PHILIPS

Fortimo

LED

Fortimo LED-R FT 2ft MF 927-965 FC LV5

Datasheet

Fortimo LED-R FT 2ft MF 927-965 FC LV5

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

- Designed to work together with the Xitanium FlexTune drivers
- Color tunable from 2700K to 6500K
- Long life time: >50,000 hours
- Excellent color consistency of 3 SDCM
- 1ft and 2ft lengths
- Good light quality: CRI90, R9 >50
- CRI90 based on High Efficiency technology
- Extremely easy to install in combination with BJB OptiLine Louvres
- Rotated LED positions to enable better color mixing
- Available in High Voltage (HV) and Low Voltage (LV)
- Five year system warranty when paired with Xitanium drivers

June 2022

Ordering data

Commercial product name	EOC	12NC	EPREL registration #	Box quantity
Fortimo LED-R FT 2ft MF 927-965 FC LV5	8719514 447974 00	9290 034 06406	1227075	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 FT 2ft MF 927-965 FC LV5	420	480	480	mA

For FlexTune driver configuration use 0.310, 0.324 (2200lm) and 0.456, 0.410 (2020lm) for cool and warm LED, at a rated current of 420mA for both.

Module temperatures

Parameter	Nominal*	Life**	Max***	Unit
T_c (case temperature at T_c point)	45	70	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

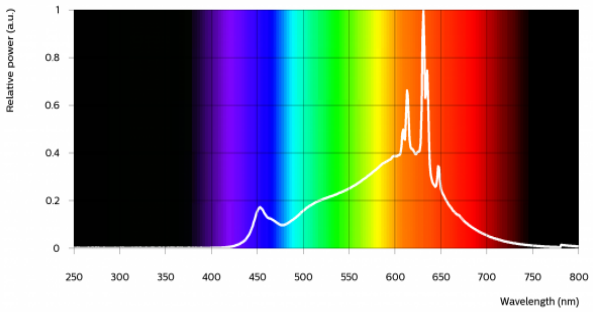
Optical characteristics - table per color (CCT)

Fortimo LED-R FT 2ft MF 927-965 FC LV5 [2700K]

Parameter	Min	Typ	Max	Unit
Luminous flux	1960	2020	2180	lm
Efficacy	129	134	149	lm/W
Correlated color temperature (CCT)		2700		K
Color coordinates (CIEx, CIEy)		(0.456, 0.410)		-
Color consistency			3	SDCM
CRI	90			
R9	50			
Photobiological safety			RG1 unlimited	

Measurement precision ± 5% for the flux data and ± 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 336mA	Tc 25 °C	1685	142
	Tc-nom 45 °C	1645	140
	Tc-max 85 °C	1544	133
I-nom 420mA	Tc 25 °C	2070	137
	Tc-nom 45 °C	2020	134
	Tc-max 85 °C	1895	128
I-max 480mA	Tc 25 °C	2338	133
	Tc-nom 45 °C	2281	131
	Tc-max 85 °C	2139	124

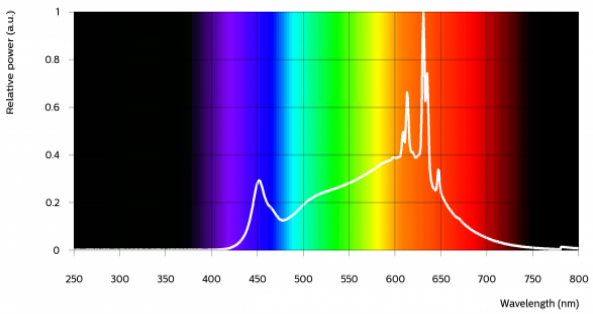


Fortimo LED-R FT 2ft MF 927-965 FC LV5 [3000K]

Parameter	Min	Typ	Max	Unit
Luminous flux	2000	2060	2220	lm
Efficacy	132	137	152	lm/W
Correlated color temperature (CCT)		3000		K
Color consistency			3	SDCM
CRI	90			
R9	50			
Photobiological safety			RG1 unlimited	

Measurement precision ± 5% for the flux data and ± 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 336mA	Tc 25 °C	1718	145
	Tc-nom 45 °C	1677	142
	Tc-max 85 °C	1575	136
I-nom 420mA	Tc 25 °C	2111	140
	Tc-nom 45 °C	2060	137
	Tc-max 85 °C	1932	130
I-max 480mA	Tc 25 °C	2384	136
	Tc-nom 45 °C	2326	134
	Tc-max 85 °C	2182	127

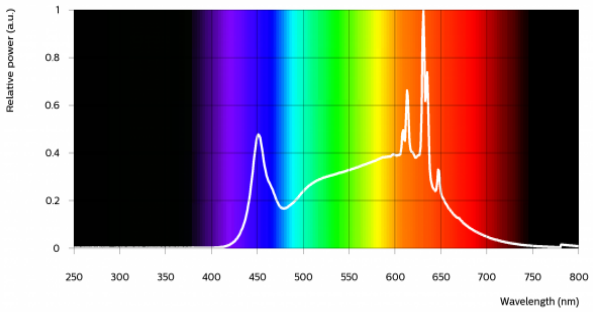


Fortimo LED-R FT 2ft MF 927-965 FC LV5 [3500K]

Parameter	Min	Typ	Max	Unit
Luminous flux	2030	2090	2260	lm
Efficacy	134	139	155	lm/W
Correlated color temperature (CCT)		3500		K
Color consistency			3	SDCM
CRI	90			
R9	50			
Photobiological safety			RG1 unlimited	

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

Operation point	935	lm	lm/W
80% I-nom 336mA	Tc 25 °C	1743	147
	Tc-nom 45 °C	1702	144
	Tc-max 85 °C	1598	138
I-nom 420mA	Tc 25 °C	2141	142
	Tc-nom 45 °C	2090	139
	Tc-max 85 °C	1961	132
I-max 480mA	Tc 25 °C	2419	138
	Tc-nom 45 °C	2360	136
	Tc-max 85 °C	2213	129

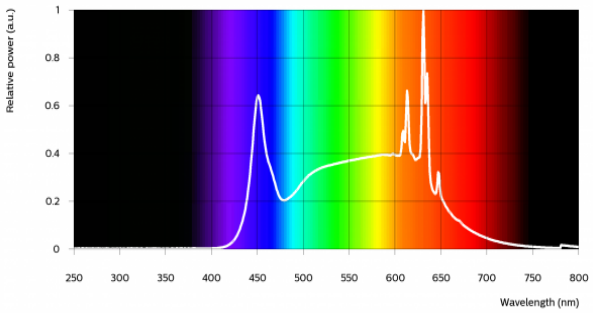


Fortimo LED-R FT 2ft MF 927-965 FC LV5 [4000K]

Parameter	Min	Typ	Max	Unit
Luminous flux	2060	2120	2290	lm
Efficacy	136	141	157	lm/W
Correlated color temperature (CCT)		4000		K
Color consistency			3	SDCM
CRI	90			
R9	50			
Photobiological safety			RG1 unlimited	

Measurement precision ± 5% for the flux data and ± 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 336mA	Tc 25 °C	1768	149
	Tc-nom 45 °C	1726	147
	Tc-max 85 °C	1621	139
I-nom 420mA	Tc 25 °C	2172	144
	Tc-nom 45 °C	2120	141
	Tc-max 85 °C	1989	134
I-max 480mA	Tc 25 °C	2454	140
	Tc-nom 45 °C	2394	137
	Tc-max 85 °C	2245	131

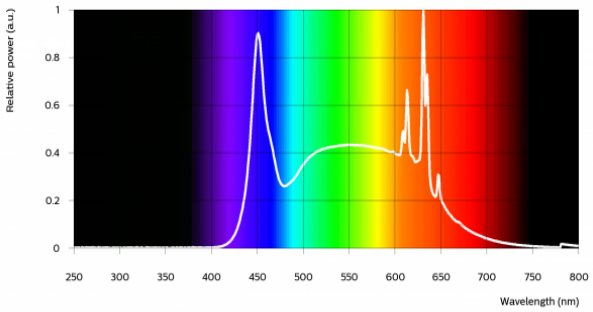


Fortimo LED-R FT 2ft MF 927-965 FC LV5 [5000K]

Parameter	Min	Typ	Max	Unit
Luminous flux	2100	2160	2330	lm
Efficacy	138	144	160	lm/W
Correlated color temperature (CCT)		5000		K
Color consistency			3	SDCM
CRI	90			
R9	50			
Photobiological safety			RG1 unlimited	

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

Operation point	950	lm	lm/W
80% I-nom 336mA	Tc 25 °C	1802	152
	Tc-nom 45 °C	1758	149
	Tc-max 85 °C	1651	142
I-nom 420mA	Tc 25 °C	2213	146
	Tc-nom 45 °C	2160	144
	Tc-max 85 °C	2026	137
I-max 480mA	Tc 25 °C	2500	143
	Tc-nom 45 °C	2439	140
	Tc-max 85 °C	2288	133

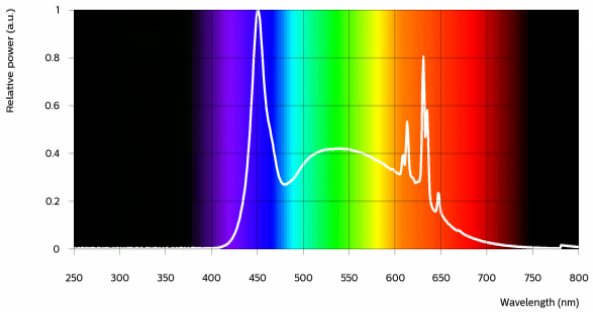


Fortimo LED-R FT 2ft MF 927-965 FC LV5 [6500K]

Parameter	Min	Typ	Max	Unit
Luminous flux	2130	2200	2380	lm
Efficacy	140	146	163	lm/W
Correlated color temperature (CCT)		6500		K
Color coordinates (CIEx, CIEy)		(0.310, 0.324)		-
Color consistency			3	SDCM
CRI	90			
R9	50			
Photobiological safety			RG1 unlimited	

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

Operation point	965	lm	lm/W
80% I-nom 336mA	Tc 25 °C	1835	155
	Tc-nom 45 °C	1791	152
	Tc-max 85 °C	1682	145
I-nom 420mA	Tc 25 °C	2254	149
	Tc-nom 45 °C	2200	146
	Tc-max 85 °C	2064	139
I-max 480mA	Tc 25 °C	2546	145
	Tc-nom 45 °C	2484	143
	Tc-max 85 °C	2330	136



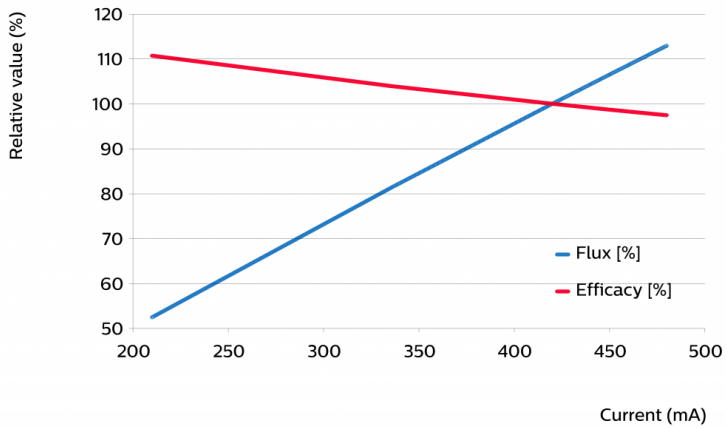
Electrical characteristics

Parameter	Min	Typ	Max	Unit
Forward voltage	34.7	35.8	36.2	V
Power consumption	14.6	15.0	15.2	W = kWh/1000h
Number of modules in series per chain			1	
Number of modules per chain			3	

Tuning information

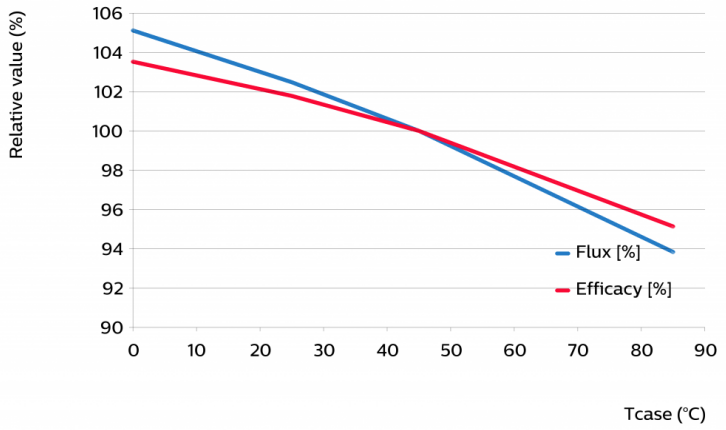
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
480	113	97
450	107	99
420	100	100
336	81	104
210	52	111



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	104



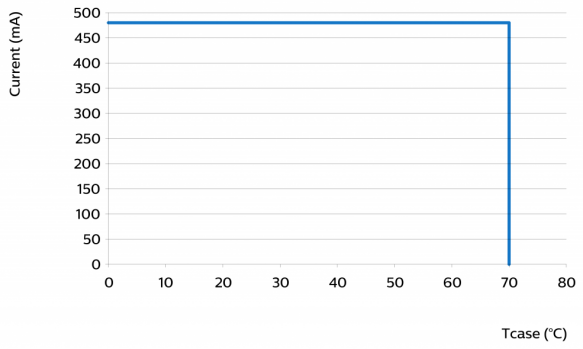
Lumen maintenance

Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% Inom=336mA	Tc=25°C	>70	>70	>70	>70	>70	>70	56	55	54
	Tc_nom=45°C	>70	>70	>70	>70	>70	>70	45	44	43
	Ilife=450mA	>70	>70	>70	>70	>70	70	34	33	33
Inom=420mA	Tc=25°C	>70	>70	>70	>70	>70	>70	54	53	52
	Tc_nom=45°C	>70	>70	>70	>70	>70	>70	43	42	41
	Ilife=450mA	>70	>70	>70	70	68	67	33	32	32
Ilife=480mA	Tc=25°C	>70	>70	>70	>70	>70	>70	52	51	51
	Tc_nom=45°C	>70	>70	>70	>70	>70	>70	42	41	40
	Ilife=450mA	>70	>70	>70	68	66	65	32	31	31

Lifetime

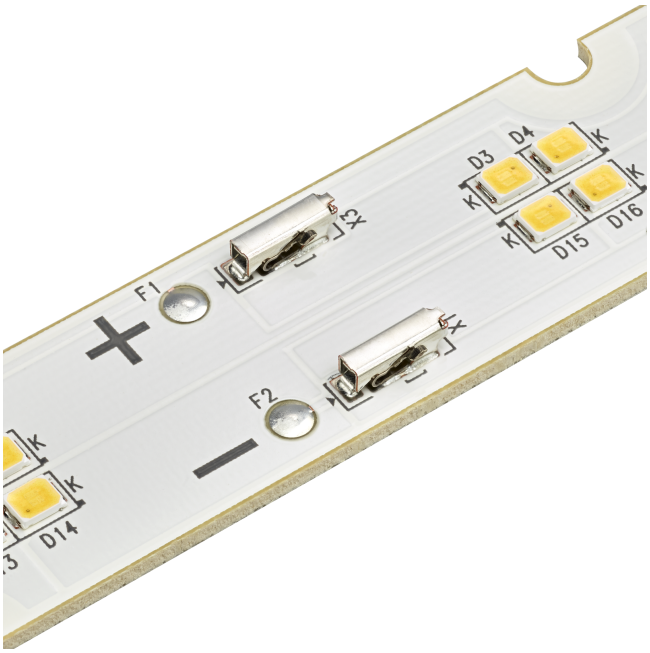
Parameter	Value	Unit
M70F50 nominal	>70000	hours
M70F50 life	>70000	hours

Performance Window



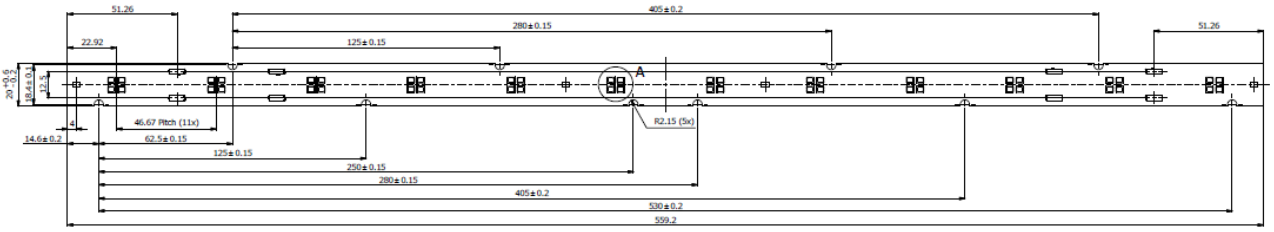
Wiring

Specification item	Value	Unit	Condition
Input wire cross-section	0.2…0.75	mm²	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	558.9	559.2	559.5	mm
Width	19.8	20	20.6	mm
Height PCB		1.6		mm
Height Total		4.3		mm
Product mass		50		gram



Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		480	mA
Case temperature (Tc-max)		85	°C
ESD (direct contact)	8		kV
Working voltage		120	V_{dc}

Application information

Certificates and Standards
CE
ENEC
ENEC+
cULus

Application	
Overheating protection	no
Dimming	Yes

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