

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: P258840

Luminaire Tested: **14CZ-LD5-29-S-UNV-L92765-W2A1-U-4500K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P258840
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-L92765-W2A1-U-4500K
Description: CRUZE 1x4 TUNABLE WHITE LED TROFFER WITH SMOOTH LENS
Light Source: (168) 90 CRI LEDS TUNED AT 4500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2717.0 lumens
Efficiency: N/A
Efficacy: 120.7 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

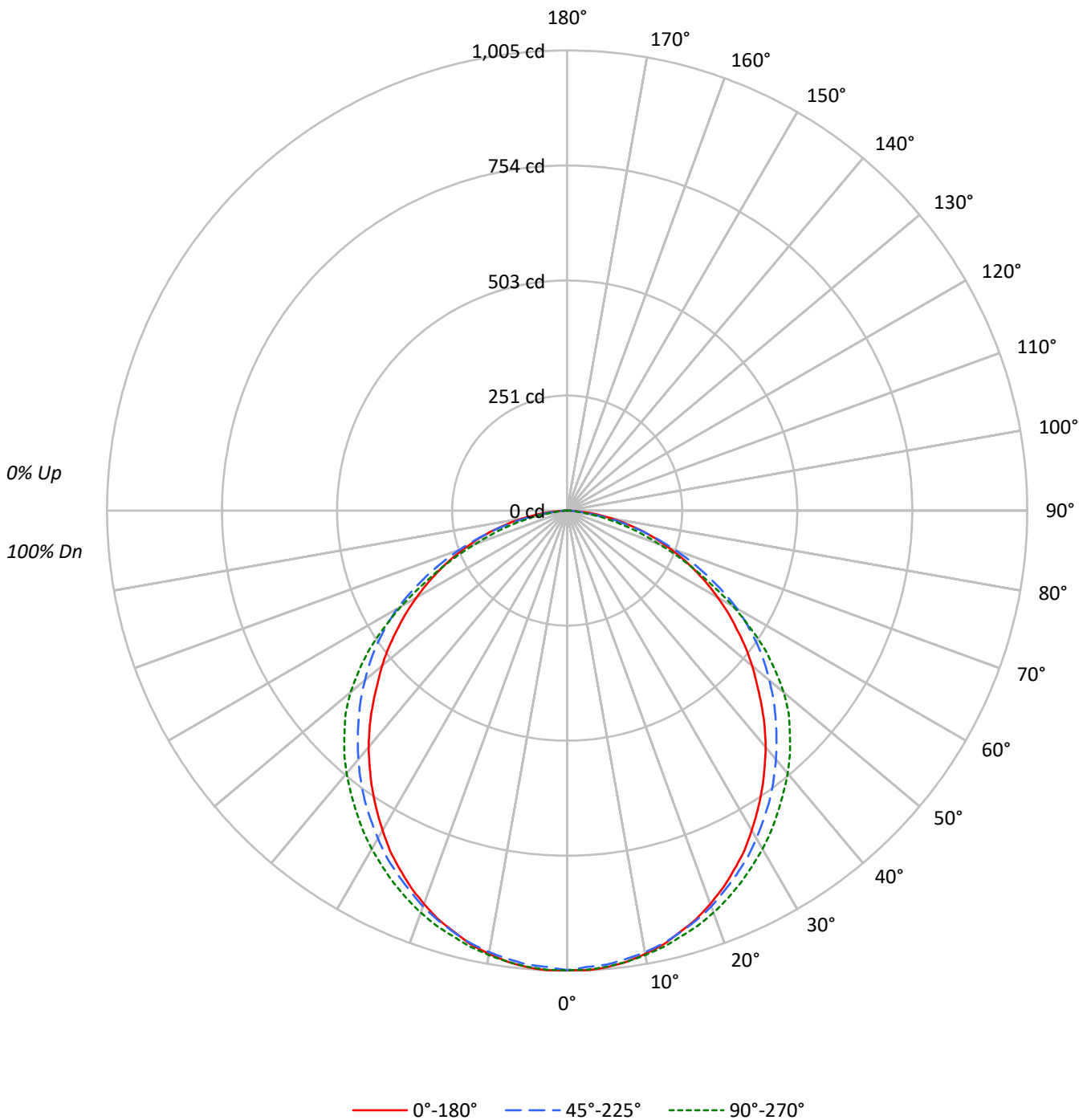
Input Watts (W): 22.506
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 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° | 2701 | 2701 | 2701 |
| 5° | 2704 | 2688 | 2701 |
| 10° | 2686 | 2676 | 2693 |
| 15° | 2654 | 2658 | 2681 |
| 20° | 2618 | 2635 | 2677 |
| 25° | 2567 | 2602 | 2664 |
| 30° | 2505 | 2569 | 2652 |
| 35° | 2438 | 2533 | 2637 |
| 40° | 2369 | 2492 | 2633 |
| 45° | 2285 | 2451 | 2617 |
| 50° | 2210 | 2413 | 2585 |
| 55° | 2124 | 2374 | 2471 |
| 60° | 2046 | 2307 | 2255 |
| 65° | 1958 | 2159 | 1981 |
| 70° | 1848 | 1962 | 1677 |
| 75° | 1725 | 1699 | 1385 |
| 80° | 1520 | 1313 | 1013 |
| 85° | 1195 | 636 | 562 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 94.8 | 3.5 |
| 10°-20° | 270.2 | 9.9 |
| 20°-30° | 405.5 | 14.9 |
| 30°-40° | 483.4 | 17.8 |
| 40°-50° | 497.9 | 18.3 |
| 50°-60° | 443.7 | 16.3 |
| 60°-70° | 319.7 | 11.8 |
| 70°-80° | 167.2 | 6.2 |
| 80°-90° | 34.6 | 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° | 770.5 | 28.4 |
| 0°-40° | 1253.9 | 46.1 |
| 0°-60° | 2195.5 | 80.8 |
| 0°-90° | 2717.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2717.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1004 | 1004 | 1004 | 1004 | 1004 | |
| 5° | 1001 | 999 | 995 | 1001 | 1000 | 95 |
| 15° | 953 | 954 | 954 | 964 | 962 | 269 |
| 25° | 864 | 869 | 876 | 894 | 897 | 398 |
| 35° | 742 | 752 | 771 | 797 | 803 | 464 |
| 45° | 600 | 614 | 644 | 680 | 688 | 463 |
| 55° | 453 | 467 | 506 | 529 | 527 | 406 |
| 65° | 308 | 318 | 339 | 323 | 311 | 305 |
| 75° | 166 | 174 | 163 | 142 | 133 | 176 |
| 85° | 39 | 34 | 21 | 18 | 18 | 46 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1003.7 | 1003.7 | 1003.7 | 1003.7 | 1003.7 |
| 2.5° | 1004.9 | 1002.5 | 997.6 | 1003.7 | 1003.7 |
| 5° | 1001.2 | 998.8 | 995.2 | 1001.2 | 1000.0 |
| 7.5° | 994.0 | 991.6 | 987.9 | 995.2 | 994.0 |
| 10° | 983.1 | 981.9 | 979.4 | 986.7 | 985.5 |
| 12.5° | 971.0 | 969.8 | 968.6 | 975.8 | 975.8 |
| 15° | 952.8 | 954.0 | 954.0 | 963.7 | 962.5 |
| 17.5° | 935.9 | 937.1 | 938.3 | 950.4 | 950.4 |
| 20° | 914.1 | 915.3 | 920.1 | 933.4 | 934.7 |
| 22.5° | 891.1 | 892.3 | 898.3 | 914.1 | 916.5 |
| 25° | 864.4 | 869.3 | 876.5 | 893.5 | 897.1 |
| 27.5° | 837.8 | 841.4 | 853.5 | 872.9 | 875.3 |
| 30° | 806.3 | 813.6 | 826.9 | 848.7 | 853.5 |
| 32.5° | 774.8 | 783.3 | 799.1 | 823.3 | 829.3 |
| 35° | 742.2 | 751.8 | 771.2 | 796.6 | 802.7 |
| 37.5° | 708.3 | 716.7 | 740.9 | 767.6 | 776.1 |
| 40° | 674.4 | 682.8 | 709.5 | 739.7 | 749.4 |
| 42.5° | 638.0 | 650.1 | 676.8 | 710.7 | 720.4 |
| 45° | 600.5 | 613.8 | 644.1 | 680.4 | 687.7 |
| 47.5° | 561.8 | 576.3 | 611.4 | 647.7 | 656.2 |
| 50° | 527.9 | 541.2 | 576.3 | 611.4 | 617.5 |
| 52.5° | 491.5 | 503.6 | 542.4 | 571.4 | 572.7 |
| 55° | 452.8 | 467.3 | 506.1 | 529.1 | 526.6 |
| 57.5° | 417.7 | 429.8 | 467.3 | 479.4 | 472.2 |
| 60° | 380.2 | 391.1 | 428.6 | 429.8 | 418.9 |
| 62.5° | 343.8 | 354.7 | 383.8 | 375.3 | 362.0 |
| 65° | 307.5 | 318.4 | 339.0 | 323.3 | 311.1 |
| 67.5° | 272.4 | 282.1 | 294.2 | 273.6 | 261.5 |
| 70° | 234.9 | 248.2 | 249.4 | 225.2 | 213.1 |
| 72.5° | 202.2 | 209.4 | 207.0 | 184.0 | 173.1 |
| 75° | 165.9 | 174.3 | 163.4 | 141.7 | 133.2 |
| 77.5° | 132.0 | 138.0 | 123.5 | 102.9 | 96.9 |
| 80° | 98.1 | 101.7 | 84.7 | 69.0 | 65.4 |
| 82.5° | 66.6 | 66.6 | 48.4 | 37.5 | 33.9 |
| 85° | 38.7 | 33.9 | 20.6 | 18.2 | 18.2 |
| 87.5° | 13.3 | 8.5 | 8.5 | 8.5 | 8.5 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)