

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: P230030

Luminaire Tested: **24CZ-LD5-30-S-UNV-L940-CD1-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P230030
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-L940-CD1-U
Description: CRUZE 2x4 LED TROFFER
WITH SMOOTH LENS
Light Source: (168) 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2709.0 lumens
Efficiency: N/A
Efficacy: 125.3 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

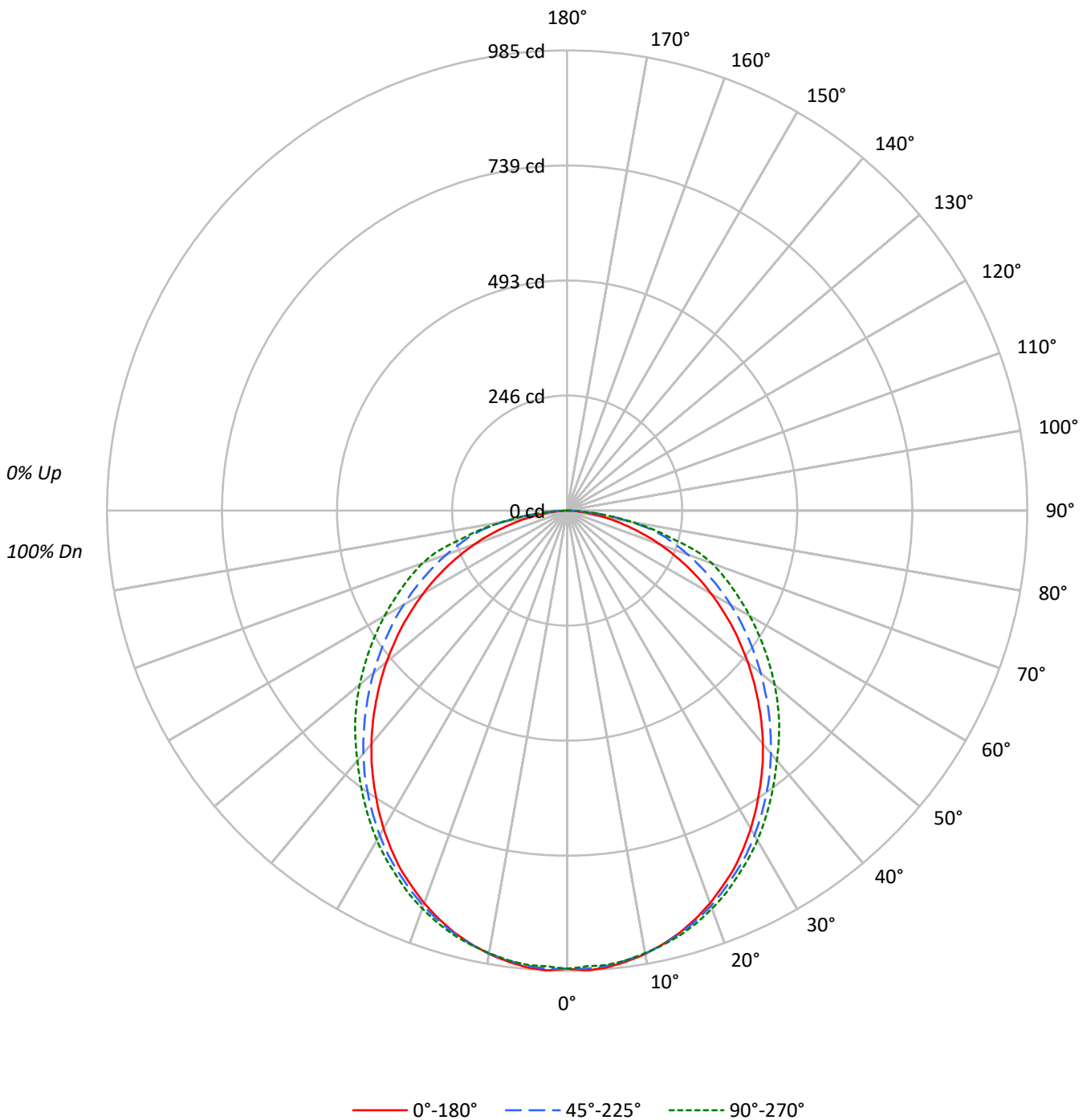
Input Watts (W): 21.62
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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° | 1320 | 1320 | 1320 |
| 5° | 1326 | 1321 | 1318 |
| 10° | 1317 | 1315 | 1314 |
| 15° | 1302 | 1305 | 1310 |
| 20° | 1280 | 1289 | 1298 |
| 25° | 1255 | 1269 | 1282 |
| 30° | 1221 | 1246 | 1266 |
| 35° | 1183 | 1220 | 1245 |
| 40° | 1145 | 1192 | 1227 |
| 45° | 1101 | 1161 | 1221 |
| 50° | 1057 | 1132 | 1213 |
| 55° | 1011 | 1108 | 1209 |
| 60° | 958 | 1089 | 1215 |
| 65° | 901 | 1076 | 1240 |
| 70° | 830 | 1081 | 1298 |
| 75° | 736 | 1120 | 1209 |
| 80° | 614 | 1062 | 1089 |
| 85° | 459 | 849 | 780 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 92.7 | 3.4 |
| 10°-20° | 263.7 | 9.7 |
| 20°-30° | 393.0 | 14.5 |
| 30°-40° | 462.6 | 17.1 |
| 40°-50° | 470.1 | 17.4 |
| 50°-60° | 422.7 | 15.6 |
| 60°-70° | 333.9 | 12.3 |
| 70°-80° | 211.8 | 7.8 |
| 80°-90° | 58.5 | 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° | 749.4 | 27.7 |
| 0°-40° | 1212.0 | 44.7 |
| 0°-60° | 2104.8 | 77.7 |
| 0°-90° | 2709.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2709.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 981 | 981 | 981 | 981 | 981 | |
| 5° | 982 | 974 | 978 | 976 | 976 | 93 |
| 15° | 935 | 930 | 936 | 939 | 940 | 263 |
| 25° | 846 | 845 | 854 | 860 | 864 | 389 |
| 35° | 720 | 725 | 743 | 751 | 758 | 451 |
| 45° | 579 | 587 | 610 | 628 | 642 | 447 |
| 55° | 431 | 442 | 472 | 503 | 516 | 385 |
| 65° | 283 | 298 | 338 | 375 | 389 | 280 |
| 75° | 142 | 166 | 215 | 234 | 233 | 151 |
| 85° | 30 | 51 | 55 | 50 | 50 | 37 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P230030

CATALOG NUMBER: 24CZ-LD5-30-S-UNV-L940-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 980.7 | 980.7 | 980.7 | 980.7 | 980.7 |
| 2.5° | 985.2 | 978.0 | 981.6 | 979.8 | 976.2 |
| 5° | 981.6 | 973.5 | 978.0 | 976.2 | 976.2 |
| 7.5° | 973.5 | 967.2 | 970.8 | 969.9 | 970.8 |
| 10° | 963.6 | 957.3 | 962.7 | 962.7 | 961.8 |
| 12.5° | 950.1 | 944.7 | 951.0 | 951.0 | 951.9 |
| 15° | 934.7 | 930.2 | 936.5 | 939.2 | 940.1 |
| 17.5° | 915.8 | 911.3 | 919.4 | 922.1 | 924.8 |
| 20° | 894.2 | 892.4 | 900.5 | 903.2 | 906.8 |
| 22.5° | 869.8 | 869.8 | 877.9 | 881.6 | 887.0 |
| 25° | 845.5 | 844.6 | 854.5 | 859.9 | 863.5 |
| 27.5° | 816.7 | 817.6 | 830.2 | 835.6 | 840.1 |
| 30° | 786.0 | 787.8 | 802.2 | 808.5 | 814.9 |
| 32.5° | 753.6 | 757.2 | 773.4 | 780.6 | 786.9 |
| 35° | 720.2 | 724.7 | 742.7 | 750.9 | 758.1 |
| 37.5° | 686.9 | 693.2 | 712.1 | 720.2 | 728.3 |
| 40° | 651.7 | 657.1 | 678.7 | 688.7 | 698.6 |
| 42.5° | 615.6 | 622.9 | 644.5 | 658.9 | 670.6 |
| 45° | 578.7 | 586.8 | 610.2 | 628.3 | 641.8 |
| 47.5° | 541.7 | 552.5 | 575.1 | 599.4 | 611.1 |
| 50° | 504.8 | 515.6 | 540.8 | 567.9 | 579.6 |
| 52.5° | 466.9 | 477.7 | 506.6 | 534.5 | 547.1 |
| 55° | 430.9 | 441.7 | 472.3 | 503.0 | 515.6 |
| 57.5° | 393.0 | 404.7 | 439.0 | 470.5 | 483.1 |
| 60° | 356.0 | 367.8 | 404.7 | 438.1 | 451.6 |
| 62.5° | 320.0 | 332.6 | 371.4 | 406.5 | 420.0 |
| 65° | 283.0 | 297.5 | 338.0 | 375.0 | 389.4 |
| 67.5° | 247.0 | 263.2 | 305.6 | 344.3 | 359.7 |
| 70° | 210.9 | 229.9 | 274.9 | 314.6 | 329.9 |
| 72.5° | 175.8 | 196.5 | 244.3 | 283.9 | 292.0 |
| 75° | 141.5 | 165.9 | 215.4 | 234.4 | 232.6 |
| 77.5° | 109.1 | 136.1 | 183.0 | 186.6 | 192.0 |
| 80° | 79.3 | 109.1 | 137.0 | 144.2 | 140.6 |
| 82.5° | 52.3 | 82.0 | 98.3 | 94.6 | 93.7 |
| 85° | 29.7 | 51.4 | 55.0 | 50.5 | 50.5 |
| 87.5° | 12.6 | 20.7 | 18.0 | 13.5 | 12.6 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)