

# PHILIPS

## Fortimo

### LED

Fortimo LED Strip OC 2ft  
2200lm 8xx HV5



## Datasheet

### Fortimo LED Strip OC 2ft 2200lm 8xx HV5

The Fortimo LED Strip OC generation 5 is specifically designed to match with a variety of different optics. Due to its efficient design there is a high efficiency possible of 182 Lm/W. The portfolio is available in 0.5ft, 1ft and 2ft, both in high voltage and low voltage. The optics are available in 30°/60°/90°/A-symmetrical/Double-A-symmetrical.

#### Key features and benefits

- Typical module efficacy of 182 lm/W (at 4000K CRI80)
- Long life-time: >50,000 hours
- Excellent color consistency of 3 SDCM
- Wide range of CCTs available: 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 +85°C
- Five year system warranty

December 2020



## Ordering data

Commercial product name	EOC	12NC	Box quantity
Fortimo LED Strip OC 2ft 2200lm 830 BC HV5	8718699 765064 00	9290 021 93306	63
Fortimo Led Strip OC 2ft 2200lm 835 BC HV5	8719514 304116 00	9290 029 17406	63
Fortimo LED Strip OC 2ft 2200lm 840 BC HV5	8718699 765088 00	9290 021 93406	63
Fortimo LED Strip OC 2ft 2200lm 865 BC HV5	8718699 765101 00	9290 021 93506	63
Fortimo LED Strip OC 2ft 2200lm 830 FC HV5	8718699 764012 00	9290 021 93606	84
Fortimo LED Strip OC 2ft 2200lm 840 FC HV5	8718699 764197 00	9290 021 93706	84
Fortimo LED Strip OC 2ft 2200lm 865 FC HV5	8718699 764999 00	9290 021 93806	84

## Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo LED Strip OC 2ft 2200lm 8xx HV5	270	450	600	mA

## Module temperatures

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Parameter	Nominal*	Life**	Max***	Unit
$T_c$ (case temperature at $T_c$ point)	45	75	85	°C

\* Nominal value at which typical performance is specified

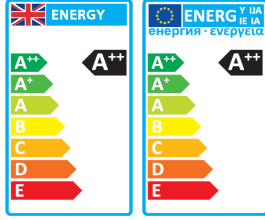
\*\* Value at which life time is specified

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

## Optical characteristics - table per color (CCT)

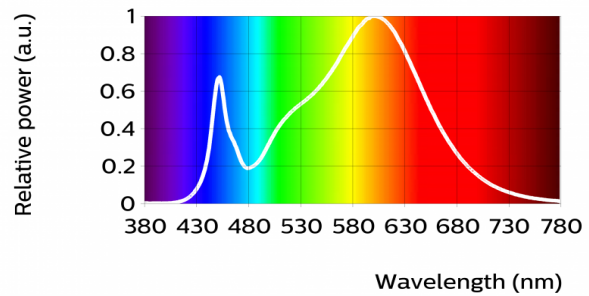
Fortimo LED Strip OC 2ft 2200lm 830 BC HV5  
 Fortimo LED Strip OC 2ft 2200lm 830 FC HV5

Parameter	Min	Typ	Max	Unit
Luminous flux	1986	2090	2194	lm
Module efficacy	161	175		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.429, 0.400)		-
Color consistency			3	SDCM
CRI	80			
Photometric code		830/359		
Radiation angle		120		deg
Photobiological safety			RG1 unlimited	



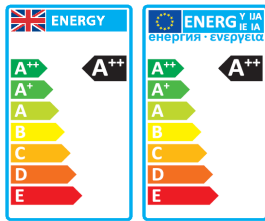
Measurement precision for flux +/- 5%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5

Operation point	830	lm	lm/W
80% I-nom 216mA	Tc 25 °C	1722	181
	Tc-nom 45 °C	1689	179
	Tc-max 85 °C	1610	172
I-nom 270mA	Tc 25 °C	2131	177
	Tc-nom 45 °C	2090	175
	Tc-max 85 °C	1992	169
I-max 600mA	Tc 25 °C	4501	157
	Tc-nom 45 °C	4414	155
	Tc-max 85 °C	4205	149



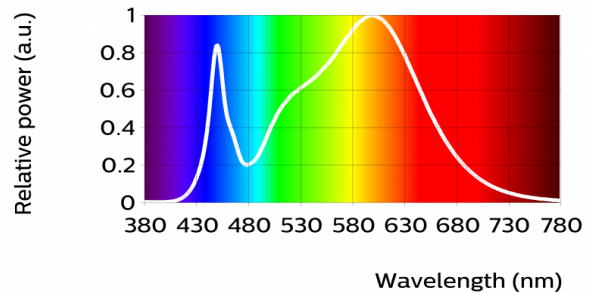
Fortimo Led Strip OC 2ft 2200lm 835 BC HV5

Parameter	Min	Typ	Max	Unit
Luminous flux	1990	2090	2190	lm
Module efficacy	157	175		lm/W
Correlated color temperature (CCT)		3500		K
Color coordinates (CIEx, CIEy)		(0.408, 0.391)		-
Color consistency			3	SDCM
CRI	80			
Photometric code		835/359		
Radiation angle		120		deg
Photobiological safety			RG1 unlimited	



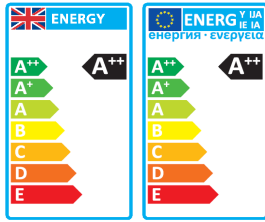
Measurement precision for flux +/- 5%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5

Operation point	835	lm	lm/W
80% I-nom 216mA	Tc 25 °C	1722	181
	Tc-nom 45 °C	1689	179
	Tc-max 85 °C	1610	172
I-nom 270mA	Tc 25 °C	2131	177
	Tc-nom 45 °C	2090	175
	Tc-max 85 °C	1992	169
I-max 600mA	Tc 25 °C	4501	157
	Tc-nom 45 °C	4414	155
	Tc-max 85 °C	4205	149



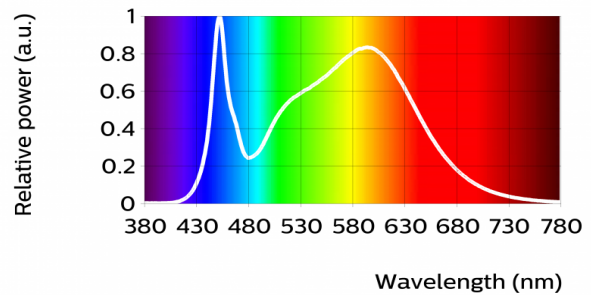
Fortimo LED Strip OC 2ft 2200lm 840 BC HV5  
 Fortimo LED Strip OC 2ft 2200lm 840 FC HV5

Parameter	Min	Typ	Max	Unit
Luminous flux	2090	2200	2310	lm
Module efficacy	169	184		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.378, 0.376)		-
Color consistency			3	SDCM
CRI	80			
Photometric code		840/359		
Radiation angle		120		deg
Photobiological safety			RG1 unlimited	



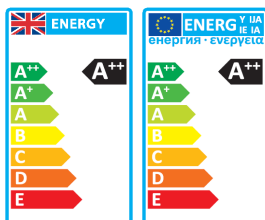
Measurement precision for flux +/- 5%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5

Operation point	840	lm	lm/W
80% I-nom 216mA	Tc 25 °C	1812	191
	Tc-nom 45 °C	1778	188
	Tc-max 85 °C	1695	182
I-nom 270mA	Tc 25 °C	2243	187
	Tc-nom 45 °C	2200	184
	Tc-max 85 °C	2097	177
I-max 600mA	Tc 25 °C	4738	166
	Tc-nom 45 °C	4647	163
	Tc-max 85 °C	4427	157



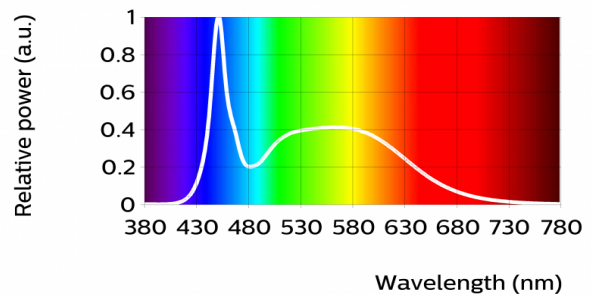
Fortimo LED Strip OC 2ft 2200lm 865 BC HV5  
 Fortimo LED Strip OC 2ft 2200lm 865 FC HV5

Parameter	Min	Typ	Max	Unit
Luminous flux	2090	2200	2310	lm
Module efficacy	169	184		lm/W
Correlated color temperature (CCT)		6500		K
Color coordinates (CIEx, CIEy)		(0.311, 0.326)		-
Color consistency			3	SDCM
CRI	80			
Photometric code		865/359		
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 216mA	Tc 25 °C	1812	191
	Tc-nom 45 °C	1778	188
	Tc-max 85 °C	1695	182
I-nom 270mA	Tc 25 °C	2243	187
	Tc-nom 45 °C	2200	184
	Tc-max 85 °C	2097	177
I-max 600mA	Tc 25 °C	4738	166
	Tc-nom 45 °C	4647	163
	Tc-max 85 °C	4427	157



## Electrical characteristics

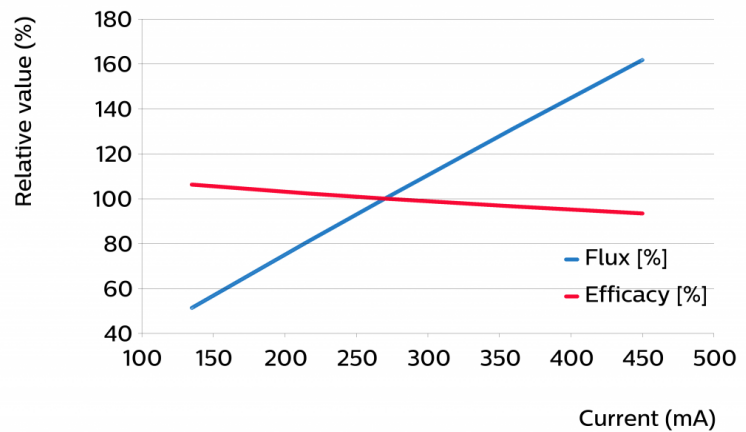
Parameter	Min	Typ	Max	Unit
Forward voltage	43.4	44.3	45.2	V
Power consumption	11.7	12.0	12.2	W = kWh/1000h
Number of modules in series per chain			6	
Number of modules in parallel			4	

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

## Tuning information

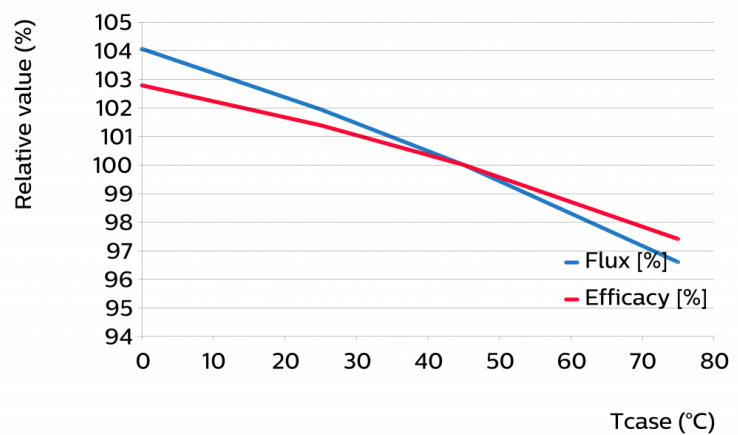
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
450	162	93
360	131	96
270	100	100
216	81	102
135	51	106



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

Tc [°C]	Flux [%]	Efficacy [%]
75	97	97
45	100	100
25	102	101
0	104	103



## Lumen maintenance

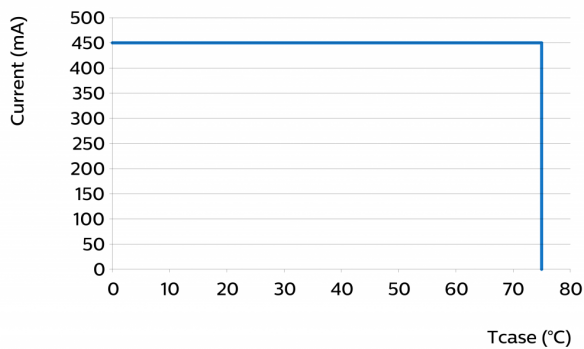
Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% I <sub>nom</sub> 216mA	Tc 25°C	>70	>70	>70	>70	>70	>70	64	60	57
	Tc <sub>nom</sub> 45°C	>70	>70	>70	>70	>70	>70	51	47	45
	Tc <sub>life</sub> 75°C	>70	>70	>70	>70	>70	>70	37	35	33
I <sub>nom</sub> 270 mA	Tc 25°C	>70	>70	>70	>70	>70	>70	61	57	55
	Tc <sub>nom</sub> 45°C	>70	>70	>70	>70	>70	>70	49	45	43
	Tc <sub>life</sub> 75°C	>70	>70	>70	>70	70	67	36	33	32
I <sub>life</sub> 470 mA	Tc 25°C	>70	>70	>70	>70	>70	>70	55	51	49
	Tc <sub>nom</sub> 45°C	>70	>70	>70	>70	>70	>70	44	40	39
	Tc <sub>life</sub> 75°C	>70	>70	>70	68	63	60	32	30	28

## Lifetime

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

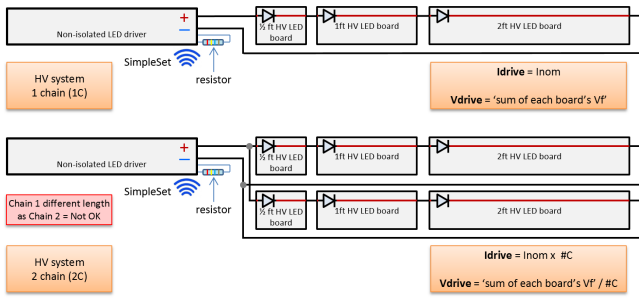
Switching cycles in accordance to EU 1194/2012: >15000

## 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	

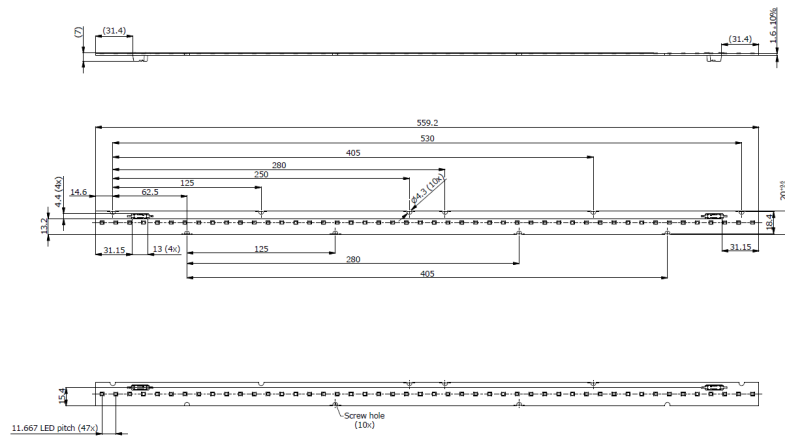


More information in the design-in guide of LED Linear modules.

## Mechanical characteristics

Fortimo LED Strip OC 2ft 2200lm 830 BC HV5  
 Fortimo Led Strip OC 2ft 2200lm 835 BC HV5  
 Fortimo LED Strip OC 2ft 2200lm 840 BC HV5  
 Fortimo LED Strip OC 2ft 2200lm 865 BC HV5

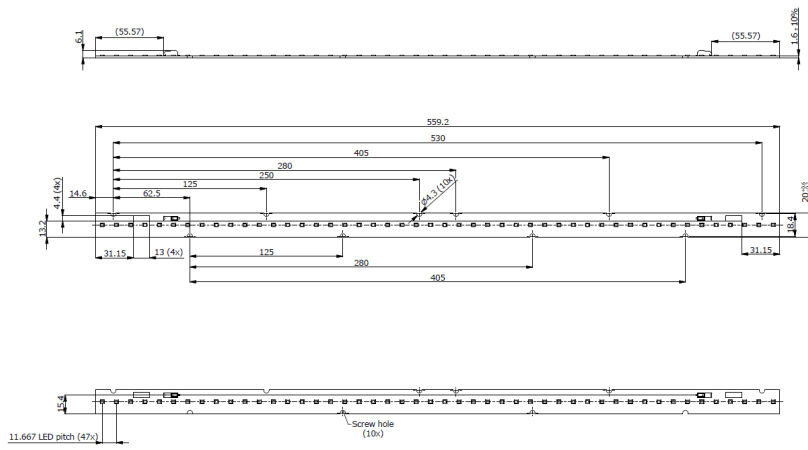
Parameter	Min	Typ	Max	Unit
Length	558.9	559.2	559.5	mm
Width	19.8	20	20.6	mm
Height PCB	1.44	1.6	1.76	mm
Height incl. connector	7.15	7.35	7.55	mm
Product mass		40		gram



Fortimo LED Strip OC 2ft 2200lm 830 FC HV5  
 Fortimo LED Strip OC 2ft 2200lm 840 FC HV5  
 Fortimo LED Strip OC 2ft 2200lm 865 FC HV5

Parameter	Min	Typ	Max	Unit
Length	558.9	559.2	559.5	mm
Width	19.8	20	20.6	mm
Height PCB	1.44	1.6	1.76	mm
Height incl. connector	5.9	6.1	6.3	mm
Product mass		40		gram





## Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		600	mA
Case temperature (Tc-max)		85	°C
ESD (direct contact)	8		kV
Working voltage		350	V <sub>dc</sub>

## Application information

### Certificates and Standards

CE

### Environmental

RoHS/REACH

### Application

Dimming	Yes
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