

# PHILIPS

## Fortimo

### LED

Fortimo LED Strip  
1400mm 5500lm 8xx  
HV5



## Datasheet

### Fortimo LED Strip 1400mm 5500lm 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 1400mm 5500lm 830 HV5F	8718699 759896 00	9290 021 76806	96
Fortimo LED Strip 1400mm 5500lm 840 HV5F	8718699 759919 00	9290 021 76906	96
Fortimo LED Strip 1400mm 5500lm 865 HV5F	8718699 759537 00	9290 021 77006	96
Fortimo LED Strip 1400mm 5500lm 830 HV5B	8718699 759599 00	9290 021 77306	96
Fortimo LED Strip 1400mm 5500lm 840 HV5B	8718699 759612 00	9290 021 77406	96

## Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo LED Strip 1400mm 5500lm 8xx HV5	240	480	600	mA

## Module temperatures

Parameter	Nominal*	Life**	Max***	Unit
T <sub>c</sub> (case temperature at T <sub>c</sub> 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 1400mm 5500lm 830 HV5F

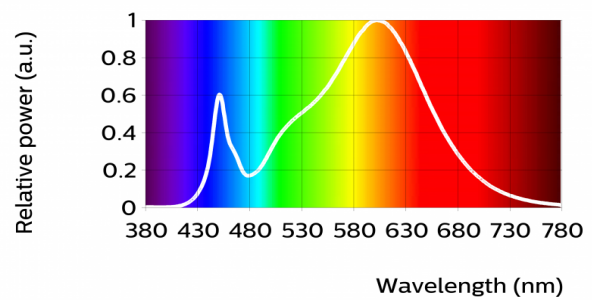
Fortimo LED Strip 1400mm 5500lm 830 HV5B

Parameter	Min	Typ	Max	Unit
Luminous flux	4833	5225	5617	lm
Module efficacy	157	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
80% I-nom 192mA	Tc 25 °C	4321	181
	Tc-nom 45 °C	4221	179
	Tc-max 80 °C	4080	174
I-nom 240mA	Tc 25 °C	5349	177
	Tc-nom 45 °C	5225	173
	Tc-max 80 °C	5051	170
I-max 600mA	Tc 25 °C	12539	152
	Tc-nom 45 °C	12243	149
	Tc-max 80 °C	11827	145



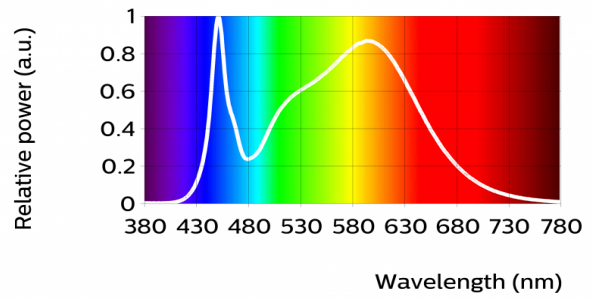
Fortimo LED Strip 1400mm 5500lm 840 HV5F  
 Fortimo LED Strip 1400mm 5500lm 840 HV5B

Parameter	Min	Typ	Max	Unit
Luminous flux	5088	5500	5912	lm
Module efficacy	166	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
	Tc 25 °C	4548	191
80% I-nom 192mA	Tc-nom 45 °C	4443	188
	Tc-max 80 °C	4294	184
	Tc 25 °C	5630	186
I-nom 240mA	Tc-nom 45 °C	5500	182
	Tc-max 80 °C	5316	179
	Tc 25 °C	13199	160
I-max 600mA	Tc-nom 45 °C	12888	157
	Tc-max 80 °C	12451	153



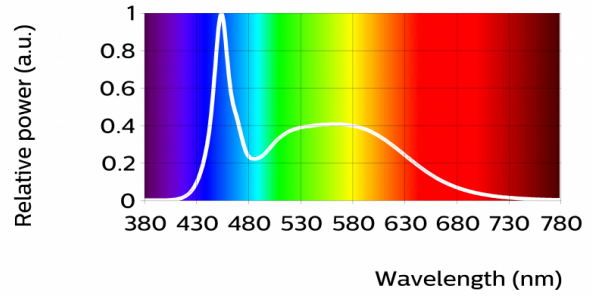
Fortimo LED Strip 1400mm 5500lm 865 HV5F

Parameter	Min	Typ	Max	Unit
Luminous flux	5088	5500	5912	lm
Module efficacy	166	182		lm/W
Correlated color temperature (CCT)		6500		K
Color coordinates (CIEx, CIEy)		(0.309, 0.322)		-
Color consistency			3	SDCM
CRI	80			
Photometric code		865/369		
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	865	lm	lm/W
80% I-nom 192mA	Tc 25 °C	4548	191
	Tc-nom 45 °C	4443	188
	Tc-max 80 °C	4294	184
I-nom 240mA	Tc 25 °C	5630	186
	Tc-nom 45 °C	5500	182
	Tc-max 80 °C	5316	179
I-max 600mA	Tc 25 °C	13199	160
	Tc-nom 45 °C	12888	157
	Tc-max 80 °C	12451	153



## Electrical characteristics

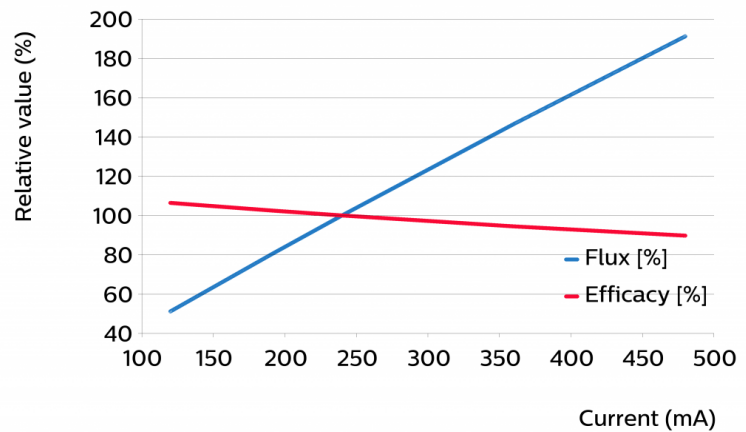
Parameter	Min	Typ	Max	Unit
Forward voltage	123.2	125.7	128.2	V
Power consumption	29.6	30.2	30.8	W = kWh/1000h
Number of modules in series per chain			2	
Number of modules in parallel			4	

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

## Tuning information

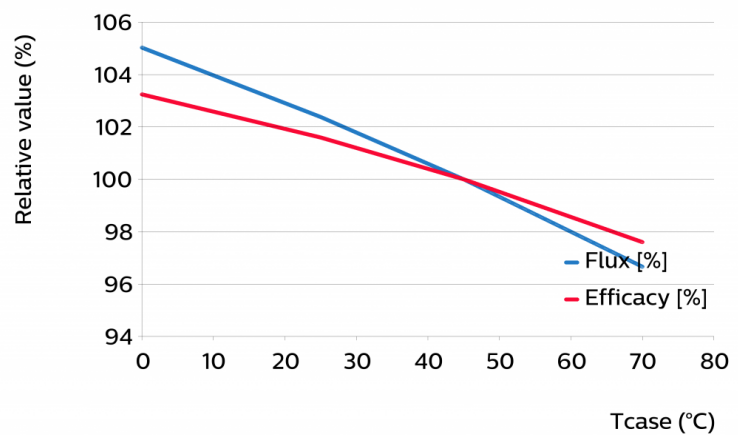
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
480	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

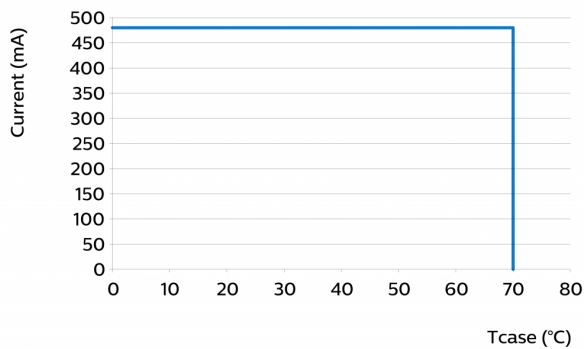
Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% I nom 192 mA	Tc 25°C	>70	>70	>70	>70	>70	>70	67	64	62
	Tc nom 45°C	>70	>70	>70	>70	>70	>70	52	50	49
	Tc life 70°C	>70	>70	>70	>70	>70	>70	40	38	37
I nom 240 mA	Tc 25°C	>70	>70	>70	>70	>70	>70	67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

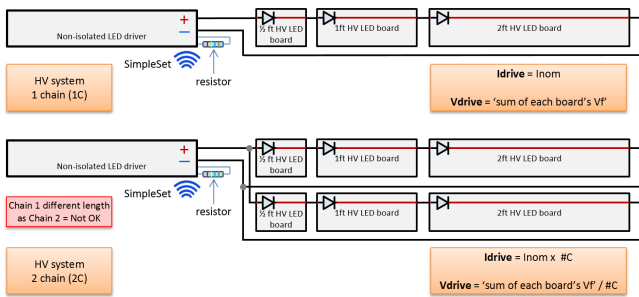
Switching cycles in accordance to EU 1194/2012: >15000

## Performance Window



## Wiring

Specification item	Value	Unit	Condition
Input wire cross-section	0.25...0.75	mm <sup>2</sup>	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 <sup>2</sup>	stranded wire
	20...22	AWG	stranded wire
Input wire strip length	7.5...8.5	mm	

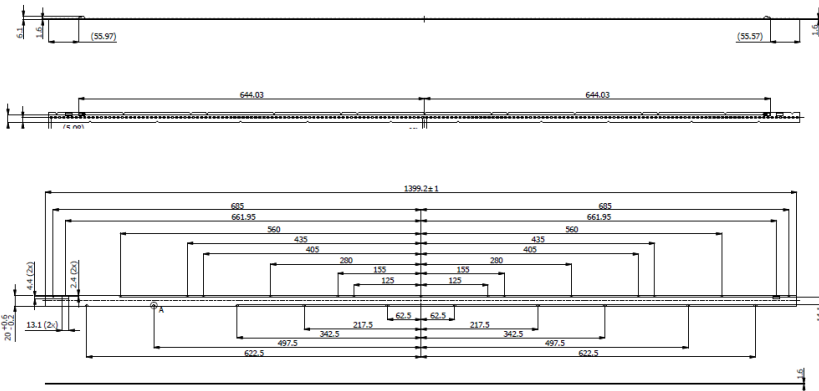


More information in the design-in guide of LED Linear modules.

## Mechanical characteristics

Fortimo LED Strip 1400mm 5500lm 830 HV5F  
 Fortimo LED Strip 1400mm 5500lm 840 HV5F  
 Fortimo LED Strip 1400mm 5500lm 865 HV5F

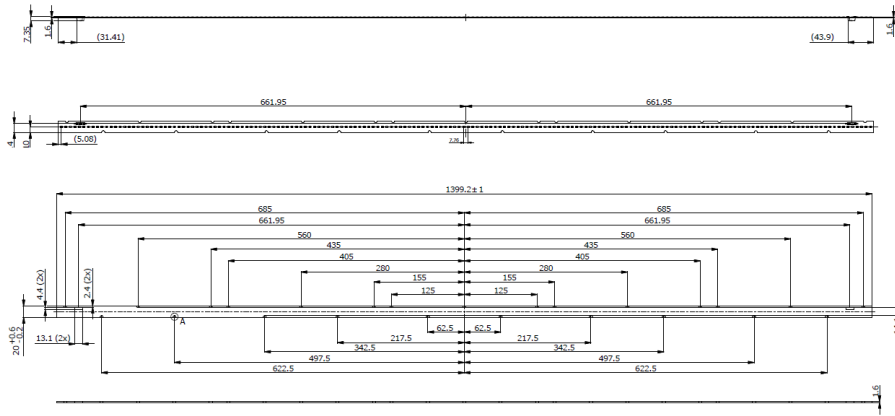
Parameter	Min	Typ	Max	Unit
Length	1398.2	1399.2	1400.2	mm
Width	19.8	20	20.6	mm
Height PCB	1.4	1.6	1.8	mm
Height incl. connector	5.9	6.1	6.3	mm
Product mass		94		gram



Fortimo LED Strip 1400mm 5500lm 830 HV5B  
 Fortimo LED Strip 1400mm 5500lm 840 HV5B

Parameter	Min	Typ	Max	Unit
Length	1398.2	1399.2	1400.2	mm
Width	19.8	20	20.6	mm
Height PCB	1.4	1.6	1.8	mm
Height incl. connector	7.15	7.35	7.55	mm
Product mass		94		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 <sub>dc</sub>

## Application information

### Certificates and Standards

CE  
 ENEC  
 ENEC+

### Environmental

RoHS/REACH

### Application

Dimming	Yes
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