

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: P230834

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

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P230834  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P25713)  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22CZ-LD5-39SE-SQP-UNV-L940-CD1-U  
Description: CRUZE 2x2 LED TROFFER  
WITH SQP LENS  
Light Source: (56) 4000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2414.0 lumens  
Efficiency: N/A  
Efficacy: 69.2 lumens/watt  
Spacing Criteria (0/90/45): 1.25 / 1.31 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

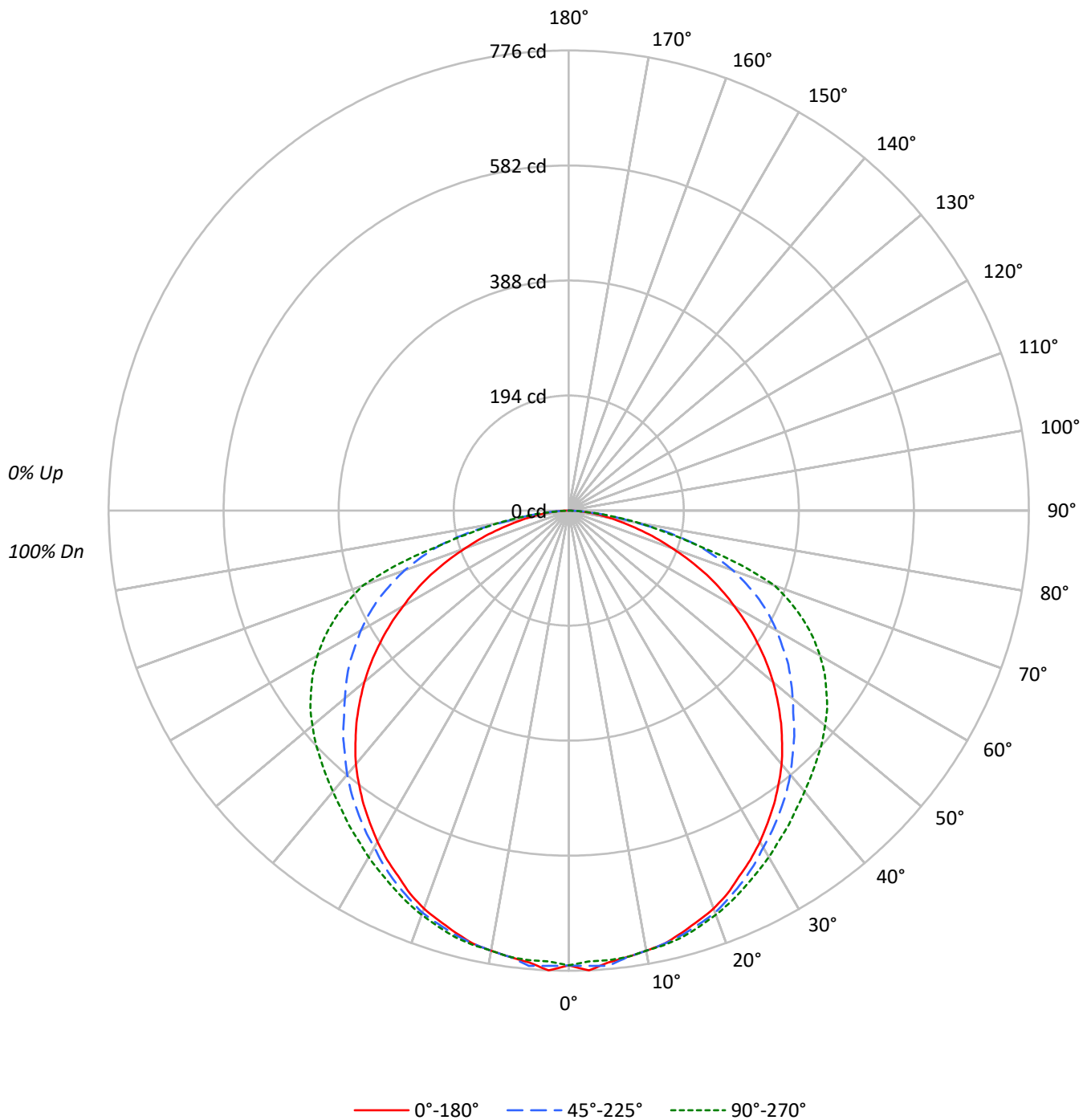
Input Watts (W): 34.9  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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  | 30  | 10  |
| RCR |     |     |     |     |     |     |     |     |  |     |     |     |  |     |     |     |  |     |     |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 |  | 111 | 111 | 111 |  | 106 | 106 | 106 |  | 102 | 102 | 102 |
| 1   | 108 | 103 | 99  | 95  | 105 | 101 | 97  | 93  |  | 97  | 93  | 90  |  | 93  | 90  | 87  |  | 89  | 87  | 85  |
| 2   | 98  | 89  | 82  | 76  | 95  | 87  | 81  | 75  |  | 84  | 78  | 73  |  | 80  | 76  | 71  |  | 77  | 73  | 70  |
| 3   | 89  | 78  | 69  | 62  | 86  | 76  | 68  | 62  |  | 73  | 66  | 61  |  | 70  | 64  | 59  |  | 68  | 63  | 58  |
| 4   | 81  | 68  | 59  | 52  | 79  | 67  | 58  | 52  |  | 64  | 57  | 51  |  | 62  | 56  | 50  |  | 60  | 54  | 50  |
| 5   | 74  | 61  | 52  | 45  | 72  | 60  | 51  | 44  |  | 58  | 50  | 44  |  | 56  | 49  | 43  |  | 54  | 48  | 43  |
| 6   | 68  | 55  | 45  | 39  | 66  | 54  | 45  | 39  |  | 52  | 44  | 38  |  | 50  | 43  | 38  |  | 48  | 42  | 37  |
| 7   | 63  | 49  | 40  | 34  | 62  | 49  | 40  | 34  |  | 47  | 39  | 34  |  | 45  | 39  | 33  |  | 44  | 38  | 33  |
| 8   | 59  | 45  | 36  | 30  | 57  | 44  | 36  | 30  |  | 43  | 35  | 30  |  | 42  | 35  | 30  |  | 40  | 34  | 29  |
| 9   | 55  | 41  | 33  | 27  | 54  | 41  | 33  | 27  |  | 39  | 32  | 27  |  | 38  | 32  | 27  |  | 37  | 31  | 27  |
| 10  | 51  | 38  | 30  | 24  | 50  | 37  | 30  | 24  |  | 36  | 29  | 24  |  | 35  | 29  | 24  |  | 35  | 28  | 24  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 2063 | 2063 | 2063 |
| 5°  | 2066 | 2081 | 2056 |
| 10° | 2059 | 2059 | 2059 |
| 15° | 2053 | 2063 | 2074 |
| 20° | 2046 | 2067 | 2078 |
| 25° | 2021 | 2054 | 2082 |
| 30° | 2004 | 2039 | 2097 |
| 35° | 1983 | 2038 | 2125 |
| 40° | 1963 | 2042 | 2173 |
| 45° | 1926 | 2047 | 2254 |
| 50° | 1883 | 2064 | 2362 |
| 55° | 1821 | 2120 | 2489 |
| 60° | 1735 | 2179 | 2633 |
| 65° | 1635 | 2256 | 2781 |
| 70° | 1460 | 2316 | 2906 |
| 75° | 1267 | 2320 | 2300 |
| 80° | 1075 | 1714 | 1860 |
| 85° | 926  | 1158 | 1041 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 72.8   | 3.0       |
| 10°-20°   | 209.1  | 8.7       |
| 20°-30°   | 318.6  | 13.2      |
| 30°-40°   | 389.8  | 16.1      |
| 40°-50°   | 419.5  | 17.4      |
| 50°-60°   | 406.3  | 16.8      |
| 60°-70°   | 344.2  | 14.3      |
| 70°-80°   | 208.0  | 8.6       |
| 80°-90°   | 45.7   | 1.9       |
| 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°    | 600.5  | 24.9      |
| 0°-40°    | 990.3  | 41.0      |
| 0°-60°    | 1816.1 | 75.2      |
| 0°-90°    | 2414.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2414.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 767 | 767   | 767 | 767   | 767 |      |
| 5°  | 765 | 765   | 770 | 767   | 761 | 73   |
| 15° | 737 | 739   | 740 | 742   | 744 | 208  |
| 25° | 680 | 684   | 692 | 697   | 701 | 314  |
| 35° | 604 | 607   | 620 | 637   | 647 | 378  |
| 45° | 506 | 516   | 538 | 572   | 592 | 390  |
| 55° | 388 | 405   | 452 | 504   | 530 | 347  |
| 65° | 257 | 285   | 354 | 411   | 437 | 253  |
| 75° | 122 | 165   | 223 | 227   | 221 | 131  |
| 85° | 30  | 36    | 38  | 36    | 34  | 34   |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 766.8 | 766.8 | 766.8 | 766.8 | 766.8 |
| 2.5°  | 776.1 | 774.2 | 768.6 | 764.9 | 761.1 |
| 5°    | 764.9 | 764.9 | 770.5 | 766.8 | 761.1 |
| 7.5°  | 759.3 | 759.3 | 759.3 | 768.6 | 759.3 |
| 10°   | 753.6 | 755.5 | 753.6 | 761.1 | 753.6 |
| 12.5° | 748.0 | 748.0 | 748.0 | 749.9 | 749.9 |
| 15°   | 736.8 | 738.6 | 740.5 | 742.4 | 744.3 |
| 17.5° | 725.5 | 727.4 | 731.1 | 733.0 | 734.9 |
| 20°   | 714.3 | 716.1 | 721.8 | 721.8 | 725.5 |
| 22.5° | 699.3 | 699.3 | 706.8 | 708.6 | 714.3 |
| 25°   | 680.5 | 684.3 | 691.8 | 697.4 | 701.1 |
| 27.5° | 663.6 | 667.4 | 674.9 | 682.4 | 688.0 |
| 30°   | 644.9 | 648.6 | 656.1 | 667.4 | 674.9 |
| 32.5° | 624.3 | 628.0 | 639.3 | 652.4 | 659.9 |
| 35°   | 603.7 | 607.4 | 620.5 | 637.4 | 646.8 |
| 37.5° | 581.2 | 586.8 | 601.8 | 620.5 | 631.8 |
| 40°   | 558.7 | 564.3 | 581.2 | 601.8 | 618.7 |
| 42.5° | 532.4 | 539.9 | 558.7 | 586.8 | 605.5 |
| 45°   | 506.2 | 515.5 | 538.0 | 571.8 | 592.4 |
| 47.5° | 478.0 | 487.4 | 513.7 | 556.8 | 579.3 |
| 50°   | 449.9 | 461.2 | 493.0 | 539.9 | 564.3 |
| 52.5° | 419.9 | 431.2 | 472.4 | 523.0 | 549.3 |
| 55°   | 388.1 | 404.9 | 451.8 | 504.3 | 530.5 |
| 57.5° | 356.2 | 374.9 | 427.4 | 483.7 | 511.8 |
| 60°   | 322.4 | 344.9 | 404.9 | 461.2 | 489.3 |
| 62.5° | 290.6 | 314.9 | 380.6 | 436.8 | 464.9 |
| 65°   | 256.8 | 285.0 | 354.3 | 410.6 | 436.8 |
| 67.5° | 221.2 | 256.8 | 324.3 | 378.7 | 404.9 |
| 70°   | 185.6 | 226.8 | 294.3 | 344.9 | 369.3 |
| 72.5° | 153.7 | 196.8 | 260.6 | 303.7 | 303.7 |
| 75°   | 121.9 | 165.0 | 223.1 | 226.8 | 221.2 |
| 77.5° | 93.7  | 135.0 | 174.3 | 159.3 | 163.1 |
| 80°   | 69.4  | 103.1 | 110.6 | 116.2 | 120.0 |
| 82.5° | 46.9  | 69.4  | 71.2  | 75.0  | 75.0  |
| 85°   | 30.0  | 35.6  | 37.5  | 35.6  | 33.7  |
| 87.5° | 13.1  | 15.0  | 11.2  | 7.5   | 5.6   |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |

(END OF REPORT)