

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: P277469

Luminaire Tested: **22CZ2-34HE-S-UNV-L92765-W2A1-U-6500K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P277469  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-23)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22CZ2-34HE-S-UNV-L92765-W2A1-U-6500K  
Description: CRUZE 2.0 2x2 TUNABLE WHITE LED TROFFER WITH SMOOTH LENS  
Light Source: (168) 90 CRI LEDS TUNED TO 6500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3205.0 lumens  
Efficiency: N/A  
Efficacy: 119.2 lumens/watt  
Spacing Criteria (0/90/45): 1.18 / 1.26 / 1.34  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

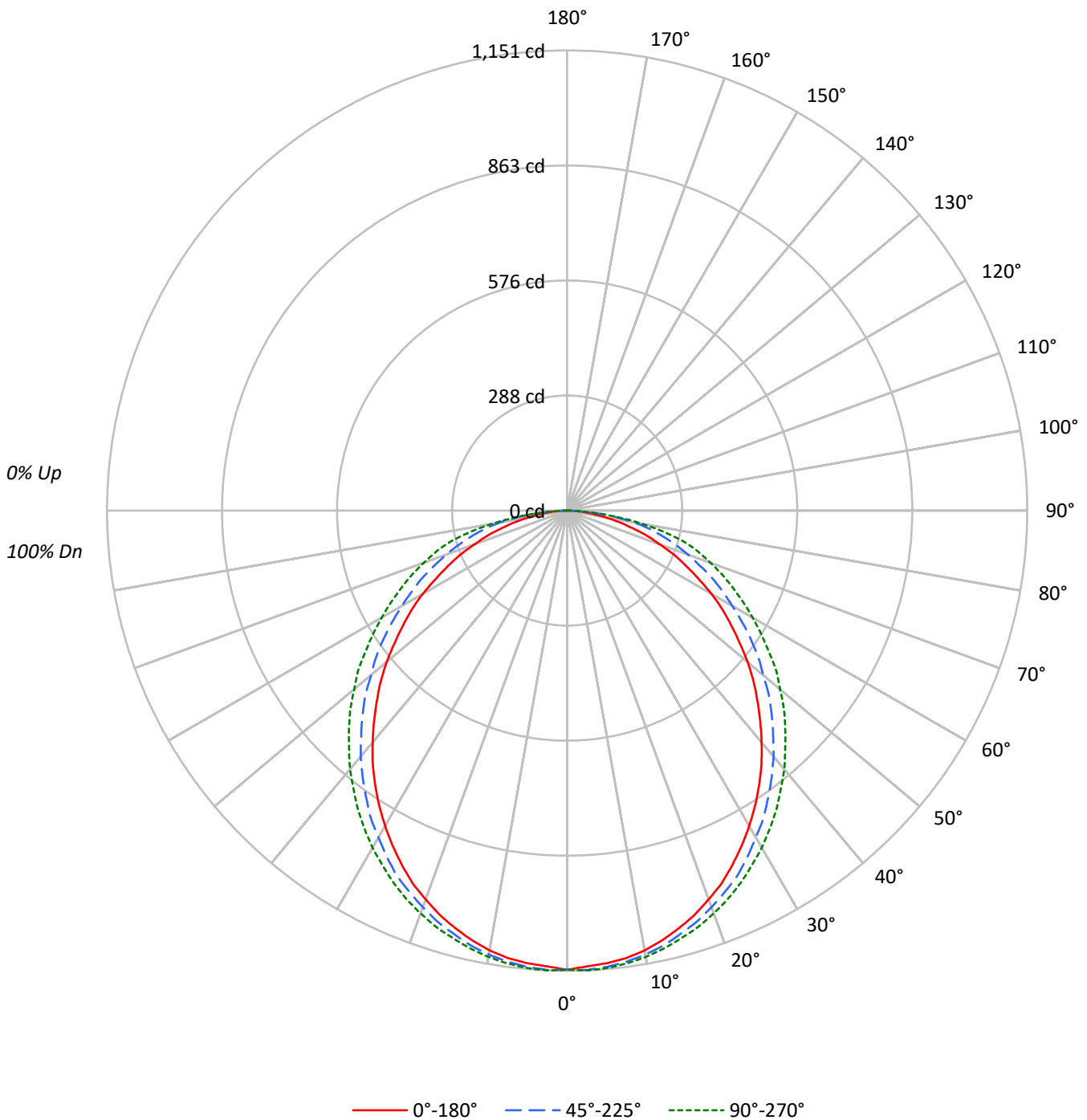
Input Watts (W): 26.877  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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   | 108 | 103 | 99  | 95  | 106 | 101 | 97  | 94  | 97  | 94  | 91  | 93  | 90  | 88  | 89  | 87  | 85  | 83  |
| 2   | 98  | 90  | 83  | 77  | 96  | 88  | 82  | 76  | 84  | 79  | 74  | 81  | 77  | 73  | 78  | 74  | 71  | 69  |
| 3   | 90  | 79  | 71  | 64  | 87  | 77  | 70  | 63  | 74  | 68  | 62  | 72  | 66  | 61  | 69  | 64  | 60  | 58  |
| 4   | 82  | 70  | 61  | 54  | 80  | 69  | 60  | 54  | 66  | 59  | 53  | 64  | 57  | 52  | 61  | 56  | 52  | 49  |
| 5   | 75  | 62  | 53  | 47  | 73  | 61  | 53  | 46  | 59  | 52  | 46  | 57  | 51  | 45  | 55  | 50  | 45  | 43  |
| 6   | 70  | 56  | 47  | 41  | 68  | 55  | 47  | 41  | 53  | 46  | 40  | 52  | 45  | 40  | 50  | 44  | 39  | 37  |
| 7   | 65  | 51  | 42  | 36  | 63  | 50  | 42  | 36  | 49  | 41  | 36  | 47  | 40  | 35  | 46  | 40  | 35  | 33  |
| 8   | 60  | 47  | 38  | 32  | 59  | 46  | 38  | 32  | 45  | 37  | 32  | 43  | 37  | 32  | 42  | 36  | 31  | 30  |
| 9   | 56  | 43  | 35  | 29  | 55  | 42  | 34  | 29  | 41  | 34  | 29  | 40  | 33  | 29  | 39  | 33  | 28  | 27  |
| 10  | 53  | 40  | 32  | 26  | 51  | 39  | 31  | 26  | 38  | 31  | 26  | 37  | 31  | 26  | 36  | 30  | 26  | 24  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 3091 | 3091 | 3091 |
| 5°  | 3070 | 3094 | 3102 |
| 10° | 3052 | 3081 | 3097 |
| 15° | 3012 | 3054 | 3083 |
| 20° | 2963 | 3023 | 3070 |
| 25° | 2904 | 2993 | 3050 |
| 30° | 2830 | 2932 | 3025 |
| 35° | 2751 | 2879 | 2997 |
| 40° | 2658 | 2821 | 2968 |
| 45° | 2561 | 2755 | 2936 |
| 50° | 2467 | 2679 | 2911 |
| 55° | 2350 | 2631 | 2890 |
| 60° | 2245 | 2567 | 2881 |
| 65° | 2095 | 2552 | 2914 |
| 70° | 1929 | 2530 | 3000 |
| 75° | 1742 | 2565 | 3157 |
| 80° | 1506 | 2642 | 2966 |
| 85° | 1247 | 2217 | 2217 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 108.6  | 3.4       |
| 10°-20°   | 309.1  | 9.6       |
| 20°-30°   | 462.5  | 14.4      |
| 30°-40°   | 547.7  | 17.1      |
| 40°-50°   | 558.1  | 17.4      |
| 50°-60°   | 500.2  | 15.6      |
| 60°-70°   | 391.6  | 12.2      |
| 70°-80°   | 252.6  | 7.9       |
| 80°-90°   | 74.6   | 2.3       |
| 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°    | 880.1  | 27.5      |
| 0°-40°    | 1427.8 | 44.5      |
| 0°-60°    | 2486.2 | 77.6      |
| 0°-90°    | 3205.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3205.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1148 | 1148  | 1148 | 1148  | 1148 |      |
| 5°  | 1136 | 1140  | 1146 | 1147  | 1148 | 108  |
| 15° | 1081 | 1087  | 1096 | 1105  | 1107 | 305  |
| 25° | 978  | 987   | 1008 | 1021  | 1027 | 450  |
| 35° | 837  | 848   | 876  | 903   | 912  | 523  |
| 45° | 673  | 688   | 724  | 761   | 772  | 520  |
| 55° | 501  | 517   | 561  | 600   | 616  | 449  |
| 65° | 329  | 348   | 401  | 440   | 458  | 327  |
| 75° | 168  | 193   | 247  | 289   | 304  | 180  |
| 85° | 40   | 55    | 72   | 72    | 72   | 47   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1148.5 | 1148.5 | 1148.5 | 1148.5 | 1148.5 |
| 2.5°  | 1141.0 | 1144.0 | 1149.9 | 1151.4 | 1151.4 |
| 5°    | 1136.5 | 1139.5 | 1145.5 | 1147.0 | 1148.5 |
| 7.5°  | 1129.0 | 1130.5 | 1138.0 | 1141.0 | 1142.5 |
| 10°   | 1117.0 | 1120.0 | 1127.5 | 1132.0 | 1133.5 |
| 12.5° | 1100.6 | 1105.1 | 1114.1 | 1120.0 | 1121.5 |
| 15°   | 1081.2 | 1087.1 | 1096.1 | 1105.1 | 1106.6 |
| 17.5° | 1060.2 | 1066.2 | 1078.2 | 1088.6 | 1091.6 |
| 20°   | 1034.8 | 1042.3 | 1055.7 | 1067.7 | 1072.2 |
| 22.5° | 1009.4 | 1015.4 | 1031.8 | 1046.8 | 1051.3 |
| 25°   | 978.0  | 987.0  | 1007.9 | 1021.3 | 1027.3 |
| 27.5° | 945.1  | 955.5  | 976.5  | 994.4  | 1000.4 |
| 30°   | 910.7  | 921.2  | 943.6  | 966.0  | 973.5  |
| 32.5° | 874.8  | 886.8  | 913.7  | 936.1  | 943.6  |
| 35°   | 837.4  | 847.9  | 876.3  | 903.2  | 912.2  |
| 37.5° | 798.5  | 807.5  | 840.4  | 868.8  | 877.8  |
| 40°   | 756.7  | 768.6  | 803.0  | 835.9  | 844.9  |
| 42.5° | 714.8  | 728.2  | 762.6  | 798.5  | 807.5  |
| 45°   | 672.9  | 687.9  | 723.8  | 761.1  | 771.6  |
| 47.5° | 632.5  | 644.5  | 684.9  | 720.8  | 735.7  |
| 50°   | 589.2  | 601.1  | 640.0  | 680.4  | 695.4  |
| 52.5° | 544.3  | 560.8  | 602.6  | 641.5  | 659.5  |
| 55°   | 501.0  | 517.4  | 560.8  | 599.6  | 616.1  |
| 57.5° | 460.6  | 474.0  | 518.9  | 559.3  | 575.7  |
| 60°   | 417.2  | 429.2  | 477.0  | 520.4  | 535.3  |
| 62.5° | 370.9  | 388.8  | 438.1  | 478.5  | 496.5  |
| 65°   | 329.0  | 348.4  | 400.8  | 439.6  | 457.6  |
| 67.5° | 290.1  | 308.0  | 358.9  | 400.8  | 420.2  |
| 70°   | 245.2  | 269.2  | 321.5  | 363.4  | 381.3  |
| 72.5° | 209.4  | 230.3  | 284.1  | 326.0  | 345.4  |
| 75°   | 167.5  | 192.9  | 246.7  | 288.6  | 303.6  |
| 77.5° | 133.1  | 158.5  | 209.4  | 242.3  | 249.7  |
| 80°   | 97.2   | 122.6  | 170.5  | 186.9  | 191.4  |
| 82.5° | 65.8   | 89.7   | 122.6  | 127.1  | 128.6  |
| 85°   | 40.4   | 55.3   | 71.8   | 71.8   | 71.8   |
| 87.5° | 19.4   | 22.4   | 25.4   | 23.9   | 23.9   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)