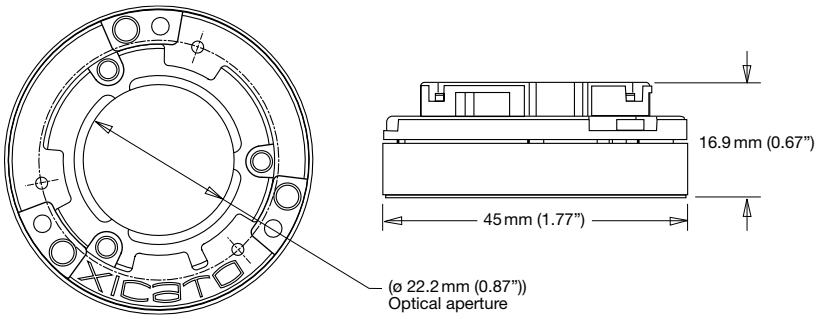
XSM Standard Series LED Module

Corrected Cold Phosphor Technology®



Specification Features

Physical Characteristics

Module Source Type: Corrected Cold Phosphor LED module. Dia. 45mm (1.77") x 16.9 mm (.67"). Optical Aperture Dia. 22.2mm (.87").
Maximum Case Temperature: 90 °C
Phosphor Proximity: Remote.
Module Weight: 54gm (1.9oz) (100ct box weight 6kg (13.2lbs)).
Interfaces: Base dia. 45mm (1.77"). Provision for accessory reflector attachment. Integral wire harness 24 AWG, 40cm, UL105°C, 300V. Mounting screws M3 x 0.5 x 12mm. Integral thermal pad: Nominal thermal conductivity 10W/m-K (through-plane), 150W/m-K (in-plane), .127mm thick.
Module Housing: Diecast aluminum construction with sealed glass aperture. IP66 rated.
Storage Temperature: -40°C to 85°C

Photometric Characteristics

Color Consistency - Initial: CCT +/- 50K, Duv +/- .001, 1 x 2 step MacAdam (1 x 2 SDCM) along BBL.
Color Rendering Index: Ra: ≥ 80.
Color Consistency - Maintained: C3 50,000hrs.[11]
Lumen Maintenance: L80 50,000 hrs.[4]

Other

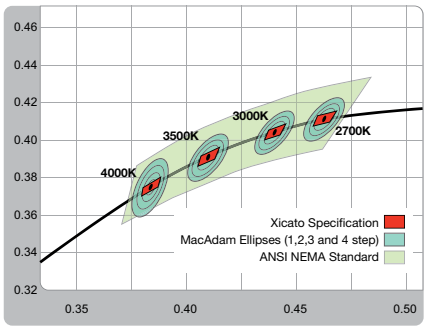
Regulatory: Modules UL recognized. RoHS compliant. CE Compliant (IEC62031). IP66 (IEC60529).
Mercury Content: No mercury.
UV or IR Content: None.

Ordering Guide*

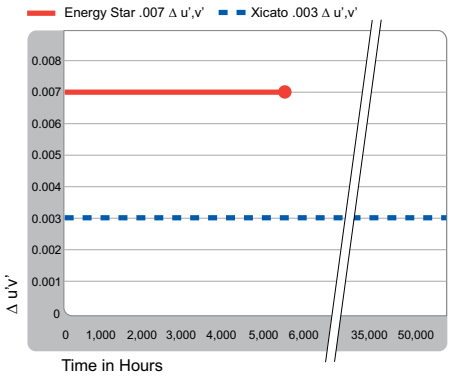
Luminous Flux	Part Number	Correlated Color Temperature
400 lm	XSM8027-400-C	2700K
	XSM8030-400-C	3000K
	XSM8040-400-C	4000K
700 lm	XSM8027-700-C	2700K
	XSM8030-700-C	3000K
	XSM8040-700-C	4000K
1000 lm	XSM8027-1000-C	2700K
	XSM8030-1000-C	3000K
	XSM8035-1000-C	3500K
	XSM8040-1000-C	4000K
1300 lm	XSM8027-1300-C	2700K
	XSM8030-1300-C	3000K
	XSM8035-1300-C	3500K
	XSM8040-1300-C	4000K
2000 lm	XSM8027-2000-C	2700K
	XSM8030-2000-C	3000K
	XSM8035-2000-C	3500K
	XSM8040-2000-C	4000K
3000 lm	XSM8027-3000-C	2700K
	XSM8030-3000-C	3000K
	XSM8035-3000-C	3500K
	XSM8040-3000-C	4000K
4000 lm	XSM8027-4000-C	2700K
	XSM8030-4000-C	3000K
	XSM8035-4000-C	3500K
	XSM8040-4000-C	4000K

* For a complete list of luminaires incoporating Xicato LED Modules and information on compatible drivers, heatsinks and reflectors, go to **www.xicato.com.** For XSM Artist series, refer to XSM Artist Series Data Sheet.

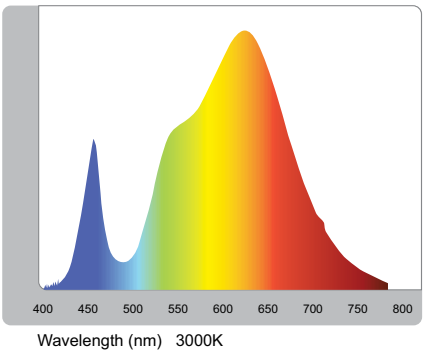
Color Consistency - Initial



Color Consistency - Maintained



Spectral Power Distribution



Color Rendering Index (Typical)

Ra	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
81	80	85	89	81	78	80	86	66	16	64	79	58	81	93	75

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Technical Data

Lighting[1]								Electrical (constant current)								
Module	Part Number	Correlated Color Temperature (CCT)[2]	Color Rendering Index Ra[3]	Color Consistency SDCM	CCT	Duv	Lumen Maint-enance[4] hrs	Module	Drive Current[5] mA	Forward Voltage[6] Min	Typ	Max	Power Consump-tion[7] W	Lumen Output[8] (Typical) lm	Efficacy (Typical) lm/W	Thermal Class[10]
400 lm	XSM8027-400-C	2700K	≥80	≤1 x 2	± 40K	± 0.001	50k	400 lm	700	8.2	8.2	9.9	5.7	400	70	B
	XSM8030-400-C	3000K			± 50K				500	7.9	8.1	9.6	4.1	300	74	A
	XSM8040-400-C	4000K			± 70K				350	7.8	7.9	9.4	2.8	220	80	A
700 lm	XSM8027-700-C	2700K	≥80	≤1 x 2	± 40K	± 0.001	50k	700 lm	1050	8.4	9.2	10.1	9.7	700	72	D
	XSM8030-700-C	3000K			± 50K				700	8.2	8.8	9.9	6.2	500	81	B
	XSM8040-700-C	4000K			± 70K				500	7.9	8.6	9.6	4.3	380	88	A
									350	7.8	8.4	9.4	2.9	280	95	A
1000 lm	XSM8027-1000-C	2700K	≥80	≤1 x 2	± 40K	± 0.001	50k	1000 lm	1050	10.5	12.4	13.5	13.0	1000	77	E
	XSM8030-1000-C	3000K			± 50K				700	10.1	11.9	13.1	8.3	720	87	C
	XSM8035-1000-C	3500K			± 60K				500	9.8	11.6	12.7	5.8	540	93	B
	XSM8040-1000-C	4000K			± 70K				350	9.6	11.4	12.5	4.0	380	96	A
1300 lm	XSM8027-1300-C	2700K	≥80	≤1 x 2	± 40K	± 0.001	50k	1300 lm	1050	13.1	16.9	20.0	17.8	1300	73	F
	XSM8030-1300-C	3000K			± 50K				700	12.7	16.2	19.2	11.3	930	82	D
	XSM8035-1300-C	3500K			± 60K				500	12.3	15.8	18.7	7.9	700	89	C
	XSM8040-1300-C	4000K			± 70K				350	12.1	15.4	18.3	5.4	500	92	B
2000 lm	XSM8027-2000-C	2700K	≥80	≤1 x 2	± 40K	± 0.001	50k	2000 lm	1050	23.8	27.4	30.0	28.8	2000	70	K
	XSM8030-2000-C	3000K			± 50K				700	23.0	26.5	29.4	18.5	1420	77	F
	XSM8035-2000-C	3500K			± 60K				500	22.4	25.8	28.6	12.9	1070	83	E
	XSM8040-2000-C	4000K			± 70K				350	21.9	25.3	28.0	8.8	780	88	C
3000 lm	XSM8027-3000-C	2700K	≥80	≤1 x 2	± 40K	± 0.001	50k	3000 lm	1050	37.3	42.9	46.8	45.0	3000	67	Q
	XSM8030-3000-C	3000K			± 50K				700	36.1	41.4	45.3	29.0	2220	77	K
	XSM8035-3000-C	3500K			± 60K				500	35.3	40.4	44.0	20.2	1660	82	G
	XSM8040-3000-C	4000K			± 70K				350	34.7	39.5	43.0	13.8	1210	88	E
4000 lm	XSM8027-4000-C	2700K	≥ 80	≤1 x 2	± 40K	± 0.001	50k	4000 lm	1050	38.7	47.1	47.9	49.5	4000	81	Q
	XSM8030-4000-C	3000K			± 50K				700	37.4	45.5	46.9	31.9	2850	89	K
	XSM8035-4000-C	3500K			± 60K				500	36.5	44.4	46.3	22.2	2130	96	G
	XSM8040-4000-C	4000K			± 70K				350	35.9	43.5	45.5	15.2	1550	102	E

Notes:
1. All lighting data shown in the above table is taken at a recommended operating test point (Tc) temperature of 70°C and highest rated drive current.
2. '3000K' and '3500K' CCT's are 2950K and 3420K, respectively. CCT data ANSI/NEMA compliant.
3. **'Ra' is defined as the average of color rendering indices R1-R8.**
4. XSM 400lm/700lm/1000lm/1300lm based on LM-80/TM-21. XSM 3000lm and 4000lm long term testing in process.
5. The module is designed for usage with a constant current power supply with an output current up to 770mA max. (400lm), or 1100mA max. (700lm/1000lm/1300lm/2000lm/3000lm).
6. Voltage data based on 20°C to 90°C operating range. For operation outside this range, contact factory.
7. 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.
8. Absolute range of lumen output is ±10% of typical value.
9. **Specifications subject to change without notice.**
10. **Thermal compatibility classification: Contact Xicato for details.**
11. C3= <.003 Δ u',v'.

Recommended LED Module Specification

Physical Characteristics: LED module shall be remote phosphor, nominal 45mm (1.77") diameter, and aluminum and glass construction. Module shall be sealed, meeting IP66 requirements. Module shall be field-servicable.
Performance: LED module shall have a CRI (Ra) ≥80. CRI values shall be +3/-0 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 (±5°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 (≥L70), and color consistency (<.003 Δ 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.

For the best in lighting design, Xicato recommends a qualified lighting designer from the Professional Lighting Design Association (PLDA) or the International Association of Lighting Designers (IALD).

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