

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: P476051

Luminaire Tested: **22GR-LD5-28-A-UNV-L840-CD1-U**

Issue Date: 02/10/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P476051  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 02/10/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22GR-LD5-28-A-UNV-L840-CD1-U  
Description: GR 2'X2' LED TROFFER w/ A LENS  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2807.1 lumens  
Efficiency: N/A  
Efficacy: 133.7 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

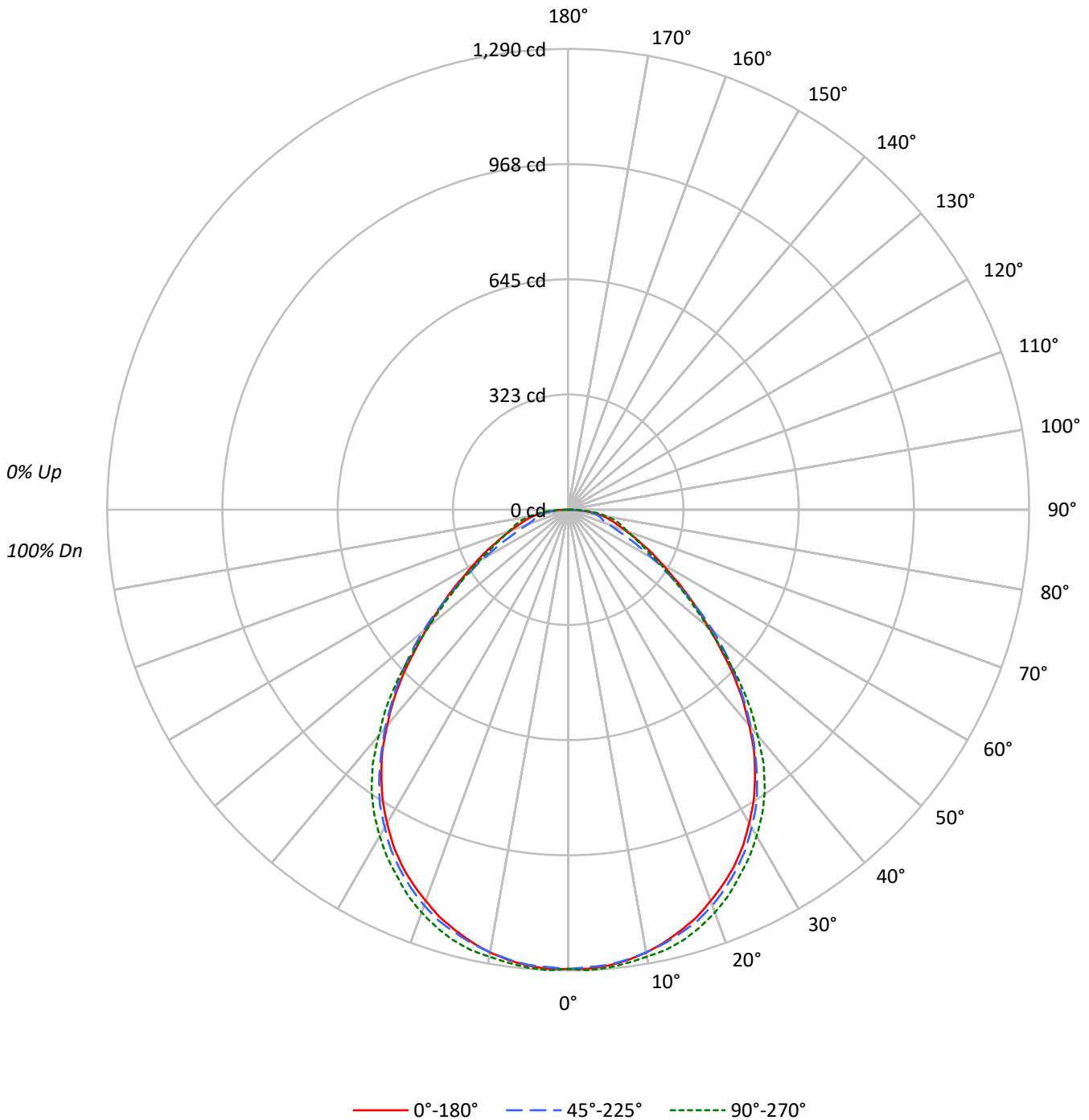
Input Watts (W): 21  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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  | 0   |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |
| 1   | 110 | 106 | 102 | 98  | 107 | 103 | 100 | 97  | 99  | 96  | 94  | 95  | 93  | 91  | 92  | 90  | 88  | 86  |
| 2   | 101 | 94  | 87  | 82  | 99  | 92  | 86  | 81  | 88  | 84  | 79  | 85  | 81  | 78  | 82  | 79  | 76  | 74  |
| 3   | 93  | 84  | 76  | 70  | 91  | 82  | 75  | 70  | 79  | 73  | 68  | 76  | 71  | 67  | 74  | 70  | 66  | 64  |
| 4   | 86  | 75  | 67  | 61  | 84  | 74  | 66  | 60  | 71  | 65  | 60  | 69  | 63  | 59  | 67  | 62  | 58  | 56  |
| 5   | 80  | 68  | 59  | 53  | 78  | 67  | 59  | 53  | 65  | 58  | 53  | 63  | 57  | 52  | 61  | 56  | 51  | 49  |
| 6   | 74  | 62  | 53  | 47  | 72  | 61  | 53  | 47  | 59  | 52  | 47  | 57  | 51  | 46  | 56  | 50  | 46  | 44  |
| 7   | 69  | 56  | 48  | 42  | 67  | 55  | 48  | 42  | 54  | 47  | 42  | 53  | 46  | 42  | 51  | 46  | 41  | 39  |
| 8   | 64  | 52  | 44  | 38  | 63  | 51  | 43  | 38  | 50  | 43  | 38  | 48  | 42  | 38  | 47  | 42  | 37  | 36  |
| 9   | 60  | 48  | 40  | 35  | 59  | 47  | 40  | 35  | 46  | 39  | 34  | 45  | 39  | 34  | 44  | 38  | 34  | 32  |
| 10  | 57  | 44  | 37  | 32  | 55  | 44  | 36  | 32  | 43  | 36  | 31  | 42  | 36  | 31  | 41  | 35  | 31  | 30  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 3459 | 3459 | 3459 |
| 5°  | 3460 | 3455 | 3476 |
| 10° | 3439 | 3438 | 3472 |
| 15° | 3396 | 3414 | 3474 |
| 20° | 3337 | 3376 | 3436 |
| 25° | 3266 | 3303 | 3363 |
| 30° | 3148 | 3191 | 3278 |
| 35° | 2994 | 3028 | 3150 |
| 40° | 2768 | 2797 | 2896 |
| 45° | 2486 | 2531 | 2571 |
| 50° | 2149 | 2226 | 2128 |
| 55° | 1876 | 1826 | 1802 |
| 60° | 1624 | 1462 | 1561 |
| 65° | 1452 | 1148 | 1402 |
| 70° | 1346 | 950  | 1383 |
| 75° | 1344 | 1004 | 1535 |
| 80° | 1489 | 1265 | 1731 |
| 85° | 1553 | 1371 | 1958 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 121.7  | 4.3       |
| 10°-20°   | 346.5  | 12.3      |
| 20°-30°   | 512.4  | 18.3      |
| 30°-40°   | 578.3  | 20.6      |
| 40°-50°   | 509.8  | 18.2      |
| 50°-60°   | 349.7  | 12.5      |
| 60°-70°   | 206.4  | 7.4       |
| 70°-80°   | 128.8  | 4.6       |
| 80°-90°   | 53.7   | 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°    | 980.6  | 34.9      |
| 0°-40°    | 1558.9 | 55.5      |
| 0°-60°    | 2418.3 | 86.1      |
| 0°-90°    | 2807.1 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2807.1 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1286 | 1286  | 1286 | 1286  | 1286 |      |
| 5°  | 1281 | 1278  | 1279 | 1284  | 1287 | 122  |
| 15° | 1219 | 1220  | 1226 | 1241  | 1247 | 344  |
| 25° | 1100 | 1104  | 1112 | 1127  | 1133 | 505  |
| 35° | 911  | 919   | 922  | 944   | 959  | 568  |
| 45° | 653  | 656   | 665  | 669   | 676  | 502  |
| 55° | 400  | 390   | 389  | 376   | 384  | 359  |
| 65° | 228  | 200   | 180  | 208   | 220  | 230  |
| 75° | 129  | 116   | 97   | 135   | 148  | 139  |
| 85° | 50   | 47    | 44   | 58    | 63   | 54   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1285.5 | 1285.5 | 1285.5 | 1285.5 | 1285.5 |
| 2.5°  | 1286.2 | 1282.9 | 1281.7 | 1286.9 | 1290.2 |
| 5°    | 1281.0 | 1278.4 | 1279.1 | 1283.6 | 1286.9 |
| 7.5°  | 1271.9 | 1270.0 | 1270.0 | 1276.4 | 1279.6 |
| 10°   | 1258.7 | 1258.2 | 1258.2 | 1266.0 | 1270.5 |
| 12.5° | 1240.6 | 1241.1 | 1243.7 | 1254.2 | 1262.0 |
| 15°   | 1219.0 | 1220.2 | 1225.5 | 1240.6 | 1247.0 |
| 17.5° | 1195.5 | 1195.5 | 1205.8 | 1217.6 | 1225.5 |
| 20°   | 1165.4 | 1167.3 | 1179.0 | 1192.2 | 1199.9 |
| 22.5° | 1134.6 | 1137.9 | 1147.7 | 1162.8 | 1169.9 |
| 25°   | 1100.0 | 1104.0 | 1112.5 | 1126.8 | 1132.7 |
| 27.5° | 1059.6 | 1064.8 | 1073.9 | 1084.3 | 1096.8 |
| 30°   | 1013.1 | 1021.0 | 1026.9 | 1041.3 | 1054.9 |
| 32.5° | 966.1  | 973.3  | 979.9  | 994.9  | 1010.5 |
| 35°   | 911.3  | 919.1  | 921.7  | 944.0  | 959.0  |
| 37.5° | 855.1  | 858.4  | 859.6  | 881.9  | 898.1  |
| 40°   | 787.9  | 794.3  | 796.3  | 814.0  | 824.3  |
| 42.5° | 723.0  | 725.8  | 729.6  | 742.8  | 755.2  |
| 45°   | 653.2  | 656.5  | 665.0  | 668.9  | 675.5  |
| 47.5° | 580.1  | 589.9  | 599.6  | 587.2  | 587.9  |
| 50°   | 513.4  | 521.3  | 531.7  | 508.2  | 508.2  |
| 52.5° | 453.9  | 457.9  | 458.6  | 439.0  | 442.9  |
| 55°   | 399.8  | 390.0  | 389.3  | 376.3  | 384.1  |
| 57.5° | 345.5  | 332.6  | 327.9  | 323.9  | 333.1  |
| 60°   | 301.8  | 278.3  | 271.7  | 277.6  | 290.0  |
| 62.5° | 265.8  | 235.8  | 223.3  | 238.4  | 249.6  |
| 65°   | 228.0  | 200.5  | 180.3  | 208.5  | 220.2  |
| 67.5° | 198.6  | 172.5  | 146.4  | 186.2  | 194.6  |
| 70°   | 171.1  | 150.9  | 120.8  | 169.2  | 175.8  |
| 72.5° | 149.0  | 133.3  | 104.6  | 152.8  | 160.8  |
| 75°   | 129.3  | 116.3  | 96.6   | 135.2  | 147.6  |
| 77.5° | 113.7  | 99.2   | 90.2   | 116.8  | 131.9  |
| 80°   | 96.1   | 81.6   | 81.6   | 98.0   | 111.7  |
| 82.5° | 75.7   | 64.0   | 66.0   | 79.7   | 89.5   |
| 85°   | 50.3   | 47.0   | 44.4   | 58.1   | 63.4   |
| 87.5° | 25.4   | 26.1   | 23.5   | 30.1   | 30.8   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)