

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: P1588415

Luminaire Tested: 24CZSP-60VHE-L835

Issue Date: 9/3/2026

**Test Information**

Test Method: LM-79-2019  
Report Number: P1588415  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2605-776-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 9/3/2026  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 24CZSP-60VHE-L835  
Description: 2x4 CZSP LED Luminaire, 3500K CCT and 6000 lumens, 80CRI, Ribbed Lens  
Light Source: -  
Ballast/Driver: -

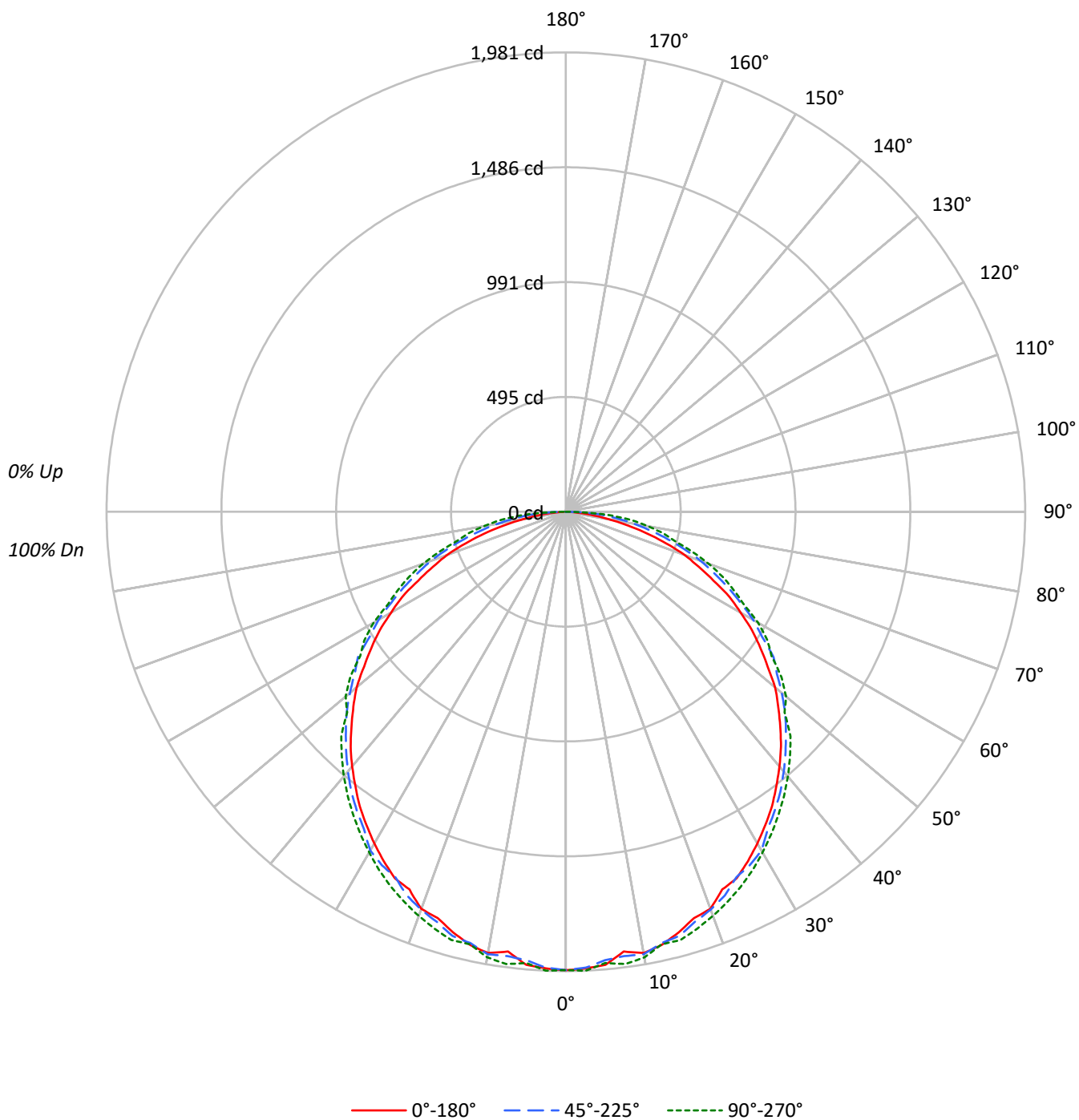
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5901.0 lumens  
Efficiency: N/A  
Efficacy: 135.7 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.27 / 1.39  
Luminous Opening: Rectangular (W 1.83' x L: 3.83' x H: 0')  
CIE Type: Direct

Input Watts (W): 43.5  
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

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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  |     |     | 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  | 105 | 101 | 97  | 93  | 97  | 93  | 90  |  | 93  | 90  | 87  |  | 89  | 87  | 85  | 83  |
| 2   | 98  | 89  | 82  | 76  | 95  | 88  | 81  | 75  | 84  | 78  | 74  |  | 81  | 76  | 72  |  | 78  | 74  | 70  | 68  |
| 3   | 89  | 78  | 70  | 63  | 87  | 77  | 69  | 62  | 74  | 67  | 61  |  | 71  | 65  | 60  |  | 68  | 63  | 59  | 57  |
| 4   | 81  | 69  | 60  | 53  | 79  | 68  | 59  | 53  | 65  | 58  | 52  |  | 63  | 56  | 51  |  | 61  | 55  | 51  | 48  |
| 5   | 75  | 62  | 52  | 46  | 73  | 60  | 52  | 45  | 58  | 51  | 45  |  | 56  | 50  | 44  |  | 54  | 49  | 44  | 42  |
| 6   | 69  | 55  | 46  | 40  | 67  | 54  | 46  | 39  | 53  | 45  | 39  |  | 51  | 44  | 39  |  | 49  | 43  | 38  | 36  |
| 7   | 64  | 50  | 41  | 35  | 62  | 49  | 41  | 35  | 48  | 40  | 35  |  | 46  | 39  | 34  |  | 45  | 39  | 34  | 32  |
| 8   | 60  | 46  | 37  | 31  | 58  | 45  | 37  | 31  | 44  | 36  | 31  |  | 42  | 36  | 31  |  | 41  | 35  | 30  | 28  |
| 9   | 56  | 42  | 34  | 28  | 54  | 41  | 33  | 28  | 40  | 33  | 28  |  | 39  | 32  | 28  |  | 38  | 32  | 27  | 26  |
| 10  | 52  | 39  | 31  | 25  | 51  | 38  | 30  | 25  | 37  | 30  | 25  |  | 36  | 30  | 25  |  | 35  | 29  | 25  | 23  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 3028 | 3028 | 3028 |
| 5°  | 3015 | 2984 | 3003 |
| 10° | 3006 | 3013 | 3034 |
| 15° | 2978 | 3002 | 3031 |
| 20° | 2971 | 2976 | 3023 |
| 25° | 2947 | 2939 | 3015 |
| 30° | 2921 | 2983 | 3000 |
| 35° | 2899 | 2939 | 2987 |
| 40° | 2867 | 2923 | 2977 |
| 45° | 2831 | 2907 | 2966 |
| 50° | 2808 | 2896 | 2953 |
| 55° | 2737 | 2921 | 2891 |
| 60° | 2667 | 2859 | 2933 |
| 65° | 2547 | 2797 | 2894 |
| 70° | 2442 | 2773 | 2935 |
| 75° | 2163 | 2690 | 2876 |
| 80° | 1708 | 2628 | 3181 |
| 85° | 1044 | 2808 | 3627 |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°

Vertical Angle: 85°

Luminance: 3627 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 186.7  | 3.2       |
| 10°-20°   | 533.2  | 9.0       |
| 20°-30°   | 812.5  | 13.8      |
| 30°-40°   | 989.0  | 16.8      |
| 40°-50°   | 1036.9 | 17.6      |
| 50°-60°   | 960.6  | 16.3      |
| 60°-70°   | 757.5  | 12.8      |
| 70°-80°   | 468.6  | 7.9       |
| 80°-90°   | 156.1  | 2.6       |
| 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°    | 1532.4 | 26.0      |
| 0°-40°    | 2521.3 | 42.7      |
| 0°-60°    | 4518.9 | 76.6      |
| 0°-90°    | 5901.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 5901.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1977 | 1977  | 1977 | 1977  | 1977 |      |
| 5°  | 1961 | 1960  | 1941 | 1983  | 1953 | 185  |
| 15° | 1878 | 1888  | 1893 | 1880  | 1912 | 530  |
| 25° | 1744 | 1753  | 1739 | 1787  | 1784 | 801  |
| 35° | 1550 | 1565  | 1572 | 1602  | 1598 | 969  |
| 45° | 1307 | 1331  | 1342 | 1358  | 1370 | 1010 |
| 55° | 1025 | 1055  | 1094 | 1104  | 1083 | 917  |
| 65° | 703  | 730   | 772  | 801   | 798  | 699  |
| 75° | 366  | 394   | 455  | 489   | 486  | 386  |
| 85° | 59   | 101   | 160  | 194   | 206  | 80   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |

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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1976.7 | 1976.7 | 1976.7 | 1976.7 | 1976.7 |
| 2.5°  | 1971.1 | 1983.2 | 1967.9 | 1980.8 | 1980.8 |
| 5°    | 1960.7 | 1959.9 | 1940.6 | 1983.2 | 1953.4 |
| 7.5°  | 1912.5 | 1946.2 | 1932.6 | 1984.8 | 1967.1 |
| 10°   | 1932.6 | 1923.7 | 1937.4 | 1972.7 | 1951.0 |
| 12.5° | 1912.5 | 1926.9 | 1905.3 | 1887.6 | 1910.1 |
| 15°   | 1877.9 | 1887.6 | 1893.2 | 1879.5 | 1911.7 |
| 17.5° | 1837.0 | 1873.1 | 1853.8 | 1847.4 | 1884.4 |
| 20°   | 1822.5 | 1824.1 | 1825.7 | 1858.7 | 1854.6 |
| 22.5° | 1763.1 | 1795.2 | 1791.2 | 1817.7 | 1820.9 |
| 25°   | 1743.8 | 1753.4 | 1739.0 | 1787.2 | 1784.0 |
| 27.5° | 1699.6 | 1720.5 | 1718.1 | 1734.2 | 1743.0 |
| 30°   | 1651.4 | 1672.3 | 1686.8 | 1669.1 | 1696.4 |
| 32.5° | 1601.6 | 1637.0 | 1620.9 | 1653.8 | 1648.2 |
| 35°   | 1550.2 | 1564.7 | 1571.9 | 1601.6 | 1597.6 |
| 37.5° | 1490.8 | 1515.7 | 1519.7 | 1564.7 | 1545.4 |
| 40°   | 1433.8 | 1458.7 | 1461.9 | 1488.4 | 1489.2 |
| 42.5° | 1373.5 | 1385.6 | 1402.4 | 1433.0 | 1430.5 |
| 45°   | 1306.8 | 1330.9 | 1342.2 | 1357.5 | 1369.5 |
| 47.5° | 1242.6 | 1268.3 | 1282.8 | 1307.7 | 1279.5 |
| 50°   | 1178.3 | 1196.8 | 1215.3 | 1241.8 | 1239.4 |
| 52.5° | 1097.2 | 1139.0 | 1147.8 | 1162.3 | 1171.9 |
| 55°   | 1024.9 | 1055.4 | 1094.0 | 1103.6 | 1082.7 |
| 57.5° | 951.8  | 975.1  | 1003.2 | 1032.9 | 1030.5 |
| 60°   | 870.7  | 898.8  | 933.3  | 955.8  | 957.4  |
| 62.5° | 796.8  | 816.1  | 849.0  | 881.9  | 865.1  |
| 65°   | 702.8  | 730.1  | 771.9  | 800.8  | 798.4  |
| 67.5° | 619.3  | 649.0  | 691.6  | 729.3  | 730.9  |
| 70°   | 545.4  | 561.5  | 619.3  | 648.2  | 655.4  |
| 72.5° | 454.6  | 482.7  | 534.1  | 566.3  | 569.5  |
| 75°   | 365.5  | 394.4  | 454.6  | 489.2  | 486.0  |
| 77.5° | 274.7  | 316.5  | 375.1  | 416.1  | 429.7  |
| 80°   | 193.6  | 231.3  | 298.0  | 338.2  | 360.6  |
| 82.5° | 122.1  | 161.4  | 226.5  | 276.3  | 290.0  |
| 85°   | 59.4   | 101.2  | 159.8  | 194.4  | 206.4  |
| 87.5° | 15.3   | 41.8   | 73.9   | 90.8   | 98.0   |
| 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 | 15.65            | 17.32 | 16.02 | 17.64 | 17.95 | 16.08          | 17.75 | 16.45 | 18.07 | 18.38 |
|                 | 3H   | 17.45            | 18.97 | 17.83 | 19.29 | 19.65 | 18.15          | 19.67 | 18.53 | 20.00 | 20.36 |
|                 | 4H   | 18.10            | 19.53 | 18.49 | 19.87 | 20.25 | 19.00          | 20.43 | 19.39 | 20.78 | 21.15 |
|                 | 6H   | 18.51            | 19.84 | 18.92 | 20.20 | 20.59 | 19.79          | 21.12 | 20.20 | 21.48 | 21.87 |
|                 | 8H   | 18.61            | 19.88 | 19.03 | 20.27 | 20.67 | 20.13          | 21.40 | 20.55 | 21.79 | 22.19 |
|                 | 12H  | 18.65            | 19.87 | 19.08 | 20.25 | 20.68 | 20.43          | 21.65 | 20.86 | 22.03 | 22.46 |
| 4H              | 2H   | 16.39            | 17.82 | 16.79 | 18.17 | 18.54 | 16.72          | 18.16 | 17.12 | 18.50 | 18.88 |
|                 | 3H   | 18.42            | 19.63 | 18.83 | 20.03 | 20.43 | 19.04          | 20.24 | 19.45 | 20.64 | 21.04 |
|                 | 4H   | 19.20            | 20.29 | 19.63 | 20.70 | 21.14 | 20.04          | 21.14 | 20.47 | 21.55 | 21.99 |
|                 | 6H   | 19.73            | 20.69 | 20.18 | 21.13 | 21.59 | 20.99          | 21.96 | 21.45 | 22.40 | 22.85 |
|                 | 8H   | 19.88            | 20.78 | 20.33 | 21.22 | 21.68 | 21.42          | 22.32 | 21.88 | 22.76 | 23.22 |
|                 | 12H  | 19.96            | 20.77 | 20.44 | 21.24 | 21.71 | 21.80          | 22.61 | 22.28 | 23.08 | 23.55 |
| 8H              | 4H   | 19.65            | 20.55 | 20.10 | 20.99 | 21.45 | 20.38          | 21.28 | 20.84 | 21.72 | 22.19 |
|                 | 6H   | 20.33            | 21.08 | 20.82 | 21.56 | 22.04 | 21.50          | 22.25 | 21.99 | 22.74 | 23.21 |
|                 | 8H   | 20.54            | 21.22 | 21.05 | 21.72 | 22.21 | 22.04          | 22.72 | 22.55 | 23.23 | 23.71 |
|                 | 12H  | 20.69            | 21.29 | 21.20 | 21.78 | 22.34 | 22.56          | 23.16 | 23.07 | 23.65 | 24.21 |
| 12H             | 4H   | 19.73            | 20.54 | 20.21 | 21.02 | 21.48 | 20.42          | 21.23 | 20.89 | 21.70 | 22.17 |
|                 | 6H   | 20.46            | 21.14 | 20.97 | 21.64 | 22.13 | 21.56          | 22.24 | 22.07 | 22.75 | 23.23 |
|                 | 8H   | 20.75            | 21.35 | 21.26 | 21.84 | 22.40 | 22.19          | 22.79 | 22.69 | 23.28 | 23.84 |