

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: P261077

Luminaire Tested: **24CZ-LD5-60-S-UNV-L93050-W2A1-U-3000K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P261077
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-LD5-60-S-UNV-L93050-W2A1-U-3000K
Description: CRUZE 2x4 TUNABLE WHITE LED TROFFER WITH SMOOTH LENS
Light Source: (336) 90 CRI LEDS TUNED AT 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4786.7 lumens
Efficiency: N/A
Efficacy: 105.7 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

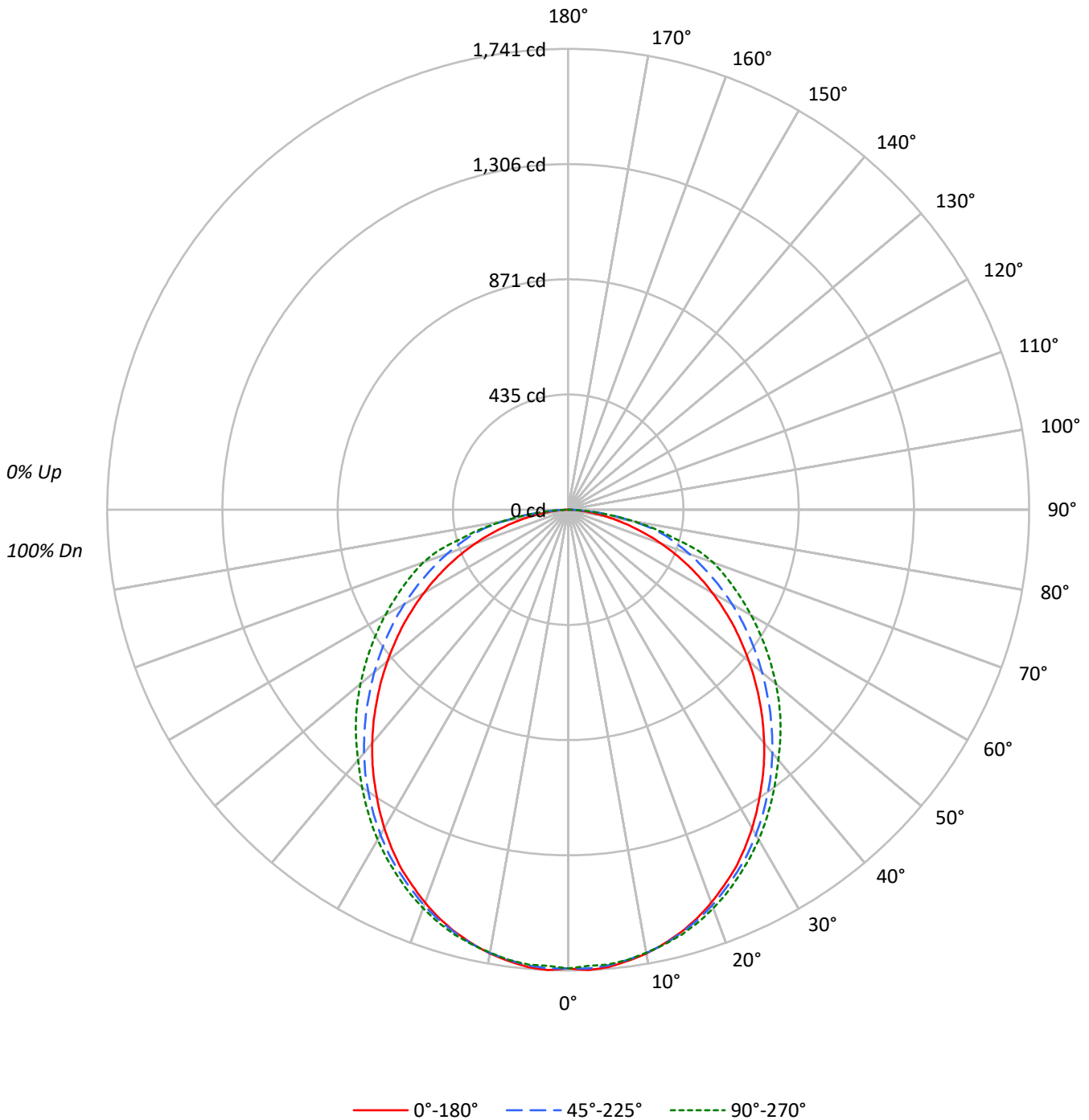
Input Watts (W): 45.286164
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P261077

CATALOG NUMBER: 24CZ-LD5-60-S-UNV-L93050-W2A1-U-3000K

Luminous Intensity Polar Plot





TEST NUMBER: P261077

CATALOG NUMBER: 24CZ-LD5-60-S-UNV-L93050-W2A1-U-3000K

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° | 2332 | 2332 | 2332 |
| 5° | 2343 | 2334 | 2330 |
| 10° | 2326 | 2324 | 2322 |
| 15° | 2301 | 2305 | 2314 |
| 20° | 2262 | 2278 | 2294 |
| 25° | 2218 | 2242 | 2265 |
| 30° | 2158 | 2202 | 2237 |
| 35° | 2090 | 2156 | 2200 |
| 40° | 2023 | 2106 | 2168 |
| 45° | 1946 | 2052 | 2158 |
| 50° | 1867 | 2000 | 2144 |
| 55° | 1786 | 1958 | 2137 |
| 60° | 1693 | 1924 | 2147 |
| 65° | 1592 | 1902 | 2191 |
| 70° | 1466 | 1911 | 2293 |
| 75° | 1300 | 1979 | 2136 |
| 80° | 1086 | 1876 | 1925 |
| 85° | 812 | 1501 | 1377 |



TEST NUMBER: P261077

CATALOG NUMBER: 24CZ-LD5-60-S-UNV-L93050-W2A1-U-3000K

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 163.8 | 3.4 |
| 10°-20° | 466.0 | 9.7 |
| 20°-30° | 694.4 | 14.5 |
| 30°-40° | 817.4 | 17.1 |
| 40°-50° | 830.7 | 17.4 |
| 50°-60° | 746.8 | 15.6 |
| 60°-70° | 590.0 | 12.3 |
| 70°-80° | 374.3 | 7.8 |
| 80°-90° | 103.3 | 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° | 1324.2 | 27.7 |
| 0°-40° | 2141.6 | 44.7 |
| 0°-60° | 3719.1 | 77.7 |
| 0°-90° | 4786.7 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 4786.7 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1733 | 1733 | 1733 | 1733 | 1733 | |
| 5° | 1734 | 1720 | 1728 | 1725 | 1725 | 164 |
| 15° | 1652 | 1644 | 1655 | 1660 | 1661 | 465 |
| 25° | 1494 | 1492 | 1510 | 1520 | 1526 | 687 |
| 35° | 1273 | 1281 | 1312 | 1327 | 1340 | 796 |
| 45° | 1022 | 1037 | 1078 | 1110 | 1134 | 789 |
| 55° | 761 | 780 | 835 | 889 | 911 | 680 |
| 65° | 500 | 526 | 597 | 663 | 688 | 495 |
| 75° | 250 | 293 | 381 | 414 | 411 | 266 |
| 85° | 53 | 91 | 97 | 89 | 89 | 65 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P261077

CATALOG NUMBER: 24CZ-LD5-60-S-UNV-L93050-W2A1-U-3000K

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1732.9 | 1732.9 | 1732.9 | 1732.9 | 1732.9 |
| 2.5° | 1740.9 | 1728.1 | 1734.5 | 1731.3 | 1724.9 |
| 5° | 1734.5 | 1720.2 | 1728.1 | 1724.9 | 1724.9 |
| 7.5° | 1720.2 | 1709.0 | 1715.4 | 1713.8 | 1715.4 |
| 10° | 1702.6 | 1691.5 | 1701.0 | 1701.0 | 1699.4 |
| 12.5° | 1678.7 | 1669.2 | 1680.3 | 1680.3 | 1681.9 |
| 15° | 1651.7 | 1643.7 | 1654.8 | 1659.6 | 1661.2 |
| 17.5° | 1618.2 | 1610.3 | 1624.6 | 1629.4 | 1634.1 |
| 20° | 1580.0 | 1576.8 | 1591.1 | 1595.9 | 1602.3 |
| 22.5° | 1537.0 | 1537.0 | 1551.3 | 1557.7 | 1567.2 |
| 25° | 1494.0 | 1492.4 | 1509.9 | 1519.5 | 1525.8 |
| 27.5° | 1443.0 | 1444.6 | 1466.9 | 1476.5 | 1484.4 |
| 30° | 1388.9 | 1392.0 | 1417.5 | 1428.7 | 1439.8 |
| 32.5° | 1331.5 | 1337.9 | 1366.6 | 1379.3 | 1390.5 |
| 35° | 1272.6 | 1280.6 | 1312.4 | 1326.7 | 1339.5 |
| 37.5° | 1213.7 | 1224.8 | 1258.3 | 1272.6 | 1286.9 |
| 40° | 1151.5 | 1161.1 | 1199.3 | 1216.8 | 1234.4 |
| 42.5° | 1087.8 | 1100.6 | 1138.8 | 1164.3 | 1185.0 |
| 45° | 1022.5 | 1036.9 | 1078.3 | 1110.1 | 1134.0 |
| 47.5° | 957.2 | 976.3 | 1016.2 | 1059.2 | 1079.9 |
| 50° | 891.9 | 911.0 | 955.6 | 1003.4 | 1024.1 |
| 52.5° | 825.0 | 844.1 | 895.1 | 944.5 | 966.8 |
| 55° | 761.3 | 780.4 | 834.6 | 888.7 | 911.0 |
| 57.5° | 694.4 | 715.1 | 775.7 | 831.4 | 853.7 |
| 60° | 629.1 | 649.8 | 715.1 | 774.1 | 798.0 |
| 62.5° | 565.4 | 587.7 | 656.2 | 718.3 | 742.2 |
| 65° | 500.1 | 525.6 | 597.3 | 662.6 | 688.1 |
| 67.5° | 436.4 | 465.1 | 539.9 | 608.4 | 635.5 |
| 70° | 372.7 | 406.1 | 485.8 | 555.9 | 582.9 |
| 72.5° | 310.6 | 347.2 | 431.6 | 501.7 | 516.0 |
| 75° | 250.1 | 293.1 | 380.7 | 414.1 | 410.9 |
| 77.5° | 192.7 | 240.5 | 323.3 | 329.7 | 339.3 |
| 80° | 140.2 | 192.7 | 242.1 | 254.8 | 248.5 |
| 82.5° | 92.4 | 144.9 | 173.6 | 167.2 | 165.6 |
| 85° | 52.6 | 90.8 | 97.2 | 89.2 | 89.2 |
| 87.5° | 22.3 | 36.6 | 31.9 | 23.9 | 22.3 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)