



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 PR 11in 1100lm 927 LV5	929001760813
FO Strip PR 11in 1100lm 930 LV5	929001760913
FO Strip PR 11in 1100lm 935 LV5	929001761013
FO Strip PR 11in 1100lm 940 LV5	929001761113

Features

- High flux density of up to 2000 lm per foot
- Narrow width of only 20mm
- 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
- Slim width, 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.

Fortimo LED Strip Performance LV5 11in 1100lm

Drive Currents

Parameter at I_{life}	Nominal*	Life**	Max***	Unit
FO Strip PR 11in 1100lm 9xx LV5	154	325	350	mA

Module Temperatures

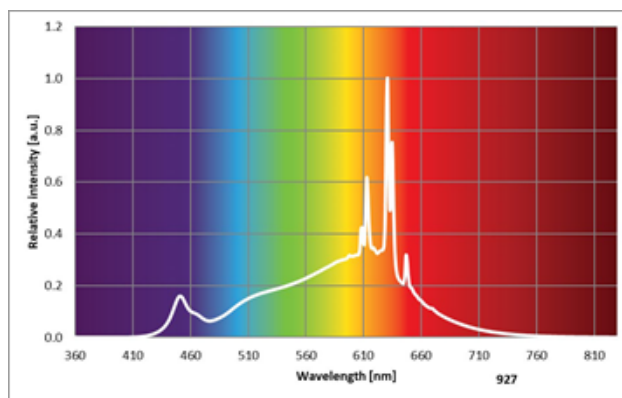
Parameter at I_{life}	Nominal*	Life**	Max***	Unit
T_c (case temperature at T_c point)	45	85	95	°C

- * 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 PR 11in 1100lm 927 LV5				
Parameter	Min. (@ Inom)	Typ. (@ Inom)	Max. (@ Inom)	Unit
Luminous Flux	910	980	1050	Lm
Module Efficiency	142	158	174	Lm/W
Correlated Color Temperature (CCT) Target		2700		K
Color coordinates (CIEx, CIEy)		(0.457, 0.406)		-
Color consistency			3	SDCM
CRI	90			-

Operation point	Tc	lm	lm/W
125 mA	25 °C	800	165
	45 °C	780	162
	85 °C	730	154
154 mA	25 °C	1000	160
	45 °C	980	158
	85 °C	915	149
325 mA	25 °C	1985	140
	45 °C	1940	138
	85 °C	1815	131



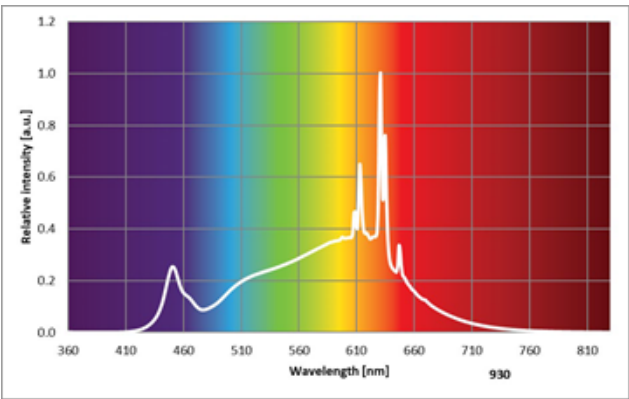
R9>0, Measurement precision $\pm 5\%$ for the flux data and $\pm 6\%$ for the efficacy data. Measurement precision for color coordinates ± 0.005 . Measurement precision for CRI ± 1.5 .

Fortimo LED Strip Performance LV5 11in 1100lm

Optical Characteristics – Table per CCT

FO Strip PR 11in 1100lm 930 LV5				
Parameter	Min. (@ Inom)	Typ. (@ Inom)	Max. (@ Inom)	Unit
Luminous Flux	940	1020	1100	Lm
Module Efficiency	148	164	180	Lm/W
Correlated Color Temperature (CCT) Target		3000		K
Color coordinates (CIEx, CIEy)		(0.433, 0.399)		-
Color consistency			3	SDCM
CRI	90			-

Operation point	Tc	lm	lm/W
125 mA	25 °C	830	171
	45 °C	810	168
	85 °C	755	159
154 mA	25 °C	1035	166
	45 °C	1020	164
	85 °C	945	155
325 mA	25 °C	2055	146
	45 °C	2005	143
	85 °C	1875	136



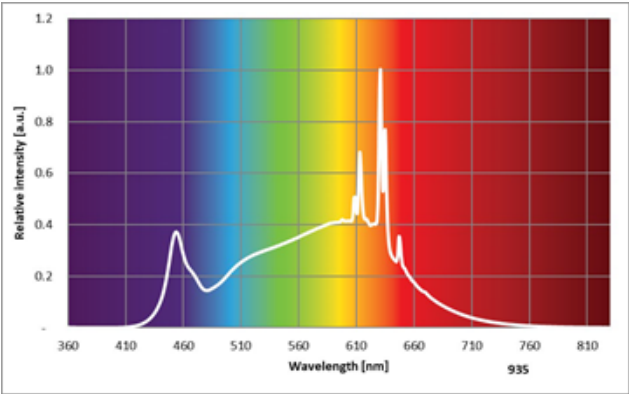
R9>0, Measurement precision ± 5% for the flux data and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5.

Fortimo LED Strip Performance LV5 11in 1100lm

Optical Characteristics – Table per CCT

FO Strip PR 11in 1100lm 935 LV5				
Parameter	Min. (@ Inom)	Typ. (@ Inom)	Max. (@ Inom)	Unit
Luminous Flux	970	1050	1130	Lm
Module Efficiency	152	169	186	Lm/W
Correlated Color Temperature (CCT) Target		3500		K
Color coordinates (CIEx, CIEy)		(0.407, 0.389)		-
Color consistency			3	SDCM
CRI	90			-

Operation point	Tc	lm	lm/W
125 mA	25 °C	850	177
	45 °C	830	174
	85 °C	775	165
154 mA	25 °C	1065	172
	45 °C	1050	169
	85 °C	975	160
325 mA	25 °C	2115	151
	45 °C	2065	148
	85 °C	1930	140



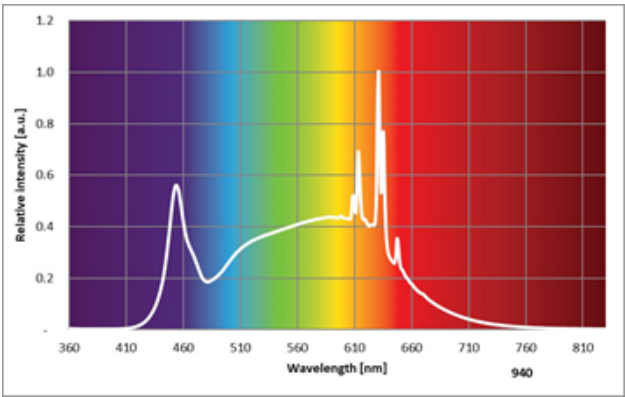
R9>0, Measurement precision ± 5% for the flux data and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5.

Fortimo LED Strip Performance LV5 11in 1100lm

Optical Characteristics – Table per CCT

FO Strip PR 11in 1100lm 940 LV5				
Parameter	Min. (@ Inom)	Typ. (@ Inom)	Max. (@ Inom)	Unit
Luminous Flux	980	1060	1140	Lm
Module Efficiency	156	173	190	Lm/W
Correlated Color Temperature (CCT) Target		4000		K
Color coordinates (CIEx, CIEy)		(0.381, 0.377)		-
Color consistency			3	SDCM
CRI	90			-

Operation point	Tc	lm	lm/W
125 mA	25 °C	865	181
	45 °C	840	178
	85 °C	790	169
154 mA	25 °C	1080	176
	45 °C	1060	173
	85 °C	985	164
325 mA	25 °C	2145	154
	45 °C	2095	151
	85 °C	1955	144



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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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	1.2
72	1.2
96	0.88

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

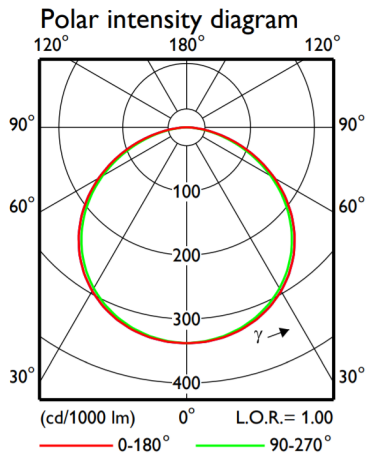
Estimated Number of Full Thermal Product Cycles @ 25°C Ambient Temperature

Case Temperature Tc [°C]	Amount of Cycles
45	>100K
55	>100K
65	88K
75	36K
85	16K

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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 = 154mA, Tc = 45°C	39.15	39.65	40.15	V
Thermal power; If = 154mA, Tc = 45°C		3.1		W

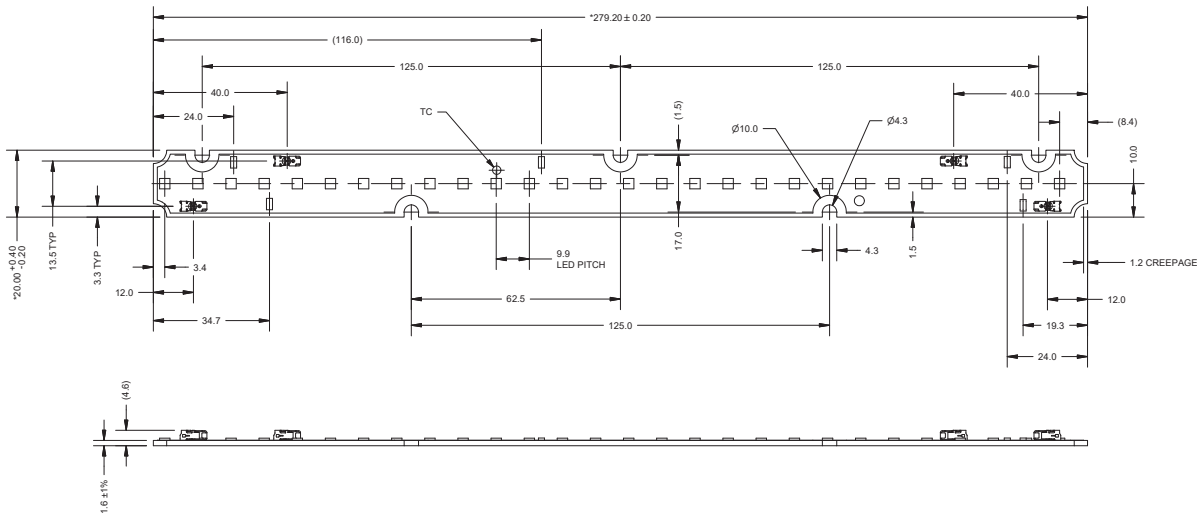
Wiring

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		4.6		mm
Warpage			0.75	%

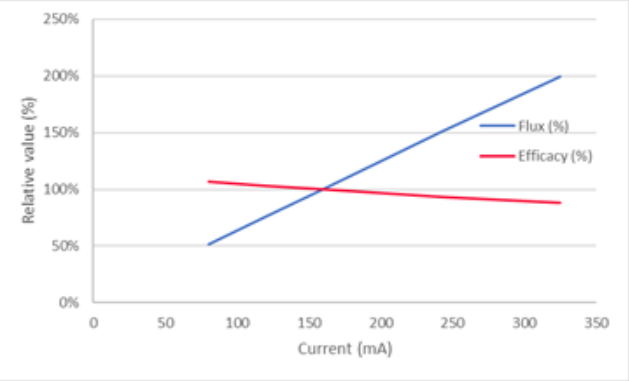
FO Strip PR 11in 1100lm xxx LV5



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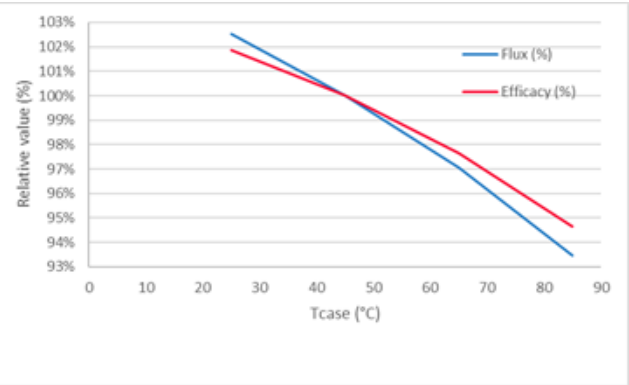
Tuning Information

Flux and Efficacy Vs. Current (at Nominal Temperature)



I [mA]	Flux [%]	Efficacy [%]
77	51%	107%
116	76%	103%
154	100%	100%
240	151%	94%
325	199%	88%

Flux and Efficacy Vs. Tc



Tc [°C]	Flux [%]	Efficacy [%]
85	93%	95%
65	97%	98%
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 125 mA	Tc-nom 25 °C	>36k	>36k	>36k
	Tc 45 °C	>36k	>36k	>36k
	Tc-life 85 °C	>36k	>36k	>34k
I-nom 154 mA	Tc-nom 25 °C	>36k	>36k	>36k
	Tc 45 °C	>36k	>36k	>36k
	Tc-life 85 °C	>36k	>36k	>34k
I-life 325 mA	Tc-nom 25 °C	>36k	>36k	>36k
	Tc 45 °C	>36k	>36k	>36k
	Tc-life 85 °C	>36k	>36k	>34k

Application limited to indoor applications (office/hospitality/educational).

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