

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: P276188

Luminaire Tested: **24CZ2-35HE-UNV-L92765-W2A1-U-3500K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P276188
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-5)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-35HE-UNV-L92765-W2A1-U-3500K
Description: CRUZE 2.0 2x4 TUNABLE WHITE LED TROFFER
WITH RIBBED LENS
Light Source: (336) 90 CRI LEDS TUNED TO 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2848.4 lumens
Efficiency: N/A
Efficacy: 117.3 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.27 / 1.37
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

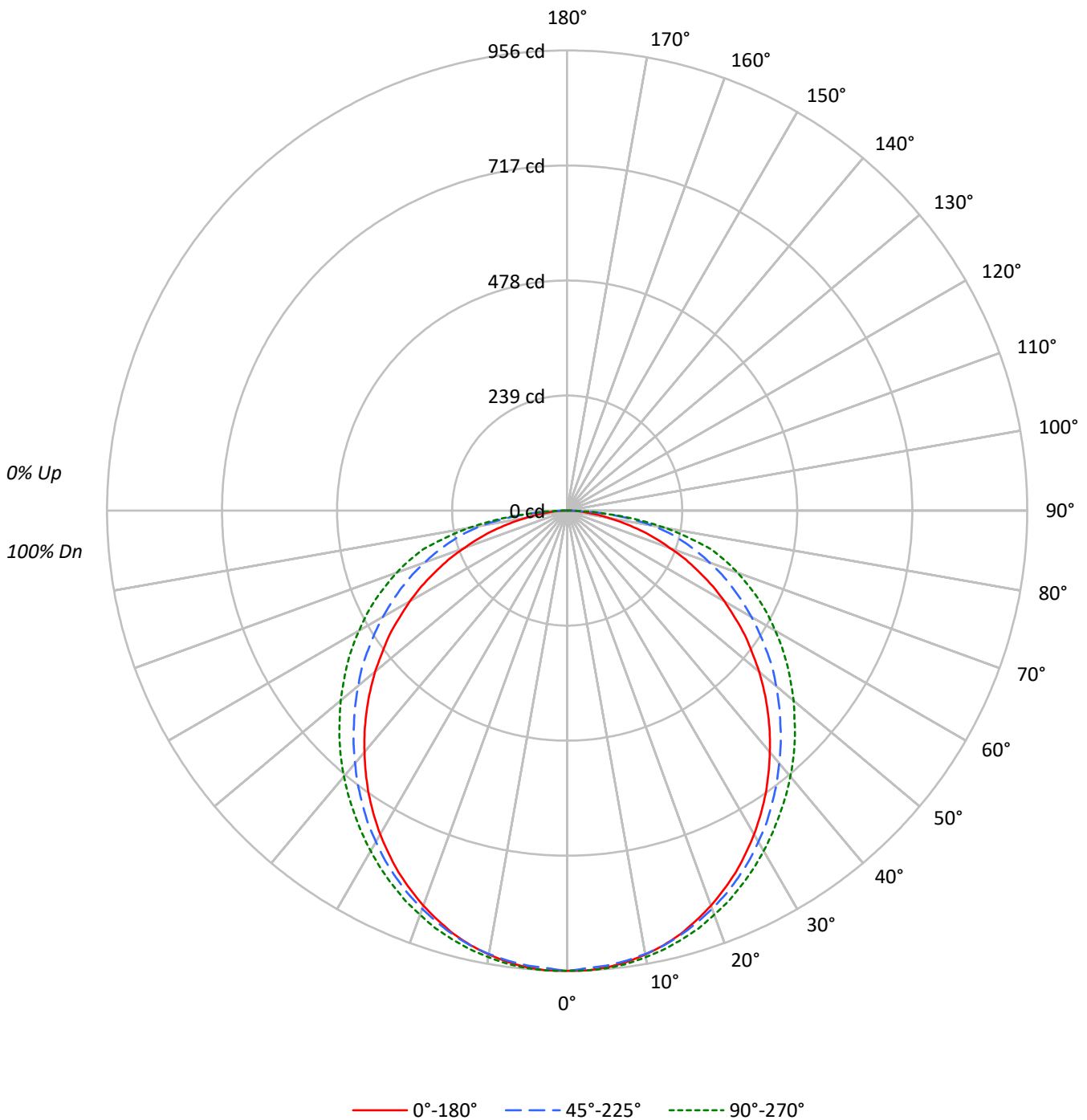
Input Watts (W): 24.273
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 98 | 94 | 105 | 100 | 96 | 92 | 96 | 93 | 89 | 92 | 89 | 87 | 89 | 86 | 84 | 82 |
| 2 | 98 | 89 | 82 | 76 | 95 | 87 | 80 | 75 | 83 | 78 | 73 | 80 | 75 | 71 | 77 | 73 | 70 | 67 |
| 3 | 89 | 78 | 69 | 62 | 86 | 76 | 68 | 62 | 73 | 66 | 61 | 70 | 64 | 60 | 68 | 63 | 58 | 56 |
| 4 | 81 | 69 | 59 | 52 | 79 | 67 | 59 | 52 | 65 | 57 | 51 | 62 | 56 | 51 | 60 | 55 | 50 | 48 |
| 5 | 74 | 61 | 52 | 45 | 72 | 60 | 51 | 45 | 58 | 50 | 44 | 56 | 49 | 44 | 54 | 48 | 43 | 41 |
| 6 | 69 | 55 | 46 | 39 | 67 | 54 | 45 | 39 | 52 | 44 | 39 | 50 | 44 | 38 | 49 | 43 | 38 | 36 |
| 7 | 64 | 50 | 41 | 35 | 62 | 49 | 40 | 34 | 47 | 40 | 34 | 46 | 39 | 34 | 45 | 38 | 34 | 32 |
| 8 | 59 | 45 | 37 | 31 | 58 | 45 | 36 | 31 | 43 | 36 | 30 | 42 | 35 | 30 | 41 | 35 | 30 | 28 |
| 9 | 55 | 42 | 33 | 28 | 54 | 41 | 33 | 28 | 40 | 33 | 27 | 39 | 32 | 27 | 38 | 32 | 27 | 25 |
| 10 | 52 | 38 | 30 | 25 | 51 | 38 | 30 | 25 | 37 | 30 | 25 | 36 | 29 | 25 | 35 | 29 | 25 | 23 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 1287 | 1287 | 1287 |
| 5° | 1286 | 1281 | 1289 |
| 10° | 1279 | 1278 | 1287 |
| 15° | 1269 | 1271 | 1284 |
| 20° | 1251 | 1260 | 1279 |
| 25° | 1231 | 1249 | 1274 |
| 30° | 1207 | 1235 | 1269 |
| 35° | 1180 | 1219 | 1265 |
| 40° | 1150 | 1204 | 1267 |
| 45° | 1122 | 1192 | 1273 |
| 50° | 1090 | 1186 | 1285 |
| 55° | 1057 | 1184 | 1309 |
| 60° | 1016 | 1189 | 1343 |
| 65° | 962 | 1208 | 1401 |
| 70° | 894 | 1238 | 1481 |
| 75° | 816 | 1300 | 1606 |
| 80° | 670 | 1399 | 1605 |
| 85° | 514 | 1292 | 1380 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 90.4 | 3.2 |
| 10°-20° | 258.2 | 9.1 |
| 20°-30° | 388.6 | 13.6 |
| 30°-40° | 465.7 | 16.3 |
| 40°-50° | 485.3 | 17.0 |
| 50°-60° | 451.5 | 15.9 |
| 60°-70° | 371.9 | 13.1 |
| 70°-80° | 253.3 | 8.9 |
| 80°-90° | 83.6 | 2.9 |
| 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° | 737.2 | 25.9 |
| 0°-40° | 1202.9 | 42.2 |
| 0°-60° | 2139.7 | 75.1 |
| 0°-90° | 2848.4 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2848.4 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 956 | 956 | 956 | 956 | 956 | |
| 5° | 952 | 952 | 949 | 954 | 954 | 90 |
| 15° | 911 | 912 | 913 | 921 | 922 | 257 |
| 25° | 829 | 833 | 841 | 856 | 858 | 382 |
| 35° | 719 | 727 | 742 | 762 | 770 | 449 |
| 45° | 589 | 602 | 626 | 658 | 669 | 455 |
| 55° | 451 | 466 | 505 | 545 | 558 | 402 |
| 65° | 302 | 328 | 379 | 424 | 440 | 300 |
| 75° | 157 | 192 | 250 | 295 | 309 | 165 |
| 85° | 33 | 65 | 84 | 89 | 89 | 41 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 956.3 | 956.3 | 956.3 | 956.3 | 956.3 |
| 2.5° | 956.3 | 956.3 | 951.6 | 956.3 | 956.3 |
| 5° | 952.5 | 952.5 | 948.7 | 953.5 | 954.4 |
| 7.5° | 945.9 | 946.8 | 943.0 | 948.7 | 949.7 |
| 10° | 936.4 | 937.3 | 935.4 | 941.1 | 942.1 |
| 12.5° | 925.0 | 925.9 | 925.9 | 932.6 | 933.5 |
| 15° | 910.7 | 911.7 | 912.6 | 921.2 | 922.1 |
| 17.5° | 892.6 | 895.5 | 897.4 | 907.9 | 909.8 |
| 20° | 873.6 | 876.5 | 880.3 | 891.7 | 893.6 |
| 22.5° | 851.8 | 855.6 | 862.2 | 874.6 | 877.4 |
| 25° | 829.0 | 832.8 | 841.3 | 855.6 | 858.4 |
| 27.5° | 803.3 | 809.0 | 819.5 | 834.7 | 838.5 |
| 30° | 776.7 | 782.4 | 794.7 | 810.9 | 816.6 |
| 32.5° | 748.2 | 755.8 | 770.0 | 788.1 | 793.8 |
| 35° | 718.7 | 727.2 | 742.4 | 762.4 | 770.0 |
| 37.5° | 687.3 | 696.8 | 714.9 | 736.7 | 746.3 |
| 40° | 655.0 | 666.4 | 685.4 | 711.1 | 721.5 |
| 42.5° | 622.7 | 633.1 | 656.9 | 684.5 | 695.9 |
| 45° | 589.4 | 601.8 | 626.5 | 657.8 | 669.2 |
| 47.5° | 555.2 | 567.5 | 597.0 | 630.3 | 640.7 |
| 50° | 520.9 | 533.3 | 566.6 | 601.8 | 614.1 |
| 52.5° | 483.9 | 500.0 | 538.1 | 573.2 | 585.6 |
| 55° | 450.6 | 465.8 | 504.8 | 544.7 | 558.0 |
| 57.5° | 412.6 | 430.6 | 473.4 | 515.2 | 529.5 |
| 60° | 377.4 | 396.4 | 442.0 | 484.8 | 499.1 |
| 62.5° | 341.3 | 362.2 | 410.7 | 454.4 | 470.6 |
| 65° | 302.3 | 328.0 | 379.3 | 424.0 | 440.1 |
| 67.5° | 267.1 | 293.7 | 347.9 | 393.6 | 407.8 |
| 70° | 227.2 | 259.5 | 314.7 | 360.3 | 376.5 |
| 72.5° | 193.0 | 225.3 | 283.3 | 328.0 | 344.1 |
| 75° | 156.9 | 192.0 | 250.0 | 294.7 | 309.0 |
| 77.5° | 120.7 | 159.7 | 217.7 | 251.9 | 256.7 |
| 80° | 86.5 | 127.4 | 180.6 | 200.6 | 207.2 |
| 82.5° | 60.8 | 97.9 | 133.1 | 146.4 | 150.2 |
| 85° | 33.3 | 64.6 | 83.7 | 89.4 | 89.4 |
| 87.5° | 14.3 | 27.6 | 33.3 | 34.2 | 35.2 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)