

PHILIPS

Fortimo

LED

Fortimo LED Strip 2ft
2200lm 8xx LV5



Datasheet

Fortimo LED Strip 2ft 2200lm 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

November 2019



Ordering data

Commercial product name	EOC	12NC	Box quantity
Fortimo LED Strip 2ft 2200lm 840 FC LV5	8718699 717544 00	9290 021 25306	84
Fortimo LED Strip 2ft 2200lm 850 FC LV5	8718699 717339 00	9290 021 25406	84
Fortimo LED Strip 2ft 2200lm 865 FC LV5	8718699 717353 00	9290 021 25506	84
Fortimo LED Strip 2ft 2200lm 830 BC LV5	8718699 722548 00	9290 021 25806	63
Fortimo LED Strip 2ft 2200lm 840 BC LV5	8718699 722562 00	9290 021 25906	63
Fortimo LED Strip 2ft 2200lm 830 FC LV5	8718699 717292 00	9290 021 25206	84

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo LED Strip 2ft 2200lm 8xx LV5	360	720	900	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 2ft 2200lm 840 FC LV5

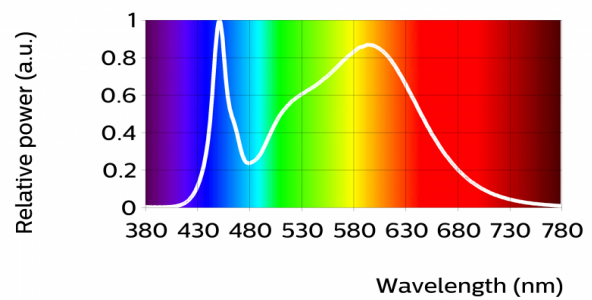
Fortimo LED Strip 2ft 2200lm 840 BC LV5

Parameter	Min	Typ	Max	Unit
Luminous flux	2035	2200	2365	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
50% I-nom 180mA	Tc 25 °C	1152	199
	Tc-nom 45 °C	1125	196
	Tc-max 80 °C	1071	190
I-nom 360mA	Tc 25 °C	2252	188
	Tc-nom 45 °C	2200	182
	Tc-max 80 °C	2094	178
I-max 900mA	Tc 25 °C	5280	160
	Tc-nom 45 °C	5155	158
	Tc-max 80 °C	4904	152



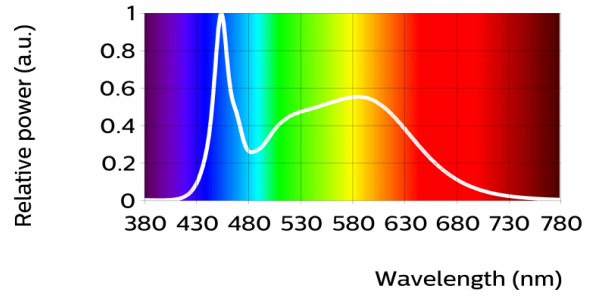
Fortimo LED Strip 2ft 2200lm 850 FC LV5

Parameter	Min	Typ	Max	Unit
Luminous flux	2035	2200	2365	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
50% I-nom 180mA	Tc 25 °C	1152	199
	Tc-nom 45 °C	1125	196
	Tc-max 80 °C	1071	190
I-nom 360mA	Tc 25 °C	2252	188
	Tc-nom 45 °C	2200	182
	Tc-max 80 °C	2094	178
I-max 900mA	Tc 25 °C	5280	160
	Tc-nom 45 °C	5155	158
	Tc-max 80 °C	4904	152



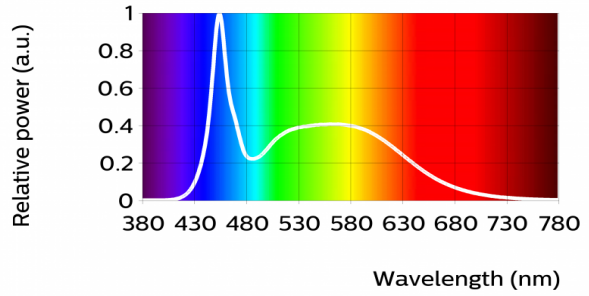
Fortimo LED Strip 2ft 2200lm 865 FC LV5

Parameter	Min	Typ	Max	Unit
Luminous flux	2035	2200	2365	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	



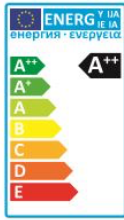
Measurement precision for flux +/- 5%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5

Operation point	865	lm	lm/W
50% I-nom 180mA	Tc 25 °C	1152	199
	Tc-nom 45 °C	1125	196
	Tc-max 80 °C	1071	190
I-nom 360mA	Tc 25 °C	2252	188
	Tc-nom 45 °C	2200	182
	Tc-max 80 °C	2094	178
I-max 900mA	Tc 25 °C	5280	160
	Tc-nom 45 °C	5155	158
	Tc-max 80 °C	4904	152



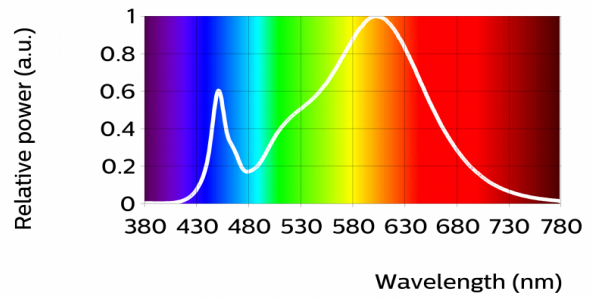
Fortimo LED Strip 2ft 2200lm 830 BC LV5
 Fortimo LED Strip 2ft 2200lm 830 FC LV5

Parameter	Min	Typ	Max	Unit
Luminous flux	1913	2090	2223	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
	Tc 25 °C	1094	189
50% I-nom 180mA	Tc-nom 45 °C	1069	187
	Tc-max 80 °C	1018	180
	Tc 25 °C	2140	178
I-nom 360mA	Tc-nom 45 °C	2090	173
	Tc-max 80 °C	1990	169
	Tc 25 °C	5015	152
I-max 900mA	Tc-nom 45 °C	4897	150
	Tc-max 80 °C	4658	144



Electrical characteristics

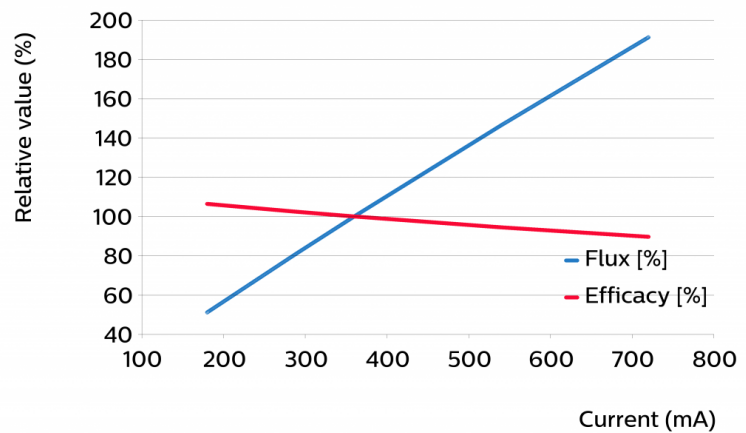
Parameter	Min	Typ	Max	Unit
Forward voltage	32.3	33.5	34.7	V
Power consumption	11.6	12.1	12.5	W = kWh/1000h
Number of modules in series per chain			1	
Number of modules in parallel per chain			2	
Number of modules in parallel			2	

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

Tuning information

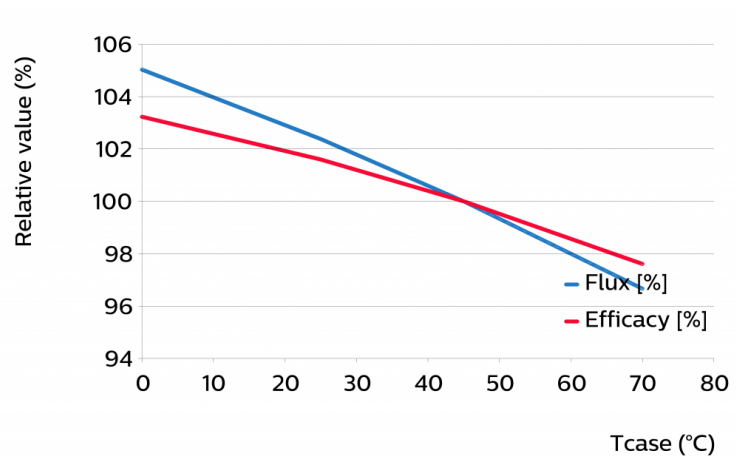
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
720	191	90
540	147	94
360	100	100
288	81	102
180	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

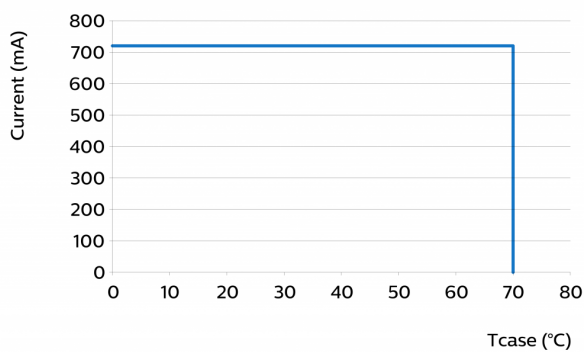
Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% I nom 288 mA	Tc 25°C	>70	>70	>70	>70	>70	>70	67	64	62
	Tc nom 45°C	>70	>70	>70	>70	>70	>70	52	50	49
	Tc life 70°C	>70	>70	>70	>70	>70	>70	40	38	37
I nom 360 mA	Tc 25°C	>70	>70	>70	>70	>70	>70	67	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 720 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

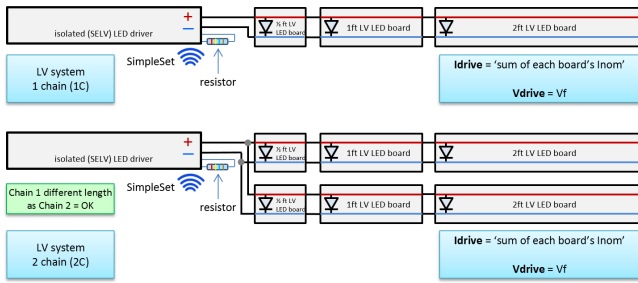
Switching cycles in accordance to EU 1194/2012: >15000

Performance Window



Wiring

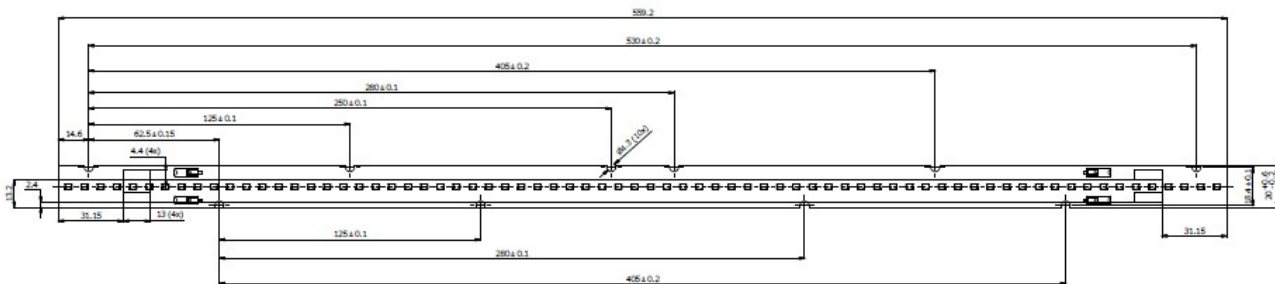
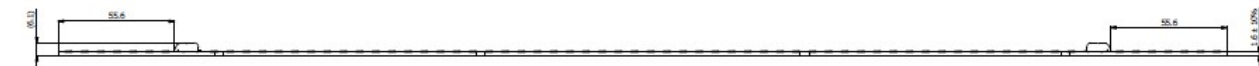
Specification item	Value	Unit	Condition
Input wire cross-section	0.25...0.75	mm ²	solid wire
	18...24	AWG	solid wire
Input wire strip length	7.5...8.5	mm	
Input wire cross-section	0.33...0.5	mm ²	stranded wire
	20...22	AWG	stranded wire
Input wire strip length	7.5...8.5	mm	



Mechanical characteristics

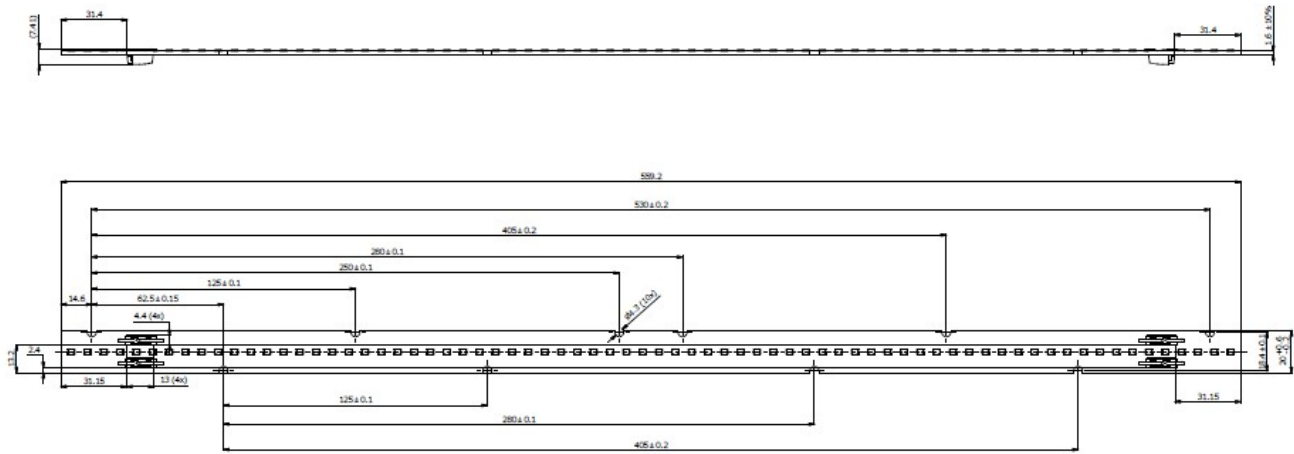
- Fortimo LED Strip 2ft 2200lm 840 FC LV5
- Fortimo LED Strip 2ft 2200lm 850 FC LV5
- Fortimo LED Strip 2ft 2200lm 865 FC LV5
- Fortimo LED Strip 2ft 2200lm 830 BC LV5

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 840 BC LV5
- Fortimo LED Strip 2ft 2200lm 830 FC LV5

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)		900	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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13/11/2019