

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: P#

Luminaire Tested: **22CZ-LD5-44SE-S-UNV-L840-CD1-U**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P#  
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-LD5-44SE-S-UNV-L840-CD1-U  
Description: CRUZE 2x2 LED TROFFER

Light Source: -  
Ballast/Driver: -

**Summary**

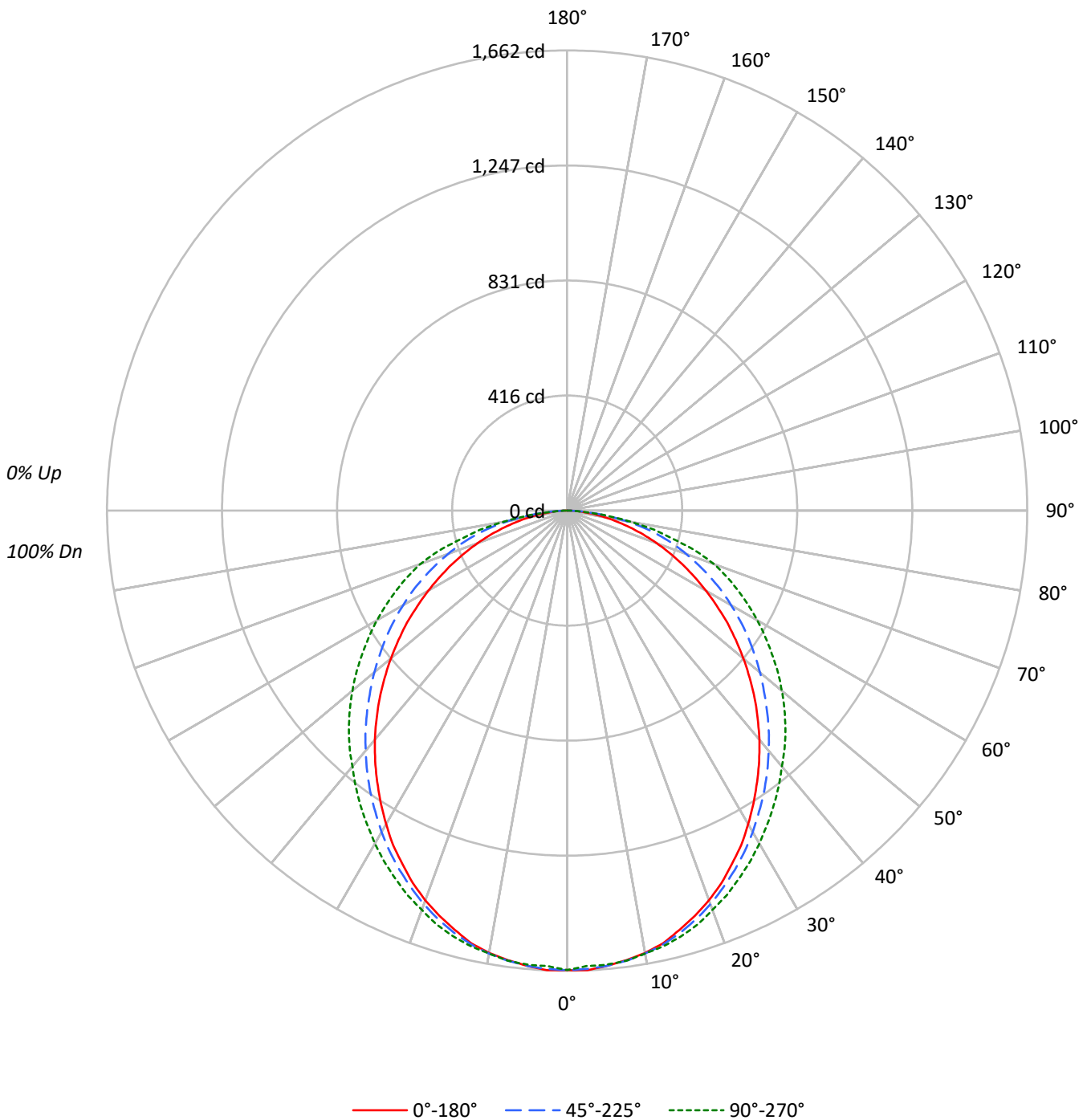
Lumens per Lamp: N/A  
Luminaire Lumens: 4551.7 lumens  
Efficiency: N/A  
Efficacy: 113.8 lumens/watt  
Spacing Criteria (0/90/45): 1.18 / 1.24 / 1.33  
Luminous Opening: Rectangular w/ Sides (W: 2' x L: 2' x H: 0.1')  
CIE Type: Direct

Input Watts (W): 40  
Input Voltage (V): NR  
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   | 109 | 104 | 99  | 95  | 106 | 101 | 97  | 94  | 97  | 94  | 91  | 93  | 91  | 88  | 90  | 87  | 85  | 83  |
| 2   | 99  | 90  | 83  | 77  | 96  | 88  | 82  | 77  | 85  | 79  | 75  | 81  | 77  | 73  | 78  | 75  | 71  | 69  |
| 3   | 90  | 79  | 71  | 64  | 87  | 78  | 70  | 64  | 75  | 68  | 63  | 72  | 66  | 62  | 69  | 64  | 60  | 58  |
| 4   | 82  | 70  | 61  | 54  | 80  | 69  | 61  | 54  | 66  | 59  | 53  | 64  | 58  | 53  | 62  | 56  | 52  | 50  |
| 5   | 76  | 63  | 54  | 47  | 74  | 62  | 53  | 47  | 59  | 52  | 46  | 57  | 51  | 46  | 56  | 50  | 45  | 43  |
| 6   | 70  | 56  | 47  | 41  | 68  | 56  | 47  | 41  | 54  | 46  | 40  | 52  | 45  | 40  | 50  | 44  | 40  | 38  |
| 7   | 65  | 51  | 42  | 36  | 63  | 50  | 42  | 36  | 49  | 41  | 36  | 47  | 41  | 36  | 46  | 40  | 35  | 33  |
| 8   | 60  | 47  | 38  | 32  | 59  | 46  | 38  | 32  | 45  | 37  | 32  | 43  | 37  | 32  | 42  | 36  | 32  | 30  |
| 9   | 56  | 43  | 35  | 29  | 55  | 42  | 34  | 29  | 41  | 34  | 29  | 40  | 34  | 29  | 39  | 33  | 29  | 27  |
| 10  | 53  | 40  | 32  | 26  | 52  | 39  | 32  | 26  | 38  | 31  | 26  | 37  | 31  | 26  | 36  | 30  | 26  | 24  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 4465 | 4465 | 4465 |
| 5°  | 4439 | 4431 | 4428 |
| 10° | 4394 | 4384 | 4400 |
| 15° | 4309 | 4316 | 4375 |
| 20° | 4212 | 4224 | 4317 |
| 25° | 4085 | 4116 | 4257 |
| 30° | 3948 | 4001 | 4193 |
| 35° | 3796 | 3880 | 4129 |
| 40° | 3641 | 3755 | 4069 |
| 45° | 3471 | 3629 | 4041 |
| 50° | 3282 | 3512 | 3999 |
| 55° | 3092 | 3400 | 3954 |
| 60° | 2870 | 3281 | 3931 |
| 65° | 2640 | 3155 | 3910 |
| 70° | 2374 | 3010 | 3902 |
| 75° | 2049 | 2823 | 3467 |
| 80° | 1662 | 2370 | 2797 |
| 85° | 1116 | 1381 | 1417 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 156.7  | 3.4       |
| 10°-20°   | 445.1  | 9.8       |
| 20°-30°   | 661.2  | 14.5      |
| 30°-40°   | 778.2  | 17.1      |
| 40°-50°   | 793.4  | 17.4      |
| 50°-60°   | 715.6  | 15.7      |
| 60°-70°   | 563.6  | 12.4      |
| 70°-80°   | 347.7  | 7.6       |
| 80°-90°   | 90.2   | 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°    | 1263.0 | 27.7      |
| 0°-40°    | 2041.2 | 44.8      |
| 0°-60°    | 3550.2 | 78.0      |
| 0°-90°    | 4551.7 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 4551.7 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1659 | 1659  | 1659 | 1659  | 1659 |      |
| 5°  | 1651 | 1653  | 1651 | 1648  | 1646 | 157  |
| 15° | 1568 | 1574  | 1578 | 1587  | 1592 | 442  |
| 25° | 1408 | 1417  | 1432 | 1456  | 1467 | 649  |
| 35° | 1196 | 1209  | 1240 | 1279  | 1301 | 748  |
| 45° | 958  | 973   | 1021 | 1082  | 1115 | 738  |
| 55° | 706  | 730   | 798  | 870   | 903  | 630  |
| 65° | 459  | 492   | 571  | 643   | 680  | 455  |
| 75° | 234  | 273   | 343  | 383   | 396  | 250  |
| 85° | 57   | 72    | 81   | 76    | 72   | 67   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1659.4 | 1659.4 | 1659.4 | 1659.4 | 1659.4 |
| 2.5°  | 1661.6 | 1661.6 | 1657.2 | 1652.8 | 1646.3 |
| 5°    | 1650.6 | 1652.8 | 1650.6 | 1648.5 | 1646.3 |
| 7.5°  | 1637.5 | 1639.7 | 1639.7 | 1639.7 | 1639.7 |
| 10°   | 1622.2 | 1624.4 | 1624.4 | 1624.4 | 1624.4 |
| 12.5° | 1600.4 | 1602.5 | 1604.7 | 1606.9 | 1611.3 |
| 15°   | 1567.6 | 1574.1 | 1578.5 | 1587.2 | 1591.6 |
| 17.5° | 1534.8 | 1541.3 | 1547.9 | 1558.8 | 1567.6 |
| 20°   | 1497.6 | 1502.0 | 1512.9 | 1526.0 | 1534.8 |
| 22.5° | 1456.1 | 1462.6 | 1473.5 | 1491.0 | 1504.2 |
| 25°   | 1408.0 | 1416.7 | 1432.0 | 1456.1 | 1467.0 |
| 27.5° | 1362.0 | 1368.6 | 1388.3 | 1414.5 | 1429.8 |
| 30°   | 1307.4 | 1316.1 | 1340.2 | 1373.0 | 1388.3 |
| 32.5° | 1252.7 | 1263.7 | 1289.9 | 1327.1 | 1344.6 |
| 35°   | 1195.9 | 1209.0 | 1239.6 | 1279.0 | 1300.8 |
| 37.5° | 1139.0 | 1152.2 | 1187.1 | 1230.9 | 1254.9 |
| 40°   | 1080.0 | 1093.1 | 1132.5 | 1180.6 | 1206.8 |
| 42.5° | 1018.8 | 1034.1 | 1077.8 | 1132.5 | 1163.1 |
| 45°   | 957.6  | 972.9  | 1021.0 | 1082.2 | 1115.0 |
| 47.5° | 894.2  | 911.7  | 964.1  | 1031.9 | 1064.7 |
| 50°   | 830.8  | 850.5  | 909.5  | 979.5  | 1012.2 |
| 52.5° | 767.4  | 789.2  | 852.6  | 924.8  | 959.8  |
| 55°   | 706.2  | 730.2  | 798.0  | 870.1  | 902.9  |
| 57.5° | 640.6  | 669.0  | 741.1  | 811.1  | 848.3  |
| 60°   | 579.4  | 610.0  | 684.3  | 754.3  | 793.6  |
| 62.5° | 518.1  | 550.9  | 629.6  | 699.6  | 736.8  |
| 65°   | 459.1  | 491.9  | 570.6  | 642.8  | 679.9  |
| 67.5° | 400.1  | 437.3  | 513.8  | 585.9  | 623.1  |
| 70°   | 343.2  | 382.6  | 456.9  | 526.9  | 564.1  |
| 72.5° | 288.6  | 327.9  | 402.3  | 467.9  | 489.7  |
| 75°   | 233.9  | 273.3  | 343.2  | 382.6  | 395.7  |
| 77.5° | 183.6  | 220.8  | 282.0  | 306.1  | 323.6  |
| 80°   | 137.7  | 170.5  | 214.3  | 229.6  | 231.7  |
| 82.5° | 94.0   | 122.4  | 148.7  | 150.9  | 148.7  |
| 85°   | 56.8   | 72.1   | 80.9   | 76.5   | 72.1   |
| 87.5° | 26.2   | 28.4   | 26.2   | 17.5   | 10.9   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)