

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: P230611

Luminaire Tested: **22CZ-LD5-32SE-S-UNV-L950-CD1-U**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P230611  
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-LD5-32SE-S-UNV-L950-CD1-U  
Description: CRUZE 2x2 LED TROFFER  
WITH SMOOTH LENS  
Light Source: (56) 5000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3136.0 lumens  
Efficiency: N/A  
Efficacy: 102.8 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

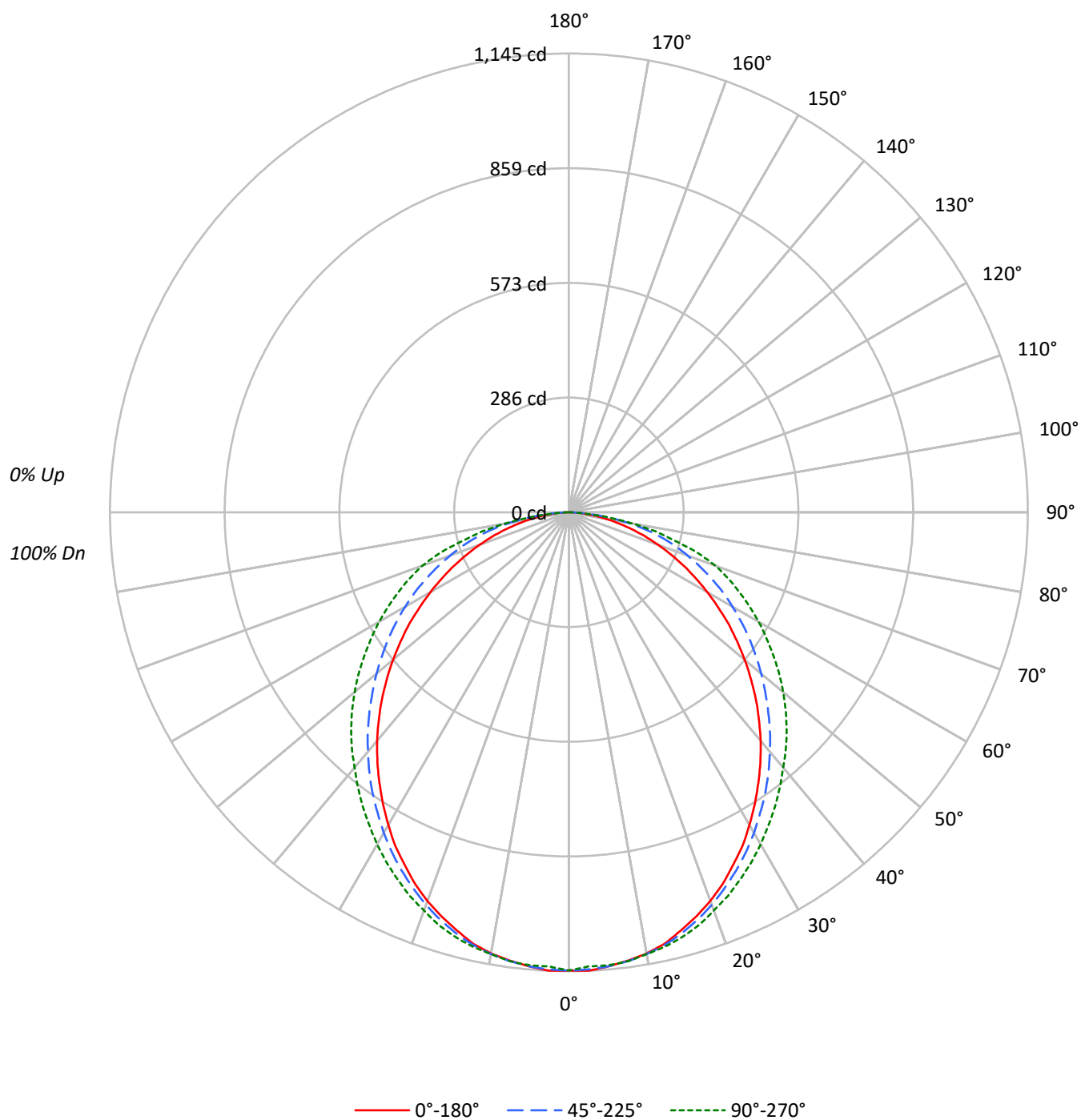
Input Watts (W): 30.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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  | 30  | 10  |
| RCR |     |     |     |     |     |     |     |     |  |     |     |     |  |     |     |     |  |     |     |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 |  | 111 | 111 | 111 |  | 106 | 106 | 106 |  | 102 | 102 | 102 |
| 1   | 109 | 104 | 99  | 95  | 106 | 101 | 97  | 94  |  | 97  | 94  | 91  |  | 93  | 91  | 88  |  | 90  | 87  | 85  |
| 2   | 99  | 90  | 83  | 77  | 96  | 88  | 82  | 77  |  | 85  | 79  | 75  |  | 81  | 77  | 73  |  | 78  | 75  | 71  |
| 3   | 90  | 79  | 71  | 64  | 87  | 78  | 70  | 64  |  | 75  | 68  | 63  |  | 72  | 66  | 62  |  | 69  | 64  | 60  |
| 4   | 82  | 70  | 61  | 54  | 80  | 69  | 61  | 54  |  | 66  | 59  | 53  |  | 64  | 58  | 53  |  | 62  | 56  | 52  |
| 5   | 76  | 63  | 54  | 47  | 74  | 62  | 53  | 47  |  | 59  | 52  | 46  |  | 57  | 51  | 46  |  | 56  | 50  | 45  |
| 6   | 70  | 56  | 47  | 41  | 68  | 56  | 47  | 41  |  | 54  | 46  | 40  |  | 52  | 45  | 40  |  | 50  | 44  | 40  |
| 7   | 65  | 51  | 42  | 36  | 63  | 50  | 42  | 36  |  | 49  | 41  | 36  |  | 47  | 41  | 36  |  | 46  | 40  | 35  |
| 8   | 60  | 47  | 38  | 32  | 59  | 46  | 38  | 32  |  | 45  | 37  | 32  |  | 43  | 37  | 32  |  | 42  | 36  | 32  |
| 9   | 56  | 43  | 35  | 29  | 55  | 42  | 34  | 29  |  | 41  | 34  | 29  |  | 40  | 34  | 29  |  | 39  | 33  | 29  |
| 10  | 53  | 40  | 32  | 26  | 52  | 39  | 32  | 26  |  | 38  | 31  | 26  |  | 37  | 31  | 26  |  | 36  | 30  | 26  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 3077 | 3077 | 3077 |
| 5°  | 3072 | 3072 | 3064 |
| 10° | 3054 | 3058 | 3058 |
| 15° | 3009 | 3030 | 3055 |
| 20° | 2955 | 2985 | 3028 |
| 25° | 2880 | 2929 | 3001 |
| 30° | 2799 | 2869 | 2972 |
| 35° | 2707 | 2806 | 2944 |
| 40° | 2614 | 2741 | 2921 |
| 45° | 2511 | 2677 | 2923 |
| 50° | 2396 | 2623 | 2920 |
| 55° | 2282 | 2579 | 2919 |
| 60° | 2148 | 2538 | 2943 |
| 65° | 2014 | 2503 | 2982 |
| 70° | 1861 | 2477 | 3057 |
| 75° | 1676 | 2459 | 2834 |
| 80° | 1471 | 2287 | 2475 |
| 85° | 1210 | 1720 | 1535 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 108.0  | 3.4       |
| 10°-20°   | 306.7  | 9.8       |
| 20°-30°   | 455.5  | 14.5      |
| 30°-40°   | 536.2  | 17.1      |
| 40°-50°   | 546.6  | 17.4      |
| 50°-60°   | 493.0  | 15.7      |
| 60°-70°   | 388.3  | 12.4      |
| 70°-80°   | 239.5  | 7.6       |
| 80°-90°   | 62.2   | 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°    | 870.2  | 27.7      |
| 0°-40°    | 1406.3 | 44.8      |
| 0°-60°    | 2446.0 | 78.0      |
| 0°-90°    | 3136.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3136.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1143 | 1143  | 1143 | 1143  | 1143 |      |
| 5°  | 1137 | 1139  | 1137 | 1136  | 1134 | 108  |
| 15° | 1080 | 1084  | 1088 | 1094  | 1097 | 305  |
| 25° | 970  | 976   | 987  | 1003  | 1011 | 447  |
| 35° | 824  | 833   | 854  | 881   | 896  | 515  |
| 45° | 660  | 670   | 703  | 746   | 768  | 509  |
| 55° | 486  | 503   | 550  | 600   | 622  | 434  |
| 65° | 316  | 339   | 393  | 443   | 468  | 313  |
| 75° | 161  | 188   | 236  | 264   | 273  | 172  |
| 85° | 39   | 50    | 56   | 53    | 50   | 46   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1143.3 | 1143.3 | 1143.3 | 1143.3 | 1143.3 |
| 2.5°  | 1144.8 | 1144.8 | 1141.8 | 1138.7 | 1134.2 |
| 5°    | 1137.2 | 1138.7 | 1137.2 | 1135.7 | 1134.2 |
| 7.5°  | 1128.2 | 1129.7 | 1129.7 | 1129.7 | 1129.7 |
| 10°   | 1117.7 | 1119.2 | 1119.2 | 1119.2 | 1119.2 |
| 12.5° | 1102.6 | 1104.1 | 1105.6 | 1107.1 | 1110.1 |
| 15°   | 1080.0 | 1084.5 | 1087.5 | 1093.6 | 1096.6 |
| 17.5° | 1057.4 | 1061.9 | 1066.4 | 1074.0 | 1080.0 |
| 20°   | 1031.8 | 1034.8 | 1042.3 | 1051.4 | 1057.4 |
| 22.5° | 1003.2 | 1007.7 | 1015.2 | 1027.3 | 1036.3 |
| 25°   | 970.0  | 976.1  | 986.6  | 1003.2 | 1010.7 |
| 27.5° | 938.4  | 942.9  | 956.5  | 974.6  | 985.1  |
| 30°   | 900.7  | 906.8  | 923.3  | 945.9  | 956.5  |
| 32.5° | 863.1  | 870.6  | 888.7  | 914.3  | 926.4  |
| 35°   | 823.9  | 833.0  | 854.1  | 881.2  | 896.2  |
| 37.5° | 784.8  | 793.8  | 817.9  | 848.0  | 864.6  |
| 40°   | 744.1  | 753.1  | 780.2  | 813.4  | 831.5  |
| 42.5° | 701.9  | 712.5  | 742.6  | 780.2  | 801.3  |
| 45°   | 659.7  | 670.3  | 703.4  | 745.6  | 768.2  |
| 47.5° | 616.1  | 628.1  | 664.3  | 711.0  | 733.6  |
| 50°   | 572.4  | 585.9  | 626.6  | 674.8  | 697.4  |
| 52.5° | 528.7  | 543.8  | 587.4  | 637.2  | 661.3  |
| 55°   | 486.5  | 503.1  | 549.8  | 599.5  | 622.1  |
| 57.5° | 441.3  | 460.9  | 510.6  | 558.8  | 584.4  |
| 60°   | 399.2  | 420.2  | 471.5  | 519.7  | 546.8  |
| 62.5° | 357.0  | 379.6  | 433.8  | 482.0  | 507.6  |
| 65°   | 316.3  | 338.9  | 393.1  | 442.8  | 468.4  |
| 67.5° | 275.6  | 301.3  | 354.0  | 403.7  | 429.3  |
| 70°   | 236.5  | 263.6  | 314.8  | 363.0  | 388.6  |
| 72.5° | 198.8  | 225.9  | 277.2  | 322.3  | 337.4  |
| 75°   | 161.2  | 188.3  | 236.5  | 263.6  | 272.6  |
| 77.5° | 126.5  | 152.1  | 194.3  | 210.9  | 222.9  |
| 80°   | 94.9   | 117.5  | 147.6  | 158.2  | 159.7  |
| 82.5° | 64.8   | 84.4   | 102.4  | 103.9  | 102.4  |
| 85°   | 39.2   | 49.7   | 55.7   | 52.7   | 49.7   |
| 87.5° | 18.1   | 19.6   | 18.1   | 12.1   | 7.5    |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)