

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: P230535

Luminaire Tested: **22CZ-LD5-20-UNV-L950-CD1-U**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P230535  
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-LD5-20-UNV-L950-CD1-U  
Description: CRUZE 2x2 LED TROFFER  
WITH RIBBED LENS  
Light Source: (84) 5000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2002.0 lumens  
Efficiency: N/A  
Efficacy: 122.1 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

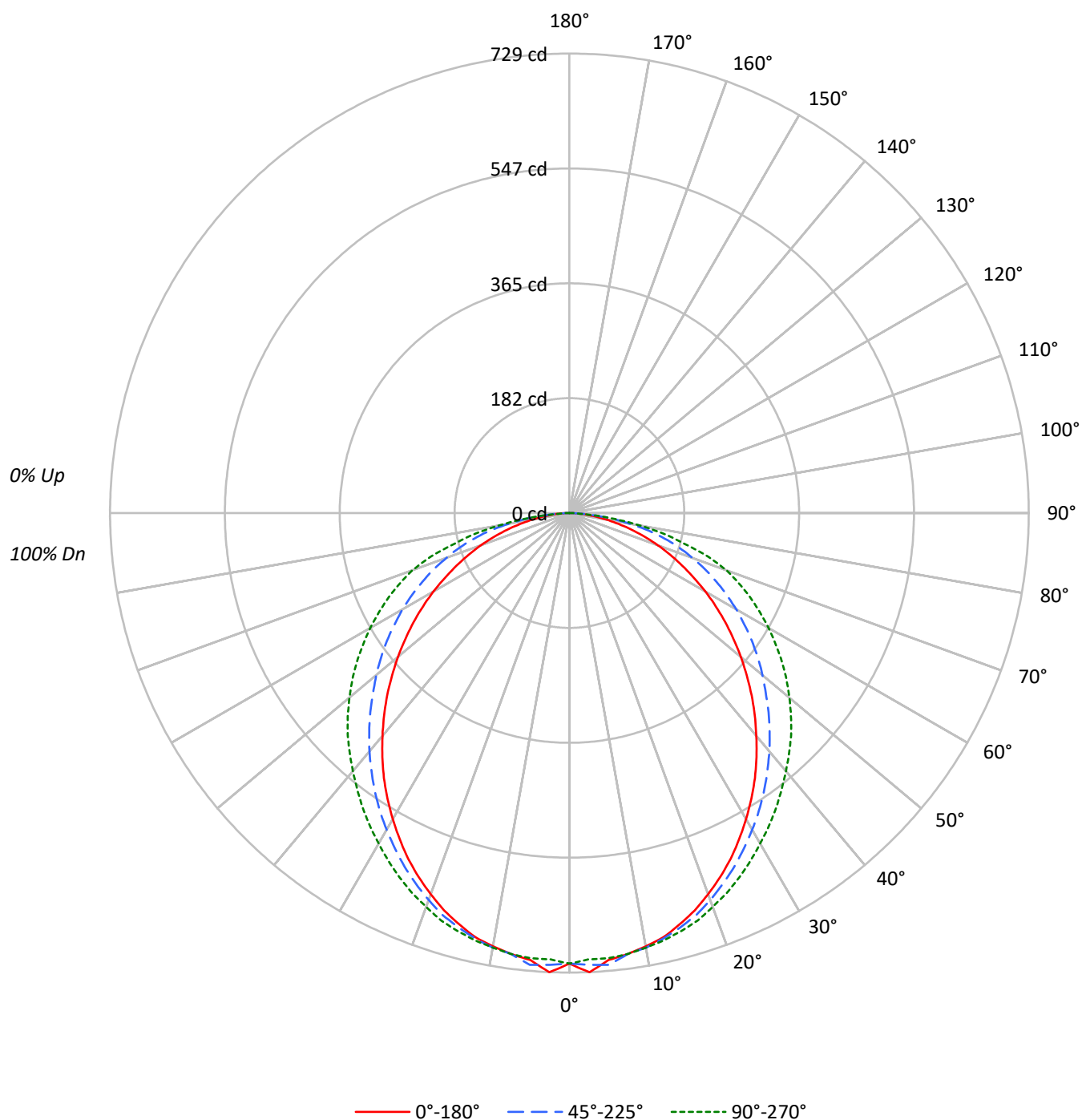
Input Watts (W): 16.4  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |   |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---|
| RF  | 20  |     |     |     | 20  |     |     |     |     | 20  |     |     |     |     | 20  |     |     |     |   |
| 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  | 0 |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |   |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |   |
| 1   | 108 | 104 | 99  | 95  | 106 | 101 | 97  | 94  | 97  | 94  | 91  | 93  | 90  | 88  | 89  | 87  | 85  | 83  |   |
| 2   | 98  | 90  | 83  | 77  | 96  | 88  | 82  | 76  | 84  | 79  | 74  | 81  | 77  | 73  | 78  | 74  | 71  | 69  |   |
| 3   | 90  | 79  | 70  | 64  | 87  | 77  | 69  | 63  | 74  | 68  | 62  | 71  | 66  | 61  | 69  | 64  | 60  | 58  |   |
| 4   | 82  | 70  | 61  | 54  | 80  | 68  | 60  | 54  | 66  | 59  | 53  | 64  | 57  | 52  | 61  | 56  | 51  | 49  |   |
| 5   | 75  | 62  | 53  | 46  | 73  | 61  | 53  | 46  | 59  | 51  | 46  | 57  | 50  | 45  | 55  | 49  | 45  | 43  |   |
| 6   | 70  | 56  | 47  | 41  | 68  | 55  | 47  | 40  | 53  | 46  | 40  | 52  | 45  | 40  | 50  | 44  | 39  | 37  |   |
| 7   | 65  | 51  | 42  | 36  | 63  | 50  | 42  | 36  | 48  | 41  | 35  | 47  | 40  | 35  | 46  | 40  | 35  | 33  |   |
| 8   | 60  | 46  | 38  | 32  | 58  | 46  | 38  | 32  | 44  | 37  | 32  | 43  | 36  | 31  | 42  | 36  | 31  | 29  |   |
| 9   | 56  | 43  | 34  | 29  | 55  | 42  | 34  | 29  | 41  | 34  | 29  | 40  | 33  | 28  | 39  | 33  | 28  | 26  |   |
| 10  | 53  | 39  | 31  | 26  | 51  | 39  | 31  | 26  | 38  | 31  | 26  | 37  | 30  | 26  | 36  | 30  | 26  | 24  |   |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 1923 | 1923 | 1923 |
| 5°  | 1922 | 1943 | 1914 |
| 10° | 1907 | 1913 | 1913 |
| 15° | 1882 | 1896 | 1912 |
| 20° | 1843 | 1871 | 1904 |
| 25° | 1798 | 1839 | 1893 |
| 30° | 1743 | 1803 | 1881 |
| 35° | 1686 | 1769 | 1877 |
| 40° | 1621 | 1734 | 1878 |
| 45° | 1556 | 1701 | 1893 |
| 50° | 1487 | 1675 | 1907 |
| 55° | 1416 | 1658 | 1932 |
| 60° | 1341 | 1645 | 1965 |
| 65° | 1258 | 1636 | 2015 |
| 70° | 1172 | 1632 | 2083 |
| 75° | 1063 | 1629 | 1973 |
| 80° | 921  | 1509 | 1750 |
| 85° | 781  | 1142 | 1112 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 67.8   | 3.4       |
| 10°-20°   | 192.0  | 9.6       |
| 20°-30°   | 285.6  | 14.3      |
| 30°-40°   | 337.8  | 16.9      |
| 40°-50°   | 347.2  | 17.3      |
| 50°-60°   | 317.2  | 15.8      |
| 60°-70°   | 253.8  | 12.7      |
| 70°-80°   | 159.3  | 8.0       |
| 80°-90°   | 41.5   | 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°    | 545.3  | 27.2      |
| 0°-40°    | 883.1  | 44.1      |
| 0°-60°    | 1547.5 | 77.3      |
| 0°-90°    | 2002.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2002.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 715 | 715   | 715 | 715   | 715 |      |
| 5°  | 712 | 712   | 719 | 715   | 709 | 68   |
| 15° | 676 | 677   | 680 | 684   | 686 | 190  |
| 25° | 606 | 609   | 619 | 630   | 638 | 278  |
| 35° | 513 | 520   | 538 | 559   | 572 | 321  |
| 45° | 409 | 420   | 447 | 480   | 498 | 315  |
| 55° | 302 | 316   | 353 | 392   | 412 | 270  |
| 65° | 198 | 215   | 257 | 296   | 316 | 196  |
| 75° | 102 | 122   | 157 | 180   | 190 | 109  |
| 85° | 25  | 32    | 37  | 36    | 36  | 29   |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 714.6 | 714.6 | 714.6 | 714.6 | 714.6 |
| 2.5°  | 729.2 | 726.3 | 717.5 | 711.7 | 708.7 |
| 5°    | 711.7 | 711.7 | 719.4 | 714.6 | 708.7 |
| 7.5°  | 705.8 | 705.8 | 705.8 | 720.4 | 705.8 |
| 10°   | 698.0 | 699.0 | 700.0 | 705.8 | 700.0 |
| 12.5° | 689.3 | 689.3 | 691.2 | 693.2 | 694.1 |
| 15°   | 675.6 | 676.6 | 680.5 | 684.4 | 686.3 |
| 17.5° | 661.0 | 664.0 | 668.8 | 673.7 | 677.6 |
| 20°   | 643.5 | 647.4 | 653.2 | 661.0 | 664.9 |
| 22.5° | 625.0 | 628.9 | 636.7 | 645.5 | 652.3 |
| 25°   | 605.5 | 609.4 | 619.2 | 629.9 | 637.7 |
| 27.5° | 583.2 | 588.0 | 599.7 | 614.3 | 622.1 |
| 30°   | 560.8 | 566.6 | 580.2 | 596.8 | 605.5 |
| 32.5° | 537.4 | 544.2 | 559.8 | 578.3 | 589.0 |
| 35°   | 513.1 | 519.9 | 538.4 | 558.8 | 571.5 |
| 37.5° | 487.7 | 495.5 | 516.0 | 539.3 | 553.0 |
| 40°   | 461.5 | 470.2 | 493.6 | 518.9 | 534.5 |
| 42.5° | 435.2 | 444.9 | 470.2 | 500.4 | 516.0 |
| 45°   | 408.9 | 419.6 | 446.9 | 480.0 | 497.5 |
| 47.5° | 381.6 | 394.3 | 422.5 | 459.5 | 477.0 |
| 50°   | 355.3 | 368.0 | 400.1 | 438.1 | 455.6 |
| 52.5° | 328.1 | 342.7 | 376.8 | 415.7 | 434.2 |
| 55°   | 301.8 | 316.4 | 353.4 | 392.3 | 411.8 |
| 57.5° | 275.5 | 290.1 | 329.1 | 369.0 | 388.4 |
| 60°   | 249.2 | 264.8 | 305.7 | 344.6 | 365.1 |
| 62.5° | 222.9 | 239.5 | 281.4 | 321.3 | 340.7 |
| 65°   | 197.6 | 215.2 | 257.0 | 296.0 | 316.4 |
| 67.5° | 173.3 | 191.8 | 232.7 | 270.6 | 291.1 |
| 70°   | 149.0 | 167.4 | 207.4 | 244.4 | 264.8 |
| 72.5° | 125.6 | 144.1 | 183.0 | 216.1 | 231.7 |
| 75°   | 102.2 | 121.7 | 156.7 | 180.1 | 189.8 |
| 77.5° | 79.8  | 99.3  | 129.5 | 145.1 | 155.8 |
| 80°   | 59.4  | 75.9  | 97.4  | 109.0 | 112.9 |
| 82.5° | 40.9  | 54.5  | 68.1  | 71.1  | 73.0  |
| 85°   | 25.3  | 32.1  | 37.0  | 36.0  | 36.0  |
| 87.5° | 11.7  | 12.7  | 10.7  | 7.8   | 4.9   |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |

(END OF REPORT)