

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: P1588589

Luminaire Tested: 24CZSP-A-37HE-L945

Issue Date: 9/3/2026

**Test Information**

Test Method: LM-79-2019  
Report Number: P1588589  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2603-711-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 9/3/2026  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 24CZSP-A-37HE-L945  
Description: 2x4 CZSP LED Luminaire, 4500K CCT and 3500 lumens, 90CRI, Ribbed Lens, Air Vented Housing  
Light Source: -  
Ballast/Driver: -

**Summary**

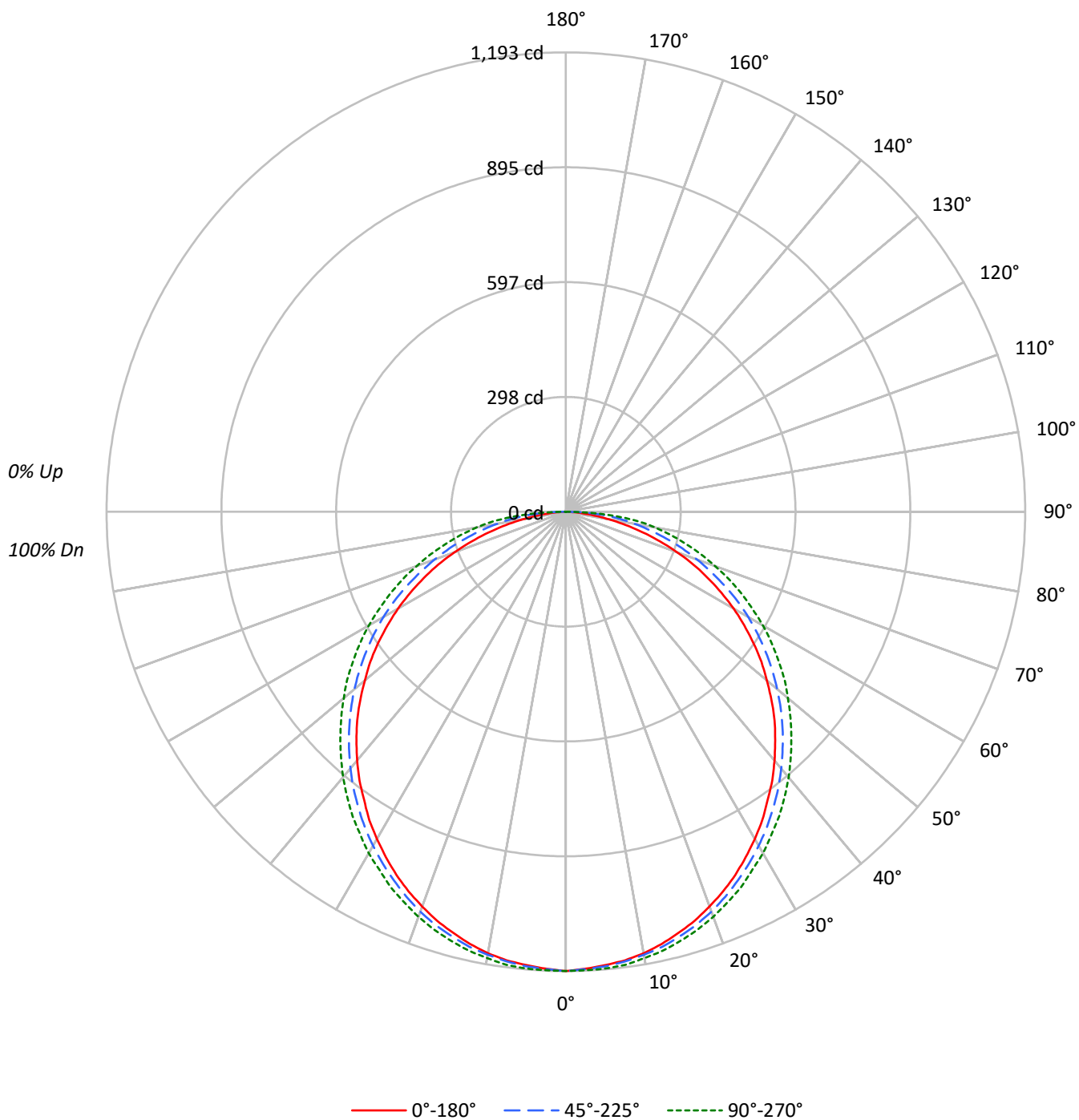
Lumens per Lamp: N/A  
Luminaire Lumens: 3538.0 lumens  
Efficiency: N/A  
Efficacy: 143.2 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.27 / 1.38  
Luminous Opening: Rectangular (W 1.83' x L: 3.83' x H: 0')  
CIE Type: Direct

Input Watts (W): 24.7  
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: P1588589

CATALOG NUMBER: 24CZSP-A-37HE-L945

### Luminous Intensity Polar Plot



TEST NUMBER: P1588589

CATALOG NUMBER: 24CZSP-A-37HE-L945

**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 | 98  | 94  | 105 | 101 | 97  | 93  | 96  | 93  | 90  |  | 92  | 90  | 87  |  | 89  | 87  | 85  | 82  |
| 2   | 98  | 89  | 82  | 76  | 95  | 87  | 81  | 75  | 84  | 78  | 73  |  | 81  | 76  | 72  |  | 77  | 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  | 29  |
| 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°  | 1827 | 1827 | 1827 |
| 5°  | 1817 | 1822 | 1831 |
| 10° | 1811 | 1817 | 1831 |
| 15° | 1795 | 1811 | 1829 |
| 20° | 1778 | 1802 | 1824 |
| 25° | 1759 | 1786 | 1819 |
| 30° | 1735 | 1772 | 1811 |
| 35° | 1708 | 1756 | 1805 |
| 40° | 1686 | 1740 | 1799 |
| 45° | 1661 | 1724 | 1794 |
| 50° | 1624 | 1708 | 1794 |
| 55° | 1590 | 1692 | 1799 |
| 60° | 1542 | 1677 | 1812 |
| 65° | 1476 | 1650 | 1824 |
| 70° | 1381 | 1622 | 1846 |
| 75° | 1229 | 1600 | 1907 |
| 80° | 1011 | 1606 | 2073 |
| 85° | 689  | 1789 | 2288 |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°

Vertical Angle: 85°

Luminance: 2288 cd/sqm

TEST NUMBER: P1588589

CATALOG NUMBER: 24CZSP-A-37HE-L945

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 112.9  | 3.2       |
| 10°-20°   | 323.2  | 9.1       |
| 20°-30°   | 488.7  | 13.8      |
| 30°-40°   | 589.7  | 16.7      |
| 40°-50°   | 616.6  | 17.4      |
| 50°-60°   | 568.9  | 16.1      |
| 60°-70°   | 452.4  | 12.8      |
| 70°-80°   | 285.5  | 8.1       |
| 80°-90°   | 100.1  | 2.8       |
| 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°    | 924.8  | 26.1      |
| 0°-40°    | 1514.5 | 42.8      |
| 0°-60°    | 2700.0 | 76.3      |
| 0°-90°    | 3538.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3538.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1193 | 1193  | 1193 | 1193  | 1193 |      |
| 5°  | 1182 | 1191  | 1185 | 1188  | 1191 | 112  |
| 15° | 1132 | 1145  | 1142 | 1151  | 1154 | 319  |
| 25° | 1041 | 1057  | 1057 | 1070  | 1076 | 479  |
| 35° | 914  | 933   | 939  | 958   | 966  | 572  |
| 45° | 767  | 783   | 796  | 820   | 828  | 590  |
| 55° | 595  | 613   | 634  | 664   | 674  | 532  |
| 65° | 407  | 426   | 455  | 494   | 503  | 402  |
| 75° | 208  | 231   | 270  | 310   | 322  | 220  |
| 85° | 39   | 65    | 102  | 126   | 130  | 50   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |

TEST NUMBER: P1588589

CATALOG NUMBER: 24CZSP-A-37HE-L945

**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1192.7 | 1192.7 | 1192.7 | 1192.7 | 1192.7 |
| 2.5°  | 1187.8 | 1195.6 | 1188.8 | 1192.7 | 1191.7 |
| 5°    | 1181.9 | 1190.7 | 1184.8 | 1187.8 | 1190.7 |
| 7.5°  | 1175.0 | 1184.8 | 1178.0 | 1182.9 | 1186.8 |
| 10°   | 1164.3 | 1174.1 | 1168.2 | 1174.1 | 1177.0 |
| 12.5° | 1149.6 | 1161.3 | 1157.4 | 1164.3 | 1167.2 |
| 15°   | 1132.0 | 1144.7 | 1141.8 | 1150.6 | 1153.5 |
| 17.5° | 1113.4 | 1127.1 | 1125.1 | 1134.9 | 1137.8 |
| 20°   | 1090.8 | 1106.5 | 1105.5 | 1115.3 | 1119.2 |
| 22.5° | 1067.3 | 1083.0 | 1082.0 | 1092.8 | 1097.7 |
| 25°   | 1040.9 | 1056.6 | 1056.6 | 1070.3 | 1076.1 |
| 27.5° | 1011.5 | 1029.1 | 1030.1 | 1043.8 | 1048.7 |
| 30°   | 981.2  | 998.8  | 1001.7 | 1016.4 | 1024.2 |
| 32.5° | 949.8  | 966.5  | 971.4  | 988.0  | 993.9  |
| 35°   | 913.6  | 933.2  | 939.1  | 957.7  | 965.5  |
| 37.5° | 880.3  | 897.9  | 905.8  | 925.3  | 933.2  |
| 40°   | 843.1  | 861.7  | 870.5  | 892.1  | 899.9  |
| 42.5° | 804.9  | 823.5  | 833.3  | 856.8  | 864.6  |
| 45°   | 766.7  | 783.4  | 796.1  | 819.6  | 828.4  |
| 47.5° | 724.6  | 743.2  | 756.9  | 782.4  | 791.2  |
| 50°   | 681.5  | 701.1  | 716.8  | 744.2  | 753.0  |
| 52.5° | 640.4  | 658.0  | 675.7  | 706.0  | 715.8  |
| 55°   | 595.4  | 613.0  | 633.5  | 663.9  | 673.7  |
| 57.5° | 549.3  | 567.0  | 590.5  | 622.8  | 633.5  |
| 60°   | 503.3  | 520.9  | 547.4  | 580.7  | 591.4  |
| 62.5° | 455.3  | 473.0  | 502.3  | 536.6  | 546.4  |
| 65°   | 407.3  | 426.0  | 455.3  | 493.5  | 503.3  |
| 67.5° | 358.4  | 377.0  | 408.3  | 448.5  | 459.2  |
| 70°   | 308.4  | 329.0  | 362.3  | 402.5  | 412.2  |
| 72.5° | 256.6  | 280.1  | 317.3  | 356.4  | 368.2  |
| 75°   | 207.6  | 231.1  | 270.3  | 310.4  | 322.2  |
| 77.5° | 159.6  | 186.0  | 225.2  | 267.3  | 280.1  |
| 80°   | 114.6  | 141.0  | 182.1  | 223.3  | 235.0  |
| 82.5° | 73.4   | 100.9  | 142.0  | 181.2  | 190.9  |
| 85°   | 39.2   | 64.6   | 101.8  | 126.3  | 130.2  |
| 87.5° | 12.7   | 33.3   | 46.0   | 60.7   | 61.7   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

TEST NUMBER: P1588589

CATALOG NUMBER: 24CZSP-A-37HE-L945

**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 | 13.65            | 15.32 | 14.02 | 15.64 | 15.95 | 14.37          | 16.04 | 14.74 | 16.36 | 16.67 |
|                 | 3H   | 15.44            | 16.95 | 15.81 | 17.28 | 17.64 | 16.54          | 18.06 | 16.91 | 18.38 | 18.74 |
|                 | 4H   | 16.07            | 17.50 | 16.47 | 17.85 | 18.22 | 17.47          | 18.90 | 17.87 | 19.25 | 19.63 |
|                 | 6H   | 16.49            | 17.82 | 16.90 | 18.19 | 18.58 | 18.33          | 19.66 | 18.74 | 20.03 | 20.42 |
|                 | 8H   | 16.60            | 17.88 | 17.03 | 18.26 | 18.66 | 18.71          | 19.98 | 19.13 | 20.37 | 20.77 |
|                 | 12H  | 16.66            | 17.88 | 17.09 | 18.26 | 18.69 | 19.02          | 20.24 | 19.45 | 20.62 | 21.05 |
| 4H              | 2H   | 14.41            | 15.85 | 14.81 | 16.19 | 16.57 | 14.97          | 16.41 | 15.37 | 16.75 | 17.13 |
|                 | 3H   | 16.44            | 17.65 | 16.85 | 18.04 | 18.44 | 17.39          | 18.60 | 17.80 | 18.99 | 19.39 |
|                 | 4H   | 17.20            | 18.30 | 17.63 | 18.71 | 19.14 | 18.49          | 19.59 | 18.92 | 20.00 | 20.44 |
|                 | 6H   | 17.75            | 18.72 | 18.21 | 19.16 | 19.61 | 19.53          | 20.50 | 19.98 | 20.93 | 21.39 |
|                 | 8H   | 17.91            | 18.82 | 18.37 | 19.26 | 19.72 | 20.00          | 20.90 | 20.45 | 21.34 | 21.80 |
|                 | 12H  | 18.01            | 18.83 | 18.49 | 19.30 | 19.77 | 20.39          | 21.21 | 20.87 | 21.68 | 22.15 |
| 8H              | 4H   | 17.69            | 18.59 | 18.15 | 19.03 | 19.50 | 18.81          | 19.71 | 19.27 | 20.15 | 20.62 |
|                 | 6H   | 18.40            | 19.15 | 18.89 | 19.64 | 20.11 | 20.03          | 20.78 | 20.52 | 21.27 | 21.74 |
|                 | 8H   | 18.64            | 19.32 | 19.14 | 19.82 | 20.31 | 20.62          | 21.30 | 21.13 | 21.81 | 22.29 |
|                 | 12H  | 18.81            | 19.41 | 19.31 | 19.90 | 20.46 | 21.16          | 21.77 | 21.67 | 22.26 | 22.81 |
| 12H             | 4H   | 17.79            | 18.61 | 18.27 | 19.08 | 19.55 | 18.84          | 19.65 | 19.32 | 20.13 | 20.60 |
|                 | 6H   | 18.56            | 19.24 | 19.06 | 19.74 | 20.23 | 20.09          | 20.77 | 20.60 | 21.27 | 21.76 |
|                 | 8H   | 18.88            | 19.48 | 19.39 | 19.97 | 20.53 | 20.76          | 21.37 | 21.27 | 21.86 | 22.41 |