



## **TROV DIMMING – BEST IN CLASS**

TROV offers ELV dimming, with a low end of less than 0.1% light output and is superior to any other product available on the market today.

For TROV, EcoSense migrated over to a digital power platform that not only allows us to still have the best dimming in the market but also delivers critical customer-driven features such as smooth dimming, better efficacy, and the biggest selection of product choices within one platform.

## **WHY DID ECOSENSE MOVED TO DIGITAL DRIVERS?**

**MORE CHOICES.** The digital driver is designed from the ground up so that it is optimized for our platform. It is auto-ranging from 120-277V to allow for simple and error-proof installation worldwide. With it, we can deliver an all-inclusive product line that offers 3 times more lumen packages than anyone. We are able to offer market-leading efficacy and the most inclusive CCT/Mono color LED offering. This driver allows the TROV platform to have more options than any other competitor.

**UPGRADES.** TROV's digital driver will allow for fast and simple upgrades to firmware as improvements and new technological advancements are made. This means we can implement smarter technologies quicker and the result is real-time improved dimming for the customer.

**SMALLER.** Going digital allows us this flexibility to be smaller. TROV is up to 50% smaller than competitors and able to fit in more applications, while delivering the lumen output specifiers need.

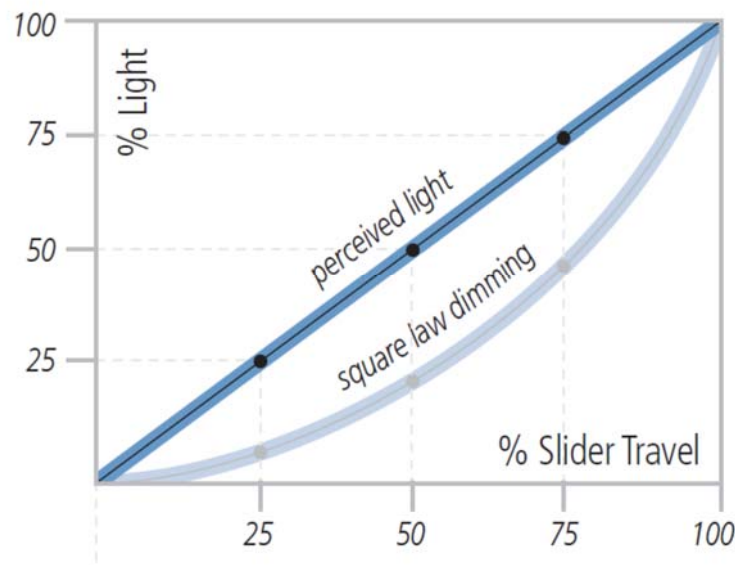
**SMOOTH DIMMING.** Smooth, flicker-free dimming below .1% actual measured light. Side by side demonstrations clearly highlight that TROV dimming performance at low end surpassed all competitors.

**NO LED DROPOUT.** Digital dimming allows us to be smooth and consistent across the entire LED board so that all LEDs go off and turn on at the same time, instead of inconsistent light output across the board.

TROV digital dimming outperforms every competitor, offering customers better control and more freedom than ever before.

## MORE ADVANTAGES OF DIGITAL DRIVERS

- SQUARE LAW DIMMING CURVE** - Most traditional analog power supplies have a linear actual light dimming curve, which have some dead travel at high light levels and a fast drop off of light at the low end. TROV implements a square law relationship between the dimmer output voltage and the actual light level which translates to a perfectly linear perceived light dimming curve giving the end user a much better dimming experience. With square law dimming, there is no dead travel along the dimming curve and the user is in more control of the light output.



- SMOOTH FLICKER-FREE DIMMING.** The PWM-CC hybrid driver delivers smooth, consistent, flicker-free dimming from 100% down to below 0.1% by combining an ultra-high PWM frequency of about 60 kHz, with the smooth constant power reduction of constant current dimming.
- MORE LIGHT OUTPUT AT HIGH END (0% HIGH END Light Loss).** TROV will produce 100% light output when connected to a dimmer that is set to 100%. Many dimmers being used today are doing some phase cutting, even when set to 100%. This will cause typical analog drivers to lower their output anywhere from 80-95% without actually being dimmed, making it impossible to achieve 100% light output. TROV's digital driver is programmed to sense this 100% phase cutting and maintain 100% light output until the dimmer is actually being lowered.
- OPTIMIZED CONTROL FOR MULTIPLE LED TYPES.** Digital dimming allows us to tailor the dimming waveform based on the type of LED to achieve optimal performance. An example is the ability to reduce the CCT shift between ZES LED and 3020 LED to improve consistencies in applications where both fixtures are installed.