

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: P230550

Luminaire Tested: **22CZ-LD5-39-UNV-L940-CD1-U**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P230550  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P25706)  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22CZ-LD5-39-UNV-L940-CD1-U  
Description: CRUZE 2x2 LED TROFFER  
WITH RIBBED LENS  
Light Source: (84) 4000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3469.0 lumens  
Efficiency: N/A  
Efficacy: 95.3 lumens/watt  
Spacing Criteria (0/90/45): 1.17 / 1.26 / 1.34  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

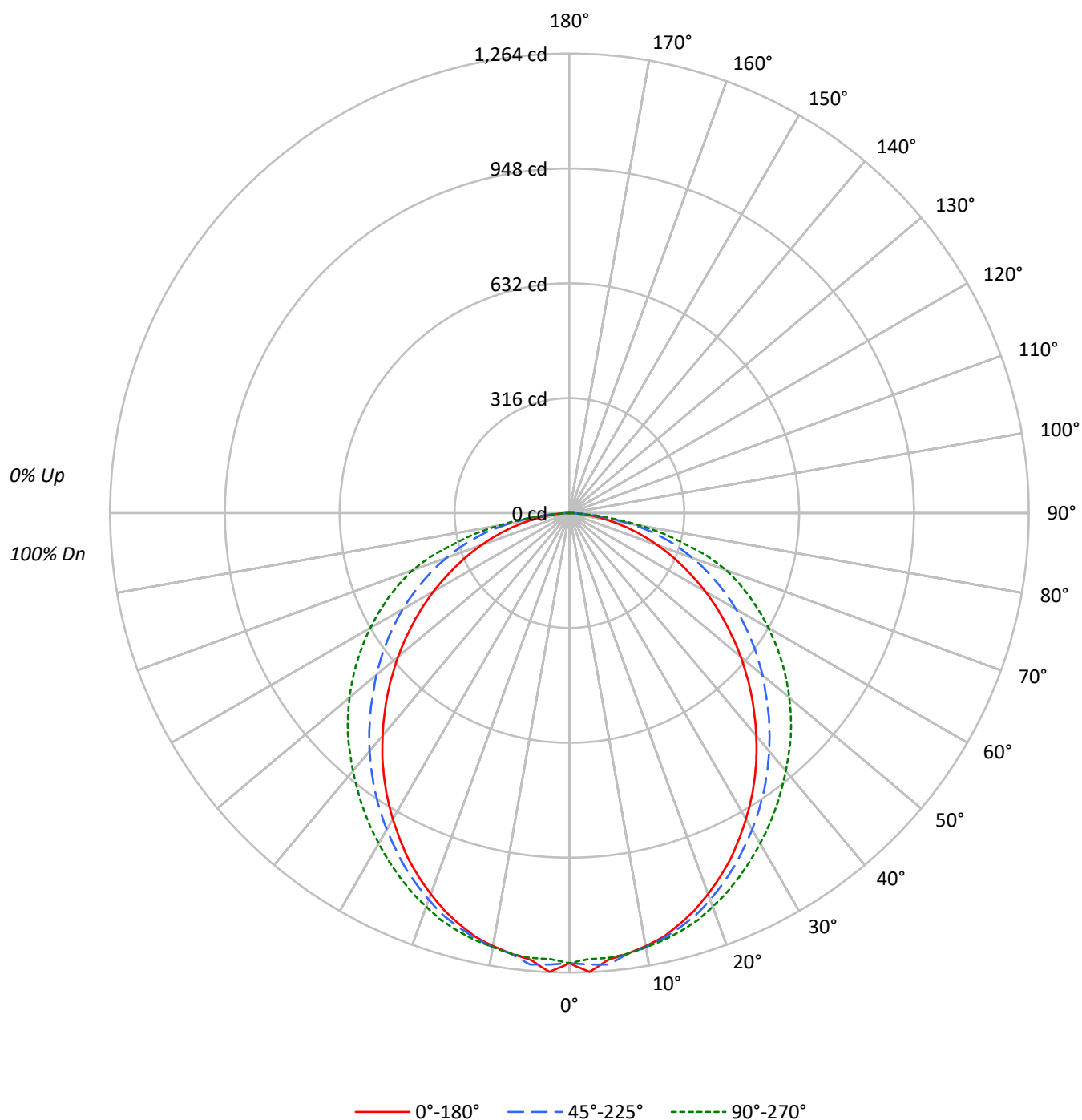
Input Watts (W): 36.4  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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  |     |     |  | 0   |
| RW  | 70  | 50  | 30  | 10  | 70  | 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 |  | 100 |
| 1   | 108 | 104 | 99  | 95  | 106 | 101 | 97  | 94  | 97  | 94  | 91  |  | 93  | 90  | 88  |  | 83  |
| 2   | 98  | 90  | 83  | 77  | 96  | 88  | 82  | 76  | 84  | 79  | 74  |  | 81  | 77  | 73  |  | 69  |
| 3   | 90  | 79  | 70  | 64  | 87  | 77  | 69  | 63  | 74  | 68  | 62  |  | 71  | 66  | 61  |  | 58  |
| 4   | 82  | 70  | 61  | 54  | 80  | 68  | 60  | 54  | 66  | 59  | 53  |  | 64  | 57  | 52  |  | 49  |
| 5   | 75  | 62  | 53  | 46  | 73  | 61  | 53  | 46  | 59  | 51  | 46  |  | 57  | 50  | 45  |  | 43  |
| 6   | 70  | 56  | 47  | 41  | 68  | 55  | 47  | 40  | 53  | 46  | 40  |  | 52  | 45  | 40  |  | 37  |
| 7   | 65  | 51  | 42  | 36  | 63  | 50  | 42  | 36  | 48  | 41  | 35  |  | 47  | 40  | 35  |  | 33  |
| 8   | 60  | 46  | 38  | 32  | 58  | 46  | 38  | 32  | 44  | 37  | 32  |  | 43  | 36  | 31  |  | 29  |
| 9   | 56  | 43  | 34  | 29  | 55  | 42  | 34  | 29  | 41  | 34  | 29  |  | 40  | 33  | 28  |  | 26  |
| 10  | 53  | 39  | 31  | 26  | 51  | 39  | 31  | 26  | 38  | 31  | 26  |  | 37  | 30  | 26  |  | 24  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 3332 | 3332 | 3332 |
| 5°  | 3331 | 3367 | 3317 |
| 10° | 3305 | 3314 | 3314 |
| 15° | 3261 | 3285 | 3313 |
| 20° | 3193 | 3241 | 3300 |
| 25° | 3116 | 3186 | 3281 |
| 30° | 3019 | 3124 | 3260 |
| 35° | 2920 | 3065 | 3253 |
| 40° | 2809 | 3005 | 3253 |
| 45° | 2696 | 2947 | 3280 |
| 50° | 2578 | 2902 | 3305 |
| 55° | 2453 | 2873 | 3348 |
| 60° | 2324 | 2851 | 3405 |
| 65° | 2180 | 2835 | 3491 |
| 70° | 2031 | 2827 | 3610 |
| 75° | 1841 | 2824 | 3421 |
| 80° | 1595 | 2614 | 3033 |
| 85° | 1355 | 1979 | 1927 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 117.4  | 3.4       |
| 10°-20°   | 332.7  | 9.6       |
| 20°-30°   | 494.8  | 14.3      |
| 30°-40°   | 585.3  | 16.9      |
| 40°-50°   | 601.6  | 17.3      |
| 50°-60°   | 549.7  | 15.8      |
| 60°-70°   | 439.7  | 12.7      |
| 70°-80°   | 276.0  | 8.0       |
| 80°-90°   | 71.9   | 2.1       |
| 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°    | 944.9  | 27.2      |
| 0°-40°    | 1530.2 | 44.1      |
| 0°-60°    | 2681.4 | 77.3      |
| 0°-90°    | 3469.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3469.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1238 | 1238  | 1238 | 1238  | 1238 |      |
| 5°  | 1233 | 1233  | 1247 | 1238  | 1228 | 117  |
| 15° | 1171 | 1172  | 1179 | 1186  | 1189 | 330  |
| 25° | 1049 | 1056  | 1073 | 1091  | 1105 | 482  |
| 35° | 889  | 901   | 933  | 968   | 990  | 556  |
| 45° | 708  | 727   | 774  | 832   | 862  | 546  |
| 55° | 523  | 548   | 612  | 680   | 714  | 468  |
| 65° | 342  | 373   | 445  | 513   | 548  | 340  |
| 75° | 177  | 211   | 272  | 312   | 329  | 188  |
| 85° | 44   | 56    | 64   | 62    | 62   | 51   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1238.2 | 1238.2 | 1238.2 | 1238.2 | 1238.2 |
| 2.5°  | 1263.5 | 1258.4 | 1243.3 | 1233.1 | 1228.1 |
| 5°    | 1233.1 | 1233.1 | 1246.6 | 1238.2 | 1228.1 |
| 7.5°  | 1223.0 | 1223.0 | 1223.0 | 1248.3 | 1223.0 |
| 10°   | 1209.5 | 1211.2 | 1212.9 | 1223.0 | 1212.9 |
| 12.5° | 1194.3 | 1194.3 | 1197.7 | 1201.1 | 1202.8 |
| 15°   | 1170.7 | 1172.4 | 1179.2 | 1185.9 | 1189.3 |
| 17.5° | 1145.4 | 1150.5 | 1158.9 | 1167.4 | 1174.1 |
| 20°   | 1115.1 | 1121.8 | 1131.9 | 1145.4 | 1152.2 |
| 22.5° | 1083.0 | 1089.8 | 1103.2 | 1118.4 | 1130.2 |
| 25°   | 1049.3 | 1056.0 | 1072.9 | 1091.4 | 1104.9 |
| 27.5° | 1010.5 | 1018.9 | 1039.1 | 1064.4 | 1077.9 |
| 30°   | 971.7  | 981.8  | 1005.4 | 1034.1 | 1049.3 |
| 32.5° | 931.2  | 943.0  | 970.0  | 1002.0 | 1020.6 |
| 35°   | 889.0  | 900.8  | 932.9  | 968.3  | 990.2  |
| 37.5° | 845.1  | 858.6  | 894.1  | 934.6  | 958.2  |
| 40°   | 799.6  | 814.8  | 855.3  | 899.1  | 926.1  |
| 42.5° | 754.1  | 770.9  | 814.8  | 867.1  | 894.1  |
| 45°   | 708.5  | 727.1  | 774.3  | 831.7  | 862.0  |
| 47.5° | 661.3  | 683.2  | 732.1  | 796.2  | 826.6  |
| 50°   | 615.7  | 637.7  | 693.3  | 759.1  | 789.5  |
| 52.5° | 568.5  | 593.8  | 652.8  | 720.3  | 752.4  |
| 55°   | 522.9  | 548.3  | 612.4  | 679.8  | 713.6  |
| 57.5° | 477.4  | 502.7  | 570.2  | 639.3  | 673.1  |
| 60°   | 431.9  | 458.8  | 529.7  | 597.2  | 632.6  |
| 62.5° | 386.3  | 415.0  | 487.5  | 556.7  | 590.4  |
| 65°   | 342.4  | 372.8  | 445.3  | 512.8  | 548.3  |
| 67.5° | 300.3  | 332.3  | 403.2  | 469.0  | 504.4  |
| 70°   | 258.1  | 290.2  | 359.3  | 423.4  | 458.8  |
| 72.5° | 217.6  | 249.7  | 317.1  | 374.5  | 401.5  |
| 75°   | 177.1  | 210.9  | 271.6  | 312.1  | 329.0  |
| 77.5° | 138.3  | 172.1  | 224.4  | 251.4  | 269.9  |
| 80°   | 102.9  | 131.6  | 168.7  | 188.9  | 195.7  |
| 82.5° | 70.9   | 94.5   | 118.1  | 123.1  | 126.5  |
| 85°   | 43.9   | 55.7   | 64.1   | 62.4   | 62.4   |
| 87.5° | 20.2   | 21.9   | 18.6   | 13.5   | 8.4    |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)