

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: P260723

Luminaire Tested: **24CZ-LD5-40-UNV-L82765-W2A1-U-4000K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P260723  
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-LD5-40-UNV-L82765-W2A1-U-4000K  
Description: CRUZE 2x4 TUNABLE WHITE LED TROFFER WITH RIBBED LENS  
Light Source: (336) 80 CRI LEDS TUNED AT 4000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4066.0 lumens  
Efficiency: N/A  
Efficacy: 141.9 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

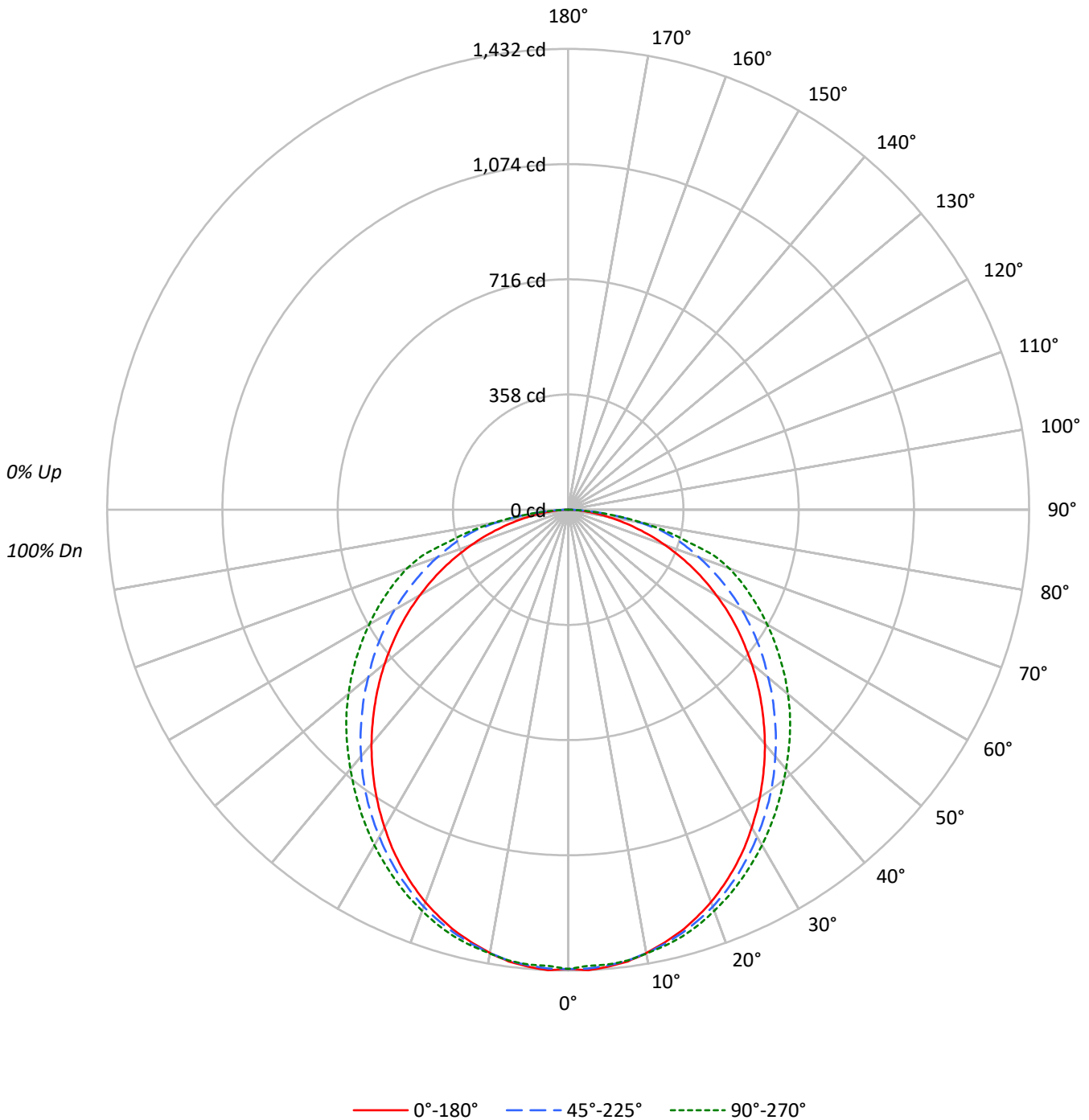
Input Watts (W): 28.644  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°  | 1920 | 1920 | 1920 |
| 5°  | 1925 | 1920 | 1916 |
| 10° | 1912 | 1912 | 1913 |
| 15° | 1889 | 1898 | 1912 |
| 20° | 1858 | 1880 | 1900 |
| 25° | 1819 | 1854 | 1885 |
| 30° | 1771 | 1823 | 1871 |
| 35° | 1722 | 1793 | 1857 |
| 40° | 1670 | 1758 | 1849 |
| 45° | 1613 | 1725 | 1854 |
| 50° | 1556 | 1696 | 1865 |
| 55° | 1499 | 1685 | 1884 |
| 60° | 1431 | 1675 | 1922 |
| 65° | 1356 | 1675 | 1986 |
| 70° | 1254 | 1703 | 2092 |
| 75° | 1122 | 1781 | 1990 |
| 80° | 938  | 1705 | 1823 |
| 85° | 709  | 1311 | 1246 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 134.8  | 3.3       |
| 10°-20°   | 383.8  | 9.4       |
| 20°-30°   | 573.7  | 14.1      |
| 30°-40°   | 680.6  | 16.7      |
| 40°-50°   | 700.5  | 17.2      |
| 50°-60°   | 642.7  | 15.8      |
| 60°-70°   | 519.6  | 12.8      |
| 70°-80°   | 337.2  | 8.3       |
| 80°-90°   | 93.0   | 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°    | 1092.4 | 26.9      |
| 0°-40°    | 1773.0 | 43.6      |
| 0°-60°    | 3116.2 | 76.6      |
| 0°-90°    | 4066.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 4066.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1427 | 1427  | 1427 | 1427  | 1427 |      |
| 5°  | 1426 | 1416  | 1421 | 1420  | 1419 | 135  |
| 15° | 1356 | 1350  | 1363 | 1368  | 1373 | 382  |
| 25° | 1225 | 1226  | 1249 | 1260  | 1270 | 564  |
| 35° | 1048 | 1057  | 1091 | 1115  | 1130 | 656  |
| 45° | 848  | 862   | 906  | 949   | 974  | 654  |
| 55° | 639  | 658   | 718  | 777   | 803  | 571  |
| 65° | 426  | 451   | 526  | 596   | 624  | 421  |
| 75° | 216  | 256   | 342  | 383   | 383  | 229  |
| 85° | 46   | 78    | 85   | 82    | 81   | 56   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1427.0 | 1427.0 | 1427.0 | 1427.0 | 1427.0 |
| 2.5°  | 1432.5 | 1421.4 | 1427.0 | 1425.6 | 1418.6 |
| 5°    | 1425.6 | 1415.8 | 1421.4 | 1420.0 | 1418.6 |
| 7.5°  | 1415.8 | 1406.1 | 1413.0 | 1411.6 | 1413.0 |
| 10°   | 1399.1 | 1390.8 | 1399.1 | 1400.5 | 1400.5 |
| 12.5° | 1378.2 | 1371.3 | 1382.4 | 1385.2 | 1388.0 |
| 15°   | 1356.0 | 1350.4 | 1362.9 | 1368.5 | 1372.7 |
| 17.5° | 1328.1 | 1323.9 | 1339.2 | 1346.2 | 1351.8 |
| 20°   | 1297.5 | 1296.1 | 1312.8 | 1319.8 | 1326.7 |
| 22.5° | 1262.7 | 1262.7 | 1282.2 | 1290.5 | 1300.3 |
| 25°   | 1225.1 | 1226.5 | 1248.8 | 1259.9 | 1269.6 |
| 27.5° | 1184.7 | 1186.1 | 1212.6 | 1226.5 | 1237.6 |
| 30°   | 1140.2 | 1145.7 | 1173.6 | 1191.7 | 1204.2 |
| 32.5° | 1095.6 | 1102.6 | 1133.2 | 1154.1 | 1168.0 |
| 35°   | 1048.3 | 1056.6 | 1091.4 | 1115.1 | 1130.4 |
| 37.5° | 999.6  | 1009.3 | 1046.9 | 1073.3 | 1091.4 |
| 40°   | 950.8  | 962.0  | 1001.0 | 1031.6 | 1052.5 |
| 42.5° | 899.3  | 911.9  | 955.0  | 991.2  | 1013.5 |
| 45°   | 847.8  | 861.7  | 906.3  | 949.4  | 974.5  |
| 47.5° | 796.3  | 813.0  | 860.3  | 907.7  | 934.1  |
| 50°   | 743.4  | 760.1  | 810.2  | 864.5  | 891.0  |
| 52.5° | 690.5  | 710.0  | 765.7  | 821.4  | 847.8  |
| 55°   | 639.0  | 658.5  | 718.3  | 776.8  | 803.3  |
| 57.5° | 586.1  | 605.6  | 671.0  | 732.3  | 758.7  |
| 60°   | 531.8  | 554.1  | 622.3  | 684.9  | 714.2  |
| 62.5° | 478.9  | 502.6  | 575.0  | 641.8  | 669.6  |
| 65°   | 426.0  | 451.1  | 526.2  | 595.8  | 623.7  |
| 67.5° | 371.7  | 400.9  | 478.9  | 549.9  | 579.1  |
| 70°   | 318.8  | 350.8  | 433.0  | 504.0  | 531.8  |
| 72.5° | 267.3  | 302.1  | 387.0  | 459.4  | 476.1  |
| 75°   | 215.8  | 256.2  | 342.5  | 382.8  | 382.8  |
| 77.5° | 167.1  | 211.6  | 292.4  | 307.7  | 316.0  |
| 80°   | 121.1  | 169.8  | 220.0  | 238.1  | 235.3  |
| 82.5° | 80.7   | 129.5  | 157.3  | 157.3  | 153.1  |
| 85°   | 45.9   | 78.0   | 84.9   | 82.1   | 80.7   |
| 87.5° | 19.5   | 29.2   | 26.5   | 20.9   | 18.1   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)