

PHILIPS

Fortimo

LED

Fortimo LED Strip 2ft MF
8xx LV6



Datasheet

The Fortimo LED Strip is a uniquely wide portfolio which can be used in all kind of linear indoor luminaire types. Its form factor makes it easy to design-in and handle in production as it complies to Zhaga standards. Due to the availability from 0.25ft up to 5ft lengths only one product family is needed to cover a wide range of needs.

Key features and benefits

- Typical module efficiency of 186 lm/W (at 4000K CRI80)
- CRI90 High Efficiency typical performance of 174 lm/W (at 4000K CRI90)
- Long life-time: >72,000 hours
- Excellent color consistency of 3 SDCM
- Two lumen packages per length available: LF (650 lm/ft) and MF (1100 lm/ft)
- Wide range of CCTs available: 2700K, 3000K, 3500K, 4000K, 5000K and 6500K
- Available in High Voltage (HV) and Low Voltage (LV)
- Options in front connector (FC) or back connector (BC)
- Small LED module width of only 20mm
- Available lengths: 0.25ft / 0.5ft / 1ft / 2ft / 4ft (1120mm) / 4ft extended (1150mm) / 5ft (1400mm) / 5ft extended 1450mm)
- Wide temperature (Tc) range -40°C to +80°C
- Five year system warranty

November 2022



Ordering data

Commercial product name	EOC	12NC	EPREL registration #	Box quantity
Fortimo LED Strip 2ft MF 830 FC LV6	8719514 489202 00	9290 029 46006	1413446	110
Fortimo LED Strip 2ft MF 830 BC LV6	8719514 489325 00	9290 029 46606	1413452	110
Fortimo LED Strip 2ft MF 840 FC LV6	8719514 489226 00	9290 029 46106	1413447	110
Fortimo LED Strip 2ft MF 840 BC LV6	8719514 489349 00	9290 029 46706	1413453	110
Fortimo LED Strip 2ft MF 850 FC LV6	8719514 489240 00	9290 029 46206	1413448	110
Fortimo LED Strip 2ft MF 865 FC LV6	8719514 489264 00	9290 029 46306	1413449	110

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo LED Strip 2ft MF 8xx LV6	357	960	960	mA

Module temperatures

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)

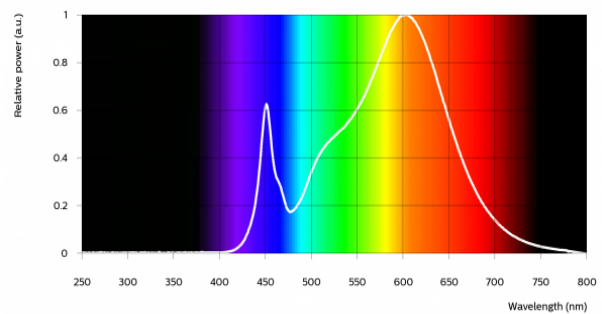
Fortimo LED Strip 2ft MF 830 FC LV6

Fortimo LED Strip 2ft MF 830 BC LV6

Parameter	Min	Typ	Max	Unit
Luminous flux	2010	2077	2210	lm
Efficacy	167	175	197	lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.433, 0.400)		-
Color consistency			3	SDCM
CRI	80			
R9	0			
Photometric code		830/339		
Photobiological safety			RG1 unlimited	

Measurement precision $\pm 5\%$ for the flux data and $\pm 6\%$ for the efficacy data. Measurement precision for color coordinates ± 0.005 . Measurement precision for CRI ± 1.5 .

Operation point	830	lm	lm/W
80% I-nom 286mA	Tc 25 °C	1726	182
	Tc-nom 45 °C	1683	179
	Tc-max 85 °C	1582	171
I-nom 357mA	Tc 25 °C	2130	178
	Tc-nom 45 °C	2077	175
	Tc-max 85 °C	1951	167
I-max 960mA	Tc 25 °C	5273	154
	Tc-nom 45 °C	5139	151
	Tc-max 85 °C	4820	144



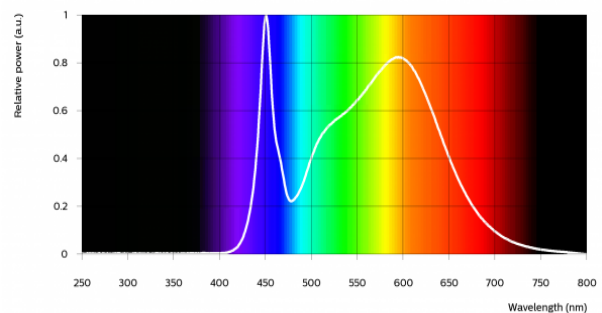
Fortimo LED Strip 2ft MF 840 FC LV6

Fortimo LED Strip 2ft MF 840 BC LV6

Parameter	Min	Typ	Max	Unit
Luminous flux	2140	2200	2420	lm
Efficacy	177	186	216	lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.381, 0.377)		-
Color consistency			3	SDCM
CRI	80			
R9	0			
Photometric code		840/339		
Photobiological safety			RG1 unlimited	

Measurement precision $\pm 5\%$ for the flux data and $\pm 6\%$ for the efficacy data. Measurement precision for color coordinates ± 0.005 . Measurement precision for CRI ± 1.5 .

Operation point	840	lm	lm/W
80% I-nom 286mA	Tc 25 °C	1829	193
	Tc-nom 45 °C	1782	190
	Tc-max 85 °C	1672	181
I-nom 357mA	Tc 25 °C	2259	189
	Tc-nom 45 °C	2200	186
	Tc-max 85 °C	2065	177
I-max 960mA	Tc 25 °C	5617	164
	Tc-nom 45 °C	5469	160
	Tc-max 85 °C	5126	152

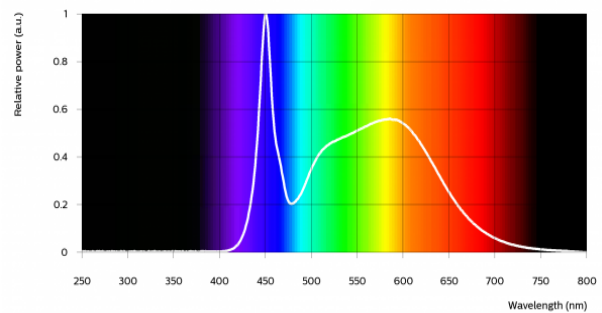


Fortimo LED Strip 2ft MF 850 FC LV6

Parameter	Min	Typ	Max	Unit
Luminous flux	2140	2203	2420	lm
Efficacy	177	186	216	lm/W
Correlated color temperature (CCT)		5000		K
Color coordinates (CIEx, CIEy)		(0.342, 0.350)		-
Color consistency			3	SDCM
CRI	80			
R9	0			
Photometric code		850/339		
Photobiological safety			RG1 unlimited	

Measurement precision $\pm 5\%$ for the flux data and $\pm 6\%$ for the efficacy data. Measurement precision for color coordinates ± 0.005 . Measurement precision for CRI ± 1.5 .

Operation point	850	lm	lm/W
80% I-nom 286mA	Tc 25 °C	1832	194
	Tc-nom 45 °C	1784	190
	Tc-max 85 °C	1675	181
I-nom 357mA	Tc 25 °C	2262	189
	Tc-nom 45 °C	2203	186
	Tc-max 85 °C	2067	177
I-max 960mA	Tc 25 °C	5625	164
	Tc-nom 45 °C	5476	161
	Tc-max 85 °C	5133	153

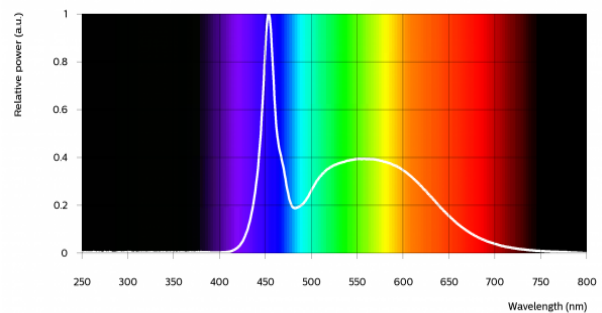


Fortimo LED Strip 2ft MF 865 FC LV6

Parameter	Min	Typ	Max	Unit
Luminous flux	2100	2171	2360	lm
Efficacy	174	183	211	lm/W
Correlated color temperature (CCT)		6500		K
Color coordinates (CIEx, CIEy)		(0.310, 0.324)		-
Color consistency			3	SDCM
CRI	80			
R9	0			
Photometric code		865/339		
Photobiological safety			RG1 unlimited	

Measurement precision $\pm 5\%$ for the flux data and $\pm 6\%$ for the efficacy data. Measurement precision for color coordinates ± 0.005 . Measurement precision for CRI ± 1.5 .

Operation point	865	lm	lm/W
80% I-nom 286mA	Tc 25 °C	1799	190
	Tc-nom 45 °C	1756	187
	Tc-max 85 °C	1649	178
I-nom 357mA	Tc 25 °C	2224	186
	Tc-nom 45 °C	2171	183
	Tc-max 85 °C	2038	174
I-max 960mA	Tc 25 °C	5571	163
	Tc-nom 45 °C	5435	160
	Tc-max 85 °C	5093	152



Electrical characteristics

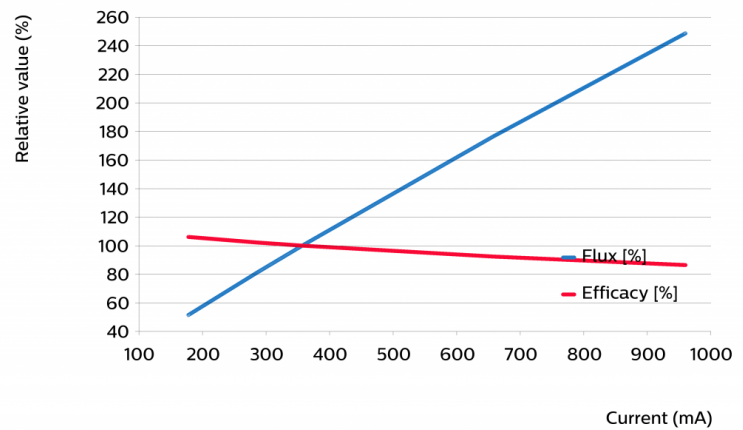
Parameter	Min	Typ	Max	Unit
Forward voltage	31.4	33.2	33.8	V
Power consumption	11.2	11.9	12.1	W = kWh/1000h
Number of modules per chain			2	

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

Tuning information

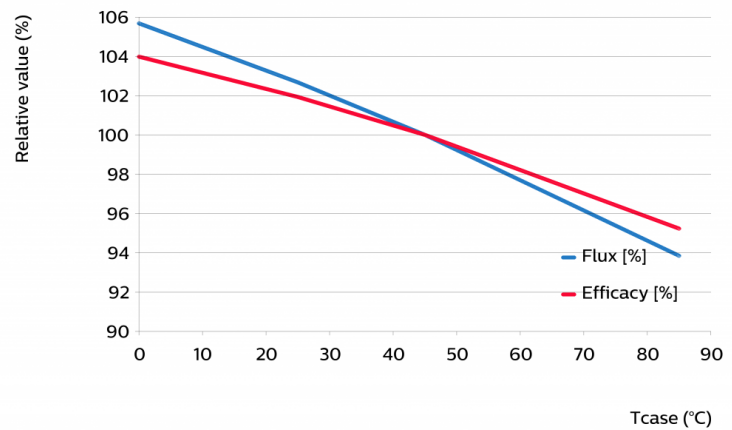
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
960	249	86
658	176	92
357	100	100
286	81	102
178	51	106



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

Tc [°C]	Flux [%]	Efficacy [%]
85	94	95
45	100	100
25	103	102
0	106	104



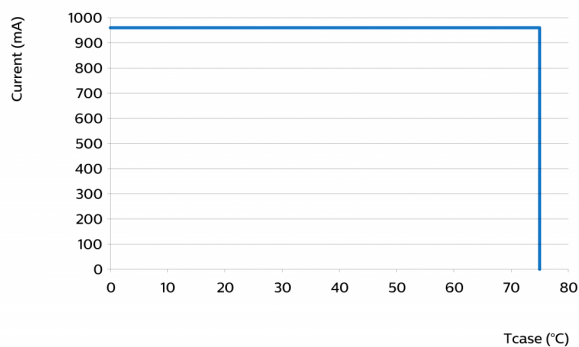
Lumen maintenance

Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% Inom=214mA	Tc=25°C	>72	>72	>72	>72	>72	>72	>68	>68	>68
	Tc_nom=45°C	>72	>72	>72	>72	>72	>72	>68	67	66
	Tc_life=75°C	>72	>72	>72	>72	>72	>72	47	46	45
Inom=267mA	Tc=25°C	>72	>72	>72	>72	>72	>72	>68	>68	>68
	Tc_nom=45°C	>72	>72	>72	>72	>72	>72	>68	67	66
	Tc_life=75°C	>72	>72	>72	>72	>72	>72	47	46	45
Ilife=720mA	Tc=25°C	>72	>72	>72	>72	>72	>72	>41	>41	>41
	Tc_nom=45°C	>72	>72	>72	>72	>72	>72	>41	>41	>41
	Tc_life=75°C	>72	>72	>72	>72	>72	>72	41	40	39

Lifetime

Parameter	Value	Unit
M70F50 nominal	>72000	hours
M70F50 life	>72000	hours

Performance Window



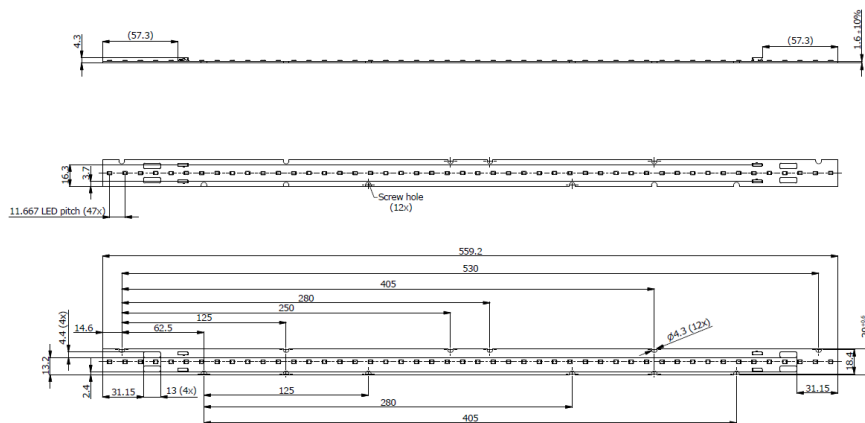
Wiring

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

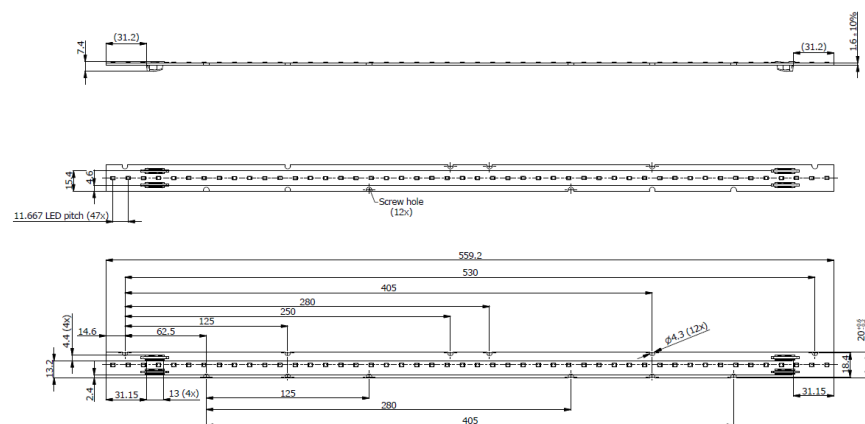
Fortimo LED Strip 2ft MF 830 FC LV6
 Fortimo LED Strip 2ft MF 840 FC LV6
 Fortimo LED Strip 2ft MF 850 FC LV6
 Fortimo LED Strip 2ft MF 865 FC LV6

Parameter	Min	Typ	Max	Unit
Length	558.9	559.2	559.5	mm
Width	19.8	20	20.6	mm
Height PCB	1.45	1.6	1.75	mm
Height Total		4.3		mm
Product mass		37.3		gram



Fortimo LED Strip 2ft MF 830 BC LV6
 Fortimo LED Strip 2ft MF 840 BC LV6

Parameter	Min	Typ	Max	Unit
Length	558.9	559.2	559.5	mm
Width	19.8	20	20.6	mm
Height PCB	1.45	1.6	1.75	mm
Height Total		7.4		mm
Product mass		38		gram



Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		960	mA
Case temperature (Tc-max)		85	°C
ESD (direct contact)	8		kV
Working voltage		350	V _{dc}

Application information

Certificates and Standards

CE
ENEC
ENEC+
cULus

Environmental

RoHS/REACH

Application

Dimming	Yes
---------	-----



© 2022 Signify Holding, IBRS 10461, 5600VB, NL. All rights reserved. The information provided herein is subject to change, without notice. Signify does not give any representation or warranty as to the accuracy or completeness of the information included herein and shall not be liable for any action in reliance thereon. The information presented in this document is not intended as any commercial offer and does not form part of any quotation or contract, unless otherwise agreed by Signify.

www.philips.com/oem

Philips and the Philips Shield Emblem are registered trademarks of Koninklijke Philips N.V. All other trademarks are owned by Signify Holding or their respective owners.
UK importer address: Signify Commercial UK Limited, 3 Guildford Business Park, GU2 8XG

30/11/2022