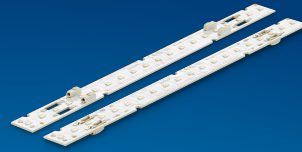


# PHILIPS

## Fortimo

### LED

Fortimo LED Strip 1ft  
650lm 8xx LV5



## Datasheet

### Fortimo LED Strip 1ft 650lm 8xx LV5

The Fortimo LED Strip is a uniquely wide portfolio which can be used in all kind of linear indoor luminaire types. It's form factor makes it easy to design-in and handle in production as it complies to Zhaga standards. Due to the availability from 0.5ft up to 5ft lengths only one product family is needed to cover a wide range of needs.

#### Key features and benefits

- Typical module efficacy of 185 lm/W (at 4000K CRI80)
- High performance for CRI90 of 175 lm/W (at 4000K CRI90)
- Long life-time: >50,000 hours
- Excellent color consistency of 3 SDCM
- Two lumen packages per length available
- Wide range of CCTs available: 2700K, 3000K, 4000K, 5000K and 6500K
- Available in High Voltage (HV) and Low Voltage (LV)
- Small LED module width of only 20mm
- Wide temperature (Tc) range -40°C to +80°C
- Five year system warranty

December 2020



## Ordering data

Commercial product name	EOC	12NC	Box quantity
Fortimo LED Strip 1ft 650lm 830 FC LV5	8718699 717995 00	9290 021 20406	168
Fortimo LED Strip 1ft 650lm 840 FC LV5	8718699 718534 00	9290 021 20506	168
Fortimo LED Strip 1ft 650lm 830 BC LV5	8718699 721541 00	9290 021 20906	168
Fortimo LED Strip 1ft 650lm 840 BC LV5	8718699 721800 00	9290 021 21006	168

## Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo LED Strip 1ft 650lm 8xx LV5	128	240	300	mA

## Module temperatures

Parameter	Nominal*	Life**	Max***	Unit
T <sub>c</sub> (case temperature at T <sub>c</sub> point)	45	70	80	°C

\* Nominal value at which typical performance is specified

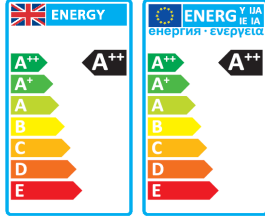
\*\* Value at which life time is specified

\*\*\* Maximum value for safe operation, do not operate above this value

## Optical characteristics - table per color (CCT)

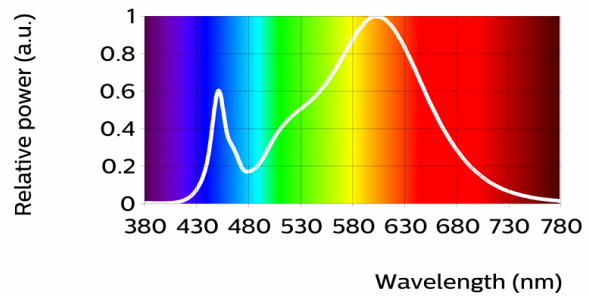
Fortimo LED Strip 1ft 650lm 830 FC LV5  
 Fortimo LED Strip 1ft 650lm 830 BC LV5

Parameter	Min	Typ	Max	Unit
Luminous flux	564	620	656	lm
Module efficacy	157	173		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.436, 0.401)		-
Color consistency			3	SDCM
CRI	80			
Photometric code		830/369		
Radiation angle		120		deg
Photobiological safety			RG1 unlimited	



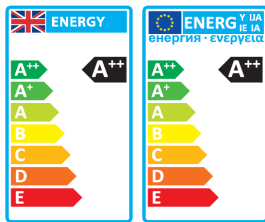
Measurement precision for flux +/- 5%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5

Operation point	830	lm	lm/W
80% I-nom 102mA	Tc 25 °C	513	182
	Tc-nom 45 °C	501	179
	Tc-max 80 °C	484	175
I-nom 128mA	Tc 25 °C	635	178
	Tc-nom 45 °C	620	173
	Tc-max 80 °C	599	171
I-max 300mA	Tc 25 °C	1142	161
	Tc-nom 45 °C	1115	158
	Tc-max 80 °C	1077	154



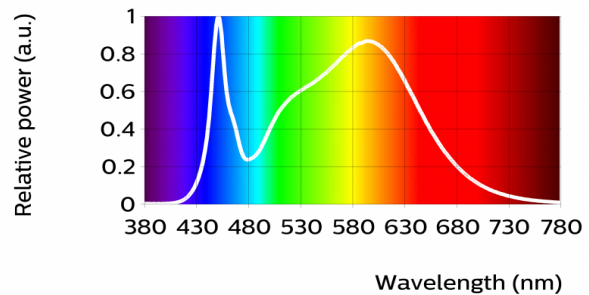
Fortimo LED Strip 1ft 650lm 840 FC LV5  
 Fortimo LED Strip 1ft 650lm 840 BC LV5

Parameter	Min	Typ	Max	Unit
Luminous flux	601	650	699	lm
Module efficacy	168	181		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.383, 0.378)		-
Color consistency			3	SDCM
CRI	80			
Photometric code		840/369		
Radiation angle		120		deg
Photobiological safety			RG1 unlimited	



Measurement precision for flux +/- 5%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5

Operation point	840	lm	lm/W
80% I-nom 102mA	Tc 25 °C	538	191
	Tc-nom 45 °C	525	188
	Tc-max 80 °C	508	183
I-nom 128mA	Tc 25 °C	665	186
	Tc-nom 45 °C	650	181
	Tc-max 80 °C	628	179
I-max 300mA	Tc 25 °C	1197	168
	Tc-nom 45 °C	1169	166
	Tc-max 80 °C	1129	161



## Electrical characteristics

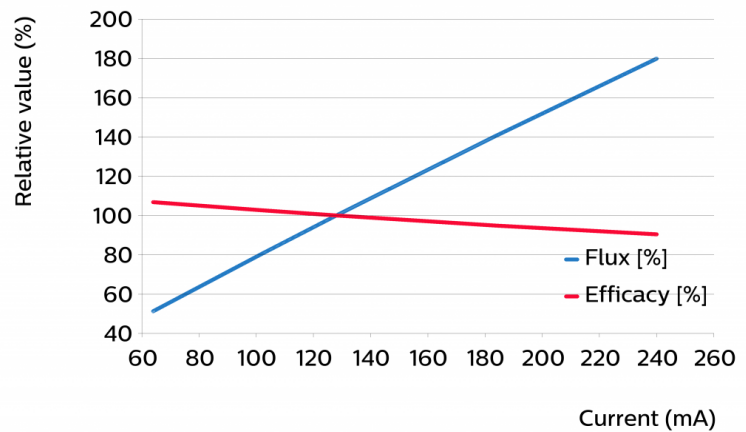
Parameter	Min	Typ	Max	Unit
Forward voltage	27.0	28.0	29.0	V
Power consumption	3.46	3.59	3.71	W = kWh/1000h
Number of modules in series per chain			1	
Number of modules per chain			8	

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

## Tuning information

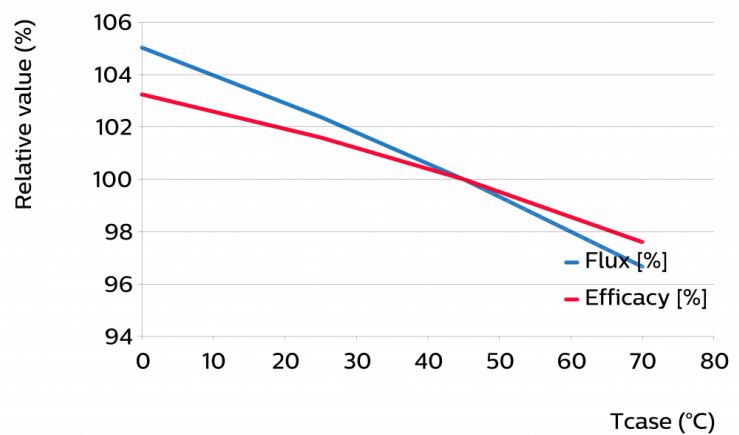
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
240	180	90
184	141	95
128	100	100
102	81	103
64	51	107



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

Tc [°C]	Flux [%]	Efficacy [%]
70	97	98
45	100	100
25	102	102
0	105	103



## Lumen maintenance

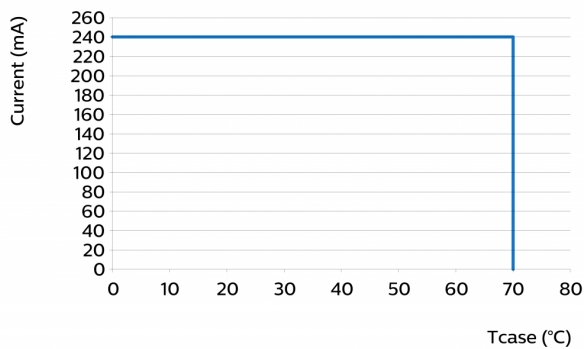
Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% I nom 102 mA	Tc 25°C	>70	>70	>70	>70	>70	>70	67	64	62
	Tc nom 45°C	>70	>70	>70	>70	>70	>70	52	50	49
	Tc life 70°C	>70	>70	>70	>70	>70	>70	40	38	37
I nom 128 mA	Tc 25°C	>70	>70	>70	>70	>70	>70	67	64	62
	Tc nom 45°C	>70	>70	>70	>70	>70	>70	52	50	49
	Tc life 70°C	>70	>70	>70	>70	>70	>70	40	38	37
I life 240 mA	Tc 25°C	>70	>70	>70	>70	>70	>70	58	55	54
	Tc nom 45°C	>70	>70	>70	>70	>70	>70	45	43	42
	Tc life 70°C	>70	>70	>70	>70	>70	>70	35	33	32

## Lifetime

Parameter	Value	Unit
M70F50 nominal	>70000	hours
M70F50 life	>70000	hours

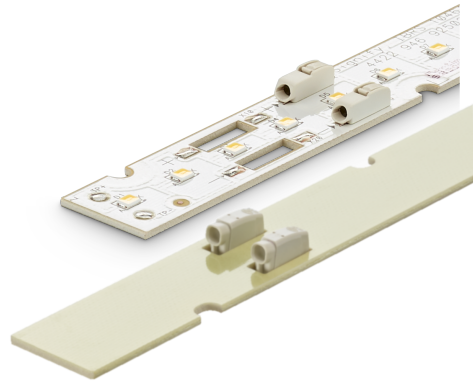
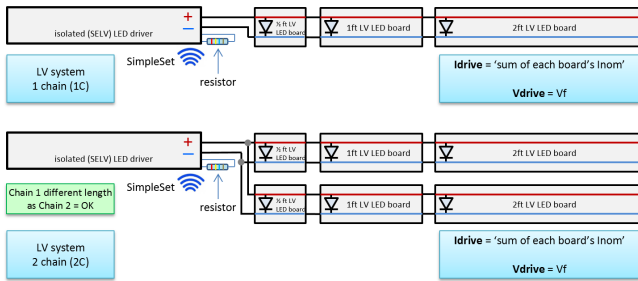
Switching cycles in accordance to EU 1194/2012: >15000

## Performance Window



## Wiring

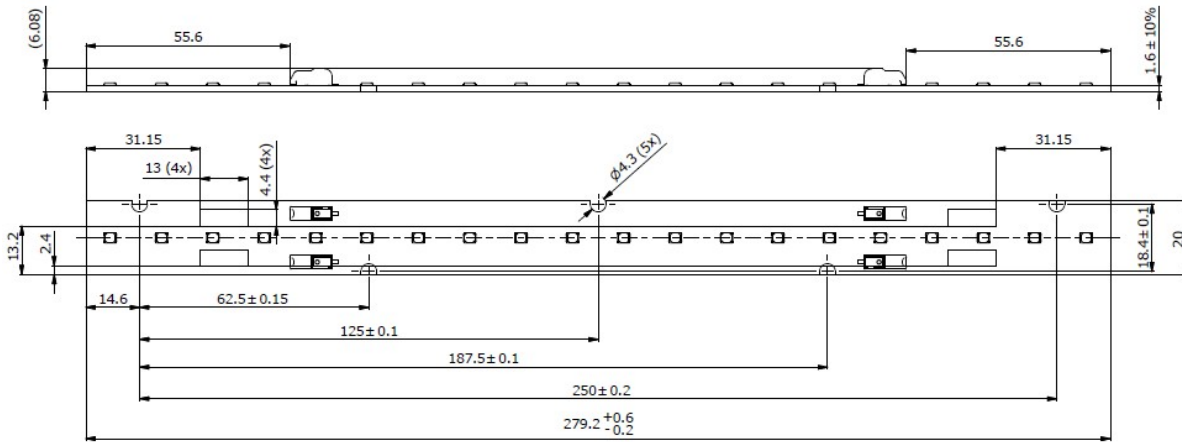
Specification item	Value	Unit	Condition
Input wire cross-section	0.25...0.75	mm <sup>2</sup>	solid wire
	18...24	AWG	solid wire
Input wire strip length	7.5...8.5	mm	
Input wire cross-section	0.33...0.5	mm <sup>2</sup>	stranded wire
	20...22	AWG	stranded wire
Input wire strip length	7.5...8.5	mm	



## Mechanical characteristics

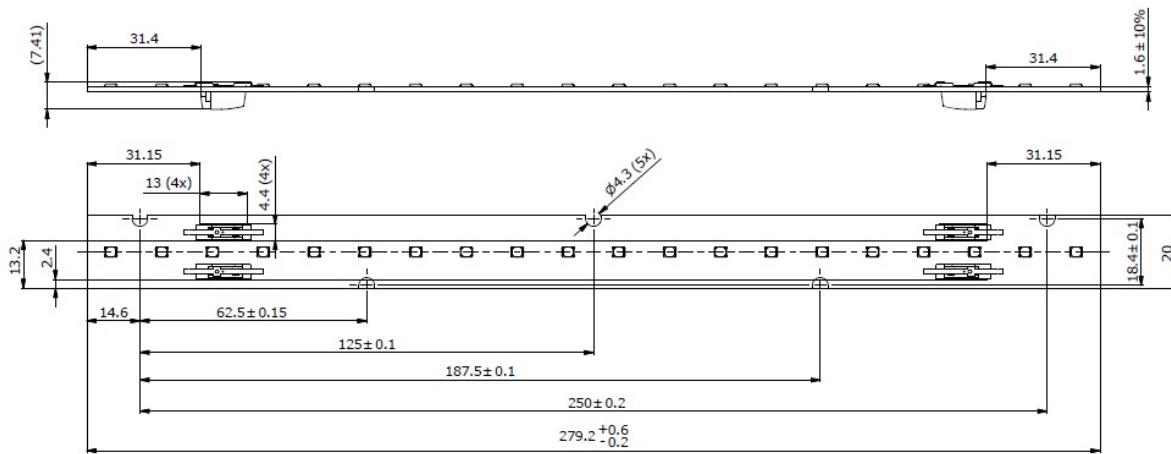
Fortimo LED Strip 1ft 650lm 840 FC LV5  
 Fortimo LED Strip 1ft 650lm 830 FC LV5

Parameter	Min	Typ	Max	Unit
Length	279	279.2	279.8	mm
Width	19.8	20	20.2	mm
Height excl. connector		1.6		mm
Height incl. connector		6.1		mm
Product mass		20		gram



Fortimo LED Strip 1ft 650lm 830 BC LV5  
 Fortimo LED Strip 1ft 650lm 840 BC LV5

Parameter	Min	Typ	Max	Unit
Length	279	279.2	279.8	mm
Width	19.8	20	20.2	mm
Height excl. connector		1.6		mm
Height incl. connector		7.35		mm
Product mass		20		gram



## Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		300	mA
Case temperature (Tc-max)		80	°C
ESD (direct contact)	8		kV
Working voltage		120	V <sub>dc</sub>

## Application information

### Certificates and Standards

CE  
 ENEC  
 ENEC+  
 UL

### Environmental

RoHS/REACH

### Application

Dimming	Yes
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