

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: P277307

Luminaire Tested: **22CZ2-39HE-UNV-L92765-W2A1-U-5000K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P277307
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-27)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 22CZ2-39HE-UNV-L92765-W2A1-U-5000K
Description: CRUZE 2.0 2x2 TUNABLE WHITE LED TROFFER
WITH RIBBED LENS
Light Source: (168) 90 CRI LEDS TUNED TO 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3392.0 lumens
Efficiency: N/A
Efficacy: 109.9 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.27 / 1.36
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

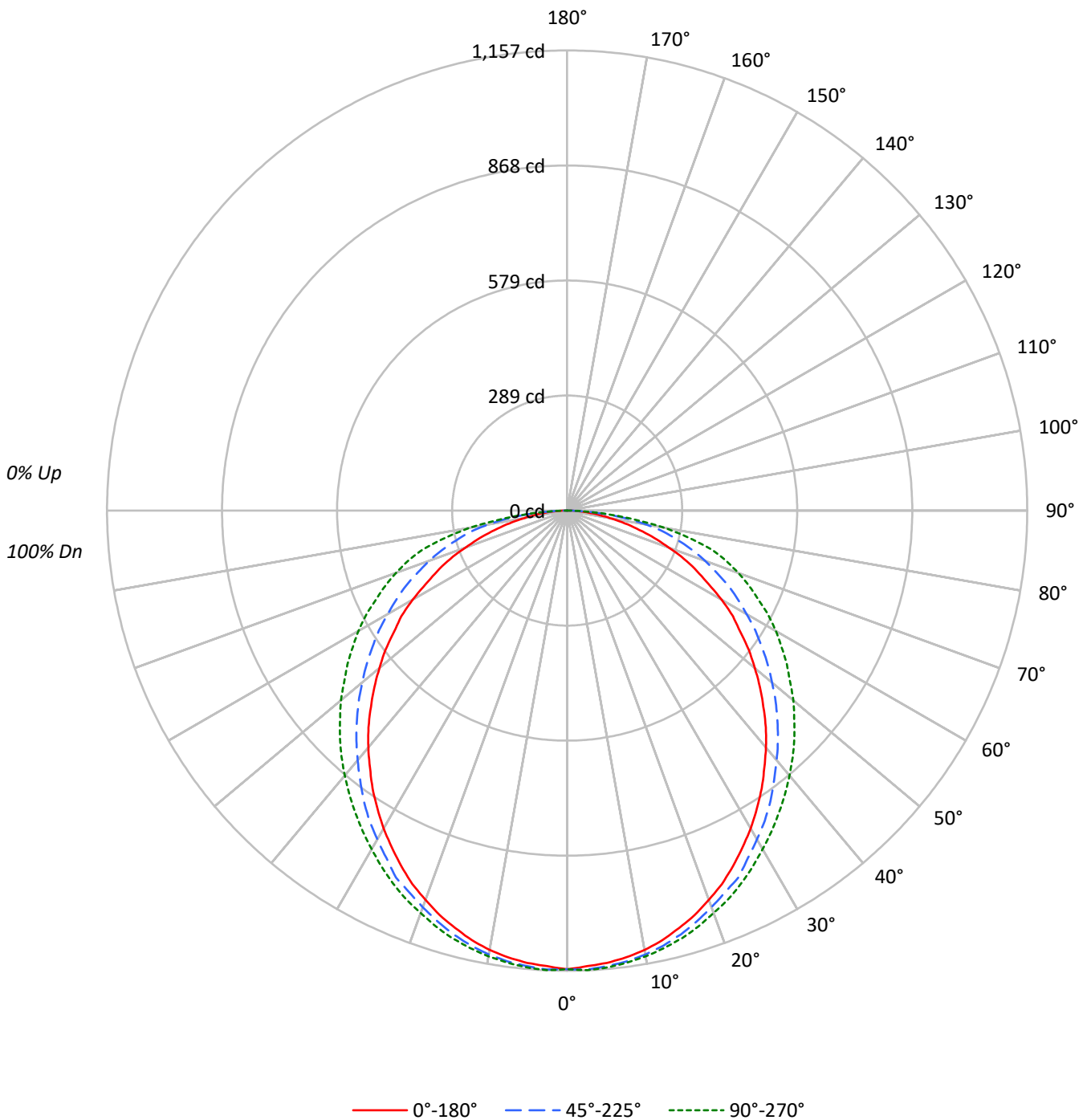
Input Watts (W): 30.876
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P277307

CATALOG NUMBER: 22CZ2-39HE-UNV-L92765-W2A1-U-5000K

Luminous Intensity Polar Plot





TEST NUMBER: P277307

CATALOG NUMBER: 22CZ2-39HE-UNV-L92765-W2A1-U-5000K

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 | 98 | 94 | 105 | 101 | 96 | 93 | 96 | 93 | 90 | 92 | 90 | 87 | 89 | 86 | 84 | 82 |
| 2 | 98 | 89 | 82 | 76 | 95 | 87 | 81 | 75 | 84 | 78 | 73 | 80 | 76 | 71 | 77 | 73 | 70 | 68 |
| 3 | 89 | 78 | 69 | 63 | 86 | 76 | 68 | 62 | 73 | 66 | 61 | 70 | 65 | 60 | 68 | 63 | 59 | 56 |
| 4 | 81 | 69 | 60 | 53 | 79 | 67 | 59 | 52 | 65 | 57 | 52 | 63 | 56 | 51 | 60 | 55 | 50 | 48 |
| 5 | 75 | 61 | 52 | 45 | 72 | 60 | 52 | 45 | 58 | 50 | 44 | 56 | 49 | 44 | 54 | 48 | 44 | 41 |
| 6 | 69 | 55 | 46 | 39 | 67 | 54 | 46 | 39 | 52 | 45 | 39 | 51 | 44 | 39 | 49 | 43 | 38 | 36 |
| 7 | 64 | 50 | 41 | 35 | 62 | 49 | 41 | 35 | 48 | 40 | 34 | 46 | 39 | 34 | 45 | 39 | 34 | 32 |
| 8 | 59 | 46 | 37 | 31 | 58 | 45 | 37 | 31 | 44 | 36 | 31 | 42 | 35 | 30 | 41 | 35 | 30 | 28 |
| 9 | 56 | 42 | 34 | 28 | 54 | 41 | 33 | 28 | 40 | 33 | 28 | 39 | 32 | 27 | 38 | 32 | 27 | 25 |
| 10 | 52 | 39 | 31 | 25 | 51 | 38 | 30 | 25 | 37 | 30 | 25 | 36 | 30 | 25 | 35 | 29 | 25 | 23 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 3104 | 3104 | 3104 |
| 5° | 3084 | 3106 | 3115 |
| 10° | 3065 | 3097 | 3110 |
| 15° | 3027 | 3074 | 3102 |
| 20° | 2983 | 3040 | 3083 |
| 25° | 2929 | 3023 | 3072 |
| 30° | 2868 | 2967 | 3055 |
| 35° | 2802 | 2928 | 3049 |
| 40° | 2732 | 2879 | 3055 |
| 45° | 2655 | 2846 | 3074 |
| 50° | 2578 | 2816 | 3109 |
| 55° | 2490 | 2803 | 3164 |
| 60° | 2416 | 2803 | 3261 |
| 65° | 2295 | 2848 | 3380 |
| 70° | 2141 | 2902 | 3598 |
| 75° | 1961 | 3003 | 3887 |
| 80° | 1708 | 3130 | 3828 |
| 85° | 1494 | 2782 | 3041 |



TEST NUMBER: P277307

CATALOG NUMBER: 22CZ2-39HE-UNV-L92765-W2A1-U-5000K

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 109.1 | 3.2 |
| 10°-20° | 310.7 | 9.2 |
| 20°-30° | 466.4 | 13.7 |
| 30°-40° | 557.3 | 16.4 |
| 40°-50° | 579.5 | 17.1 |
| 50°-60° | 537.1 | 15.8 |
| 60°-70° | 440.6 | 13.0 |
| 70°-80° | 297.8 | 8.8 |
| 80°-90° | 93.6 | 2.8 |
| 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° | 886.1 | 26.1 |
| 0°-40° | 1443.4 | 42.6 |
| 0°-60° | 2560.0 | 75.5 |
| 0°-90° | 3392.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3392.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1153 | 1153 | 1153 | 1153 | 1153 | |
| 5° | 1142 | 1143 | 1150 | 1152 | 1153 | 108 |
| 15° | 1087 | 1092 | 1103 | 1110 | 1113 | 306 |
| 25° | 986 | 995 | 1018 | 1030 | 1035 | 454 |
| 35° | 853 | 865 | 891 | 918 | 928 | 533 |
| 45° | 698 | 711 | 748 | 791 | 808 | 539 |
| 55° | 531 | 548 | 598 | 651 | 674 | 477 |
| 65° | 360 | 381 | 447 | 506 | 531 | 356 |
| 75° | 189 | 220 | 289 | 347 | 374 | 200 |
| 85° | 48 | 67 | 90 | 100 | 98 | 55 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P277307

CATALOG NUMBER: 22CZ2-39HE-UNV-L92765-W2A1-U-5000K

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|---------------|---------------|---------------|---------------|---------------|
| 0° | 1153.3 | 1153.3 | 1153.3 | <i>1153.3</i> | 1153.3 |
| 2.5° | <i>1146.7</i> | <i>1150.0</i> | <i>1155.0</i> | <i>1156.7</i> | <i>1156.7</i> |
| 5° | 1141.7 | 1143.3 | 1150.0 | <i>1151.7</i> | 1153.3 |
| 7.5° | 1133.3 | 1136.7 | 1143.3 | <i>1145.0</i> | 1146.7 |
| 10° | 1121.6 | 1125.0 | 1133.3 | <i>1136.7</i> | 1138.3 |
| 12.5° | 1106.6 | 1109.9 | 1120.0 | <i>1125.0</i> | 1126.6 |
| 15° | 1086.6 | 1091.6 | 1103.3 | <i>1109.9</i> | 1113.3 |
| 17.5° | 1066.5 | 1071.6 | 1083.2 | <i>1093.3</i> | 1096.6 |
| 20° | 1041.5 | 1053.2 | 1061.5 | <i>1074.9</i> | 1076.6 |
| 22.5° | 1016.5 | 1023.2 | 1038.2 | <i>1051.5</i> | 1058.2 |
| 25° | 986.4 | 994.8 | 1018.1 | <i>1029.8</i> | 1034.8 |
| 27.5° | 954.7 | 966.4 | 984.8 | <i>1003.1</i> | 1009.8 |
| 30° | 923.0 | 931.4 | 954.7 | <i>976.4</i> | 983.1 |
| 32.5° | 888.0 | 899.6 | 924.7 | <i>946.4</i> | 956.4 |
| 35° | 852.9 | 864.6 | 891.3 | <i>918.0</i> | 928.0 |
| 37.5° | 814.5 | 827.9 | 854.6 | <i>886.3</i> | 899.6 |
| 40° | 777.8 | 787.8 | 819.5 | <i>857.9</i> | 869.6 |
| 42.5° | 739.4 | 751.1 | 784.5 | <i>826.2</i> | 839.6 |
| 45° | 697.7 | 711.0 | 747.8 | <i>791.1</i> | 807.8 |
| 47.5° | 657.6 | 671.0 | 711.0 | <i>754.4</i> | 774.5 |
| 50° | 615.9 | 632.6 | 672.6 | <i>722.7</i> | 742.7 |
| 52.5° | 575.8 | 590.9 | 635.9 | <i>687.7</i> | 706.0 |
| 55° | 530.8 | 547.5 | 597.5 | <i>650.9</i> | 674.3 |
| 57.5° | 494.1 | 505.7 | 560.8 | <i>615.9</i> | 639.3 |
| 60° | 449.0 | 464.0 | 520.8 | <i>579.2</i> | 605.9 |
| 62.5° | 400.6 | 425.6 | 484.0 | <i>544.1</i> | 570.8 |
| 65° | 360.5 | 380.6 | 447.3 | <i>505.7</i> | 530.8 |
| 67.5° | 318.8 | 340.5 | 405.6 | <i>467.3</i> | 495.7 |
| 70° | 272.1 | 300.4 | 368.9 | <i>430.6</i> | 457.3 |
| 72.5° | 230.3 | 260.4 | 330.5 | <i>390.6</i> | 418.9 |
| 75° | 188.6 | 220.3 | 288.8 | <i>347.2</i> | 373.9 |
| 77.5° | 148.5 | 183.6 | 250.4 | <i>295.4</i> | 312.1 |
| 80° | 110.2 | 143.5 | 202.0 | <i>233.7</i> | 247.0 |
| 82.5° | 76.8 | 105.2 | 148.5 | <i>165.2</i> | 168.6 |
| 85° | 48.4 | 66.8 | 90.1 | <i>100.1</i> | 98.5 |
| 87.5° | 21.7 | 26.7 | 33.4 | <i>36.7</i> | 35.1 |
| 90° | 0.0 | 0.0 | 0.0 | <i>0.0</i> | 0.0 |

(END OF REPORT)