

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: METALUX

Report Number: P1588338

Luminaire Tested: 24CZSP-52-L845-S

Issue Date: 9/3/2026

**Test Information**

Test Method: LM-79-2019  
Report Number: P1588338  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2608-884-6)  
Test Lab: INNOVATION CENTER  
Issue Date: 9/3/2026  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 24CZSP-52-L845-S  
Description: 2x4 CZSP LED Luminaire, 4500K CCT and 4500 lumens, 80CRI, Smooth Lens  
Light Source: -  
Ballast/Driver: -

**Summary**

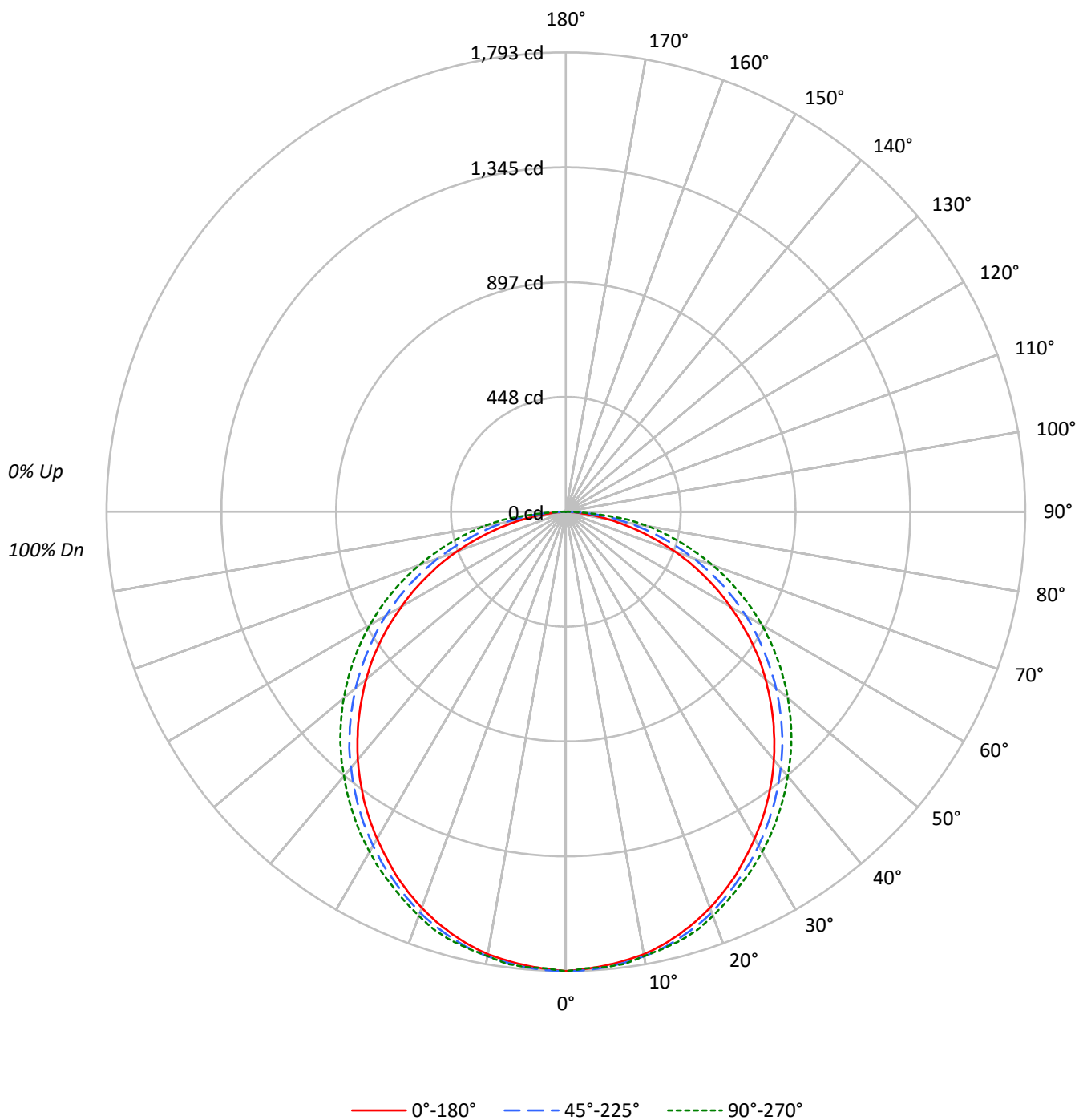
Lumens per Lamp: N/A  
Luminaire Lumens: 5235.0 lumens  
Efficiency: N/A  
Efficacy: 142.6 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.27 / 1.37  
Luminous Opening: Rectangular (W 1.83' x L: 3.83' x H: 0')  
CIE Type: Direct

Input Watts (W): 36.7  
Input Voltage (V): NR  
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

TEST NUMBER: P1588338

CATALOG NUMBER: 24CZSP-52-L845-S

### Luminous Intensity Polar Plot



TEST NUMBER: P1588338

CATALOG NUMBER: 24CZSP-52-L845-S

**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

|     |     |     |     |     |     |     |     |     |     |     |     |  |     |     |     |  |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|-----|-----|-----|--|-----|-----|-----|-----|
| RF  | 20  |     |     |     | 20  |     |     |     | 20  |     |     |  | 20  |     |     |  | 20  |     |     |     |
| RC  | 80  |     |     |     | 70  |     |     |     | 50  |     |     |  | 30  |     |     |  | 10  |     |     | 0   |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  |  | 50  | 30  | 10  |  | 50  | 30  | 10  | 0   |
| RCR |     |     |     |     |     |     |     |     |     |     |     |  |     |     |     |  |     |     |     |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 |  | 106 | 106 | 106 |  | 102 | 102 | 102 | 100 |
| 1   | 108 | 103 | 99  | 95  | 106 | 101 | 97  | 93  | 97  | 93  | 90  |  | 93  | 90  | 88  |  | 89  | 87  | 85  | 83  |
| 2   | 98  | 90  | 83  | 77  | 96  | 88  | 81  | 76  | 84  | 79  | 74  |  | 81  | 76  | 72  |  | 78  | 74  | 71  | 69  |
| 3   | 89  | 79  | 70  | 64  | 87  | 77  | 69  | 63  | 74  | 67  | 62  |  | 71  | 65  | 61  |  | 69  | 64  | 60  | 57  |
| 4   | 82  | 69  | 60  | 54  | 79  | 68  | 60  | 53  | 66  | 58  | 52  |  | 63  | 57  | 52  |  | 61  | 56  | 51  | 49  |
| 5   | 75  | 62  | 53  | 46  | 73  | 61  | 52  | 46  | 59  | 51  | 45  |  | 57  | 50  | 45  |  | 55  | 49  | 44  | 42  |
| 6   | 69  | 56  | 47  | 40  | 67  | 55  | 46  | 40  | 53  | 45  | 40  |  | 51  | 44  | 39  |  | 50  | 44  | 39  | 37  |
| 7   | 64  | 50  | 42  | 35  | 62  | 50  | 41  | 35  | 48  | 40  | 35  |  | 47  | 40  | 35  |  | 45  | 39  | 34  | 32  |
| 8   | 60  | 46  | 37  | 32  | 58  | 45  | 37  | 31  | 44  | 37  | 31  |  | 43  | 36  | 31  |  | 42  | 35  | 31  | 29  |
| 9   | 56  | 42  | 34  | 28  | 54  | 42  | 34  | 28  | 40  | 33  | 28  |  | 39  | 33  | 28  |  | 38  | 32  | 28  | 26  |
| 10  | 52  | 39  | 31  | 26  | 51  | 38  | 31  | 26  | 37  | 30  | 25  |  | 37  | 30  | 25  |  | 36  | 30  | 25  | 23  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 2746 | 2746 | 2746 |
| 5°  | 2734 | 2745 | 2743 |
| 10° | 2728 | 2741 | 2739 |
| 15° | 2708 | 2730 | 2747 |
| 20° | 2681 | 2713 | 2735 |
| 25° | 2648 | 2685 | 2718 |
| 30° | 2607 | 2661 | 2710 |
| 35° | 2569 | 2635 | 2702 |
| 40° | 2526 | 2609 | 2694 |
| 45° | 2478 | 2583 | 2697 |
| 50° | 2425 | 2551 | 2696 |
| 55° | 2362 | 2515 | 2699 |
| 60° | 2273 | 2488 | 2706 |
| 65° | 2169 | 2439 | 2714 |
| 70° | 2021 | 2372 | 2726 |
| 75° | 1801 | 2277 | 2753 |
| 80° | 1490 | 2168 | 2888 |
| 85° | 968  | 1958 | 2524 |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°

Vertical Angle: 82.5°

Luminance: 2979 cd/sqm

TEST NUMBER: P1588338

CATALOG NUMBER: 24CZSP-52-L845-S

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 169.6  | 3.2       |
| 10°-20°   | 485.6  | 9.3       |
| 20°-30°   | 732.3  | 14.0      |
| 30°-40°   | 882.1  | 16.8      |
| 40°-50°   | 921.2  | 17.6      |
| 50°-60°   | 846.0  | 16.2      |
| 60°-70°   | 666.4  | 12.7      |
| 70°-80°   | 408.8  | 7.8       |
| 80°-90°   | 123.0  | 2.3       |
| 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°    | 1387.5 | 26.5      |
| 0°-40°    | 2269.6 | 43.4      |
| 0°-60°    | 4036.8 | 77.1      |
| 0°-90°    | 5235.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 5235.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1793 | 1793  | 1793 | 1793  | 1793 |      |
| 5°  | 1778 | 1780  | 1785 | 1791  | 1784 | 169  |
| 15° | 1708 | 1712  | 1722 | 1732  | 1732 | 482  |
| 25° | 1567 | 1570  | 1589 | 1608  | 1608 | 721  |
| 35° | 1374 | 1381  | 1410 | 1438  | 1445 | 859  |
| 45° | 1144 | 1157  | 1192 | 1234  | 1245 | 882  |
| 55° | 884  | 901   | 942  | 995   | 1011 | 790  |
| 65° | 598  | 619   | 673  | 729   | 749  | 592  |
| 75° | 304  | 328   | 385  | 446   | 465  | 323  |
| 85° | 55   | 76    | 111  | 141   | 144  | 72   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |

TEST NUMBER: P1588338

CATALOG NUMBER: 24CZSP-52-L845-S

**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1793.1 | 1793.1 | 1793.1 | 1793.1 | 1793.1 |
| 2.5°  | 1786.2 | 1789.7 | 1790.8 | 1792.0 | 1783.9 |
| 5°    | 1778.2 | 1780.5 | 1785.1 | 1790.8 | 1783.9 |
| 7.5°  | 1766.7 | 1769.0 | 1774.7 | 1782.8 | 1779.3 |
| 10°   | 1754.1 | 1755.2 | 1762.1 | 1767.9 | 1761.0 |
| 12.5° | 1733.4 | 1736.8 | 1744.9 | 1749.5 | 1747.2 |
| 15°   | 1708.1 | 1711.6 | 1721.9 | 1732.2 | 1732.2 |
| 17.5° | 1678.3 | 1682.9 | 1695.5 | 1709.3 | 1710.4 |
| 20°   | 1644.9 | 1648.4 | 1664.5 | 1678.3 | 1678.3 |
| 22.5° | 1607.0 | 1611.6 | 1627.7 | 1642.6 | 1644.9 |
| 25°   | 1566.8 | 1570.3 | 1588.7 | 1608.2 | 1608.2 |
| 27.5° | 1519.7 | 1526.6 | 1549.6 | 1569.1 | 1573.7 |
| 30°   | 1473.8 | 1479.5 | 1504.8 | 1528.9 | 1532.4 |
| 32.5° | 1425.5 | 1432.4 | 1458.9 | 1485.3 | 1491.0 |
| 35°   | 1373.9 | 1380.7 | 1409.5 | 1438.2 | 1445.1 |
| 37.5° | 1319.9 | 1327.9 | 1357.8 | 1391.1 | 1398.0 |
| 40°   | 1263.6 | 1272.8 | 1304.9 | 1340.5 | 1347.4 |
| 42.5° | 1203.8 | 1216.5 | 1250.9 | 1287.7 | 1298.0 |
| 45°   | 1144.1 | 1156.7 | 1192.4 | 1233.7 | 1245.2 |
| 47.5° | 1080.9 | 1095.9 | 1132.6 | 1176.3 | 1188.9 |
| 50°   | 1017.8 | 1032.7 | 1070.6 | 1117.7 | 1131.5 |
| 52.5° | 953.4  | 968.4  | 1007.4 | 1056.8 | 1071.7 |
| 55°   | 884.5  | 900.6  | 941.9  | 994.8  | 1010.9 |
| 57.5° | 813.3  | 834.0  | 877.6  | 931.6  | 947.7  |
| 60°   | 742.1  | 762.7  | 812.1  | 865.0  | 883.4  |
| 62.5° | 672.0  | 691.5  | 742.1  | 798.3  | 817.9  |
| 65°   | 598.5  | 619.2  | 673.1  | 729.4  | 749.0  |
| 67.5° | 526.1  | 546.8  | 600.8  | 659.4  | 680.0  |
| 70°   | 451.4  | 474.4  | 529.6  | 588.1  | 608.8  |
| 72.5° | 376.8  | 400.9  | 457.2  | 516.9  | 536.4  |
| 75°   | 304.4  | 328.5  | 384.8  | 445.7  | 465.2  |
| 77.5° | 233.2  | 259.6  | 314.7  | 376.8  | 395.2  |
| 80°   | 168.9  | 194.1  | 245.8  | 306.7  | 327.4  |
| 82.5° | 108.0  | 129.8  | 181.5  | 238.9  | 253.9  |
| 85°   | 55.1   | 75.8   | 111.4  | 141.3  | 143.6  |
| 87.5° | 17.2   | 24.1   | 36.8   | 55.1   | 56.3   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

TEST NUMBER: P1588338

CATALOG NUMBER: 24CZSP-52-L845-S

**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 | 14.99            | 16.65 | 15.35 | 16.96 | 17.28 | 15.82          | 17.48 | 16.18 | 17.79 | 18.11 |
|                 | 3H   | 16.74            | 18.25 | 17.12 | 18.58 | 18.94 | 17.93          | 19.44 | 18.31 | 19.77 | 20.13 |
|                 | 4H   | 17.36            | 18.78 | 17.76 | 19.13 | 19.51 | 18.82          | 20.25 | 19.22 | 20.59 | 20.97 |
|                 | 6H   | 17.77            | 19.09 | 18.18 | 19.46 | 19.85 | 19.61          | 20.93 | 20.02 | 21.29 | 21.68 |
|                 | 8H   | 17.88            | 19.14 | 18.30 | 19.53 | 19.93 | 19.93          | 21.19 | 20.35 | 21.58 | 21.97 |
|                 | 12H  | 17.93            | 19.14 | 18.36 | 19.52 | 19.95 | 20.14          | 21.35 | 20.57 | 21.73 | 22.16 |
| 4H              | 2H   | 15.76            | 17.18 | 16.16 | 17.53 | 17.90 | 16.41          | 17.83 | 16.80 | 18.18 | 18.55 |
|                 | 3H   | 17.74            | 18.94 | 18.15 | 19.33 | 19.73 | 18.76          | 19.96 | 19.17 | 20.36 | 20.76 |
|                 | 4H   | 18.47            | 19.56 | 18.90 | 19.97 | 20.41 | 19.81          | 20.90 | 20.24 | 21.31 | 21.75 |
|                 | 6H   | 19.00            | 19.95 | 19.46 | 20.39 | 20.85 | 20.77          | 21.72 | 21.22 | 22.16 | 22.61 |
|                 | 8H   | 19.15            | 20.04 | 19.61 | 20.48 | 20.95 | 21.16          | 22.06 | 21.62 | 22.50 | 22.96 |
|                 | 12H  | 19.23            | 20.04 | 19.71 | 20.51 | 20.98 | 21.44          | 22.24 | 21.92 | 22.72 | 23.19 |
| 8H              | 4H   | 18.93            | 19.82 | 19.39 | 20.27 | 20.73 | 20.10          | 20.99 | 20.56 | 21.44 | 21.90 |
|                 | 6H   | 19.59            | 20.34 | 20.09 | 20.82 | 21.30 | 21.21          | 21.96 | 21.71 | 22.45 | 22.92 |
|                 | 8H   | 19.81            | 20.47 | 20.31 | 20.98 | 21.46 | 21.73          | 22.39 | 22.23 | 22.90 | 23.38 |
|                 | 12H  | 19.94            | 20.54 | 20.45 | 21.03 | 21.58 | 22.11          | 22.70 | 22.62 | 23.19 | 23.75 |
| 12H             | 4H   | 19.02            | 19.83 | 19.50 | 20.30 | 20.77 | 20.13          | 20.93 | 20.61 | 21.40 | 21.87 |
|                 | 6H   | 19.73            | 20.40 | 20.23 | 20.90 | 21.39 | 21.26          | 21.93 | 21.77 | 22.44 | 22.92 |
|                 | 8H   | 20.00            | 20.60 | 20.51 | 21.09 | 21.64 | 21.84          | 22.43 | 22.34 | 22.92 | 23.48 |