

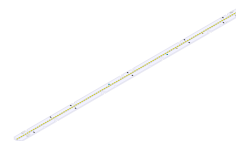
ADVANCE

by  Signify

LED Modules

FO Strip ST

23.7in 4000lm 8xx LV6



Fortimo Strip ST LV6

Advance Fortimo LED Strip ST LV6 modules are an ideal choice for high-performance architectural and indoor luminaires. Designed for high efficiency, offered in variable lengths, allowing for daisy chaining, and incorporating tight Vf binning to create a high-quality base for your luminaire designs.

Key features and benefits

Features

- High flux density of up to 4000 lm per foot
- Narrow width of only 20mm
- High energy efficacy of up to 194lm/W at nominal conditions
- 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 provide optimized total cost of ownership
- Slim width and Zhaga compliant form factor 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
- Specifications enable DLC Premium category

Applications

- Retail
- Hospitality
- Office

Ordering data

Commercial product name	12NC	Box quantity
FO Strip ST 23.7in 4000lm 830 LV6	9290 027 61513	200
FO Strip ST 23.7in 4000lm 835 LV6	9290 027 61613	200
FO Strip ST 23.7in 4000lm 840 LV6	9290 027 61713	200
FO Strip ST 23.7in 4000lm 850 LV6	9290 027 61813	200

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
FO Strip ST 23.7in 4000lm 8xx LV6	560	1440	1600	mA

Module temperatures

Parameter	Nominal*	Life**	Max***	Unit
T _c (case temperature at T _c point)	45	85	90	°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

Suggested maximum current at elevated ambient

Setting	1	2	3	4	Unit
Luminaire maximum ambient	35	45	55	65	°C
Suggested maximum current*	920	760	590	430	mA

* Drive current that may be possible at the reference external ambient temperature. The maximum suggested current given is for a typical non-lensed luminaire design with good thermal transfer capability. Use of a lensed luminaire or luminaires with non-optimal thermal characteristics will require a further current reduction to meet the same maximum ambient temperature. The current suggestion is based on the module T_c-life and thermal testing must be used to verify T_c-life is never exceeded for your specific luminaire. It may be necessary to adjust the final current value in order to meet the T_c-life rating of the module.

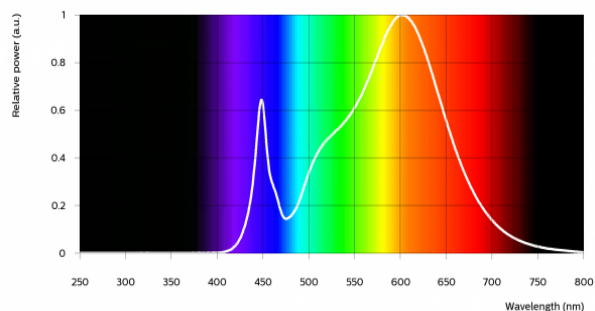
Optical characteristics – table per color (CCT)

FO Strip ST 23.7in 4000lm 830 LV6

Parameter	Min	Typ	Max	Unit
Luminous flux	3590	3880	4170	lm
Efficacy	164	183		lm/W
Correlated color temperature (CCT)		3000		K
Color consistency			3	SDCM
CRI	80			
R9	0			

Measurement precision $\pm 5\%$ for the flux data and $\pm 6\%$ for the efficacy data. Measurement precision for color coordinates ± 0.005 . Measurement precision for CRI ± 1.5 and R9 ± 3 .

Operation point	830	lm	lm/W
80% I-nom 448mA	Tc 25 °C	3220	190
	Tc-nom 45 °C	3140	186
	Tc-life 85 °C	2950	178
I-nom 560mA	Tc 25 °C	3980	186
	Tc-nom 45 °C	3880	183
	Tc-life 85 °C	3640	174
I-life 1440mA	Tc 25 °C	9530	165
	Tc-nom 45 °C	9280	162
	Tc-life 85 °C	8690	154

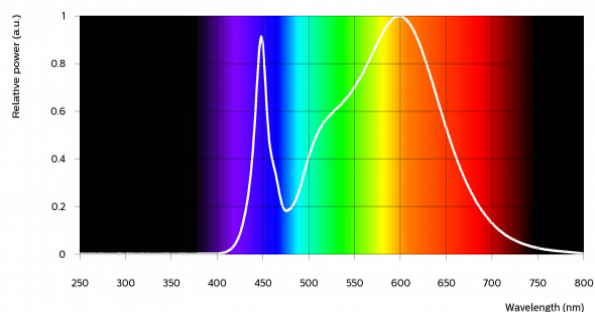


FO Strip ST 23.7in 4000lm 835 LV6

Parameter	Min	Typ	Max	Unit
Luminous flux	3690	3990	4290	lm
Efficacy	169	188		lm/W
Correlated color temperature (CCT)		3500		K
Color consistency			3	SDCM
CRI	80			
R9	0			

Measurement precision $\pm 5\%$ for the flux data and $\pm 6\%$ for the efficacy data. Measurement precision for color coordinates ± 0.005 . Measurement precision for CRI ± 1.5 and R9 ± 3 .

Operation point	835	lm	lm/W
80% I-nom 448mA	Tc 25 °C	3310	195
	Tc-nom 45 °C	3230	192
	Tc-life 85 °C	3030	182
I-nom 560mA	Tc 25 °C	4100	192
	Tc-nom 45 °C	3990	188
	Tc-life 85 °C	3740	179
I-life 1440mA	Tc 25 °C	9840	170
	Tc-nom 45 °C	9580	166
	Tc-life 85 °C	8960	158

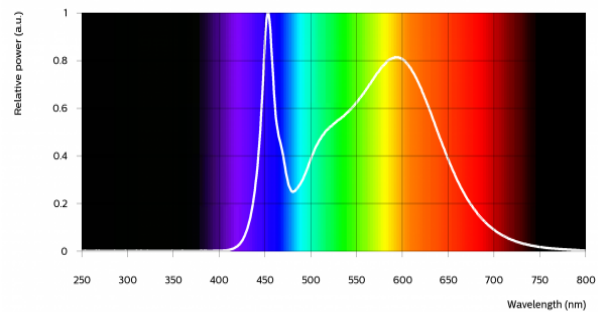


FO Strip ST 23.7in 4000lm 840 LV6

Parameter	Min	Typ	Max	Unit
Luminous flux	3790	4100	4410	lm
Efficacy	173	193		lm/W
Correlated color temperature (CCT)		4000		K
Color consistency			3	SDCM
CRI	80			
R9	0			

Measurement precision $\pm 5\%$ for the flux data and $\pm 6\%$ for the efficacy data. Measurement precision for color coordinates ± 0.005 . Measurement precision for CRI ± 1.5 and R9 ± 3 .

Operation point	840	lm	lm/W
80% I-nom 448mA	Tc 25 °C	3400	201
	Tc-nom 45 °C	3310	197
	Tc-life 85 °C	3110	187
I-nom 560mA	Tc 25 °C	4210	197
	Tc-nom 45 °C	4100	193
	Tc-life 85 °C	3850	184
I-life 1440mA	Tc 25 °C	10110	175
	Tc-nom 45 °C	9840	171
	Tc-life 85 °C	9210	162

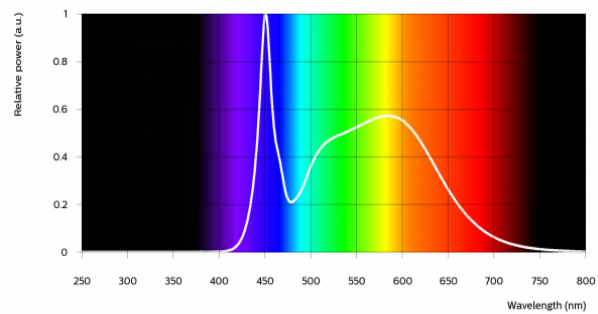


FO Strip ST 23.7in 4000lm 850 LV6

Parameter	Min	Typ	Max	Unit
Luminous flux	3800	4110	4420	lm
Efficacy	174	194		lm/W
Correlated color temperature (CCT)		5000		K
Color consistency			3	SDCM
CRI	80			
R9	0			

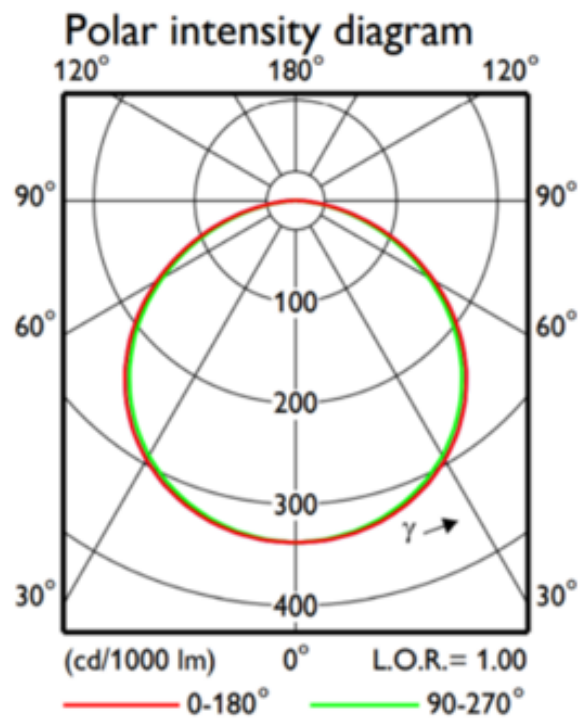
Measurement precision $\pm 5\%$ for the flux data and $\pm 6\%$ for the efficacy data. Measurement precision for color coordinates ± 0.005 . Measurement precision for CRI ± 1.5 and R9 ± 3 .

Operation point	850	lm	lm/W
80% I-nom 448mA	Tc 25 °C	3400	200
	Tc-nom 45 °C	3320	197
	Tc-life 85 °C	3110	188
I-nom 560mA	Tc 25 °C	4210	197
	Tc-nom 45 °C	4110	194
	Tc-life 85 °C	3850	184
I-life 1440mA	Tc 25 °C	10180	176
	Tc-nom 45 °C	9920	173
	Tc-life 85 °C	9270	164



Beam shape

The LED module has a Lambertian light distribution.



Electrical characteristics

Parameter	Min	Typ	Max	Unit
Forward voltage	37.3	37.9	38.3	V
Power consumption		21.2		W
Number of modules in series per chain			1	

*Measurement precision for Vf +/- 3%. Measurement precision for power +/- 3.3%.

System chain limits for Same Length modules

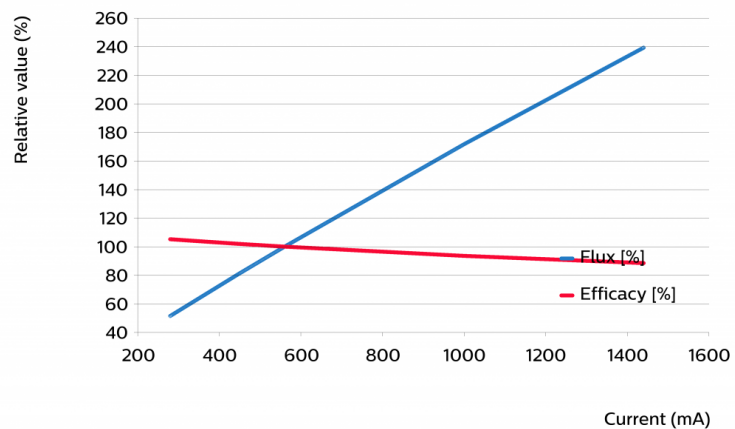
Total length (in)	Total current limit (mA)
44	2.88
66	2.37
88	1.76

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

Tuning information

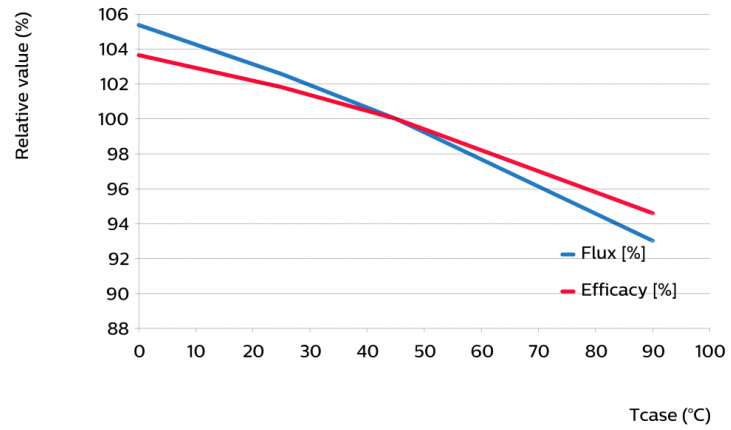
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
1440	239	88
1000	172	94
560	100	100
448	81	102
280	51	105



Flux and efficacy versus temperature at Tc (at I nominal)

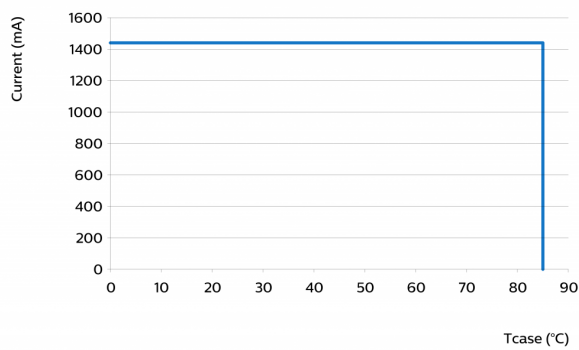
Tc [°C]	Flux [%]	Efficacy [%]
90	93	95
45	100	100
25	103	102
0	105	104



Lumen maintenance

Operation point	Lumen maintenance x 1000 hours	L70	L80	L90
		B50	B50	B50
80% I-nom 448mA	Ts nom 45°C	>60	>60	>36
	Ts 70°C	>60	>60	>36
	Ts-l-life 85°C	>60	>60	>36
I-nom 560mA	Ts nom 45°C	>60	>60	>36
	Ts 70°C	>60	>60	>36
	Ts-l-life 85°C	>60	>60	>36
I-life 1440mA	Ts nom 45°C	>60	>60	>36
	Ts 70°C	>60	>60	>36
	Ts-l-life 85°C	>60	>60	>36

Performance Window



Thermal switching table

Warranted number of full thermal product cycles at 25°C ambient temperature

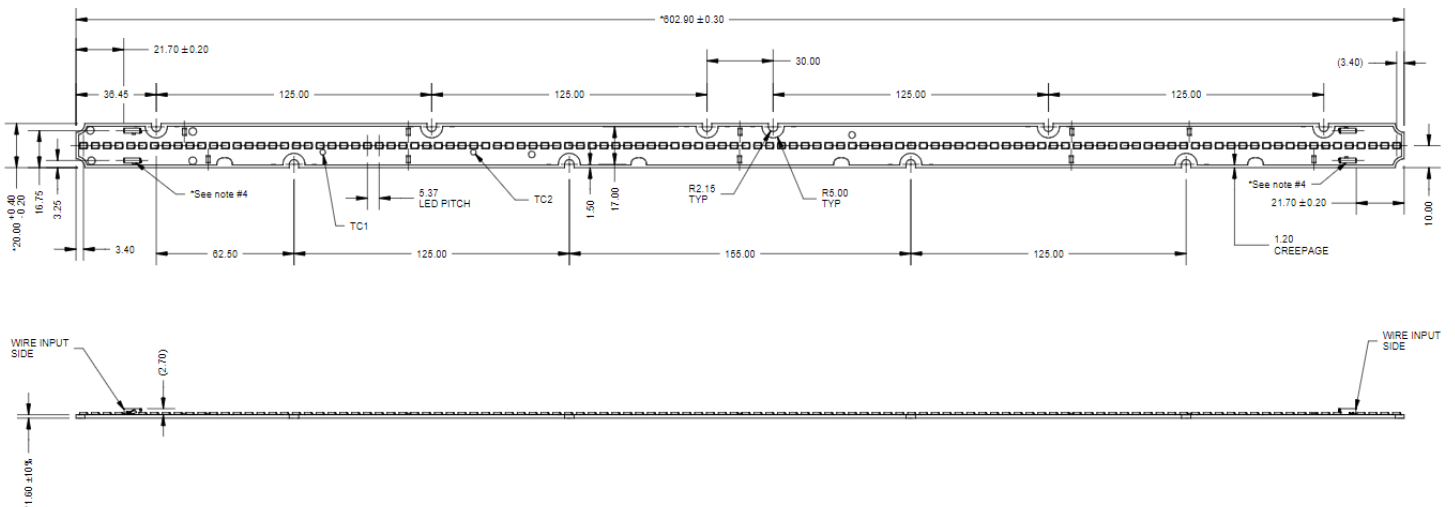
Case Temperature - Tc [°C]	Amount of Cycles
45 (or less)	>100,000
55	>100,000
65	>100,000
75	60,000
85	28,000
90	20,000

Wiring

Specification item	Value	Unit	Condition
Input wire cross-section	0.25...0.75	mm ²	solid, stranded
	18...24	AWG	solid, stranded
Input wire strip length	7.5...9.5	mm	

Mechanical characteristics

Parameter	Min	Typ	Max	Unit
Length	602.6	602.9	603.2	mm
Width	19.8	20	20.2	mm
Height PCB	1.4	1.6	1.8	mm
Height total		4.3		mm
Warpage (IPC-TM-650)			0.75	%



Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		1600	mA
Case temperature (Tc-max)		90	°C
ESD (direct contact)	8		kV
Working voltage		60	V _{dc}
Ambient temperature	-40		°C

Surge protection of the module must be provided by the driver or other components. Advance Xitanium and Certadriver drivers have built in protection circuitry and will protect the module up to the specified driver surge rating. When using third party drivers testing or confirmation from manufacturer is suggested to ensure adequate module protection.

Application information

Certificates and Standards

UL 8750

Environmental

RoHS/REACH

Application

IP rating	No IP rating
Overheating protection	No protection
Luminaire class	UL Class 2
Dimming	Yes

There cannot be any ice/fog/mist on any part of the module surface during the application at -40°C.

Notes

View limited warranty at www.signify.com/warranties for details and restrictions.



© 2021 Signify Holding. All rights reserved. This document may be subject to change. No representation or warranty as to the accuracy or completeness of the information included herein is given and any liability for any action in reliance thereon is disclaimed. All trademarks are owned by Signify Holding or their respective owners.

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