

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: P259427

Luminaire Tested: **22CZ-LD5-39-S-UNV-L93050-W2A1-U-3500K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P259427  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P25712)  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22CZ-LD5-39-S-UNV-L93050-W2A1-U-3500K  
Description: CRUZE 2x2 TUNABLE WHITE LED TROFFER  
WITH SMOOTH LENS  
Light Source: (168) 90 CRI LEDS TUNED AT 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3414.0 lumens  
Efficiency: N/A  
Efficacy: 111.2 lumens/watt  
Spacing Criteria (0/90/45): 1.18 / 1.24 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

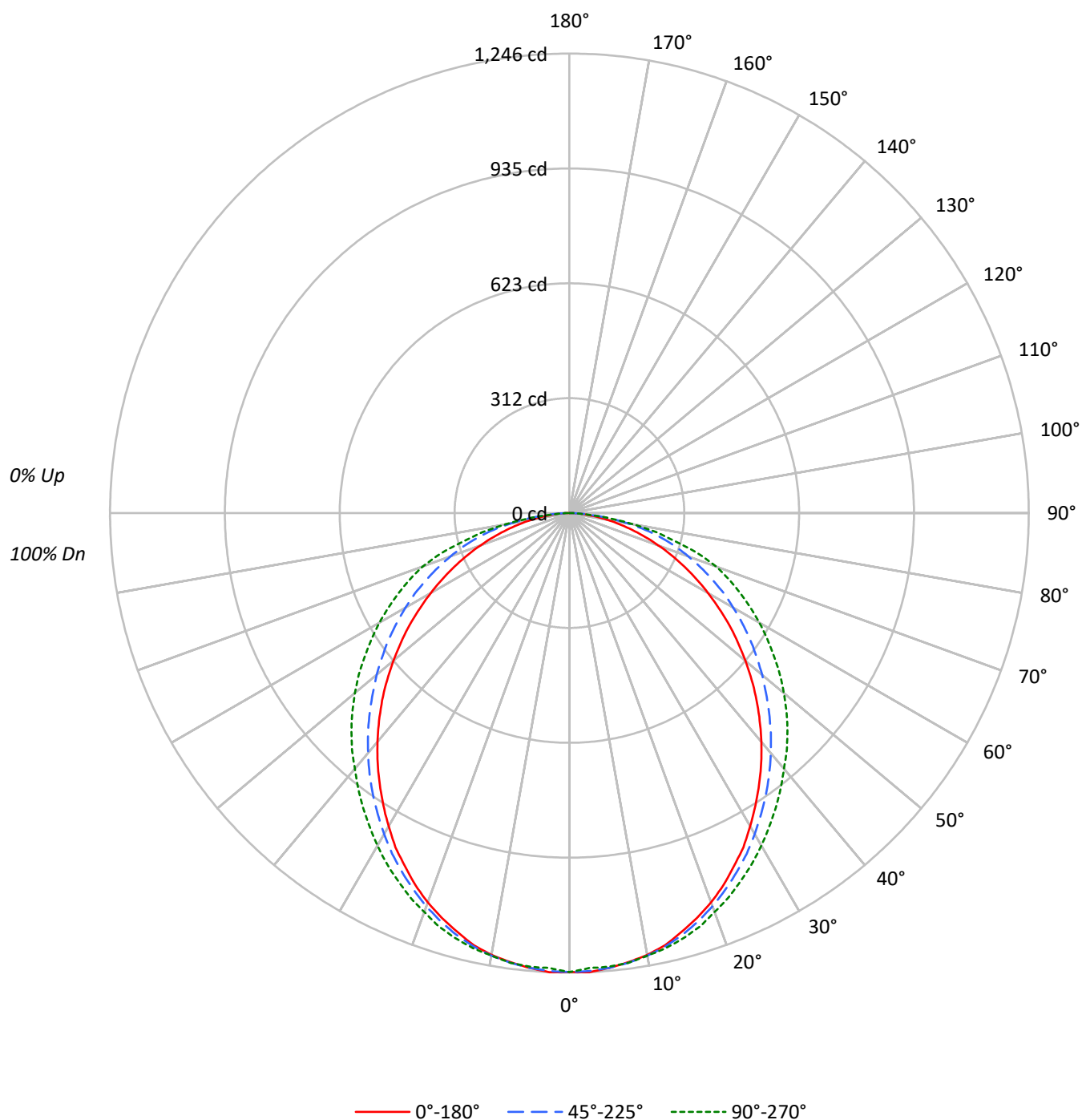
Input Watts (W): 30.704508  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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  |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  |  | 50  | 30  | 10  |  | 50  |
| RCR |     |     |     |     |     |     |     |     |     |     |     |  |     |     |     |  |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 |  | 106 | 106 | 106 |  | 102 |
| 1   | 109 | 104 | 99  | 95  | 106 | 101 | 97  | 94  | 97  | 94  | 91  |  | 93  | 91  | 88  |  | 90  |
| 2   | 99  | 90  | 83  | 77  | 96  | 88  | 82  | 77  | 85  | 79  | 75  |  | 81  | 77  | 73  |  | 78  |
| 3   | 90  | 79  | 71  | 64  | 87  | 78  | 70  | 64  | 75  | 68  | 63  |  | 72  | 66  | 62  |  | 69  |
| 4   | 82  | 70  | 61  | 54  | 80  | 69  | 61  | 54  | 66  | 59  | 53  |  | 64  | 58  | 53  |  | 62  |
| 5   | 76  | 63  | 54  | 47  | 74  | 62  | 53  | 47  | 59  | 52  | 46  |  | 57  | 51  | 46  |  | 56  |
| 6   | 70  | 56  | 47  | 41  | 68  | 56  | 47  | 41  | 54  | 46  | 40  |  | 52  | 45  | 40  |  | 50  |
| 7   | 65  | 51  | 42  | 36  | 63  | 50  | 42  | 36  | 49  | 41  | 36  |  | 47  | 41  | 36  |  | 46  |
| 8   | 60  | 47  | 38  | 32  | 59  | 46  | 38  | 32  | 45  | 37  | 32  |  | 43  | 37  | 32  |  | 42  |
| 9   | 56  | 43  | 35  | 29  | 55  | 42  | 34  | 29  | 41  | 34  | 29  |  | 40  | 34  | 29  |  | 39  |
| 10  | 53  | 40  | 32  | 26  | 52  | 39  | 32  | 26  | 38  | 31  | 26  |  | 37  | 31  | 26  |  | 36  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 3349 | 3349 | 3349 |
| 5°  | 3344 | 3344 | 3336 |
| 10° | 3325 | 3329 | 3329 |
| 15° | 3275 | 3298 | 3326 |
| 20° | 3217 | 3249 | 3296 |
| 25° | 3135 | 3189 | 3267 |
| 30° | 3047 | 3123 | 3236 |
| 35° | 2947 | 3054 | 3205 |
| 40° | 2846 | 2984 | 3180 |
| 45° | 2733 | 2914 | 3183 |
| 50° | 2609 | 2856 | 3178 |
| 55° | 2485 | 2808 | 3177 |
| 60° | 2338 | 2763 | 3203 |
| 65° | 2193 | 2725 | 3247 |
| 70° | 2025 | 2696 | 3329 |
| 75° | 1825 | 2676 | 3086 |
| 80° | 1601 | 2490 | 2693 |
| 85° | 1315 | 1874 | 1670 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 117.5  | 3.4       |
| 10°-20°   | 333.9  | 9.8       |
| 20°-30°   | 495.9  | 14.5      |
| 30°-40°   | 583.7  | 17.1      |
| 40°-50°   | 595.1  | 17.4      |
| 50°-60°   | 536.7  | 15.7      |
| 60°-70°   | 422.8  | 12.4      |
| 70°-80°   | 260.8  | 7.6       |
| 80°-90°   | 67.7   | 2.0       |
| 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°    | 947.3  | 27.7      |
| 0°-40°    | 1531.0 | 44.8      |
| 0°-60°    | 2662.8 | 78.0      |
| 0°-90°    | 3414.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3414.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1245 | 1245  | 1245 | 1245  | 1245 |      |
| 5°  | 1238 | 1240  | 1238 | 1236  | 1235 | 117  |
| 15° | 1176 | 1181  | 1184 | 1190  | 1194 | 331  |
| 25° | 1056 | 1063  | 1074 | 1092  | 1100 | 487  |
| 35° | 897  | 907   | 930  | 959   | 976  | 561  |
| 45° | 718  | 730   | 766  | 812   | 836  | 554  |
| 55° | 530  | 548   | 598  | 653   | 677  | 473  |
| 65° | 344  | 369   | 428  | 482   | 510  | 341  |
| 75° | 176  | 205   | 257  | 287   | 297  | 187  |
| 85° | 43   | 54    | 61   | 57    | 54   | 50   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1244.6 | 1244.6 | 1244.6 | 1244.6 | 1244.6 |
| 2.5°  | 1246.2 | 1246.2 | 1243.0 | 1239.7 | 1234.8 |
| 5°    | 1238.0 | 1239.7 | 1238.0 | 1236.4 | 1234.8 |
| 7.5°  | 1228.2 | 1229.8 | 1229.8 | 1229.8 | 1229.8 |
| 10°   | 1216.7 | 1218.4 | 1218.4 | 1218.4 | 1218.4 |
| 12.5° | 1200.3 | 1202.0 | 1203.6 | 1205.2 | 1208.5 |
| 15°   | 1175.7 | 1180.7 | 1183.9 | 1190.5 | 1193.8 |
| 17.5° | 1151.1 | 1156.1 | 1161.0 | 1169.2 | 1175.7 |
| 20°   | 1123.3 | 1126.5 | 1134.7 | 1144.6 | 1151.1 |
| 22.5° | 1092.1 | 1097.0 | 1105.2 | 1118.3 | 1128.2 |
| 25°   | 1056.0 | 1062.6 | 1074.1 | 1092.1 | 1100.3 |
| 27.5° | 1021.6 | 1026.5 | 1041.3 | 1060.9 | 1072.4 |
| 30°   | 980.6  | 987.2  | 1005.2 | 1029.8 | 1041.3 |
| 32.5° | 939.6  | 947.8  | 967.5  | 995.4  | 1008.5 |
| 35°   | 897.0  | 906.8  | 929.8  | 959.3  | 975.7  |
| 37.5° | 854.3  | 864.2  | 890.4  | 923.2  | 941.2  |
| 40°   | 810.1  | 819.9  | 849.4  | 885.5  | 905.2  |
| 42.5° | 764.1  | 775.6  | 808.4  | 849.4  | 872.4  |
| 45°   | 718.2  | 729.7  | 765.8  | 811.7  | 836.3  |
| 47.5° | 670.7  | 683.8  | 723.1  | 774.0  | 798.6  |
| 50°   | 623.1  | 637.9  | 682.2  | 734.6  | 759.2  |
| 52.5° | 575.6  | 592.0  | 639.5  | 693.6  | 719.9  |
| 55°   | 529.7  | 547.7  | 598.5  | 652.6  | 677.2  |
| 57.5° | 480.5  | 501.8  | 555.9  | 608.4  | 636.2  |
| 60°   | 434.5  | 457.5  | 513.3  | 565.7  | 595.2  |
| 62.5° | 388.6  | 413.2  | 472.3  | 524.7  | 552.6  |
| 65°   | 344.4  | 369.0  | 428.0  | 482.1  | 510.0  |
| 67.5° | 300.1  | 328.0  | 385.4  | 439.5  | 467.3  |
| 70°   | 257.4  | 287.0  | 342.7  | 395.2  | 423.1  |
| 72.5° | 216.5  | 246.0  | 301.7  | 350.9  | 367.3  |
| 75°   | 175.5  | 205.0  | 257.4  | 287.0  | 296.8  |
| 77.5° | 137.7  | 165.6  | 211.5  | 229.6  | 242.7  |
| 80°   | 103.3  | 127.9  | 160.7  | 172.2  | 173.8  |
| 82.5° | 70.5   | 91.8   | 111.5  | 113.1  | 111.5  |
| 85°   | 42.6   | 54.1   | 60.7   | 57.4   | 54.1   |
| 87.5° | 19.7   | 21.3   | 19.7   | 13.1   | 8.2    |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)