

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: P259222

Luminaire Tested: **22CZ-LD5-29-UNV-L83050-W2A1-U-5000K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P259222
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-LD5-29-UNV-L83050-W2A1-U-5000K
Description: CRUZE 2x2 TUNABLE WHITE LED TROFFER WITH RIBBED LENS
Light Source: (168) 80 CRI LEDS TUNED AT 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3021.0 lumens
Efficiency: N/A
Efficacy: 138.2 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

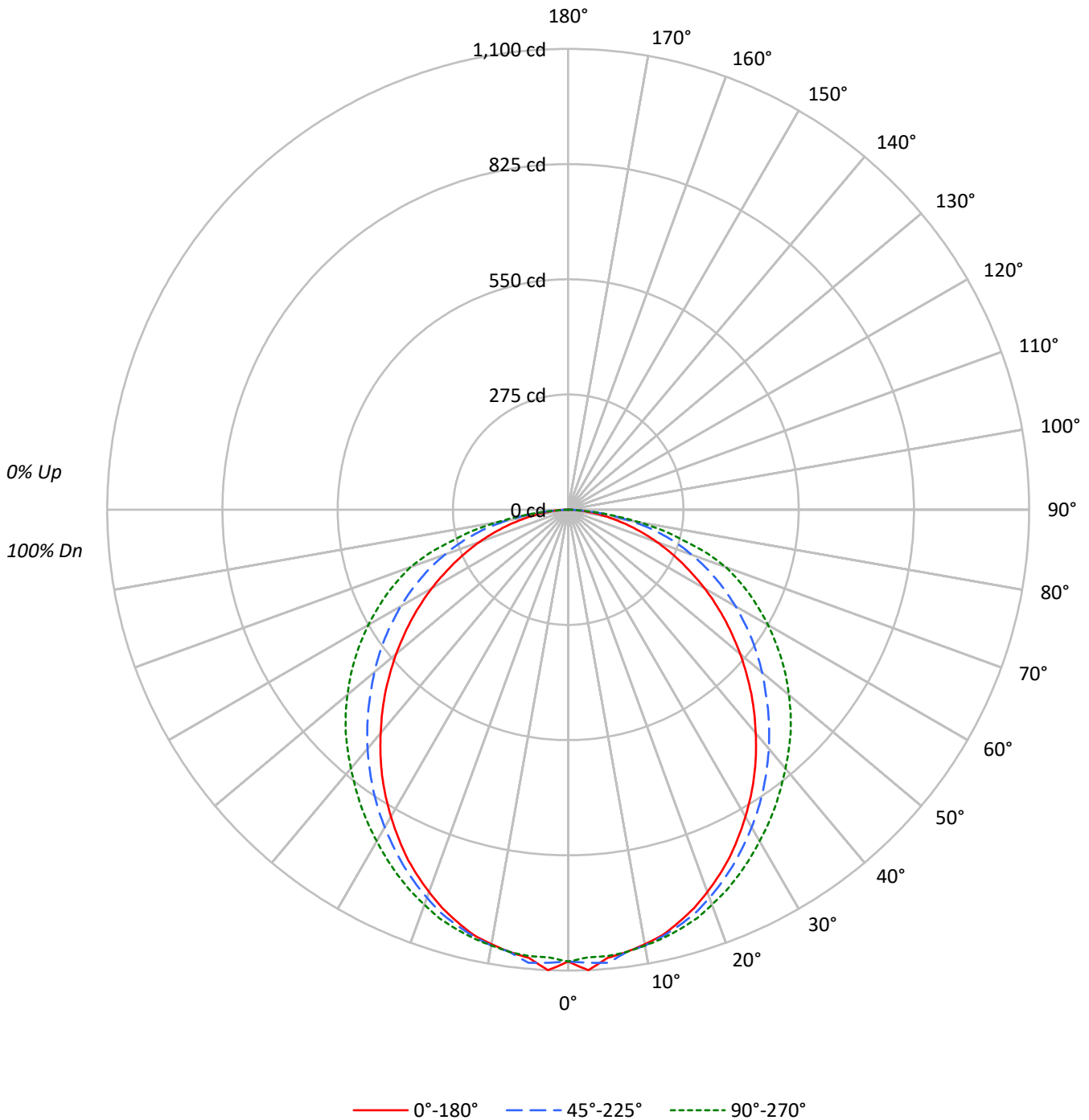
Input Watts (W): 21.855
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 104 | 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 | 70 | 64 | 87 | 77 | 69 | 63 | 74 | 68 | 62 | 71 | 66 | 61 | 69 | 64 | 60 | 58 |
| 4 | 82 | 70 | 61 | 54 | 80 | 68 | 60 | 54 | 66 | 59 | 53 | 64 | 57 | 52 | 61 | 56 | 51 | 49 |
| 5 | 75 | 62 | 53 | 46 | 73 | 61 | 53 | 46 | 59 | 51 | 46 | 57 | 50 | 45 | 55 | 49 | 45 | 43 |
| 6 | 70 | 56 | 47 | 41 | 68 | 55 | 47 | 40 | 53 | 46 | 40 | 52 | 45 | 40 | 50 | 44 | 39 | 37 |
| 7 | 65 | 51 | 42 | 36 | 63 | 50 | 42 | 36 | 48 | 41 | 35 | 47 | 40 | 35 | 46 | 40 | 35 | 33 |
| 8 | 60 | 46 | 38 | 32 | 58 | 46 | 38 | 32 | 44 | 37 | 32 | 43 | 36 | 31 | 42 | 36 | 31 | 29 |
| 9 | 56 | 43 | 34 | 29 | 55 | 42 | 34 | 29 | 41 | 34 | 29 | 40 | 33 | 28 | 39 | 33 | 28 | 26 |
| 10 | 53 | 39 | 31 | 26 | 51 | 39 | 31 | 26 | 38 | 31 | 26 | 37 | 30 | 26 | 36 | 30 | 26 | 24 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 2902 | 2902 | 2902 |
| 5° | 2901 | 2932 | 2889 |
| 10° | 2878 | 2886 | 2886 |
| 15° | 2840 | 2861 | 2885 |
| 20° | 2781 | 2823 | 2873 |
| 25° | 2713 | 2774 | 2857 |
| 30° | 2629 | 2721 | 2839 |
| 35° | 2543 | 2669 | 2833 |
| 40° | 2446 | 2616 | 2833 |
| 45° | 2348 | 2566 | 2857 |
| 50° | 2245 | 2528 | 2878 |
| 55° | 2137 | 2502 | 2915 |
| 60° | 2024 | 2483 | 2965 |
| 65° | 1899 | 2469 | 3040 |
| 70° | 1769 | 2462 | 3144 |
| 75° | 1604 | 2459 | 2979 |
| 80° | 1389 | 2276 | 2641 |
| 85° | 1179 | 1723 | 1680 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 102.3 | 3.4 |
| 10°-20° | 289.7 | 9.6 |
| 20°-30° | 430.9 | 14.3 |
| 30°-40° | 509.7 | 16.9 |
| 40°-50° | 523.9 | 17.3 |
| 50°-60° | 478.7 | 15.8 |
| 60°-70° | 382.9 | 12.7 |
| 70°-80° | 240.3 | 8.0 |
| 80°-90° | 62.6 | 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° | 822.9 | 27.2 |
| 0°-40° | 1332.6 | 44.1 |
| 0°-60° | 2335.2 | 77.3 |
| 0°-90° | 3021.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3021.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1078 | 1078 | 1078 | 1078 | 1078 | |
| 5° | 1074 | 1074 | 1086 | 1078 | 1070 | 102 |
| 15° | 1020 | 1021 | 1027 | 1033 | 1036 | 287 |
| 25° | 914 | 920 | 934 | 950 | 962 | 420 |
| 35° | 774 | 784 | 812 | 843 | 862 | 484 |
| 45° | 617 | 633 | 674 | 724 | 751 | 476 |
| 55° | 455 | 477 | 533 | 592 | 621 | 407 |
| 65° | 298 | 325 | 388 | 447 | 477 | 296 |
| 75° | 154 | 184 | 236 | 272 | 286 | 164 |
| 85° | 38 | 48 | 56 | 54 | 54 | 44 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P259222

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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1078.3 | 1078.3 | 1078.3 | 1078.3 | 1078.3 |
| 2.5° | 1100.3 | 1095.9 | 1082.7 | 1073.9 | 1069.5 |
| 5° | 1073.9 | 1073.9 | 1085.6 | 1078.3 | 1069.5 |
| 7.5° | 1065.1 | 1065.1 | 1065.1 | 1087.1 | 1065.1 |
| 10° | 1053.3 | 1054.8 | 1056.3 | 1065.1 | 1056.3 |
| 12.5° | 1040.1 | 1040.1 | 1043.0 | 1046.0 | 1047.4 |
| 15° | 1019.5 | 1021.0 | 1026.9 | 1032.8 | 1035.7 |
| 17.5° | 997.5 | 1001.9 | 1009.3 | 1016.6 | 1022.5 |
| 20° | 971.1 | 976.9 | 985.7 | 997.5 | 1003.4 |
| 22.5° | 943.1 | 949.0 | 960.8 | 974.0 | 984.3 |
| 25° | 913.8 | 919.6 | 934.3 | 950.5 | 962.2 |
| 27.5° | 880.0 | 887.3 | 904.9 | 927.0 | 938.7 |
| 30° | 846.2 | 855.0 | 875.6 | 900.5 | 913.8 |
| 32.5° | 810.9 | 821.2 | 844.7 | 872.6 | 888.8 |
| 35° | 774.2 | 784.5 | 812.4 | 843.2 | 862.3 |
| 37.5° | 736.0 | 747.8 | 778.6 | 813.9 | 834.4 |
| 40° | 696.3 | 709.6 | 744.8 | 783.0 | 806.5 |
| 42.5° | 656.7 | 671.4 | 709.6 | 755.1 | 778.6 |
| 45° | 617.0 | 633.2 | 674.3 | 724.3 | 750.7 |
| 47.5° | 575.9 | 595.0 | 637.6 | 693.4 | 719.8 |
| 50° | 536.2 | 555.3 | 603.8 | 661.1 | 687.5 |
| 52.5° | 495.1 | 517.1 | 568.5 | 627.3 | 655.2 |
| 55° | 455.4 | 477.4 | 533.3 | 592.0 | 621.4 |
| 57.5° | 415.7 | 437.8 | 496.5 | 556.8 | 586.2 |
| 60° | 376.1 | 399.6 | 461.3 | 520.1 | 550.9 |
| 62.5° | 336.4 | 361.4 | 424.6 | 484.8 | 514.2 |
| 65° | 298.2 | 324.7 | 387.8 | 446.6 | 477.4 |
| 67.5° | 261.5 | 289.4 | 351.1 | 408.4 | 439.3 |
| 70° | 224.8 | 252.7 | 312.9 | 368.7 | 399.6 |
| 72.5° | 189.5 | 217.4 | 276.2 | 326.1 | 349.6 |
| 75° | 154.3 | 183.6 | 236.5 | 271.8 | 286.5 |
| 77.5° | 120.5 | 149.8 | 195.4 | 218.9 | 235.1 |
| 80° | 89.6 | 114.6 | 146.9 | 164.5 | 170.4 |
| 82.5° | 61.7 | 82.3 | 102.8 | 107.2 | 110.2 |
| 85° | 38.2 | 48.5 | 55.8 | 54.4 | 54.4 |
| 87.5° | 17.6 | 19.1 | 16.2 | 11.8 | 7.3 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)