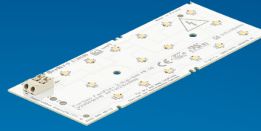


**PHILIPS**

**Fortimo**

**LED**

Fortimo FastFlex LED  
2x8up PR G5



Datasheet

# Xtreme Efficiency enabling optical flexibility with third party lenses

## FastFlex G5

Applications

- Road lighting
- Urban street lighting
- Flood and Area lighting
- Tunnel lighting

### Key features and benefits

- Xtreme module efficiency for fixture performance
- Enables OEM optical differentiation with lenses from third party portfolios matching project's needs
- Best in class reliability testing for OEM peace of mind
- Philips system warranty
- Best in class current and thermal operating range
- Temperature and driving current designed for fixture optimization
- Patented module surge protection
- Optical flexibility via third party lenses
- Flexible lumen output
- Range of CCT and CRI versions

February 2020



## Ordering data

Commercial product name	EOC	12NC	Box quantity
Fortimo FastFlex LED 2x8up/730 PR G5	8718699 707552 00	9290 016 91006	24
Fortimo FastFlex LED 2x8up/740 PR G5	8718699 707590 00	9290 016 91106	24
Fortimo FastFlex LED 2x8up/757 PR G5	8718699 707613 00	9290 016 91206	24
Fortimo FastFlex LED 2x8up/827 PR G5	8718699 707637 00	9290 016 91306	24
Fortimo FastFlex LED 2x8up/830 PR G5	8718699 707651 00	9290 016 91406	24
Fortimo FastFlex LED 2x8up/840 PR G5	8718699 707699 00	9290 016 91506	24

## Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo FastFlex LED 2x8up PR G5	530	see performance window	1050	mA

## Module temperatures

Parameter	Nominal*	Life**	Max***	Unit
T <sub>c</sub> (case temperature at T <sub>c</sub> point)	80	see performance window	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)

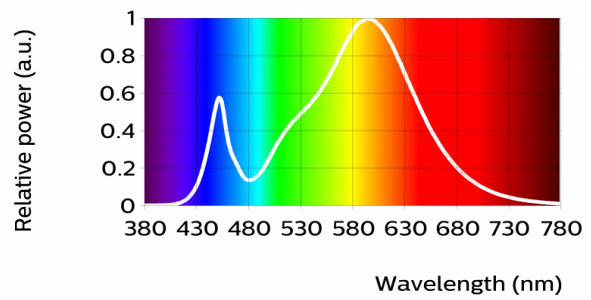
### Fortimo FastFlex LED 2x8up/730 PR G5

Parameter	Min	Typ	Max	Unit
Luminous flux	1785	1983	2182	lm
Module efficacy	153	170		lm/W
Correlated color temperature (CCT)		3000		K
Color consistency			5	SDCM
CRI	70			
Photometric code		730/349		
Photobiological safety			RG2	
Eth <sub>r</sub>			921	lux



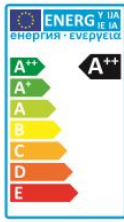
Measurement precision  $\pm 5\%$  for the flux data and  $\pm 6\%$  for the efficacy data. Measurement precision for color coordinates  $\pm 0.005$ . Measurement precision for CRI  $\pm 1.5$

Operation point	730	lm	lm/W
50% I-nom 265mA	Tc 25 °C	1123	193
	Tc-nom 80 °C	1037	184
	Tc-max 95 °C	1010	181
I-nom 530mA	Tc 25 °C	2161	180
	Tc-nom 80 °C	1983	170
	Tc-max 95 °C	1926	167
I-max 1050mA	Tc 25 °C	3993	161
	Tc-nom 80 °C	3632	151
	Tc-max 95 °C	3515	147



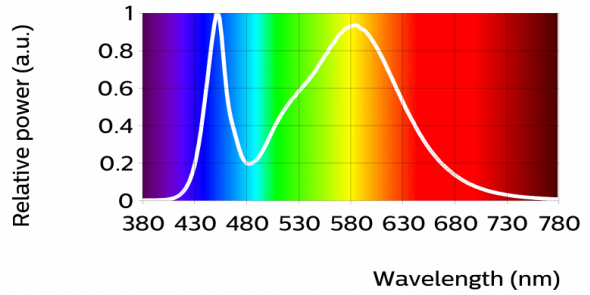
Fortimo FastFlex LED 2x8up/740 PR G5

Parameter	Min	Typ	Max	Unit
Luminous flux	1890	2100	2310	lm
Module efficacy	162	181		lm/W
Correlated color temperature (CCT)		4000		K
Color consistency			5	SDCM
CRI	70			
Photometric code		740/349		
Photobiological safety			RG2	
Ethr			921	lux



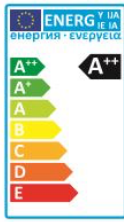
Measurement precision ± 5% for the flux data and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5

Operation point	740	lm	lm/W
	Tc 25 °C	1189	205
50% I-nom 265mA	Tc-nom 80 °C	1098	195
	Tc-max 95 °C	1068	191
	Tc 25 °C	2288	191
I-nom 530mA	Tc-nom 80 °C	2100	181
	Tc-max 95 °C	2040	177
	Tc 25 °C	4230	171
I-max 1050mA	Tc-nom 80 °C	3848	160
	Tc-max 95 °C	3726	156



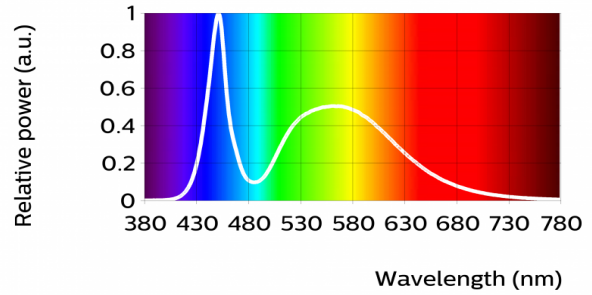
Fortimo FastFlex LED 2x8up/757 PR G5

Parameter	Min	Typ	Max	Unit
Luminous flux	1890	2100	2310	lm
Module efficacy	162	181		lm/W
Correlated color temperature (CCT)		5700		K
Color consistency			5	SDCM
CRI	70			
Photometric code		757/349		
Photobiological safety			RG2	
Ethr			921	lux



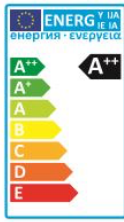
Measurement precision ± 5% for the flux data and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5

Operation point	757	lm	lm/W
50% I-nom 265mA	Tc 25 °C	1189	205
	Tc-nom 80 °C	1098	195
	Tc-max 95 °C	1068	191
I-nom 530mA	Tc 25 °C	2288	191
	Tc-nom 80 °C	2100	181
	Tc-max 95 °C	2040	177
I-max 1050mA	Tc 25 °C	4230	171
	Tc-nom 80 °C	3848	160
	Tc-max 95 °C	3726	156



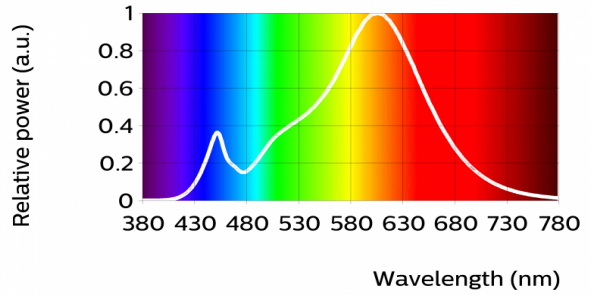
Fortimo FastFlex LED 2x8up/827 PR G5

Parameter	Min	Typ	Max	Unit
Luminous flux	1522	1692	1861	lm
Module efficacy	131	145		lm/W
Correlated color temperature (CCT)		2700		K
Color consistency			5	SDCM
CRI	80			
Photometric code		827/349		
Photobiological safety			RG2	
Ethr			921	lux



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	827	lm	lm/W
50% I-nom 265mA	Tc 25 °C	959	165
	Tc-nom 80 °C	886	157
	Tc-max 95 °C	862	154
I-nom 530mA	Tc 25 °C	1844	154
	Tc-nom 80 °C	1692	145
	Tc-max 95 °C	1643	142
I-max 1050mA	Tc 25 °C	3401	138
	Tc-nom 80 °C	3090	129
	Tc-max 95 °C	2990	125



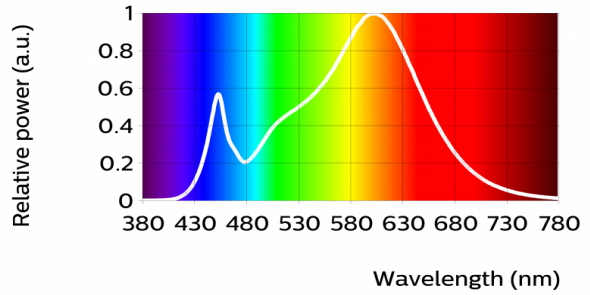
Fortimo FastFlex LED 2x8up/830 PR G5

Parameter	Min	Typ	Max	Unit
Luminous flux	1680	1867	2053	lm
Module efficacy	144	160		lm/W
Correlated color temperature (CCT)		3000		K
Color consistency			5	SDCM
CRI	80			
Photometric code		830/349		
Photobiological safety			RG2	
Ethr			921	lux



Measurement precision ± 5% for the flux data and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5

Operation point	830	lm	lm/W
50% I-nom 265mA	Tc 25 °C	1058	182
	Tc-nom 80 °C	977	173
	Tc-max 95 °C	951	170
I-nom 530mA	Tc 25 °C	2035	170
	Tc-nom 80 °C	1867	160
	Tc-max 95 °C	1813	157
I-max 1050mA	Tc 25 °C	3756	152
	Tc-nom 80 °C	3414	142
	Tc-max 95 °C	3304	138



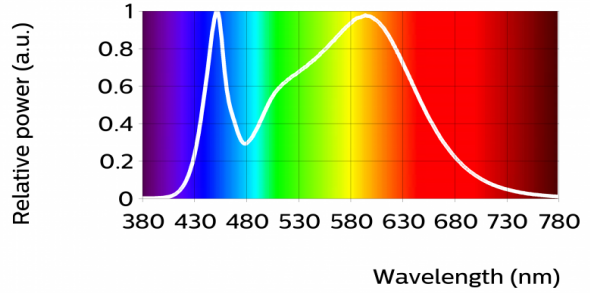
Fortimo FastFlex LED 2x8up/840 PR G5

Parameter	Min	Typ	Max	Unit
Luminous flux	1680	1867	2053	lm
Module efficacy	144	160		lm/W
Correlated color temperature (CCT)		4000		K
Color consistency			5	SDCM
CRI	80			
Photometric code		840/349		
Photobiological safety			RG2	
Ethr			921	lux



Measurement precision ± 5% for the flux data and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5

Operation point	840	lm	lm/W
	Tc 25 °C		1058
50% I-nom 265mA	Tc-nom 80 °C	977	173
	Tc-max 95 °C	951	170
	Tc 25 °C	2035	170
I-nom 530mA	Tc-nom 80 °C	1867	160
	Tc-max 95 °C	1813	157
	Tc 25 °C	3756	152
I-max 1050mA	Tc-nom 80 °C	3414	142
	Tc-max 95 °C	3304	138





## Electrical characteristics

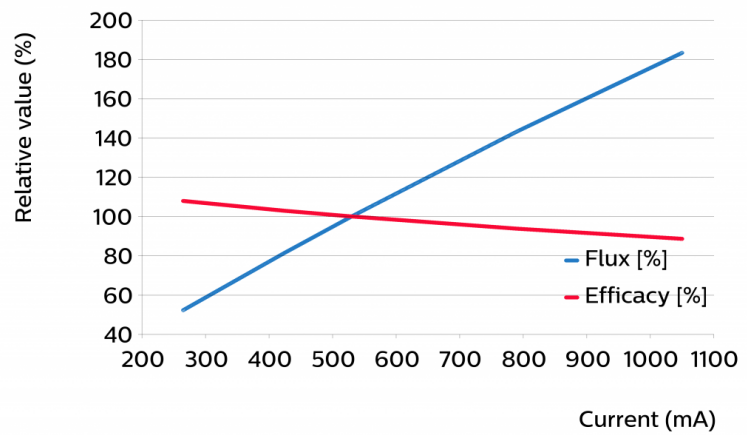
Parameter	Min	Typ	Max	Unit
Forward voltage	20.9	22.0	23.0	V
Power consumption	11.1	11.6	12.2	W = kWh/1000h
Number of modules in series per chain			6	
Number of modules in parallel per chain			1	
Number of modules in parallel			1	

Measurement precision for Vf ± 3%. Measurement precision for power ± 3.3%  
Specifications stated at Tc-nom and I-nom.

## Tuning information

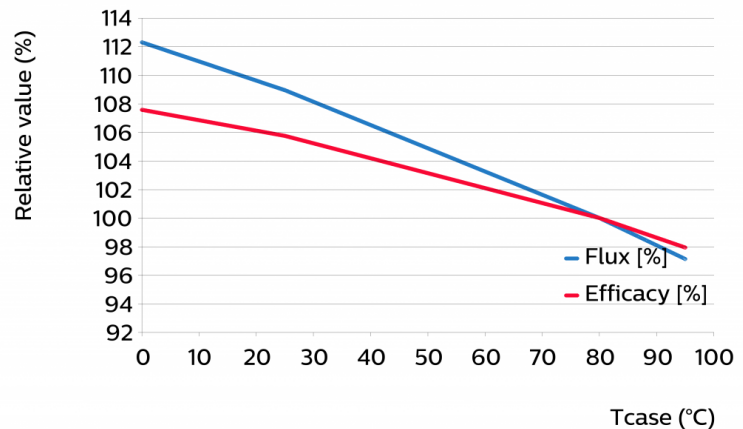
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
1050	183	89
790	143	94
530	100	100
424	81	103
265	52	108



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

Tc [°C]	Flux [%]	Efficacy [%]
95	97	98
80	100	100
25	109	106
0	112	108



## Lumen maintenance

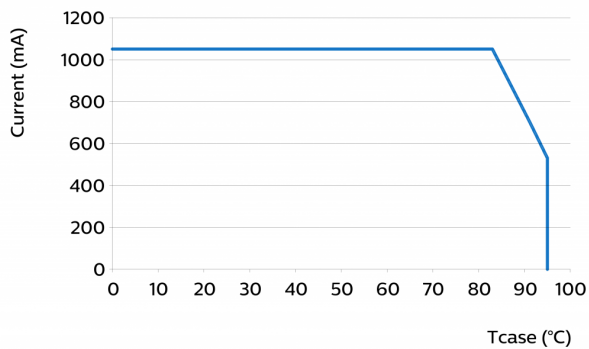
Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
I 530mA	Tc 60°C	>100	>100	>100	>100	>100	>100	>100	>100	>100
	Tc 70°C	>100	>100	>100	>100	>100	>100	>100	>100	100
	Tc 80°C	>100	>100	>100	>100	>100	>100	>100	100	100
I 700 mA	Tc 60°C	>100	>100	>100	>100	>100	>100	>100	120	100
	Tc 70°C	>100	>100	>100	>100	>100	>100	>100	100	100
	Tc 80°C	>100	>100	>100	>100	>100	>100	>100	100	100
I 1050 mA	Tc 60°C	>100	>100	>100	>100	>100	>100	>100	100	100
	Tc 70°C	>100	>100	>100	>100	>100	>100	>100	100	100
	Tc 80°C	>100	>100	>100	>100	>100	>100	100	100	90

## Lifetime

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

Lifetime information is generated by a Philips designed lifetime model. Lumen depreciation based on TM21 calculations with LM80 data.

## Performance Window

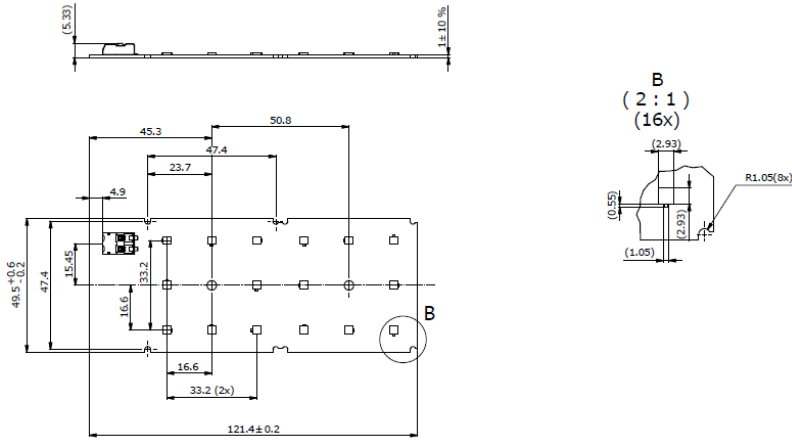


## Wiring

Specification item	Value	Unit	Condition
Input wire cross-section	0.25...0.75	mm <sup>2</sup>	solid wire
Input wire strip length	18...24	AWG	solid wire
Input wire cross-section	7.5...8.5	mm	
Input wire cross-section	0.33...0.5	mm <sup>2</sup>	stranded wire
Input wire strip length	20...22	AWG	stranded 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	50.1	mm
Height PCB	0.9	1	1.1	mm
Height with connector		5.33		mm
Product mass		12		gram



## Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		1050	mA
Case temperature (Tc-max)		95	°C
Power at rated Vf-max and I-max		26.3	W
ESD (direct contact)		8	kV
Working voltage		575	V <sub>dc</sub>
Ambient temperature	-40		°C

## Application information

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### Certificates and Standards

CE  
ENEC  
ENEC+  
UL

### Environmental

RoHS/REACH

### Application

IP rating	No IP-rating
Overheating protection	No
Dimming	Yes



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03/02/2020