

PHILIPS

Fortimo

LED

Fortimo FastFlex LED 2x2
DA UHE



Datasheet

Ultra-High Efficiency with Zhaga standards

Fortimo FastFlex 2x2 DA UHE

Experience increased efficiency levels of $\geq 200\text{lm/W}$ – all within Zhaga standards

Application:

- Road lighting
- Urban and residential street lighting
- Parks and recreation area lighting
- Flood and area lighting
- Tunnel lighting
- High bay lighting

Key features and benefits

- Ultra-High Efficiency on LED module level in Zhaga standards
- Extensive reliability testing for OEM peace of mind
- Mechanically backwards compatible with DA Gen 4+/Gen 5 and DA HE
- Embedded module surge protection
- Philips system warranty

March 2025



Zhaga

Ordering data

Commercial product name	EOC	12NC	Box quantity
Fortimo FastFlex LED 2x2/730 DA UHE	8720169 284586 00	9290 039 67406	25
Fortimo FastFlex LED 2x2/740 DA UHE	8720169 284609 00	9290 039 67506	25

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo FastFlex LED 2x2 DA UHE	450	1050	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 - table per color (CCT)

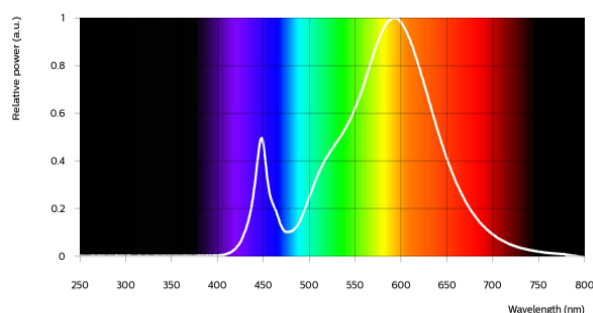
Fortimo FastFlex LED 2x2/730 DA UHE

Parameter	Min	Typ	Max	Unit
Luminous flux	900	1000	1100	lm
Efficacy	180	200	220	lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.435, 0.419)		-
Color consistency			5	SDCM
CRI	70			
R9	-50			
Photobiological safety			RG1 unlimited	



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 .

Operation point	730	lm	lm/W
80% I-nom 360mA	Tc 25 °C	843	210
	Tc-nom 65 °C	807	204
	Tc-max 85 °C	785	200
I-nom 450mA	Tc 25 °C	1045	206
	Tc-nom 65 °C	1000	200
	Tc-max 85 °C	972	196
I-max 1500mA	Tc 25 °C	3218	168
	Tc-nom 65 °C	3060	162
	Tc-max 85 °C	2961	158



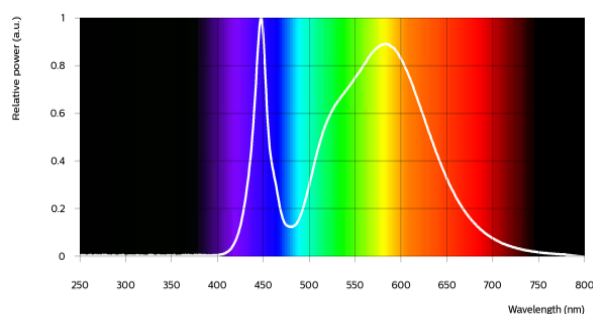
Fortimo FastFlex LED 2x2/740 DA UHE

Parameter	Min	Typ	Max	Unit
Luminous flux	914	1015	1116	lm
Efficacy	183	203	223	lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.379, 0.391)		-
Color consistency			5	SDCM
CRI	70			
R9	-50			
Photobiological safety			RG1 unlimited	



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 .

Operation point	740	lm	lm/W
80% I-nom 360mA	Tc 25 °C	856	213
	Tc-nom 65 °C	819	207
	Tc-max 85 °C	797	203
I-nom 450mA	Tc 25 °C	1060	209
	Tc-nom 65 °C	1015	203
	Tc-max 85 °C	987	199
I-max 1500mA	Tc 25 °C	3267	171
	Tc-nom 65 °C	3107	165
	Tc-max 85 °C	3007	161



Electrical characteristics

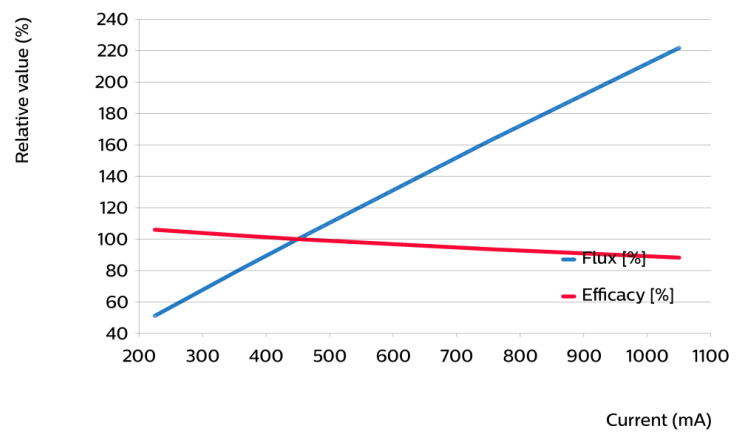
Parameter	Min	Typ	Max	Unit
Forward voltage	10.6	11.1	11.4	V
Power consumption	4.8	5.0	5.1	W = kWh/1000h
Number of modules in series per chain			10	
Number of modules in parallel			1	

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

Tuning information

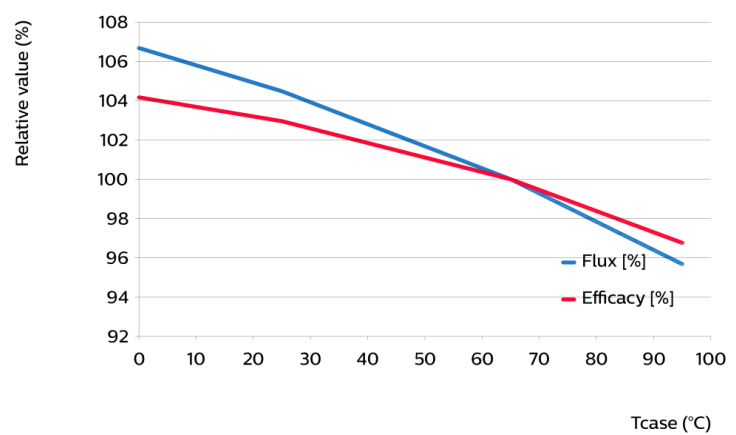
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
1050	222	88
750	162	94
450	100	100
360	81	102
225	51	106



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

Tc [°C]	Flux [%]	Efficacy [%]
95	96	97
65	100	100
25	104	103
0	107	104



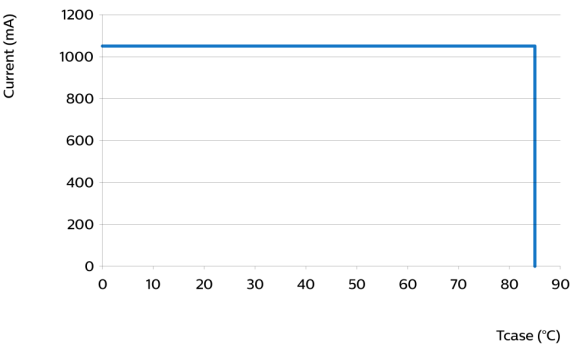
Lumen maintenance

Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
I 450mA	Tc 25°C	>100	>100	>100	>100	>100	>100	>100	>100	>100
	Tc 65°C	>100	>100	>100	>100	>100	>100	>100	>100	>100
	Tc 85°C	>100	>100	>100	>100	>100	>100	>100	>100	>100
I 700mA	Tc 25°C	>100	>100	>100	>100	>100	>100	>100	>100	>100
	Tc 65°C	>100	>100	>100	>100	>100	>100	>100	>100	>100
	Tc 85°C	>100	>100	>100	>100	>100	>100	>100	>100	>100
I 1050mA	Tc 25°C	>100	>100	>100	>100	>100	>100	>100	>100	>100
	Tc 65°C	>100	>100	>100	>100	>100	>100	>100	>100	>100
	Tc 85°C	>100	>100	>100	>100	>100	>100	>100	>100	>100

Lifetime

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

Performance Window

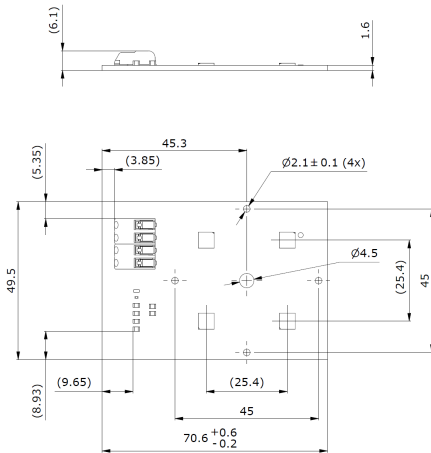


Wiring

Specification item	Value	Unit	Condition
Input wire cross-section	0.33...0.5	mm ²	stranded wire
	20...22	AWG	stranded wire
Input wire strip length	7.5...8.5	mm	
Input wire cross-section	0.25...0.75	mm ²	solid wire
	18...24	AWG	solid wire
Input wire strip length	7.5...8.5	mm	

Mechanical characteristics

Parameter	Min	Typ	Max	Unit
Length	70.4	70.6	71.2	mm
Width	49.3	49.5	49.7	mm
Height including connector		6.1		mm
Height PCB		1.6		mm
Product mass		16.6		gram



Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		1500	mA
Case temperature (Tc-max)		95	°C
Power at rated Vf-max and I-max		18.8	W
ESD (direct contact)	8		kV
ESD (air)	15		kV
Working voltage		575	V _{dc}
Ambient temperature	-30	50	°C
Storage temperature	-20	80	°C

Application information

Certificates and Standards

CE
ENEC
cULus
ENEC+

Environmental

RoHS/REACH

Zhaga	Compliant*
*Book 15, 2x2-DA	
Application	
Overheating protection	NTC 15K Ohm B=3987K + 390 Ohm in series
Dimming	Yes



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