

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: P261111

Luminaire Tested: **24CZ-LD5-40SE-S-UNV-L93050-W2A1-U-5000K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P261111
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-LD5-40SE-S-UNV-L93050-W2A1-U-5000K
Description: CRUZE 2x4 TUNABLE WHITE LED TROFFER
WITH SMOOTH LENS
Light Source: (168) 90 CRI LEDS TUNED AT 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3856.5 lumens
Efficiency: N/A
Efficacy: 121.7 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

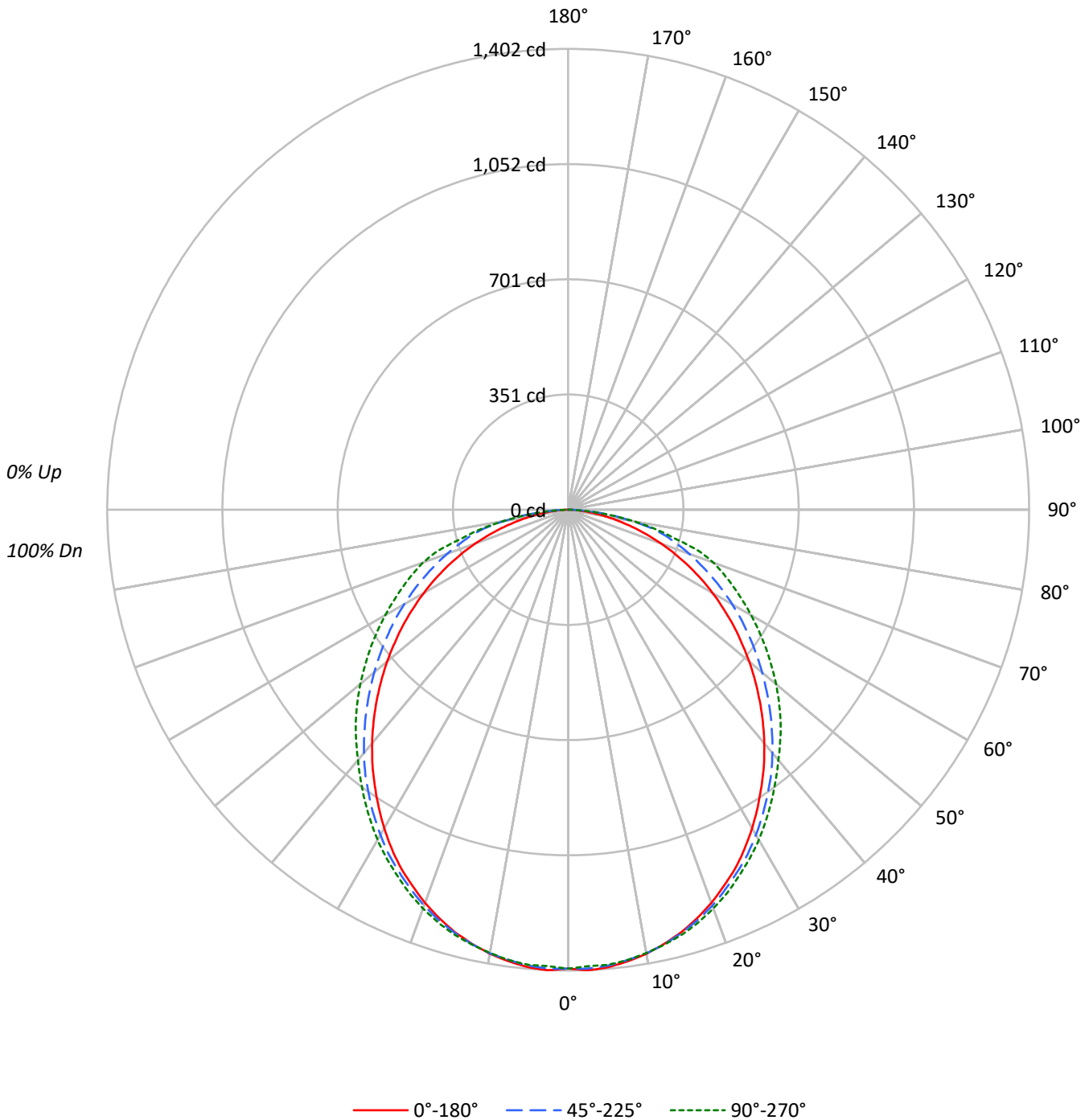
Input Watts (W): 31.688262
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 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 | | | | | 100 | | | |
| 1 | 108 | 104 | 99 | 95 | 106 | 101 | 97 | 94 | 97 | 94 | 91 | 93 | 90 | 88 | 89 | 87 | 85 | 83 | | | | | 83 | | | |
| 2 | 99 | 90 | 83 | 77 | 96 | 88 | 82 | 76 | 85 | 79 | 75 | 81 | 77 | 73 | 78 | 75 | 71 | 69 | | | | | 69 | | | |
| 3 | 90 | 79 | 71 | 64 | 87 | 77 | 70 | 64 | 74 | 68 | 62 | 72 | 66 | 61 | 69 | 64 | 60 | 58 | | | | | 58 | | | |
| 4 | 82 | 70 | 61 | 54 | 80 | 69 | 60 | 54 | 66 | 59 | 53 | 64 | 58 | 52 | 62 | 56 | 52 | 50 | | | | | 50 | | | |
| 5 | 76 | 63 | 53 | 47 | 73 | 61 | 53 | 47 | 59 | 52 | 46 | 57 | 51 | 45 | 55 | 50 | 45 | 43 | | | | | 43 | | | |
| 6 | 70 | 56 | 47 | 41 | 68 | 55 | 47 | 41 | 54 | 46 | 40 | 52 | 45 | 40 | 50 | 44 | 40 | 38 | | | | | 38 | | | |
| 7 | 65 | 51 | 42 | 36 | 63 | 50 | 42 | 36 | 49 | 41 | 36 | 47 | 41 | 35 | 46 | 40 | 35 | 33 | | | | | 33 | | | |
| 8 | 60 | 47 | 38 | 32 | 59 | 46 | 38 | 32 | 45 | 37 | 32 | 43 | 37 | 32 | 42 | 36 | 32 | 30 | | | | | 30 | | | |
| 9 | 56 | 43 | 35 | 29 | 55 | 42 | 34 | 29 | 41 | 34 | 29 | 40 | 33 | 29 | 39 | 33 | 29 | 27 | | | | | 27 | | | |
| 10 | 53 | 40 | 32 | 26 | 52 | 39 | 31 | 26 | 38 | 31 | 26 | 37 | 31 | 26 | 36 | 30 | 26 | 24 | | | | | 24 | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 1878 | 1878 | 1878 |
| 5° | 1887 | 1880 | 1877 |
| 10° | 1874 | 1872 | 1871 |
| 15° | 1854 | 1857 | 1864 |
| 20° | 1823 | 1835 | 1848 |
| 25° | 1787 | 1806 | 1825 |
| 30° | 1738 | 1774 | 1802 |
| 35° | 1684 | 1737 | 1773 |
| 40° | 1629 | 1697 | 1747 |
| 45° | 1568 | 1653 | 1738 |
| 50° | 1504 | 1612 | 1727 |
| 55° | 1439 | 1577 | 1722 |
| 60° | 1364 | 1551 | 1730 |
| 65° | 1283 | 1532 | 1765 |
| 70° | 1181 | 1540 | 1847 |
| 75° | 1048 | 1594 | 1721 |
| 80° | 875 | 1511 | 1551 |
| 85° | 653 | 1209 | 1110 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 132.0 | 3.4 |
| 10°-20° | 375.4 | 9.7 |
| 20°-30° | 559.4 | 14.5 |
| 30°-40° | 658.6 | 17.1 |
| 40°-50° | 669.2 | 17.4 |
| 50°-60° | 601.7 | 15.6 |
| 60°-70° | 475.3 | 12.3 |
| 70°-80° | 301.6 | 7.8 |
| 80°-90° | 83.2 | 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° | 1066.8 | 27.7 |
| 0°-40° | 1725.4 | 44.7 |
| 0°-60° | 2996.3 | 77.7 |
| 0°-90° | 3856.5 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3856.5 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1396 | 1396 | 1396 | 1396 | 1396 | |
| 5° | 1397 | 1386 | 1392 | 1390 | 1390 | 132 |
| 15° | 1331 | 1324 | 1333 | 1337 | 1338 | 375 |
| 25° | 1204 | 1202 | 1216 | 1224 | 1229 | 553 |
| 35° | 1025 | 1032 | 1057 | 1069 | 1079 | 641 |
| 45° | 824 | 835 | 869 | 894 | 914 | 636 |
| 55° | 613 | 629 | 672 | 716 | 734 | 548 |
| 65° | 403 | 424 | 481 | 534 | 554 | 399 |
| 75° | 202 | 236 | 307 | 334 | 331 | 214 |
| 85° | 42 | 73 | 78 | 72 | 72 | 52 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P261111

CATALOG NUMBER: 24CZ-LD5-40SE-S-UNV-L93050-W2A1-U-5000K

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1396.1 | 1396.1 | 1396.1 | 1396.1 | 1396.1 |
| 2.5° | 1402.5 | 1392.3 | 1397.4 | 1394.8 | 1389.7 |
| 5° | 1397.4 | 1385.8 | 1392.3 | 1389.7 | 1389.7 |
| 7.5° | 1385.8 | 1376.9 | 1382.0 | 1380.7 | 1382.0 |
| 10° | 1371.7 | 1362.7 | 1370.4 | 1370.4 | 1369.2 |
| 12.5° | 1352.5 | 1344.8 | 1353.8 | 1353.8 | 1355.0 |
| 15° | 1330.7 | 1324.2 | 1333.2 | 1337.1 | 1338.4 |
| 17.5° | 1303.7 | 1297.3 | 1308.8 | 1312.7 | 1316.5 |
| 20° | 1272.9 | 1270.4 | 1281.9 | 1285.8 | 1290.9 |
| 22.5° | 1238.3 | 1238.3 | 1249.8 | 1255.0 | 1262.7 |
| 25° | 1203.6 | 1202.3 | 1216.5 | 1224.2 | 1229.3 |
| 27.5° | 1162.6 | 1163.8 | 1181.8 | 1189.5 | 1195.9 |
| 30° | 1118.9 | 1121.5 | 1142.0 | 1151.0 | 1160.0 |
| 32.5° | 1072.7 | 1077.9 | 1101.0 | 1111.2 | 1120.2 |
| 35° | 1025.3 | 1031.7 | 1057.3 | 1068.9 | 1079.2 |
| 37.5° | 977.8 | 986.8 | 1013.7 | 1025.3 | 1036.8 |
| 40° | 927.7 | 935.4 | 966.2 | 980.4 | 994.5 |
| 42.5° | 876.4 | 886.7 | 917.5 | 938.0 | 954.7 |
| 45° | 823.8 | 835.4 | 868.7 | 894.4 | 913.6 |
| 47.5° | 771.2 | 786.6 | 818.7 | 853.3 | 870.0 |
| 50° | 718.6 | 734.0 | 769.9 | 808.4 | 825.1 |
| 52.5° | 664.7 | 680.1 | 721.2 | 760.9 | 778.9 |
| 55° | 613.4 | 628.8 | 672.4 | 716.0 | 734.0 |
| 57.5° | 559.5 | 576.2 | 624.9 | 669.8 | 687.8 |
| 60° | 506.9 | 523.5 | 576.2 | 623.6 | 642.9 |
| 62.5° | 455.5 | 473.5 | 528.7 | 578.7 | 598.0 |
| 65° | 402.9 | 423.5 | 481.2 | 533.8 | 554.3 |
| 67.5° | 351.6 | 374.7 | 435.0 | 490.2 | 512.0 |
| 70° | 300.3 | 327.2 | 391.4 | 447.8 | 469.6 |
| 72.5° | 250.2 | 279.7 | 347.7 | 404.2 | 415.8 |
| 75° | 201.5 | 236.1 | 306.7 | 333.6 | 331.1 |
| 77.5° | 155.3 | 193.8 | 260.5 | 265.6 | 273.3 |
| 80° | 112.9 | 155.3 | 195.0 | 205.3 | 200.2 |
| 82.5° | 74.4 | 116.8 | 139.9 | 134.7 | 133.5 |
| 85° | 42.3 | 73.1 | 78.3 | 71.9 | 71.9 |
| 87.5° | 18.0 | 29.5 | 25.7 | 19.2 | 18.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)