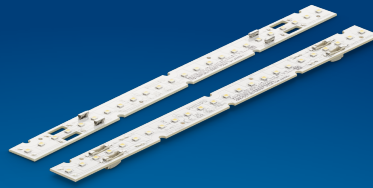


PHILIPS

Fortimo

LED

Fortimo LED Strip 1ft 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 1ft MF 830 FC LV6	8719514 488465 00	9290 029 42906	1413415	110
Fortimo LED Strip 1ft MF 830 BC LV6	8719514 488724 00	9290 029 43606	1413422	110
Fortimo LED Strip 1ft MF 840 FC LV6	8719514 488489 00	9290 029 43006	1413416	110
Fortimo LED Strip 1ft MF 840 BC LV6	8719514 488748 00	9290 029 43706	1413423	110
Fortimo LED Strip 1ft MF 850 FC LV6	8719514 488625 00	9290 029 43106	1413417	110
Fortimo LED Strip 1ft MF 865 FC LV6	8719514 488649 00	9290 029 43206	1413418	110

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo LED Strip 1ft MF 8xx LV6	178	480	480	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)

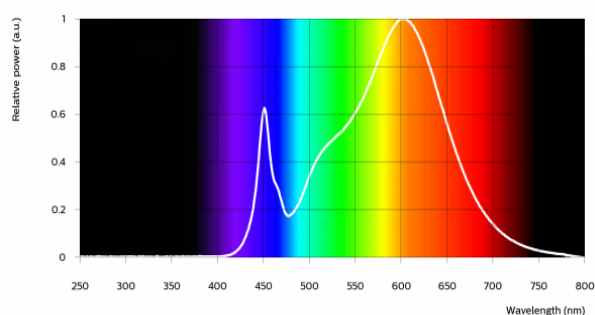
Fortimo LED Strip 1ft MF 830 FC LV6

Fortimo LED Strip 1ft MF 830 BC LV6

Parameter	Min	Typ	Max	Unit
Luminous flux	1000	1036	1100	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 $\pm 5\%$ 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 142mA	Tc 25 °C	861	182
	Tc-nom 45 °C	840	179
	Tc-max 85 °C	789	171
I-nom 178mA	Tc 25 °C	1062	178
	Tc-nom 45 °C	1036	175
	Tc-max 85 °C	973	167
I-max 480mA	Tc 25 °C	2637	154
	Tc-nom 45 °C	2570	151
	Tc-max 85 °C	2411	144



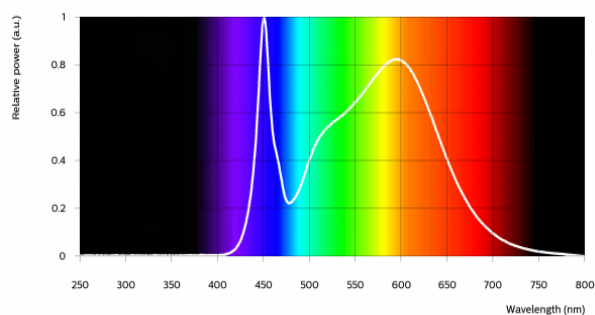
Fortimo LED Strip 1ft MF 840 FC LV6

Fortimo LED Strip 1ft MF 840 BC LV6

Parameter	Min	Typ	Max	Unit
Luminous flux	1070	1100	1210	lm
Efficacy	178	186	217	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 142mA	Tc 25 °C	915	194
	Tc-nom 45 °C	891	190
	Tc-max 85 °C	836	181
I-nom 178mA	Tc 25 °C	1129	190
	Tc-nom 45 °C	1100	186
	Tc-max 85 °C	1032	177
I-max 480mA	Tc 25 °C	2816	164
	Tc-nom 45 °C	2742	161
	Tc-max 85 °C	2570	153

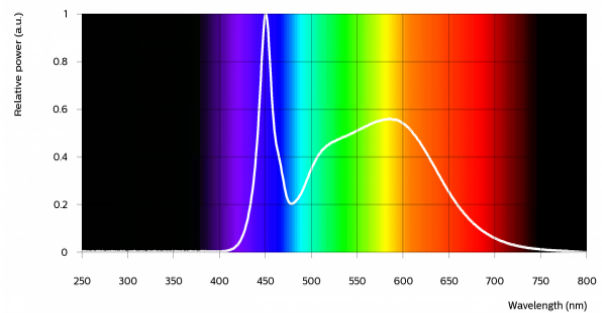


Fortimo LED Strip 1ft MF 850 FC LV6

Parameter	Min	Typ	Max	Unit
Luminous flux	1070	1098	1210	lm
Efficacy	178	186	217	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 142mA	Tc 25 °C	913	194
	Tc-nom 45 °C	889	190
	Tc-max 85 °C	835	181
I-nom 178mA	Tc 25 °C	1127	189
	Tc-nom 45 °C	1098	186
	Tc-max 85 °C	1030	177
I-max 480mA	Tc 25 °C	2811	164
	Tc-nom 45 °C	2737	160
	Tc-max 85 °C	2565	152

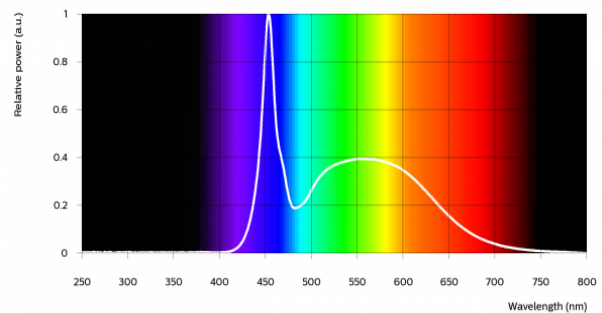


Fortimo LED Strip 1ft MF 865 FC LV6

Parameter	Min	Typ	Max	Unit
Luminous flux	1050	1083	1180	lm
Efficacy	175	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 142mA	Tc 25 °C	897	190
	Tc-nom 45 °C	876	187
	Tc-max 85 °C	822	178
I-nom 178mA	Tc 25 °C	1109	186
	Tc-nom 45 °C	1083	183
	Tc-max 85 °C	1017	175
I-max 480mA	Tc 25 °C	2787	163
	Tc-nom 45 °C	2718	160
	Tc-max 85 °C	2547	152



Electrical characteristics

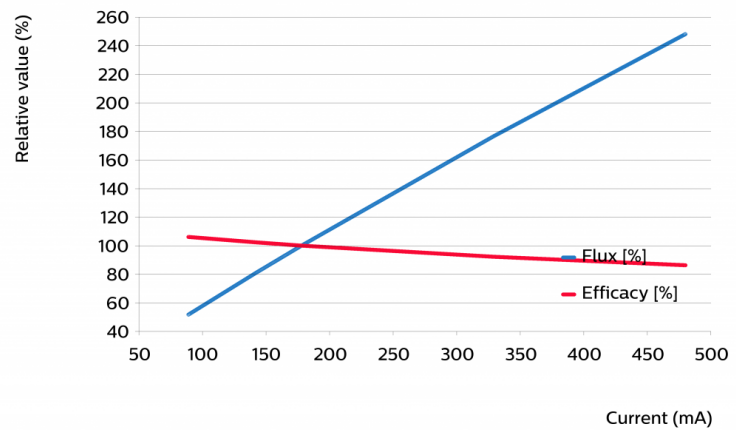
Parameter	Min	Typ	Max	Unit
Forward voltage	31.4	33.2	33.8	V
Power consumption	5.6	5.9	6.0	W = kWh/1000h
Number of modules per chain			5	

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

Tuning information

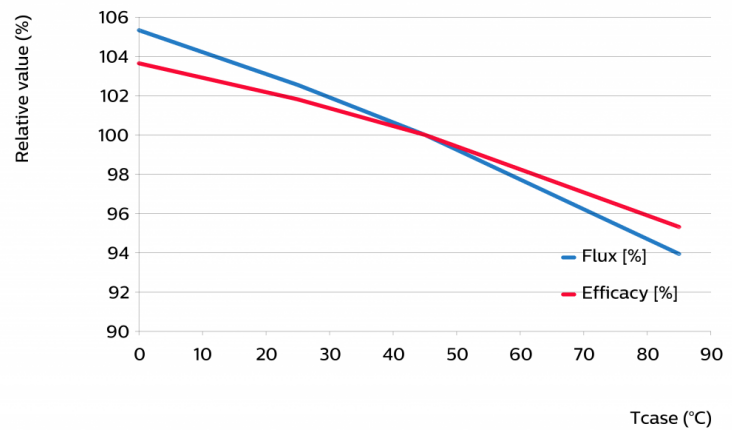
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
480	248	86
329	176	92
178	100	100
142	81	102
89	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



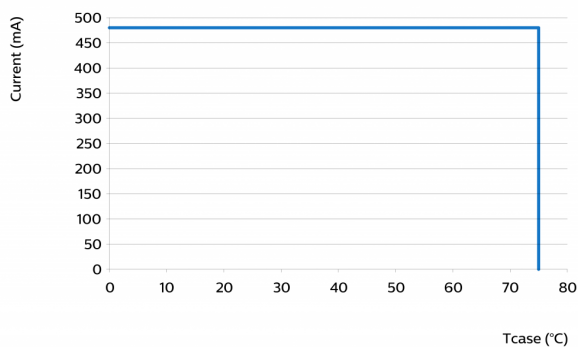
Lumen maintenance

Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
Inom=142mA	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=178mA	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=480mA	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



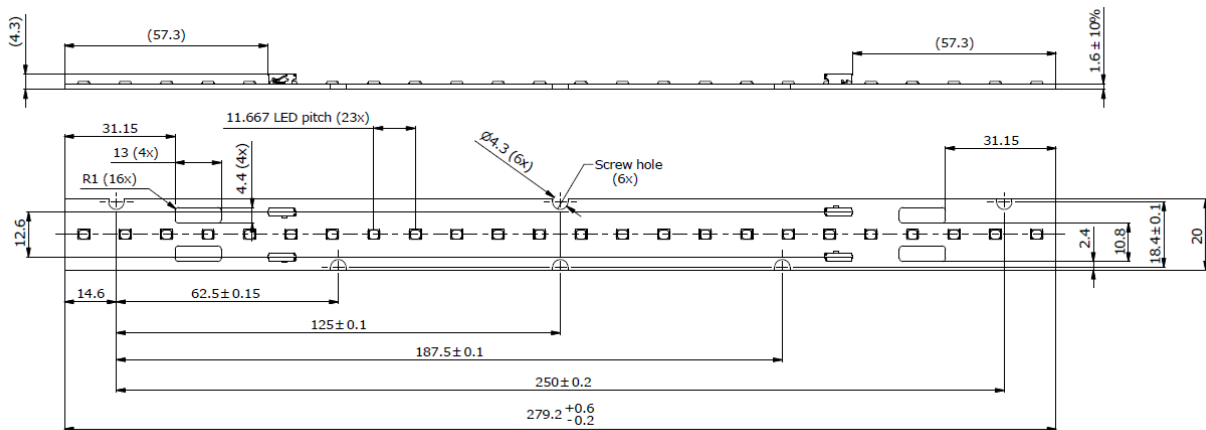
Wiring

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

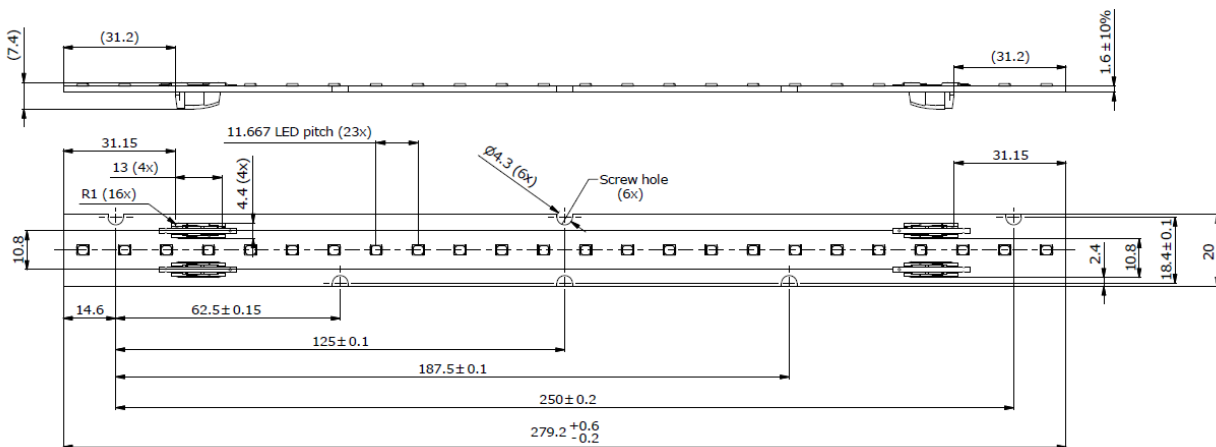
Fortimo LED Strip 1ft MF 830 FC LV6
 Fortimo LED Strip 1ft MF 840 FC LV6
 Fortimo LED Strip 1ft MF 850 FC LV6
 Fortimo LED Strip 1ft MF 865 FC LV6

Parameter	Min	Typ	Max	Unit
Length	279	279.2	279.8	mm
Width	19.8	20	20.2	mm
Height PCB	1.45	1.6	1.75	mm
Height Total		4.3		mm
Product mass		18.4		gram



Fortimo LED Strip 1ft MF 830 BC LV6
 Fortimo LED Strip 1ft MF 840 BC LV6

Parameter	Min	Typ	Max	Unit
Length	279	279.2	279.8	mm
Width	19.8	20	20.2	mm
Height PCB	1.45	1.6	1.75	mm
Height Total		7.4		mm
Product mass		18.7		gram



Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		480	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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