

PHILIPS

Fortimo

LED

Fortimo LED Strip 0.5ft
490lm 8xx HV5



Datasheet

Fortimo LED Strip 0.5ft 490lm 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

December 2020



Ordering data

Commercial product name	EOC	12NC	Box quantity
Fortimo LED Strip 0.5 ft 490lm 830 FC HV5	8718699 721121 00	9290 021 19106	56
Fortimo LED Strip 0.5 ft 490lm 840 FC HV5	8718699 721145 00	9290 021 19206	56
Fortimo LED Strip 0.5 ft 490lm 830 BC HV5	8718699 721503 00	9290 021 19506	56
Fortimo LED Strip 0.5 ft 490lm 840 BC HV5	8718699 721527 00	9290 021 19606	56

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo LED Strip 0.5ft 490lm 8xx HV5	240	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

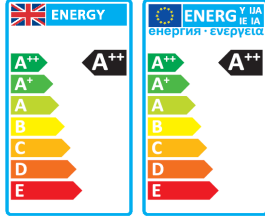
** Value at which life time is specified

*** Maximum value for safe operation, do not operate above this value

Optical characteristics - table per color (CCT)

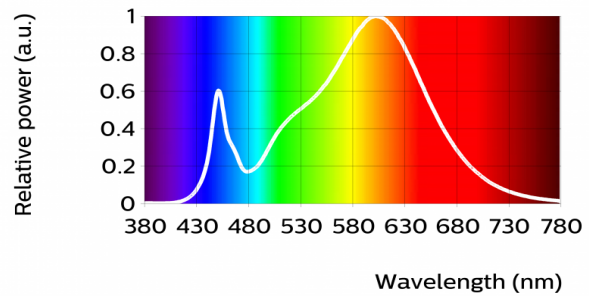
Fortimo LED Strip 0.5 ft 490lm 830 FC HV5
 Fortimo LED Strip 0.5 ft 490lm 830 BC HV5

Parameter	Min	Typ	Max	Unit
Luminous flux	426	465	494	lm
Module efficacy	158	173		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	



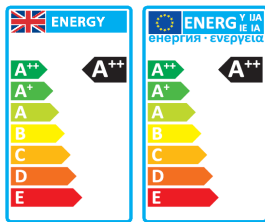
Measurement precision for flux +/- 5%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5

Operation point	830	lm	lm/W
50% I-nom 120mA	Tc 25 °C	243	190
	Tc-nom 45 °C	238	187
	Tc-max 80 °C	226	180
I-nom 240mA	Tc 25 °C	476	178
	Tc-nom 45 °C	465	173
	Tc-max 80 °C	443	169
I-max 600mA	Tc 25 °C	1116	153
	Tc-nom 45 °C	1090	150
	Tc-max 80 °C	1036	144



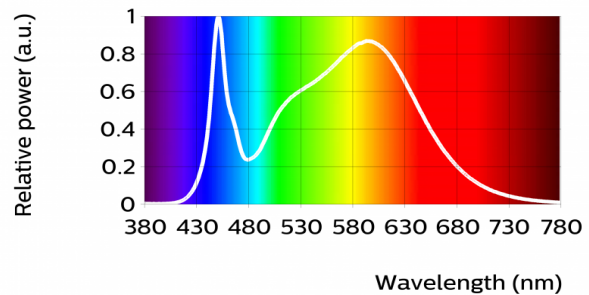
Fortimo LED Strip 0.5 ft 490lm 840 FC HV5
 Fortimo LED Strip 0.5 ft 490lm 840 BC HV5

Parameter	Min	Typ	Max	Unit
Luminous flux	453	490	527	lm
Module efficacy	169	182		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
50% I-nom 120mA	Tc 25 °C	257	200
	Tc-nom 45 °C	251	197
	Tc-max 80 °C	239	190
I-nom 240mA	Tc 25 °C	502	188
	Tc-nom 45 °C	490	182
	Tc-max 80 °C	466	179
I-max 600mA	Tc 25 °C	1176	161
	Tc-nom 45 °C	1148	158
	Tc-max 80 °C	1092	152



Electrical characteristics

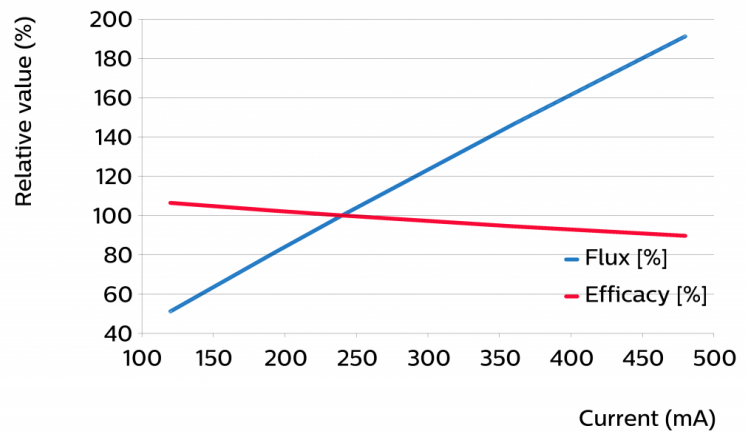
Parameter	Min	Typ	Max	Unit
Forward voltage	10.8	11.2	11.6	V
Power consumption	2.59	2.69	2.79	W = kWh/1000h
Number of modules in series per chain			25	
Number of modules in parallel			1	

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

Tuning information

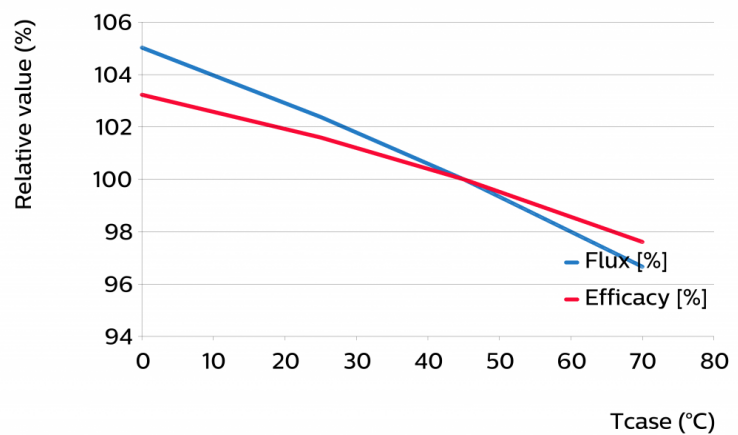
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
480	191	90
360	147	94
240	100	100
192	81	102
120	51	106



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

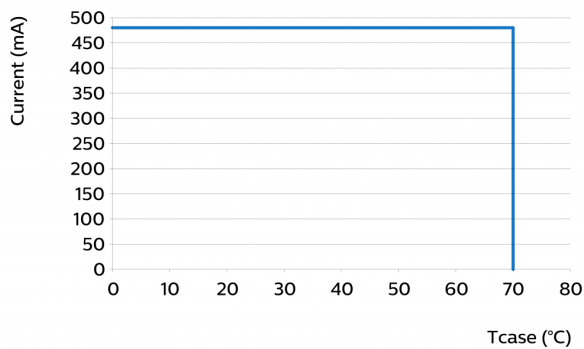
Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% I nom 192 mA	Tc 25°C	>70	>70	>70	>70	>70	>70	67	64	62
	Tc nom 45°C	>70	>70	>70	>70	>70	>70	52	50	49
	Tc life 70°C	>70	>70	>70	>70	>70	>70	40	38	37
I nom 240 mA	Tc 25°C	>70	>70	>70	>70	>70	>70	67	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

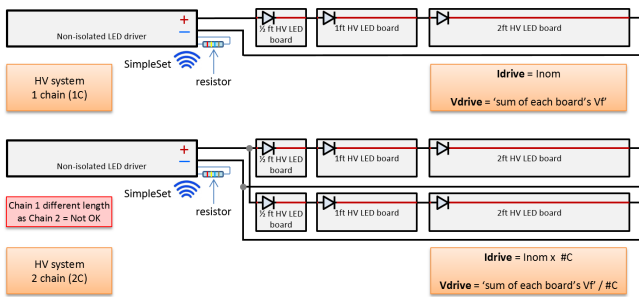
Switching cycles in accordance to EU 1194/2012: >15000

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	



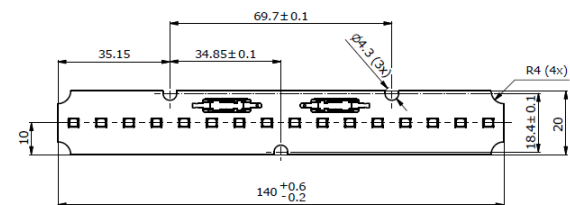
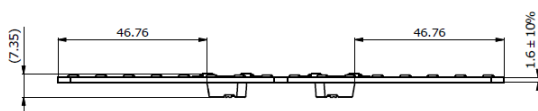
More information in the design-in guide of LED Linear modules.

Mechanical characteristics

Fortimo LED Strip 0.5 ft 490lm 840 FC HV5

Fortimo LED Strip 0.5 ft 490lm 830 FC HV5

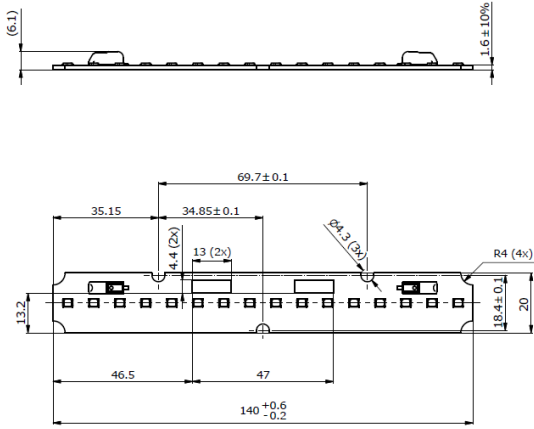
Parameter	Min	Typ	Max	Unit
Length	139.8	140	140.6	mm
Width	19.8	20	20.2	mm
Height excl. connector		1.6		mm
Height incl. connector		6.1		mm
Product mass		18		gram



Fortimo LED Strip 0.5 ft 490lm 840 BC HV5

Fortimo LED Strip 0.5 ft 490lm 830 BC HV5

Parameter	Min	Typ	Max	Unit
Length	139.8	140	140.6	mm
Width	19.8	20	20.2	mm
Height excl. connector		1.6		mm
Height incl. connector		7.35		mm
Product mass		18		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
---------	-----



© 2020 Signify Holding, IBRS 10461, 5600VB, NL. All rights reserved. The information provided herein is subject to change, without notice. Signify does not give any representation or warranty as to the accuracy or completeness of the information included herein and shall not be liable for any action in reliance thereon. The information presented in this document is not intended as any commercial offer and does not form part of any quotation or contract, unless otherwise agreed by Signify.

www.philips.com/oem

Philips and the Philips Shield Emblem are registered trademarks of Koninklijke Philips N.V. All other trademarks are owned by Signify Holding or their respective owners.
UK importer address: 3 Guildford Business Park, GU2 8XG

10/12/2020