

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: P291843

Luminaire Tested: **22GR-LD5-28-F1-UNV-L93050-W2A1-U-4000K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P291843
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-LD5-28-F1-UNV-L93050-W2A1-U-4000K
Description: GRLED 2x2 TUNABLE WHITE TROFFER
WITH F1 LENS
Light Source: (168) 90 CRI LEDS TUNED TO 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2679.0 lumens
Efficiency: N/A
Efficacy: 118.5 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

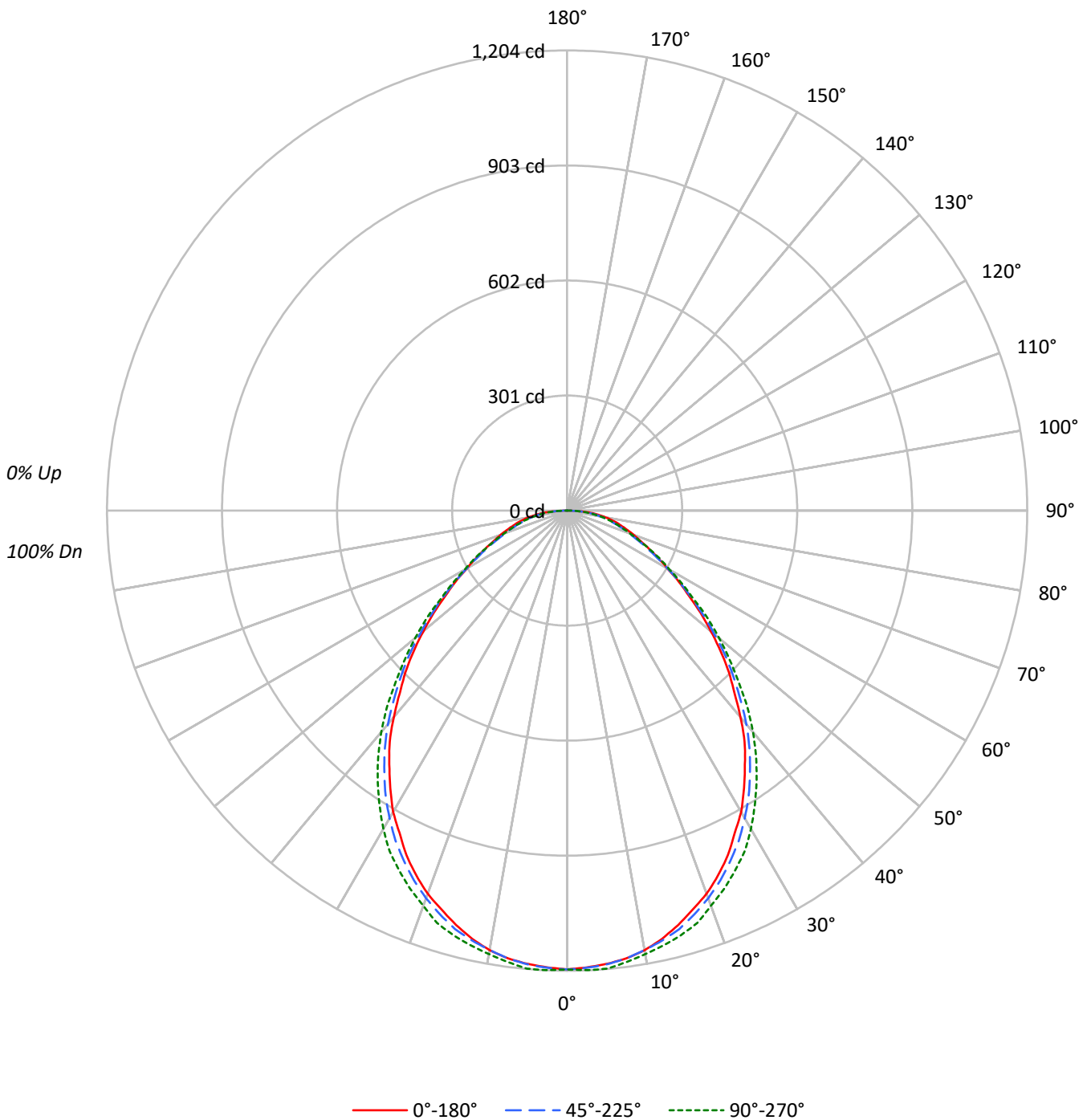
Input Watts (W): 22.599
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P291843

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

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 3231 | 3231 | 3231 |
| 5° | 3216 | 3220 | 3250 |
| 10° | 3191 | 3190 | 3220 |
| 15° | 3127 | 3158 | 3204 |
| 20° | 3056 | 3091 | 3151 |
| 25° | 2954 | 3002 | 3086 |
| 30° | 2830 | 2887 | 2989 |
| 35° | 2664 | 2741 | 2838 |
| 40° | 2479 | 2564 | 2656 |
| 45° | 2276 | 2342 | 2414 |
| 50° | 2053 | 2105 | 2171 |
| 55° | 1822 | 1865 | 1897 |
| 60° | 1633 | 1636 | 1669 |
| 65° | 1505 | 1454 | 1505 |
| 70° | 1452 | 1346 | 1385 |
| 75° | 1477 | 1318 | 1343 |
| 80° | 1593 | 1382 | 1382 |
| 85° | 1766 | 1463 | 1445 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 113.2 | 4.2 |
| 10°-20° | 319.4 | 11.9 |
| 20°-30° | 466.2 | 17.4 |
| 30°-40° | 521.9 | 19.5 |
| 40°-50° | 475.0 | 17.7 |
| 50°-60° | 357.5 | 13.3 |
| 60°-70° | 233.3 | 8.7 |
| 70°-80° | 139.9 | 5.2 |
| 80°-90° | 52.5 | 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° | 898.8 | 33.6 |
| 0°-40° | 1420.8 | 53.0 |
| 0°-60° | 2253.3 | 84.1 |
| 0°-90° | 2679.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2679.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1200 | 1200 | 1200 | 1200 | 1200 | |
| 5° | 1191 | 1189 | 1192 | 1196 | 1203 | 113 |
| 15° | 1122 | 1124 | 1133 | 1143 | 1150 | 316 |
| 25° | 995 | 998 | 1011 | 1030 | 1039 | 457 |
| 35° | 811 | 818 | 834 | 854 | 864 | 507 |
| 45° | 598 | 604 | 615 | 628 | 634 | 460 |
| 55° | 388 | 394 | 398 | 403 | 404 | 351 |
| 65° | 236 | 234 | 228 | 232 | 236 | 236 |
| 75° | 142 | 137 | 127 | 127 | 129 | 151 |
| 85° | 57 | 55 | 47 | 45 | 47 | 59 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P291843

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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1200.5 | 1200.5 | 1200.5 | 1200.5 | 1200.5 |
| 2.5° | 1196.2 | 1195.6 | 1197.4 | 1200.5 | 1203.6 |
| 5° | 1190.7 | 1188.8 | 1191.9 | 1196.2 | 1203.0 |
| 7.5° | 1182.1 | 1182.1 | 1182.1 | 1190.1 | 1191.3 |
| 10° | 1167.9 | 1169.1 | 1167.3 | 1175.3 | 1178.4 |
| 12.5° | 1147.6 | 1148.2 | 1151.9 | 1159.9 | 1165.4 |
| 15° | 1122.4 | 1123.6 | 1133.4 | 1142.7 | 1150.1 |
| 17.5° | 1094.1 | 1098.4 | 1107.6 | 1122.4 | 1131.6 |
| 20° | 1067.0 | 1071.9 | 1079.3 | 1095.3 | 1100.2 |
| 22.5° | 1032.5 | 1038.1 | 1047.3 | 1061.5 | 1071.9 |
| 25° | 995.0 | 998.1 | 1011.0 | 1029.5 | 1039.3 |
| 27.5° | 950.1 | 956.8 | 972.8 | 991.9 | 1005.5 |
| 30° | 910.7 | 914.4 | 929.2 | 951.3 | 961.8 |
| 32.5° | 860.9 | 871.9 | 884.2 | 903.9 | 913.8 |
| 35° | 811.0 | 818.4 | 834.4 | 854.1 | 863.9 |
| 37.5° | 763.0 | 767.3 | 783.3 | 799.9 | 812.2 |
| 40° | 705.8 | 713.8 | 729.8 | 747.6 | 756.2 |
| 42.5° | 648.6 | 660.3 | 670.7 | 688.6 | 697.8 |
| 45° | 598.1 | 604.3 | 615.3 | 628.3 | 634.4 |
| 47.5° | 545.2 | 548.3 | 561.2 | 569.2 | 576.0 |
| 50° | 490.4 | 494.1 | 502.7 | 510.7 | 518.7 |
| 52.5° | 440.0 | 443.0 | 448.6 | 456.0 | 464.0 |
| 55° | 388.3 | 393.8 | 397.5 | 403.0 | 404.3 |
| 57.5° | 346.4 | 345.8 | 348.3 | 352.6 | 356.9 |
| 60° | 303.4 | 304.6 | 304.0 | 308.3 | 310.1 |
| 62.5° | 267.7 | 267.1 | 263.4 | 269.5 | 274.4 |
| 65° | 236.3 | 233.8 | 228.3 | 232.0 | 236.3 |
| 67.5° | 207.4 | 206.1 | 196.9 | 200.0 | 203.7 |
| 70° | 184.6 | 180.3 | 171.1 | 172.9 | 176.0 |
| 72.5° | 162.4 | 157.5 | 148.3 | 148.9 | 150.8 |
| 75° | 142.1 | 137.2 | 126.8 | 127.4 | 129.2 |
| 77.5° | 123.1 | 116.9 | 107.7 | 106.5 | 107.7 |
| 80° | 102.8 | 97.2 | 89.2 | 85.5 | 89.2 |
| 82.5° | 81.8 | 78.8 | 69.5 | 65.8 | 67.1 |
| 85° | 57.2 | 55.4 | 47.4 | 44.9 | 46.8 |
| 87.5° | 26.5 | 28.3 | 24.0 | 22.2 | 22.8 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)