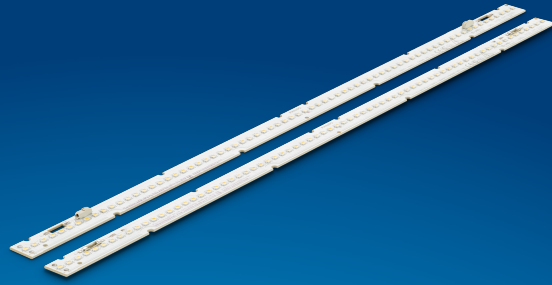


# PHILIPS

## Fortimo

### LED

Fortimo LED Strip 2ft  
2200lm 8xx HV5



## Datasheet

### Fortimo LED Strip 2ft 2200lm 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 2ft 2200lm 830 FC HV5	8718699 717117 00	9290 021 24406	84
Fortimo LED Strip 2ft 2200lm 840 FC HV5	8718699 717520 00	9290 021 24506	84
Fortimo LED Strip 2ft 2200lm 850 FC HV5	8718699 717193 00	9290 021 24606	84
Fortimo LED Strip 2ft 2200lm 865 FC HV5	8718699 717230 00	9290 021 24706	84
Fortimo LED Strip 2ft 2200lm 830 BC HV5	8718699 722500 00	9290 021 25006	63
Fortimo LED Strip 2ft 2200lm 840 BC HV5	8718699 722524 00	9290 021 25106	63

## Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo LED Strip 2ft 2200lm 8xx HV5	240	480	600	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

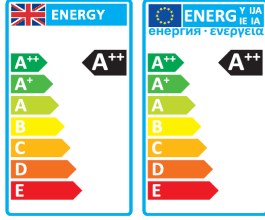
\*\* Value at which life time is specified

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

## Optical characteristics - table per color (CCT)

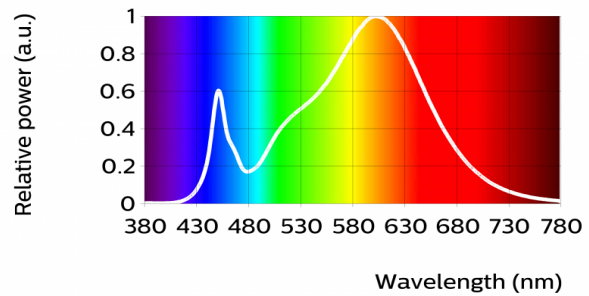
Fortimo LED Strip 2ft 2200lm 830 FC HV5  
 Fortimo LED Strip 2ft 2200lm 830 BC HV5

Parameter	Min	Typ	Max	Unit
Luminous flux	1913	2090	2223	lm
Module efficacy	156	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	



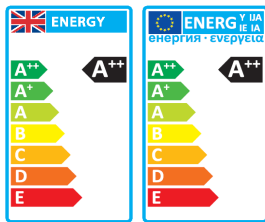
Measurement precision for flux +/- 5%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5

Operation point	830	lm	lm/W
80% I-nom 192mA	Tc 25 °C	1728	183
	Tc-nom 45 °C	1688	180
	Tc-max 80 °C	1632	175
I-nom 240mA	Tc 25 °C	2140	178
	Tc-nom 45 °C	2090	173
	Tc-max 80 °C	2020	171
I-max 600mA	Tc 25 °C	5015	152
	Tc-nom 45 °C	4897	150
	Tc-max 80 °C	4731	146



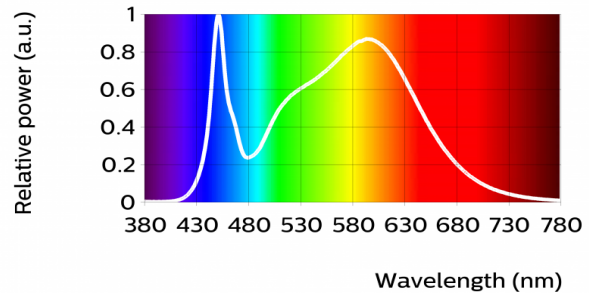
Fortimo LED Strip 2ft 2200lm 840 FC HV5  
 Fortimo LED Strip 2ft 2200lm 840 BC HV5

Parameter	Min	Typ	Max	Unit
Luminous flux	2035	2200	2365	lm
Module efficacy	164	183		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	



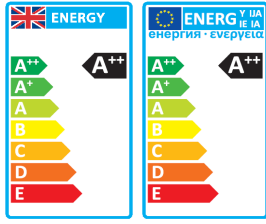
Measurement precision for flux +/- 5%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5

Operation point	840	lm	lm/W
80% I-nom 192mA	Tc 25 °C	1819	192
	Tc-nom 45 °C	1777	189
	Tc-max 80 °C	1718	185
I-nom 240mA	Tc 25 °C	2252	188
	Tc-nom 45 °C	2200	183
	Tc-max 80 °C	2126	180
I-max 600mA	Tc 25 °C	5280	160
	Tc-nom 45 °C	5155	158
	Tc-max 80 °C	4980	154



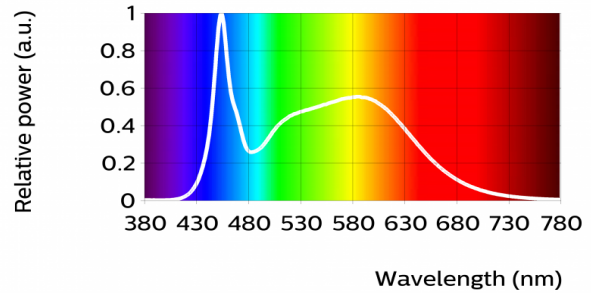
Fortimo LED Strip 2ft 2200lm 850 FC HV5

Parameter	Min	Typ	Max	Unit
Luminous flux	2035	2200	2365	lm
Module efficacy	164	183		lm/W
Correlated color temperature (CCT)		5000		K
Color coordinates (CIEx, CIEy)		(0.341, 0.350)		-
Color consistency			3	SDCM
CRI	80			
Photometric code		850/369		
Radiation angle		120		deg
Photobiological safety			RG1 unlimited	



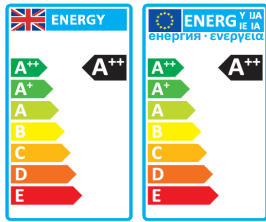
Measurement precision for flux +/- 5%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5

Operation point	850	lm	lm/W
80% I-nom 192mA	Tc 25 °C	1819	192
	Tc-nom 45 °C	1777	189
	Tc-max 80 °C	1718	185
I-nom 240mA	Tc 25 °C	2252	188
	Tc-nom 45 °C	2200	183
	Tc-max 80 °C	2126	180
I-max 600mA	Tc 25 °C	5280	160
	Tc-nom 45 °C	5155	158
	Tc-max 80 °C	4980	154



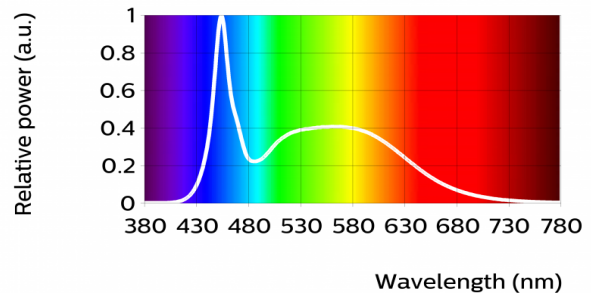
Fortimo LED Strip 2ft 2200lm 865 FC HV5

Parameter	Min	Typ	Max	Unit
Luminous flux	2035	2200	2365	lm
Module efficacy	164	183		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	1819	192
	Tc-nom 45 °C	1777	189
	Tc-max 80 °C	1718	185
I-nom 240mA	Tc 25 °C	2252	188
	Tc-nom 45 °C	2200	183
	Tc-max 80 °C	2126	180
I-max 600mA	Tc 25 °C	5280	160
	Tc-nom 45 °C	5155	158
	Tc-max 80 °C	4980	154



## Electrical characteristics

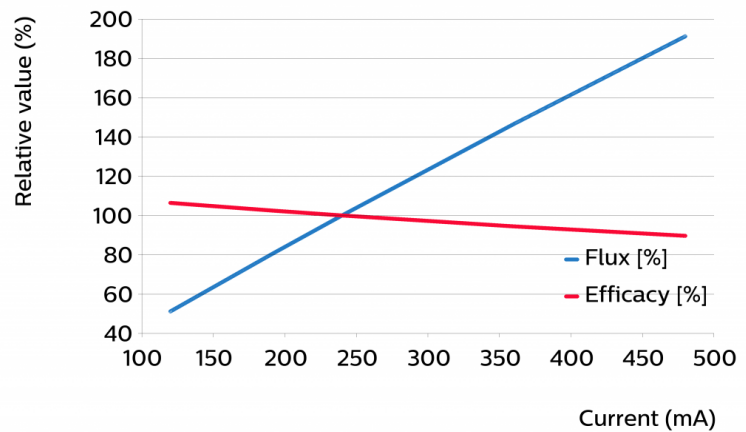
Parameter	Min	Typ	Max	Unit
Forward voltage	48.4	50.2	52.0	V
Power consumption	11.6	12.1	12.5	W = kWh/1000h
Number of modules in series per chain			5	
Number of modules in parallel			4	

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

## Tuning information

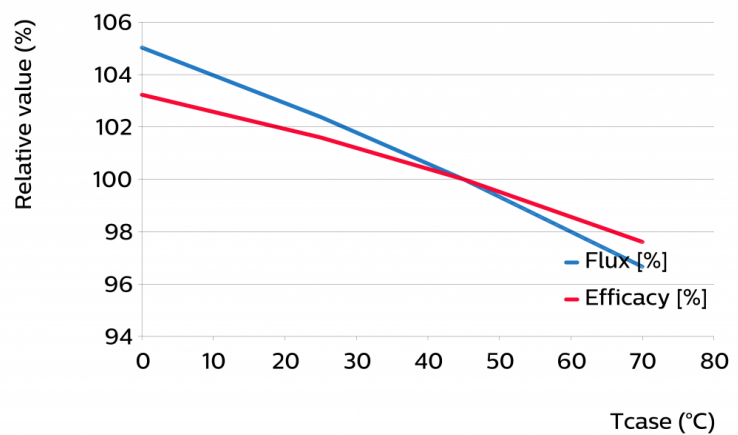
Flux and efficacy versus current (at Tc nominal)

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

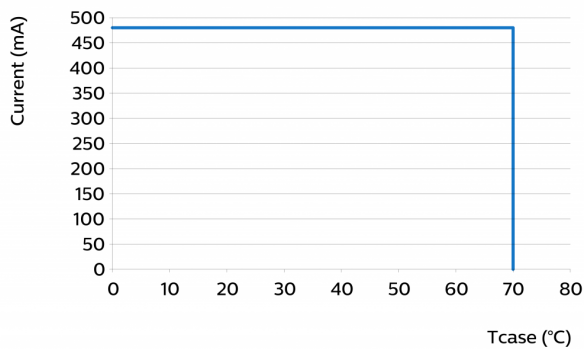
Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% I nom 192 mA	Tc 25°C	>70	>70	>70	>70	>70	>70	67	64	62
	Tc nom 45°C	>70	>70	>70	>70	>70	>70	52	50	49
	Tc life 70°C	>70	>70	>70	>70	>70	>70	40	38	37
I nom 240 mA	Tc 25°C	>70	>70	>70	>70	>70	>70	67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

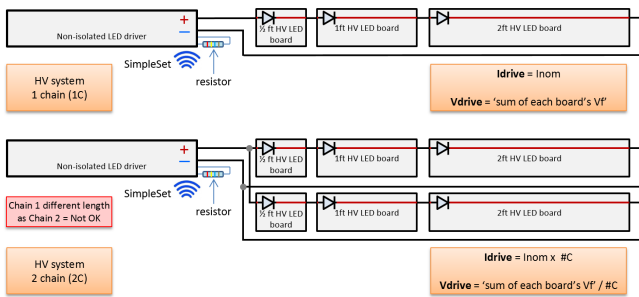
Switching cycles in accordance to EU 1194/2012: >15000

## 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	

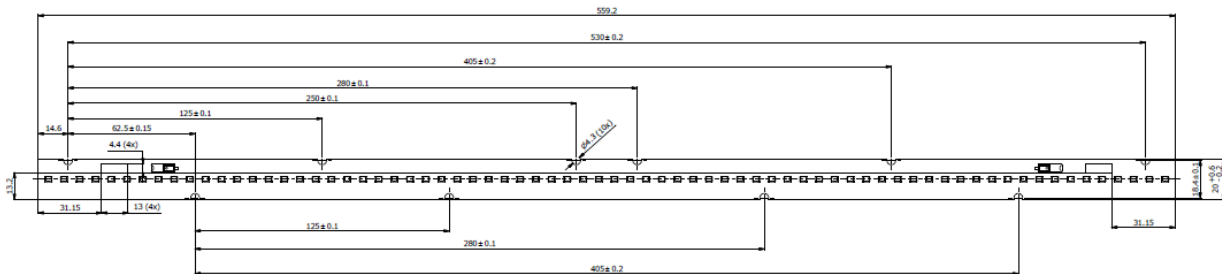


More information in the design-in guide of LED Linear modules.

## Mechanical characteristics

Fortimo LED Strip 2ft 2200lm 850 FC HV5  
 Fortimo LED Strip 2ft 2200lm 830 FC HV5  
 Fortimo LED Strip 2ft 2200lm 865 FC HV5  
 Fortimo LED Strip 2ft 2200lm 840 FC HV5

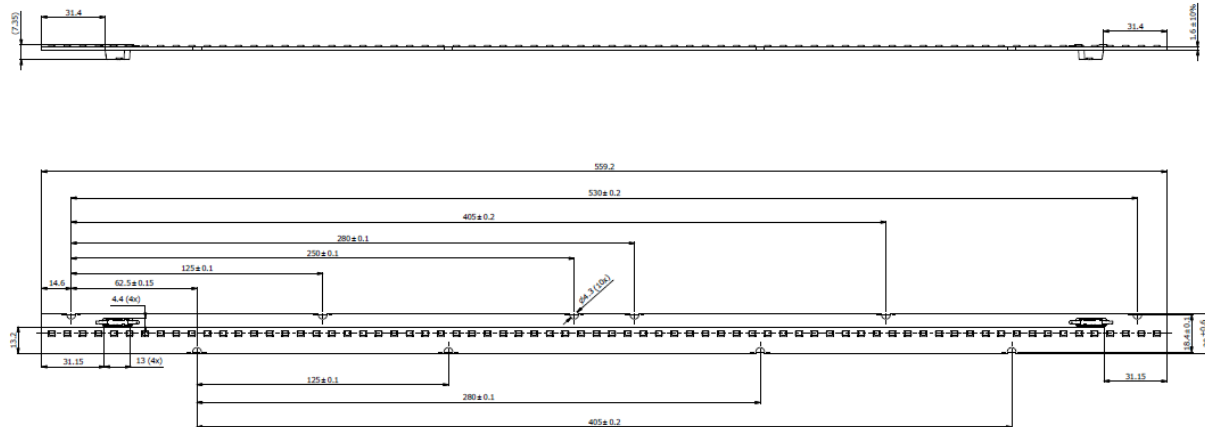
Parameter	Min	Typ	Max	Unit
Length	558.9	559.2	559.5	mm
Width	19.8	20	20.2	mm
Height excl. connector		1.6		mm
Height incl. connector		6.1		mm
Product mass		40		gram



Fortimo LED Strip 2ft 2200lm 830 BC HV5  
 Fortimo LED Strip 2ft 2200lm 840 BC HV5

Parameter	Min	Typ	Max	Unit
Length	558.9	559.2	559.5	mm
Width	19.8	20	20.2	mm
Height excl. connector		1.6		mm
Height incl. connector		7.35		mm
Product mass		40		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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