

PHILIPS

Fortimo

LED

Fortimo LED-R 1ft MF 8xx
FC LV5



Datasheet

Fortimo LED-R 1ft MF 8xx 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

- 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: CRI80
- 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 827 FC LV5	8719514 447554 00	9290 034 04306	1227080	110
Fortimo LED-R 1ft MF 830 FC LV5	8719514 447578 00	9290 034 04406	1227072	110
Fortimo LED-R 1ft MF 840 FC LV5	8719514 447592 00	9290 034 04506	1227065	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 8xx FC LV5	184	300	400	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

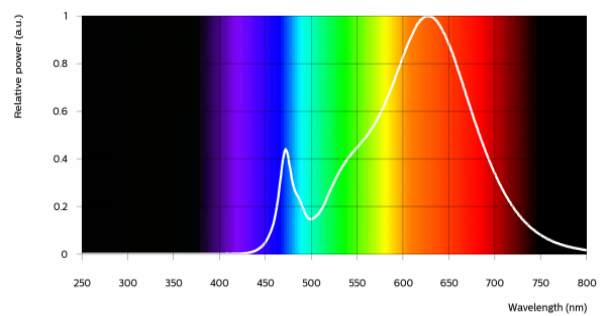
Optical characteristics - table per color (CCT)

Fortimo LED-R 1ft MF 827 FC LV5

Parameter	Min	Typ	Max	Unit
Luminous flux	940	973	1050	lm
Efficacy	153	160	178	lm/W
Correlated color temperature (CCT)		2700		K
Color coordinates (CIEx, CIEy)		(0.456, 0.408)		-
Color consistency			3	SDCM
CRI	80			
R9	0			
Photometric code		827/339		
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	827	lm	lm/W
80% I-nom 147mA	Tc 25 °C	802	166
	Tc-nom 45 °C	785	164
	Tc-max 85 °C	745	157
I-nom 184mA	Tc 25 °C	994	163
	Tc-nom 45 °C	973	160
	Tc-max 85 °C	923	154
I-max 400mA	Tc 25 °C	2065	146
	Tc-nom 45 °C	2021	144
	Tc-max 85 °C	1916	138

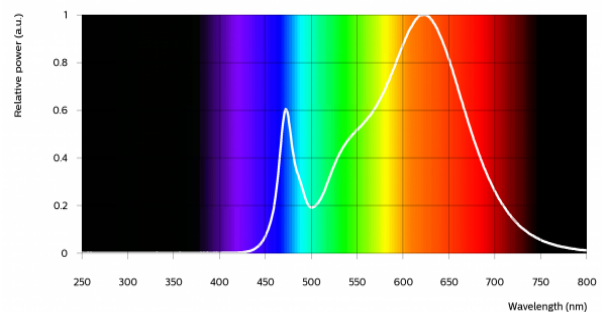


Fortimo LED-R 1ft MF 830 FC LV5

Parameter	Min	Typ	Max	Unit
Luminous flux	1000	1035	1120	lm
Efficacy	159	166	186	lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.431, 0.400)		-
Color consistency			3	SDCM
CRI	80			
R9	0			
Photometric code		830/339		
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	830	lm	lm/W
80% I-nom 147mA	Tc 25 °C	853	173
	Tc-nom 45 °C	835	170
	Tc-max 85 °C	793	164
I-nom 184mA	Tc 25 °C	1057	169
	Tc-nom 45 °C	1035	166
	Tc-max 85 °C	982	160
I-max 400mA	Tc 25 °C	2196	152
	Tc-nom 45 °C	2150	150
	Tc-max 85 °C	2038	144

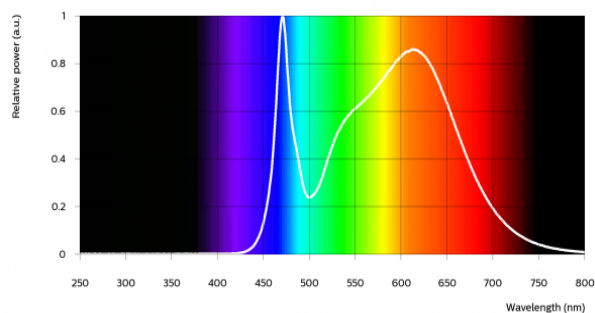


Fortimo LED-R 1ft MF 840 FC LV5

Parameter	Min	Typ	Max	Unit
Luminous flux	1070	1100	1190	lm
Efficacy	170	177	197	lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.379, 0.376)		-
Color consistency			3	SDCM
CRI	80			
R9	0			
Photometric code		840/339		
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	840	lm	lm/W
80% I-nom 147mA	Tc 25 °C	907	184
	Tc-nom 45 °C	888	181
	Tc-max 85 °C	843	174
I-nom 184mA	Tc 25 °C	1123	180
	Tc-nom 45 °C	1100	177
	Tc-max 85 °C	1044	170
I-max 400mA	Tc 25 °C	2335	162
	Tc-nom 45 °C	2285	159
	Tc-max 85 °C	2167	153



Electrical characteristics

Fortimo LED-R 1ft MF 827 FC LV5

Parameter	Min	Typ	Max	Unit
Forward voltage	32.0	33.0	33.3	V
Power consumption	5.89	6.07	6.13	W = kWh/1000h
Number of modules in series per chain			1	
Number of modules per chain			5	

Fortimo LED-R 1ft MF 830 FC LV5

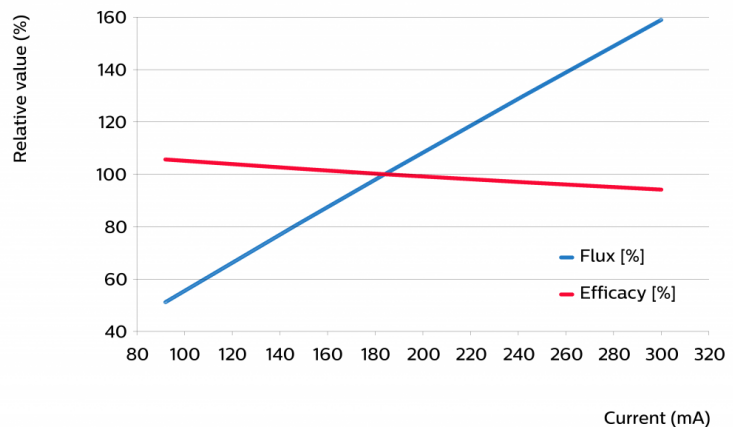
Fortimo LED-R 1ft MF 840 FC LV5

Parameter	Min	Typ	Max	Unit
Forward voltage	32.8	33.8	34.1	V
Power consumption	6.03	6.22	6.28	W = kWh/1000h
Number of modules in series per chain			1	
Number of modules per chain			5	

Tuning information

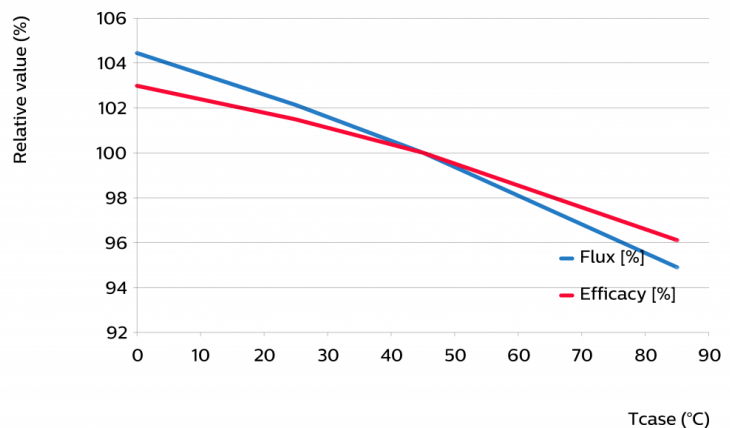
Flux and efficacy versus current (at T_c nominal)

I [mA]	Flux [%]	Efficacy [%]
300	159	94
242	130	97
184	100	100
147	81	102
92	51	106



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

T _c [°C]	Flux [%]	Efficacy [%]
85	95	96
45	100	100
25	102	101
0	104	103



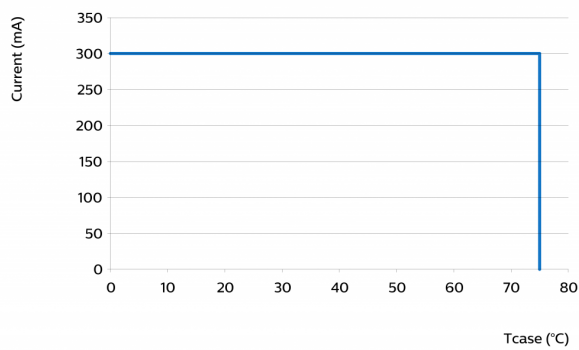
Lumen maintenance

Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% Inom=147mA	Tc=25°C	>70	>70	>70	>70	>70	>70	>70	>70	>70
	Tc_nom=45°C	>70	>70	>70	>70	>70	>70	52	50	49
	Tc_life=75°C	>70	>70	>70	61	59	58	29	28	27
Inom=184mA	Tc=25°C	>70	>70	>70	>70	>70	>70	>70	>70	>70
	Tc_nom=45°C	>70	>70	>70	>70	>70	>70	49	48	47
	Tc_life=75°C	>70	>70	>70	58	56	55	27	26	26
Ilife=300mA	Tc=25°C	>70	>70	>70	>70	>70	>70	69	67	65
	Tc_nom=45°C	>70	>70	>70	>70	>70	>70	45	43	42
	Tc_life=75°C	>70	>70	>70	53	51	50	25	24	24

Lifetime

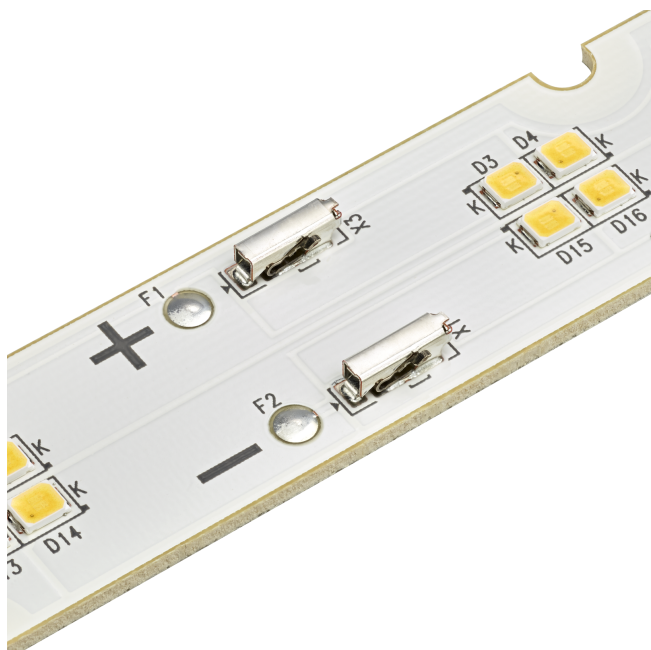
Parameter	Value	Unit
M70F50 nominal	>70000	hours
M70F50 life	>70000	hours

Performance Window



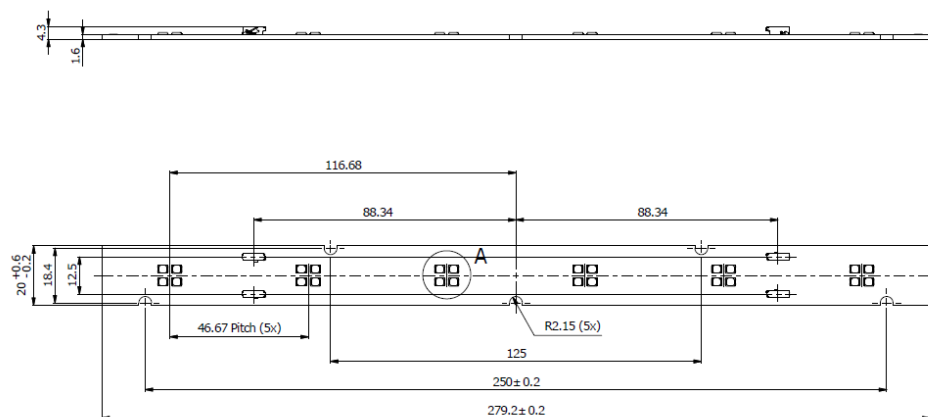
Wiring

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)		400	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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