

# Product Change Notice

Product : Samsung LH502C (SPHWH1L5N60☆YE☆☆A☆)  
LH508C (SPHWH1L5N60☆XE☆☆A☆)

Change : Location Zener Diode + Coated TiO<sub>2</sub>

Remark : Effective June, 2021

2021.Apr.21 Rev.01

# Summary

## Change location zener diode and masked with TiO<sub>2</sub>

- Purpose : Improvement output lumen
- Influence : None to outdoor lighting or horticulture lighting

Item		As-is	To-be
1. Material	0-1. Die	No Change	
	0-2. Package	No coated TiO <sub>2</sub>	Coted TiO <sub>2</sub> on Zener diode
2. Design	1-1. Die	No Change	
	1-2. Package	Changed location zener diode (※ See section 1)	
3. Electrical performance		Substantially same	
4. Thermal performance		Substantially same	
5. Radiation diagram		Substantially same	
6. Reliability		Passed	
7. 2 <sup>nd</sup> Optic		Substantially same	

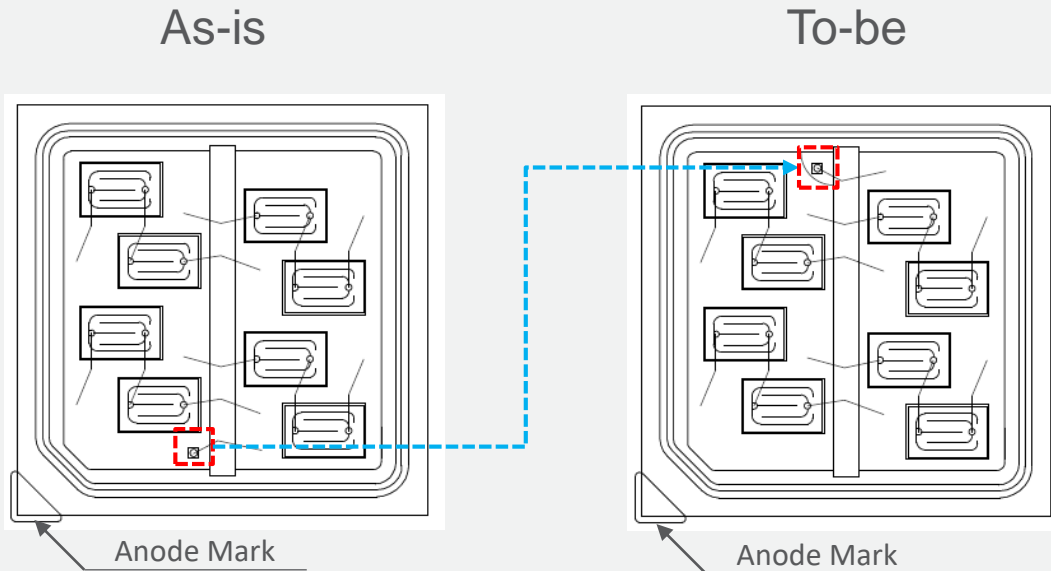
# Summary

- Schedule

Item	'21.Apr	'21.May	'21.Jun	'21.Jul	'21.Aug
PCN	PCN				
Sample		Submission			
Evaluation			Evaluation @customer		
Mass production				1 <sup>st</sup> Supply	



# 1. Location Zener Diode

- The zener diode is moved more spacious area.



## 2. Exterior and Performance

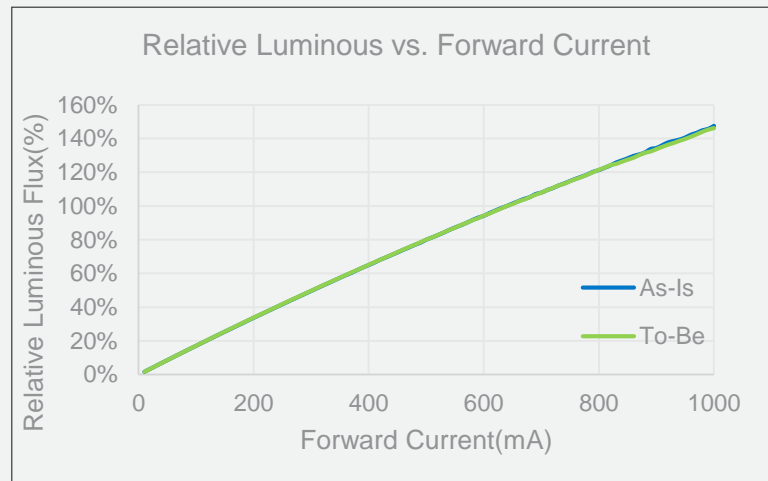
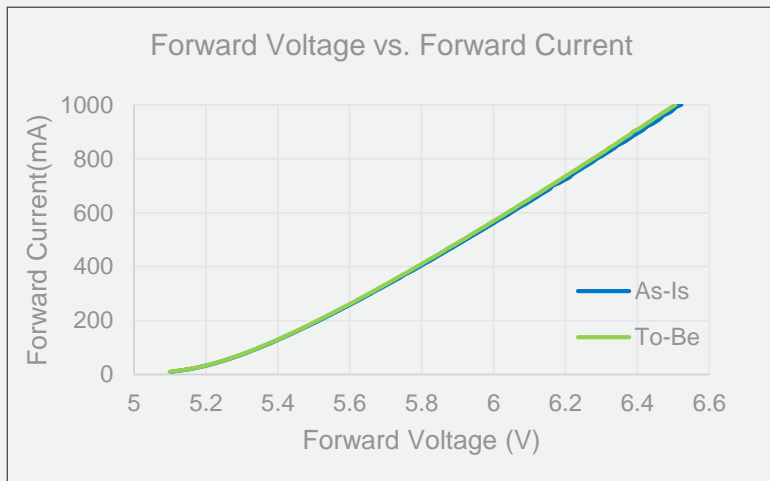
- The zener diode is masked with  $\text{TiO}_2$  and invisible with the eye.

	As-Is	To-Be
Exterior	Visible Zener Diode 	Invisible Zener Diode 
Output Lumen (lm)	699	708
Vf (V)	5.96	5.97
Efficiency (lm/W)	183	185
CRI	71.4	71.6
R9	-28.9	-31.1

※ CRI70 4000K @Sorting Condition

### 3. Comparison electrical sweep

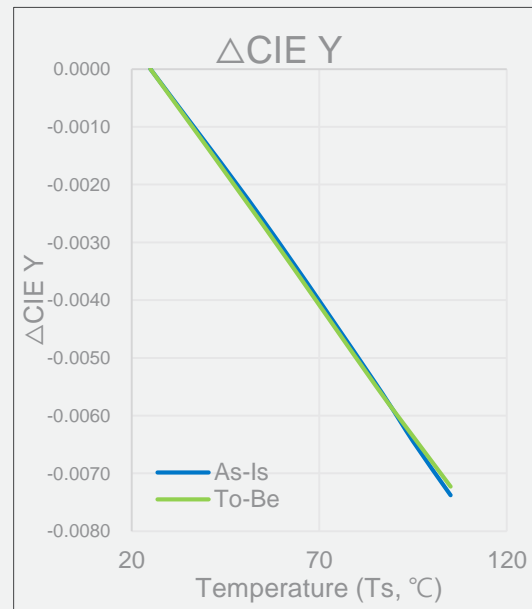
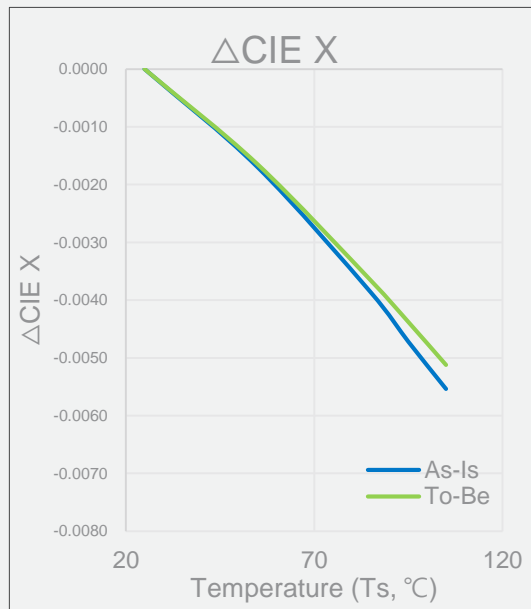
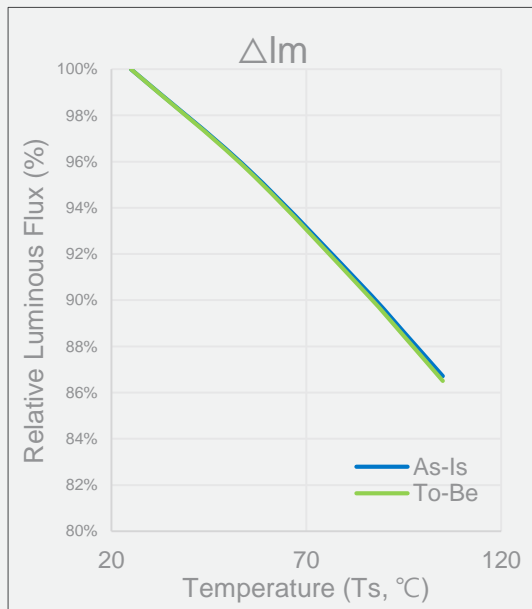
- No difference



※ CRI70 4000K @Sorting Condition

## 4. Comparison thermal sweep

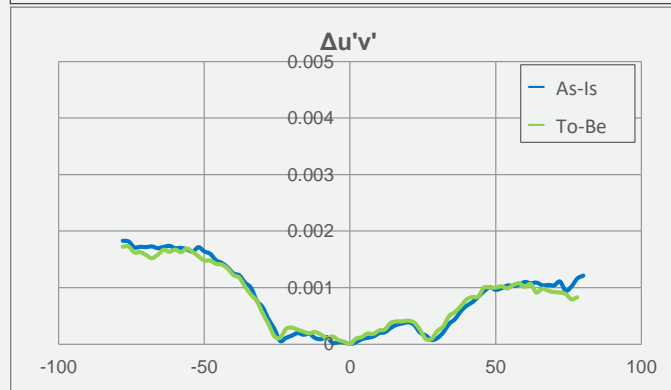
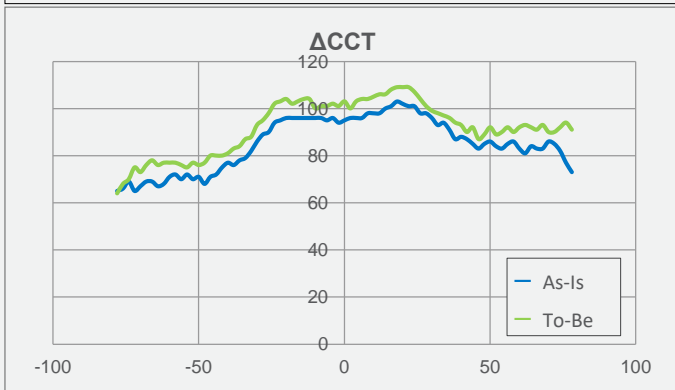
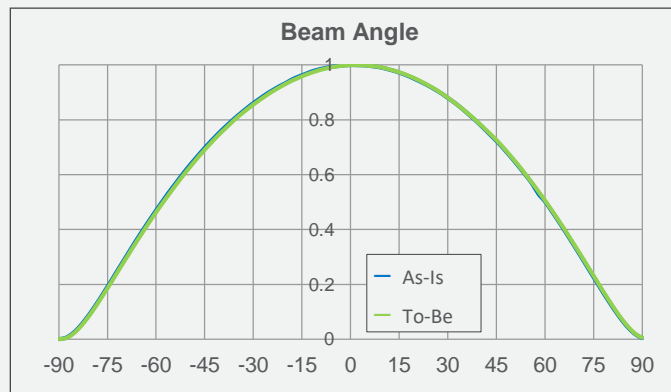
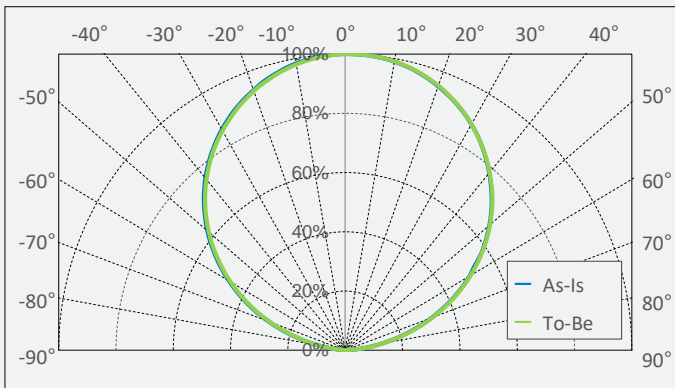
- Substantially same



※ CRI70 4000K @Sorting condition

# 5. Comparison COA

- Substantially same

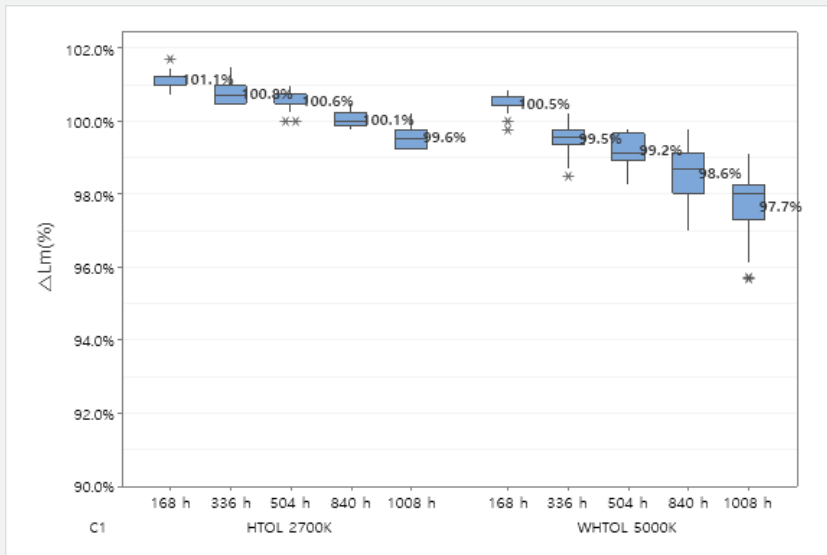




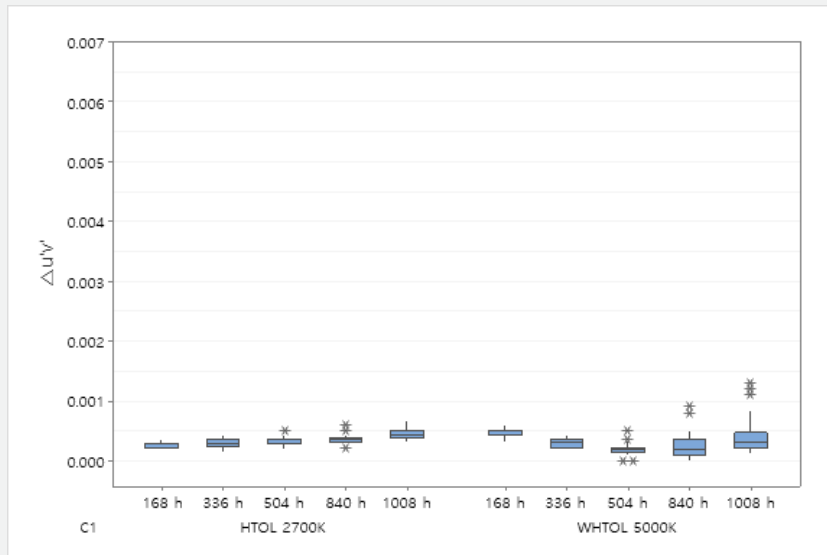
# 6. Reliability Test

## Pass

$\Delta I_m$



$\Delta u'v'$



Test	HTOL (85°C) (1008hr)			WHTOL (85°C/85%RH) (1008hr)			T/C (-45~125°C, Each 15min)
	$\Delta VF$	$\Delta I_m$	$\Delta u'v'$	$\Delta VF$	$\Delta I_m$	$\Delta u'v'$	
Result	100.0%	99.6%	0.0004	100.0%	97.7%	0.0015	700cyc Pass

# 7. 2nd Optic

- Peak intensity per klm, Transmittance of lens and Beam type are preserved.

*Lens P/N	C12361_HB-2x2		C13499_STRADA-2x2		C13301_STRADA-2x2		C15014_STRADA-2x2	
Description	50° FWHM		100~120° FWHM		IESNA Type III		IESNA Type IV	
Contents	As-Is	To-Be	As-Is	To-Be	As-Is	To-Be	As-Is	To-Be
Lumen flux <small>@640mA,12ea</small>	7014 lm	7171 lm	7283 lm	7439 lm	7157 lm	7307 lm	7088 lm	7238 lm
Peak intensity	1008 cd/klm	1013 cd/klm	333 cd/klm	332 cd/klm	552 cd/klm	548 cd/klm	590 cd/klm	588 cd/klm
Transmittance	95.0 %	95.3 %	98.6 %	98.9 %	96.9 %	97.1 %	96.0 %	96.2 %
Beam type	V Very Short	V Very Short	VS Very Short	VS Very Short	III Short	III Short	IV Short	IV Short
Beam distribution								

※ CRI70 4000K @Sorting condition

\* Several part of LEDil lens had been used for analysis on compatibility (<https://www.ledil.com/>)

**Thank you**