

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: P276155

Luminaire Tested: **24CZ2-40-UNV-L82765-W2A1-U-5000K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P276155  
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: 24CZ2-40-UNV-L82765-W2A1-U-5000K  
Description: CRUZE 2.0 2x4 TUNABLE WHITE LED TROFFER WITH RIBBED LENS  
Light Source: (168) 80 CRI LEDS TUNED TO 5000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3942.9 lumens  
Efficiency: N/A  
Efficacy: 126.6 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

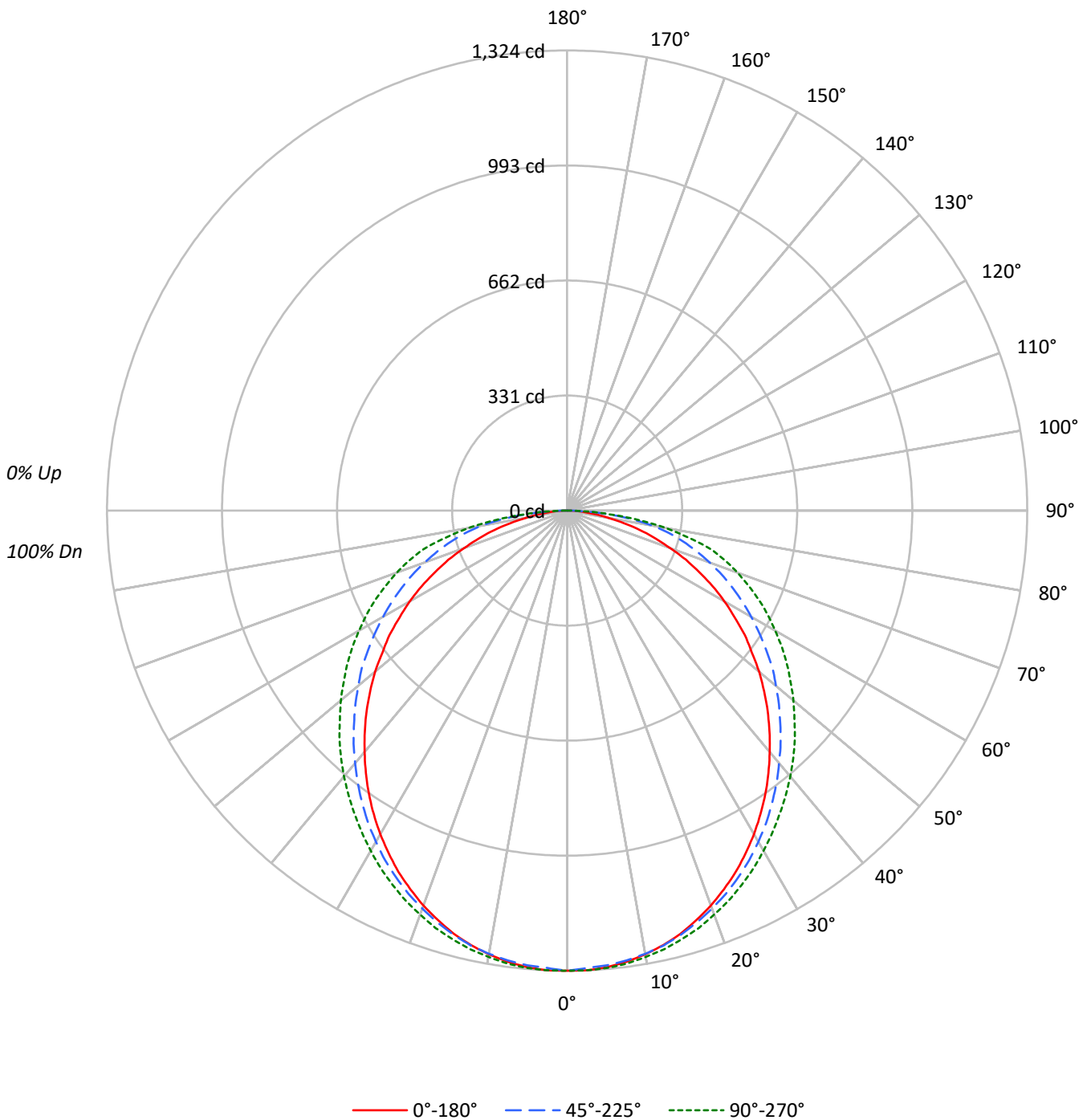
Input Watts (W): 31.155  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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  | 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 |    |    |    |    | 100 |   |  |   |
| 1   | 108 | 103 | 98  | 94  | 105 | 100 | 96  | 92  | 96  | 93  | 89  | 92  | 89  | 87  | 89  | 86  | 84  | 82  |    |    |    |    | 82  |   |  |   |
| 2   | 98  | 89  | 82  | 76  | 95  | 87  | 80  | 75  | 83  | 78  | 73  | 80  | 75  | 71  | 77  | 73  | 70  | 67  |    |    |    |    | 67  |   |  |   |
| 3   | 89  | 78  | 69  | 62  | 86  | 76  | 68  | 62  | 73  | 66  | 61  | 70  | 64  | 60  | 68  | 63  | 58  | 56  |    |    |    |    | 56  |   |  |   |
| 4   | 81  | 69  | 59  | 52  | 79  | 67  | 59  | 52  | 65  | 57  | 51  | 62  | 56  | 51  | 60  | 55  | 50  | 48  |    |    |    |    | 48  |   |  |   |
| 5   | 74  | 61  | 52  | 45  | 72  | 60  | 51  | 45  | 58  | 50  | 44  | 56  | 49  | 44  | 54  | 48  | 43  | 41  |    |    |    |    | 41  |   |  |   |
| 6   | 69  | 55  | 46  | 39  | 67  | 54  | 45  | 39  | 52  | 44  | 39  | 50  | 44  | 38  | 49  | 43  | 38  | 36  |    |    |    |    | 36  |   |  |   |
| 7   | 64  | 50  | 41  | 35  | 62  | 49  | 40  | 34  | 47  | 40  | 34  | 46  | 39  | 34  | 45  | 38  | 34  | 32  |    |    |    |    | 32  |   |  |   |
| 8   | 59  | 45  | 37  | 31  | 58  | 45  | 36  | 31  | 43  | 36  | 30  | 42  | 35  | 30  | 41  | 35  | 30  | 28  |    |    |    |    | 28  |   |  |   |
| 9   | 55  | 42  | 33  | 28  | 54  | 41  | 33  | 28  | 40  | 33  | 27  | 39  | 32  | 27  | 38  | 32  | 27  | 25  |    |    |    |    | 25  |   |  |   |
| 10  | 52  | 38  | 30  | 25  | 51  | 38  | 30  | 25  | 37  | 30  | 25  | 36  | 29  | 25  | 35  | 29  | 25  | 23  |    |    |    |    | 23  |   |  |   |

**AVERAGE LUMINANCE (cd/sqm):**

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 1781 | 1781 | 1781 |
| 5°  | 1781 | 1774 | 1784 |
| 10° | 1771 | 1769 | 1782 |
| 15° | 1756 | 1760 | 1778 |
| 20° | 1732 | 1745 | 1771 |
| 25° | 1704 | 1729 | 1764 |
| 30° | 1670 | 1709 | 1756 |
| 35° | 1634 | 1688 | 1751 |
| 40° | 1593 | 1666 | 1754 |
| 45° | 1553 | 1650 | 1763 |
| 50° | 1509 | 1642 | 1779 |
| 55° | 1463 | 1639 | 1812 |
| 60° | 1406 | 1647 | 1859 |
| 65° | 1332 | 1672 | 1940 |
| 70° | 1237 | 1714 | 2050 |
| 75° | 1129 | 1799 | 2223 |
| 80° | 927  | 1937 | 2223 |
| 85° | 712  | 1788 | 1910 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 125.2  | 3.2       |
| 10°-20°   | 357.4  | 9.1       |
| 20°-30°   | 537.9  | 13.6      |
| 30°-40°   | 644.6  | 16.3      |
| 40°-50°   | 671.7  | 17.0      |
| 50°-60°   | 625.0  | 15.9      |
| 60°-70°   | 514.7  | 13.1      |
| 70°-80°   | 350.6  | 8.9       |
| 80°-90°   | 115.7  | 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°    | 1020.5 | 25.9      |
| 0°-40°    | 1665.1 | 42.2      |
| 0°-60°    | 2961.9 | 75.1      |
| 0°-90°    | 3942.9 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3942.9 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1324 | 1324  | 1324 | 1324  | 1324 |      |
| 5°  | 1319 | 1319  | 1313 | 1320  | 1321 | 125  |
| 15° | 1261 | 1262  | 1263 | 1275  | 1276 | 355  |
| 25° | 1148 | 1153  | 1165 | 1184  | 1188 | 528  |
| 35° | 995  | 1007  | 1028 | 1055  | 1066 | 622  |
| 45° | 816  | 833   | 867  | 911   | 926  | 629  |
| 55° | 624  | 645   | 699  | 754   | 772  | 556  |
| 65° | 418  | 454   | 525  | 587   | 609  | 415  |
| 75° | 217  | 266   | 346  | 408   | 428  | 229  |
| 85° | 46   | 90    | 116  | 124   | 124  | 57   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1323.8 | 1323.8 | 1323.8 | 1323.8 | 1323.8 |
| 2.5°  | 1323.8 | 1323.8 | 1317.2 | 1323.8 | 1323.8 |
| 5°    | 1318.6 | 1318.6 | 1313.3 | 1319.9 | 1321.2 |
| 7.5°  | 1309.3 | 1310.7 | 1305.4 | 1313.3 | 1314.6 |
| 10°   | 1296.2 | 1297.5 | 1294.9 | 1302.8 | 1304.1 |
| 12.5° | 1280.4 | 1281.7 | 1281.7 | 1290.9 | 1292.2 |
| 15°   | 1260.7 | 1262.0 | 1263.3 | 1275.1 | 1276.5 |
| 17.5° | 1235.7 | 1239.6 | 1242.2 | 1256.7 | 1259.3 |
| 20°   | 1209.3 | 1213.3 | 1218.6 | 1234.3 | 1237.0 |
| 22.5° | 1179.1 | 1184.3 | 1193.5 | 1210.7 | 1214.6 |
| 25°   | 1147.5 | 1152.8 | 1164.6 | 1184.3 | 1188.3 |
| 27.5° | 1112.0 | 1119.9 | 1134.3 | 1155.4 | 1160.6 |
| 30°   | 1075.1 | 1083.0 | 1100.1 | 1122.5 | 1130.4 |
| 32.5° | 1035.6 | 1046.2 | 1065.9 | 1090.9 | 1098.8 |
| 35°   | 994.8  | 1006.7 | 1027.7 | 1055.4 | 1065.9 |
| 37.5° | 951.4  | 964.6  | 989.6  | 1019.8 | 1033.0 |
| 40°   | 906.7  | 922.5  | 948.8  | 984.3  | 998.8  |
| 42.5° | 861.9  | 876.4  | 909.3  | 947.5  | 963.3  |
| 45°   | 815.9  | 833.0  | 867.2  | 910.6  | 926.4  |
| 47.5° | 768.5  | 785.6  | 826.4  | 872.5  | 886.9  |
| 50°   | 721.1  | 738.2  | 784.3  | 833.0  | 850.1  |
| 52.5° | 669.8  | 692.2  | 744.8  | 793.5  | 810.6  |
| 55°   | 623.8  | 644.8  | 698.8  | 754.0  | 772.5  |
| 57.5° | 571.1  | 596.1  | 655.3  | 713.2  | 733.0  |
| 60°   | 522.4  | 548.7  | 611.9  | 671.1  | 690.9  |
| 62.5° | 472.4  | 501.4  | 568.5  | 629.0  | 651.4  |
| 65°   | 418.5  | 454.0  | 525.1  | 586.9  | 609.3  |
| 67.5° | 369.8  | 406.6  | 481.6  | 544.8  | 564.5  |
| 70°   | 314.5  | 359.2  | 435.6  | 498.7  | 521.1  |
| 72.5° | 267.1  | 311.9  | 392.1  | 454.0  | 476.4  |
| 75°   | 217.1  | 265.8  | 346.1  | 407.9  | 427.7  |
| 77.5° | 167.1  | 221.1  | 301.3  | 348.7  | 355.3  |
| 80°   | 119.7  | 176.3  | 250.0  | 277.7  | 286.9  |
| 82.5° | 84.2   | 135.5  | 184.2  | 202.7  | 207.9  |
| 85°   | 46.1   | 89.5   | 115.8  | 123.7  | 123.7  |
| 87.5° | 19.7   | 38.2   | 46.1   | 47.4   | 48.7   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)