

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: P230580

Luminaire Tested: **22CZ-LD5-24-S-UNV-L930-CD1-U**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P230580  
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-LD5-24-S-UNV-L930-CD1-U  
Description: CRUZE 2x2 LED TROFFER  
WITH SMOOTH LENS  
Light Source: (84) 3000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2087.0 lumens  
Efficiency: N/A  
Efficacy: 106.5 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

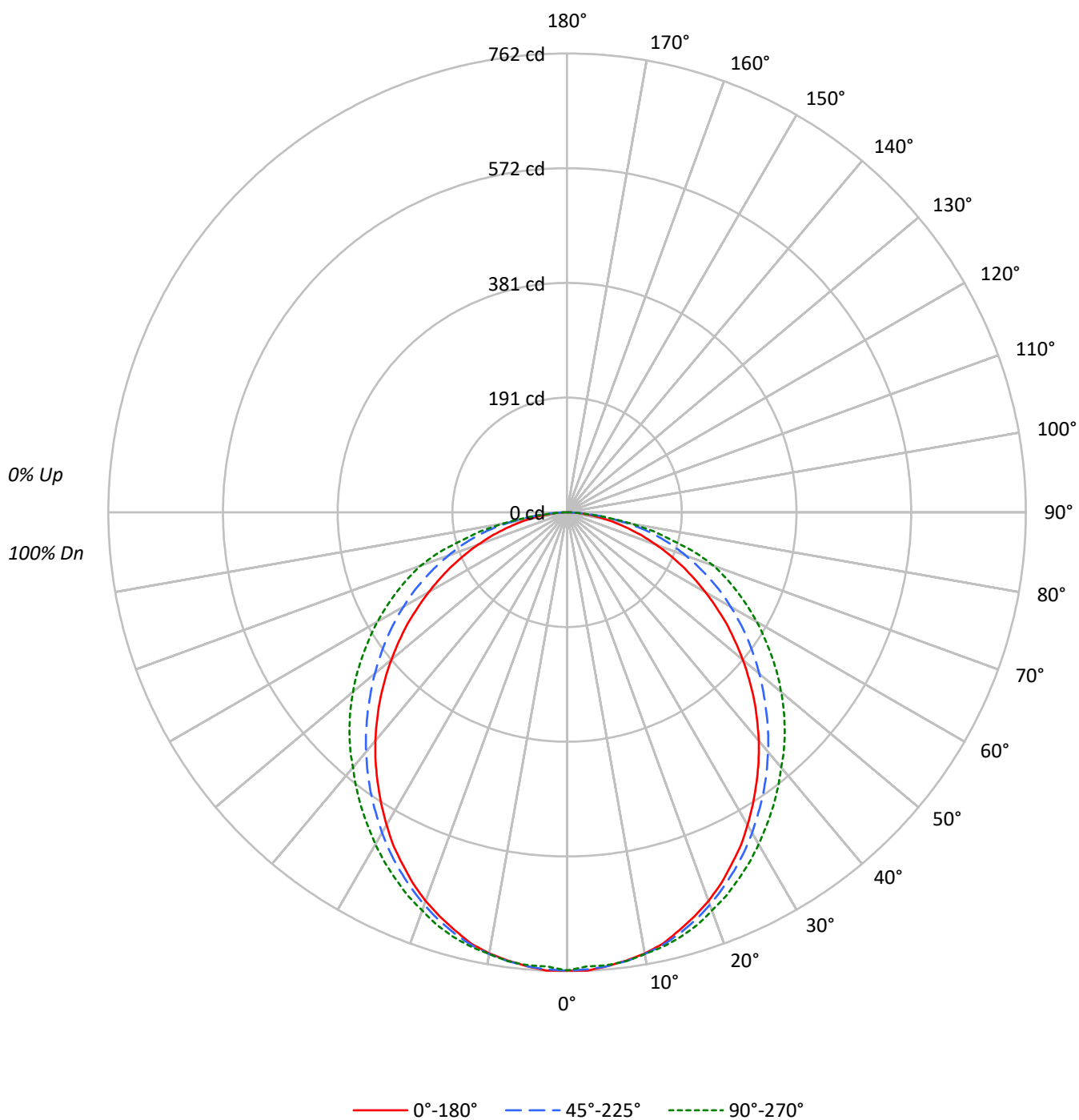
Input Watts (W): 19.6  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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  | 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 | 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°  | 2047 | 2047 | 2047 |
| 5°  | 2044 | 2044 | 2039 |
| 10° | 2032 | 2035 | 2035 |
| 15° | 2002 | 2016 | 2033 |
| 20° | 1966 | 1987 | 2015 |
| 25° | 1917 | 1950 | 1997 |
| 30° | 1863 | 1909 | 1978 |
| 35° | 1801 | 1867 | 1959 |
| 40° | 1740 | 1824 | 1944 |
| 45° | 1671 | 1781 | 1945 |
| 50° | 1595 | 1746 | 1943 |
| 55° | 1519 | 1717 | 1942 |
| 60° | 1429 | 1689 | 1958 |
| 65° | 1340 | 1666 | 1985 |
| 70° | 1238 | 1648 | 2035 |
| 75° | 1116 | 1637 | 1886 |
| 80° | 979  | 1522 | 1647 |
| 85° | 806  | 1145 | 1022 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 71.8   | 3.4       |
| 10°-20°   | 204.1  | 9.8       |
| 20°-30°   | 303.1  | 14.5      |
| 30°-40°   | 356.8  | 17.1      |
| 40°-50°   | 363.8  | 17.4      |
| 50°-60°   | 328.1  | 15.7      |
| 60°-70°   | 258.4  | 12.4      |
| 70°-80°   | 159.4  | 7.6       |
| 80°-90°   | 41.4   | 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°    | 579.1  | 27.7      |
| 0°-40°    | 935.9  | 44.8      |
| 0°-60°    | 1627.8 | 78.0      |
| 0°-90°    | 2087.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2087.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 761 | 761   | 761 | 761   | 761 |      |
| 5°  | 757 | 758   | 757 | 756   | 755 | 72   |
| 15° | 719 | 722   | 724 | 728   | 730 | 203  |
| 25° | 646 | 650   | 657 | 668   | 673 | 297  |
| 35° | 548 | 554   | 568 | 586   | 596 | 343  |
| 45° | 439 | 446   | 468 | 496   | 511 | 338  |
| 55° | 324 | 335   | 366 | 399   | 414 | 289  |
| 65° | 210 | 226   | 262 | 295   | 312 | 209  |
| 75° | 107 | 125   | 157 | 175   | 181 | 114  |
| 85° | 26  | 33    | 37  | 35    | 33  | 31   |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 760.8 | 760.8 | 760.8 | 760.8 | 760.8 |
| 2.5°  | 761.8 | 761.8 | 759.8 | 757.8 | 754.8 |
| 5°    | 756.8 | 757.8 | 756.8 | 755.8 | 754.8 |
| 7.5°  | 750.8 | 751.8 | 751.8 | 751.8 | 751.8 |
| 10°   | 743.8 | 744.8 | 744.8 | 744.8 | 744.8 |
| 12.5° | 733.8 | 734.8 | 735.8 | 736.8 | 738.8 |
| 15°   | 718.7 | 721.7 | 723.7 | 727.8 | 729.8 |
| 17.5° | 703.7 | 706.7 | 709.7 | 714.7 | 718.7 |
| 20°   | 686.7 | 688.7 | 693.7 | 699.7 | 703.7 |
| 22.5° | 667.6 | 670.6 | 675.6 | 683.6 | 689.7 |
| 25°   | 645.6 | 649.6 | 656.6 | 667.6 | 672.6 |
| 27.5° | 624.5 | 627.5 | 636.5 | 648.6 | 655.6 |
| 30°   | 599.4 | 603.5 | 614.5 | 629.5 | 636.5 |
| 32.5° | 574.4 | 579.4 | 591.4 | 608.5 | 616.5 |
| 35°   | 548.3 | 554.3 | 568.4 | 586.4 | 596.4 |
| 37.5° | 522.3 | 528.3 | 544.3 | 564.4 | 575.4 |
| 40°   | 495.2 | 501.2 | 519.3 | 541.3 | 553.3 |
| 42.5° | 467.1 | 474.1 | 494.2 | 519.3 | 533.3 |
| 45°   | 439.1 | 446.1 | 468.1 | 496.2 | 511.2 |
| 47.5° | 410.0 | 418.0 | 442.1 | 473.1 | 488.2 |
| 50°   | 380.9 | 389.9 | 417.0 | 449.1 | 464.1 |
| 52.5° | 351.8 | 361.9 | 390.9 | 424.0 | 440.1 |
| 55°   | 323.8 | 334.8 | 365.9 | 399.0 | 414.0 |
| 57.5° | 293.7 | 306.7 | 339.8 | 371.9 | 388.9 |
| 60°   | 265.6 | 279.7 | 313.8 | 345.8 | 363.9 |
| 62.5° | 237.6 | 252.6 | 288.7 | 320.8 | 337.8 |
| 65°   | 210.5 | 225.5 | 261.6 | 294.7 | 311.8 |
| 67.5° | 183.4 | 200.5 | 235.6 | 268.6 | 285.7 |
| 70°   | 157.4 | 175.4 | 209.5 | 241.6 | 258.6 |
| 72.5° | 132.3 | 150.4 | 184.4 | 214.5 | 224.5 |
| 75°   | 107.3 | 125.3 | 157.4 | 175.4 | 181.4 |
| 77.5° | 84.2  | 101.2 | 129.3 | 140.3 | 148.4 |
| 80°   | 63.2  | 78.2  | 98.2  | 105.3 | 106.3 |
| 82.5° | 43.1  | 56.1  | 68.2  | 69.2  | 68.2  |
| 85°   | 26.1  | 33.1  | 37.1  | 35.1  | 33.1  |
| 87.5° | 12.0  | 13.0  | 12.0  | 8.0   | 5.0   |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |

(END OF REPORT)