TRUE 50,000 HOUR OPERATIONAL WARRANTY

Perfectly Choreographed Dimming

XIM - Xicato's Intelligent LED Module with Integrated Electronics

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Like a finely choreographed ballet, Xicato® XIM delivers a smooth and refined performance

Xicato XIM, the intelligent LED module with integrated driver, delivers perfectly choreographed dimming, unmatched color consistency, remarkable color rendering and a duet of source sizes that make any space perform to its fullest.

With smoother and deeper dimming, Xicato XIM out-performs systems with high-end standalone LED drivers. Combined with best in the industry color consistency and purposely engineered light spectra, XIM provides simply the most beautiful lit effect. At the same time, XIM is more affordable to implement and enables smaller downlight or spotlight fixtures. Xicato backs its performance with a true 50,000 hour / 7 year operational warranty.

Smooth and refined dimming creates a comfortable, compelling atmosphere

Dimming provides motion and a choreographed dynamic to the lighting design. Because humans have evolved to be very sensitive to changes, we have to ensure that dimming transitions are so smooth that they become unnoticable and graceful - adding to instead of detracting from the overall ambiance. In addition to dimming, a smooth fade to dark, or from dark to on provides a sense of quality to the lighting system. This is especially true when all lights operate in sync and perfect harmony. There are many other elements that define good dimming and control performance. Similar to its approach on color quality, Xicato set out to deliver an LED solution that really works and meets each of the criteria of even the harshest critics. Xicato XIM performs as LED lighting should.

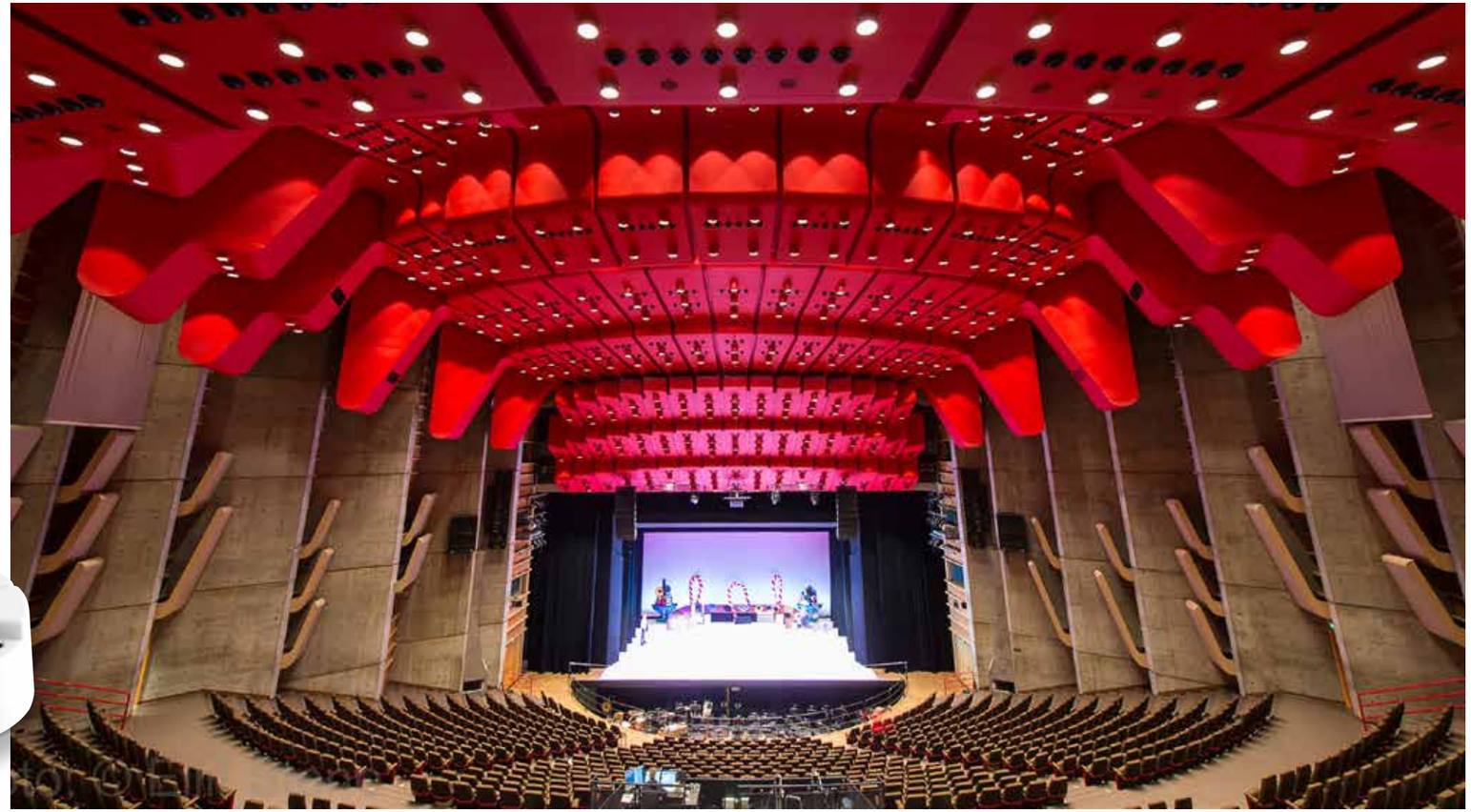
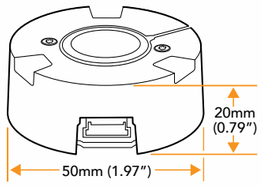


Photo Credit: Grieg Hall in Bergen, Norway Xicato Artist Series, Lighting Design by Kim E. Hughes - Bright Norway AS, Luminaires by Roblon

Dimming Essentials	Typical LED Driver	Xicato® XIM
Smooth DALI fade	Usually jittery/irregular	Smooth to dark
Consistent on/off on 1-10V	Unpredictable delay “popcorn effect”	Immediate response All modules same time
Switchable to off on 1-10V	Sometimes no response to switch	Switches on/off
Visually linear response to dimmer	Irregular response Non-responsive zones Visually non-linear	Continuous response – No “hysteresis”
Covering full dimmer range	Bottoms out before end of range	Covers entire control range
Deep dimming	Often down to 5% only	Optically 1% on 1-10V and 0.1% on DALI
Consistency amongst different lights	Not assured – especially on/off	Fully consistent
Stable light at given dimmer setting	Shimmer – light oscillations	Stable
Quiet	Can be buzzing	Silent
Possible health effects from flicker	Possible health risks	No health risks



Collecting operational data and storing it on an on-board microprocessor - that is a sign of intelligence

At the heart of XIM is a microprocessor that manages the module and stores vital operational data. Each XIM module has multiple sensors on board that register its temperature and health as well as the health of the external 48V power supply unit. XIM knows how to adjust when temperatures get too high (for example due to erroneous installation or unforeseen operational conditions) - a significant improvement for fixture reliability and dependability.

True 50,000 hour warranty

Because operational data is stored by the hour in XIM’s microprocessor, there is no longer a need to guess how long it has been used, based on operating hours per day or days per week. Xicato warrants XIM for 50,000 hours or 7 years, whichever comes first (50,000 hours continuous operation is 5.7 years). Xicato warranty includes not just light output but also color consistency ($\Delta u'v' < 0.003$) - the only light source warranty to offer this. Warranty applies to single point failures - no complicated terms that are applicable only in case of epidemic failures.

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No health risks associated to flicker

Light source flicker and how it affects humans has been the topic of extensive studies (Lehman B. and Wilkins A.J. [2014]). In literature it has been linked with headaches, eye strain and loss of concentration, it can show up in video as ugly dark bands and it can create hazardous situations by making fast moving objects appear to stand still.

XIM modules mitigate all these negative effects associated with flicker. Xicato XIM modules exceed requirements on flicker for no health effects as defined by IEEE 1789-2015 - all the way down to 1%.

Brad Lehman and Arnold J. Wilkins. Designing to Mitigate the Effects of Flicker in LED Lighting. IEEE Power Electronics Magazine, September 2014

A better way to design an LED fixture

Xicato XIM requires a 48V DC power supply unit and self-regulates the current to the LED module. A single power supply unit can be shared amongst multiple heads or even fixtures. XIM has the following benefits to design a fixture:

- Smaller and more elegant fixtures without bulky LED drivers
- Lower cost when power supply units can be shared amongst fixture heads or fixtures
- No need for future fixture or driver redesign with LED module improvements - the same 48V power supply can still be used
- Improved reliability with full warranty coverage on the electronics integrated in XIM
- Option for low voltage wiring and fixture design meeting UL 2108 or SELV standards
- Better fixture efficacy with up to 99lm/W on the integrated module - not just the LED

XIM	NOMINAL FLUX	COLOR TEMPERATURE (K) 2700	3000	3500	4000
STANDARD SERIES CRI 83 GAI_{BB} 97	700lm 1300lm 2000lm 3000lm	● ●● ●● ● ●● ● ●	● ●● ●● ● ●● ● ●	● ●● ●● ● ●● ● ●	● ●● ●● ● ●● ● ●
VIBRANT SERIES® V80 CRI 83 GAI_{BB} 111	700lm 1300lm 2000lm 3000lm	● ●● ●● ●			
VIBRANT SERIES® V95 CRI 98 GAI_{BB} 120	700lm 1300lm 2000lm	● ●● ●			
ARTIST SERIES® CRI 98 GAI_{BB} 109	700lm 1300lm 2000lm	● ●● ●● ● ●● ●	● ●● ●● ● ●● ●	● ●● ●● ● ●● ●	● ●● ●● ● ●● ●

● 9mm LES ● 19mm LES

Detect if a light source has flicker.
Get a FREE Xicato Flicker Wheel
#XicatoNoFlicker
Contact: marketing@xicato.com

Best color consistency means lasting beauty and makes sense for sustainability

Unfortunately, most LED sources still suffer from unacceptable color inconsistencies that are even magnified after long hours of operation.

Xicato has solved this problem with Corrected Cold Phosphor Technology®. Xicato modules are the only LED solution with guaranteed color consistency of 1x2 MacAdam ellipses and Xicato modules stay within 3 MacAdam ellipses after 50,000 hours of operation - even at the highest rated temperature and power. Xicato modules have better color consistency after 50,000 hours than most LEDs at the start of their life.

Long life means lasting beauty and is a key ingredient for better sustainability and economics. Once the lights are installed, there will be no need to touch them again.

With XIM Bluetooth™ Smart the future starts now

XIM is designed with an eye on the future. Versions with programmable flux setting and wireless communication capability like Bluetooth™ Smart will have the same form factor and will operate from the same power supply as today's XIM. Fixture makers can get ready for the future by using XIM today and lighting specifiers can specify intelligent light sources for flawless dimming now.

XICATO EXCLUSIVE

LED module has on-board sensors and microprocessor to store operational data by the hour

LED module self adjusts to avoid over temperature

LED module has 50,000 hour / 7 year warranty

Deep Dimming

- XIM 1-10V dims to 1% (measured light output) and complies with IEC 60929 Annex E
- XIM DALI dims to 0.1% (measured light output) and complies with IEC 62386-102
- Fading across the dimming range is smooth and monotonic

Dim to Off:
Smooth transition from/to dark within 500ms

Mitigation of Flicker and Stroboscopic Effects

- Light modulation (flicker) frequency >=1.4 kHz between 1% and 100% of measured light output
- Meets IEEE 1789-2015: low risk to health and safety

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101 Daggett Drive, San Jose, CA 95134 | 866.223.8395 | xicato.com