

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: P276028

Luminaire Tested: **24CZ2-40-UNV-L93050-W2A1-U-3500K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P276028
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-5)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-40-UNV-L93050-W2A1-U-3500K
Description: CRUZE 2.0 2x4 TUNABLE WHITE LED TROFFER
WITH RIBBED LENS
Light Source: (168) 90 CRI LEDS TUNED TO 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3255.0 lumens
Efficiency: N/A
Efficacy: 105.0 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.27 / 1.37
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

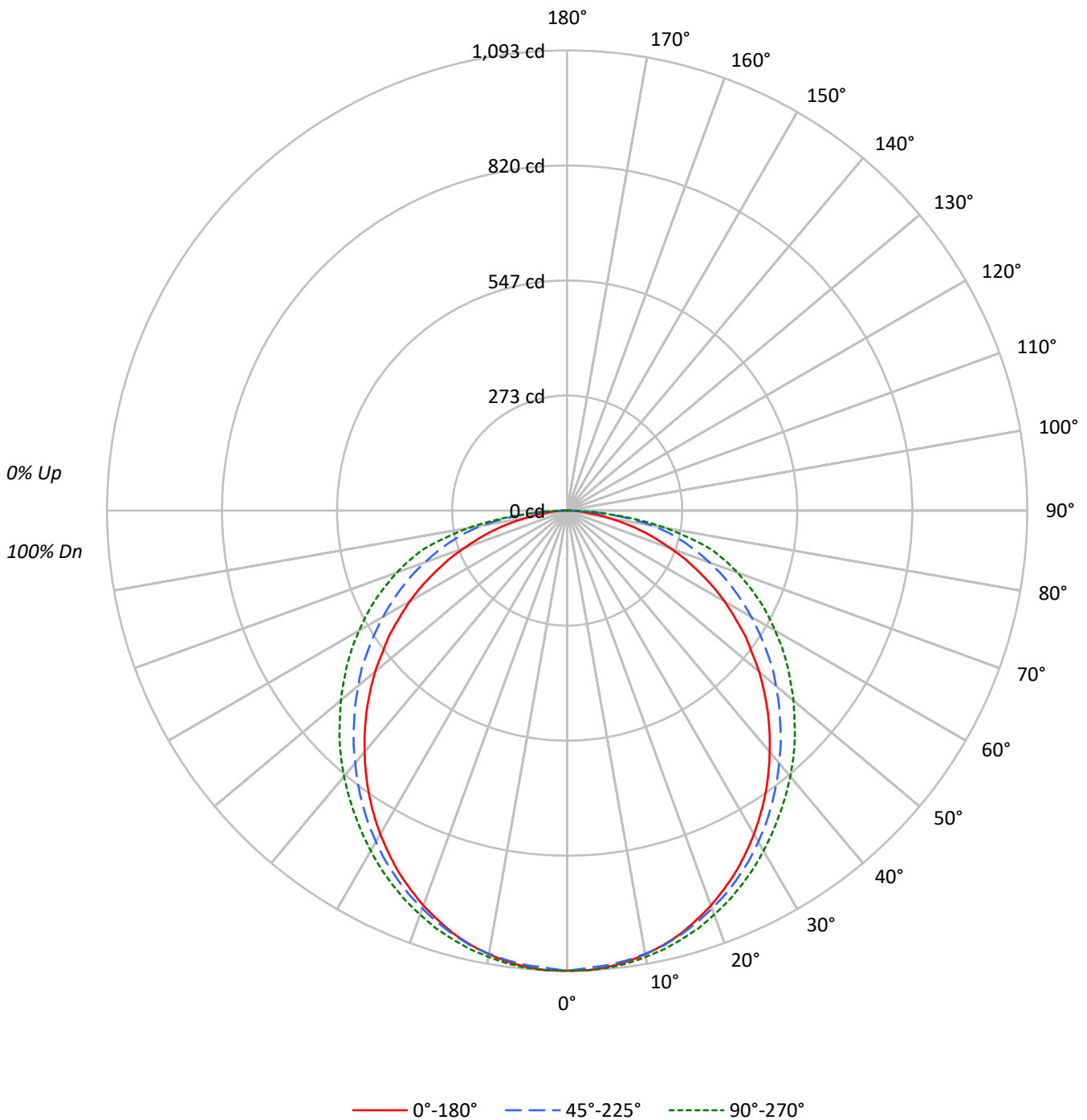
Input Watts (W): 30.988809
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 98 | 94 | 105 | 100 | 96 | 92 | 96 | 93 | 89 | 92 | 89 | 87 | 89 | 86 | 84 | 82 |
| 2 | 98 | 89 | 82 | 76 | 95 | 87 | 80 | 75 | 83 | 78 | 73 | 80 | 75 | 71 | 77 | 73 | 70 | 67 |
| 3 | 89 | 78 | 69 | 62 | 86 | 76 | 68 | 62 | 73 | 66 | 61 | 70 | 64 | 60 | 68 | 63 | 58 | 56 |
| 4 | 81 | 69 | 59 | 52 | 79 | 67 | 59 | 52 | 65 | 57 | 51 | 62 | 56 | 51 | 60 | 55 | 50 | 48 |
| 5 | 74 | 61 | 52 | 45 | 72 | 60 | 51 | 45 | 58 | 50 | 44 | 56 | 49 | 44 | 54 | 48 | 43 | 41 |
| 6 | 69 | 55 | 46 | 39 | 67 | 54 | 45 | 39 | 52 | 44 | 39 | 50 | 44 | 38 | 49 | 43 | 38 | 36 |
| 7 | 64 | 50 | 41 | 35 | 62 | 49 | 40 | 34 | 47 | 40 | 34 | 46 | 39 | 34 | 45 | 38 | 34 | 32 |
| 8 | 59 | 45 | 37 | 31 | 58 | 45 | 36 | 31 | 43 | 36 | 30 | 42 | 35 | 30 | 41 | 35 | 30 | 28 |
| 9 | 55 | 42 | 33 | 28 | 54 | 41 | 33 | 28 | 40 | 33 | 27 | 39 | 32 | 27 | 38 | 32 | 27 | 25 |
| 10 | 52 | 38 | 30 | 25 | 51 | 38 | 30 | 25 | 37 | 30 | 25 | 36 | 29 | 25 | 35 | 29 | 25 | 23 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 1470 | 1470 | 1470 |
| 5° | 1470 | 1464 | 1473 |
| 10° | 1462 | 1461 | 1471 |
| 15° | 1450 | 1453 | 1468 |
| 20° | 1429 | 1440 | 1462 |
| 25° | 1406 | 1427 | 1456 |
| 30° | 1379 | 1411 | 1450 |
| 35° | 1349 | 1394 | 1445 |
| 40° | 1315 | 1376 | 1448 |
| 45° | 1282 | 1362 | 1455 |
| 50° | 1246 | 1355 | 1469 |
| 55° | 1208 | 1353 | 1496 |
| 60° | 1161 | 1359 | 1535 |
| 65° | 1100 | 1380 | 1601 |
| 70° | 1021 | 1415 | 1692 |
| 75° | 932 | 1485 | 1836 |
| 80° | 766 | 1599 | 1835 |
| 85° | 587 | 1476 | 1576 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 103.4 | 3.2 |
| 10°-20° | 295.1 | 9.1 |
| 20°-30° | 444.0 | 13.6 |
| 30°-40° | 532.1 | 16.3 |
| 40°-50° | 554.5 | 17.0 |
| 50°-60° | 515.9 | 15.9 |
| 60°-70° | 424.9 | 13.1 |
| 70°-80° | 289.4 | 8.9 |
| 80°-90° | 95.5 | 2.9 |
| 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° | 842.5 | 25.9 |
| 0°-40° | 1374.6 | 42.2 |
| 0°-60° | 2445.1 | 75.1 |
| 0°-90° | 3255.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3255.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1093 | 1093 | 1093 | 1093 | 1093 | |
| 5° | 1088 | 1088 | 1084 | 1090 | 1091 | 103 |
| 15° | 1041 | 1042 | 1043 | 1053 | 1054 | 293 |
| 25° | 947 | 952 | 961 | 978 | 981 | 436 |
| 35° | 821 | 831 | 848 | 871 | 880 | 513 |
| 45° | 674 | 688 | 716 | 752 | 765 | 519 |
| 55° | 515 | 532 | 577 | 622 | 638 | 459 |
| 65° | 346 | 375 | 433 | 484 | 503 | 343 |
| 75° | 179 | 219 | 286 | 337 | 353 | 189 |
| 85° | 38 | 74 | 96 | 102 | 102 | 47 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1092.9 | 1092.9 | 1092.9 | 1092.9 | 1092.9 |
| 2.5° | 1092.9 | 1092.9 | 1087.4 | 1092.9 | 1092.9 |
| 5° | 1088.5 | 1088.5 | 1084.2 | 1089.6 | 1090.7 |
| 7.5° | 1080.9 | 1082.0 | 1077.6 | 1084.2 | 1085.2 |
| 10° | 1070.0 | 1071.1 | 1069.0 | 1075.5 | 1076.6 |
| 12.5° | 1057.0 | 1058.1 | 1058.1 | 1065.7 | 1066.8 |
| 15° | 1040.7 | 1041.8 | 1042.9 | 1052.7 | 1053.7 |
| 17.5° | 1020.1 | 1023.3 | 1025.5 | 1037.5 | 1039.6 |
| 20° | 998.3 | 1001.6 | 1005.9 | 1019.0 | 1021.2 |
| 22.5° | 973.4 | 977.7 | 985.3 | 999.4 | 1002.7 |
| 25° | 947.3 | 951.6 | 961.4 | 977.7 | 981.0 |
| 27.5° | 918.0 | 924.5 | 936.4 | 953.8 | 958.1 |
| 30° | 887.5 | 894.1 | 908.2 | 926.6 | 933.2 |
| 32.5° | 854.9 | 863.6 | 879.9 | 900.6 | 907.1 |
| 35° | 821.3 | 831.0 | 848.4 | 871.2 | 879.9 |
| 37.5° | 785.4 | 796.3 | 816.9 | 841.9 | 852.8 |
| 40° | 748.5 | 761.5 | 783.2 | 812.6 | 824.5 |
| 42.5° | 711.5 | 723.5 | 750.7 | 782.2 | 795.2 |
| 45° | 673.5 | 687.7 | 715.9 | 751.7 | 764.8 |
| 47.5° | 634.4 | 648.5 | 682.2 | 720.2 | 732.2 |
| 50° | 595.3 | 609.4 | 647.5 | 687.7 | 701.8 |
| 52.5° | 552.9 | 571.4 | 614.9 | 655.1 | 669.2 |
| 55° | 514.9 | 532.3 | 576.8 | 622.5 | 637.7 |
| 57.5° | 471.5 | 492.1 | 541.0 | 588.8 | 605.1 |
| 60° | 431.3 | 453.0 | 505.1 | 554.0 | 570.3 |
| 62.5° | 390.0 | 413.9 | 469.3 | 519.3 | 537.7 |
| 65° | 345.5 | 374.8 | 433.4 | 484.5 | 503.0 |
| 67.5° | 305.3 | 335.7 | 397.6 | 449.7 | 466.0 |
| 70° | 259.6 | 296.6 | 359.6 | 411.7 | 430.2 |
| 72.5° | 220.5 | 257.5 | 323.7 | 374.8 | 393.3 |
| 75° | 179.2 | 219.4 | 285.7 | 336.8 | 353.1 |
| 77.5° | 138.0 | 182.5 | 248.8 | 287.9 | 293.3 |
| 80° | 98.9 | 145.6 | 206.4 | 229.2 | 236.8 |
| 82.5° | 69.5 | 111.9 | 152.1 | 167.3 | 171.6 |
| 85° | 38.0 | 73.9 | 95.6 | 102.1 | 102.1 |
| 87.5° | 16.3 | 31.5 | 38.0 | 39.1 | 40.2 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)