PHILIPS

Fortimo

LED

FO strip ST FT 2ft 2200lm 827-865 HV5

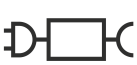
Datasheet

Flexibility at your finger tips

FO strip ST FT 2ft 2200lm 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 2ft 2200lm 827-865 FC HV5	8718699 782658 00	9290 028 00706	84

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
FO strip ST FT 2ft 2200lm 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

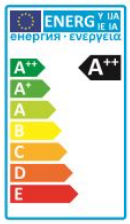
** Value at which life time is specified

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

Optical characteristics - table per color (CCT)

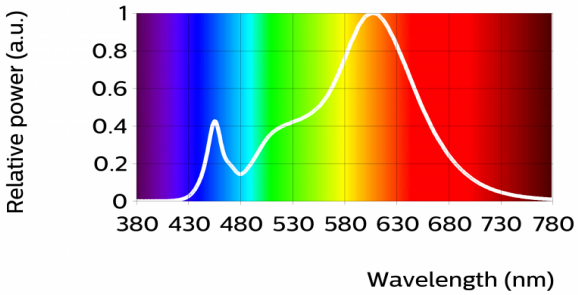
FO strip ST FT 2ft 2200lm 827-865 FC HV5 [2700K].

Parameter	Min	Typ	Max	Unit
Luminous flux	1980	2140	2300	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	



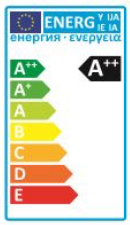
Measurement precision for flux +/- 5%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5

Operation point	827	lm	lm/W
80% I-nom 160mA	Tc 25 °C	1766	164
	Tc-nom 45 °C	1734	163
	Tc-max 80 °C	1685	160
I-nom 200mA	Tc 25 °C	2179	160
	Tc-nom 45 °C	2140	158
	Tc-max 80 °C	2079	155
I-max 400mA	Tc 25 °C	4133	142
	Tc-nom 45 °C	4057	141
	Tc-max 80 °C	3938	138



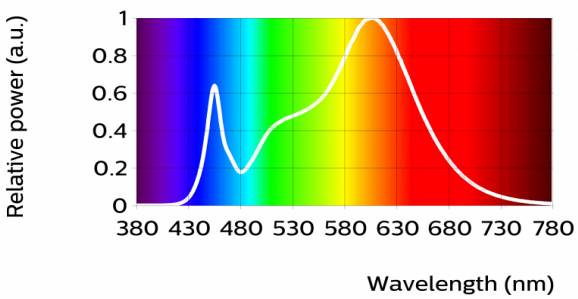
FO strip ST FT 2ft 2200lm 827-865 FC HV5 [3000K]

Parameter	Min	Typ	Max	Unit
Luminous flux	1990	2148	2310	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	1772	165
	Tc-nom 45 °C	1740	163
	Tc-max 80 °C	1690	160
I-nom 200mA	Tc 25 °C	2187	160
	Tc-nom 45 °C	2148	159
	Tc-max 80 °C	2086	156
I-max 400mA	Tc 25 °C	4151	143
	Tc-nom 45 °C	4074	141
	Tc-max 80 °C	3953	139

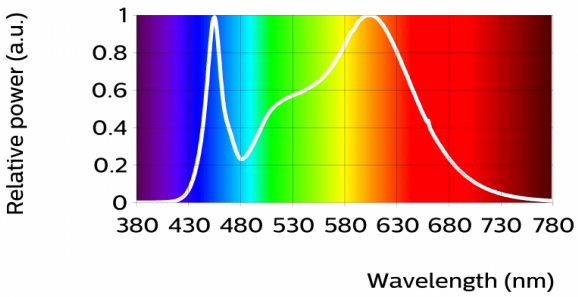


FO strip ST FT 2ft 2200lm 827-865 FC HV5 [3500K]

Parameter	Min	Typ	Max	Unit
Luminous flux	2000	2159	2320	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	1782	166
	Tc-nom 45 °C	1749	164
	Tc-max 80 °C	1698	161
I-nom 200mA	Tc 25 °C	2199	161
	Tc-nom 45 °C	2159	160
	Tc-max 80 °C	2096	157
I-max 400mA	Tc 25 °C	4178	144
	Tc-nom 45 °C	4099	142
	Tc-max 80 °C	3975	139

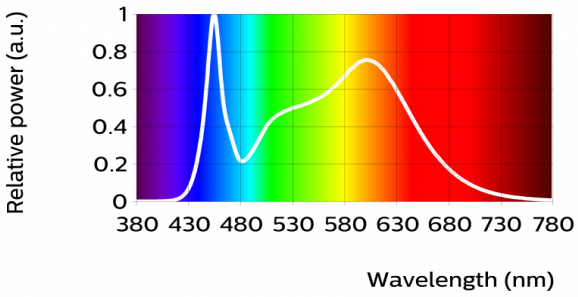


FO strip ST FT 2ft 2200lm 827-865 FC HV5 [4000K]

Parameter	Min	Typ	Max	Unit
Luminous flux	2010	2169	2330	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	1789	166
	Tc-nom 45 °C	1757	165
	Tc-max 80 °C	1705	162
I-nom 200mA	Tc 25 °C	2209	162
	Tc-nom 45 °C	2169	160
	Tc-max 80 °C	2104	157
I-max 400mA	Tc 25 °C	4200	145
	Tc-nom 45 °C	4120	143
	Tc-max 80 °C	3993	140

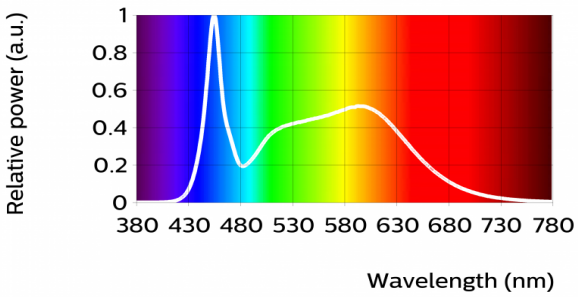


FO strip ST FT 2ft 2200lm 827-865 FC HV5 [5000K]

Parameter	Min	Typ	Max	Unit
Luminous flux	2020	2183	2350	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	1802	168
	Tc-nom 45 °C	1768	166
	Tc-max 80 °C	1715	163
I-nom 200mA	Tc 25 °C	2225	163
	Tc-nom 45 °C	2183	161
	Tc-max 80 °C	2117	158
I-max 400mA	Tc 25 °C	4234	146
	Tc-nom 45 °C	4152	144
	Tc-max 80 °C	4022	141

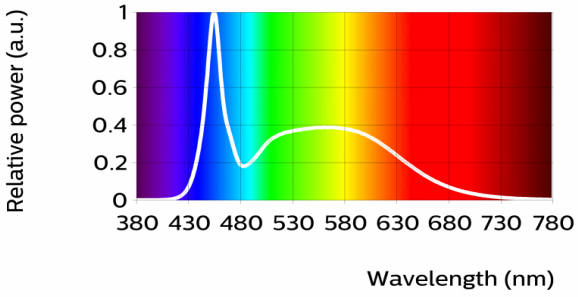


FO strip ST FT 2ft 2200lm 827-865 FC HV5 [6500K].

Parameter	Min	Typ	Max	Unit
Luminous flux	2040	2200	2370	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	1815	169
	Tc-nom 45 °C	1781	167
	Tc-max 80 °C	1726	164
I-nom 200mA	Tc 25 °C	2243	164
	Tc-nom 45 °C	2200	163
	Tc-max 80 °C	2131	159
I-max 400mA	Tc 25 °C	4273	147
	Tc-nom 45 °C	4189	145
	Tc-max 80 °C	4054	142



Electrical characteristics

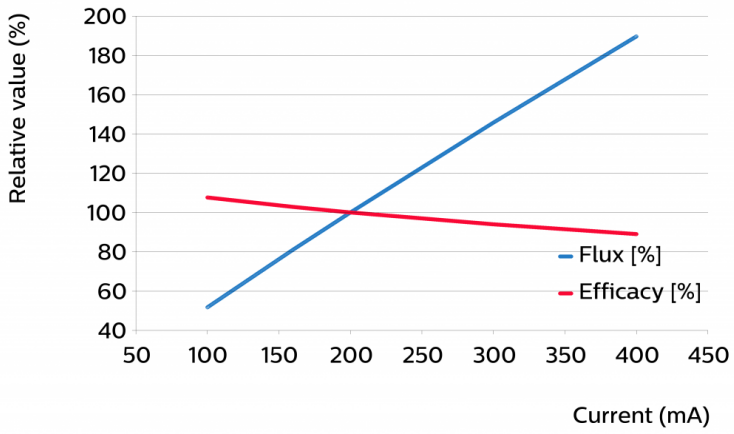
Parameter	Min	Typ	Max	Unit
Forward voltage	60.6	67.6	74.0	V
Power consumption	12.1	13.5	14.8	W = kWh/1000h
Number of modules in series per chain			4	

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

Tuning information

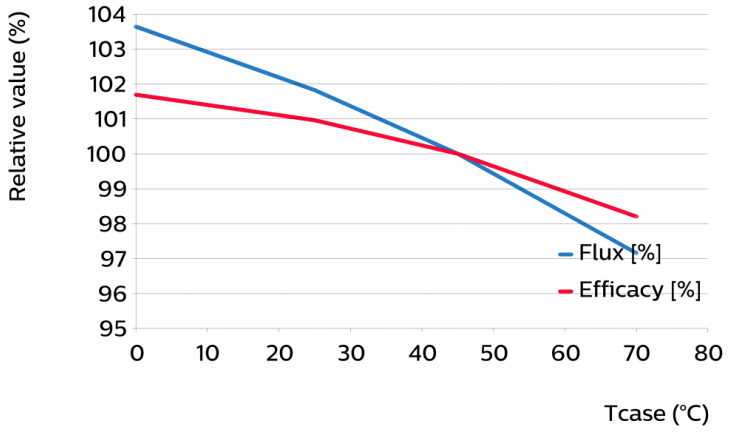
Flux and efficacy versus current (at Tc nominal)

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

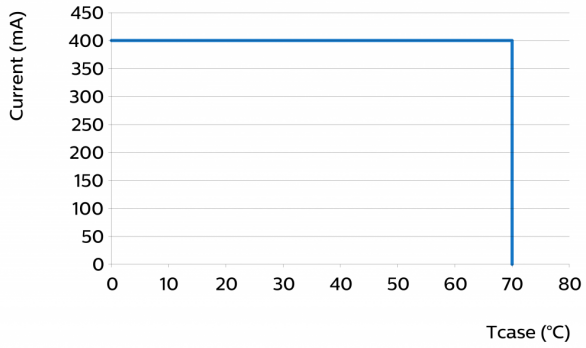
Operation point	Lumen maintenance	L70			L80			L90		
	x 1000 hours	B50	B20	B10	B50	B20	B10	B50	B20	B10
80% I-nom 160mA	Tc 25°C	>70	>70	>70	>70	>70	>70	51	51	50
	Tc_nom 45°C	>70	>70	>70	>70	>70	>70	42	42	42
	Tc_life 70°C	>70	>70	>70	59	58	58	28	28	27
I_nom 200mA	Tc 25°C	>70	>70	>70	>70	>70	>70	50	50	50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

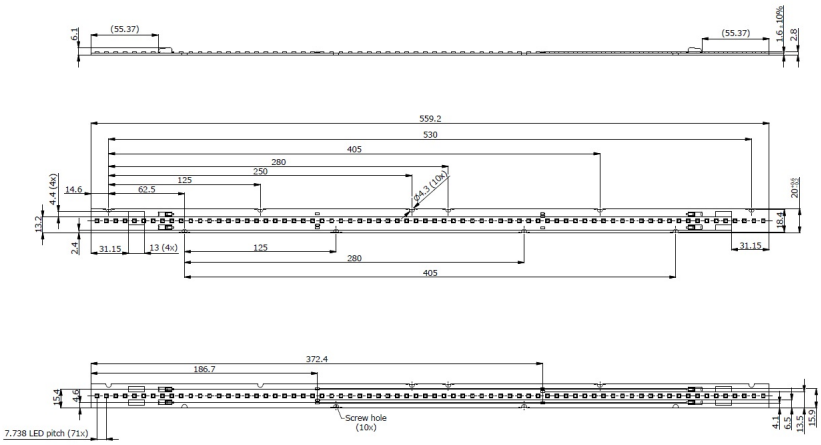


Wiring

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	558.9	559.2	559.5	mm
Width	19.8	20	20.6	mm
Height PCB	1.4	1.6	1.8	mm
Height total		6.1		mm
Product mass		40		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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