

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: P291861

Luminaire Tested: **22GR-LD5-43-F1-UNV-L93050-W2A1-U-3000K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P291861
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-LD5-43-F1-UNV-L93050-W2A1-U-3000K
Description: GRLED 2x2 TUNABLE WHITE TROFFER WITH F1 LENS
Light Source: (168) 90 CRI LEDS TUNED TO 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3387.0 lumens
Efficiency: N/A
Efficacy: 94.1 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

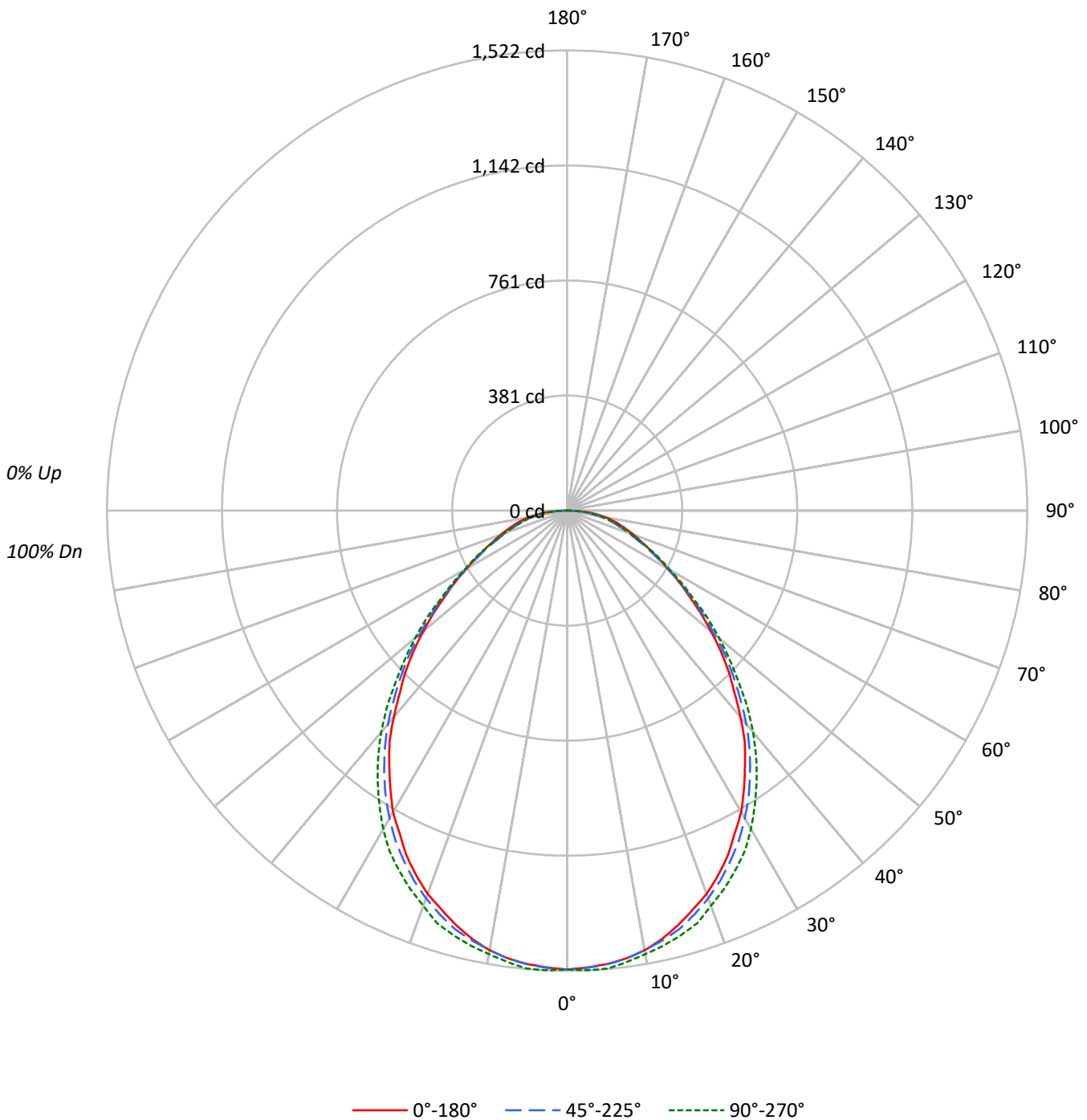
Input Watts (W): 35.991
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P291861

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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° | 4084 | 4084 | 4084 |
| 5° | 4066 | 4071 | 4108 |
| 10° | 4035 | 4033 | 4071 |
| 15° | 3953 | 3992 | 4051 |
| 20° | 3863 | 3907 | 3983 |
| 25° | 3735 | 3795 | 3901 |
| 30° | 3578 | 3650 | 3778 |
| 35° | 3368 | 3465 | 3588 |
| 40° | 3134 | 3241 | 3359 |
| 45° | 2878 | 2961 | 3052 |
| 50° | 2596 | 2661 | 2745 |
| 55° | 2303 | 2358 | 2398 |
| 60° | 2064 | 2068 | 2110 |
| 65° | 1902 | 1838 | 1902 |
| 70° | 1836 | 1702 | 1751 |
| 75° | 1868 | 1667 | 1699 |
| 80° | 2013 | 1748 | 1748 |
| 85° | 2232 | 1849 | 1825 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 143.2 | 4.2 |
| 10°-20° | 403.8 | 11.9 |
| 20°-30° | 589.4 | 17.4 |
| 30°-40° | 659.9 | 19.5 |
| 40°-50° | 600.5 | 17.7 |
| 50°-60° | 452.0 | 13.3 |
| 60°-70° | 295.0 | 8.7 |
| 70°-80° | 176.9 | 5.2 |
| 80°-90° | 66.3 | 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° | 1136.4 | 33.6 |
| 0°-40° | 1796.2 | 53.0 |
| 0°-60° | 2848.8 | 84.1 |
| 0°-90° | 3387.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3387.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1518 | 1518 | 1518 | 1518 | 1518 | |
| 5° | 1505 | 1503 | 1507 | 1512 | 1521 | 143 |
| 15° | 1419 | 1420 | 1433 | 1445 | 1454 | 400 |
| 25° | 1258 | 1262 | 1278 | 1302 | 1314 | 578 |
| 35° | 1025 | 1035 | 1055 | 1080 | 1092 | 641 |
| 45° | 756 | 764 | 778 | 794 | 802 | 582 |
| 55° | 491 | 498 | 503 | 510 | 511 | 444 |
| 65° | 299 | 296 | 289 | 293 | 299 | 299 |
| 75° | 180 | 174 | 160 | 161 | 163 | 191 |
| 85° | 72 | 70 | 60 | 57 | 59 | 75 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1517.8 | 1517.8 | 1517.8 | 1517.8 | 1517.8 |
| 2.5° | 1512.3 | 1511.6 | 1513.9 | 1517.8 | 1521.7 |
| 5° | 1505.3 | 1503.0 | 1506.9 | 1512.3 | 1520.9 |
| 7.5° | 1494.4 | 1494.4 | 1494.4 | 1504.6 | 1506.1 |
| 10° | 1476.6 | 1478.1 | 1475.8 | 1485.9 | 1489.8 |
| 12.5° | 1450.9 | 1451.7 | 1456.3 | 1466.4 | 1473.4 |
| 15° | 1419.0 | 1420.5 | 1433.0 | 1444.7 | 1454.0 |
| 17.5° | 1383.2 | 1388.6 | 1400.3 | 1419.0 | 1430.7 |
| 20° | 1349.0 | 1355.2 | 1364.5 | 1384.8 | 1391.0 |
| 22.5° | 1305.4 | 1312.4 | 1324.1 | 1342.0 | 1355.2 |
| 25° | 1258.0 | 1261.8 | 1278.2 | 1301.5 | 1314.0 |
| 27.5° | 1201.2 | 1209.7 | 1229.9 | 1254.1 | 1271.2 |
| 30° | 1151.4 | 1156.0 | 1174.7 | 1202.7 | 1215.9 |
| 32.5° | 1088.4 | 1102.4 | 1117.9 | 1142.8 | 1155.3 |
| 35° | 1025.3 | 1034.7 | 1054.9 | 1079.8 | 1092.2 |
| 37.5° | 964.7 | 970.1 | 990.3 | 1011.3 | 1026.9 |
| 40° | 892.3 | 902.4 | 922.7 | 945.2 | 956.1 |
| 42.5° | 820.0 | 834.7 | 848.0 | 870.5 | 882.2 |
| 45° | 756.2 | 764.0 | 778.0 | 794.3 | 802.1 |
| 47.5° | 689.3 | 693.2 | 709.5 | 719.6 | 728.2 |
| 50° | 620.0 | 624.7 | 635.6 | 645.7 | 655.8 |
| 52.5° | 556.2 | 560.1 | 567.1 | 576.5 | 586.6 |
| 55° | 490.9 | 497.9 | 502.6 | 509.6 | 511.1 |
| 57.5° | 438.0 | 437.2 | 440.3 | 445.8 | 451.2 |
| 60° | 383.5 | 385.1 | 384.3 | 389.8 | 392.1 |
| 62.5° | 338.4 | 337.6 | 333.0 | 340.7 | 347.0 |
| 65° | 298.7 | 295.6 | 288.6 | 293.3 | 298.7 |
| 67.5° | 262.2 | 260.6 | 248.9 | 252.8 | 257.5 |
| 70° | 233.4 | 227.9 | 216.3 | 218.6 | 222.5 |
| 72.5° | 205.4 | 199.2 | 187.5 | 188.3 | 190.6 |
| 75° | 179.7 | 173.5 | 160.3 | 161.0 | 163.4 |
| 77.5° | 155.6 | 147.8 | 136.1 | 134.6 | 136.1 |
| 80° | 129.9 | 122.9 | 112.8 | 108.1 | 112.8 |
| 82.5° | 103.5 | 99.6 | 87.9 | 83.2 | 84.8 |
| 85° | 72.3 | 70.0 | 59.9 | 56.8 | 59.1 |
| 87.5° | 33.5 | 35.8 | 30.3 | 28.0 | 28.8 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)