

PHILIPS

Fortimo

LED system

SLM EaseSelect
2000 lm Gen1



Datasheet

Maximum miniaturization without compromising on quality of light

Fortimo SLM ES

For retail spot lighting, quality of light is key! Fortimo LED SLM EaseSelect offers a compact LED solution with the driver integrated in the heatsink. This results in a high performance and reliable LED module enabling new luminaire designs without driver box and without any compromise on quality of light.

Key features and benefits

- Easy design-in with a single form factor for your complete portfolio
- Outstanding performance from optimized CoB/driver combinations
- An integrated solution with flicker-free performance
- Excellent quality of light with Philips Premium White
- Efficacy up to 117 lm/W
- Long lifetime of 50,000 hours and five-year warranty
- A full portfolio for your quality spotlight luminaires

This product is available in the following options.

Ordering data

Commercial product name	12NC	EOC
Fortimo SLM ES 2000lm 830 PW L13 Gen1	9290 015 00880	6947939 170463 00
Fortimo SLM ES 2000lm 930 PW L13 Gen1	9290 015 01080	6947939 170500 00
Fortimo SLM ES 2000lm 840 L13 Gen1	9290 015 00980	6947939 170487 00

Drive currents and case temperatures

Parameter	Nominal*	Life**	Max***	Unit
Tc (case temperature at Tc point)	69	85	85	°C

* Nominal value at which typical performance is specified.

** Value at which lifetime is specified.

*** Maximum value for safe operation; do not operate above this value.

Electrical characteristics

Parameter	Min	Typ	Max	Unit
Input voltage for operation	198	230	264	Vac
Input Voltage for performance	220	230	240	Vac
Nominal Input Frequency	47	50-60	63	Hz
Power @230V AC 50 Hz 2000 lm 830 PW		21.5		W
Power @230V AC 50 Hz 2000 lm 930 PW		21.5		W
Power @230V AC 50 Hz 2000 lm 840		18.6		W
Power Factor @ 230V AC 50 Hz	0.9			-
THD @ 220-240V			15	%
Dimming		None		-

Specifications stated at Tc-nom and preset I.

Absolute maximum ratings

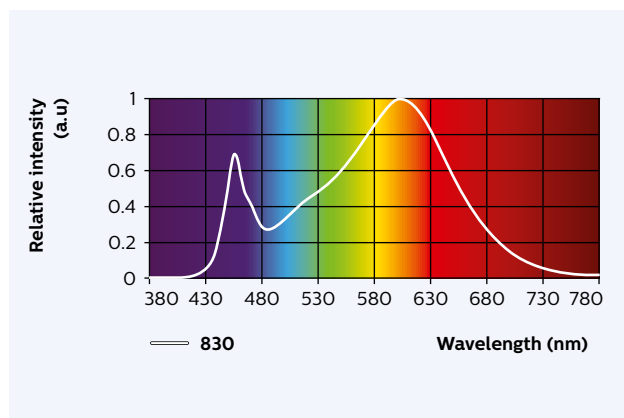
Parameter	Min	Typ	Max	Unit
Ambient temperature	-20	25	35	°C
Ambient Relative Humidity (non-condensing)	0		90	%
Storage temperature	-40		65	°C
Storage Relative Humidity (non-condensing)	5		95	%

Optical characteristics – table per color (CCT)

Fortimo SLM ES 2000 lm 830 PW L13 Gen1

Parameter	Min	Typ	Max	Unit
Luminous Flux		2150		lm
Efficacy		100		lm/W
Correlated color temperature (CCT) range		3000		K
Color Coordinates		0.422, 0.386		CIE _x , CIE _y
CRI	80			-
Energy Efficiency Label		A+		-
Radiation Angle		115		deg

Color consistency of 3 SDCM, averaged over the module.
Tolerance for flux data is -10% – +20%.

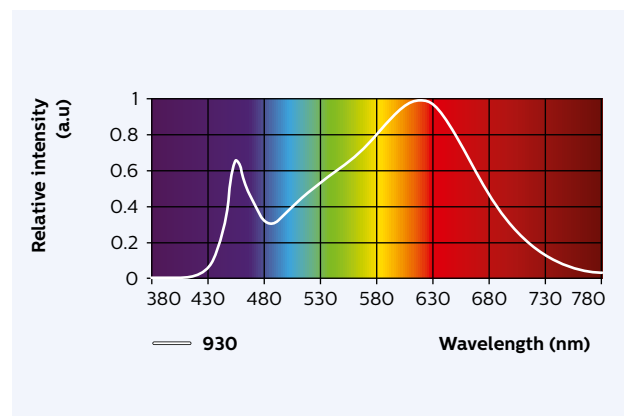


Ri	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
83	84	96	92	80	85	93	80	60	14	89	79	76	87	96

Fortimo SLM ES 2000 lm 930 PW L13 Gen1

Parameter	Min	Typ	Max	Unit
Luminous Flux		1880		lm
Efficacy		87		lm/W
Correlated color temperature (CCT) range		3000		K
Color Coordinates		0.422, 0.386		CIE _x , CIE _y
CRI	90			-
Energy Efficiency Label		A+		-
Radiation Angle		115		deg

Color consistency of 3 SDCM, averaged over the module.
Tolerance for flux data is -10% – +20%.

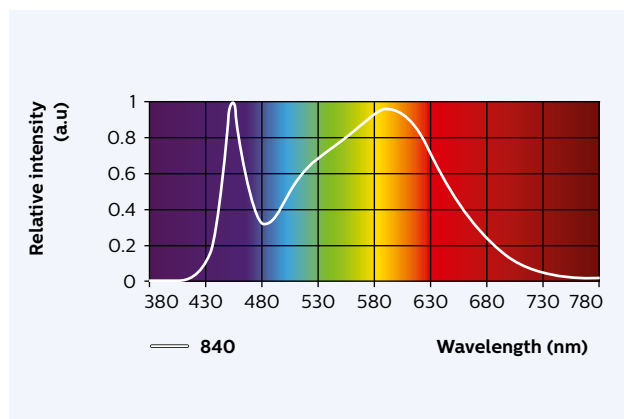


Ri	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
92	95	99	96	91	94	95	89	81	61	97	98	81	97	99

Fortimo SLM ES 2000 lm 840 L13 Gen1

Parameter	Min	Typ	Max	Unit
Luminous Flux		2150		lm
Efficacy		116		lm/W
Correlated color temperature (CCT) range		4000		K
CRI	80			-
Energy Efficiency Label		A++		-
Radiation Angle		115		deg

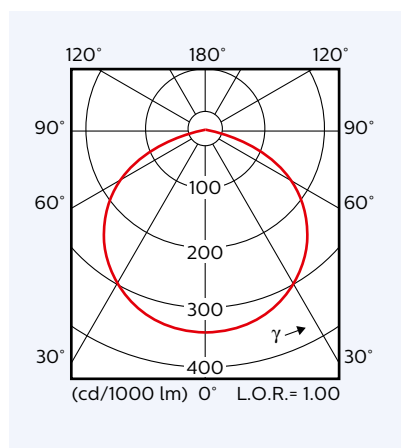
Color consistency of 3 SDCM, averaged over the module.
Tolerance for flux data is $\pm 10\%$ - $+20\%$.



Ri	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
82	80	89	96	79	80	85	86	63	5	74	77	58	82	98

Beam shape

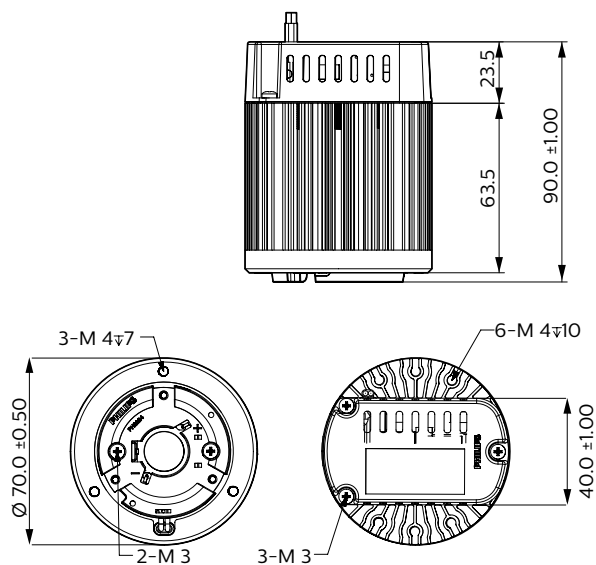
The Philips LED module generates a Lambertian beam shape, which is a pragmatic starting point for OEMs wishing to design secondary optics.



Lifetime

Lumen depreciation in operating hours	L70B50 @ 50 Khrs @ Tc life=85 °C
Life time C10	50 khrs @ Tc life= 85 °C
Average operating time per year for warranty	4000 hours
Average number of on/off switching cycles over life time for warranty	3 cycles/day

Mechanical Characteristics



Wiring

Specification item	Value	Unit
Strain Relief	in module	

Application information

Compliance and approval

Approval marks: CE/ENEC

IEC/EN 62031:2008, IEC/EN 62471: 2008, EN 55015:2013, EN 61000-3-2:2006 +A1:2009 + A2:2009, EN 61000-3-3:2013, EN 61547:2009

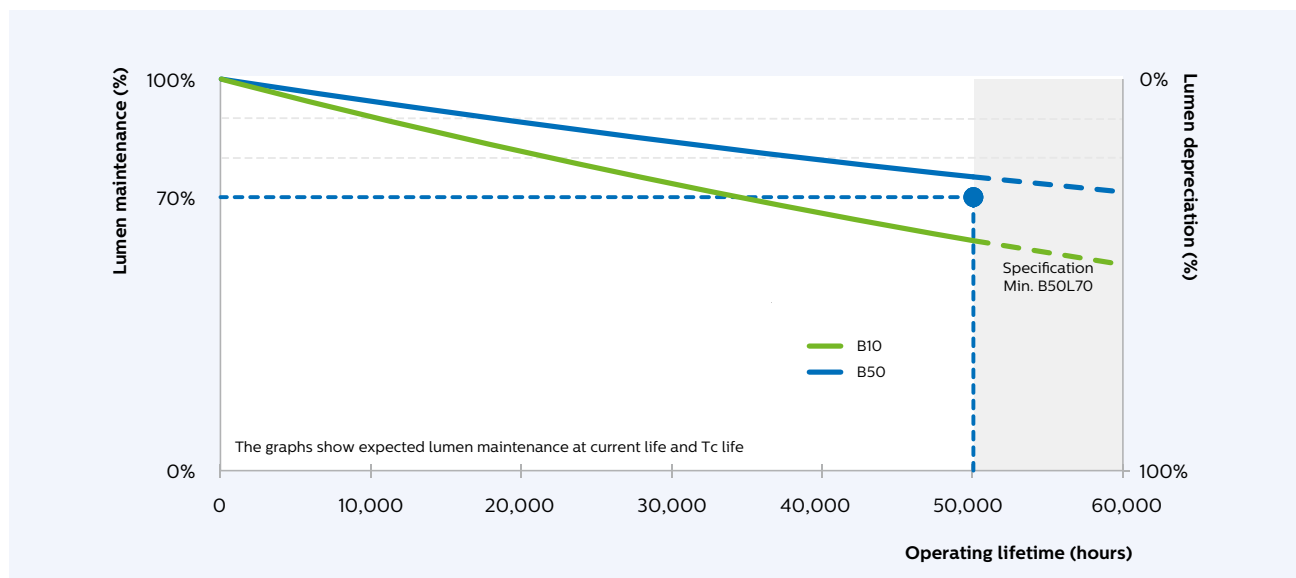
Environmental

ROHS, REACH

IP Rating	20 for Tc < 85 °C
Overheating protection	No Protection

Lumen maintenance

Lumen maintenance at Tc life



Lumen maintenance B50

