

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: P258759

Luminaire Tested: **14CZ-LD5-44-S-UNV-L93050-W2A1-U-3000K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P258759  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P35112)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 14CZ-LD5-44-S-UNV-L93050-W2A1-U-3000K  
Description: CRUZE 1x4 TUNABLE WHITE LED TROFFER WITH SMOOTH LENS  
Light Source: (168) 90 CRI LEDS TUNED AT 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3461.0 lumens  
Efficiency: N/A  
Efficacy: 94.9 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

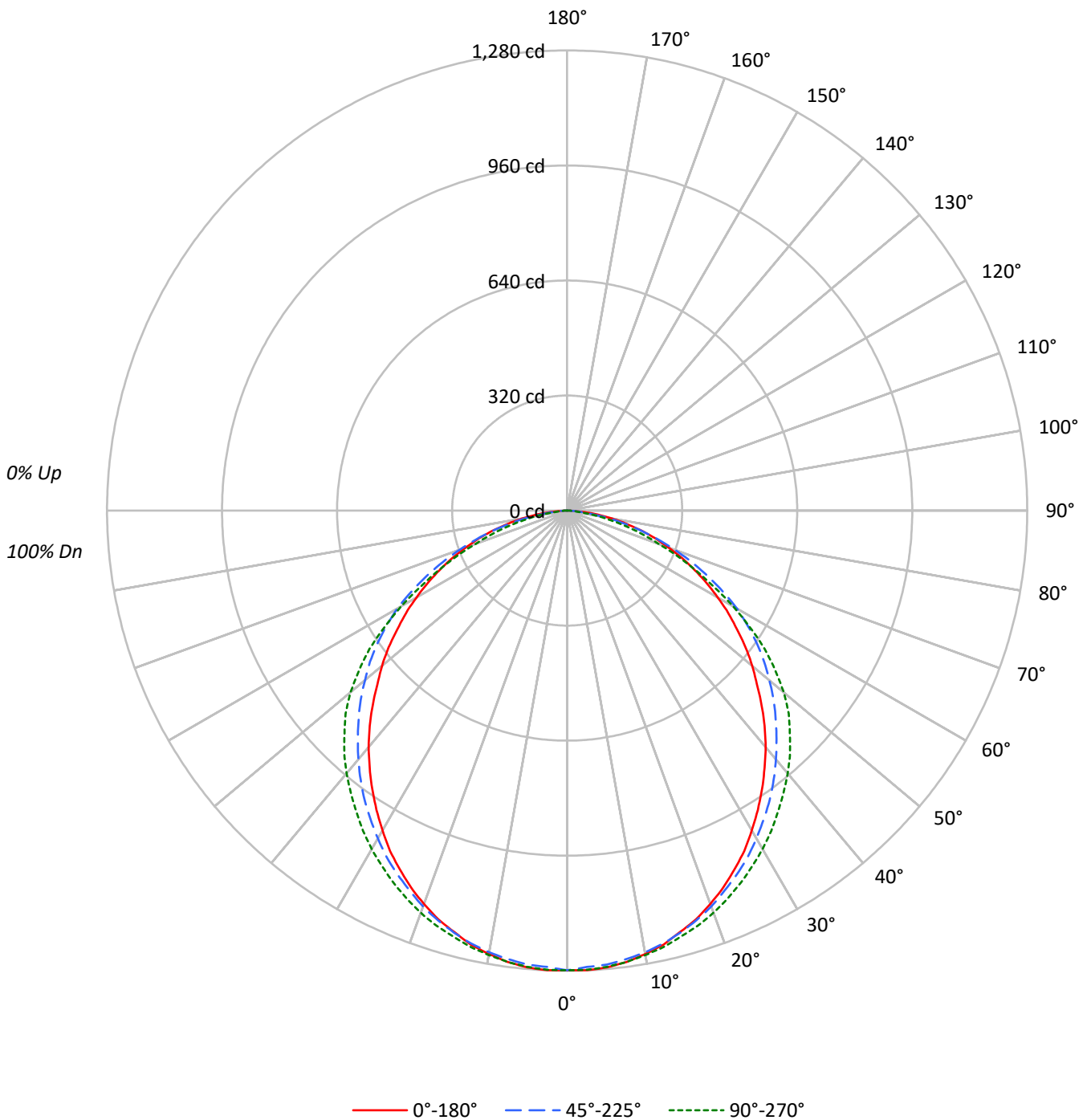
Input Watts (W): 36.456  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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 | 105 | 100 | 97  | 106 | 102 | 98  | 95  | 98  | 95  | 92  | 94  | 92  | 89  | 91  | 89  | 87  | 85  |
| 2   | 99  | 91  | 85  | 79  | 97  | 89  | 83  | 78  | 86  | 81  | 76  | 83  | 78  | 75  | 80  | 76  | 73  | 71  |
| 3   | 91  | 80  | 72  | 66  | 88  | 79  | 71  | 65  | 76  | 69  | 64  | 73  | 68  | 63  | 70  | 66  | 62  | 60  |
| 4   | 83  | 71  | 63  | 56  | 81  | 70  | 62  | 56  | 67  | 60  | 55  | 65  | 59  | 54  | 63  | 58  | 53  | 51  |
| 5   | 76  | 64  | 55  | 48  | 74  | 63  | 54  | 48  | 60  | 53  | 47  | 58  | 52  | 47  | 57  | 51  | 46  | 44  |
| 6   | 71  | 57  | 48  | 42  | 69  | 56  | 48  | 42  | 55  | 47  | 42  | 53  | 46  | 41  | 51  | 45  | 41  | 39  |
| 7   | 65  | 52  | 43  | 37  | 64  | 51  | 43  | 37  | 50  | 42  | 37  | 48  | 42  | 37  | 47  | 41  | 36  | 34  |
| 8   | 61  | 47  | 39  | 33  | 59  | 47  | 39  | 33  | 45  | 38  | 33  | 44  | 38  | 33  | 43  | 37  | 32  | 31  |
| 9   | 57  | 44  | 35  | 30  | 56  | 43  | 35  | 30  | 42  | 35  | 30  | 41  | 34  | 30  | 40  | 34  | 29  | 28  |
| 10  | 53  | 40  | 32  | 27  | 52  | 40  | 32  | 27  | 39  | 32  | 27  | 38  | 31  | 27  | 37  | 31  | 27  | 25  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 3440 | 3440 | 3440 |
| 5°  | 3445 | 3424 | 3441 |
| 10° | 3422 | 3409 | 3430 |
| 15° | 3381 | 3386 | 3416 |
| 20° | 3334 | 3357 | 3409 |
| 25° | 3269 | 3315 | 3393 |
| 30° | 3191 | 3273 | 3379 |
| 35° | 3106 | 3227 | 3359 |
| 40° | 3018 | 3175 | 3353 |
| 45° | 2911 | 3123 | 3334 |
| 50° | 2815 | 3073 | 3293 |
| 55° | 2706 | 3024 | 3148 |
| 60° | 2606 | 2938 | 2872 |
| 65° | 2494 | 2749 | 2523 |
| 70° | 2354 | 2500 | 2135 |
| 75° | 2197 | 2165 | 1763 |
| 80° | 1936 | 1674 | 1291 |
| 85° | 1525 | 809  | 713  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 120.8  | 3.5       |
| 10°-20°   | 344.2  | 9.9       |
| 20°-30°   | 516.5  | 14.9      |
| 30°-40°   | 615.7  | 17.8      |
| 40°-50°   | 634.2  | 18.3      |
| 50°-60°   | 565.2  | 16.3      |
| 60°-70°   | 407.3  | 11.8      |
| 70°-80°   | 213.0  | 6.2       |
| 80°-90°   | 44.1   | 1.3       |
| 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°    | 981.5  | 28.4      |
| 0°-40°    | 1597.2 | 46.1      |
| 0°-60°    | 2796.7 | 80.8      |
| 0°-90°    | 3461.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3461.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1278 | 1278  | 1278 | 1278  | 1278 |      |
| 5°  | 1275 | 1272  | 1268 | 1275  | 1274 | 121  |
| 15° | 1214 | 1215  | 1215 | 1228  | 1226 | 342  |
| 25° | 1101 | 1107  | 1117 | 1138  | 1143 | 507  |
| 35° | 945  | 958   | 982  | 1015  | 1022 | 591  |
| 45° | 765  | 782   | 820  | 867   | 876  | 590  |
| 55° | 577  | 595   | 645  | 674   | 671  | 517  |
| 65° | 392  | 406   | 432  | 412   | 396  | 388  |
| 75° | 211  | 222   | 208  | 180   | 170  | 224  |
| 85° | 49   | 43    | 26   | 23    | 23   | 58   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1278.5 | 1278.5 | 1278.5 | 1278.5 | 1278.5 |
| 2.5°  | 1280.0 | 1277.0 | 1270.8 | 1278.5 | 1278.5 |
| 5°    | 1275.4 | 1272.3 | 1267.7 | 1275.4 | 1273.9 |
| 7.5°  | 1266.2 | 1263.1 | 1258.4 | 1267.7 | 1266.2 |
| 10°   | 1252.3 | 1250.7 | 1247.7 | 1256.9 | 1255.4 |
| 12.5° | 1236.9 | 1235.3 | 1233.8 | 1243.0 | 1243.0 |
| 15°   | 1213.7 | 1215.3 | 1215.3 | 1227.6 | 1226.1 |
| 17.5° | 1192.1 | 1193.7 | 1195.2 | 1210.6 | 1210.6 |
| 20°   | 1164.4 | 1165.9 | 1172.1 | 1189.0 | 1190.6 |
| 22.5° | 1135.1 | 1136.6 | 1144.3 | 1164.4 | 1167.5 |
| 25°   | 1101.1 | 1107.3 | 1116.6 | 1138.2 | 1142.8 |
| 27.5° | 1067.2 | 1071.8 | 1087.3 | 1111.9 | 1115.0 |
| 30°   | 1027.1 | 1036.4 | 1053.3 | 1081.1 | 1087.3 |
| 32.5° | 987.0  | 997.8  | 1017.9 | 1048.7 | 1056.4 |
| 35°   | 945.4  | 957.7  | 982.4  | 1014.8 | 1022.5 |
| 37.5° | 902.2  | 913.0  | 943.8  | 977.8  | 988.6  |
| 40°   | 859.0  | 869.8  | 903.7  | 942.3  | 954.6  |
| 42.5° | 812.7  | 828.2  | 862.1  | 905.3  | 917.6  |
| 45°   | 764.9  | 781.9  | 820.5  | 866.7  | 876.0  |
| 47.5° | 715.6  | 734.1  | 778.8  | 825.1  | 835.9  |
| 50°   | 672.4  | 689.4  | 734.1  | 778.8  | 786.5  |
| 52.5° | 626.1  | 641.6  | 690.9  | 727.9  | 729.5  |
| 55°   | 576.8  | 595.3  | 644.6  | 673.9  | 670.9  |
| 57.5° | 532.1  | 547.5  | 595.3  | 610.7  | 601.5  |
| 60°   | 484.3  | 498.1  | 545.9  | 547.5  | 533.6  |
| 62.5° | 438.0  | 451.9  | 488.9  | 478.1  | 461.1  |
| 65°   | 391.7  | 405.6  | 431.8  | 411.8  | 396.3  |
| 67.5° | 347.0  | 359.3  | 374.8  | 348.5  | 333.1  |
| 70°   | 299.2  | 316.2  | 317.7  | 286.9  | 271.4  |
| 72.5° | 257.5  | 266.8  | 263.7  | 234.4  | 220.5  |
| 75°   | 211.3  | 222.1  | 208.2  | 180.4  | 169.6  |
| 77.5° | 168.1  | 175.8  | 157.3  | 131.1  | 123.4  |
| 80°   | 124.9  | 129.5  | 108.0  | 87.9   | 83.3   |
| 82.5° | 84.8   | 84.8   | 61.7   | 47.8   | 43.2   |
| 85°   | 49.4   | 43.2   | 26.2   | 23.1   | 23.1   |
| 87.5° | 17.0   | 10.8   | 10.8   | 10.8   | 10.8   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)