

## SPECIFICATION FOR I-WITTY LED LAMP

MODEL No : LD-700AWN1-70  
DOC No : 01 04OCT04

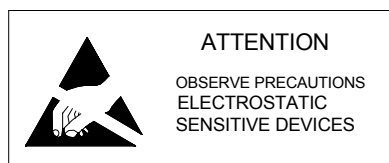
Description:

7 x 7mm, QFN Type,  
High Power White LED For Illumination,  
Clear Compound Encapsulated.

Dice Material: InGaN

Confirmed  
by Customer: \_\_\_\_\_

Date: \_\_\_\_\_



**I-WITTY TECHNOLOGY LTD.**

### Features

- High luminous flux output for illumination
- Exposed pad design for excellent heat transfer
- Designed for high current operation
- Reflow soldering applicable

### Absolute Maximum Ratings at Ta = 25°C (on metal core PCB)\*

Items	Symbol	Absolute maximum Rating	Unit
Forward Current	$I_F$	300	mA
Peak Forward Current**	$I_{FP}$	500	mA
Reverse Voltage	$V_R$	5	V
Power Dissipation	$P_D$	1	W
Operation Temperature	$T_{opr}$	-20 ~ +85	°C
Storage Temperature	$T_{stg}$	-20 ~ +85	°C
Junction temperature	$T_j$	+125	°C
Junction-to-Board***	$\theta_{jc}$	15	°C/W

Metal core PCB defines as good heat transmission substrate (thickness of 2.0mm Al-based PCB in 20x20mm,  $\theta_{jc} < 15C/W$  could do)

\*\* Where pulse width  $\leq 0.1$ msec, duty cycle  $\leq 1/10$  \*\*\* Rth test condition: mounted on 2.0mm Al-based PCB in size of 20x20mm

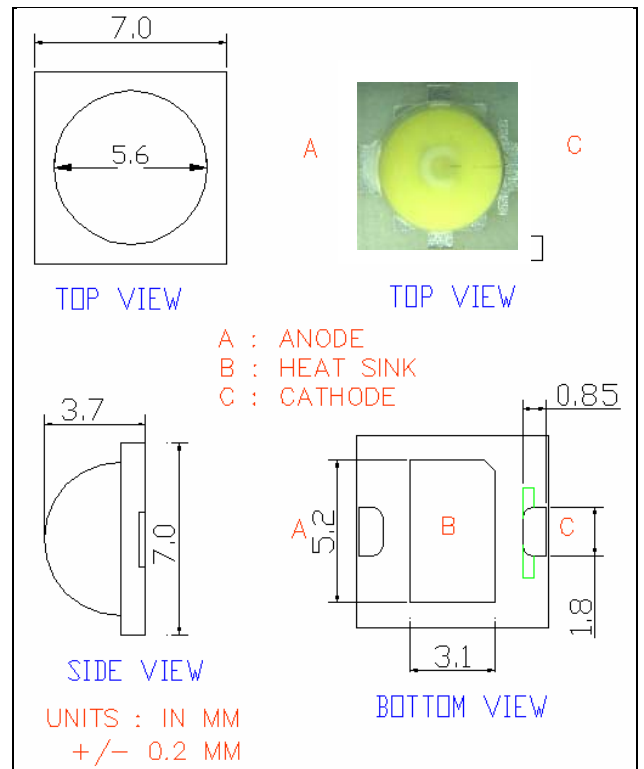
### Typical Electrical & Optical Characteristics at Ta = 25°C (on metal core PCB)\*

Items	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	$V_F$	$I_F = 300mA$		3.5	4.0	V
Reverse Current	$I_R$	$V_R = 5V$	---	---	10	$\mu A$
Luminous Flux	lumen	$I_F = 300mA$	13	20	---	lm
50% Power Angle	$2\theta_{\frac{1}{2}}$	$I_F = 300mA$	---	70	---	deg
Chromaticity Coordinates	x	$I_F = 300mA$	---	0.3	---	---
	y	$I_F = 300mA$	---	0.3	---	---

### Luminous Flux (lm)

Ranks Combination ( $I_F = 300mA$ )	G	H	I	J	
Rank	$\geq 13$	$\geq 17$	$\geq 21$	$\geq 25$	

### Package Outline

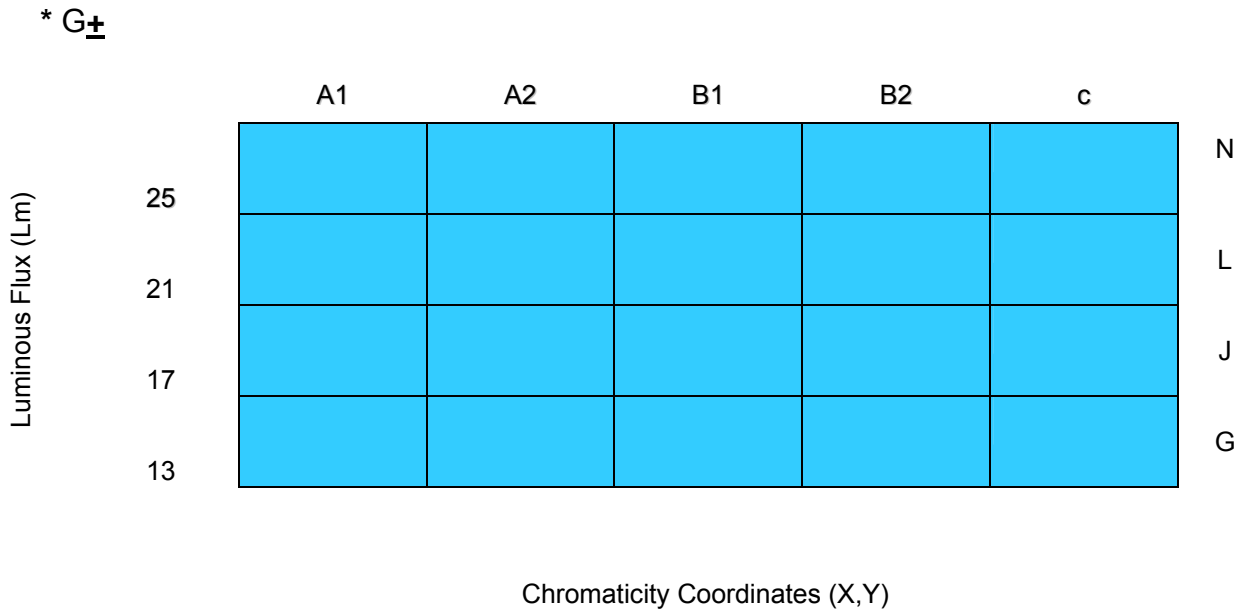


**Standard bins for LD-700AWN1-70 ( $I_F = 300\text{mA}$ ):**

Lamps are sorted to Luminous Flux – $L_m$ ,  $V_F$  & Chromaticity Coordinates –(X,Y) bins shown.

Orders for LD-700AWN1-70 may be filled with any or all bins contained as below.

All Luminous Flux – $L_m$ ,  $V_F$  & Chromaticity Coordinates –(X,Y) values shown and specified are at  $I_F = 300\text{mA}$ .



\*  $G_{+}$  indicates Luminous Intensity is at G bin or above.

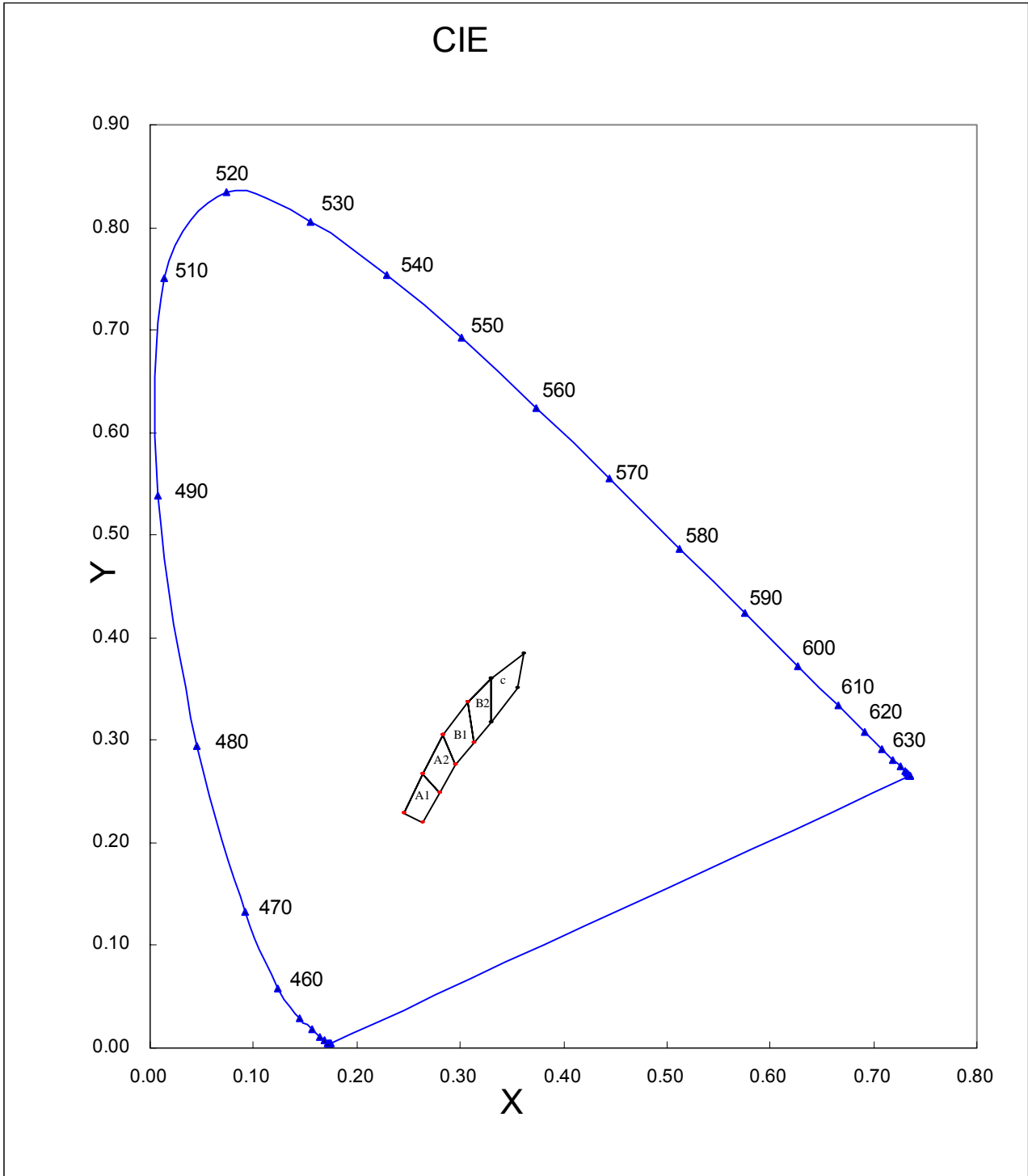
Rank		A1				A2				B1			
Chromaticity Coordinates	x	0.245	0.264	0.280	0.264	0.264	0.283	0.296	0.280	0.283	0.307	0.313	0.296
	y	0.229	0.267	0.248	0.220	0.267	0.305	0.276	0.248	0.305	0.337	0.297	0.276

Rank		B2				c			
Chromaticity Coordinates	x	0.307	0.330	0.330	0.313	0.330	0.361	0.356	0.330
	y	0.337	0.360	0.318	0.297	0.360	0.385	0.351	0.318

**Important Notes:**

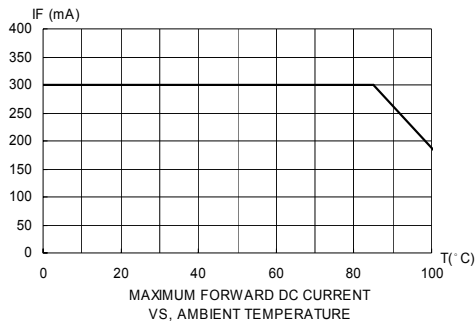
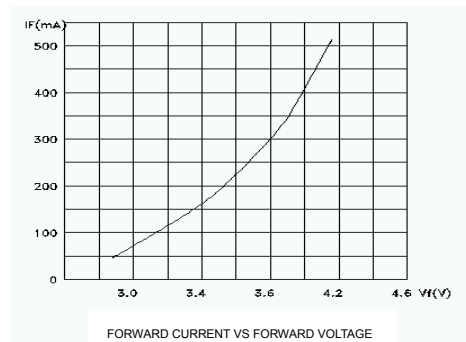
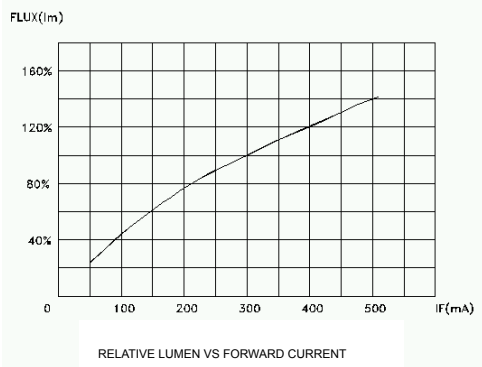
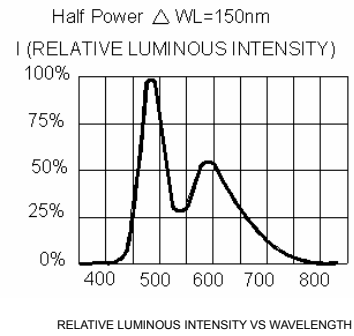
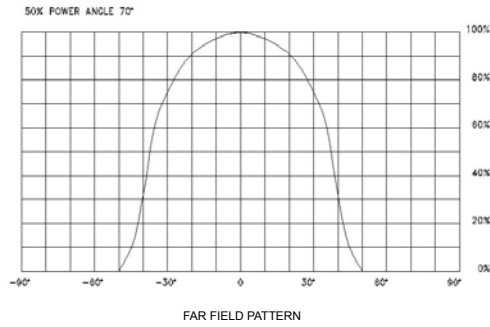
- 1) All ranks will be included per delivery, rank ratio will be determined by I-WITTY
- 2) Pb content <1000PPM.
- 3) The measurement tolerance of luminous flux is  $\pm 10\%$ .
- 4) The measurement tolerance of the Color Coordinates is  $\pm 0.05$ .
- 5) The measurement tolerance of  $V_f$  is  $\pm 0.1 \text{ V}$ .
- 6) Packaging methods are available for selection, Please refer to PACKAGING STANDARD.
- 7) Please refer to LED LAMP RELIABILITY TEST STANDARD for reliability test conditions.

CIE Chromaticity Diagram



Model No.	LD-700AWN1-70
Doc. No.	01 04OCT04

## Graphs



Items	Signatures	Date	Revision History	
Prepared by	Anthony Cheung	04OCT04	DOC. No.	CHANGE DESCRIPTION
Checked by	Anthony Cheung	04OCT04		
Approved by	Thomson	04OCT04		
ECN#	ECN-H20040272			

Data is subject to change without prior notice.

Obsoletes Doc: ---.

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[ASMT-MW06-NMNZ1](#)