

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: P277412

Luminaire Tested: **22CZ2-34HE-S-UNV-L82765-W2A1-U-5000K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P277412
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: 22CZ2-34HE-S-UNV-L82765-W2A1-U-5000K
Description: CRUZE 2.0 2x2 TUNABLE WHITE LED TROFFER WITH SMOOTH LENS
Light Source: (168) 80 CRI LEDS TUNED TO 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3478.0 lumens
Efficiency: N/A
Efficacy: 132.6 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

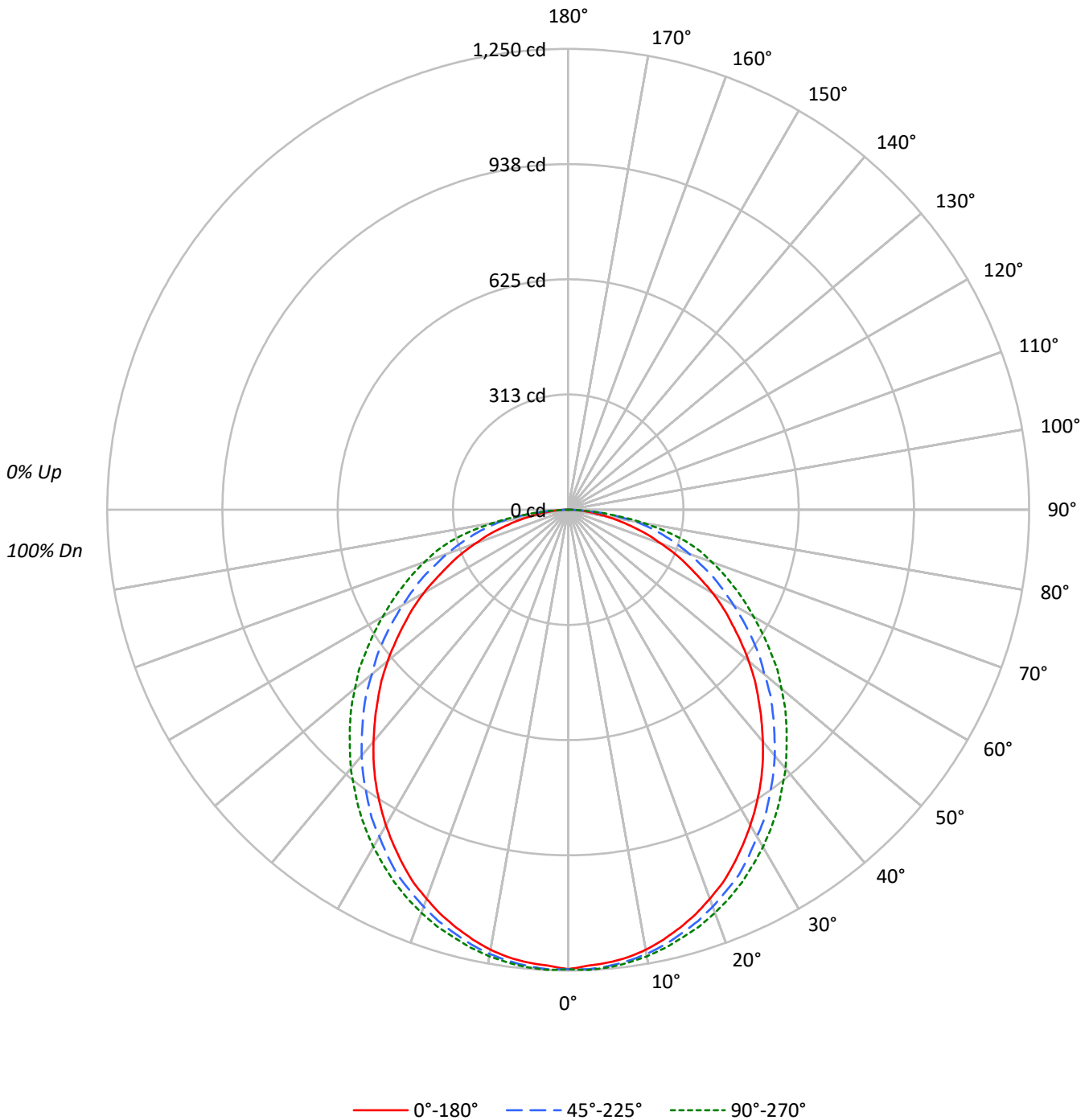
Input Watts (W): 26.226
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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° | 3354 | 3354 | 3354 |
| 5° | 3331 | 3358 | 3367 |
| 10° | 3312 | 3343 | 3361 |
| 15° | 3269 | 3314 | 3345 |
| 20° | 3216 | 3281 | 3332 |
| 25° | 3151 | 3247 | 3310 |
| 30° | 3071 | 3182 | 3283 |
| 35° | 2985 | 3124 | 3252 |
| 40° | 2884 | 3061 | 3221 |
| 45° | 2779 | 2989 | 3186 |
| 50° | 2677 | 2907 | 3159 |
| 55° | 2550 | 2855 | 3137 |
| 60° | 2436 | 2786 | 3126 |
| 65° | 2273 | 2769 | 3162 |
| 70° | 2094 | 2745 | 3256 |
| 75° | 1889 | 2784 | 3425 |
| 80° | 1635 | 2867 | 3219 |
| 85° | 1352 | 2405 | 2405 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 117.9 | 3.4 |
| 10°-20° | 335.4 | 9.6 |
| 20°-30° | 501.8 | 14.4 |
| 30°-40° | 594.3 | 17.1 |
| 40°-50° | 605.7 | 17.4 |
| 50°-60° | 542.9 | 15.6 |
| 60°-70° | 425.0 | 12.2 |
| 70°-80° | 274.1 | 7.9 |
| 80°-90° | 81.0 | 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° | 955.1 | 27.5 |
| 0°-40° | 1549.4 | 44.5 |
| 0°-60° | 2698.0 | 77.6 |
| 0°-90° | 3478.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3478.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1246 | 1246 | 1246 | 1246 | 1246 | |
| 5° | 1233 | 1236 | 1243 | 1245 | 1246 | 117 |
| 15° | 1173 | 1180 | 1190 | 1199 | 1201 | 331 |
| 25° | 1061 | 1071 | 1094 | 1108 | 1115 | 489 |
| 35° | 909 | 920 | 951 | 980 | 990 | 568 |
| 45° | 730 | 746 | 785 | 826 | 837 | 564 |
| 55° | 544 | 562 | 608 | 651 | 669 | 487 |
| 65° | 357 | 378 | 435 | 477 | 497 | 355 |
| 75° | 182 | 209 | 268 | 313 | 329 | 195 |
| 85° | 44 | 60 | 78 | 78 | 78 | 51 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1246.3 | 1246.3 | 1246.3 | 1246.3 | 1246.3 |
| 2.5° | 1238.2 | 1241.4 | 1247.9 | 1249.5 | 1249.5 |
| 5° | 1233.3 | 1236.5 | 1243.0 | 1244.7 | 1246.3 |
| 7.5° | 1225.2 | 1226.8 | 1234.9 | 1238.2 | 1239.8 |
| 10° | 1212.2 | 1215.4 | 1223.6 | 1228.4 | 1230.0 |
| 12.5° | 1194.3 | 1199.2 | 1209.0 | 1215.4 | 1217.1 |
| 15° | 1173.3 | 1179.7 | 1189.5 | 1199.2 | 1200.8 |
| 17.5° | 1150.5 | 1157.0 | 1170.0 | 1181.4 | 1184.6 |
| 20° | 1122.9 | 1131.1 | 1145.7 | 1158.6 | 1163.5 |
| 22.5° | 1095.4 | 1101.9 | 1119.7 | 1135.9 | 1140.8 |
| 25° | 1061.3 | 1071.0 | 1093.7 | 1108.3 | 1114.8 |
| 27.5° | 1025.6 | 1036.9 | 1059.7 | 1079.1 | 1085.6 |
| 30° | 988.3 | 999.6 | 1024.0 | 1048.3 | 1056.4 |
| 32.5° | 949.3 | 962.3 | 991.5 | 1015.8 | 1024.0 |
| 35° | 908.7 | 920.1 | 950.9 | 980.1 | 989.9 |
| 37.5° | 866.6 | 876.3 | 912.0 | 942.8 | 952.6 |
| 40° | 821.1 | 834.1 | 871.4 | 907.1 | 916.9 |
| 42.5° | 775.7 | 790.3 | 827.6 | 866.6 | 876.3 |
| 45° | 730.2 | 746.5 | 785.4 | 826.0 | 837.3 |
| 47.5° | 686.4 | 699.4 | 743.2 | 782.2 | 798.4 |
| 50° | 639.4 | 652.3 | 694.5 | 738.4 | 754.6 |
| 52.5° | 590.7 | 608.5 | 654.0 | 696.2 | 715.6 |
| 55° | 543.6 | 561.5 | 608.5 | 650.7 | 668.6 |
| 57.5° | 499.8 | 514.4 | 563.1 | 606.9 | 624.8 |
| 60° | 452.7 | 465.7 | 517.7 | 564.7 | 580.9 |
| 62.5° | 402.4 | 421.9 | 475.5 | 519.3 | 538.8 |
| 65° | 357.0 | 378.1 | 434.9 | 477.1 | 496.6 |
| 67.5° | 314.8 | 334.3 | 389.5 | 434.9 | 456.0 |
| 70° | 266.1 | 292.1 | 348.9 | 394.3 | 413.8 |
| 72.5° | 227.2 | 249.9 | 308.3 | 353.8 | 374.9 |
| 75° | 181.7 | 209.3 | 267.8 | 313.2 | 329.4 |
| 77.5° | 144.4 | 172.0 | 227.2 | 262.9 | 271.0 |
| 80° | 105.5 | 133.1 | 185.0 | 202.8 | 207.7 |
| 82.5° | 71.4 | 97.4 | 133.1 | 137.9 | 139.6 |
| 85° | 43.8 | 60.0 | 77.9 | 77.9 | 77.9 |
| 87.5° | 21.1 | 24.3 | 27.6 | 26.0 | 26.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)