

# PHILIPS

## Fortimo

### LED

Fortimo LED Strip  
1400mm 5500lm 8xx LV5



## Datasheet

### Fortimo LED Strip 1400mm 5500lm 8xx LV5

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 1400mm 5500lm 830 LV5F	8718699 759810 00	9290 021 77506	96
Fortimo LED Strip 1400mm 5500lm 840 LV5F	8718699 759834 00	9290 021 77606	96
Fortimo LED Strip 1400mm 5500lm 865 LV5F	8718699 760762 00	9290 021 77706	96
Fortimo LED Strip 1400mm 5500lm 830 LV5B	8718699 760823 00	9290 021 78006	96
Fortimo LED Strip 1400mm 5500lm 840 LV5B	8718699 760847 00	9290 021 78106	96

## Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo LED Strip 1400mm 5500lm 8xx LV5	900	1800	2000	mA

## Module temperatures

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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

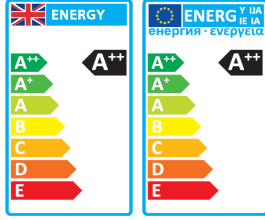
\*\* Value at which life time is specified

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

## Optical characteristics - table per color (CCT)

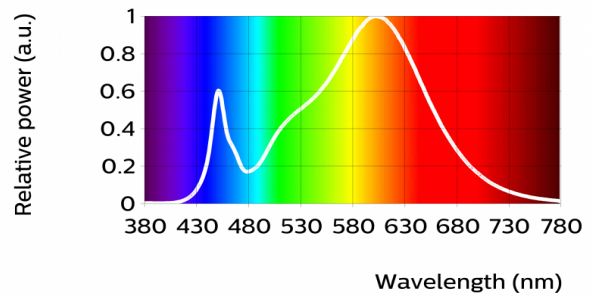
Fortimo LED Strip 1400mm 5500lm 830 LV5F  
 Fortimo LED Strip 1400mm 5500lm 830 LV5B

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	



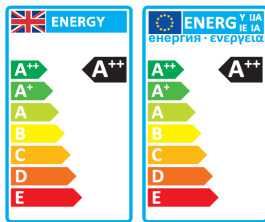
Measurement precision for flux +/- 5%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5

Operation point	830	lm	lm/W
50% I-nom 450mA	Tc 25 °C	2736	188
	Tc-nom 45 °C	2672	185
	Tc-max 80 °C	2544	179
I-nom 900mA	Tc 25 °C	5349	177
	Tc-nom 45 °C	5225	173
	Tc-max 80 °C	4974	168
I-max 2000mA	Tc 25 °C	11264	156
	Tc-nom 45 °C	10999	153
	Tc-max 80 °C	10464	147



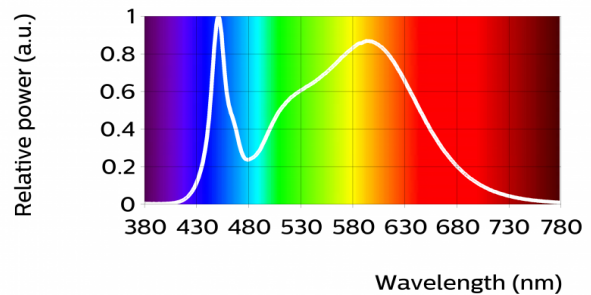
Fortimo LED Strip 1400mm 5500lm 840 LV5F  
 Fortimo LED Strip 1400mm 5500lm 840 LV5B

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	



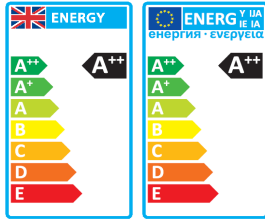
Measurement precision for flux +/- 5%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5

Operation point	840	lm	lm/W
50% I-nom 450mA	Tc 25 °C	2879	198
	Tc-nom 45 °C	2813	195
	Tc-max 80 °C	2678	189
I-nom 900mA	Tc 25 °C	5631	186
	Tc-nom 45 °C	5500	182
	Tc-max 80 °C	5236	177
I-max 2000mA	Tc 25 °C	11858	164
	Tc-nom 45 °C	11579	161
	Tc-max 80 °C	11016	155



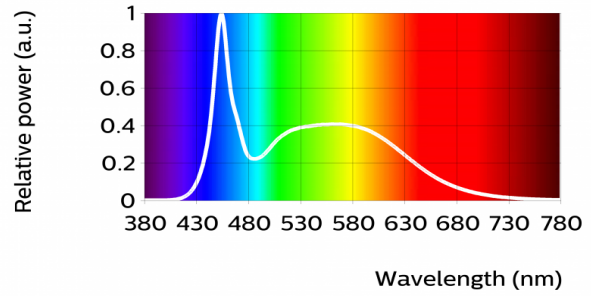
Fortimo LED Strip 1400mm 5500lm 865 LV5F

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
50% I-nom 450mA	Tc 25 °C	2879	198
	Tc-nom 45 °C	2813	195
	Tc-max 80 °C	2678	189
I-nom 900mA	Tc 25 °C	5631	186
	Tc-nom 45 °C	5500	182
	Tc-max 80 °C	5236	177
I-max 2000mA	Tc 25 °C	11858	164
	Tc-nom 45 °C	11579	161
	Tc-max 80 °C	11016	155



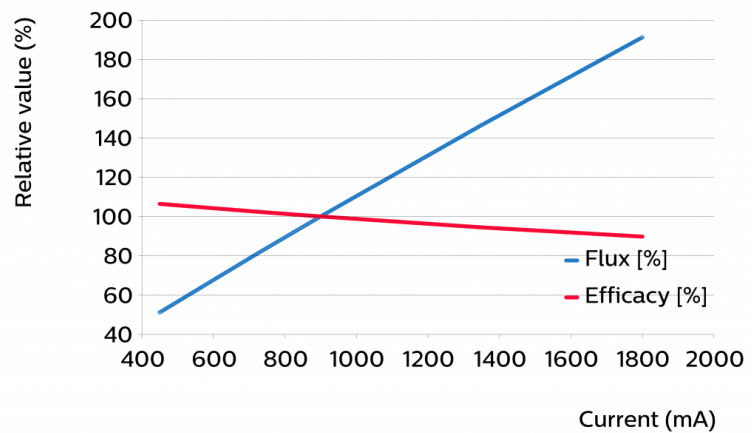
## Electrical characteristics

Parameter	Min	Typ	Max	Unit
Forward voltage	32.8	33.5	34.2	V
Power consumption	29.5	30.2	30.8	W = kWh/1000h
Number of modules in series per chain			1	
Number of modules per chain			1	

## Tuning information

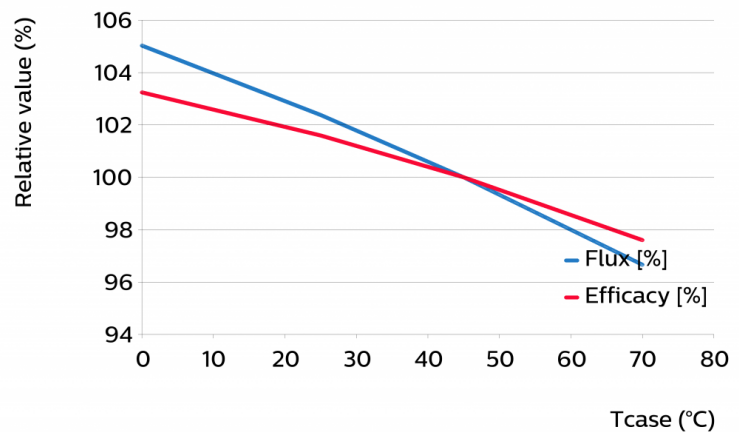
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
1800	191	90
1350	147	94
900	100	100
720	81	102
450	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 720 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 900 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 1800 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

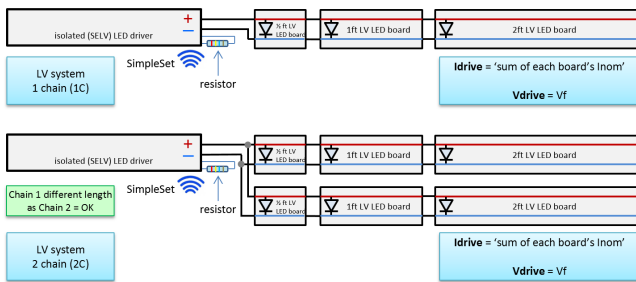
## Lifetime

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

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

## Wiring

Specification item	Value	Unit	Condition
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	
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	



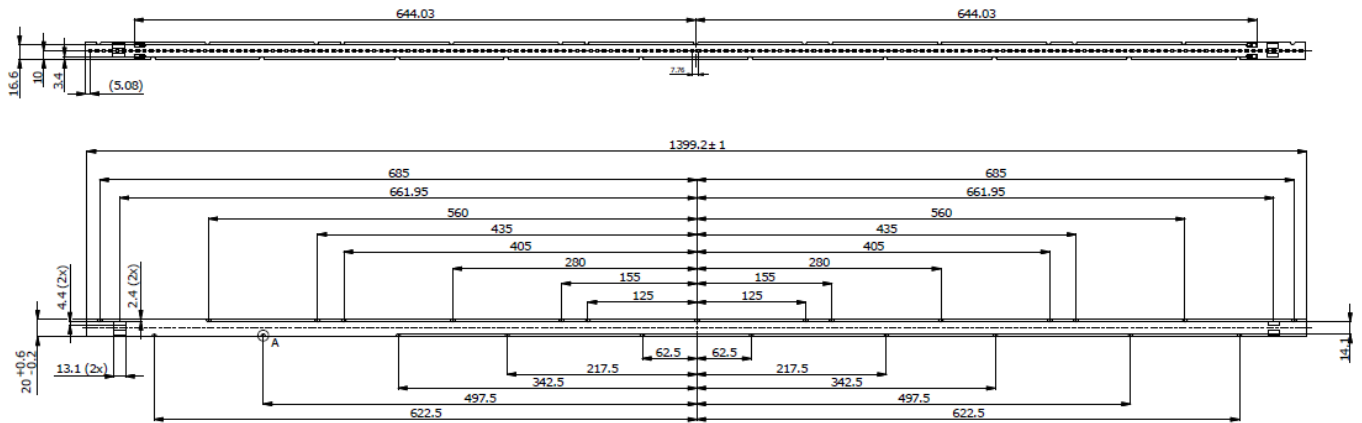
More information in the design-in guide of LED Linear modules.



## Mechanical characteristics

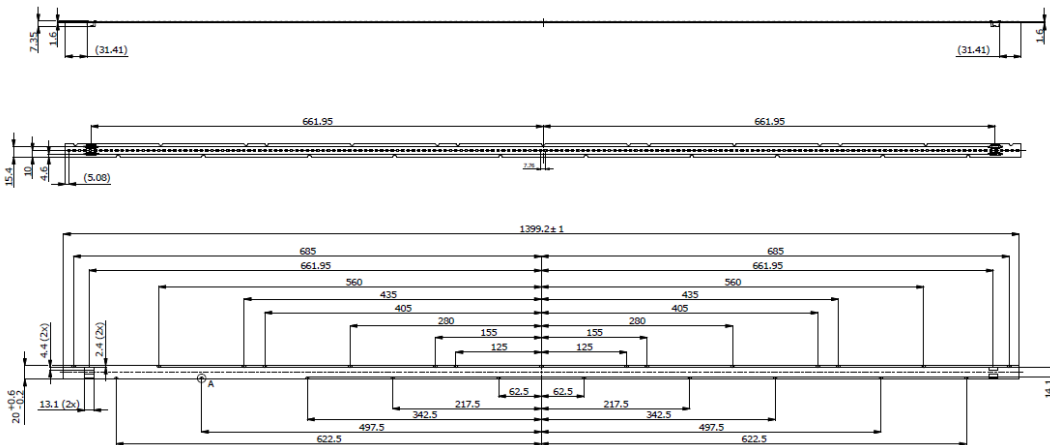
Fortimo LED Strip 1400mm 5500lm 865 LV5F  
 Fortimo LED Strip 1400mm 5500lm 830 LV5F  
 Fortimo LED Strip 1400mm 5500lm 840 LV5F

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 LV5B  
 Fortimo LED Strip 1400mm 5500lm 840 LV5B

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

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Parameter	Min	Max	Unit
Current through the LED module (I-max)		2000	mA
Case temperature (Tc-max)		80	°C
ESD (direct contact)	8		kV
Working voltage		120	V <sub>dc</sub>

## Application information

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### Certificates and Standards

CE  
ENEC  
ENEC+  
UL

### Environmental

RoHS/REACH

### Application

Dimming	Yes
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