

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: P1588336

Luminaire Tested: 24CZSP-52-L840-S

Issue Date: 9/3/2026

**Test Information**

Test Method: LM-79-2019  
Report Number: P1588336  
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-L840-S  
Description: 2x4 CZSP LED Luminaire, 4000K CCT and 4500 lumens, 80CRI, Smooth Lens  
Light Source: -  
Ballast/Driver: -

**Summary**

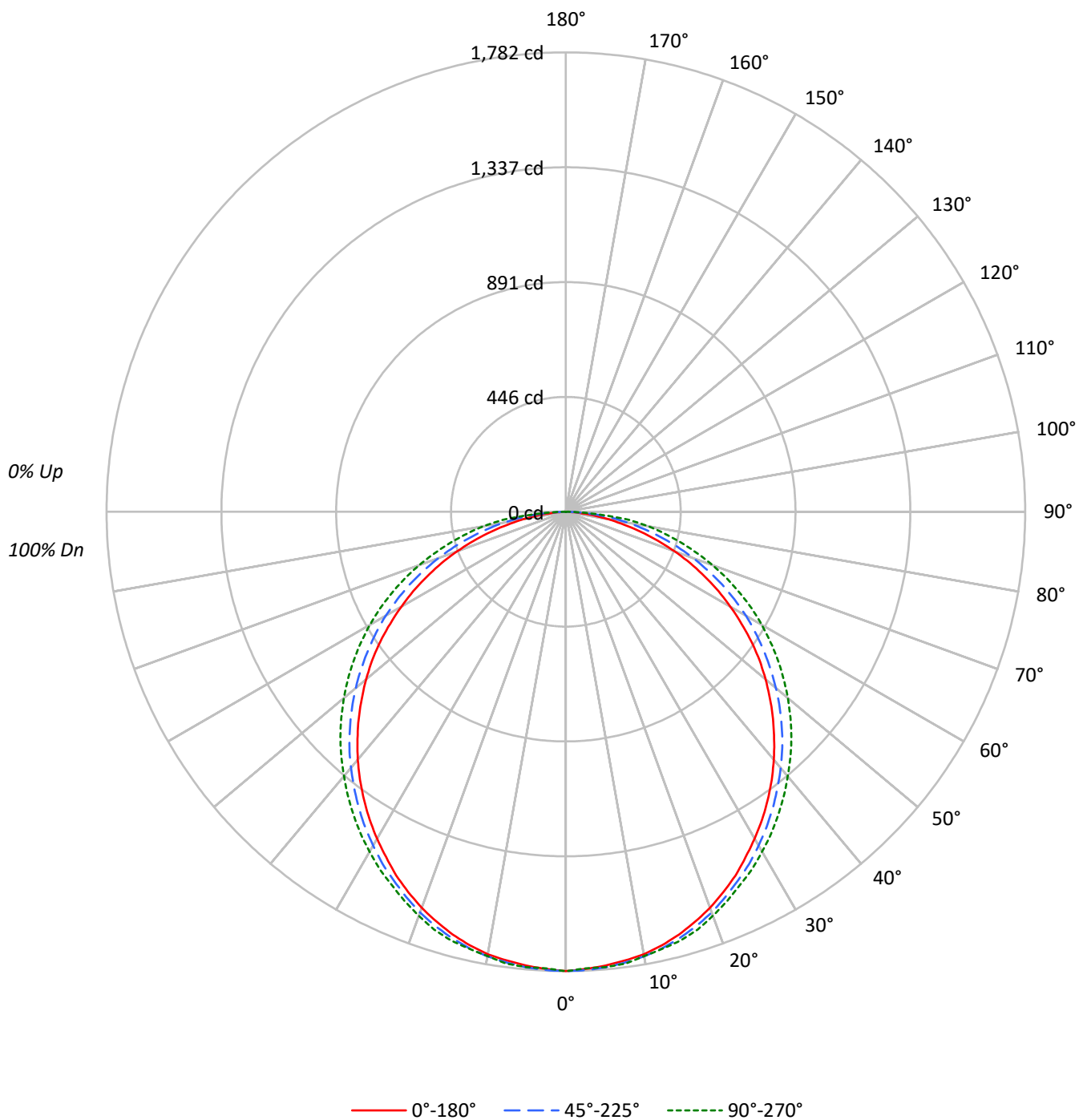
Lumens per Lamp: N/A  
Luminaire Lumens: 5202.0 lumens  
Efficiency: N/A  
Efficacy: 141.7 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.27 / 1.37  
Luminous Opening: Rectangular (W 1.83' x L: 3.83' x H: 0')  
CIE Type: Direct

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: P1588336

CATALOG NUMBER: 24CZSP-52-L840-S

### Luminous Intensity Polar Plot



TEST NUMBER: P1588336

CATALOG NUMBER: 24CZSP-52-L840-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°  | 2729 | 2729 | 2729 |
| 5°  | 2717 | 2727 | 2725 |
| 10° | 2711 | 2723 | 2722 |
| 15° | 2691 | 2713 | 2729 |
| 20° | 2664 | 2696 | 2718 |
| 25° | 2631 | 2668 | 2701 |
| 30° | 2590 | 2645 | 2693 |
| 35° | 2553 | 2619 | 2685 |
| 40° | 2510 | 2593 | 2677 |
| 45° | 2463 | 2566 | 2680 |
| 50° | 2410 | 2535 | 2679 |
| 55° | 2347 | 2499 | 2682 |
| 60° | 2259 | 2472 | 2689 |
| 65° | 2155 | 2424 | 2697 |
| 70° | 2009 | 2356 | 2709 |
| 75° | 1790 | 2263 | 2736 |
| 80° | 1480 | 2155 | 2869 |
| 85° | 963  | 1945 | 2508 |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°

Vertical Angle: 82.5°

Luminance: 2961 cd/sqm

TEST NUMBER: P1588336

CATALOG NUMBER: 24CZSP-52-L840-S

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 168.5  | 3.2       |
| 10°-20°   | 482.5  | 9.3       |
| 20°-30°   | 727.7  | 14.0      |
| 30°-40°   | 876.5  | 16.8      |
| 40°-50°   | 915.4  | 17.6      |
| 50°-60°   | 840.7  | 16.2      |
| 60°-70°   | 662.1  | 12.7      |
| 70°-80°   | 406.2  | 7.8       |
| 80°-90°   | 122.2  | 2.4       |
| 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°    | 1378.8 | 26.5      |
| 0°-40°    | 2255.3 | 43.4      |
| 0°-60°    | 4011.4 | 77.1      |
| 0°-90°    | 5202.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 5202.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1782 | 1782  | 1782 | 1782  | 1782 |      |
| 5°  | 1767 | 1769  | 1774 | 1780  | 1773 | 168  |
| 15° | 1697 | 1701  | 1711 | 1721  | 1721 | 479  |
| 25° | 1557 | 1560  | 1579 | 1598  | 1598 | 717  |
| 35° | 1365 | 1372  | 1401 | 1429  | 1436 | 854  |
| 45° | 1137 | 1150  | 1185 | 1226  | 1237 | 877  |
| 55° | 879  | 895   | 936  | 988   | 1004 | 785  |
| 65° | 595  | 615   | 669  | 725   | 744  | 588  |
| 75° | 302  | 326   | 382  | 443   | 462  | 321  |
| 85° | 55   | 75    | 111  | 140   | 143  | 72   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |

TEST NUMBER: P1588336

CATALOG NUMBER: 24CZSP-52-L840-S

**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1781.8 | 1781.8 | 1781.8 | 1781.8 | 1781.8 |
| 2.5°  | 1775.0 | 1778.4 | 1779.5 | 1780.7 | 1772.7 |
| 5°    | 1767.0 | 1769.3 | 1773.8 | 1779.5 | 1772.7 |
| 7.5°  | 1755.6 | 1757.9 | 1763.6 | 1771.6 | 1768.1 |
| 10°   | 1743.0 | 1744.2 | 1751.0 | 1756.7 | 1749.9 |
| 12.5° | 1722.5 | 1725.9 | 1733.9 | 1738.4 | 1736.2 |
| 15°   | 1697.4 | 1700.8 | 1711.1 | 1721.3 | 1721.3 |
| 17.5° | 1667.7 | 1672.2 | 1684.8 | 1698.5 | 1699.6 |
| 20°   | 1634.6 | 1638.0 | 1654.0 | 1667.7 | 1667.7 |
| 22.5° | 1596.9 | 1601.5 | 1617.5 | 1632.3 | 1634.6 |
| 25°   | 1557.0 | 1560.4 | 1578.6 | 1598.0 | 1598.0 |
| 27.5° | 1510.2 | 1517.0 | 1539.8 | 1559.2 | 1563.8 |
| 30°   | 1464.5 | 1470.2 | 1495.3 | 1519.3 | 1522.7 |
| 32.5° | 1416.6 | 1423.4 | 1449.7 | 1475.9 | 1481.6 |
| 35°   | 1365.2 | 1372.0 | 1400.6 | 1429.1 | 1436.0 |
| 37.5° | 1311.5 | 1319.5 | 1349.2 | 1382.3 | 1389.2 |
| 40°   | 1255.6 | 1264.7 | 1296.7 | 1332.1 | 1338.9 |
| 42.5° | 1196.3 | 1208.8 | 1243.1 | 1279.6 | 1289.9 |
| 45°   | 1136.9 | 1149.5 | 1184.8 | 1225.9 | 1237.3 |
| 47.5° | 1074.1 | 1089.0 | 1125.5 | 1168.9 | 1181.4 |
| 50°   | 1011.3 | 1026.2 | 1063.8 | 1110.6 | 1124.3 |
| 52.5° | 947.4  | 962.3  | 1001.1 | 1050.1 | 1065.0 |
| 55°   | 878.9  | 894.9  | 936.0  | 988.5  | 1004.5 |
| 57.5° | 808.2  | 828.7  | 872.1  | 925.7  | 941.7  |
| 60°   | 737.4  | 757.9  | 807.0  | 859.5  | 877.8  |
| 62.5° | 667.8  | 687.2  | 737.4  | 793.3  | 812.7  |
| 65°   | 594.7  | 615.2  | 668.9  | 724.8  | 744.2  |
| 67.5° | 522.8  | 543.3  | 597.0  | 655.2  | 675.7  |
| 70°   | 448.6  | 471.4  | 526.2  | 584.4  | 605.0  |
| 72.5° | 374.4  | 398.4  | 454.3  | 513.7  | 533.1  |
| 75°   | 302.5  | 326.5  | 382.4  | 442.9  | 462.3  |
| 77.5° | 231.7  | 258.0  | 312.8  | 374.4  | 392.7  |
| 80°   | 167.8  | 192.9  | 244.3  | 304.8  | 325.3  |
| 82.5° | 107.3  | 129.0  | 180.4  | 237.4  | 252.3  |
| 85°   | 54.8   | 75.3   | 110.7  | 140.4  | 142.7  |
| 87.5° | 17.1   | 24.0   | 36.5   | 54.8   | 55.9   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

TEST NUMBER: P1588336

CATALOG NUMBER: 24CZSP-52-L840-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 | 14.97            | 16.63 | 15.33 | 16.94 | 17.26 | 15.80          | 17.46 | 16.16 | 17.77 | 18.09 |
|                 | 3H   | 16.72            | 18.23 | 17.10 | 18.56 | 18.91 | 17.91          | 19.42 | 18.29 | 19.75 | 20.11 |
|                 | 4H   | 17.34            | 18.76 | 17.74 | 19.11 | 19.48 | 18.80          | 20.22 | 19.20 | 20.57 | 20.95 |
|                 | 6H   | 17.75            | 19.07 | 18.16 | 19.44 | 19.83 | 19.58          | 20.90 | 19.99 | 21.27 | 21.66 |
|                 | 8H   | 17.86            | 19.12 | 18.28 | 19.51 | 19.91 | 19.90          | 21.17 | 20.33 | 21.55 | 21.95 |
|                 | 12H  | 17.91            | 19.12 | 18.34 | 19.50 | 19.93 | 20.11          | 21.32 | 20.54 | 21.71 | 22.13 |
| 4H              | 2H   | 15.74            | 17.16 | 16.14 | 17.51 | 17.88 | 16.38          | 17.81 | 16.78 | 18.15 | 18.53 |
|                 | 3H   | 17.72            | 18.91 | 18.12 | 19.31 | 19.71 | 18.74          | 19.94 | 19.15 | 20.33 | 20.73 |
|                 | 4H   | 18.45            | 19.54 | 18.88 | 19.95 | 20.39 | 19.79          | 20.88 | 20.22 | 21.29 | 21.72 |
|                 | 6H   | 18.98            | 19.93 | 19.43 | 20.37 | 20.83 | 20.74          | 21.70 | 21.20 | 22.14 | 22.59 |
|                 | 8H   | 19.13            | 20.02 | 19.59 | 20.46 | 20.92 | 21.14          | 22.03 | 21.60 | 22.47 | 22.94 |
|                 | 12H  | 19.21            | 20.01 | 19.69 | 20.49 | 20.96 | 21.42          | 22.22 | 21.90 | 22.70 | 23.16 |
| 8H              | 4H   | 18.91            | 19.80 | 19.37 | 20.24 | 20.71 | 20.08          | 20.97 | 20.54 | 21.41 | 21.88 |
|                 | 6H   | 19.57            | 20.32 | 20.06 | 20.80 | 21.28 | 21.19          | 21.94 | 21.68 | 22.42 | 22.90 |
|                 | 8H   | 19.78            | 20.45 | 20.29 | 20.96 | 21.44 | 21.70          | 22.37 | 22.21 | 22.88 | 23.36 |
|                 | 12H  | 19.92            | 20.51 | 20.43 | 21.00 | 21.56 | 22.09          | 22.68 | 22.59 | 23.17 | 23.73 |
| 12H             | 4H   | 19.00            | 19.80 | 19.48 | 20.28 | 20.75 | 20.10          | 20.91 | 20.58 | 21.38 | 21.85 |
|                 | 6H   | 19.70            | 20.37 | 20.21 | 20.88 | 21.36 | 21.24          | 21.91 | 21.75 | 22.41 | 22.90 |
|                 | 8H   | 19.98            | 20.57 | 20.49 | 21.06 | 21.62 | 21.82          | 22.41 | 22.32 | 22.90 | 23.46 |