

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: P292558

Luminaire Tested: **22GR-LD5-20-A19/156-UNV-L82765-W2A1-U-5500K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P292558  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33284)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22GR-LD5-20-A19/156-UNV-L82765-W2A1-U-5500K  
Description: GRLED 2x2 TUNABLE WHITE TROFFER  
WITH A19/156 LENS  
Light Source: (168) 80 CRI LEDS TUNED TO 5500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2129.0 lumens  
Efficiency: N/A  
Efficacy: 133.9 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.24 / 1.21  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

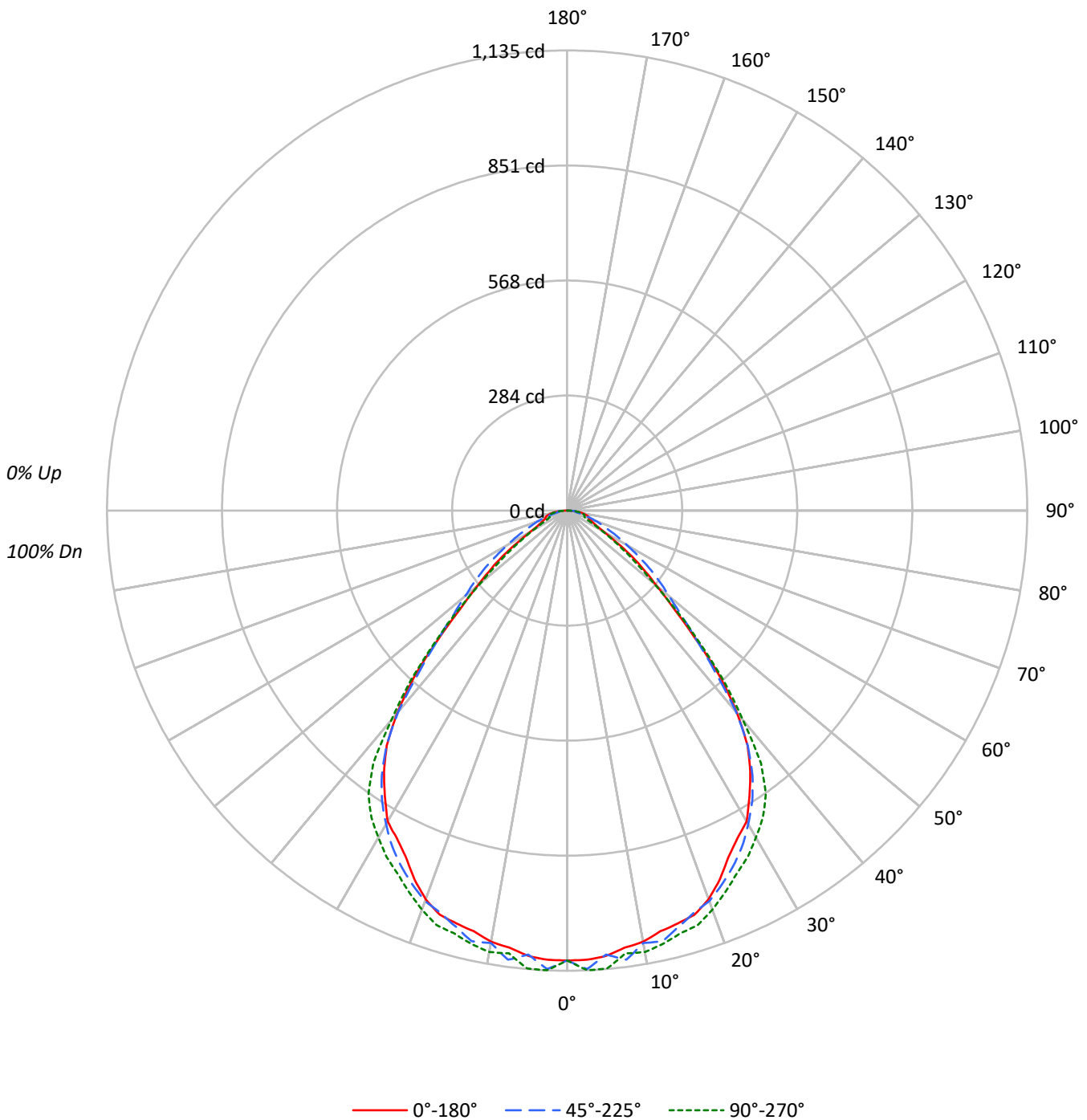
Input Watts (W): 15.903  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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   | 111 | 107 | 103 | 100 | 108 | 105 | 102 | 99  | 101 | 98  | 96  | 97  | 95  | 93  | 93  | 91  | 90  | 88  |    |    |    |    | 88  |   |  |   |
| 2   | 103 | 96  | 90  | 85  | 100 | 94  | 89  | 85  | 91  | 86  | 83  | 88  | 84  | 81  | 85  | 82  | 79  | 77  |    |    |    |    | 77  |   |  |   |
| 3   | 95  | 86  | 79  | 74  | 93  | 85  | 79  | 73  | 82  | 77  | 72  | 79  | 75  | 71  | 77  | 73  | 70  | 68  |    |    |    |    | 68  |   |  |   |
| 4   | 88  | 78  | 71  | 65  | 86  | 77  | 70  | 64  | 75  | 68  | 64  | 72  | 67  | 63  | 70  | 66  | 62  | 60  |    |    |    |    | 60  |   |  |   |
| 5   | 82  | 71  | 63  | 58  | 80  | 70  | 63  | 57  | 68  | 62  | 57  | 66  | 61  | 56  | 64  | 59  | 56  | 54  |    |    |    |    | 54  |   |  |   |
| 6   | 77  | 65  | 57  | 51  | 75  | 64  | 57  | 51  | 62  | 56  | 51  | 61  | 55  | 50  | 59  | 54  | 50  | 48  |    |    |    |    | 48  |   |  |   |
| 7   | 72  | 60  | 52  | 46  | 70  | 59  | 51  | 46  | 57  | 51  | 46  | 56  | 50  | 46  | 55  | 49  | 45  | 44  |    |    |    |    | 44  |   |  |   |
| 8   | 67  | 55  | 47  | 42  | 66  | 54  | 47  | 42  | 53  | 46  | 42  | 52  | 46  | 41  | 51  | 45  | 41  | 40  |    |    |    |    | 40  |   |  |   |
| 9   | 63  | 51  | 43  | 38  | 62  | 50  | 43  | 38  | 49  | 43  | 38  | 48  | 42  | 38  | 47  | 42  | 38  | 36  |    |    |    |    | 36  |   |  |   |
| 10  | 59  | 47  | 40  | 35  | 58  | 47  | 40  | 35  | 46  | 39  | 35  | 45  | 39  | 35  | 44  | 39  | 35  | 33  |    |    |    |    | 33  |   |  |   |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 2986 | 2986 | 2986 |
| 5°  | 2978 | 2969 | 3062 |
| 10° | 2951 | 2959 | 3021 |
| 15° | 2937 | 2960 | 3007 |
| 20° | 2922 | 2936 | 2999 |
| 25° | 2797 | 2876 | 2936 |
| 30° | 2751 | 2776 | 2894 |
| 35° | 2587 | 2620 | 2806 |
| 40° | 2292 | 2277 | 2367 |
| 45° | 1712 | 1716 | 1764 |
| 50° | 1205 | 1371 | 1168 |
| 55° | 890  | 1158 | 798  |
| 60° | 556  | 915  | 521  |
| 65° | 453  | 725  | 364  |
| 70° | 450  | 603  | 359  |
| 75° | 558  | 443  | 464  |
| 80° | 621  | 350  | 567  |
| 85° | 621  | 651  | 636  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 105.6  | 5.0       |
| 10°-20°   | 300.9  | 14.1      |
| 20°-30°   | 445.6  | 20.9      |
| 30°-40°   | 499.1  | 23.4      |
| 40°-50°   | 366.8  | 17.2      |
| 50°-60°   | 205.0  | 9.6       |
| 60°-70°   | 114.3  | 5.4       |
| 70°-80°   | 67.1   | 3.2       |
| 80°-90°   | 24.7   | 1.2       |
| 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°    | 852.1  | 40.0      |
| 0°-40°    | 1351.2 | 63.5      |
| 0°-60°    | 1923.0 | 90.3      |
| 0°-90°    | 2129.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2129.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1110 | 1110  | 1110 | 1110  | 1110 |      |
| 5°  | 1103 | 1123  | 1099 | 1122  | 1134 | 104  |
| 15° | 1054 | 1061  | 1062 | 1078  | 1080 | 298  |
| 25° | 942  | 950   | 969  | 982   | 989  | 437  |
| 35° | 788  | 788   | 798  | 834   | 854  | 488  |
| 45° | 450  | 487   | 451  | 483   | 464  | 352  |
| 55° | 190  | 231   | 247  | 246   | 170  | 169  |
| 65° | 71   | 126   | 114  | 146   | 57   | 74   |
| 75° | 54   | 76    | 43   | 86    | 45   | 54   |
| 85° | 20   | 30    | 21   | 27    | 21   | 22   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1109.6 | 1109.6 | 1109.6 | 1109.6 | 1109.6 |
| 2.5°  | 1109.1 | 1119.1 | 1132.1 | 1133.7 | 1134.7 |
| 5°    | 1102.6 | 1123.1 | 1099.0 | 1121.6 | 1133.7 |
| 7.5°  | 1087.5 | 1100.0 | 1117.6 | 1095.0 | 1101.5 |
| 10°   | 1080.0 | 1083.0 | 1083.0 | 1111.1 | 1105.6 |
| 12.5° | 1062.9 | 1083.0 | 1088.0 | 1082.5 | 1094.5 |
| 15°   | 1054.4 | 1060.9 | 1062.4 | 1078.5 | 1079.5 |
| 17.5° | 1044.9 | 1043.4 | 1039.9 | 1051.4 | 1072.0 |
| 20°   | 1020.3 | 1014.8 | 1025.3 | 1039.3 | 1047.4 |
| 22.5° | 984.2  | 985.7  | 998.2  | 1009.8 | 1018.8 |
| 25°   | 942.0  | 949.6  | 968.6  | 982.2  | 988.7  |
| 27.5° | 910.4  | 921.5  | 934.5  | 950.6  | 963.6  |
| 30°   | 885.4  | 884.3  | 893.4  | 916.5  | 931.5  |
| 32.5° | 836.7  | 840.2  | 849.7  | 877.3  | 898.4  |
| 35°   | 787.5  | 788.0  | 797.6  | 833.7  | 854.3  |
| 37.5° | 730.9  | 726.8  | 732.4  | 771.5  | 785.0  |
| 40°   | 652.6  | 653.6  | 648.1  | 675.7  | 673.7  |
| 42.5° | 561.3  | 569.3  | 540.7  | 576.9  | 574.4  |
| 45°   | 449.9  | 486.6  | 451.0  | 483.1  | 463.5  |
| 47.5° | 355.1  | 409.3  | 379.7  | 403.3  | 366.7  |
| 50°   | 287.9  | 343.6  | 327.6  | 338.1  | 278.9  |
| 52.5° | 236.3  | 281.4  | 286.4  | 288.9  | 217.7  |
| 55°   | 189.6  | 230.7  | 246.8  | 246.3  | 170.0  |
| 57.5° | 140.0  | 187.6  | 206.2  | 213.7  | 128.9  |
| 60°   | 103.3  | 156.0  | 170.0  | 186.6  | 96.8   |
| 62.5° | 83.3   | 136.9  | 140.5  | 163.5  | 73.7   |
| 65°   | 71.2   | 126.4  | 113.9  | 146.0  | 57.2   |
| 67.5° | 63.2   | 117.9  | 92.8   | 130.4  | 48.7   |
| 70°   | 57.2   | 104.8  | 76.7   | 116.9  | 45.6   |
| 72.5° | 55.7   | 89.3   | 59.2   | 104.3  | 45.1   |
| 75°   | 53.7   | 75.7   | 42.6   | 85.8   | 44.6   |
| 77.5° | 46.1   | 64.7   | 30.6   | 66.2   | 41.6   |
| 80°   | 40.1   | 51.7   | 22.6   | 49.7   | 36.6   |
| 82.5° | 31.1   | 39.1   | 20.1   | 37.6   | 29.6   |
| 85°   | 20.1   | 29.6   | 21.1   | 27.1   | 20.6   |
| 87.5° | 9.5    | 16.6   | 15.0   | 14.5   | 10.5   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)