

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: P261284

Luminaire Tested: **24CZ-LD5-45-S-UNV-L92765-W2A1-U-2700K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P261284  
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-2700K  
Description: CRUZE 2x4 TUNABLE WHITE LED TROFFER  
WITH SMOOTH LENS  
Light Source: (336) 90 CRI LEDS TUNED AT 2700K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3585.0 lumens  
Efficiency: N/A  
Efficacy: 114.4 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

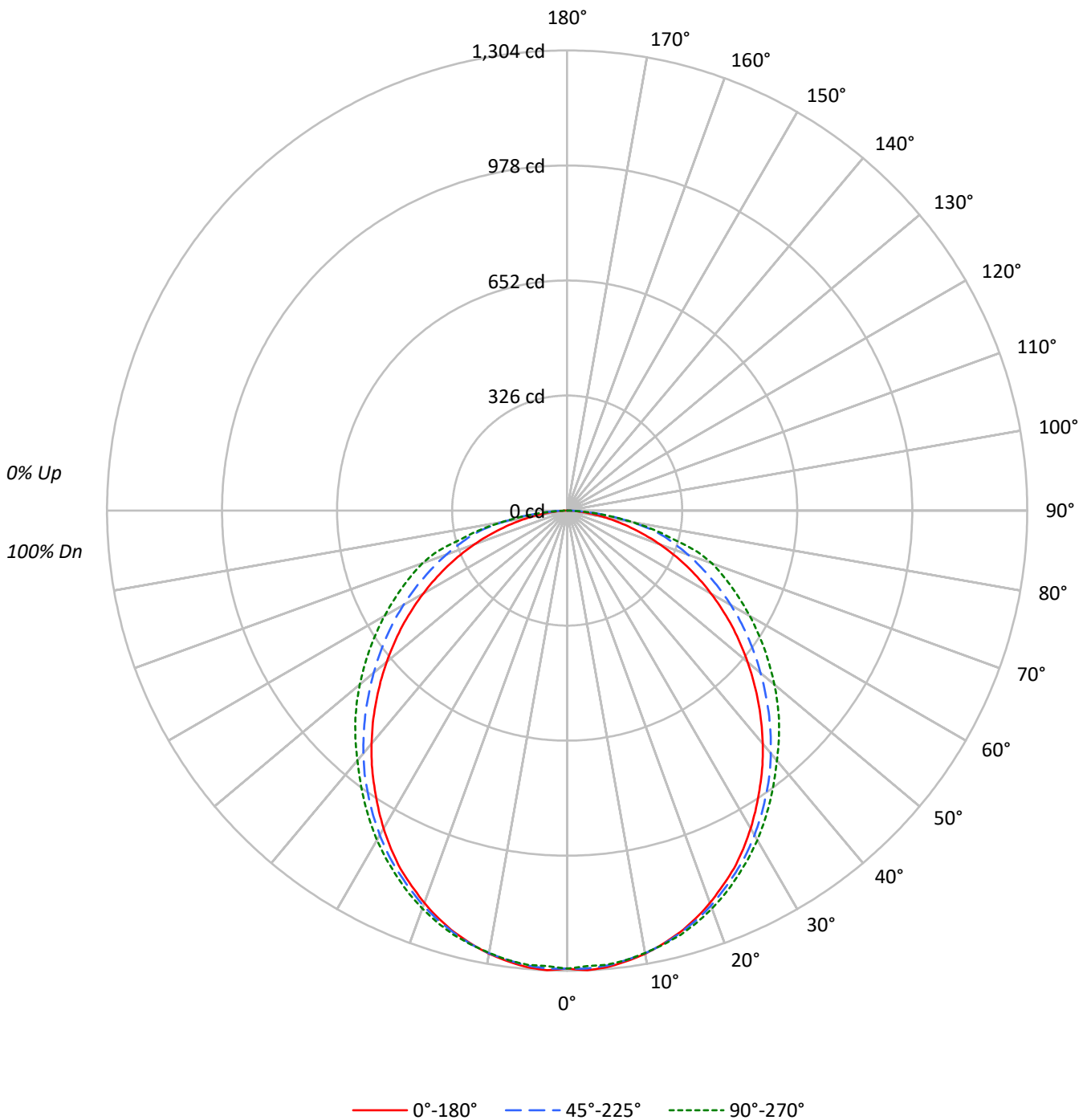
Input Watts (W): 31.341  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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 | 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°  | 1746 | 1746 | 1746 |
| 5°  | 1754 | 1748 | 1745 |
| 10° | 1742 | 1741 | 1739 |
| 15° | 1723 | 1726 | 1733 |
| 20° | 1694 | 1706 | 1718 |
| 25° | 1661 | 1679 | 1697 |
| 30° | 1616 | 1649 | 1675 |
| 35° | 1566 | 1614 | 1648 |
| 40° | 1515 | 1578 | 1624 |
| 45° | 1457 | 1537 | 1616 |
| 50° | 1398 | 1498 | 1605 |
| 55° | 1338 | 1466 | 1601 |
| 60° | 1268 | 1441 | 1608 |
| 65° | 1193 | 1424 | 1641 |
| 70° | 1098 | 1431 | 1718 |
| 75° | 974  | 1482 | 1600 |
| 80° | 814  | 1405 | 1442 |
| 85° | 608  | 1124 | 1031 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 122.7  | 3.4       |
| 10°-20°   | 349.0  | 9.7       |
| 20°-30°   | 520.1  | 14.5      |
| 30°-40°   | 612.2  | 17.1      |
| 40°-50°   | 622.1  | 17.4      |
| 50°-60°   | 559.3  | 15.6      |
| 60°-70°   | 441.9  | 12.3      |
| 70°-80°   | 280.3  | 7.8       |
| 80°-90°   | 77.4   | 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°    | 991.7  | 27.7      |
| 0°-40°    | 1603.9 | 44.7      |
| 0°-60°    | 2785.4 | 77.7      |
| 0°-90°    | 3585.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3585.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1298 | 1298  | 1298 | 1298  | 1298 |      |
| 5°  | 1299 | 1288  | 1294 | 1292  | 1292 | 123  |
| 15° | 1237 | 1231  | 1239 | 1243  | 1244 | 348  |
| 25° | 1119 | 1118  | 1131 | 1138  | 1143 | 514  |
| 35° | 953  | 959   | 983  | 994   | 1003 | 596  |
| 45° | 766  | 777   | 808  | 831   | 849  | 591  |
| 55° | 570  | 584   | 625  | 666   | 682  | 509  |
| 65° | 375  | 394   | 447  | 496   | 515  | 371  |
| 75° | 187  | 220   | 285  | 310   | 308  | 199  |
| 85° | 39   | 68    | 73   | 67    | 67   | 48   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1297.8 | 1297.8 | 1297.8 | 1297.8 | 1297.8 |
| 2.5°  | 1303.8 | 1294.3 | 1299.0 | 1296.6 | 1291.9 |
| 5°    | 1299.0 | 1288.3 | 1294.3 | 1291.9 | 1291.9 |
| 7.5°  | 1288.3 | 1279.9 | 1284.7 | 1283.5 | 1284.7 |
| 10°   | 1275.2 | 1266.8 | 1274.0 | 1274.0 | 1272.8 |
| 12.5° | 1257.3 | 1250.1 | 1258.5 | 1258.5 | 1259.7 |
| 15°   | 1237.0 | 1231.0 | 1239.4 | 1243.0 | 1244.2 |
| 17.5° | 1211.9 | 1206.0 | 1216.7 | 1220.3 | 1223.9 |
| 20°   | 1183.3 | 1180.9 | 1191.7 | 1195.2 | 1200.0 |
| 22.5° | 1151.1 | 1151.1 | 1161.8 | 1166.6 | 1173.8 |
| 25°   | 1118.9 | 1117.7 | 1130.8 | 1138.0 | 1142.8 |
| 27.5° | 1080.7 | 1081.9 | 1098.6 | 1105.8 | 1111.7 |
| 30°   | 1040.2 | 1042.6 | 1061.6 | 1070.0 | 1078.3 |
| 32.5° | 997.2  | 1002.0 | 1023.5 | 1033.0 | 1041.4 |
| 35°   | 953.1  | 959.1  | 982.9  | 993.7  | 1003.2 |
| 37.5° | 909.0  | 917.3  | 942.4  | 953.1  | 963.8  |
| 40°   | 862.4  | 869.6  | 898.2  | 911.3  | 924.5  |
| 42.5° | 814.7  | 824.3  | 852.9  | 872.0  | 887.5  |
| 45°   | 765.8  | 776.6  | 807.6  | 831.4  | 849.3  |
| 47.5° | 716.9  | 731.2  | 761.0  | 793.3  | 808.8  |
| 50°   | 668.0  | 682.3  | 715.7  | 751.5  | 767.0  |
| 52.5° | 617.9  | 632.2  | 670.4  | 707.4  | 724.1  |
| 55°   | 570.2  | 584.5  | 625.1  | 665.6  | 682.3  |
| 57.5° | 520.1  | 535.6  | 580.9  | 622.7  | 639.4  |
| 60°   | 471.2  | 486.7  | 535.6  | 579.7  | 597.6  |
| 62.5° | 423.5  | 440.2  | 491.5  | 538.0  | 555.9  |
| 65°   | 374.6  | 393.6  | 447.3  | 496.2  | 515.3  |
| 67.5° | 326.8  | 348.3  | 404.4  | 455.7  | 476.0  |
| 70°   | 279.1  | 304.2  | 363.8  | 416.3  | 436.6  |
| 72.5° | 232.6  | 260.0  | 323.3  | 375.8  | 386.5  |
| 75°   | 187.3  | 219.5  | 285.1  | 310.1  | 307.8  |
| 77.5° | 144.3  | 180.1  | 242.2  | 246.9  | 254.1  |
| 80°   | 105.0  | 144.3  | 181.3  | 190.9  | 186.1  |
| 82.5° | 69.2   | 108.6  | 130.0  | 125.3  | 124.1  |
| 85°   | 39.4   | 68.0   | 72.8   | 66.8   | 66.8   |
| 87.5° | 16.7   | 27.4   | 23.9   | 17.9   | 16.7   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)