

PHILIPS

Fortimo

LED

Fortimo LED Strip 4ft 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

May 2023



Ordering data

Commercial product name	EOC	12NC	EPREL registration #	Box quantity
Fortimo LED Strip 4ft MF 830 FC LV6	8719514 489509 00	9290 029 47506	1413461	110
Fortimo LED Strip 4ft MF 840 FC LV6	8719514 489523 00	9290 029 47606	1413462	110
Fortimo LED Strip 4ft MF 850 FC LV6	8719514 489547 00	9290 029 47706	1413463	110
Fortimo LED Strip 4ft MF 865 FC LV6	8719514 489561 00	9290 029 47806	1413464	110

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo LED Strip 4ft MF 8xx LV6	713	1920	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)

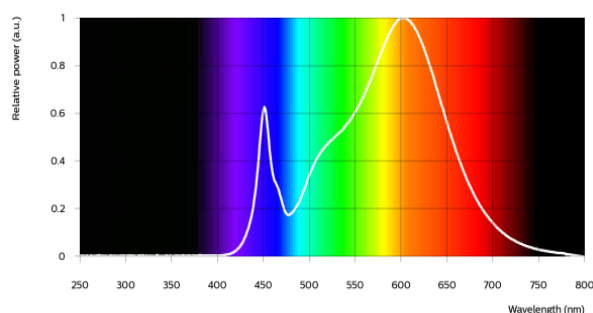
Fortimo LED Strip 4ft MF 830 FC LV6

Parameter	Min	Typ	Max	Unit
Luminous flux	4020	4149	4420	lm
Efficacy	167	175	198	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 $\pm 5\%$ 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	830	lm	lm/W
80% I-nom 570mA	Tc 25 °C	3448	182
	Tc-nom 45 °C	3363	179
	Tc-max 85 °C	3159	171
I-nom 713mA	Tc 25 °C	4254	178
	Tc-nom 45 °C	4149	175
	Tc-max 85 °C	3897	167
I-max 1920mA	Tc 25 °C	10547	154
	Tc-nom 45 °C	10280	151
	Tc-max 85 °C	9642	144



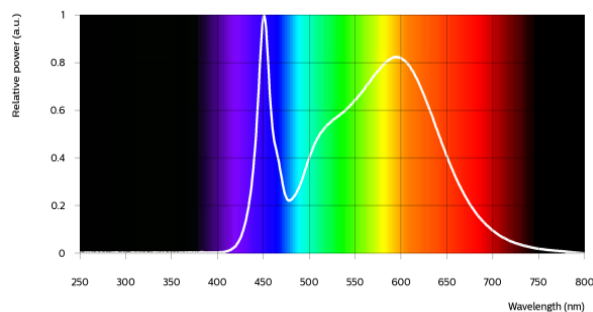
Fortimo LED Strip 4ft MF 840 FC LV6

Parameter	Min	Typ	Max	Unit
Luminous flux	4270	4400	4840	lm
Efficacy	177	186	216	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 $\pm 5\%$ 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	840	lm	lm/W
80% I-nom 570mA	Tc 25 °C	3658	194
	Tc-nom 45 °C	3563	190
	Tc-max 85 °C	3344	181
I-nom 713mA	Tc 25 °C	4517	189
	Tc-nom 45 °C	4400	186
	Tc-max 85 °C	4129	177
I-max 1920mA	Tc 25 °C	11250	164
	Tc-nom 45 °C	10952	161
	Tc-max 85 °C	10265	153

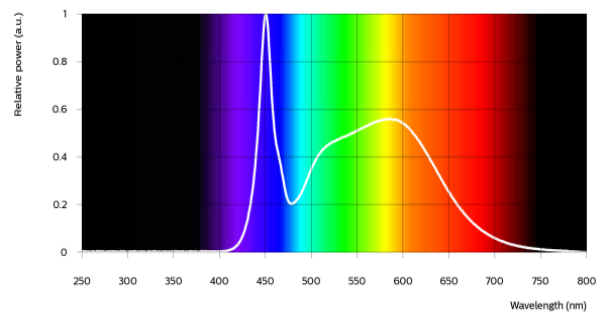


Fortimo LED Strip 4ft MF 850 FC LV6

Parameter	Min	Typ	Max	Unit
Luminous flux	4270	4399	4840	lm
Efficacy	177	186	216	lm/W
Correlated color temperature (CCT)		5000		K
Color coordinates (CIEx, CIEy)		(0.342, 0.350)		-
Color consistency			3	SDCM
CRI	80			
R9	0			
Photometric code		850/339		
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	850	lm	lm/W
80% I-nom 570mA	Tc 25 °C	3657	194
	Tc-nom 45 °C	3562	190
	Tc-max 85 °C	3344	181
I-nom 713mA	Tc 25 °C	4516	189
	Tc-nom 45 °C	4399	186
	Tc-max 85 °C	4128	177
I-max 1920mA	Tc 25 °C	11247	164
	Tc-nom 45 °C	10949	161
	Tc-max 85 °C	10263	153

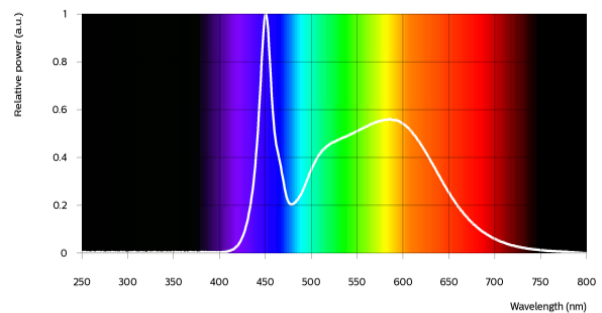


Fortimo LED Strip 4ft MF 865 FC LV6

Parameter	Min	Typ	Max	Unit
Luminous flux	4200	4337	4710	lm
Efficacy	174	183	211	lm/W
Correlated color temperature (CCT)		6500		K
Color coordinates (CIEx, CIEy)		(0.310, 0.324)		-
Color consistency			3	SDCM
CRI	80			
R9	0			
Photometric code		865/339		
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	865	lm	lm/W
80% I-nom 570mA	Tc 25 °C	3594	190
	Tc-nom 45 °C	3508	187
	Tc-max 85 °C	3294	178
I-nom 713mA	Tc 25 °C	4443	186
	Tc-nom 45 °C	4337	183
	Tc-max 85 °C	4071	175
I-max 1920mA	Tc 25 °C	11144	163
	Tc-nom 45 °C	10872	160
	Tc-max 85 °C	10187	152



Electrical characteristics

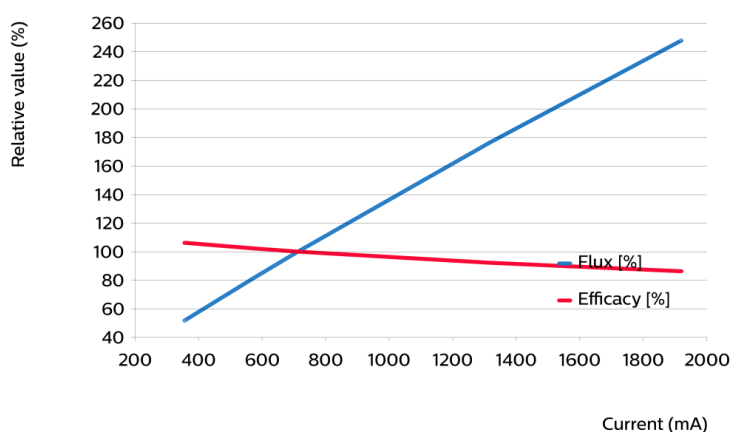
Parameter	Min	Typ	Max	Unit
Forward voltage	31.4	33.2	33.8	V
Power consumption	22.4	23.7	24.1	W = kWh/1000h
Number of modules per chain			1	

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

Tuning information

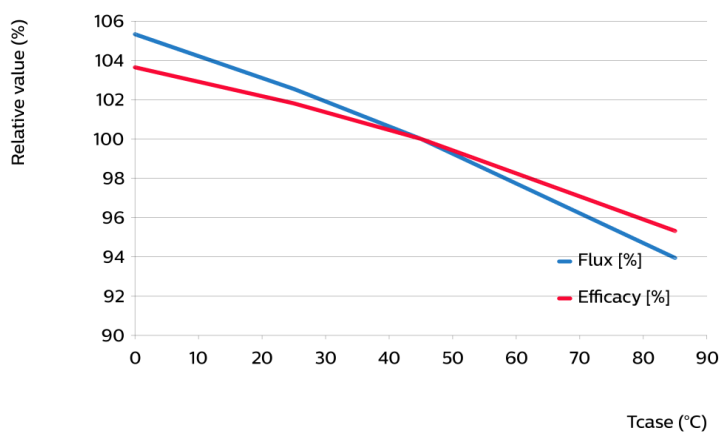
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
1920	248	86
1316	176	92
713	100	100
570	81	102
356	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



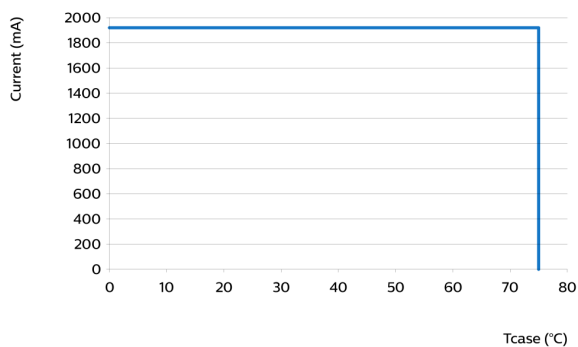
Lumen maintenance

Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% Inom=540mA	Tc=25°C	>72	>72	>72	>72	>72	>72	>68	>68	>68
	Tc_nom=45°C	>72	>72	>72	>72	>72	>72	>68	66	65
	Tc_life=75°C	>72	>72	>72	>72	>72	>72	47	45	45
Inom=713mA	Tc=25°C	>72	>72	>72	>72	>72	>72	>68	>68	>68
	Tc_nom=45°C	>72	>72	>72	>72	>72	>72	>68	66	65
	Tc_life=75°C	>72	>72	>72	>72	>72	>72	47	45	45
Ilife=1920mA	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	39

Lifetime

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

Performance Window

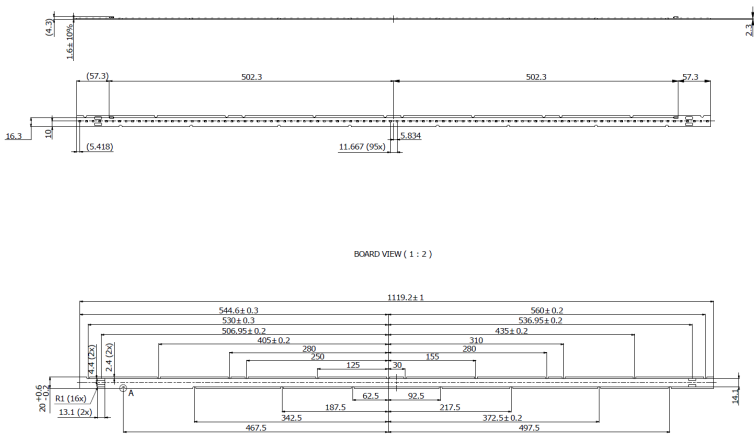


Wiring

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	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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