

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: P997674

Luminaire Tested: SA2XXDP-B865DB30-4F0-XX-W2A-F

Issue Date: 5/2/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P997674  
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-B865DB30-4F0-XX-W2A-F  
Description: Define 2 Direct Recessed with 3000K BioUP LEDs {m-DER=0.589} {m-EER=0.647}  
Light Source: -  
Ballast/Driver: -

**Summary**

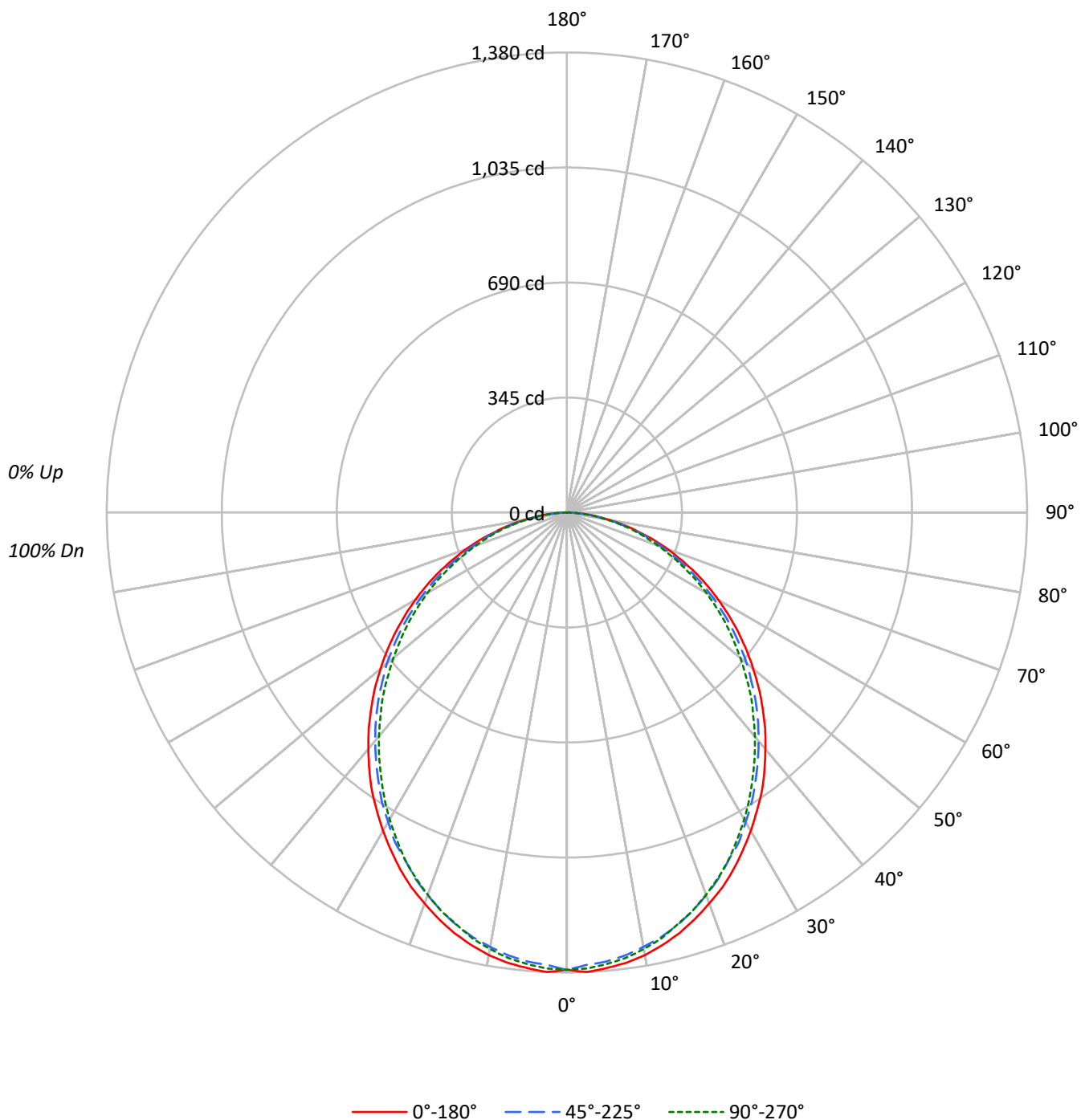
Lumens per Lamp: N/A  
Luminaire Lumens: 3490.0 lumens  
Efficiency: N/A  
Efficacy: 74.6 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Direct

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°  | 21715 | 21715 | 21715 |
| 5°  | 21798 | 21483 | 21608 |
| 10° | 21667 | 21265 | 21371 |
| 15° | 21399 | 20989 | 20966 |
| 20° | 21019 | 20575 | 20553 |
| 25° | 20641 | 20066 | 20066 |
| 30° | 20155 | 19601 | 19431 |
| 35° | 19703 | 19040 | 18760 |
| 40° | 19132 | 18480 | 18124 |
| 45° | 18574 | 17922 | 17481 |
| 50° | 17962 | 17347 | 16728 |
| 55° | 17326 | 16672 | 16053 |
| 60° | 16621 | 15867 | 15285 |
| 65° | 15859 | 15068 | 14375 |
| 70° | 14893 | 14102 | 13431 |
| 75° | 13553 | 12990 | 12666 |
| 80° | 12024 | 11659 | 11057 |
| 85° | 9826  | 9335  | 8391  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 18574 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 129.1  | 3.7       |
| 10°-20°   | 363.3  | 10.4      |
| 20°-30°   | 533.8  | 15.3      |
| 30°-40°   | 620.0  | 17.8      |
| 40°-50°   | 619.2  | 17.7      |
| 50°-60°   | 540.0  | 15.5      |
| 60°-70°   | 399.1  | 11.4      |
| 70°-80°   | 225.8  | 6.5       |
| 80°-90°   | 59.6   | 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°    | 1026.2 | 29.4      |
| 0°-40°    | 1646.2 | 47.2      |
| 0°-60°    | 2805.4 | 80.4      |
| 0°-90°    | 3490.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3490.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1372 | 1372  | 1372 | 1372  | 1372 |      |
| 5°  | 1372 | 1366  | 1352 | 1362  | 1360 | 130  |
| 15° | 1306 | 1298  | 1281 | 1286  | 1279 | 368  |
| 25° | 1182 | 1171  | 1149 | 1152  | 1149 | 544  |
| 35° | 1020 | 1006  | 985  | 977   | 971  | 637  |
| 45° | 830  | 820   | 801  | 786   | 781  | 640  |
| 55° | 628  | 620   | 604  | 588   | 582  | 561  |
| 65° | 423  | 416   | 402  | 390   | 384  | 419  |
| 75° | 222  | 219   | 212  | 204   | 207  | 236  |
| 85° | 54   | 53    | 51   | 48    | 46   | 64   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |

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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1371.8 | 1371.8 | 1371.8 | 1371.8 | 1371.8 |
| 2.5°  | 1379.7 | 1373.1 | 1358.6 | 1371.8 | 1369.1 |
| 5°    | 1371.8 | 1366.5 | 1352.0 | 1362.5 | 1359.9 |
| 7.5°  | 1362.5 | 1354.6 | 1340.1 | 1350.7 | 1348.0 |
| 10°   | 1348.0 | 1338.8 | 1323.0 | 1333.5 | 1329.6 |
| 12.5° | 1328.2 | 1320.3 | 1304.5 | 1311.1 | 1308.5 |
| 15°   | 1305.8 | 1297.9 | 1280.8 | 1286.0 | 1279.4 |
| 17.5° | 1278.1 | 1270.2 | 1253.1 | 1259.7 | 1253.1 |
| 20°   | 1247.8 | 1239.9 | 1221.4 | 1225.4 | 1220.1 |
| 22.5° | 1217.4 | 1205.6 | 1188.4 | 1188.4 | 1185.8 |
| 25°   | 1181.8 | 1171.3 | 1148.9 | 1151.5 | 1148.9 |
| 27.5° | 1142.3 | 1133.0 | 1115.9 | 1111.9 | 1105.3 |
| 30°   | 1102.7 | 1092.1 | 1072.4 | 1068.4 | 1063.1 |
| 32.5° | 1060.5 | 1052.6 | 1031.5 | 1023.6 | 1018.3 |
| 35°   | 1019.6 | 1006.4 | 985.3  | 977.4  | 970.8  |
| 37.5° | 973.4  | 961.6  | 940.5  | 931.2  | 924.6  |
| 40°   | 925.9  | 915.4  | 894.3  | 882.4  | 877.1  |
| 42.5° | 879.8  | 869.2  | 848.1  | 834.9  | 827.0  |
| 45°   | 829.7  | 820.4  | 800.6  | 786.1  | 780.9  |
| 47.5° | 780.9  | 771.6  | 750.5  | 736.0  | 728.1  |
| 50°   | 729.4  | 722.8  | 704.4  | 685.9  | 679.3  |
| 52.5° | 679.3  | 670.1  | 652.9  | 638.4  | 629.2  |
| 55°   | 627.8  | 619.9  | 604.1  | 588.3  | 581.7  |
| 57.5° | 576.4  | 569.8  | 552.7  | 536.8  | 531.6  |
| 60°   | 525.0  | 519.7  | 501.2  | 486.7  | 482.8  |
| 62.5° | 474.8  | 465.6  | 452.4  | 439.2  | 434.0  |
| 65°   | 423.4  | 415.5  | 402.3  | 390.4  | 383.8  |
| 67.5° | 370.6  | 364.0  | 352.2  | 342.9  | 337.7  |
| 70°   | 321.8  | 316.6  | 304.7  | 295.5  | 290.2  |
| 72.5° | 271.7  | 266.4  | 259.8  | 250.6  | 246.7  |
| 75°   | 221.6  | 219.0  | 212.4  | 204.4  | 207.1  |
| 77.5° | 176.7  | 171.5  | 168.8  | 164.9  | 160.9  |
| 80°   | 131.9  | 130.6  | 127.9  | 124.0  | 121.3  |
| 82.5° | 89.7   | 89.7   | 88.4   | 83.1   | 83.1   |
| 85°   | 54.1   | 52.8   | 51.4   | 47.5   | 46.2   |
| 87.5° | 23.7   | 21.1   | 18.5   | 14.5   | 13.2   |
| 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 | 21.98            | 23.59 | 22.34 | 23.90 | 24.22 | 21.53          | 23.14 | 21.90 | 23.46 | 23.77 |
|                 | 3H   | 23.73            | 25.18 | 24.10 | 25.51 | 25.87 | 23.24          | 24.69 | 23.61 | 25.02 | 25.38 |
|                 | 4H   | 24.37            | 25.74 | 24.77 | 26.09 | 26.47 | 23.88          | 25.25 | 24.28 | 25.59 | 25.97 |
|                 | 6H   | 24.84            | 26.11 | 25.25 | 26.47 | 26.87 | 24.34          | 25.61 | 24.75 | 25.97 | 26.36 |
|                 | 8H   | 24.98            | 26.20 | 25.41 | 26.58 | 26.98 | 24.48          | 25.69 | 24.91 | 26.08 | 26.48 |
|                 | 12H  | 25.07            | 26.24 | 25.50 | 26.62 | 27.05 | 24.56          | 25.72 | 24.99 | 26.10 | 26.53 |
| 4H              | 2H   | 22.54            | 23.91 | 22.93 | 24.25 | 24.63 | 22.18          | 23.55 | 22.58 | 23.90 | 24.28 |
|                 | 3H   | 24.51            | 25.66 | 24.92 | 26.06 | 26.46 | 24.11          | 25.25 | 24.51 | 25.65 | 26.05 |
|                 | 4H   | 25.29            | 26.32 | 25.72 | 26.74 | 27.17 | 24.86          | 25.90 | 25.30 | 26.31 | 26.75 |
|                 | 6H   | 25.88            | 26.79 | 26.34 | 27.23 | 27.69 | 25.45          | 26.36 | 25.91 | 26.80 | 27.25 |
|                 | 8H   | 26.07            | 26.92 | 26.53 | 27.36 | 27.83 | 25.64          | 26.48 | 26.10 | 26.92 | 27.39 |
|                 | 12H  | 26.21            | 26.97 | 26.69 | 27.44 | 27.91 | 25.75          | 26.51 | 26.23 | 26.99 | 27.46 |
| 8H              | 4H   | 25.56            | 26.41 | 26.02 | 26.85 | 27.32 | 25.19          | 26.03 | 25.65 | 26.48 | 26.94 |
|                 | 6H   | 26.28            | 26.98 | 26.77 | 27.47 | 27.94 | 25.89          | 26.60 | 26.39 | 27.09 | 27.56 |
|                 | 8H   | 26.54            | 27.17 | 27.05 | 27.67 | 28.16 | 26.14          | 26.77 | 26.65 | 27.28 | 27.77 |
|                 | 12H  | 26.74            | 27.29 | 27.24 | 27.78 | 28.34 | 26.32          | 26.88 | 26.83 | 27.37 | 27.93 |
| 12H             | 4H   | 25.59            | 26.35 | 26.07 | 26.82 | 27.29 | 25.22          | 25.98 | 25.70 | 26.46 | 26.93 |
|                 | 6H   | 26.32            | 26.95 | 26.83 | 27.46 | 27.95 | 25.95          | 26.58 | 26.46 | 27.09 | 27.58 |
|                 | 8H   | 26.64            | 27.19 | 27.14 | 27.68 | 28.24 | 26.26          | 26.81 | 26.76 | 27.31 | 27.87 |