

# PHILIPS

## LED Modules

### Fortimo LED Strip Value Offer

44in 8400lm  
830-840 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 8400lm 830-840 LV2	929001756413	144

Footnotes on last page.

# Fortimo LED strip value offer 44in 8400lm 830-840 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
- One module enabling 3000K, 3500K, 4000K color temperatures, driving SKU reduction

## 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 8400lm 830-840 LV2	800	1300	1400	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 T<sub>s</sub> and T<sub>c</sub> is 5°C

# Fortimo LED strip value offer 44in 8400lm 830-840 LV2

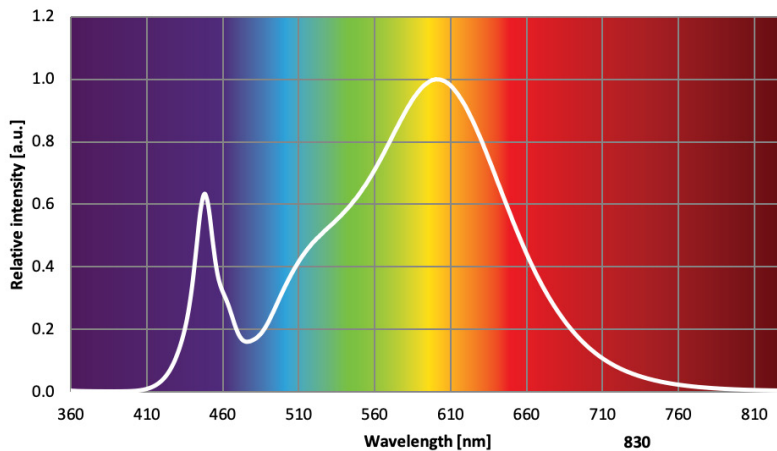
## Optical Characteristics – Table per Color (CCT)

Fortimo LED strip VO 44in 8400lm 830-840 LV2

Parameter	Min	Typ	Max	Unit
Luminous flux	4620	5000	5370	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  $\pm 5\%$  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
500 mA	45 °C	3250	164
	65 °C	3150	161
	85 °C	3050	158
1300 mA	45 °C	7670	135
	65 °C	7420	132
	85 °C	7150	129
1400 mA	45 °C	8170	132
	65 °C	7900	129
	85 °C	7620	126



# Fortimo LED strip value offer 44in 8400lm 830-840 LV2

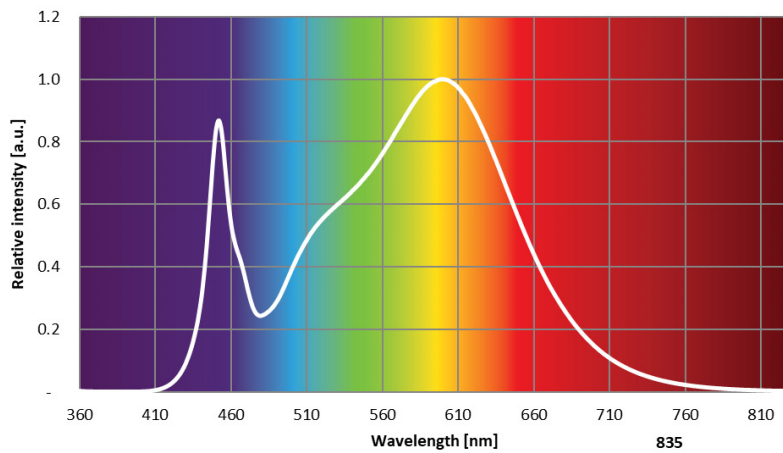
## Optical Characteristics – Table per Color (CCT)

Fortimo LED strip VO 44in 8400lm 830-840 LV2

Parameter	Min	Typ	Max	Unit
Luminous flux	5000	5400	5810	lm
Module efficacy	157	174	193	lm/W
Correlated color temperature (CCT)		3500		K
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
500 mA	45 °C	3420	181
	65 °C	3320	179
	85 °C	3210	176
1300 mA	45 °C	8500	162
	65 °C	8240	159
	85 °C	7960	156
1400 mA	45 °C	9100	160
	65 °C	8820	157
	85 °C	8520	154



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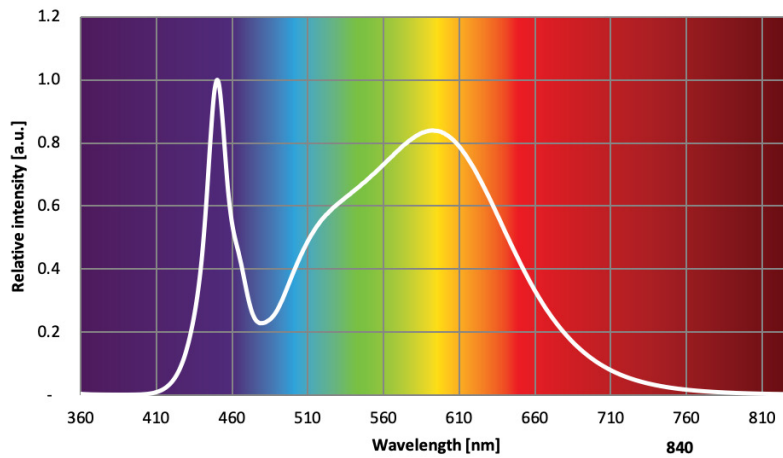
## Optical Characteristics – Table per Color (CCT)

**Fortimo LED strip VO 44in 8400lm 830-840 LV2**

Parameter	Min	Typ	Max	Unit
Luminous flux	4960	5360	5760	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  $\pm 5\%$  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
500 mA	45 °C	3480	176
	65 °C	3380	172
	85 °C	3260	169
1300 mA	45 °C	8220	145
	65 °C	7950	141
	85 °C	7660	138
1400 mA	45 °C	8760	142
	65 °C	8470	138
	85 °C	8160	135

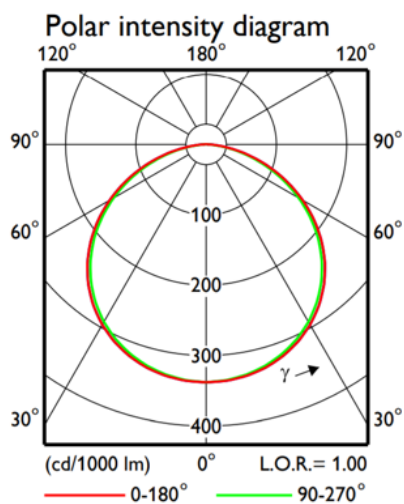


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## Electrical Characteristics

Fortimo LED strip VO 44in 8400lm 830-840 LV2				
Parameter	Min	Typ	Max	Unit
Forward voltage	40.4	41.3	42.2	V
Thermal power		33.04		W

## Beam Shape

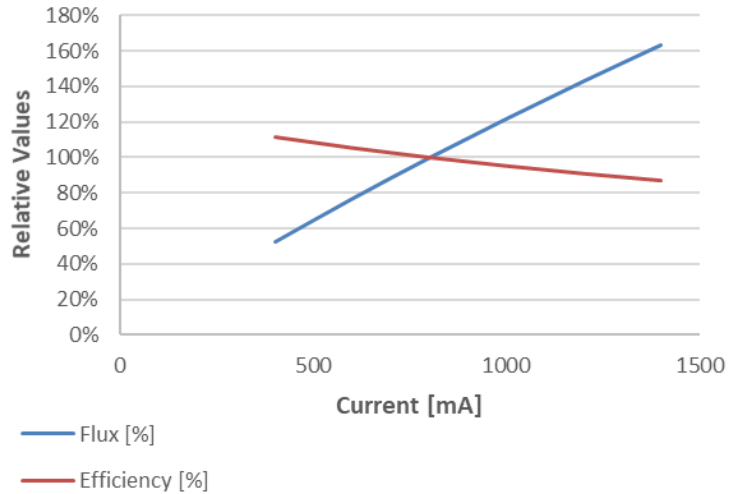


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## Tuning Information

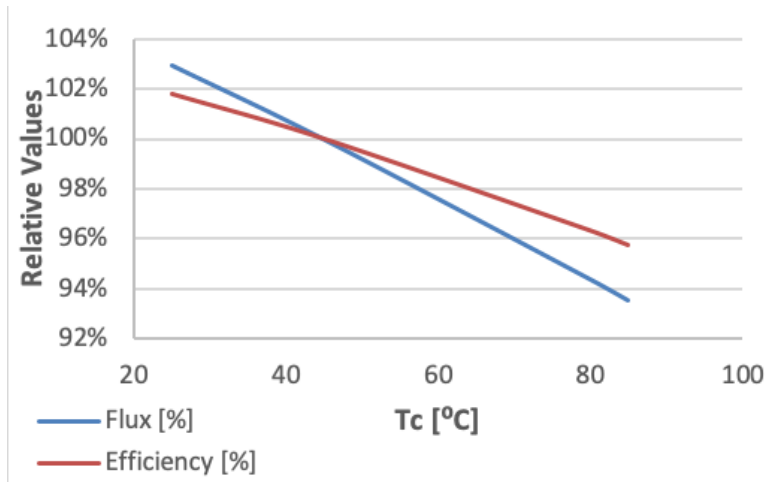
### Flux and Efficacy Versus Current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
400	53	111
600	77	105
800	100	100
1000	122	95
1200	143	91
1300	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



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## Theoretical TM21 Calculations Based on LED LM80

Operation point	Lumen maintenance x 1000 hours	L70	L80	L90
I-life 1300 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	95,000

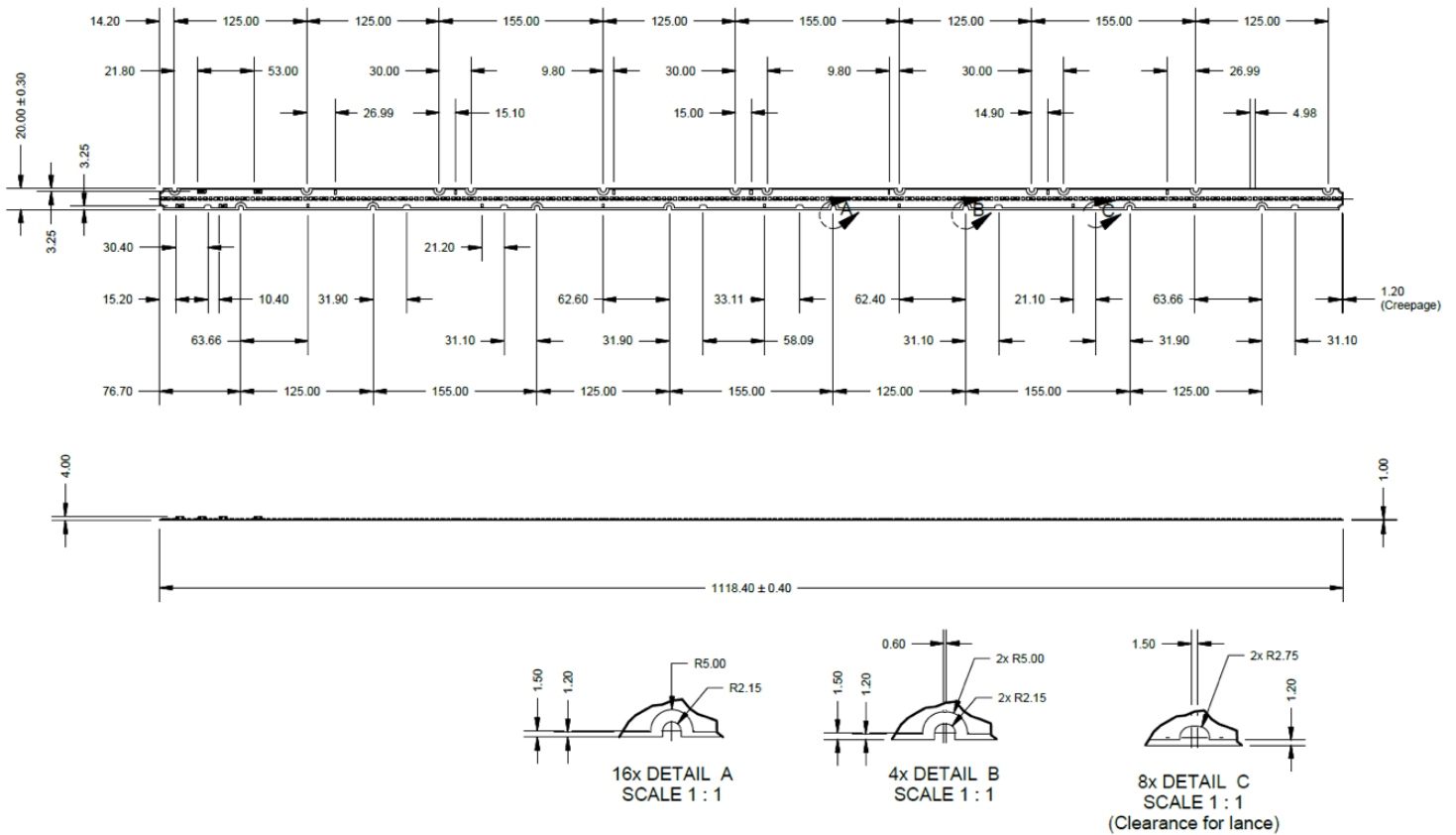
Surge protection of the module must be provided by the driver or other components. Philips Advance Xitanium and Certadrive drivers have built in protection circuitry and will protect the module up to the specified driver surge rating. When using third party drivers testing or confirmation from manufacturer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



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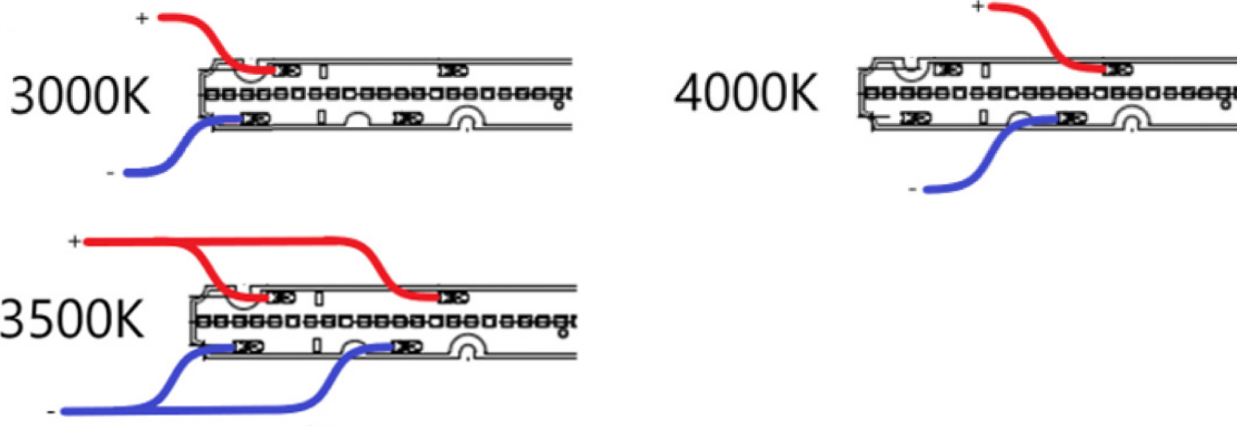
## Mechanical Characteristics

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



## Wiring Diagram

See below diagrams for wiring the selections for the three possible CCT colors. Wire colors are only representative – other colors for wires can be used. For more information concerning the wiring of the selectable color LED modules please refer to the Philips Fortimo LED linear modules design-in guide located in the linear modules section of the Download Center on the My Technology Portal NA website: <https://www.na.mytechnologyportal.lighting.philips.com/dashboard/download-center.html?folderUUID=016dc487-124a-43cd-8e24-99597bf0ff74>.



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## Absolute Ratings

Parameter	Min.	Typ.	Max.	Unit
Current through the LED module (I-max)			1400	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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