

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: P260946

Luminaire Tested: **24CZ-LD5-40SE-UNV-L92765-W2A1-U-3000K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P260946
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P25697)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ-LD5-40SE-UNV-L92765-W2A1-U-3000K
Description: CRUZE 2x4 TUNABLE WHITE LED TROFFER WITH RIBBED LENS
Light Source: (168) 90 CRI LEDS TUNED AT 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3299.0 lumens
Efficiency: N/A
Efficacy: 109.5 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.25 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

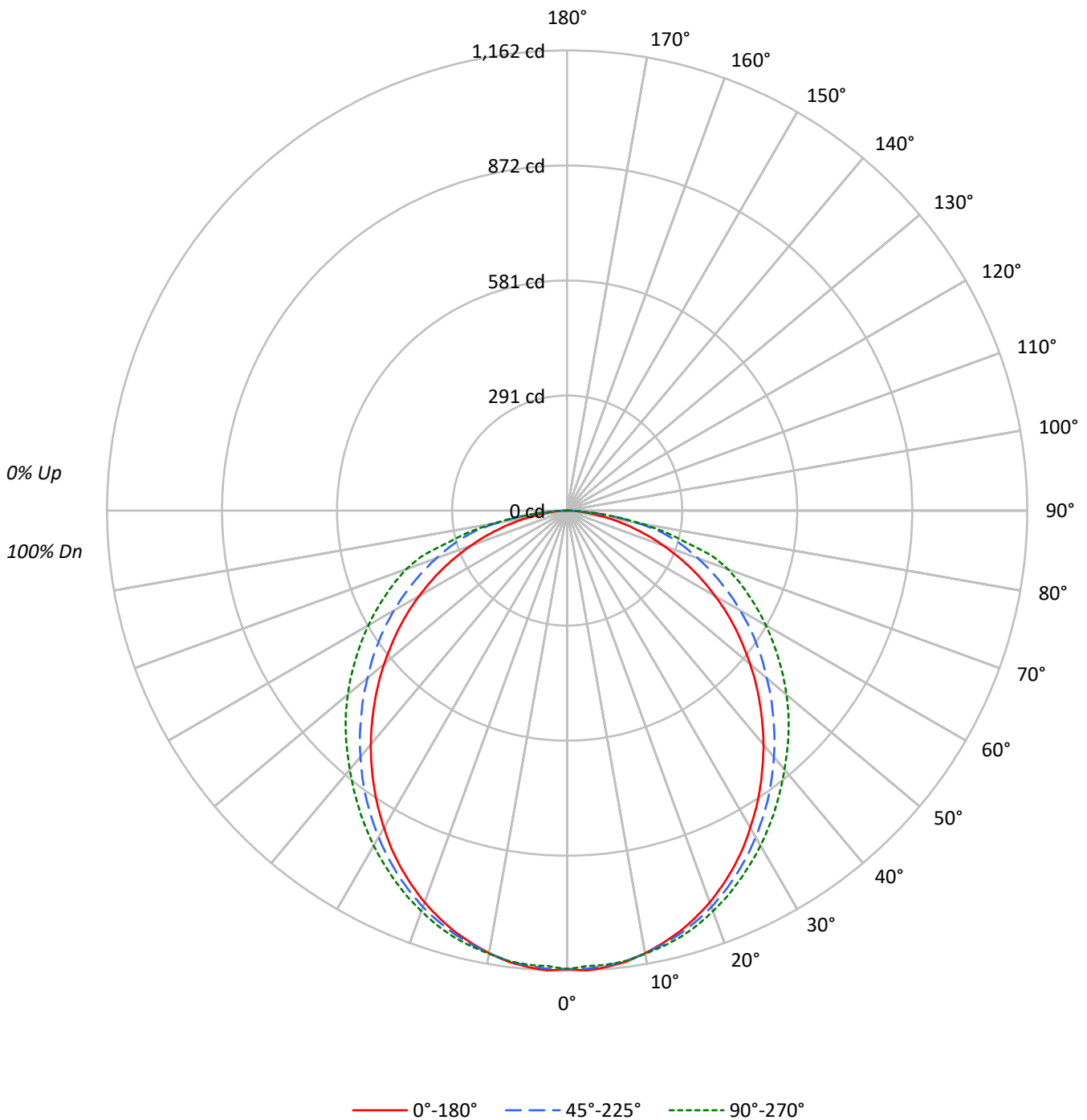
Input Watts (W): 30.132
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 93 | 97 | 93 | 90 | 93 | 90 | 88 | 89 | 87 | 85 | 83 |
| 2 | 98 | 90 | 83 | 77 | 95 | 88 | 81 | 76 | 84 | 79 | 74 | 81 | 76 | 72 | 78 | 74 | 71 | 68 |
| 3 | 89 | 78 | 70 | 63 | 87 | 77 | 69 | 63 | 74 | 67 | 62 | 71 | 65 | 61 | 68 | 64 | 60 | 57 |
| 4 | 82 | 69 | 60 | 54 | 79 | 68 | 60 | 53 | 66 | 58 | 52 | 63 | 57 | 52 | 61 | 56 | 51 | 49 |
| 5 | 75 | 62 | 53 | 46 | 73 | 61 | 52 | 46 | 59 | 51 | 45 | 57 | 50 | 45 | 55 | 49 | 44 | 42 |
| 6 | 69 | 56 | 47 | 40 | 67 | 55 | 46 | 40 | 53 | 45 | 40 | 51 | 44 | 39 | 50 | 44 | 39 | 37 |
| 7 | 64 | 51 | 42 | 35 | 63 | 50 | 41 | 35 | 48 | 41 | 35 | 47 | 40 | 35 | 45 | 39 | 35 | 32 |
| 8 | 60 | 46 | 38 | 32 | 58 | 45 | 37 | 32 | 44 | 37 | 31 | 43 | 36 | 31 | 42 | 36 | 31 | 29 |
| 9 | 56 | 42 | 34 | 28 | 54 | 42 | 34 | 28 | 41 | 33 | 28 | 40 | 33 | 28 | 38 | 32 | 28 | 26 |
| 10 | 52 | 39 | 31 | 26 | 51 | 39 | 31 | 26 | 38 | 31 | 26 | 37 | 30 | 25 | 36 | 30 | 25 | 24 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 1558 | 1558 | 1558 |
| 5° | 1562 | 1558 | 1555 |
| 10° | 1551 | 1551 | 1552 |
| 15° | 1533 | 1540 | 1551 |
| 20° | 1507 | 1525 | 1541 |
| 25° | 1476 | 1504 | 1529 |
| 30° | 1437 | 1479 | 1518 |
| 35° | 1397 | 1455 | 1507 |
| 40° | 1355 | 1426 | 1500 |
| 45° | 1309 | 1399 | 1505 |
| 50° | 1263 | 1376 | 1513 |
| 55° | 1216 | 1367 | 1529 |
| 60° | 1161 | 1359 | 1559 |
| 65° | 1100 | 1359 | 1611 |
| 70° | 1018 | 1382 | 1697 |
| 75° | 910 | 1445 | 1615 |
| 80° | 762 | 1383 | 1479 |
| 85° | 576 | 1064 | 1011 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 109.4 | 3.3 |
| 10°-20° | 311.4 | 9.4 |
| 20°-30° | 465.5 | 14.1 |
| 30°-40° | 552.2 | 16.7 |
| 40°-50° | 568.4 | 17.2 |
| 50°-60° | 521.4 | 15.8 |
| 60°-70° | 421.6 | 12.8 |
| 70°-80° | 273.6 | 8.3 |
| 80°-90° | 75.4 | 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° | 886.3 | 26.9 |
| 0°-40° | 1438.5 | 43.6 |
| 0°-60° | 2528.3 | 76.6 |
| 0°-90° | 3299.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3299.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1158 | 1158 | 1158 | 1158 | 1158 | |
| 5° | 1157 | 1149 | 1153 | 1152 | 1151 | 110 |
| 15° | 1100 | 1096 | 1106 | 1110 | 1114 | 310 |
| 25° | 994 | 995 | 1013 | 1022 | 1030 | 458 |
| 35° | 850 | 857 | 886 | 905 | 917 | 532 |
| 45° | 688 | 699 | 735 | 770 | 791 | 531 |
| 55° | 518 | 534 | 583 | 630 | 652 | 463 |
| 65° | 346 | 366 | 427 | 483 | 506 | 342 |
| 75° | 175 | 208 | 278 | 311 | 311 | 186 |
| 85° | 37 | 63 | 69 | 67 | 66 | 46 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1157.8 | 1157.8 | 1157.8 | 1157.8 | 1157.8 |
| 2.5° | 1162.3 | 1153.3 | 1157.8 | 1156.6 | 1151.0 |
| 5° | 1156.6 | 1148.7 | 1153.3 | 1152.1 | 1151.0 |
| 7.5° | 1148.7 | 1140.8 | 1146.5 | 1145.4 | 1146.5 |
| 10° | 1135.2 | 1128.4 | 1135.2 | 1136.3 | 1136.3 |
| 12.5° | 1118.2 | 1112.6 | 1121.6 | 1123.9 | 1126.2 |
| 15° | 1100.2 | 1095.7 | 1105.8 | 1110.3 | 1113.7 |
| 17.5° | 1077.6 | 1074.2 | 1086.6 | 1092.3 | 1096.8 |
| 20° | 1052.7 | 1051.6 | 1065.2 | 1070.8 | 1076.5 |
| 22.5° | 1024.5 | 1024.5 | 1040.3 | 1047.1 | 1055.0 |
| 25° | 994.0 | 995.1 | 1013.2 | 1022.2 | 1030.1 |
| 27.5° | 961.2 | 962.4 | 983.8 | 995.1 | 1004.2 |
| 30° | 925.1 | 929.6 | 952.2 | 966.9 | 977.1 |
| 32.5° | 888.9 | 894.6 | 919.4 | 936.4 | 947.7 |
| 35° | 850.5 | 857.3 | 885.6 | 904.8 | 917.2 |
| 37.5° | 811.0 | 818.9 | 849.4 | 870.9 | 885.6 |
| 40° | 771.5 | 780.5 | 812.1 | 837.0 | 853.9 |
| 42.5° | 729.7 | 739.8 | 774.9 | 804.2 | 822.3 |
| 45° | 687.9 | 699.2 | 735.3 | 770.3 | 790.7 |
| 47.5° | 646.1 | 659.7 | 698.1 | 736.5 | 757.9 |
| 50° | 603.2 | 616.7 | 657.4 | 701.4 | 722.9 |
| 52.5° | 560.3 | 576.1 | 621.2 | 666.4 | 687.9 |
| 55° | 518.5 | 534.3 | 582.8 | 630.3 | 651.7 |
| 57.5° | 475.5 | 491.3 | 544.4 | 594.1 | 615.6 |
| 60° | 431.5 | 449.6 | 504.9 | 555.7 | 579.5 |
| 62.5° | 388.6 | 407.8 | 466.5 | 520.7 | 543.3 |
| 65° | 345.6 | 366.0 | 427.0 | 483.4 | 506.0 |
| 67.5° | 301.6 | 325.3 | 388.6 | 446.2 | 469.9 |
| 70° | 258.7 | 284.6 | 351.3 | 408.9 | 431.5 |
| 72.5° | 216.9 | 245.1 | 314.0 | 372.7 | 386.3 |
| 75° | 175.1 | 207.8 | 277.9 | 310.6 | 310.6 |
| 77.5° | 135.5 | 171.7 | 237.2 | 249.6 | 256.4 |
| 80° | 98.3 | 137.8 | 178.5 | 193.2 | 190.9 |
| 82.5° | 65.5 | 105.0 | 127.6 | 127.6 | 124.2 |
| 85° | 37.3 | 63.3 | 68.9 | 66.6 | 65.5 |
| 87.5° | 15.8 | 23.7 | 21.5 | 16.9 | 14.7 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)