

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: P292237

Luminaire Tested: **22GR-LD5-28-A-UNV-L93050-W2A1-U-5000K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P292237  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33296)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22GR-LD5-28-A-UNV-L93050-W2A1-U-5000K  
Description: GRLED 2x2 TUNABLE WHITE TROFFER  
WITH A LENS  
Light Source: (168) 90 CRI LEDS TUNED TO 5000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2717.0 lumens  
Efficiency: N/A  
Efficacy: 118.3 lumens/watt  
Spacing Criteria (0/90/45): 1.18 / 1.22 / 1.25  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

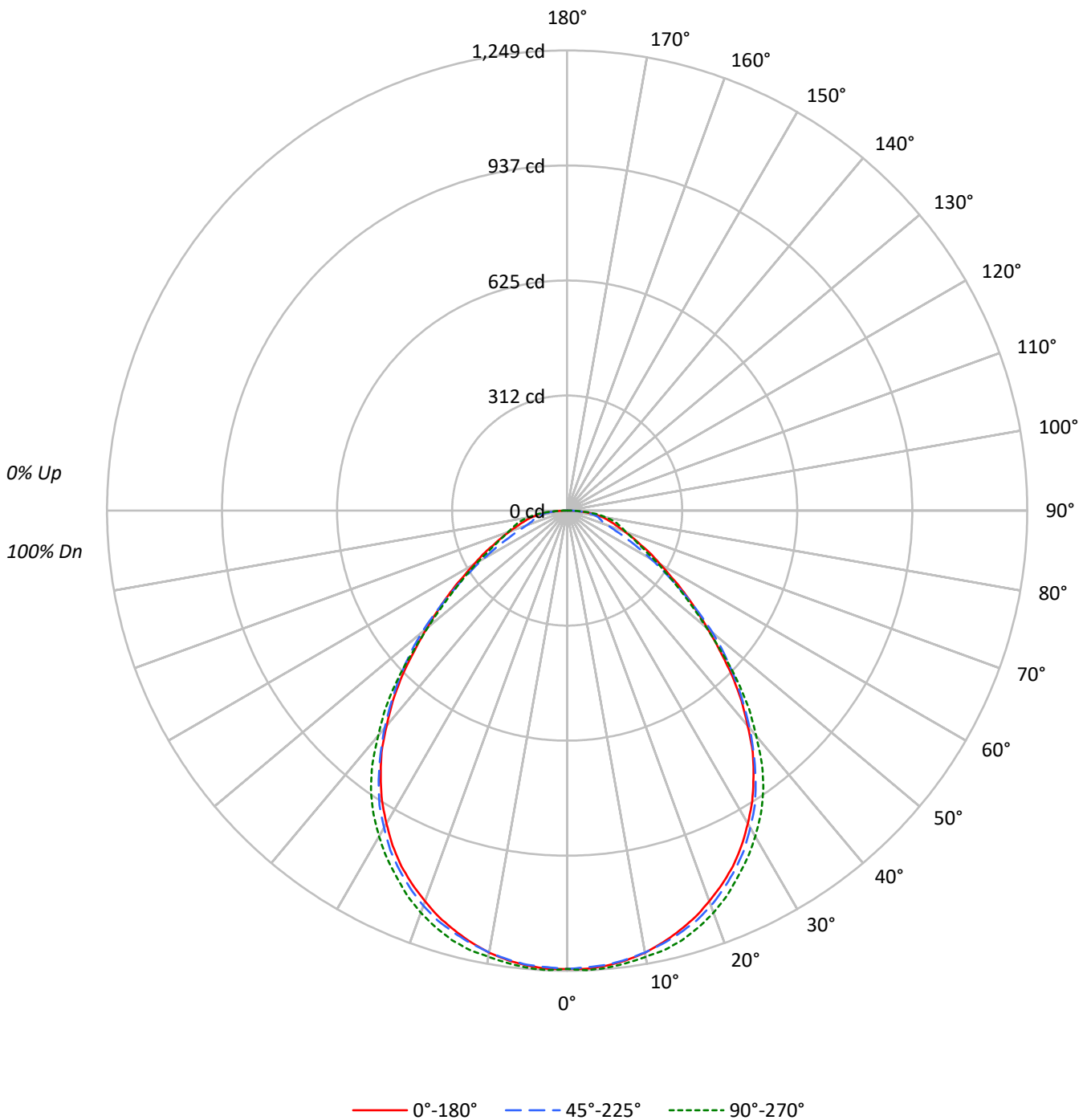
Input Watts (W): 22.971  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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  | 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 |    |    |    |    | 100 |   |  |   |
| 1   | 110 | 106 | 102 | 98  | 107 | 103 | 100 | 97  | 99  | 96  | 94  | 95  | 93  | 91  | 92  | 90  | 88  | 86  |    |    |    |    | 86  |   |  |   |
| 2   | 101 | 94  | 87  | 82  | 99  | 92  | 86  | 81  | 88  | 84  | 79  | 85  | 81  | 78  | 82  | 79  | 76  | 74  |    |    |    |    | 74  |   |  |   |
| 3   | 93  | 84  | 76  | 70  | 91  | 82  | 75  | 70  | 79  | 73  | 68  | 76  | 71  | 67  | 74  | 70  | 66  | 64  |    |    |    |    | 64  |   |  |   |
| 4   | 86  | 75  | 67  | 61  | 84  | 74  | 66  | 60  | 71  | 65  | 60  | 69  | 63  | 59  | 67  | 62  | 58  | 56  |    |    |    |    | 56  |   |  |   |
| 5   | 80  | 68  | 59  | 53  | 78  | 67  | 59  | 53  | 65  | 58  | 53  | 63  | 57  | 52  | 61  | 56  | 51  | 49  |    |    |    |    | 49  |   |  |   |
| 6   | 74  | 62  | 53  | 47  | 72  | 61  | 53  | 47  | 59  | 52  | 47  | 57  | 51  | 46  | 56  | 50  | 46  | 44  |    |    |    |    | 44  |   |  |   |
| 7   | 69  | 56  | 48  | 42  | 67  | 55  | 48  | 42  | 54  | 47  | 42  | 53  | 46  | 42  | 51  | 46  | 41  | 39  |    |    |    |    | 39  |   |  |   |
| 8   | 64  | 52  | 44  | 38  | 63  | 51  | 43  | 38  | 50  | 43  | 38  | 48  | 42  | 38  | 47  | 42  | 37  | 36  |    |    |    |    | 36  |   |  |   |
| 9   | 60  | 48  | 40  | 35  | 59  | 47  | 40  | 35  | 46  | 39  | 34  | 45  | 39  | 34  | 44  | 38  | 34  | 32  |    |    |    |    | 32  |   |  |   |
| 10  | 57  | 44  | 37  | 32  | 55  | 44  | 36  | 32  | 43  | 36  | 31  | 42  | 36  | 31  | 41  | 35  | 31  | 30  |    |    |    |    | 30  |   |  |   |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 3348 | 3348 | 3348 |
| 5°  | 3349 | 3344 | 3365 |
| 10° | 3329 | 3327 | 3360 |
| 15° | 3287 | 3304 | 3363 |
| 20° | 3230 | 3268 | 3326 |
| 25° | 3161 | 3197 | 3255 |
| 30° | 3047 | 3088 | 3173 |
| 35° | 2897 | 2931 | 3049 |
| 40° | 2679 | 2707 | 2803 |
| 45° | 2406 | 2449 | 2488 |
| 50° | 2081 | 2155 | 2059 |
| 55° | 1815 | 1768 | 1744 |
| 60° | 1572 | 1415 | 1511 |
| 65° | 1405 | 1111 | 1357 |
| 70° | 1304 | 921  | 1338 |
| 75° | 1302 | 973  | 1486 |
| 80° | 1440 | 1224 | 1675 |
| 85° | 1504 | 1328 | 1893 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 117.7  | 4.3       |
| 10°-20°   | 335.4  | 12.3      |
| 20°-30°   | 496.0  | 18.3      |
| 30°-40°   | 559.7  | 20.6      |
| 40°-50°   | 493.4  | 18.2      |
| 50°-60°   | 338.5  | 12.5      |
| 60°-70°   | 199.7  | 7.4       |
| 70°-80°   | 124.6  | 4.6       |
| 80°-90°   | 52.0   | 1.9       |
| 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°    | 949.1  | 34.9      |
| 0°-40°    | 1508.8 | 55.5      |
| 0°-60°    | 2340.7 | 86.1      |
| 0°-90°    | 2717.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2717.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1244 | 1244  | 1244 | 1244  | 1244 |      |
| 5°  | 1240 | 1237  | 1238 | 1242  | 1246 | 118  |
| 15° | 1180 | 1181  | 1186 | 1201  | 1207 | 333  |
| 25° | 1065 | 1068  | 1077 | 1091  | 1096 | 489  |
| 35° | 882  | 890   | 892  | 914   | 928  | 550  |
| 45° | 632  | 635   | 644  | 647   | 654  | 486  |
| 55° | 387  | 378   | 377  | 364   | 372  | 347  |
| 65° | 221  | 194   | 174  | 202   | 213  | 222  |
| 75° | 125  | 112   | 94   | 131   | 143  | 134  |
| 85° | 49   | 46    | 43   | 56    | 61   | 53   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1244.3 | 1244.3 | 1244.3 | 1244.3 | 1244.3 |
| 2.5°  | 1244.9 | 1241.8 | 1240.5 | 1245.6 | 1248.7 |
| 5°    | 1239.9 | 1237.3 | 1238.0 | 1242.4 | 1245.6 |
| 7.5°  | 1231.0 | 1229.1 | 1229.1 | 1235.4 | 1238.6 |
| 10°   | 1218.4 | 1217.7 | 1217.7 | 1225.3 | 1229.7 |
| 12.5° | 1200.7 | 1201.3 | 1203.8 | 1213.9 | 1221.5 |
| 15°   | 1179.8 | 1181.1 | 1186.1 | 1200.7 | 1207.0 |
| 17.5° | 1157.0 | 1157.0 | 1167.2 | 1178.5 | 1186.1 |
| 20°   | 1128.0 | 1129.8 | 1141.2 | 1153.9 | 1161.5 |
| 22.5° | 1098.2 | 1101.4 | 1110.9 | 1125.4 | 1132.4 |
| 25°   | 1064.7 | 1068.5 | 1076.7 | 1090.6 | 1096.3 |
| 27.5° | 1025.5 | 1030.6 | 1039.4 | 1049.6 | 1061.6 |
| 30°   | 980.6  | 988.2  | 993.9  | 1007.8 | 1021.1 |
| 32.5° | 935.1  | 942.1  | 948.4  | 962.9  | 978.1  |
| 35°   | 882.0  | 889.6  | 892.1  | 913.6  | 928.2  |
| 37.5° | 827.6  | 830.8  | 832.1  | 853.6  | 869.4  |
| 40°   | 762.5  | 768.8  | 770.7  | 787.8  | 797.9  |
| 42.5° | 699.9  | 702.4  | 706.2  | 718.9  | 730.9  |
| 45°   | 632.3  | 635.4  | 643.6  | 647.4  | 653.8  |
| 47.5° | 561.4  | 570.9  | 580.4  | 568.4  | 569.0  |
| 50°   | 497.0  | 504.5  | 514.7  | 491.9  | 491.9  |
| 52.5° | 439.4  | 443.2  | 443.8  | 424.9  | 428.7  |
| 55°   | 386.9  | 377.5  | 376.8  | 364.2  | 371.8  |
| 57.5° | 334.5  | 321.8  | 317.4  | 313.6  | 322.5  |
| 60°   | 292.1  | 269.3  | 263.0  | 268.7  | 280.7  |
| 62.5° | 257.3  | 228.2  | 216.2  | 230.8  | 241.5  |
| 65°   | 220.7  | 194.1  | 174.5  | 201.7  | 213.1  |
| 67.5° | 192.2  | 166.9  | 141.6  | 180.2  | 188.4  |
| 70°   | 165.7  | 146.1  | 117.0  | 163.8  | 170.1  |
| 72.5° | 144.2  | 129.0  | 101.2  | 147.9  | 155.5  |
| 75°   | 125.2  | 112.5  | 93.6   | 130.9  | 142.9  |
| 77.5° | 110.0  | 96.1   | 87.3   | 113.2  | 127.7  |
| 80°   | 92.9   | 79.0   | 79.0   | 94.8   | 108.1  |
| 82.5° | 73.3   | 62.0   | 63.9   | 77.1   | 86.6   |
| 85°   | 48.7   | 45.5   | 43.0   | 56.3   | 61.3   |
| 87.5° | 24.7   | 25.3   | 22.8   | 29.1   | 29.7   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)