

PHILIPS

Fortimo

LED

Fortimo LED Strip 5ft MF
9xx HV6



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 930 FC HV6	8719514 489981 00	9290 029 49006	1413476	110
Fortimo LED Strip 5ft MF 940 FC HV6	8719514 490000 00	9290 029 49106	1413358	110
Fortimo LED Strip 5ft MF 950 FC HV6	8719514 490024 00	9290 029 49206	1413359	110

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo LED Strip 5ft MF 9xx HV6	284	450	720	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)

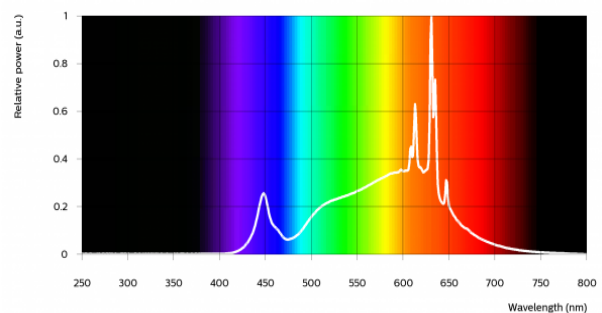
Fortimo LED Strip 5ft MF 930 FC HV6

Parameter	Min	Typ	Max	Unit
Luminous flux	5050	5136	5630	lm
Efficacy	158	163	189	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 $\pm 5\%$ 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	930	lm	lm/W
80% I-nom 227mA	Tc 25 °C	4254	173
	Tc-nom 45 °C	4156	167
	Tc-max 85 °C	3907	155
I-nom 284mA	Tc 25 °C	5258	168
	Tc-nom 45 °C	5136	163
	Tc-max 85 °C	4828	151
I-max 720mA	Tc 25 °C	12444	143
	Tc-nom 45 °C	12147	139
	Tc-max 85 °C	11392	128



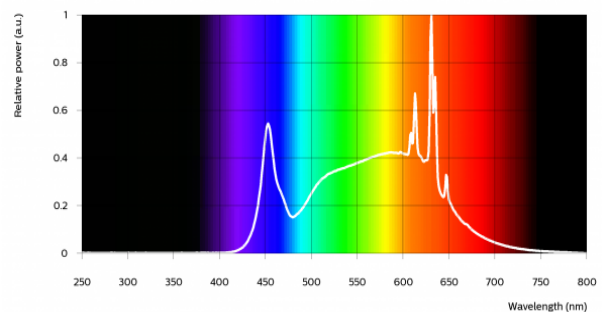
Fortimo LED Strip 5ft MF 940 FC HV6

Parameter	Min	Typ	Max	Unit
Luminous flux	5320	5500	6020	lm
Efficacy	165	174	201	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 $\pm 5\%$ 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	940	lm	lm/W
80% I-nom 227mA	Tc 25 °C	4567	184
	Tc-nom 45 °C	4451	178
	Tc-max 85 °C	4168	164
I-nom 284mA	Tc 25 °C	5645	180
	Tc-nom 45 °C	5500	174
	Tc-max 85 °C	5150	160
I-max 720mA	Tc 25 °C	13362	153
	Tc-nom 45 °C	13010	148
	Tc-max 85 °C	12157	137

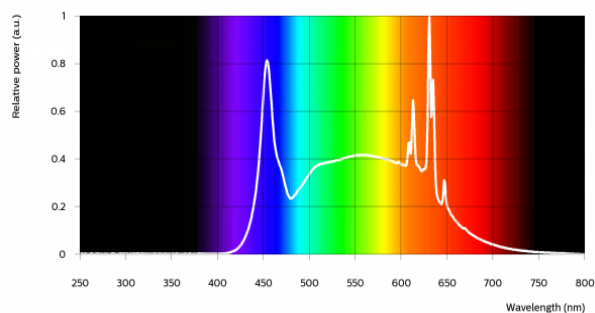


Fortimo LED Strip 5ft MF 950 FC HV6

Parameter	Min	Typ	Max	Unit
Luminous flux	5330	5490	5910	lm
Efficacy	166	174	199	lm/W
Correlated color temperature (CCT)		5000		K
Color coordinates (CIEx, CIEy)		(0.345, 0.349)		-
Color consistency			3	SDCM
CRI	90			
R9	50			
Photometric code		950/339		
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	950	lm	lm/W
80% I-nom 227mA	Tc 25 °C	4559	185
	Tc-nom 45 °C	4443	179
	Tc-max 85 °C	4161	165
I-nom 284mA	Tc 25 °C	5634	180
	Tc-nom 45 °C	5490	174
	Tc-max 85 °C	5140	161
I-max 720mA	Tc 25 °C	13338	154
	Tc-nom 45 °C	12987	149
	Tc-max 85 °C	12135	137



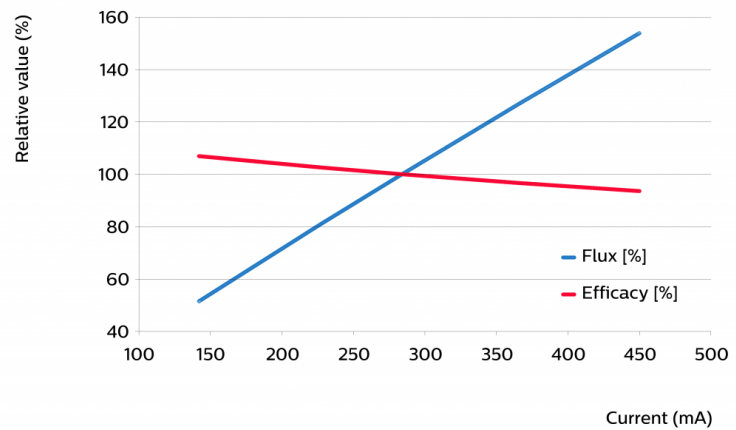
Electrical characteristics

Parameter	Min	Typ	Max	Unit
Forward voltage	104.8	110.9	112.9	V
Power consumption	29.8	31.5	32.1	W = kWh/1000h
Number of modules in series per chain			2	
Number of modules in parallel			4	

Tuning information

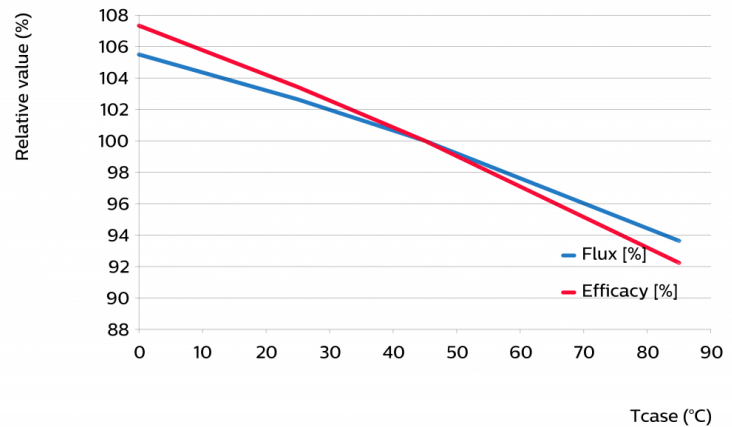
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
450	154	94
367	127	97
284	100	100
227	81	103
142	51	107



Flux and efficacy versus temperature at Tc (at I nominal)

Tc [°C]	Flux [%]	Efficacy [%]
85	94	92
45	100	100
25	103	103
0	105	107



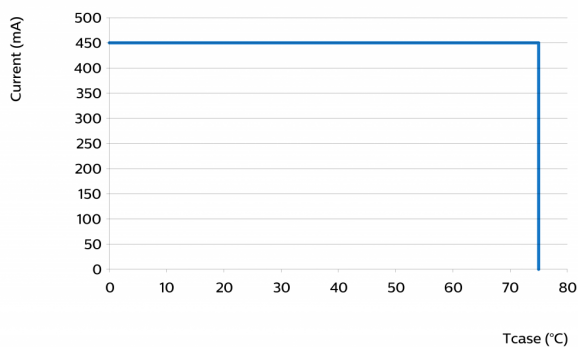
Lumen maintenance

Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% Inom=227mA	Tc=25°C	>100	>100	>100	>100	>100	>100	>50	>50	>50
	Tc_nom=45°C	>100	>100	>100	>100	>100	>100	>50	50	50
	Tc_life=75°C	>100	>100	>100	79	78	77	37	37	36
Inom=284mA	Tc=25°C	>100	>100	>100	>100	>100	>100	>50	>50	>50
	Tc_nom=45°C	>100	>100	>100	>100	>100	>100	50	48	48
	Tc_life=75°C	>100	>100	>100	>100	>100	>100	36	35	35
Ilife=450mA	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	68	67	32	32	32

Lifetime

Parameter	Value	Unit
M70F50 nominal	>100000	hours
M70F50 life	>69000	hours

Performance Window

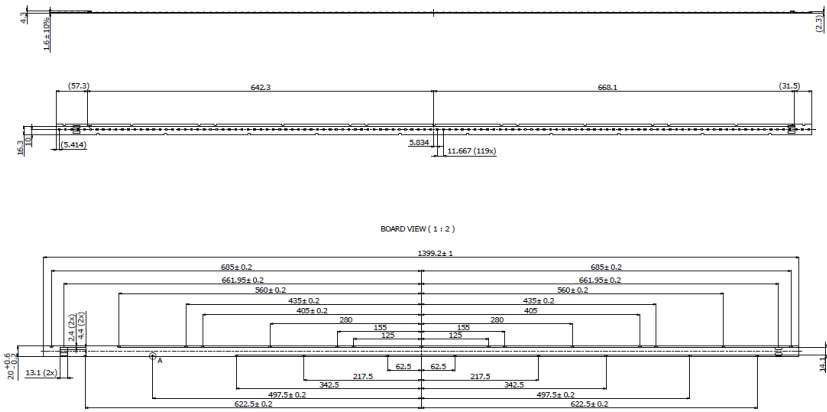


Wiring

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	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		90.8		gram



Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		720	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+

Environmental

RoHS/REACH

Application

Dimming

Yes



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