

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: P292653

Luminaire Tested: **22GR-LD5-20-A19/156-UNV-L92765-W2A1-U-4000K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P292653
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33284)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 22GR-LD5-20-A19/156-UNV-L92765-W2A1-U-4000K
Description: GRLED 2x2 TUNABLE WHITE TROFFER
WITH A19/156 LENS
Light Source: (168) 90 CRI LEDS TUNED TO 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1808.0 lumens
Efficiency: N/A
Efficacy: 115.7 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.24 / 1.21
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

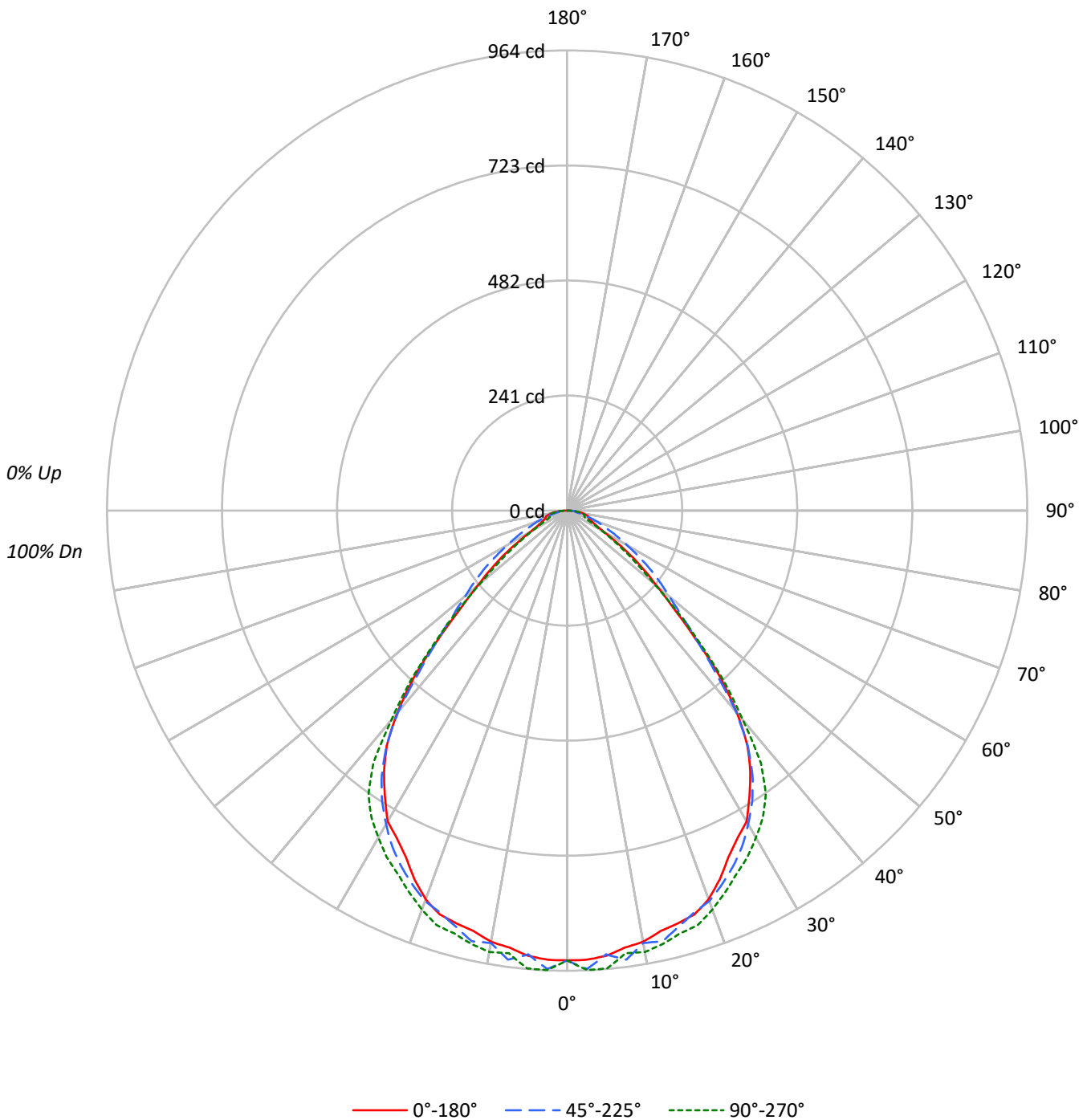
Input Watts (W): 15.624
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P292653

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

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 2536 | 2536 | 2536 |
| 5° | 2529 | 2521 | 2601 |
| 10° | 2506 | 2513 | 2566 |
| 15° | 2495 | 2513 | 2554 |
| 20° | 2481 | 2493 | 2547 |
| 25° | 2375 | 2442 | 2493 |
| 30° | 2336 | 2357 | 2458 |
| 35° | 2197 | 2225 | 2383 |
| 40° | 1947 | 1933 | 2010 |
| 45° | 1454 | 1458 | 1498 |
| 50° | 1024 | 1165 | 991 |
| 55° | 755 | 983 | 677 |
| 60° | 473 | 777 | 442 |
| 65° | 385 | 616 | 309 |
| 70° | 382 | 513 | 305 |
| 75° | 474 | 376 | 394 |
| 80° | 528 | 298 | 482 |
| 85° | 525 | 553 | 540 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 89.7 | 5.0 |
| 10°-20° | 255.5 | 14.1 |
| 20°-30° | 378.4 | 20.9 |
| 30°-40° | 423.9 | 23.4 |
| 40°-50° | 311.5 | 17.2 |
| 50°-60° | 174.1 | 9.6 |
| 60°-70° | 97.0 | 5.4 |
| 70°-80° | 57.0 | 3.2 |
| 80°-90° | 21.0 | 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° | 723.6 | 40.0 |
| 0°-40° | 1147.5 | 63.5 |
| 0°-60° | 1633.0 | 90.3 |
| 0°-90° | 1808.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1808.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 942 | 942 | 942 | 942 | 942 | |
| 5° | 936 | 954 | 933 | 952 | 963 | 89 |
| 15° | 895 | 901 | 902 | 916 | 917 | 253 |
| 25° | 800 | 806 | 823 | 834 | 840 | 371 |
| 35° | 669 | 669 | 677 | 708 | 726 | 414 |
| 45° | 382 | 413 | 383 | 410 | 394 | 299 |
| 55° | 161 | 196 | 210 | 209 | 144 | 144 |
| 65° | 60 | 107 | 97 | 124 | 49 | 63 |
| 75° | 46 | 64 | 36 | 73 | 38 | 46 |
| 85° | 17 | 25 | 18 | 23 | 18 | 19 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P292653

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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 942.3 | 942.3 | 942.3 | 942.3 | 942.3 |
| 2.5° | 941.9 | 950.4 | 961.4 | 962.7 | 963.6 |
| 5° | 936.3 | 953.8 | 933.3 | 952.5 | 962.7 |
| 7.5° | 923.5 | 934.2 | 949.1 | 929.9 | 935.5 |
| 10° | 917.1 | 919.7 | 919.7 | 943.6 | 938.9 |
| 12.5° | 902.7 | 919.7 | 924.0 | 919.3 | 929.5 |
| 15° | 895.4 | 901.0 | 902.2 | 915.9 | 916.7 |
| 17.5° | 887.3 | 886.0 | 883.1 | 892.9 | 910.3 |
| 20° | 866.5 | 861.8 | 870.7 | 882.6 | 889.5 |
| 22.5° | 835.8 | 837.1 | 847.7 | 857.5 | 865.2 |
| 25° | 800.0 | 806.4 | 822.6 | 834.1 | 839.6 |
| 27.5° | 773.2 | 782.5 | 793.6 | 807.2 | 818.3 |
| 30° | 751.9 | 751.0 | 758.7 | 778.3 | 791.1 |
| 32.5° | 710.5 | 713.5 | 721.6 | 745.0 | 762.9 |
| 35° | 668.8 | 669.2 | 677.3 | 708.0 | 725.5 |
| 37.5° | 620.7 | 617.3 | 621.9 | 655.2 | 666.7 |
| 40° | 554.2 | 555.1 | 550.4 | 573.8 | 572.1 |
| 42.5° | 476.7 | 483.5 | 459.2 | 489.9 | 487.8 |
| 45° | 382.1 | 413.2 | 383.0 | 410.2 | 393.6 |
| 47.5° | 301.6 | 347.6 | 322.5 | 342.5 | 311.4 |
| 50° | 244.5 | 291.8 | 278.2 | 287.1 | 236.8 |
| 52.5° | 200.6 | 239.0 | 243.2 | 245.4 | 184.9 |
| 55° | 161.0 | 196.0 | 209.6 | 209.2 | 144.4 |
| 57.5° | 118.8 | 159.3 | 175.1 | 181.5 | 109.5 |
| 60° | 87.8 | 132.5 | 144.4 | 158.5 | 82.2 |
| 62.5° | 70.7 | 116.3 | 119.3 | 138.9 | 62.6 |
| 65° | 60.5 | 107.3 | 96.7 | 124.0 | 48.6 |
| 67.5° | 53.7 | 100.1 | 78.8 | 110.8 | 41.3 |
| 70° | 48.6 | 89.0 | 65.2 | 99.3 | 38.8 |
| 72.5° | 47.3 | 75.8 | 50.3 | 88.6 | 38.3 |
| 75° | 45.6 | 64.3 | 36.2 | 72.8 | 37.9 |
| 77.5° | 39.2 | 55.0 | 26.0 | 56.2 | 35.4 |
| 80° | 34.1 | 43.9 | 19.2 | 42.2 | 31.1 |
| 82.5° | 26.4 | 33.2 | 17.0 | 31.9 | 25.1 |
| 85° | 17.0 | 25.1 | 17.9 | 23.0 | 17.5 |
| 87.5° | 8.1 | 14.1 | 12.8 | 12.4 | 8.9 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)