

ADVANCEby  Signify

LED Modules

Fortimo LED Strip VO LV3

44in 8100lm



Fortimo LED Strip VO

44in 8100lm 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 11 in. and connectors on both ends allowing for separation into two modules
- 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
Fortimo LED Strip VO 44in 8100lm 830 LV3	9290 027 23513	120
Fortimo LED Strip VO 44in 8100lm 835 LV3	9290 027 23613	120
Fortimo LED Strip VO 44in 8100lm 840 LV3	9290 027 23713	120
Fortimo LED Strip VO 44in 8100lm 850 LV3	9290 027 23813	120

November 2020

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo LED Strip VO LV3 44in 8100lm	1200	1800	2100	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*	1800	1800	1800	1800	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.

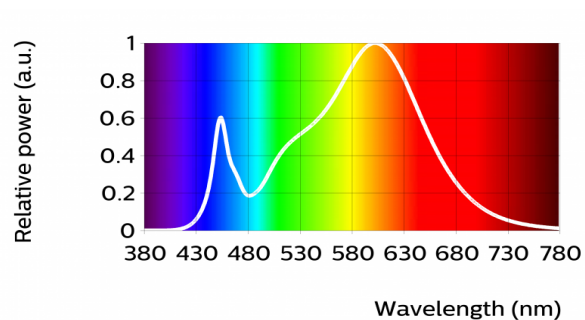
Optical characteristics - table per color (CCT)

Fortimo LED Strip VO 44in 8100lm 830 LV3

Parameter	Min	Typ	Max	Unit
Luminous flux	7050	7620	8190	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 960mA	Tc 25 °C	6400	175
	Tc-nom 45 °C	6220	172
	Tc-life 80 °C	5880	166
I-nom 1200mA	Tc 25 °C	7850	168
	Tc-nom 45 °C	7620	165
	Tc-life 80 °C	7190	159
I-life 1950mA	Tc 25 °C	12040	149
	Tc-nom 45 °C	11680	146
	Tc-life 80 °C	10990	141

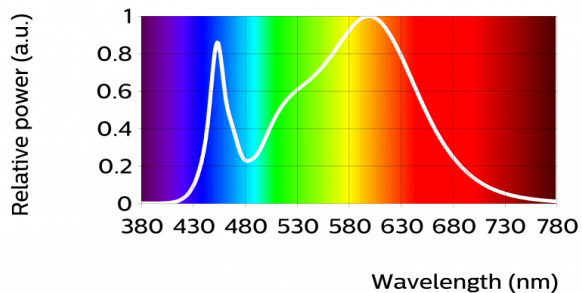


Fortimo LED Strip VO 44in 8100lm 835 LV3

Parameter	Min	Typ	Max	Unit
Luminous flux	7360	7960	8560	lm
Module efficacy	155	172		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 960mA	Tc 25 °C	6690	183
	Tc-nom 45 °C	6500	180
	Tc-life 80 °C	6140	174
I-nom 1200mA	Tc 25 °C	8200	175
	Tc-nom 45 °C	7960	172
	Tc-life 80 °C	7510	166
I-life 1950mA	Tc 25 °C	12580	156
	Tc-nom 45 °C	12200	153
	Tc-life 80 °C	11480	147

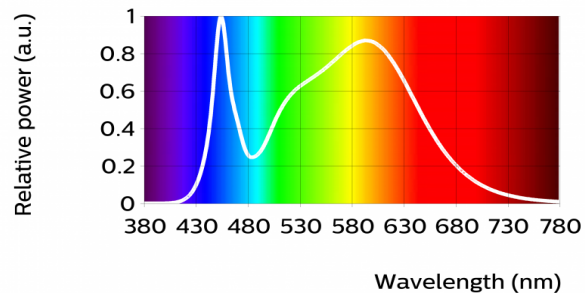


Fortimo LED Strip VO 44in 8100lm 840 LV3

Parameter	Min	Typ	Max	Unit
Luminous flux	7490	8100	8700	lm
Module efficacy	157	175		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 960mA	Tc 25 °C	6810	186
	Tc-nom 45 °C	6610	183
	Tc-life 80 °C	6250	177
I-nom 1200mA	Tc 25 °C	8340	178
	Tc-nom 45 °C	8100	175
	Tc-life 80 °C	7640	169
I-life 1950mA	Tc 25 °C	12800	159
	Tc-nom 45 °C	12410	156
	Tc-life 80 °C	11680	149

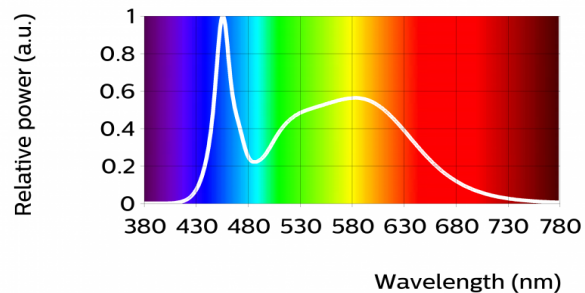


Fortimo LED Strip VO 44in 8100lm 850 LV3

Parameter	Min	Typ	Max	Unit
Luminous flux	7490	8100	8700	lm
Module efficacy	157	175		lm/W
Correlated color temperature (CCT)		5000		K
Color consistency			3	SDCM
CRI	80			
R9	0			

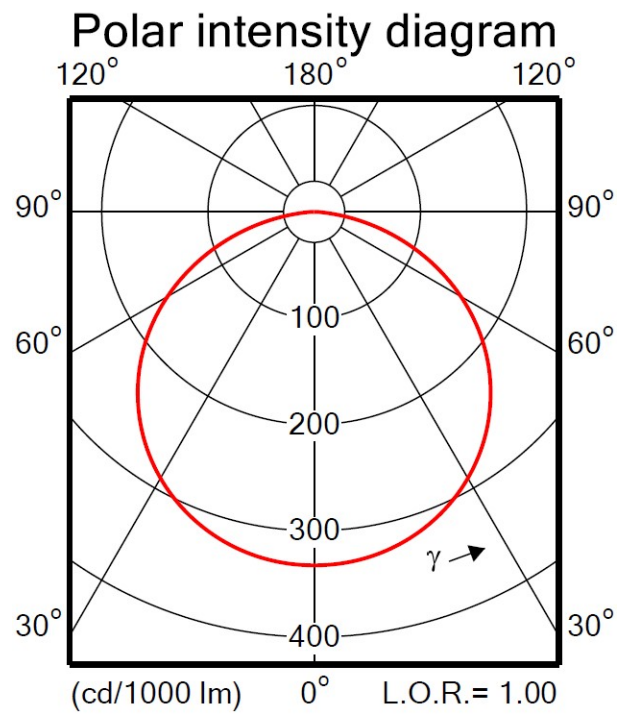
Measurement precision $\pm 5\%$ for the flux data and $\pm 6\%$ for the efficacy data. Measurement precision for color coordinates ± 0.005 . Measurement precision for CRI ± 1.5 and R9 ± 3

Operation point	850	lm	lm/W
80% I-nom 960mA	Tc 25 °C	6810	186
	Tc-nom 45 °C	6610	183
	Tc-life 80 °C	6250	177
I-nom 1200mA	Tc 25 °C	8340	178
	Tc-nom 45 °C	8100	175
	Tc-life 80 °C	7640	169
I-life 1950mA	Tc 25 °C	12800	159
	Tc-nom 45 °C	12410	156
	Tc-life 80 °C	11680	149



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	45.4	46.2	50.4	W = kWh/1000h
Number of modules in series per chain			1	

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

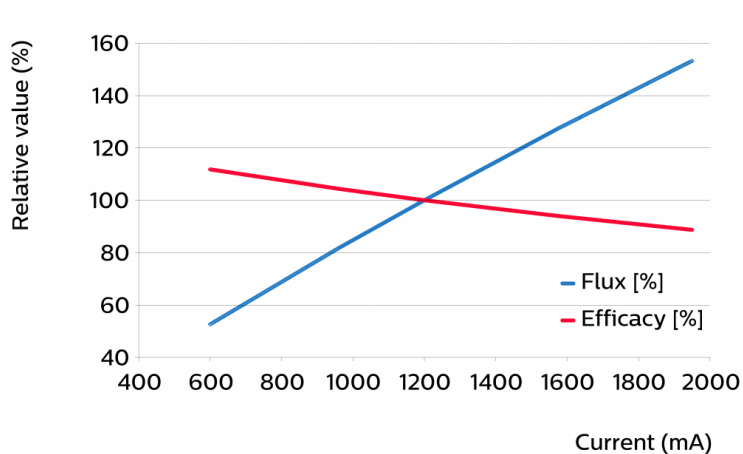
System chain limits for Same Length modules

Total length (in)	Total current limit (mA)
24	900
48	1800
72	740
96	420

Tuning information

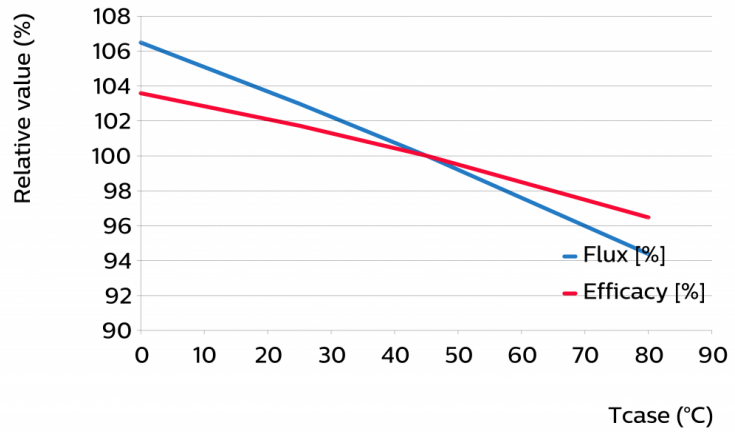
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
1950	153	89
1575	127	94
1200	100	100
960	82	104
600	53	112



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

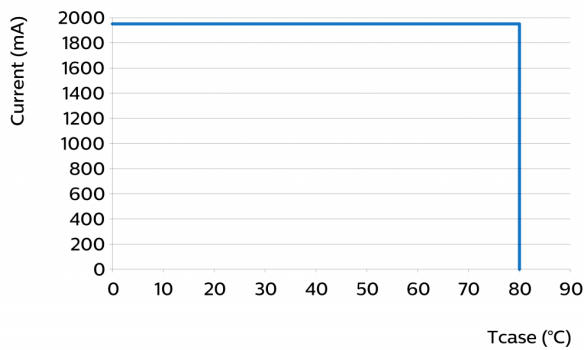
Tc [°C]	Flux [%]	Efficacy [%]
80	94	96
45	100	100
25	103	102
0	106	104



Lumen maintenance

Operation point	Lumen maintenance x 1000 hours	L70	L80	L90
		B50	B50	B50
80% I-nom 960 mA	Tc nom 45°C	>50	>50	46
	Tc 75°C	>50	>50	37
	Tc-life 80°C	>50	>50	36
I-nom 1200 mA	Tc nom 45°C	>50	>50	46
	Tc 75°C	>50	>50	37
	Tc-life 80°C	>50	>50	36
I-life 1950 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

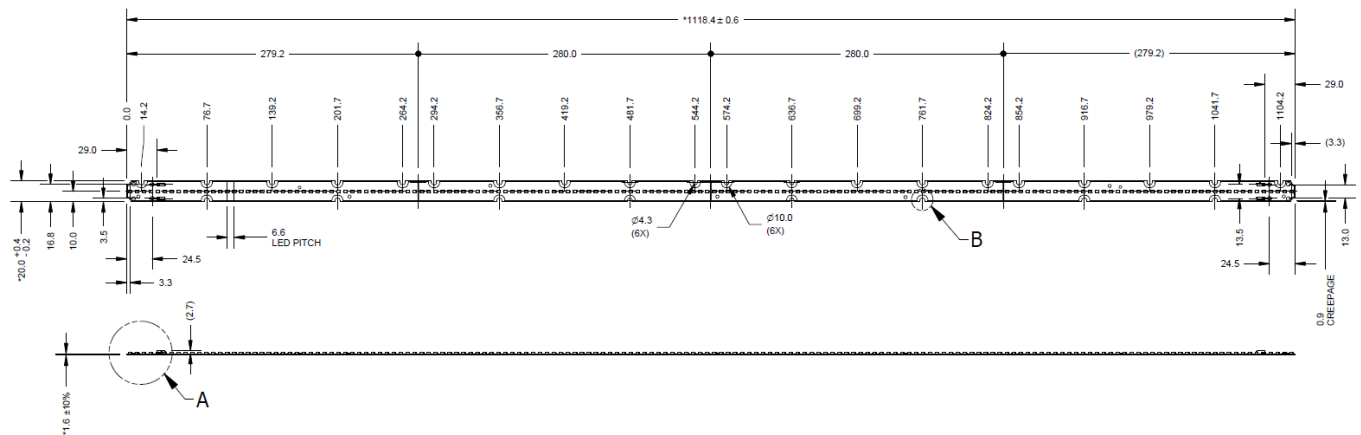
Case Temperature - Tc [°C]	Amount of Cycles
45 (or less)	>100000
55	>100000
65	98000
75	44000
85	22000

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	1117.8	1118.4	1119	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)		2100	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.

