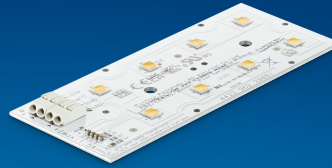


**PHILIPS**

**Fortimo**

**LED**

Fortimo FastFlex LED 2x4  
DA UHE



Datasheet

# Ultra-High Efficiency with Zhaga standards

## Fortimo FastFlex 2x4 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 2x4/730 DA UHE	8720169 284647 00	9290 039 67706	25
Fortimo FastFlex LED 2x4/740 DA UHE	8720169 284661 00	9290 039 67806	25

## Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo FastFlex LED 2x4 DA UHE	450	1050	1500	mA

## Module temperatures

Parameter	Nominal*	Life**	Max***	Unit
T <sub>c</sub> (case temperature at T <sub>c</sub> 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)

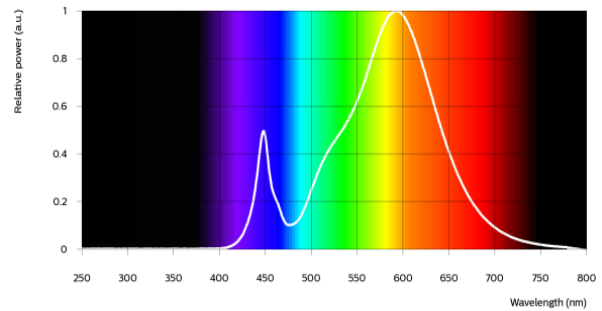
### Fortimo FastFlex LED 2x4/730 DA UHE

Parameter	Min	Typ	Max	Unit
Luminous flux	1800	2000	2200	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  $\pm 0.005$ . Measurement precision for CRI  $\pm 1.5$ .

Operation point	730	lm	lm/W
80% I-nom 360mA	Tc 25 °C	1727	216
	Tc-nom 65 °C	1616	205
	Tc-max 95 °C	1508	193
I-nom 450mA	Tc 25 °C	2139	210
	Tc-nom 65 °C	2000	200
	Tc-max 95 °C	1865	188
I-max 1500mA	Tc 25 °C	6538	171
	Tc-nom 65 °C	6041	160
	Tc-max 95 °C	5552	149



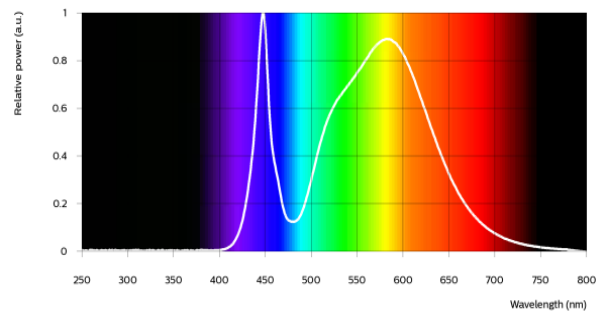
### Fortimo FastFlex LED 2x4/740 DA UHE

Parameter	Min	Typ	Max	Unit
Luminous flux	1827	2030	2233	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  $\pm 0.005$ . Measurement precision for CRI  $\pm 1.5$ .

Operation point	740	lm	lm/W
80% I-nom 360mA	Tc 25 °C	1753	219
	Tc-nom 65 °C	1640	208
	Tc-max 95 °C	1531	196
I-nom 450mA	Tc 25 °C	2171	213
	Tc-nom 65 °C	2030	203
	Tc-max 95 °C	1893	191
I-max 1500mA	Tc 25 °C	6638	174
	Tc-nom 65 °C	6134	163
	Tc-max 95 °C	5639	151



## Electrical characteristics

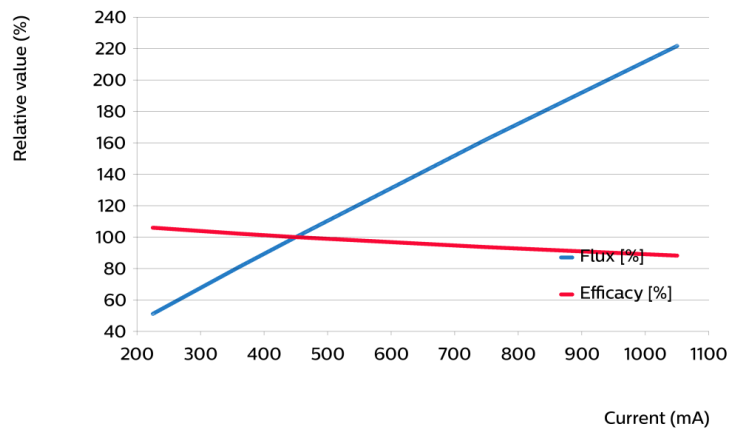
Parameter	Min	Typ	Max	Unit
Forward voltage	21.1	22.2	22.8	V
Power consumption	9.5	10.0	10.3	W = kWh/1000h
Number of modules in series per chain			10	
Number of modules in parallel			1	

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

## Tuning information

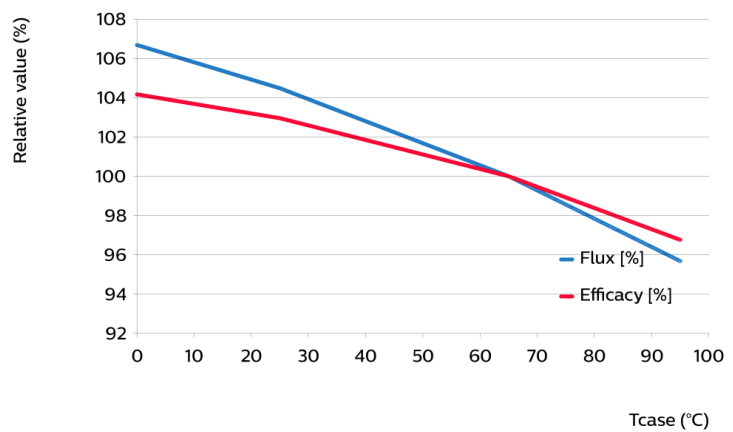
Flux and efficacy versus current (at Tc nominal)

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



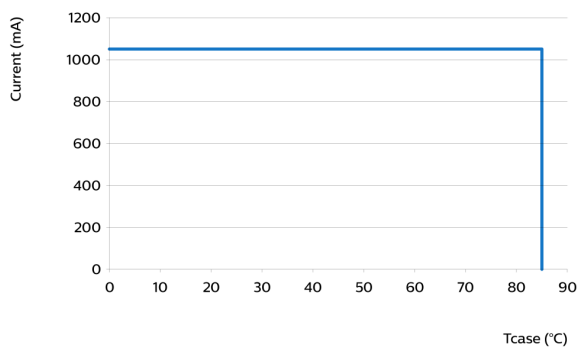
## Lumen maintenance

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

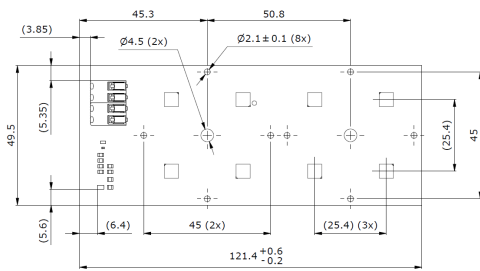


## Wiring

Specification item	Value	Unit	Condition
Input wire cross-section	0.33...0.5	mm <sup>2</sup>	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 <sup>2</sup>	solid wire
	18...24	AWG	solid wire
Input wire strip length	7.5...8.5	mm	

## Mechanical characteristics

Parameter	Min	Typ	Max	Unit
Length	121.2	121.4	122	mm
Width	49.3	49.5	49.7	mm
Height including connector		6.1		mm
Height PCB		1.6		mm
Product mass		27.7		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		37.6	W
ESD (direct contact)	8		kV
ESD (air)	15		kV
Working voltage		575	V <sub>dc</sub>
Ambient temperature	-30	50	°C
Storage temperature	-20	80	°C

## Application information

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### Certificates and Standards

CE  
ENEC  
cULus  
ENEC+

### Environmental

RoHS/REACH

### Zhaga

Compliant\*

\*Book 15, 2x4-DA

### Application

Overheating protection

NTC 15K Ohm B=3987K + 390 Ohm in series

Dimming

Yes



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18/03/2025