

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: P276533

Luminaire Tested: **24CZ2-65HE-S-UNV-L82765-W2A1-U-6500K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P276533
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-65HE-S-UNV-L82765-W2A1-U-6500K
Description: CRUZE 2.0 2x4 TUNABLE WHITE LED TROFFER
WITH SMOOTH LENS
Light Source: (336) 80 CRI LEDS TUNED TO 6500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6791.0 lumens
Efficiency: N/A
Efficacy: 133.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

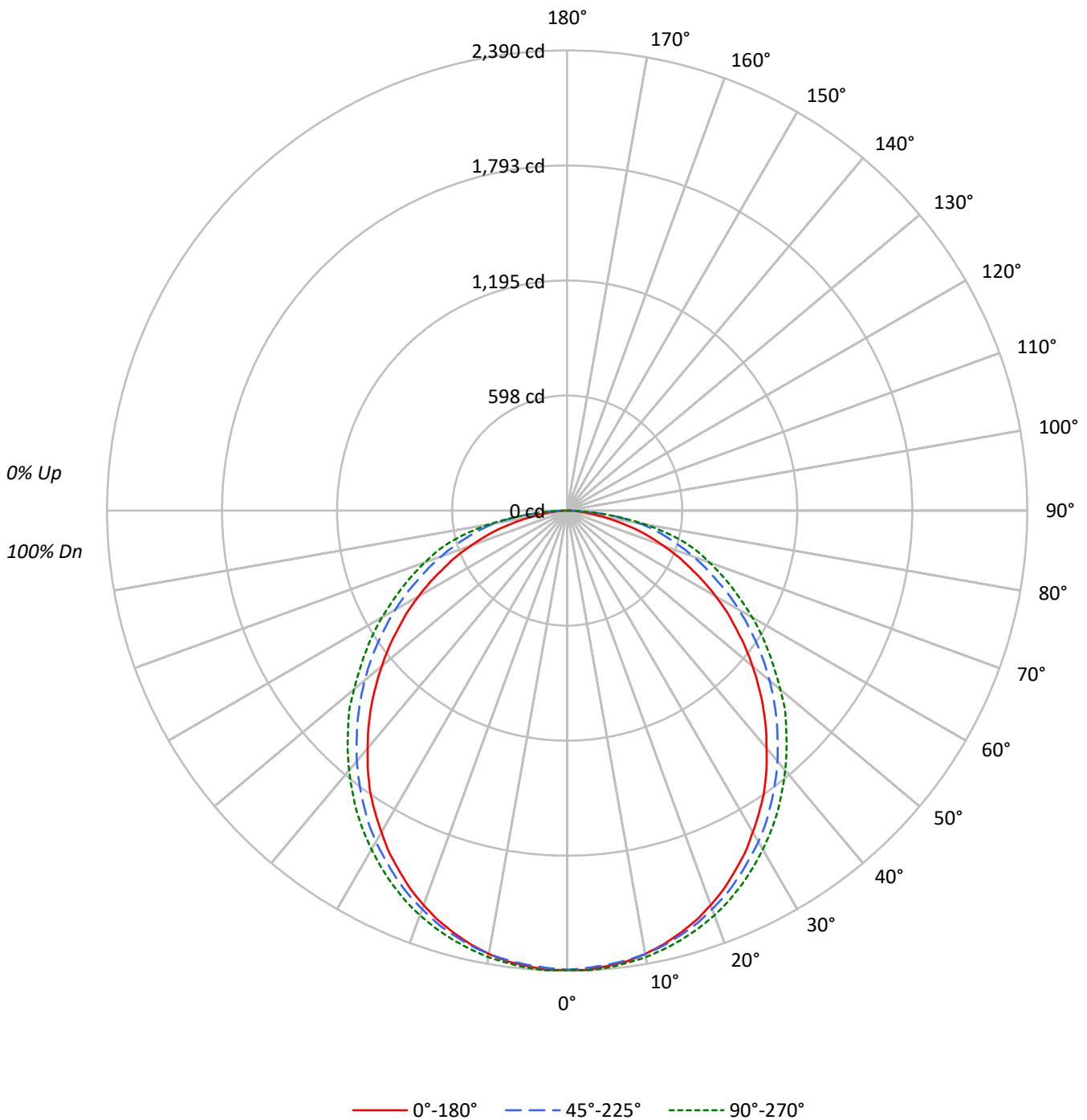
Input Watts (W): 51.057
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 96 | 88 | 81 | 76 | 84 | 79 | 74 | 81 | 76 | 72 | 78 | 74 | 71 | 69 |
| 3 | 89 | 79 | 70 | 64 | 87 | 77 | 69 | 63 | 74 | 67 | 62 | 71 | 66 | 61 | 69 | 64 | 60 | 58 |
| 4 | 82 | 70 | 61 | 54 | 80 | 68 | 60 | 54 | 66 | 59 | 53 | 63 | 57 | 52 | 61 | 56 | 51 | 49 |
| 5 | 75 | 62 | 53 | 46 | 73 | 61 | 53 | 46 | 59 | 51 | 46 | 57 | 50 | 45 | 55 | 49 | 45 | 42 |
| 6 | 70 | 56 | 47 | 40 | 68 | 55 | 47 | 40 | 53 | 46 | 40 | 52 | 45 | 40 | 50 | 44 | 39 | 37 |
| 7 | 64 | 51 | 42 | 36 | 63 | 50 | 42 | 36 | 48 | 41 | 35 | 47 | 40 | 35 | 46 | 39 | 35 | 33 |
| 8 | 60 | 46 | 38 | 32 | 58 | 46 | 37 | 32 | 44 | 37 | 32 | 43 | 36 | 31 | 42 | 36 | 31 | 29 |
| 9 | 56 | 43 | 34 | 29 | 55 | 42 | 34 | 29 | 41 | 34 | 28 | 40 | 33 | 28 | 39 | 33 | 28 | 26 |
| 10 | 53 | 39 | 31 | 26 | 51 | 39 | 31 | 26 | 38 | 31 | 26 | 37 | 30 | 26 | 36 | 30 | 26 | 24 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 3210 | 3210 | 3210 |
| 5° | 3208 | 3199 | 3219 |
| 10° | 3195 | 3195 | 3218 |
| 15° | 3164 | 3179 | 3212 |
| 20° | 3123 | 3153 | 3203 |
| 25° | 3065 | 3122 | 3183 |
| 30° | 2996 | 3087 | 3157 |
| 35° | 2930 | 3036 | 3132 |
| 40° | 2830 | 2986 | 3095 |
| 45° | 2738 | 2927 | 3062 |
| 50° | 2632 | 2872 | 3025 |
| 55° | 2515 | 2818 | 2996 |
| 60° | 2397 | 2775 | 2989 |
| 65° | 2246 | 2727 | 3008 |
| 70° | 2079 | 2741 | 3089 |
| 75° | 1862 | 2792 | 3263 |
| 80° | 1504 | 2958 | 3192 |
| 85° | 1132 | 2598 | 2530 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 225.9 | 3.3 |
| 10°-20° | 645.4 | 9.5 |
| 20°-30° | 970.1 | 14.3 |
| 30°-40° | 1155.6 | 17.0 |
| 40°-50° | 1182.7 | 17.4 |
| 50°-60° | 1064.7 | 15.7 |
| 60°-70° | 836.2 | 12.3 |
| 70°-80° | 542.7 | 8.0 |
| 80°-90° | 167.8 | 2.5 |
| 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° | 1841.3 | 27.1 |
| 0°-40° | 2996.9 | 44.1 |
| 0°-60° | 5244.3 | 77.2 |
| 0°-90° | 6791.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 6791.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 2386 | 2386 | 2386 | 2386 | 2386 | |
| 5° | 2375 | 2379 | 2368 | 2381 | 2384 | 226 |
| 15° | 2271 | 2278 | 2282 | 2302 | 2306 | 640 |
| 25° | 2064 | 2082 | 2103 | 2138 | 2144 | 951 |
| 35° | 1784 | 1806 | 1849 | 1894 | 1907 | 1113 |
| 45° | 1439 | 1473 | 1538 | 1596 | 1609 | 1109 |
| 55° | 1072 | 1120 | 1202 | 1264 | 1277 | 961 |
| 65° | 705 | 759 | 856 | 928 | 945 | 702 |
| 75° | 358 | 427 | 537 | 610 | 628 | 379 |
| 85° | 73 | 136 | 168 | 164 | 164 | 89 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P276533

CATALOG NUMBER: 24CZ2-65HE-S-UNV-L82765-W2A1-U-6500K

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 2385.7 | 2385.7 | 2385.7 | 2385.7 | 2385.7 |
| 2.5° | 2387.9 | 2387.9 | 2377.1 | 2387.9 | 2390.0 |
| 5° | 2374.9 | 2379.2 | 2368.5 | 2381.4 | 2383.6 |
| 7.5° | 2362.0 | 2362.0 | 2355.5 | 2368.5 | 2370.6 |
| 10° | 2338.3 | 2340.4 | 2338.3 | 2353.4 | 2355.5 |
| 12.5° | 2308.1 | 2312.4 | 2314.5 | 2329.6 | 2331.8 |
| 15° | 2271.4 | 2277.9 | 2282.2 | 2301.6 | 2305.9 |
| 17.5° | 2230.4 | 2236.9 | 2247.7 | 2269.2 | 2273.5 |
| 20° | 2180.8 | 2189.4 | 2202.4 | 2230.4 | 2236.9 |
| 22.5° | 2126.9 | 2135.5 | 2157.1 | 2182.9 | 2193.7 |
| 25° | 2064.3 | 2081.6 | 2103.1 | 2137.6 | 2144.1 |
| 27.5° | 2001.8 | 2016.9 | 2044.9 | 2081.6 | 2090.2 |
| 30° | 1928.4 | 1952.1 | 1986.7 | 2023.3 | 2032.0 |
| 32.5° | 1857.2 | 1881.0 | 1921.9 | 1960.8 | 1971.6 |
| 35° | 1783.9 | 1805.5 | 1848.6 | 1893.9 | 1906.8 |
| 37.5° | 1699.8 | 1727.8 | 1775.3 | 1820.6 | 1833.5 |
| 40° | 1611.3 | 1645.8 | 1699.8 | 1747.2 | 1762.3 |
| 42.5° | 1527.2 | 1563.9 | 1617.8 | 1669.6 | 1686.8 |
| 45° | 1438.8 | 1473.3 | 1538.0 | 1596.2 | 1609.2 |
| 47.5° | 1348.2 | 1387.0 | 1456.0 | 1514.3 | 1535.8 |
| 50° | 1257.6 | 1298.6 | 1371.9 | 1432.3 | 1445.2 |
| 52.5° | 1167.0 | 1210.1 | 1287.8 | 1352.5 | 1358.9 |
| 55° | 1072.1 | 1119.5 | 1201.5 | 1264.0 | 1277.0 |
| 57.5° | 985.8 | 1026.8 | 1115.2 | 1179.9 | 1195.0 |
| 60° | 890.9 | 936.2 | 1031.1 | 1091.5 | 1110.9 |
| 62.5° | 800.3 | 847.7 | 947.0 | 1007.3 | 1024.6 |
| 65° | 705.4 | 759.3 | 856.4 | 927.5 | 944.8 |
| 67.5° | 623.4 | 675.2 | 778.7 | 847.7 | 865.0 |
| 70° | 528.5 | 586.7 | 696.7 | 767.9 | 785.2 |
| 72.5° | 446.5 | 506.9 | 616.9 | 685.9 | 711.8 |
| 75° | 358.1 | 427.1 | 537.1 | 610.4 | 627.7 |
| 77.5° | 271.8 | 351.6 | 463.8 | 519.9 | 519.9 |
| 80° | 194.1 | 278.3 | 381.8 | 407.7 | 412.0 |
| 82.5° | 127.3 | 209.2 | 282.6 | 280.4 | 280.4 |
| 85° | 73.3 | 135.9 | 168.3 | 163.9 | 163.9 |
| 87.5° | 28.0 | 56.1 | 60.4 | 60.4 | 58.2 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)