

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: P476169

Luminaire Tested: **14GR-LD5-20-F1-UNV-L830-CD1-U**

Issue Date: 02/10/2021



Test Information

Test Method: LM-79-08
Report Number: P476169
Test Lab: INNOVATION CENTER(G3)
Issue Date: 02/10/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 14GR-LD5-20-F1-UNV-L830-CD1-U
Description: GR 1'X4' LED TROFFER w/ F1 LENS
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

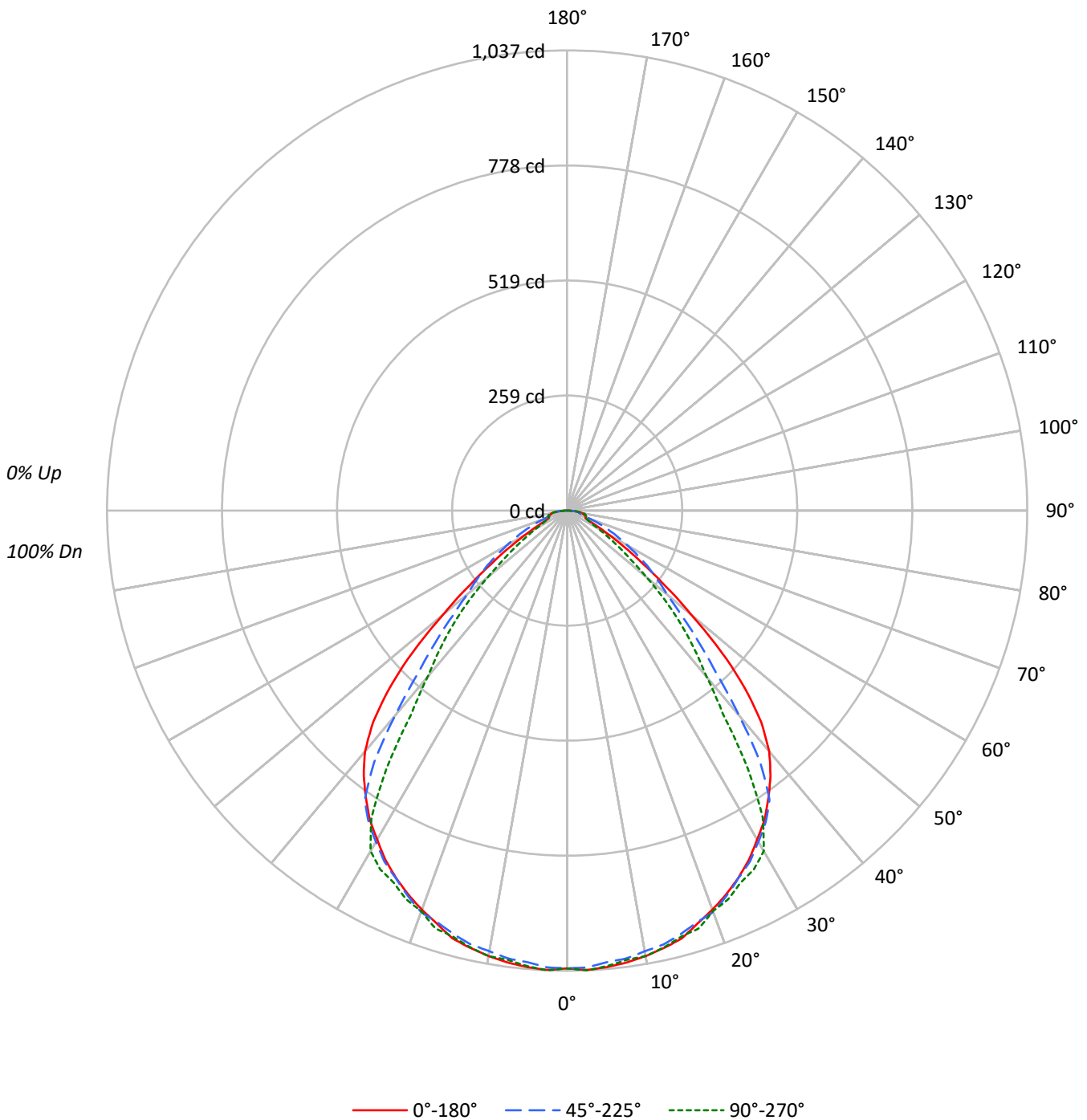
Lumens per Lamp: N/A
Luminaire Lumens: 1983.4 lumens
Efficiency: N/A
Efficacy: 124.0 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.24 / 1.2
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 16
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 | 100 | 94 | 89 | 85 | 91 | 87 | 83 | 88 | 84 | 81 | 85 | 82 | 79 | 77 |
| 3 | 95 | 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 | 82 | 71 | 64 | 58 | 81 | 70 | 63 | 58 | 68 | 62 | 57 | 67 | 61 | 57 | 65 | 60 | 56 | 54 |
| 6 | 77 | 65 | 57 | 52 | 75 | 64 | 57 | 52 | 63 | 56 | 51 | 61 | 55 | 51 | 60 | 54 | 50 | 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 | 50 | 43 | 39 | 49 | 43 | 38 | 48 | 42 | 38 | 47 | 42 | 38 | 36 |
| 10 | 59 | 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° | 2776 | 2776 | 2776 |
| 5° | 2789 | 2759 | 2783 |
| 10° | 2785 | 2755 | 2785 |
| 15° | 2781 | 2753 | 2769 |
| 20° | 2741 | 2757 | 2750 |
| 25° | 2710 | 2713 | 2746 |
| 30° | 2660 | 2677 | 2753 |
| 35° | 2597 | 2612 | 2334 |
| 40° | 2488 | 2118 | 1716 |
| 45° | 2159 | 1597 | 1386 |
| 50° | 1534 | 1227 | 972 |
| 55° | 974 | 1052 | 651 |
| 60° | 574 | 843 | 430 |
| 65° | 339 | 658 | 332 |
| 70° | 349 | 445 | 341 |
| 75° | 427 | 346 | 450 |
| 80° | 550 | 431 | 603 |
| 85° | 584 | 584 | 584 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 97.8 | 4.9 |
| 10°-20° | 280.1 | 14.1 |
| 20°-30° | 423.6 | 21.4 |
| 30°-40° | 471.7 | 23.8 |
| 40°-50° | 345.2 | 17.4 |
| 50°-60° | 190.3 | 9.6 |
| 60°-70° | 97.3 | 4.9 |
| 70°-80° | 55.4 | 2.8 |
| 80°-90° | 22.0 | 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° | 801.5 | 40.4 |
| 0°-40° | 1273.2 | 64.2 |
| 0°-60° | 1808.7 | 91.2 |
| 0°-90° | 1983.4 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1983.4 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1032 | 1032 | 1032 | 1032 | 1032 | |
| 5° | 1033 | 1033 | 1022 | 1028 | 1030 | 98 |
| 15° | 998 | 987 | 988 | 1000 | 994 | 281 |
| 25° | 913 | 910 | 914 | 929 | 925 | 420 |
| 35° | 791 | 792 | 795 | 741 | 711 | 493 |
| 45° | 567 | 523 | 420 | 382 | 364 | 427 |
| 55° | 208 | 244 | 224 | 192 | 139 | 194 |
| 65° | 53 | 127 | 103 | 99 | 52 | 61 |
| 75° | 41 | 71 | 33 | 63 | 43 | 43 |
| 85° | 19 | 23 | 19 | 26 | 19 | 20 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P476169

CATALOG NUMBER: 14GR-LD5-20-F1-UNV-L830-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1031.5 | 1031.5 | 1031.5 | 1031.5 | 1031.5 |
| 2.5° | 1036.0 | 1036.0 | 1030.4 | 1037.1 | 1037.1 |
| 5° | 1032.6 | 1032.6 | 1021.5 | 1028.2 | 1030.4 |
| 7.5° | 1027.1 | 1027.1 | 1018.2 | 1023.7 | 1021.5 |
| 10° | 1019.3 | 1013.7 | 1008.2 | 1023.7 | 1019.3 |
| 12.5° | 1009.3 | 998.2 | 1001.5 | 1000.4 | 1008.2 |
| 15° | 998.2 | 987.1 | 988.2 | 1000.4 | 993.8 |
| 17.5° | 976.0 | 977.1 | 972.7 | 981.5 | 987.1 |
| 20° | 957.1 | 960.4 | 962.7 | 968.2 | 960.4 |
| 22.5° | 936.0 | 937.1 | 939.4 | 947.1 | 948.2 |
| 25° | 912.7 | 910.5 | 913.8 | 929.4 | 924.9 |
| 27.5° | 887.2 | 886.1 | 891.6 | 904.9 | 911.6 |
| 30° | 856.1 | 860.5 | 861.6 | 886.1 | 886.1 |
| 32.5° | 827.2 | 827.2 | 832.8 | 845.0 | 820.5 |
| 35° | 790.6 | 791.7 | 795.0 | 740.6 | 710.6 |
| 37.5° | 752.8 | 749.5 | 715.1 | 616.2 | 576.3 |
| 40° | 708.4 | 700.6 | 602.9 | 514.1 | 488.6 |
| 42.5° | 647.3 | 624.0 | 497.4 | 444.1 | 425.3 |
| 45° | 567.4 | 523.0 | 419.7 | 382.0 | 364.2 |
| 47.5° | 471.9 | 430.8 | 348.6 | 323.1 | 298.7 |
| 50° | 366.4 | 357.5 | 293.1 | 270.9 | 232.1 |
| 52.5° | 278.7 | 296.5 | 257.6 | 228.7 | 178.8 |
| 55° | 207.6 | 244.3 | 224.3 | 192.1 | 138.8 |
| 57.5° | 152.1 | 203.2 | 188.8 | 163.2 | 104.4 |
| 60° | 106.6 | 172.1 | 156.6 | 137.7 | 79.9 |
| 62.5° | 75.5 | 148.8 | 128.8 | 117.7 | 61.1 |
| 65° | 53.3 | 126.6 | 103.3 | 98.8 | 52.2 |
| 67.5° | 44.4 | 106.6 | 78.8 | 87.7 | 44.4 |
| 70° | 44.4 | 88.8 | 56.6 | 77.7 | 43.3 |
| 72.5° | 44.4 | 77.7 | 42.2 | 71.1 | 45.5 |
| 75° | 41.1 | 71.1 | 33.3 | 63.3 | 43.3 |
| 77.5° | 37.8 | 60.0 | 28.9 | 54.4 | 42.2 |
| 80° | 35.5 | 43.3 | 27.8 | 44.4 | 38.9 |
| 82.5° | 28.9 | 31.1 | 25.5 | 34.4 | 30.0 |
| 85° | 18.9 | 23.3 | 18.9 | 25.5 | 18.9 |
| 87.5° | 8.9 | 12.2 | 8.9 | 11.1 | 7.8 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)