

**PHILIPS**

**Fortimo**

**LED**

Fortimo LED Strip  
0.5ft 550lm LV4+



Datasheet

# Fortimo LED Strip CRI90 HE LV4

## Key features and benefits

- LED module efficiency up to 175 lm/W
- Long life-time: >50,000 hours
- High color rendering (CRI >90)
- Color consistency of 3 SDCM
- Choice of color temperatures (2700, 3000 K, 4000 K and 6500 K)
- Half-foot (140 mm), one-foot (280 mm), and two-foot (560 mm) lengths
- 1100 lm per foot
- Small LED module width of only 20mm
- Push-in connectors enabling automated wiring

May 2019



## Ordering data

Commercial product name	EOC	12NC	Box quantity
Fortimo LED Strip 0.5ft 550lm 930 LV4 +	8718699 694104 00	9290 021 10606	56
Fortimo LED Strip 0.5ft 550lm 940 LV4 +	8718699 694128 00	9290 021 10706	56

## Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo LED Strip 0.5ft 550lm LV4+	92	130	190	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 0.5ft 550lm 930 LV4 +

Parameter	Min	Typ	Max	Unit
Luminous flux	492	518	544	lm
Module efficacy	159	168		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.433, 0.399)		-
Color consistency			3	SDCM
CRI	90			
R9	50			
Photometric code		930/359		
Radiation angle		120		deg
Photobiological safety			RG1 unlimited	
$\Delta u'v'$ at 6000 hours			0.007	



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	930	lm	lm/W
80% I-nom 74mA	Tc 25 °C	430	174
	Tc-nom 45 °C	418	171
	Tc-max 80 °C	395	164
I-nom 92mA	Tc 25 °C	532	170
	Tc-nom 45 °C	518	168
	Tc-max 80 °C	489	159
I-life 130mA	Tc 25 °C	738	162
	Tc-nom 45 °C	718	159
	Tc-max 80 °C	677	152

Fortimo LED Strip 0.5ft 550lm 940 LV4 +

Parameter	Min	Typ	Max	Unit
Luminous flux	524	551	579	lm
Module efficacy	169	178		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.381, 0.376)		-
Color consistency			3	SDCM
CRI	90			
R9	50			
Photometric code		940/359		
Radiation angle		120		deg
Photobiological safety			RG1 unlimited	
$\Delta u'v'$ at 6000 hours			0.007	

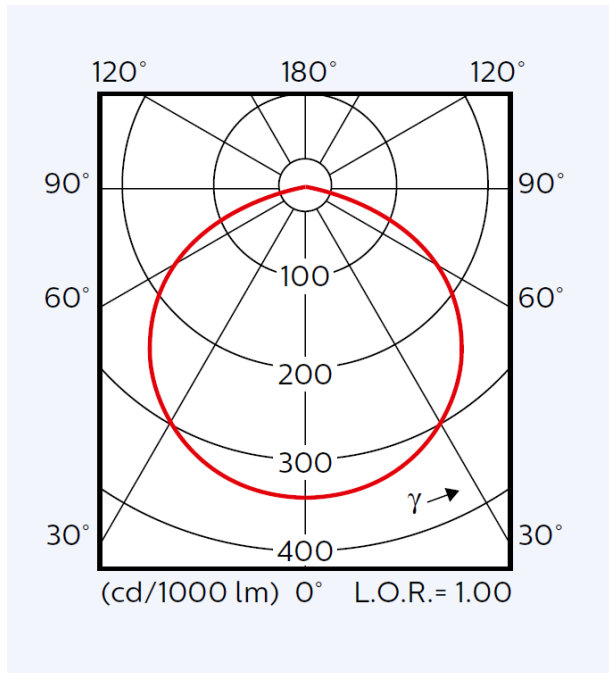


Measurement precision  $\pm 5\%$  for the flux data and  $\pm 6\%$  for the efficacy data. Measurement precision for color coordinates  $\pm 0.005$ . Measurement precision for CRI  $\pm 1.5$

Operation point	940	lm	lm/W
80% I-nom 74mA	Tc 25 °C	457	185
	Tc-nom 45 °C	445	182
	Tc-max 80 °C	420	174
I-nom 92mA	Tc 25 °C	566	181
	Tc-nom 45 °C	551	178
	Tc-max 80 °C	520	170
I-life 130mA	Tc 25 °C	784	172
	Tc-nom 45 °C	764	169
	Tc-max 80 °C	720	161

## Beam shape

The Philips LED module generates a Lambertian beam shape, which is a pragmatic starting point for OEMs wishing to design secondary optics.



## Electrical characteristics

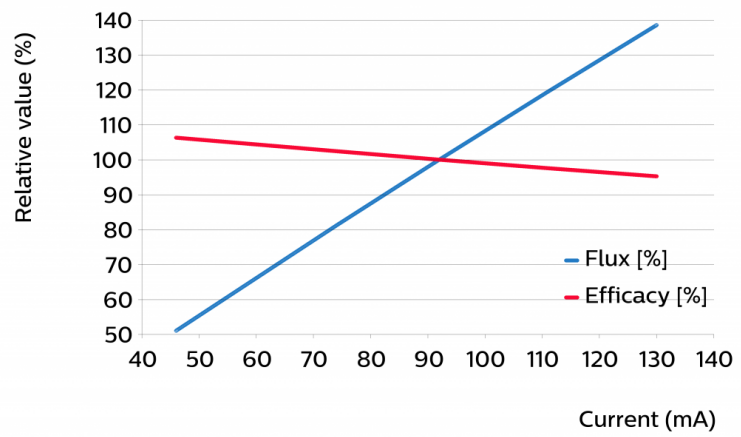
Parameter	Min	Typ	Max	Unit
Forward voltage	31.9	33.6	35.3	V
Power consumption	2.9	3.1	3.2	W = kWh/1000h
Number of modules in parallel per chain			12	
Number of modules in parallel			21	

Measurement precision for Vf +/- 3%. Measurement precision for power +/- 3.3%  
 Specifications stated at Tc-nom and I-nom

## Tuning information

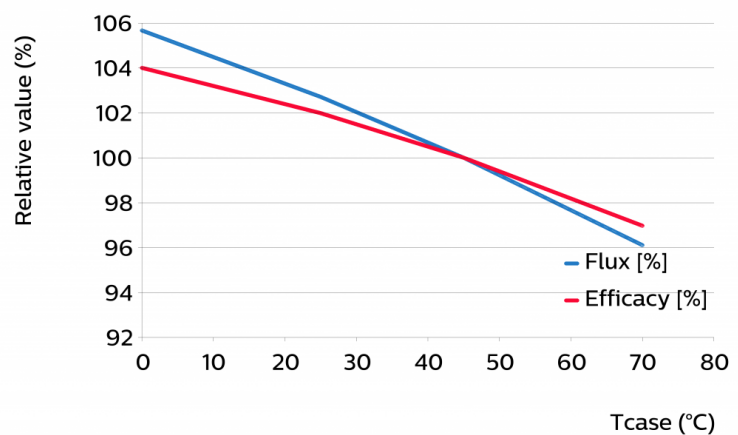
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
130	139	95
111	119	98
92	100	100
74	81	102
46	51	106



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

Tc [°C]	Flux [%]	Efficacy [%]
70	96	97
45	100	100
25	103	102
0	106	104



## Lumen maintenance

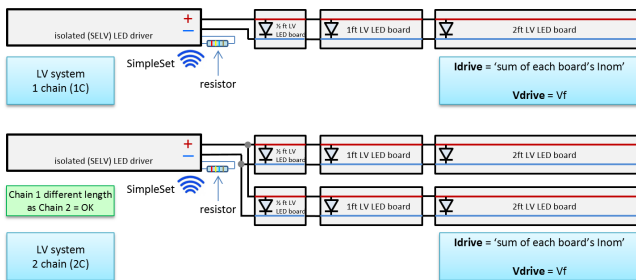
Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% I nom 73 mA	Tc 25°C	>70	>70	>70	>70	>70	>70	45	40	40
	Tc nom 45°C	>70	>70	>70	>70	>70	>70	35	30	30
	Tc life 70°C	>70	>70	>70	65	60	60	30	30	25
I nom 92 mA	Tc 25°C	>70	>70	>70	>70	>70	>70	40	40	40
	Tc nom 45°C	>70	>70	>70	>70	>70	70	35	30	30
	Tc life 70°C	>70	>70	>70	60	55	55	30	25	25
I life 130mA	Tc 25°C	>70	>70	>70	>70	>70	>70	40	35	35
	Tc nom 45°C	>70	>70	>70	70	67	66	35	30	30
	Tc life 70°C	>70	>70	>70	55	55	50	25	25	25

## Lifetime

Lumen depreciation and color shift may increase at R.H >70%  
Switching cycles in accordance to EU 1194/2012: >15000.

## Wiring

Specification item	Value	Unit	Condition
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	
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	

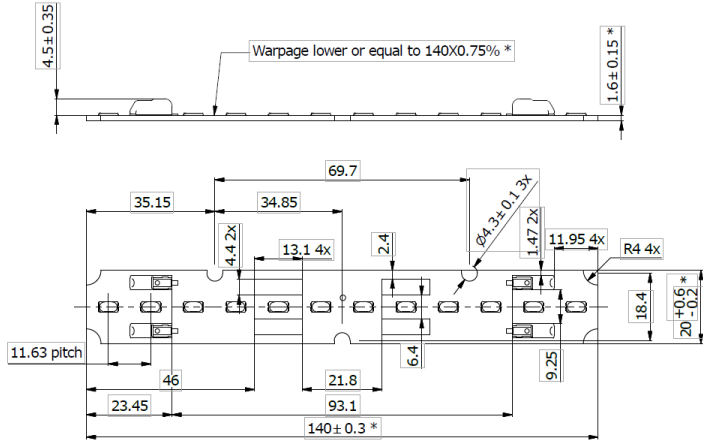


More information in the design-in guide of LED Linear modules.



## Mechanical characteristics

Parameter	Min	Typ	Max	Unit
Length	139.7	140	140.3	mm
Width	19.8	20	20.6	mm
Height excl. connector	1.45	1.6	1.75	mm
Height incl. connector	3.85	4.2	4.55	mm
Product mass		10		gram



## Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		190	mA
Case temperature (Tc-max)		80	°C
ESD (direct contact)		8	kV
Working voltage		120	V <sub>dc</sub>
Ambient temperature	-40		°C
Storage temperature	-40	85	°C

Store in a dry (RH<70%) and dark place



## Application information

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### Certificates and Standards

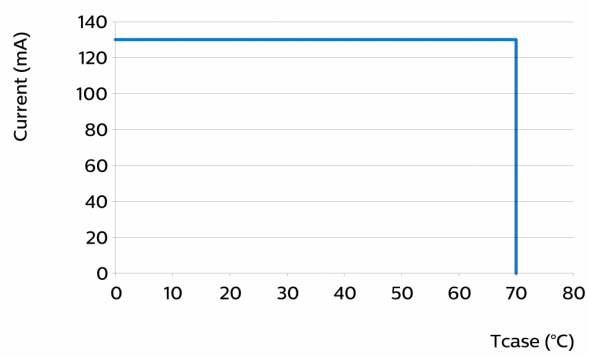
CE  
ENEC  
ENEC+  
IEC 62031  
IEC 62717

### Application

IP rating	No IP rating
Overheating protection	No protection
Dimming	Yes

## Performance Window

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