ADVANCE
by signify

LED Modules

Fortimo LED Strip Statement LV5

47.5in 8000lm



Fortimo LED strip performance LV5 modules comes with a multitude of performance and product advancements that include higher efficacy, higher lumen output, increased lumen maintenance, additional mechanical designs and additional CCT and CRI options when compared to the previous generation (LV4).

With these advancements,the Fortimo LED strip module is the ideal choice for high-performance high-quality luminaires for direct and indirect lighting in offices, banks, schools, public buildings, supermarkets and other applications to replace high energy efficiency T5 fluorescent lighting.

Commercial Product Name	12NC
FO Strip ST 47.5in 8000lm 927 LV5	929001789713
FO Strip ST 47.5in 8000lm 930 LV5	929001789113
FO Strip ST 47.5in 8000lm 935 LV5	929001789213
FO Strip ST 47.5in 8000lm 940 LV5	929001789313

Features

- High flux density of up to 4000 lm per foot
- Narrow width of only 20mm
- Can be split into two modules[4]
- High lumen maintenance (TM21) of L90 36,000 hours
- 3 SDCM color consistency
- Tight Vf binning enables longer daisy chaining

Benefits

- High energy efficacy and long lifetime[1] provide optimized total cost of ownership
- Slim width and 4ft length provide excellent design-in options and assembly
- High quality and warm color temperatures of light enables new application areas like hospitality
- 5-year limited system warranty with Advance Xitanium LED drivers[2]
- Specifications enable DLC Premiumcategory[3]

Applications

- Retail
- Hospitality
- Office

1. Average rated life is based one engineering data testing and probability analysis. The hours are at the B50, L70 point – 50,000 hours life with 70% lumen maintenance at Tc point.
2. View limited warranty at www.signify.com/warranties for details and restrictions.
3. Fortimo LED strip LV5 is not a DesignLights Consortium™ (DLC) qualified product. It is an OEM component that meets certain performance specifications that are geared toward meeting DLC Standard Tier (v4.0) in a fully assembled fixture. The customer is liable for proper design, manufacturing, testing and qualification according to DLC requirements.
4. Only two LED Modules can be produced from one full-length variable length module as wire trap connectors are only located on the last module section on each end of the full-length module. The method for separation of the variable length LED modules can be found in the Advance Fortimo LED Linear Module Design-In guide located here: https://www.na.mytechnology.por

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Drive Currents

Paramter at I_{life}	Nominal*	Life**	Max***	Unit
FO Strip ST 47.5in 8000lm 9xx LV5	**1120**	2100	2100	mA

Module Temperatures

Paramter at I_{life}	Nominal*	Life**	Max***	Unit
T_c (case temperature at T_c point)	**45**	85	95	°C

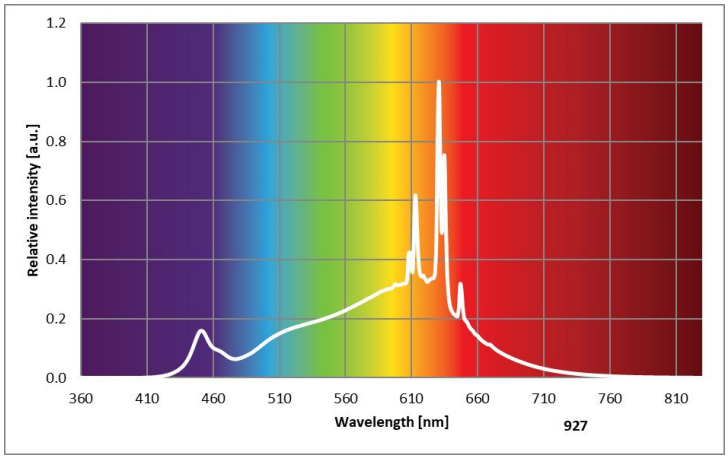
* Nominal value at which typical performance is specified.
** Value at which life time is specified.
*** Maximum value for safe operation, do not operate above this value.

Optical Characteristics – Table per CCT

FO Strip ST 47.5in 8000lm 927 LV5

Parameter	Min. (@ Inom)	Typ. (@ Inom)	Max. (@ Inom)	Unit
Luminous Flux	6580	7120	7660	Lm
Module Efficiency	145	161	177	Lm/W
Correlated Color Temperature (CCT) Target		2700		K
Color coordinates (CIEx, CIEy)		(0.457, 0.406)		-
Color consistency			3	SDCM
CRI	90			-

Operation point	Tc	lm	lm/W
900 mA	25 °C	5800	169
	45 °C	5660	166
	85 °C	5300	157
1120 mA	25 °C	7270	164
	45 °C	7120	161
	85 °C	6640	153
2100 mA	25 °C	12985	148
	45 °C	12600	144
	85 °C	11780	136



R9>0, Measurement precision ± 5% for the flux data, ± 1.5% for the Vf data, ± 1.5% for the power data, and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5.

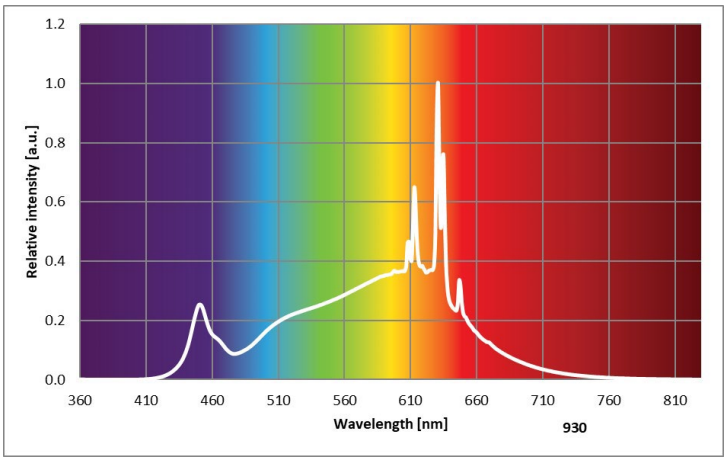
Fortimo LED Strip Statement LV5 47.5in 8000lm

Optical Characteristics – Table per CCT

FO Strip ST 47.5in 8000lm 930 LV5

Parameter	Min. (@ Inom)	Typ. (@ Inom)	Max. (@ Inom)	Unit
Luminous Flux	6760	7300	7840	Lm
Module Efficiency	148	164	180	Lm/W
Correlated Color Temperature (CCT) Target		3000		K
Color coordinates (CIEx, CIEy)		(0.433, 0.399)		-
Color consistency			3	SDCM
CRI	90			-

Operation point	Tc	lm	lm/W
900 mA	25 °C	5930	172
	45 °C	5790	169
	85 °C	5410	160
1120 mA	25 °C	7430	167
	45 °C	7300	164
	85 °C	6780	155
2100 mA	25 °C	13310	150
	45 °C	12810	146
	85 °C	11980	138



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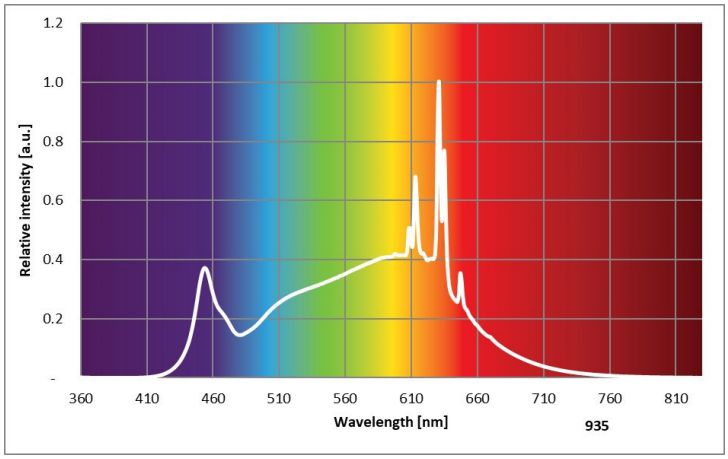
Fortimo LED Strip Statement LV5 47.5in 8000lm

Optical Characteristics – Table per CCT

FO Strip ST 47.5in 8000lm 935 LV5

Parameter	Min. (@ Inom)	Typ. (@ Inom)	Max. (@ Inom)	Unit
Luminous Flux	6960	7520	8080	Lm
Module Efficiency	152	169	186	Lm/W
Correlated Color Temperature (CCT) Target		3500		K
Color coordinates (CIEx, CIEy)		(0.407, 0.388)		-
Color consistency			3	SDCM
CRI	90			-

Operation point	Tc	lm	lm/W
900 mA	25 °C	6150	177
	45 °C	6000	174
	85 °C	5610	165
1120 mA	25 °C	7700	172
	45 °C	7520	169
	85 °C	7030	160
2100 mA	25 °C	13840	157
	45 °C	13310	152
	85 °C	12420	144



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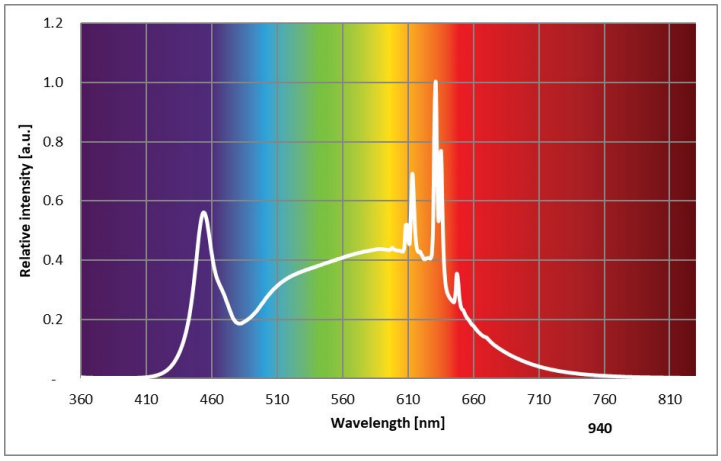
Fortimo LED Strip Statement LV5 47.5in 8000lm

Optical Characteristics – Table per CCT

FO Strip ST 47.5in 8000lm 940 LV5

Parameter	Min. (@ Inom)	Typ. (@ Inom)	Max. (@ Inom)	Unit
Luminous Flux	7100	7680	8260	Lm
Module Efficiency	156	173	190	Lm/W
Correlated Color Temperature (CCT) Target		4000		K
Color coordinates (CIEx, CIEy)		(0.381, 0.376)		-
Color consistency			3	SDCM
CRI	90			-

Operation point	Tc	lm	lm/W
900 mA	25 °C	6280	181
	45 °C	6130	178
	85 °C	5730	169
1120 mA	25 °C	7860	176
	45 °C	7680	173
	85 °C	7180	164
2100 mA	25 °C	14135	161
	45 °C	13730	157
	85 °C	12815	148



R9>0, Measurement precision ± 5% for the flux data, ± 1.5% for the Vf data, ± 1.5% for the power data, and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5.

Absolute Ratings

Parameter	Min.	Typ.	Max.	Unit
Current through the LED module (I-max)			2100	mA
Working voltage			44	V_{dc}
Isolation breakdown voltage	700			V_{dc}
Ambient Temperature	-20[4]			°C

4. There cannot be any ice/fog/mist on any part of the module surface during the application at -20°C.

System Chain Limits for Same Length Modules

Total length (in)	Total current limit (A)
96	0.88
114	0.6
192	0.44

Please review the design-in guide or contact the Design-in team for further information.

Application Information

Compliance and Approval

UL & cUL - UL8750

Environmental

RoHS / REACH

IP Rating	No IP rating
Overheating Protection	No protection
Luminaire Class	UL Class 2

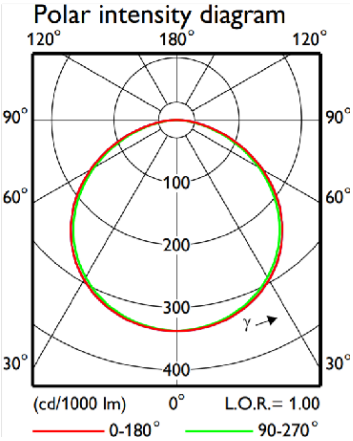
Estimated Number of Full Thermal Product Cycles @ 25°C Ambient Temperature

Case Temperature Tc [°C]	Amount of Cycles
45	>100K
55	>100K
65	88K
75	36K
85	16K

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Beam Shape

The Fortimo LED strip generates a Lambertian beam shape, which is a pragmatic starting point for OEMs wishing to design secondary optics.



Electrical Characteristics

Parameter	Min	Typ	Max	Unit
Forwardvoltage; If = 1120mA, Tc= 45°C	39.1	39.6	40.1	V
Thermal power; If = 1120mA, Tc = 45°C		21.5		W

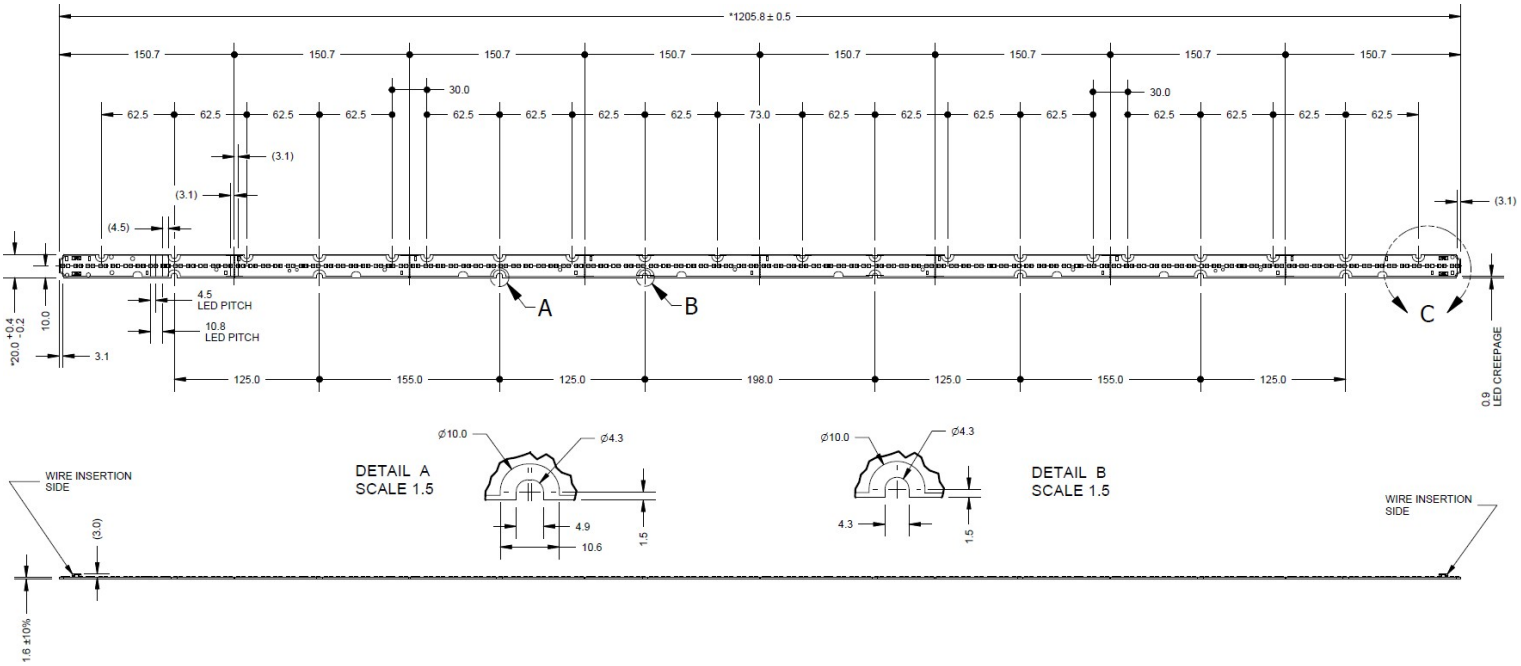
Wiring

Specification Item	Value	Unit	Condition
Input Wire Cross-Section	0.2…0.8	mm²	Solid
	18…24	AWG	
	0.45…0.7	mm²	Stranded
	20…22	AWG	
Input Wire Strip Length	4.5…5.5	mm	

Mechanical Characteristics

Specification Item	Min	Typ	Max	Unit
Length	1205.3	1205.8	1206.3	mm
Width	19.8	20.0	20.4	mm
Height Excl. Connector		2.3		mm
Height Incl. Connector		4.6		mm
Warpage			0.75	%

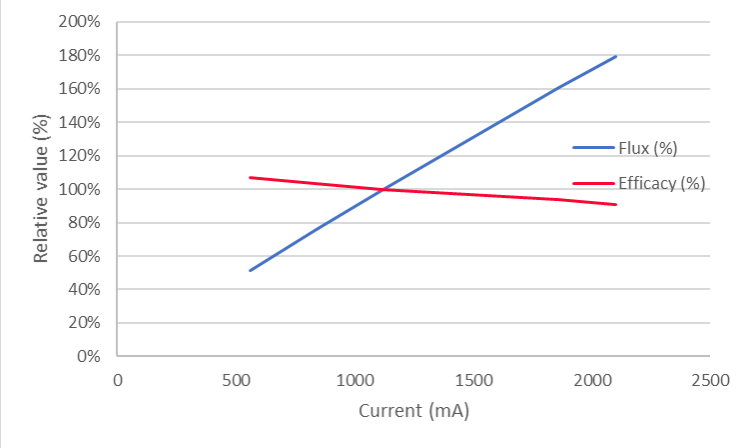
FO Strip ST 47.5in 8000lm xxx LV5



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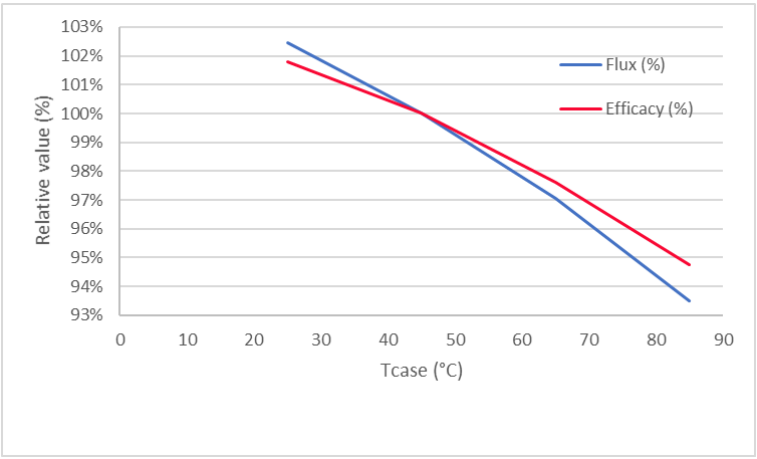
Tuning Information

Flux and Efficacy Vs. Current (at Nominal Temperature)



I [mA]	Flux [%]	Efficacy [%]
560	51%	106%
840	76%	103%
1120	100%	100%
1860	161%	93%
2100	179%	91%

Flux and Efficacy Vs. Tc



Tc [°C]	Flux [%]	Efficacy [%]
85	94%	95%
65	97%	98%
45	100%	100%
25	102%	102%

Lumen Maintenance Based on Theoretical TM21 Calculations

Operation point	Tc	L70	L80	L90
80% I-nom 900 mA	Tc 25 °C	>36k	>36k	>36k
	Tc-nom 45 °C	>36k	>36k	>36k
	Tc-life 85 °C	>36k	>36k	34k
I-nom 1120 mA	Tc 25 °C	>36k	>36k	>36k
	Tc-nom 45 °C	>36k	>36k	>36k
	Tc-life 85 °C	>36k	>36k	34k
I-life 2100 mA	Tc 25 °C	>36k	>36k	>36k
	Tc-nom 45 °C	>36k	>36k	>36k
	Tc-life 85 °C	>36k	>36k	34k

Application limited to indoor applications (office/hospitality/educational), indoor warehouse and light industry.

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Signify North America Corporation
200 Franklin Square Drive,
Somerset, NJ 08873
Telephone 855-486-2216

Signify Canada Ltd.
281 Hillmount Road,
Markham, ON, Canada L6C 2S3
Telephone 800-668-9008