

Fortimo Strip HE LV6

Fortimo LED Strip HE brings the highest lumen per watts efficiency to the market. Utilizing Flip Chip technology this product is perfect for industrial segment as well as high lumen per watt applications in the indoor linear space.

Key features and benefits

Features:

- Ultra high energy efficiency
- High lumen maintenance
- Robust 3030 Flip-chip LED platform
- Compact design enables innovative luminaire design
- High thermal limit: I-Life 90°C Tc
- Metal Clad PCB for improved thermal performance

Benefits:

- Perfect match with Xitanium industrial driver portfolio
- High lifetime and reliability data ensure low maintenance luminaires
- Thermal Cycles designed for industrial applications
- Same form factor as 22in LED Strip LV5 for seamless upgrade

Application:

- High-bay industrial and big box lighting
- Vapor tight high temperature applications
- High efficiency troffer and linear luminaires

Ordering data

Commercial product name	12NC	Box quantity
FO Strip HE 22in 5000lm 835 LV6	9290 027 35513	200
FO Strip HE 22in 5000lm 840 LV6	9290 027 35613	200
FO Strip HE 22in 5000lm 850 LV6	9290 027 35713	200

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
FO Strip HE 22in 5000lm 8xx LV6	660	900	1000	mA

Module temperatures

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

Suggested maximum current at elevated ambient

Setting	1	2	3	4	Unit
Luminaire maximum ambient	45	55	65	75	°C
Suggested maximum current*	900	900	900	700	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.

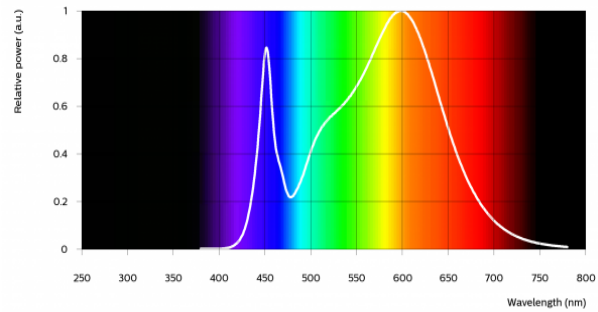
Optical characteristics - table per color (CCT)

FO Strip HE 22in 5000lm 835 LV6

Parameter	Min	Typ	Max	Unit
Luminous flux	4270	4620	4970	lm
Efficacy	160	178		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 528mA	Tc 25 °C	3820	185
	Tc-nom 45 °C	3760	183
	Tc-life 90 °C	3550	177
I-nom 660mA	Tc 25 °C	4700	180
	Tc-nom 45 °C	4620	178
	Tc-life 90 °C	4370	172
I-life 900mA	Tc 25 °C	6250	172
	Tc-nom 45 °C	6140	171
	Tc-life 90 °C	5800	165

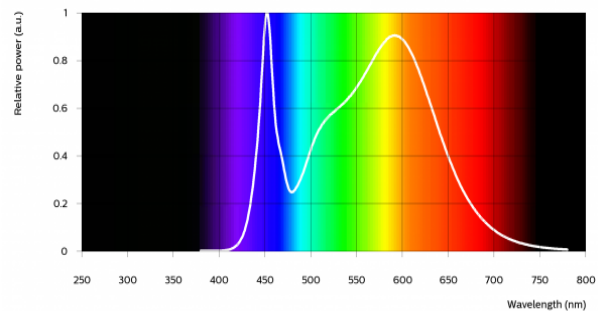


FO Strip HE 22in 5000lm 840 LV6

Parameter	Min	Typ	Max	Unit
Luminous flux	4630	5000	5380	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 528mA	Tc 25 °C	4150	201
	Tc-nom 45 °C	4060	198
	Tc-life 90 °C	3820	191
I-nom 660mA	Tc 25 °C	5110	195
	Tc-nom 45 °C	5000	193
	Tc-life 90 °C	4700	185
I-life 900mA	Tc 25 °C	6800	187
	Tc-nom 45 °C	6650	185
	Tc-life 90 °C	6250	177

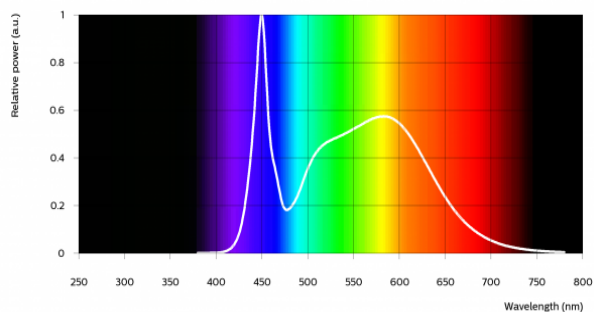


FO Strip HE 22in 5000lm 850 LV6

Parameter	Min	Typ	Max	Unit
Luminous flux	4510	4880	5250	lm
Efficacy	169	188		lm/W
Correlated color temperature (CCT)		5000		K
Color consistency			3	SDCM
CRI	80			
R9	0			

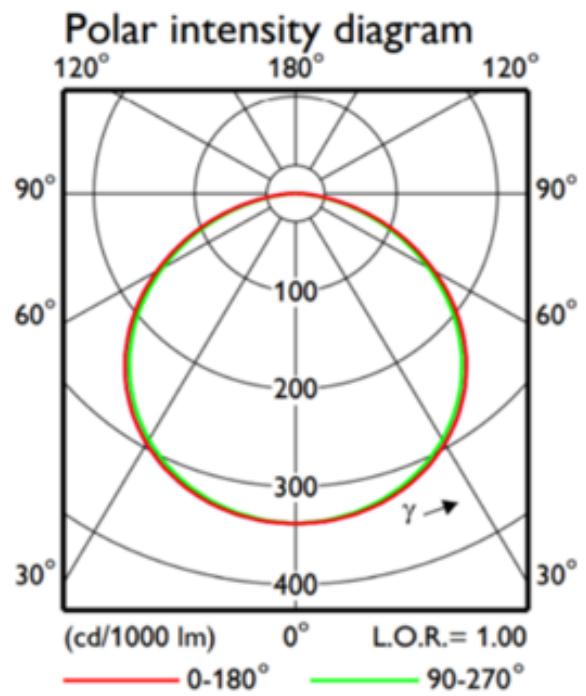
*Measurement precision $\pm 5\%$ for the flux data and $\pm 6\%$ for the efficacy data. Measurement precision for color coordinates ± 0.005 . Measurement precision for CRI ± 1.5 and R9 ± 3 .

Operation point	850	lm	lm/W
80% I-nom 528mA	Tc 25 °C	4040	195
	Tc-nom 45 °C	3960	193
	Tc-life 90 °C	3740	186
I-nom 660mA	Tc 25 °C	4980	190
	Tc-nom 45 °C	4880	188
	Tc-life 90 °C	4600	181
I-life 900mA	Tc 25 °C	6630	183
	Tc-nom 45 °C	6500	181
	Tc-life 90 °C	6120	173



Beam shape

The LED module has a Lambertian light distribution.



Electrical characteristics

Parameter	Min	Typ	Max	Unit
Forward voltage	38.5	39.3	40.0	V
Power consumption		25.9		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

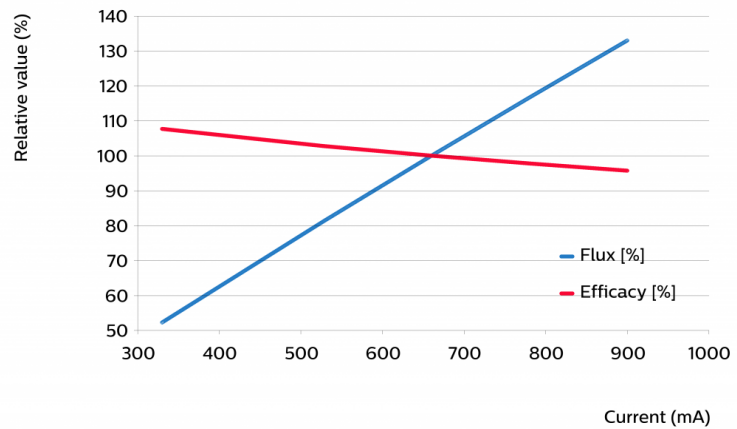
Total length (in)	Total current limit (mA)
48	1.8
72	2.42
96	2.2

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

Tuning information

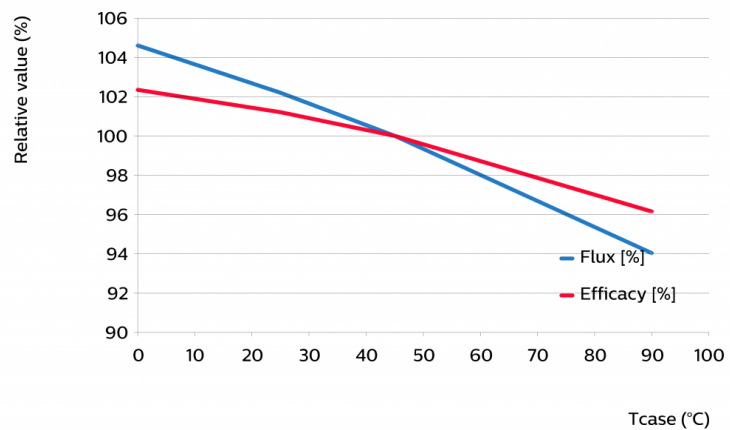
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
900	133	96
780	117	98
660	100	100
528	81	103
330	52	108



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

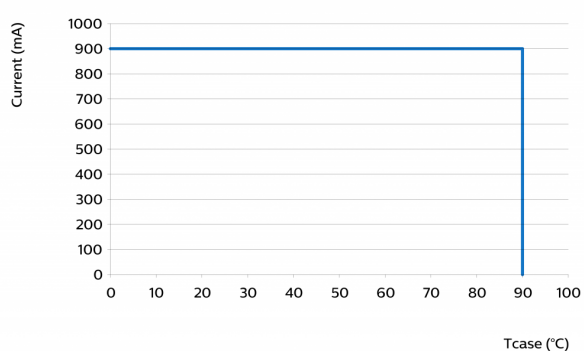
Tc [°C]	Flux [%]	Efficacy [%]
90	94	96
45	100	100
25	102	101
0	105	102



Lumen maintenance

Operation point	Lumen maintenance x 1000 hours	L70	L80	L90
		B50	B50	B50
80% I-nom 528mA	Ts-nom 45°C	>50	>50	48
	Ts 75°C	>50	>50	39
	Ts-life 90°C	>50	>50	31
I-nom 660mA	Ts-nom 45°C	>50	>50	48
	Ts 75°C	>50	>50	39
	Ts-life 90°C	>50	>50	31
I-life 900mA	Ts-nom 45°C	>50	>50	48
	Ts 75°C	>50	>50	39
	Ts-life 90°C	>50	>50	31

Performance Window



Thermal switching table

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

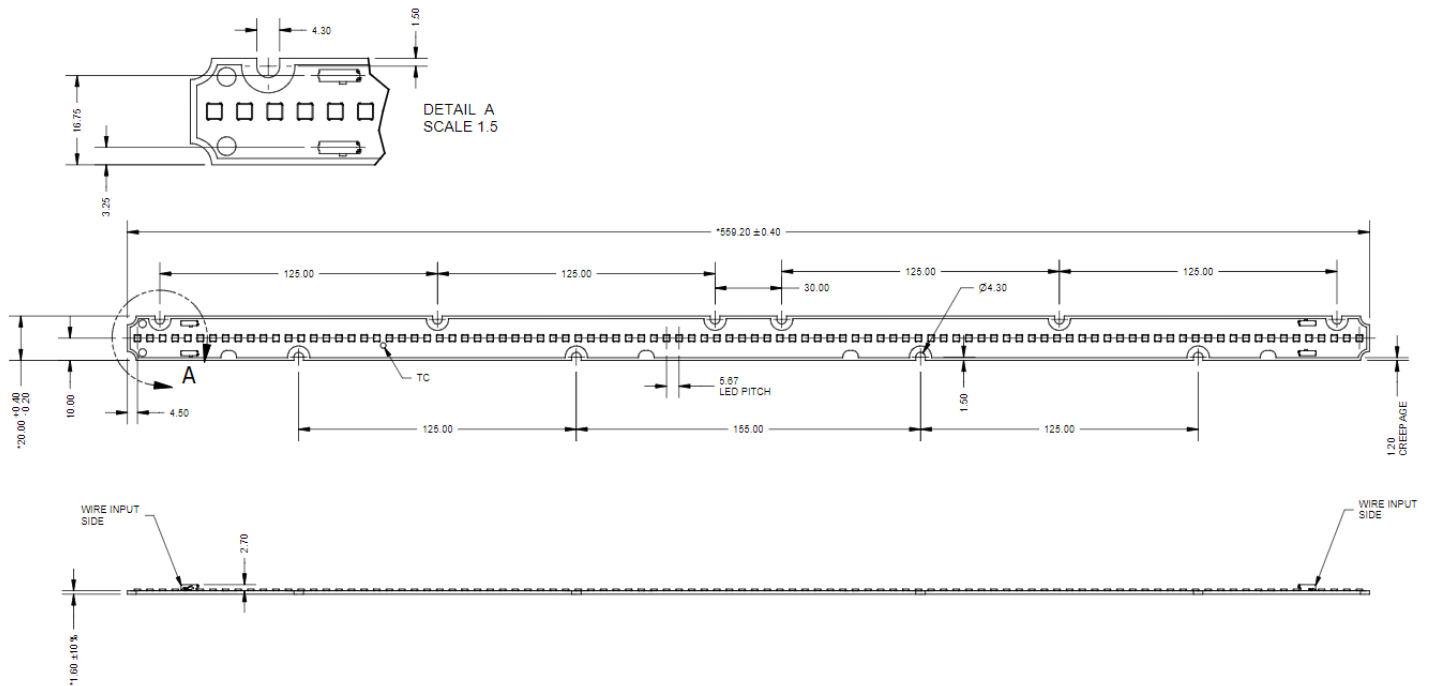
Case Temperature - Tc [°C]	Amount of Cycles
45 (or less)	>100,000
55	>100,000
65	>100,000
75	60,000
85	28,000
90	20,000

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	558.9	559.2	559.5	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)		1000	mA
Case temperature (Tc-max)		95	°C
ESD (direct contact)	5		kV
Working voltage		60	V _{dc}
Ambient temperature	-40		°C

This LED module is an ESD sensitive device with ESD protection up to 5kV, tested according CAN/CSA-IEC 61000-4-2. Proper precautions to protect the product must be in place to maintain product reliability and warranty. These precautions are described in the design-in guide for the product and ANSI/ESD S20.20-2014. Precautions include, but are not limited to: ESD protection areas, equipment grounding, personal ESD protective measures and anti-static clothing, conductive flooring, ionizers, ESD packaging, etc. This product is not field replaceable.

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 ANSI	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.

