

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: P476015

Luminaire Tested: **22GR-LD5-28-A19/156-UNV-L850-CD1-U**

Issue Date: 02/10/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P476015  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 02/10/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22GR-LD5-28-A19/156-UNV-L850-CD1-U  
Description: GR 2'X2' LED TROFFER w/ A19/156 LENS  
Light Source: 5000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2751.9 lumens  
Efficiency: N/A  
Efficacy: 131.0 lumens/watt  
Spacing Criteria (0/90/45): 1.17 / 1.22 / 1.23  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

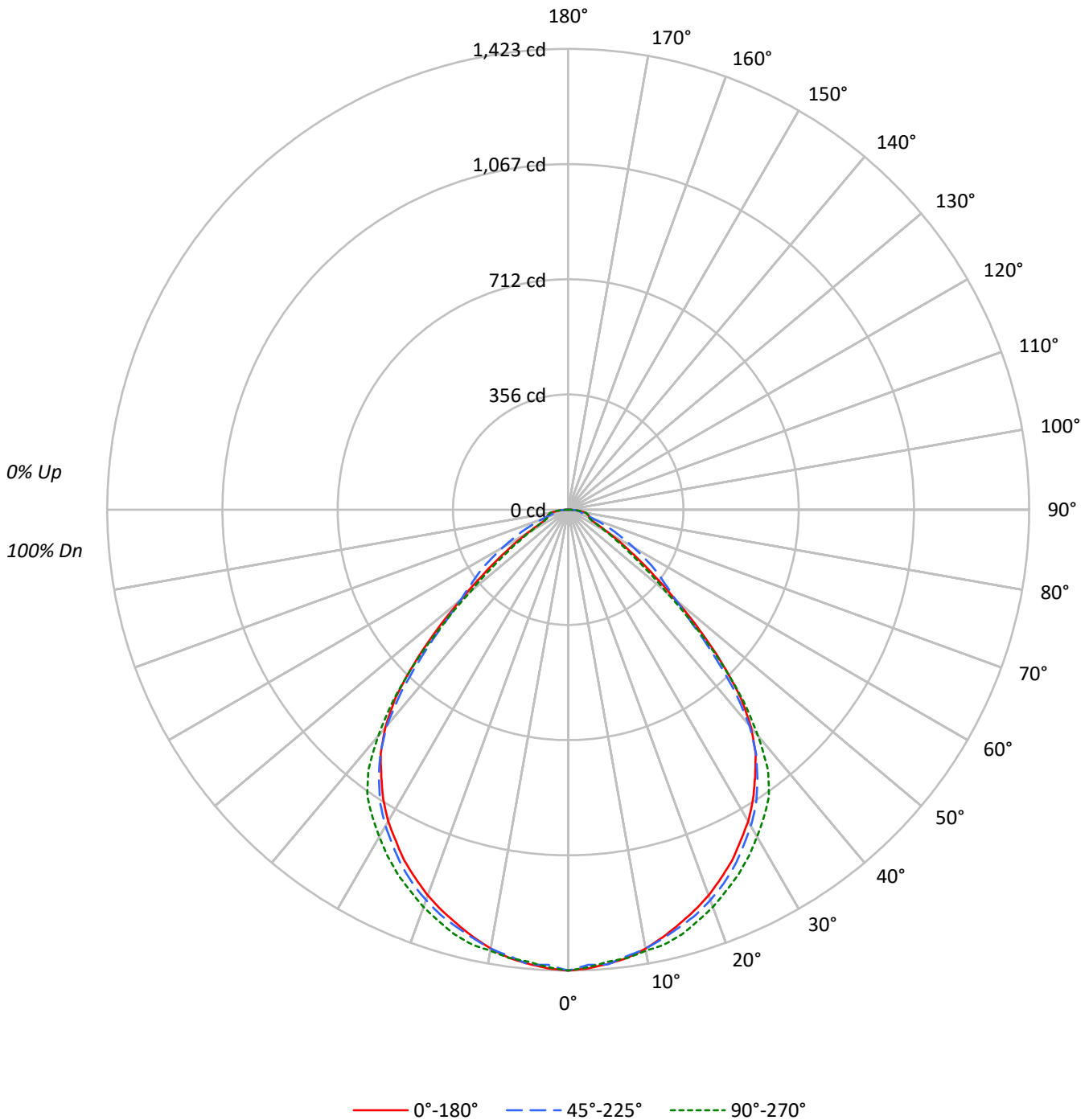
Input Watts (W): 21  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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 | 101 | 99  | 100 | 98  | 95  | 97  | 95  | 93  | 93  | 91  | 90  | 88  |    |    |    |    | 88  |   |  |   |
| 2   | 103 | 96  | 90  | 85  | 100 | 94  | 89  | 84  | 91  | 86  | 82  | 87  | 84  | 81  | 84  | 82  | 79  | 77  |    |    |    |    | 77  |   |  |   |
| 3   | 95  | 86  | 79  | 74  | 93  | 85  | 78  | 73  | 82  | 76  | 72  | 79  | 75  | 71  | 77  | 73  | 70  | 68  |    |    |    |    | 68  |   |  |   |
| 4   | 88  | 78  | 70  | 65  | 86  | 77  | 70  | 64  | 74  | 68  | 63  | 72  | 67  | 63  | 70  | 65  | 62  | 60  |    |    |    |    | 60  |   |  |   |
| 5   | 82  | 71  | 63  | 57  | 80  | 70  | 62  | 57  | 68  | 61  | 56  | 66  | 60  | 56  | 64  | 59  | 55  | 53  |    |    |    |    | 53  |   |  |   |
| 6   | 76  | 65  | 57  | 51  | 75  | 64  | 56  | 51  | 62  | 55  | 50  | 60  | 54  | 50  | 59  | 54  | 50  | 48  |    |    |    |    | 48  |   |  |   |
| 7   | 71  | 59  | 51  | 46  | 70  | 58  | 51  | 46  | 57  | 50  | 45  | 56  | 50  | 45  | 54  | 49  | 45  | 43  |    |    |    |    | 43  |   |  |   |
| 8   | 67  | 54  | 47  | 41  | 65  | 54  | 46  | 41  | 53  | 46  | 41  | 51  | 45  | 41  | 50  | 45  | 41  | 39  |    |    |    |    | 39  |   |  |   |
| 9   | 63  | 50  | 43  | 38  | 61  | 50  | 43  | 38  | 49  | 42  | 38  | 48  | 42  | 37  | 47  | 41  | 37  | 36  |    |    |    |    | 36  |   |  |   |
| 10  | 59  | 47  | 39  | 35  | 58  | 46  | 39  | 35  | 45  | 39  | 34  | 44  | 38  | 34  | 44  | 38  | 34  | 33  |    |    |    |    | 33  |   |  |   |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 3829 | 3829 | 3829 |
| 5°  | 3803 | 3807 | 3785 |
| 10° | 3760 | 3761 | 3778 |
| 15° | 3690 | 3716 | 3782 |
| 20° | 3629 | 3674 | 3739 |
| 25° | 3551 | 3605 | 3690 |
| 30° | 3452 | 3504 | 3624 |
| 35° | 3304 | 3346 | 3550 |
| 40° | 3084 | 3060 | 3203 |
| 45° | 2561 | 2416 | 2539 |
| 50° | 1804 | 1813 | 1654 |
| 55° | 1212 | 1559 | 1090 |
| 60° | 782  | 1251 | 725  |
| 65° | 541  | 968  | 521  |
| 70° | 544  | 661  | 541  |
| 75° | 670  | 517  | 664  |
| 80° | 818  | 598  | 868  |
| 85° | 800  | 815  | 880  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 133.2  | 4.8       |
| 10°-20°   | 377.1  | 13.7      |
| 20°-30°   | 559.3  | 20.3      |
| 30°-40°   | 639.8  | 23.2      |
| 40°-50°   | 506.5  | 18.4      |
| 50°-60°   | 276.3  | 10.0      |
| 60°-70°   | 144.6  | 5.3       |
| 70°-80°   | 83.5   | 3.0       |
| 80°-90°   | 31.6   | 1.1       |
| 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°    | 1069.7 | 38.9      |
| 0°-40°    | 1709.4 | 62.1      |
| 0°-60°    | 2492.2 | 90.6      |
| 0°-90°    | 2751.9 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2751.9 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1423 | 1423  | 1423 | 1423  | 1423 |      |
| 5°  | 1408 | 1398  | 1409 | 1404  | 1401 | 133  |
| 15° | 1325 | 1332  | 1334 | 1344  | 1358 | 374  |
| 25° | 1196 | 1197  | 1214 | 1230  | 1243 | 550  |
| 35° | 1006 | 1006  | 1018 | 1055  | 1081 | 627  |
| 45° | 673  | 669   | 635  | 666   | 667  | 512  |
| 55° | 258  | 323   | 332  | 310   | 232  | 240  |
| 65° | 85   | 171   | 152  | 163   | 82   | 92   |
| 75° | 64   | 103   | 50   | 101   | 64   | 67   |
| 85° | 26   | 34    | 26   | 34    | 28   | 28   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1423.0 | 1423.0 | 1423.0 | 1423.0 | 1423.0 |
| 2.5°  | 1417.7 | 1409.3 | 1407.1 | 1411.4 | 1414.0 |
| 5°    | 1407.7 | 1397.6 | 1409.3 | 1404.5 | 1401.3 |
| 7.5°  | 1396.1 | 1392.4 | 1390.2 | 1397.6 | 1396.1 |
| 10°   | 1376.0 | 1370.7 | 1376.5 | 1380.7 | 1382.8 |
| 12.5° | 1351.7 | 1354.3 | 1355.4 | 1368.6 | 1374.9 |
| 15°   | 1324.7 | 1331.6 | 1333.7 | 1344.3 | 1357.5 |
| 17.5° | 1297.3 | 1298.9 | 1311.5 | 1325.3 | 1331.6 |
| 20°   | 1267.2 | 1269.8 | 1283.0 | 1295.7 | 1305.7 |
| 22.5° | 1231.8 | 1234.9 | 1251.3 | 1265.6 | 1274.0 |
| 25°   | 1195.9 | 1197.4 | 1214.3 | 1229.7 | 1242.9 |
| 27.5° | 1152.5 | 1161.0 | 1171.0 | 1192.2 | 1206.4 |
| 30°   | 1110.8 | 1116.1 | 1127.7 | 1151.0 | 1166.3 |
| 32.5° | 1061.7 | 1063.8 | 1078.6 | 1104.0 | 1124.6 |
| 35°   | 1005.7 | 1005.7 | 1018.4 | 1055.4 | 1080.7 |
| 37.5° | 950.2  | 942.9  | 952.9  | 995.1  | 1013.1 |
| 40°   | 877.9  | 872.6  | 871.0  | 900.1  | 911.7  |
| 42.5° | 789.1  | 779.1  | 761.1  | 790.7  | 800.2  |
| 45°   | 672.9  | 669.2  | 634.9  | 666.1  | 667.1  |
| 47.5° | 551.4  | 554.1  | 515.5  | 546.7  | 523.5  |
| 50°   | 431.0  | 458.5  | 433.1  | 446.3  | 395.1  |
| 52.5° | 335.4  | 386.6  | 377.1  | 371.9  | 302.1  |
| 55°   | 258.3  | 322.7  | 332.2  | 309.5  | 232.4  |
| 57.5° | 197.0  | 275.2  | 281.0  | 265.2  | 176.9  |
| 60°   | 145.3  | 232.4  | 232.4  | 225.0  | 134.7  |
| 62.5° | 108.3  | 199.7  | 189.1  | 191.2  | 103.0  |
| 65°   | 85.0   | 171.1  | 152.1  | 162.7  | 81.9   |
| 67.5° | 71.3   | 142.6  | 115.1  | 140.5  | 71.3   |
| 70°   | 69.2   | 124.1  | 84.0   | 126.8  | 68.7   |
| 72.5° | 68.7   | 114.1  | 62.9   | 115.1  | 69.2   |
| 75°   | 64.4   | 103.0  | 49.7   | 101.4  | 63.9   |
| 77.5° | 59.2   | 85.6   | 41.2   | 85.6   | 59.7   |
| 80°   | 52.8   | 65.0   | 38.6   | 66.6   | 56.0   |
| 82.5° | 40.7   | 46.5   | 34.3   | 47.0   | 43.3   |
| 85°   | 25.9   | 33.8   | 26.4   | 34.3   | 28.5   |
| 87.5° | 11.6   | 18.0   | 11.6   | 18.5   | 12.7   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)