

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: P276875

Luminaire Tested: **24CZ2-45-RDP-UNV-L93050-W2A1-U-4500K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P276875
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-45-RDP-UNV-L93050-W2A1-U-4500K
Description: CRUZE 2.0 2x4 TUNABLE WHITE LED TROFFER WITH RDP LENS
Light Source: (168) 90 CRI LEDS TUNED TO 4500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2693.1 lumens
Efficiency: N/A
Efficacy: 73.9 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

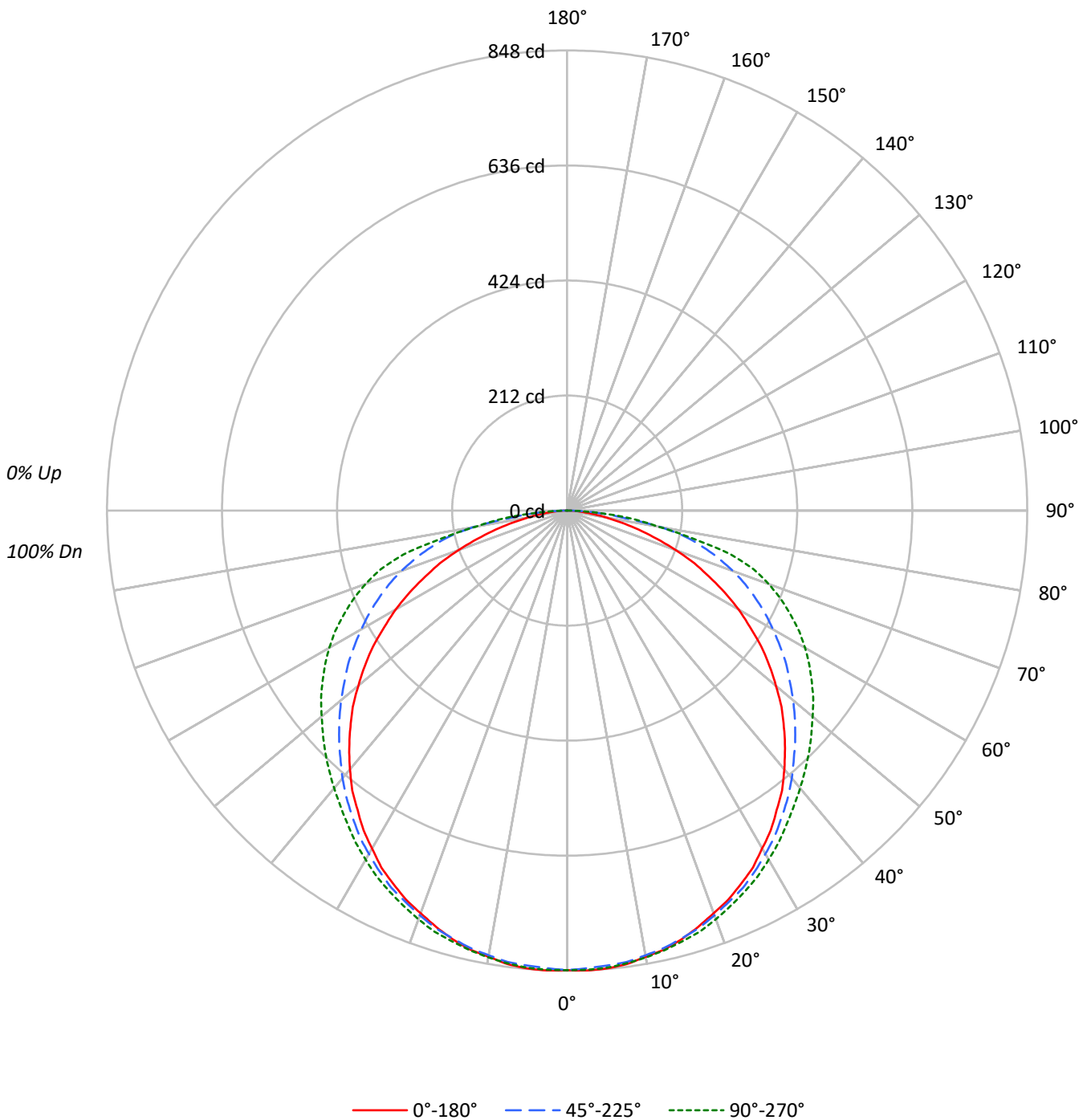
Input Watts (W): 36.436656
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 88 | 86 | 84 | 82 |
| 2 | 97 | 89 | 81 | 75 | 95 | 87 | 80 | 74 | 83 | 77 | 72 | 80 | 75 | 71 | 77 | 73 | 69 | 67 |
| 3 | 88 | 77 | 68 | 62 | 86 | 76 | 68 | 61 | 72 | 66 | 60 | 70 | 64 | 59 | 67 | 62 | 58 | 56 |
| 4 | 81 | 68 | 59 | 52 | 78 | 67 | 58 | 51 | 64 | 57 | 51 | 62 | 55 | 50 | 59 | 54 | 49 | 47 |
| 5 | 74 | 60 | 51 | 44 | 72 | 59 | 51 | 44 | 57 | 49 | 43 | 55 | 48 | 43 | 53 | 47 | 42 | 40 |
| 6 | 68 | 54 | 45 | 38 | 66 | 53 | 45 | 38 | 51 | 44 | 38 | 50 | 43 | 37 | 48 | 42 | 37 | 35 |
| 7 | 63 | 49 | 40 | 34 | 61 | 48 | 40 | 34 | 47 | 39 | 33 | 45 | 38 | 33 | 44 | 38 | 33 | 31 |
| 8 | 59 | 45 | 36 | 30 | 57 | 44 | 36 | 30 | 43 | 35 | 30 | 41 | 34 | 29 | 40 | 34 | 29 | 27 |
| 9 | 55 | 41 | 33 | 27 | 53 | 40 | 32 | 27 | 39 | 32 | 27 | 38 | 31 | 26 | 37 | 31 | 26 | 24 |
| 10 | 51 | 38 | 30 | 24 | 50 | 37 | 29 | 24 | 36 | 29 | 24 | 35 | 29 | 24 | 34 | 28 | 24 | 22 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 1139 | 1139 | 1139 |
| 5° | 1144 | 1137 | 1142 |
| 10° | 1141 | 1137 | 1142 |
| 15° | 1139 | 1137 | 1144 |
| 20° | 1130 | 1136 | 1148 |
| 25° | 1127 | 1138 | 1150 |
| 30° | 1117 | 1135 | 1154 |
| 35° | 1106 | 1132 | 1158 |
| 40° | 1093 | 1131 | 1173 |
| 45° | 1075 | 1131 | 1200 |
| 50° | 1051 | 1138 | 1236 |
| 55° | 1025 | 1156 | 1291 |
| 60° | 981 | 1179 | 1362 |
| 65° | 918 | 1221 | 1446 |
| 70° | 836 | 1277 | 1555 |
| 75° | 709 | 1347 | 1625 |
| 80° | 559 | 1356 | 1315 |
| 85° | 412 | 1031 | 1155 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 80.3 | 3.0 |
| 10°-20° | 231.2 | 8.6 |
| 20°-30° | 353.6 | 13.1 |
| 30°-40° | 432.2 | 16.0 |
| 40°-50° | 460.7 | 17.1 |
| 50°-60° | 440.5 | 16.4 |
| 60°-70° | 373.1 | 13.9 |
| 70°-80° | 250.8 | 9.3 |
| 80°-90° | 70.7 | 2.6 |
| 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° | 665.1 | 24.7 |
| 0°-40° | 1097.4 | 40.7 |
| 0°-60° | 1998.5 | 74.2 |
| 0°-90° | 2693.1 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2693.1 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 847 | 847 | 847 | 847 | 847 | |
| 5° | 847 | 846 | 842 | 846 | 846 | 80 |
| 15° | 818 | 818 | 816 | 823 | 822 | 231 |
| 25° | 759 | 761 | 767 | 773 | 775 | 350 |
| 35° | 673 | 679 | 689 | 703 | 705 | 422 |
| 45° | 565 | 574 | 594 | 620 | 630 | 436 |
| 55° | 437 | 453 | 493 | 532 | 550 | 389 |
| 65° | 288 | 318 | 383 | 434 | 454 | 286 |
| 75° | 136 | 186 | 259 | 303 | 313 | 146 |
| 85° | 27 | 55 | 67 | 72 | 75 | 33 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 846.9 | 846.9 | 846.9 | 846.9 | 846.9 |
| 2.5° | 848.3 | 848.3 | 844.2 | 846.9 | 846.9 |
| 5° | 846.9 | 845.6 | 841.6 | 845.6 | 845.6 |
| 7.5° | 842.9 | 841.6 | 838.9 | 842.9 | 841.6 |
| 10° | 834.9 | 834.9 | 832.2 | 836.2 | 836.2 |
| 12.5° | 828.2 | 826.9 | 825.5 | 830.9 | 829.6 |
| 15° | 817.5 | 817.5 | 816.2 | 822.9 | 821.5 |
| 17.5° | 804.2 | 805.5 | 806.8 | 812.2 | 813.5 |
| 20° | 789.5 | 792.2 | 793.5 | 801.5 | 801.5 |
| 22.5° | 776.1 | 777.5 | 780.1 | 788.1 | 788.1 |
| 25° | 758.8 | 761.4 | 766.8 | 773.4 | 774.8 |
| 27.5° | 741.4 | 742.7 | 749.4 | 758.8 | 760.1 |
| 30° | 718.7 | 722.7 | 730.7 | 741.4 | 742.7 |
| 32.5° | 698.6 | 702.6 | 712.0 | 722.7 | 725.4 |
| 35° | 673.3 | 678.6 | 689.3 | 702.6 | 705.3 |
| 37.5° | 650.6 | 654.6 | 667.9 | 682.6 | 686.6 |
| 40° | 622.5 | 630.5 | 643.9 | 661.2 | 667.9 |
| 42.5° | 594.4 | 602.5 | 618.5 | 641.2 | 649.2 |
| 45° | 565.1 | 574.4 | 594.4 | 619.8 | 630.5 |
| 47.5° | 535.7 | 546.4 | 569.1 | 598.5 | 610.5 |
| 50° | 502.3 | 515.6 | 543.7 | 577.1 | 590.4 |
| 52.5° | 470.2 | 486.2 | 517.0 | 554.4 | 571.7 |
| 55° | 436.8 | 452.8 | 492.9 | 531.7 | 550.4 |
| 57.5° | 399.4 | 420.8 | 464.9 | 509.0 | 529.0 |
| 60° | 364.7 | 384.7 | 438.2 | 486.2 | 506.3 |
| 62.5° | 327.3 | 354.0 | 411.4 | 462.2 | 482.2 |
| 65° | 288.5 | 317.9 | 383.4 | 434.1 | 454.2 |
| 67.5° | 253.8 | 285.9 | 355.3 | 406.1 | 426.1 |
| 70° | 212.4 | 252.5 | 324.6 | 375.4 | 395.4 |
| 72.5° | 173.7 | 217.7 | 292.5 | 342.0 | 360.7 |
| 75° | 136.3 | 185.7 | 259.2 | 303.2 | 312.6 |
| 77.5° | 101.5 | 153.6 | 224.4 | 243.1 | 236.4 |
| 80° | 72.1 | 122.9 | 175.0 | 165.6 | 169.7 |
| 82.5° | 46.8 | 93.5 | 108.2 | 122.9 | 126.9 |
| 85° | 26.7 | 54.8 | 66.8 | 72.1 | 74.8 |
| 87.5° | 12.0 | 20.0 | 26.7 | 26.7 | 25.4 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)