PHILIPS

Fortimo

LED

Fortimo LED Strip 0.5ft
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

indirect

100%
instant

Ordering data

Commercial product name	EOC	12NC	EPREL registration #	Box quantity
Fortimo LED Strip 0.5ft MF 930 FC LV6	8719514 486645 00	9290 029 40206	1413388	66
Fortimo LED Strip 0.5ft MF 940 FC LV6	8719514 486669 00	9290 029 40306	1413389	66

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo LED Strip 0.5ft MF 9xx LV6	95	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

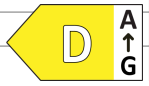
** Value at which life time is specified

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

Optical characteristics - table per color (CCT)

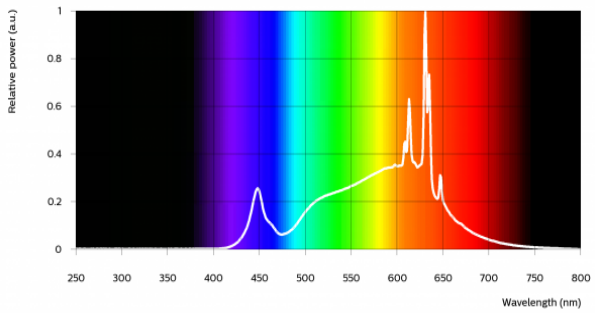
Fortimo LED Strip 0.5ft MF 930 FC LV6

Parameter	Min	Typ	Max	Unit
Luminous flux	510	515	560	lm
Efficacy	158	162	187	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	



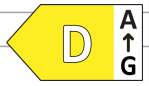
Measurement precision ± 5% for the flux data and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5.

Operation point	930	lm	lm/W
80% I-nom 76mA	Tc 25 °C	427	172
	Tc-nom 45 °C	417	166
	Tc-max 85 °C	392	154
I-nom 95mA	Tc 25 °C	527	167
	Tc-nom 45 °C	515	162
	Tc-max 85 °C	484	150
I-max 240mA	Tc 25 °C	1244	143
	Tc-nom 45 °C	1214	138
	Tc-max 85 °C	1138	128



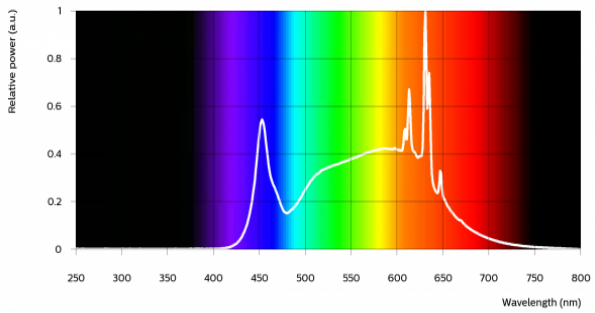
Fortimo LED Strip 0.5ft MF 940 FC LV6

Parameter	Min	Typ	Max	Unit
Luminous flux	530	550	600	lm
Efficacy	164	173	200	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 76mA	Tc 25 °C	457	184
	Tc-nom 45 °C	445	178
	Tc-max 85 °C	417	164
I-nom 95mA	Tc 25 °C	564	179
	Tc-nom 45 °C	550	173
	Tc-max 85 °C	515	160
I-max 240mA	Tc 25 °C	1332	153
	Tc-nom 45 °C	1297	148
	Tc-max 85 °C	1212	136



Electrical characteristics

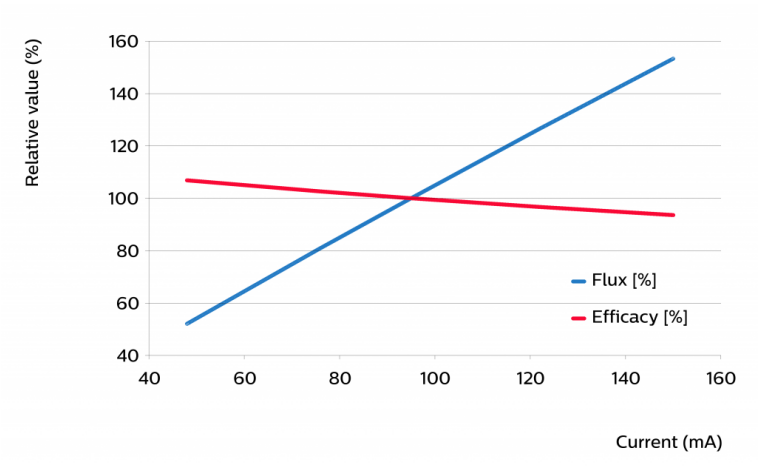
Parameter	Min	Typ	Max	Unit
Forward voltage	31.6	33.4	34.0	V
Power consumption	3.0	3.2	3.2	W = kWh/1000h
Number of modules per chain			10	

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

Tuning information

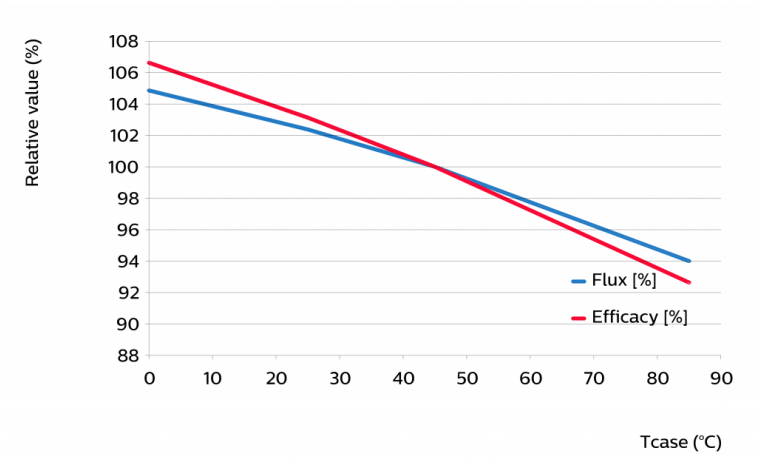
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
150	153	94
122	126	97
95	100	100
76	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



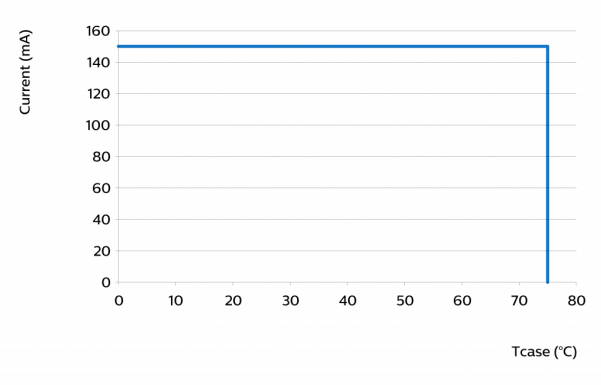
Lumen maintenance

Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% Inom=76mA	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=95mA	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

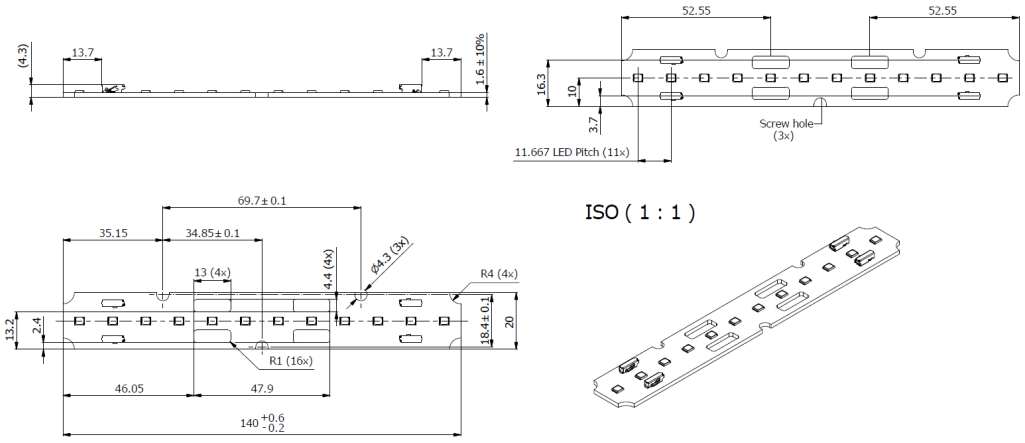


Wiring

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	139.8	140	140.6	mm
Width	19.8	20	20.2	mm
Height PCB	1.45	1.6	1.75	mm
Height Total		4.3		mm
Product mass		9		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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