

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: FAIL-SAFE

Report Number: P861190

Luminaire Tested: **4APVTL-D-SL3C3 LOW POWER 3500K 277V**

Issue Date: 1/31/2023

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.



Test Information

Test Method: LM-79-08
Report Number: P861190
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2210-820-4)
Test Lab: INNOVATION CENTER
Issue Date: 1/31/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 4APVTLTD-SL3C3 LOW POWER 3500K 277V
Description: LOW POWER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment: Sample No. Condition Description

Summary

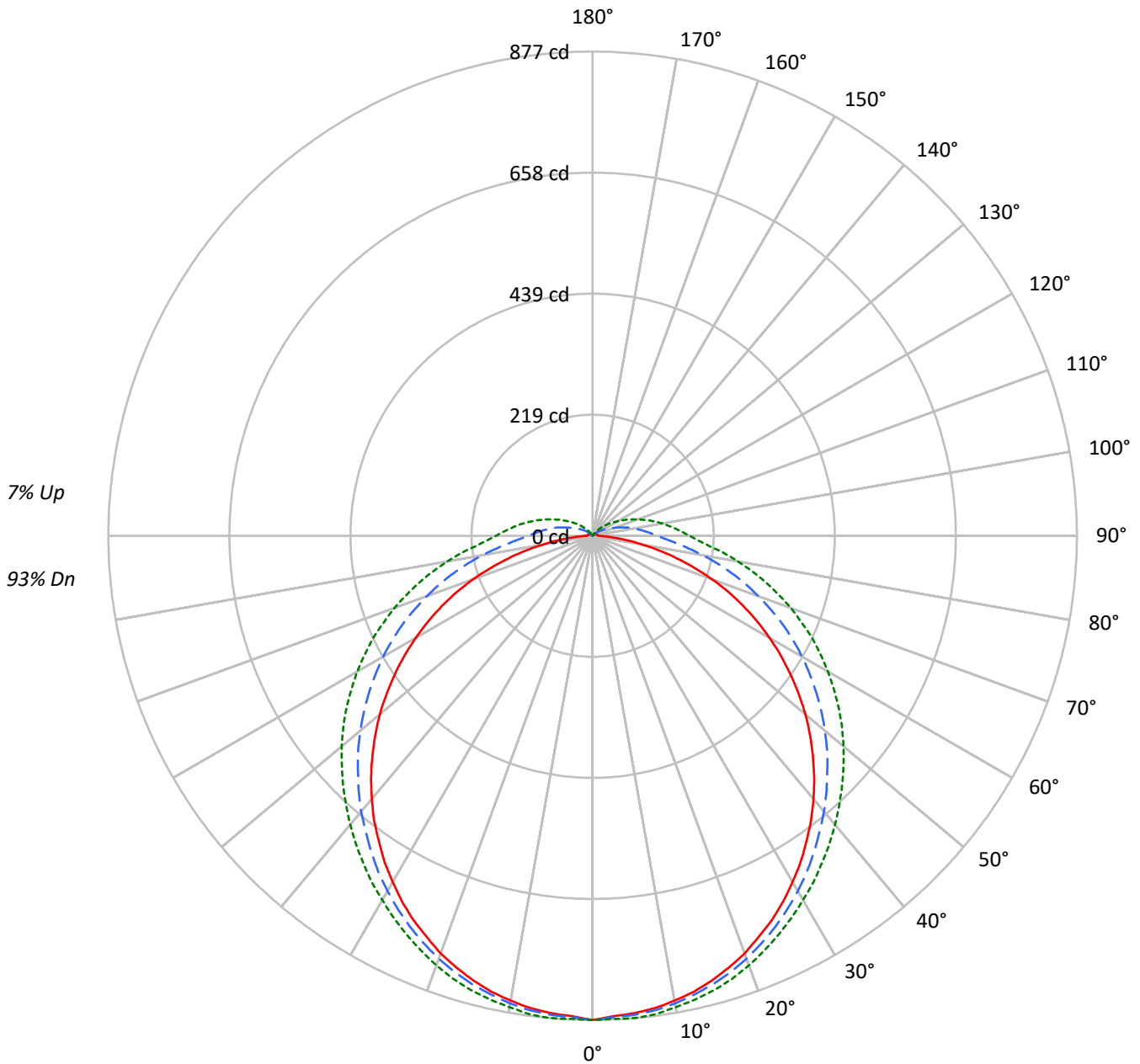
Lumens per Lamp: N/A
Luminaire Lumens: 3036.2 lumens
Efficiency: N/A
Efficacy: 139.9 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.29 / 1.4
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: Direct

Input Watts (W): 21.7
Input Voltage (V): 277
Input Current (A_{in}): 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 | | | | 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 | 0 |
| RCR | | | | | | | | | | | | | | | | | | | | | |
| 0 | 117 | 117 | 117 | 117 | 114 | 114 | 114 | 114 | 107 | 107 | 107 | 101 | 101 | 101 | 96 | 96 | 96 | 96 | 96 | 96 | 93 |
| 1 | 105 | 100 | 95 | 90 | 102 | 97 | 92 | 88 | 91 | 88 | 84 | 86 | 83 | 80 | 81 | 79 | 77 | 77 | 77 | 77 | 74 |
| 2 | 95 | 86 | 79 | 72 | 92 | 83 | 77 | 71 | 79 | 73 | 68 | 74 | 70 | 65 | 70 | 66 | 63 | 63 | 63 | 63 | 60 |
| 3 | 86 | 75 | 66 | 59 | 83 | 73 | 65 | 58 | 69 | 62 | 56 | 65 | 59 | 54 | 62 | 57 | 53 | 53 | 53 | 53 | 50 |
| 4 | 79 | 66 | 57 | 50 | 76 | 64 | 56 | 49 | 61 | 53 | 48 | 58 | 51 | 46 | 55 | 49 | 45 | 45 | 45 | 45 | 42 |
| 5 | 72 | 59 | 49 | 43 | 70 | 57 | 49 | 42 | 54 | 47 | 41 | 52 | 45 | 40 | 49 | 43 | 39 | 39 | 39 | 39 | 36 |
| 6 | 67 | 53 | 44 | 37 | 64 | 51 | 43 | 36 | 49 | 41 | 36 | 47 | 40 | 35 | 44 | 38 | 34 | 34 | 34 | 34 | 32 |
| 7 | 62 | 48 | 39 | 32 | 59 | 47 | 38 | 32 | 44 | 37 | 31 | 42 | 36 | 31 | 40 | 34 | 30 | 30 | 30 | 30 | 28 |
| 8 | 57 | 44 | 35 | 29 | 55 | 43 | 34 | 29 | 41 | 33 | 28 | 39 | 32 | 27 | 37 | 31 | 27 | 27 | 27 | 27 | 25 |
| 9 | 54 | 40 | 31 | 26 | 52 | 39 | 31 | 26 | 37 | 30 | 25 | 36 | 29 | 25 | 34 | 28 | 24 | 24 | 24 | 24 | 22 |
| 10 | 50 | 37 | 29 | 23 | 49 | 36 | 28 | 23 | 34 | 28 | 23 | 33 | 27 | 22 | 32 | 26 | 22 | 22 | 22 | 22 | 20 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 7080 | 7080 | 7080 |
| 5° | 7021 | 6942 | 6955 |
| 10° | 6983 | 6820 | 6807 |
| 15° | 6932 | 6686 | 6674 |
| 20° | 6864 | 6545 | 6520 |
| 25° | 6775 | 6395 | 6358 |
| 30° | 6669 | 6237 | 6207 |
| 35° | 6557 | 6074 | 6072 |
| 40° | 6442 | 5920 | 5950 |
| 45° | 6308 | 5759 | 5836 |
| 50° | 6164 | 5614 | 5738 |
| 55° | 5973 | 5460 | 5642 |
| 60° | 5766 | 5310 | 5543 |
| 65° | 5504 | 5146 | 5459 |
| 70° | 5135 | 4934 | 5345 |
| 75° | 4573 | 4730 | 5228 |
| 80° | 3825 | 4502 | 5134 |
| 85° | 2843 | 4386 | 5091 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 83.0 | 2.7 |
| 10°-20° | 238.0 | 7.8 |
| 20°-30° | 361.1 | 11.9 |
| 30°-40° | 438.4 | 14.4 |
| 40°-50° | 465.2 | 15.3 |
| 50°-60° | 441.4 | 14.5 |
| 60°-70° | 371.6 | 12.2 |
| 70°-80° | 266.5 | 8.8 |
| 80°-90° | 156.9 | 5.2 |
| 90°-100° | 96.2 | 3.2 |
| 100°-110° | 60.3 | 2.0 |
| 110°-120° | 33.0 | 1.1 |
| 120°-130° | 16.3 | 0.5 |
| 130°-140° | 6.2 | 0.2 |
| 140°-150° | 1.8 | 0.1 |
| 150°-160° | 0.2 | 0.0 |
| 160°-170° | 0.0 | 0.0 |
| 170°-180° | 0.0 | 0.0 |
| 0°-30° | 682.1 | 22.5 |
| 0°-40° | 1120.6 | 36.9 |
| 0°-60° | 2027.1 | 66.8 |
| 0°-90° | 2822.2 | 93.0 |
| 90°-120° | 189.6 | 6.2 |
| 90°-150° | 213.9 | 7.0 |
| 90°-180° | 214.0 | 7.0 |
| 0°-180° | 3036.2 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|------|-----|-------|-----|-------|-----|------|
| 0° | 877 | 877 | 877 | 877 | 877 | |
| 5° | 868 | 878 | 871 | 871 | 877 | 82 |
| 15° | 834 | 844 | 841 | 846 | 852 | 235 |
| 25° | 768 | 780 | 782 | 790 | 797 | 354 |
| 35° | 675 | 688 | 699 | 714 | 724 | 423 |
| 45° | 564 | 580 | 601 | 626 | 639 | 435 |
| 55° | 437 | 460 | 494 | 529 | 544 | 391 |
| 65° | 301 | 331 | 380 | 422 | 439 | 298 |
| 75° | 158 | 200 | 260 | 306 | 324 | 168 |
| 85° | 38 | 89 | 151 | 197 | 212 | 43 |
| 90° | 12 | 56 | 116 | 159 | 175 | 7 |
| 95° | 10 | 41 | 95 | 136 | 150 | 8 |
| 105° | 8 | 18 | 58 | 93 | 107 | 8 |
| 115° | 6 | 8 | 31 | 55 | 69 | 6 |
| 125° | 4 | 4 | 15 | 31 | 40 | 4 |
| 135° | 3 | 3 | 4 | 13 | 18 | 2 |
| 145° | 2 | 2 | 2 | 3 | 4 | 1 |
| 155° | 0 | 0 | 0 | 0 | 0 | 0 |
| 165° | 0 | 0 | 0 | 0 | 0 | 0 |
| 175° | 0 | 0 | 0 | 0 | 0 | 0 |
| 180° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|-----|-------|-----|-------|-----|
| 0° | 877 | 877 | 877 | 877 | 877 |
| 2.5° | 871 | 881 | 873 | 875 | 876 |
| 5° | 868 | 878 | 871 | 871 | 877 |
| 7.5° | 863 | 873 | 867 | 868 | 874 |
| 10° | 855 | 866 | 860 | 862 | 867 |
| 12.5° | 846 | 856 | 851 | 855 | 860 |
| 15° | 834 | 844 | 841 | 846 | 852 |
| 17.5° | 820 | 831 | 829 | 835 | 841 |
| 20° | 805 | 815 | 815 | 821 | 828 |
| 22.5° | 786 | 798 | 799 | 805 | 813 |
| 25° | 768 | 780 | 782 | 790 | 797 |
| 27.5° | 747 | 758 | 763 | 773 | 780 |
| 30° | 724 | 736 | 743 | 754 | 762 |
| 32.5° | 701 | 713 | 722 | 735 | 744 |
| 35° | 675 | 688 | 699 | 714 | 724 |
| 37.5° | 650 | 663 | 675 | 693 | 704 |
| 40° | 622 | 636 | 652 | 672 | 683 |
| 42.5° | 594 | 609 | 627 | 650 | 661 |
| 45° | 564 | 580 | 601 | 626 | 639 |
| 47.5° | 534 | 552 | 576 | 603 | 616 |
| 50° | 503 | 522 | 549 | 580 | 593 |
| 52.5° | 470 | 491 | 522 | 554 | 569 |
| 55° | 437 | 460 | 494 | 529 | 544 |
| 57.5° | 404 | 429 | 466 | 503 | 518 |
| 60° | 370 | 396 | 438 | 476 | 492 |
| 62.5° | 336 | 364 | 409 | 449 | 465 |
| 65° | 301 | 331 | 380 | 422 | 439 |
| 67.5° | 266 | 299 | 349 | 393 | 409 |
| 70° | 230 | 266 | 319 | 364 | 382 |
| 72.5° | 193 | 232 | 290 | 335 | 352 |
| 75° | 158 | 200 | 260 | 306 | 324 |
| 77.5° | 124 | 170 | 231 | 278 | 295 |
| 80° | 92 | 140 | 202 | 250 | 267 |
| 82.5° | 63 | 113 | 175 | 221 | 240 |
| 85° | 38 | 89 | 151 | 197 | 212 |
| 87.5° | 20 | 70 | 131 | 176 | 191 |
| 90° | 12 | 56 | 116 | 159 | 175 |
| 92.5° | 10 | 48 | 105 | 147 | 162 |
| 95° | 10 | 41 | 95 | 136 | 150 |
| 97.5° | 9 | 34 | 85 | 125 | 139 |
| 100° | 8 | 27 | 76 | 114 | 128 |
| 102.5° | 8 | 22 | 68 | 103 | 117 |
| 105° | 8 | 18 | 58 | 93 | 107 |



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CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|----|-------|-----|-------|-----|
| 112.5° | 6 | 10 | 36 | 63 | 77 |
| 115° | 6 | 8 | 31 | 55 | 69 |
| 117.5° | 6 | 6 | 26 | 48 | 60 |
| 120° | 5 | 5 | 22 | 42 | 53 |
| 122.5° | 5 | 5 | 18 | 36 | 46 |
| 125° | 4 | 4 | 15 | 31 | 40 |
| 127.5° | 3 | 4 | 11 | 26 | 34 |
| 130° | 3 | 3 | 8 | 22 | 29 |
| 132.5° | 3 | 3 | 6 | 17 | 23 |
| 135° | 3 | 3 | 4 | 13 | 18 |
| 137.5° | 2 | 2 | 3 | 10 | 14 |
| 140° | 2 | 2 | 3 | 6 | 10 |
| 142.5° | 2 | 2 | 2 | 4 | 6 |
| 145° | 2 | 2 | 2 | 3 | 4 |
| 147.5° | 2 | 2 | 2 | 3 | 3 |
| 150° | 2 | 2 | 2 | 3 | 3 |
| 152.5° | 0 | 0 | 0 | 0 | 0 |
| 155° | 0 | 0 | 0 | 0 | 0 |
| 157.5° | 0 | 0 | 0 | 0 | 0 |
| 160° | 0 | 0 | 0 | 0 | 0 |
| 162.5° | 0 | 0 | 0 | 0 | 0 |
| 165° | 0 | 0 | 0 | 0 | 0 |
| 167.5° | 0 | 0 | 0 | 0 | 0 |
| 170° | 0 | 0 | 0 | 0 | 0 |
| 172.5° | 0 | 0 | 0 | 0 | 0 |
| 175° | 0 | 0 | 0 | 0 | 0 |
| 177.5° | 0 | 0 | 0 | 0 | 0 |
| 180° | 0 | 0 | 0 | 0 | 0 |



Report Generated By 670246072 / DESKTOP-50001EG





— 0°-180° - - 45°-225° - - - - 90°-270°







| | | | | | |
|--------|---|----|----|----|----|
| 107.5° | 7 | 15 | 50 | 83 | 96 |
| 110° | 7 | 12 | 41 | 73 | 87 |



(END OF REPORT)