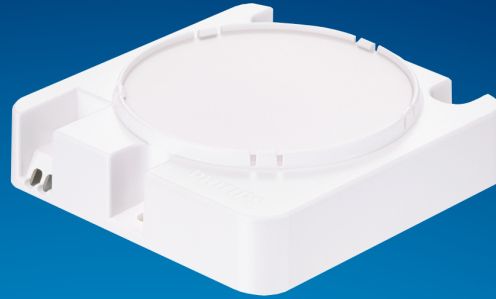


PHILIPS

Fortimo

LED

Fortimo LED DLM ES
2000 lm G2



Datasheet

State of the art integration for downlight solutions

Fortimo DLM ES 2000 lm Gen2

Fortimo DLM EaseSelect is a high performance driver on board (DoB) solution, delivering an excellent quality of light with low flicker. Having an integrated driver and the same mechanical footprint as existing DLM solutions (DLM Flex), enables easy and hassle free design-in. The Fortimo brand promise brings with it the assurance of quality, reliability and performance.

Key features and benefits

- No visible flicker (less than 4%)
- Ease of design - in
- High system efficacy of up to 120 lm/W
- Long life-time: 50,000 hours
- Excellent color consistency of 3 SDCM
- Full portfolio with all typical downlight lumen packages and CCTs
- Suitable for emergency lighting luminaires
- 5 years system warranty

June 2017

Ordering data

Commercial product name	EOC	12NC	Box quantity
Fortimo DLM ES 2000/830 G2	6947939 136278 00	9290 014 35706	40
Fortimo DLM ES 2000/840 G2	6947939 136292 00	9290 014 35806	40

Module temperatures

Parameter	Nominal*	Life**	Max***	Unit
T _c (case temperature at T _c point)	70	75	85	°C

* Nominal value at which typical performance is specified

** Value at which life time is specified

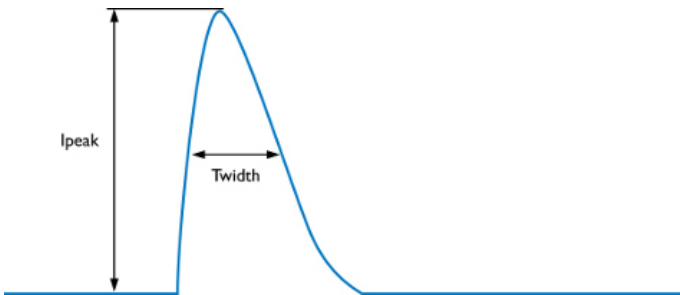
*** Maximum value for safe operation, do not operate above this value

Electrical input data

Specification item	Value	Unit	Condition
Rated input voltage	220...240	Vac	Performance range
Rated input frequency	50...60	Hz	Performance range
Input voltage	230	Vac	
Rated input power	17.5	W	@ full power @ rated input voltage
Power factor	> 0.9		@ full power @ rated input voltage
Total harmonic distortion	< 30	%	@ full power @ rated input voltage
Rated input voltage DC	220...240	Vdc	Performance range

Inrush current

Specification item	Value	Unit	Condition
Inrush current I_{peak}	3.01	A	Input voltage 230V
Inrush current T_{width}	32.63	μ s	Input voltage 230V, measured at 50% I_{peak}
Drivers / MCB 16A type B	130	pcs	



MCB	Rating	Relative number of LED modules
B	10A	63%
B	13A	81%
B	16A	100% (stated in datasheet)
B	20A	125%
B	25A	156%
C	10A	104%
C	13A	135%
C	16A	170%
C	20A	208%
C	25A	260%

Optical characteristics - table per color (CCT)

Fortimo DLM ES 2000/830 G2

Parameter	Min	Typ	Max	Unit
Luminous flux	1760	1950	2340	lm
Flicker			4	%
Module efficacy		111		lm/W
Correlated color temperature (CCT)		3000		K
Color consistency			3	SDCM
CRI	80			
Radiation angle		90		deg
Photobiological safety			exempt	

Emergency output factor of flux (EOF_{flux}) = 0.95

Measurement precision for flux +/- 5%. Measurement precision for CRI 1.5

Fortimo DLM ES 2000/840 G2

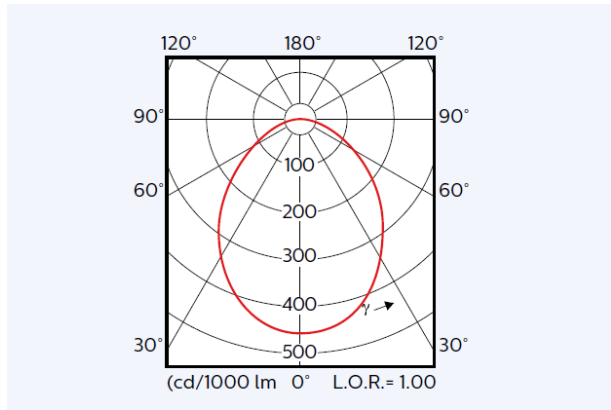
Parameter	Min	Typ	Max	Unit
Luminous flux	1850	2050	2460	lm
Flicker			4	%
Module efficacy		118		lm/W
Correlated color temperature (CCT)		4000		K
Color consistency			3	SDCM
CRI	80			
Radiation angle		90		deg
Photobiological safety			exempt	

Emergency output factor of flux (EOF_{flux}) = 0.95

Measurement precision for flux +/- 5%. Measurement precision for CRI 1.5

Beam shape

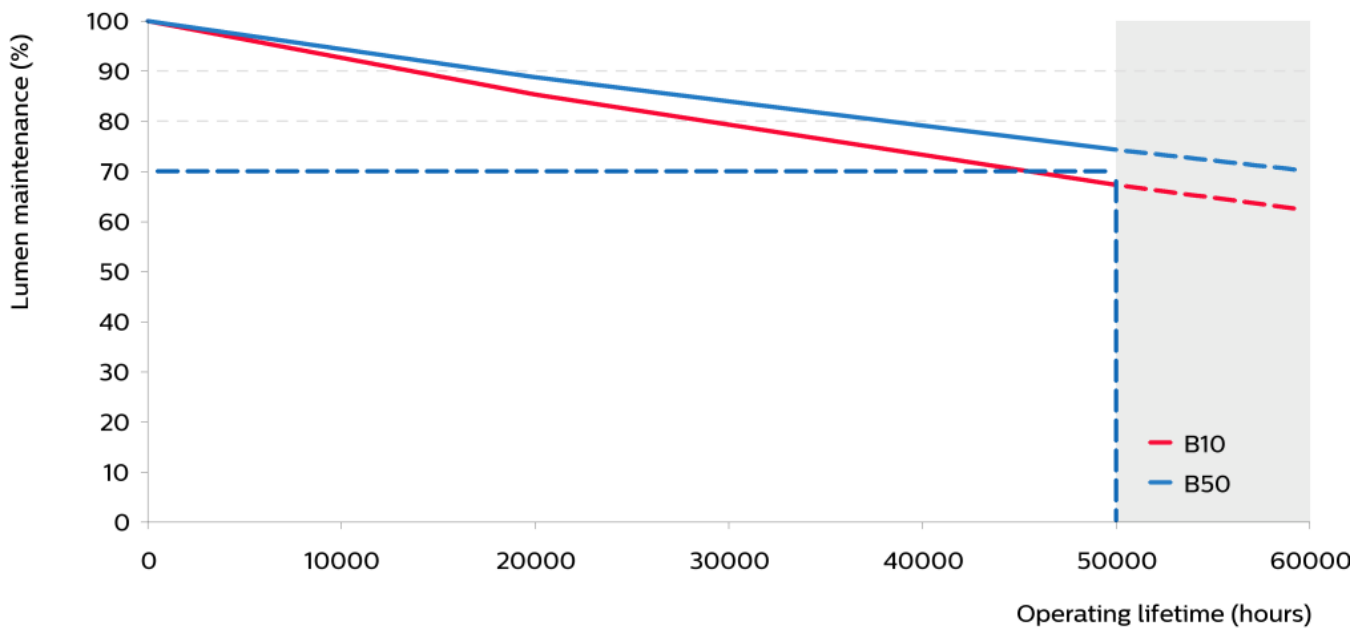
The Philips LED module generates a near Lambertian beam shape, which is a pragmatic starting point for OEMs wishing to design secondary optics.



Electrical characteristics

Lumen maintenance graphs

Lumen maintenance at I-life and Tc-life conditions



Lumen maintenance for B50 at current I-life conditions

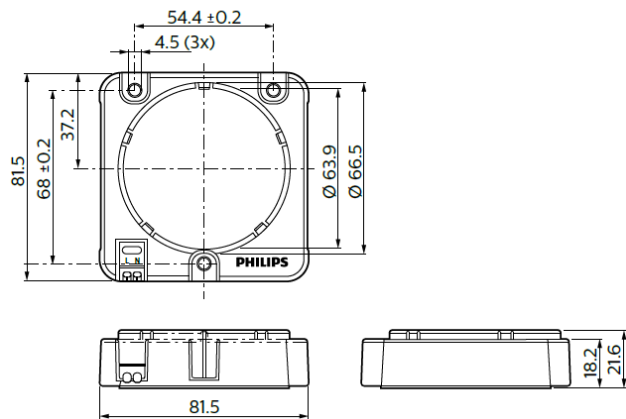
Wiring

Specification item	Value	Unit	Condition
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

Fortimo DLM ES 2000/830 G2
Fortimo DLM ES 2000/840 G2

Parameter	Min	Typ	Max	Unit
Length		81.5		mm
Width		81.5		mm
Height Total		21.6		mm
Height without rim		18.2		mm



Absolute ratings

Parameter	Min	Typ	Max	Unit
Case temperature (T _c -max)			85	°C
Ambient temperature	-20		35	°C
Storage temperature	-40		65	°C

Application information

Certificates and Standards

IEC/EN 62031
EN 55015
IEC/EN 61000-3-3
IEC/EN 61547
IEC 62384
CE
ENEC
IEC 60598-2-22
IEC/EN 61000-3-2

Environmental

RoHS/REACH

Application

IP rating	IP20
Overheating protection	No
Luminaire class	IEC Class I and Class II
Dimming	No



© 2017 Philips Lighting Holding B.V. All rights reserved.

This document contains information relating to the Philips Lighting portfolio, intended for companies who may be interested in developing their product offering. Note that the information provided is subject to change. Philips Lighting does not give any representation or warranty as to the accuracy or completeness of the information included herein and shall not be liable for any action in reliance thereon. The information presented in this document is not intended as any commercial offer and does not form part of any quotation or contract.

www.philips.com/technology

06/2017