PHILIPS

Fortimo

LED

Fortimo LED Strip 4ft MF 9xx 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 4ft MF 930 FC LV6	8719514 489585 00	9290 029 47906	1413465	110
Fortimo LED Strip 4ft MF 940 FC LV6	8719514 489608 00	9290 029 48006	1413466	110

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo LED Strip 4ft MF 9xx LV6	757	1200	1920	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

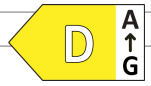
** Value at which life time is specified

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

Optical characteristics - table per color (CCT)

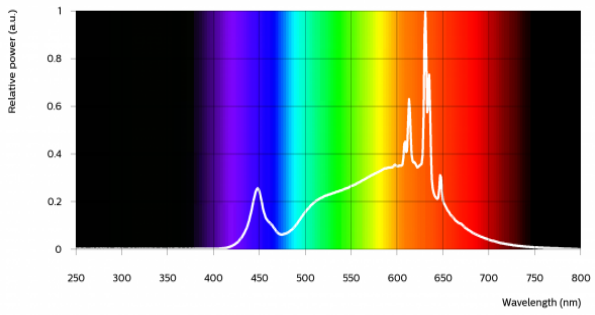
Fortimo LED Strip 4ft MF 930 FC LV6

Parameter	Min	Typ	Max	Unit
Luminous flux	4040	4107	4500	lm
Efficacy	157	163	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 ± 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 606mA	Tc 25 °C	3402	172
	Tc-nom 45 °C	3323	167
	Tc-max 85 °C	3125	155
I-nom 757mA	Tc 25 °C	4204	168
	Tc-nom 45 °C	4107	163
	Tc-max 85 °C	3860	151
I-max 1920mA	Tc 25 °C	9955	143
	Tc-nom 45 °C	9717	139
	Tc-max 85 °C	9113	128



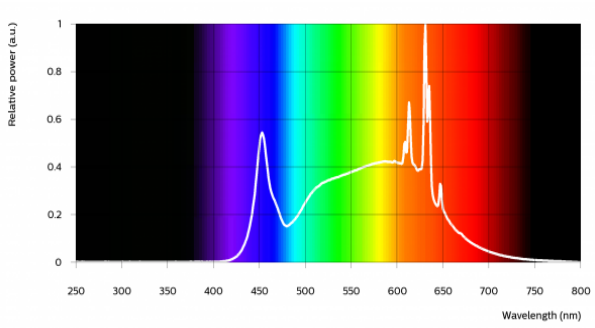
Fortimo LED Strip 4ft MF 940 FC LV6

Parameter	Min	Typ	Max	Unit
Luminous flux	4250	4400	4820	lm
Efficacy	165	174	202	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 ± 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 606mA	Tc 25 °C	3654	185
	Tc-nom 45 °C	3561	178
	Tc-max 85 °C	3334	165
I-nom 757mA	Tc 25 °C	4516	180
	Tc-nom 45 °C	4400	174
	Tc-max 85 °C	4120	161
I-max 1920mA	Tc 25 °C	10694	153
	Tc-nom 45 °C	10413	148
	Tc-max 85 °C	9730	137



Electrical characteristics

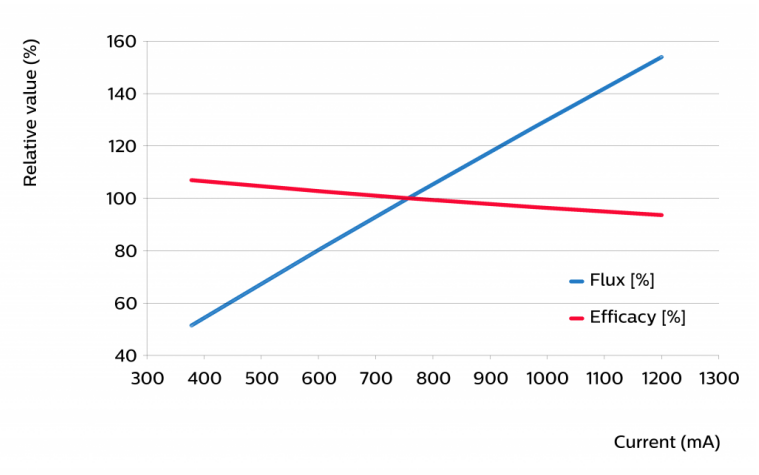
Parameter	Min	Typ	Max	Unit
Forward voltage	31.5	33.3	33.9	V
Power consumption	23.8	25.2	25.7	W = kWh/1000h
Number of modules per chain			1	

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

Tuning information

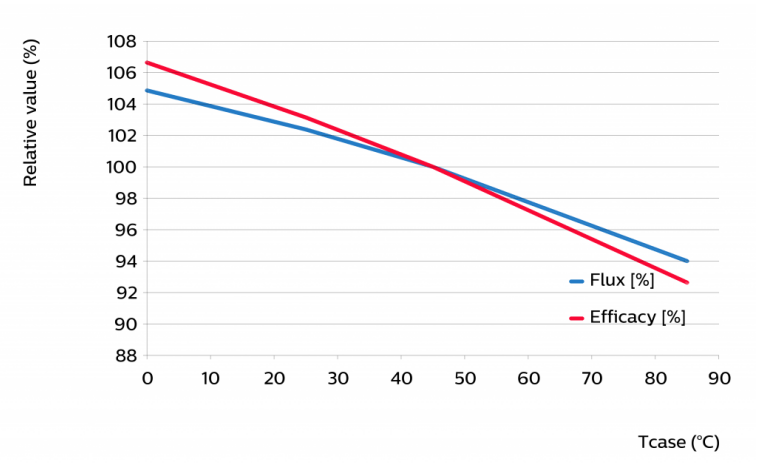
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
1200	154	94
978	127	97
757	100	100
606	81	103
378	51	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



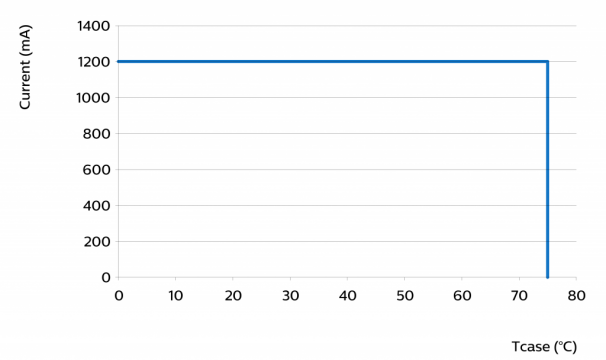
Lumen maintenance

Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% Inom=606mA	Tc=25°C	>100	>100	>100	>100	>100	>100	>50	>50	>50
	Tc_nom=45°C	>100	>100	>100	>100	>100	97	>50	49	48
	Tc_life=75°C	>100	>100	>100	79	76	75	37	36	35
Inom=757mA	Tc=25°C	>100	>100	>100	>100	>100	>100	>50	>50	>50
	Tc_nom=45°C	>100	>100	>100	>100	100	98	50	47	46
	Tc_life=75°C	>100	>100	>100	76	73	72	36	34	34
Ilife=1200mA	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	67	65	32	31	31

Lifetime

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

Performance Window

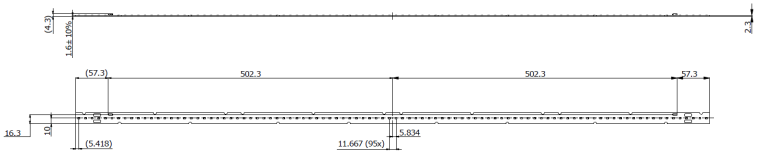


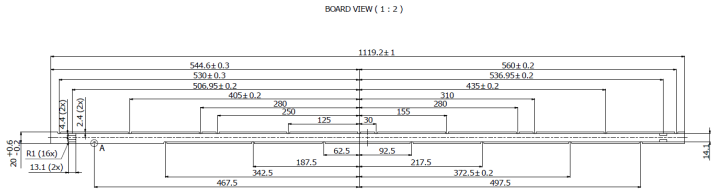
Wiring

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	1118.2	1119.2	1120.2	mm
Width	19.8	20	20.6	mm
Height PCB	1.45	1.6	1.75	mm
Height Total		4.3		mm
Product mass		73.7		gram





Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		1920	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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