

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: P475103

Luminaire Tested: **22CZ2-85VHE-RDP-UNV-L850-CD1-U**

Issue Date: 02/10/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P475103  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 02/10/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22CZ2-85VHE-RDP-UNV-L850-CD1-U  
Description: 2'X2' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SMOOTH LENS W/ RDP  
INSERT  
Light Source: 5000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5849.1 lumens  
Efficiency: N/A  
Efficacy: 92.7 lumens/watt  
Spacing Criteria (0/90/45): 1.25 / 1.3 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

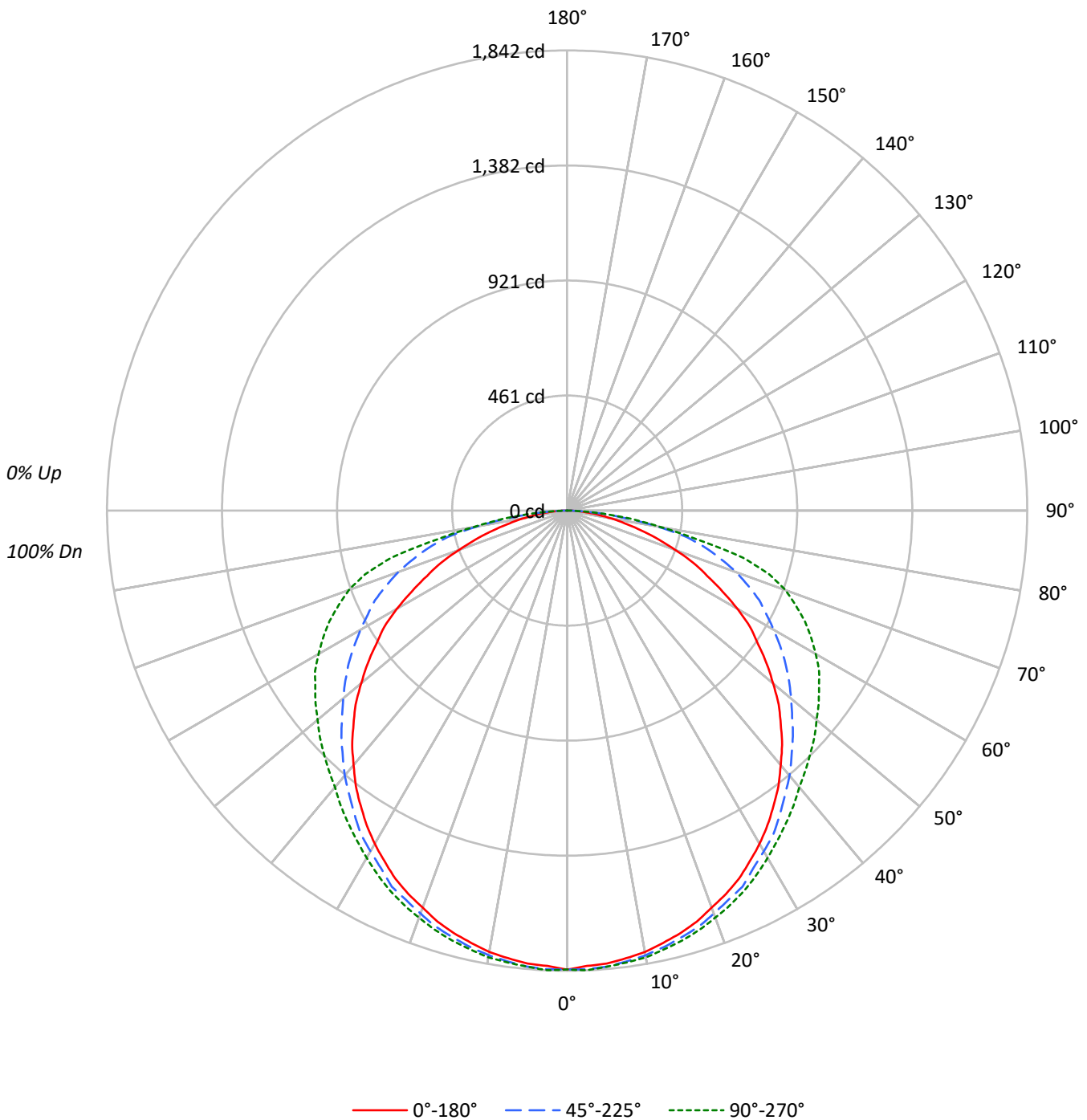
Input Watts (W): 63.1  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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  | 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   | 108 | 103 | 98  | 94  | 105 | 100 | 96  | 92  | 96  | 92  | 89  | 92  | 89  | 86  | 88  | 86  | 84  | 82  |
| 2   | 97  | 88  | 81  | 75  | 95  | 86  | 80  | 74  | 83  | 77  | 72  | 80  | 75  | 71  | 76  | 72  | 69  | 67  |
| 3   | 88  | 77  | 68  | 61  | 86  | 75  | 67  | 61  | 72  | 65  | 60  | 70  | 64  | 59  | 67  | 62  | 58  | 55  |
| 4   | 80  | 68  | 59  | 51  | 78  | 66  | 58  | 51  | 64  | 56  | 50  | 61  | 55  | 50  | 59  | 54  | 49  | 47  |
| 5   | 74  | 60  | 51  | 44  | 72  | 59  | 50  | 44  | 57  | 49  | 43  | 55  | 48  | 43  | 53  | 47  | 42  | 40  |
| 6   | 68  | 54  | 45  | 38  | 66  | 53  | 44  | 38  | 51  | 43  | 38  | 50  | 43  | 37  | 48  | 42  | 37  | 35  |
| 7   | 63  | 49  | 40  | 33  | 61  | 48  | 39  | 33  | 47  | 39  | 33  | 45  | 38  | 33  | 44  | 37  | 33  | 31  |
| 8   | 59  | 45  | 36  | 30  | 57  | 44  | 35  | 30  | 43  | 35  | 29  | 41  | 34  | 29  | 40  | 34  | 29  | 27  |
| 9   | 55  | 41  | 32  | 27  | 53  | 40  | 32  | 27  | 39  | 32  | 26  | 38  | 31  | 26  | 37  | 31  | 26  | 24  |
| 10  | 51  | 38  | 30  | 24  | 50  | 37  | 29  | 24  | 36  | 29  | 24  | 35  | 29  | 24  | 34  | 28  | 24  | 22  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 4944 | 4944 | 4944 |
| 5°  | 4917 | 4951 | 4951 |
| 10° | 4902 | 4938 | 4962 |
| 15° | 4879 | 4927 | 4962 |
| 20° | 4842 | 4916 | 4966 |
| 25° | 4829 | 4932 | 4983 |
| 30° | 4787 | 4893 | 4987 |
| 35° | 4735 | 4877 | 5019 |
| 40° | 4671 | 4866 | 5078 |
| 45° | 4601 | 4864 | 5239 |
| 50° | 4503 | 4899 | 5457 |
| 55° | 4381 | 5007 | 5773 |
| 60° | 4239 | 5141 | 6183 |
| 65° | 3945 | 5398 | 6686 |
| 70° | 3623 | 5655 | 7313 |
| 75° | 3178 | 5948 | 7562 |
| 80° | 2737 | 5666 | 5937 |
| 85° | 2390 | 4119 | 4514 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 173.8  | 3.0       |
| 10°-20°   | 499.0  | 8.5       |
| 20°-30°   | 761.3  | 13.0      |
| 30°-40°   | 929.6  | 15.9      |
| 40°-50°   | 993.9  | 17.0      |
| 50°-60°   | 959.4  | 16.4      |
| 60°-70°   | 825.8  | 14.1      |
| 70°-80°   | 558.8  | 9.6       |
| 80°-90°   | 147.5  | 2.5       |
| 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°    | 1434.1 | 24.5      |
| 0°-40°    | 2363.7 | 40.4      |
| 0°-60°    | 4317.0 | 73.8      |
| 0°-90°    | 5849.1 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 5849.1 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1837 | 1837  | 1837 | 1837  | 1837 |      |
| 5°  | 1820 | 1824  | 1833 | 1833  | 1833 | 173  |
| 15° | 1751 | 1756  | 1768 | 1777  | 1781 | 494  |
| 25° | 1626 | 1635  | 1661 | 1670  | 1678 | 749  |
| 35° | 1441 | 1454  | 1484 | 1514  | 1528 | 902  |
| 45° | 1209 | 1230  | 1278 | 1342  | 1377 | 933  |
| 55° | 934  | 964   | 1067 | 1174  | 1230 | 837  |
| 65° | 620  | 680   | 848  | 981   | 1050 | 616  |
| 75° | 306  | 404   | 572  | 688   | 727  | 328  |
| 85° | 77   | 108   | 133  | 138   | 146  | 87   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1837.2 | 1837.2 | 1837.2 | 1837.2 | 1837.2 |
| 2.5°  | 1824.4 | 1828.7 | 1837.2 | 1837.2 | 1841.5 |
| 5°    | 1820.1 | 1824.4 | 1832.9 | 1832.9 | 1832.9 |
| 7.5°  | 1807.3 | 1811.5 | 1820.1 | 1824.4 | 1824.4 |
| 10°   | 1794.0 | 1798.7 | 1807.3 | 1811.5 | 1815.8 |
| 12.5° | 1772.6 | 1776.9 | 1789.7 | 1798.7 | 1798.7 |
| 15°   | 1751.3 | 1755.5 | 1768.4 | 1776.9 | 1781.2 |
| 17.5° | 1725.2 | 1734.2 | 1747.0 | 1755.5 | 1759.8 |
| 20°   | 1691.0 | 1699.5 | 1716.6 | 1729.9 | 1734.2 |
| 22.5° | 1661.0 | 1669.6 | 1686.7 | 1699.5 | 1708.1 |
| 25°   | 1626.4 | 1635.0 | 1661.0 | 1669.6 | 1678.2 |
| 27.5° | 1583.2 | 1592.2 | 1613.6 | 1630.7 | 1643.5 |
| 30°   | 1540.5 | 1549.0 | 1574.7 | 1596.5 | 1605.0 |
| 32.5° | 1493.0 | 1505.8 | 1536.2 | 1553.3 | 1566.1 |
| 35°   | 1441.3 | 1454.1 | 1484.5 | 1514.4 | 1527.7 |
| 37.5° | 1390.0 | 1402.8 | 1432.7 | 1471.6 | 1488.7 |
| 40°   | 1329.7 | 1346.8 | 1385.3 | 1437.0 | 1445.6 |
| 42.5° | 1273.7 | 1295.1 | 1329.7 | 1390.0 | 1411.4 |
| 45°   | 1209.1 | 1230.5 | 1278.0 | 1342.5 | 1376.7 |
| 47.5° | 1148.8 | 1170.2 | 1222.0 | 1299.3 | 1342.5 |
| 50°   | 1075.7 | 1105.7 | 1170.2 | 1260.9 | 1303.6 |
| 52.5° | 1006.9 | 1032.5 | 1118.9 | 1217.7 | 1269.4 |
| 55°   | 933.8  | 963.7  | 1067.2 | 1174.5 | 1230.5 |
| 57.5° | 869.2  | 894.9  | 1011.2 | 1131.7 | 1196.3 |
| 60°   | 787.6  | 821.8  | 955.2  | 1084.3 | 1148.8 |
| 62.5° | 701.2  | 752.9  | 899.1  | 1032.5 | 1101.4 |
| 65°   | 619.5  | 679.8  | 847.8  | 980.8  | 1050.1 |
| 67.5° | 546.4  | 611.0  | 783.3  | 925.2  | 989.8  |
| 70°   | 460.5  | 542.1  | 718.7  | 856.4  | 929.5  |
| 72.5° | 383.1  | 473.3  | 645.6  | 783.3  | 847.8  |
| 75°   | 305.7  | 404.5  | 572.1  | 688.4  | 727.3  |
| 77.5° | 236.4  | 331.4  | 490.4  | 525.0  | 529.3  |
| 80°   | 176.6  | 262.5  | 365.6  | 369.8  | 383.1  |
| 82.5° | 120.6  | 185.1  | 236.4  | 258.2  | 262.5  |
| 85°   | 77.4   | 107.7  | 133.4  | 137.7  | 146.2  |
| 87.5° | 34.6   | 38.9   | 47.5   | 43.2   | 43.2   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)