

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: P293048

Luminaire Tested: **24GR-LD5-38-F1-UNV-L93050-W2A1-U-4500K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P293048
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1901-084-12)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24GR-LD5-38-F1-UNV-L93050-W2A1-U-4500K
Description: GRLED 2x4 TUNABLE WHITE TROFFER
WITH F1 LENS
Light Source: (336) 90 CRI LEDS TUNED TO 4500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3594.0 lumens
Efficiency: N/A
Efficacy: 135.9 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.18 / 1.25
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

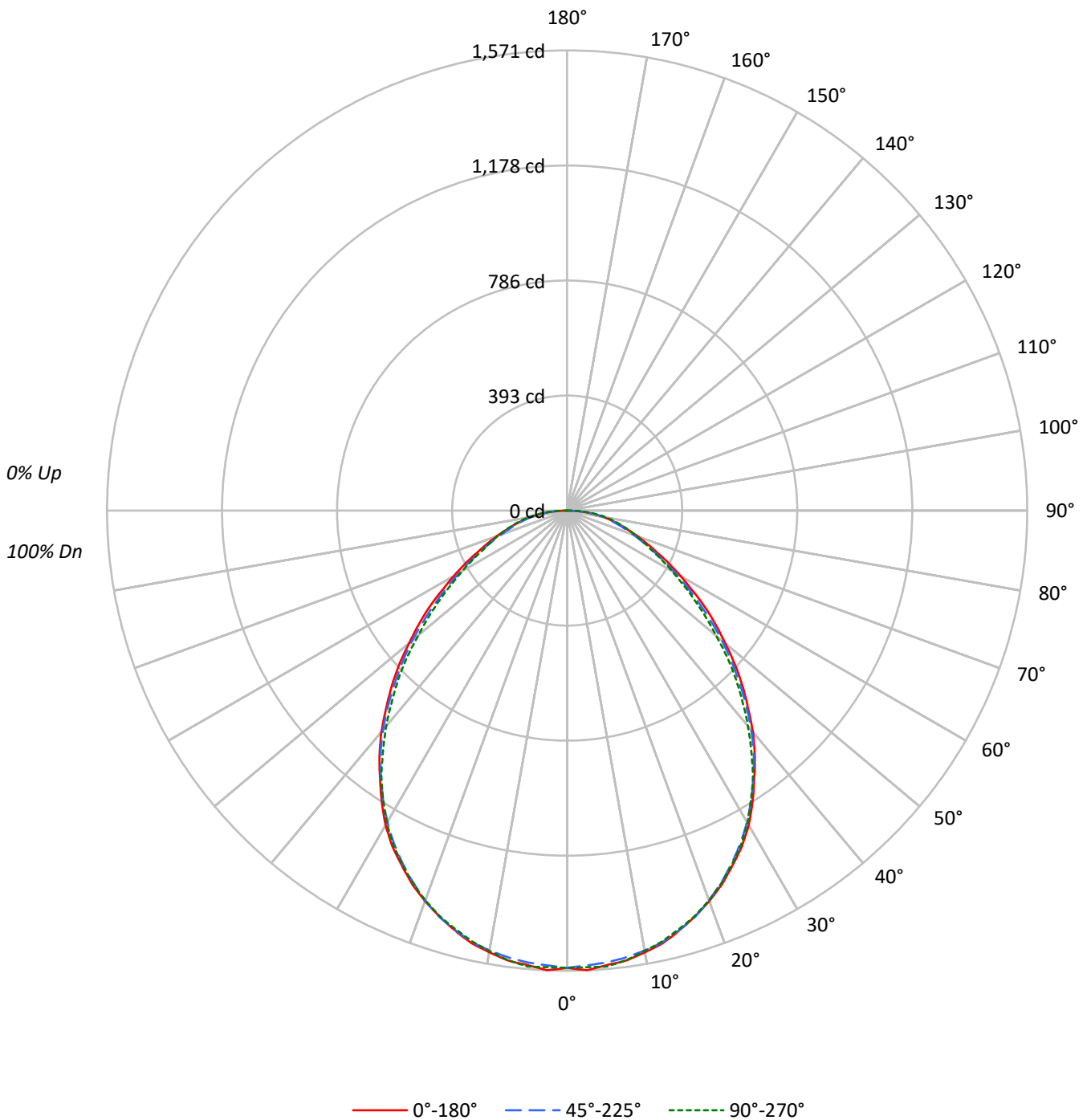
Input Watts (W): 26.455338
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| RF | 20 | | | | 20 | | | | 20 | | | 20 | | | 20 | | | 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 | 109 | 105 | 101 | 97 | 107 | 103 | 99 | 96 | 98 | 95 | 93 | 95 | 92 | 90 | 91 | 89 | 87 | 85 |
| 2 | 100 | 93 | 86 | 81 | 98 | 91 | 85 | 80 | 87 | 82 | 78 | 84 | 80 | 76 | 81 | 78 | 75 | 72 |
| 3 | 92 | 82 | 74 | 68 | 90 | 81 | 73 | 68 | 78 | 72 | 67 | 75 | 70 | 65 | 72 | 68 | 64 | 62 |
| 4 | 85 | 73 | 65 | 59 | 83 | 72 | 64 | 58 | 70 | 63 | 58 | 67 | 62 | 57 | 65 | 60 | 56 | 54 |
| 5 | 78 | 66 | 58 | 51 | 76 | 65 | 57 | 51 | 63 | 56 | 50 | 61 | 55 | 50 | 59 | 54 | 49 | 47 |
| 6 | 73 | 60 | 51 | 45 | 71 | 59 | 51 | 45 | 57 | 50 | 45 | 56 | 49 | 44 | 54 | 48 | 44 | 42 |
| 7 | 68 | 55 | 46 | 40 | 66 | 54 | 46 | 40 | 52 | 45 | 40 | 51 | 44 | 40 | 50 | 44 | 39 | 37 |
| 8 | 63 | 50 | 42 | 36 | 62 | 49 | 42 | 36 | 48 | 41 | 36 | 47 | 40 | 36 | 46 | 40 | 36 | 34 |
| 9 | 59 | 46 | 38 | 33 | 58 | 46 | 38 | 33 | 44 | 38 | 33 | 43 | 37 | 32 | 42 | 37 | 32 | 31 |
| 10 | 56 | 43 | 35 | 30 | 54 | 42 | 35 | 30 | 41 | 34 | 30 | 40 | 34 | 30 | 39 | 34 | 30 | 28 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 2100 | 2100 | 2100 |
| 5° | 2103 | 2091 | 2110 |
| 10° | 2092 | 2083 | 2085 |
| 15° | 2066 | 2064 | 2059 |
| 20° | 2031 | 2027 | 2027 |
| 25° | 1984 | 1973 | 1978 |
| 30° | 1927 | 1907 | 1913 |
| 35° | 1830 | 1822 | 1817 |
| 40° | 1733 | 1717 | 1687 |
| 45° | 1611 | 1583 | 1552 |
| 50° | 1476 | 1443 | 1389 |
| 55° | 1348 | 1287 | 1243 |
| 60° | 1201 | 1143 | 1113 |
| 65° | 1081 | 1024 | 1010 |
| 70° | 1003 | 942 | 980 |
| 75° | 960 | 917 | 994 |
| 80° | 959 | 959 | 1062 |
| 85° | 996 | 1007 | 1121 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 147.4 | 4.1 |
| 10°-20° | 417.2 | 11.6 |
| 20°-30° | 612.3 | 17.0 |
| 30°-40° | 692.3 | 19.3 |
| 40°-50° | 639.8 | 17.8 |
| 50°-60° | 493.0 | 13.7 |
| 60°-70° | 326.4 | 9.1 |
| 70°-80° | 194.3 | 5.4 |
| 80°-90° | 71.2 | 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° | 1177.0 | 32.7 |
| 0°-40° | 1869.3 | 52.0 |
| 0°-60° | 3002.1 | 83.5 |
| 0°-90° | 3594.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3594.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1561 | 1561 | 1561 | 1561 | 1561 | |
| 5° | 1557 | 1557 | 1548 | 1549 | 1562 | 148 |
| 15° | 1483 | 1480 | 1482 | 1481 | 1478 | 418 |
| 25° | 1336 | 1333 | 1329 | 1328 | 1332 | 615 |
| 35° | 1114 | 1113 | 1109 | 1104 | 1106 | 697 |
| 45° | 846 | 841 | 832 | 817 | 815 | 652 |
| 55° | 574 | 563 | 549 | 534 | 530 | 512 |
| 65° | 340 | 334 | 322 | 319 | 317 | 340 |
| 75° | 185 | 180 | 176 | 185 | 191 | 197 |
| 85° | 64 | 61 | 65 | 72 | 73 | 68 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P293048

CATALOG NUMBER: 24GR-LD5-38-F1-UNV-L93050-W2A1-U-4500K

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1561.1 | 1561.1 | 1561.1 | 1561.1 | 1561.1 |
| 2.5° | 1570.8 | 1562.6 | 1553.7 | 1553.7 | 1560.4 |
| 5° | 1557.4 | 1557.4 | 1548.5 | 1549.3 | 1561.9 |
| 7.5° | 1549.3 | 1544.8 | 1538.9 | 1538.9 | 1548.5 |
| 10° | 1531.5 | 1527.8 | 1524.8 | 1523.3 | 1526.3 |
| 12.5° | 1512.2 | 1506.3 | 1508.5 | 1506.3 | 1505.6 |
| 15° | 1483.3 | 1480.3 | 1481.8 | 1481.1 | 1478.1 |
| 17.5° | 1452.2 | 1450.7 | 1453.7 | 1448.5 | 1450.7 |
| 20° | 1418.8 | 1414.4 | 1415.9 | 1412.9 | 1415.9 |
| 22.5° | 1381.0 | 1378.1 | 1374.3 | 1370.6 | 1376.6 |
| 25° | 1336.5 | 1332.8 | 1329.1 | 1327.6 | 1332.1 |
| 27.5° | 1292.1 | 1286.1 | 1280.9 | 1279.5 | 1286.1 |
| 30° | 1240.2 | 1233.5 | 1227.6 | 1226.1 | 1231.3 |
| 32.5° | 1178.6 | 1177.2 | 1169.7 | 1166.8 | 1169.0 |
| 35° | 1114.2 | 1112.7 | 1109.0 | 1103.8 | 1106.0 |
| 37.5° | 1052.6 | 1051.9 | 1046.7 | 1037.8 | 1031.9 |
| 40° | 986.7 | 981.5 | 977.8 | 965.2 | 960.7 |
| 42.5° | 914.0 | 912.5 | 905.9 | 891.8 | 886.6 |
| 45° | 846.5 | 840.6 | 831.7 | 816.9 | 815.4 |
| 47.5° | 776.9 | 768.7 | 760.6 | 742.0 | 741.3 |
| 50° | 705.0 | 699.0 | 689.4 | 670.9 | 663.5 |
| 52.5° | 638.2 | 630.1 | 616.7 | 599.0 | 595.3 |
| 55° | 574.5 | 562.6 | 548.6 | 533.7 | 530.0 |
| 57.5° | 506.3 | 501.1 | 484.1 | 472.2 | 467.8 |
| 60° | 446.3 | 441.8 | 424.8 | 413.6 | 413.6 |
| 62.5° | 392.1 | 385.5 | 370.6 | 363.2 | 363.2 |
| 65° | 339.5 | 334.3 | 321.7 | 318.8 | 317.3 |
| 67.5° | 294.3 | 287.6 | 278.7 | 278.0 | 281.7 |
| 70° | 255.0 | 246.8 | 239.4 | 246.8 | 249.1 |
| 72.5° | 217.9 | 212.7 | 206.1 | 215.7 | 220.2 |
| 75° | 184.6 | 180.1 | 176.4 | 184.6 | 191.3 |
| 77.5° | 154.2 | 149.7 | 149.7 | 158.6 | 164.6 |
| 80° | 123.8 | 120.8 | 123.8 | 131.2 | 137.1 |
| 82.5° | 94.9 | 92.7 | 96.4 | 103.8 | 107.5 |
| 85° | 64.5 | 60.8 | 65.2 | 71.9 | 72.6 |
| 87.5° | 30.4 | 29.7 | 32.6 | 37.1 | 36.3 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)