

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: P258790

Luminaire Tested: **14CZ-LD5-29-S-UNV-L82765-W2A1-U-6500K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P258790  
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-LD5-29-S-UNV-L82765-W2A1-U-6500K  
Description: CRUZE 1x4 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: 3134.0 lumens  
Efficiency: N/A  
Efficacy: 135.3 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

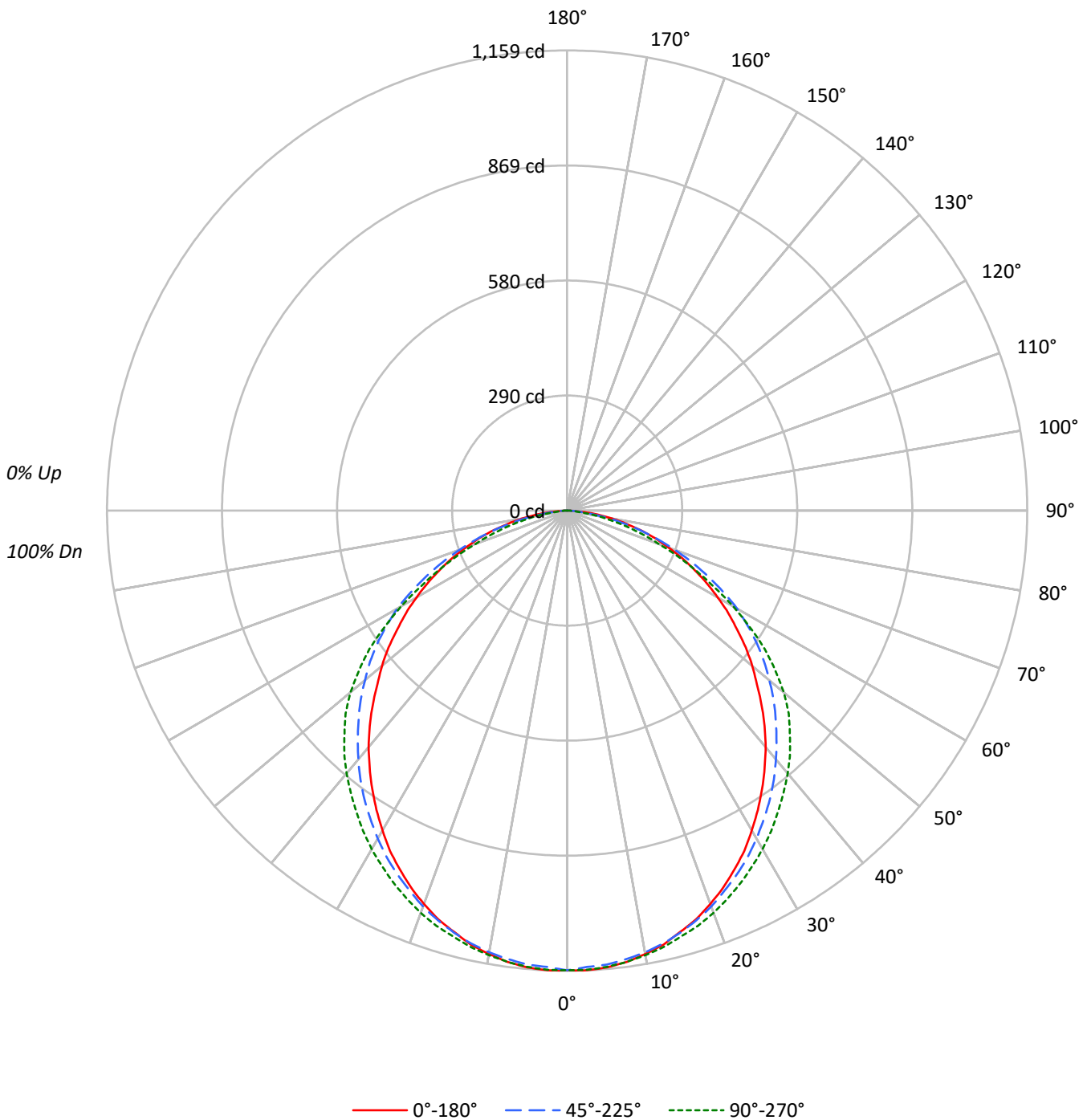
Input Watts (W): 23.157  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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   | 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°  | 3115 | 3115 | 3115 |
| 5°  | 3120 | 3101 | 3116 |
| 10° | 3099 | 3087 | 3106 |
| 15° | 3062 | 3066 | 3093 |
| 20° | 3019 | 3039 | 3087 |
| 25° | 2961 | 3002 | 3072 |
| 30° | 2890 | 2964 | 3059 |
| 35° | 2812 | 2922 | 3042 |
| 40° | 2733 | 2875 | 3036 |
| 45° | 2636 | 2827 | 3019 |
| 50° | 2549 | 2783 | 2982 |
| 55° | 2450 | 2738 | 2850 |
| 60° | 2360 | 2661 | 2601 |
| 65° | 2259 | 2490 | 2285 |
| 70° | 2131 | 2264 | 1934 |
| 75° | 1989 | 1960 | 1597 |
| 80° | 1753 | 1516 | 1168 |
| 85° | 1380 | 732  | 645  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 109.4  | 3.5       |
| 10°-20°   | 311.6  | 9.9       |
| 20°-30°   | 467.7  | 14.9      |
| 30°-40°   | 557.6  | 17.8      |
| 40°-50°   | 574.3  | 18.3      |
| 50°-60°   | 511.8  | 16.3      |
| 60°-70°   | 368.8  | 11.8      |
| 70°-80°   | 192.9  | 6.2       |
| 80°-90°   | 39.9   | 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°    | 888.7  | 28.4      |
| 0°-40°    | 1446.3 | 46.1      |
| 0°-60°    | 2532.4 | 80.8      |
| 0°-90°    | 3134.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3134.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1158 | 1158  | 1158 | 1158  | 1158 |      |
| 5°  | 1155 | 1152  | 1148 | 1155  | 1154 | 110  |
| 15° | 1099 | 1100  | 1100 | 1112  | 1110 | 310  |
| 25° | 997  | 1003  | 1011 | 1031  | 1035 | 459  |
| 35° | 856  | 867   | 890  | 919   | 926  | 535  |
| 45° | 693  | 708   | 743  | 785   | 793  | 535  |
| 55° | 522  | 539   | 584  | 610   | 608  | 468  |
| 65° | 355  | 367   | 391  | 373   | 359  | 351  |
| 75° | 191  | 201   | 188  | 163   | 154  | 203  |
| 85° | 45   | 39    | 24   | 21    | 21   | 53   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1157.7 | 1157.7 | 1157.7 | 1157.7 | 1157.7 |
| 2.5°  | 1159.1 | 1156.3 | 1150.7 | 1157.7 | 1157.7 |
| 5°    | 1154.9 | 1152.1 | 1147.9 | 1154.9 | 1153.5 |
| 7.5°  | 1146.5 | 1143.7 | 1139.5 | 1147.9 | 1146.5 |
| 10°   | 1134.0 | 1132.6 | 1129.8 | 1138.1 | 1136.8 |
| 12.5° | 1120.0 | 1118.6 | 1117.2 | 1125.6 | 1125.6 |
| 15°   | 1099.0 | 1100.4 | 1100.4 | 1111.6 | 1110.2 |
| 17.5° | 1079.5 | 1080.9 | 1082.3 | 1096.3 | 1096.3 |
| 20°   | 1054.4 | 1055.8 | 1061.3 | 1076.7 | 1078.1 |
| 22.5° | 1027.8 | 1029.2 | 1036.2 | 1054.4 | 1057.2 |
| 25°   | 997.1  | 1002.7 | 1011.1 | 1030.6 | 1034.8 |
| 27.5° | 966.4  | 970.6  | 984.5  | 1006.9 | 1009.7 |
| 30°   | 930.1  | 938.4  | 953.8  | 978.9  | 984.5  |
| 32.5° | 893.8  | 903.5  | 921.7  | 949.6  | 956.6  |
| 35°   | 856.1  | 867.2  | 889.6  | 918.9  | 925.9  |
| 37.5° | 817.0  | 826.7  | 854.7  | 885.4  | 895.2  |
| 40°   | 777.9  | 787.6  | 818.4  | 853.3  | 864.4  |
| 42.5° | 736.0  | 749.9  | 780.6  | 819.7  | 830.9  |
| 45°   | 692.7  | 708.0  | 742.9  | 784.8  | 793.2  |
| 47.5° | 648.0  | 664.7  | 705.2  | 747.1  | 756.9  |
| 50°   | 608.9  | 624.2  | 664.7  | 705.2  | 712.2  |
| 52.5° | 567.0  | 580.9  | 625.6  | 659.1  | 660.5  |
| 55°   | 522.3  | 539.1  | 583.7  | 610.3  | 607.5  |
| 57.5° | 481.8  | 495.8  | 539.1  | 553.0  | 544.6  |
| 60°   | 438.5  | 451.1  | 494.4  | 495.8  | 483.2  |
| 62.5° | 396.6  | 409.2  | 442.7  | 432.9  | 417.6  |
| 65°   | 354.7  | 367.3  | 391.0  | 372.9  | 358.9  |
| 67.5° | 314.2  | 325.4  | 339.4  | 315.6  | 301.6  |
| 70°   | 270.9  | 286.3  | 287.7  | 259.7  | 245.8  |
| 72.5° | 233.2  | 241.6  | 238.8  | 212.3  | 199.7  |
| 75°   | 191.3  | 201.1  | 188.5  | 163.4  | 153.6  |
| 77.5° | 152.2  | 159.2  | 142.4  | 118.7  | 111.7  |
| 80°   | 113.1  | 117.3  | 97.8   | 79.6   | 75.4   |
| 82.5° | 76.8   | 76.8   | 55.9   | 43.3   | 39.1   |
| 85°   | 44.7   | 39.1   | 23.7   | 20.9   | 20.9   |
| 87.5° | 15.4   | 9.8    | 9.8    | 9.8    | 9.8    |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)