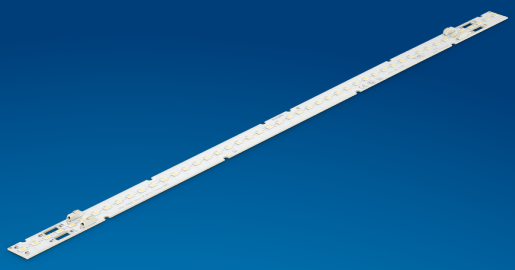
PHILIPS

Fortimo

LED

Fortimo LED Strip 2ft 2200lm 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 2ft 2200lm 930 LV4 +	8718699 694302 00	9290 021 11606	168
Fortimo LED Strip 2ft 2200lm 940 LV4 +	8718699 694425 00	9290 021 11706	168

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo LED Strip 2ft 2200lm LV4+	368	520	760	mA

Module temperatures

Parameter	Nominal*	Life**	Max***	Unit
T_c (case temperature at T_c point)	45	70	80	°C

* Nominal value at which typical performance is specified

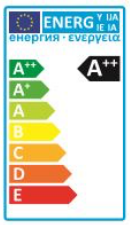
** Value at which life time is specified

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

Optical characteristics - table per color (CCT)

Fortimo LED Strip 2ft 2200lm 930 LV4 +

Parameter	Min	Typ	Max	Unit
Luminous flux	1969	2073	2176	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	
Δu'v' at 6000 hours			0.007	

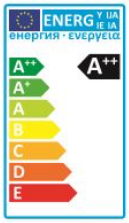


Measurement precision ± 5% for the flux data and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5

Operation point	930	lm	lm/W
80% I-nom 294mA	Tc 25 °C	1719	174
	Tc-nom 45 °C	1674	171
	Tc-max 80 °C	1580	164
I-nom 368mA	Tc 25 °C	2129	170
	Tc-nom 45 °C	2073	168
	Tc-max 80 °C	1956	159
I-life 520mA	Tc 25 °C	2950	162
	Tc-nom 45 °C	2872	159
	Tc-max 80 °C	2710	152

Fortimo LED Strip 2ft 2200lm 940 LV4 +

Parameter	Min	Typ	Max	Unit
Luminous flux	2094	2204	2315	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	
Δu'v' at 6000 hours			0.007	

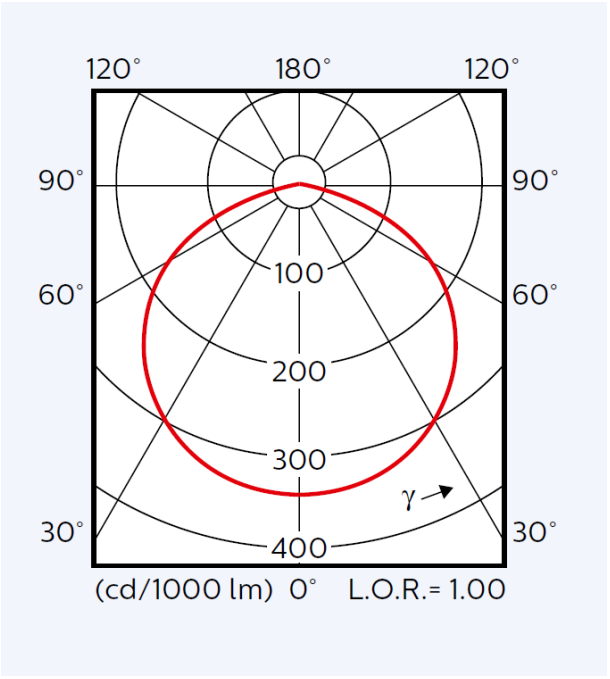


Measurement precision ± 5% for the flux data and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5

Operation point	940	lm	lm/W
80% I-nom 294mA	Tc 25 °C	1828	185
	Tc-nom 45 °C	1780	182
	Tc-max 80 °C	1680	174
I-nom 368mA	Tc 25 °C	2264	181
	Tc-nom 45 °C	2204	178
	Tc-max 80 °C	2080	170
I-life 520mA	Tc 25 °C	3138	172
	Tc-nom 45 °C	3055	169
	Tc-max 80 °C	2882	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

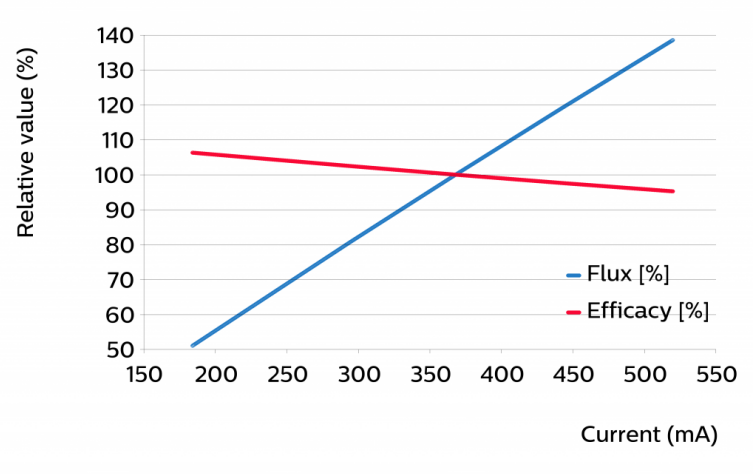
Parameter	Min	Typ	Max	Unit
Forward voltage	31.9	33.6	35.3	V
Power consumption	11.7	12.4	13.0	W = kWh/1000h
Number of modules in parallel per chain			3	
Number of modules in parallel			5	

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

Tuning information

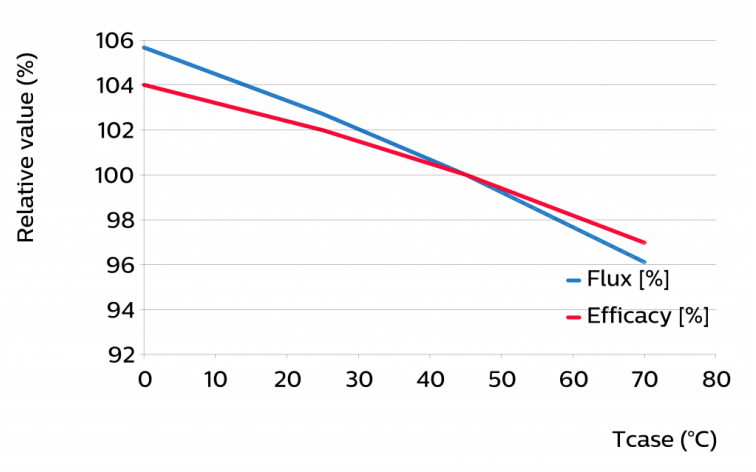
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
520	139	95
444	119	98
368	100	100
294	81	103
184	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

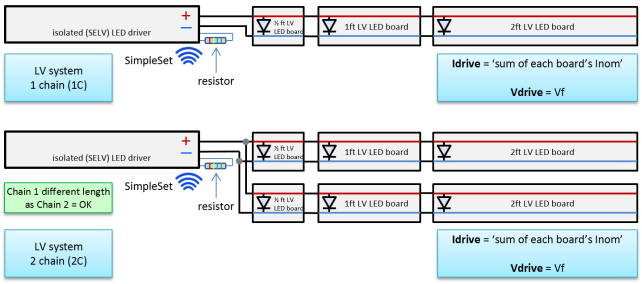
Operation point	Lumen maintenance	L70			L80			L90		
	x 1000 hours	B50	B20	B10	B50	B20	B10	B50	B20	B10
80% I nom 294 mA	Tc 25°C	>70	>70	>70	>70	>70	>70	45	40	40
	Tc nom 45°C	>70	>70	>70	>70	>70	>70	35	30	30
	Tc life 70°C	>70	>70	>70	65	60	60	30	30	25
I nom 368 mA	Tc 25°C	>70	>70	>70	>70	>70	>70	40	40	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 520mA	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

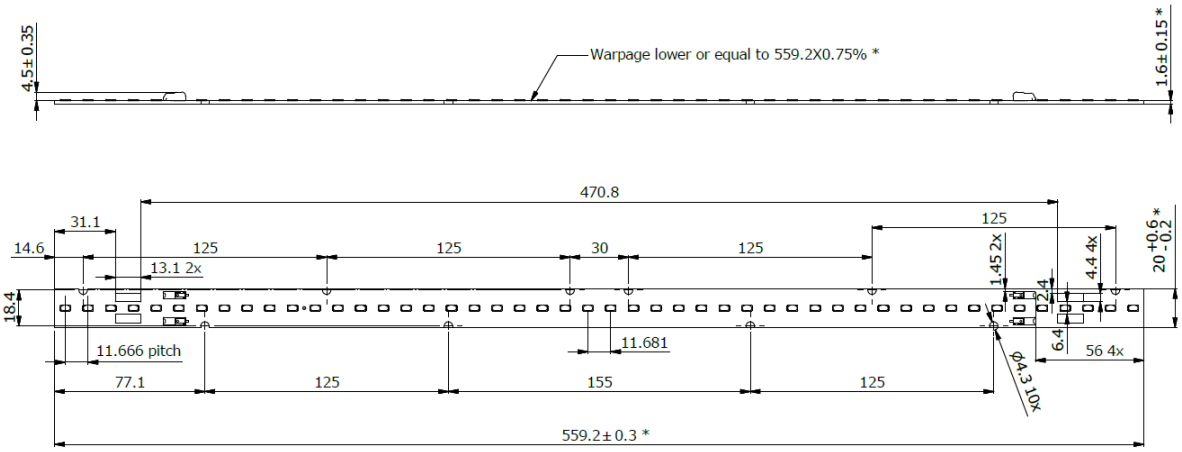
Specification item	Value	Unit	Condition
Input wire cross-section	0.25…0.75	mm^2	solid wire
	18…24	AWG	solid wire
Input wire strip length	7.5…8.5	mm	
Input wire cross-section	0.33…0.5	mm^2	stranded wire
	20…22	AWG	stranded wire
Input wire strip length	7.5…8.5	mm	



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

Mechanical characteristics

Parameter	Min	Typ	Max	Unit
Length	558.9	559.2	559.5	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		40		gram



Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		760	mA
Case temperature (Tc-max)		80	°C
ESD (direct contact)		8	kV
Working voltage		120	V_{dc}
Ambient temperature	-40		°C
Storage temperature	-40	85	°C

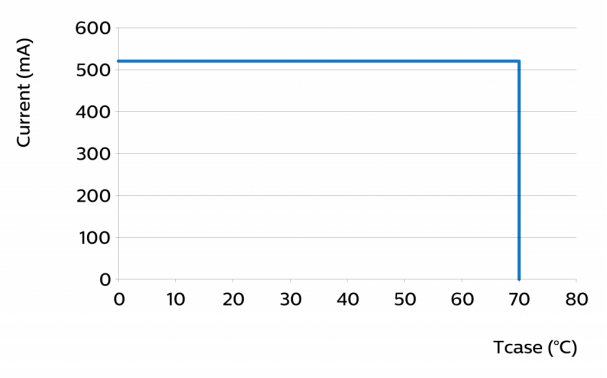
Store in a dry (RH<70%) and dark place

Application information

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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