

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: P1588499

Luminaire Tested: 24CZSP-70VHE-L845

Issue Date: 9/3/2026

**Test Information**

Test Method: LM-79-2019  
Report Number: P1588499  
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-70VHE-L845  
Description: 2x4 CZSP LED Luminaire, 4500K CCT and 7500 lumens, 80CRI, Ribbed Lens  
Light Source: -  
Ballast/Driver: -

**Summary**

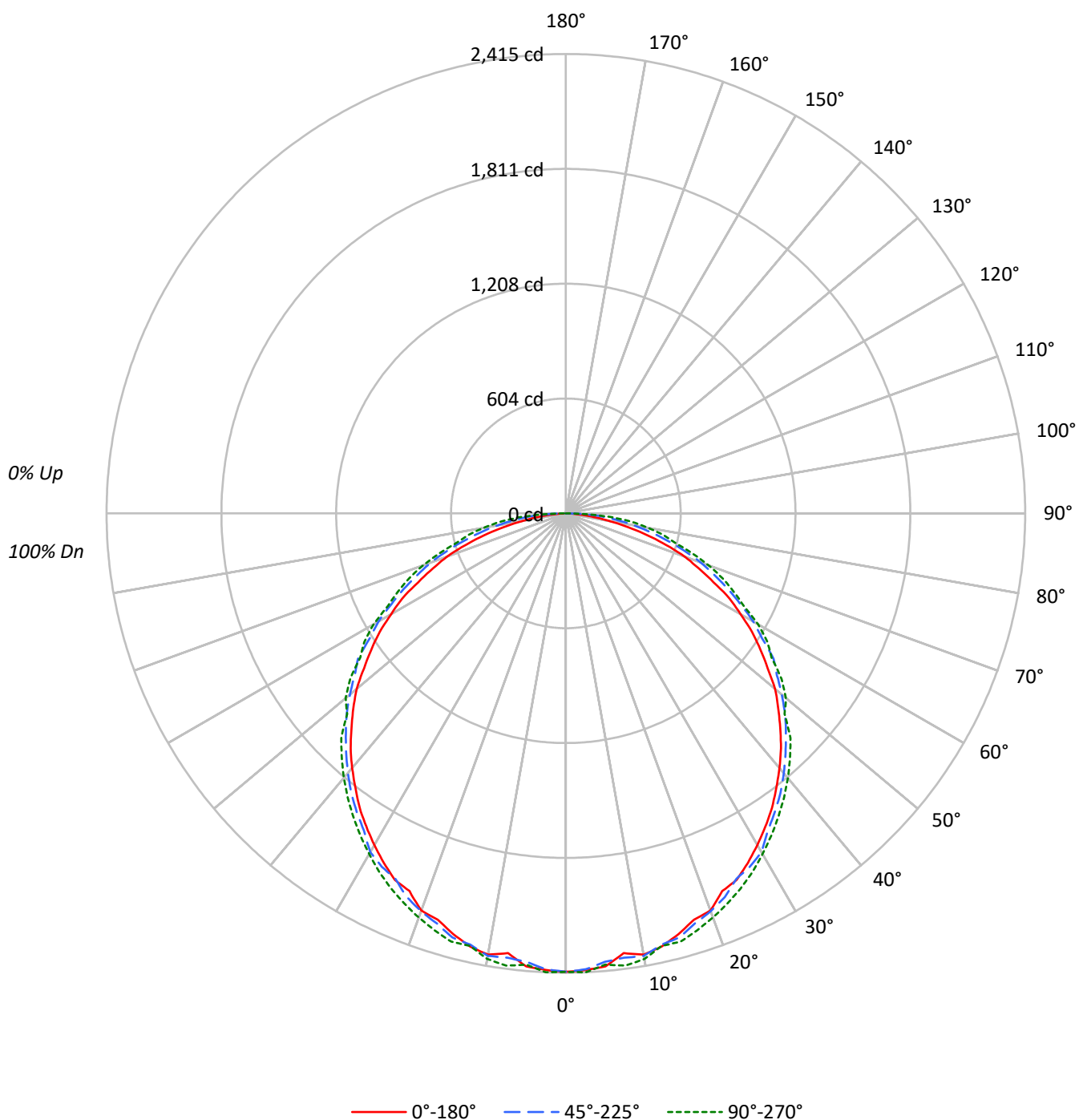
Lumens per Lamp: N/A  
Luminaire Lumens: 7194.0 lumens  
Efficiency: N/A  
Efficacy: 135.0 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.27 / 1.39  
Luminous Opening: Rectangular (W 1.83' x L: 3.83' x H: 0')  
CIE Type: Direct

Input Watts (W): 53.3  
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  | 50  | 30 | 10 |
| 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°  | 3691 | 3691 | 3691 |
| 5°  | 3675 | 3637 | 3662 |
| 10° | 3664 | 3673 | 3699 |
| 15° | 3630 | 3660 | 3696 |
| 20° | 3622 | 3628 | 3685 |
| 25° | 3593 | 3583 | 3675 |
| 30° | 3561 | 3637 | 3658 |
| 35° | 3534 | 3583 | 3642 |
| 40° | 3495 | 3563 | 3630 |
| 45° | 3451 | 3544 | 3616 |
| 50° | 3423 | 3530 | 3600 |
| 55° | 3337 | 3561 | 3525 |
| 60° | 3252 | 3486 | 3575 |
| 65° | 3105 | 3410 | 3527 |
| 70° | 2978 | 3381 | 3578 |
| 75° | 2636 | 3280 | 3506 |
| 80° | 2082 | 3204 | 3878 |
| 85° | 1274 | 3425 | 4423 |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°

Vertical Angle: 85°

Luminance: 4423 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 227.6  | 3.2       |
| 10°-20°   | 650.1  | 9.0       |
| 20°-30°   | 990.5  | 13.8      |
| 30°-40°   | 1205.6 | 16.8      |
| 40°-50°   | 1264.2 | 17.6      |
| 50°-60°   | 1171.1 | 16.3      |
| 60°-70°   | 923.4  | 12.8      |
| 70°-80°   | 571.3  | 7.9       |
| 80°-90°   | 190.3  | 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°    | 1868.2 | 26.0      |
| 0°-40°    | 3073.8 | 42.7      |
| 0°-60°    | 5509.0 | 76.6      |
| 0°-90°    | 7194.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 7194.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 2410 | 2410  | 2410 | 2410  | 2410 |      |
| 5°  | 2390 | 2389  | 2366 | 2418  | 2382 | 226  |
| 15° | 2289 | 2301  | 2308 | 2291  | 2331 | 646  |
| 25° | 2126 | 2138  | 2120 | 2179  | 2175 | 977  |
| 35° | 1890 | 1908  | 1916 | 1953  | 1948 | 1181 |
| 45° | 1593 | 1623  | 1636 | 1655  | 1670 | 1231 |
| 55° | 1250 | 1287  | 1334 | 1346  | 1320 | 1118 |
| 65° | 857  | 890   | 941  | 976   | 973  | 853  |
| 75° | 446  | 481   | 554  | 596   | 592  | 470  |
| 85° | 72   | 123   | 195  | 237   | 252  | 97   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |

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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 2409.9 | 2409.9 | 2409.9 | 2409.9 | 2409.9 |
| 2.5°  | 2403.0 | 2417.7 | 2399.1 | 2414.8 | 2414.8 |
| 5°    | 2390.3 | 2389.3 | 2365.8 | 2417.7 | 2381.5 |
| 7.5°  | 2331.5 | 2372.7 | 2356.0 | 2419.7 | 2398.1 |
| 10°   | 2356.0 | 2345.2 | 2361.9 | 2405.0 | 2378.5 |
| 12.5° | 2331.5 | 2349.2 | 2322.7 | 2301.2 | 2328.6 |
| 15°   | 2289.4 | 2301.2 | 2308.0 | 2291.4 | 2330.6 |
| 17.5° | 2239.5 | 2283.6 | 2260.1 | 2252.2 | 2297.3 |
| 20°   | 2221.9 | 2223.8 | 2225.8 | 2265.9 | 2261.0 |
| 22.5° | 2149.4 | 2188.6 | 2183.7 | 2216.0 | 2219.9 |
| 25°   | 2125.9 | 2137.6 | 2120.0 | 2178.8 | 2174.9 |
| 27.5° | 2072.0 | 2097.5 | 2094.6 | 2114.1 | 2124.9 |
| 30°   | 2013.3 | 2038.7 | 2056.4 | 2034.8 | 2068.1 |
| 32.5° | 1952.6 | 1995.7 | 1976.1 | 2016.2 | 2009.4 |
| 35°   | 1889.9 | 1907.5 | 1916.3 | 1952.6 | 1947.7 |
| 37.5° | 1817.4 | 1847.8 | 1852.7 | 1907.5 | 1884.0 |
| 40°   | 1747.9 | 1778.3 | 1782.2 | 1814.5 | 1815.5 |
| 42.5° | 1674.5 | 1689.2 | 1709.7 | 1746.9 | 1744.0 |
| 45°   | 1593.2 | 1622.6 | 1636.3 | 1654.9 | 1669.6 |
| 47.5° | 1514.9 | 1546.2 | 1563.8 | 1594.2 | 1559.9 |
| 50°   | 1436.5 | 1459.0 | 1481.6 | 1513.9 | 1510.9 |
| 52.5° | 1337.6 | 1388.5 | 1399.3 | 1416.9 | 1428.7 |
| 55°   | 1249.5 | 1286.7 | 1333.7 | 1345.5 | 1320.0 |
| 57.5° | 1160.4 | 1188.8 | 1223.1 | 1259.3 | 1256.3 |
| 60°   | 1061.5 | 1095.8 | 1137.9 | 1165.3 | 1167.2 |
| 62.5° | 971.4  | 994.9  | 1035.0 | 1075.2 | 1054.6 |
| 65°   | 856.8  | 890.1  | 941.0  | 976.3  | 973.3  |
| 67.5° | 755.0  | 791.2  | 843.1  | 889.1  | 891.1  |
| 70°   | 664.9  | 684.5  | 755.0  | 790.2  | 799.0  |
| 72.5° | 554.2  | 588.5  | 651.2  | 690.4  | 694.3  |
| 75°   | 445.5  | 480.8  | 554.2  | 596.3  | 592.4  |
| 77.5° | 334.9  | 385.8  | 457.3  | 507.2  | 523.9  |
| 80°   | 236.0  | 282.0  | 363.3  | 412.3  | 439.7  |
| 82.5° | 148.8  | 196.8  | 276.1  | 336.9  | 353.5  |
| 85°   | 72.5   | 123.4  | 194.9  | 237.0  | 251.7  |
| 87.5° | 18.6   | 50.9   | 90.1   | 110.7  | 119.5  |
| 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 | 16.34            | 18.01 | 16.71 | 18.33 | 18.64 | 16.77          | 18.44 | 17.14 | 18.76 | 19.07 |
|                 | 3H   | 18.14            | 19.66 | 18.52 | 19.98 | 20.34 | 18.84          | 20.36 | 19.22 | 20.69 | 21.04 |
|                 | 4H   | 18.78            | 20.22 | 19.18 | 20.56 | 20.94 | 19.69          | 21.12 | 20.08 | 21.46 | 21.84 |
|                 | 6H   | 19.19            | 20.52 | 19.60 | 20.89 | 21.28 | 20.47          | 21.80 | 20.88 | 22.17 | 22.56 |
|                 | 8H   | 19.30            | 20.57 | 19.72 | 20.96 | 21.35 | 20.82          | 22.09 | 21.24 | 22.48 | 22.88 |
|                 | 12H  | 19.34            | 20.56 | 19.77 | 20.94 | 21.37 | 21.12          | 22.34 | 21.55 | 22.72 | 23.15 |
| 4H              | 2H   | 17.08            | 18.51 | 17.48 | 18.86 | 19.23 | 17.41          | 18.84 | 17.81 | 19.19 | 19.57 |
|                 | 3H   | 19.11            | 20.32 | 19.52 | 20.72 | 21.12 | 19.73          | 20.93 | 20.13 | 21.33 | 21.73 |
|                 | 4H   | 19.88            | 20.98 | 20.32 | 21.39 | 21.83 | 20.73          | 21.83 | 21.16 | 22.24 | 22.67 |
|                 | 6H   | 20.42            | 21.38 | 20.87 | 21.82 | 22.27 | 21.68          | 22.64 | 22.14 | 23.08 | 23.54 |
|                 | 8H   | 20.56            | 21.47 | 21.02 | 21.91 | 22.37 | 22.11          | 23.01 | 22.57 | 23.45 | 23.91 |
|                 | 12H  | 20.65            | 21.46 | 21.12 | 21.93 | 22.40 | 22.49          | 23.30 | 22.97 | 23.77 | 24.24 |
| 8H              | 4H   | 20.33            | 21.24 | 20.79 | 21.68 | 22.14 | 21.07          | 21.97 | 21.53 | 22.41 | 22.88 |
|                 | 6H   | 21.01            | 21.77 | 21.51 | 22.25 | 22.73 | 22.19          | 22.94 | 22.68 | 23.43 | 23.90 |
|                 | 8H   | 21.23            | 21.91 | 21.74 | 22.41 | 22.90 | 22.73          | 23.41 | 23.24 | 23.91 | 24.40 |
|                 | 12H  | 21.38            | 21.98 | 21.88 | 22.47 | 23.03 | 23.25          | 23.85 | 23.76 | 24.34 | 24.90 |
| 12H             | 4H   | 20.42            | 21.23 | 20.90 | 21.70 | 22.17 | 21.10          | 21.92 | 21.58 | 22.39 | 22.86 |
|                 | 6H   | 21.15            | 21.83 | 21.65 | 22.33 | 22.81 | 22.25          | 22.93 | 22.76 | 23.43 | 23.92 |
|                 | 8H   | 21.44            | 22.04 | 21.95 | 22.53 | 23.09 | 22.88          | 23.48 | 23.38 | 23.97 | 24.52 |