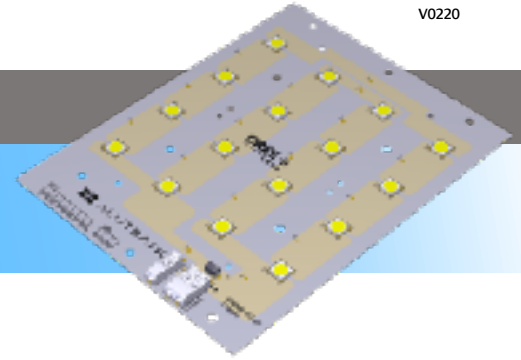


Light Engine XLE-M44JR5050-P

LEDs CREE® J Series® JR5050 P Class CHAPAT Series



The KAAB Series's light engines are based on the new CREE® J Series® JR5050 P Class technology, it provides exceptional efficacy, by taking advantage of the latest available technology for high power specially designed for cost sensitive applications.

The product is compatible with the LEDIL® STRADA-2x2 family (6x) (sold separately); this high precision secondary optic in conjunction with the light engine allow us to provide a wide variety of light distribution patterns that is used in multiple applications with excellent quality, reliability and precision.



Features

- Fastest time to market.
- Allow development for high efficient at competitive cost luminaire.
- Excellent LED color over angle consistency.
- Solid LM-80 with great TM-21 L90 & L70 projections
- Unique and flexible form factor configuration.
- MPCB thermal conductivity 2 W/m.k based in UHT (Ultra High Thermal)
- Compatible with LEDIL® STRADA-2x2® optics

Reliability.

- LM-80 lifetime projections (IEC 62717) > 100,000 (L70B10)⁽¹⁾
- Chromatic Deviation $\Delta u'v' < 0.0025 @ 6K hr$

Applications

- Street Lighting
- Flood /Area
- HighBay / LowBay/ Canopy

Product Selection

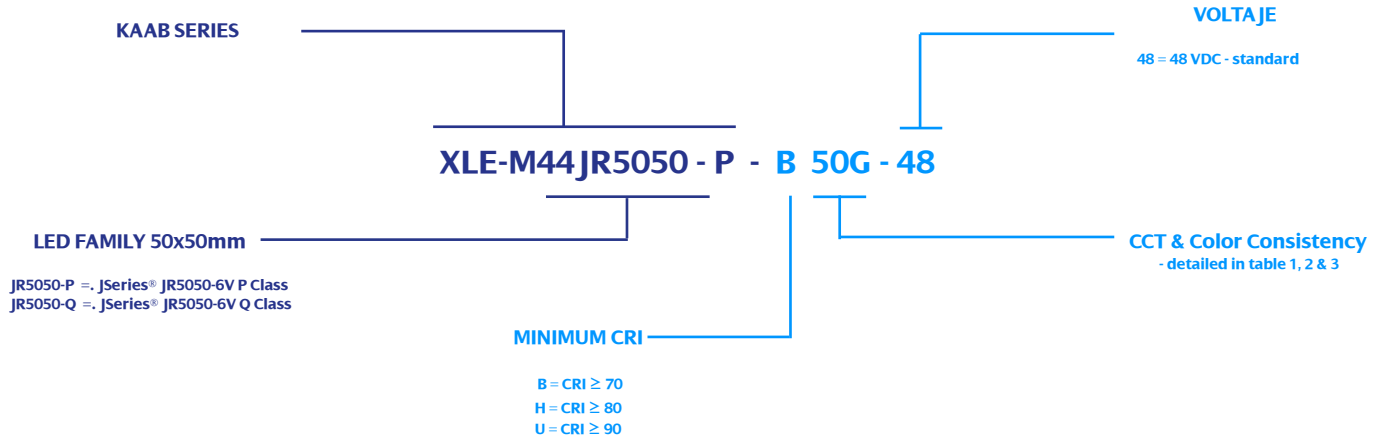
Typical and Maximum Test Values (Tsp = 25°C)

Número de Parte	CCT (K)	Color Consistency	CRI	48V @ 600mA			48V @ 1800mA ⁽²⁾	
				Typical Flux (lm)	Typical Efficacy (lm/W)	Typical Power (W)	Max. Flux (lm/W)	Max. Power (W)
XLE-M46JR5050-P-B50G-48	5000K	3 - Steps	70	5,368	199	27.0	14,187	90.6
XLE-M46JR5050-P-H50G-48	5000K	3 - Steps	80	5,028	186	27.0	13,289	90.6
XLE-M46JR5050-P-B40G-48	4000K	3 - Steps	70	5,368	199	27.0	14,187	90.6
XLE-M46JR5050-P-H40G-48	4000K	3 - Steps	80	5,028	186	27.0	13,289	90.6
XLE-M46JR5050-P-B30G-48	3000K	3 - Steps	70	5,064	187	27.0	13,385	90.6
XLE-M46JR5050-P-H30G-48	3000K	3 - Steps	80	4,785	177	27.0	12,647	90.6

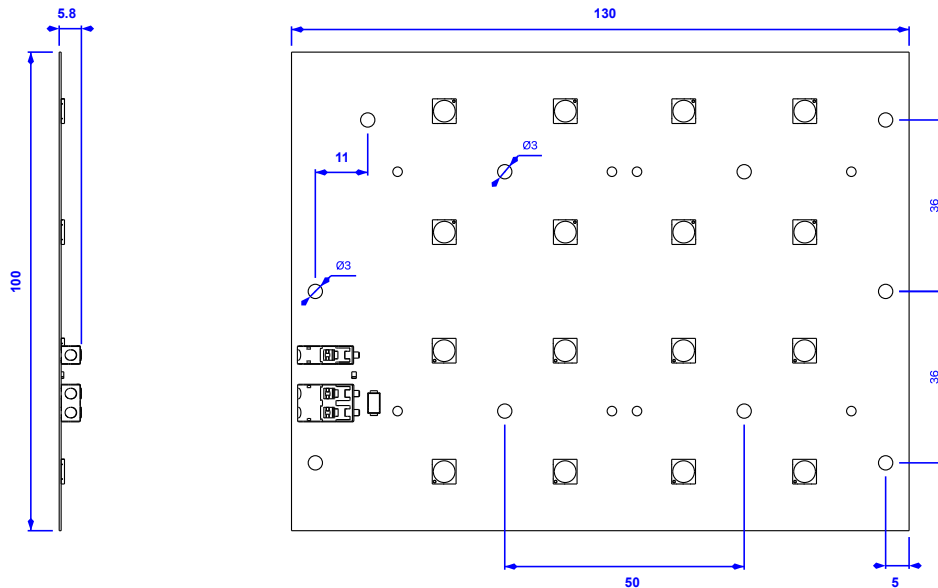
⁽¹⁾ LED Tsp = 55°C @ 0.900A Note: TM-21 extrapolations are for informational purposes only and are not a warranty or a specification.

⁽²⁾ Max Flux & Max Power shown as reference

Nomenclatura de Tarjeta



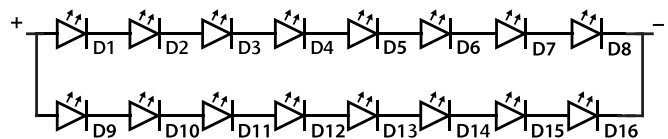
Mechanical Dimensions (mm)



MCPCB Specs

Thermal Conductivity	2.0 W/m.K
Dimension	100 mm x 130 mm
Metal Type	Aluminum
Surface Finishing	Lead Free HASL
Max. Operation Temp.	105 °C
RoHS	Yes

Schematic Configuration (4 x 6)

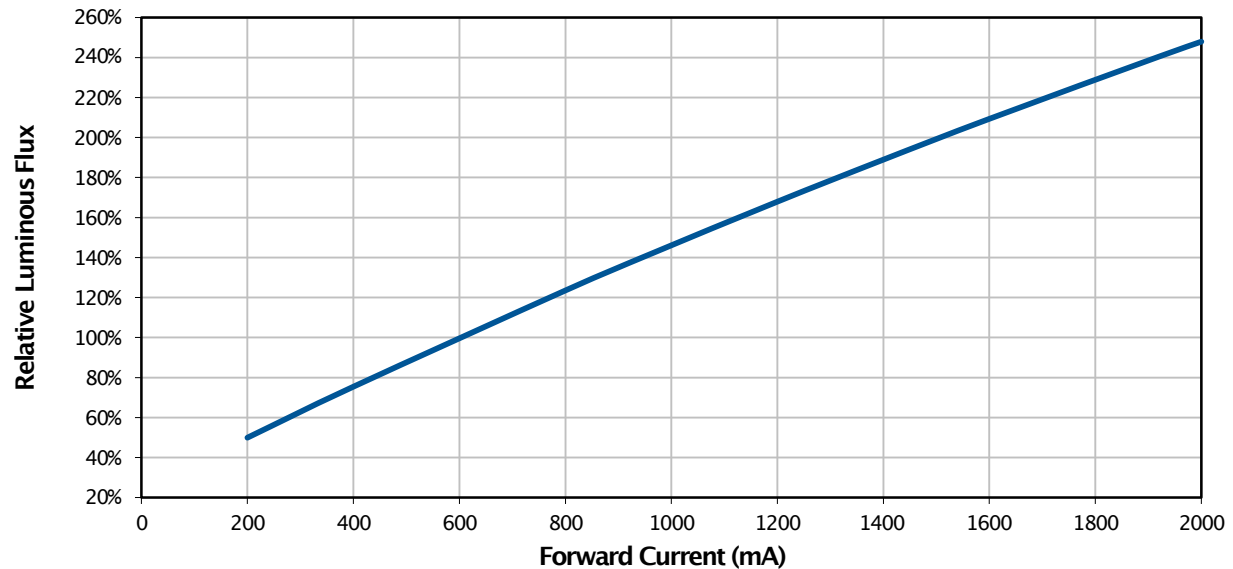


1. Connector Dual for solid or strand wire 18-24 AWG
2. Mounting recommendation 10x screw M3 - 0.5 x 0.6 mm

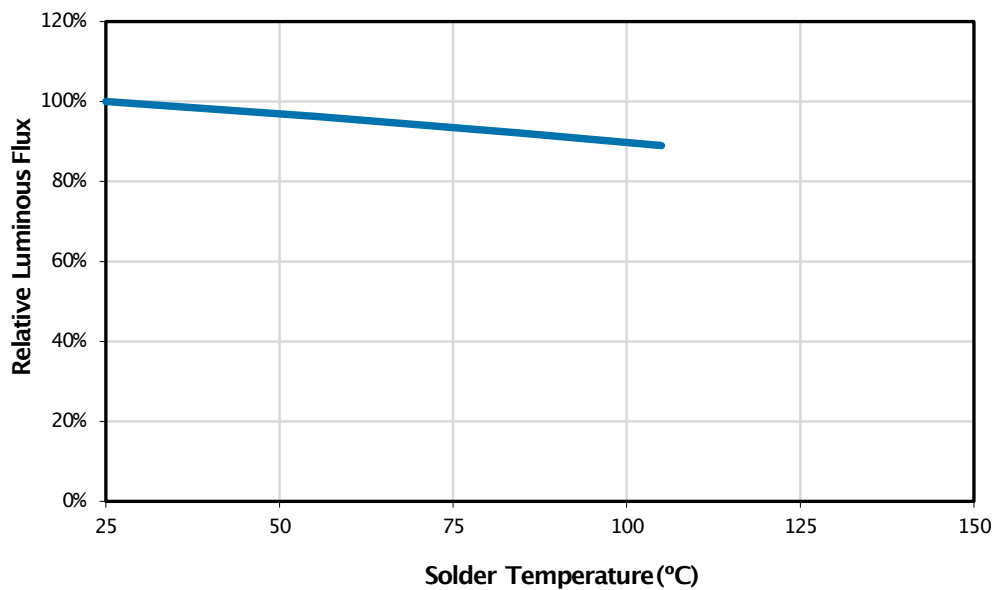
Electrical Spec (Tsp = 25°C)

Familia	Typical I _f (mA)	Max I _f (mA)	Min V _f (V)	Typical V _f (V)	Max V _f (V)	Tc Máx. (°C)
XLE-M44JR5050-P-xxxx-48	600	1800	42.7	45.0	51.1	105

Relative Luminous Flux vs. Current

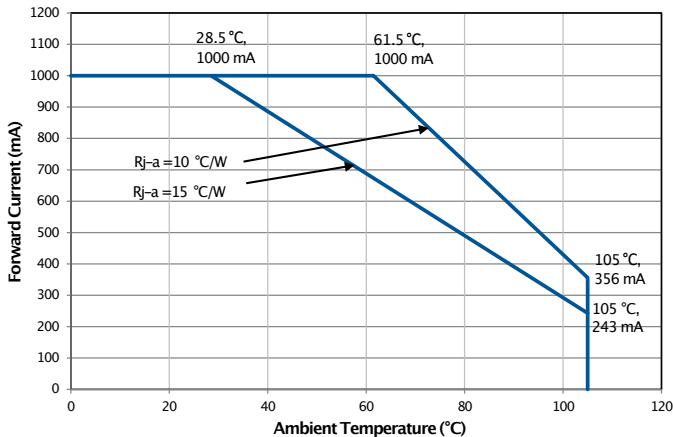


Relative Luminous Flux vs. Solder Point Temperature



Operation Limits XLE-M46JR5050-P (48V)

This product is based on cards with UHT (Ultra High Thermal) MCPCB technologies with conductivity in the range of 2 W / m.k compared to conventional technologies (MCPCB basic conductivity = 1 W / m.k); allowing us to optimize and reduce the junction temperature of our LEDs (T_j), extending the life of our product.

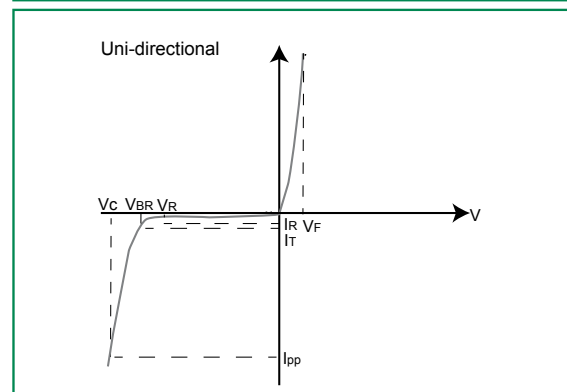
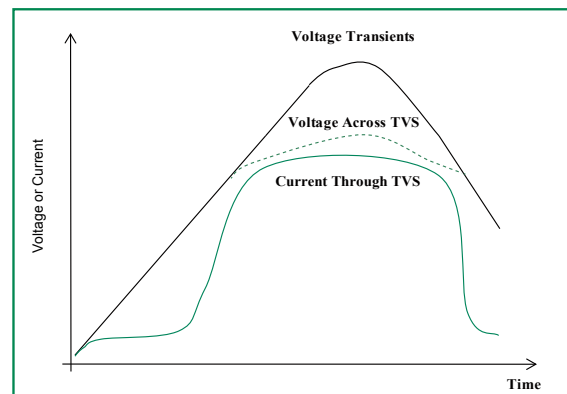


The lighting card operation limit is determined by the thermal resistance that exists between the junction temperature of the LED (T_j) and the ambient temperature (T_a). It is crucial that the product design minimizes the resistance between the joint and the environment in a way that optimizes the life time as well as optical characteristics.

Transient Voltage Suppression Diode (TVS)

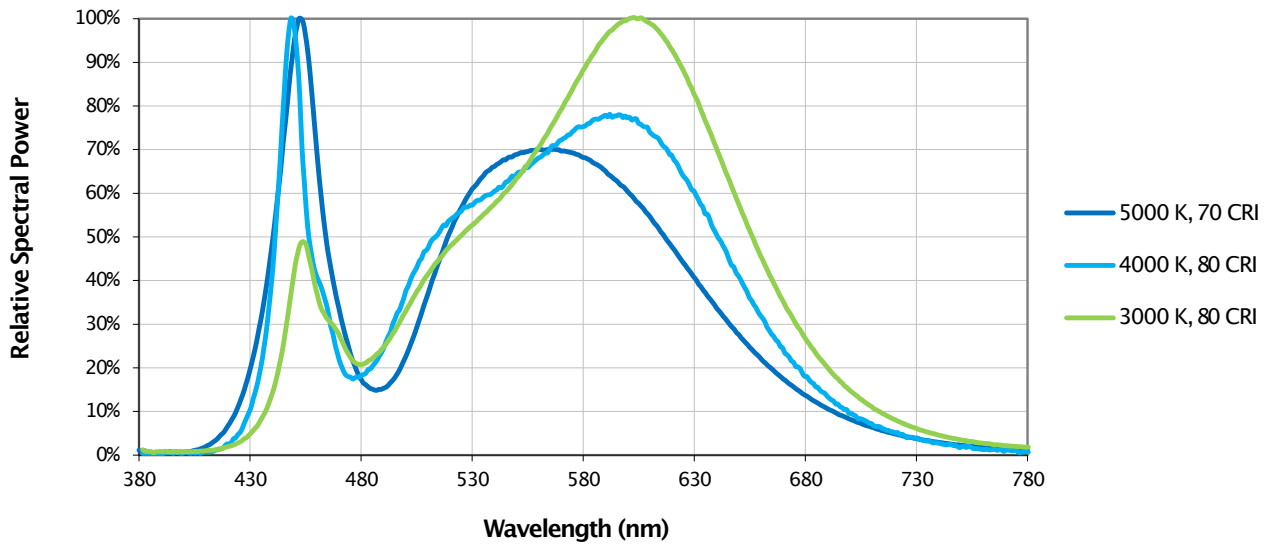
Designed to protect from voltage transients is embedded in Sciolux XLE-M46JR5050-P series. 400W Peak pulse power capability at 10/1000 μs waveform, repetition rate (duty cycle): 0,01%°

V_R	54.0	V
I_T	1	mA
Min Breakdown Voltage V_{BR}	60.0	V
Max Breakdown Voltage V_{BR}	66.3	V
Max Clamping Voltage $V_c @ I_{pp}$	87.1	V
Max Peak Pulse Current I_{pp}	4.6	A

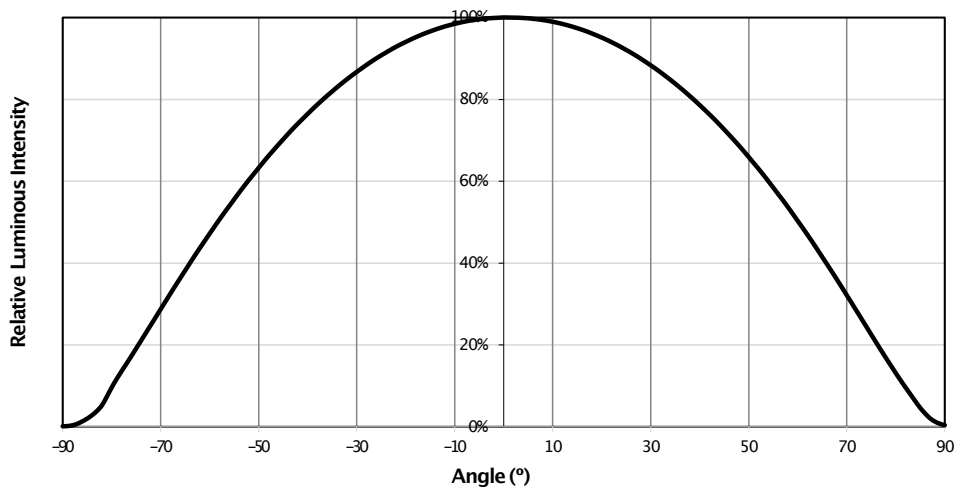


Optical Specifications

Relative Spectral Power Distribution

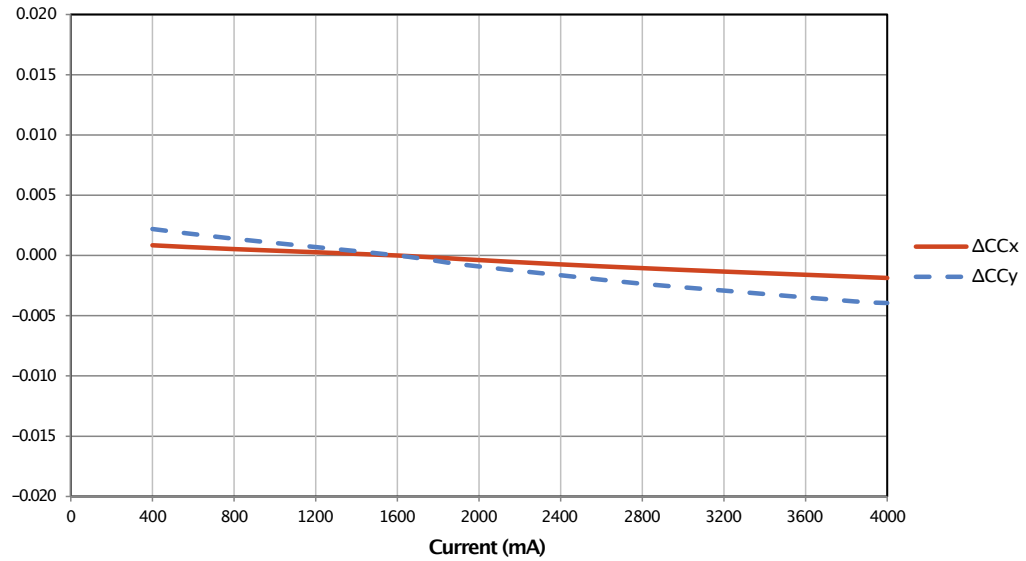


Typical Spatial Distribution

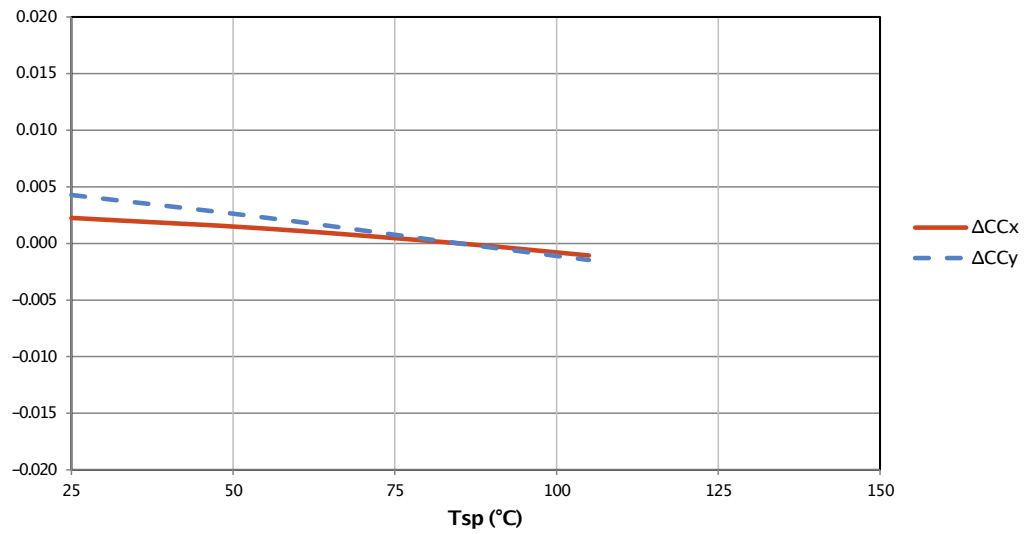


Chromaticity Spec ($I_f = 1200\text{mA}$, $T_{sp} = 25^\circ\text{C}$)

Relative Chromaticity vs. Current



Relative Chromaticity vs. Temperature



Chromaticity Performance Groups (LED $T_j = 85^\circ\text{C}$)

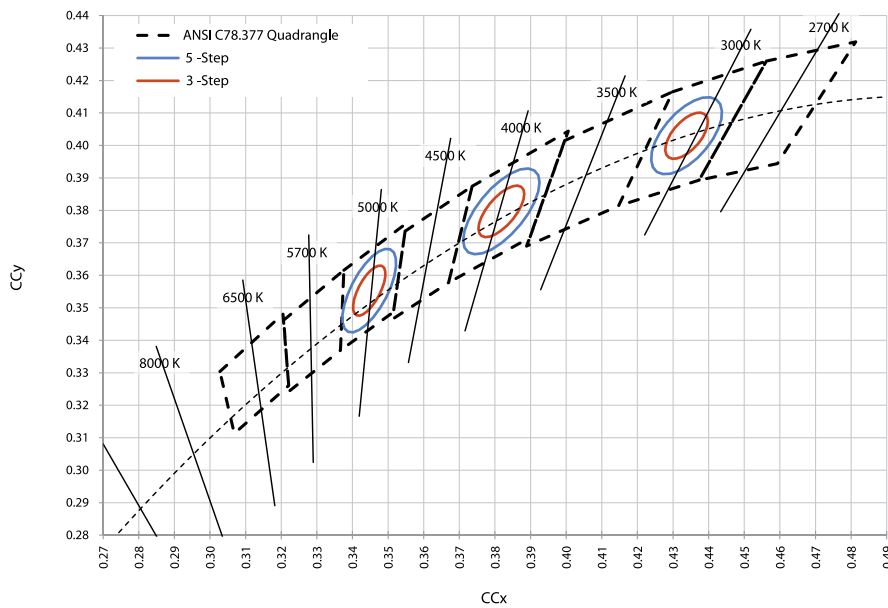


Table 1 - ANSI C78.377A binning

Binning Kit	CCT	x	y	Binning Kit	CCT	x	y	Binning Kit	CCT	x	y
		0.3376	0.3616			0.3719	0.3797			0.4259	0.4073
50A	5000K	0.3551	0.3760	40A	4000K	0.3937	0.4001	30A	3000K	0.4496	0.4236
		0.3515	0.3487			0.3924	0.3794			0.4418	0.3981
		0.3366	0.3369			0.3726	0.3612			0.4147	0.3814

Table 2 - Ellipse 5-Steps McAdam binning

Binning Kit	CCT	Center Point		Major Axis	Minor Axis	Rotation Angle (°)
		x	y	a	b	
50E	5000K	0.3447	0.3553	0.01400	0.00520	65.0
40E	4000K	0.3818	0.3797	0.01565	0.00670	53.7
30E	3000K	0.4338	0.4030	0.01390	0.00680	53.2

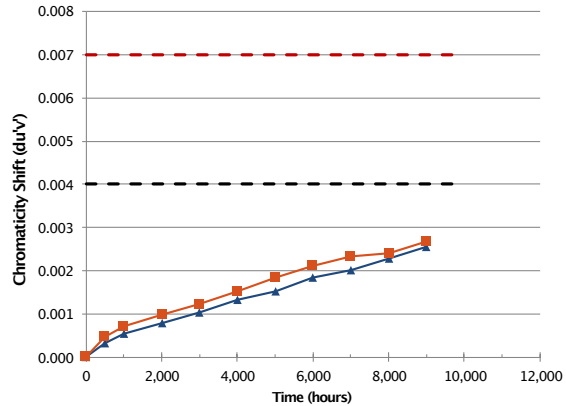
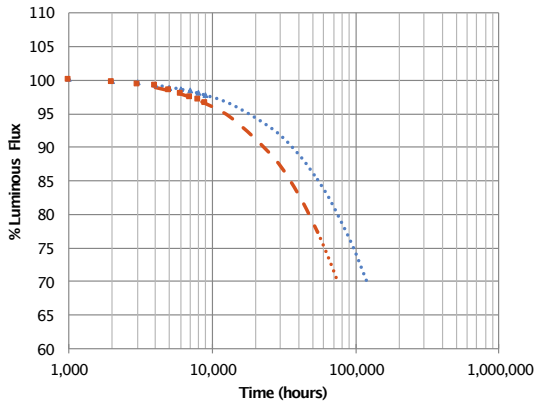
Table 3 - Ellipse 3-Steps McAdam binning

Binning Kit	CCT	Center Point		Major Axis	Minor Axis	Rotation Angle (°)
		x	y	a	b	
50G	5000K	0.3447	0.3553	0.00840	0.00312	65.0
40G	4000K	0.3818	0.3797	0.00939	0.00402	53.7
30G	3000K	0.4338	0.4030	0.00834	0.00408	53.2

LED Long Term Summary JR5050-6V P Class @ 300mA (TM-21)

LED	Current (A)
JR5050 P Class	0.304 (6V)

	LM-80 Duration	TM-21 Reported Lifetimes (hrs)		IEC 62717 Lifetimes (hrs)		
		L90	L70	L90B10	L80B10	L70B10
55	9k hrs	36.0k	>54.0k	35,898	74,446	118,147
105	9k hrs	23.3k	>54.0k	23,117	47,137	74,302



LED Long Term Summary JR5050-6V P Class @ 900mA (TM-21)

LED	Current (A)
JR5050 P Class	0.912 (6V)

	LM-80 Duration	TM-21 Reported Lifetimes (hrs)		IEC 62717 Lifetimes (hrs)		
		L90	L70	L90B10	L80B10	L70B10
55	9k hrs	26.0k	>54.0k	25,911	52,904	83,506
105	9k hrs	20.3k	>54.0k	20,213	40,952	64,465

