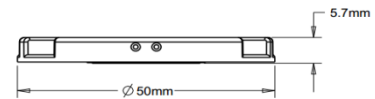
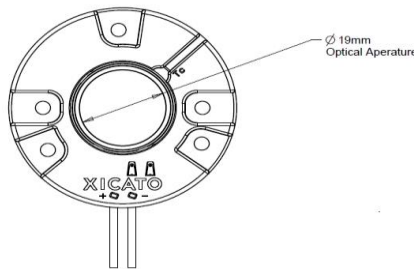


# PRODUCT DATA SHEET

# XICATO

## XTM LED Module *with Corrected Cold Phosphor Technology*<sup>®</sup>

### Vibrant Series (V95)



### Specification Features Physical Characteristics

Module Source Type:	Corrected Cold Phosphor LED Module. Dia. 50mm (1.97") x 5.6mm (0.22"). Light emitting surface $\varnothing$ 19mm (0.75").
Maximum Case Temperature:	90°C
Phosphor Proximity:	Remote
Module Weight:	18 gm (.63 oz). 100 count box. Box weight 3 kg (7 lbs), 533mm x 254mm x 153mm (21" x 10" x 6").
Interfaces:	Electrical: 12.7mm stripped tinned 20AWG 300V integrated wire. 400mm (15.7") length. Mechanical: Recommended mounting screws: M3 x 0.5mm x 8mm with split lock washer. Torque 0.4Nm (3.5 in-lb) using three-hole pattern, 0.6Nm (5.3 in-lb) for two-hole pattern. Thermal: Integral thermal pad. A mating thermal interface (i.e. heatsink) surface flatness of $\leq 0.1$ mm and center-hole less than $\varnothing 12$ mm is recommended in order to maintain thermal performance.
Module Housing:	Injection molded 30% glass filled PBT.
Storage Temperature:	-40°C to 85°C

### Photometric Characteristics

Color Consistency Initial:	1 x 2 MacAdam (1 x 2 SDCM) below the BBL.
Color Rendering Index (CRI):	Ra: 98. R9 $\geq$ 90, R15 $\geq$ 95 (typical)
Gamut Area Index (GAI <sub>BB</sub> ) <sup>4</sup>	120
Color Consistency Maintained:	C3/B10/F10 50,000 hrs. ( $< 0.003 \Delta u', v'$ 5 years/44,000 hrs. warranty <sup>12</sup> )
Lumen Maintenance:	L80/B10/F10 50,000 hrs. (L70, B0, F0 5 years/44,000 hrs. warranty <sup>12</sup> )

### Other

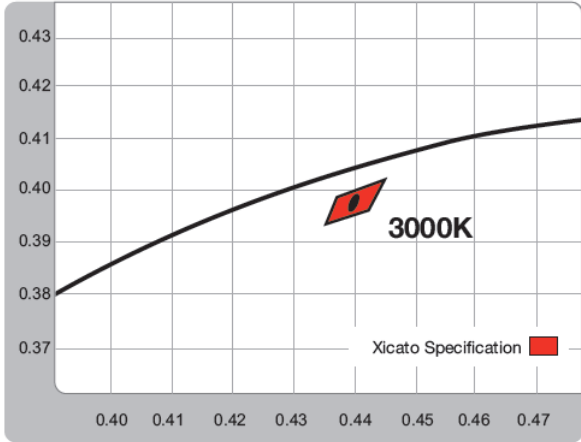
Regulatory:	UL recognized Class 2, CE (IEC62031, Class III), RoHS 2 compliant. IP20. Photobiological Safety (EN62471:2008). ESD Class 3B (HBM). No special ESD handling procedures required.
Mercury Content	None
UV or IRC Emissions:	None

# PRODUCT DATA SHEET

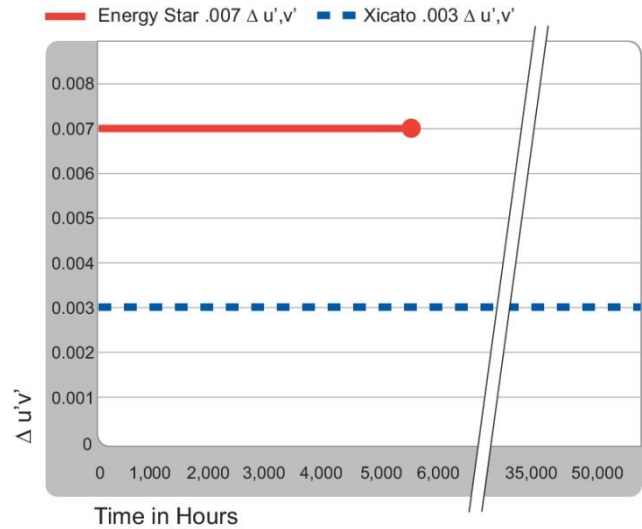
XTM LED Module *with Corrected Cold Phosphor Technology*<sup>®</sup>  
 Vibrant Series (V95)

## Color Information

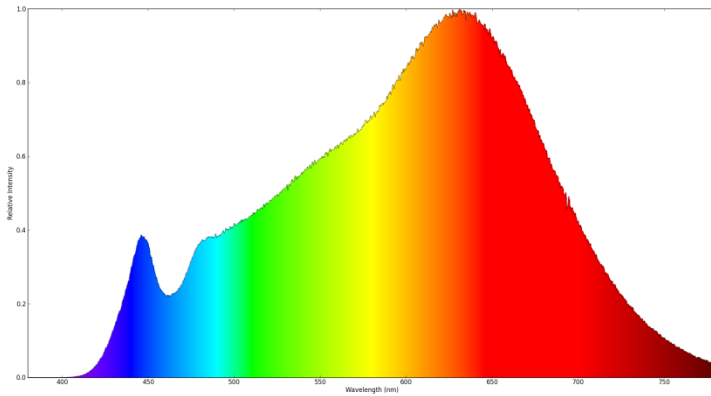
Color Consistency – Initial



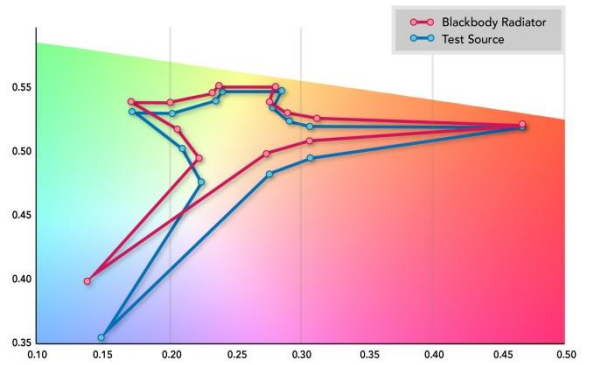
Color Consistency – Maintained



Spectral Power Distribution



Color Gamut



Color Rendering Index (3000K Typical)

Ra	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	
Vibrant Series (V95)	98	99	92	97	96	98	96	95	94	90	97	95	97	98	98	98

# PRODUCT DATA SHEET



## XTM LED Module *with Corrected Cold Phosphor Technology*<sup>®</sup>

### Vibrant Series (V95)

#### Technical Data

Lighting <sup>1</sup>								Electrical (constant current)																				
Module	Part Number	Correlated Color Temperature (CCT) <sup>2</sup>	Color Rendering Index (Ra) <sup>3</sup>	Gamut Area Index <sup>4</sup>	Initial Color Consistency			Lumen Maintenance (hrs) <sup>4</sup>	Module	Drive Current (mA) <sup>5, 12</sup>	Forward Voltage <sup>6</sup>			Power Consumption (W) <sup>7</sup>	Lumen Output <sup>8</sup> (Typical)		Efficacy (Typical)											
					SDCM	CCT	Duv				Min	Typ	Max		lm	lm/W												
1300 lm	XTM19V93013CCA	3000K	CRI 98 R9 90	120	≤1 x 2	± 50K	± 0.001	50k	1300 lm	700	17.3	22.3	24.8	15.6	1300	83												
										500	16.8	21.7	24.2	10.9	965	89												
										350	16.4	21.2	23.7	7.4	720	97												
2000 lm	XTM19V93020CCA	3000K							CRI 98 R9 90	120	≤1 x 2	± 50K	± 0.001	50k	2000 lm	1050	19.8	25.1	27.9	26.4	2000	76						
																700	19.1	24.3	27.1	17.0	1400	82						
																500	18.7	23.8	26.6	11.9	1055	89						
																350	18.3	23.4	26.2	8.2	800	98						
3000 lm	XTM19V93030CCA	3000K													CRI 98 R9 90	120	≤1 x 2	± 50K	± 0.001	50k	3000 lm	1050	26.4	32.5	35.1	34.1	3000	88
																						700	25.7	31.8	34.3	22.3	2140	96
			500	25.2	31.2	33.8	15.6	1580														101						
			350	24.9	30.9	33.4	10.8	1240														115						

- All lighting data shown in the above table is taken at a recommended operating test point (To) temperature of 70°C and highest rated drive current.
- "3000K" and "3500K" CCT's are 2950K and 3420K, respectively. CCT data ANSI/NEMA compliant.
- "Ra" is defined as the average of color rendering indices R1-R8. 3000K data shown. Values are typical.
- GAI<sub>BB</sub> is Gamut Area Index normalized to the black body locus and using all 15 standard CRI colors. Value is typical.
- L80 50,000 hrs. Long term testing in process.
- The module is designed for usage with a constant current power supply with an output current up to 770mA (700mA) or 1100mA (1050mA) max. (including tolerance).
- Voltage data based on 20°C to 90°C operating range. For operation outside this range, contact Xicato.
- Power consumption is stated as a typical value that is based on the typical range of forward voltage.  
Maximum and minimum power values can be calculated using the voltage range.
- Absolute range of lumen output is ±10% of typical value.
- Thermal compatibility classification: Contact Xicato for details.
- Specifications subject to change without notice.
- 5 year color and lumen maintenance warranty. Refer to [www.xicato.com](http://www.xicato.com) for details.
- Maximum peak ripple current with frequencies ≥ 100hz for each product are 2000mA (1300lm), 3000mA (2000lm).

# PRODUCT DATA SHEET

# XICATO

XTM LED Module *with Corrected Cold Phosphor Technology*<sup>®</sup>

Vibrant Series (V95)

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## Recommended LED Module in Luminaire Specification

Physical Characteristics: LED module shall be remote phosphor, nominal 50mm (1.97") diameter.

Performance: LED module shall have a LED module shall have a CRI (Ra) 98, R9 16, R12 62 and a gamut area black body of 120. CRI values shall be  $\pm 3$  points initial. LED module color points shall be within 1 x 2 SDCM initial. Flux output shall be measured at a minimum of 70 °C ( $\pm 5^{\circ}\text{C}$ ).

General Requirements: LED module shall be UL recognized, CE compliant and RoHS compliant. Module shall be warranted for 5 years for catastrophic failure, lumen maintenance ( $\geq L70$ ), and color consistency ( $<.003 \Delta u', v'$ ). LED module shall be Xicato Module. # \_\_\_\_\_

## About Xicato

Xicato is passionate about light. Light has an emotional effect on people and a direct impact on business profitability. It ultimately influences everything in our lives. Xicato is a recognized leader in creating LED modules that provide superior aesthetics, economics and durability. Xicato aspires to be the trusted partner of the global lighting design community and luminaire manufacturers.

For an overview of our customers' luminaires visit [www.xicato.com](http://www.xicato.com).