

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: P291806

Luminaire Tested: **22GR-LD5-36-F1-UNV-L82765-W2A1-U-3500K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P291806  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1901-084-23)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22GR-LD5-36-F1-UNV-L82765-W2A1-U-3500K  
Description: GRLED 2x2 TUNABLE WHITE TROFFER  
WITH F1 LENS  
Light Source: (168) 80 CRI LEDS TUNED TO 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3534.0 lumens  
Efficiency: N/A  
Efficacy: 125.4 lumens/watt  
Spacing Criteria (0/90/45): 1.14 / 1.19 / 1.24  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

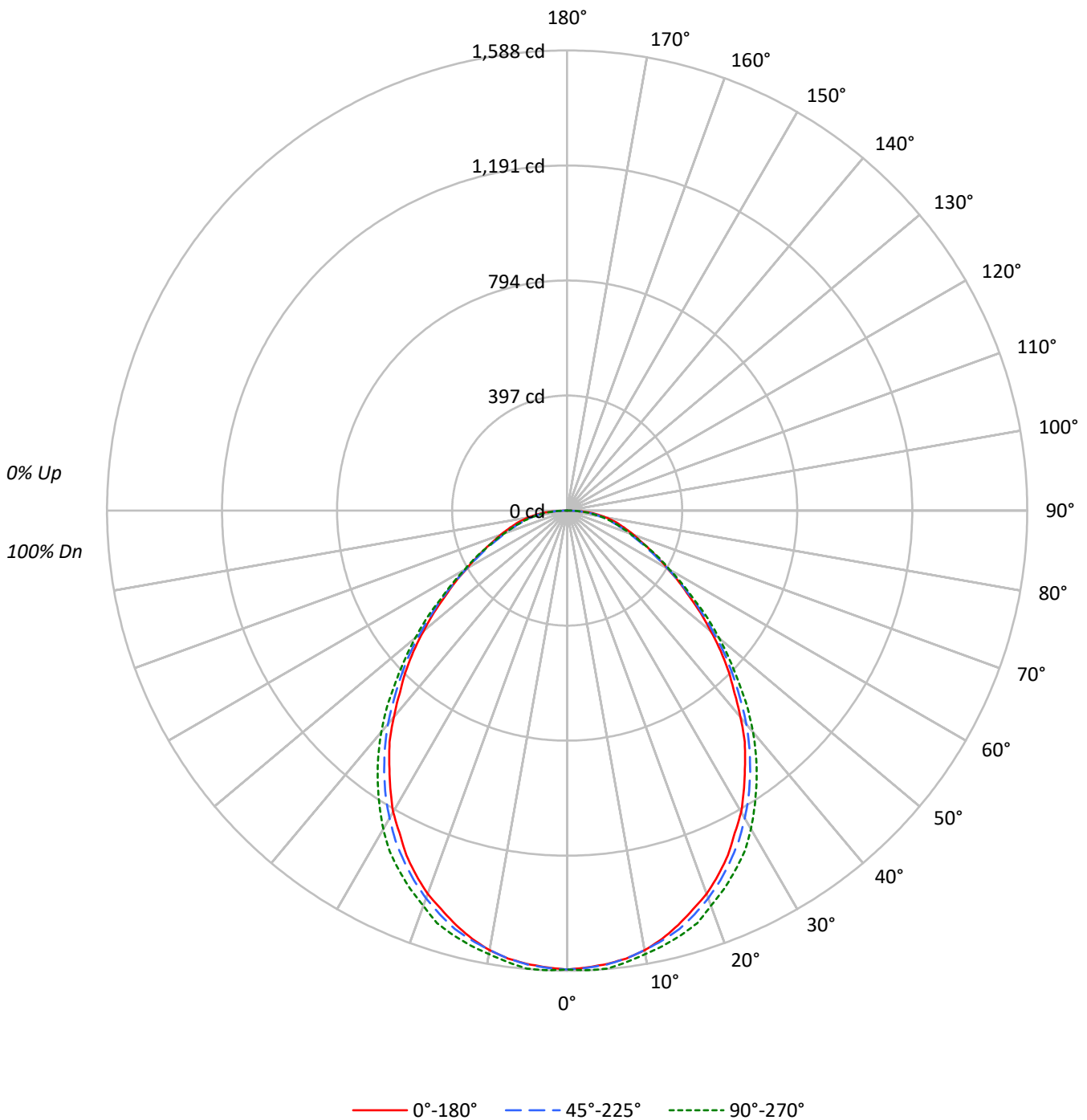
Input Watts (W): 28.179  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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 | 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 | 105 | 101 | 98  | 107 | 103 | 99  | 96  | 99  | 96  | 93  | 95  | 92  | 90  | 91  | 89  | 87  | 85  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 2   | 101 | 93  | 87  | 81  | 98  | 91  | 85  | 80  | 87  | 83  | 78  | 84  | 80  | 77  | 81  | 78  | 75  | 73  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 3   | 92  | 83  | 75  | 69  | 90  | 81  | 74  | 68  | 78  | 72  | 67  | 75  | 70  | 66  | 73  | 69  | 65  | 63  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 4   | 85  | 74  | 66  | 59  | 83  | 73  | 65  | 59  | 70  | 63  | 58  | 68  | 62  | 57  | 66  | 61  | 57  | 55  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 5   | 79  | 67  | 58  | 52  | 77  | 66  | 58  | 52  | 63  | 56  | 51  | 62  | 55  | 51  | 60  | 54  | 50  | 48  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 6   | 73  | 60  | 52  | 46  | 71  | 59  | 51  | 46  | 58  | 51  | 45  | 56  | 50  | 45  | 55  | 49  | 45  | 43  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 7   | 68  | 55  | 47  | 41  | 66  | 54  | 46  | 41  | 53  | 46  | 41  | 51  | 45  | 40  | 50  | 44  | 40  | 38  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 8   | 63  | 51  | 42  | 37  | 62  | 50  | 42  | 37  | 49  | 42  | 37  | 47  | 41  | 36  | 46  | 40  | 36  | 34  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 9   | 59  | 47  | 39  | 33  | 58  | 46  | 39  | 33  | 45  | 38  | 33  | 44  | 38  | 33  | 43  | 37  | 33  | 31  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 10  | 56  | 43  | 36  | 31  | 55  | 43  | 35  | 30  | 42  | 35  | 30  | 41  | 35  | 30  | 40  | 34  | 30  | 28  |    |    |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 4262 | 4262 | 4262 |
| 5°  | 4243 | 4247 | 4287 |
| 10° | 4210 | 4207 | 4247 |
| 15° | 4125 | 4165 | 4226 |
| 20° | 4031 | 4077 | 4156 |
| 25° | 3897 | 3960 | 4071 |
| 30° | 3733 | 3809 | 3942 |
| 35° | 3514 | 3616 | 3744 |
| 40° | 3270 | 3382 | 3504 |
| 45° | 3003 | 3089 | 3185 |
| 50° | 2708 | 2776 | 2865 |
| 55° | 2403 | 2460 | 2502 |
| 60° | 2154 | 2158 | 2202 |
| 65° | 1985 | 1917 | 1985 |
| 70° | 1916 | 1776 | 1827 |
| 75° | 1949 | 1738 | 1773 |
| 80° | 2101 | 1824 | 1824 |
| 85° | 2331 | 1930 | 1905 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 149.4  | 4.2       |
| 10°-20°   | 421.4  | 11.9      |
| 20°-30°   | 615.0  | 17.4      |
| 30°-40°   | 688.5  | 19.5      |
| 40°-50°   | 626.6  | 17.7      |
| 50°-60°   | 471.6  | 13.3      |
| 60°-70°   | 307.8  | 8.7       |
| 70°-80°   | 184.6  | 5.2       |
| 80°-90°   | 69.2   | 2.0       |
| 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°    | 1185.7 | 33.6      |
| 0°-40°    | 1874.2 | 53.0      |
| 0°-60°    | 2972.4 | 84.1      |
| 0°-90°    | 3534.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3534.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1584 | 1584  | 1584 | 1584  | 1584 |      |
| 5°  | 1571 | 1568  | 1572 | 1578  | 1587 | 149  |
| 15° | 1481 | 1482  | 1495 | 1507  | 1517 | 417  |
| 25° | 1312 | 1317  | 1334 | 1358  | 1371 | 603  |
| 35° | 1070 | 1080  | 1101 | 1127  | 1140 | 669  |
| 45° | 789  | 797   | 812  | 829   | 837  | 607  |
| 55° | 512  | 520   | 524  | 532   | 533  | 463  |
| 65° | 312  | 308   | 301  | 306   | 312  | 312  |
| 75° | 188  | 181   | 167  | 168   | 170  | 199  |
| 85° | 76   | 73    | 62   | 59    | 62   | 78   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1583.7 | 1583.7 | 1583.7 | 1583.7 | 1583.7 |
| 2.5°  | 1578.0 | 1577.2 | 1579.6 | 1583.7 | 1587.7 |
| 5°    | 1570.7 | 1568.2 | 1572.3 | 1578.0 | 1586.9 |
| 7.5°  | 1559.3 | 1559.3 | 1559.3 | 1569.9 | 1571.5 |
| 10°   | 1540.6 | 1542.3 | 1539.8 | 1550.4 | 1554.4 |
| 12.5° | 1513.9 | 1514.7 | 1519.5 | 1530.1 | 1537.4 |
| 15°   | 1480.6 | 1482.2 | 1495.2 | 1507.4 | 1517.1 |
| 17.5° | 1443.2 | 1448.9 | 1461.1 | 1480.6 | 1492.7 |
| 20°   | 1407.5 | 1414.0 | 1423.8 | 1444.9 | 1451.4 |
| 22.5° | 1362.1 | 1369.4 | 1381.5 | 1400.2 | 1414.0 |
| 25°   | 1312.5 | 1316.6 | 1333.7 | 1358.0 | 1371.0 |
| 27.5° | 1253.3 | 1262.2 | 1283.3 | 1308.5 | 1326.3 |
| 30°   | 1201.3 | 1206.2 | 1225.7 | 1254.9 | 1268.7 |
| 32.5° | 1135.6 | 1150.2 | 1166.4 | 1192.4 | 1205.4 |
| 35°   | 1069.8 | 1079.6 | 1100.7 | 1126.7 | 1139.7 |
| 37.5° | 1006.5 | 1012.2 | 1033.3 | 1055.2 | 1071.5 |
| 40°   | 931.0  | 941.6  | 962.7  | 986.2  | 997.6  |
| 42.5° | 855.6  | 871.0  | 884.8  | 908.3  | 920.5  |
| 45°   | 789.0  | 797.1  | 811.7  | 828.8  | 836.9  |
| 47.5° | 719.2  | 723.2  | 740.3  | 750.8  | 759.8  |
| 50°   | 646.9  | 651.8  | 663.2  | 673.7  | 684.3  |
| 52.5° | 580.4  | 584.4  | 591.7  | 601.5  | 612.0  |
| 55°   | 512.2  | 519.5  | 524.4  | 531.7  | 533.3  |
| 57.5° | 457.0  | 456.2  | 459.4  | 465.1  | 470.8  |
| 60°   | 400.2  | 401.8  | 401.0  | 406.7  | 409.1  |
| 62.5° | 353.1  | 352.3  | 347.4  | 355.5  | 362.0  |
| 65°   | 311.7  | 308.5  | 301.1  | 306.0  | 311.7  |
| 67.5° | 273.5  | 271.9  | 259.7  | 263.8  | 268.7  |
| 70°   | 243.5  | 237.8  | 225.7  | 228.1  | 232.2  |
| 72.5° | 214.3  | 207.8  | 195.6  | 196.4  | 198.9  |
| 75°   | 187.5  | 181.0  | 167.2  | 168.0  | 170.5  |
| 77.5° | 162.3  | 154.2  | 142.1  | 140.4  | 142.1  |
| 80°   | 135.6  | 128.3  | 117.7  | 112.8  | 117.7  |
| 82.5° | 108.0  | 103.9  | 91.7   | 86.9   | 88.5   |
| 85°   | 75.5   | 73.1   | 62.5   | 59.3   | 61.7   |
| 87.5° | 34.9   | 37.3   | 31.7   | 29.2   | 30.0   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)