PHILIPS

Fortimo

LED

Fortimo LED Strip 0.5ft
MF 8xx LV6



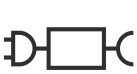
Datasheet

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 0.5ft MF 830 FC LV6	8720169 238336 00	9290 029 40066	1413386	56
Fortimo LED Strip 0.5ft MF 830 FC LV6	8719514 486607 00	9290 029 40006	1413386	66
Fortimo LED Strip 0.5ft MF 840 FC LV6	8719514 486621 00	9290 029 40106	1413387	66

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo LED Strip 0.5ft MF 8xx LV6	89	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

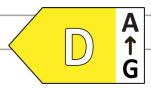
** Value at which life time is specified

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

Optical characteristics - table per color (CCT)

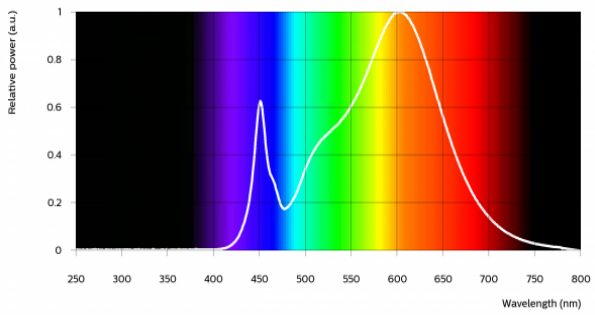
Fortimo LED Strip 0.5ft MF 830 FC LV6
Fortimo LED Strip 0.5ft MF 830 FC LV6

Parameter	Min	Typ	Max	Unit
Luminous flux	500	518	550	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 71mA	Tc 25 °C	430	182
	Tc-nom 45 °C	420	179
	Tc-max 85 °C	394	171
I-nom 89mA	Tc 25 °C	531	178
	Tc-nom 45 °C	518	175
	Tc-max 85 °C	487	167
I-max 240mA	Tc 25 °C	1319	154
	Tc-nom 45 °C	1285	151
	Tc-max 85 °C	1205	144



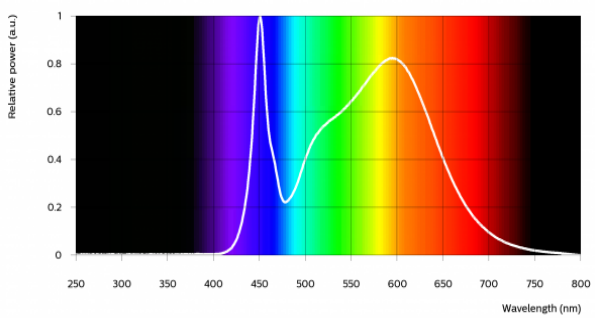
Fortimo LED Strip 0.5ft MF 840 FC LV6

Parameter	Min	Typ	Max	Unit
Luminous flux	530	550	610	lm
Efficacy	176	186	218	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 71mA	Tc 25 °C	457	194
	Tc-nom 45 °C	445	190
	Tc-max 85 °C	418	181
I-nom 89mA	Tc 25 °C	565	190
	Tc-nom 45 °C	550	186
	Tc-max 85 °C	516	177
I-max 240mA	Tc 25 °C	1408	164
	Tc-nom 45 °C	1371	161
	Tc-max 85 °C	1285	153



Electrical characteristics

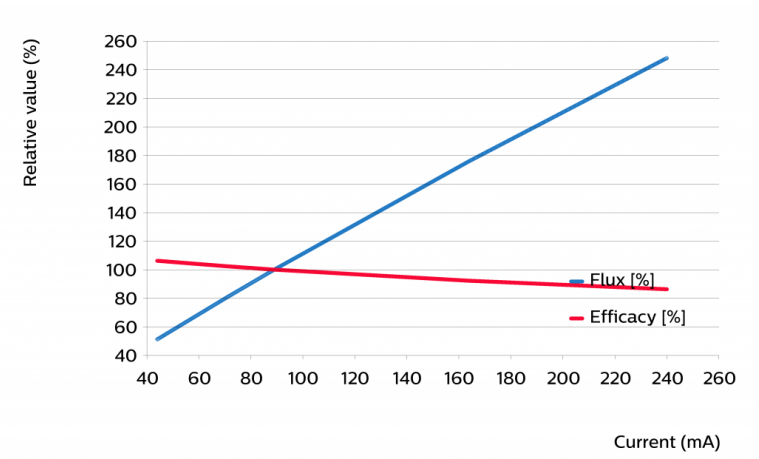
Parameter	Min	Typ	Max	Unit
Forward voltage	31.4	33.2	33.8	V
Power consumption	2.8	3.0	3.0	W = kWh/1000h
Number of modules per chain			10	

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

Tuning information

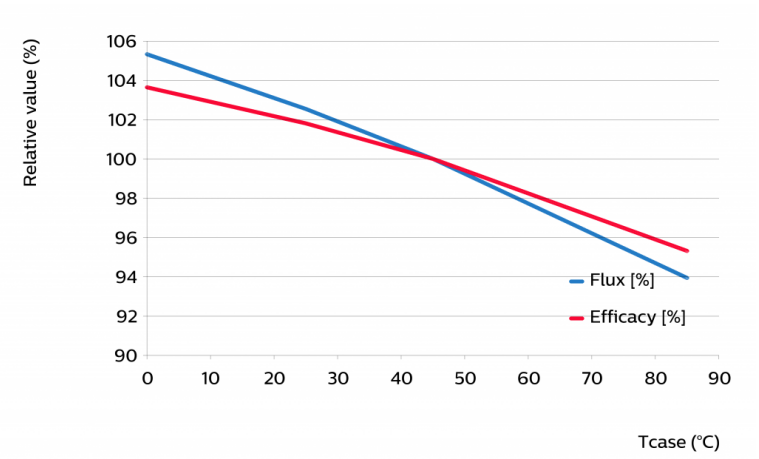
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
240	248	86
164	176	92
89	100	100
71	81	102
44	51	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



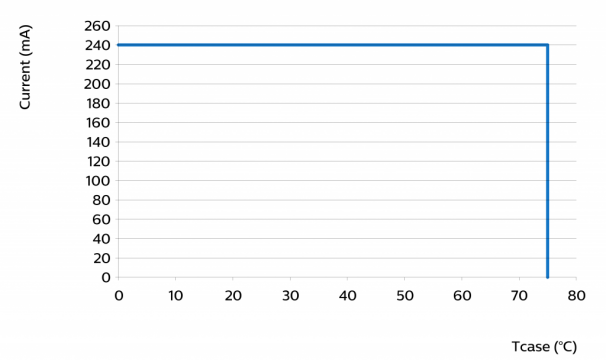
Lumen maintenance

Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% Inom=71.2mA	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	45	44
Inom=89mA	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	45	44
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

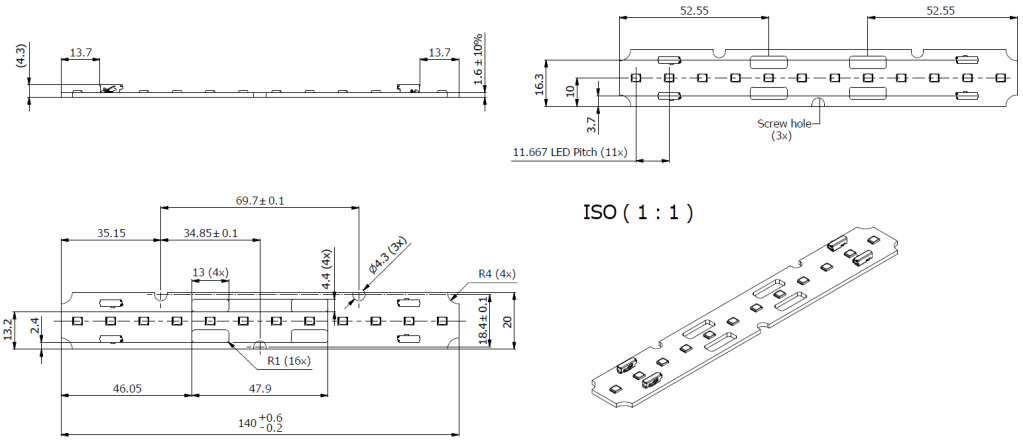


Wiring

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	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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