

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: P476251

Luminaire Tested: **14GR-LD5-24-A19/156-UNV-L835-CD1-U**

Issue Date: 02/10/2021



Test Information

Test Method: LM-79-08
Report Number: P476251
Test Lab: INNOVATION CENTER(G3)
Issue Date: 02/10/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 14GR-LD5-24-A19/156-UNV-L835-CD1-U
Description: GR 1'X4' LED TROFFER w/ A19/156 LENS
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

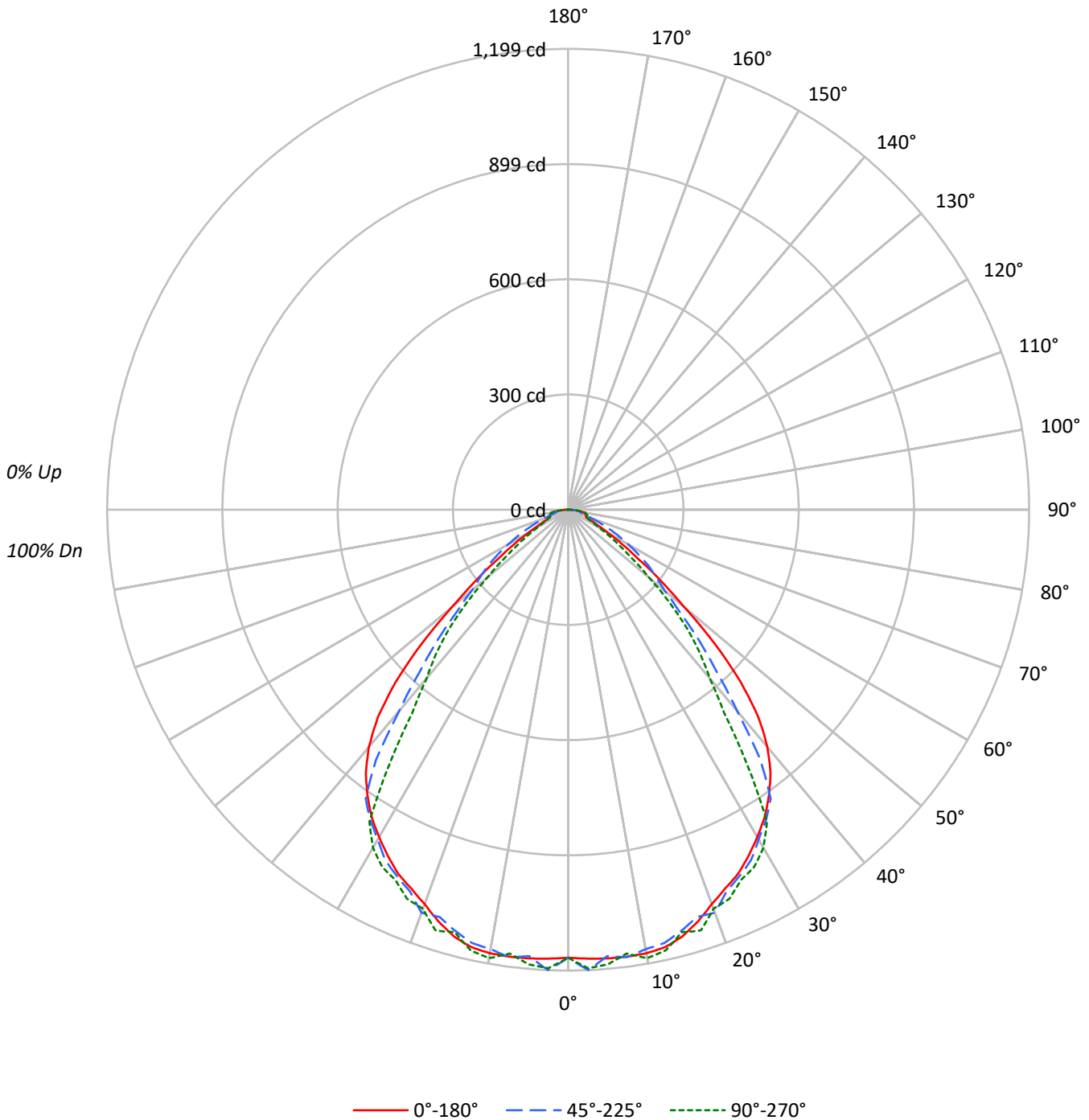
Lumens per Lamp: N/A
Luminaire Lumens: 2274.8 lumens
Efficiency: N/A
Efficacy: 123.0 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.2
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 18.5
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 | 104 | 101 | 108 | 105 | 102 | 99 | 101 | 98 | 96 | 97 | 95 | 93 | 93 | 92 | 90 | 88 |
| 2 | 103 | 96 | 91 | 86 | 101 | 94 | 89 | 85 | 91 | 87 | 83 | 88 | 84 | 81 | 85 | 82 | 79 | 78 |
| 3 | 96 | 87 | 80 | 75 | 93 | 85 | 79 | 74 | 82 | 77 | 73 | 80 | 75 | 71 | 77 | 74 | 70 | 68 |
| 4 | 89 | 79 | 71 | 65 | 87 | 77 | 70 | 65 | 75 | 69 | 64 | 73 | 68 | 63 | 71 | 66 | 63 | 61 |
| 5 | 83 | 71 | 64 | 58 | 81 | 70 | 63 | 58 | 68 | 62 | 57 | 67 | 61 | 57 | 65 | 60 | 56 | 54 |
| 6 | 77 | 65 | 58 | 52 | 75 | 64 | 57 | 52 | 63 | 56 | 51 | 61 | 55 | 51 | 60 | 55 | 51 | 49 |
| 7 | 72 | 60 | 52 | 47 | 70 | 59 | 52 | 47 | 58 | 51 | 46 | 56 | 50 | 46 | 55 | 50 | 46 | 44 |
| 8 | 67 | 55 | 48 | 42 | 66 | 55 | 47 | 42 | 53 | 47 | 42 | 52 | 46 | 42 | 51 | 46 | 42 | 40 |
| 9 | 63 | 51 | 44 | 39 | 62 | 51 | 43 | 39 | 49 | 43 | 38 | 48 | 43 | 38 | 48 | 42 | 38 | 36 |
| 10 | 60 | 47 | 40 | 35 | 58 | 47 | 40 | 35 | 46 | 40 | 35 | 45 | 39 | 35 | 44 | 39 | 35 | 33 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 3137 | 3137 | 3137 |
| 5° | 3165 | 3149 | 3207 |
| 10° | 3202 | 3172 | 3237 |
| 15° | 3201 | 3161 | 3171 |
| 20° | 3127 | 3195 | 3164 |
| 25° | 3104 | 3125 | 3157 |
| 30° | 3056 | 3078 | 3156 |
| 35° | 2988 | 3016 | 2676 |
| 40° | 2832 | 2401 | 2012 |
| 45° | 2415 | 1831 | 1668 |
| 50° | 1650 | 1371 | 1152 |
| 55° | 1039 | 1201 | 765 |
| 60° | 628 | 961 | 494 |
| 65° | 394 | 743 | 379 |
| 70° | 393 | 496 | 403 |
| 75° | 495 | 396 | 520 |
| 80° | 646 | 480 | 683 |
| 85° | 624 | 661 | 661 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 112.5 | 4.9 |
| 10°-20° | 322.4 | 14.2 |
| 20°-30° | 486.5 | 21.4 |
| 30°-40° | 542.6 | 23.9 |
| 40°-50° | 394.6 | 17.3 |
| 50°-60° | 216.4 | 9.5 |
| 60°-70° | 110.1 | 4.8 |
| 70°-80° | 64.7 | 2.8 |
| 80°-90° | 25.0 | 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° | 921.4 | 40.5 |
| 0°-40° | 1464.0 | 64.4 |
| 0°-60° | 2075.1 | 91.2 |
| 0°-90° | 2274.8 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2274.8 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1166 | 1166 | 1166 | 1166 | 1166 | |
| 5° | 1172 | 1197 | 1166 | 1187 | 1187 | 112 |
| 15° | 1149 | 1144 | 1135 | 1159 | 1138 | 323 |
| 25° | 1046 | 1046 | 1053 | 1073 | 1063 | 481 |
| 35° | 910 | 908 | 918 | 856 | 814 | 566 |
| 45° | 635 | 586 | 481 | 446 | 438 | 477 |
| 55° | 222 | 274 | 256 | 229 | 163 | 209 |
| 65° | 62 | 132 | 117 | 120 | 60 | 69 |
| 75° | 48 | 84 | 38 | 76 | 50 | 50 |
| 85° | 20 | 26 | 21 | 27 | 21 | 22 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P476251

CATALOG NUMBER: 14GR-LD5-24-A19/156-UNV-L835-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1165.7 | 1165.7 | 1165.7 | 1165.7 | 1165.7 |
| 2.5° | 1169.3 | 1193.1 | 1199.1 | 1199.1 | 1194.3 |
| 5° | 1171.7 | 1196.7 | 1165.7 | 1187.2 | 1187.2 |
| 7.5° | 1172.9 | 1176.4 | 1174.1 | 1178.8 | 1164.5 |
| 10° | 1171.7 | 1163.3 | 1161.0 | 1190.7 | 1184.8 |
| 12.5° | 1165.7 | 1133.6 | 1155.0 | 1145.5 | 1174.1 |
| 15° | 1149.1 | 1144.3 | 1134.8 | 1158.6 | 1138.3 |
| 17.5° | 1122.9 | 1125.2 | 1111.0 | 1122.9 | 1147.9 |
| 20° | 1091.9 | 1102.6 | 1115.7 | 1119.3 | 1105.0 |
| 22.5° | 1066.9 | 1070.5 | 1075.2 | 1087.1 | 1095.5 |
| 25° | 1045.5 | 1045.5 | 1052.6 | 1072.9 | 1063.3 |
| 27.5° | 1015.7 | 1018.1 | 1028.8 | 1034.7 | 1047.8 |
| 30° | 983.5 | 985.9 | 990.7 | 1018.1 | 1015.7 |
| 32.5° | 950.2 | 952.6 | 957.3 | 975.2 | 962.1 |
| 35° | 909.7 | 908.5 | 918.1 | 856.1 | 814.5 |
| 37.5° | 864.5 | 863.3 | 821.6 | 704.9 | 665.6 |
| 40° | 806.1 | 801.4 | 683.5 | 591.8 | 572.7 |
| 42.5° | 732.3 | 712.1 | 571.6 | 518.0 | 508.4 |
| 45° | 634.7 | 585.8 | 481.1 | 446.5 | 438.2 |
| 47.5° | 519.2 | 482.2 | 391.8 | 376.3 | 356.0 |
| 50° | 394.1 | 396.5 | 327.5 | 316.7 | 275.1 |
| 52.5° | 301.3 | 329.8 | 288.2 | 267.9 | 213.1 |
| 55° | 221.5 | 273.9 | 256.0 | 228.6 | 163.1 |
| 57.5° | 164.3 | 227.4 | 216.7 | 196.5 | 125.0 |
| 60° | 116.7 | 189.3 | 178.6 | 169.1 | 91.7 |
| 62.5° | 84.5 | 158.4 | 146.5 | 142.9 | 70.3 |
| 65° | 61.9 | 132.2 | 116.7 | 120.3 | 59.5 |
| 67.5° | 50.0 | 110.7 | 88.1 | 104.8 | 51.2 |
| 70° | 50.0 | 98.8 | 63.1 | 92.9 | 51.2 |
| 72.5° | 50.0 | 92.9 | 50.0 | 84.5 | 53.6 |
| 75° | 47.6 | 84.5 | 38.1 | 76.2 | 50.0 |
| 77.5° | 44.1 | 69.1 | 32.1 | 65.5 | 47.6 |
| 80° | 41.7 | 51.2 | 31.0 | 51.2 | 44.1 |
| 82.5° | 32.1 | 35.7 | 28.6 | 38.1 | 34.5 |
| 85° | 20.2 | 26.2 | 21.4 | 27.4 | 21.4 |
| 87.5° | 9.5 | 14.3 | 9.5 | 14.3 | 9.5 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)