

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: P259394

Luminaire Tested: **22CZ-LD5-34-S-UNV-L83050-W2A1-U-4500K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P259394  
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-LD5-34-S-UNV-L83050-W2A1-U-4500K  
Description: CRUZE 2x2 TUNABLE WHITE LED TROFFER WITH SMOOTH LENS  
Light Source: (168) 80 CRI LEDS TUNED AT 4500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3715.0 lumens  
Efficiency: N/A  
Efficacy: 137.7 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

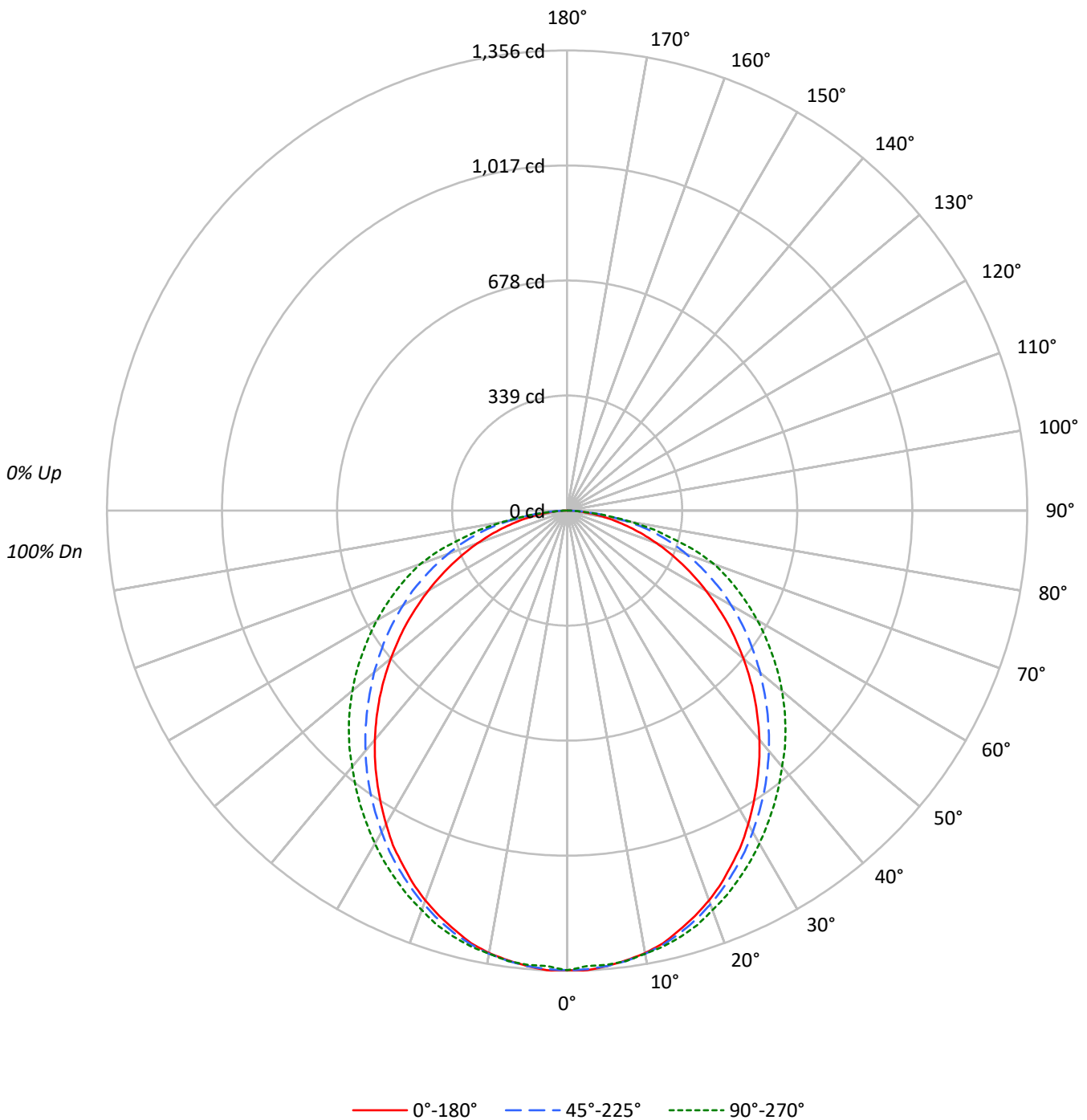
Input Watts (W): 26.97  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°  | 3644 | 3644 | 3644 |
| 5°  | 3639 | 3639 | 3629 |
| 10° | 3618 | 3623 | 3623 |
| 15° | 3564 | 3589 | 3619 |
| 20° | 3500 | 3536 | 3587 |
| 25° | 3412 | 3470 | 3555 |
| 30° | 3316 | 3399 | 3521 |
| 35° | 3207 | 3324 | 3488 |
| 40° | 3097 | 3247 | 3460 |
| 45° | 2974 | 3171 | 3463 |
| 50° | 2839 | 3108 | 3459 |
| 55° | 2704 | 3056 | 3457 |
| 60° | 2545 | 3006 | 3486 |
| 65° | 2386 | 2965 | 3533 |
| 70° | 2204 | 2934 | 3622 |
| 75° | 1985 | 2912 | 3358 |
| 80° | 1742 | 2710 | 2930 |
| 85° | 1433 | 2038 | 1819 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 127.9  | 3.4       |
| 10°-20°   | 363.3  | 9.8       |
| 20°-30°   | 539.6  | 14.5      |
| 30°-40°   | 635.2  | 17.1      |
| 40°-50°   | 647.5  | 17.4      |
| 50°-60°   | 584.0  | 15.7      |
| 60°-70°   | 460.0  | 12.4      |
| 70°-80°   | 283.8  | 7.6       |
| 80°-90°   | 73.7   | 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°    | 1030.8 | 27.7      |
| 0°-40°    | 1666.0 | 44.8      |
| 0°-60°    | 2897.6 | 78.0      |
| 0°-90°    | 3715.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3715.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1354 | 1354  | 1354 | 1354  | 1354 |      |
| 5°  | 1347 | 1349  | 1347 | 1345  | 1344 | 128  |
| 15° | 1279 | 1285  | 1288 | 1296  | 1299 | 361  |
| 25° | 1149 | 1156  | 1169 | 1188  | 1197 | 529  |
| 35° | 976  | 987   | 1012 | 1044  | 1062 | 611  |
| 45° | 782  | 794   | 833  | 883   | 910  | 602  |
| 55° | 576  | 596   | 651  | 710   | 737  | 514  |
| 65° | 375  | 402   | 466  | 525   | 555  | 371  |
| 75° | 191  | 223   | 280  | 312   | 323  | 204  |
| 85° | 46   | 59    | 66   | 62    | 59   | 55   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1354.3 | 1354.3 | 1354.3 | 1354.3 | 1354.3 |
| 2.5°  | 1356.1 | 1356.1 | 1352.6 | 1349.0 | 1343.6 |
| 5°    | 1347.2 | 1349.0 | 1347.2 | 1345.4 | 1343.6 |
| 7.5°  | 1336.5 | 1338.3 | 1338.3 | 1338.3 | 1338.3 |
| 10°   | 1324.0 | 1325.8 | 1325.8 | 1325.8 | 1325.8 |
| 12.5° | 1306.2 | 1307.9 | 1309.7 | 1311.5 | 1315.1 |
| 15°   | 1279.4 | 1284.7 | 1288.3 | 1295.5 | 1299.0 |
| 17.5° | 1252.6 | 1258.0 | 1263.3 | 1272.3 | 1279.4 |
| 20°   | 1222.3 | 1225.9 | 1234.8 | 1245.5 | 1252.6 |
| 22.5° | 1188.4 | 1193.7 | 1202.7 | 1216.9 | 1227.6 |
| 25°   | 1149.1 | 1156.3 | 1168.8 | 1188.4 | 1197.3 |
| 27.5° | 1111.7 | 1117.0 | 1133.1 | 1154.5 | 1167.0 |
| 30°   | 1067.1 | 1074.2 | 1093.8 | 1120.6 | 1133.1 |
| 32.5° | 1022.4 | 1031.4 | 1052.8 | 1083.1 | 1097.4 |
| 35°   | 976.1  | 986.8  | 1011.7 | 1043.9 | 1061.7 |
| 37.5° | 929.7  | 940.4  | 968.9  | 1004.6 | 1024.2 |
| 40°   | 881.5  | 892.2  | 924.3  | 963.6  | 985.0  |
| 42.5° | 831.5  | 844.0  | 879.7  | 924.3  | 949.3  |
| 45°   | 781.6  | 794.0  | 833.3  | 883.3  | 910.0  |
| 47.5° | 729.8  | 744.1  | 786.9  | 842.2  | 869.0  |
| 50°   | 678.1  | 694.1  | 742.3  | 799.4  | 826.2  |
| 52.5° | 626.3  | 644.2  | 695.9  | 754.8  | 783.3  |
| 55°   | 576.4  | 596.0  | 651.3  | 710.2  | 736.9  |
| 57.5° | 522.8  | 546.0  | 604.9  | 662.0  | 692.3  |
| 60°   | 472.9  | 497.8  | 558.5  | 615.6  | 647.7  |
| 62.5° | 422.9  | 449.7  | 513.9  | 571.0  | 601.3  |
| 65°   | 374.7  | 401.5  | 465.7  | 524.6  | 554.9  |
| 67.5° | 326.5  | 356.9  | 419.3  | 478.2  | 508.5  |
| 70°   | 280.1  | 312.3  | 372.9  | 430.0  | 460.4  |
| 72.5° | 235.5  | 267.7  | 328.3  | 381.9  | 399.7  |
| 75°   | 190.9  | 223.0  | 280.1  | 312.3  | 323.0  |
| 77.5° | 149.9  | 180.2  | 230.2  | 249.8  | 264.1  |
| 80°   | 112.4  | 139.2  | 174.9  | 187.4  | 189.1  |
| 82.5° | 76.7   | 99.9   | 121.3  | 123.1  | 121.3  |
| 85°   | 46.4   | 58.9   | 66.0   | 62.5   | 58.9   |
| 87.5° | 21.4   | 23.2   | 21.4   | 14.3   | 8.9    |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)