

PHILIPS

Fortimo

LED

Fortimo LED-R 2ft MF 9xx
FC HV5



Datasheet

Fortimo LED-R 2ft 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 2ft MF 927 FC HV5	8719514 447738 00	9290 034 05206	1227081	110
Fortimo LED-R 2ft MF 930 FC HV5	8719514 447752 00	9290 034 05306	1227069	110
Fortimo LED-R 2ft MF 940 FC HV5	8719514 447776 00	9290 034 05406	1227078	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 2ft 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

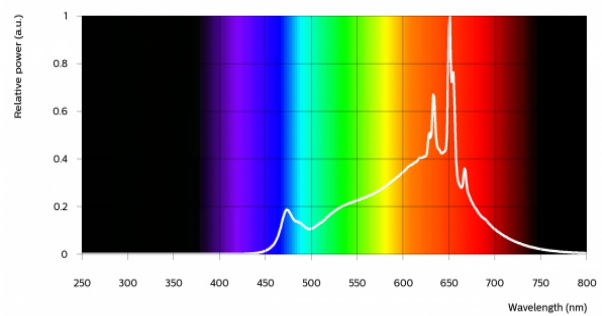
Optical characteristics - table per color (CCT)

Fortimo LED-R 2ft MF 927 FC HV5

Parameter	Min	Typ	Max	Unit
Luminous flux	1930	1990	2150	lm
Efficacy	144	150	168	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	1647	156
	Tc-nom 45 °C	1608	154
	Tc-max 85 °C	1512	147
I-nom 294mA	Tc 25 °C	2038	153
	Tc-nom 45 °C	1990	150
	Tc-max 85 °C	1870	143
I-max 600mA	Tc 25 °C	3969	138
	Tc-nom 45 °C	3874	136
	Tc-max 85 °C	3635	129

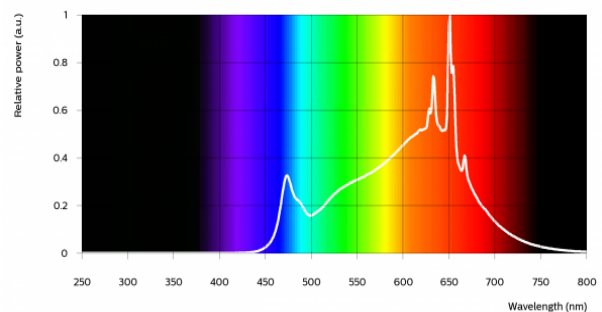


Fortimo LED-R 2ft MF 930 FC HV5

Parameter	Min	Typ	Max	Unit
Luminous flux	2000	2060	2220	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	1705	162
	Tc-nom 45 °C	1665	159
	Tc-max 85 °C	1565	152
I-nom 294mA	Tc 25 °C	2110	158
	Tc-nom 45 °C	2060	156
	Tc-max 85 °C	1936	148
I-max 600mA	Tc 25 °C	4109	143
	Tc-nom 45 °C	4010	141
	Tc-max 85 °C	3763	134

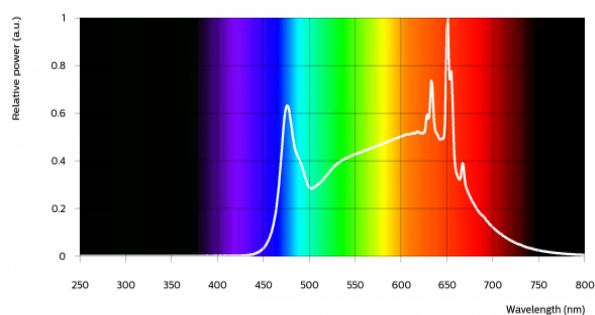


Fortimo LED-R 2ft MF 940 FC HV5

Parameter	Min	Typ	Max	Unit
Luminous flux	2130	2200	2380	lm
Efficacy	159	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	1821	173
	Tc-nom 45 °C	1778	170
	Tc-max 85 °C	1672	162
I-nom 294mA	Tc 25 °C	2253	169
	Tc-nom 45 °C	2200	166
	Tc-max 85 °C	2068	158
I-max 600mA	Tc 25 °C	4389	153
	Tc-nom 45 °C	4284	150
	Tc-max 85 °C	4020	143



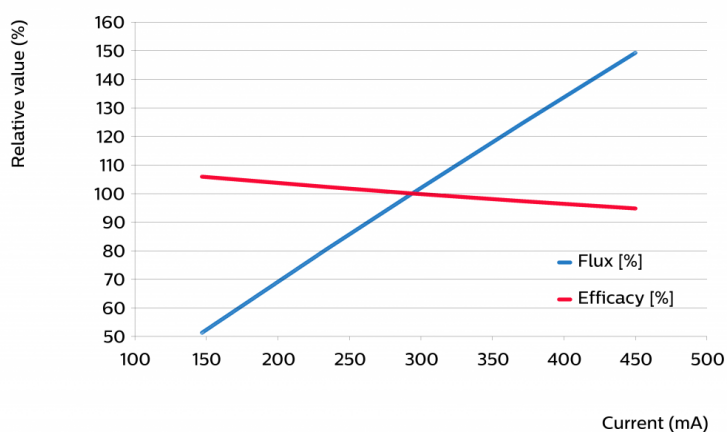
Electrical characteristics

Parameter	Min	Typ	Max	Unit
Forward voltage	43.7	45.0	45.5	V
Power consumption	12.8	13.2	13.4	W = kWh/1000h
Number of modules in series per chain			7	
Number of modules in parallel			1	

Tuning information

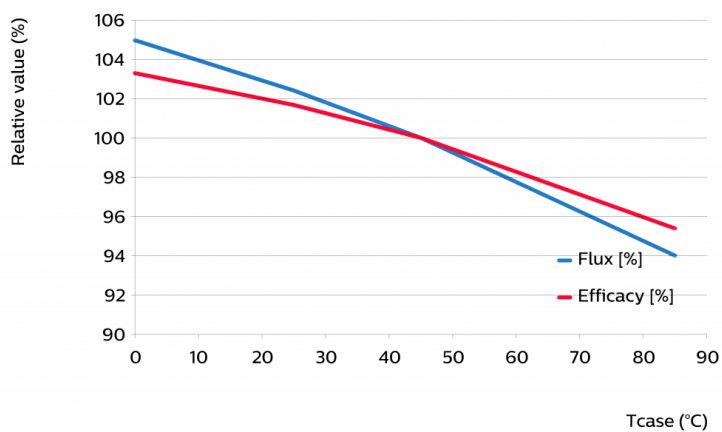
Flux and efficacy versus current (at Tc nominal)

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



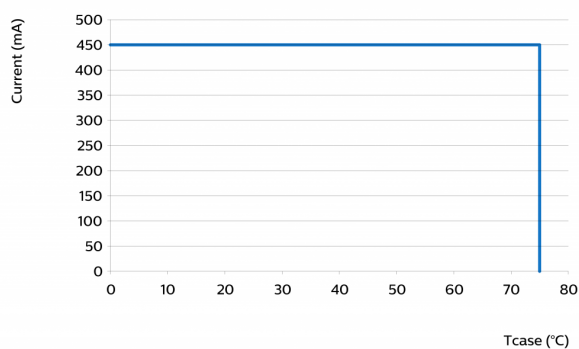
Lumen maintenance

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	>70	>70	>70
	Tc_nom=45°C	>70	>70	>70	>70	>70	>70	52	51	50
	Tc_life=75°C	>70	>70	>70	>70	>70	>70	38	37	37
Inom=294mA	Tc=25°C	>70	>70	>70	>70	>70	>70	63	61	60
	Tc_nom=45°C	>70	>70	>70	>70	>70	>70	50	49	48
	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	56
	Tc_nom=45°C	>70	>70	>70	>70	>70	>70	46	45	44
	Tc_life=75°C	>70	>70	>70	>70	69	68	34	33	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	

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



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17/05/2022