PHILIPS

Fortimo

LED

FO strip ST FT 1ft 1100lm 827-865 HV5

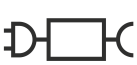
Datasheet

Flexibility at your finger tips

FO strip ST FT 1ft 1100lm 827-865 FC HV5

Fortimo LED Strip FlexTune modules are designed to work perfectly together with the Xitanium FlexTune drivers. Both the modules and the drivers are co-developed as a high voltage solution.
The Fortimo LED Strip ST FT is based on a unique LED concept. The mixing of the color temperature is done inside the LED. With this solution all the LEDs on the board continuously have the same color temperature. This makes it extremely suitable for applications where the individual LEDs of the module are visible inside the fixture. The modules are made for indoor applications and can tune the color temperature between 2700K and 6500K in CRI80.

November 2020



Ordering data

Commercial product name	EOC	12NC	Box quantity
FO strip ST FT 1ft 1100lm 827-865 FC HV5	8718699 782597 00	9290 028 00606	168

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
FO strip ST FT 1ft 1100lm 827-865 HV5	200	400	400	mA

Module temperatures

Parameter	Nominal*	Life**	Max***	Unit
T_c (case temperature at T_c point)	45	70	80	°C

* Nominal value at which typical performance is specified

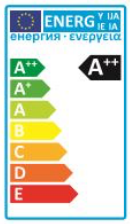
** Value at which life time is specified

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

Optical characteristics - table per color (CCT)

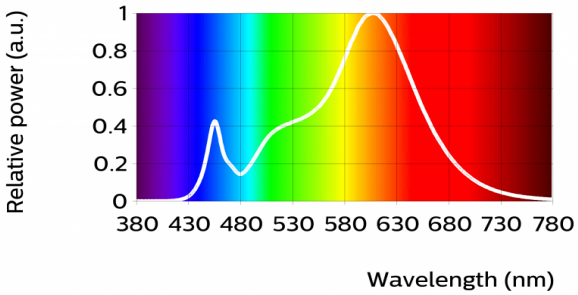
FO strip ST FT 1ft 1100lm 827-865 FC HV5 [2700K]

Parameter	Min	Typ	Max	Unit
Luminous flux	990	1070	1150	lm
Module efficacy	142	158		lm/W
Correlated color temperature (CCT)		2700		K
Color coordinates (CIEx, CIEy)		(0.459, 0.409)		-
Color consistency			3	SDCM
CRI	80			
Photometric code		827/359		
Photobiological safety			RG1 unlimited	



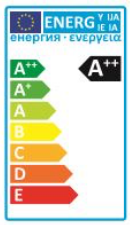
Measurement precision for flux +/- 5%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5

Operation point	827	lm	lm/W
80% I-nom 160mA	Tc 25 °C	883	164
	Tc-nom 45 °C	867	163
	Tc-max 80 °C	831	158
I-nom 200mA	Tc 25 °C	1089	160
	Tc-nom 45 °C	1070	158
	Tc-max 80 °C	1025	154
I-max 400mA	Tc 25 °C	2066	142
	Tc-nom 45 °C	2028	141
	Tc-max 80 °C	1941	137



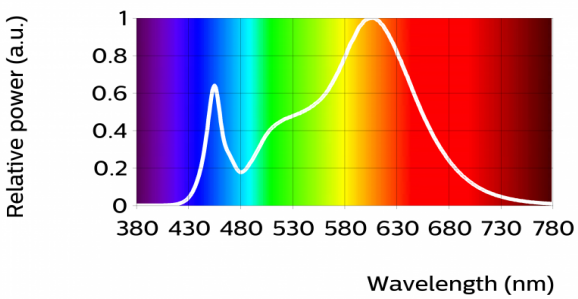
FO strip ST FT 1ft 1100lm 827-865 FC HV5 [3000K]

Parameter	Min	Typ	Max	Unit
Luminous flux	990	1074	1150	lm
Module efficacy	143	159		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.435, 0.395)		-
CRI	80			
Photometric code		830/359		
Photobiological safety			RG1 unlimited	



Measurement precision for flux +/- 5%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5
Color coordinates are indicative.

Operation point	830	lm	lm/W
80% I-nom 160mA	Tc 25 °C	886	165
	Tc-nom 45 °C	870	163
	Tc-max 80 °C	833	159
I-nom 200mA	Tc 25 °C	1094	160
	Tc-nom 45 °C	1074	159
	Tc-max 80 °C	1028	154
I-max 400mA	Tc 25 °C	2076	143
	Tc-nom 45 °C	2037	141
	Tc-max 80 °C	1948	137

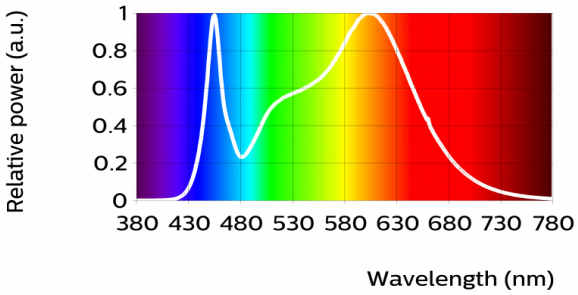


FO strip ST FT 1ft 1100lm 827-865 FC HV5 [3500K]

Parameter	Min	Typ	Max	Unit
Luminous flux	1000	1080	1160	lm
Module efficacy	144	160		lm/W
Correlated color temperature (CCT)		3500		K
Color coordinates (CIEx, CIEy)		(0.403, 0.377)		-
CRI	80			
Photometric code		835/359		
Photobiological safety			RG1 unlimited	

Measurement precision for flux +/- 5%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5
Color coordinates are indicative.

Operation point	835	lm	lm/W
80% I-nom 160mA	Tc 25 °C	891	166
	Tc-nom 45 °C	875	164
	Tc-max 80 °C	837	159
I-nom 200mA	Tc 25 °C	1100	161
	Tc-nom 45 °C	1080	160
	Tc-max 80 °C	1033	155
I-max 400mA	Tc 25 °C	2089	144
	Tc-nom 45 °C	2050	142
	Tc-max 80 °C	1958	138

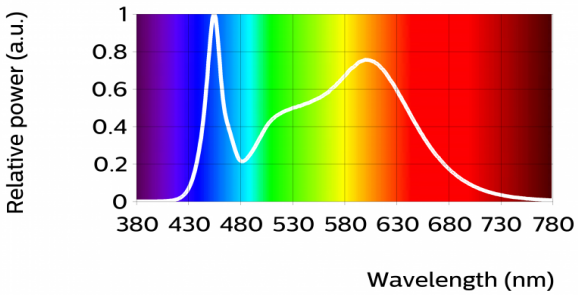


FO strip ST FT 1ft 1100lm 827-865 FC HV5 [4000K]

Parameter	Min	Typ	Max	Unit
Luminous flux	1000	1084	1170	lm
Module efficacy	144	160		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.379, 0.363)		-
CRI	80			
Photometric code		840/359		
Photobiological safety			RG1 unlimited	

Measurement precision for flux +/- 5%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5
Color coordinates are indicative.

Operation point	840	lm	lm/W
80% I-nom 160mA	Tc 25 °C	895	166
	Tc-nom 45 °C	878	165
	Tc-max 80 °C	840	160
I-nom 200mA	Tc 25 °C	1105	162
	Tc-nom 45 °C	1084	160
	Tc-max 80 °C	1037	156
I-max 400mA	Tc 25 °C	2100	145
	Tc-nom 45 °C	2060	143
	Tc-max 80 °C	1966	138

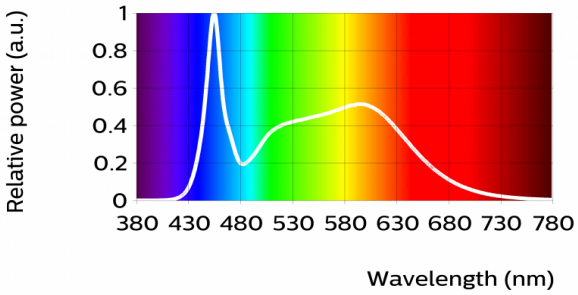


FO strip ST FT 1ft 1100lm 827-865 FC HV5 [5000K]

Parameter	Min	Typ	Max	Unit
Luminous flux	1010	1092	1170	lm
Module efficacy	145	161		lm/W
Correlated color temperature (CCT)		5000		K
Color coordinates (CIEx, CIEy)		(0.345, 0.344)		-
CRI	80			
Photometric code		850/359		
Photobiological safety			RG1 unlimited	

Measurement precision for flux +/- 5%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5
Color coordinates are indicative.

Operation point	850	lm	lm/W
80% I-nom 160mA	Tc 25 °C	901	168
	Tc-nom 45 °C	884	166
	Tc-max 80 °C	844	161
I-nom 200mA	Tc 25 °C	1113	163
	Tc-nom 45 °C	1092	161
	Tc-max 80 °C	1042	157
I-max 400mA	Tc 25 °C	2117	146
	Tc-nom 45 °C	2076	144
	Tc-max 80 °C	1980	139

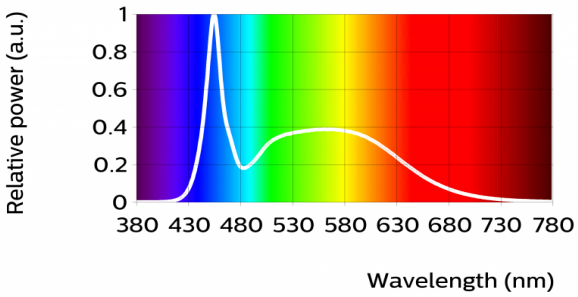


FO strip ST FT 1ft 1100lm 827-865 FC HV5 [6500K]

Parameter	Min	Typ	Max	Unit
Luminous flux	1020	1100	1180	lm
Module efficacy	146	163		lm/W
Correlated color temperature (CCT)		6500		K
Color coordinates (CIEx, CIEy)		(0.310, 0.325)		-
Color consistency			3	SDCM
CRI	80			
Photometric code		865/359		
Photobiological safety			RG1 unlimited	

Measurement precision for flux +/- 5%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5

Operation point	865	lm	lm/W
80% I-nom 160mA	Tc 25 °C	908	169
	Tc-nom 45 °C	890	167
	Tc-max 80 °C	849	162
I-nom 200mA	Tc 25 °C	1121	164
	Tc-nom 45 °C	1100	163
	Tc-max 80 °C	1049	158
I-max 400mA	Tc 25 °C	2137	147
	Tc-nom 45 °C	2094	145
	Tc-max 80 °C	1994	140



Electrical characteristics

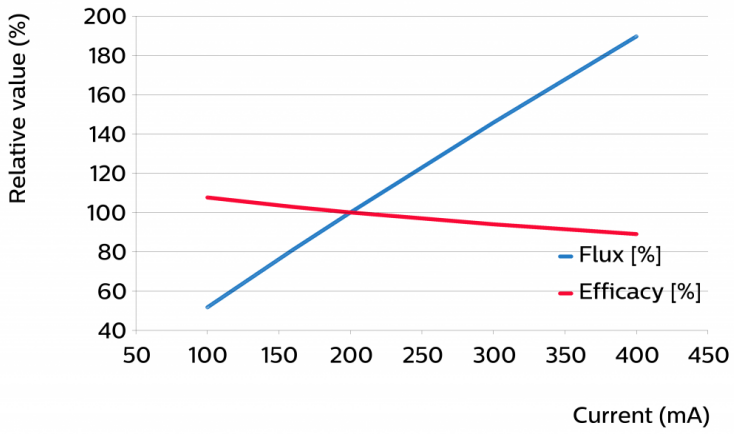
Parameter	Min	Typ	Max	Unit
Forward voltage	30.3	33.8	37.1	V
Power consumption	6.1	6.8	7.4	W = kWh/1000h
Number of modules in series per chain			9	

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

Tuning information

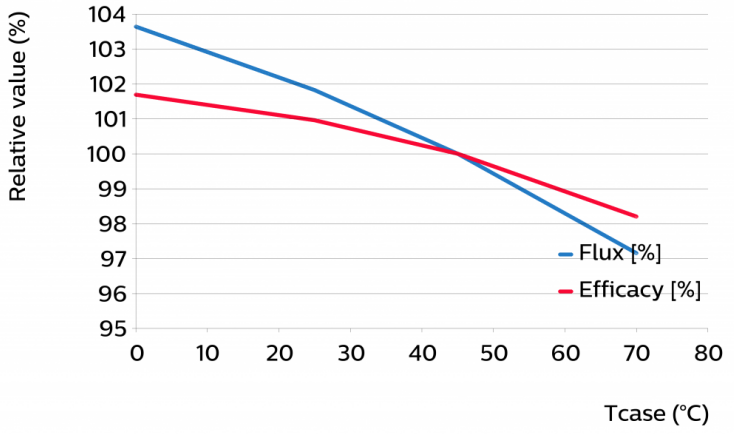
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
400	190	89
300	146	94
200	100	100
160	81	103
100	52	108



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

Tc [°C]	Flux [%]	Efficacy [%]
70	97	98
45	100	100
25	102	101
0	104	102



Lumen maintenance

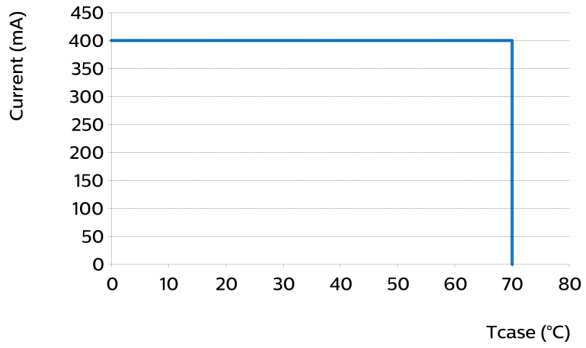
Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% I-nom 160mA	Tc 25°C	>70	>70	>70	>70	>70	>70	51	51	50
	Tc_nom 45°C	>70	>70	>70	>70	>70	>70	42	42	42
	Tc_life 70°C	>70	>70	>70	59	58	58	28	28	27
I_nom 200mA	Tc 25°C	>70	>70	>70	>70	>70	>70	50	50	50
	Tc_nom 45°C	>70	>70	>70	>70	>70	>70	42	42	41
	Tc_life 70°C	>70	>70	>70	58	58	57	28	27	27
I_life 400mA	Tc 25°C	>70	>70	>70	>70	>70	>70	49	49	49
	Tc_nom 45°C	>70	>70	>70	>70	>70	>70	40	39	39
	Tc_life 70°C	>70	>70	>70	52	51	51	25	24	24

Lifetime

Parameter	Value	Unit
M70F50 nominal	>70000	hours
M70F50 life	>70000	hours

Switching cycles in accordance to EU 1194/2012: >15000.

Performance Window

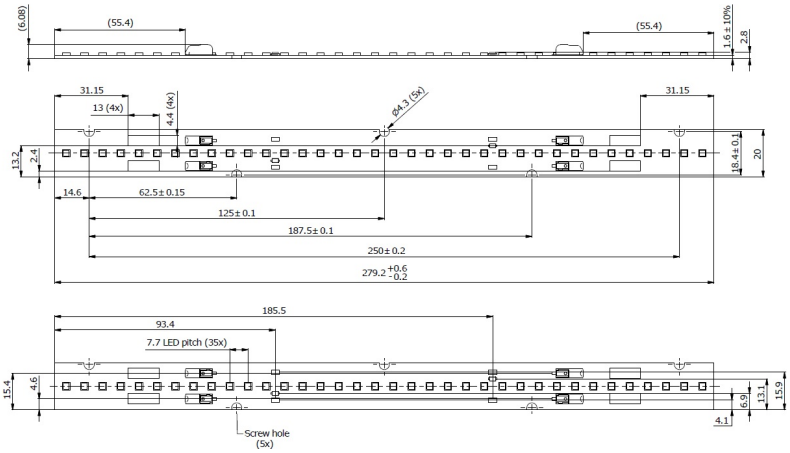


Wiring

Specification item	Value	Unit	Condition
Input wire cross-section	0.25…0.75	mm²	solid wire
	18…24	AWG	solid wire
Input wire strip length	7.5…8.5	mm	
Input wire cross-section	0.33…0.5	mm²	stranded wire
	20…22	AWG	stranded wire
Input wire strip length	7.5…8.5	mm	

Mechanical characteristics

Parameter	Min	Typ	Max	Unit
Length	279	279.2	279.8	mm
Width	19.8	20	20.2	mm
Height PCB	1.4	1.6	1.8	mm
Height total		6.1		mm
Product mass		20		gram



Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		400	mA
Case temperature (Tc-max)		80	°C
ESD (direct contact)	8		kV
Working voltage		350	V_{dc}

Application information

Certificates and Standards

CE
ENEC
ENEC+

Environmental

RoHS/REACH

Application	
Dimming	Yes

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