

PHILIPS

Fortimo

LED

Fortimo LED Strip 1ft
1100lm 8xx LV5



Datasheet

Fortimo LED Strip 1ft 1100lm 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 1ft 1100lm 830 FC LV5	8718699 719746 00	9290 021 22106	168
Fortimo LED Strip 1ft 1100lm 840 FC LV5	8718699 717445 00	9290 021 22206	168
Fortimo LED Strip 1ft 1100lm 850 FC LV5	8718699 719401 00	9290 021 22306	168
Fortimo LED Strip 1ft 1100lm 865 FC LV5	8718699 719425 00	9290 021 22406	168
Fortimo LED Strip 1ft 1100lm 830 BC LV5	8718699 726751 00	9290 021 22906	168
Fortimo LED Strip 1ft 1100lm 840 BC LV5	8718699 726775 00	9290 021 23006	168

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo LED Strip 1ft 1100lm 8xx LV5	180	360	450	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

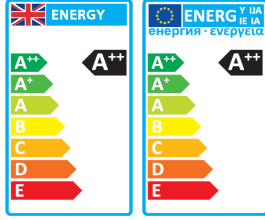
** Value at which life time is specified

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

Optical characteristics - table per color (CCT)

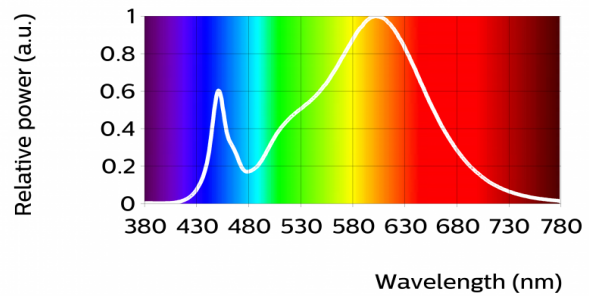
Fortimo LED Strip 1ft 1100lm 830 FC LV5
 Fortimo LED Strip 1ft 1100lm 830 BC LV5

Parameter	Min	Typ	Max	Unit
Luminous flux	956	1045	1112	lm
Module efficacy	159	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	



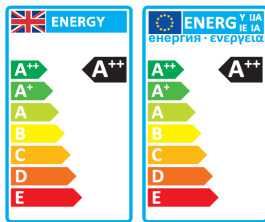
Measurement precision for flux +/- 5%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5

Operation point	830	lm	lm/W
80% I-nom 144mA	Tc 25 °C	864	183
	Tc-nom 45 °C	844	180
	Tc-max 80 °C	816	175
I-nom 180mA	Tc 25 °C	1070	178
	Tc-nom 45 °C	1045	173
	Tc-max 80 °C	1010	171
I-max 450mA	Tc 25 °C	2046	160
	Tc-nom 45 °C	1998	157
	Tc-max 80 °C	1930	153



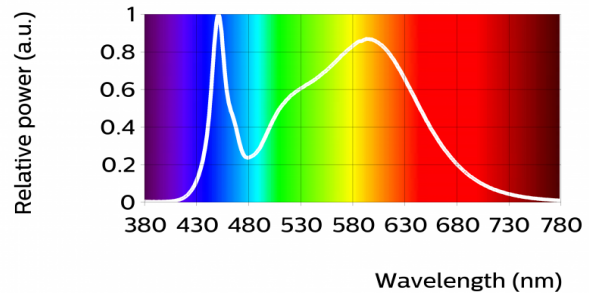
Fortimo LED Strip 1ft 1100lm 840 FC LV5
 Fortimo LED Strip 1ft 1100lm 840 BC LV5

Parameter	Min	Typ	Max	Unit
Luminous flux	1018	1100	1182	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	



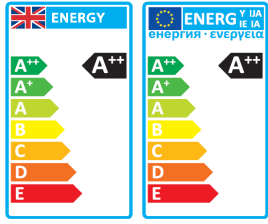
Measurement precision for flux +/- 5%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5

Operation point	840	lm	lm/W
80% I-nom 144mA	Tc 25 °C	910	192
	Tc-nom 45 °C	889	189
	Tc-max 80 °C	859	185
I-nom 180mA	Tc 25 °C	1126	188
	Tc-nom 45 °C	1100	182
	Tc-max 80 °C	1063	180
I-max 450mA	Tc 25 °C	2153	168
	Tc-nom 45 °C	2103	166
	Tc-max 80 °C	2032	161



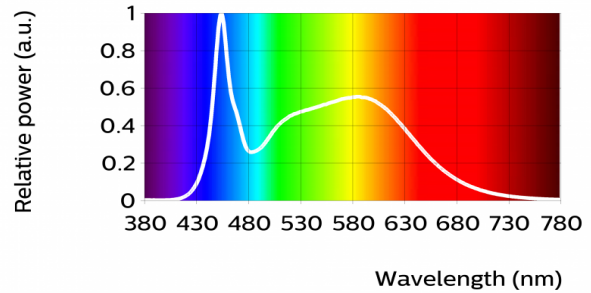
Fortimo LED Strip 1ft 1100lm 850 FC LV5

Parameter	Min	Typ	Max	Unit
Luminous flux	1018	1100	1182	lm
Module efficacy	169	182		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	



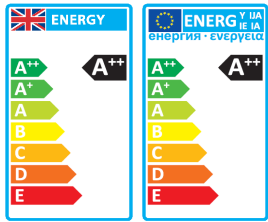
Measurement precision for flux +/- 5%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5

Operation point	850	lm	lm/W
	80% I-nom 144mA	Tc 25 °C	910
Tc-nom 45 °C		889	189
Tc-max 80 °C		859	185
I-nom 180mA	Tc 25 °C	1126	188
	Tc-nom 45 °C	1100	182
	Tc-max 80 °C	1063	180
I-max 450mA	Tc 25 °C	2153	168
	Tc-nom 45 °C	2103	166
	Tc-max 80 °C	2032	161



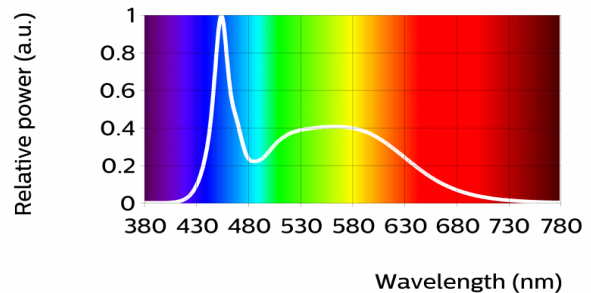
Fortimo LED Strip 1ft 1100lm 865 FC LV5

Parameter	Min	Typ	Max	Unit
Luminous flux	1018	1100	1182	lm
Module efficacy	169	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 144mA	Tc 25 °C	910
Tc-nom 45 °C		889	189
Tc-max 80 °C		859	185
I-nom 180mA	Tc 25 °C	1126	188
	Tc-nom 45 °C	1100	182
	Tc-max 80 °C	1063	180
I-max 450mA	Tc 25 °C	2153	168
	Tc-nom 45 °C	2103	166
	Tc-max 80 °C	2032	161



Electrical characteristics

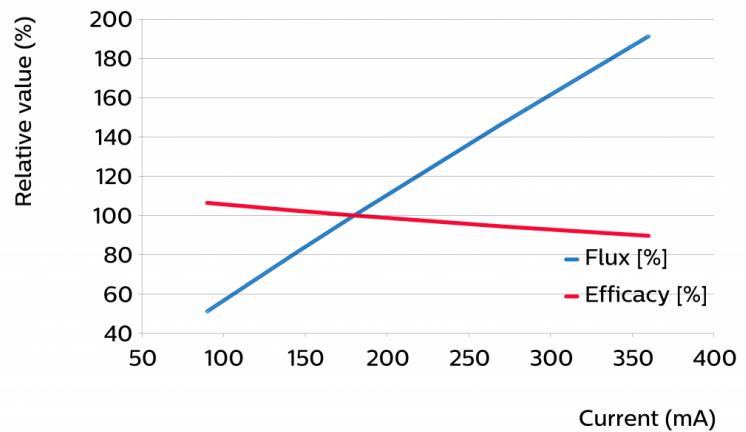
Parameter	Min	Typ	Max	Unit
Forward voltage	32.3	33.5	34.7	V
Power consumption	5.81	6.03	6.25	W = kWh/1000h
Number of modules in series per chain			1	
Number of modules per chain			6	

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

Tuning information

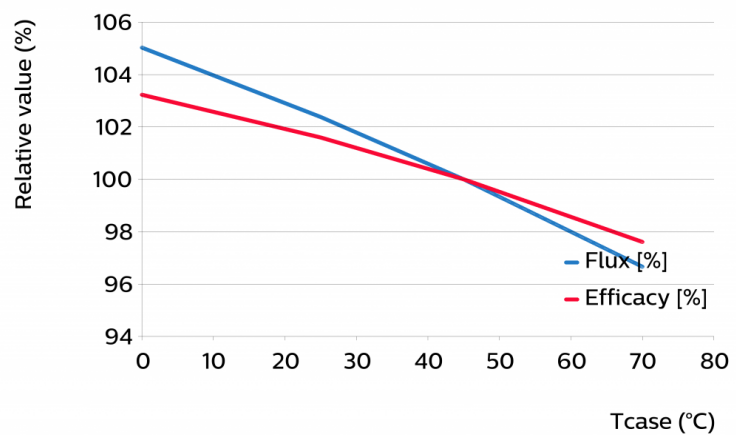
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
360	191	90
270	147	94
180	100	100
144	81	102
90	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

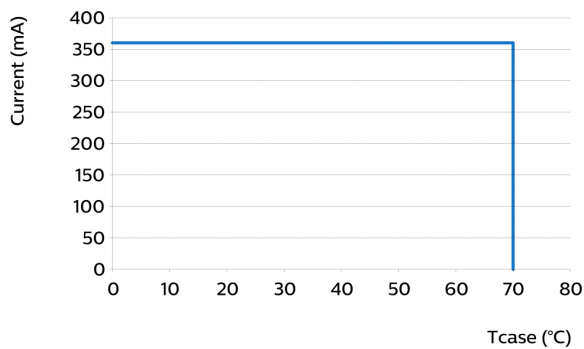
Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% I nom 144 mA	Tc 25°C	>70	>70	>70	>70	>70	>70	67	64	62
	Tc nom 45°C	>70	>70	>70	>70	>70	>70	52	50	49
	Tc life 70°C	>70	>70	>70	>70	>70	>70	40	38	37
I nom 180 mA	Tc 25°C	>70	>70	>70	>70	>70	>70	67	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 360 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

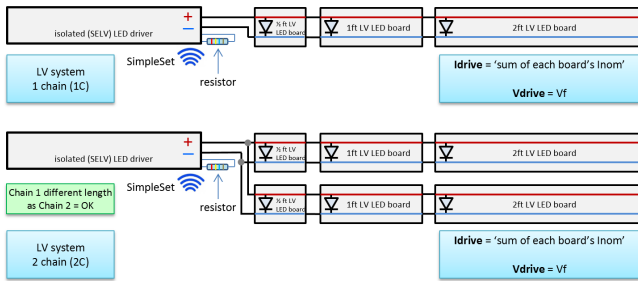
Switching cycles in accordance to EU 1194/2012: >15000

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	

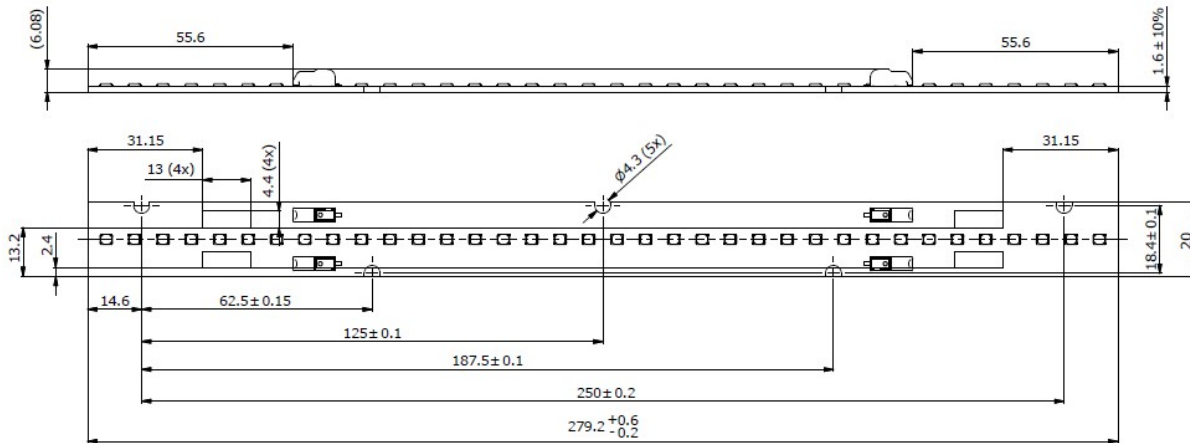


More information in the design-in guide of LED Linear modules.

Mechanical characteristics

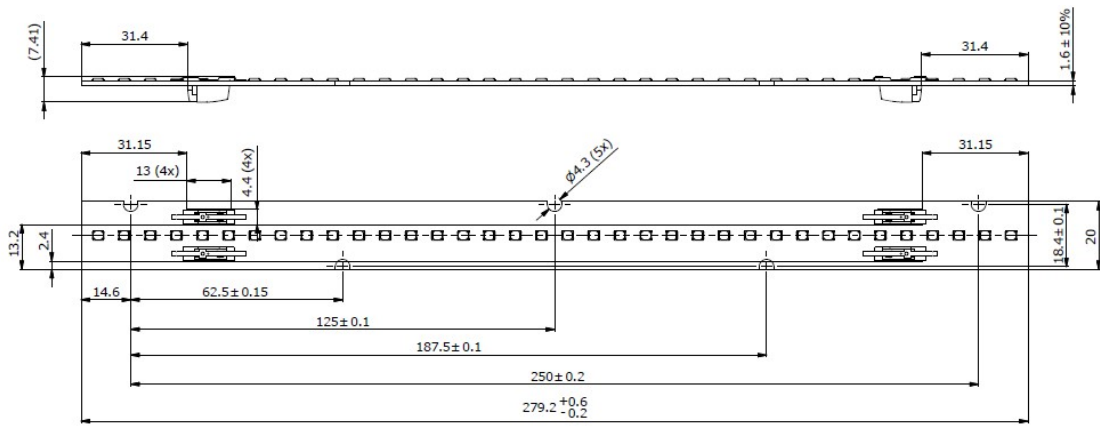
- Fortimo LED Strip 1ft 1100lm 840 FC LV5
- Fortimo LED Strip 1ft 1100lm 850 FC LV5
- Fortimo LED Strip 1ft 1100lm 830 FC LV5
- Fortimo LED Strip 1ft 1100lm 865 FC LV5

Parameter	Min	Typ	Max	Unit
Length	279	279.2	279.8	mm
Width	19.8	20	20.2	mm
Height excl. connector		1.6		mm
Height incl. connector		6.1		mm
Product mass		20		gram



- Fortimo LED Strip 1ft 1100lm 840 BC LV5
- Fortimo LED Strip 1ft 1100lm 830 BC LV5

Parameter	Min	Typ	Max	Unit
Length	279	279.2	279.8	mm
Width	19.8	20	20.2	mm
Height excl. connector		1.6		mm
Height incl. connector		7.35		mm
Product mass		20		gram



Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		450	mA
Case temperature (Tc-max)		80	°C
ESD (direct contact)	8		kV
Working voltage		120	V _{dc}

Application information

Certificates and Standards

CE
 ENEC
 ENEC+
 UL

Environmental

RoHS/REACH

Application

Dimming	Yes
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