



Fortimo LED strip performance FlexTune LV5 modules are the preferred light source for the Advance FlexTune system; which provides new level of design flexibility, control precision, and simplicity in tunable white lighting systems for commercial office, healthcare, hospitality, and education applications.

Fortimo LED strip performance FlexTune LV5 modules comes with a multitude of performance and product advancements that include higher efficacy, higher lumen output, increased lumen maintenance, additional mechanical designs when compared to the previous generation (LV4). The modules also feature connectors at both ends to enable daisy chaining, and a high (>8kV) ESD rating for easy handling.

Commercial Product Name	12NC
FO Strip PR FT 11in 1100lm 827-865 LV5	929001764513

Features

- Pairs with Advance Xitanium SR FlexTune LED driver to provide: digital wireless control designed to provide precise CCT tuning and dimming control from 2700-6500K
- 3 SDCM color consistency
- 5.5in, 11in, 22in, 23.7 in. options
- (TM21) of L90 36,000 hours
- Connectors at both ends and tight Vf binning
- High Flux density of up to 2000lm/ft
- Narrow width of 20mm

Benefits

- Enables digital tuning of color temperature for tuneable white applications
- High energy efficacy and long lifetime¹
- Low total cost of ownership
- Slim width and varied lengths provide excellent design flexibility
- 5-year limited system warranty with Advance Xitanium LED drivers²
- Specifications enable DLC Premium category³

Applications

- Retail
- Hospitality
- Office
- Education

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.

Fortimo LED Strip Performance FlexTune LV5

11in 1100lm

Drive Currents

Paramter at I _{life}	Nominal*	Life**	Max***	Unit
FO Strip PR FT 11in 1100lm 8xx LV5	154	325	350	mA

Module Temperatures

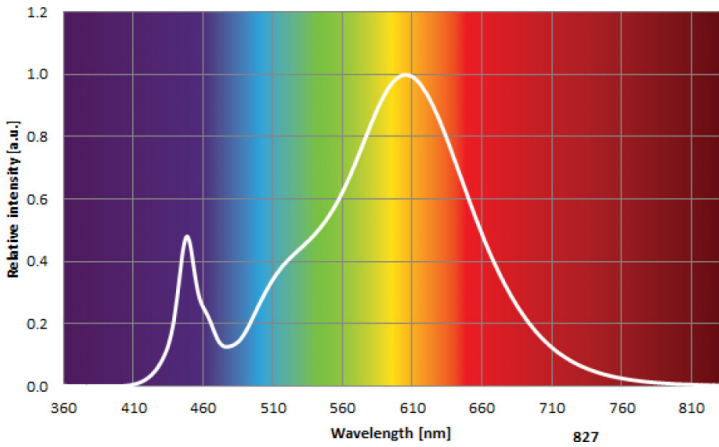
Paramter at I _{life}	Nominal*	Life**	Max***	Unit
T _c (case temperature at T _c point)	45	85	95	°C

- * 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 PR FT 11in 1100lm 827 LV5				
Parameter	Min. (@ Inom)	Typ. (@ Inom)	Max. (@ Inom)	Unit
Luminous Flux	950	1020	1110	Lm
Module Efficiency	149	165	182	Lm/W
Correlated Color Temperature (CCT) Target		2700		K
Color coordinates (CIEx, CIEy)		(0.457, 0.408)		-
Color consistency			3	SDCM
CRI	80			-

Operation point	Tc	lm	lm/W
80 mA	45 °C	540	176
	70 °C	520	170
	95 °C	490	163
325 mA	45 °C	2030	145
	70 °C	1940	140
	95 °C	1840	133
350 mA	45 °C	2170	142
	70 °C	2070	137
	95 °C	1960	131



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

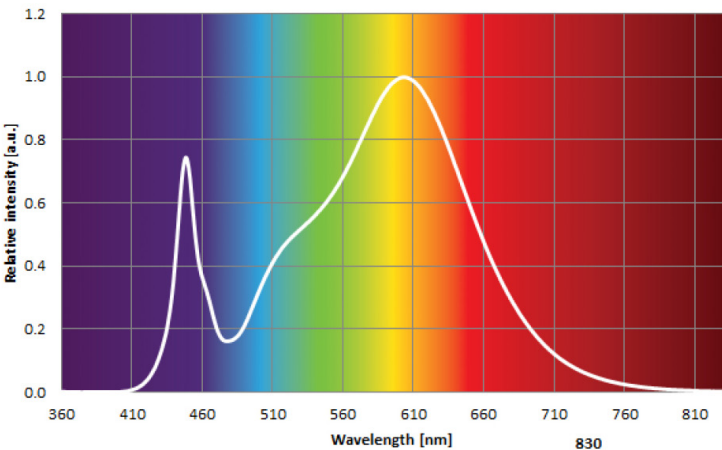
Fortimo LED Strip Performance FlexTune LV5

11in 1100lm

Optical Characteristics – Table per CCT

FO Strip PR FT 11in 1100lm 830 LV5				
Parameter	Min. (@ Inom)	Typ. (@ Inom)	Max. (@ Inom)	Unit
Luminous Flux	950	1020	1110	Lm
Module Efficiency	151	168	185	Lm/W
Correlated Color Temperature (CCT) Target		3000		K

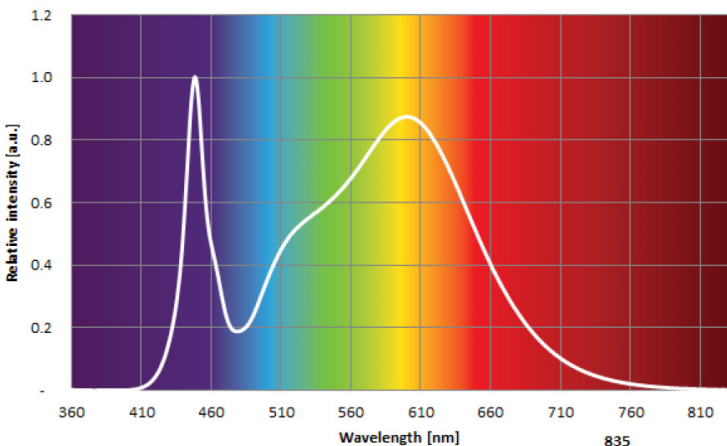
Operation point	Tc	lm	lm/W
80 mA	45 °C	540	177
	70 °C	520	172
	95 °C	490	164
325 mA	45 °C	2030	147
	70 °C	1940	142
	95 °C	1840	136
350 mA	45 °C	2170	145
	70 °C	2070	139
	95 °C	1960	133



Using the Advance Xitanium SR Flextune LED driver, set to constant light output. R9>0, Measurement precision ± 5% for the flux data and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5.

FO Strip PR FT 11in 1100lm 835 LV5				
Parameter	Min. (@ Inom)	Typ. (@ Inom)	Max. (@ Inom)	Unit
Luminous Flux	950	1020	1110	Lm
Module Efficiency	153	170	187	Lm/W
Correlated Color Temperature (CCT) Target		3500		K

Operation point	Tc	lm	lm/W
80 mA	45 °C	540	181
	70 °C	520	175
	95 °C	490	167
325 mA	45 °C	2030	150
	70 °C	1940	144
	95 °C	1840	138
350 mA	45 °C	2170	147
	70 °C	2070	141
	95 °C	1960	135



Using the Advance Xitanium SR Flextune LED driver, set to constant light output. R9>0, Measurement precision ± 5% for the flux data and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5.

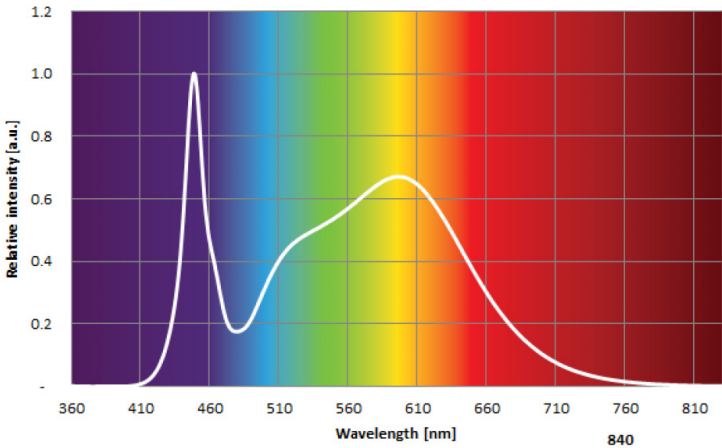
Fortimo LED Strip Performance FlexTune LV5

11in 1100lm

Optical Characteristics – Table per CCT

FO Strip PR FT 11in 1100lm 840 LV5				
Parameter	Min. (@ Inom)	Typ. (@ Inom)	Max. (@ Inom)	Unit
Luminous Flux	950	1020	1110	Lm
Module Efficiency	155	172	189	Lm/W
Correlated Color Temperature (CCT) Target		4000		K

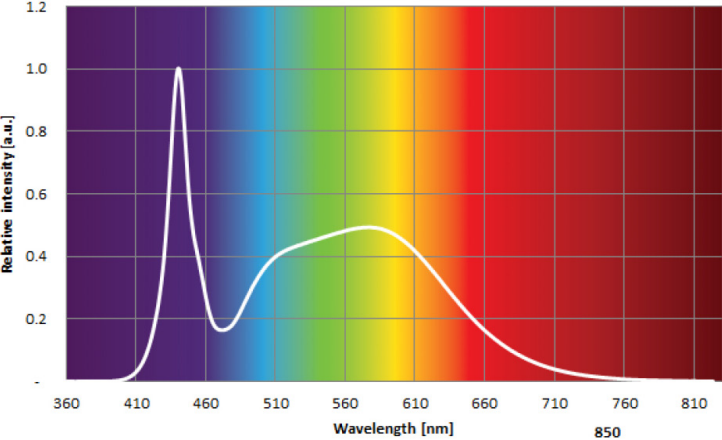
Operation point	Tc	lm	lm/W
80 mA	45 °C	540	183
	70 °C	520	177
	95 °C	490	169
325 mA	45 °C	2030	151
	70 °C	1940	146
	95 °C	1840	139
350 mA	45 °C	2170	149
	70 °C	2070	143
	95 °C	1960	137



Using the Advance Xitanium SR Flextune LED driver, set to constant light output. R9>0, Measurement precision ± 5% for the flux data and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5.

FO Strip PR FT 11in 1100lm 850 LV5				
Parameter	Min. (@ Inom)	Typ. (@ Inom)	Max. (@ Inom)	Unit
Luminous Flux	950	1020	1110	Lm
Module Efficiency	158	175	193	Lm/W
Correlated Color Temperature (CCT) Target		5000		K

Operation point	Tc	lm	lm/W
80 mA	45 °C	540	187
	70 °C	520	180
	95 °C	490	172
325 mA	45 °C	2030	154
	70 °C	1940	148
	95 °C	1840	142
350 mA	45 °C	2170	151
	70 °C	2070	146
	95 °C	1960	139



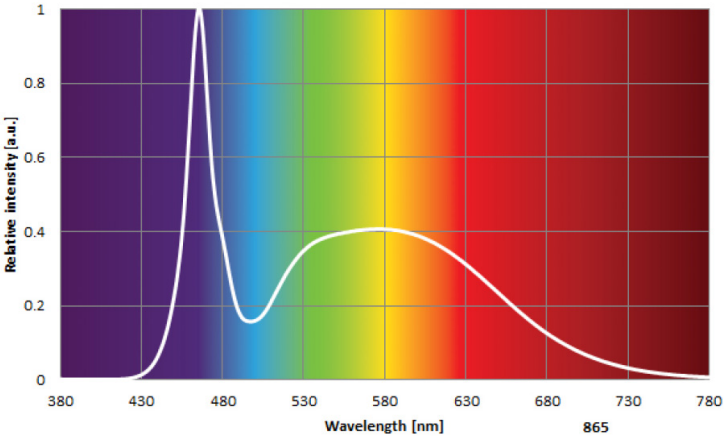
Fortimo LED Strip Performance FlexTune LV5

11in 1100lm

Optical Characteristics – Table per CCT

FO Strip PR FT 11in 1100lm 865 LV5				
Parameter	Min. (@ Inom)	Typ. (@ Inom)	Max. (@ Inom)	Unit
Luminous Flux	1020	1100	1180	Lm
Module Efficiency	162	180	198	Lm/W
Correlated Color Temperature (CCT) Target		6500		K
Color coordinates (CIEx, CIEy)		(0.312, 0.325)		-
Color consistency			3	SDCM
CRI	80			-

Operation point	Tc	lm	lm/W
80 mA	45 °C	590	192
	70 °C	560	186
	95 °C	530	178
325 mA	45 °C	2190	158
	70 °C	2090	152
	95 °C	1980	146
350 mA	45 °C	2340	155
	70 °C	2240	150
	95 °C	2120	143



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

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11in 1100lm

Absolute Ratings

Parameter	Min.	Typ.	Max.	Unit
Current through the LED module (I-max)			350	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)
48	0.9
72	0.6
96	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

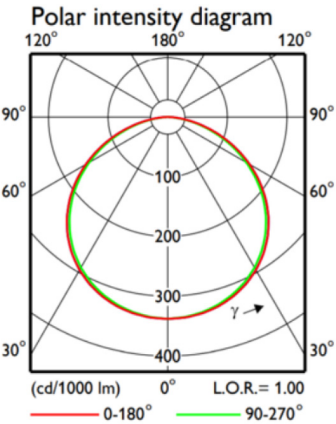
Case Temperature Tc [°C]	Amount of Cycles
45	100,000
55	100,000
65	100,000
75	65,000
85	25,000

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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 = 77mA, Tc = 45°C	39.4	39.9	40.4	V
Thermal power; If = 77mA, Tc = 45°C		2.9		W

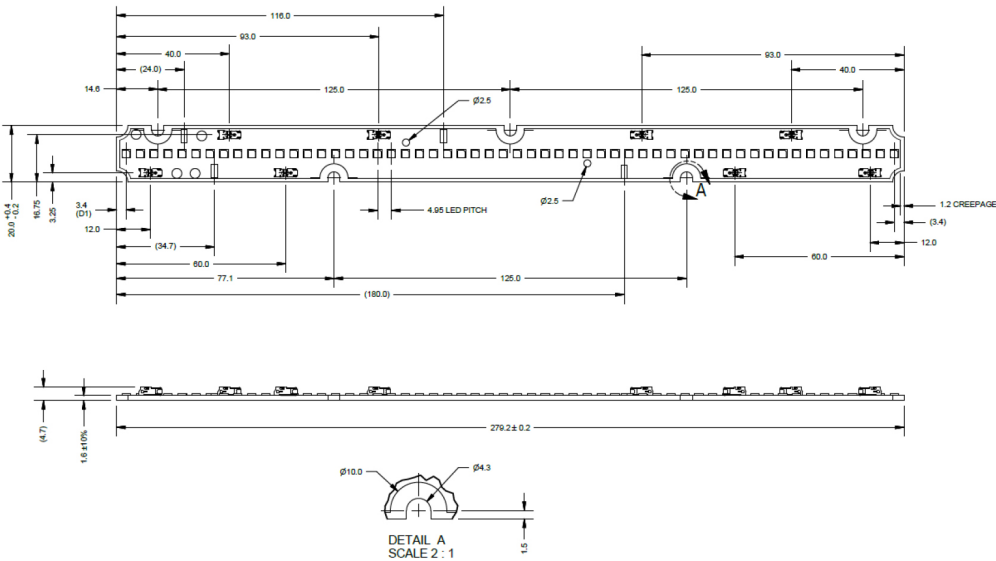
Wiring

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	279	279.2	279.4	mm
Width	19.8	20.0	20.4	mm
Height Excl. Connector		2.3		mm
Height Incl. Connector		6.3		mm
Warpage			0.75	%

FO Strip PR FT 11in 1100lm xxx LV5

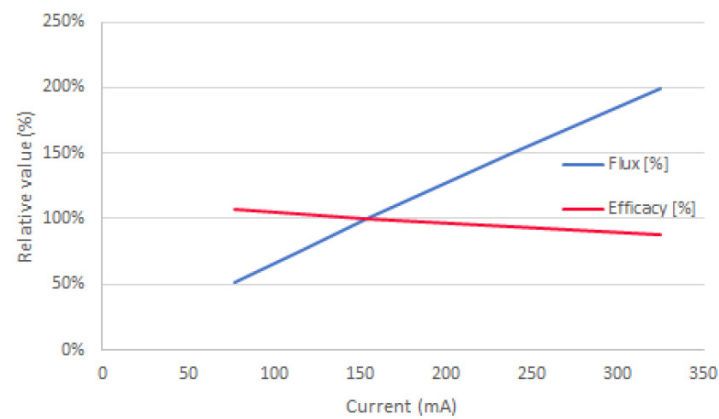


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11in 1100lm

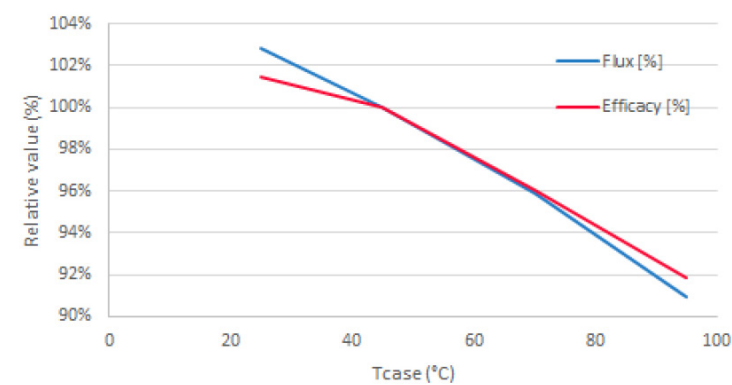
Tuning Information

Flux and Efficacy Vs. Current (at Nominal Temperature)



I [mA]	Flux [%]	Efficacy [%]
77	52%	107%
116	77%	103%
154	100%	100%
240	151%	94%
325	200%	88%

Flux and Efficacy Vs. Tc



Tc [°C]	Flux [%]	Efficacy [%]
95	91%	92%
70	96%	97%
45	100%	100%
25	103%	102%

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Lumen Maintenance Based on Theoretical TM21 Calculations

Operation point	Tc	L70	L80	L90
80% I-nom 62 mA	Tc-nom 45 °C	>50	>50	50
	Tc 70 °C	>50	>50	47
	Tc-life 95 °C	>50	>50	41
I-nom 77 mA	Tc-nom 45 °C	>50	>50	50
	Tc 70 °C	>50	>50	47
	Tc-life 95 °C	>50	>50	41
I-life 163 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.

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