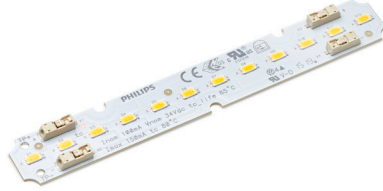


PHILIPS

LED Modules

Fortimo LED Strip

0.5ft 550lm 1R LV3



Fortimo LED Strip systems are ideal for use in narrow width luminaire designs for architectural applications that are not possible with fluorescent lighting. This Fortimo LED Strip product offers best-in-class module efficiency and flux packages.

The Fortimo LED Strip systems are ideal for use in luminaires for direct lighting in offices, banks, schools, public buildings, supermarkets and any other application to replace high energy efficiency T5 fluorescent lighting.

The Fortimo LED Strip 0.5ft 550lm 1R LV3 is a family addition to the existing Fortimo LED Strip product family. It enables applications like smaller, round and rectangular shaped surface mount, suspended or recessed LED lighting fixtures or as a gap filler in linear LED fixture applications.

Commercial Product Name	12NC
Fortimo LED Strip 0.5ft 550lm 830 1R LV3	9290 009 96606
Fortimo LED Strip 0.5ft 550lm 835 1R LV3	9290 009 96706
Fortimo LED Strip 0.5ft 550lm 840 1R LV3	9290 009 96806
Fortimo LED Strip 0.5ft 550lm 850 1R LV3	9290 009 96906
Fortimo LED Strip 0.5ft 550lm 930 1R LV3	9290 009 97006
Fortimo LED Strip 0.5ft 550lm 935 1R LV3	9290 009 97106
Fortimo LED Strip 0.5ft 550lm 940 1R LV3	9290 009 97206

Fortimo LED Strip 0.5ft 550lm 1R LV3

Features

- Narrow width and short length for flexible application usage
- High LED module efficiency of up to 163 lm/W
- Light output range per module up to 560 lm
- High CRI options (CRI90) and 3 SDCM color consistency
- Variation of color temperatures (3000K, 3500K, 4000K and 5000K)
- Push-in connectors enabling easy wiring

Benefits

- High energy efficiency and long lifetime allow state-of-the-art luminaire design
- Slim width enables optimized luminaire design and new form factors
- High color rendering and excellent color consistency bring linear LED lighting to the next level for quality of light
- 5-year limited system warranty with Philips Advance Xitanium LED Drivers¹

Applications

- Office
- Industry
- Retail

Optical Characteristics – Table per CCT

Fortimo LED Strip 0.5ft 550lm 830 1R LV3

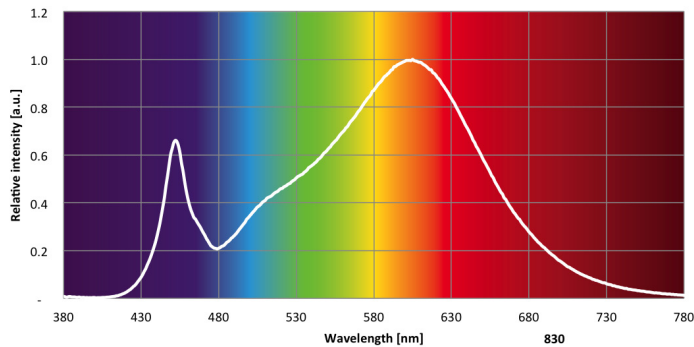
Parameter	Min	Typ	Max	Unit
Luminous Flux		530		Lm
Lumen Efficiency		155		Lm/W
Forward Current		100		mA
Forward Voltage	32.6	34.2	35.3	V
Correlated Color Temperature (CCT) Target		3000		K
CRI	80			-
Radiation Angle		120		deg

Color consistency of 3 SDCM, averaged over the module.

Tolerance for flux data is $\pm 7.5\%$.

Tolerance for efficacy data is $\pm 10\%$.

Measurement tolerance is $\pm 2.5\%$ for the flux data and 5% for the efficacy data.



1. View limited warranty at http://www.usa.lighting.philips.com/connect/tools_literature/warranties.wpd for details and restrictions.

Fortimo LED Strip 0.5ft 550lm 1R LV3

Optical Characteristics – Table per CCT

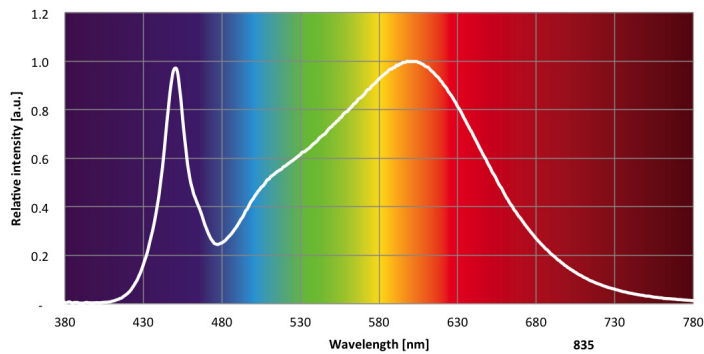
Fortimo LED Strip 0.5ft 550lm 835 1R LV3				
Parameter	Min	Typ	Max	Unit
Luminous Flux		530		Lm
Lumen Efficiency		155		Lm/W
Forward Current		100		mA
Forward Voltage	32.6	34.2	35.3	V
Correlated Color Temperature (CCT) Target		3500		K
CRI	80			-
Radiation Angle		120		deg

Color consistency of 3 SDCM, averaged over the module.

Tolerance for flux data is $\pm 7.5\%$.

Tolerance for efficacy data is $\pm 10\%$.

Measurement tolerance is $\pm 2.5\%$ for the flux data and 5% for the efficacy data.



Fortimo LED Strip 0.5ft 550lm 1R LV3

Optical Characteristics – Table per CCT

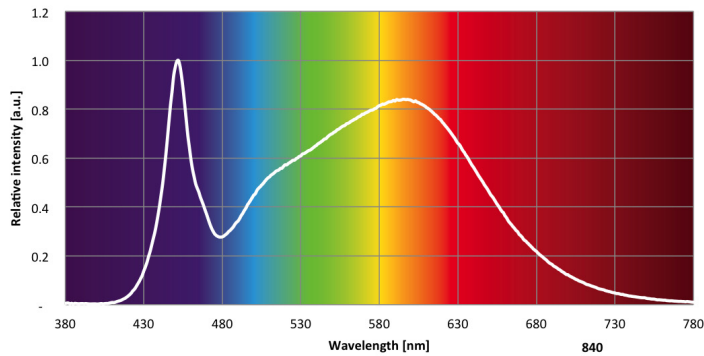
Fortimo LED Strip 0.5ft 550lm 840 1R LV3				
Parameter	Min	Typ	Max	Unit
Luminous Flux		550		Lm
Lumen Efficiency		160		Lm/W
Forward Current		100		mA
Forward Voltage	32.6	34.2	35.3	V
Correlated Color Temperature (CCT) Target		4000		K
CRI	80			-
Radiation Angle		120		deg

Color consistency of 3 SDCM, averaged over the module.

Tolerance for flux data is $\pm 7.5\%$.

Tolerance for efficacy data is $\pm 10\%$.

Measurement tolerance is $\pm 2.5\%$ for the flux data and 5% for the efficacy data.



Fortimo LED Strip 0.5ft 550lm 1R LV3

Optical Characteristics – Table per CCT

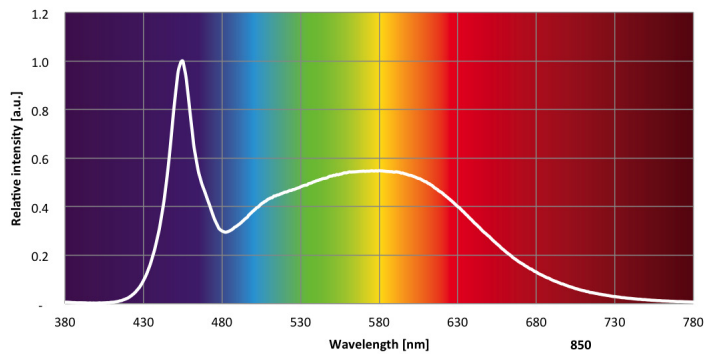
Fortimo LED Strip 0.5ft 550lm 850 1R LV3				
Parameter	Min	Typ	Max	Unit
Luminous Flux		560		Lm
Lumen Efficiency		163		Lm/W
Forward Current		100		mA
Forward Voltage	32.6	34.2	35.3	V
Correlated Color Temperature (CCT) Target		5000		K
CRI	80			-
Radiation Angle		120		deg

Color consistency of 3 SDCM, averaged over the module.

Tolerance for flux data is $\pm 7.5\%$.

Tolerance for efficacy data is $\pm 10\%$.

Measurement tolerance is $\pm 2.5\%$ for the flux data and 5% for the efficacy data.



Fortimo LED Strip 0.5ft 550lm 1R LV3

Optical Characteristics – Table per CCT

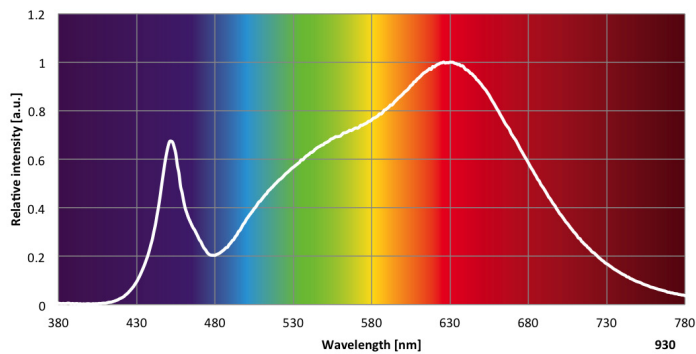
Fortimo LED Strip 0.5ft 550lm 930 1R LV3				
Parameter	Min	Typ	Max	Unit
Luminous Flux		419		Lm
Lumen Efficiency		123		Lm/W
Forward Current		100		mA
Forward Voltage	32.6	34.2	35.3	V
Correlated Color Temperature (CCT) Target		3000		K
CRI	90			-
Radiation Angle		120		deg

Color consistency of 3 SDCM, averaged over the module.

Tolerance for flux data is $\pm 7.5\%$.

Tolerance for efficacy data is $\pm 10\%$.

Measurement tolerance is $\pm 2.5\%$ for the flux data and 5% for the efficacy data.



Fortimo LED Strip 0.5ft 550lm 1R LV3

Optical Characteristics – Table per CCT

Fortimo LED Strip 0.5ft 550lm 935 1R LV3

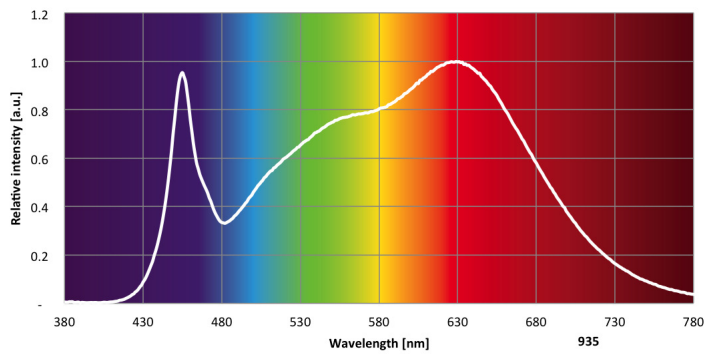
Parameter	Min	Typ	Max	Unit
Luminous Flux		445		Lm
Lumen Efficiency		130		Lm/W
Forward Current		100		mA
Forward Voltage	32.6	34.2	35.3	V
Correlated Color Temperature (CCT) Target		3500		K
CRI	90			-
Radiation Angle		120		deg

Color consistency of 3 SDCM, averaged over the module.

Tolerance for flux data is $\pm 7.5\%$.

Tolerance for efficacy data is $\pm 10\%$.

Measurement tolerance is $\pm 2.5\%$ for the flux data and 5% for the efficacy data.



Fortimo LED Strip 0.5ft 550lm 1R LV3

Optical Characteristics – Table per CCT

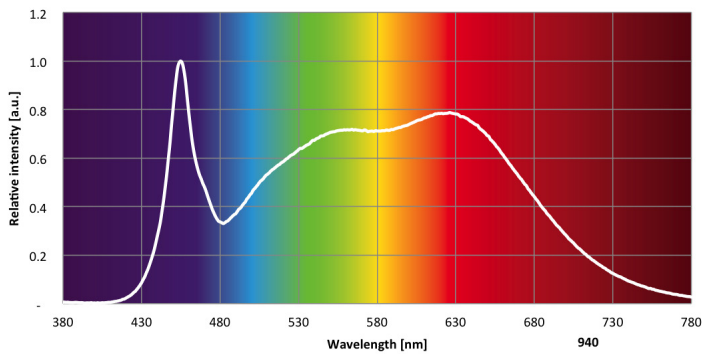
Fortimo LED Strip 0.5ft 550lm 940 1R LV3				
Parameter	Min	Typ	Max	Unit
Luminous Flux		455		Lm
Lumen Efficiency		133		Lm/W
Forward Current		100		mA
Forward Voltage	32.6	34.2	35.3	V
Correlated Color Temperature (CCT) Target		4000		K
CRI	90			-
Radiation Angle		120		deg

Color consistency of 3 SDCM, averaged over the module.

Tolerance for flux data is $\pm 7.5\%$.

Tolerance for efficacy data is $\pm 10\%$.

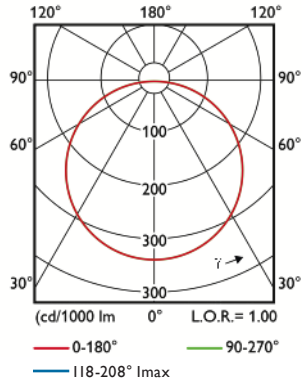
Measurement tolerance is $\pm 2.5\%$ for the flux data and 5% for the efficacy data.



Fortimo LED Strip 0.5ft 550lm 1R LV3

Beam Shape

The Philips Fortimo LED SLM generates a Lambertian beam shape, which is a pragmatic starting point for OEMs wishing to design secondary optics.



Electrical Characteristics

Parameter	Min	Typ	Max	Unit
Nominal Current		100		mA
Forward Voltage	32.6	34.2	35.3	V
Power Consumption	3.3	3.4	3.5	W

Note: Specifications stated at Tc nom = 45 °C and I nom = 100 mA

Lifetime

Parameter	Nominal *	Life**	Max***
Tc [°C]	45	70	80
Current [mA]	100	130	150

* Nominal value at which performance is specified

** Value at which lifetime is specified (max current for warranty)

*** Maximum value for safety

Parameter	Min	Typ	Max	Units
$\Delta u'v'$ at 6000 Hours			0.007	–

Note: Specifications stated while Tc < 70°C and I < 130 mA

Abs Max Ratings

Parameter	Min	Typ	Max	Unit
Current Imax			150	mA
Case Temperature Tc Max			80	°C
ESD (Direct Contact)			8kv	kV
ESD (Air)			15kv	kV
Isolation Breakdown Voltage	500			Vdc
Ambient Temperature	-40 ²			°C
Number of Modules per Chain			12	

- There must be no ice/water/fog exist or attach on the whole L2 surface during the application in -40°C application. The combined driver/system must be suitable for working at -40°C degree application.

Fortimo LED Strip 0.5ft 550lm 1R LV3

Wiring

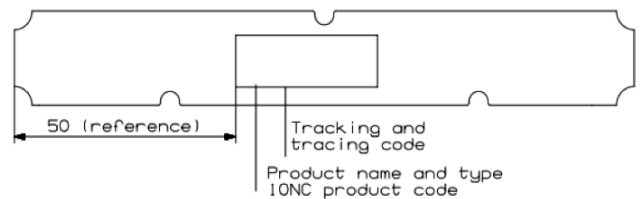
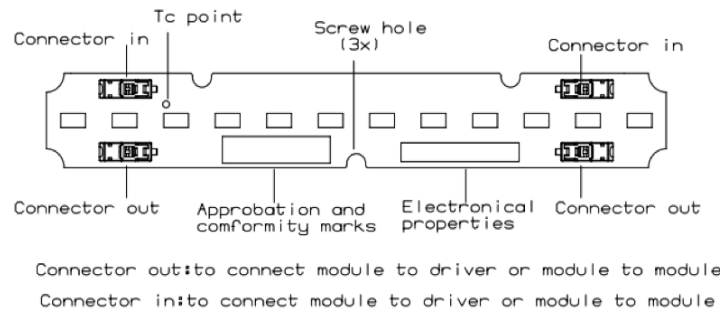
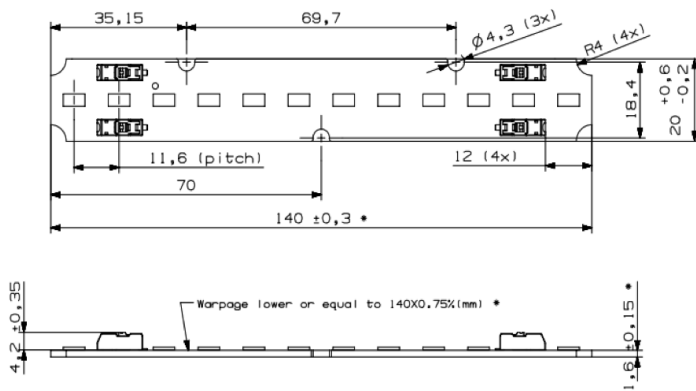
Specification item	Value	Unit	Condition
Input Wire Cross-Section	0.2...0.8	mm ²	solid
	18...24	AWG	
	0.45...0.7	mm ²	fine stranded
	20...22	AWG	
Input Wire Strip Length	7.5...8.5	mm	

Note: Connector suited for robot wiring

Mechanical Characteristics

Parameter	Min	Typ	Max	Unit
Length	139.7	140.0	140.3	mm
Width	19.8	20.0	20.6	mm
Height Excl. Connector	1.45	1.6	1.75	mm
Height Incl. Connector	3.85	4.2	4.55	mm
Warpage (IPC-TM-650)			1.05	mm

Note: Bow & Twist of the PCB after production tested and released according IPC-TM-650 2.4.22



Fortimo LED Strip 0.5ft 550lm 1R LV3

Application Information

Compliance and Approval

IEC / EN 62031, IEC / EN 62471, UL8750 (UL recognized)

Environmental

RoHS / REACH

Application Information

IP Rating	No IP rating
Overheating Protection	No protection
Luminaire Class	UL Class 2 / Class II or Class III

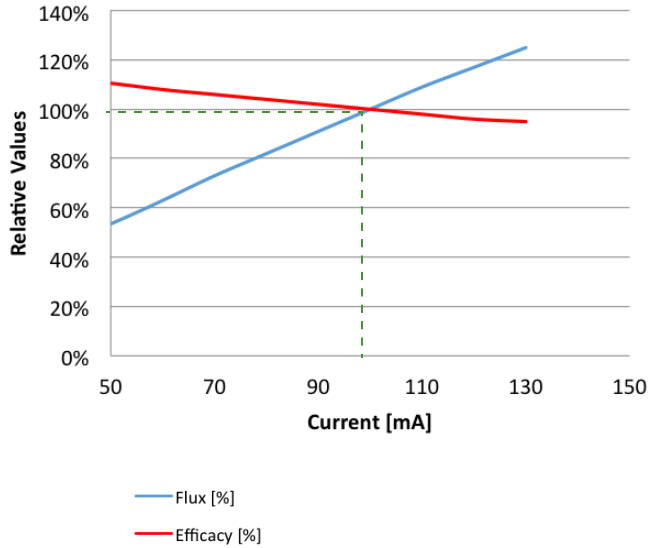
Warranted Number of Full Thermal Product Cycles @ 25°C Ambient Temperature

Case Temperature Tc [°C]	Amount of Cycles
35	
40	
45	
50	
55	
60	
65	>30000
70	
75	
80	<15000

Fortimo LED Strip 0.5ft 550lm 1R LV3

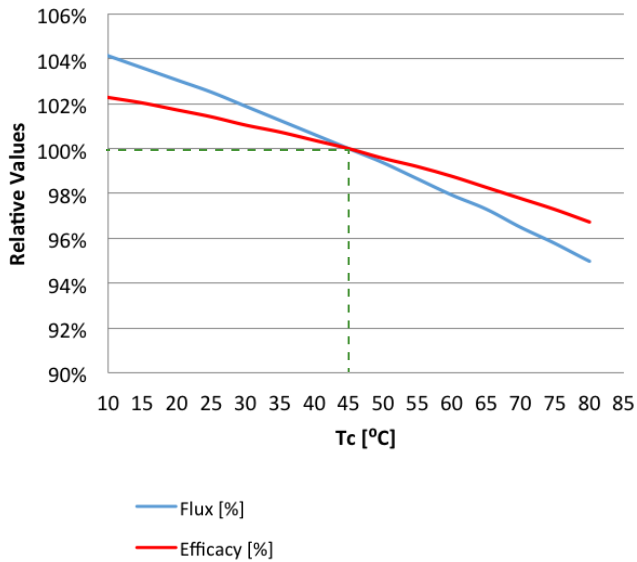
Tuning Information

Flux and Efficacy Vs. Current (at Nominal Temperature)



I [A]	Rel flux	Rel efficacy
50	53%	111%
60	63%	108%
70	73%	106%
80	82%	104%
90	91%	102%
100	100%	100%
110	109%	98%
120	117%	96%
130	125%	95%

Flux and Efficacy Vs. Tc



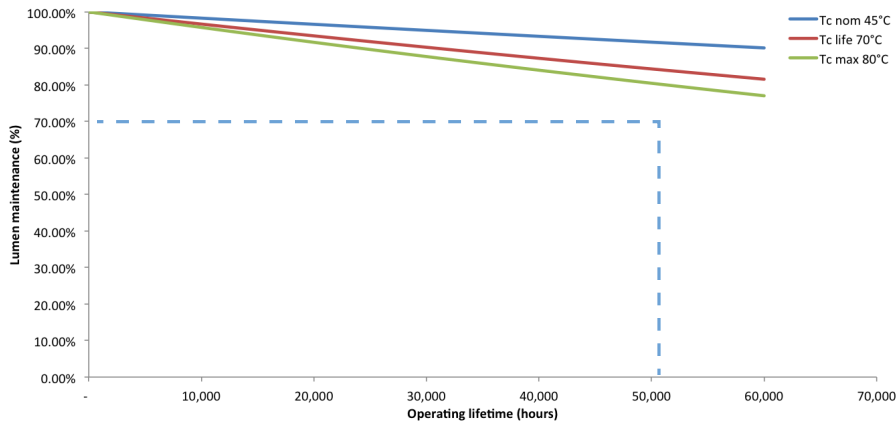
Tc [°C]	Rel flux	Rel efficacy
70	96%	98%
65	97%	98%
60	98%	99%
55	99%	99%
50	99%	100%
45	100%	100%
40	101%	100%
35	101%	101%
30	102%	101%
25	103%	101%
20	103%	102%

Fortimo LED Strip 0.5ft 550lm 1R LV3

Lumen Maintenance

Lumen Maintenance: at I Life and Tc Life Conditions

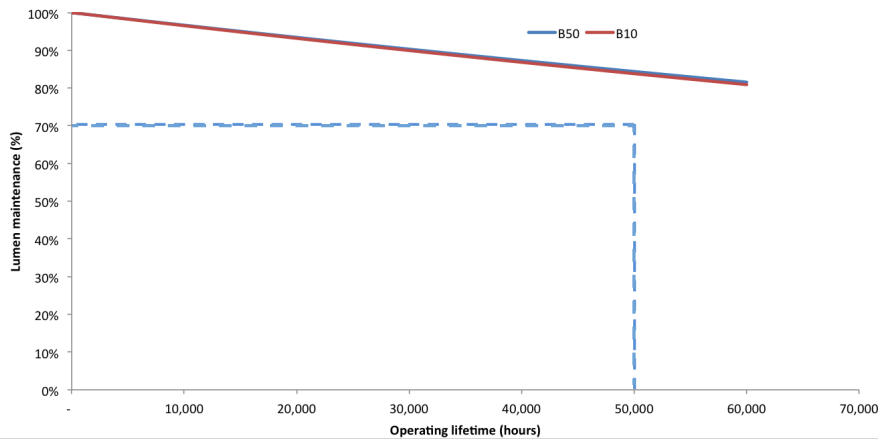
Fortimo LED Strip 0.5ft 550lm 1R LV3



Lumen depreciation as a function of operating hours for I-life and Tc-life. 36,000 hours proven by certified laboratory.

Lumen Maintenance (B50): at Current I Life

Fortimo LED Strip 0.5ft 550lm 1R LV3



Lumen depreciation as a function of operating hours at different Tc values and I-life. 36,000 hours proven by certified laboratory.

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