

PHILIPS

Fortimo

LED

Fortimo LED Strip 2ft
1300lm 8xx HV5



Datasheet

Fortimo LED Strip 2ft 1300lm 8xx HV5

The Fortimo LED Strip is a uniquely wide portfolio which can be used in all kind of linear indoor luminaire types. It's form factor makes it easy to design-in and handle in production as it complies to Zhaga standards. Due to the availability from 0.5ft up to 5ft lengths only one product family is needed to cover a wide range of needs.

Key features and benefits

- Typical module efficacy of 185 lm/W (at 4000K CRI80)
- High performance for CRI90 of 175 lm/W (at 4000K CRI90)
- Long life-time: >50,000 hours
- Excellent color consistency of 3 SDCM
- Two lumen packages per length available
- Wide range of CCTs available: 2700K, 3000K, 4000K, 5000K and 6500K
- Available in High Voltage (HV) and Low Voltage (LV)
- Small LED module width of only 20mm
- Wide temperature (Tc) range -40°C to +80°C
- Five year system warranty

August 2020



Ordering data

Commercial product name	EOC	12NC	Box quantity
Fortimo LED Strip 2ft 1300lm 830 FC HV5	8718699 716899 00	9290 021 23206	84
Fortimo LED Strip 2ft 1300lm 840 FC HV5	8718699 716912 00	9290 021 23306	84
Fortimo LED Strip 2ft 1300lm 830 BC HV5	8718699 721909 00	9290 021 23606	63
Fortimo LED Strip 2ft 1300lm 840 BC HV5	8718699 721923 00	9290 021 23706	63

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo LED Strip 2ft 1300lm 8xx HV5	257	480	600	mA

Module temperatures

Parameter	Nominal*	Life**	Max***	Unit
T _c (case temperature at T _c point)	45	70	80	°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 2ft 1300lm 830 FC HV5

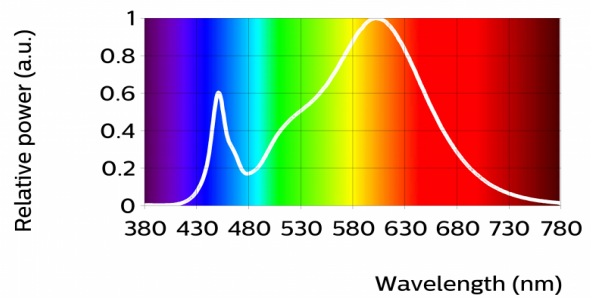
Fortimo LED Strip 2ft 1300lm 830 BC HV5

Parameter	Min	Typ	Max	Unit
Luminous flux	1130	1235	1314	lm
Module efficacy	154	172		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.436, 0.401)		-
Color consistency			3	SDCM
CRI	80			
Photometric code		830/369		
Radiation angle		120		deg
Photobiological safety			RG1 unlimited	



Measurement precision for flux +/- 5%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5

Operation point	830	lm	lm/W
80% I-nom 206mA	Tc 25 °C	1022	181
	Tc-nom 45 °C	998	178
	Tc-max 80 °C	965	174
I-nom 257mA	Tc 25 °C	1264	176
	Tc-nom 45 °C	1235	172
	Tc-max 80 °C	1194	169
I-max 600mA	Tc 25 °C	2777	152
	Tc-nom 45 °C	2712	149
	Tc-max 80 °C	2620	146



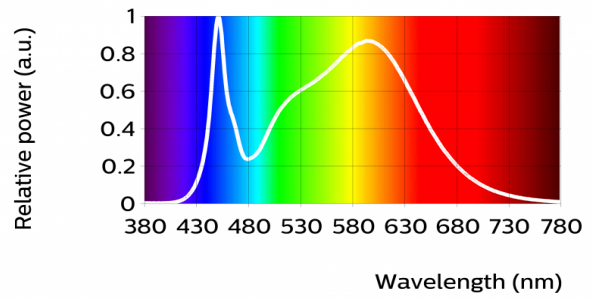
Fortimo LED Strip 2ft 1300lm 840 FC HV5
 Fortimo LED Strip 2ft 1300lm 840 BC HV5

Parameter	Min	Typ	Max	Unit
Luminous flux	1202	1300	1398	lm
Module efficacy	163	181		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.383, 0.378)		-
Color consistency			3	SDCM
CRI	80			
Photometric code		840/369		
Radiation angle		120		deg
Photobiological safety			RG1 unlimited	



Measurement precision for flux +/- 5%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5

Operation point	840	lm	lm/W
80% I-nom 206mA	Tc 25 °C	1076	190
	Tc-nom 45 °C	1051	187
	Tc-max 80 °C	1016	183
I-nom 257mA	Tc 25 °C	1331	185
	Tc-nom 45 °C	1300	181
	Tc-max 80 °C	1256	178
I-max 600mA	Tc 25 °C	2923	160
	Tc-nom 45 °C	2855	157
	Tc-max 80 °C	2758	153



Electrical characteristics

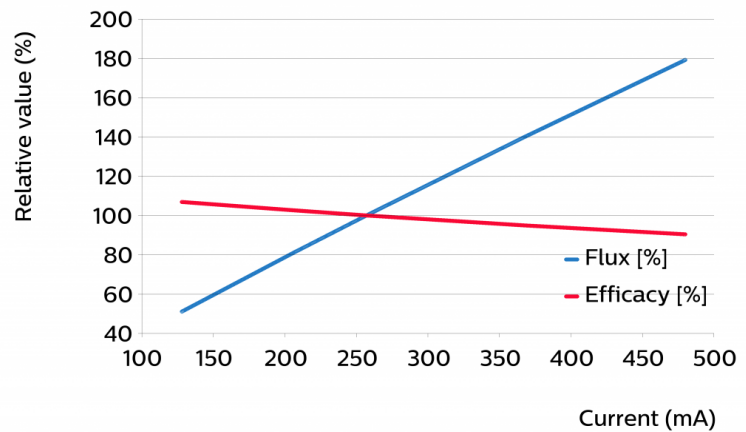
Parameter	Min	Typ	Max	Unit
Forward voltage	27.0	28.0	29.0	V
Power consumption	6.9	7.2	7.5	W = kWh/1000h
Number of modules in series per chain			10	
Number of modules in parallel			4	

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

Tuning information

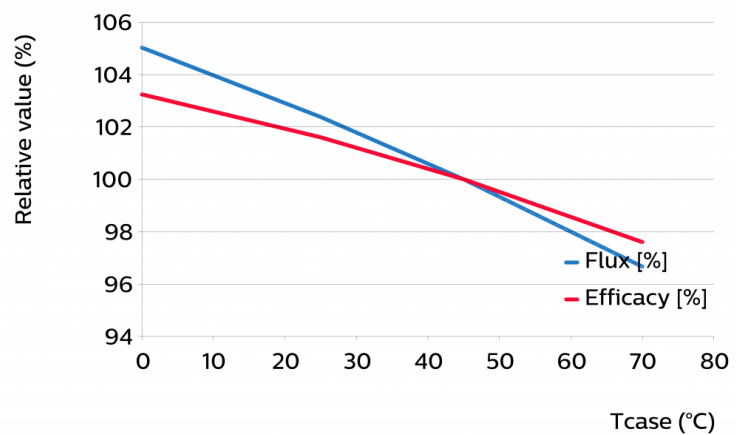
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
480	179	90
368	140	95
257	100	100
206	81	103
128	51	107



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

Tc [°C]	Flux [%]	Efficacy [%]
70	97	98
45	100	100
25	102	102
0	105	103



Lumen maintenance

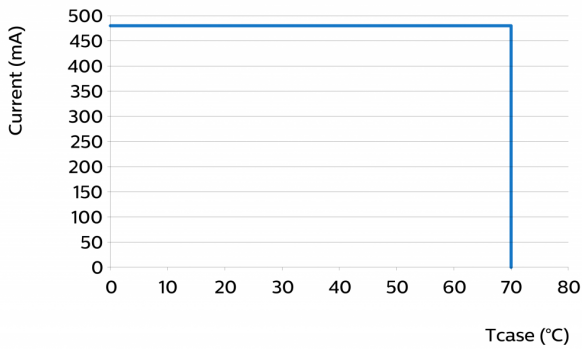
Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% I nom 206 mA	Tc 25°C	>70	>70	>70	>70	>70	>70	67	64	62
	Tc nom 45°C	>70	>70	>70	>70	>70	>70	52	50	49
	Tc life 70°C	>70	>70	>70	>70	>70	>70	40	38	37
I nom 257 mA	Tc 25°C	>70	>70	>70	>70	>70	>70	67	64	62
	Tc nom 45°C	>70	>70	>70	>70	>70	>70	52	50	49
	Tc life 70°C	>70	>70	>70	>70	>70	>70	40	38	37
I life 480 mA	Tc 25°C	>70	>70	>70	>70	>70	>70	58	55	54
	Tc nom 45°C	>70	>70	>70	>70	>70	>70	45	43	42
	Tc life 70°C	>70	>70	>70	>70	>70	>70	35	33	32

Lifetime

Parameter	Value	Unit
M70F50 nominal	>70000	hours
M70F50 life	>70000	hours

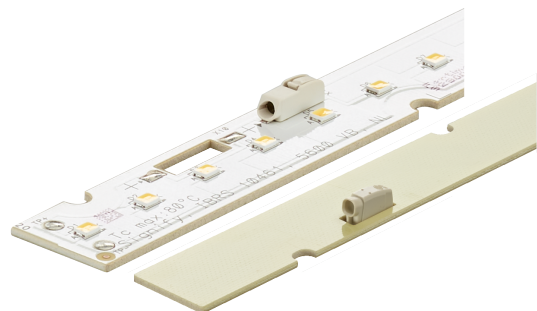
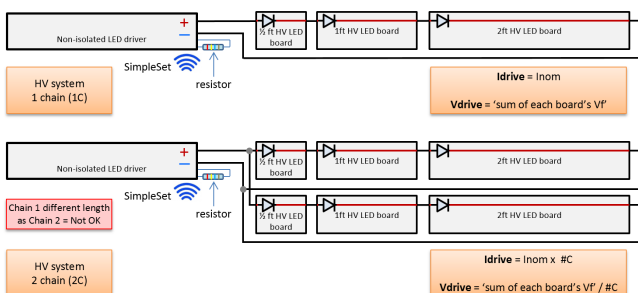
Switching cycles in accordance to EU 1194/2012: >15000

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	

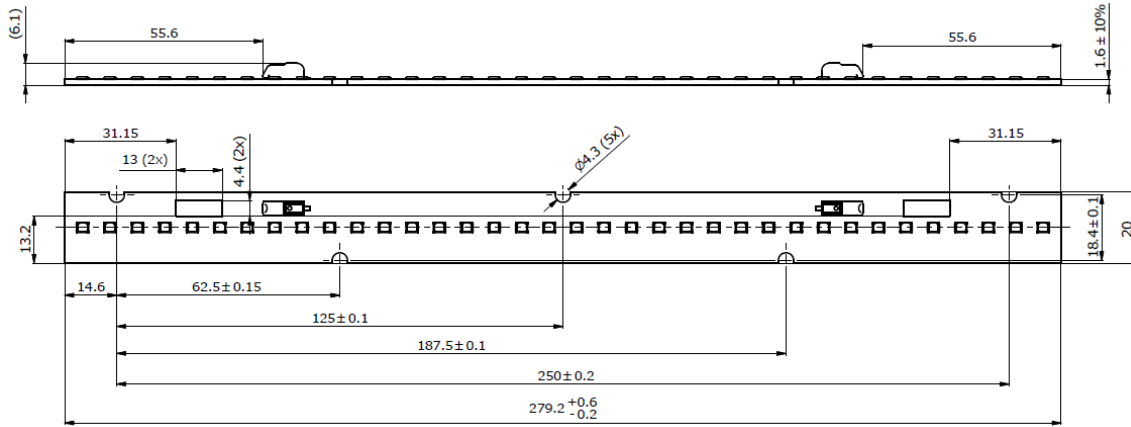


More information in the design-in guide of LED Linear modules.

Mechanical characteristics

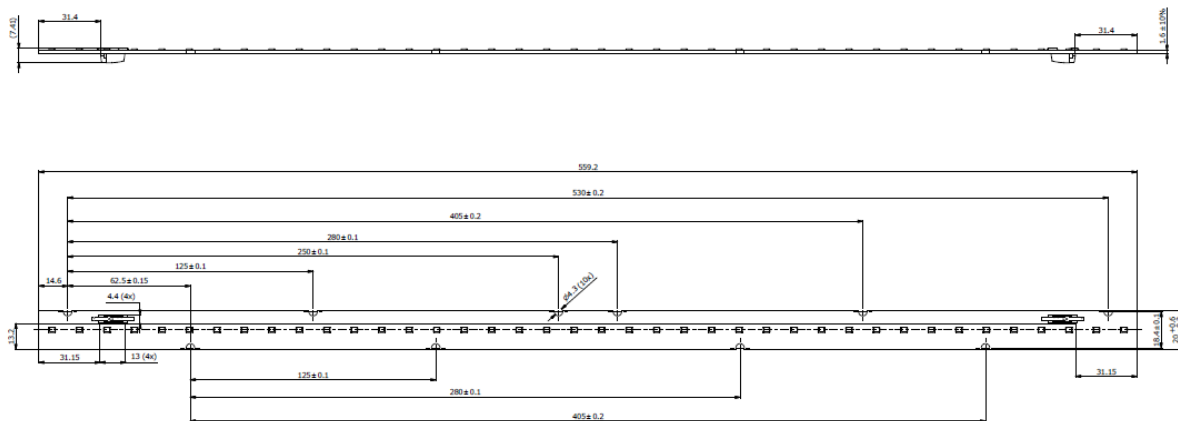
Fortimo LED Strip 2ft 1300lm 830 FC HV5
 Fortimo LED Strip 2ft 1300lm 840 FC HV5

Parameter	Min	Typ	Max	Unit
Length	558.9	559.2	559.5	mm
Width	19.8	20	20.2	mm
Height excl. connector		1.6		mm
Height incl. connector		6.1		mm
Product mass		40		gram



Fortimo LED Strip 2ft 1300lm 830 BC HV5
 Fortimo LED Strip 2ft 1300lm 840 BC HV5

Parameter	Min	Typ	Max	Unit
Length	558.9	559.2	559.5	mm
Width	19.8	20	20.2	mm
Height excl. connector		1.6		mm
Height incl. connector		7.35		mm
Product mass		40		gram



Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		600	mA
Case temperature (Tc-max)		80	°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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