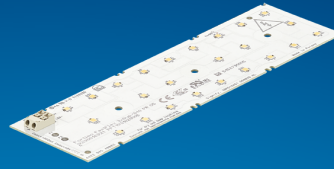


**PHILIPS**

**Fortimo**

**LED**

Fortimo FastFlex LED  
3x8up 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

November 2021



## Ordering data

Commercial product name	EOC	12NC	Box quantity
Fortimo FastFlex LED 3x8up/730 PR G5	8718699 707712 00	9290 016 91606	24
Fortimo FastFlex LED 3x8up/740 PR G5	8718699 707736 00	9290 016 91706	24
Fortimo FastFlex LED 3x8up/757 PR G5	8718699 707750 00	9290 016 91806	24
Fortimo FastFlex LED 3x8up/827 PR G5	8718699 707774 00	9290 016 91906	24
Fortimo FastFlex LED 3x8up/830 PR G5	8718699 707798 00	9290 016 92006	24
Fortimo FastFlex LED 3x8up/840 PR G5	8718699 707811 00	9290 016 92106	24

## Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo FastFlex LED 3x8up PR G5	530	1050	1050	mA

## Module temperatures

Parameter	Nominal*	Life**	Max***	Unit
T <sub>c</sub> (case temperature at T <sub>c</sub> point)	80	95	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)

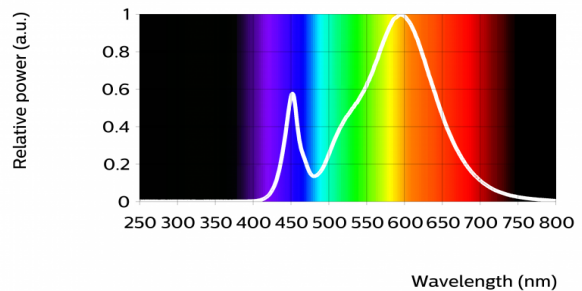
### Fortimo FastFlex LED 3x8up/730 PR G5

Parameter	Min	Typ	Max	Unit
Luminous flux	2678	2975	3272	lm
Module efficacy		170		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.431, 0.401)		-
Color consistency			5	SDCM
CRI	70			
Photometric code		730/349		
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	730	lm	lm/W
80% I-nom 424mA	Tc 25 °C	2634	185
	Tc-nom 80 °C	2422	175
	Tc-max 95 °C	2354	172
I-nom 530mA	Tc 25 °C	3242	180
	Tc-nom 80 °C	2975	170
	Tc-max 95 °C	2889	167
I-max 1050mA	Tc 25 °C	5989	161
	Tc-nom 80 °C	5447	151
	Tc-max 95 °C	5272	147



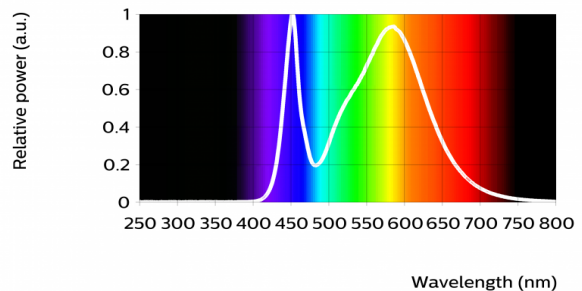
### Fortimo FastFlex LED 3x8up/740 PR G5

Parameter	Min	Typ	Max	Unit
Luminous flux	2835	3150	3465	lm
Module efficacy		181		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.379, 0.377)		-
Color consistency			5	SDCM
CRI	70			
Photometric code		740/349		
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	740	lm	lm/W
80% I-nom 424mA	Tc 25 °C	2788	196
	Tc-nom 80 °C	2564	186
	Tc-max 95 °C	2493	182
I-nom 530mA	Tc 25 °C	3432	191
	Tc-nom 80 °C	3150	181
	Tc-max 95 °C	3060	177
I-max 1050mA	Tc 25 °C	6345	171
	Tc-nom 80 °C	5773	160
	Tc-max 95 °C	5588	156



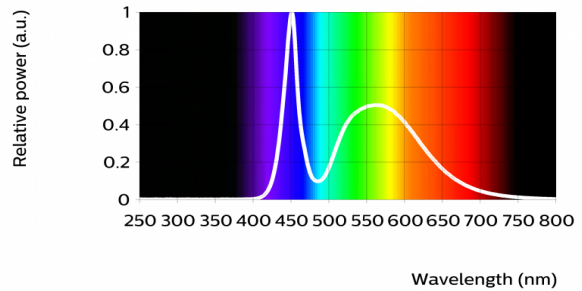
Fortimo FastFlex LED 3x8up/757 PR G5

Parameter	Min	Typ	Max	Unit
Luminous flux	2806	3033	3260	lm
Module efficacy		174		lm/W
Correlated color temperature (CCT)		5700		K
Color coordinates (CIEx, CIEy)		(0.326, 0.339)		-
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
80% I-nom 424mA	Tc 25 °C	2685	189
	Tc-nom 80 °C	2470	179
	Tc-max 95 °C	2400	175
I-nom 530mA	Tc 25 °C	3305	184
	Tc-nom 80 °C	3033	174
	Tc-max 95 °C	2946	170
I-max 1050mA	Tc 25 °C	6107	164
	Tc-nom 80 °C	5555	154
	Tc-max 95 °C	5377	150



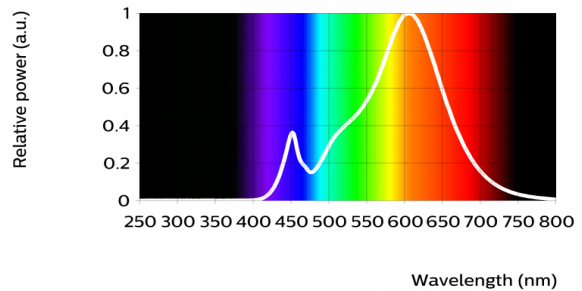
Fortimo FastFlex LED 3x8up/827 PR G5

Parameter	Min	Typ	Max	Unit
Luminous flux	2284	2538	2791	lm
Module efficacy		145		lm/W
Correlated color temperature (CCT)		2700		K
Color coordinates (CIEx, CIEy)		(0.455, 0.408)		-
Color consistency			5	SDCM
CRI	80			
Photometric code		827/349		
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	827	lm	lm/W
80% I-nom 424mA	Tc 25 °C	2249	158
	Tc-nom 80 °C	2067	150
	Tc-max 95 °C	2009	147
I-nom 530mA	Tc 25 °C	2766	154
	Tc-nom 80 °C	2538	145
	Tc-max 95 °C	2464	142
I-max 1050mA	Tc 25 °C	5102	137
	Tc-nom 80 °C	4634	128
	Tc-max 95 °C	4484	125



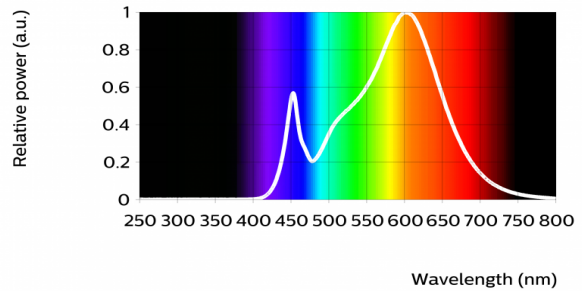
Fortimo FastFlex LED 3x8up/830 PR G5

Parameter	Min	Typ	Max	Unit
Luminous flux	2520	2800	3080	lm
Module efficacy		160		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.431, 0.401)		-
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
80% I-nom 424mA	Tc 25 °C	2480	174
	Tc-nom 80 °C	2280	165
	Tc-max 95 °C	2216	162
I-nom 530mA	Tc 25 °C	3052	170
	Tc-nom 80 °C	2800	160
	Tc-max 95 °C	2719	157
I-max 1050mA	Tc 25 °C	5634	152
	Tc-nom 80 °C	5122	142
	Tc-max 95 °C	4957	138



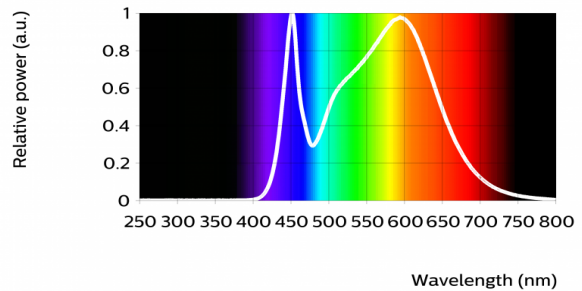
Fortimo FastFlex LED 3x8up/840 PR G5

Parameter	Min	Typ	Max	Unit
Luminous flux	2520	2800	3080	lm
Module efficacy		160		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.379, 0.377)		-
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
80% I-nom 424mA	Tc 25 °C	2480	174
	Tc-nom 80 °C	2280	165
	Tc-max 95 °C	2216	162
I-nom 530mA	Tc 25 °C	3052	170
	Tc-nom 80 °C	2800	160
	Tc-max 95 °C	2719	157
I-max 1050mA	Tc 25 °C	5634	152
	Tc-nom 80 °C	5122	142
	Tc-max 95 °C	4957	138



## Electrical characteristics

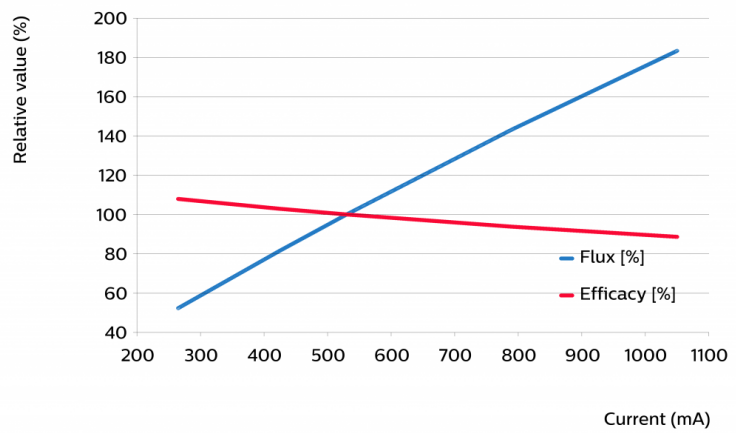
Parameter	Min	Typ	Max	Unit
Forward voltage	31.3	32.9	34.6	V
Power consumption	16.6	17.5	18.3	W = kWh/1000h
Number of modules in series per chain			6	
Number of modules per chain			1	
Number of modules in parallel			1	

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

## Tuning information

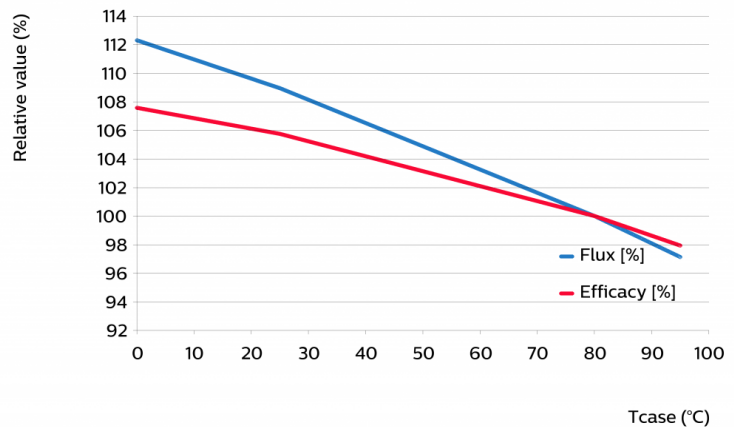
Flux and efficacy versus current (at Tc nominal)

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

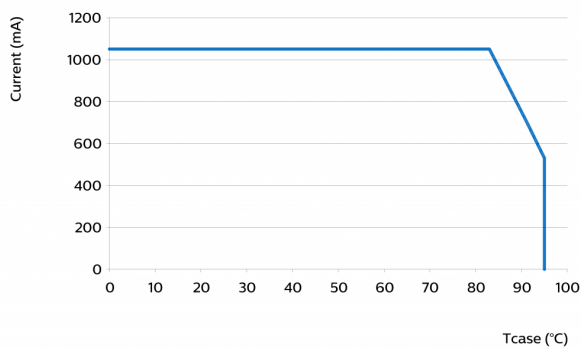
Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
I 530mA	Tc 60°C	>100	>100	>100	>100	>100	>100	>100	>100	>100
	Tc 70°C	>100	>100	>100	>100	>100	>100	>100	>100	100
	Tc 80°C	>100	>100	>100	>100	>100	>100	>100	100	100
I 700 mA	Tc 60°C	>100	>100	>100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

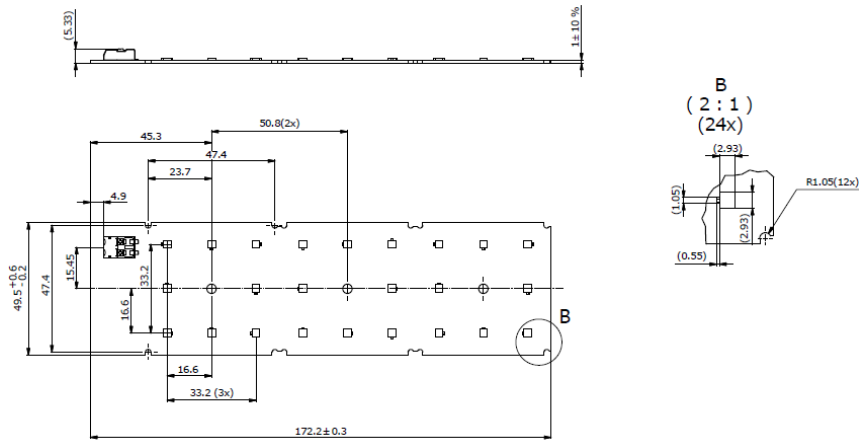


## Wiring

Specification item	Value	Unit	Condition
Input wire cross-section	0.25...0.75	mm <sup>2</sup>	solid wire
	18...24	AWG	solid wire
Input wire strip length	7.5...8.5	mm	
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	

## Mechanical characteristics

Parameter	Min	Typ	Max	Unit
Length	169.9	172.2	172.5	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		18		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		39.4	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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