

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: P#

Luminaire Tested: **24CZ-LD5-60-S-UNV-L830-CD1-U**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P#  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P25694)  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ-LD5-60-S-UNV-L830-CD1-U  
Description: CRUZE 2x4 LED TROFFER

Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5856.1 lumens  
Efficiency: N/A  
Efficacy: 112.2 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular w/ Sides (W: 2' x L: 4' x H: 0.1')  
CIE Type: Direct

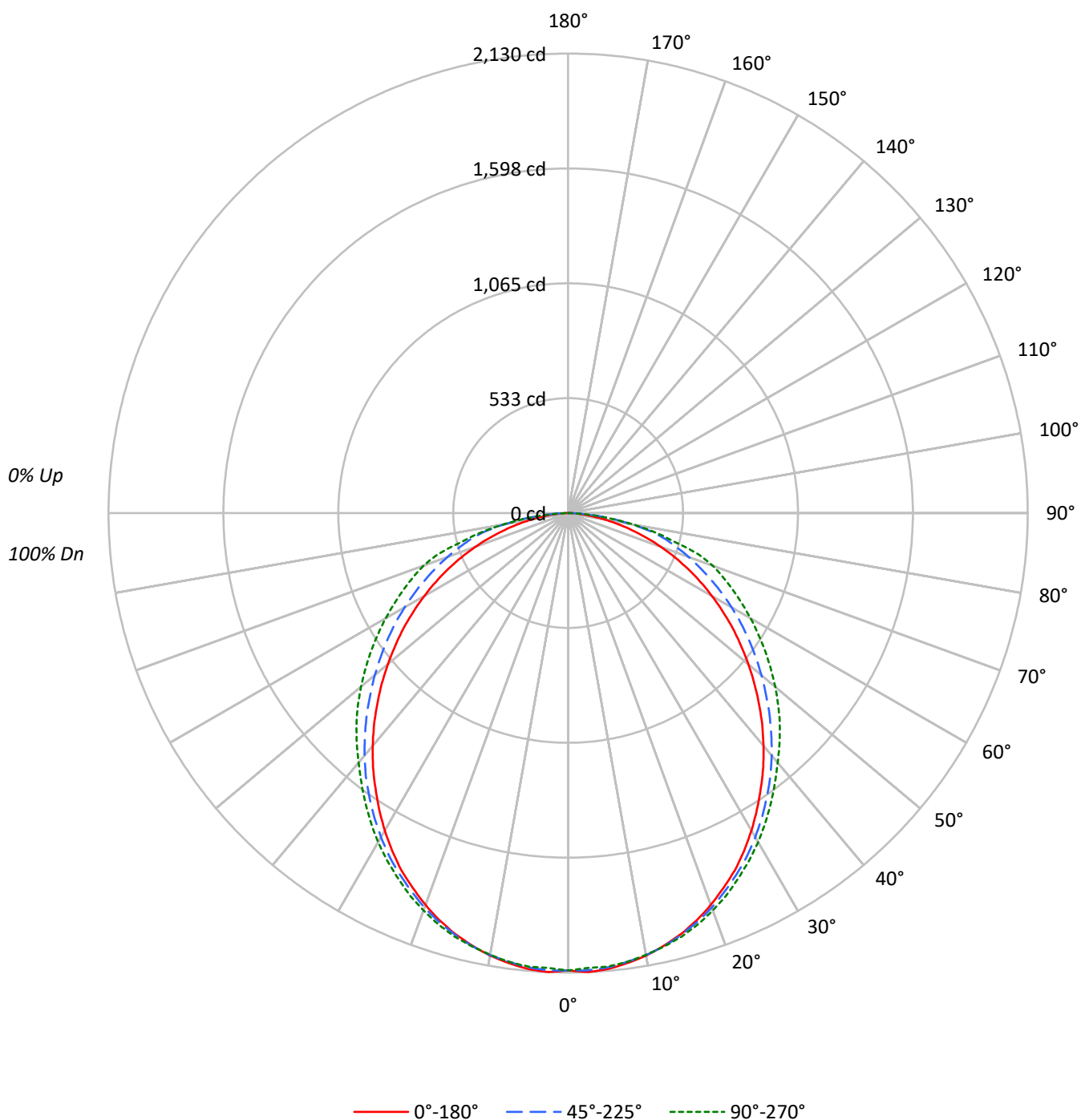
Input Watts (W): 52.17  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P#

CATALOG NUMBER: 24CZ-LD5-60-S-UNV-L830-CD1-U

### Luminous Intensity Polar Plot





TEST NUMBER: P#

CATALOG NUMBER: 24CZ-LD5-60-S-UNV-L830-CD1-U

**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

|     |     |     |     |     |     |     |     |     |  |     |     |     |  |     |     |     |  |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|-----|-----|-----|--|-----|-----|-----|--|-----|-----|-----|
| RF  | 20  |     |     |     | 20  |     |     |     |  | 20  |     |     |  |     | 20  |     |  |     |     | 20  |
| RC  | 80  |     |     |     | 70  |     |     |     |  | 50  |     |     |  |     | 30  |     |  |     |     | 0   |
| RW  | 70  | 50  | 30  | 10  | 70  | 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 |
| 1   | 108 | 104 | 99  | 95  | 106 | 101 | 97  | 94  |  | 97  | 94  | 91  |  | 93  | 90  | 88  |  | 89  | 87  | 85  |
| 2   | 99  | 90  | 83  | 77  | 96  | 88  | 82  | 76  |  | 85  | 79  | 75  |  | 81  | 77  | 73  |  | 78  | 75  | 71  |
| 3   | 90  | 79  | 71  | 64  | 87  | 77  | 70  | 64  |  | 74  | 68  | 62  |  | 72  | 66  | 61  |  | 69  | 64  | 60  |
| 4   | 82  | 70  | 61  | 54  | 80  | 69  | 60  | 54  |  | 66  | 59  | 53  |  | 64  | 58  | 52  |  | 62  | 56  | 52  |
| 5   | 76  | 63  | 53  | 47  | 73  | 61  | 53  | 47  |  | 59  | 52  | 46  |  | 57  | 51  | 45  |  | 55  | 50  | 45  |
| 6   | 70  | 56  | 47  | 41  | 68  | 55  | 47  | 41  |  | 54  | 46  | 40  |  | 52  | 45  | 40  |  | 50  | 44  | 40  |
| 7   | 65  | 51  | 42  | 36  | 63  | 50  | 42  | 36  |  | 49  | 41  | 36  |  | 47  | 41  | 35  |  | 46  | 40  | 35  |
| 8   | 60  | 47  | 38  | 32  | 59  | 46  | 38  | 32  |  | 45  | 37  | 32  |  | 43  | 37  | 32  |  | 42  | 36  | 32  |
| 9   | 56  | 43  | 35  | 29  | 55  | 42  | 34  | 29  |  | 41  | 34  | 29  |  | 40  | 33  | 29  |  | 39  | 33  | 29  |
| 10  | 53  | 40  | 32  | 26  | 52  | 39  | 31  | 26  |  | 38  | 31  | 26  |  | 37  | 31  | 26  |  | 36  | 30  | 26  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 2852 | 2852 | 2852 |
| 5°  | 2860 | 2842 | 2838 |
| 10° | 2833 | 2817 | 2816 |
| 15° | 2796 | 2781 | 2793 |
| 20° | 2743 | 2734 | 2757 |
| 25° | 2682 | 2676 | 2708 |
| 30° | 2602 | 2614 | 2660 |
| 35° | 2513 | 2543 | 2601 |
| 40° | 2424 | 2467 | 2546 |
| 45° | 2322 | 2384 | 2514 |
| 50° | 2218 | 2302 | 2475 |
| 55° | 2110 | 2227 | 2440 |
| 60° | 1985 | 2156 | 2418 |
| 65° | 1849 | 2089 | 2420 |
| 70° | 1679 | 2041 | 2467 |
| 75° | 1455 | 2021 | 2202 |
| 80° | 1164 | 1764 | 1835 |
| 85° | 772  | 1142 | 1073 |



TEST NUMBER: P#

CATALOG NUMBER: 24CZ-LD5-60-S-UNV-L830-CD1-U

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 200.4  | 3.4       |
| 10°-20°   | 570.0  | 9.7       |
| 20°-30°   | 849.5  | 14.5      |
| 30°-40°   | 1000.0 | 17.1      |
| 40°-50°   | 1016.2 | 17.4      |
| 50°-60°   | 913.7  | 15.6      |
| 60°-70°   | 721.8  | 12.3      |
| 70°-80°   | 457.9  | 7.8       |
| 80°-90°   | 126.4  | 2.2       |
| 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°    | 1620.0 | 27.7      |
| 0°-40°    | 2620.0 | 44.7      |
| 0°-60°    | 4549.9 | 77.7      |
| 0°-90°    | 5856.1 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 5856.1 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 2120 | 2120  | 2120 | 2120  | 2120 |      |
| 5°  | 2122 | 2104  | 2114 | 2110  | 2110 | 201  |
| 15° | 2021 | 2011  | 2024 | 2030  | 2032 | 569  |
| 25° | 1828 | 1826  | 1847 | 1859  | 1867 | 840  |
| 35° | 1557 | 1567  | 1606 | 1623  | 1639 | 974  |
| 45° | 1251 | 1268  | 1319 | 1358  | 1387 | 965  |
| 55° | 931  | 955   | 1021 | 1087  | 1114 | 832  |
| 65° | 612  | 643   | 731  | 810   | 842  | 606  |
| 75° | 306  | 358   | 466  | 507   | 503  | 326  |
| 85° | 64   | 111   | 119  | 109   | 109  | 79   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



TEST NUMBER: P#

CATALOG NUMBER: 24CZ-LD5-60-S-UNV-L830-CD1-U

**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 2120.0 | 2120.0 | 2120.0 | 2120.0 | 2120.0 |
| 2.5°  | 2129.7 | 2114.1 | 2121.9 | 2118.0 | 2110.2 |
| 5°    | 2121.9 | 2104.4 | 2114.1 | 2110.2 | 2110.2 |
| 7.5°  | 2104.4 | 2090.8 | 2098.5 | 2096.6 | 2098.5 |
| 10°   | 2083.0 | 2069.3 | 2081.1 | 2081.1 | 2079.1 |
| 12.5° | 2053.7 | 2042.0 | 2055.7 | 2055.7 | 2057.6 |
| 15°   | 2020.6 | 2010.9 | 2024.5 | 2030.3 | 2032.3 |
| 17.5° | 1979.7 | 1969.9 | 1987.5 | 1993.4 | 1999.2 |
| 20°   | 1933.0 | 1929.1 | 1946.6 | 1952.4 | 1960.2 |
| 22.5° | 1880.3 | 1880.3 | 1897.9 | 1905.7 | 1917.4 |
| 25°   | 1827.7 | 1825.8 | 1847.2 | 1858.9 | 1866.7 |
| 27.5° | 1765.4 | 1767.3 | 1794.6 | 1806.2 | 1816.0 |
| 30°   | 1699.1 | 1703.0 | 1734.2 | 1747.8 | 1761.5 |
| 32.5° | 1629.0 | 1636.8 | 1671.8 | 1687.4 | 1701.1 |
| 35°   | 1556.9 | 1566.6 | 1605.6 | 1623.1 | 1638.8 |
| 37.5° | 1484.8 | 1498.4 | 1539.4 | 1556.9 | 1574.4 |
| 40°   | 1408.8 | 1420.4 | 1467.3 | 1488.6 | 1510.1 |
| 42.5° | 1330.9 | 1346.4 | 1393.2 | 1424.3 | 1449.7 |
| 45°   | 1251.0 | 1268.5 | 1319.2 | 1358.1 | 1387.4 |
| 47.5° | 1171.1 | 1194.4 | 1243.2 | 1295.8 | 1321.1 |
| 50°   | 1091.2 | 1114.5 | 1169.1 | 1227.6 | 1252.9 |
| 52.5° | 1009.4 | 1032.7 | 1095.1 | 1155.5 | 1182.8 |
| 55°   | 931.4  | 954.8  | 1021.1 | 1087.3 | 1114.5 |
| 57.5° | 849.6  | 874.9  | 949.0  | 1017.2 | 1044.4 |
| 60°   | 769.7  | 795.0  | 874.9  | 947.0  | 976.2  |
| 62.5° | 691.7  | 719.0  | 802.8  | 878.8  | 908.0  |
| 65°   | 611.8  | 643.1  | 730.7  | 810.5  | 841.8  |
| 67.5° | 533.9  | 569.0  | 660.5  | 744.3  | 777.5  |
| 70°   | 456.0  | 496.8  | 594.3  | 680.0  | 713.2  |
| 72.5° | 380.0  | 424.7  | 528.0  | 613.8  | 631.3  |
| 75°   | 305.9  | 358.5  | 465.7  | 506.6  | 502.7  |
| 77.5° | 235.8  | 294.2  | 395.6  | 403.4  | 415.1  |
| 80°   | 171.5  | 235.8  | 296.2  | 311.8  | 304.0  |
| 82.5° | 113.0  | 177.3  | 212.4  | 204.6  | 202.6  |
| 85°   | 64.3   | 111.1  | 118.8  | 109.2  | 109.2  |
| 87.5° | 27.3   | 44.8   | 38.9   | 29.3   | 27.3   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)