

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: P861194

Luminaire Tested: **4APVTLD-SL3C3 LOW POWER 5000K 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: P861194  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2210-820-16)  
Test Lab: INNOVATION CENTER  
Issue Date: 1/31/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 4APVTL-D-SL3C3 LOW POWER 5000K 277V  
Description: LOW POWER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER  
Luminaire Equipment: Sample No.   Condition   Description

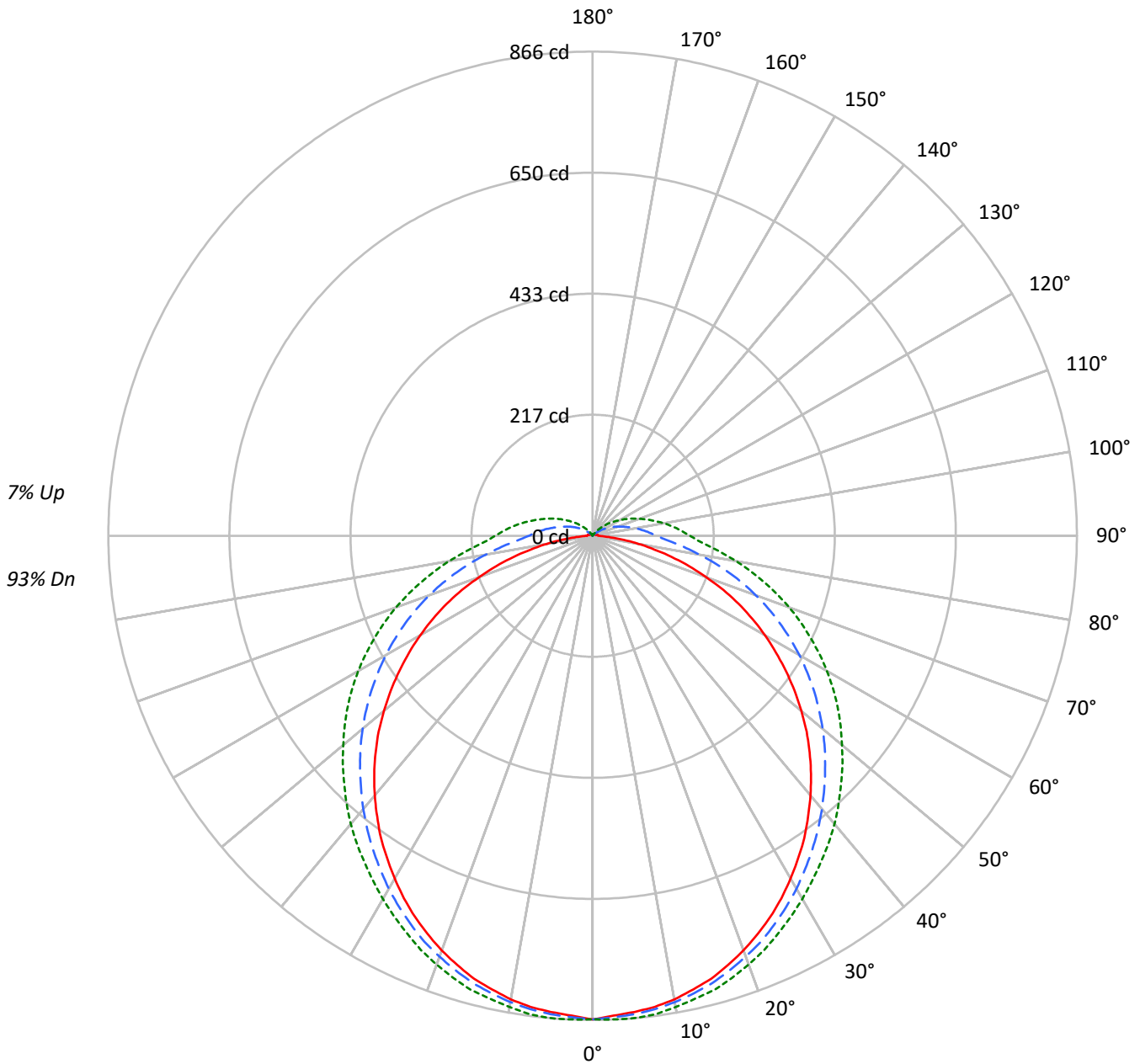
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2977.1 lumens  
Efficiency: N/A  
Efficacy: 134.1 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.29 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 8' x H: 0.08')  
CIE Type: Direct  
  
Input Watts (W): 22.2  
Input Voltage (V): 277  
Input Current (A<sub>in</sub>): 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 |  |  |  |  |  |  |  |  |   |
| RC  | 80  |     |     |     |     |     |     |     |     | 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 | 95 | 95 | 95 | 93 |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 1   | 105 | 100 | 95  | 90  | 102 | 97  | 92  | 88  | 91  | 87  | 84  | 86  | 83  | 80  | 81 | 79 | 76 | 74 |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 2   | 95  | 86  | 79  | 72  | 92  | 83  | 77  | 71  | 79  | 73  | 68  | 74  | 70  | 65  | 70 | 66 | 63 | 60 |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 3   | 86  | 75  | 66  | 59  | 83  | 73  | 65  | 58  | 69  | 62  | 56  | 65  | 59  | 54  | 61 | 57 | 53 | 50 |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 4   | 79  | 66  | 57  | 50  | 76  | 64  | 56  | 49  | 61  | 53  | 48  | 58  | 51  | 46  | 55 | 49 | 45 | 42 |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 5   | 72  | 59  | 50  | 43  | 70  | 57  | 49  | 42  | 54  | 47  | 41  | 52  | 45  | 40  | 49 | 43 | 39 | 36 |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 6   | 67  | 53  | 44  | 37  | 64  | 52  | 43  | 37  | 49  | 41  | 36  | 47  | 40  | 35  | 44 | 38 | 34 | 32 |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 7   | 62  | 48  | 39  | 33  | 60  | 47  | 38  | 32  | 44  | 37  | 31  | 42  | 36  | 31  | 40 | 34 | 30 | 28 |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 8   | 57  | 44  | 35  | 29  | 55  | 43  | 34  | 29  | 41  | 33  | 28  | 39  | 32  | 27  | 37 | 31 | 27 | 25 |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 9   | 54  | 40  | 32  | 26  | 52  | 39  | 31  | 26  | 37  | 30  | 25  | 36  | 29  | 25  | 34 | 28 | 24 | 22 |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 10  | 50  | 37  | 29  | 23  | 49  | 36  | 28  | 23  | 35  | 28  | 23  | 33  | 27  | 22  | 32 | 26 | 22 | 20 |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |

**AVERAGE LUMINANCE (cd/sqm):**

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 3492 | 3492 | 3492 |
| 5°  | 3461 | 3425 | 3434 |
| 10° | 3445 | 3362 | 3360 |
| 15° | 3417 | 3297 | 3294 |
| 20° | 3376 | 3225 | 3213 |
| 25° | 3333 | 3150 | 3131 |
| 30° | 3280 | 3071 | 3055 |
| 35° | 3229 | 2990 | 2986 |
| 40° | 3165 | 2912 | 2931 |
| 45° | 3102 | 2835 | 2868 |
| 50° | 3021 | 2765 | 2816 |
| 55° | 2926 | 2691 | 2774 |
| 60° | 2823 | 2614 | 2727 |
| 65° | 2691 | 2527 | 2667 |
| 70° | 2467 | 2429 | 2617 |
| 75° | 2192 | 2320 | 2550 |
| 80° | 1822 | 2206 | 2500 |
| 85° | 1324 | 2178 | 2497 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 81.8   | 2.7       |
| 10°-20°   | 234.3  | 7.9       |
| 20°-30°   | 354.7  | 11.9      |
| 30°-40°   | 429.8  | 14.4      |
| 40°-50°   | 455.2  | 15.3      |
| 50°-60°   | 430.6  | 14.5      |
| 60°-70°   | 360.8  | 12.1      |
| 70°-80°   | 257.2  | 8.6       |
| 80°-90°   | 151.5  | 5.1       |
| 90°-100°  | 96.0   | 3.2       |
| 100°-110° | 62.3   | 2.1       |
| 110°-120° | 36.1   | 1.2       |
| 120°-130° | 17.8   | 0.6       |
| 130°-140° | 6.3    | 0.2       |
| 140°-150° | 1.8    | 0.1       |
| 150°-160° | 0.8    | 0.0       |
| 160°-170° | 0.1    | 0.0       |
| 170°-180° | 0.0    | 0.0       |
| 0°-30°    | 670.8  | 22.5      |
| 0°-40°    | 1100.6 | 37.0      |
| 0°-60°    | 1986.3 | 66.7      |
| 0°-90°    | 2755.9 | 92.6      |
| 90°-120°  | 194.4  | 6.5       |
| 90°-150°  | 220.3  | 7.4       |
| 90°-180°  | 221.0  | 7.4       |
| 0°-180°   | 2977.1 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|------|-----|-------|-----|-------|-----|------|
| 0°   | 865 | 865   | 865 | 865   | 865 |      |
| 5°   | 855 | 866   | 859 | 859   | 866 | 81   |
| 15°  | 820 | 831   | 828 | 833   | 841 | 231  |
| 25°  | 752 | 765   | 768 | 777   | 785 | 346  |
| 35°  | 660 | 674   | 685 | 702   | 712 | 412  |
| 45°  | 549 | 567   | 588 | 615   | 628 | 423  |
| 55°  | 422 | 447   | 483 | 518   | 535 | 377  |
| 65°  | 288 | 319   | 369 | 411   | 429 | 284  |
| 75°  | 146 | 191   | 251 | 299   | 316 | 155  |
| 85°  | 32  | 84    | 146 | 191   | 208 | 38   |
| 90°  | 11  | 55    | 114 | 158   | 174 | 7    |
| 95°  | 9   | 40    | 95  | 135   | 151 | 7    |
| 105° | 7   | 20    | 61  | 95    | 108 | 8    |
| 115° | 6   | 8     | 36  | 61    | 72  | 6    |
| 125° | 4   | 4     | 16  | 34    | 42  | 3    |
| 135° | 2   | 3     | 4   | 14    | 19  | 2    |
| 145° | 2   | 2     | 2   | 3     | 3   | 1    |
| 155° | 2   | 1     | 2   | 2     | 2   | 1    |
| 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°     | 865 | 865   | 865 | 865   | 865 |
| 2.5°   | 859 | 870   | 862 | 863   | 866 |
| 5°     | 855 | 866   | 859 | 859   | 866 |
| 7.5°   | 850 | 861   | 854 | 855   | 863 |
| 10°    | 842 | 853   | 847 | 849   | 856 |
| 12.5°  | 831 | 842   | 838 | 841   | 848 |
| 15°    | 820 | 831   | 828 | 833   | 841 |
| 17.5°  | 805 | 817   | 815 | 822   | 829 |
| 20°    | 789 | 801   | 801 | 808   | 816 |
| 22.5°  | 771 | 783   | 786 | 792   | 802 |
| 25°    | 752 | 765   | 768 | 777   | 785 |
| 27.5°  | 731 | 744   | 749 | 760   | 768 |
| 30°    | 708 | 721   | 729 | 741   | 750 |
| 32.5°  | 684 | 698   | 707 | 722   | 731 |
| 35°    | 660 | 674   | 685 | 702   | 712 |
| 37.5°  | 633 | 648   | 662 | 681   | 693 |
| 40°    | 606 | 622   | 638 | 659   | 673 |
| 42.5°  | 578 | 595   | 613 | 638   | 651 |
| 45°    | 549 | 567   | 588 | 615   | 628 |
| 47.5°  | 519 | 538   | 563 | 591   | 606 |
| 50°    | 487 | 508   | 537 | 567   | 582 |
| 52.5°  | 455 | 477   | 510 | 543   | 559 |
| 55°    | 422 | 447   | 483 | 518   | 535 |
| 57.5°  | 389 | 415   | 455 | 492   | 510 |
| 60°    | 356 | 383   | 427 | 466   | 484 |
| 62.5°  | 322 | 352   | 398 | 439   | 457 |
| 65°    | 288 | 319   | 369 | 411   | 429 |
| 67.5°  | 253 | 287   | 340 | 383   | 402 |
| 70°    | 215 | 255   | 310 | 355   | 374 |
| 72.5°  | 181 | 223   | 281 | 328   | 345 |
| 75°    | 146 | 191   | 251 | 299   | 316 |
| 77.5°  | 113 | 161   | 222 | 270   | 288 |
| 80°    | 83  | 133   | 194 | 241   | 260 |
| 82.5°  | 56  | 107   | 169 | 215   | 233 |
| 85°    | 32  | 84    | 146 | 191   | 208 |
| 87.5°  | 17  | 66    | 127 | 172   | 188 |
| 90°    | 11  | 55    | 114 | 158   | 174 |
| 92.5°  | 10  | 47    | 104 | 146   | 162 |
| 95°    | 9   | 40    | 95  | 135   | 151 |
| 97.5°  | 9   | 34    | 86  | 125   | 140 |
| 100°   | 8   | 29    | 77  | 114   | 129 |
| 102.5° | 8   | 25    | 69  | 104   | 118 |
| 105°   | 7   | 20    | 61  | 95    | 108 |



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**CANDELA DISTRIBUTION (continued):**

|        | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|----|-------|-----|-------|-----|
| 112.5° | 6  | 10    | 42  | 69    | 80  |
| 115°   | 6  | 8     | 36  | 61    | 72  |
| 117.5° | 5  | 6     | 31  | 54    | 64  |
| 120°   | 5  | 5     | 25  | 47    | 56  |
| 122.5° | 4  | 5     | 21  | 41    | 49  |
| 125°   | 4  | 4     | 16  | 34    | 42  |
| 127.5° | 3  | 4     | 12  | 29    | 36  |
| 130°   | 3  | 4     | 9   | 23    | 30  |
| 132.5° | 3  | 3     | 6   | 18    | 24  |
| 135°   | 2  | 3     | 4   | 14    | 19  |
| 137.5° | 2  | 2     | 3   | 9     | 14  |
| 140°   | 2  | 2     | 3   | 6     | 10  |
| 142.5° | 2  | 2     | 3   | 4     | 6   |
| 145°   | 2  | 2     | 2   | 3     | 3   |
| 147.5° | 2  | 2     | 2   | 3     | 3   |
| 150°   | 2  | 1     | 2   | 3     | 3   |
| 152.5° | 2  | 1     | 2   | 2     | 3   |
| 155°   | 2  | 1     | 2   | 2     | 2   |
| 157.5° | 2  | 1     | 2   | 2     | 2   |
| 160°   | 2  | 1     | 1   | 1     | 2   |
| 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   |



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







|        |   |    |    |    |    |
|--------|---|----|----|----|----|
| 107.5° | 7 | 17 | 54 | 86 | 98 |
| 110°   | 6 | 13 | 48 | 77 | 89 |



(END OF REPORT)