

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: P277409

Luminaire Tested: **22CZ2-34HE-S-UNV-L82765-W2A1-U-3500K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P277409
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-3500K
Description: CRUZE 2.0 2x2 TUNABLE WHITE LED TROFFER
WITH SMOOTH LENS
Light Source: (168) 80 CRI LEDS TUNED TO 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3299.0 lumens
Efficiency: N/A
Efficacy: 128.1 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

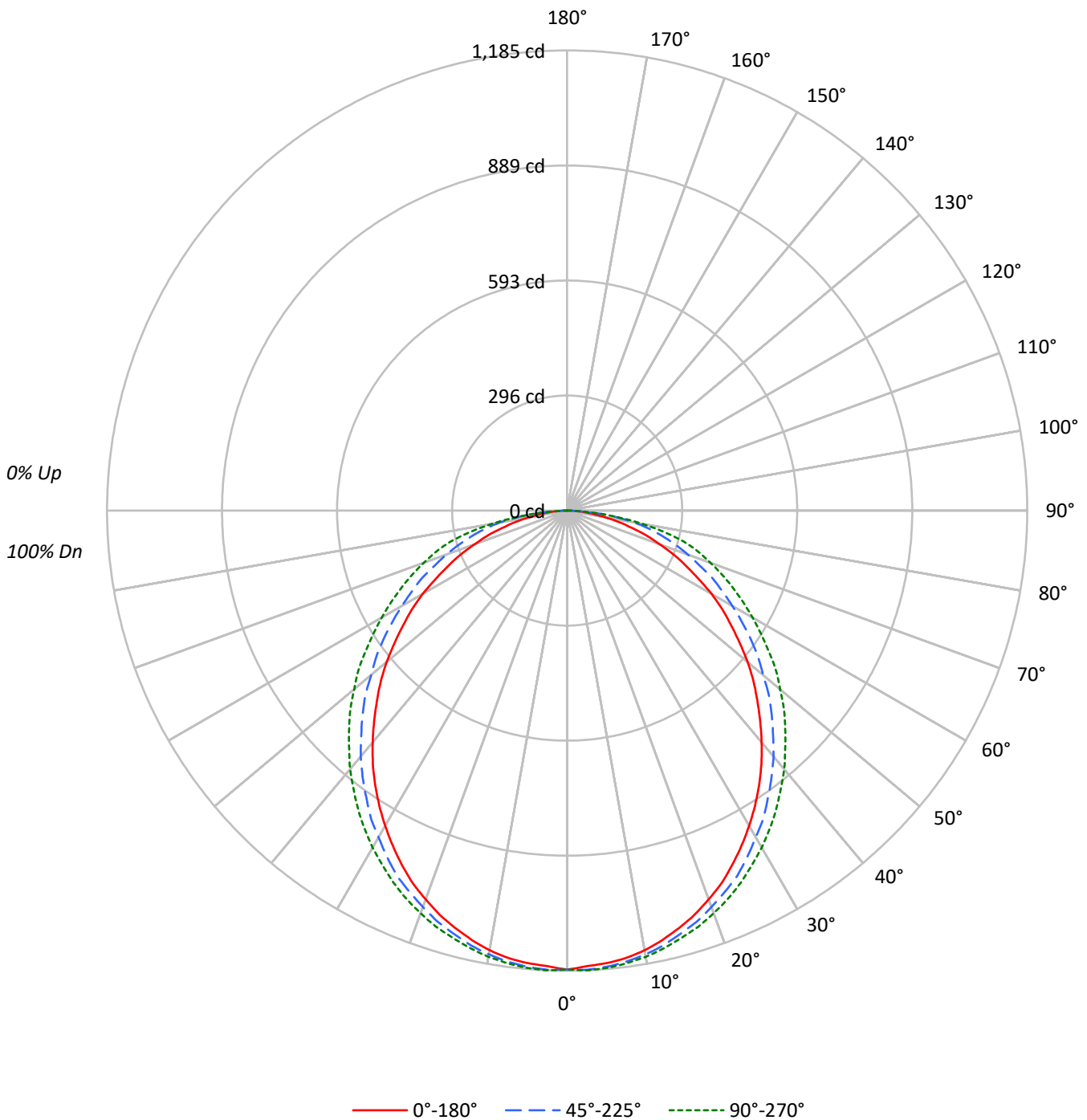
Input Watts (W): 25.761
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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° | 3181 | 3181 | 3181 |
| 5° | 3160 | 3185 | 3193 |
| 10° | 3142 | 3171 | 3188 |
| 15° | 3100 | 3143 | 3173 |
| 20° | 3050 | 3112 | 3160 |
| 25° | 2989 | 3080 | 3140 |
| 30° | 2913 | 3018 | 3113 |
| 35° | 2832 | 2963 | 3084 |
| 40° | 2736 | 2904 | 3055 |
| 45° | 2636 | 2835 | 3022 |
| 50° | 2539 | 2758 | 2996 |
| 55° | 2419 | 2708 | 2975 |
| 60° | 2311 | 2643 | 2965 |
| 65° | 2156 | 2627 | 2999 |
| 70° | 1986 | 2603 | 3088 |
| 75° | 1792 | 2641 | 3249 |
| 80° | 1551 | 2720 | 3053 |
| 85° | 1284 | 2282 | 2282 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 111.8 | 3.4 |
| 10°-20° | 318.1 | 9.6 |
| 20°-30° | 476.0 | 14.4 |
| 30°-40° | 563.7 | 17.1 |
| 40°-50° | 574.5 | 17.4 |
| 50°-60° | 514.9 | 15.6 |
| 60°-70° | 403.1 | 12.2 |
| 70°-80° | 260.0 | 7.9 |
| 80°-90° | 76.8 | 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° | 906.0 | 27.5 |
| 0°-40° | 1469.7 | 44.5 |
| 0°-60° | 2559.1 | 77.6 |
| 0°-90° | 3299.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3299.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1182 | 1182 | 1182 | 1182 | 1182 | |
| 5° | 1170 | 1173 | 1179 | 1181 | 1182 | 111 |
| 15° | 1113 | 1119 | 1128 | 1138 | 1139 | 314 |
| 25° | 1007 | 1016 | 1037 | 1051 | 1058 | 463 |
| 35° | 862 | 873 | 902 | 930 | 939 | 539 |
| 45° | 693 | 708 | 745 | 784 | 794 | 535 |
| 55° | 516 | 533 | 577 | 617 | 634 | 462 |
| 65° | 339 | 359 | 412 | 452 | 471 | 336 |
| 75° | 172 | 199 | 254 | 297 | 312 | 185 |
| 85° | 42 | 57 | 74 | 74 | 74 | 49 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1182.1 | 1182.1 | 1182.1 | 1182.1 | 1182.1 |
| 2.5° | 1174.4 | 1177.5 | 1183.7 | 1185.2 | 1185.2 |
| 5° | 1169.8 | 1172.9 | 1179.1 | 1180.6 | 1182.1 |
| 7.5° | 1162.1 | 1163.7 | 1171.4 | 1174.4 | 1176.0 |
| 10° | 1149.8 | 1152.9 | 1160.6 | 1165.2 | 1166.7 |
| 12.5° | 1132.9 | 1137.5 | 1146.7 | 1152.9 | 1154.4 |
| 15° | 1112.9 | 1119.0 | 1128.3 | 1137.5 | 1139.0 |
| 17.5° | 1091.3 | 1097.5 | 1109.8 | 1120.6 | 1123.6 |
| 20° | 1065.2 | 1072.8 | 1086.7 | 1099.0 | 1103.6 |
| 22.5° | 1039.0 | 1045.1 | 1062.1 | 1077.5 | 1082.1 |
| 25° | 1006.7 | 1015.9 | 1037.4 | 1051.3 | 1057.5 |
| 27.5° | 972.8 | 983.6 | 1005.1 | 1023.6 | 1029.8 |
| 30° | 937.4 | 948.2 | 971.3 | 994.3 | 1002.0 |
| 32.5° | 900.5 | 912.8 | 940.5 | 963.6 | 971.3 |
| 35° | 862.0 | 872.7 | 902.0 | 929.7 | 938.9 |
| 37.5° | 822.0 | 831.2 | 865.1 | 894.3 | 903.5 |
| 40° | 778.9 | 791.2 | 826.6 | 860.4 | 869.7 |
| 42.5° | 735.8 | 749.6 | 785.0 | 822.0 | 831.2 |
| 45° | 692.7 | 708.0 | 745.0 | 783.5 | 794.2 |
| 47.5° | 651.1 | 663.4 | 705.0 | 741.9 | 757.3 |
| 50° | 606.5 | 618.8 | 658.8 | 700.4 | 715.7 |
| 52.5° | 560.3 | 577.2 | 620.3 | 660.3 | 678.8 |
| 55° | 515.6 | 532.6 | 577.2 | 617.2 | 634.2 |
| 57.5° | 474.1 | 487.9 | 534.1 | 575.7 | 592.6 |
| 60° | 429.4 | 441.8 | 491.0 | 535.7 | 551.0 |
| 62.5° | 381.7 | 400.2 | 451.0 | 492.6 | 511.0 |
| 65° | 338.6 | 358.6 | 412.5 | 452.5 | 471.0 |
| 67.5° | 298.6 | 317.1 | 369.4 | 412.5 | 432.5 |
| 70° | 252.4 | 277.1 | 330.9 | 374.0 | 392.5 |
| 72.5° | 215.5 | 237.0 | 292.5 | 335.6 | 355.6 |
| 75° | 172.4 | 198.6 | 254.0 | 297.1 | 312.5 |
| 77.5° | 137.0 | 163.2 | 215.5 | 249.4 | 257.1 |
| 80° | 100.1 | 126.2 | 175.5 | 192.4 | 197.0 |
| 82.5° | 67.7 | 92.4 | 126.2 | 130.8 | 132.4 |
| 85° | 41.6 | 57.0 | 73.9 | 73.9 | 73.9 |
| 87.5° | 20.0 | 23.1 | 26.2 | 24.6 | 24.6 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)