

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: P277476

Luminaire Tested: **22CZ2-39HE-S-UNV-L92765-W2A1-U-5500K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P277476
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-23)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 22CZ2-39HE-S-UNV-L92765-W2A1-U-5500K
Description: CRUZE 2.0 2x2 TUNABLE WHITE LED TROFFER
WITH SMOOTH LENS
Light Source: (168) 90 CRI LEDS TUNED TO 5500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3633.0 lumens
Efficiency: N/A
Efficacy: 117.3 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.26 / 1.34
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

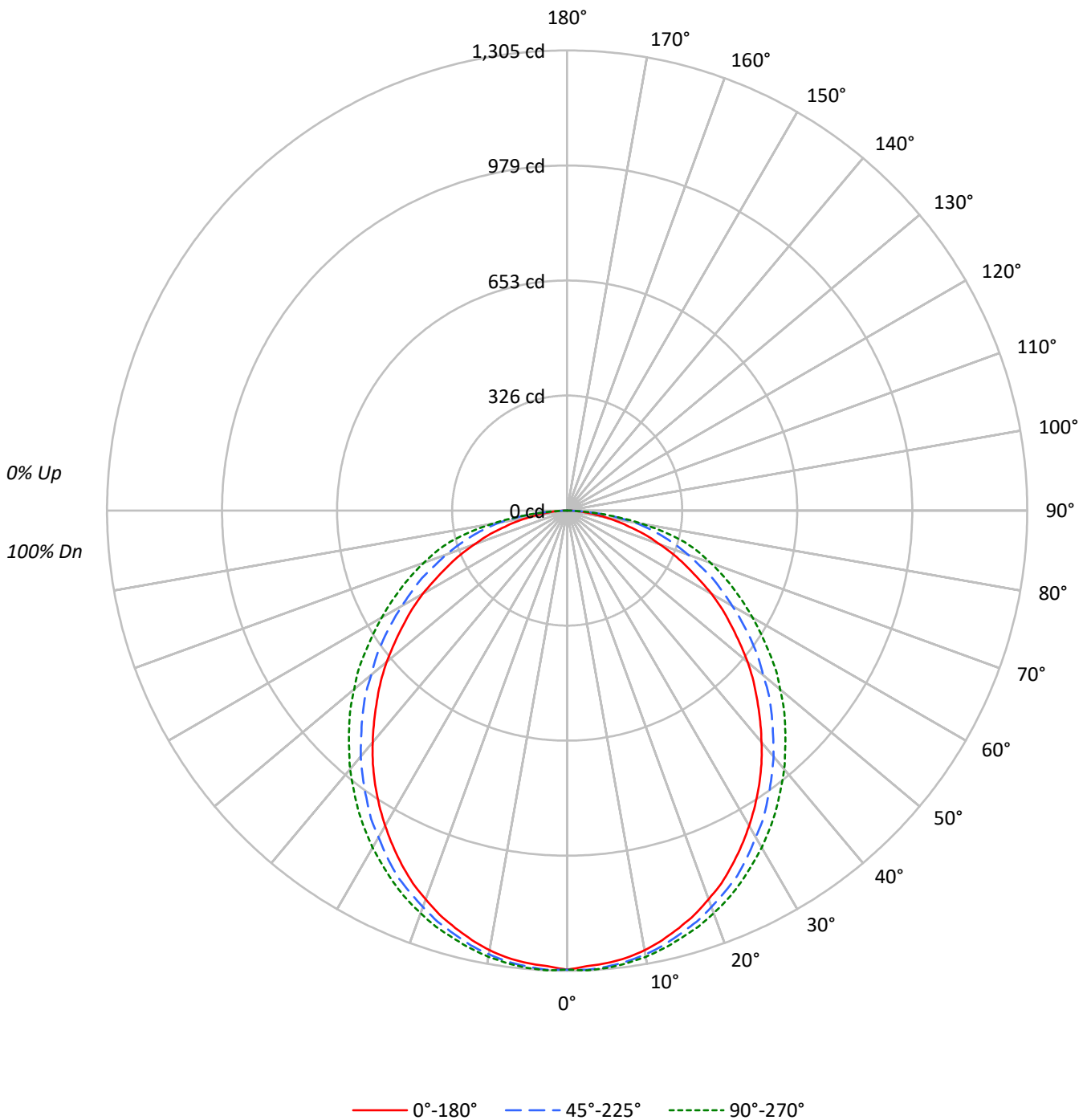
Input Watts (W): 30.969
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 94 | 97 | 94 | 91 | 93 | 90 | 88 | 89 | 87 | 85 | 83 |
| 2 | 98 | 90 | 83 | 77 | 96 | 88 | 82 | 76 | 84 | 79 | 74 | 81 | 77 | 73 | 78 | 74 | 71 | 69 |
| 3 | 90 | 79 | 71 | 64 | 87 | 77 | 70 | 63 | 74 | 68 | 62 | 72 | 66 | 61 | 69 | 64 | 60 | 58 |
| 4 | 82 | 70 | 61 | 54 | 80 | 69 | 60 | 54 | 66 | 59 | 53 | 64 | 57 | 52 | 61 | 56 | 52 | 49 |
| 5 | 75 | 62 | 53 | 47 | 73 | 61 | 53 | 46 | 59 | 52 | 46 | 57 | 51 | 45 | 55 | 50 | 45 | 43 |
| 6 | 70 | 56 | 47 | 41 | 68 | 55 | 47 | 41 | 53 | 46 | 40 | 52 | 45 | 40 | 50 | 44 | 39 | 37 |
| 7 | 65 | 51 | 42 | 36 | 63 | 50 | 42 | 36 | 49 | 41 | 36 | 47 | 40 | 35 | 46 | 40 | 35 | 33 |
| 8 | 60 | 47 | 38 | 32 | 59 | 46 | 38 | 32 | 45 | 37 | 32 | 43 | 37 | 32 | 42 | 36 | 31 | 30 |
| 9 | 56 | 43 | 35 | 29 | 55 | 42 | 34 | 29 | 41 | 34 | 29 | 40 | 33 | 29 | 39 | 33 | 28 | 27 |
| 10 | 53 | 40 | 32 | 26 | 51 | 39 | 31 | 26 | 38 | 31 | 26 | 37 | 31 | 26 | 36 | 30 | 26 | 24 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 3503 | 3503 | 3503 |
| 5° | 3480 | 3507 | 3516 |
| 10° | 3460 | 3492 | 3511 |
| 15° | 3414 | 3461 | 3495 |
| 20° | 3359 | 3427 | 3481 |
| 25° | 3292 | 3392 | 3458 |
| 30° | 3208 | 3324 | 3429 |
| 35° | 3118 | 3263 | 3397 |
| 40° | 3013 | 3198 | 3364 |
| 45° | 2903 | 3122 | 3329 |
| 50° | 2796 | 3037 | 3300 |
| 55° | 2664 | 2982 | 3277 |
| 60° | 2545 | 2910 | 3266 |
| 65° | 2374 | 2893 | 3303 |
| 70° | 2187 | 2867 | 3401 |
| 75° | 1973 | 2908 | 3578 |
| 80° | 1708 | 2994 | 3363 |
| 85° | 1414 | 2513 | 2513 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 123.1 | 3.4 |
| 10°-20° | 350.4 | 9.6 |
| 20°-30° | 524.2 | 14.4 |
| 30°-40° | 620.8 | 17.1 |
| 40°-50° | 632.7 | 17.4 |
| 50°-60° | 567.1 | 15.6 |
| 60°-70° | 444.0 | 12.2 |
| 70°-80° | 286.3 | 7.9 |
| 80°-90° | 84.6 | 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° | 997.7 | 27.5 |
| 0°-40° | 1618.5 | 44.5 |
| 0°-60° | 2818.2 | 77.6 |
| 0°-90° | 3633.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3633.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1302 | 1302 | 1302 | 1302 | 1302 | |
| 5° | 1288 | 1292 | 1298 | 1300 | 1302 | 122 |
| 15° | 1226 | 1232 | 1242 | 1253 | 1254 | 346 |
| 25° | 1109 | 1119 | 1142 | 1158 | 1164 | 510 |
| 35° | 949 | 961 | 993 | 1024 | 1034 | 593 |
| 45° | 763 | 780 | 820 | 863 | 875 | 589 |
| 55° | 568 | 586 | 636 | 680 | 698 | 509 |
| 65° | 373 | 395 | 454 | 498 | 519 | 370 |
| 75° | 190 | 219 | 280 | 327 | 344 | 204 |
| 85° | 46 | 63 | 81 | 81 | 81 | 54 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1301.8 | 1301.8 | 1301.8 | 1301.8 | 1301.8 |
| 2.5° | 1293.3 | 1296.7 | 1303.5 | 1305.2 | 1305.2 |
| 5° | 1288.3 | 1291.6 | 1298.4 | 1300.1 | 1301.8 |
| 7.5° | 1279.8 | 1281.5 | 1290.0 | 1293.3 | 1295.0 |
| 10° | 1266.2 | 1269.6 | 1278.1 | 1283.2 | 1284.9 |
| 12.5° | 1247.6 | 1252.7 | 1262.8 | 1269.6 | 1271.3 |
| 15° | 1225.5 | 1232.3 | 1242.5 | 1252.7 | 1254.4 |
| 17.5° | 1201.8 | 1208.6 | 1222.1 | 1234.0 | 1237.4 |
| 20° | 1173.0 | 1181.5 | 1196.7 | 1210.3 | 1215.4 |
| 22.5° | 1144.2 | 1151.0 | 1169.6 | 1186.6 | 1191.6 |
| 25° | 1108.6 | 1118.7 | 1142.5 | 1157.7 | 1164.5 |
| 27.5° | 1071.3 | 1083.2 | 1106.9 | 1127.2 | 1134.0 |
| 30° | 1032.3 | 1044.2 | 1069.6 | 1095.0 | 1103.5 |
| 32.5° | 991.6 | 1005.2 | 1035.7 | 1061.1 | 1069.6 |
| 35° | 949.2 | 961.1 | 993.3 | 1023.8 | 1034.0 |
| 37.5° | 905.2 | 915.3 | 952.6 | 984.8 | 995.0 |
| 40° | 857.7 | 871.3 | 910.3 | 947.5 | 957.7 |
| 42.5° | 810.2 | 825.5 | 864.5 | 905.2 | 915.3 |
| 45° | 762.8 | 779.7 | 820.4 | 862.8 | 874.7 |
| 47.5° | 717.0 | 730.6 | 776.3 | 817.0 | 834.0 |
| 50° | 667.9 | 681.4 | 725.5 | 771.3 | 788.2 |
| 52.5° | 617.0 | 635.7 | 683.1 | 727.2 | 747.5 |
| 55° | 567.8 | 586.5 | 635.7 | 679.7 | 698.4 |
| 57.5° | 522.1 | 537.3 | 588.2 | 634.0 | 652.6 |
| 60° | 472.9 | 486.5 | 540.7 | 589.9 | 606.8 |
| 62.5° | 420.4 | 440.7 | 496.7 | 542.4 | 562.8 |
| 65° | 372.9 | 395.0 | 454.3 | 498.4 | 518.7 |
| 67.5° | 328.8 | 349.2 | 406.8 | 454.3 | 476.3 |
| 70° | 278.0 | 305.1 | 364.4 | 411.9 | 432.2 |
| 72.5° | 237.3 | 261.0 | 322.1 | 369.5 | 391.6 |
| 75° | 189.8 | 218.7 | 279.7 | 327.1 | 344.1 |
| 77.5° | 150.9 | 179.7 | 237.3 | 274.6 | 283.1 |
| 80° | 110.2 | 139.0 | 193.2 | 211.9 | 217.0 |
| 82.5° | 74.6 | 101.7 | 139.0 | 144.1 | 145.8 |
| 85° | 45.8 | 62.7 | 81.4 | 81.4 | 81.4 |
| 87.5° | 22.0 | 25.4 | 28.8 | 27.1 | 27.1 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)