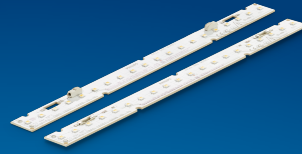


PHILIPS

Fortimo

LED

Fortimo LED Strip 1ft
650lm 8xx HV5



Datasheet

Fortimo LED Strip 1ft 650lm 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 1ft 650lm 830 FC HV5	8718699 717896 00	9290 021 19706	168
Fortimo LED Strip 1ft 650lm 840 FC HV5	8718699 717919 00	9290 021 19806	168
Fortimo LED Strip 1ft 650lm 830 BC HV5	8718699 726676 00	9290 021 20206	168
Fortimo LED Strip 1ft 650lm 840 BC HV5	8718699 726737 00	9290 021 20306	168

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo LED Strip 1ft 650lm 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 1ft 650lm 830 FC HV5

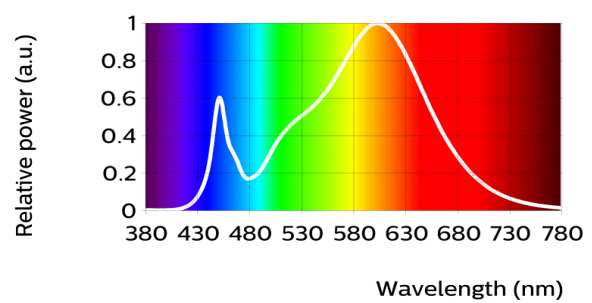
Fortimo LED Strip 1ft 650lm 830 BC HV5

Parameter	Min	Typ	Max	Unit
Luminous flux	564	620	656	lm
Module efficacy	157	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
50% I-nom 128mA	Tc 25 °C	325	189
	Tc-nom 45 °C	318	186
	Tc-max 80 °C	303	180
I-nom 257mA	Tc 25 °C	635	177
	Tc-nom 45 °C	620	172
	Tc-max 80 °C	590	168
I-max 600mA	Tc 25 °C	1394	152
	Tc-nom 45 °C	1361	150
	Tc-max 80 °C	1295	144



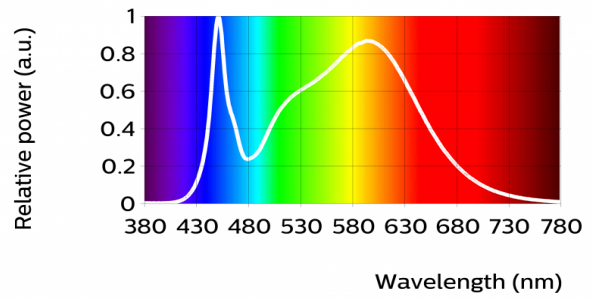
Fortimo LED Strip 1ft 650lm 840 FC HV5
 Fortimo LED Strip 1ft 650lm 840 BC HV5

Parameter	Min	Typ	Max	Unit
Luminous flux	601	650	699	lm
Module efficacy	167	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
	Tc 25 °C	341	198
50% I-nom 128mA	Tc-nom 45 °C	333	195
	Tc-max 80 °C	317	188
	Tc 25 °C	665	185
I-nom 257mA	Tc-nom 45 °C	650	181
	Tc-max 80 °C	619	176
	Tc 25 °C	1462	160
I-max 600mA	Tc-nom 45 °C	1427	157
	Tc-max 80 °C	1358	151



Electrical characteristics

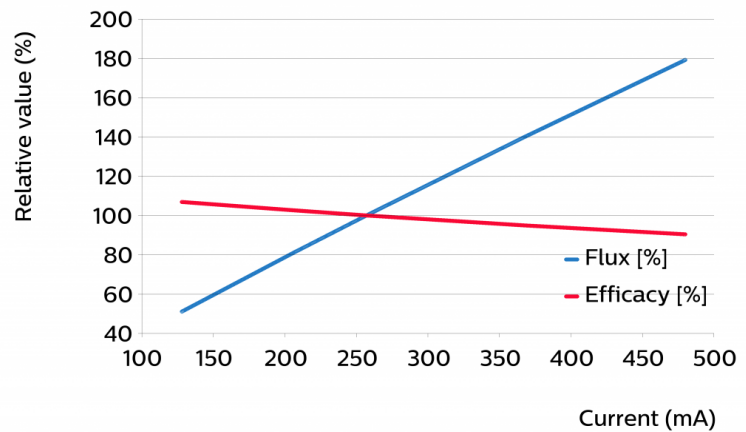
Parameter	Min	Typ	Max	Unit
Forward voltage	13.5	14.0	14.5	V
Power consumption	3.5	3.6	3.7	W = kWh/1000h
Number of modules in series per chain			20	
Number of modules in parallel			1	

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

Tuning information

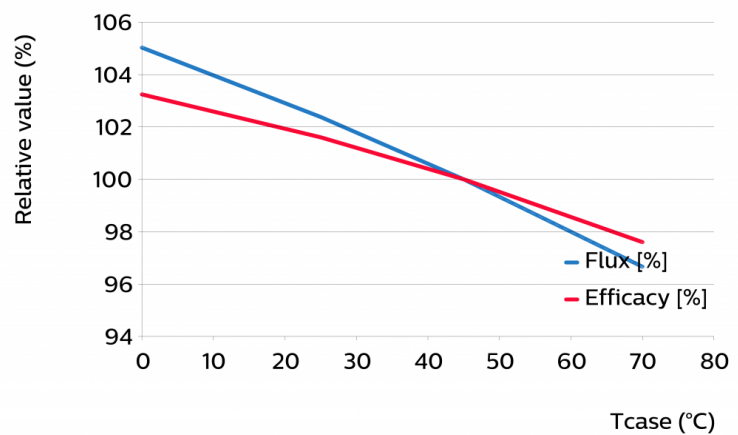
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
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

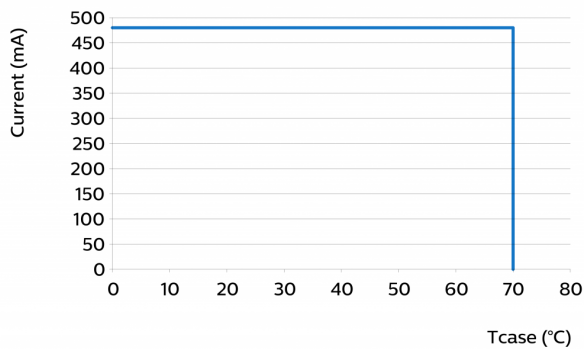
Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% I nom 206 mA	Tc 25°C	>70	>70	>70	>70	>70	>70	67	64	62
	Tc nom 45°C	>70	>70	>70	>70	>70	>70	52	50	49
	Tc life 70°C	>70	>70	>70	>70	>70	>70	40	38	37
I nom 257 mA	Tc 25°C	>70	>70	>70	>70	>70	>70	67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

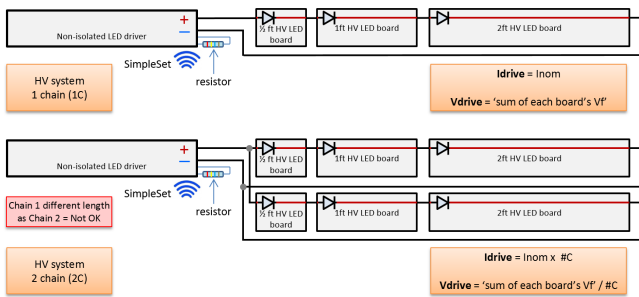
Switching cycles in accordance to EU 1194/2012: >15000

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	

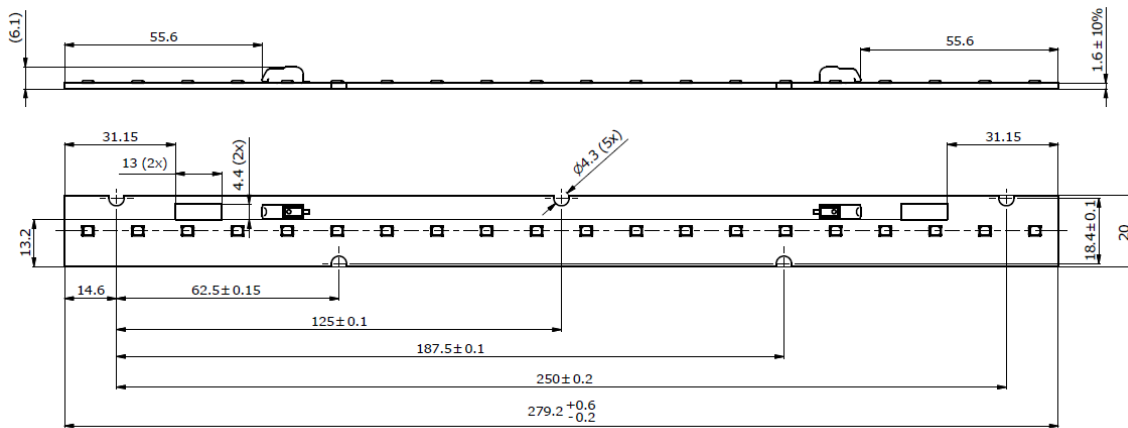


More information in the design-in guide of LED Linear modules.

Mechanical characteristics

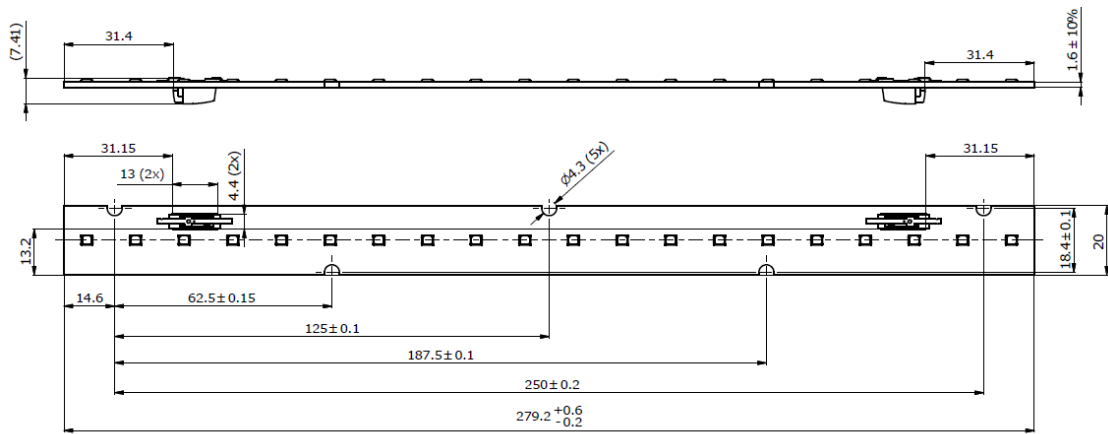
Fortimo LED Strip 1ft 650lm 830 FC HV5
 Fortimo LED Strip 1ft 650lm 840 FC HV5

Parameter	Min	Typ	Max	Unit
Length	279	279.2	279.8	mm
Width	19.8	20	20.2	mm
Height excl. connector		1.6		mm
Height incl. connector		6.1		mm
Product mass		20		gram



Fortimo LED Strip 1ft 650lm 830 BC HV5
 Fortimo LED Strip 1ft 650lm 840 BC HV5

Parameter	Min	Typ	Max	Unit
Length	279	279.2	279.8	mm
Width	19.8	20	20.2	mm
Height excl. connector		1.6		mm
Height incl. connector		7.35		mm
Product mass		20		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+
 UL

Environmental

RoHS/REACH

Application

Dimming	Yes
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