

PHILIPS

Fortimo

LED

Fortimo LED Strip 1ft LF
9xx HV6



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 930 FC HV6	8719514 487000 00	9290 029 40606	1413392	110
Fortimo LED Strip 1ft LF 940 FC HV6	8719514 487048 00	9290 029 40706	1413393	110

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo LED Strip 1ft LF 9xx HV6	96	150	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)

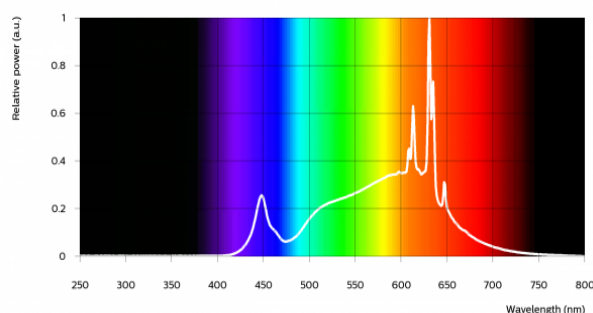
Fortimo LED Strip 1ft LF 930 FC HV6

Parameter	Min	Typ	Max	Unit
Luminous flux	600	607	670	lm
Efficacy	157	162	189	lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.436, 0.402)		-
Color consistency			3	SDCM
CRI	90			
R9	50			
Photometric code		930/339		
Photobiological safety			RG1 unlimited	



Measurement precision $\pm 5\%$ for the flux data and $\pm 6\%$ 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 77mA	Tc 25 °C	503	172
	Tc-nom 45 °C	491	166
	Tc-max 85 °C	462	154
I-nom 96mA	Tc 25 °C	621	167
	Tc-nom 45 °C	607	162
	Tc-max 85 °C	571	150
I-max 240mA	Tc 25 °C	1451	143
	Tc-nom 45 °C	1417	138
	Tc-max 85 °C	1329	128



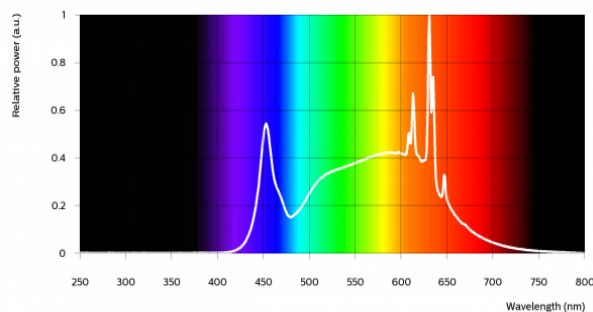
Fortimo LED Strip 1ft LF 940 FC HV6

Parameter	Min	Typ	Max	Unit
Luminous flux	630	650	710	lm
Efficacy	165	174	201	lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.382, 0.378)		-
Color consistency			3	SDCM
CRI	90			
R9	50			
Photometric code		940/339		
Photobiological safety			RG1 unlimited	



Measurement precision $\pm 5\%$ for the flux data and $\pm 6\%$ 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 77mA	Tc 25 °C	540	184
	Tc-nom 45 °C	526	178
	Tc-max 85 °C	493	164
I-nom 96mA	Tc 25 °C	667	180
	Tc-nom 45 °C	650	174
	Tc-max 85 °C	609	160
I-max 240mA	Tc 25 °C	1558	153
	Tc-nom 45 °C	1517	148
	Tc-max 85 °C	1418	137



Electrical characteristics

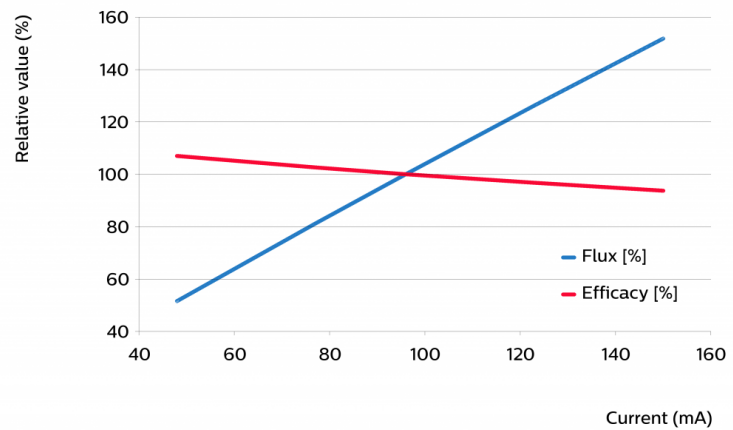
Parameter	Min	Typ	Max	Unit
Forward voltage	36.9	39.0	39.7	V
Power consumption	3.5	3.7	3.8	W = kWh/1000h
Number of modules in series per chain			8	
Number of modules in parallel			4	

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

Tuning information

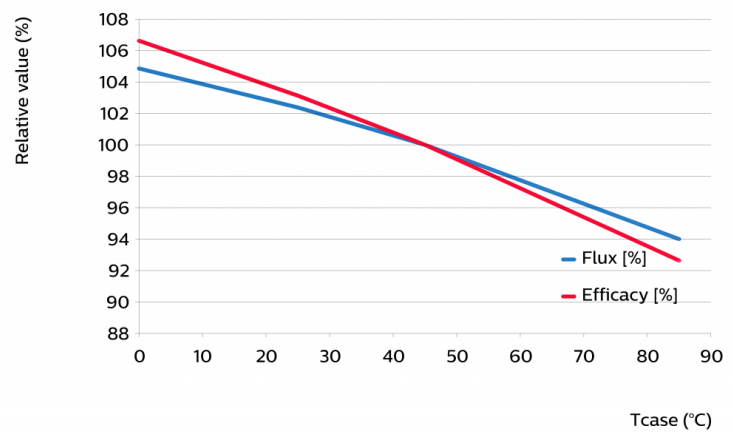
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
150	152	94
123	126	97
96	100	100
77	81	103
48	52	107



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

Tc [°C]	Flux [%]	Efficacy [%]
85	94	93
45	100	100
25	102	103
0	105	107



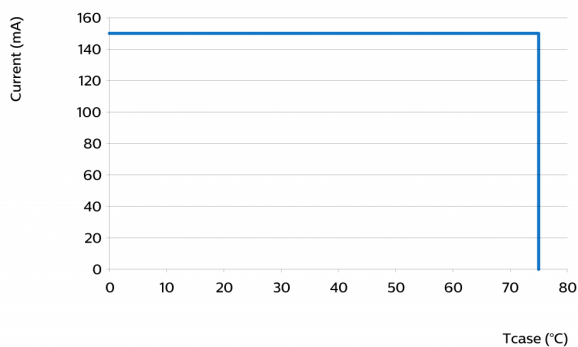
Lumen maintenance

Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% Inom=77mA	Tc=25°C	>100	>100	>100	>100	>100	>100	>50	>50	>50
	Tc_nom=45°C	>100	>100	>100	>100	>100	97	>50	49	47
	Tc_life=75°C	>100	>100	>100	79	75	73	37	35	35
Inom=96mA	Tc=25°C	>100	>100	>100	>100	>100	>100	>50	>50	>50
	Tc_nom=45°C	>100	>100	>100	>100	99	96	50	46	45
	Tc_life=75°C	>100	>100	>100	76	72	70	36	34	33
Ilife=150mA	Tc=25°C	>69	>69	>69	>69	>69	>69	>32	>32	>32
	Tc_nom=45°C	>69	>69	>69	>69	>69	>69	>32	>32	>32
	Tc_life=75°C	>69	>69	>69	69	66	64	32	31	30

Lifetime

Parameter	Value	Unit
M70F50 nominal	>100000	hours
M70F50 life	>69000	hours

Performance Window

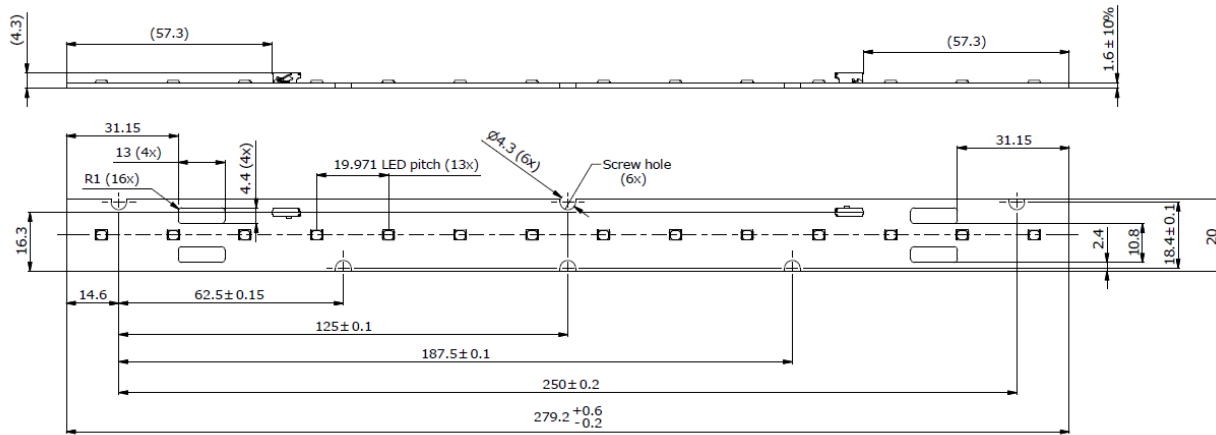


Wiring

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		17.4		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+

Environmental

RoHS/REACH

Application

Dimming	Yes
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