

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: P294091

Luminaire Tested: **24GR-LD5-30-A19/156-UNV-L92765-W2A1-U-4000K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P294091
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33308)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24GR-LD5-30-A19/156-UNV-L92765-W2A1-U-4000K
Description: GRLED 2x4 TUNABLE WHITE TROFFER
WITH A19/156 LENS
Light Source: (336) 90 CRI LEDS TUNED TO 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2620.0 lumens
Efficiency: N/A
Efficacy: 129.2 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.25
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

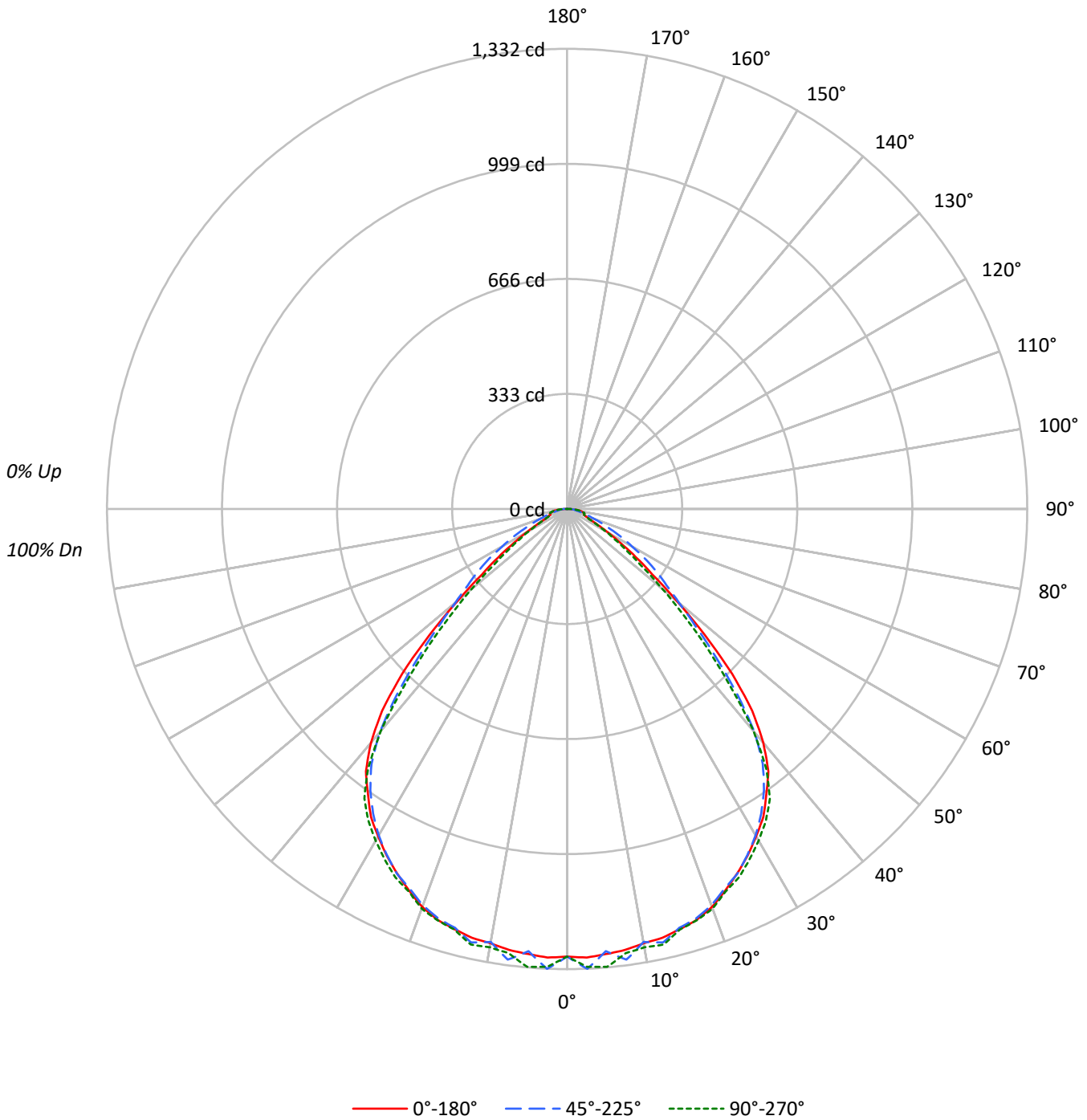
Input Watts (W): 20.274
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P294091

CATALOG NUMBER: 24GR-LD5-30-A19/156-UNV-L92765-W2A1-U-4000K

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 | 111 | 107 | 103 | 100 | 108 | 105 | 102 | 99 | 101 | 98 | 96 | 97 | 95 | 93 | 93 | 92 | 90 | 88 | | | | | 88 | | | |
| 2 | 103 | 96 | 90 | 86 | 100 | 94 | 89 | 85 | 91 | 86 | 83 | 88 | 84 | 81 | 85 | 82 | 79 | 77 | | | | | 77 | | | |
| 3 | 95 | 86 | 79 | 74 | 93 | 85 | 78 | 73 | 82 | 77 | 72 | 79 | 75 | 71 | 77 | 73 | 70 | 68 | | | | | 68 | | | |
| 4 | 88 | 78 | 71 | 65 | 86 | 77 | 70 | 64 | 74 | 68 | 64 | 72 | 67 | 63 | 70 | 66 | 62 | 60 | | | | | 60 | | | |
| 5 | 82 | 71 | 63 | 57 | 80 | 70 | 62 | 57 | 68 | 61 | 56 | 66 | 60 | 56 | 64 | 59 | 55 | 53 | | | | | 53 | | | |
| 6 | 76 | 65 | 57 | 51 | 75 | 64 | 56 | 51 | 62 | 55 | 50 | 60 | 55 | 50 | 59 | 54 | 50 | 48 | | | | | 48 | | | |
| 7 | 71 | 59 | 51 | 46 | 70 | 58 | 51 | 46 | 57 | 50 | 45 | 56 | 50 | 45 | 54 | 49 | 45 | 43 | | | | | 43 | | | |
| 8 | 67 | 55 | 47 | 42 | 65 | 54 | 47 | 41 | 53 | 46 | 41 | 51 | 45 | 41 | 50 | 45 | 41 | 39 | | | | | 39 | | | |
| 9 | 63 | 50 | 43 | 38 | 61 | 50 | 43 | 38 | 49 | 42 | 38 | 48 | 42 | 37 | 47 | 41 | 37 | 36 | | | | | 36 | | | |
| 10 | 59 | 47 | 39 | 35 | 58 | 46 | 39 | 35 | 45 | 39 | 34 | 44 | 38 | 34 | 44 | 38 | 34 | 33 | | | | | 33 | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 1743 | 1743 | 1743 |
| 5° | 1747 | 1736 | 1797 |
| 10° | 1744 | 1739 | 1760 |
| 15° | 1754 | 1748 | 1755 |
| 20° | 1756 | 1748 | 1763 |
| 25° | 1728 | 1730 | 1746 |
| 30° | 1700 | 1694 | 1722 |
| 35° | 1652 | 1632 | 1681 |
| 40° | 1551 | 1482 | 1474 |
| 45° | 1286 | 1163 | 1103 |
| 50° | 865 | 882 | 754 |
| 55° | 570 | 740 | 494 |
| 60° | 366 | 584 | 339 |
| 65° | 236 | 446 | 229 |
| 70° | 208 | 319 | 208 |
| 75° | 269 | 254 | 271 |
| 80° | 329 | 219 | 346 |
| 85° | 383 | 324 | 403 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 124.0 | 4.7 |
| 10°-20° | 356.2 | 13.6 |
| 20°-30° | 536.2 | 20.5 |
| 30°-40° | 621.5 | 23.7 |
| 40°-50° | 485.5 | 18.5 |
| 50°-60° | 259.2 | 9.9 |
| 60°-70° | 133.3 | 5.1 |
| 70°-80° | 75.4 | 2.9 |
| 80°-90° | 28.6 | 1.1 |
| 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° | 1016.4 | 38.8 |
| 0°-40° | 1637.9 | 62.5 |
| 0°-60° | 2382.6 | 90.9 |
| 0°-90° | 2620.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2620.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1296 | 1296 | 1296 | 1296 | 1296 | |
| 5° | 1293 | 1330 | 1285 | 1320 | 1330 | 123 |
| 15° | 1259 | 1267 | 1255 | 1263 | 1260 | 356 |
| 25° | 1164 | 1160 | 1165 | 1163 | 1176 | 536 |
| 35° | 1006 | 1001 | 993 | 1013 | 1023 | 627 |
| 45° | 676 | 676 | 611 | 606 | 580 | 509 |
| 55° | 243 | 308 | 316 | 284 | 211 | 224 |
| 65° | 74 | 154 | 140 | 154 | 72 | 81 |
| 75° | 52 | 97 | 49 | 91 | 52 | 52 |
| 85° | 25 | 32 | 21 | 32 | 26 | 26 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P294091

CATALOG NUMBER: 24GR-LD5-30-A19/156-UNV-L92765-W2A1-U-4000K

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1295.5 | 1295.5 | 1295.5 | 1295.5 | 1295.5 |
| 2.5° | 1299.7 | 1323.3 | 1332.5 | 1321.2 | 1326.2 |
| 5° | 1293.4 | 1329.6 | 1285.0 | 1320.3 | 1330.4 |
| 7.5° | 1287.5 | 1283.7 | 1316.1 | 1282.5 | 1296.8 |
| 10° | 1276.6 | 1279.1 | 1272.8 | 1296.8 | 1288.4 |
| 12.5° | 1271.5 | 1286.3 | 1285.0 | 1272.8 | 1291.3 |
| 15° | 1259.3 | 1267.3 | 1255.1 | 1263.1 | 1260.2 |
| 17.5° | 1247.1 | 1243.3 | 1242.1 | 1245.4 | 1248.4 |
| 20° | 1226.1 | 1213.5 | 1221.0 | 1221.9 | 1231.1 |
| 22.5° | 1195.8 | 1188.2 | 1189.9 | 1197.5 | 1198.3 |
| 25° | 1164.2 | 1160.5 | 1165.1 | 1163.4 | 1176.4 |
| 27.5° | 1131.4 | 1126.4 | 1129.3 | 1135.6 | 1143.6 |
| 30° | 1094.0 | 1092.7 | 1090.6 | 1096.1 | 1108.3 |
| 32.5° | 1056.9 | 1046.8 | 1045.2 | 1056.5 | 1070.4 |
| 35° | 1005.6 | 1001.0 | 993.4 | 1013.2 | 1023.3 |
| 37.5° | 956.8 | 942.5 | 930.3 | 942.1 | 946.3 |
| 40° | 883.2 | 872.2 | 843.6 | 844.9 | 839.0 |
| 42.5° | 792.7 | 784.7 | 730.0 | 720.3 | 703.9 |
| 45° | 675.7 | 676.2 | 611.4 | 605.9 | 579.8 |
| 47.5° | 539.8 | 563.8 | 507.4 | 501.1 | 462.4 |
| 50° | 413.2 | 456.5 | 421.6 | 411.5 | 360.2 |
| 52.5° | 310.1 | 373.6 | 362.7 | 340.8 | 270.1 |
| 55° | 243.2 | 307.6 | 315.6 | 284.4 | 210.8 |
| 57.5° | 183.0 | 253.3 | 266.3 | 240.7 | 162.8 |
| 60° | 135.9 | 213.3 | 217.1 | 207.0 | 125.8 |
| 62.5° | 101.0 | 181.3 | 176.3 | 177.6 | 93.4 |
| 65° | 74.1 | 154.4 | 140.1 | 154.0 | 71.9 |
| 67.5° | 60.6 | 133.8 | 109.0 | 133.4 | 58.5 |
| 70° | 53.0 | 118.7 | 81.2 | 117.4 | 53.0 |
| 72.5° | 51.3 | 109.0 | 64.4 | 104.3 | 51.8 |
| 75° | 51.8 | 97.2 | 48.8 | 90.9 | 52.2 |
| 77.5° | 47.5 | 79.9 | 37.0 | 77.4 | 49.6 |
| 80° | 42.5 | 60.6 | 28.2 | 61.4 | 44.6 |
| 82.5° | 36.2 | 44.2 | 22.7 | 45.4 | 37.4 |
| 85° | 24.8 | 32.4 | 21.0 | 32.4 | 26.1 |
| 87.5° | 11.8 | 19.4 | 13.0 | 18.5 | 13.5 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)