

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: P276177

Luminaire Tested: **24CZ2-30HE-UNV-L92765-W2A1-U-2700K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P276177
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: 24CZ2-30HE-UNV-L92765-W2A1-U-2700K
Description: CRUZE 2.0 2x4 TUNABLE WHITE LED TROFFER
WITH RIBBED LENS
Light Source: (336) 90 CRI LEDS TUNED TO 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2276.1 lumens
Efficiency: N/A
Efficacy: 116.0 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

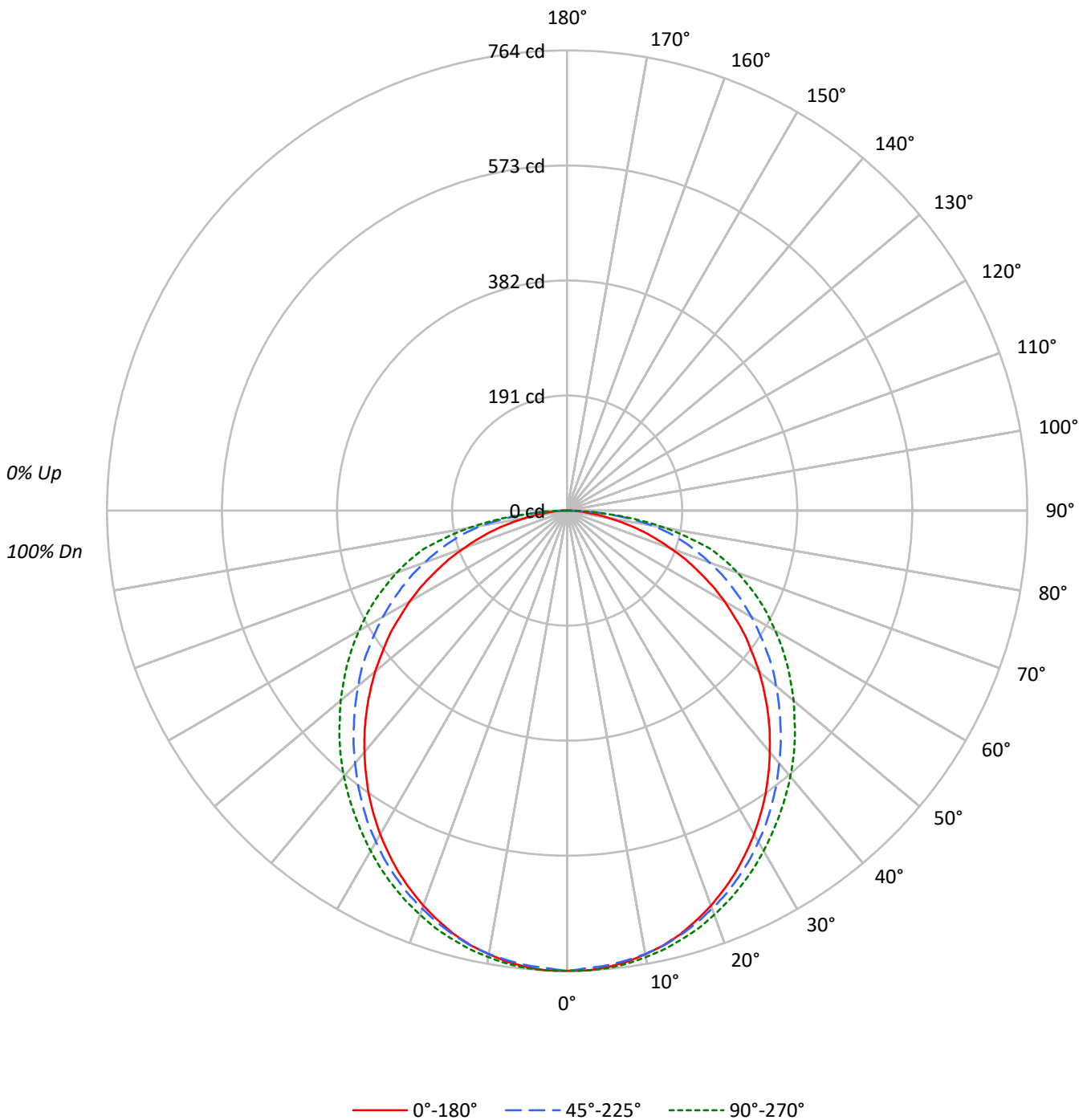
Input Watts (W): 19.623
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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° | 1028 | 1028 | 1028 |
| 5° | 1028 | 1024 | 1030 |
| 10° | 1022 | 1021 | 1029 |
| 15° | 1014 | 1016 | 1026 |
| 20° | 1000 | 1007 | 1022 |
| 25° | 983 | 998 | 1018 |
| 30° | 964 | 987 | 1014 |
| 35° | 943 | 975 | 1011 |
| 40° | 919 | 962 | 1013 |
| 45° | 896 | 953 | 1018 |
| 50° | 871 | 948 | 1027 |
| 55° | 845 | 946 | 1046 |
| 60° | 812 | 950 | 1073 |
| 65° | 769 | 965 | 1120 |
| 70° | 714 | 989 | 1183 |
| 75° | 651 | 1039 | 1284 |
| 80° | 535 | 1118 | 1283 |
| 85° | 411 | 1031 | 1102 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 72.3 | 3.2 |
| 10°-20° | 206.3 | 9.1 |
| 20°-30° | 310.5 | 13.6 |
| 30°-40° | 372.1 | 16.3 |
| 40°-50° | 387.8 | 17.0 |
| 50°-60° | 360.8 | 15.9 |
| 60°-70° | 297.1 | 13.1 |
| 70°-80° | 202.4 | 8.9 |
| 80°-90° | 66.8 | 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° | 589.1 | 25.9 |
| 0°-40° | 961.2 | 42.2 |
| 0°-60° | 1709.8 | 75.1 |
| 0°-90° | 2276.1 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2276.1 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 764 | 764 | 764 | 764 | 764 | |
| 5° | 761 | 761 | 758 | 762 | 763 | 72 |
| 15° | 728 | 728 | 729 | 736 | 737 | 205 |
| 25° | 662 | 665 | 672 | 684 | 686 | 305 |
| 35° | 574 | 581 | 593 | 609 | 615 | 359 |
| 45° | 471 | 481 | 501 | 526 | 535 | 363 |
| 55° | 360 | 372 | 403 | 435 | 446 | 321 |
| 65° | 242 | 262 | 303 | 339 | 352 | 240 |
| 75° | 125 | 153 | 200 | 236 | 247 | 132 |
| 85° | 27 | 52 | 67 | 71 | 71 | 33 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P276177

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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 764.2 | 764.2 | 764.2 | 764.2 | 764.2 |
| 2.5° | 764.2 | 764.2 | 760.4 | 764.2 | 764.2 |
| 5° | 761.1 | 761.1 | 758.1 | 761.9 | 762.7 |
| 7.5° | 755.8 | 756.6 | 753.5 | 758.1 | 758.9 |
| 10° | 748.2 | 749.0 | 747.5 | 752.0 | 752.8 |
| 12.5° | 739.1 | 739.9 | 739.9 | 745.2 | 746.0 |
| 15° | 727.7 | 728.5 | 729.2 | 736.1 | 736.8 |
| 17.5° | 713.3 | 715.6 | 717.1 | 725.4 | 727.0 |
| 20° | 698.1 | 700.4 | 703.4 | 712.5 | 714.0 |
| 22.5° | 680.6 | 683.7 | 689.0 | 698.9 | 701.1 |
| 25° | 662.4 | 665.4 | 672.3 | 683.7 | 685.9 |
| 27.5° | 641.9 | 646.4 | 654.8 | 667.0 | 670.0 |
| 30° | 620.6 | 625.2 | 635.0 | 648.0 | 652.5 |
| 32.5° | 597.8 | 603.9 | 615.3 | 629.7 | 634.3 |
| 35° | 574.3 | 581.1 | 593.3 | 609.2 | 615.3 |
| 37.5° | 549.2 | 556.8 | 571.2 | 588.7 | 596.3 |
| 40° | 523.4 | 532.5 | 547.7 | 568.2 | 576.6 |
| 42.5° | 497.6 | 505.9 | 524.9 | 546.9 | 556.0 |
| 45° | 471.0 | 480.8 | 500.6 | 525.7 | 534.8 |
| 47.5° | 443.6 | 453.5 | 477.0 | 503.6 | 512.0 |
| 50° | 416.3 | 426.2 | 452.7 | 480.8 | 490.7 |
| 52.5° | 386.7 | 399.6 | 429.9 | 458.1 | 467.9 |
| 55° | 360.1 | 372.2 | 403.4 | 435.3 | 445.9 |
| 57.5° | 329.7 | 344.1 | 378.3 | 411.7 | 423.1 |
| 60° | 301.6 | 316.8 | 353.2 | 387.4 | 398.8 |
| 62.5° | 272.7 | 289.4 | 328.2 | 363.1 | 376.0 |
| 65° | 241.6 | 262.1 | 303.1 | 338.8 | 351.7 |
| 67.5° | 213.5 | 234.7 | 278.0 | 314.5 | 325.9 |
| 70° | 181.6 | 207.4 | 251.4 | 287.9 | 300.8 |
| 72.5° | 154.2 | 180.0 | 226.4 | 262.1 | 275.0 |
| 75° | 125.3 | 153.4 | 199.8 | 235.5 | 246.9 |
| 77.5° | 96.5 | 127.6 | 174.0 | 201.3 | 205.1 |
| 80° | 69.1 | 101.8 | 144.3 | 160.3 | 165.6 |
| 82.5° | 48.6 | 78.2 | 106.3 | 117.0 | 120.0 |
| 85° | 26.6 | 51.7 | 66.8 | 71.4 | 71.4 |
| 87.5° | 11.4 | 22.0 | 26.6 | 27.3 | 28.1 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)