

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: P260616

Luminaire Tested: **24CZ-LD5-40SE-UNV-L83050-W2A1-U-5000K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P260616
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-L83050-W2A1-U-5000K
Description: CRUZE 2x4 TUNABLE WHITE LED TROFFER
WITH RIBBED LENS
Light Source: (168) 80 CRI LEDS TUNED AT 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4291.0 lumens
Efficiency: N/A
Efficacy: 134.5 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

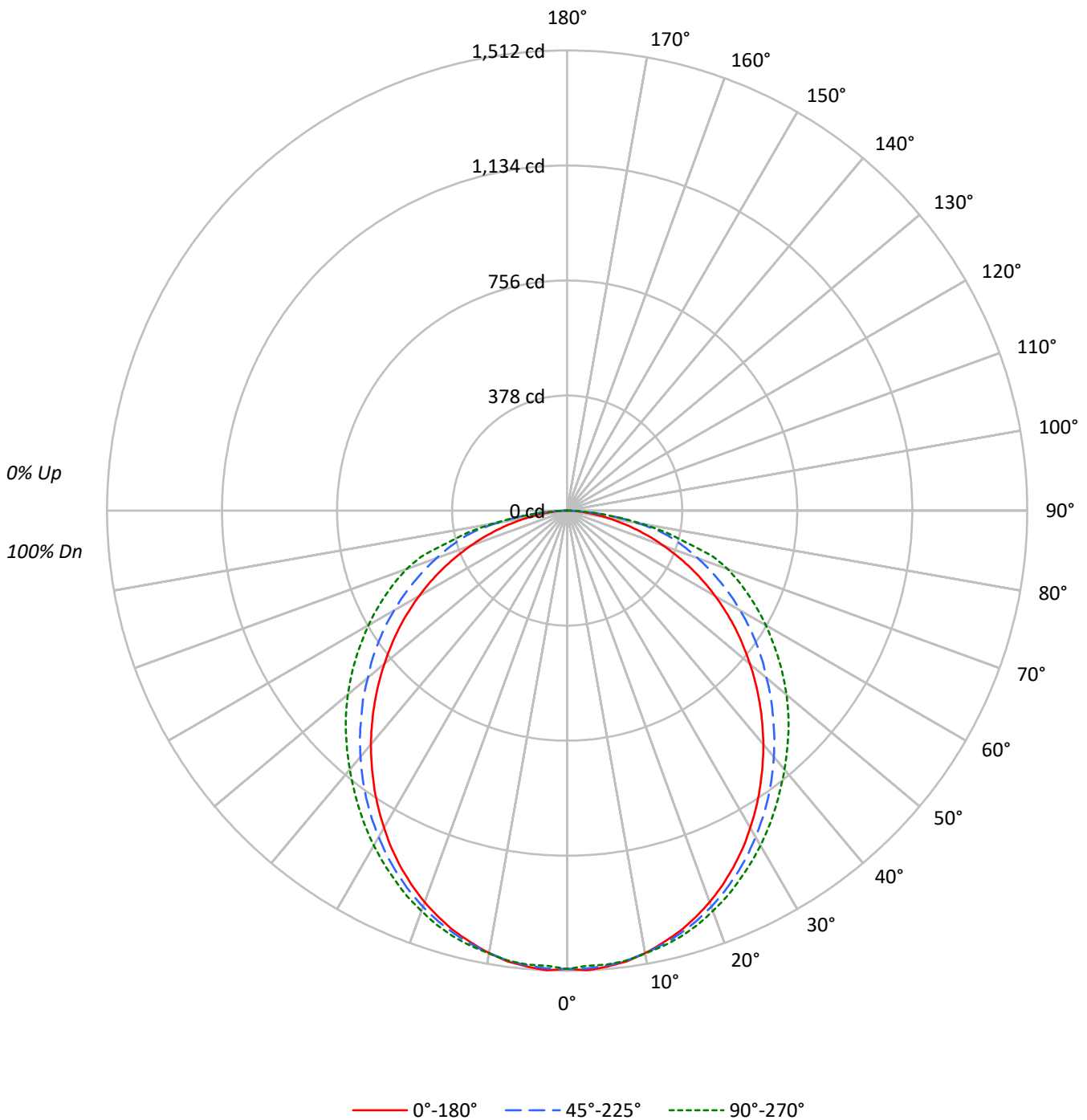
Input Watts (W): 31.901139
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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° | 2026 | 2026 | 2026 |
| 5° | 2032 | 2026 | 2022 |
| 10° | 2017 | 2017 | 2019 |
| 15° | 1993 | 2003 | 2018 |
| 20° | 1961 | 1984 | 2005 |
| 25° | 1919 | 1957 | 1989 |
| 30° | 1869 | 1924 | 1974 |
| 35° | 1817 | 1892 | 1960 |
| 40° | 1763 | 1855 | 1951 |
| 45° | 1702 | 1820 | 1957 |
| 50° | 1642 | 1790 | 1968 |
| 55° | 1582 | 1778 | 1989 |
| 60° | 1510 | 1767 | 2028 |
| 65° | 1431 | 1768 | 2096 |
| 70° | 1323 | 1797 | 2208 |
| 75° | 1184 | 1879 | 2100 |
| 80° | 990 | 1798 | 1924 |
| 85° | 749 | 1383 | 1315 |



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CATALOG NUMBER: 24CZ-LD5-40SE-UNV-L83050-W2A1-U-5000K

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 142.3 | 3.3 |
| 10°-20° | 405.0 | 9.4 |
| 20°-30° | 605.5 | 14.1 |
| 30°-40° | 718.3 | 16.7 |
| 40°-50° | 739.3 | 17.2 |
| 50°-60° | 678.2 | 15.8 |
| 60°-70° | 548.4 | 12.8 |
| 70°-80° | 355.9 | 8.3 |
| 80°-90° | 98.1 | 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° | 1152.8 | 26.9 |
| 0°-40° | 1871.1 | 43.6 |
| 0°-60° | 3288.6 | 76.6 |
| 0°-90° | 4291.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 4291.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1506 | 1506 | 1506 | 1506 | 1506 | |
| 5° | 1504 | 1494 | 1500 | 1499 | 1497 | 143 |
| 15° | 1431 | 1425 | 1438 | 1444 | 1449 | 403 |
| 25° | 1293 | 1294 | 1318 | 1330 | 1340 | 595 |
| 35° | 1106 | 1115 | 1152 | 1177 | 1193 | 692 |
| 45° | 895 | 909 | 956 | 1002 | 1028 | 690 |
| 55° | 674 | 695 | 758 | 820 | 848 | 602 |
| 65° | 450 | 476 | 555 | 629 | 658 | 444 |
| 75° | 228 | 270 | 361 | 404 | 404 | 242 |
| 85° | 48 | 82 | 90 | 87 | 85 | 59 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1505.9 | 1505.9 | 1505.9 | 1505.9 | 1505.9 |
| 2.5° | 1511.8 | 1500.0 | 1505.9 | 1504.4 | 1497.1 |
| 5° | 1504.4 | 1494.2 | 1500.0 | 1498.6 | 1497.1 |
| 7.5° | 1494.2 | 1483.9 | 1491.2 | 1489.8 | 1491.2 |
| 10° | 1476.5 | 1467.7 | 1476.5 | 1478.0 | 1478.0 |
| 12.5° | 1454.5 | 1447.2 | 1458.9 | 1461.8 | 1464.8 |
| 15° | 1431.0 | 1425.1 | 1438.3 | 1444.2 | 1448.6 |
| 17.5° | 1401.6 | 1397.2 | 1413.4 | 1420.7 | 1426.6 |
| 20° | 1369.3 | 1367.8 | 1385.4 | 1392.8 | 1400.1 |
| 22.5° | 1332.6 | 1332.6 | 1353.1 | 1361.9 | 1372.2 |
| 25° | 1292.9 | 1294.4 | 1317.9 | 1329.6 | 1339.9 |
| 27.5° | 1250.3 | 1251.7 | 1279.7 | 1294.4 | 1306.1 |
| 30° | 1203.3 | 1209.1 | 1238.5 | 1257.6 | 1270.8 |
| 32.5° | 1156.3 | 1163.6 | 1195.9 | 1218.0 | 1232.6 |
| 35° | 1106.3 | 1115.1 | 1151.8 | 1176.8 | 1193.0 |
| 37.5° | 1054.9 | 1065.2 | 1104.8 | 1132.7 | 1151.8 |
| 40° | 1003.5 | 1015.2 | 1056.3 | 1088.7 | 1110.7 |
| 42.5° | 949.1 | 962.3 | 1007.9 | 1046.1 | 1069.6 |
| 45° | 894.7 | 909.4 | 956.4 | 1002.0 | 1028.4 |
| 47.5° | 840.4 | 858.0 | 908.0 | 957.9 | 985.8 |
| 50° | 784.5 | 802.2 | 855.1 | 912.4 | 940.3 |
| 52.5° | 728.7 | 749.3 | 808.1 | 866.8 | 894.7 |
| 55° | 674.4 | 694.9 | 758.1 | 819.8 | 847.7 |
| 57.5° | 618.5 | 639.1 | 708.1 | 772.8 | 800.7 |
| 60° | 561.2 | 584.7 | 656.7 | 722.8 | 753.7 |
| 62.5° | 505.4 | 530.4 | 606.8 | 677.3 | 706.7 |
| 65° | 449.6 | 476.0 | 555.4 | 628.8 | 658.2 |
| 67.5° | 392.3 | 423.1 | 505.4 | 580.3 | 611.2 |
| 70° | 336.4 | 370.2 | 456.9 | 531.8 | 561.2 |
| 72.5° | 282.1 | 318.8 | 408.4 | 484.8 | 502.5 |
| 75° | 227.7 | 270.3 | 361.4 | 404.0 | 404.0 |
| 77.5° | 176.3 | 223.3 | 308.5 | 324.7 | 333.5 |
| 80° | 127.8 | 179.2 | 232.1 | 251.2 | 248.3 |
| 82.5° | 85.2 | 136.6 | 166.0 | 166.0 | 161.6 |
| 85° | 48.5 | 82.3 | 89.6 | 86.7 | 85.2 |
| 87.5° | 20.6 | 30.9 | 27.9 | 22.0 | 19.1 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)