

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: P261289

Luminaire Tested: **24CZ-LD5-45-S-UNV-L92765-W2A1-U-5000K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P261289  
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-LD5-45-S-UNV-L92765-W2A1-U-5000K  
Description: CRUZE 2x4 TUNABLE WHITE LED TROFFER WITH SMOOTH LENS  
Light Source: (336) 90 CRI LEDS TUNED AT 5000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4229.0 lumens  
Efficiency: N/A  
Efficacy: 131.4 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

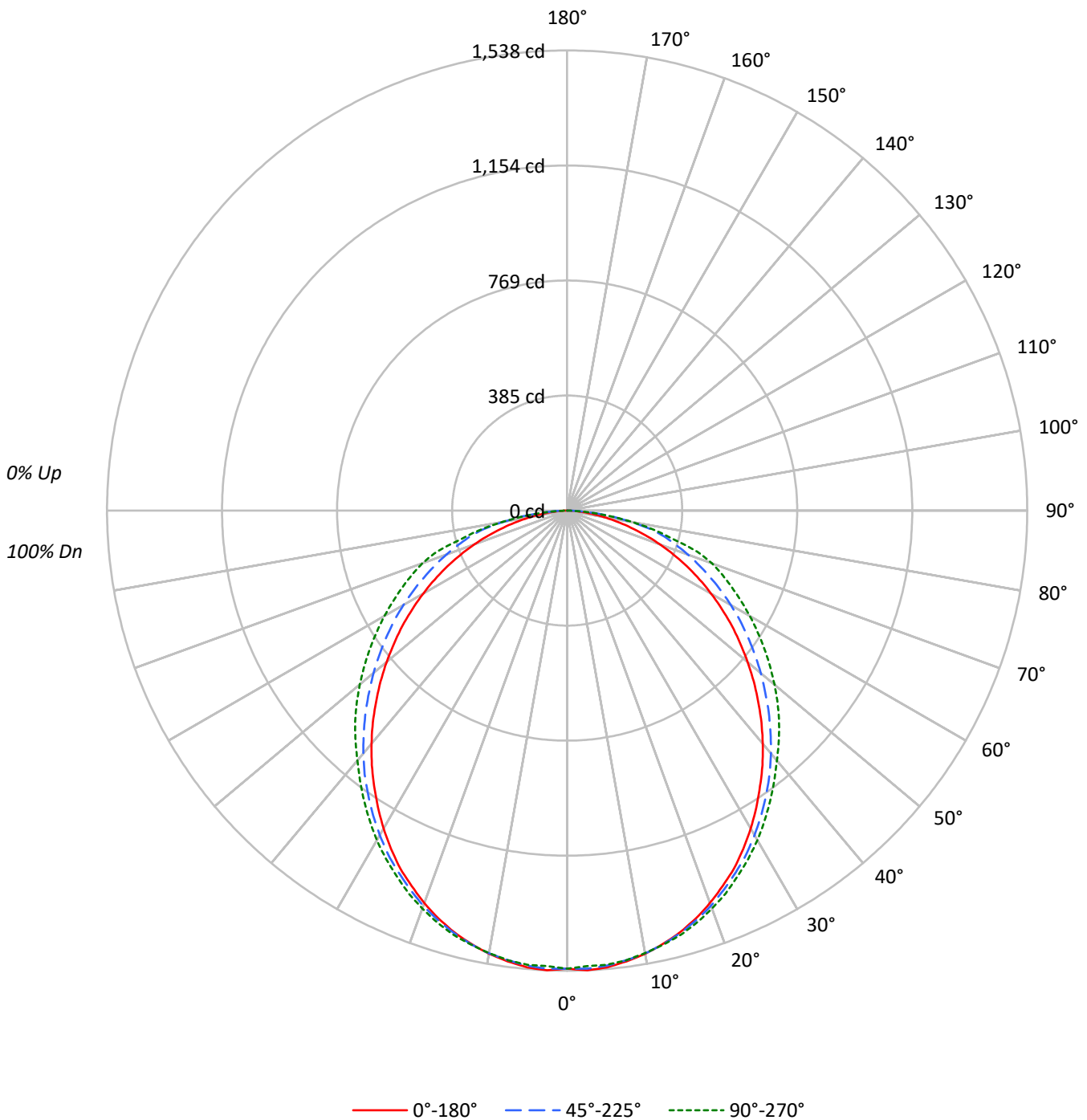
Input Watts (W): 32.178  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P261289

CATALOG NUMBER: 24CZ-LD5-45-S-UNV-L92765-W2A1-U-5000K

### Luminous Intensity Polar Plot





TEST NUMBER: P261289

CATALOG NUMBER: 24CZ-LD5-45-S-UNV-L92765-W2A1-U-5000K

**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 | 104 | 99  | 95  | 106 | 101 | 97  | 94  | 97  | 94  | 91  | 93  | 90  | 88  | 89  | 87  | 85  | 83  |
| 2   | 99  | 90  | 83  | 77  | 96  | 88  | 82  | 76  | 85  | 79  | 75  | 81  | 77  | 73  | 78  | 75  | 71  | 69  |
| 3   | 90  | 79  | 71  | 64  | 87  | 77  | 70  | 64  | 74  | 68  | 62  | 72  | 66  | 61  | 69  | 64  | 60  | 58  |
| 4   | 82  | 70  | 61  | 54  | 80  | 69  | 60  | 54  | 66  | 59  | 53  | 64  | 58  | 52  | 62  | 56  | 52  | 50  |
| 5   | 76  | 63  | 53  | 47  | 73  | 61  | 53  | 47  | 59  | 52  | 46  | 57  | 51  | 45  | 55  | 50  | 45  | 43  |
| 6   | 70  | 56  | 47  | 41  | 68  | 55  | 47  | 41  | 54  | 46  | 40  | 52  | 45  | 40  | 50  | 44  | 40  | 38  |
| 7   | 65  | 51  | 42  | 36  | 63  | 50  | 42  | 36  | 49  | 41  | 36  | 47  | 41  | 35  | 46  | 40  | 35  | 33  |
| 8   | 60  | 47  | 38  | 32  | 59  | 46  | 38  | 32  | 45  | 37  | 32  | 43  | 37  | 32  | 42  | 36  | 32  | 30  |
| 9   | 56  | 43  | 35  | 29  | 55  | 42  | 34  | 29  | 41  | 34  | 29  | 40  | 33  | 29  | 39  | 33  | 29  | 27  |
| 10  | 53  | 40  | 32  | 26  | 52  | 39  | 31  | 26  | 38  | 31  | 26  | 37  | 31  | 26  | 36  | 30  | 26  | 24  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 2060 | 2060 | 2060 |
| 5°  | 2070 | 2062 | 2058 |
| 10° | 2055 | 2053 | 2051 |
| 15° | 2033 | 2036 | 2044 |
| 20° | 1999 | 2013 | 2027 |
| 25° | 1960 | 1980 | 2001 |
| 30° | 1906 | 1946 | 1976 |
| 35° | 1847 | 1905 | 1944 |
| 40° | 1787 | 1861 | 1915 |
| 45° | 1719 | 1813 | 1906 |
| 50° | 1649 | 1767 | 1894 |
| 55° | 1578 | 1730 | 1888 |
| 60° | 1496 | 1700 | 1897 |
| 65° | 1407 | 1680 | 1935 |
| 70° | 1295 | 1688 | 2026 |
| 75° | 1148 | 1748 | 1887 |
| 80° | 959  | 1657 | 1701 |
| 85° | 716  | 1325 | 1216 |



TEST NUMBER: P261289

CATALOG NUMBER: 24CZ-LD5-45-S-UNV-L92765-W2A1-U-5000K

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 144.7  | 3.4       |
| 10°-20°   | 411.7  | 9.7       |
| 20°-30°   | 613.5  | 14.5      |
| 30°-40°   | 722.2  | 17.1      |
| 40°-50°   | 733.9  | 17.4      |
| 50°-60°   | 659.8  | 15.6      |
| 60°-70°   | 521.3  | 12.3      |
| 70°-80°   | 330.7  | 7.8       |
| 80°-90°   | 91.3   | 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°    | 1169.9 | 27.7      |
| 0°-40°    | 1892.1 | 44.7      |
| 0°-60°    | 3285.8 | 77.7      |
| 0°-90°    | 4229.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 4229.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1531 | 1531  | 1531 | 1531  | 1531 |      |
| 5°  | 1532 | 1520  | 1527 | 1524  | 1524 | 145  |
| 15° | 1459 | 1452  | 1462 | 1466  | 1468 | 411  |
| 25° | 1320 | 1318  | 1334 | 1342  | 1348 | 607  |
| 35° | 1124 | 1131  | 1160 | 1172  | 1183 | 703  |
| 45° | 903  | 916   | 953  | 981   | 1002 | 697  |
| 55° | 673  | 690   | 737  | 785   | 805  | 601  |
| 65° | 442  | 464   | 528  | 585   | 608  | 438  |
| 75° | 221  | 259   | 336  | 366   | 363  | 235  |
| 85° | 46   | 80    | 86   | 79    | 79   | 57   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



TEST NUMBER: P261289

CATALOG NUMBER: 24CZ-LD5-45-S-UNV-L92765-W2A1-U-5000K

**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1531.0 | 1531.0 | 1531.0 | 1531.0 | 1531.0 |
| 2.5°  | 1538.0 | 1526.8 | 1532.4 | 1529.6 | 1523.9 |
| 5°    | 1532.4 | 1519.7 | 1526.8 | 1523.9 | 1523.9 |
| 7.5°  | 1519.7 | 1509.9 | 1515.5 | 1514.1 | 1515.5 |
| 10°   | 1504.2 | 1494.4 | 1502.8 | 1502.8 | 1501.4 |
| 12.5° | 1483.1 | 1474.7 | 1484.5 | 1484.5 | 1485.9 |
| 15°   | 1459.2 | 1452.2 | 1462.0 | 1466.2 | 1467.7 |
| 17.5° | 1429.7 | 1422.6 | 1435.3 | 1439.5 | 1443.7 |
| 20°   | 1395.9 | 1393.1 | 1405.7 | 1410.0 | 1415.6 |
| 22.5° | 1357.9 | 1357.9 | 1370.6 | 1376.2 | 1384.6 |
| 25°   | 1319.9 | 1318.5 | 1334.0 | 1342.4 | 1348.0 |
| 27.5° | 1274.9 | 1276.3 | 1296.0 | 1304.4 | 1311.5 |
| 30°   | 1227.0 | 1229.8 | 1252.4 | 1262.2 | 1272.1 |
| 32.5° | 1176.4 | 1182.0 | 1207.3 | 1218.6 | 1228.4 |
| 35°   | 1124.3 | 1131.3 | 1159.5 | 1172.2 | 1183.4 |
| 37.5° | 1072.2 | 1082.1 | 1111.6 | 1124.3 | 1137.0 |
| 40°   | 1017.4 | 1025.8 | 1059.6 | 1075.1 | 1090.5 |
| 42.5° | 961.1  | 972.3  | 1006.1 | 1028.6 | 1046.9 |
| 45°   | 903.4  | 916.1  | 952.6  | 980.8  | 1001.9 |
| 47.5° | 845.7  | 862.6  | 897.8  | 935.8  | 954.0  |
| 50°   | 788.0  | 804.9  | 844.3  | 886.5  | 904.8  |
| 52.5° | 728.9  | 745.8  | 790.8  | 834.4  | 854.1  |
| 55°   | 672.6  | 689.5  | 737.3  | 785.2  | 804.9  |
| 57.5° | 613.5  | 631.8  | 685.3  | 734.5  | 754.2  |
| 60°   | 555.8  | 574.1  | 631.8  | 683.9  | 705.0  |
| 62.5° | 499.5  | 519.2  | 579.7  | 634.6  | 655.7  |
| 65°   | 441.8  | 464.4  | 527.7  | 585.4  | 607.9  |
| 67.5° | 385.6  | 410.9  | 477.0  | 537.5  | 561.5  |
| 70°   | 329.3  | 358.8  | 429.2  | 491.1  | 515.0  |
| 72.5° | 274.4  | 306.8  | 381.3  | 443.3  | 455.9  |
| 75°   | 220.9  | 258.9  | 336.3  | 365.9  | 363.0  |
| 77.5° | 170.3  | 212.5  | 285.7  | 291.3  | 299.7  |
| 80°   | 123.8  | 170.3  | 213.9  | 225.1  | 219.5  |
| 82.5° | 81.6   | 128.1  | 153.4  | 147.8  | 146.3  |
| 85°   | 46.4   | 80.2   | 85.8   | 78.8   | 78.8   |
| 87.5° | 19.7   | 32.4   | 28.1   | 21.1   | 19.7   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)