PHILIPS

Fortimo

LED

Fortimo LED-R FT 1ft MF 927-965 FC HV5

Datasheet

Fortimo LED-R FT 1ft MF 927-965 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

- 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

May 2022

Ordering data

Commercial product name	EOC	12NC	EPREL registration #	Box quantity
Fortimo LED-R FT 1ft MF 927-965 FC HV5	8719514 447912 00	9290 034 06106	1227090	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 1ft MF 927-965 FC HV5	210	240	240	mA

For FlexTune driver configuration use 0.310, 0.324 (1100lm) and 0.456, 0.410 (1010lm) for cool and warm LED, at a rated current of 210mA 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

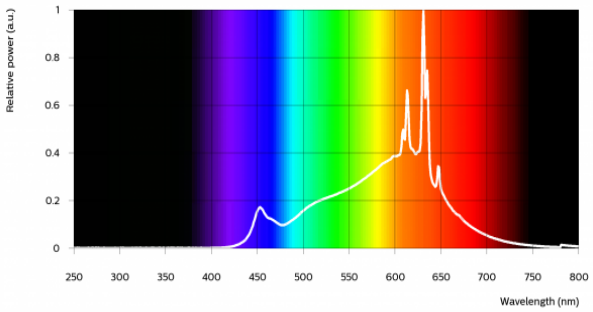
Optical characteristics - table per color (CCT)

Fortimo LED-R FT 1ft MF 927-965 FC HV5 [2700K]

Parameter	Min	Typ	Max	Unit
Luminous flux	980	1010	1090	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 168mA	Tc 25 °C	842	142
	Tc-nom 45 °C	822	140
	Tc-max 85 °C	772	133
I-nom 210mA	Tc 25 °C	1035	137
	Tc-nom 45 °C	1010	134
	Tc-max 85 °C	947	128
I-max 240mA	Tc 25 °C	1169	133
	Tc-nom 45 °C	1141	131
	Tc-max 85 °C	1070	124

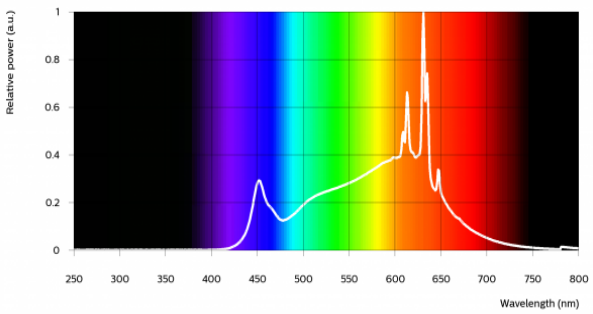


Fortimo LED-R FT 1ft MF 927-965 FC HV5 [3000K]

Parameter	Min	Typ	Max	Unit
Luminous flux	1000	1030	1110	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 168mA	Tc 25 °C	859	145
	Tc-nom 45 °C	839	142
	Tc-max 85 °C	787	136
I-nom 210mA	Tc 25 °C	1055	140
	Tc-nom 45 °C	1030	137
	Tc-max 85 °C	966	130
I-max 240mA	Tc 25 °C	1192	136
	Tc-nom 45 °C	1163	134
	Tc-max 85 °C	1091	127

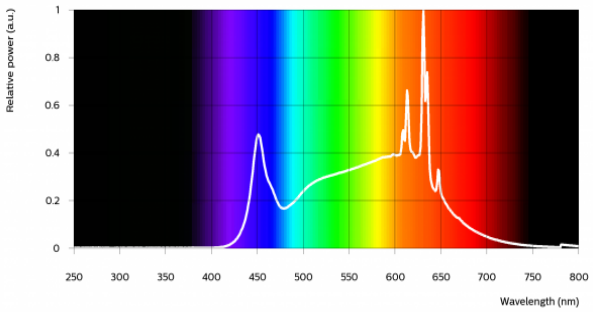


Fortimo LED-R FT 1ft MF 927-965 FC HV5 [3500K]

Parameter	Min	Typ	Max	Unit
Luminous flux	1010	1045	1130	lm
Efficacy	133	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 168mA	Tc 25 °C	872	147
	Tc-nom 45 °C	851	144
	Tc-max 85 °C	799	138
I-nom 210mA	Tc 25 °C	1071	142
	Tc-nom 45 °C	1045	139
	Tc-max 85 °C	980	132
I-max 240mA	Tc 25 °C	1210	138
	Tc-nom 45 °C	1180	136
	Tc-max 85 °C	1107	129

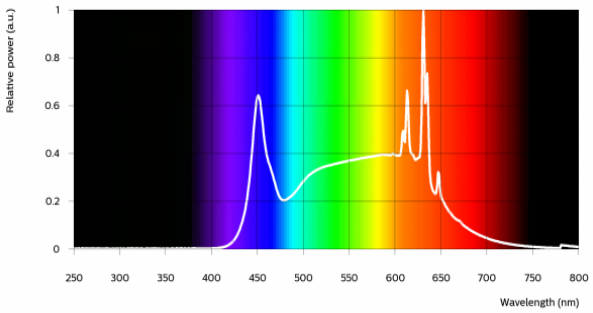


Fortimo LED-R FT 1ft MF 927-965 FC HV5 [4000K]

Parameter	Min	Typ	Max	Unit
Luminous flux	1030	1060	1140	lm
Efficacy	136	141	156	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 168mA	Tc 25 °C	884	149
	Tc-nom 45 °C	863	147
	Tc-max 85 °C	810	139
I-nom 210mA	Tc 25 °C	1086	144
	Tc-nom 45 °C	1060	141
	Tc-max 85 °C	994	134
I-max 240mA	Tc 25 °C	1227	140
	Tc-nom 45 °C	1197	137
	Tc-max 85 °C	1123	131

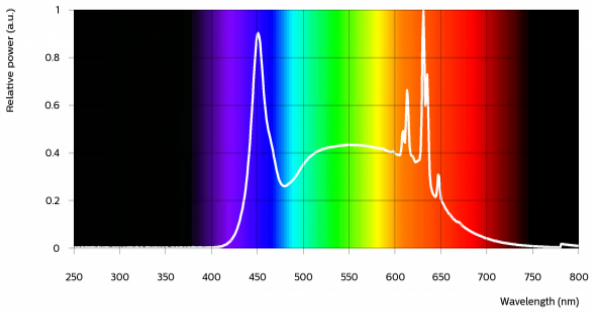


Fortimo LED-R FT 1ft MF 927-965 FC HV5 [5000K]

Parameter	Min	Typ	Max	Unit
Luminous flux	1050	1080	1170	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 168mA	Tc 25 °C	901	152
	Tc-nom 45 °C	879	149
	Tc-max 85 °C	826	142
I-nom 210mA	Tc 25 °C	1107	146
	Tc-nom 45 °C	1080	144
	Tc-max 85 °C	1013	137
I-max 240mA	Tc 25 °C	1250	143
	Tc-nom 45 °C	1220	140
	Tc-max 85 °C	1144	133

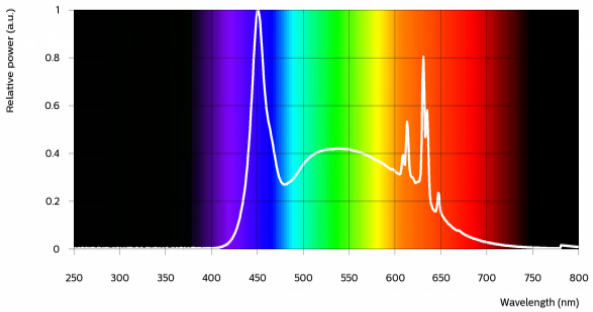


Fortimo LED-R FT 1ft MF 927-965 FC HV5 [6500K]

Parameter	Min	Typ	Max	Unit
Luminous flux	1070	1100	1190	lm
Efficacy	141	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 168mA	Tc 25 °C	917	155
	Tc-nom 45 °C	895	152
	Tc-max 85 °C	841	145
I-nom 210mA	Tc 25 °C	1127	149
	Tc-nom 45 °C	1100	146
	Tc-max 85 °C	1032	139
I-max 240mA	Tc 25 °C	1273	145
	Tc-nom 45 °C	1242	143
	Tc-max 85 °C	1165	136



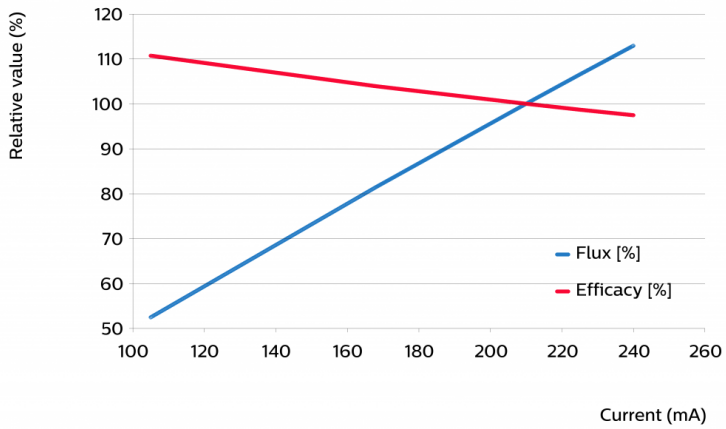
Electrical characteristics

Parameter	Min	Typ	Max	Unit
Forward voltage	34.7	35.8	36.2	V
Power consumption	7.29	7.52	7.59	W = kWh/1000h
Number of modules in series per chain			9	
Number of modules in parallel			1	

Tuning information

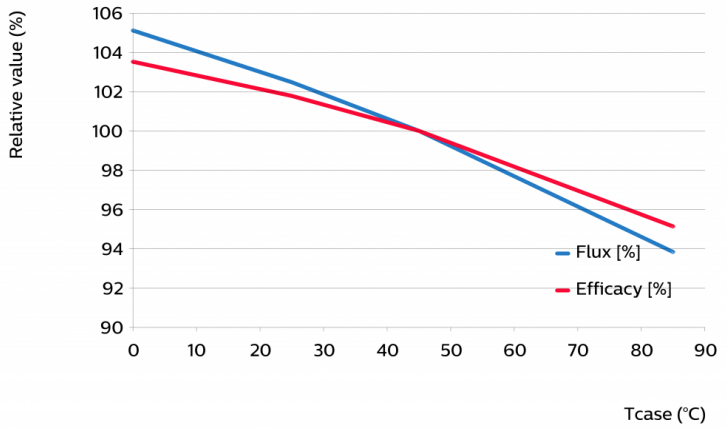
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
240	113	97
225	107	99
210	100	100
168	81	104
105	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



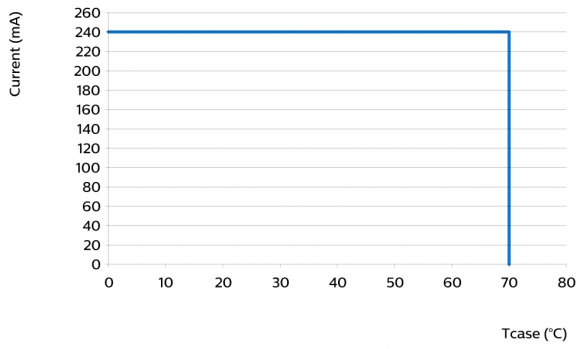
Lumen maintenance

Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% Inom=168mA	Tc=25°C	>70	>70	>70	>70	>70	>70	56	54	53
	Tc_nom=45°C	>70	>70	>70	>70	>70	>70	45	43	42
	Ilife=450mA	>70	>70	>70	>70	>70	69	34	33	33
Inom=210mA	Tc=25°C	>70	>70	>70	>70	>70	>70	54	52	51
	Tc_nom=45°C	>70	>70	>70	>70	>70	>70	43	41	41
	Ilife=450mA	>70	>70	>70	70	67	66	33	32	31
Ilife=240mA	Tc=25°C	>70	>70	>70	>70	>70	>70	52	51	50
	Tc_nom=45°C	>70	>70	>70	>70	>70	>70	42	40	40
	Ilife=450mA	>70	>70	>70	68	65	64	32	31	30

Lifetime

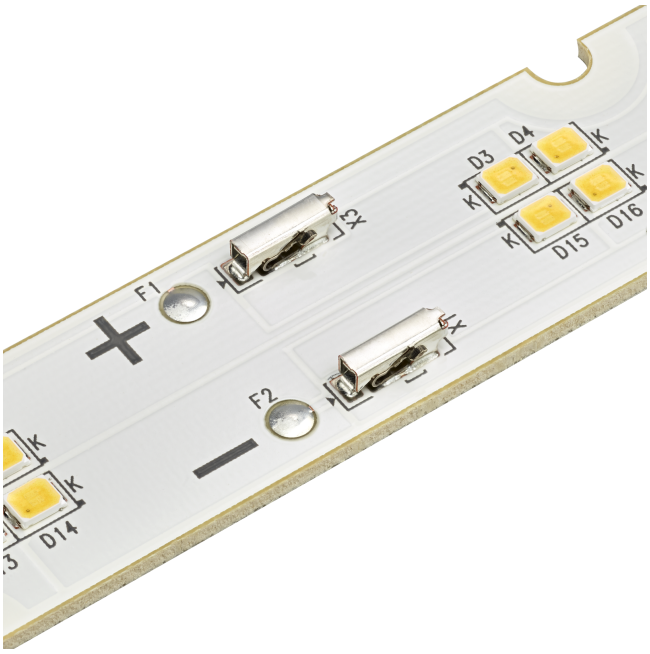
Parameter	Value	Unit
M70F50 nominal	>70000	hours
M70F50 life	>70000	hours

Performance Window



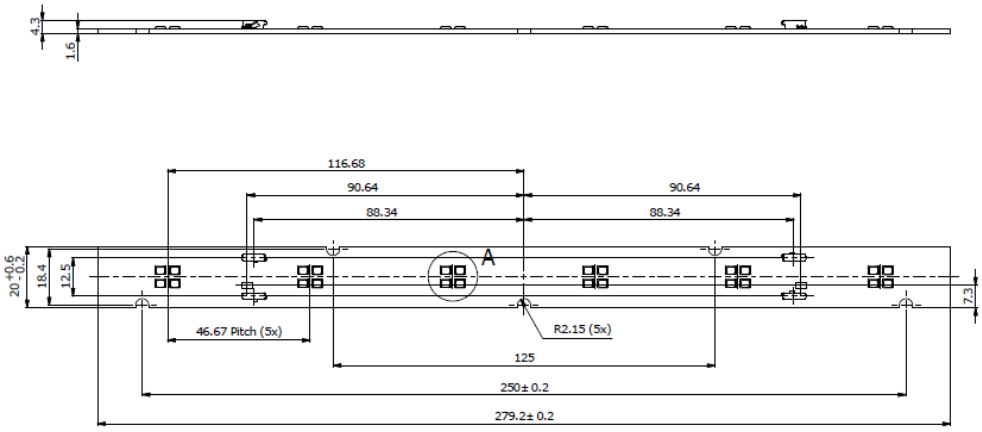
Wiring

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	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)		240	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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