

PHILIPS

Fortimo

LED

Fortimo LED-R 1ft MF 9xx
FC HV5



Datasheet

Fortimo LED-R 1ft MF 9xx FC HV5

The Fortimo LED-R LED modules are designed together with the BJB OptiLine Louvres. These modules and optics are perfectly fitted for each other which leads to a high performance on both efficiency and uniformity. Besides that, installation in a fixture is extremely easy due to the one-click-system which allows installation without screwing. The range of modules is very complete and offers a solution for many different applications and includes regular CRI80, CRI90 High Efficiency, FlexTune and BioUp CED.

Key features and benefits

- High typical module efficacy
- Long life time: >50,000 hours
- Excellent color consistency of 3 SDCM
- Available in 2700K, 3000K and 4000K
- 1ft and 2ft lengths
- Good light quality: CRI90, R9 >50
- Extremely easy to install in combination with BJB OptiLine Louvres
- Available in High Voltage (HV) and Low Voltage (LV)
- Five year system warranty when paired with Xitanium drivers

May 2022



Ordering data

Commercial product name	EOC	12NC	EPREL registration #	Box quantity
Fortimo LED-R 1ft MF 927 FC HV5	8719514 447493 00	9290 034 04006	1227070	110
Fortimo LED-R 1ft MF 930 FC HV5	8719514 447516 00	9290 034 04106	1227085	110
Fortimo LED-R 1ft MF 940 FC HV5	8719514 447530 00	9290 034 04206	1227084	110

These LED-modules are designed to be used with BJB LED OptiLine Louvre Optcs.
Contact your Signify sales representative or BJB for more info.

9290 029 36906 Medium beam lens 1ft (35.306.1001.85)

9290 029 37006 Wide beam lens 1ft (35.306.1002.85)

9290 029 37406 black raster 1ft (35.306.2001.80)

9290 029 37306 white raster 1ft (35.306.2001.50)

9290 029 36806 black raster 2ft (35.312.2001.80)

9290 029 36706 white raster 2ft (35.312.2001.50)

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo LED-R 1ft MF 9xx FC HV5	294	450	600	mA

Module temperatures

Parameter	Nominal*	Life**	Max***	Unit
T _c (case temperature at T _c point)	45	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

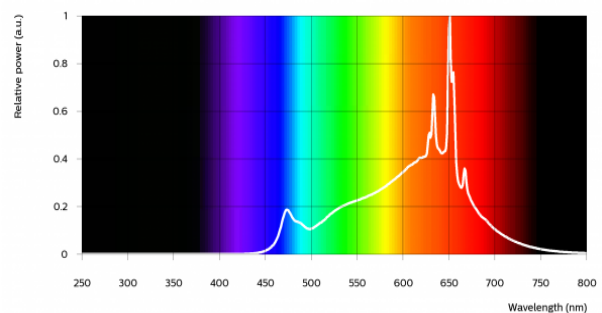
Optical characteristics - table per color (CCT)

Fortimo LED-R 1ft MF 927 FC HV5

Parameter	Min	Typ	Max	Unit
Luminous flux	970	995	1070	lm
Efficacy	145	150	167	lm/W
Correlated color temperature (CCT)		2700		K
Color coordinates (CIEx, CIEy)		(0.458, 0.408)		-
Color consistency			3	SDCM
CRI	90			
R9	50			
Photometric code		927/339		
Photobiological safety			RG1 unlimited	

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

Operation point	927	lm	lm/W
80% I-nom 235mA	Tc 25 °C	823	156
	Tc-nom 45 °C	804	154
	Tc-max 85 °C	756	147
I-nom 294mA	Tc 25 °C	1019	153
	Tc-nom 45 °C	995	150
	Tc-max 85 °C	935	143
I-max 600mA	Tc 25 °C	1985	138
	Tc-nom 45 °C	1937	136
	Tc-max 85 °C	1818	129

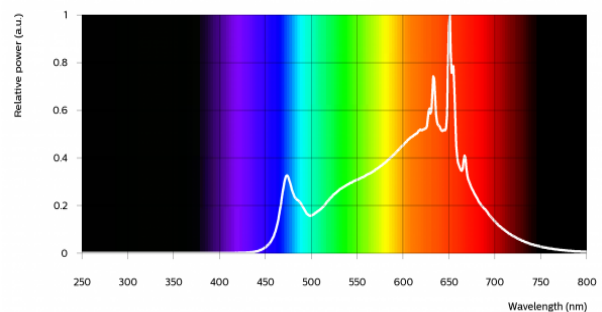


Fortimo LED-R 1ft MF 930 FC HV5

Parameter	Min	Typ	Max	Unit
Luminous flux	1000	1030	1110	lm
Efficacy	150	156	173	lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.435, 0.400)		-
Color consistency			3	SDCM
CRI	90			
R9	50			
Photometric code		930/339		
Photobiological safety			RG1 unlimited	

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

Operation point	930	lm	lm/W
80% I-nom 235mA	Tc 25 °C	852	162
	Tc-nom 45 °C	832	159
	Tc-max 85 °C	783	152
I-nom 294mA	Tc 25 °C	1055	158
	Tc-nom 45 °C	1030	156
	Tc-max 85 °C	968	148
I-max 600mA	Tc 25 °C	2055	143
	Tc-nom 45 °C	2005	141
	Tc-max 85 °C	1882	134

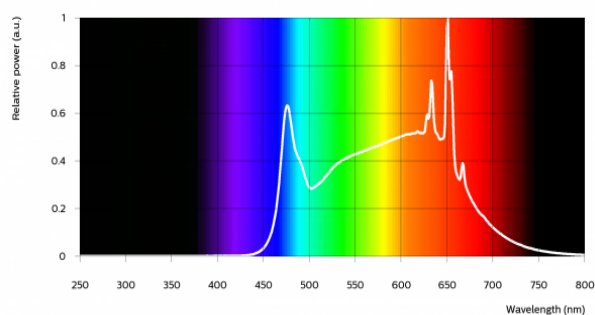


Fortimo LED-R 1ft MF 940 FC HV5

Parameter	Min	Typ	Max	Unit
Luminous flux	1070	1100	1190	lm
Efficacy	160	166	185	lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIE _x , CIE _y)		(0.381, 0.380)		-
Color consistency			3	SDCM
CRI	90			
R9	50			
Photometric code		940/339		
Photobiological safety			RG1 unlimited	

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

Operation point	940	lm	lm/W
80% I-nom 235mA	Tc 25 °C	910	173
	Tc-nom 45 °C	889	170
	Tc-max 85 °C	836	162
I-nom 294mA	Tc 25 °C	1127	169
	Tc-nom 45 °C	1100	166
	Tc-max 85 °C	1034	159
I-max 600mA	Tc 25 °C	2195	153
	Tc-nom 45 °C	2142	151
	Tc-max 85 °C	2010	143



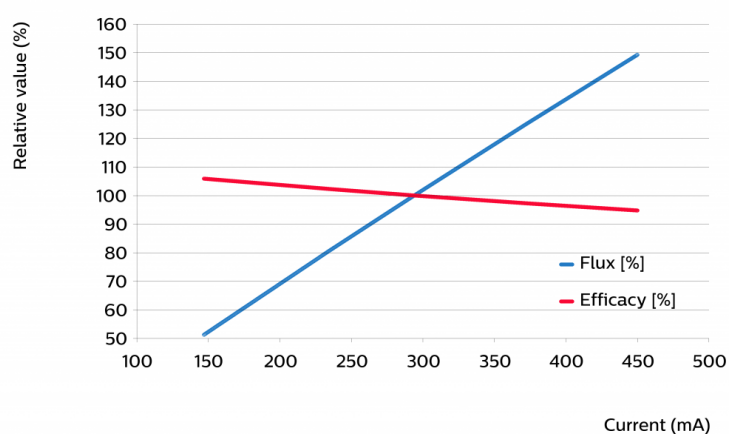
Electrical characteristics

Parameter	Min	Typ	Max	Unit
Forward voltage	21.8	22.5	22.7	V
Power consumption	6.42	6.62	6.68	W = kWh/1000h
Number of modules in series per chain			14	
Number of modules in parallel			1	

Tuning information

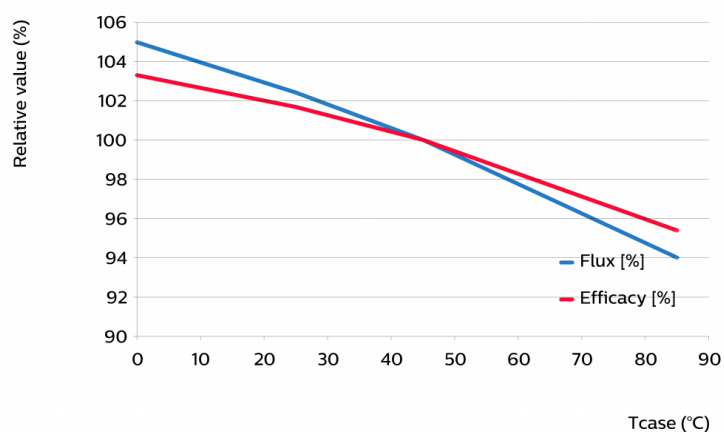
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
450	149	95
372	125	97
294	100	100
235	81	102
147	51	106



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

Tc [°C]	Flux [%]	Efficacy [%]
85	94	95
45	100	100
25	102	102
0	105	103



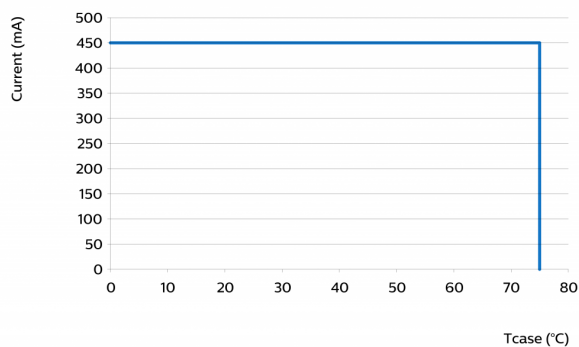
Lumen maintenance

Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% Inom=235mA	Tc=25°C	>70	>70	>70	>70	>70	>70	66	63	62
	Tc_nom=45°C	>70	>70	>70	>70	>70	>70	52	50	49
	Tc_life=75°C	>70	>70	>70	>70	>70	>70	38	37	36
Inom=294mA	Tc=25°C	>70	>70	>70	>70	>70	>70	61	61	60
	Tc_nom=45°C	>70	>70	>70	>70	>70	>70	50	48	47
	Tc_life=75°C	>70	>70	>70	>70	>70	>70	36	35	35
Ilife=450mA	Tc=25°C	>70	>70	>70	>70	>70	>70	58	56	55
	Tc_nom=45°C	>70	>70	>70	>70	>70	>70	46	44	43
	Tc_life=75°C	>70	>70	>70	>70	68	67	33	32	32

Lifetime

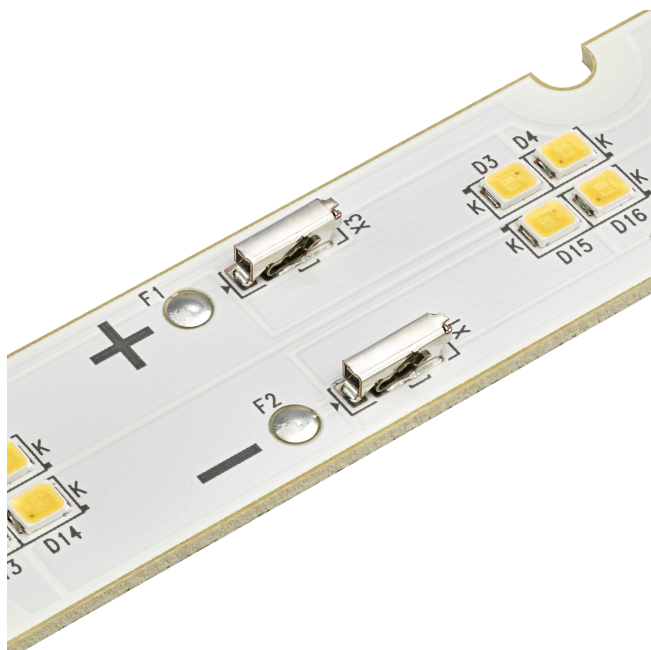
Parameter	Value	Unit
M70F50 nominal	>70000	hours
M70F50 life	>70000	hours

Performance Window



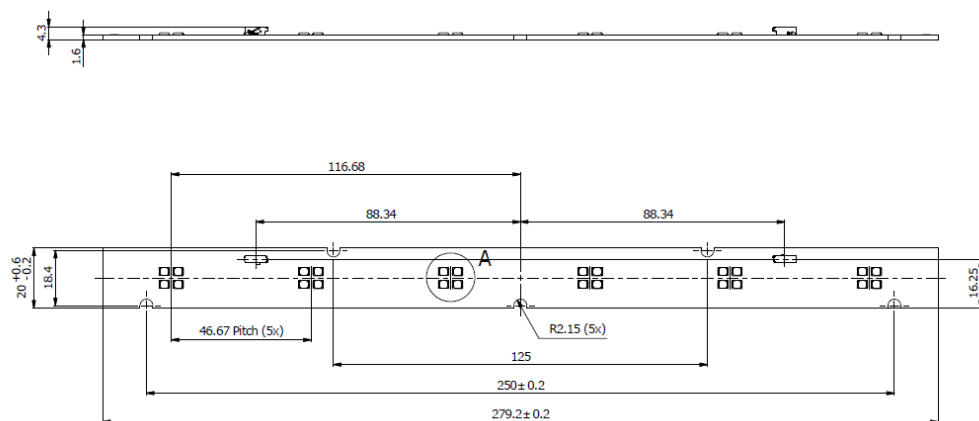
Wiring

Specification item	Value	Unit	Condition
Input wire cross-section	0.2...0.75	mm ²	solid wire, stranded wire
	18...24	AWG	solid wire, stranded wire
Input wire strip length	7.5...9.5	mm	



Mechanical characteristics

Parameter	Min	Typ	Max	Unit
Length	279	279.2	279.4	mm
Width	19.8	20	20.6	mm
Height PCB		1.6		mm
Height Total		4.3		mm
Product mass		25		gram



Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		600	mA
Case temperature (Tc-max)		85	°C
ESD (direct contact)	8		kV
Working voltage		350	V _{dc}

Application information

Certificates and Standards

CE
ENEC
ENEC+
cULus

Application

Overheating protection	no
Dimming	Yes



© 2022 Signify Holding, IBRS 10461, 5600VB, NL. All rights reserved. The information provided herein is subject to change, without notice. Signify 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, unless otherwise agreed by Signify.

www.philips.com/oem

Philips and the Philips Shield Emblem are registered trademarks of Koninklijke Philips N.V. All other trademarks are owned by Signify Holding or their respective owners.
UK importer address: Signify Commercial UK Limited, 3 Guildford Business Park, GU2 8XG

17/05/2022