

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: P997644

Luminaire Tested: SA2XXDP-B675DB30-4F0-XX-W2A-F

Issue Date: 5/2/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P997644  
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-B675DB30-4F0-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**

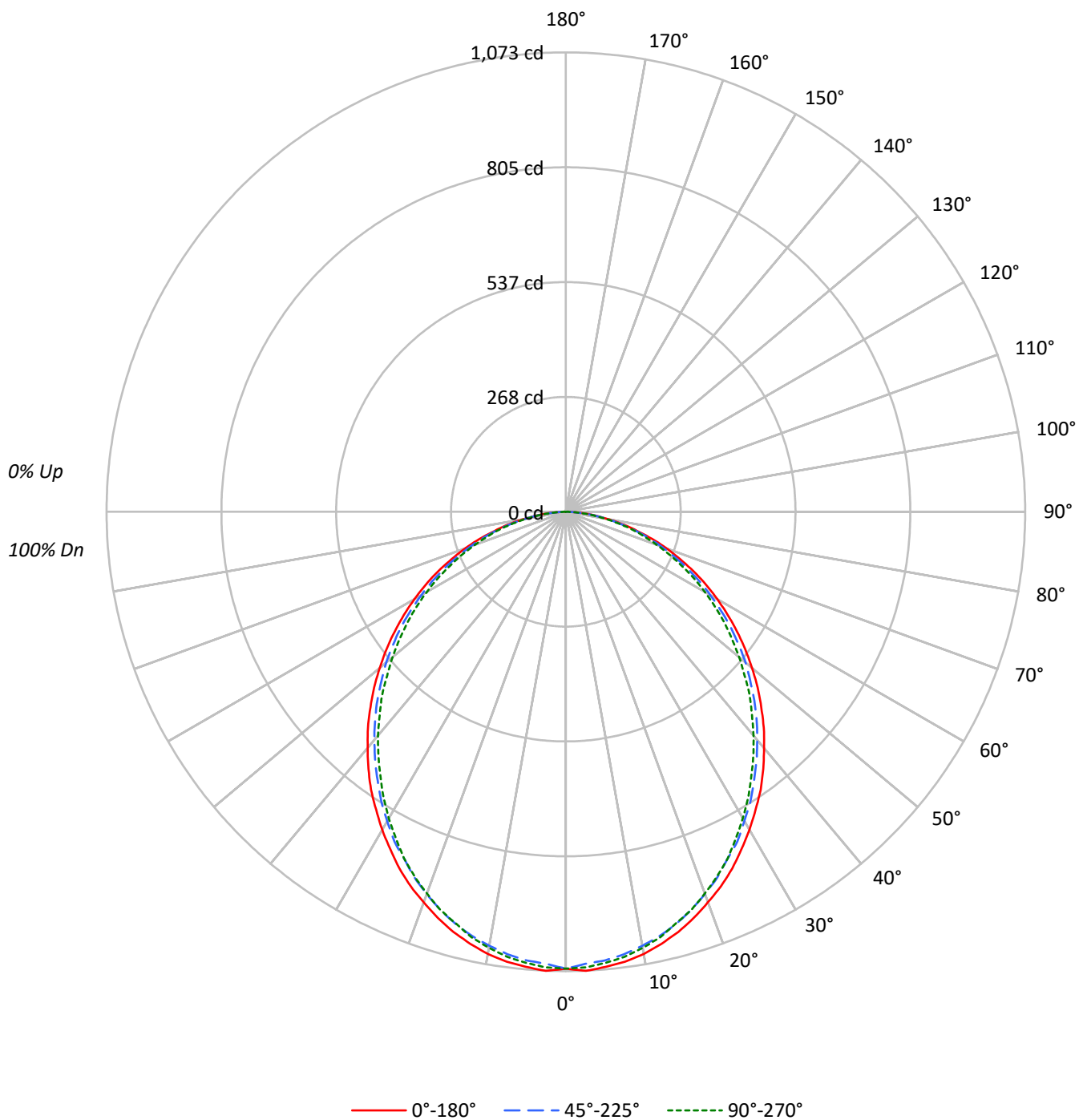
Lumens per Lamp: N/A  
Luminaire Lumens: 2715.0 lumens  
Efficiency: N/A  
Efficacy: 75.6 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 35.9  
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°  | 16891 | 16891 | 16891 |
| 5°  | 16956 | 16713 | 16810 |
| 10° | 16856 | 16543 | 16625 |
| 15° | 16647 | 16327 | 16311 |
| 20° | 16352 | 16006 | 15988 |
| 25° | 16058 | 15609 | 15609 |
| 30° | 15679 | 15248 | 15116 |
| 35° | 15328 | 14812 | 14593 |
| 40° | 14884 | 14376 | 14101 |
| 45° | 14448 | 13942 | 13599 |
| 50° | 13973 | 13493 | 13012 |
| 55° | 13479 | 12971 | 12488 |
| 60° | 12929 | 12344 | 11891 |
| 65° | 12338 | 11724 | 11184 |
| 70° | 11589 | 10969 | 10446 |
| 75° | 10544 | 10104 | 9853  |
| 80° | 9353  | 9070  | 8605  |
| 85° | 7646  | 7265  | 6520  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 14448 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 100.4  | 3.7       |
| 10°-20°   | 282.6  | 10.4      |
| 20°-30°   | 415.3  | 15.3      |
| 30°-40°   | 482.3  | 17.8      |
| 40°-50°   | 481.7  | 17.7      |
| 50°-60°   | 420.0  | 15.5      |
| 60°-70°   | 310.5  | 11.4      |
| 70°-80°   | 175.7  | 6.5       |
| 80°-90°   | 46.4   | 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°    | 798.3  | 29.4      |
| 0°-40°    | 1280.6 | 47.2      |
| 0°-60°    | 2182.4 | 80.4      |
| 0°-90°    | 2715.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2715.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1067 | 1067  | 1067 | 1067  | 1067 |      |
| 5°  | 1067 | 1063  | 1052 | 1060  | 1058 | 101  |
| 15° | 1016 | 1010  | 996  | 1000  | 995  | 286  |
| 25° | 919  | 911   | 894  | 896   | 894  | 423  |
| 35° | 793  | 783   | 766  | 760   | 755  | 495  |
| 45° | 645  | 638   | 623  | 612   | 608  | 498  |
| 55° | 488  | 482   | 470  | 458   | 452  | 437  |
| 65° | 329  | 323   | 313  | 304   | 299  | 326  |
| 75° | 172  | 170   | 165  | 159   | 161  | 184  |
| 85° | 42   | 41    | 40   | 37    | 36   | 49   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |

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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1067.1 | 1067.1 | 1067.1 | 1067.1 | 1067.1 |
| 2.5°  | 1073.3 | 1068.2 | 1056.9 | 1067.1 | 1065.1 |
| 5°    | 1067.1 | 1063.0 | 1051.8 | 1060.0 | 1057.9 |
| 7.5°  | 1060.0 | 1053.8 | 1042.5 | 1050.7 | 1048.7 |
| 10°   | 1048.7 | 1041.5 | 1029.2 | 1037.4 | 1034.3 |
| 12.5° | 1033.3 | 1027.1 | 1014.8 | 1019.9 | 1017.9 |
| 15°   | 1015.8 | 1009.7 | 996.3  | 1000.5 | 995.3  |
| 17.5° | 994.3  | 988.1  | 974.8  | 979.9  | 974.8  |
| 20°   | 970.7  | 964.5  | 950.2  | 953.3  | 949.1  |
| 22.5° | 947.1  | 937.9  | 924.5  | 924.5  | 922.5  |
| 25°   | 919.4  | 911.2  | 893.7  | 895.8  | 893.7  |
| 27.5° | 888.6  | 881.4  | 868.1  | 865.0  | 859.9  |
| 30°   | 857.8  | 849.6  | 834.2  | 831.1  | 827.0  |
| 32.5° | 825.0  | 818.8  | 802.4  | 796.3  | 792.2  |
| 35°   | 793.2  | 782.9  | 766.5  | 760.3  | 755.2  |
| 37.5° | 757.3  | 748.0  | 731.6  | 724.4  | 719.3  |
| 40°   | 720.3  | 712.1  | 695.7  | 686.5  | 682.4  |
| 42.5° | 684.4  | 676.2  | 659.8  | 649.5  | 643.4  |
| 45°   | 645.4  | 638.2  | 622.8  | 611.6  | 607.5  |
| 47.5° | 607.5  | 600.3  | 583.9  | 572.6  | 566.4  |
| 50°   | 567.4  | 562.3  | 547.9  | 533.6  | 528.4  |
| 52.5° | 528.4  | 521.3  | 507.9  | 496.6  | 489.5  |
| 55°   | 488.4  | 482.3  | 470.0  | 457.6  | 452.5  |
| 57.5° | 448.4  | 443.3  | 429.9  | 417.6  | 413.5  |
| 60°   | 408.4  | 404.3  | 389.9  | 378.6  | 375.6  |
| 62.5° | 369.4  | 362.2  | 352.0  | 341.7  | 337.6  |
| 65°   | 329.4  | 323.2  | 313.0  | 303.7  | 298.6  |
| 67.5° | 288.3  | 283.2  | 274.0  | 266.8  | 262.7  |
| 70°   | 250.4  | 246.3  | 237.0  | 229.8  | 225.7  |
| 72.5° | 211.4  | 207.3  | 202.1  | 195.0  | 191.9  |
| 75°   | 172.4  | 170.3  | 165.2  | 159.0  | 161.1  |
| 77.5° | 137.5  | 133.4  | 131.3  | 128.3  | 125.2  |
| 80°   | 102.6  | 101.6  | 99.5   | 96.5   | 94.4   |
| 82.5° | 69.8   | 69.8   | 68.7   | 64.6   | 64.6   |
| 85°   | 42.1   | 41.0   | 40.0   | 36.9   | 35.9   |
| 87.5° | 18.5   | 16.4   | 14.4   | 11.3   | 10.3   |
| 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 | 21.10            | 22.71 | 21.47 | 23.03 | 23.34 | 20.66          | 22.27 | 21.02 | 22.58 | 22.90 |
|                 | 3H   | 22.85            | 24.31 | 23.23 | 24.64 | 25.00 | 22.36          | 23.82 | 22.74 | 24.14 | 24.50 |
|                 | 4H   | 23.50            | 24.87 | 23.90 | 25.22 | 25.59 | 23.00          | 24.37 | 23.40 | 24.72 | 25.10 |
|                 | 6H   | 23.97            | 25.24 | 24.38 | 25.60 | 25.99 | 23.47          | 24.74 | 23.88 | 25.10 | 25.49 |
|                 | 8H   | 24.11            | 25.32 | 24.54 | 25.71 | 26.11 | 23.61          | 24.82 | 24.03 | 25.21 | 25.61 |
|                 | 12H  | 24.20            | 25.36 | 24.63 | 25.74 | 26.17 | 23.69          | 24.85 | 24.12 | 25.23 | 25.66 |
| 4H              | 2H   | 21.66            | 23.03 | 22.06 | 23.38 | 23.76 | 21.31          | 22.68 | 21.71 | 23.03 | 23.40 |
|                 | 3H   | 23.64            | 24.79 | 24.05 | 25.18 | 25.58 | 23.23          | 24.38 | 23.64 | 24.78 | 25.18 |
|                 | 4H   | 24.42            | 25.45 | 24.85 | 25.87 | 26.30 | 23.99          | 25.03 | 24.42 | 25.44 | 25.88 |
|                 | 6H   | 25.01            | 25.92 | 25.47 | 26.36 | 26.81 | 24.58          | 25.48 | 25.03 | 25.93 | 26.38 |
|                 | 8H   | 25.20            | 26.05 | 25.66 | 26.49 | 26.96 | 24.76          | 25.61 | 25.22 | 26.05 | 26.52 |
|                 | 12H  | 25.33            | 26.09 | 25.81 | 26.57 | 27.04 | 24.88          | 25.64 | 25.36 | 26.12 | 26.59 |
| 8H              | 4H   | 24.69            | 25.54 | 25.15 | 25.98 | 26.44 | 24.31          | 25.16 | 24.78 | 25.60 | 26.07 |
|                 | 6H   | 25.40            | 26.11 | 25.90 | 26.60 | 27.07 | 25.02          | 25.73 | 25.52 | 26.21 | 26.69 |
|                 | 8H   | 25.66            | 26.29 | 26.17 | 26.80 | 27.29 | 25.27          | 25.90 | 25.78 | 26.41 | 26.89 |
|                 | 12H  | 25.86            | 26.42 | 26.37 | 26.91 | 27.47 | 25.45          | 26.01 | 25.96 | 26.50 | 27.06 |
| 12H             | 4H   | 24.72            | 25.48 | 25.20 | 25.95 | 26.42 | 24.35          | 25.11 | 24.83 | 25.59 | 26.06 |
|                 | 6H   | 25.45            | 26.08 | 25.96 | 26.59 | 27.07 | 25.08          | 25.71 | 25.59 | 26.22 | 26.71 |
|                 | 8H   | 25.76            | 26.32 | 26.27 | 26.81 | 27.37 | 25.38          | 25.94 | 25.89 | 26.43 | 26.99 |