

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: METALUX

Report Number: P260647

Luminaire Tested: **24CZ-LD5-50-UNV-L93050-W2A1-U-3000K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P260647  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P25697)  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ-LD5-50-UNV-L93050-W2A1-U-3000K  
Description: CRUZE 2x4 TUNABLE WHITE LED TROFFER  
WITH RIBBED LENS  
Light Source: (336) 90 CRI LEDS TUNED AT 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3910.2 lumens  
Efficiency: N/A  
Efficacy: 107.0 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.25 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

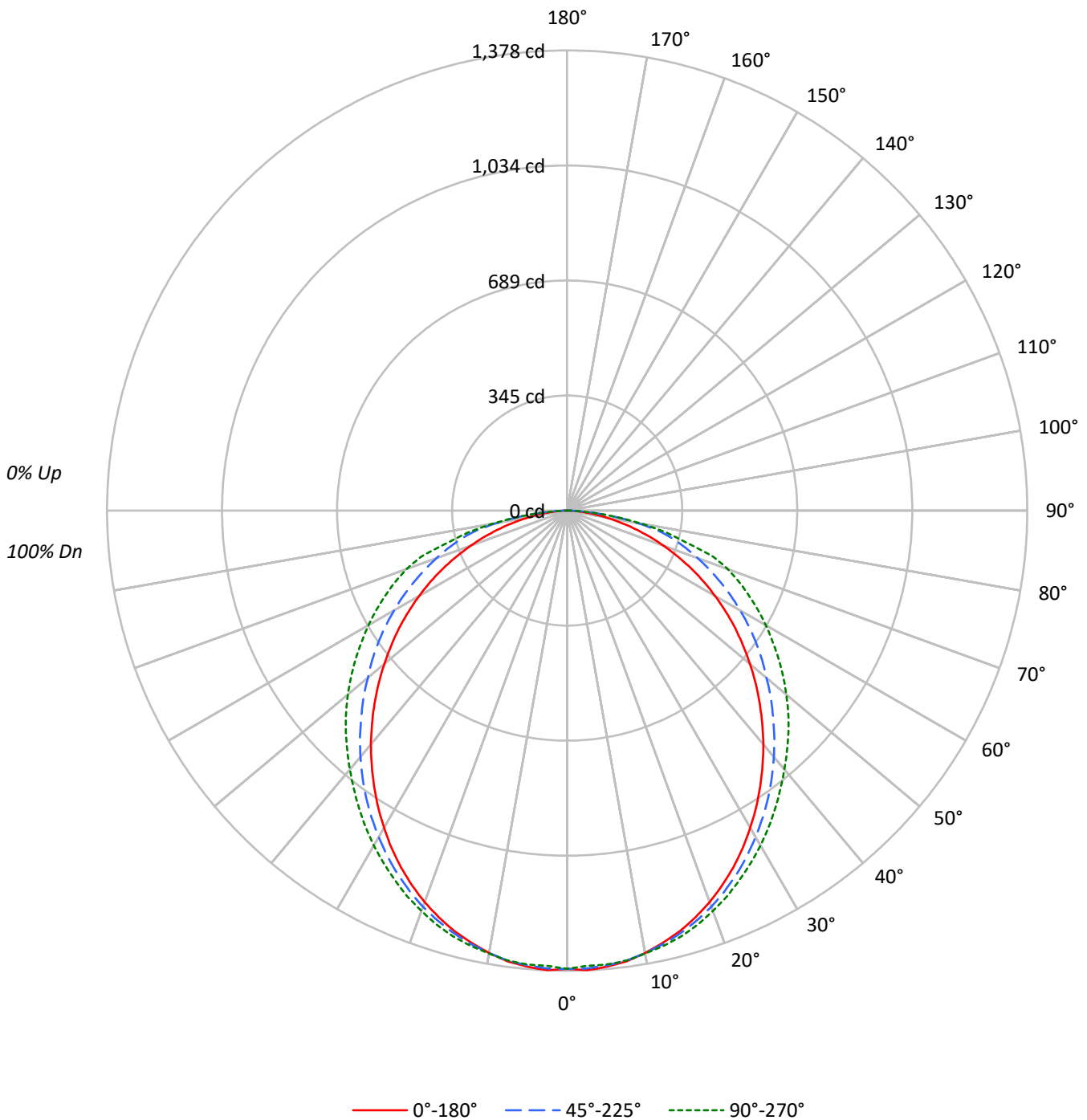
Input Watts (W): 36.533376  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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  | 106 | 101 | 97  | 93  | 97  | 93  | 90  | 93  | 90  | 88  | 89  | 87  | 85  | 83  |
| 2   | 98  | 90  | 83  | 77  | 95  | 88  | 81  | 76  | 84  | 79  | 74  | 81  | 76  | 72  | 78  | 74  | 71  | 68  |
| 3   | 89  | 78  | 70  | 63  | 87  | 77  | 69  | 63  | 74  | 67  | 62  | 71  | 65  | 61  | 68  | 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  | 51  | 42  | 35  | 63  | 50  | 41  | 35  | 48  | 41  | 35  | 47  | 40  | 35  | 45  | 39  | 35  | 32  |
| 8   | 60  | 46  | 38  | 32  | 58  | 45  | 37  | 32  | 44  | 37  | 31  | 43  | 36  | 31  | 42  | 36  | 31  | 29  |
| 9   | 56  | 42  | 34  | 28  | 54  | 42  | 34  | 28  | 41  | 33  | 28  | 40  | 33  | 28  | 38  | 32  | 28  | 26  |
| 10  | 52  | 39  | 31  | 26  | 51  | 39  | 31  | 26  | 38  | 31  | 26  | 37  | 30  | 25  | 36  | 30  | 25  | 24  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 1846 | 1846 | 1846 |
| 5°  | 1852 | 1846 | 1843 |
| 10° | 1838 | 1838 | 1840 |
| 15° | 1816 | 1826 | 1839 |
| 20° | 1787 | 1808 | 1827 |
| 25° | 1749 | 1783 | 1813 |
| 30° | 1704 | 1753 | 1799 |
| 35° | 1656 | 1724 | 1786 |
| 40° | 1606 | 1691 | 1778 |
| 45° | 1551 | 1658 | 1783 |
| 50° | 1496 | 1631 | 1793 |
| 55° | 1441 | 1620 | 1812 |
| 60° | 1376 | 1611 | 1848 |
| 65° | 1304 | 1611 | 1910 |
| 70° | 1206 | 1638 | 2012 |
| 75° | 1079 | 1712 | 1914 |
| 80° | 903  | 1639 | 1753 |
| 85° | 682  | 1261 | 1200 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 129.7  | 3.3       |
| 10°-20°   | 369.1  | 9.4       |
| 20°-30°   | 551.7  | 14.1      |
| 30°-40°   | 654.5  | 16.7      |
| 40°-50°   | 673.7  | 17.2      |
| 50°-60°   | 618.0  | 15.8      |
| 60°-70°   | 499.7  | 12.8      |
| 70°-80°   | 324.3  | 8.3       |
| 80°-90°   | 89.4   | 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°    | 1050.5 | 26.9      |
| 0°-40°    | 1705.0 | 43.6      |
| 0°-60°    | 2996.8 | 76.6      |
| 0°-90°    | 3910.2 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3910.2 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1372 | 1372  | 1372 | 1372  | 1372 |      |
| 5°  | 1371 | 1362  | 1367 | 1366  | 1364 | 130  |
| 15° | 1304 | 1299  | 1311 | 1316  | 1320 | 367  |
| 25° | 1178 | 1180  | 1201 | 1212  | 1221 | 542  |
| 35° | 1008 | 1016  | 1050 | 1072  | 1087 | 630  |
| 45° | 815  | 829   | 872  | 913   | 937  | 629  |
| 55° | 614  | 633   | 691  | 747   | 772  | 549  |
| 65° | 410  | 434   | 506  | 573   | 600  | 405  |
| 75° | 208  | 246   | 329  | 368   | 368  | 221  |
| 85° | 44   | 75    | 82   | 79    | 78   | 54   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1372.3 | 1372.3 | 1372.3 | 1372.3 | 1372.3 |
| 2.5°  | 1377.6 | 1366.9 | 1372.3 | 1370.9 | 1364.3 |
| 5°    | 1370.9 | 1361.6 | 1366.9 | 1365.6 | 1364.3 |
| 7.5°  | 1361.6 | 1352.2 | 1358.9 | 1357.6 | 1358.9 |
| 10°   | 1345.5 | 1337.5 | 1345.5 | 1346.8 | 1346.8 |
| 12.5° | 1325.4 | 1318.7 | 1329.4 | 1332.1 | 1334.8 |
| 15°   | 1304.0 | 1298.7 | 1310.7 | 1316.1 | 1320.1 |
| 17.5° | 1277.2 | 1273.2 | 1287.9 | 1294.6 | 1300.0 |
| 20°   | 1247.8 | 1246.4 | 1262.5 | 1269.2 | 1275.9 |
| 22.5° | 1214.3 | 1214.3 | 1233.0 | 1241.1 | 1250.5 |
| 25°   | 1178.2 | 1179.5 | 1200.9 | 1211.6 | 1221.0 |
| 27.5° | 1139.3 | 1140.7 | 1166.1 | 1179.5 | 1190.2 |
| 30°   | 1096.5 | 1101.8 | 1128.6 | 1146.0 | 1158.1 |
| 32.5° | 1053.6 | 1060.3 | 1089.8 | 1109.9 | 1123.3 |
| 35°   | 1008.1 | 1016.2 | 1049.6 | 1072.4 | 1087.1 |
| 37.5° | 961.3  | 970.6  | 1006.8 | 1032.2 | 1049.6 |
| 40°   | 914.4  | 925.1  | 962.6  | 992.1  | 1012.1 |
| 42.5° | 864.9  | 876.9  | 918.4  | 953.2  | 974.7  |
| 45°   | 815.3  | 828.7  | 871.6  | 913.1  | 937.2  |
| 47.5° | 765.8  | 781.9  | 827.4  | 872.9  | 898.3  |
| 50°   | 714.9  | 731.0  | 779.2  | 831.4  | 856.8  |
| 52.5° | 664.1  | 682.8  | 736.3  | 789.9  | 815.3  |
| 55°   | 614.5  | 633.3  | 690.8  | 747.1  | 772.5  |
| 57.5° | 563.6  | 582.4  | 645.3  | 704.2  | 729.7  |
| 60°   | 511.4  | 532.8  | 598.5  | 658.7  | 686.8  |
| 62.5° | 460.6  | 483.3  | 552.9  | 617.2  | 644.0  |
| 65°   | 409.7  | 433.8  | 506.1  | 573.0  | 599.8  |
| 67.5° | 357.5  | 385.6  | 460.6  | 528.8  | 556.9  |
| 70°   | 306.6  | 337.4  | 416.4  | 484.7  | 511.4  |
| 72.5° | 257.1  | 290.5  | 372.2  | 441.8  | 457.9  |
| 75°   | 207.5  | 246.3  | 329.3  | 368.2  | 368.2  |
| 77.5° | 160.7  | 203.5  | 281.2  | 295.9  | 303.9  |
| 80°   | 116.5  | 163.3  | 211.5  | 228.9  | 226.3  |
| 82.5° | 77.7   | 124.5  | 151.3  | 151.3  | 147.3  |
| 85°   | 44.2   | 75.0   | 81.7   | 79.0   | 77.7   |
| 87.5° | 18.7   | 28.1   | 25.4   | 20.1   | 17.4   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)