

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: P261286

Luminaire Tested: **24CZ-LD5-45-S-UNV-L92765-W2A1-U-3500K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P261286
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-LD5-45-S-UNV-L92765-W2A1-U-3500K
Description: CRUZE 2x4 TUNABLE WHITE LED TROFFER WITH SMOOTH LENS
Light Source: (336) 90 CRI LEDS TUNED AT 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3914.0 lumens
Efficiency: N/A
Efficacy: 124.1 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

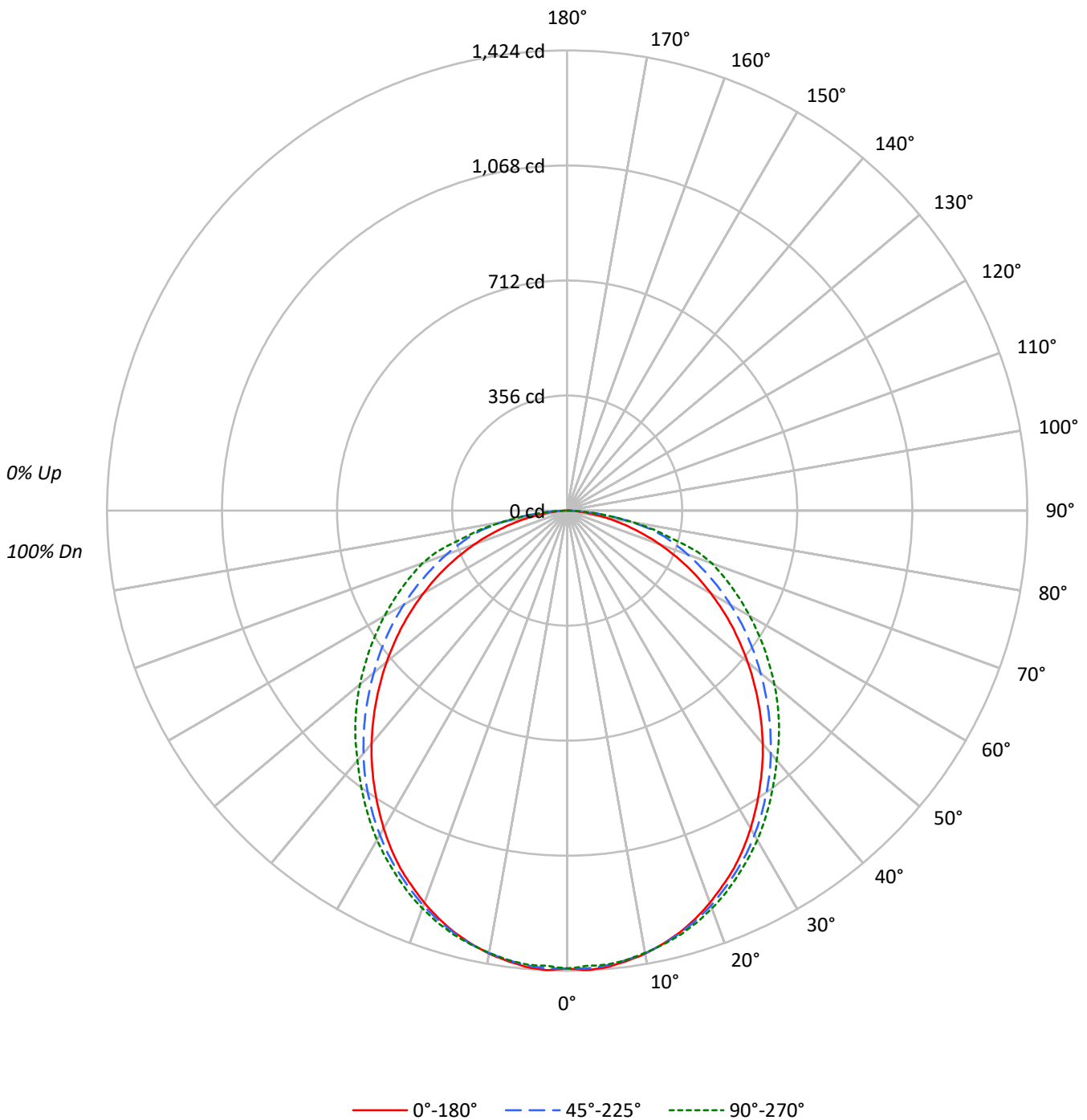
Input Watts (W): 31.527
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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° | 1906 | 1906 | 1906 |
| 5° | 1915 | 1908 | 1905 |
| 10° | 1902 | 1900 | 1899 |
| 15° | 1881 | 1885 | 1892 |
| 20° | 1850 | 1863 | 1876 |
| 25° | 1814 | 1833 | 1852 |
| 30° | 1764 | 1801 | 1829 |
| 35° | 1709 | 1763 | 1799 |
| 40° | 1654 | 1723 | 1773 |
| 45° | 1591 | 1678 | 1764 |
| 50° | 1527 | 1636 | 1753 |
| 55° | 1460 | 1601 | 1747 |
| 60° | 1384 | 1573 | 1756 |
| 65° | 1302 | 1555 | 1791 |
| 70° | 1199 | 1563 | 1875 |
| 75° | 1063 | 1618 | 1747 |
| 80° | 888 | 1534 | 1574 |
| 85° | 664 | 1226 | 1125 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 134.0 | 3.4 |
| 10°-20° | 381.0 | 9.7 |
| 20°-30° | 567.8 | 14.5 |
| 30°-40° | 668.4 | 17.1 |
| 40°-50° | 679.2 | 17.4 |
| 50°-60° | 610.7 | 15.6 |
| 60°-70° | 482.4 | 12.3 |
| 70°-80° | 306.1 | 7.8 |
| 80°-90° | 84.5 | 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° | 1082.8 | 27.7 |
| 0°-40° | 1751.1 | 44.7 |
| 0°-60° | 3041.0 | 77.7 |
| 0°-90° | 3914.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3914.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1417 | 1417 | 1417 | 1417 | 1417 | |
| 5° | 1418 | 1406 | 1413 | 1410 | 1410 | 134 |
| 15° | 1350 | 1344 | 1353 | 1357 | 1358 | 380 |
| 25° | 1222 | 1220 | 1235 | 1242 | 1248 | 562 |
| 35° | 1041 | 1047 | 1073 | 1085 | 1095 | 651 |
| 45° | 836 | 848 | 882 | 908 | 927 | 645 |
| 55° | 622 | 638 | 682 | 727 | 745 | 556 |
| 65° | 409 | 430 | 488 | 542 | 563 | 405 |
| 75° | 204 | 240 | 311 | 339 | 336 | 218 |
| 85° | 43 | 74 | 79 | 73 | 73 | 53 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1416.9 | 1416.9 | 1416.9 | 1416.9 | 1416.9 |
| 2.5° | 1423.5 | 1413.0 | 1418.2 | 1415.6 | 1410.4 |
| 5° | 1418.2 | 1406.5 | 1413.0 | 1410.4 | 1410.4 |
| 7.5° | 1406.5 | 1397.4 | 1402.6 | 1401.3 | 1402.6 |
| 10° | 1392.2 | 1383.1 | 1390.9 | 1390.9 | 1389.6 |
| 12.5° | 1372.7 | 1364.8 | 1374.0 | 1374.0 | 1375.3 |
| 15° | 1350.5 | 1344.0 | 1353.1 | 1357.0 | 1358.3 |
| 17.5° | 1323.2 | 1316.7 | 1328.4 | 1332.3 | 1336.2 |
| 20° | 1291.9 | 1289.3 | 1301.0 | 1304.9 | 1310.1 |
| 22.5° | 1256.8 | 1256.8 | 1268.5 | 1273.7 | 1281.5 |
| 25° | 1221.6 | 1220.3 | 1234.6 | 1242.4 | 1247.6 |
| 27.5° | 1179.9 | 1181.2 | 1199.5 | 1207.3 | 1213.8 |
| 30° | 1135.6 | 1138.2 | 1159.1 | 1168.2 | 1177.3 |
| 32.5° | 1088.8 | 1094.0 | 1117.4 | 1127.8 | 1136.9 |
| 35° | 1040.6 | 1047.1 | 1073.1 | 1084.8 | 1095.3 |
| 37.5° | 992.4 | 1001.5 | 1028.8 | 1040.6 | 1052.3 |
| 40° | 941.6 | 949.4 | 980.7 | 995.0 | 1009.3 |
| 42.5° | 889.5 | 899.9 | 931.2 | 952.0 | 968.9 |
| 45° | 836.1 | 847.8 | 881.7 | 907.7 | 927.3 |
| 47.5° | 782.7 | 798.3 | 830.9 | 866.1 | 883.0 |
| 50° | 729.3 | 744.9 | 781.4 | 820.5 | 837.4 |
| 52.5° | 674.6 | 690.2 | 731.9 | 772.3 | 790.5 |
| 55° | 622.5 | 638.1 | 682.4 | 726.7 | 744.9 |
| 57.5° | 567.8 | 584.7 | 634.2 | 679.8 | 698.1 |
| 60° | 514.4 | 531.4 | 584.7 | 632.9 | 652.5 |
| 62.5° | 462.3 | 480.6 | 536.6 | 587.4 | 606.9 |
| 65° | 408.9 | 429.8 | 488.4 | 541.8 | 562.6 |
| 67.5° | 356.8 | 380.3 | 441.5 | 497.5 | 519.6 |
| 70° | 304.7 | 332.1 | 397.2 | 454.5 | 476.7 |
| 72.5° | 254.0 | 283.9 | 352.9 | 410.2 | 422.0 |
| 75° | 204.5 | 239.6 | 311.3 | 338.6 | 336.0 |
| 77.5° | 157.6 | 196.7 | 264.4 | 269.6 | 277.4 |
| 80° | 114.6 | 157.6 | 198.0 | 208.4 | 203.2 |
| 82.5° | 75.5 | 118.5 | 142.0 | 136.7 | 135.4 |
| 85° | 43.0 | 74.2 | 79.4 | 72.9 | 72.9 |
| 87.5° | 18.2 | 30.0 | 26.0 | 19.5 | 18.2 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)