

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: P261047

Luminaire Tested: **24CZ-LD5-30-S-UNV-L93050-W2A1-U-3000K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P261047
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P25694)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ-LD5-30-S-UNV-L93050-W2A1-U-3000K
Description: CRUZE 2x4 TUNABLE WHITE LED TROFFER WITH SMOOTH LENS
Light Source: (336) 90 CRI LEDS TUNED AT 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2436.2 lumens
Efficiency: N/A
Efficacy: 121.4 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

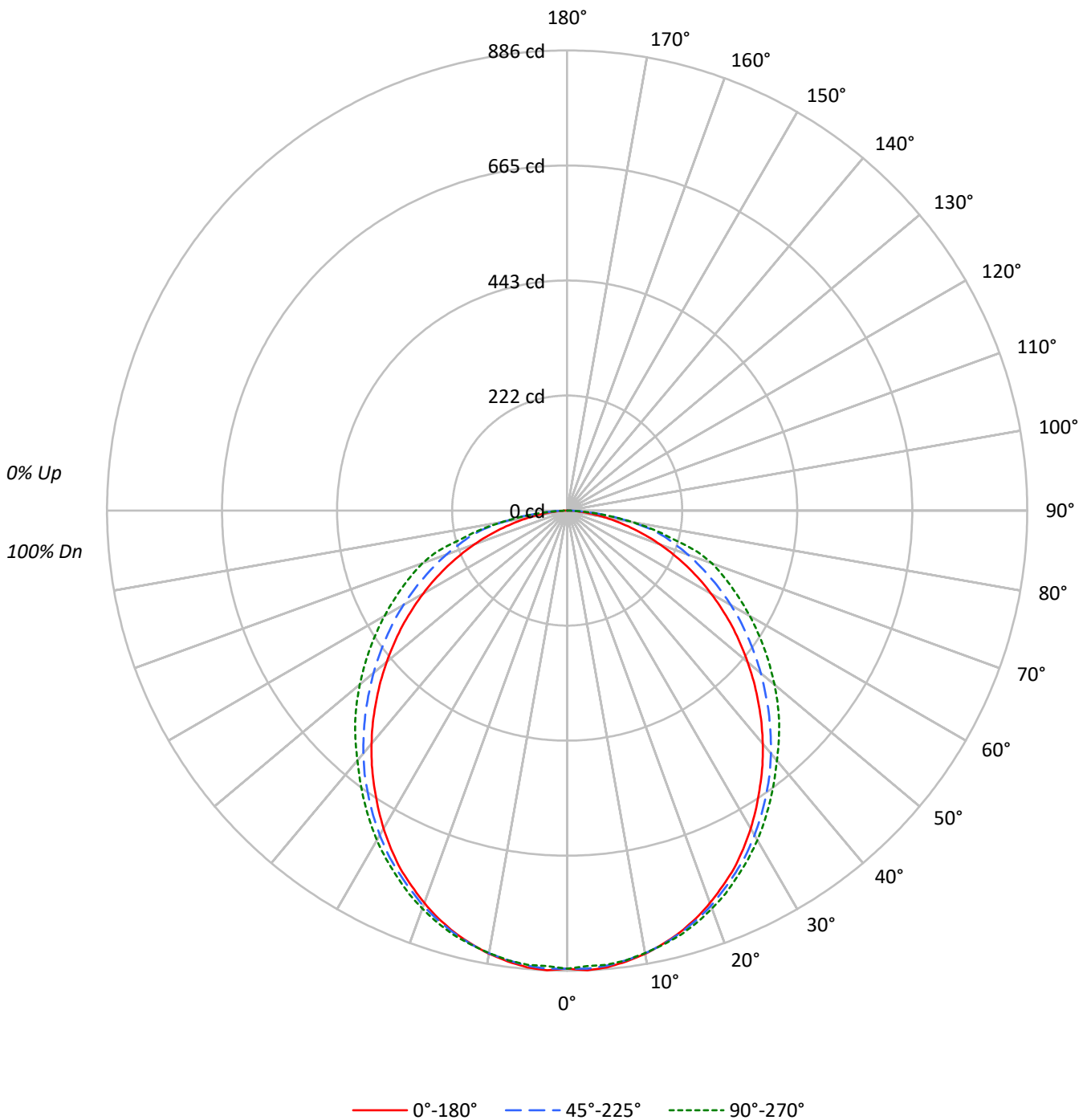
Input Watts (W): 20.074329
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 104 | 99 | 95 | 106 | 101 | 97 | 94 | 97 | 94 | 91 | 93 | 90 | 88 | 89 | 87 | 85 | 83 |
| 2 | 99 | 90 | 83 | 77 | 96 | 88 | 82 | 76 | 85 | 79 | 75 | 81 | 77 | 73 | 78 | 75 | 71 | 69 |
| 3 | 90 | 79 | 71 | 64 | 87 | 77 | 70 | 64 | 74 | 68 | 62 | 72 | 66 | 61 | 69 | 64 | 60 | 58 |
| 4 | 82 | 70 | 61 | 54 | 80 | 69 | 60 | 54 | 66 | 59 | 53 | 64 | 58 | 52 | 62 | 56 | 52 | 50 |
| 5 | 76 | 63 | 53 | 47 | 73 | 61 | 53 | 47 | 59 | 52 | 46 | 57 | 51 | 45 | 55 | 50 | 45 | 43 |
| 6 | 70 | 56 | 47 | 41 | 68 | 55 | 47 | 41 | 54 | 46 | 40 | 52 | 45 | 40 | 50 | 44 | 40 | 38 |
| 7 | 65 | 51 | 42 | 36 | 63 | 50 | 42 | 36 | 49 | 41 | 36 | 47 | 41 | 35 | 46 | 40 | 35 | 33 |
| 8 | 60 | 47 | 38 | 32 | 59 | 46 | 38 | 32 | 45 | 37 | 32 | 43 | 37 | 32 | 42 | 36 | 32 | 30 |
| 9 | 56 | 43 | 35 | 29 | 55 | 42 | 34 | 29 | 41 | 34 | 29 | 40 | 33 | 29 | 39 | 33 | 29 | 27 |
| 10 | 53 | 40 | 32 | 26 | 52 | 39 | 31 | 26 | 38 | 31 | 26 | 37 | 31 | 26 | 36 | 30 | 26 | 24 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 1187 | 1187 | 1187 |
| 5° | 1192 | 1188 | 1186 |
| 10° | 1184 | 1183 | 1182 |
| 15° | 1171 | 1173 | 1178 |
| 20° | 1151 | 1160 | 1168 |
| 25° | 1129 | 1141 | 1153 |
| 30° | 1098 | 1121 | 1139 |
| 35° | 1064 | 1097 | 1120 |
| 40° | 1029 | 1072 | 1103 |
| 45° | 990 | 1044 | 1098 |
| 50° | 950 | 1018 | 1091 |
| 55° | 909 | 996 | 1088 |
| 60° | 862 | 980 | 1093 |
| 65° | 810 | 968 | 1115 |
| 70° | 746 | 972 | 1167 |
| 75° | 662 | 1007 | 1087 |
| 80° | 552 | 955 | 980 |
| 85° | 414 | 763 | 701 |



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CATALOG NUMBER: 24CZ-LD5-30-S-UNV-L93050-W2A1-U-3000K

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 83.4 | 3.4 |
| 10°-20° | 237.1 | 9.7 |
| 20°-30° | 353.4 | 14.5 |
| 30°-40° | 416.0 | 17.1 |
| 40°-50° | 422.8 | 17.4 |
| 50°-60° | 380.1 | 15.6 |
| 60°-70° | 300.3 | 12.3 |
| 70°-80° | 190.5 | 7.8 |
| 80°-90° | 52.6 | 2.2 |
| 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° | 673.9 | 27.7 |
| 0°-40° | 1090.0 | 44.7 |
| 0°-60° | 1892.9 | 77.7 |
| 0°-90° | 2436.2 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2436.2 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 882 | 882 | 882 | 882 | 882 | |
| 5° | 883 | 876 | 880 | 878 | 878 | 84 |
| 15° | 841 | 837 | 842 | 845 | 846 | 237 |
| 25° | 760 | 760 | 768 | 773 | 777 | 350 |
| 35° | 648 | 652 | 668 | 675 | 682 | 405 |
| 45° | 520 | 528 | 549 | 565 | 577 | 402 |
| 55° | 388 | 397 | 425 | 452 | 464 | 346 |
| 65° | 254 | 268 | 304 | 337 | 350 | 252 |
| 75° | 127 | 149 | 194 | 211 | 209 | 135 |
| 85° | 27 | 46 | 49 | 45 | 45 | 33 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CATALOG NUMBER: 24CZ-LD5-30-S-UNV-L93050-W2A1-U-3000K

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 882.0 | 882.0 | 882.0 | 882.0 | 882.0 |
| 2.5° | 886.0 | 879.5 | 882.8 | 881.1 | 877.9 |
| 5° | 882.8 | 875.5 | 879.5 | 877.9 | 877.9 |
| 7.5° | 875.5 | 869.8 | 873.0 | 872.2 | 873.0 |
| 10° | 866.6 | 860.9 | 865.7 | 865.7 | 864.9 |
| 12.5° | 854.4 | 849.5 | 855.2 | 855.2 | 856.0 |
| 15° | 840.6 | 836.6 | 842.2 | 844.7 | 845.5 |
| 17.5° | 823.6 | 819.5 | 826.8 | 829.3 | 831.7 |
| 20° | 804.1 | 802.5 | 809.8 | 812.2 | 815.5 |
| 22.5° | 782.3 | 782.3 | 789.5 | 792.8 | 797.7 |
| 25° | 760.4 | 759.6 | 768.5 | 773.3 | 776.6 |
| 27.5° | 734.4 | 735.2 | 746.6 | 751.4 | 755.5 |
| 30° | 706.9 | 708.5 | 721.5 | 727.1 | 732.8 |
| 32.5° | 677.7 | 680.9 | 695.5 | 702.0 | 707.7 |
| 35° | 647.7 | 651.7 | 668.0 | 675.3 | 681.7 |
| 37.5° | 617.7 | 623.4 | 640.4 | 647.7 | 655.0 |
| 40° | 586.1 | 590.9 | 610.4 | 619.3 | 628.2 |
| 42.5° | 553.7 | 560.1 | 579.6 | 592.6 | 603.1 |
| 45° | 520.4 | 527.7 | 548.8 | 565.0 | 577.2 |
| 47.5° | 487.2 | 496.9 | 517.2 | 539.1 | 549.6 |
| 50° | 453.9 | 463.7 | 486.4 | 510.7 | 521.2 |
| 52.5° | 419.9 | 429.6 | 455.6 | 480.7 | 492.0 |
| 55° | 387.5 | 397.2 | 424.8 | 452.3 | 463.7 |
| 57.5° | 353.4 | 364.0 | 394.8 | 423.1 | 434.5 |
| 60° | 320.2 | 330.7 | 364.0 | 394.0 | 406.1 |
| 62.5° | 287.8 | 299.1 | 334.0 | 365.6 | 377.8 |
| 65° | 254.5 | 267.5 | 304.0 | 337.2 | 350.2 |
| 67.5° | 222.1 | 236.7 | 274.8 | 309.7 | 323.4 |
| 70° | 189.7 | 206.7 | 247.2 | 282.9 | 296.7 |
| 72.5° | 158.1 | 176.7 | 219.7 | 255.3 | 262.6 |
| 75° | 127.3 | 149.2 | 193.7 | 210.8 | 209.1 |
| 77.5° | 98.1 | 122.4 | 164.6 | 167.8 | 172.7 |
| 80° | 71.3 | 98.1 | 123.2 | 129.7 | 126.5 |
| 82.5° | 47.0 | 73.8 | 88.4 | 85.1 | 84.3 |
| 85° | 26.8 | 46.2 | 49.4 | 45.4 | 45.4 |
| 87.5° | 11.3 | 18.6 | 16.2 | 12.2 | 11.3 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)