

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: P275972

Luminaire Tested: **24CZ2-35HE-UNV-L93050-W2A1-U-3000K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P275972  
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-L93050-W2A1-U-3000K  
Description: CRUZE 2.0 2x4 TUNABLE WHITE LED TROFFER  
WITH RIBBED LENS  
Light Source: (336) 90 CRI LEDS TUNED TO 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2590.0 lumens  
Efficiency: N/A  
Efficacy: 104.7 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

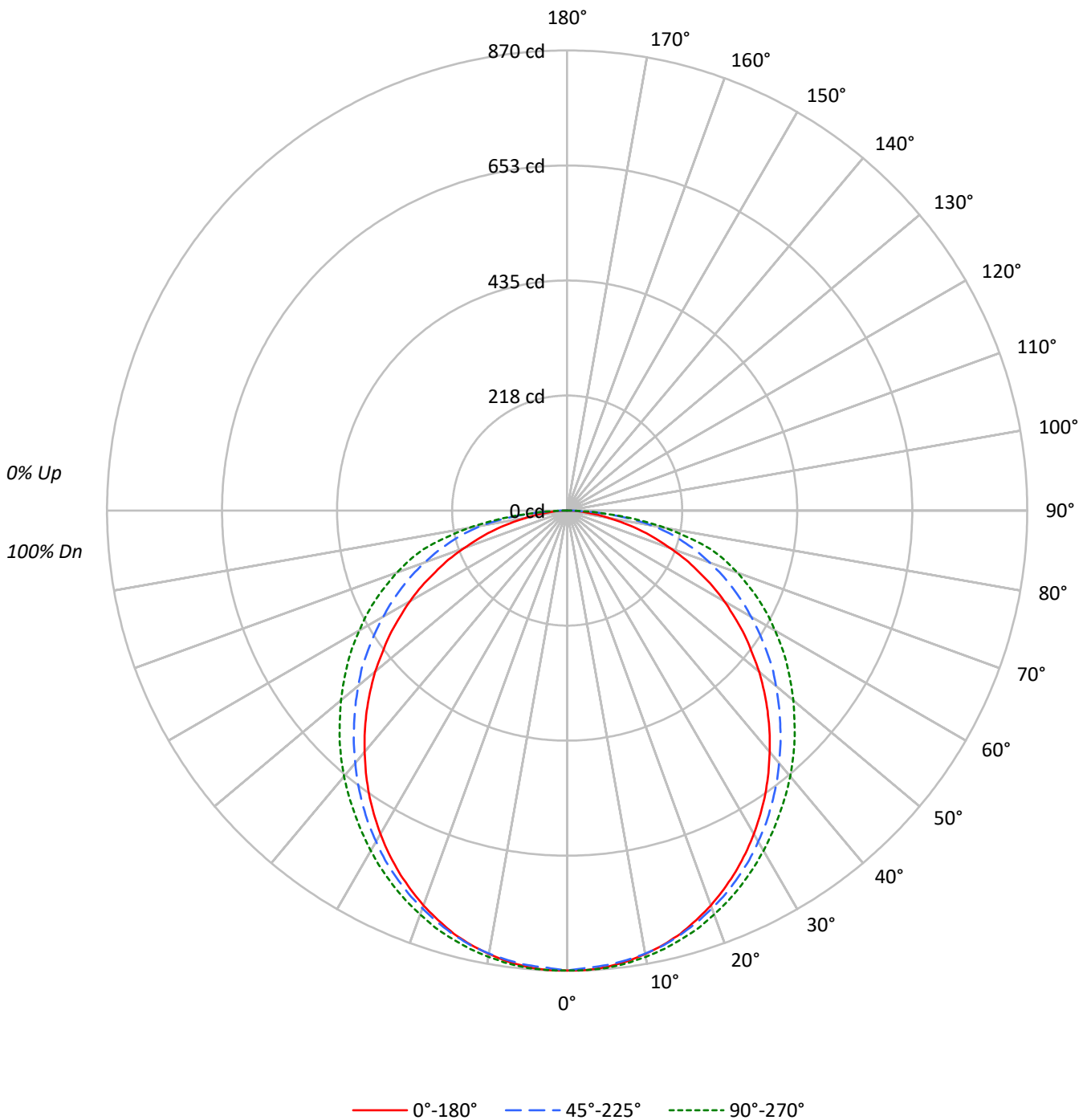
Input Watts (W): 24.73614  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°  | 1170 | 1170 | 1170 |
| 5°  | 1170 | 1165 | 1172 |
| 10° | 1163 | 1162 | 1170 |
| 15° | 1154 | 1156 | 1168 |
| 20° | 1137 | 1146 | 1163 |
| 25° | 1119 | 1136 | 1159 |
| 30° | 1097 | 1123 | 1154 |
| 35° | 1073 | 1109 | 1150 |
| 40° | 1046 | 1095 | 1152 |
| 45° | 1020 | 1084 | 1158 |
| 50° | 992  | 1078 | 1169 |
| 55° | 961  | 1077 | 1190 |
| 60° | 924  | 1082 | 1221 |
| 65° | 875  | 1098 | 1274 |
| 70° | 813  | 1126 | 1347 |
| 75° | 741  | 1182 | 1460 |
| 80° | 610  | 1272 | 1460 |
| 85° | 468  | 1175 | 1255 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 82.2   | 3.2       |
| 10°-20°   | 234.8  | 9.1       |
| 20°-30°   | 353.3  | 13.6      |
| 30°-40°   | 423.4  | 16.3      |
| 40°-50°   | 441.2  | 17.0      |
| 50°-60°   | 410.5  | 15.9      |
| 60°-70°   | 338.1  | 13.1      |
| 70°-80°   | 230.3  | 8.9       |
| 80°-90°   | 76.0   | 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°    | 670.3  | 25.9      |
| 0°-40°    | 1093.8 | 42.2      |
| 0°-60°    | 1945.5 | 75.1      |
| 0°-90°    | 2590.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2590.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 870 | 870   | 870 | 870   | 870 |      |
| 5°  | 866 | 866   | 863 | 867   | 868 | 82   |
| 15° | 828 | 829   | 830 | 838   | 838 | 233  |
| 25° | 754 | 757   | 765 | 778   | 780 | 347  |
| 35° | 654 | 661   | 675 | 693   | 700 | 408  |
| 45° | 536 | 547   | 570 | 598   | 608 | 413  |
| 55° | 410 | 424   | 459 | 495   | 507 | 365  |
| 65° | 275 | 298   | 345 | 386   | 400 | 273  |
| 75° | 143 | 175   | 227 | 268   | 281 | 150  |
| 85° | 30  | 59    | 76  | 81    | 81  | 38   |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 869.6 | 869.6 | 869.6 | 869.6 | 869.6 |
| 2.5°  | 869.6 | 869.6 | 865.2 | 869.6 | 869.6 |
| 5°    | 866.1 | 866.1 | 862.6 | 867.0 | 867.8 |
| 7.5°  | 860.1 | 860.9 | 857.5 | 862.6 | 863.5 |
| 10°   | 851.4 | 852.3 | 850.5 | 855.7 | 856.6 |
| 12.5° | 841.0 | 841.9 | 841.9 | 848.0 | 848.8 |
| 15°   | 828.1 | 828.9 | 829.8 | 837.6 | 838.4 |
| 17.5° | 811.7 | 814.2 | 816.0 | 825.5 | 827.2 |
| 20°   | 794.4 | 797.0 | 800.4 | 810.8 | 812.5 |
| 22.5° | 774.5 | 777.9 | 784.0 | 795.2 | 797.8 |
| 25°   | 753.7 | 757.2 | 765.0 | 777.9 | 780.5 |
| 27.5° | 730.4 | 735.6 | 745.1 | 758.9 | 762.4 |
| 30°   | 706.2 | 711.4 | 722.6 | 737.3 | 742.5 |
| 32.5° | 680.3 | 687.2 | 700.1 | 716.6 | 721.8 |
| 35°   | 653.5 | 661.2 | 675.1 | 693.2 | 700.1 |
| 37.5° | 624.9 | 633.6 | 650.0 | 669.9 | 678.5 |
| 40°   | 595.6 | 605.9 | 623.2 | 646.6 | 656.1 |
| 42.5° | 566.2 | 575.7 | 597.3 | 622.4 | 632.7 |
| 45°   | 535.9 | 547.2 | 569.6 | 598.1 | 608.5 |
| 47.5° | 504.8 | 516.0 | 542.8 | 573.1 | 582.6 |
| 50°   | 473.7 | 484.9 | 515.2 | 547.2 | 558.4 |
| 52.5° | 440.0 | 454.7 | 489.2 | 521.2 | 532.5 |
| 55°   | 409.7 | 423.5 | 459.0 | 495.3 | 507.4 |
| 57.5° | 375.1 | 391.6 | 430.5 | 468.5 | 481.5 |
| 60°   | 343.2 | 360.4 | 401.9 | 440.8 | 453.8 |
| 62.5° | 310.3 | 329.3 | 373.4 | 413.2 | 427.9 |
| 65°   | 274.9 | 298.2 | 344.9 | 385.5 | 400.2 |
| 67.5° | 242.9 | 267.1 | 316.4 | 357.9 | 370.8 |
| 70°   | 206.6 | 236.0 | 286.1 | 327.6 | 342.3 |
| 72.5° | 175.5 | 204.9 | 257.6 | 298.2 | 312.9 |
| 75°   | 142.6 | 174.6 | 227.3 | 268.0 | 280.9 |
| 77.5° | 109.8 | 145.2 | 197.9 | 229.1 | 233.4 |
| 80°   | 78.7  | 115.8 | 164.2 | 182.4 | 188.4 |
| 82.5° | 55.3  | 89.0  | 121.0 | 133.1 | 136.6 |
| 85°   | 30.3  | 58.8  | 76.1  | 81.3  | 81.3  |
| 87.5° | 13.0  | 25.1  | 30.3  | 31.1  | 32.0  |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |

(END OF REPORT)