

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: P230545

Luminaire Tested: **22CZ-LD5-34-UNV-L935-CD1-U**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P230545  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P25706)  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22CZ-LD5-34-UNV-L935-CD1-U  
Description: CRUZE 2x2 LED TROFFER  
WITH RIBBED LENS  
Light Source: (84) 3500K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3011.0 lumens  
Efficiency: N/A  
Efficacy: 102.4 lumens/watt  
Spacing Criteria (0/90/45): 1.17 / 1.26 / 1.34  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

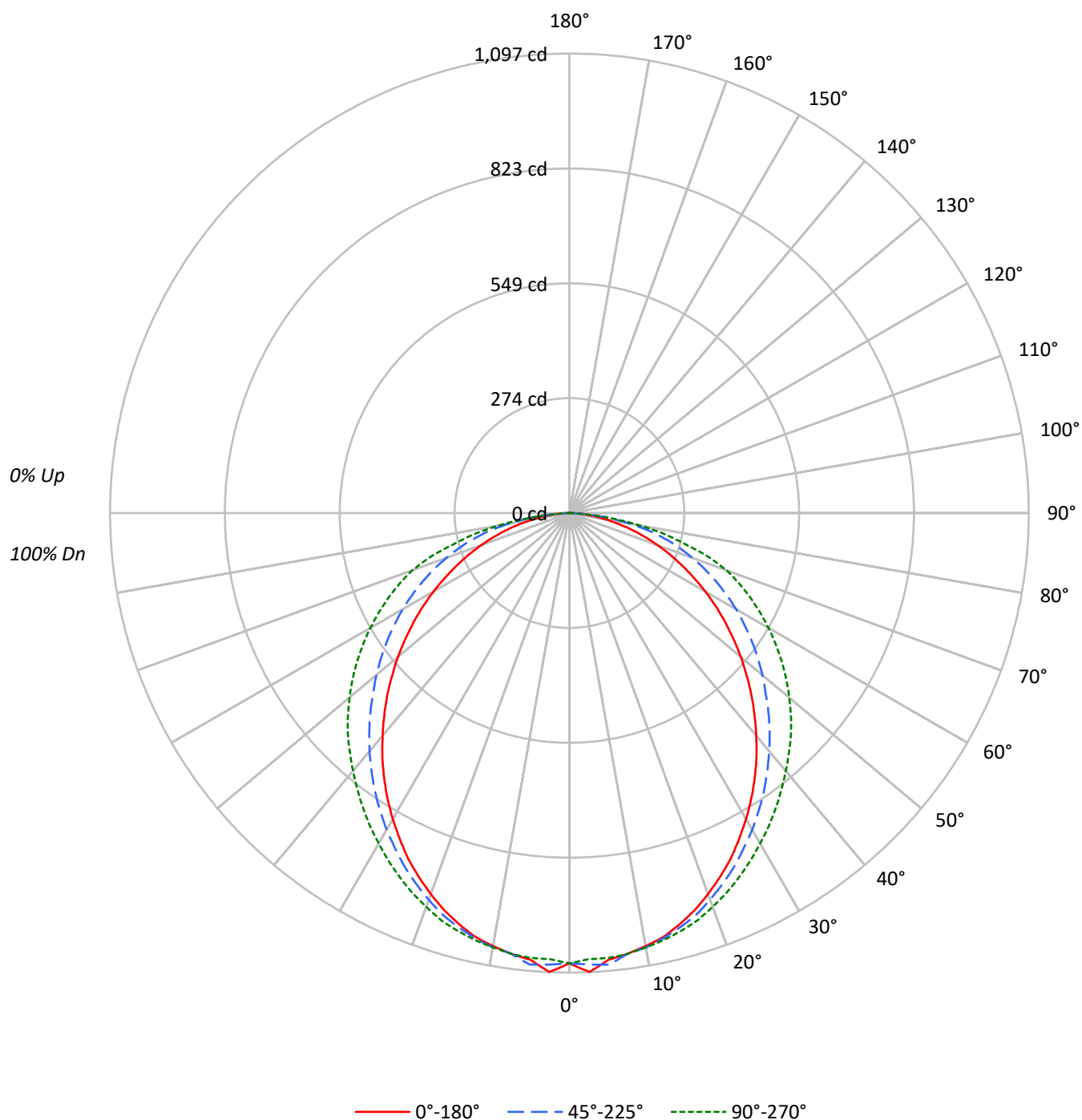
Input Watts (W): 29.4  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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  |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  |  | 50  | 30  | 10  |  |  | 50  | 30  | 10  |  |  | 50  |
| RCR |     |     |     |     |     |     |     |     |  |     |     |     |  |  |     |     |     |  |  |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 |  | 111 | 111 | 111 |  |  | 106 | 106 | 106 |  |  | 102 |
| 1   | 108 | 104 | 99  | 95  | 106 | 101 | 97  | 94  |  | 97  | 94  | 91  |  |  | 93  | 90  | 88  |  |  | 89  |
| 2   | 98  | 90  | 83  | 77  | 96  | 88  | 82  | 76  |  | 84  | 79  | 74  |  |  | 81  | 77  | 73  |  |  | 78  |
| 3   | 90  | 79  | 70  | 64  | 87  | 77  | 69  | 63  |  | 74  | 68  | 62  |  |  | 71  | 66  | 61  |  |  | 69  |
| 4   | 82  | 70  | 61  | 54  | 80  | 68  | 60  | 54  |  | 66  | 59  | 53  |  |  | 64  | 57  | 52  |  |  | 61  |
| 5   | 75  | 62  | 53  | 46  | 73  | 61  | 53  | 46  |  | 59  | 51  | 46  |  |  | 57  | 50  | 45  |  |  | 55  |
| 6   | 70  | 56  | 47  | 41  | 68  | 55  | 47  | 40  |  | 53  | 46  | 40  |  |  | 52  | 45  | 40  |  |  | 50  |
| 7   | 65  | 51  | 42  | 36  | 63  | 50  | 42  | 36  |  | 48  | 41  | 35  |  |  | 47  | 40  | 35  |  |  | 46  |
| 8   | 60  | 46  | 38  | 32  | 58  | 46  | 38  | 32  |  | 44  | 37  | 32  |  |  | 43  | 36  | 31  |  |  | 42  |
| 9   | 56  | 43  | 34  | 29  | 55  | 42  | 34  | 29  |  | 41  | 34  | 29  |  |  | 40  | 33  | 28  |  |  | 39  |
| 10  | 53  | 39  | 31  | 26  | 51  | 39  | 31  | 26  |  | 38  | 31  | 26  |  |  | 37  | 30  | 26  |  |  | 36  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 2892 | 2892 | 2892 |
| 5°  | 2891 | 2923 | 2879 |
| 10° | 2869 | 2877 | 2877 |
| 15° | 2831 | 2851 | 2876 |
| 20° | 2771 | 2814 | 2864 |
| 25° | 2704 | 2765 | 2848 |
| 30° | 2621 | 2712 | 2830 |
| 35° | 2535 | 2660 | 2824 |
| 40° | 2438 | 2608 | 2824 |
| 45° | 2340 | 2558 | 2847 |
| 50° | 2237 | 2519 | 2869 |
| 55° | 2130 | 2494 | 2906 |
| 60° | 2017 | 2475 | 2955 |
| 65° | 1892 | 2462 | 3030 |
| 70° | 1762 | 2454 | 3134 |
| 75° | 1598 | 2451 | 2968 |
| 80° | 1384 | 2269 | 2631 |
| 85° | 1176 | 1717 | 1673 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 101.9  | 3.4       |
| 10°-20°   | 288.7  | 9.6       |
| 20°-30°   | 429.5  | 14.3      |
| 30°-40°   | 508.0  | 16.9      |
| 40°-50°   | 522.1  | 17.3      |
| 50°-60°   | 477.1  | 15.8      |
| 60°-70°   | 381.7  | 12.7      |
| 70°-80°   | 239.5  | 8.0       |
| 80°-90°   | 62.4   | 2.1       |
| 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°    | 820.2  | 27.2      |
| 0°-40°    | 1328.2 | 44.1      |
| 0°-60°    | 2327.4 | 77.3      |
| 0°-90°    | 3011.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3011.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1075 | 1075  | 1075 | 1075  | 1075 |      |
| 5°  | 1070 | 1070  | 1082 | 1075  | 1066 | 102  |
| 15° | 1016 | 1018  | 1024 | 1029  | 1032 | 286  |
| 25° | 911  | 917   | 931  | 947   | 959  | 419  |
| 35° | 772  | 782   | 810  | 840   | 860  | 482  |
| 45° | 615  | 631   | 672  | 722   | 748  | 474  |
| 55° | 454  | 476   | 532  | 590   | 619  | 406  |
| 65° | 297  | 324   | 387  | 445   | 476  | 295  |
| 75° | 154  | 183   | 236  | 271   | 286  | 163  |
| 85° | 38   | 48    | 56   | 54    | 54   | 44   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1074.7 | 1074.7 | 1074.7 | 1074.7 | 1074.7 |
| 2.5°  | 1096.7 | 1092.3 | 1079.1 | 1070.3 | 1065.9 |
| 5°    | 1070.3 | 1070.3 | 1082.0 | 1074.7 | 1065.9 |
| 7.5°  | 1061.5 | 1061.5 | 1061.5 | 1083.5 | 1061.5 |
| 10°   | 1049.8 | 1051.3 | 1052.8 | 1061.5 | 1052.8 |
| 12.5° | 1036.7 | 1036.7 | 1039.6 | 1042.5 | 1044.0 |
| 15°   | 1016.2 | 1017.6 | 1023.5 | 1029.3 | 1032.3 |
| 17.5° | 994.2  | 998.6  | 1005.9 | 1013.2 | 1019.1 |
| 20°   | 967.8  | 973.7  | 982.5  | 994.2  | 1000.1 |
| 22.5° | 940.0  | 945.9  | 957.6  | 970.8  | 981.0  |
| 25°   | 910.7  | 916.6  | 931.2  | 947.3  | 959.1  |
| 27.5° | 877.1  | 884.4  | 902.0  | 923.9  | 935.6  |
| 30°   | 843.4  | 852.2  | 872.7  | 897.6  | 910.7  |
| 32.5° | 808.2  | 818.5  | 841.9  | 869.7  | 885.8  |
| 35°   | 771.6  | 781.9  | 809.7  | 840.5  | 859.5  |
| 37.5° | 733.6  | 745.3  | 776.0  | 811.2  | 831.7  |
| 40°   | 694.0  | 707.2  | 742.4  | 780.4  | 803.8  |
| 42.5° | 654.5  | 669.1  | 707.2  | 752.6  | 776.0  |
| 45°   | 615.0  | 631.1  | 672.1  | 721.9  | 748.2  |
| 47.5° | 574.0  | 593.0  | 635.5  | 691.1  | 717.5  |
| 50°   | 534.4  | 553.5  | 601.8  | 658.9  | 685.2  |
| 52.5° | 493.4  | 515.4  | 566.6  | 625.2  | 653.0  |
| 55°   | 453.9  | 475.9  | 531.5  | 590.1  | 619.4  |
| 57.5° | 414.4  | 436.3  | 494.9  | 554.9  | 584.2  |
| 60°   | 374.8  | 398.3  | 459.8  | 518.3  | 549.1  |
| 62.5° | 335.3  | 360.2  | 423.2  | 483.2  | 512.5  |
| 65°   | 297.2  | 323.6  | 386.6  | 445.1  | 475.9  |
| 67.5° | 260.6  | 288.4  | 349.9  | 407.0  | 437.8  |
| 70°   | 224.0  | 251.8  | 311.9  | 367.5  | 398.3  |
| 72.5° | 188.9  | 216.7  | 275.3  | 325.1  | 348.5  |
| 75°   | 153.7  | 183.0  | 235.7  | 270.9  | 285.5  |
| 77.5° | 120.1  | 149.3  | 194.7  | 218.2  | 234.3  |
| 80°   | 89.3   | 114.2  | 146.4  | 164.0  | 169.8  |
| 82.5° | 61.5   | 82.0   | 102.5  | 106.9  | 109.8  |
| 85°   | 38.1   | 48.3   | 55.6   | 54.2   | 54.2   |
| 87.5° | 17.6   | 19.0   | 16.1   | 11.7   | 7.3    |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)