

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: P293596

Luminaire Tested: **24GR-LD5-34-A-UNV-L92765-W2A1-U-4000K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P293596
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33306)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24GR-LD5-34-A-UNV-L92765-W2A1-U-4000K
Description: GRLED 2x4 TUNABLE WHITE TROFFER
WITH A LENS
Light Source: (336) 90 CRI LEDS TUNED TO 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3119.0 lumens
Efficiency: N/A
Efficacy: 134.2 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.2 / 1.26
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

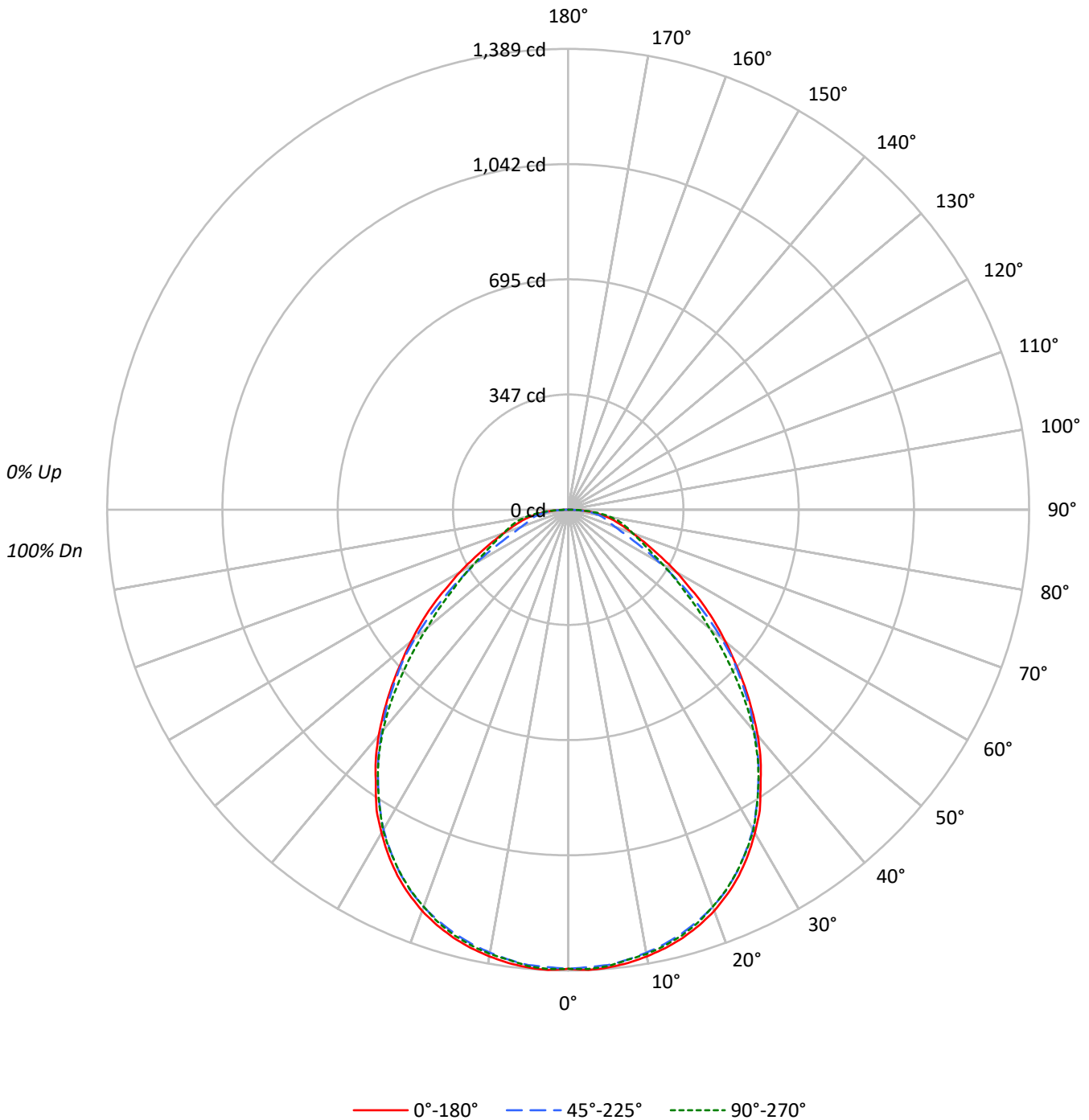
Input Watts (W): 23.25
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 105 | 101 | 98 | 107 | 103 | 99 | 96 | 99 | 96 | 93 | 95 | 93 | 90 | 91 | 89 | 88 | 86 |
| 2 | 101 | 93 | 87 | 82 | 98 | 91 | 86 | 81 | 88 | 83 | 79 | 85 | 81 | 77 | 82 | 78 | 75 | 73 |
| 3 | 93 | 83 | 75 | 69 | 90 | 81 | 74 | 69 | 79 | 73 | 68 | 76 | 71 | 67 | 73 | 69 | 65 | 63 |
| 4 | 86 | 74 | 66 | 60 | 83 | 73 | 65 | 60 | 71 | 64 | 59 | 68 | 63 | 58 | 66 | 61 | 57 | 55 |
| 5 | 79 | 67 | 59 | 53 | 77 | 66 | 58 | 52 | 64 | 57 | 52 | 62 | 56 | 51 | 60 | 55 | 51 | 49 |
| 6 | 73 | 61 | 53 | 46 | 72 | 60 | 52 | 46 | 58 | 51 | 46 | 57 | 50 | 45 | 55 | 49 | 45 | 43 |
| 7 | 68 | 56 | 47 | 42 | 67 | 55 | 47 | 41 | 53 | 46 | 41 | 52 | 46 | 41 | 51 | 45 | 41 | 39 |
| 8 | 64 | 51 | 43 | 37 | 62 | 50 | 43 | 37 | 49 | 42 | 37 | 48 | 41 | 37 | 47 | 41 | 37 | 35 |
| 9 | 60 | 47 | 39 | 34 | 58 | 46 | 39 | 34 | 45 | 38 | 34 | 44 | 38 | 33 | 43 | 38 | 33 | 32 |
| 10 | 56 | 44 | 36 | 31 | 55 | 43 | 36 | 31 | 42 | 35 | 31 | 41 | 35 | 31 | 40 | 35 | 30 | 29 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 1862 | 1862 | 1862 |
| 5° | 1871 | 1861 | 1865 |
| 10° | 1868 | 1852 | 1858 |
| 15° | 1861 | 1842 | 1850 |
| 20° | 1843 | 1824 | 1823 |
| 25° | 1807 | 1788 | 1786 |
| 30° | 1747 | 1729 | 1733 |
| 35° | 1660 | 1641 | 1643 |
| 40° | 1561 | 1534 | 1524 |
| 45° | 1430 | 1411 | 1355 |
| 50° | 1293 | 1258 | 1163 |
| 55° | 1161 | 1057 | 1003 |
| 60° | 1017 | 851 | 882 |
| 65° | 887 | 669 | 812 |
| 70° | 811 | 584 | 811 |
| 75° | 811 | 621 | 894 |
| 80° | 881 | 731 | 1019 |
| 85° | 966 | 826 | 1093 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 131.0 | 4.2 |
| 10°-20° | 374.0 | 12.0 |
| 20°-30° | 554.5 | 17.8 |
| 30°-40° | 625.6 | 20.1 |
| 40°-50° | 566.6 | 18.2 |
| 50°-60° | 408.8 | 13.1 |
| 60°-70° | 244.1 | 7.8 |
| 70°-80° | 150.8 | 4.8 |
| 80°-90° | 63.5 | 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° | 1059.6 | 34.0 |
| 0°-40° | 1685.2 | 54.0 |
| 0°-60° | 2660.6 | 85.3 |
| 0°-90° | 3119.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3119.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1384 | 1384 | 1384 | 1384 | 1384 | |
| 5° | 1385 | 1383 | 1378 | 1376 | 1381 | 132 |
| 15° | 1336 | 1328 | 1322 | 1323 | 1328 | 377 |
| 25° | 1217 | 1210 | 1204 | 1200 | 1203 | 559 |
| 35° | 1010 | 1009 | 999 | 999 | 1000 | 632 |
| 45° | 752 | 747 | 742 | 723 | 712 | 579 |
| 55° | 495 | 479 | 450 | 428 | 427 | 442 |
| 65° | 278 | 245 | 210 | 238 | 255 | 280 |
| 75° | 156 | 135 | 120 | 149 | 172 | 167 |
| 85° | 63 | 55 | 54 | 70 | 71 | 65 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1383.9 | 1383.9 | 1383.9 | 1383.9 | 1383.9 |
| 2.5° | 1388.7 | 1384.8 | 1380.0 | 1382.9 | 1385.3 |
| 5° | 1385.3 | 1383.4 | 1377.6 | 1376.2 | 1381.0 |
| 7.5° | 1378.1 | 1373.3 | 1368.0 | 1370.4 | 1368.4 |
| 10° | 1367.0 | 1362.7 | 1355.9 | 1356.4 | 1359.8 |
| 12.5° | 1353.5 | 1348.2 | 1341.0 | 1342.9 | 1345.8 |
| 15° | 1335.7 | 1327.5 | 1322.2 | 1322.7 | 1328.0 |
| 17.5° | 1313.0 | 1306.8 | 1300.0 | 1301.5 | 1303.9 |
| 20° | 1287.0 | 1283.6 | 1274.0 | 1271.1 | 1273.5 |
| 22.5° | 1254.2 | 1248.0 | 1242.7 | 1241.2 | 1241.7 |
| 25° | 1217.1 | 1210.4 | 1204.1 | 1199.8 | 1203.2 |
| 27.5° | 1173.8 | 1168.0 | 1159.8 | 1158.4 | 1161.3 |
| 30° | 1124.6 | 1120.3 | 1113.1 | 1111.1 | 1115.5 |
| 32.5° | 1074.5 | 1067.3 | 1057.2 | 1057.2 | 1058.1 |
| 35° | 1010.4 | 1009.0 | 998.9 | 999.4 | 1000.3 |
| 37.5° | 952.6 | 945.9 | 940.1 | 934.3 | 937.2 |
| 40° | 888.5 | 880.8 | 873.1 | 869.3 | 867.8 |
| 42.5° | 819.6 | 813.8 | 810.5 | 796.5 | 793.1 |
| 45° | 751.7 | 746.9 | 741.6 | 723.3 | 712.2 |
| 47.5° | 682.3 | 681.3 | 677.0 | 644.7 | 633.6 |
| 50° | 617.7 | 616.3 | 600.9 | 566.7 | 555.6 |
| 52.5° | 556.5 | 546.9 | 526.7 | 492.9 | 491.0 |
| 55° | 494.9 | 479.4 | 450.5 | 428.4 | 427.4 |
| 57.5° | 429.8 | 411.5 | 382.1 | 370.1 | 376.3 |
| 60° | 377.8 | 349.8 | 316.1 | 317.5 | 327.7 |
| 62.5° | 323.8 | 292.5 | 259.2 | 273.7 | 285.7 |
| 65° | 278.5 | 245.3 | 210.1 | 238.5 | 254.9 |
| 67.5° | 239.0 | 208.2 | 174.4 | 212.5 | 228.4 |
| 70° | 206.2 | 181.2 | 148.4 | 188.4 | 206.2 |
| 72.5° | 180.2 | 157.1 | 131.5 | 169.1 | 189.8 |
| 75° | 156.1 | 135.4 | 119.5 | 148.9 | 172.0 |
| 77.5° | 135.4 | 115.2 | 107.9 | 131.5 | 154.2 |
| 80° | 113.7 | 95.4 | 94.4 | 114.7 | 131.5 |
| 82.5° | 88.7 | 76.1 | 76.1 | 95.9 | 106.0 |
| 85° | 62.6 | 54.9 | 53.5 | 69.9 | 70.8 |
| 87.5° | 32.3 | 30.8 | 27.9 | 36.6 | 36.6 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)