

# PHILIPS

## LED Modules

### Fortimo LED Strip Value Offer

#### 44in 4200lm LV2



Philips Fortimo LED strip value offer (LED strip VO) is designed to meet all the basic needs of recessed ambient lighting applications, with excellent price per lumen value and high design flexibility. The LED strip VO offers 50,000 hrs life<sup>1</sup> of CRI80 light quality, at efficacies of up to 175 lm/W, and 3SDCM color consistency. The LED strip VO also offers a five-year limited system warranty<sup>2</sup>.

Commercial Product Name	12NC	Box Quantity
Fortimo LED Strip VO 44in 4200lm 830 LV2	9290 017 51913	144
Fortimo LED Strip VO 44in 4200lm 835 LV2	9290 017 52013	144
Fortimo LED Strip VO 44in 4200lm 840 LV2	9290 017 52113	144
Fortimo LED Strip VO 44in 4200lm 850 LV2	9290 017 52213	144

Footnotes on last page.

# Fortimo LED strip value offer 44in 4200lm LV2

## Features

- Energy efficacy up to 175 lm/W (Tc 45°C). Lumen per foot varies per module type.
- 3 SDCM color consistency
- CRI80 color rendering
- 50,000 hrs' lifetime
- Push-in connectors
- Mechanical footprint compatible with LED strip product family and Zhaga

## Benefits

- Flexible and economical fixture design
- High energy efficacy
- High quality of light
- Long lifetime
- Easy wiring and daisy-chaining
- Low system cost and optimized performance with five-year limited system warranty<sup>2</sup> when paired with Philips Advance Xitanium LED drivers or Philips CertaDrive gen 2 drivers

## Applications

- Office
- Education
- Retail

## Drive Currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo LED Strip VO 44in 4200lm 8xx LV2	400	650	700	mA

## Module Temperatures

Module temperatures	Nominal*	Life**	Max***	Unit
T <sub>c</sub> (case temperature at T <sub>c</sub> 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.

\* Max difference between Ts and Tc is 5°C

# Fortimo LED strip value offer 44in 4200lm LV2

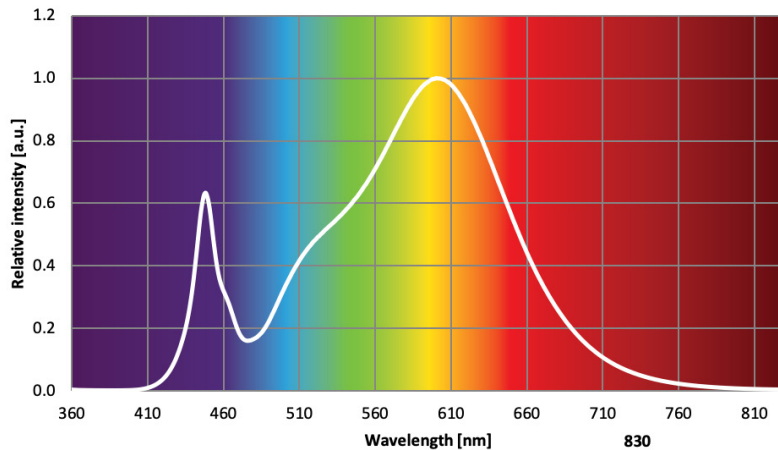
## Optical Characteristics – Table per Color (CCT)

Fortimo LED strip VO 44in 4200lm 830 LV2

Parameter	Min	Typ	Max	Unit
Luminous flux	2310	2500	2690	lm
Module efficacy	136	151	166	lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.4327, 0.4012)		–
Color consistency			3	SDCM
CRI	80			

R9=5, 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

Operation point	Tc	lm	lm/W
250 mA	45 °C	1620	164
	65 °C	1570	161
	85 °C	1520	158
650 mA	45 °C	3830	135
	65 °C	3710	132
	85 °C	3580	129
700 mA	45 °C	4090	132
	65 °C	3950	129
	85 °C	3810	126



# Fortimo LED strip value offer 44in 4200lm LV2

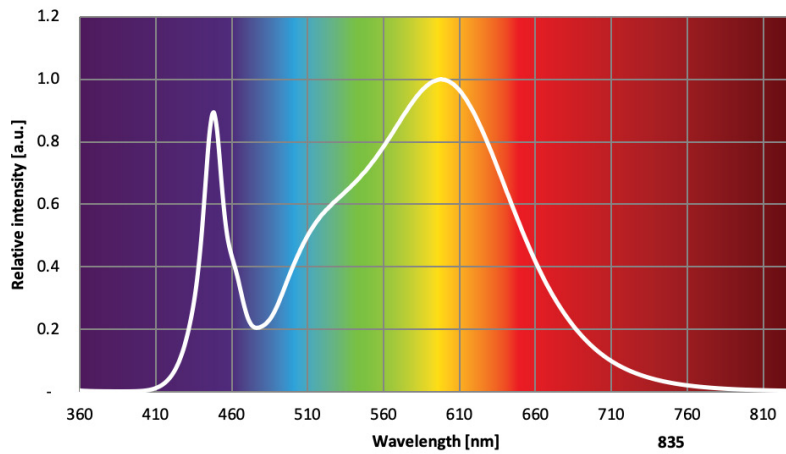
## Optical Characteristics – Table per Color (CCT)

**Fortimo LED strip VO 44in 4200lm 835 LV2**

Parameter	Min	Typ	Max	Unit
Luminous flux	2430	2630	2830	lm
Module efficacy	144	160	176	lm/W
Correlated color temperature (CCT)		3500		K
Color coordinates (CIEx, CIEy)		(0.4062, 0.3896)		–
Color consistency			3	SDCM
CRI	80			

R9=5, 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

Operation point	Tc	lm	lm/W
250 mA	45 °C	1710	173
	65 °C	1660	170
	85 °C	1600	166
650 mA	45 °C	4040	142
	65 °C	3910	139
	85 °C	3770	136
700 mA	45 °C	4300	139
	65 °C	4160	136
	85 °C	4010	133



# Fortimo LED strip value offer 44in 4200lm LV2

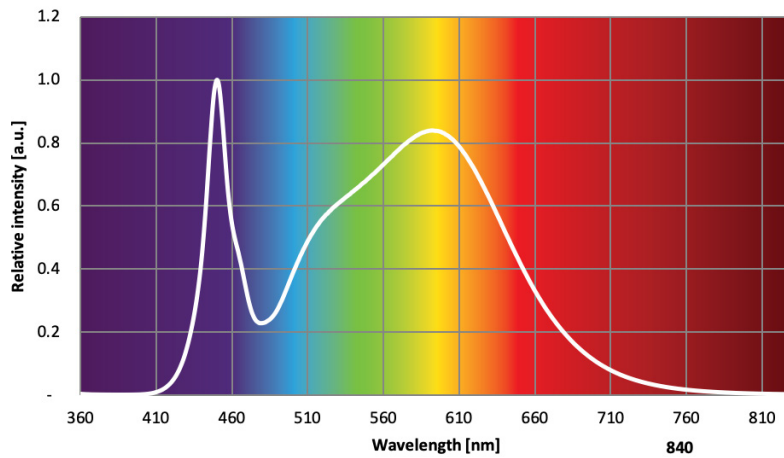
## Optical Characteristics – Table per Color (CCT)

Fortimo LED strip VO 44in 4200lm 840 LV2

Parameter	Min	Typ	Max	Unit
Luminous flux	2480	2680	2880	lm
Module efficacy	146	162	178	lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.3807, 0.3776)		–
Color consistency			3	SDCM
CRI	80			

R9=5, 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

Operation point	Tc	lm	lm/W
250 mA	45 °C	1740	176
	65 °C	1690	172
	85 °C	1630	169
650 mA	45 °C	4110	145
	65 °C	3970	141
	85 °C	3830	138
700 mA	45 °C	4380	142
	65 °C	4230	138
	85 °C	4080	135



# Fortimo LED strip value offer 44in 4200lm LV2

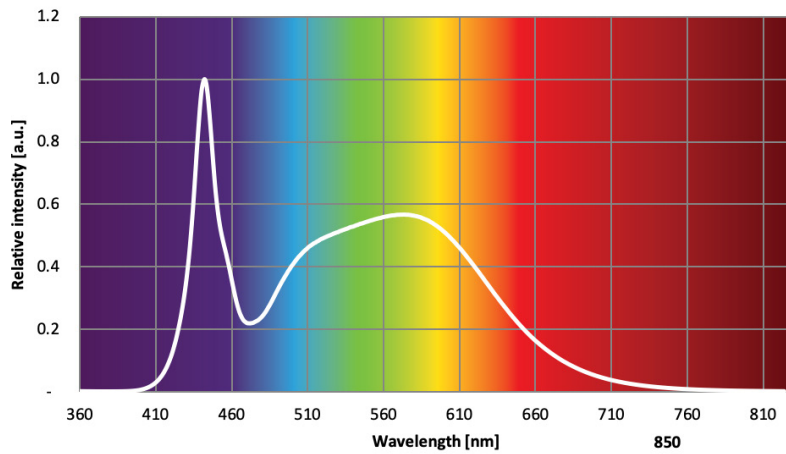
## Optical Characteristics – Table per Color (CCT)

**Fortimo LED strip VO 44in 4200lm 850 LV2**

Parameter	Min	Typ	Max	Unit
Luminous flux	2480	2680	2880	lm
Module efficacy	146	162	178	lm/W
Correlated color temperature (CCT)		5000		K
Color coordinates (CIEx, CIEy)		(0.3411, 0.3504)		–
Color consistency			3	SDCM
CRI	80			

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

Operation point	Tc	lm	lm/W
250 mA	45 °C	1740	176
	65 °C	1690	172
	85 °C	1630	169
650 mA	45 °C	4110	145
	65 °C	3970	141
	85 °C	3830	138
700 mA	45 °C	4380	142
	65 °C	4230	138
	85 °C	4080	135



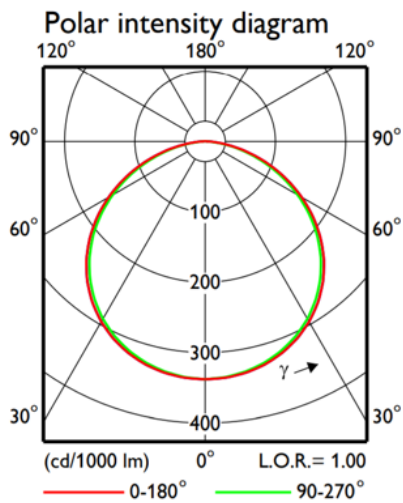
# Fortimo LED strip value offer 44in 4200lm LV2

## Electrical Characteristics

Fortimo LED strip VO 44in 4200lm 8xx LV2

Parameter	Min	Typ	Max	Unit
Forward voltage	40.4	41.3	42.2	V
Thermal power		16.52		W

## Beam Shape

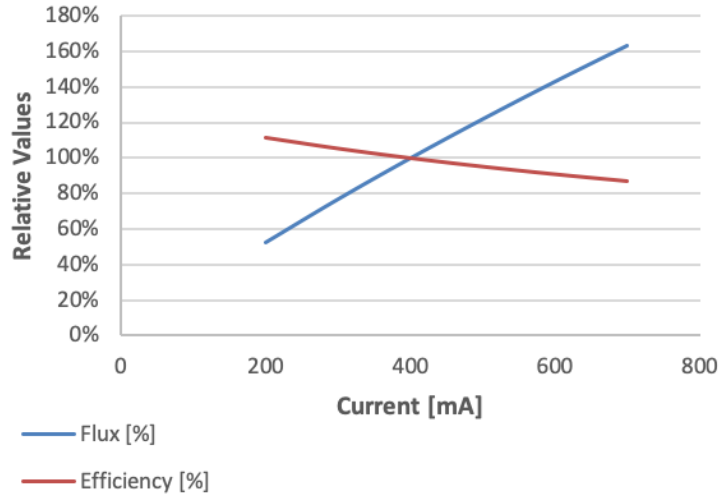


# Fortimo LED strip value offer 44in 4200lm LV2

## Tuning Information

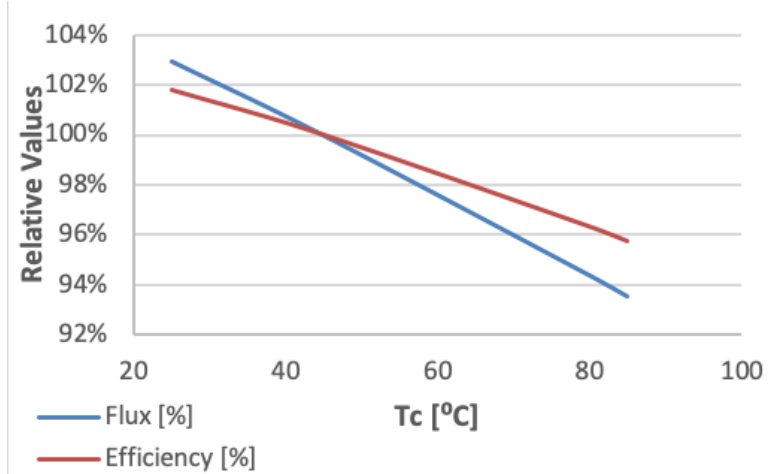
### Flux and Efficacy Versus Current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
200	53	111
300	77	105
400	100	100
500	122	95
600	143	91
700	163	87



### Flux and Efficacy Versus Temperature at Tc (at I nominal)

Tc [°C]	Flux [%]	Efficacy [%]
85	94	96
80	94	96
45	100	100
25	103	102





# Fortimo LED strip value offer 44in 4200lm LV2

## Theoretical TM21 Calculations Based on LED LM80

Operation point	Lumen maintenance x 1000 hours	L70	L80	L90
I-life 650 mA	Ts-nom 45 °C	>50	>50	47
	Ts 65 °C	>50	>50	41
	Ts 77 °C	>50	>50	36
	Ts-life 80 °C	>50	>50	35

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

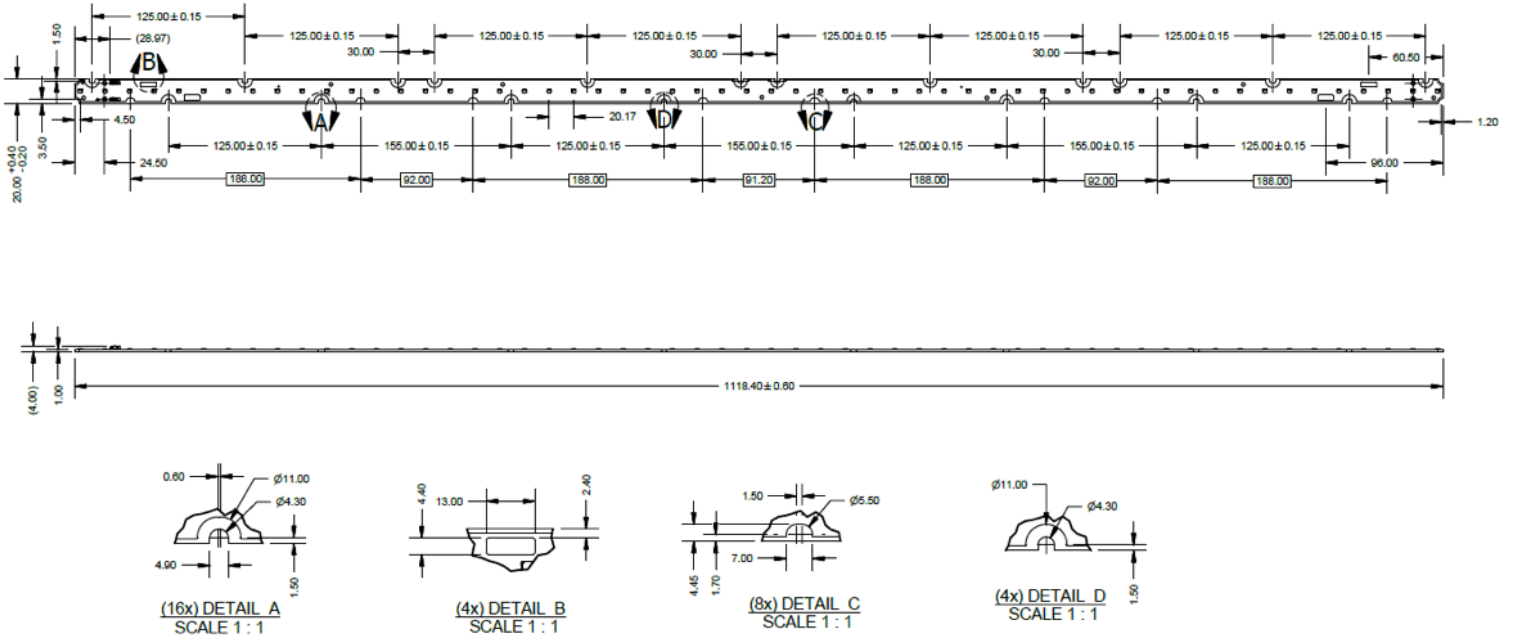
Case Temperature Tc2 [°C]	Amount of Cycles
25	>100,000
35	>100,000
45	>100,000
55	>100,000
65	>100,000
75	>100,000
85	>100,000

Surge protection of the module must be provided by the driver or other components. Philips 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.

# Fortimo LED strip value offer 44in 4200lm LV2

## Mechanical Characteristics

Parameter	Min.	Typ.	Max	Unit
Warpage (IPC-TM-650)			5	%



# Fortimo LED strip value offer 44in 4200lm LV2

## Absolute Ratings

Parameter	Min.	Typ.	Max.	Unit
Current through the LED module (I-max)			700	mA
Case temperature (Tc-max)			85	°C
ESD (Direct)*			1	kV
Working voltage			48	V <sub>dc</sub>
Dielectric withstand voltage	700			V <sub>dc</sub>

\* This LED module is an ESD sensitive device with ESD protection up to 1kV, 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

## Application Information

### Compliance and Approval

UL 8750

### Environmental

RoHS/REACH

### Application Information

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

#### Footnotes

1. Average rated life is based on engineering data and probability analysis. The hours are at the B50, L70 point – 50,000 hours life with 70% lumen maintenance at Tc point.
2. For more information on Philips' limited warranty please visit [www.philips.com/warranties](http://www.philips.com/warranties).

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