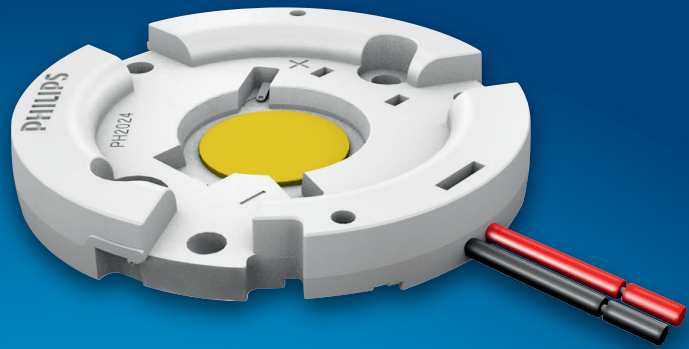


PHILIPS

Fortimo

LED system

SLM Gen4 3000 lm L15



Datasheet

Experience **bright** **and vivid** colors

Fortimo LED SLM 3000 lm L15

The Fortimo LED SLM Gen4 is a next generation solution for spotlight and mini-downlight applications. It is a product in line with the Fortimo brand promise of light quality and a smart system. We provide you with a system proposition ranging from 1100 lm to 4500 lm in preset outputs, with the flexibility to tune as per your needs.



*Measurements showing compliancy to Zhaga book 3 version 1.2 have been done on the 3000 lm L15 module with the standard holder.

October 2014

This module is available in the following options. It is possible to combine these with any of the drivers as described in the design-in guide available at www.Philips.com/Technology. The nominal operating current for this module has been selected as 750 mA. Apart from this value, the module can be operated at different currents. A list of possible Rsets is provided below. More information about such tuning can be found further on in the document.

Commercial product name	EOC	12NC
Standard with pre-tinned cables (60 cm)		
Fortimo LED SLM 3000lm 830 L15 G4	8718291 78335000	9290 009 02306
Fortimo LED SLM 3000lm 840 L15 G4	8718291 78337400	9290 009 02406
Fortimo LED SLM 3000lm 927 L15 G4	8718291 78339800	9290 009 02506
Fortimo LED SLM 3000lm 930 L15 G4	8718291 78341100	9290 009 02606
Down light versions with tin-dipped sleeved cable (60 cm)		
Fortimo LED SLM 3000lm 830 DLL15 G4	8718291 79953500	9290 009 12306
Fortimo LED SLM 3000lm 840 DL L15 G4	8718291 79955900	9290 009 12406
Fortimo LED SLM 3000lm 927 DL L15 G4	8718696 41711900	9290 009 28606
Fortimo LED SLM 3000lm 930 DL L15 G4	8718696 41768300	9290 009 30406
Fortimo LED SLM 3000lm 830 DL PW L15 G4	8718696 41744700	9290 009 29406
Fortimo LED SLM 3000lm 930 DL PW L15 G4	8718696 41754600	9290 009 29706
Poke-in (PI) version with no pre-connected wires		
Fortimo LED SLM 3000 Lm 830 PI L15 G4	8718696 43202000	9290 009 36106
Fortimo LED SLM 3000 Lm 840 PI L15 G4	8718696 43204400	9290 009 36206
Fortimo LED SLM 3000 Lm 927 PI L15 G4	8718696 43206800	9290 009 36306
Fortimo LED SLM 3000 Lm 930 PI L15 G4	8718696 43208200	9290 009 36406
Premium White (below BBL)		
Fortimo LED SLM 3000lm 830 PW L15 G4	8718291 79937500	9290 009 11606
Fortimo LED SLM 3000lm 930 PW L15 G4	8718696 41738600	9290 009 29106
Fortimo LED SLM 3000lm 830 PI PW L15 G4	8718696 43220400	9290 009 37006
Fortimo LED SLM 3000lm 930 PI PW L15 G4	8718696 43230300	9290 009 37306

Associated Rsets

Commercial product name	EOC	12NC	Value (Ω)	Type
Fortimo LED Rset 300mA	8718696 40193400	9290 009 12506	560	Poke-in
Fortimo LED Rset 300mAConnector	8718696 40195800	9290 009 12606	560	JST
Fortimo LED Rset 500mA	8718696 40199600	9290 009 12706	1200	Poke-in
Fortimo LED Rset 500mAConnector	8718696 40201600	9290 009 12806	1200	JST
Fortimo LED Rset 750mA	8718696 40203000	9290 009 12906	2050	Poke-in
Fortimo LED Rset 750mAConnector	8718696 40205400	9290 009 13006	2050	JST
Fortimo LED Rset 950mA	8718696 40207800	9290 009 13106	3090	Poke-in
Fortimo LED Rset 950mAConnector	8718696 40209200	9290 009 13206	3090	JST
Fortimo LED Rset 1200mA	8718696 40211500	9290 009 13306	4870	Poke-in
Fortimo LED Rset 1200mAConnector	8718696 40213900	9290 009 13406	4870	JST

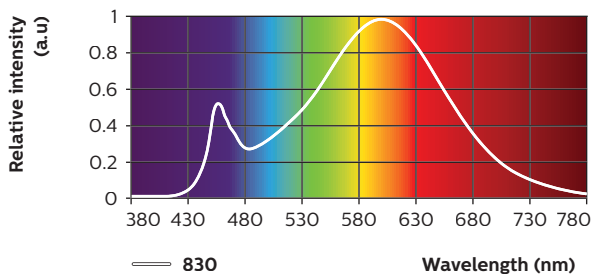
Optical characteristics - table per CCT

Fortimo LED SLM 3000 lm L15 830

Parameter	Min	Typ	Max	Unit
Luminous Flux	2670	2970	3270	lm
Module Efficiency		114		lm/W
Correlated Colour Temperature		3000		K
Colour Coordinates		(0.434, 0.403)		-
Colour Coordinates Premium White		(0.430, 0.395)		-
Colour Consistency		3		SDCM
CRI		>80		-
Radiation Angle		115		deg
Thermal Power			17.9	W
Energy efficiency label		A+		-

Note: Specifications stated at Tc nom = 85 °C and I nom = 750 mA

Ri	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
82	80	92	95	76	79	89	83	60	12	81	72	68	83	98	74

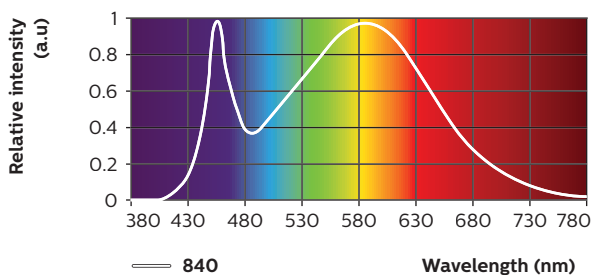


Fortimo LED SLM 3000 lm L15 840

Parameter	Min	Typ	Max	Unit
Luminous Flux	2850	3170	3490	lm
Module Efficiency		122		lm/W
Correlated Colour Temperature		4000		K
Colour Coordinates		(0.382, 0.380)		-
Colour Consistency		3		SDCM
CRI		>80		-
Radiation Angle		115		deg
Thermal Power			17.3	W
Energy efficiency label		A+		-

Note: Specifications stated at Tc nom = 85 °C and I nom = 750 mA

Ri	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
81	79	90	96	76	78	84	85	63	7	74	72	58	82	98	73

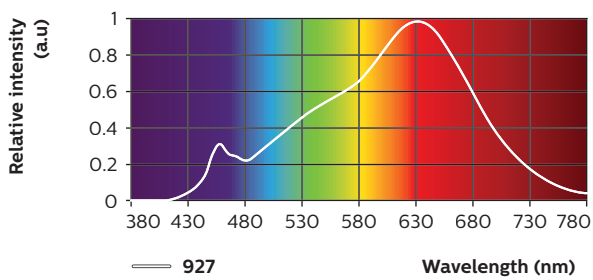


Fortimo LED SLM 3000 lm L15 927

Parameter	Min	Typ	Max	Unit
Luminous Flux	2080	2320	2560	lm
Module Efficiency		89		lm/W
Correlated Colour Temperature		2700		K
Colour Coordinates		(0.458, 0.410)		-
Colour Consistency		3		SDCM
CRI		>90		-
Radiation Angle		115		deg
Thermal Power			18.7	W
Energy efficiency label		A		-

Note: Specifications stated at Tc nom = 85 °C and I nom = 750 mA

Ri	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
97	99	100	98	98	98	98	95	91	81	97	100	88	99	98	96

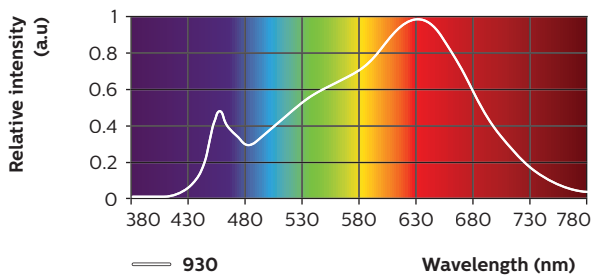


Fortimo LED SLM 3000 lm L15 930

Parameter	Min	Typ	Max	Unit
Luminous Flux	2160	2400	2640	lm
Module Efficiency		92		lm/W
Correlated Colour Temperature		3000		K
Colour Coordinates		(0.434, 0.403)		-
Colour Coordinates Premium White		(0.430, 0.395)		-
Colour Consistency		3		SDCM
CRI		>90		-
Radiation Angle		115		deg
Thermal Power			19.9	W
Energy efficiency label		A		-

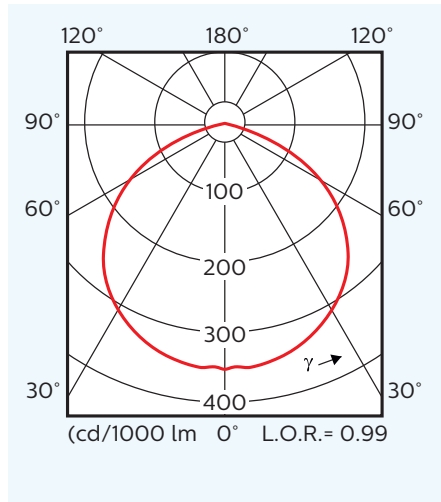
Note: Specifications stated at Tc nom = 85 °C and I nom = 750 mA

Ri	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
97	99	100	99	97	98	97	95	93	85	99	98	84	100	98	97



Beam shape

The Philips Fortimo LED SLM generates a Lambertian beam shape, which is a pragmatic starting point for OEMs wishing to design secondary optics.



Electrical characteristics

Parameter	Typ	Unit
Nominal current	750	mA
Forward voltage	34.7	V
Power consumption	26	W

Note: Specifications stated at $T_c \text{ nom} = 85^\circ\text{C}$ and $I \text{ nom} = 750 \text{ mA}$

Lifetime

Parameter	Min	Typ	Max	Unit
Lumen maintenance B50L70	50,000			hrs
$\Delta u'v'$ at 6,000 hours			0.0011	-
Critical failures (10%)	50,000			hrs

Note: Specifications stated at $T_c \text{ nom} = 85^\circ\text{C}$ and $I \text{ nom} = 750 \text{ mA}$

Parameter	Nominal *	Max**
T_c [$^\circ\text{C}$]	85	95
Current [mA]	750	1400

* Nominal value at which performance is specified.

** Maximum value for safety (warranty may not hold in this case)

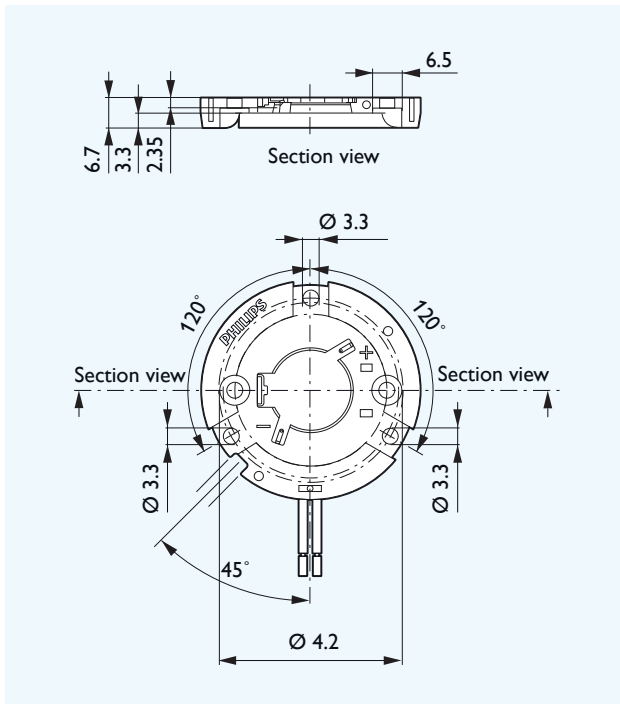
Note: $T_c \text{ life} \leq 85^\circ\text{C}$ (measured at 25°C ambient temperature)

Abs max ratings

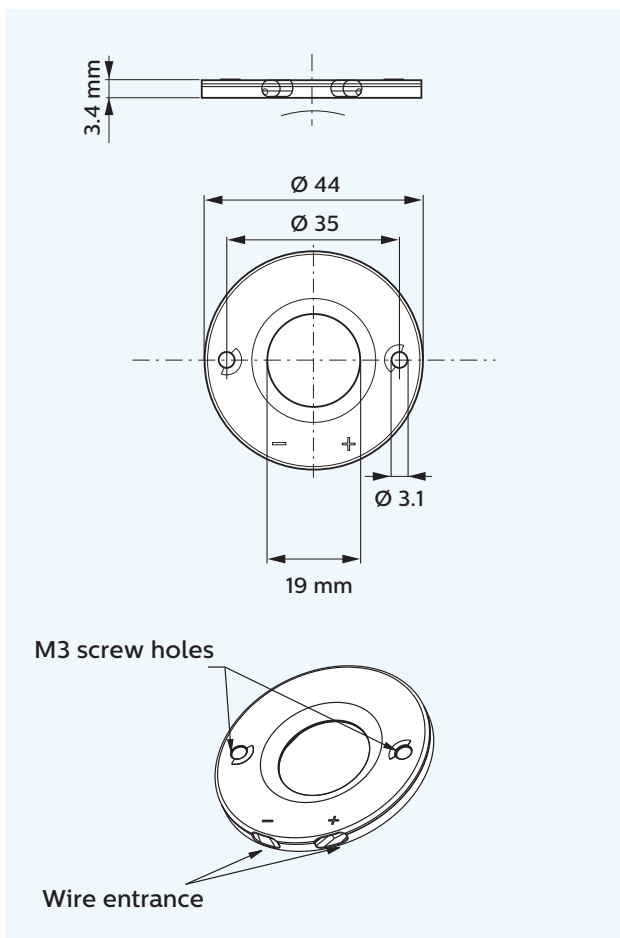
Parameter	Min	Typ	Max	Unit
Current I_{max}			1400	mA
Case temperature $T_c \text{ max}$			95	$^\circ\text{C}$
ESD Human Body Model (HBM) Class 3A JESD22-A114-E			8	kV
ESD Machine Model (MM) Class B JESD22-A115-B			400	kV
Operating ambient temperature	-20		40	$^\circ\text{C}$
Storage temperature	-40		80	$^\circ\text{C}$

Mechanical characteristics

Standard version



Poke-in version



Application information

Compliance and approval

IEC / EN 62031, IEC / EN 62471

Environmental

RoHS / REACH

Application information

Zhaga*	3000 lm L15 830	3000 lm L15 840	3000 lm L15 927	3000 lm L15 930
Luminous Flux Category	C030	C030	C030	C030
LES diameter [mm]	15	15	15	15
LES category	LES15	LES15	LES15	LES15
Rotational Symmetry S	0.9	0.9	0.9	0.9
Uniformity Parameter U	100%	100%	100%	100%
Correlated Color temperature [K]	3000	4000	2700	3000
Color rendering index	>80	>80	>90	>90

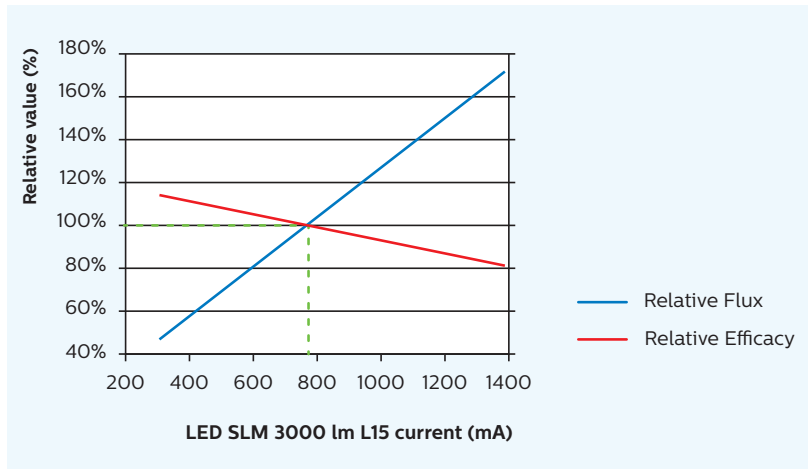
Note: Measurements showing compliancy to Zhaga book 3 version 1.2 have been done on the 3000 lm L15 module with the standard holder.

IP rating	No IP rating
Overheating protection	No protection

Tuning information

Flux and efficacy versus current (at nominal temperature)

3000 lm L15



I [A]	Flux (lm)	Efficacy (lm/W)
300	43.1%	115.8%
387	55.1%	112.3%
436	61.3%	111.4%
485	67.8%	108.8%
500	70.0%	108.8%
536	74.3%	107.0%
669	90.3%	102.6%
750	100.0%	100.0%
853	111.9%	97.4%
916	118.6%	95.6%
950	122.5%	93.9%
968	123.5%	93.9%
1009	129.1%	93.0%
1200	148.6%	87.7%
1400	169.3%	83.3%

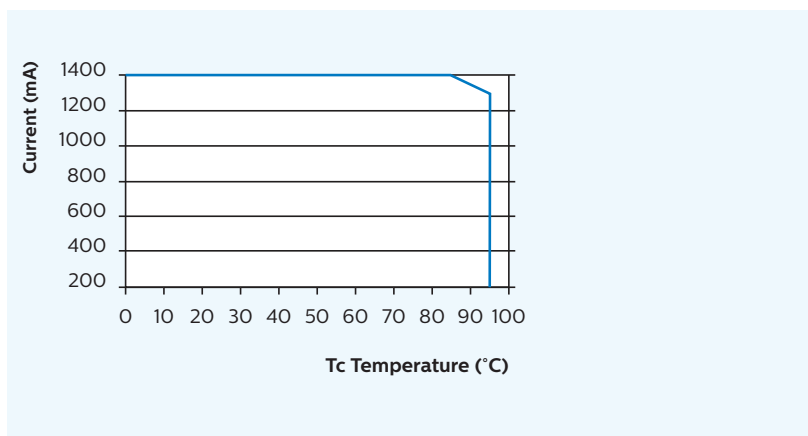
The highlighted current values are available as Rsets as a part of the system.

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

Tc (°C)	Flux (lm)	Efficacy (lm/W)
65	104.1%	103.5%
75	102.1%	101.7%
85	100.0%	100.0%

Please ensure if after tuning, your operating point is still covered by warranty or not.

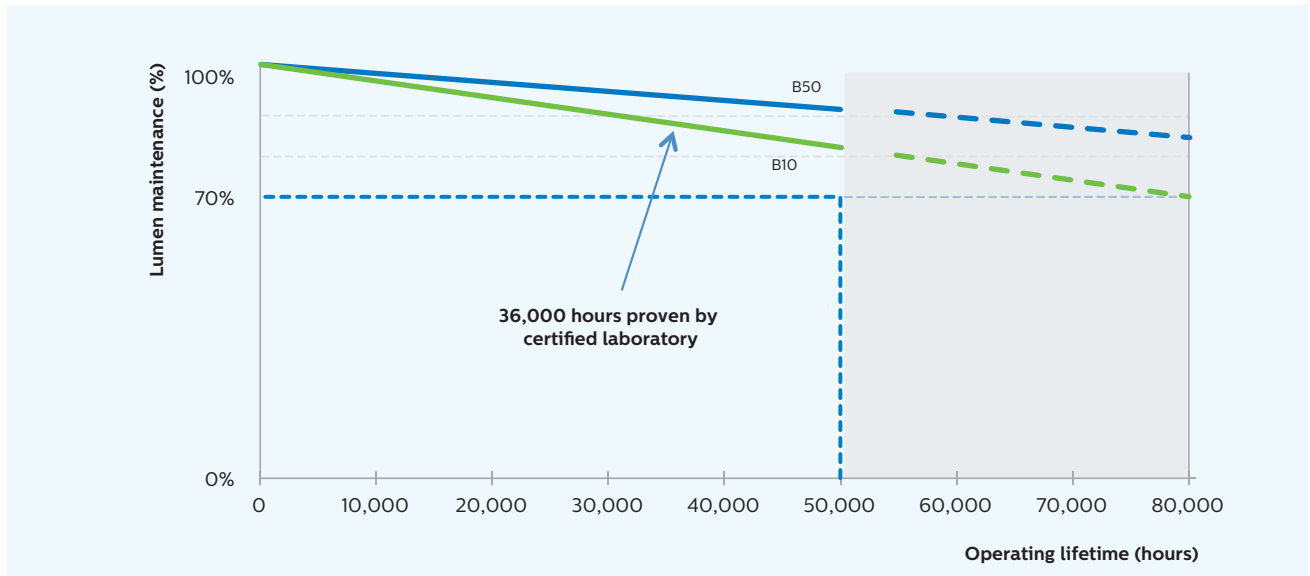
Warranty Window 3000 lm L15



Lumen maintenance

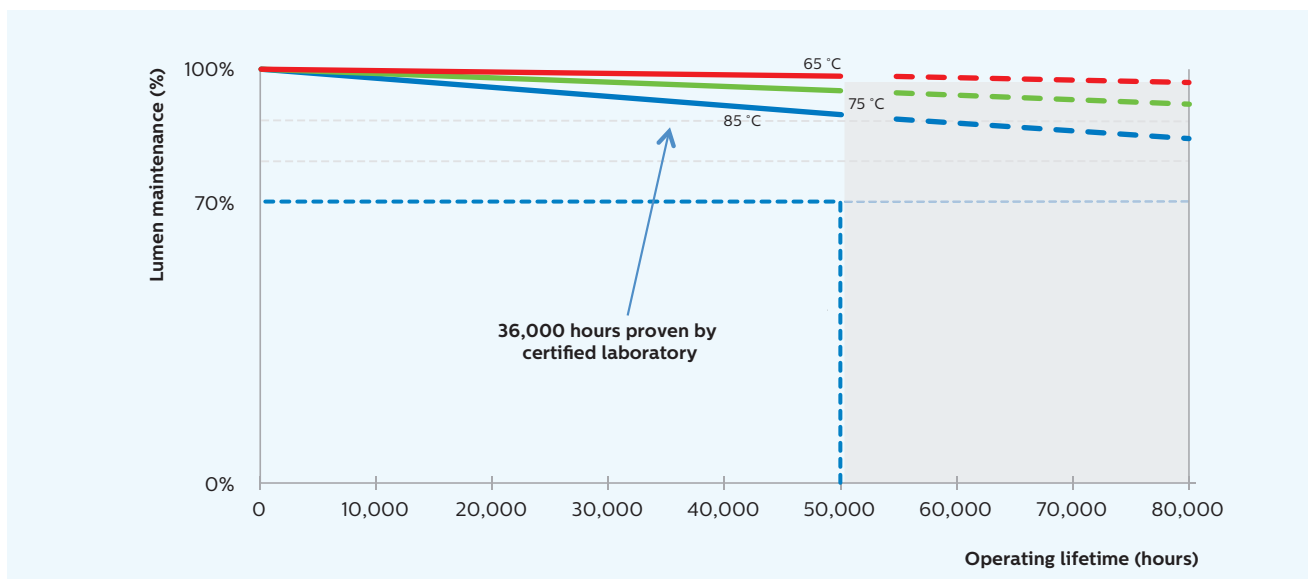
Lumen maintenance: at nominal conditions

Fortimo LED SLM 3000 lm L15



Lumen maintenance (B50): at nominal current

Fortimo LED SLM 3000 lm L15





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