

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: P296485

Luminaire Tested: **22RLN-LD5-44-UNV-L93050-W2A1-U-4500K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P296485  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1901-085-11)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22RLN-LD5-44-UNV-L93050-W2A1-U-4500K  
Description: RLN LED 2x2 TUNABLE WHITE TROFFER  
WITH STANDARD LENS  
Light Source: (252) 90 CRI LEDS TUNED TO 4500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4096.0 lumens  
Efficiency: N/A  
Efficacy: 110.4 lumens/watt  
Spacing Criteria (0/90/45): 1.18 / 1.23 / 1.3  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

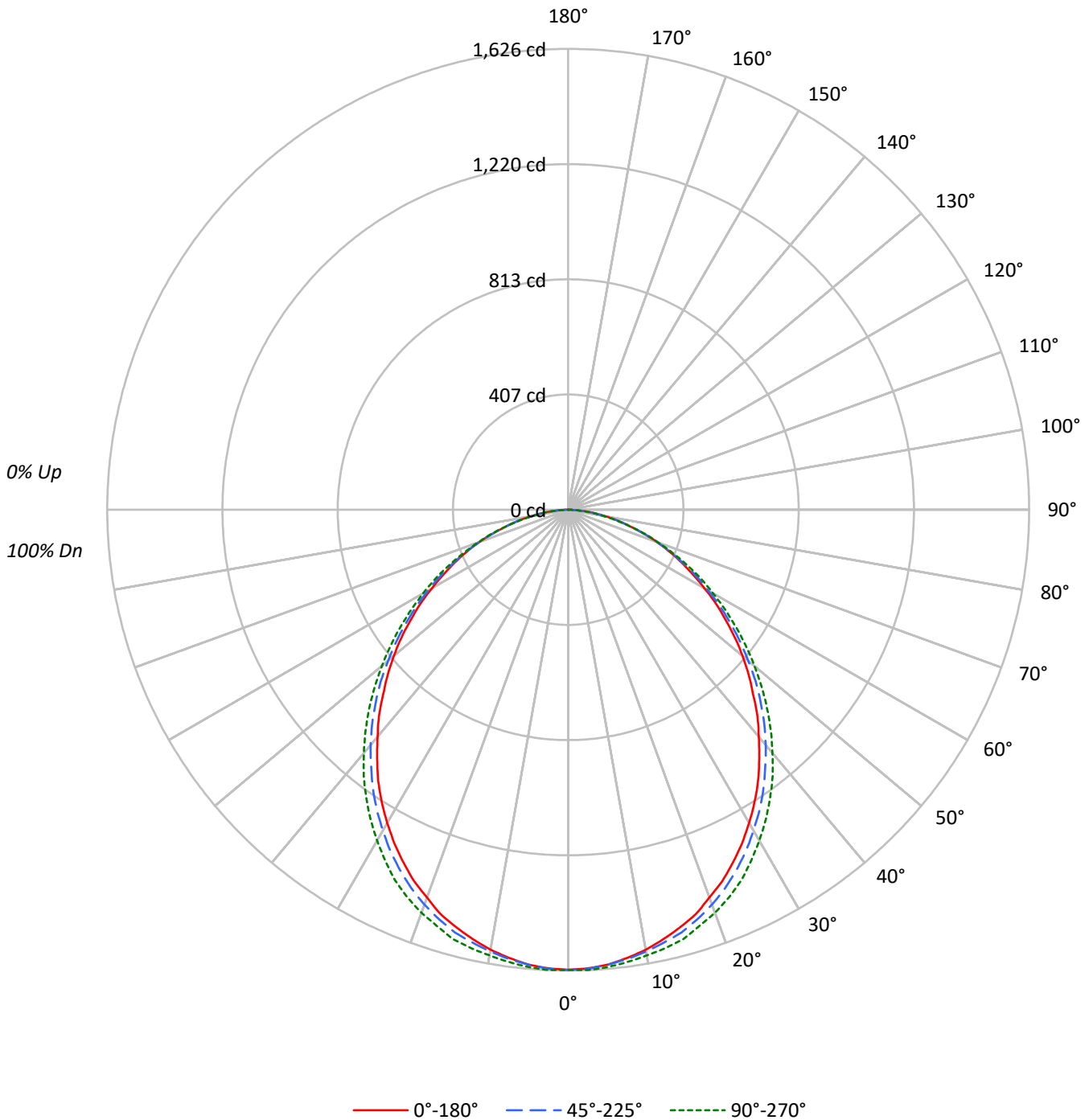
Input Watts (W): 37.107  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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   | 109 | 105 | 101 | 97  | 107 | 102 | 99  | 95  | 98  | 95  | 92  | 94  | 92  | 90  | 91  | 89  | 87  | 85  |
| 2   | 100 | 92  | 85  | 80  | 97  | 90  | 84  | 79  | 86  | 81  | 77  | 83  | 79  | 75  | 80  | 77  | 74  | 71  |
| 3   | 91  | 81  | 73  | 67  | 89  | 79  | 72  | 66  | 77  | 70  | 65  | 74  | 68  | 64  | 71  | 67  | 63  | 61  |
| 4   | 84  | 72  | 64  | 57  | 81  | 71  | 63  | 57  | 68  | 61  | 56  | 66  | 60  | 55  | 64  | 59  | 54  | 52  |
| 5   | 77  | 65  | 56  | 49  | 75  | 64  | 55  | 49  | 61  | 54  | 49  | 59  | 53  | 48  | 58  | 52  | 48  | 46  |
| 6   | 71  | 58  | 50  | 43  | 70  | 57  | 49  | 43  | 56  | 48  | 43  | 54  | 47  | 42  | 52  | 47  | 42  | 40  |
| 7   | 66  | 53  | 44  | 38  | 65  | 52  | 44  | 38  | 51  | 43  | 38  | 49  | 43  | 38  | 48  | 42  | 38  | 36  |
| 8   | 62  | 49  | 40  | 34  | 60  | 48  | 40  | 34  | 47  | 39  | 34  | 45  | 39  | 34  | 44  | 38  | 34  | 32  |
| 9   | 58  | 45  | 37  | 31  | 56  | 44  | 36  | 31  | 43  | 36  | 31  | 42  | 35  | 31  | 41  | 35  | 31  | 29  |
| 10  | 54  | 41  | 33  | 28  | 53  | 41  | 33  | 28  | 40  | 33  | 28  | 39  | 32  | 28  | 38  | 32  | 28  | 26  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 4369 | 4369 | 4369 |
| 5°  | 4353 | 4353 | 4375 |
| 10° | 4308 | 4325 | 4364 |
| 15° | 4250 | 4301 | 4369 |
| 20° | 4170 | 4246 | 4334 |
| 25° | 4081 | 4166 | 4287 |
| 30° | 3966 | 4061 | 4188 |
| 35° | 3837 | 3945 | 4079 |
| 40° | 3673 | 3809 | 3939 |
| 45° | 3513 | 3653 | 3777 |
| 50° | 3360 | 3471 | 3591 |
| 55° | 3181 | 3277 | 3392 |
| 60° | 2990 | 3067 | 3176 |
| 65° | 2809 | 2861 | 2952 |
| 70° | 2619 | 2619 | 2667 |
| 75° | 2335 | 2335 | 2335 |
| 80° | 2056 | 1994 | 1994 |
| 85° | 1639 | 1578 | 1451 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 153.1  | 3.7       |
| 10°-20°   | 435.3  | 10.6      |
| 20°-30°   | 646.7  | 15.8      |
| 30°-40°   | 750.5  | 18.3      |
| 40°-50°   | 739.0  | 18.0      |
| 50°-60°   | 625.4  | 15.3      |
| 60°-70°   | 446.0  | 10.9      |
| 70°-80°   | 239.7  | 5.9       |
| 80°-90°   | 60.4   | 1.5       |
| 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°    | 1235.1 | 30.2      |
| 0°-40°    | 1985.6 | 48.5      |
| 0°-60°    | 3349.9 | 81.8      |
| 0°-90°    | 4096.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 4096.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1624 | 1624  | 1624 | 1624  | 1624 |      |
| 5°  | 1611 | 1611  | 1611 | 1617  | 1620 | 153  |
| 15° | 1526 | 1530  | 1544 | 1558  | 1568 | 430  |
| 25° | 1374 | 1378  | 1403 | 1430  | 1444 | 633  |
| 35° | 1168 | 1170  | 1201 | 1229  | 1242 | 729  |
| 45° | 923  | 929   | 960  | 982   | 992  | 714  |
| 55° | 678  | 680   | 698  | 717   | 723  | 607  |
| 65° | 441  | 441   | 449  | 458   | 464  | 438  |
| 75° | 225  | 223   | 225  | 225   | 225  | 241  |
| 85° | 53   | 51    | 51   | 47    | 47   | 63   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1623.6 | 1623.6 | 1623.6 | 1623.6 | 1623.6 |
| 2.5°  | 1619.5 | 1619.5 | 1621.5 | 1623.6 | 1625.6 |
| 5°    | 1611.3 | 1611.3 | 1611.3 | 1617.4 | 1619.5 |
| 7.5°  | 1595.0 | 1597.0 | 1599.1 | 1605.2 | 1609.3 |
| 10°   | 1576.6 | 1578.6 | 1582.7 | 1592.9 | 1597.0 |
| 12.5° | 1552.1 | 1558.2 | 1564.3 | 1578.6 | 1584.8 |
| 15°   | 1525.5 | 1529.6 | 1543.9 | 1558.2 | 1568.4 |
| 17.5° | 1496.9 | 1499.0 | 1515.3 | 1535.7 | 1539.8 |
| 20°   | 1456.1 | 1462.2 | 1482.7 | 1503.1 | 1513.3 |
| 22.5° | 1419.3 | 1423.4 | 1445.9 | 1472.4 | 1480.6 |
| 25°   | 1374.4 | 1378.5 | 1403.0 | 1429.6 | 1443.8 |
| 27.5° | 1327.4 | 1331.5 | 1358.1 | 1386.7 | 1396.9 |
| 30°   | 1276.4 | 1280.5 | 1307.0 | 1337.7 | 1347.9 |
| 32.5° | 1223.3 | 1227.4 | 1256.0 | 1282.5 | 1296.8 |
| 35°   | 1168.1 | 1170.2 | 1200.8 | 1229.4 | 1241.7 |
| 37.5° | 1106.9 | 1113.0 | 1141.6 | 1170.2 | 1184.5 |
| 40°   | 1045.6 | 1051.7 | 1084.4 | 1111.0 | 1121.2 |
| 42.5° | 988.4  | 996.6  | 1023.2 | 1047.7 | 1057.9 |
| 45°   | 923.1  | 929.2  | 959.8  | 982.3  | 992.5  |
| 47.5° | 863.9  | 870.0  | 896.5  | 919.0  | 925.1  |
| 50°   | 802.6  | 806.7  | 829.1  | 849.6  | 857.7  |
| 52.5° | 741.3  | 743.4  | 763.8  | 784.2  | 790.3  |
| 55°   | 678.0  | 680.1  | 698.4  | 716.8  | 722.9  |
| 57.5° | 618.8  | 618.8  | 635.1  | 649.4  | 655.6  |
| 60°   | 555.5  | 555.5  | 569.8  | 584.1  | 590.2  |
| 62.5° | 496.3  | 496.3  | 510.6  | 520.8  | 528.9  |
| 65°   | 441.1  | 441.1  | 449.3  | 457.5  | 463.6  |
| 67.5° | 388.0  | 381.9  | 390.1  | 400.3  | 398.2  |
| 70°   | 332.9  | 326.8  | 332.9  | 337.0  | 339.0  |
| 72.5° | 277.7  | 273.7  | 277.7  | 279.8  | 283.9  |
| 75°   | 224.6  | 222.6  | 224.6  | 224.6  | 224.6  |
| 77.5° | 179.7  | 173.6  | 177.7  | 175.6  | 173.6  |
| 80°   | 132.7  | 130.7  | 128.7  | 126.6  | 128.7  |
| 82.5° | 91.9   | 89.9   | 89.9   | 85.8   | 85.8   |
| 85°   | 53.1   | 51.1   | 51.1   | 47.0   | 47.0   |
| 87.5° | 20.4   | 20.4   | 18.4   | 18.4   | 18.4   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)