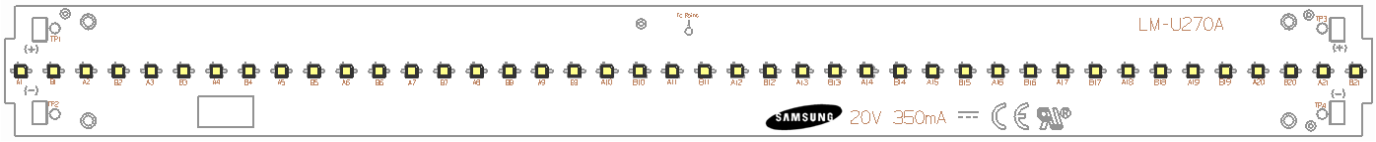
SPECIFICATION



Linear LED Module	
CUSTOMER	
Model Name	**LM-U270A**
Type	**270 × 25.4 × 1.2 [mm],** **350mA (20V)**
Parts No.	**STILMW830070127AAA (3000K)** **STILMW835070127AAA (3500K)** **STILMW840070127AAA (4000K)** **STILMW850070127AAA (5000K)**

SAMSUNG ELECTRONICS CO,.LTD.
SAN #24 NONGSEO-DONG, GIHEUNG-GU,
YONGIN-SI, GYEONGGI-DO, 446-711, KOREA

Contents

1. Products and Application

This specification defines general specification and performance for LM-U270A LED module. Samsung Linear Modules target to replace conventional fluorescent lamps as T5, T8 and so on with LED solutions. Due to transferring LED, new luminaire transferred to LED can take more energy saving and longer life-time.

In special, Samsung has competitiveness in middle-power solutions. All of Linear modules use 2323(MP23L) that had been passed LM80. Middle power solutions provide more homogeneous and higher efficient lights. Linear module has been designed to expand length simply and adopt easy connection way.

LM-U270A has paired module as LM-U039A for small room. When you design luminaire using LM-U270A, sometimes you can't cover your whole fixture. For that case, Samsung provides small LED module (LM-U039A).

This specification describes only LED module but Samsung doesn't provide own driver.

2. Basic Specification

No.	Item	Specifications	Unit	Remark
2-1	Dimension	269.88 × 25.4 × 1.2 mm (Tolerance: ± 0.4mm)	mm	FR4 PCB
2-2	Weight	12	g	
2-3	Ingress Protection	N/A	-	-

No.	Item	Specifications					Unit	Remark
		Sym.	Model	Min.	Typ.	Max.		
2-4	Luminous flux	Φ_v	3000K	-	880	-	lm	@350mA, Ta = 25℃
			3500K	-	890	-		
			4000K	-	900	-		
			5000K	-	910	-		
2-5	Intensity of Illumination	-	-	900	1150	1250	lx	@350mA, Ta = 25℃, H : 500mm
2-6	Efficiency	LPW	3000K	-	126	-	lm/W	@350mA, 20V
			3500K	-	127	-		
			4000K	-	129	-		
			5000K	-	130	-		
2-7	Color Rendering Index	CRI	-	80	-	-	Ra	-
2-8	Operating Current	Iop	-	240	350	600	mA	-
2-9	Operating Voltage	Vdc	-	19.25	20	22.75	V	@350mA, Ta = 25℃

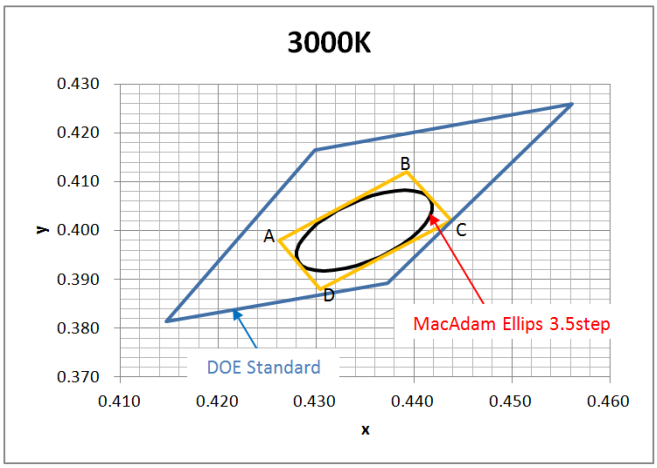
※ Ta means the ambient temperature.
Tolerance of luminous flux becomes ± 10% in typical value and the measurement tolerance of the color coordinates are ± 0.01.

2-10	Color Coordination and Color Temperature specification

※ Accuracy of CL-200 -

ARTICLE	ILLUMINANCE(lx)	COLOR COORDINATES
Accuracy	± 2.0%	x, y : ± 0.005
Repeatability	± 0.5%	x, y : ± 0.001

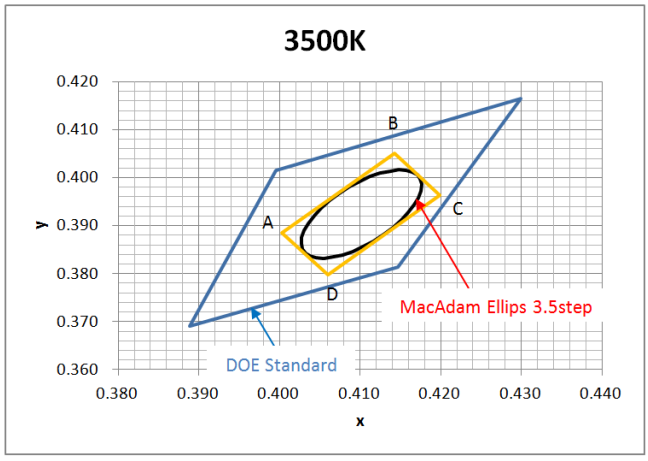
(1) 3000K (STILMW830070127AAA)



ARTICLE	SYMBOL	x	y	CCT (K)
Chromaticity Diagram	Center	0.4349	0.4000	3001
	A	0.4393	0.4120	3024
	B	0.4262	0.3980	3139
	C	0.4304	0.3880	2978
	D	0.4438	0.4020	2871

※ Color Temperature : 3067K +111/-43K

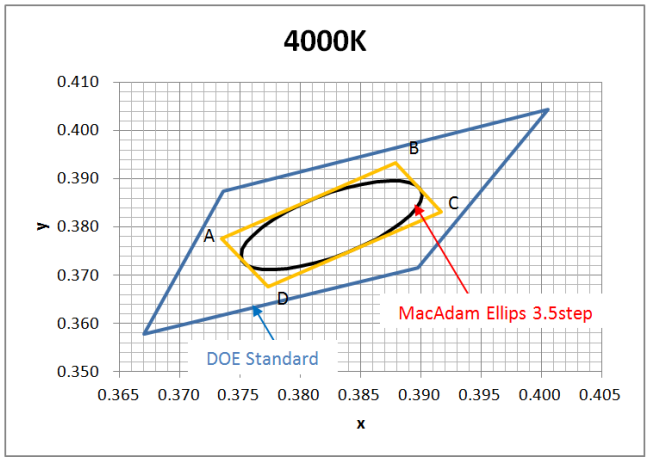
(2) 3500K (STILMW835070127AAA)



ARTICLE	SYMBOL	x	y	CCT (K)
Chromaticity Diagram	Center	0.4101	0.3924	3410
	A	0.4003	0.3885	3594
	B	0.4143	0.4051	3426
	C	0.4199	0.3963	3244
	D	0.4060	0.3798	3392

※ Color Temperature : 3482K +176/-154K

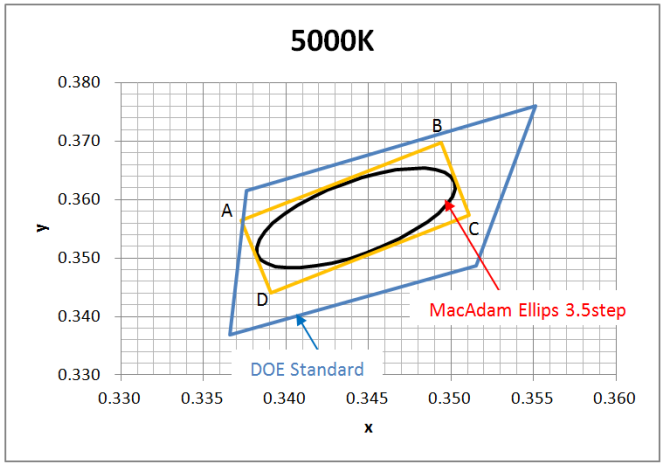
(3) 4000K (STILMW840070127AAA)



ARTICLE	SYMBOL	x	y	CCT (K)
Chromaticity Diagram	Center	0.3826	0.3805	3969
	A	0.3735	0.3777	4200
	B	0.3879	0.3933	3926
	C	0.3917	0.3832	3756
	D	0.3773	0.3676	4019

※ Color Temperature : 4008K +195/-196K

(4) 5000K (STILMW850070127AAA)



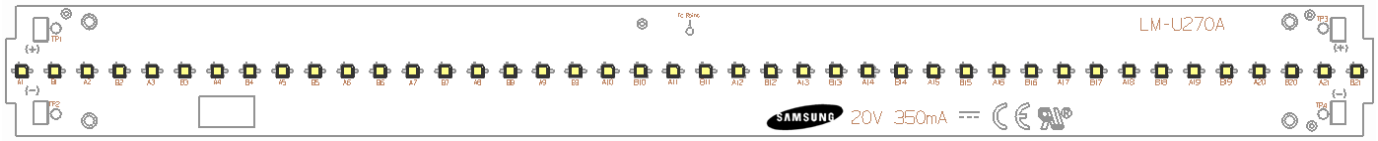
ARTICLE	SYMBOL	x	y	CCT (K)
Chromaticity Diagram	Center	0.3442	0.3569	5051
	A	0.3373	0.3564	5312
	B	0.3494	0.3697	4908
	C	0.3511	0.3573	4799
	D	0.3391	0.3440	5217

※ Color Temperature : 5061K +255/-258K

ARTICLE	Symbol	MIN	TYP	MAX	Unit	Remark
Color Consistency	DOE	according to the specitication			step	@Ta=25℃, initial
				6	step	@Ta=25℃, after 10,000hrs

3. Structure and Assembly

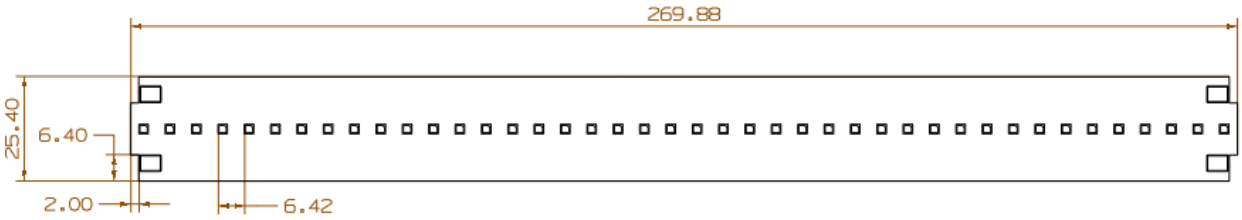
3-1. Appearance



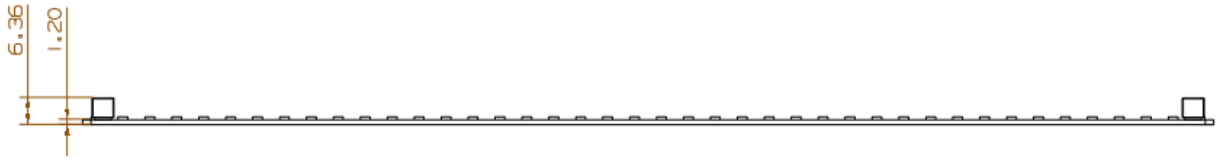
<Top view>

<Side view>

3-2. Dimension



<Top view>

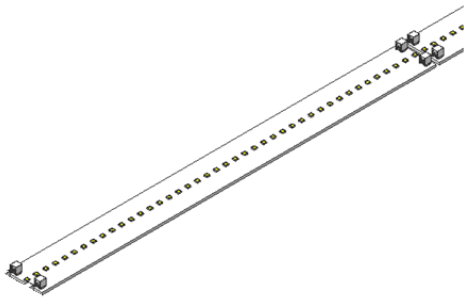


<Side view>

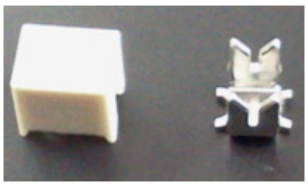
Item		Specifications
L	Length of PCB	269.88 ± 0.4 mm
W	Width of PCB	25.4 ± 0.4 mm
H1	Height of PCB	1.20 ± 0.1 mm
H2	Height with connector	6.36 ± 0.2 mm

3-3. Assembly

LM-U270A adapts cap-connection method to connect between LED modules like as below.

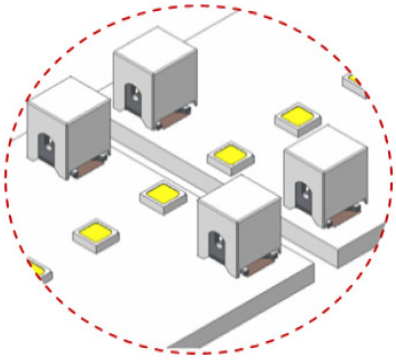


<LED module connection>



<Cap Connection>

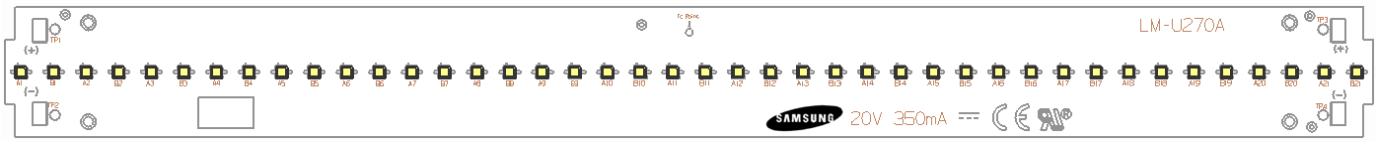
Put the wire(AWG 24) in hole of IDC connector and then press the cap.



<Completion to connect>

※ for more detailed to connect LED modules, please notice application guide that will be released.

3-4. Structure

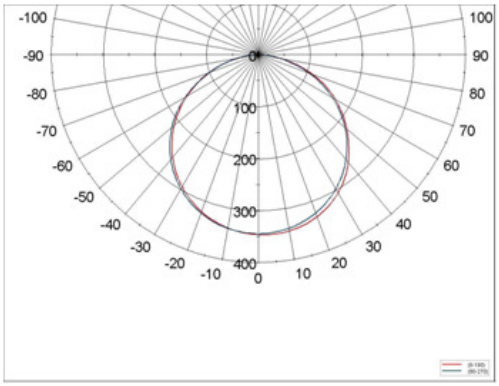


No.		Item	Specifications
Module Assembly	1	LED	2323(MP23L) Middle Power PKG 42Ea
	2	PCB	FR4 PCB
	3	Connector	· Model : 709176001532006(AWG 24) · Maker : Kyocera/AVX
	※	Cap	· Model : 609176001516100 (Recommended) 609176001521100 (Available) · Maker : Kyocera/AVX

※ LM-U270A doesn't include cap to connect several modules.

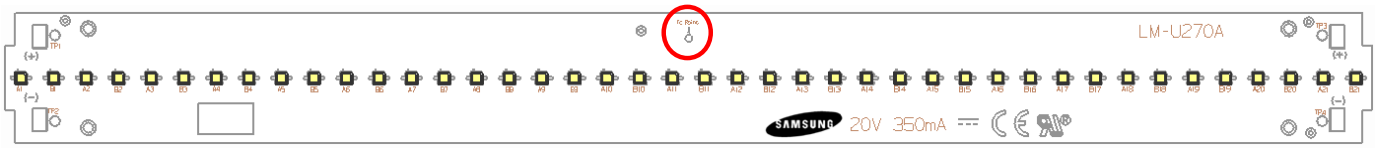
3-5. Light Distribution

(1) Polar Intensity Diagram : Beam Angle 120 ± 5% [°]



3-6. Thermal Management

(1) Tc Point : See the below red mark.



(2) Tc_life

. LED Module : 65℃ @ 350mA per LED module

※ Tc_life means case temperature for 50,000 hours of lifetime.

4. Safety

4-1. Standard

Item	Compliant to	Result / Remark
General	Eye safety : IEC62471	2323 LED
Hazardous Substance & Materials	ROHS	-
Certification	UL : E344519, Vol 1 CE	
	Acquisition of RU	PCB

5. Standard Testing Conditions (RELIABILITY)

5-1 Standard testing environment

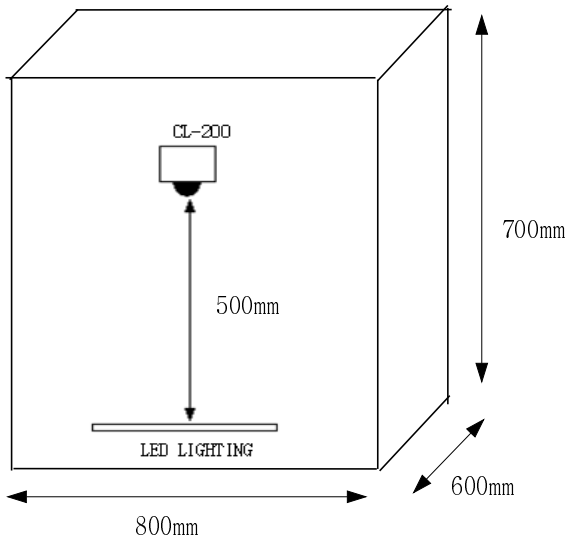
Generally optical and electrical tests are performed in normal room temperature and humidity. If the problem occurs, re-tests are performed in temperature 25±5℃ and 50±20% relative humidity.

5-2 Standard testing method

☐ Operating Conditions: Standard Operating DC 350mA(Constant Current)

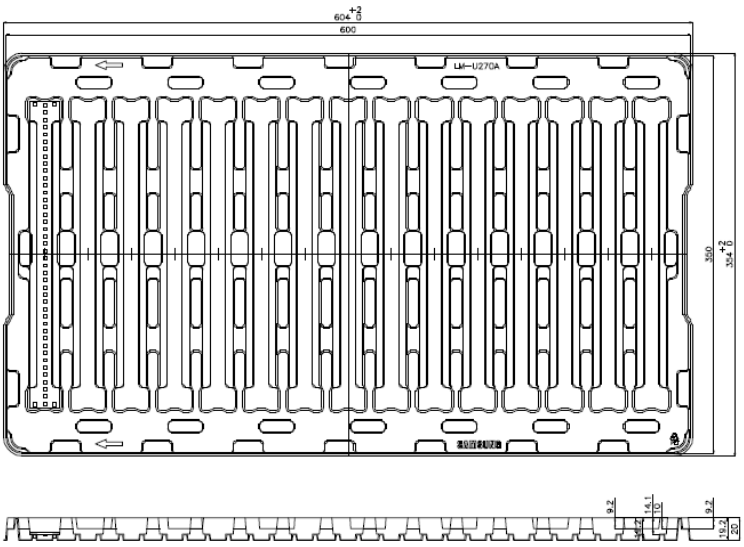
☐ Tester : CL 200(Konica Minolta)

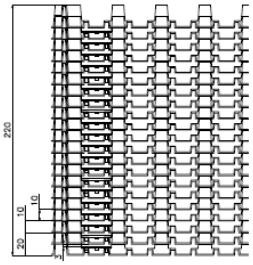
☐ Location of measuring sensor : Measuring one point at center of LED module in vertically 0.5m height (dark room)



6. Packing

6-1 Tray





NOTES

1. THERE IS INNER DIMENSION.
2. UNSTATED CORNER IS R1
3. PULLING-OUT TAPER IS 3°
4. MATERIAL IS PET(Antistatic) 10^{5} ~ 10^{11} Ω/sq
5. THERE SHOULD BE NO BURR, COLOR ETC.
6. QUANTITY AND WEIGHT
   PET TRAY: 225g (MORE THAN -5%), (S.G: 1.34)
   15EA/TRAY, 20(21)TRAY/INNER, 20g/EA, 7.8kg/OUT BOX
7. OTHER MATTERS ARE CONFERRED WITH ENGINEER.
8. MOLD & DIE MATERIAL IS ALUMINUM (AL601 OR AL6062)★
9. MOLD & DIE WORKING METHOD IS CNC NC.
10. Use antistatic coated or compounded PET sheet.
    (Do not use antistatic deeping or spraying sheet.)
    (Use NANO company or KP TECH company's PET sheet.)

6-2 Box

: One box has 300 pcs of LM-U270A in the dimension of 613(L) x 363(W) x 235(H)

6-3 Pallet

: One pallet includes 16 boxes and totally has 4,800 pcs of LM-U270A.

7. 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
- Don't drop the unit and don't give the unit any shocks.
- Don't storage the Module in a dusty place or room.
- 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.
- Please use this product within 5 months, which is kept in its original packaging unopened when stocked.

Samsung-LED may make changes to specifications and product descriptions at any time, without notice.

This is the last page.

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