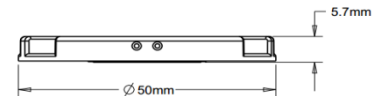
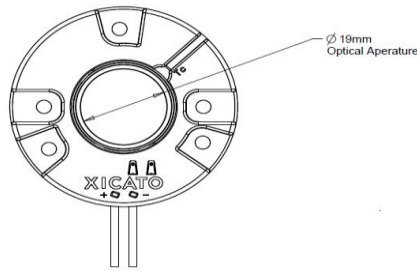


PRODUCT DATA SHEET

XTM LED Module with Corrected Cold Phosphor Technology®

BEAUTY SERIES

MECHANICAL CHARACTERISTICS



Module Source Type:	Corrected Cold Phosphor LED Module
Phosphor Proximity:	Remote
Module Housing:	Injection molded 30% glass filled PBT
Dimensions:	55mm x 5.6mm (1.97" x 0.22") 100 count box: 533mm x 254mm x 153mm (21" x 10" x 6")
Weight:	18 grams (0.63 oz.) 100 count box: 3 kg (7 lbs.)
Light Emitting Surface:	19mm
Interfaces: Electrical	12.7mm stripped tinned 20 AWG 300V integrated wire. 400mm length (15.7")
Interfaces: Mechanical	Recommended mounting screws: M3 x 0.5mm x 8mm with split lock washer.
Mounting Torque:	0.4 Nm (3.5 in-lb) using three-hole pattern, 0.6 Nm (5.3 in-lb) using two-hole pattern
Interface: Thermal	Integrated thermal pad. Thermal interface (i.e. heat sink) should have surface flatness of $\leq 0.1\text{mm}$ and center hole less than $\text{Ø}12\text{mm}$.
Maximum Case Temperature:	90°C
Storage Temperature:	-40°C to +85°C
Regulatory:	UL 8750 recognized Class 2. CSA C22.2 No. 250.13-12. CE (IEC 62031, Class III). Suitable for dry and damp locations. Ingress Protection: IP20 ESD Class 3B (HBM). No special ESD handling procedures required. Photobiological Safety EN 62471:2008 RoHS compliant. Zhaga compliant.
Mercury Content:	None
UV or IRC Emissions:	None

COLOR METRICS

Optimized for skin tones, developed by industry experts and verified by independent research.

Beauty Series is designed with an application-specific color point and spectral power distribution designed to enhance the beauty of human skin tones. Traditional measures of CCT, CRI and color point are not adequate to compare Beauty Series with competing products, nor do they reflect the intended effect of the product.

All color rendering data at highest rated drive current and 70°C T_c.

Correlated Color Temperature: 2700K nominal, 2730K actual ± 40K

Initial Color Consistency: ≤ 1 x 2 Macadam ellipses (SDCM) at 70°C, B0

Color Maintenance: Consistency maintained < 0.003 Δu'v'

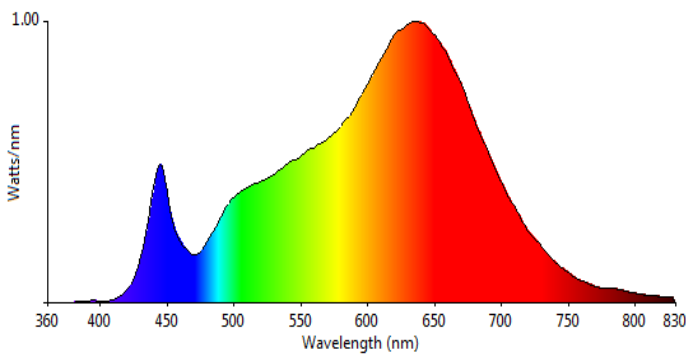
Lumen Maintenance: L70/B0 at 50,000 hours (long term testing in progress)

Color Rendering: Values are typical. Minimum CIE Ra is 93.
IES TM30 R_f = 91, R_g = 107

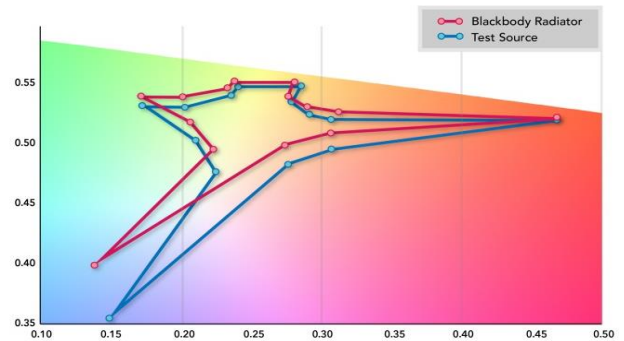
Warranty: 5 year for individual modules (B0) on mortality, color and lumen maintenance.
Details at www.xicato.com/support/warranty

CIE	Ra	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	GA _{IBB}
Beauty Series	95	96	96	97	94	95	92	94	95	95	92	91	88	95	99	97	133

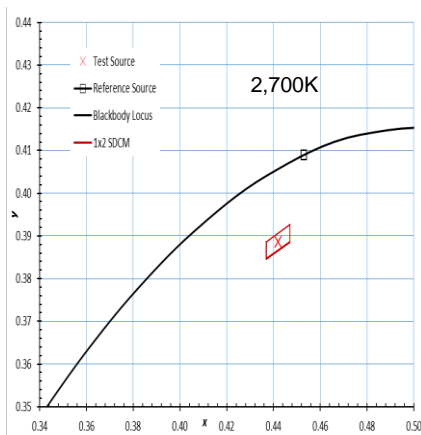
Spectral Power Distribution (SPD)



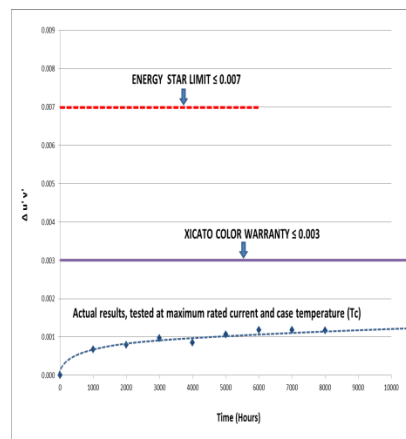
CIE CRI Color Gamut



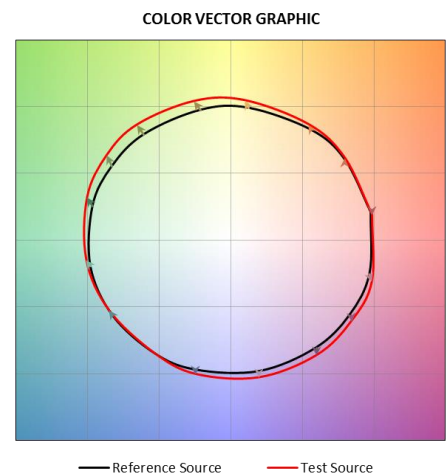
Initial Color Consistency



Color Maintenance



IES TM30 Color Gamut



ELECTRICAL AND PERFORMANCE CHARACTERISTICS

Part Number	LES (mm)	Nom. CCT	Nom. Output (lm)	Drive Current (mA)	Forward Voltage (V _f)			Power (W)	Lumen Output (Typ)	Efficacy
					Min	Typ	Max			
XTM19BT0113CCA	19	2700	1300	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
XTM19BT0120CCA	19	2700	2000	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

NOTES:

1. Data shown in the above table is taken at a recommended operating test point (T_c) temperature of 70°C.
2. Module is designed for use with a constant current power supply.
 - a. Maximum output current, including tolerance, for XTM19BT0113CCA is 770mA.
 - b. Maximum output current, including tolerance, for XTM19BT0120CCA is 1100mA.
3. Maximum peak ripple current with frequencies ≥ 100Hz for each product are
 - a. 2000mA for XTM19BT0113CCA
 - b. 3000mA for XTM19BT0120CCA
4. Voltage data is based on 20°C to 90°C operating range. For operation outside this range, contact Xicato.
5. Power consumption is stated as a typical value that is based on the typical value of V_f. Maximum and minimum wattage values can be calculated using the voltage range in the table.
6. Absolute range of lumen output is ± 10% of typical value.
7. Specifications are subject to change without notice.

LUMINAIRE SPECIFICATION GUIDE

RECOMMENDED LED MODULE

Color Point and Spectral Power Distribution: Optimized for skin tones, developed by industry experts and verified by independent research.

Initial Color Consistency:	<p>≤ 1 x 2 MacAdam Ellipses</p> <p>Every light source shall be within a 1 x 2 MacAdam Ellipse (1x2 SDCM)</p> <p>Flux and color point tuned at case temperature 70°C</p>
Initial Color Point:	Below Black Body Locus (BBL)
Color Maintenance:	<p>Remains within 3 MacAdam Ellipses (C3) at 50,000 hours at maximum operating drive current and maximum case temperature (90°C).</p> <p>LM-80 data shall show Duv < 0.003 at 6,000 hours.</p>
Lumen Maintenance:	<p>LM better than 70% (L70, B0, F0) at 50,000 hours at maximum operating drive current and maximum case temperature (90°C).</p> <p>LM-80 data shall show LM > 94.8% at 6,000 hours.</p>
Phosphor Technology:	Remote, Corrected Cold Phosphor® technology.
Warranty:	<p>5 years, including minimum on mortality, lumen maintenance, and color maintenance.</p> <p>Mortality: B0 – No failures.</p> <p>Lumen maintenance: L70, B0 (better than 70% on <u>all</u> units).</p> <p>Color maintenance: < 0.003 Duv</p>

LED module shall be Xicato Module # _____

About Xicato

Xicato designs and develops light sources and electronics that enable architects, designers and building managers to create beautiful, smart spaces in which people love to live and work. With thousands of installations around the globe, Xicato continues to be a leading supplier of high quality lighting solutions. Xicato is defining the future of intelligent light sources by integrating electronics, software and connectivity. Founded in 2007, Xicato's headquarters is based in Silicon Valley and the company has offices in China, Japan, Europe and the US.

For further information visit www.xicato.com.