

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: P225756

Luminaire Tested: **22GR-LD5-28-A19/156-UNV-L940-CD1-U**

Issue Date: 3/12/2020

Test Information

Test Method: LM-79-08
Report Number: P225756
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33284)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/12/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 22GR-LD5-28-A19/156-UNV-L940-CD1-U
Description: METALUX GR 2X2 LED TROFFER WITH A19/156 LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2495.7 lumens
Efficiency: N/A
Efficacy: 108.6 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.24 / 1.21
Luminous Opening: Rectangular (W 1.83' x L: 1.83' x H: 0')
CIE Type: Direct

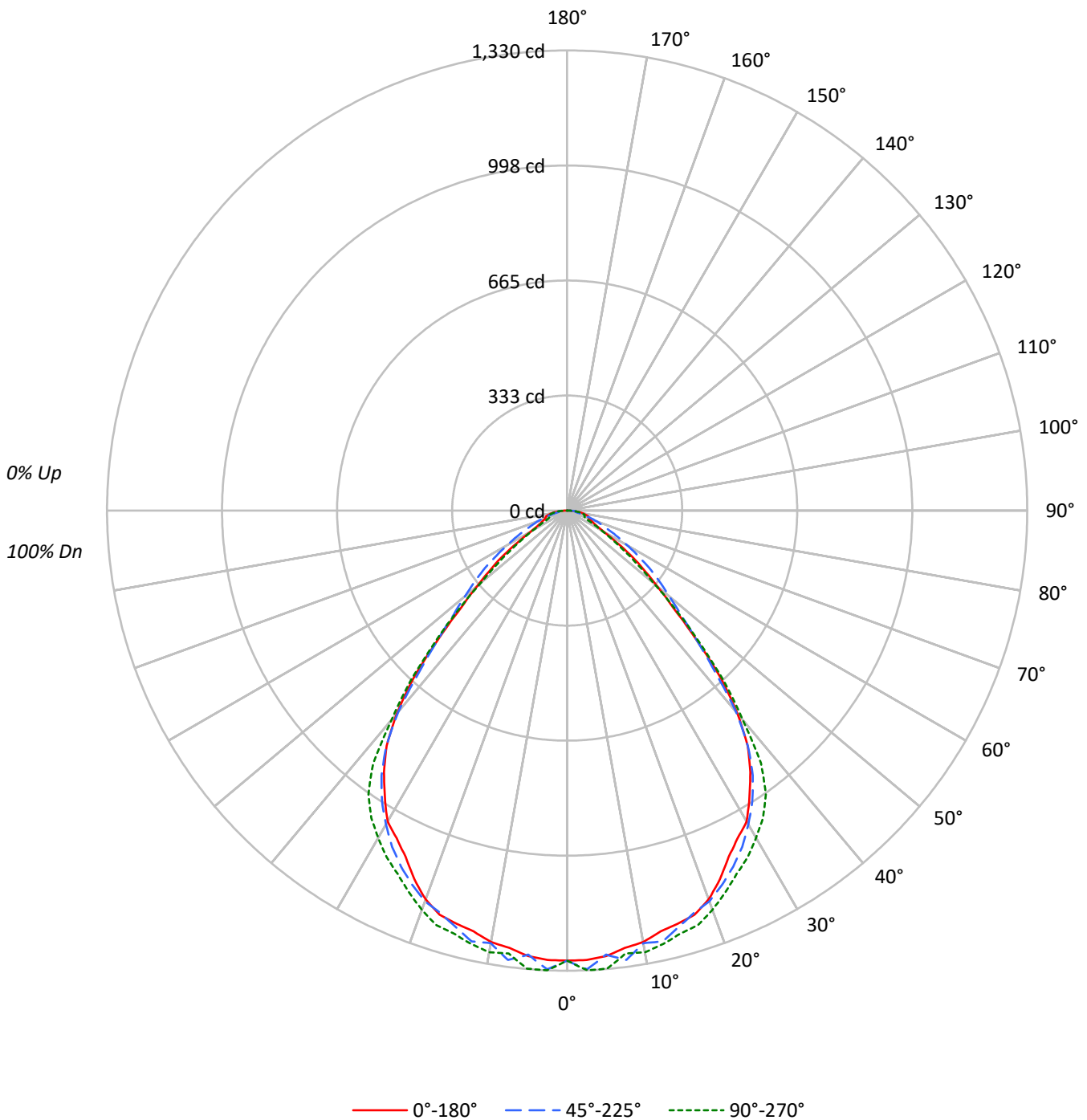
Input Watts (W): 22.986
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 111 | 107 | 103 | 100 | 108 | 105 | 102 | 99 | 101 | 98 | 96 | 97 | 95 | 93 | 93 | 91 | 90 | 88 |
| 2 | 103 | 96 | 90 | 85 | 100 | 94 | 89 | 85 | 91 | 86 | 83 | 88 | 84 | 81 | 85 | 82 | 79 | 77 |
| 3 | 95 | 86 | 79 | 74 | 93 | 85 | 79 | 73 | 82 | 77 | 72 | 79 | 75 | 71 | 77 | 73 | 70 | 68 |
| 4 | 88 | 78 | 71 | 65 | 86 | 77 | 70 | 64 | 75 | 68 | 64 | 72 | 67 | 63 | 70 | 66 | 62 | 60 |
| 5 | 82 | 71 | 63 | 58 | 80 | 70 | 63 | 57 | 68 | 62 | 57 | 66 | 61 | 56 | 64 | 59 | 56 | 54 |
| 6 | 77 | 65 | 57 | 51 | 75 | 64 | 57 | 51 | 62 | 56 | 51 | 61 | 55 | 50 | 59 | 54 | 50 | 48 |
| 7 | 72 | 60 | 52 | 46 | 70 | 59 | 51 | 46 | 57 | 51 | 46 | 56 | 50 | 46 | 55 | 49 | 45 | 44 |
| 8 | 67 | 55 | 47 | 42 | 66 | 54 | 47 | 42 | 53 | 46 | 42 | 52 | 46 | 41 | 51 | 45 | 41 | 40 |
| 9 | 63 | 51 | 43 | 38 | 62 | 50 | 43 | 38 | 49 | 43 | 38 | 48 | 42 | 38 | 47 | 42 | 38 | 36 |
| 10 | 59 | 47 | 40 | 35 | 58 | 47 | 40 | 35 | 46 | 39 | 35 | 45 | 39 | 35 | 44 | 39 | 35 | 33 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 4165 | 4165 | 4165 |
| 5° | 4155 | 4142 | 4272 |
| 10° | 4117 | 4128 | 4214 |
| 15° | 4098 | 4129 | 4195 |
| 20° | 4076 | 4096 | 4184 |
| 25° | 3902 | 4012 | 4095 |
| 30° | 3838 | 3872 | 4038 |
| 35° | 3609 | 3655 | 3915 |
| 40° | 3199 | 3176 | 3301 |
| 45° | 2389 | 2394 | 2461 |
| 50° | 1682 | 1913 | 1629 |
| 55° | 1241 | 1615 | 1113 |
| 60° | 776 | 1277 | 727 |
| 65° | 633 | 1012 | 508 |
| 70° | 627 | 843 | 501 |
| 75° | 780 | 619 | 648 |
| 80° | 867 | 489 | 791 |
| 85° | 863 | 908 | 886 |



TEST NUMBER: P225756

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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 123.8 | 5.0 |
| 10°-20° | 352.7 | 14.1 |
| 20°-30° | 522.3 | 20.9 |
| 30°-40° | 585.1 | 23.4 |
| 40°-50° | 429.9 | 17.2 |
| 50°-60° | 240.3 | 9.6 |
| 60°-70° | 133.9 | 5.4 |
| 70°-80° | 78.7 | 3.2 |
| 80°-90° | 28.9 | 1.2 |
| 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° | 998.8 | 40.0 |
| 0°-40° | 1584.0 | 63.5 |
| 0°-60° | 2254.2 | 90.3 |
| 0°-90° | 2495.7 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2495.7 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1301 | 1301 | 1301 | 1301 | 1301 | |
| 5° | 1292 | 1317 | 1288 | 1315 | 1329 | 122 |
| 15° | 1236 | 1244 | 1246 | 1264 | 1265 | 349 |
| 25° | 1104 | 1113 | 1136 | 1151 | 1159 | 512 |
| 35° | 923 | 924 | 935 | 977 | 1001 | 572 |
| 45° | 527 | 570 | 529 | 566 | 543 | 412 |
| 55° | 222 | 270 | 289 | 289 | 199 | 198 |
| 65° | 84 | 148 | 134 | 171 | 67 | 86 |
| 75° | 63 | 89 | 50 | 100 | 52 | 63 |
| 85° | 24 | 35 | 25 | 32 | 24 | 26 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P225756

CATALOG NUMBER: 22GR-LD5-28-A19/156-UNV-L940-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1300.7 | 1300.7 | 1300.7 | 1300.7 | 1300.7 |
| 2.5° | 1300.1 | 1311.8 | 1327.2 | 1329.0 | 1330.1 |
| 5° | 1292.5 | 1316.6 | 1288.4 | 1314.9 | 1329.0 |
| 7.5° | 1274.9 | 1289.6 | 1310.1 | 1283.6 | 1291.3 |
| 10° | 1266.0 | 1269.5 | 1269.5 | 1302.5 | 1296.0 |
| 12.5° | 1246.1 | 1269.5 | 1275.4 | 1268.9 | 1283.0 |
| 15° | 1236.0 | 1243.6 | 1245.5 | 1264.2 | 1265.4 |
| 17.5° | 1224.8 | 1223.1 | 1219.0 | 1232.5 | 1256.6 |
| 20° | 1196.0 | 1189.6 | 1201.9 | 1218.4 | 1227.8 |
| 22.5° | 1153.7 | 1155.5 | 1170.2 | 1183.7 | 1194.3 |
| 25° | 1104.3 | 1113.1 | 1135.5 | 1151.4 | 1159.0 |
| 27.5° | 1067.3 | 1080.2 | 1095.5 | 1114.3 | 1129.6 |
| 30° | 1037.8 | 1036.6 | 1047.2 | 1074.3 | 1091.9 |
| 32.5° | 980.8 | 985.0 | 996.1 | 1028.5 | 1053.2 |
| 35° | 923.2 | 923.8 | 935.0 | 977.3 | 1001.4 |
| 37.5° | 856.7 | 852.0 | 858.5 | 904.4 | 920.3 |
| 40° | 765.1 | 766.2 | 759.7 | 792.1 | 789.7 |
| 42.5° | 658.0 | 667.4 | 633.9 | 676.2 | 673.3 |
| 45° | 527.4 | 570.4 | 528.6 | 566.2 | 543.3 |
| 47.5° | 416.3 | 479.8 | 445.1 | 472.7 | 429.8 |
| 50° | 337.6 | 402.8 | 384.0 | 396.3 | 327.0 |
| 52.5° | 276.9 | 329.9 | 335.7 | 338.7 | 255.2 |
| 55° | 222.3 | 270.5 | 289.3 | 288.7 | 199.3 |
| 57.5° | 164.1 | 219.9 | 241.7 | 250.5 | 151.1 |
| 60° | 121.2 | 182.8 | 199.3 | 218.8 | 113.5 |
| 62.5° | 97.6 | 160.6 | 164.6 | 191.7 | 86.4 |
| 65° | 83.5 | 148.2 | 133.5 | 171.1 | 67.0 |
| 67.5° | 74.1 | 138.2 | 108.8 | 152.9 | 57.0 |
| 70° | 67.0 | 122.9 | 90.0 | 137.0 | 53.5 |
| 72.5° | 65.3 | 104.7 | 69.4 | 122.3 | 52.9 |
| 75° | 63.0 | 88.8 | 50.0 | 100.5 | 52.4 |
| 77.5° | 54.1 | 75.9 | 35.9 | 77.7 | 48.8 |
| 80° | 47.0 | 60.5 | 26.5 | 58.2 | 42.9 |
| 82.5° | 36.5 | 45.8 | 23.5 | 44.1 | 34.7 |
| 85° | 23.5 | 34.7 | 24.7 | 31.7 | 24.1 |
| 87.5° | 11.2 | 19.4 | 17.6 | 17.0 | 12.4 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)