

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: P259489

Luminaire Tested: **22CZ-LD5-44-S-UNV-L82765-W2A1-U-6500K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P259489  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P25712)  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22CZ-LD5-44-S-UNV-L82765-W2A1-U-6500K  
Description: CRUZE 2x2 TUNABLE WHITE LED TROFFER WITH SMOOTH LENS  
Light Source: (168) 80 CRI LEDS TUNED AT 6500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4710.0 lumens  
Efficiency: N/A  
Efficacy: 130.2 lumens/watt  
Spacing Criteria (0/90/45): 1.18 / 1.24 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

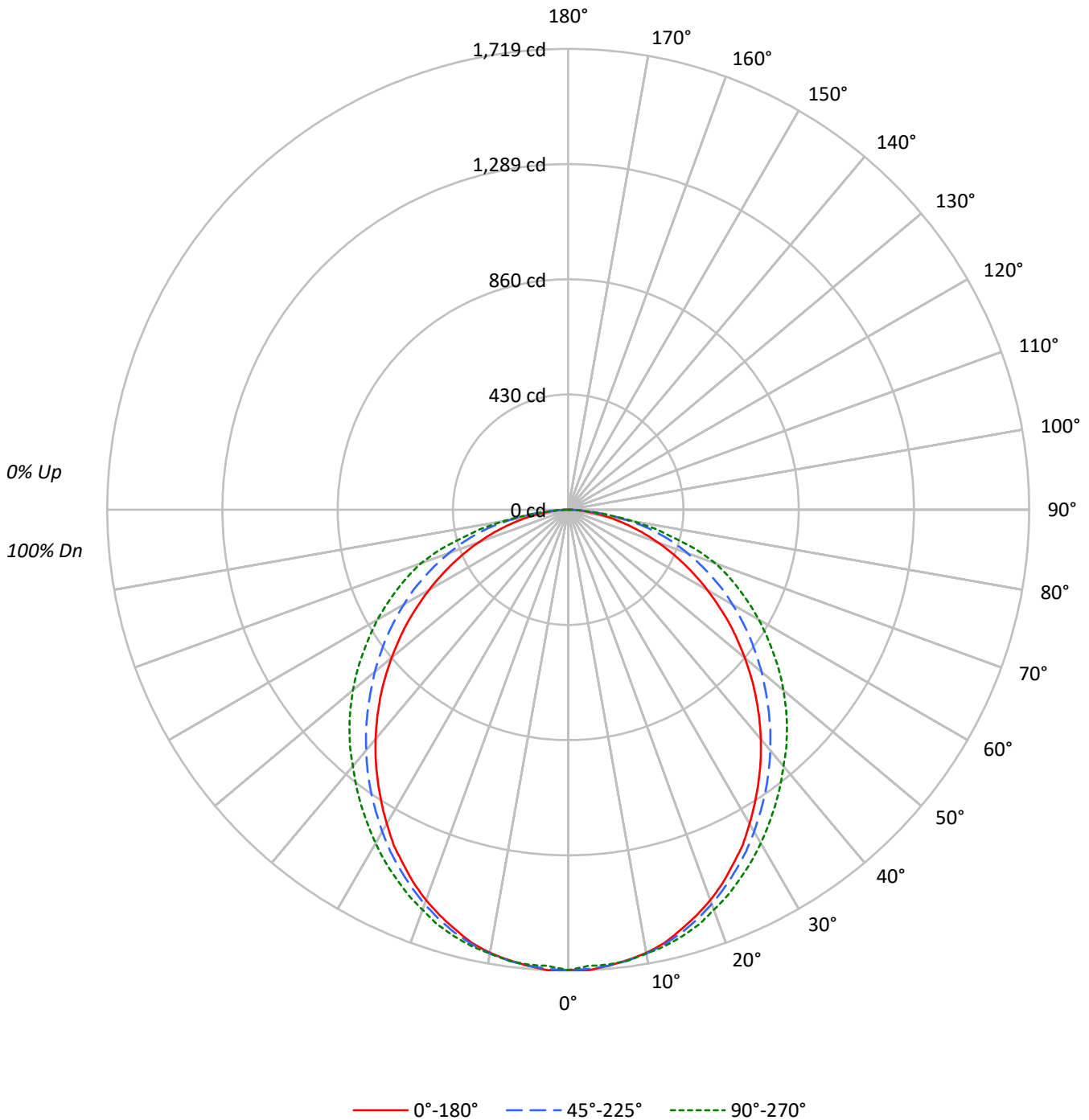
Input Watts (W): 36.177  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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   | 109 | 104 | 99  | 95  | 106 | 101 | 97  | 94  | 97  | 94  | 91  | 93  | 91  | 88  | 90  | 87  | 85  | 83  |
| 2   | 99  | 90  | 83  | 77  | 96  | 88  | 82  | 77  | 85  | 79  | 75  | 81  | 77  | 73  | 78  | 75  | 71  | 69  |
| 3   | 90  | 79  | 71  | 64  | 87  | 78  | 70  | 64  | 75  | 68  | 63  | 72  | 66  | 62  | 69  | 64  | 60  | 58  |
| 4   | 82  | 70  | 61  | 54  | 80  | 69  | 61  | 54  | 66  | 59  | 53  | 64  | 58  | 53  | 62  | 56  | 52  | 50  |
| 5   | 76  | 63  | 54  | 47  | 74  | 62  | 53  | 47  | 59  | 52  | 46  | 57  | 51  | 46  | 56  | 50  | 45  | 43  |
| 6   | 70  | 56  | 47  | 41  | 68  | 56  | 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  | 36  | 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  | 34  | 29  | 39  | 33  | 29  | 27  |
| 10  | 53  | 40  | 32  | 26  | 52  | 39  | 32  | 26  | 38  | 31  | 26  | 37  | 31  | 26  | 36  | 30  | 26  | 24  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 4621 | 4621 | 4621 |
| 5°  | 4614 | 4614 | 4602 |
| 10° | 4587 | 4593 | 4593 |
| 15° | 4519 | 4550 | 4588 |
| 20° | 4438 | 4483 | 4548 |
| 25° | 4326 | 4400 | 4507 |
| 30° | 4204 | 4309 | 4464 |
| 35° | 4065 | 4214 | 4422 |
| 40° | 3926 | 4117 | 4387 |
| 45° | 3771 | 4021 | 4391 |
| 50° | 3599 | 3940 | 4385 |
| 55° | 3428 | 3874 | 4383 |
| 60° | 3226 | 3811 | 4420 |
| 65° | 3025 | 3760 | 4480 |
| 70° | 2795 | 3720 | 4592 |
| 75° | 2517 | 3693 | 4258 |
| 80° | 2208 | 3436 | 3716 |
| 85° | 1815 | 2584 | 2306 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 162.1  | 3.4       |
| 10°-20°   | 460.6  | 9.8       |
| 20°-30°   | 684.2  | 14.5      |
| 30°-40°   | 805.3  | 17.1      |
| 40°-50°   | 821.0  | 17.4      |
| 50°-60°   | 740.4  | 15.7      |
| 60°-70°   | 583.2  | 12.4      |
| 70°-80°   | 359.8  | 7.6       |
| 80°-90°   | 93.4   | 2.0       |
| 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°    | 1306.9 | 27.7      |
| 0°-40°    | 2112.2 | 44.8      |
| 0°-60°    | 3673.6 | 78.0      |
| 0°-90°    | 4710.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 4710.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1717 | 1717  | 1717 | 1717  | 1717 |      |
| 5°  | 1708 | 1710  | 1708 | 1706  | 1704 | 162  |
| 15° | 1622 | 1629  | 1633 | 1642  | 1647 | 457  |
| 25° | 1457 | 1466  | 1482 | 1507  | 1518 | 671  |
| 35° | 1238 | 1251  | 1283 | 1323  | 1346 | 774  |
| 45° | 991  | 1007  | 1056 | 1120  | 1154 | 764  |
| 55° | 731  | 756   | 826  | 900   | 934  | 652  |
| 65° | 475  | 509   | 590  | 665   | 704  | 471  |
| 75° | 242  | 283   | 355  | 396   | 410  | 258  |
| 85° | 59   | 75    | 84   | 79    | 75   | 69   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1717.1 | 1717.1 | 1717.1 | 1717.1 | 1717.1 |
| 2.5°  | 1719.3 | 1719.3 | 1714.8 | 1710.3 | 1703.5 |
| 5°    | 1708.0 | 1710.3 | 1708.0 | 1705.8 | 1703.5 |
| 7.5°  | 1694.5 | 1696.7 | 1696.7 | 1696.7 | 1696.7 |
| 10°   | 1678.6 | 1680.9 | 1680.9 | 1680.9 | 1680.9 |
| 12.5° | 1656.0 | 1658.3 | 1660.5 | 1662.8 | 1667.3 |
| 15°   | 1622.1 | 1628.8 | 1633.4 | 1642.4 | 1646.9 |
| 17.5° | 1588.1 | 1594.9 | 1601.7 | 1613.0 | 1622.1 |
| 20°   | 1549.7 | 1554.2 | 1565.5 | 1579.1 | 1588.1 |
| 22.5° | 1506.7 | 1513.5 | 1524.8 | 1542.9 | 1556.5 |
| 25°   | 1456.9 | 1466.0 | 1481.8 | 1506.7 | 1518.0 |
| 27.5° | 1409.4 | 1416.2 | 1436.6 | 1463.7 | 1479.5 |
| 30°   | 1352.8 | 1361.9 | 1386.8 | 1420.7 | 1436.6 |
| 32.5° | 1296.3 | 1307.6 | 1334.7 | 1373.2 | 1391.3 |
| 35°   | 1237.5 | 1251.0 | 1282.7 | 1323.4 | 1346.1 |
| 37.5° | 1178.6 | 1192.2 | 1228.4 | 1273.7 | 1298.6 |
| 40°   | 1117.6 | 1131.1 | 1171.9 | 1221.6 | 1248.8 |
| 42.5° | 1054.2 | 1070.1 | 1115.3 | 1171.9 | 1203.5 |
| 45°   | 990.9  | 1006.7 | 1056.5 | 1119.8 | 1153.8 |
| 47.5° | 925.3  | 943.4  | 997.7  | 1067.8 | 1101.7 |
| 50°   | 859.7  | 880.0  | 941.1  | 1013.5 | 1047.4 |
| 52.5° | 794.1  | 816.7  | 882.3  | 956.9  | 993.1  |
| 55°   | 730.7  | 755.6  | 825.7  | 900.4  | 934.3  |
| 57.5° | 662.8  | 692.3  | 766.9  | 839.3  | 877.8  |
| 60°   | 599.5  | 631.2  | 708.1  | 780.5  | 821.2  |
| 62.5° | 536.2  | 570.1  | 651.5  | 723.9  | 762.4  |
| 65°   | 475.1  | 509.0  | 590.5  | 665.1  | 703.6  |
| 67.5° | 414.0  | 452.5  | 531.6  | 606.3  | 644.8  |
| 70°   | 355.2  | 395.9  | 472.8  | 545.2  | 583.7  |
| 72.5° | 298.6  | 339.3  | 416.3  | 484.1  | 506.8  |
| 75°   | 242.1  | 282.8  | 355.2  | 395.9  | 409.5  |
| 77.5° | 190.0  | 228.5  | 291.8  | 316.7  | 334.8  |
| 80°   | 142.5  | 176.5  | 221.7  | 237.5  | 239.8  |
| 82.5° | 97.3   | 126.7  | 153.8  | 156.1  | 153.8  |
| 85°   | 58.8   | 74.7   | 83.7   | 79.2   | 74.7   |
| 87.5° | 27.1   | 29.4   | 27.1   | 18.1   | 11.3   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)