

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: P259215

Luminaire Tested: **22CZ-LD5-24-UNV-L83050-W2A1-U-4000K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P259215
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-LD5-24-UNV-L83050-W2A1-U-4000K
Description: CRUZE 2x2 TUNABLE WHITE LED TROFFER WITH RIBBED LENS
Light Source: (168) 80 CRI LEDS TUNED AT 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2559.0 lumens
Efficiency: N/A
Efficacy: 142.6 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

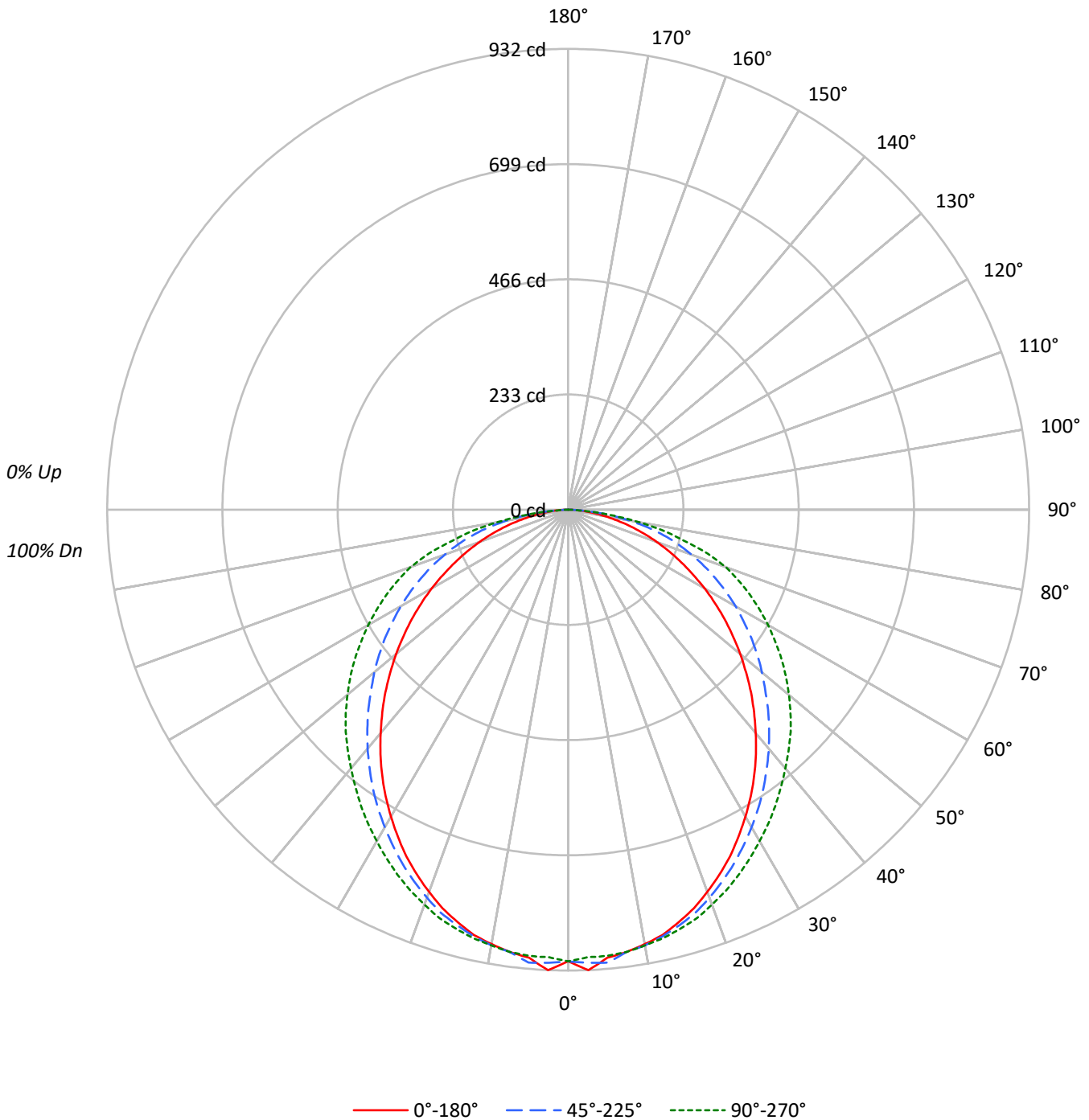
Input Watts (W): 17.949
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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° | 2458 | 2458 | 2458 |
| 5° | 2457 | 2484 | 2447 |
| 10° | 2438 | 2445 | 2445 |
| 15° | 2406 | 2423 | 2444 |
| 20° | 2356 | 2391 | 2434 |
| 25° | 2298 | 2350 | 2420 |
| 30° | 2227 | 2305 | 2405 |
| 35° | 2154 | 2261 | 2400 |
| 40° | 2072 | 2216 | 2400 |
| 45° | 1989 | 2174 | 2420 |
| 50° | 1901 | 2141 | 2438 |
| 55° | 1810 | 2119 | 2470 |
| 60° | 1715 | 2103 | 2512 |
| 65° | 1608 | 2092 | 2575 |
| 70° | 1498 | 2086 | 2663 |
| 75° | 1359 | 2083 | 2523 |
| 80° | 1176 | 1928 | 2238 |
| 85° | 1000 | 1460 | 1420 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 86.6 | 3.4 |
| 10°-20° | 245.4 | 9.6 |
| 20°-30° | 365.0 | 14.3 |
| 30°-40° | 431.7 | 16.9 |
| 40°-50° | 443.8 | 17.3 |
| 50°-60° | 405.5 | 15.8 |
| 60°-70° | 324.4 | 12.7 |
| 70°-80° | 203.6 | 8.0 |
| 80°-90° | 53.0 | 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° | 697.1 | 27.2 |
| 0°-40° | 1128.8 | 44.1 |
| 0°-60° | 1978.0 | 77.3 |
| 0°-90° | 2559.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2559.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 913 | 913 | 913 | 913 | 913 | |
| 5° | 910 | 910 | 920 | 913 | 906 | 86 |
| 15° | 864 | 865 | 870 | 875 | 877 | 243 |
| 25° | 774 | 779 | 791 | 805 | 815 | 356 |
| 35° | 656 | 664 | 688 | 714 | 730 | 410 |
| 45° | 523 | 536 | 571 | 614 | 636 | 403 |
| 55° | 386 | 404 | 452 | 502 | 526 | 345 |
| 65° | 253 | 275 | 328 | 378 | 404 | 251 |
| 75° | 131 | 156 | 200 | 230 | 243 | 139 |
| 85° | 32 | 41 | 47 | 46 | 46 | 37 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P259215

CATALOG NUMBER: 22CZ-LD5-24-UNV-L83050-W2A1-U-4000K

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 913.4 | 913.4 | 913.4 | 913.4 | 913.4 |
| 2.5° | 932.1 | 928.3 | 917.1 | 909.7 | 905.9 |
| 5° | 909.7 | 909.7 | 919.6 | 913.4 | 905.9 |
| 7.5° | 902.2 | 902.2 | 902.2 | 920.9 | 902.2 |
| 10° | 892.2 | 893.5 | 894.7 | 902.2 | 894.7 |
| 12.5° | 881.0 | 881.0 | 883.5 | 886.0 | 887.3 |
| 15° | 863.6 | 864.9 | 869.8 | 874.8 | 877.3 |
| 17.5° | 845.0 | 848.7 | 854.9 | 861.1 | 866.1 |
| 20° | 822.6 | 827.5 | 835.0 | 845.0 | 849.9 |
| 22.5° | 798.9 | 803.9 | 813.8 | 825.0 | 833.8 |
| 25° | 774.0 | 779.0 | 791.4 | 805.1 | 815.1 |
| 27.5° | 745.4 | 751.6 | 766.6 | 785.2 | 795.2 |
| 30° | 716.8 | 724.2 | 741.7 | 762.8 | 774.0 |
| 32.5° | 686.9 | 695.6 | 715.5 | 739.2 | 752.9 |
| 35° | 655.8 | 664.5 | 688.2 | 714.3 | 730.5 |
| 37.5° | 623.4 | 633.4 | 659.5 | 689.4 | 706.8 |
| 40° | 589.8 | 601.0 | 630.9 | 663.3 | 683.2 |
| 42.5° | 556.2 | 568.7 | 601.0 | 639.6 | 659.5 |
| 45° | 522.7 | 536.3 | 571.2 | 613.5 | 635.9 |
| 47.5° | 487.8 | 504.0 | 540.1 | 587.4 | 609.8 |
| 50° | 454.2 | 470.4 | 511.5 | 560.0 | 582.4 |
| 52.5° | 419.4 | 438.0 | 481.6 | 531.4 | 555.0 |
| 55° | 385.8 | 404.4 | 451.7 | 501.5 | 526.4 |
| 57.5° | 352.2 | 370.8 | 420.6 | 471.6 | 496.5 |
| 60° | 318.6 | 338.5 | 390.7 | 440.5 | 466.7 |
| 62.5° | 285.0 | 306.1 | 359.6 | 410.7 | 435.5 |
| 65° | 252.6 | 275.0 | 328.5 | 378.3 | 404.4 |
| 67.5° | 221.5 | 245.1 | 297.4 | 345.9 | 372.1 |
| 70° | 190.4 | 214.0 | 265.1 | 312.3 | 338.5 |
| 72.5° | 160.5 | 184.2 | 233.9 | 276.3 | 296.2 |
| 75° | 130.7 | 155.6 | 200.3 | 230.2 | 242.7 |
| 77.5° | 102.0 | 126.9 | 165.5 | 185.4 | 199.1 |
| 80° | 75.9 | 97.1 | 124.4 | 139.4 | 144.4 |
| 82.5° | 52.3 | 69.7 | 87.1 | 90.8 | 93.3 |
| 85° | 32.4 | 41.1 | 47.3 | 46.0 | 46.0 |
| 87.5° | 14.9 | 16.2 | 13.7 | 10.0 | 6.2 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)