



Fortimo LED Strip VO

47.5in 10800lm 8xx LV3

- Education
- Office
- Healthcare
- Retail
- Hospitality

Key features and benefits

- Energy efficacy up to 183 lm/W (Tc 45°C)
- 3 SDCM color consistency
- CRI80 color rendering
- 50,000 hrs lifetime
- Push-in connectors
- Mechanical footprint compatible with LED strip product family and Zhaga
- Variable length with separation features every 5.9 in. and connectors on both ends allowing for separation into two modules
- Ideal for long linear runs
- Low system cost and optimized performance with five-year limited system warranty when paired with Advance Xitanium LED drivers or Advance CertaDrive X drivers

Ordering data

Commercial product name	12NC	Box quantity
FO LED Strip VO 47.5in 10800lm 830 LV3	9290 027 23913	120
FO LED Strip VO 47.5in 10800lm 835 LV3	9290 027 24013	120
FO LED Strip VO 47.5in 10800lm 840 LV3	9290 027 24113	120
FO LED Strip VO 47.5in 10800lm 850 LV3	9290 027 24213	120

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo LED Strip VO LV3 47.5in 10800lm	1600	1750	2000	mA

Module temperatures

Parameter	Nominal*	Life**	Max***	Unit
T _c (case temperature at T _c point)	45	80	85	°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	25	30	35	40	°C
Suggested maximum current*	1750	1750	1750	1750	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.

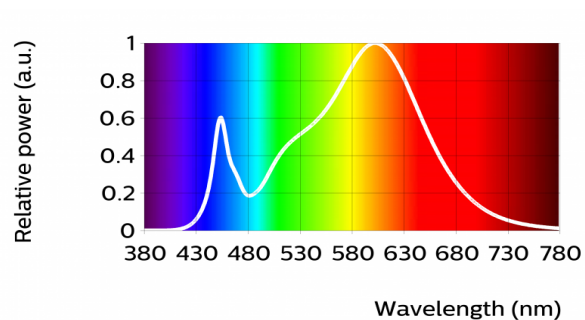
Optical characteristics - table per color (CCT)

FO LED Strip VO 47.5in 10800lm 830 LV3

Parameter	Min	Typ	Max	Unit
Luminous flux	9400	10160	10920	lm
Module efficacy	148	165		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 1280mA	Tc 25 °C	8540	175
	Tc-nom 45 °C	8300	172
	Tc-life 80 °C	7840	166
I-nom 1600mA	Tc 25 °C	10460	168
	Tc-nom 45 °C	10160	165
	Tc-life 80 °C	9590	159
I-life 1800mA	Tc 25 °C	11630	164
	Tc-nom 45 °C	11290	161
	Tc-life 80 °C	10650	155

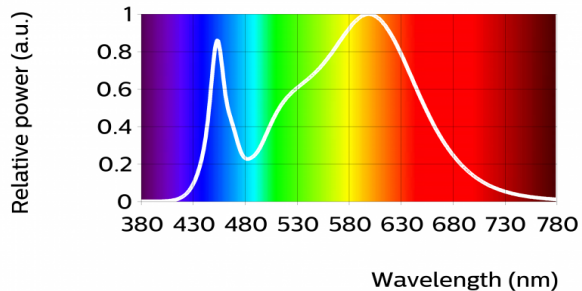


FO LED Strip VO 47.5in 10800lm 835 LV3

Parameter	Min	Typ	Max	Unit
Luminous flux	9820	10610	11410	lm
Module efficacy	155	172		lm/W
Correlated color temperature (CCT)		3500		K
Color consistency			3	SDCM
CRI	80			
R9	0			

Measurement precision ± 5% for the flux data and ± 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 1280mA	Tc 25 °C	8910	183
	Tc-nom 45 °C	8650	180
	Tc-life 80 °C	8180	174
I-nom 1600mA	Tc 25 °C	10920	175
	Tc-nom 45 °C	10610	172
	Tc-life 80 °C	10000	166
I-life 1800mA	Tc 25 °C	12130	171
	Tc-nom 45 °C	11780	168
	Tc-life 80 °C	11110	162

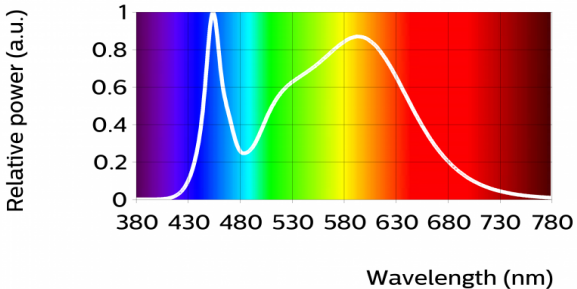


FO LED Strip VO 47.5in 10800lm 840 LV3

Parameter	Min	Typ	Max	Unit
Luminous flux	9990	10800	11610	lm
Module efficacy	157	175		lm/W
Correlated color temperature (CCT)		4000		K
Color consistency			3	SDCM
CRI	80			
R9	0			

Measurement precision ± 5% for the flux data and ± 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 1280mA	Tc 25 °C	9080	186
	Tc-nom 45 °C	8820	183
	Tc-life 80 °C	8330	177
I-nom 1600mA	Tc 25 °C	11120	178
	Tc-nom 45 °C	10800	175
	Tc-life 80 °C	10190	169
I-life 1800mA	Tc 25 °C	12360	174
	Tc-nom 45 °C	12000	171
	Tc-life 80 °C	11320	165

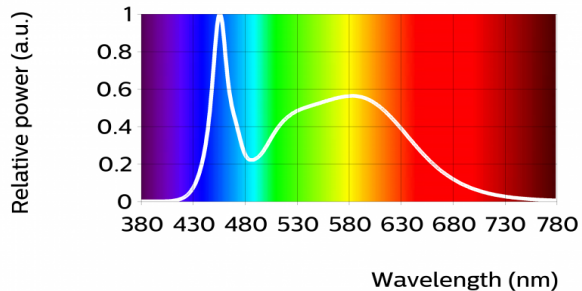


FO LED Strip VO 47.5in 10800lm 850 LV3

Parameter	Min	Typ	Max	Unit
Luminous flux	9990	10800	11610	lm
Module efficacy	157	175		lm/W
Correlated color temperature (CCT)		5000		K
Color consistency			3	SDCM
CRI	80			
R9	0			

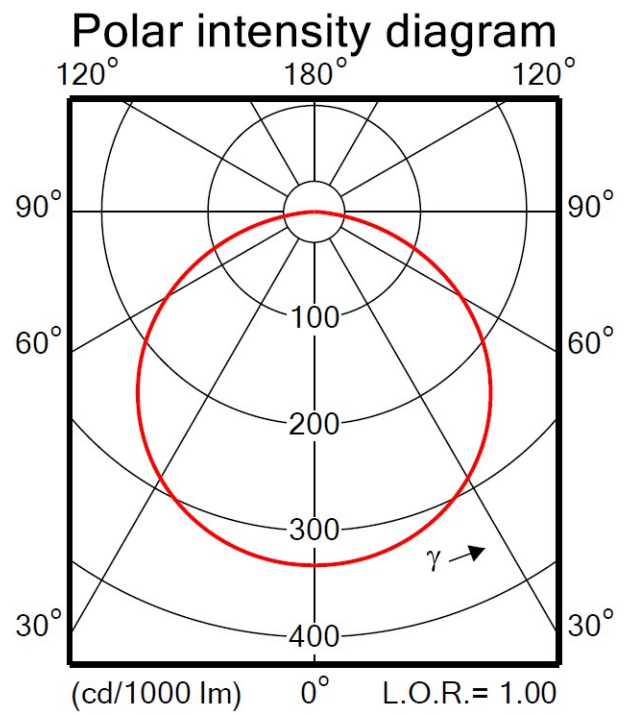
Measurement precision ± 5% for the flux data and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5 and R9 ± 3

Operation point	850	lm	lm/W
80% I-nom 1280mA	Tc 25 °C	9080	186
	Tc-nom 45 °C	8820	183
	Tc-life 80 °C	8330	177
I-nom 1600mA	Tc 25 °C	11120	178
	Tc-nom 45 °C	10800	175
	Tc-life 80 °C	10190	169
I-life 1800mA	Tc 25 °C	12360	174
	Tc-nom 45 °C	12000	171
	Tc-life 80 °C	11320	165



Beam shape

The LED-module has a Lambertian light distribution.



Electrical characteristics

Parameter	Min	Typ	Max	Unit
Forward voltage	37.8	38.5	42.0	V
Power consumption	60.5	61.6	67.2	W = kWh/1000h
Number of modules in series per chain			1	

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

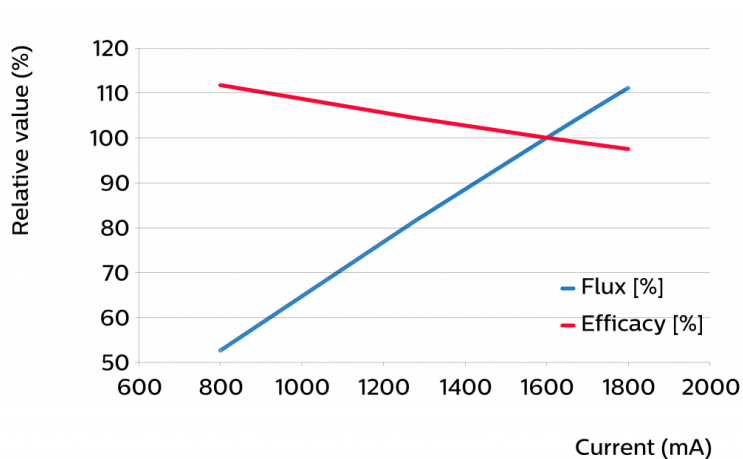
System chain limits for Same Length modules

Total length (in)	Total current limit (mA)
24	875
48	1750
72	680
96	400

Tuning information

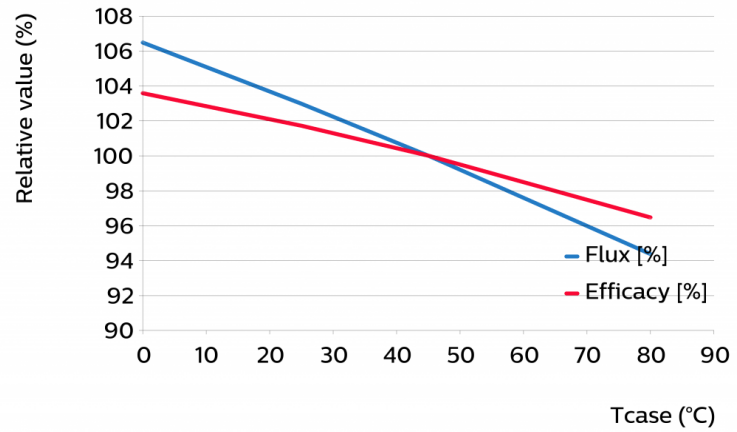
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
1800	111	97
1700	106	99
1600	100	100
1280	82	104
800	53	112



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

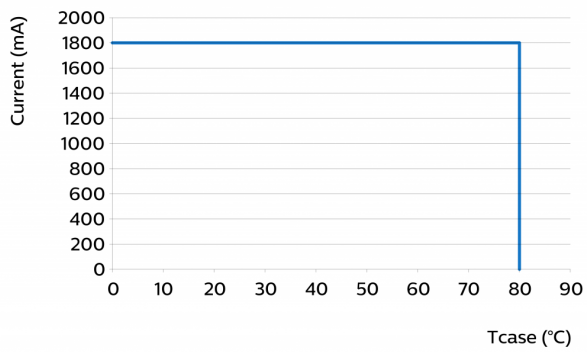
Tc [°C]	Flux [%]	Efficacy [%]
80	94	96
45	100	100
25	103	102
0	106	104



Lumen maintenance

Operation point	Lumen maintenance x 1000 hours	L70	L80	L90
		B50	B50	B50
80% I-nom 1280 mA	Tc nom 45°C	>50	>50	46
	Tc 75°C	>50	>50	37
	Tc-life 80°C	>50	>50	36
I-nom 1600 mA	Tc nom 45°C	>50	>50	46
	Tc 75°C	>50	>50	37
	Tc-life 80°C	>50	>50	36
I-life 1800 mA	Tc nom 45°C	>50	>50	46
	Tc 75°C	>50	>50	37
	Tc-life 80°C	>50	>50	36

Performance Window



Thermal switching table

Warranted Number of Full Thermal Product Cycles at 25°C ambient temperature

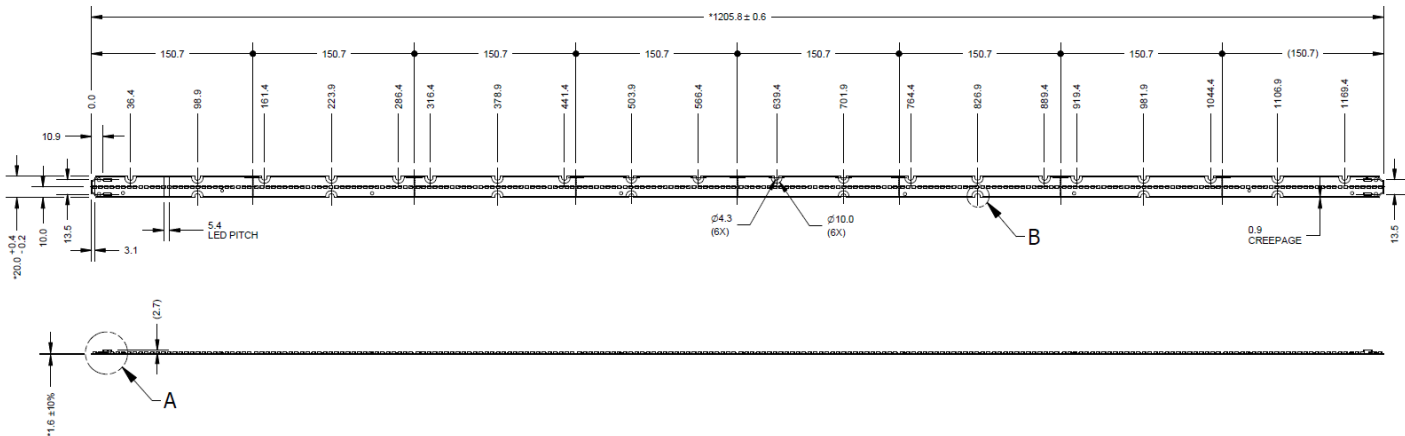
Case Temperature - Tc [°C]	Amount of Cycles
45 (or less)	>100000
55	>100000
65	98000
75	44000
85	22000

Wiring

Specification item	Value	Unit	Condition
Input wire cross-section	0.45...0.7	mm ²	stranded wire
	20...22	AWG	stranded wire
Input wire strip length	4.5...5.5	mm	
Input wire cross-section	0.25...0.75	mm ²	solid wire
	18...24	AWG	solid wire
Input wire strip length	4.5...5.5	mm	

Mechanical characteristics

Parameter	Min	Typ	Max	Unit
Length	1205.2	1205.8	1206.4	mm
Width	19.8	20	20.4	mm
Height PCB	1.4	1.6	1.8	mm
Height total		4.3		mm
Warpage (IPC-TM-650)			5	%



Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		2000	mA
Case temperature (Tc-max)		85	°C
ESD (direct contact)	1		kV
Working voltage		60	V _{dc}

Surge protection of the module must be provided by the driver or other components. Advance Xitanium and Certadrive 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	Class 2
Dimming	Yes

Notes

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

