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1. APPLICATION

- This specification defines the general specification and performance of the LED Lighting Product manufactured by Samsung LED Co. Ltd.

2. FUNDAMENTAL SPECIFICATIONS

No.	ARTICLE	SPECIFICATIONS					
2-1	Appearance and structure						
	ARTICLE	SYMBOL	MIN	TYP	MAX	UNIT	REMARK
	Size	-	1497.6±2mm, Φ26±0.5mm (1512.3±2mm)			mm	
	Number of LED	-	132			EA	5252-1CHIP,LCP
2-2	Photometric Specification						
	ARTICLE	SYMBOL	MIN	TYP	MAX	UNIT	REMARK
	Intensity of Illumination	IL	450	500	550	lx	Standard Test Conditions
	Color Temperature	CT	4745	5028	5311	K	
	Luminous Flux	LF	1850	2050	2150	lm	Integrating Sphere
Color Rendering Index	CRI	57	60	63	Ra		
2-3	Electric Specification						
	ARTICLE	SYMBOL	MIN	TYP	MAX	UNIT	REMARK
	Power	-	23	24	25	W	(After 1 hour)
	Rated Voltage	-	AC 100~240V			V	
	Allowable Voltage	-	AC 90~264V			V	
	Composing of circuit	-	1.1A, 6 series 22 parallel			-	@50mA/PKG
	Input frequency	-	50 / 60			Hz	
Power Factor	PF	0.9	-	-	-		

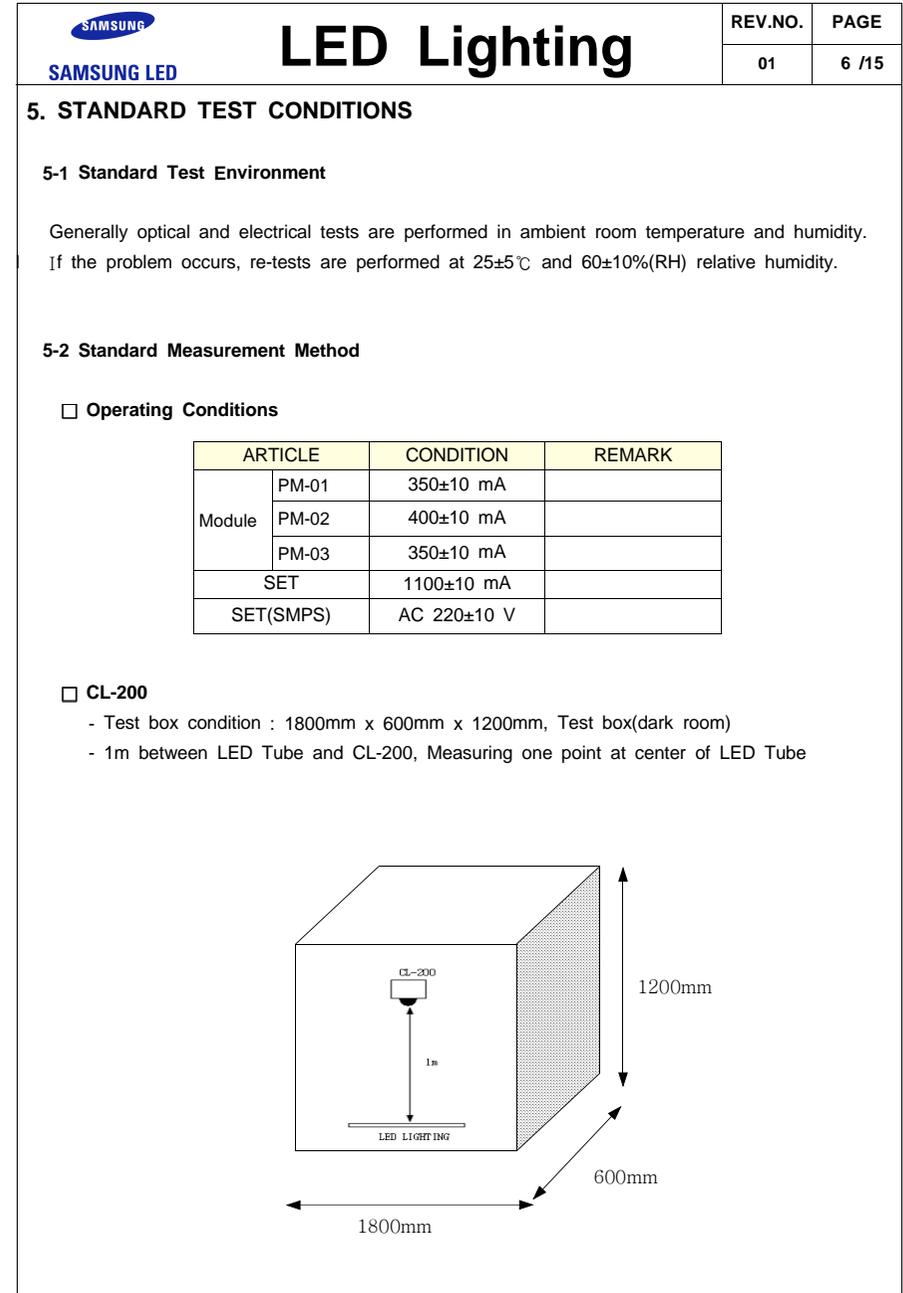
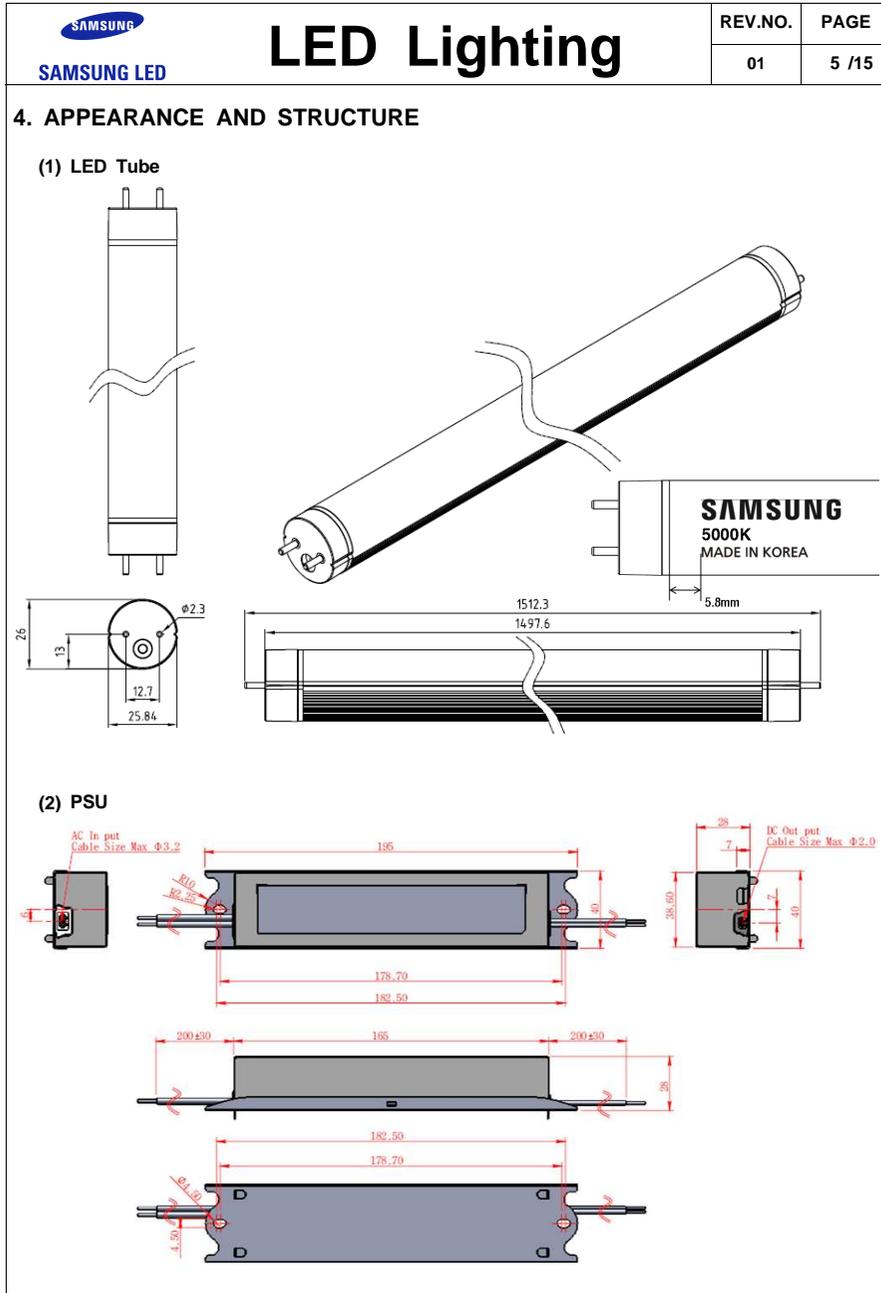
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No.	ARTICLE	SPECIFICATION					
2-4	Weight						
	ARTICLE	SYMBOL	MIN	TYP	MAX	UNIT	REMARK
	LED TUBE	-	420	430	440	g	
	SMPS	-	200	220	240	g	
2-5	Operating temperature & Life time						
	ARTICLE	SYMBOL	MIN	TYP	MAX	UNIT	REMARK
	Operating temperature	-	-20	-	50	℃	
	Life time	-	40000			hr	L70

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3. PART LIST

No.	ARTICLE	SPECIFICATION	Q'ty
3-1	LED	- Model : SPMWHT5215N26FR0S0 - Dimensions : 5.2 x 5.2 x 1.3(t) mm	132
3-2	PCB	PM-01 - FR4 - Dimensions : 471 x 22 x 1(t) mm	1
		PM-02 - FR4 - Dimensions : 533 x 22 x 1(t) mm	1
		PM-03 - FR4 - Dimensions : 471 x 22 x 1(t) mm	1
3-3	COVER	- PC - Dimensions : R13 x 1469.6 x 0.85(t) mm	1
3-4	POWER	- SB-B221C - Dimensions : Free Voltage AC 100~240V, 1.1A (24W)	1
3-5	HEATSINK	- Al - Dimensions : R13 x 1469.6 mm x 0.8(t) mm	1
3-6	CAP	- PC - Dimensions : Φ26 X 12 mm, G13 BASE	2
3-7	PIN	- Brass - Dimensions : Φ2.35 X 7.15 mm	4
3-8	DECO RING	- PC - Dimensions : Φ26 X 5 mm	2
3-9	SCREW	- Dimensions : Φ3 x 20 mm SUS	2
3-10	DIODE	- Vr(rms) : 28V, Io : 3A, Tj : -65~+150	4
3-11	FUSE	SK18T - 250Vac / 125Vdc, 3A	2
		SK06T - 65Vac / 32Vdc, 3A	2



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6. RELIABILITY STANDARDS

- 1) The reliability specifications is specified by the difference from the initial value.
- 2) The test condition of reliability shall be made in the standard testing condition same as 은 performance tests.
- 3) Unless otherwise specified, reliability tests shall be made according to these standards.
- 4) If there is unspecified matters, the user and the supplier shall decide by mutual discussion.
(Unspecified matters in the followings must be no problem in the usage.)

6-1 Test Items and Conditions

No.	STRESS TEST	STRESS CONDITIONS	DURATION	SAMPLE SIZE
1	HTOL	60 ℃, Operation	120 hrs	3
2	WHTOL	50 ℃, 95 %RH, Operation	120 hrs	3
3	Box Vibration	10 ~ 300 Hz, 1.5 G, 5minSR, Y/1h	1cycle	3
4	Box Drop	Under 9.2 Kg : 76 cm, Above 9.2 Kg : 46 cm, Free Falling	3 times	3
5	Power On/Off	25℃, ON/OFF each 30sec	13500 cycle	3
6	Thermal shock	[-30℃,70℃,]each 30min, Temperature change within 5min	50 cycle	3
7	ESD (HBM)	Air ±8kV, Contact ±4kV	10 times	3
8	Hi-pot	AC 3.0kV, Ramp Time:0.2sec, Dwell Time:60sec, 5times, 60Hz	5 times	3
9	EMI	Conducted Test, Radiated Test	1 time	1
10	Surge	Ring Wave : 2kV, Bi Wave : 1kV	6 times	3
11	Insulation resistance	10M Ω MIN at DC 500V, 60sec, 1times	6 times	3

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6-2 Criteria for Judging the Damage

NO	ARTICLE	CONDITIONS	CRITERIA	
			MIN	MAX
1	Intensity of Illumination(lx)	Standard test conditions	Initial characteristic x 0.75 (lx)	Initial characteristic x 1.25 (lx)
2	Color Temperature(K)	Standard test conditions	Initial characteristic - 500K	Initial characteristic + 500K

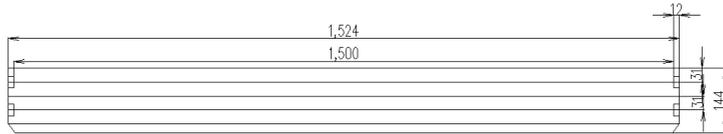
* During the test, there must be no dew in surface of the product.

If measurement are performed with diffuser, diffuser must be cleaned.

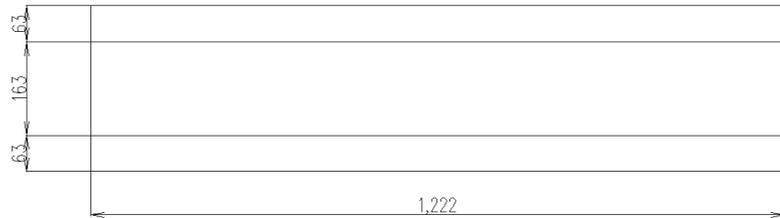
7. PACKING SPECIFICATION

MODEL	INNER BOX		OUT BOX	
	SIZE	Qty.	SIZE	Q'ty.
STILLW650240115CIR	1524x31x31(mm)	1 EA	1527x170x179(mm)	1/15 EA

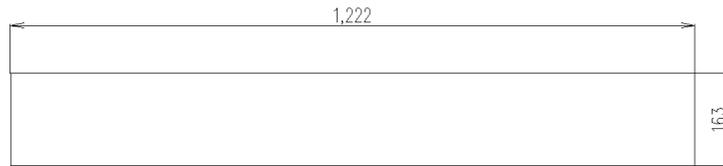
7-1 INNER BOX



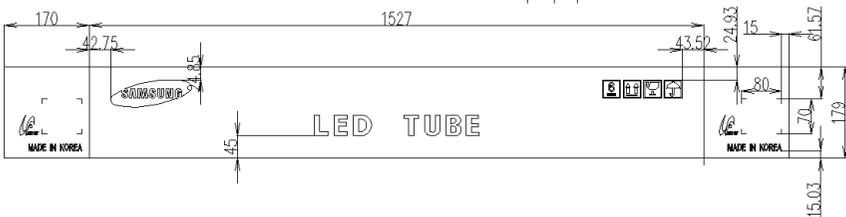
7-2 GUIDE PAD



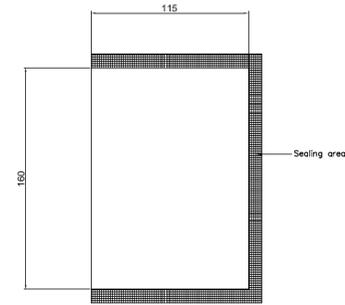
7-3 NIL PAD



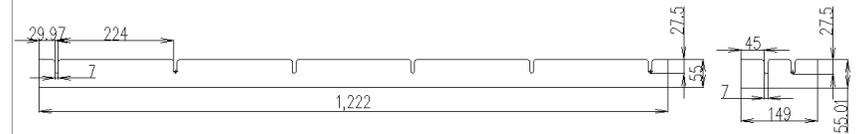
7-4 OUT BOX



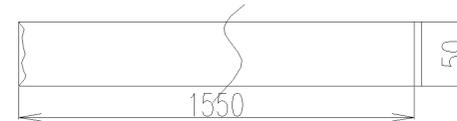
7-5 SILICA-GEL 50g(2EA/OUT BOX)



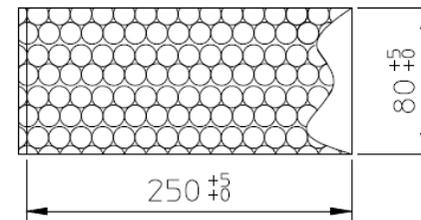
7-6 CROSS PAD



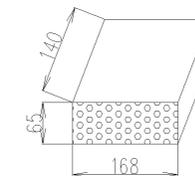
7-7 VINYL BAG(TUBE)



7-8 VINYL BAG(POWER)

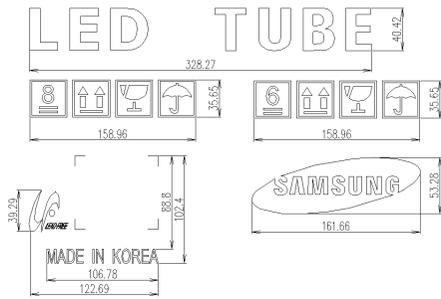


7-9 SIDE PAD

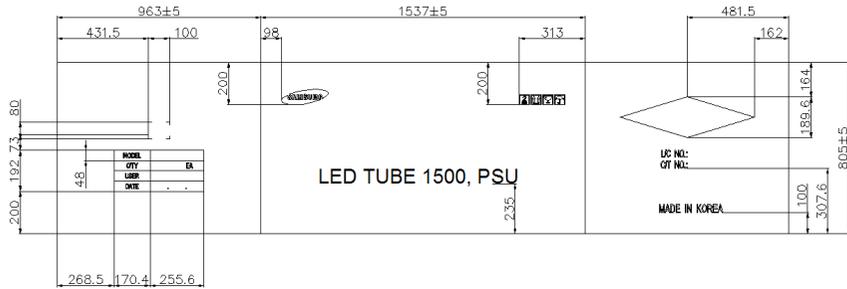


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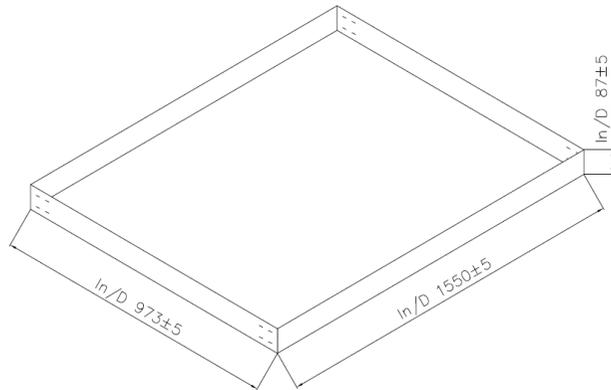
7-10 OUT BOX PRINTING



7-11 SLEEVE (1EA/PALLET)

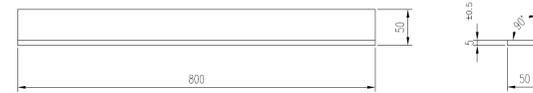


7-12 SLEEVE COVER (2EA/PALLET)

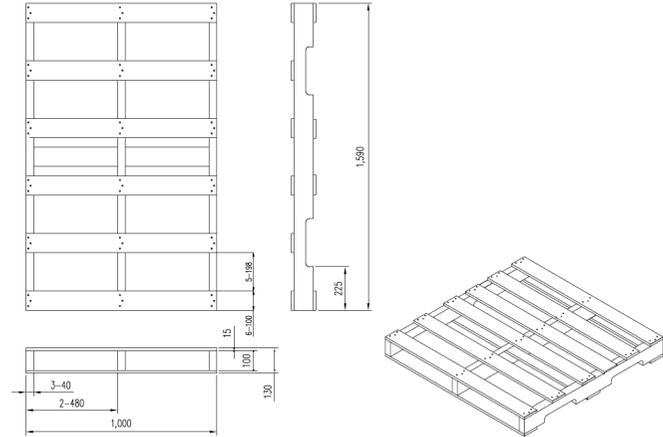


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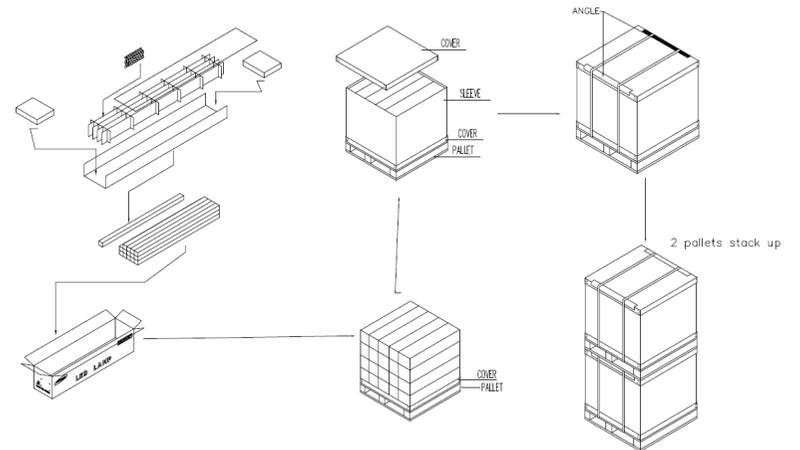
7-13 PAPER ANGLE (2EA/PALLET)



7-14 PALLET



7-15 CASE PACKING

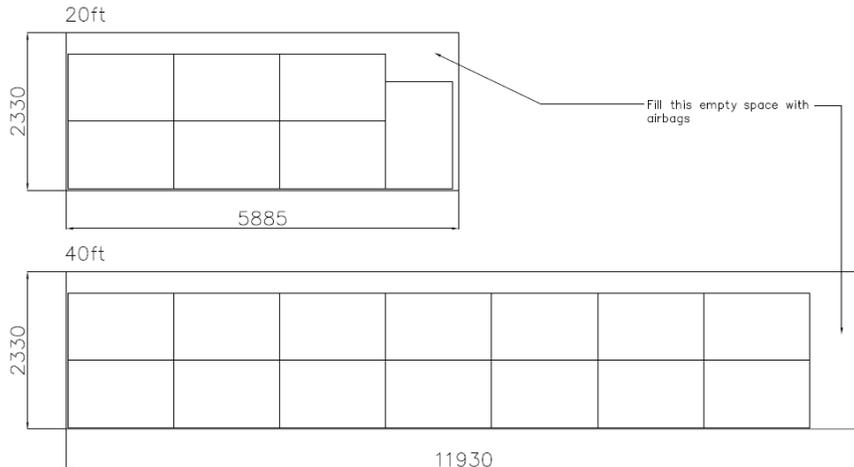


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7-16 PALLET PATTERN



7-17 CONTAINER LOAD PATTERN



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8. PRECAUTIONS IN HANDLING

- 1) LED Lighting for white light are devices which are materialized by combining white LEDs. The color of white light can differ a little unusually to diffuser plate(sign-board panel).
- 2) Handling
 - a. Don't drop the unit and don't give the unit any shocks.
 - c. Don't storage the Module in a dusty place or room.
 - d. Don't take the unit to pieces.
- 3) Cleaning
 - This LED Module should not be used in any type of fluid such as oil, organic solvent, etc.
 - It is recommended that IPA(Isopropyl Alcohol) be used as a solvent for cleaning the LED Module.
 - When using other solvents, it should be confirmed beforehand whether the solvents will dissolve the package and the resin or not. Freon solvents should not be used to clean the LEDs because of worldwide regulations. Do not clean the LED Module by the ultrasonic.
 - Before cleaning, a pre-test should be done to confirm whether any damage to the LED Lighting will occur.
- 4) Static Electricity
 - Static electricity or surge voltage damages the LED Lighting.
- 5) Others
 - If over voltage which exceeds the absolute maximum rating is applied to LED Lighting, it will cause damage Circuits(that LED is included) and result in destruction.
 - Do not directly look into lighted LED with naked eyes for long time.

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APPENDIX 1. LED MODULE CIRCUIT DIAGRAM

