PHILIPS

Fortimo

LED

Fortimo LED Strip 1ft LF 8xx LV6



Datasheet

The Fortimo LED Strip is a uniquely wide portfolio which can be used in all kind of linear indoor luminaire types. Its form factor makes it easy to design-in and handle in production as it complies to Zhaga standards. Due to the availability from 0.25ft up to 5ft lengths only one product family is needed to cover a wide range of needs.

Key features and benefits

- Typical module efficiency of 186 Lm/W (at 4000K CRI80)
- CRI90 High Efficiency typical performance of 174 Lm/W (at 4000K CRI90)
- Long life-time: >72,000 hours
- Excellent color consistency of 3 SDCM
- Two lumen packages per length available: LF (650 lm/ft) and MF (1100 lm/ft)
- Wide range of CCTs available: 2700K, 3000K, 3500K, 4000K, 5000K and 6500K
- Available in High Voltage (HV) and Low Voltage (LV)
- Options in front connector (FC) or back connector (BC)
- Small LED module width of only 20mm
- Available lengths: 0.25ft / 0.5ft / 1ft / 2ft / 4ft (1120mm) / 4ft extended (1150mm) / 5ft (1400mm) / 5ft extended 1450mm)
- Wide temperature (Tc) range -40°C to +80°C
- Five year system warranty

March 2023









Ordering data

Commercial product name	EOC	12NC	EPREL registration #	Box quantity
Fortimo LED Strip 1ft LF 830 FC LV6	8719514 487062 00	9290 029 40806	1413394	110
Fortimo LED Strip 1ft LF 840 FC LV6	8719514 487949 00	9290 029 40906	1413395	110

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo LED Strip 1ft LF 8xx LV6	90	240	240	mA

Module temperatures

Parameter	Nominal*	Life**	Max***	Unit
T_c (case temperature at T_c point)	45	75	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

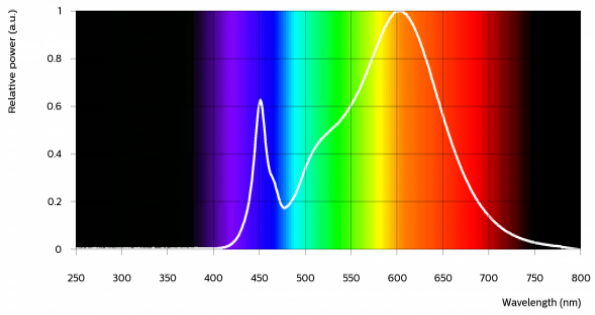
Optical characteristics - table per color (CCT)

Fortimo LED Strip 1ft LF 830 FC LV6

Parameter	Min	Typ	Max	Unit
Luminous flux	590	610	650	lm
Efficacy	166	175	197	lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.433, 0.400)		-
Color consistency			3	SDCM
CRI	80			
R9	0			
Photometric code		830/339		
Photobiological safety			RG1 unlimited	

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	830	lm	lm/W
80% I-nom 72mA	Tc 25 °C	507	182
	Tc-nom 45 °C	494	179
	Tc-max 85 °C	465	171
I-nom 90mA	Tc 25 °C	626	178
	Tc-nom 45 °C	610	175
	Tc-max 85 °C	573	167
I-max 240mA	Tc 25 °C	1537	154
	Tc-nom 45 °C	1498	151
	Tc-max 85 °C	1405	144

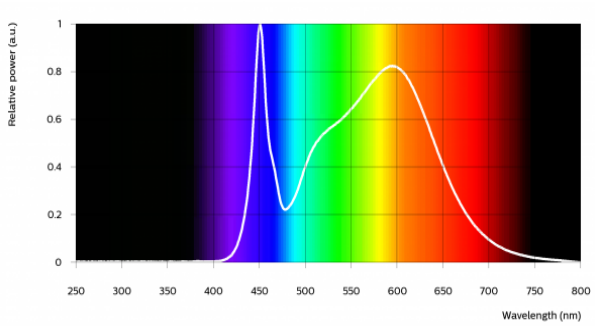


Fortimo LED Strip 1ft LF 840 FC LV6

Parameter	Min	Typ	Max	Unit
Luminous flux	630	650	720	lm
Efficacy	178	187		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.381, 0.377)		-
Color consistency			3	SDCM
CRI	80			
R9	0			
Photometric code		840/339		
Photobiological safety			RG1 unlimited	

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	840	lm	lm/W
80% I-nom 72mA	Tc 25 °C	540	194
	Tc-nom 45 °C	526	191
	Tc-max 85 °C	494	182
I-nom 90mA	Tc 25 °C	667	190
	Tc-nom 45 °C	650	187
	Tc-max 85 °C	610	178
I-max 240mA	Tc 25 °C	1647	165
	Tc-nom 45 °C	1603	161
	Tc-max 85 °C	1503	153



Electrical characteristics

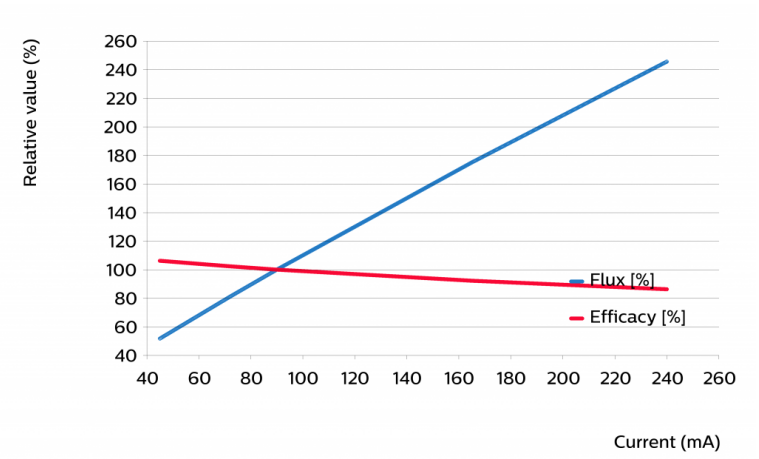
Parameter	Min	Typ	Max	Unit
Forward voltage	36.6	38.7	39.4	V
Power consumption	3.3	3.5	3.5	W = kWh/1000h
Number of modules per chain			5	

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

Tuning information

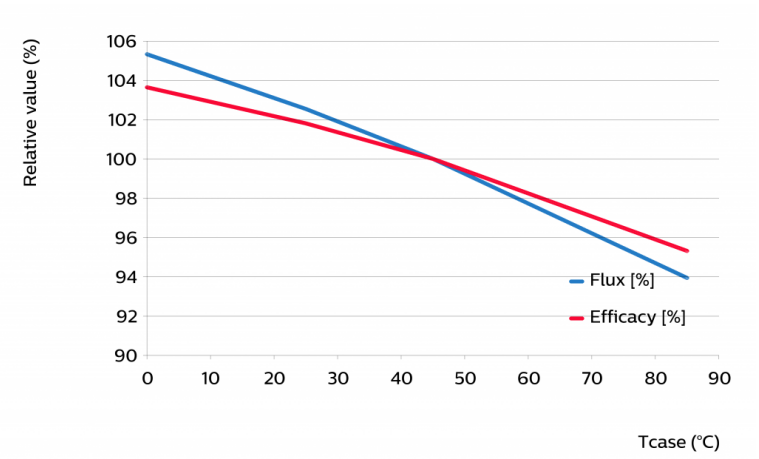
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
240	246	86
165	175	92
90	100	100
72	81	102
45	52	106



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

Tc [°C]	Flux [%]	Efficacy [%]
85	94	95
45	100	100
25	103	102
0	105	104



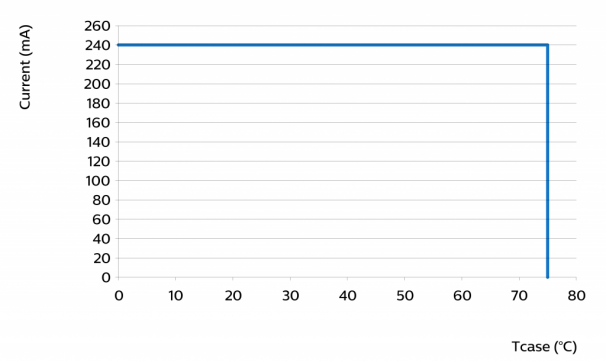
Lumen maintenance

Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% Inom=72mA	Tc=25°C	>72	>72	>72	>72	>72	>72	>68	>68	>68
	Tc_nom=45°C	>72	>72	>72	>72	>72	>72	>68	66	64
	Tc_life=75°C	>72	>72	>72	>72	>72	>72	47	44	42
Inom=90mA	Tc=25°C	>72	>72	>72	>72	>72	>72	>68	>68	>68
	Tc_nom=45°C	>72	>72	>72	>72	>72	>72	>68	66	64
	Tc_life=75°C	>72	>72	>72	>72	>72	>72	47	44	42
Ilife=240mA	Tc=25°C	>72	>72	>72	>72	>72	>72	>41	>41	>41
	Tc_nom=45°C	>72	>72	>72	>72	>72	>72	>41	>41	>41
	Tc_life=75°C	>72	>72	>72	>72	>72	>72	41	39	38

Lifetime

Parameter	Value	Unit
M70F50 nominal	>72000	hours
M70F50 life	>72000	hours

Performance Window

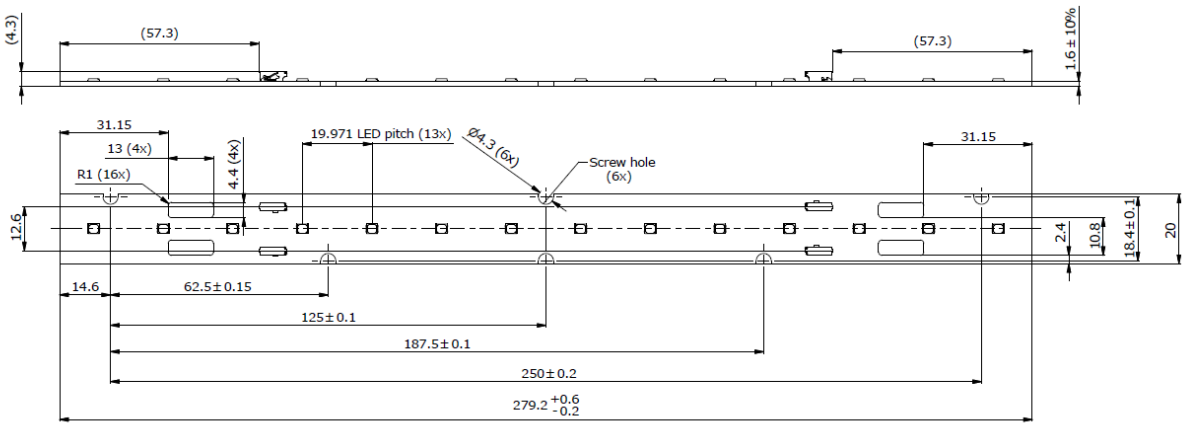


Wiring

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	

Mechanical characteristics

Parameter	Min	Typ	Max	Unit
Length	279	279.2	279.8	mm
Width	19.8	20	20.2	mm
Height PCB	1.45	1.6	1.75	mm
Height Total		4.3		mm
Product mass		18.3		gram



Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		240	mA
Case temperature (Tc-max)		85	°C
ESD (direct contact)	8		kV
Working voltage		350	V_{dc}

Application information

Certificates and Standards
CE
ENEC
ENEC+
cULus

Environmental
RoHS/REACH

Application	
Dimming	Yes



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