



Fortimo LED strip performance LV5 modules comes with a multitude of performance and product advancements that include higher efficacy, higher lumen output, increased lumen maintenance, additional mechanical designs and additional CCT and CRI options when compared to the previous generation (LV4).

With these advancements, the Fortimo LED strip module is the ideal choice for high-performance high-quality luminaires for direct and indirect lighting in offices, banks, schools, public buildings, supermarkets and other applications to replace high energy efficiency T5 fluorescent lighting.

Commercial Product Name	12NC
FO Strip ST 47.5in 8000lm 830 LV5	929001789313
FO Strip ST 47.5in 8000lm 835 LV5	929001789413
FO Strip ST 47.5in 8000lm 840 LV5	929001789513
FO Strip ST 47.5in 8000lm 850 LV5	929001789613

Features

- High flux density of up to 4000 lm per foot
- Narrow width of only 20mm
- Can be split into two modules⁴
- High lumen maintenance (TM21) of L90 36,000 hours
- 3 SDCM color consistency
- Tight Vf binning enables longer daisy chaining

Benefits

- High energy efficacy and long lifetime¹ provide optimized total cost of ownership
- Slimwidth and 4ft length provide excellent design-in options and assembly
- High quality and warm color temperatures of light enables new application areas like hospitality
- 5-year limited system warranty with Advance Xitanium LED drivers²
- Specifications enable DLC Premium category³

Applications

- Retail
- Hospitality
- Office

1. Average rated life is based on engineering data testing and probability analysis. The hours are at the B50, L70 point – 50,000 hours life with 70% lumen maintenance at Tc point.
 2. View limited warranty at www.signify.com/warranties for details and restrictions.
 3. Fortimo LED strip LV5 is not a DesignLights Consortium™ (DLC) qualified product. It is an OEM component that meets certain performance specifications that are geared toward meeting DLC Standard Tier (v4.0) in a fully assembled fixture. The customer is liable for proper design, manufacturing, testing and qualification according to DLC requirements.
 4. Only two LED Modules can be produced from one full-length variable length module as wire trap connectors are only located on the last module section on each end of the full-length module. The method for separation of the variable length LED modules can be found in the Advance Fortimo LED Linear Module Design-In guide located here: [https://www.na.mytechnology.portal.signify.com/dam/jcr:e4de1316-8ca1-4f08-ad38-ef2cdd5e52bb/Advance%20Fortimo%20LED%20Linear%20Modules%20Design-in%20Guide%20\(PLT-1590DG\).pdf](https://www.na.mytechnology.portal.signify.com/dam/jcr:e4de1316-8ca1-4f08-ad38-ef2cdd5e52bb/Advance%20Fortimo%20LED%20Linear%20Modules%20Design-in%20Guide%20(PLT-1590DG).pdf)

Fortimo LED Strip Statement LV5 47.5in 8000lm

Drive Currents

Parameter at I _{life}	Nominal [*]	Life ^{**}	Max ^{***}	Unit
FO Strip ST 47.5in 8000lm 8xx LV5	1120	2100	2100	mA

Module Temperatures

Parameter at I _{life}	Nominal [*]	Life ^{**}	Max ^{***}	Unit
T _c (case temperature at T _c point)	45	85	95	°C

* Nominal value at which typical performance is specified.

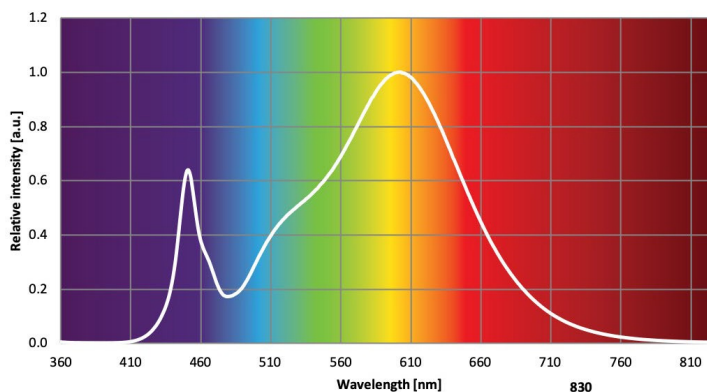
** Value at which life time is specified.

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

Optical Characteristics – Table per CCT

FO Strip ST 47.5in 8000lm 830 LV5				
Parameter	Min. (@ Inom)	Typ. (@ Inom)	Max. (@ Inom)	Unit
Luminous Flux	7040	7600	8180	Lm
Module Efficiency	155	172	189	Lm/W
Correlated Color Temperature (CCT) Target		3000		K
Color coordinates (CIEx, CIEy)		(0.433, 0.401)		-
Color consistency			3	SDCM
CRI	80			-

Operation point	T _c	lm	lm/W
900 mA	25 °C	6345	180
	45 °C	6170	176
	85 °C	5740	166
1120 mA	25 °C	7815	176
	45 °C	7600	172
	85 °C	7065	162
2100 mA	25 °C	14020	160
	45 °C	13630	156
	85 °C	12650	147



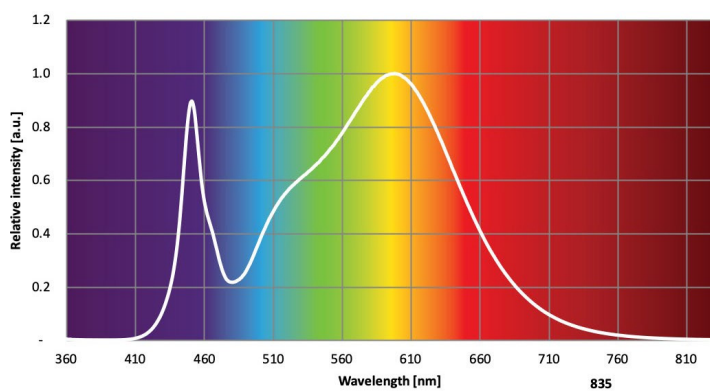
R9>0, Measurement precision ± 5% for the flux data, ± 1.5% for the Vf data, ± 1.5% for the power data, and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5.

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Optical Characteristics – Table per CCT

FO Strip ST 47.5in 8000lm 835 LV5				
Parameter	Min. (@ Inom)	Typ. (@ Inom)	Max. (@ Inom)	Unit
Luminous Flux	7260	7840	8420	Lm
Module Efficiency	159	177	195	Lm/W
Correlated Color Temperature (CCT) Target		3500		K
Color coordinates (CIEx, CIEy)		(0.406, 0.390)		-
Color consistency			3	SDCM
CRI	80			-

Operation point	Tc	lm	lm/W
900 mA	25 °C	6545	185
	45 °C	6365	181
	85 °C	5920	171
1120 mA	25 °C	8060	181
	45 °C	7840	177
	85 °C	7285	167
2100 mA	25 °C	14465	164
	45 °C	14060	161
	85 °C	13050	151



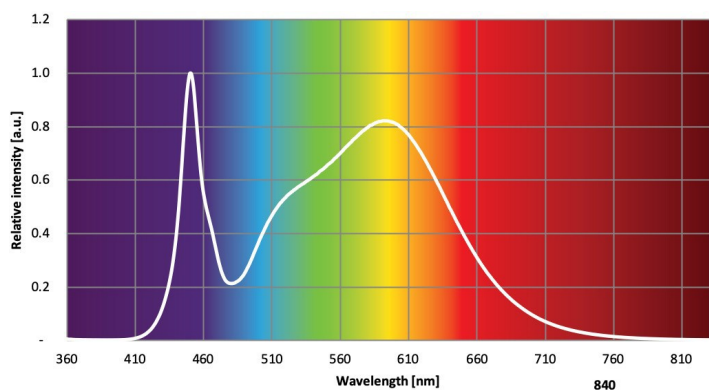
R9>0, Measurement precision $\pm 5\%$ for the flux data, $\pm 1.5\%$ for the Vf data, $\pm 1.5\%$ for the power data, and $\pm 6\%$ for the efficacy data. Measurement precision for color coordinates ± 0.005 . Measurement precision for CRI ± 1.5 .

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Optical Characteristics – Table per CCT

FO Strip ST 47.5in 8000lm 840 LV5				
Parameter	Min. (@ Inom)	Typ. (@ Inom)	Max. (@ Inom)	Unit
Luminous Flux	7400	8000	8600	Lm
Module Efficiency	162	180	198	Lm/W
Correlated Color Temperature (CCT) Target		4000		K
Color coordinates (CIEx, CIEy)		(0.381, 0.378)		-
Color consistency			3	SDCM
CRI	80			-

Operation point	Tc	lm	lm/W
900 mA	25 °C	6680	188
	45 °C	6495	184
	85 °C	6040	174
1120 mA	25 °C	8230	184
	45 °C	8000	180
	85 °C	7435	170
2100 mA	25 °C	14760	167
	45 °C	14345	163
	85 °C	13320	154



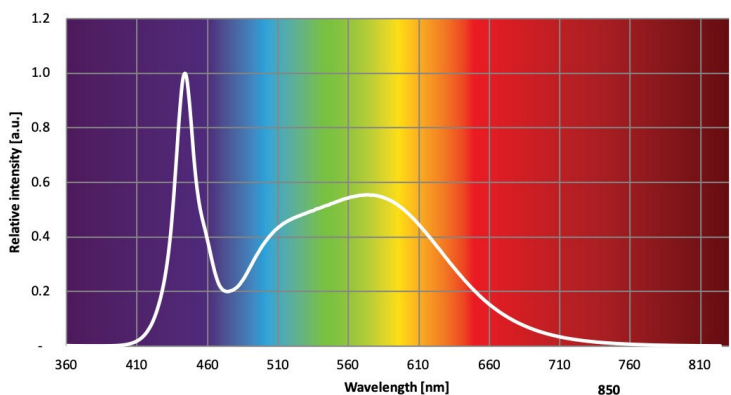
R9>0, Measurement precision $\pm 5\%$ for the flux data, $\pm 1.5\%$ for the Vf data, $\pm 1.5\%$ for the power data, and $\pm 6\%$ for the efficacy data. Measurement precision for color coordinates ± 0.005 . Measurement precision for CRI ± 1.5 .

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Optical Characteristics – Table per CCT

FO Strip ST 47.5in 8000lm 850 LV5				
Parameter	Min. (@ Inom)	Typ. (@ Inom)	Max. (@ Inom)	Unit
Luminous Flux	7400	8000	600	Lm
Module Efficiency	162	180	198	Lm/W
Correlated Color Temperature (CCT) Target		5000		K
Color coordinates (CIEx, CIEy)		(0.343, 0.353)		-
Color consistency			3	SDCM
CRI	80			-

Operation point	Tc	lm	lm/W
900 mA	25 °C	6680	188
	45 °C	6495	184
	85 °C	6040	174
1120 mA	25 °C	8230	184
	45 °C	8000	180
	85 °C	7435	170
2100 mA	25 °C	14760	167
	45 °C	14345	163
	85 °C	13320	154



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Absolute Ratings

Parameter	Min.	Typ.	Max.	Unit
Current through the LED module (I-max)			2100	mA
Working voltage			44	V _{dc}
Isolation breakdown voltage	700			V _{dc}
Ambient Temperature	-20 ⁴			°C

4. There cannot be any ice/fog/mist on any part of the module surface during the application at -20°C.

System Chain Limits for Same Length Modules

Total length (in)	Total current limit (A)
96	0.88
114	0.6
192	0.44

Please review the design-in guide or contact the Design-in team for further information.

Application Information

Compliance and Approval

UL & cUL - UL8750

Environmental

RoHS / REACH

IP Rating	No IP rating
Overheating Protection	No protection
Luminaire Class	UL Class 2

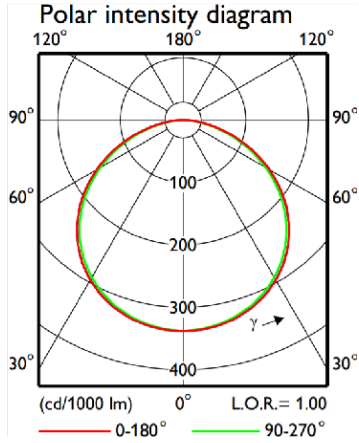
Estimated Number of Full Thermal Product Cycles @ 25°C Ambient Temperature

Case Temperature T _c [°C]	Amount of Cycles
45	100,000
55	100,000
65	100,000
75	65,000
85	25,000

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Beam Shape

The Fortimo LED strip 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
Forward voltage; If = 1120mA, Tc = 45°C	39.1	39.6	40.1	V
Thermal power; If = 1120mA, Tc = 45°C		21.5		W

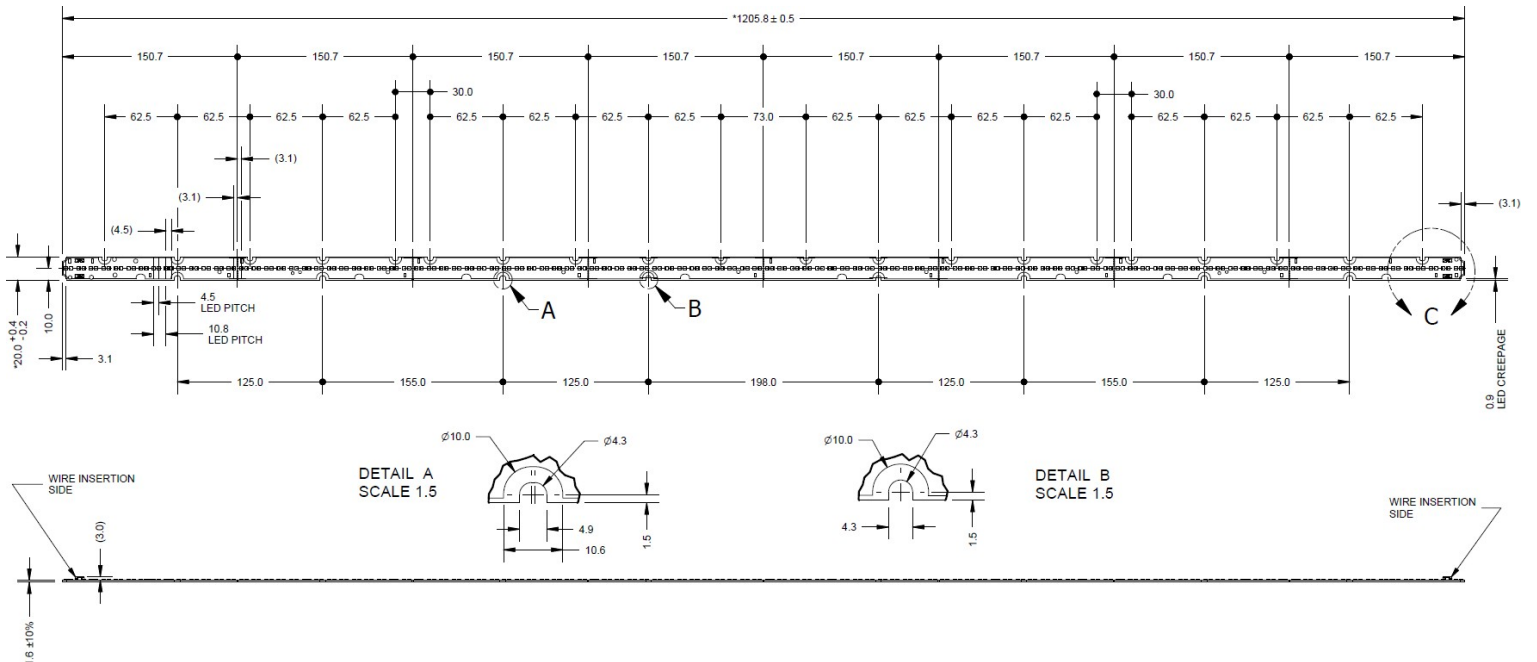
Wiring

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	Stranded
	20...22	AWG	
Input Wire Strip Length	4.5...5.5	mm	

Mechanical Characteristics

Specification Item	Min	Typ	Max	Unit
Length	1205.3	1205.8	1206.3	mm
Width	19.8	20.0	20.4	mm
Height Excl. Connector		2.3		mm
Height Incl. Connector		4.6		mm
Warpage			0.75	%

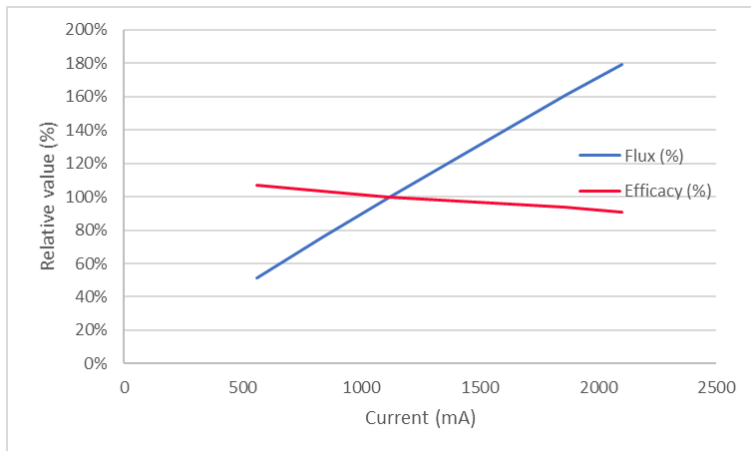
FO Strip ST 47.5in 8000lm xxx LV5



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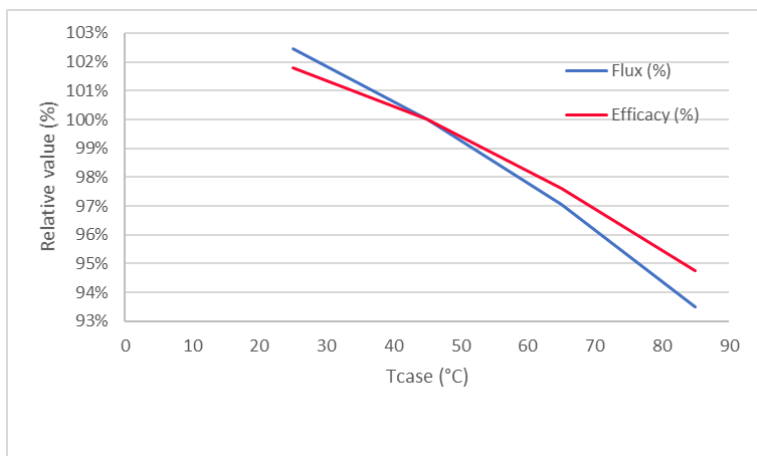
Tuning Information

Flux and Efficacy Vs. Current (at Nominal Temperature)



I [mA]	Flux [%]	Efficacy [%]
560	51%	107%
840	76%	103%
1120	100%	100%
1860	160%	93%
2100	179%	91%

Flux and Efficacy Vs. Tc



Tc [°C]	Flux [%]	Efficacy [%]
85	94%	95%
65	97%	98%
45	100%	100%
25	102%	102%

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Lumen Maintenance Based on Theoretical TM21 Calculations

Operation point	Tc	L70	L80	L90
80% I-nom 900 mA	Tc-nom 45 °C	>50	>50	50
	Tc 70 °C	>50	>50	47
	Tc-life 95 °C	>50	>50	41
I-nom 1120 mA	Tc-nom 45 °C	>50	>50	50
	Tc 70 °C	>50	>50	47
	Tc-life 95 °C	>50	>50	41
I-life 2100 mA	Tc-nom 45 °C	>50	>50	50
	Tc 70 °C	>50	>50	47
	Tc-life 95 °C	>50	>50	41

Application limited to indoor applications (office/hospitality/educational), indoor warehouse and light industry.

The information presented in this document is not intended as any commercial offer and does not form part of any quotation or contract.

