

PHILIPS

Fortimo

LED

Fortimo FF 2x2 DA
ColorAmbiance



Datasheet

Balanced lighting that enhances visibility while creating a warm, inviting atmosphere.

ColorAmbiance enhances outdoor spaces with a warm, golden light that improves contrast and creates a welcoming atmosphere. Designed for urban areas, parks, and cultural sites, it provides functional, comfortable visibility with natural-looking colors, supporting both aesthetic appeal and sustainable public lighting.

Key features and benefits

- Warm light colors (2700K & 3000K) for cozy, inviting atmosphere
- Functional, comfortable visibility with natural-looking colors (CRI80)
- Improved contrast for clearer nighttime perception
- Zhaga Book 15 compliancy for easy design-in and maintenance
- Embedded module surge protection
- Philips system warranty

Application:

- Urban spaces: squares, plazas, and pathways
- Hospitality areas
- Cultural heritage sites
- Residential zones
- Parks and green areas

June 2026



Ordering data

Commercial product name	12NC	EPREL No.	Box quantity
Fortimo FF 2x2/827 DA ColorAmbiance	9290 040 24206	2709791	25
Fortimo FF 2x2/830 DA ColorAmbiance	9290 040 24306	2709792	25

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo FF 2x2 DA ColorAmbiance	450	900	1500	mA

Module temperatures

Parameter	Nominal*	Life**	Max***	Unit
T _c (case temperature at T _c point)	65	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

Fortimo FF 2x2/827 DA ColorAmbiance
Fortimo FF 2x2/830 DA ColorAmbiance

CCT	2700K CA	3000K CA	Unit
Luminous flux (Φ_{use})*	778	822	lm
Efficacy*	155	164	lm/W
Average Luminous flux	826	866	lm
Average Efficacy	168	173	lm/W
Max. Efficacy	175	180	lm/W
Max. Color consistency	5	5	SDCM
Color coordinates (CIEx, CIEy)	0.450, 0.395	0.433, 0.395	
Min. CRI	80	80	
Min. R9	0	0	
Max. Photobiological safety	RG1 unlimited	RG1 unlimited	
Energy label EPREL	D 	D 	

Measurement precision for flux +/- 5%. Measurement precision for efficacy +/- 6%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5.

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

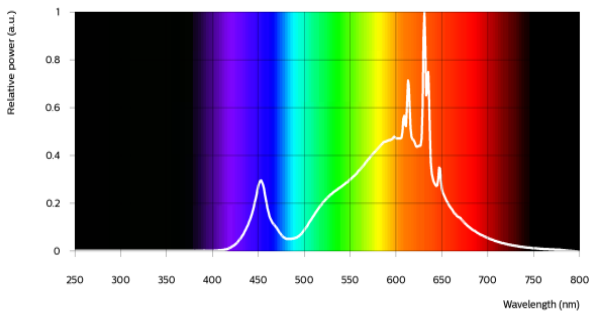
* Luminous flux (Φ_{use}) and Efficacy refer to Single Lighting Regulation (SLR). Luminous flux (Φ_{use}) means the part of the luminous flux of a light source that is considered when determining its energy efficiency: – for non-directional light sources it is the total flux emitted in a solid angle of 4π sr (corresponding to a 360° sphere)

Tuning table

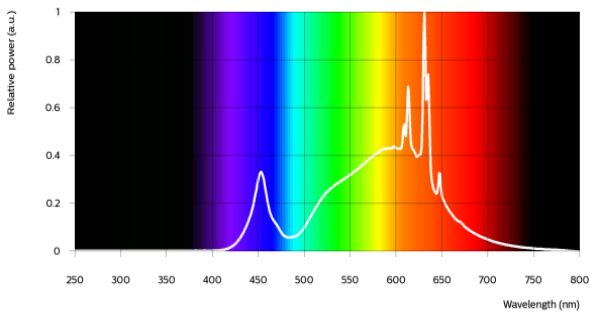
Operation Point		Current	2700K CA	3000K CA	Unit
Tc = 25°C	Luminous	80% I-nom 360mA	709	735	lm
	flux	I-nom 450mA	877	907	lm
		I-max 1500mA	2605	2697	lm
	Efficacy	80% I-nom 360mA	177	184	lm/W
		I-nom 450mA	175	181	lm/W
		I-max 1500mA	139	143	lm/W
Tc = 65°C	Luminous	80% I-nom 360mA	669	702	lm
	flux	I-nom 450mA	826	866	lm
		I-max 1500mA	2440	2560	lm
	Efficacy	80% I-nom 360mA	171	180	lm/W
		I-nom 450mA	168	173	lm/W
		I-max 1500mA	131	137	lm/W
Tc = 95°C	Luminous	80% I-nom 360mA	635	673	lm
	flux	I-nom 450mA	784	830	lm
		I-max 1500mA	2301	2436	lm
	Efficacy	80% I-nom 360mA	163	173	lm/W
		I-nom 450mA	160	169	lm/W
		I-max 1500mA	125	132	lm/W

*Based on average value

CRI80 2700K CA



CRI80 3000K CA



Electrical characteristics

Fortimo FF 2x2/827 DA ColorAmbiance

Parameter	Min	Typ	Max	Unit
Forward voltage	10.6	11.2	11.4	V
Power consumption	4.8	5.0	5.1	W = kWh/1000h
Number of modules in series per chain			10	
Number of modules in parallel			1	

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

Fortimo FF 2x2/830 DA ColorAmbiance

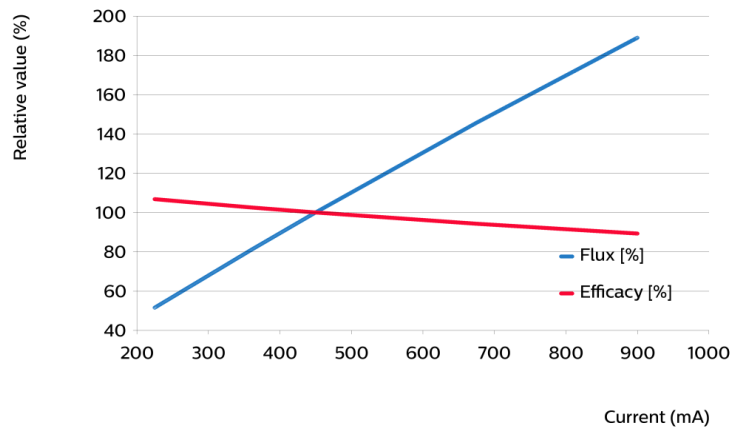
Parameter	Min	Typ	Max	Unit
Forward voltage	10.5	11.2	11.4	V
Power consumption	4.7	5.0	5.1	W = kWh/1000h
Number of modules in series per chain			10	
Number of modules in parallel			1	

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

Tuning information

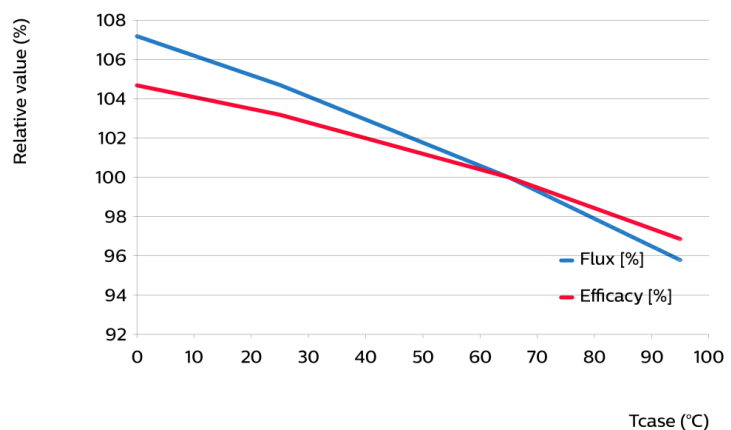
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
900	189	89
675	146	94
450	100	100
360	81	103
225	52	107



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

Tc [°C]	Flux [%]	Efficacy [%]
95	96	97
65	100	100
25	105	103
0	107	105



Lumen maintenance

Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% Inom = 360mA	Tc=25°C	>100	>100	>100	>100	>100	>100	>100	>100	>100
	Tc=45°C	>100	>100	>100	>100	>100	>100	>100	>100	>100
	Tc_nom=65°C	>100	>100	>100	>100	>100	>100	>100	>100	>100
Inom = 450mA	Tc=25°C	>100	>100	>100	>100	>100	>100	>100	>100	>100
	Tc=45°C	>100	>100	>100	>100	>100	>100	>100	>100	>100
	Tc_nom=65°C	>100	>100	>100	>100	>100	>100	>100	>100	>100
I = 600mA	Tc=25°C	>100	>100	>100	>100	>100	>100	>100	>100	>100
	Tc=45°C	>100	>100	>100	>100	>100	>100	>100	>100	>100
	Tc_nom=65°C	>100	>100	>100	>100	>100	>100	>100	>100	100

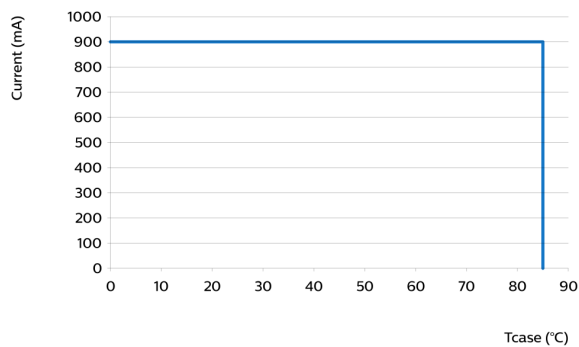
We use a Philips designed lifetime model, which uses LM80 data as only one of its inputs and assumes a continues operation of the module.

*B20 and B10 values are calculated by means of statistical techniques.

Lifetime

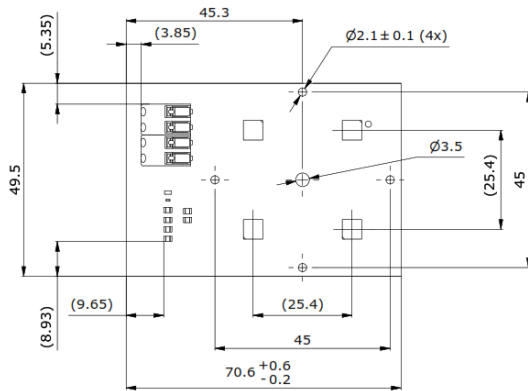
Parameter	Value	Unit
M70F50 nominal	>100000	hours
M70F50 life	>100000	hours

Performance Window



Mechanical characteristics

Parameter	Min	Typ	Max	Unit
Length	70.4	70.6	71.2	mm
Width	49.3	49.5	49.7	mm
Height PCB	1.4	1.6	1.8	mm
Height total	5.9	6.1	6.3	mm
Product mass		17.5		gram



Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		1500	mA
Case temperature (Tc-max)		95	°C
Thermal power at I-max and Tc-max (Pth)		56.3	W
ESD (direct contact)	8		kV
ESD (air)	15		kV
Working voltage		575	V _{dc}
Ambient temperature	-40	50	°C
Storage temperature	-20	80	°C

Application information

Certificates and Standards

CE
UKCA
ENEC
ENEC+
cULus

Application

Overheating protection	NTC 15L Ohm B=3987K + 390 Ohm in series
Dimming	Yes



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