PHILIPS

Fortimo

LED

Fortimo LED Strip 5ft MF 8xx LV6

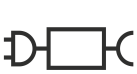
Datasheet

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 5ft MF 830 FC LV6	8719514 490086 00	9290 029 49506	1413362	110
Fortimo LED Strip 5ft MF 840 FC LV6	8719514 490109 00	9290 029 49606	1413363	110
Fortimo LED Strip 5ft MF 865 FC LV6	8719514 490123 00	9290 029 49706	1413364	110

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo LED Strip 5ft MF 8xx LV6	891	2400	2400	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

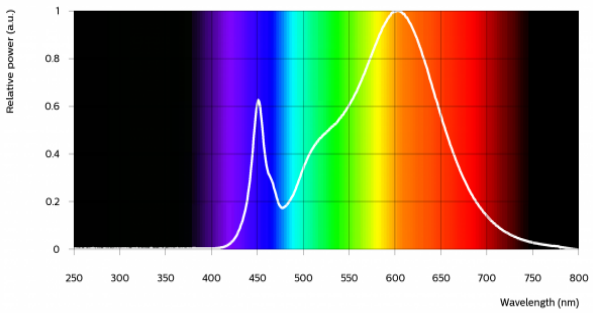
Optical characteristics - table per color (CCT)

Fortimo LED Strip 5ft MF 830 FC LV6

Parameter	Min	Typ	Max	Unit
Luminous flux	5030	5185	5520	lm
Efficacy	167	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 713mA	Tc 25 °C	4309	182
	Tc-nom 45 °C	4202	179
	Tc-max 85 °C	3948	171
I-nom 891mA	Tc 25 °C	5317	178
	Tc-nom 45 °C	5185	175
	Tc-max 85 °C	4871	167
I-max 2400mA	Tc 25 °C	13184	154
	Tc-nom 45 °C	12850	151
	Tc-max 85 °C	12053	144

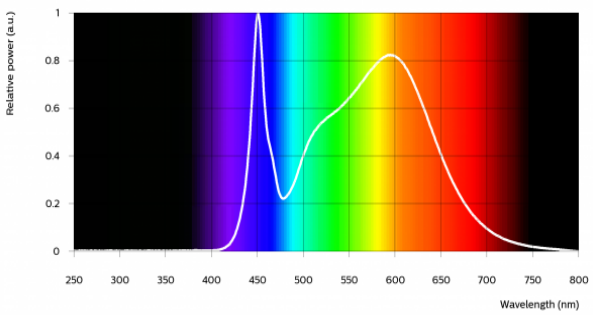


Fortimo LED Strip 5ft MF 840 FC LV6

Parameter	Min	Typ	Max	Unit
Luminous flux	5340	5500	6050	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 ± 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 713mA	Tc 25 °C	4573	194
	Tc-nom 45 °C	4454	190
	Tc-max 85 °C	4181	181
I-nom 891mA	Tc 25 °C	5647	190
	Tc-nom 45 °C	5500	186
	Tc-max 85 °C	5162	177
I-max 2400mA	Tc 25 °C	14066	164
	Tc-nom 45 °C	13693	161
	Tc-max 85 °C	12835	153

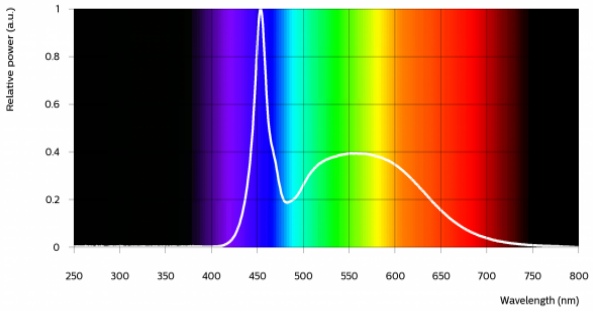


Fortimo LED Strip 5ft MF 865 FC LV6

Parameter	Min	Typ	Max	Unit
Luminous flux	5250	5419	5890	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 ± 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	865	lm	lm/W
80% I-nom 713mA	Tc 25 °C	4491	190
	Tc-nom 45 °C	4384	187
	Tc-max 85 °C	4115	178
I-nom 891mA	Tc 25 °C	5552	186
	Tc-nom 45 °C	5419	183
	Tc-max 85 °C	5087	174
I-max 2400mA	Tc 25 °C	13928	163
	Tc-nom 45 °C	13588	160
	Tc-max 85 °C	12732	152



Electrical characteristics

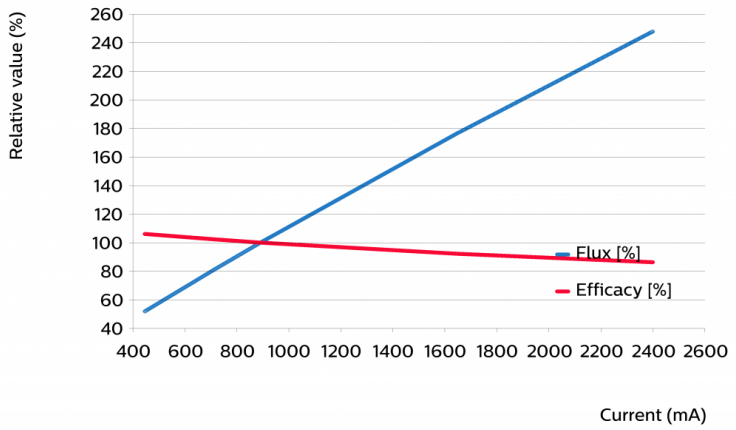
Parameter	Min	Typ	Max	Unit
Forward voltage	31.4	33.2	33.8	V
Power consumption	28.0	29.6	30.1	W = kWh/1000h
Number of modules per chain			1	

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

Tuning information

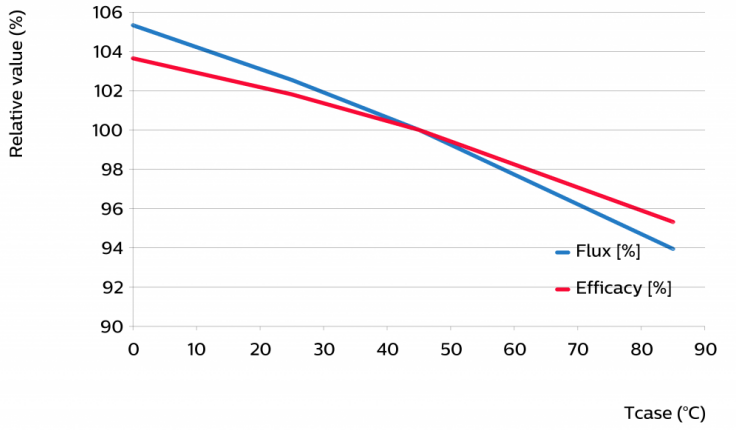
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
2400	248	86
1646	176	92
891	100	100
713	81	102
446	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



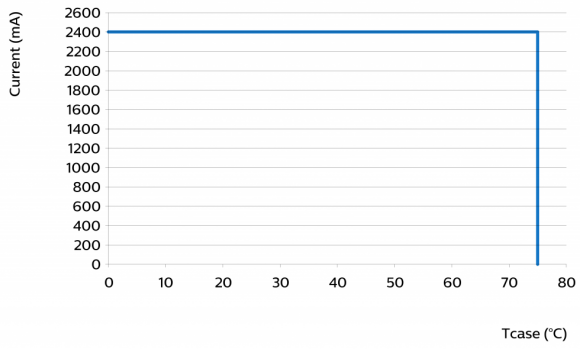
Lumen maintenance

Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% Inom=713mA	Tc=25°C	>72	>72	>72	>72	>72	>72	>68	>68	>68
	Tc_nom=45°C	>72	>72	>72	>72	>72	>72	>68	68	67
	Tc_life=75°C	>72	>72	>72	>72	>72	>72	47	46	46
Inom=891mA	Tc=25°C	>72	>72	>72	>72	>72	>72	>68	>68	>68
	Tc_nom=45°C	>72	>72	>72	>72	>72	>72	>68	68	67
	Tc_life=75°C	>72	>72	>72	>72	>72	>72	47	46	46
Ilife=2400mA	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	40	40

Lifetime

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

Performance Window

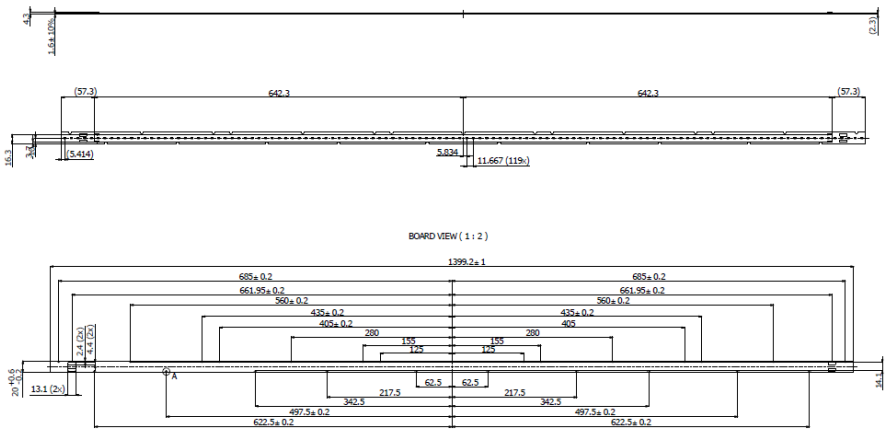


Wiring

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	1398.2	1399.2	1400.2	mm
Width	19.8	20	20.6	mm
Height PCB	1.45	1.6	1.75	mm
Height Total		4.3		mm
Product mass		91.4		gram



Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		2400	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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