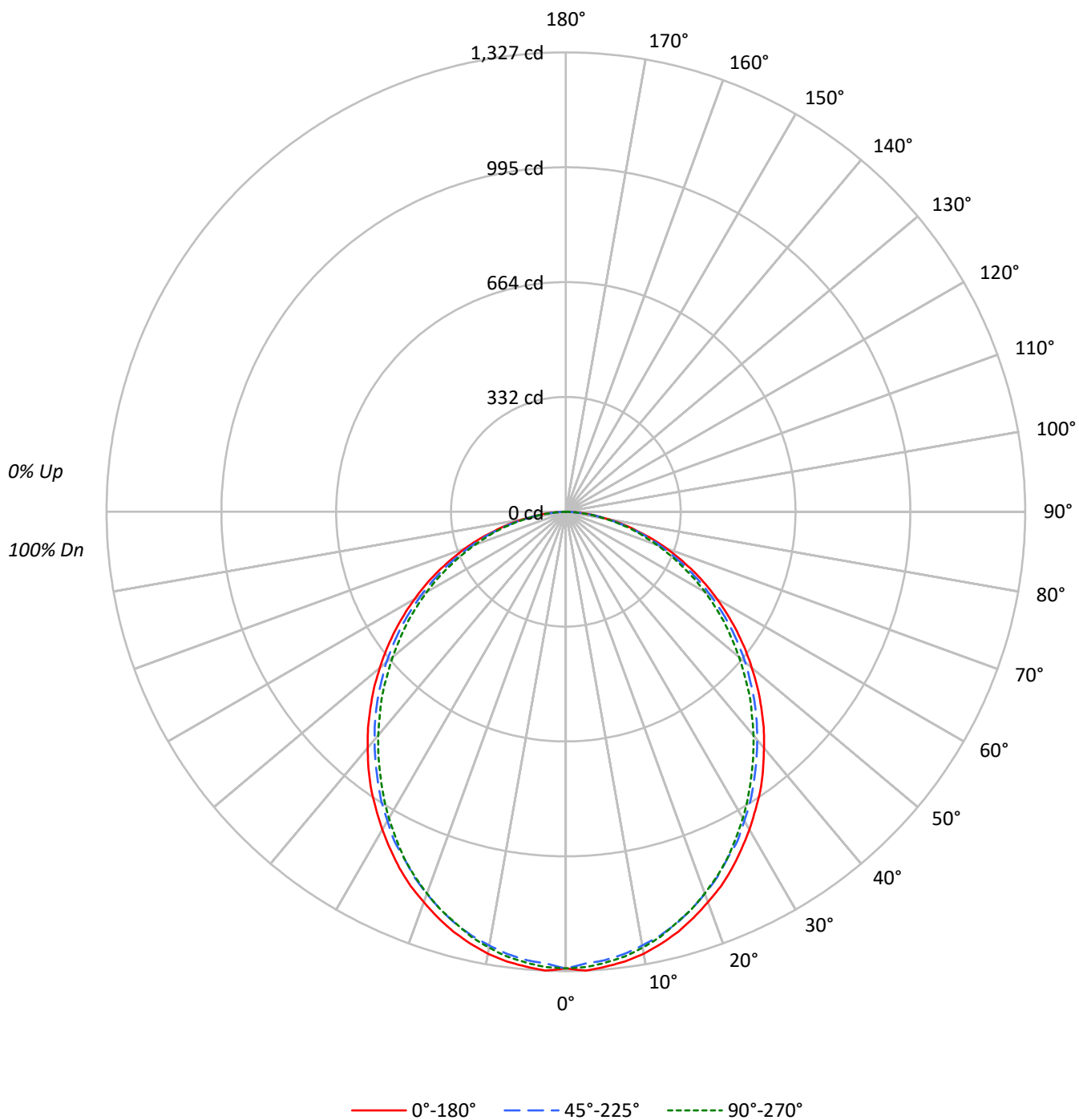
Lumens per Lamp: N/A  
Luminaire Lumens: 3356.0 lumens  
Efficiency: N/A  
Efficacy: 71.7 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 46.8  
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  |
| RCR |     |     |     |     |     |     |     |     |     |     |     |  |     |     |     |  |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 |  | 106 | 106 | 106 |  | 102 |
| 1   | 109 | 104 | 100 | 96  | 106 | 102 | 98  | 95  | 98  | 95  | 92  |  | 94  | 91  | 89  |  | 90  |
| 2   | 99  | 91  | 85  | 79  | 97  | 89  | 83  | 78  | 86  | 81  | 76  |  | 83  | 78  | 74  |  | 80  |
| 3   | 91  | 80  | 72  | 66  | 88  | 79  | 71  | 65  | 76  | 69  | 64  |  | 73  | 68  | 63  |  | 71  |
| 4   | 83  | 71  | 63  | 56  | 81  | 70  | 62  | 56  | 68  | 61  | 55  |  | 65  | 59  | 54  |  | 63  |
| 5   | 77  | 64  | 55  | 49  | 75  | 63  | 55  | 48  | 61  | 53  | 48  |  | 59  | 52  | 47  |  | 57  |
| 6   | 71  | 58  | 49  | 43  | 69  | 57  | 48  | 42  | 55  | 48  | 42  |  | 53  | 47  | 42  |  | 52  |
| 7   | 66  | 52  | 44  | 38  | 64  | 52  | 43  | 38  | 50  | 43  | 37  |  | 49  | 42  | 37  |  | 47  |
| 8   | 61  | 48  | 40  | 34  | 60  | 47  | 39  | 34  | 46  | 39  | 33  |  | 45  | 38  | 33  |  | 44  |
| 9   | 57  | 44  | 36  | 30  | 56  | 43  | 36  | 30  | 42  | 35  | 30  |  | 41  | 35  | 30  |  | 40  |
| 10  | 54  | 41  | 33  | 28  | 53  | 40  | 33  | 28  | 39  | 32  | 27  |  | 38  | 32  | 27  |  | 37  |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 20880 | 20880 | 20880 |
| 5°  | 20960 | 20658 | 20779 |
| 10° | 20836 | 20449 | 20550 |
| 15° | 20578 | 20183 | 20162 |
| 20° | 20213 | 19785 | 19763 |
| 25° | 19850 | 19294 | 19294 |
| 30° | 19382 | 18848 | 18686 |
| 35° | 18945 | 18309 | 18039 |
| 40° | 18399 | 17771 | 17430 |
| 45° | 17860 | 17235 | 16810 |
| 50° | 17273 | 16679 | 16086 |
| 55° | 16661 | 16031 | 15435 |
| 60° | 15981 | 15259 | 14696 |
| 65° | 15248 | 14491 | 13825 |
| 70° | 14324 | 13561 | 12913 |
| 75° | 13033 | 12489 | 12177 |
| 80° | 11559 | 11212 | 10638 |
| 85° | 9444  | 8990  | 8064  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 17860 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 124.1  | 3.7       |
| 10°-20°   | 349.3  | 10.4      |
| 20°-30°   | 513.3  | 15.3      |
| 30°-40°   | 596.2  | 17.8      |
| 40°-50°   | 595.5  | 17.7      |
| 50°-60°   | 519.2  | 15.5      |
| 60°-70°   | 383.8  | 11.4      |
| 70°-80°   | 217.2  | 6.5       |
| 80°-90°   | 57.3   | 1.7       |
| 90°-100°  | 0.0    | 0.0       |
| 100°-110° | 0.0    | 0.0       |
| 110°-120° | 0.0    | 0.0       |
| 120°-130° | 0.0    | 0.0       |
| 130°-140° | 0.0    | 0.0       |
| 140°-150° | 0.0    | 0.0       |
| 150°-160° | 0.0    | 0.0       |
| 160°-170° | 0.0    | 0.0       |
| 170°-180° | 0.0    | 0.0       |
| 0°-30°    | 986.8  | 29.4      |
| 0°-40°    | 1583.0 | 47.2      |
| 0°-60°    | 2697.7 | 80.4      |
| 0°-90°    | 3356.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3356.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1319 | 1319  | 1319 | 1319  | 1319 |      |
| 5°  | 1319 | 1314  | 1300 | 1310  | 1308 | 125  |
| 15° | 1256 | 1248  | 1232 | 1237  | 1230 | 354  |
| 25° | 1136 | 1126  | 1105 | 1107  | 1105 | 523  |
| 35° | 980  | 968   | 948  | 940   | 934  | 612  |
| 45° | 798  | 789   | 770  | 756   | 751  | 616  |
| 55° | 604  | 596   | 581  | 566   | 559  | 540  |
| 65° | 407  | 400   | 387  | 375   | 369  | 403  |
| 75° | 213  | 210   | 204  | 197   | 199  | 227  |
| 85° | 52   | 51    | 50   | 46    | 44   | 61   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |

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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1319.1 | 1319.1 | 1319.1 | 1319.1 | 1319.1 |
| 2.5°  | 1326.7 | 1320.4 | 1306.4 | 1319.1 | 1316.6 |
| 5°    | 1319.1 | 1314.0 | 1300.1 | 1310.2 | 1307.7 |
| 7.5°  | 1310.2 | 1302.6 | 1288.7 | 1298.8 | 1296.3 |
| 10°   | 1296.3 | 1287.4 | 1272.2 | 1282.3 | 1278.5 |
| 12.5° | 1277.2 | 1269.6 | 1254.4 | 1260.8 | 1258.2 |
| 15°   | 1255.7 | 1248.1 | 1231.6 | 1236.7 | 1230.3 |
| 17.5° | 1229.0 | 1221.4 | 1204.9 | 1211.3 | 1204.9 |
| 20°   | 1199.9 | 1192.3 | 1174.5 | 1178.3 | 1173.2 |
| 22.5° | 1170.7 | 1159.3 | 1142.8 | 1142.8 | 1140.3 |
| 25°   | 1136.5 | 1126.3 | 1104.7 | 1107.3 | 1104.7 |
| 27.5° | 1098.4 | 1089.5 | 1073.0 | 1069.2 | 1062.9 |
| 30°   | 1060.4 | 1050.2 | 1031.2 | 1027.4 | 1022.3 |
| 32.5° | 1019.8 | 1012.2 | 991.9  | 984.3  | 979.2  |
| 35°   | 980.4  | 967.8  | 947.5  | 939.9  | 933.5  |
| 37.5° | 936.1  | 924.6  | 904.3  | 895.5  | 889.1  |
| 40°   | 890.4  | 880.2  | 860.0  | 848.5  | 843.5  |
| 42.5° | 846.0  | 835.9  | 815.6  | 802.9  | 795.3  |
| 45°   | 797.8  | 788.9  | 769.9  | 755.9  | 750.9  |
| 47.5° | 750.9  | 742.0  | 721.7  | 707.7  | 700.1  |
| 50°   | 701.4  | 695.1  | 677.3  | 659.5  | 653.2  |
| 52.5° | 653.2  | 644.3  | 627.8  | 613.9  | 605.0  |
| 55°   | 603.7  | 596.1  | 580.9  | 565.7  | 559.3  |
| 57.5° | 554.3  | 547.9  | 531.4  | 516.2  | 511.2  |
| 60°   | 504.8  | 499.7  | 482.0  | 468.0  | 464.2  |
| 62.5° | 456.6  | 447.7  | 435.0  | 422.4  | 417.3  |
| 65°   | 407.1  | 399.5  | 386.9  | 375.4  | 369.1  |
| 67.5° | 356.4  | 350.1  | 338.7  | 329.8  | 324.7  |
| 70°   | 309.5  | 304.4  | 293.0  | 284.1  | 279.0  |
| 72.5° | 261.3  | 256.2  | 249.9  | 241.0  | 237.2  |
| 75°   | 213.1  | 210.5  | 204.2  | 196.6  | 199.1  |
| 77.5° | 170.0  | 164.9  | 162.4  | 158.5  | 154.7  |
| 80°   | 126.8  | 125.6  | 123.0  | 119.2  | 116.7  |
| 82.5° | 86.2   | 86.2   | 85.0   | 79.9   | 79.9   |
| 85°   | 52.0   | 50.7   | 49.5   | 45.7   | 44.4   |
| 87.5° | 22.8   | 20.3   | 17.8   | 14.0   | 12.7   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

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**CIE UGR TABLE:**

| Reflectances:   |      |                  |       |       |       |       |                |       |       |       |       |
|-----------------|------|------------------|-------|-------|-------|-------|----------------|-------|-------|-------|-------|
| Ceiling         |      | 0.7              | 0.7   | 0.5   | 0.5   | 0.3   | 0.7            | 0.7   | 0.5   | 0.5   | 0.3   |
| Wall            |      | 0.5              | 0.3   | 0.5   | 0.3   | 0.3   | 0.5            | 0.3   | 0.5   | 0.3   | 0.3   |
| Reference plane |      | 0.2              | 0.2   | 0.2   | 0.2   | 0.2   | 0.2            | 0.2   | 0.2   | 0.2   | 0.2   |
| Room dimensions |      | Viewed crosswise |       |       |       |       | Viewed endwise |       |       |       |       |
| X=2H            | Y=2H | 21.84            | 23.45 | 22.20 | 23.76 | 24.08 | 21.40          | 23.01 | 21.76 | 23.32 | 23.64 |
|                 | 3H   | 23.59            | 25.04 | 23.97 | 25.37 | 25.73 | 23.10          | 24.55 | 23.48 | 24.88 | 25.24 |
|                 | 4H   | 24.24            | 25.61 | 24.63 | 25.95 | 26.33 | 23.74          | 25.11 | 24.14 | 25.46 | 25.83 |
|                 | 6H   | 24.71            | 25.97 | 25.12 | 26.34 | 26.73 | 24.20          | 25.47 | 24.62 | 25.84 | 26.23 |
|                 | 8H   | 24.85            | 26.06 | 25.27 | 26.45 | 26.85 | 24.35          | 25.56 | 24.77 | 25.95 | 26.34 |
|                 | 12H  | 24.94            | 26.10 | 25.37 | 26.48 | 26.91 | 24.43          | 25.59 | 24.86 | 25.97 | 26.40 |
| 4H              | 2H   | 22.40            | 23.77 | 22.80 | 24.12 | 24.49 | 22.05          | 23.42 | 22.45 | 23.76 | 24.14 |
|                 | 3H   | 24.38            | 25.52 | 24.79 | 25.92 | 26.32 | 23.97          | 25.12 | 24.38 | 25.51 | 25.91 |
|                 | 4H   | 25.15            | 26.19 | 25.58 | 26.60 | 27.04 | 24.73          | 25.76 | 25.16 | 26.18 | 26.61 |
|                 | 6H   | 25.75            | 26.65 | 26.20 | 27.09 | 27.55 | 25.32          | 26.22 | 25.77 | 26.66 | 27.12 |
|                 | 8H   | 25.94            | 26.78 | 26.40 | 27.23 | 27.69 | 25.50          | 26.35 | 25.96 | 26.79 | 27.25 |
|                 | 12H  | 26.07            | 26.83 | 26.55 | 27.31 | 27.78 | 25.62          | 26.38 | 26.10 | 26.85 | 27.32 |
| 8H              | 4H   | 25.43            | 26.27 | 25.89 | 26.71 | 27.18 | 25.05          | 25.90 | 25.51 | 26.34 | 26.81 |
|                 | 6H   | 26.14            | 26.84 | 26.63 | 27.33 | 27.81 | 25.76          | 26.46 | 26.25 | 26.95 | 27.43 |
|                 | 8H   | 26.40            | 27.03 | 26.91 | 27.54 | 28.02 | 26.01          | 26.64 | 26.52 | 27.14 | 27.63 |
|                 | 12H  | 26.60            | 27.16 | 27.11 | 27.65 | 28.21 | 26.19          | 26.74 | 26.69 | 27.23 | 27.80 |
| 12H             | 4H   | 25.45            | 26.21 | 25.93 | 26.69 | 27.16 | 25.09          | 25.85 | 25.57 | 26.32 | 26.79 |
|                 | 6H   | 26.19            | 26.82 | 26.69 | 27.32 | 27.81 | 25.82          | 26.45 | 26.33 | 26.96 | 27.44 |
|                 | 8H   | 26.50            | 27.06 | 27.01 | 27.55 | 28.11 | 26.12          | 26.68 | 26.63 | 27.17 | 27.73 |