

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: P294046

Luminaire Tested: **24GR-LD5-30-A19/156-UNV-L93050-W2A1-U-4500K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P294046
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-L93050-W2A1-U-4500K
Description: GRLED 2x4 TUNABLE WHITE TROFFER
WITH A19/156 LENS
Light Source: (336) 90 CRI LEDS TUNED TO 4500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2771.0 lumens
Efficiency: N/A
Efficacy: 133.0 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

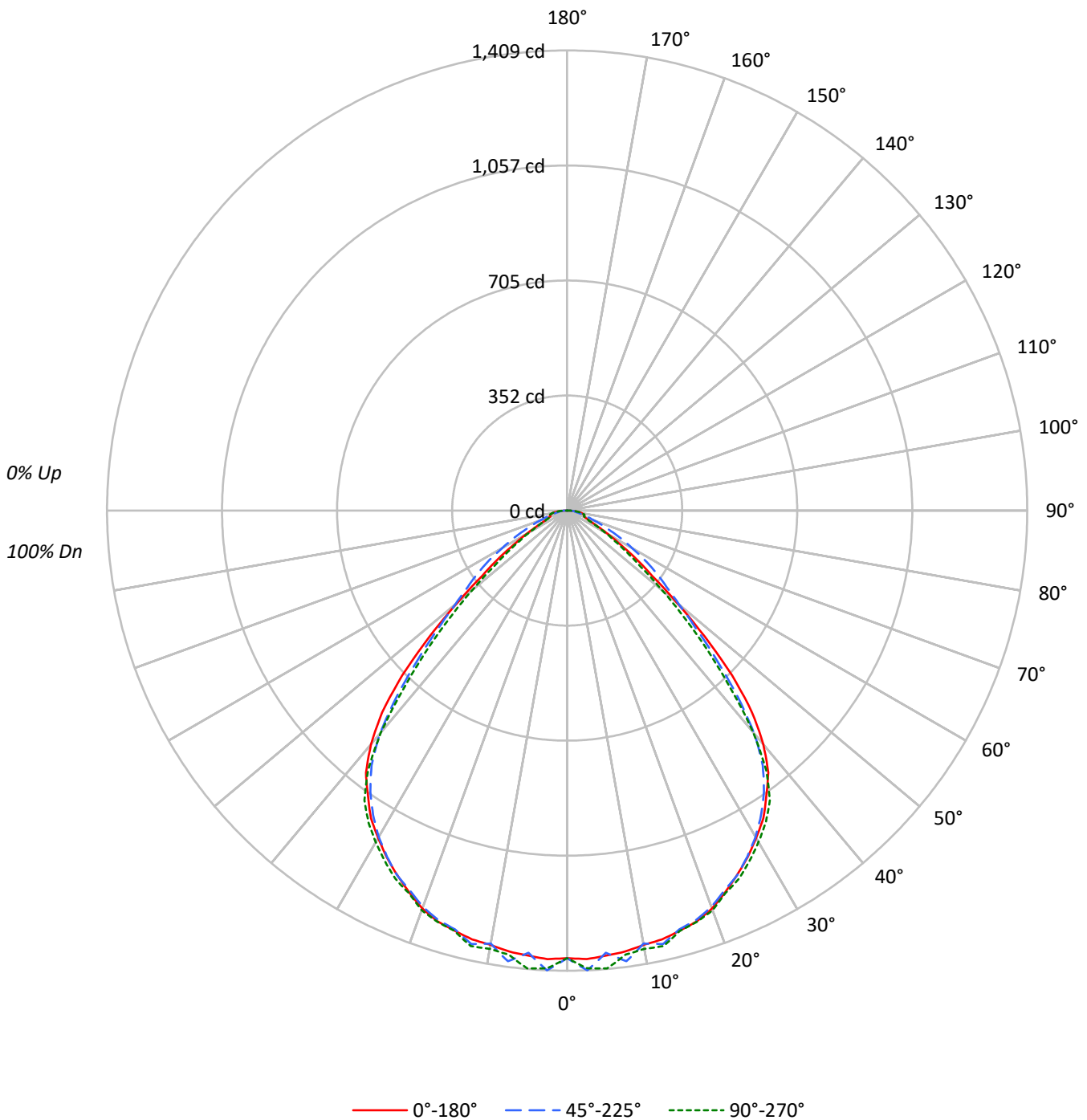
Input Watts (W): 20.83479
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 1844 | 1844 | 1844 |
| 5° | 1848 | 1836 | 1900 |
| 10° | 1845 | 1839 | 1862 |
| 15° | 1855 | 1849 | 1857 |
| 20° | 1857 | 1849 | 1864 |
| 25° | 1828 | 1829 | 1847 |
| 30° | 1798 | 1792 | 1821 |
| 35° | 1747 | 1726 | 1778 |
| 40° | 1641 | 1567 | 1558 |
| 45° | 1360 | 1230 | 1167 |
| 50° | 915 | 933 | 797 |
| 55° | 603 | 783 | 523 |
| 60° | 387 | 618 | 358 |
| 65° | 249 | 472 | 242 |
| 70° | 221 | 338 | 221 |
| 75° | 284 | 268 | 287 |
| 80° | 348 | 231 | 366 |
| 85° | 406 | 344 | 426 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 131.2 | 4.7 |
| 10°-20° | 376.7 | 13.6 |
| 20°-30° | 567.1 | 20.5 |
| 30°-40° | 657.3 | 23.7 |
| 40°-50° | 513.5 | 18.5 |
| 50°-60° | 274.2 | 9.9 |
| 60°-70° | 141.0 | 5.1 |
| 70°-80° | 79.8 | 2.9 |
| 80°-90° | 30.3 | 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° | 1075.0 | 38.8 |
| 0°-40° | 1732.3 | 62.5 |
| 0°-60° | 2520.0 | 90.9 |
| 0°-90° | 2771.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2771.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1370 | 1370 | 1370 | 1370 | 1370 | |
| 5° | 1368 | 1406 | 1359 | 1396 | 1407 | 130 |
| 15° | 1332 | 1340 | 1328 | 1336 | 1333 | 376 |
| 25° | 1231 | 1227 | 1232 | 1230 | 1244 | 567 |
| 35° | 1064 | 1059 | 1051 | 1072 | 1082 | 663 |
| 45° | 715 | 715 | 647 | 641 | 613 | 539 |
| 55° | 257 | 325 | 334 | 301 | 223 | 237 |
| 65° | 78 | 163 | 148 | 163 | 76 | 86 |
| 75° | 55 | 103 | 52 | 96 | 55 | 55 |
| 85° | 26 | 34 | 22 | 34 | 28 | 27 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P294046

CATALOG NUMBER: 24GR-LD5-30-A19/156-UNV-L93050-W2A1-U-4500K

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1370.2 | 1370.2 | 1370.2 | 1370.2 | 1370.2 |
| 2.5° | 1374.6 | 1399.6 | 1409.3 | 1397.3 | 1402.7 |
| 5° | 1368.0 | 1406.2 | 1359.1 | 1396.4 | 1407.1 |
| 7.5° | 1361.7 | 1357.7 | 1392.0 | 1356.4 | 1371.5 |
| 10° | 1350.2 | 1352.8 | 1346.1 | 1371.5 | 1362.6 |
| 12.5° | 1344.8 | 1360.4 | 1359.1 | 1346.1 | 1365.7 |
| 15° | 1331.9 | 1340.4 | 1327.5 | 1335.9 | 1332.8 |
| 17.5° | 1319.0 | 1315.0 | 1313.7 | 1317.2 | 1320.3 |
| 20° | 1296.8 | 1283.4 | 1291.4 | 1292.3 | 1302.1 |
| 22.5° | 1264.7 | 1256.7 | 1258.5 | 1266.5 | 1267.4 |
| 25° | 1231.3 | 1227.3 | 1232.2 | 1230.4 | 1244.2 |
| 27.5° | 1196.6 | 1191.3 | 1194.4 | 1201.1 | 1209.5 |
| 30° | 1157.0 | 1155.7 | 1153.5 | 1159.2 | 1172.2 |
| 32.5° | 1117.9 | 1107.2 | 1105.4 | 1117.4 | 1132.1 |
| 35° | 1063.6 | 1058.7 | 1050.7 | 1071.6 | 1082.3 |
| 37.5° | 1011.9 | 996.8 | 983.9 | 996.4 | 1000.8 |
| 40° | 934.1 | 922.5 | 892.2 | 893.6 | 887.3 |
| 42.5° | 838.4 | 829.9 | 772.1 | 761.9 | 744.5 |
| 45° | 714.7 | 715.1 | 646.6 | 640.8 | 613.2 |
| 47.5° | 570.9 | 596.3 | 536.7 | 530.0 | 489.1 |
| 50° | 437.0 | 482.8 | 445.9 | 435.2 | 380.9 |
| 52.5° | 328.0 | 395.2 | 383.6 | 360.5 | 285.7 |
| 55° | 257.2 | 325.3 | 333.8 | 300.8 | 222.9 |
| 57.5° | 193.6 | 267.9 | 281.7 | 254.5 | 172.2 |
| 60° | 143.7 | 225.6 | 229.6 | 218.9 | 133.1 |
| 62.5° | 106.8 | 191.8 | 186.5 | 187.8 | 98.8 |
| 65° | 78.3 | 163.3 | 148.2 | 162.9 | 76.1 |
| 67.5° | 64.1 | 141.5 | 115.3 | 141.1 | 61.9 |
| 70° | 56.1 | 125.5 | 85.9 | 124.2 | 56.1 |
| 72.5° | 54.3 | 115.3 | 68.1 | 110.4 | 54.7 |
| 75° | 54.7 | 102.8 | 51.6 | 96.1 | 55.2 |
| 77.5° | 50.3 | 84.6 | 39.2 | 81.9 | 52.5 |
| 80° | 44.9 | 64.1 | 29.8 | 65.0 | 47.2 |
| 82.5° | 38.3 | 46.7 | 24.0 | 48.1 | 39.6 |
| 85° | 26.3 | 34.3 | 22.3 | 34.3 | 27.6 |
| 87.5° | 12.5 | 20.5 | 13.8 | 19.6 | 14.2 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)