

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: P230857

Luminaire Tested: **22CZ-LD5-39-RDP-UNV-L935-CD1-U**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P230857  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P25714)  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22CZ-LD5-39-RDP-UNV-L935-CD1-U  
Description: CRUZE 2x2 LED TROFFER  
WITH RDP LENS  
Light Source: (84) 3500K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2229.0 lumens  
Efficiency: N/A  
Efficacy: 61.2 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.28 / 1.36  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

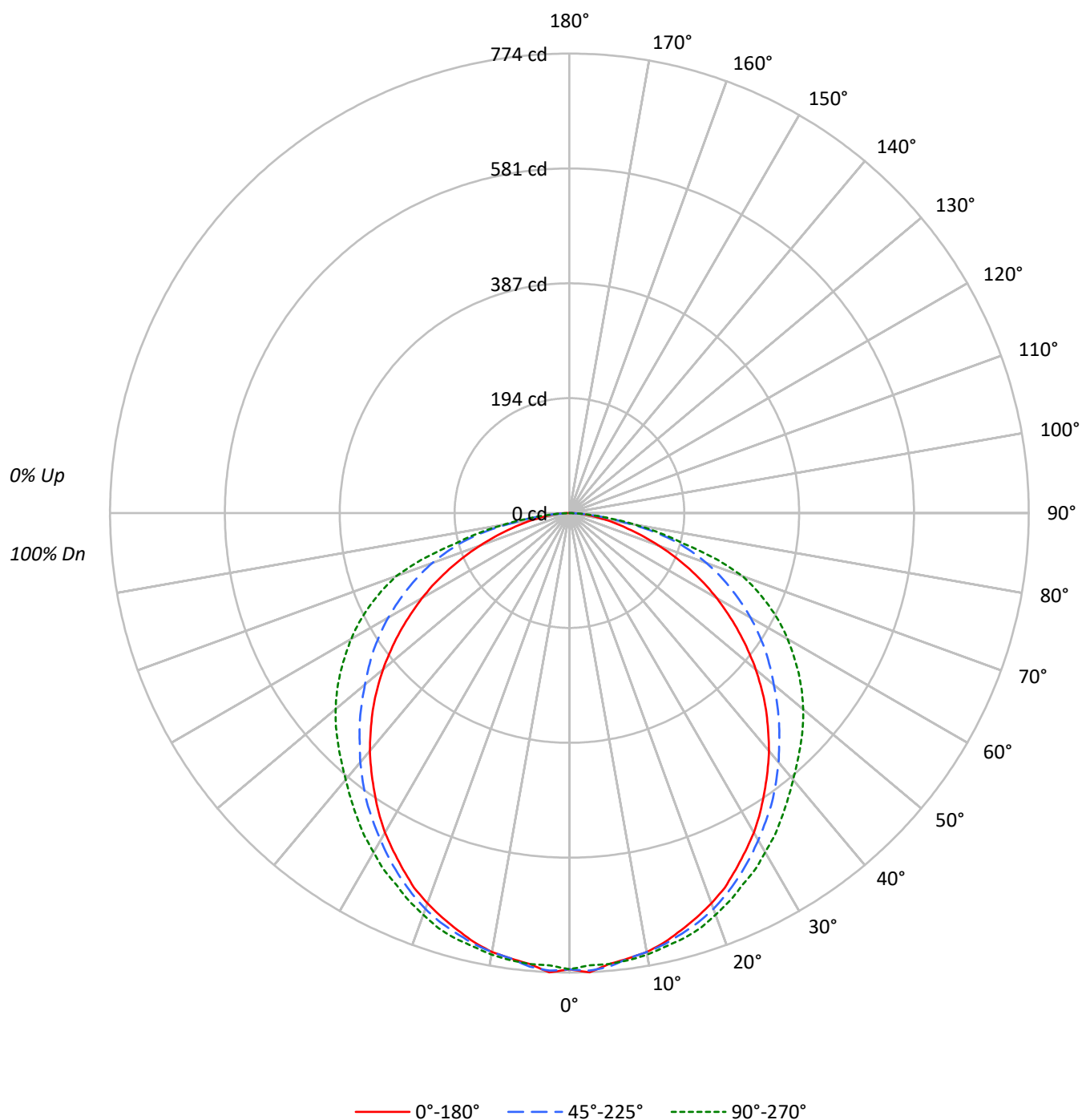
Input Watts (W): 36.4  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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  |     |  |     |     | 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 | 104 | 99  | 95  | 106 | 101 | 97  | 94  |  | 97  | 94  | 91  |  | 93  | 90  | 88  |  | 89  | 87  | 85  |
| 2   | 98  | 90  | 83  | 77  | 96  | 88  | 81  | 76  |  | 84  | 79  | 74  |  | 81  | 77  | 73  |  | 78  | 74  | 71  |
| 3   | 89  | 79  | 70  | 64  | 87  | 77  | 69  | 63  |  | 74  | 67  | 62  |  | 71  | 66  | 61  |  | 69  | 64  | 60  |
| 4   | 82  | 69  | 60  | 54  | 79  | 68  | 60  | 53  |  | 66  | 58  | 52  |  | 63  | 57  | 52  |  | 61  | 56  | 51  |
| 5   | 75  | 62  | 53  | 46  | 73  | 61  | 52  | 46  |  | 59  | 51  | 45  |  | 57  | 50  | 45  |  | 55  | 49  | 44  |
| 6   | 69  | 56  | 47  | 40  | 67  | 55  | 46  | 40  |  | 53  | 45  | 40  |  | 51  | 44  | 39  |  | 50  | 44  | 39  |
| 7   | 64  | 50  | 42  | 35  | 62  | 50  | 41  | 35  |  | 48  | 40  | 35  |  | 47  | 40  | 35  |  | 45  | 39  | 34  |
| 8   | 60  | 46  | 37  | 31  | 58  | 45  | 37  | 31  |  | 44  | 37  | 31  |  | 43  | 36  | 31  |  | 42  | 35  | 31  |
| 9   | 56  | 42  | 34  | 28  | 54  | 42  | 34  | 28  |  | 40  | 33  | 28  |  | 39  | 33  | 28  |  | 38  | 32  | 28  |
| 10  | 52  | 39  | 31  | 26  | 51  | 38  | 31  | 26  |  | 37  | 30  | 25  |  | 36  | 30  | 25  |  | 36  | 30  | 25  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 2068 | 2068 | 2068 |
| 5°  | 2060 | 2072 | 2060 |
| 10° | 2052 | 2052 | 2064 |
| 15° | 2026 | 2043 | 2067 |
| 20° | 2003 | 2032 | 2062 |
| 25° | 1968 | 2007 | 2051 |
| 30° | 1931 | 1977 | 2050 |
| 35° | 1883 | 1955 | 2052 |
| 40° | 1838 | 1925 | 2060 |
| 45° | 1784 | 1901 | 2097 |
| 50° | 1716 | 1882 | 2153 |
| 55° | 1634 | 1889 | 2213 |
| 60° | 1542 | 1898 | 2285 |
| 65° | 1422 | 1908 | 2367 |
| 70° | 1260 | 1931 | 2439 |
| 75° | 1070 | 1925 | 2077 |
| 80° | 888  | 1548 | 1731 |
| 85° | 772  | 1044 | 997  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 72.6   | 3.3       |
| 10°-20°   | 207.1  | 9.3       |
| 20°-30°   | 311.6  | 14.0      |
| 30°-40°   | 373.4  | 16.8      |
| 40°-50°   | 389.4  | 17.5      |
| 50°-60°   | 362.5  | 16.3      |
| 60°-70°   | 294.4  | 13.2      |
| 70°-80°   | 177.4  | 8.0       |
| 80°-90°   | 40.7   | 1.8       |
| 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°    | 591.3  | 26.5      |
| 0°-40°    | 964.7  | 43.3      |
| 0°-60°    | 1716.6 | 77.0      |
| 0°-90°    | 2229.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2229.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 768 | 768   | 768 | 768   | 768 |      |
| 5°  | 763 | 763   | 767 | 768   | 763 | 72   |
| 15° | 727 | 730   | 733 | 738   | 742 | 205  |
| 25° | 663 | 667   | 676 | 685   | 691 | 305  |
| 35° | 573 | 580   | 595 | 613   | 624 | 359  |
| 45° | 469 | 478   | 500 | 532   | 551 | 361  |
| 55° | 348 | 363   | 403 | 447   | 472 | 311  |
| 65° | 223 | 247   | 300 | 347   | 372 | 221  |
| 75° | 103 | 137   | 185 | 197   | 200 | 111  |
| 85° | 25  | 31    | 34  | 32    | 32  | 29   |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 768.5 | 768.5 | 768.5 | 768.5 | 768.5 |
| 2.5°  | 774.4 | 772.9 | 771.4 | 767.0 | 762.6 |
| 5°    | 762.6 | 762.6 | 767.0 | 768.5 | 762.6 |
| 7.5°  | 756.7 | 756.7 | 756.7 | 762.6 | 759.7 |
| 10°   | 750.8 | 750.8 | 750.8 | 755.3 | 755.3 |
| 12.5° | 740.6 | 742.0 | 743.5 | 745.0 | 747.9 |
| 15°   | 727.3 | 730.3 | 733.2 | 737.6 | 742.0 |
| 17.5° | 714.1 | 717.0 | 722.9 | 727.3 | 733.2 |
| 20°   | 699.4 | 702.4 | 709.7 | 714.1 | 720.0 |
| 22.5° | 683.3 | 684.7 | 693.5 | 699.4 | 706.8 |
| 25°   | 662.7 | 667.1 | 675.9 | 684.7 | 690.6 |
| 27.5° | 642.1 | 646.5 | 656.8 | 668.6 | 677.4 |
| 30°   | 621.5 | 625.9 | 636.2 | 650.9 | 659.7 |
| 32.5° | 598.0 | 603.9 | 615.7 | 633.3 | 643.6 |
| 35°   | 573.1 | 580.4 | 595.1 | 612.7 | 624.5 |
| 37.5° | 548.1 | 555.4 | 571.6 | 593.6 | 605.4 |
| 40°   | 523.1 | 530.4 | 548.1 | 571.6 | 586.3 |
| 42.5° | 495.2 | 504.0 | 523.1 | 551.0 | 568.6 |
| 45°   | 468.7 | 477.5 | 499.6 | 531.9 | 551.0 |
| 47.5° | 439.3 | 449.6 | 474.6 | 511.3 | 533.4 |
| 50°   | 410.0 | 421.7 | 449.6 | 490.8 | 514.3 |
| 52.5° | 379.1 | 392.3 | 426.1 | 468.7 | 493.7 |
| 55°   | 348.2 | 362.9 | 402.6 | 446.7 | 471.7 |
| 57.5° | 317.4 | 333.5 | 377.6 | 423.2 | 448.2 |
| 60°   | 286.5 | 304.2 | 352.6 | 399.7 | 424.6 |
| 62.5° | 255.7 | 274.8 | 326.2 | 373.2 | 399.7 |
| 65°   | 223.3 | 246.9 | 299.7 | 346.8 | 371.7 |
| 67.5° | 191.0 | 218.9 | 273.3 | 318.9 | 342.4 |
| 70°   | 160.2 | 191.0 | 245.4 | 288.0 | 310.0 |
| 72.5° | 130.8 | 163.1 | 216.0 | 252.7 | 261.5 |
| 75°   | 102.9 | 136.7 | 185.1 | 196.9 | 199.8 |
| 77.5° | 79.3  | 110.2 | 146.9 | 149.9 | 157.2 |
| 80°   | 57.3  | 83.8  | 99.9  | 108.7 | 111.7 |
| 82.5° | 39.7  | 57.3  | 66.1  | 67.6  | 69.1  |
| 85°   | 25.0  | 30.9  | 33.8  | 32.3  | 32.3  |
| 87.5° | 13.2  | 11.8  | 10.3  | 7.3   | 5.9   |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |

(END OF REPORT)