PHILIPS

Fortimo

LED

Fortimo LED Strip 2ft MF 8xx HV6

Datasheet

The Fortimo LED Strip is a uniquely wide portfolio which can be used in all kind of linear indoor luminaire types. Its form factor makes it easy to design-in and handle in production as it complies to Zhaga standards. Due to the availability from 0.25ft up to 5ft lengths only one product family is needed to cover a wide range of needs.

Key features and benefits

- Typical module efficiency of 186 Lm/W (at 4000K CRI80)
- CRI90 High Efficiency typical performance of 174 Lm/W (at 4000K CRI90)
- Long life-time: >72,000 hours
- Excellent color consistency of 3 SDCM
- Two lumen packages per length available: LF (650 lm/ft) and MF (1100 lm/ft)
- Wide range of CCTs available: 2700K, 3000K, 3500K, 4000K, 5000K and 6500K
- Available in High Voltage (HV) and Low Voltage (LV)
- Options in front connector (FC) or back connector (BC)
- Small LED module width of only 20mm
- Available lengths: 0.25ft / 0.5ft / 1ft / 2ft / 4ft (1120mm) / 4ft extended (1150mm) / 5ft (1400mm) / 5ft extended 1450mm)
- Wide temperature (Tc) range -40°C to +80°C
- Five year system warranty

May 2023

Ordering data

Commercial product name	EOC	12NC	EPREL registration #	Box quantity
Fortimo LED Strip 2ft MF 830 FC HV6	8719514 488922 00	9290 029 44606	1413432	110
Fortimo LED Strip 2ft MF 835 FC HV6	8719514 488946 00	9290 029 44706	1413433	110
Fortimo LED Strip 2ft MF 840 FC HV6	8719514 488960 00	9290 029 44806	1413434	110
Fortimo LED Strip 2ft MF 850 FC HV6	8719514 488984 00	9290 029 44906	1413435	110
Fortimo LED Strip 2ft MF 865 FC HV6	8719514 489004 00	9290 029 45006	1413436	110
Fortimo LED Strip 2ft MF 830 BC HV6	8719514 489080 00	9290 029 45406	1413440	110
Fortimo LED Strip 2ft MF 835 BC HV6	8719514 489103 00	9290 029 45506	1413441	110
Fortimo LED Strip 2ft MF 840 BC HV6	8719514 489127 00	9290 029 45606	1413442	110
Fortimo LED Strip 2ft MF 865 BC HV6	8720169 159235 00	9290 029 51706	1413376	110

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo LED Strip 2ft MF 8xx HV6	267	720	720	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

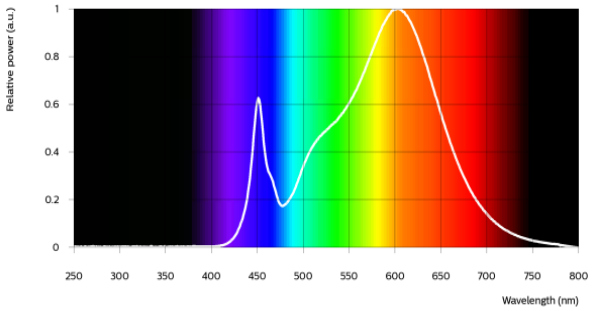
Optical characteristics - table per color (CCT)

Fortimo LED Strip 2ft MF 830 FC HV6
Fortimo LED Strip 2ft MF 830 BC HV6

Parameter	Min	Typ	Max	Unit
Luminous flux	2010	2072	2210	lm
Efficacy	167	176	198	lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.433, 0.400)		-
Color consistency			3	SDCM
CRI	80			
R9	0			
Photometric code		830/339		
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	830	lm	lm/W
80% I-nom 214mA	Tc 25 °C	1722	183
	Tc-nom 45 °C	1679	180
	Tc-max 85 °C	1578	171
I-nom 267mA	Tc 25 °C	2125	179
	Tc-nom 45 °C	2072	176
	Tc-max 85 °C	1946	167
I-max 720mA	Tc 25 °C	5274	154
	Tc-nom 45 °C	5141	151
	Tc-max 85 °C	4822	144

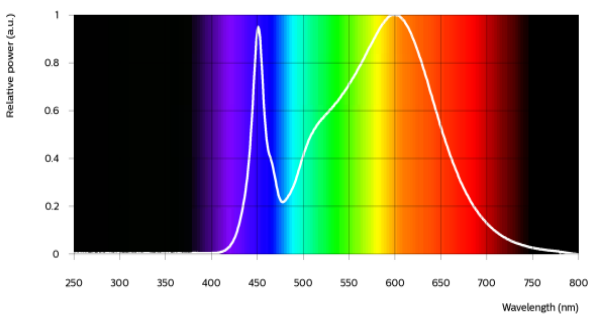


Fortimo LED Strip 2ft MF 835 FC HV6
Fortimo LED Strip 2ft MF 835 BC HV6

Parameter	Min	Typ	Max	Unit
Luminous flux	2070	2134	2260	lm
Efficacy	172	181	203	lm/W
Correlated color temperature (CCT)		3500		K
Color coordinates (CIEx, CIEy)		(0.407, 0.391)		-
Color consistency			3	SDCM
CRI	80			
R9	0			
Photometric code		835/339		
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	835	lm	lm/W
80% I-nom 214mA	Tc 25 °C	1774	188
	Tc-nom 45 °C	1728	185
	Tc-max 85 °C	1622	176
I-nom 267mA	Tc 25 °C	2191	184
	Tc-nom 45 °C	2134	181
	Tc-max 85 °C	2003	172
I-max 720mA	Tc 25 °C	5463	159
	Tc-nom 45 °C	5318	156
	Tc-max 85 °C	4984	148

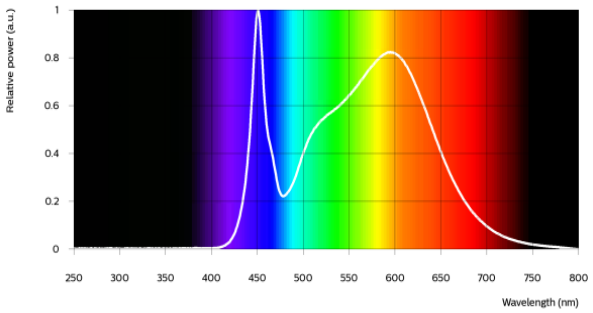


Fortimo LED Strip 2ft MF 840 FC HV6
Fortimo LED Strip 2ft MF 840 BC HV6

Parameter	Min	Typ	Max	Unit
Luminous flux	2140	2200	2420	lm
Efficacy	178	186	217	lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.381, 0.377)		-
Color consistency			3	SDCM
CRI	80			
R9	0			
Photometric code		840/339		
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	840	lm	lm/W
80% I-nom 214mA	Tc 25 °C	1829	194
	Tc-nom 45 °C	1782	191
	Tc-max 85 °C	1672	182
I-nom 267mA	Tc 25 °C	2259	190
	Tc-nom 45 °C	2200	186
	Tc-max 85 °C	2065	178
I-max 720mA	Tc 25 °C	5632	164
	Tc-nom 45 °C	5483	161
	Tc-max 85 °C	5139	153

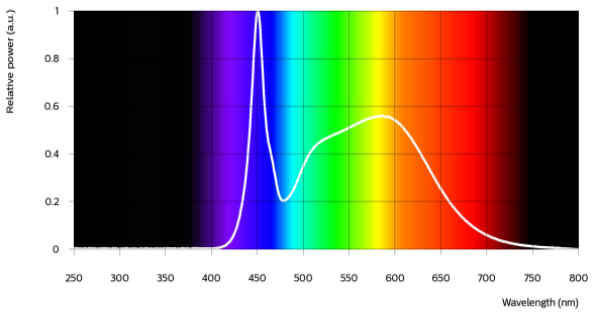


Fortimo LED Strip 2ft MF 850 FC HV6

Parameter	Min	Typ	Max	Unit
Luminous flux	2130	2197	2420	lm
Efficacy	177	186	217	lm/W
Correlated color temperature (CCT)		5000		K
Color coordinates (CIEx, CIEy)		(0.342, 0.350)		-
Color consistency			3	SDCM
CRI	80			
R9	0			
Photometric code		850/339		
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	850	lm	lm/W
80% I-nom 214mA	Tc 25 °C	1827	194
	Tc-nom 45 °C	1779	190
	Tc-max 85 °C	1670	181
I-nom 267mA	Tc 25 °C	2256	190
	Tc-nom 45 °C	2197	186
	Tc-max 85 °C	2062	177
I-max 720mA	Tc 25 °C	5625	164
	Tc-nom 45 °C	5476	161
	Tc-max 85 °C	5132	153

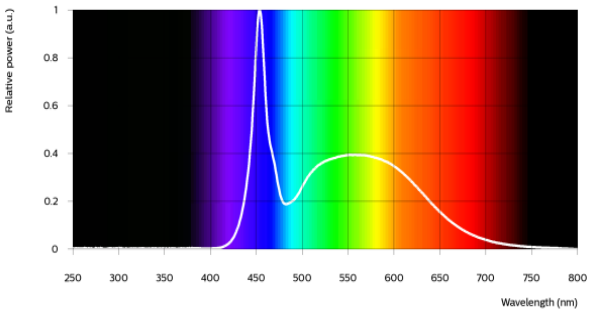


Fortimo LED Strip 2ft MF 865 FC HV6
Fortimo LED Strip 2ft MF 865 BC HV6

Parameter	Min	Typ	Max	Unit
Luminous flux	2100	2165	2350	lm
Efficacy	175	183	211	lm/W
Correlated color temperature (CCT)		6500		K
Color coordinates (CIEx, CIEy)		(0.310, 0.324)		-
Color consistency			3	SDCM
CRI	80			
R9	0			
Photometric code		865/339		
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	865	lm	lm/W
80% I-nom 214mA	Tc 25 °C	1794	190
	Tc-nom 45 °C	1751	187
	Tc-max 85 °C	1644	178
I-nom 267mA	Tc 25 °C	2218	187
	Tc-nom 45 °C	2165	183
	Tc-max 85 °C	2032	175
I-max 720mA	Tc 25 °C	5571	163
	Tc-nom 45 °C	5434	160
	Tc-max 85 °C	5092	152



Electrical characteristics

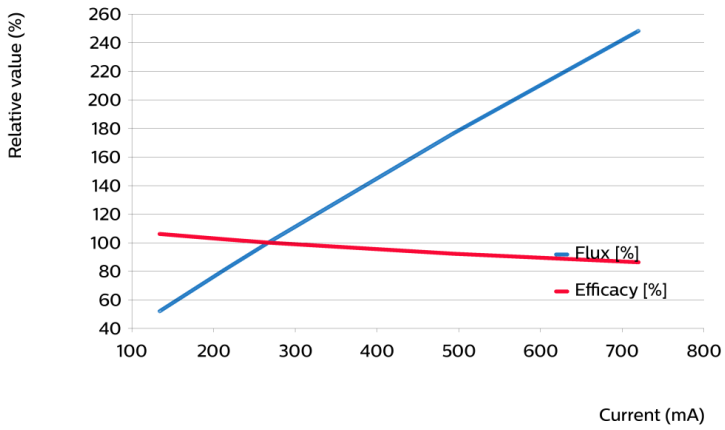
Parameter	Min	Typ	Max	Unit
Forward voltage	41.8	44.2	45.0	V
Power consumption	11.2	11.8	12.0	W = kWh/1000h
Number of modules in series per chain			7	
Number of modules in parallel			4	

Measurement precision for Vf +/- 3%. Measurement precision for power +/- 3.3%

Tuning information

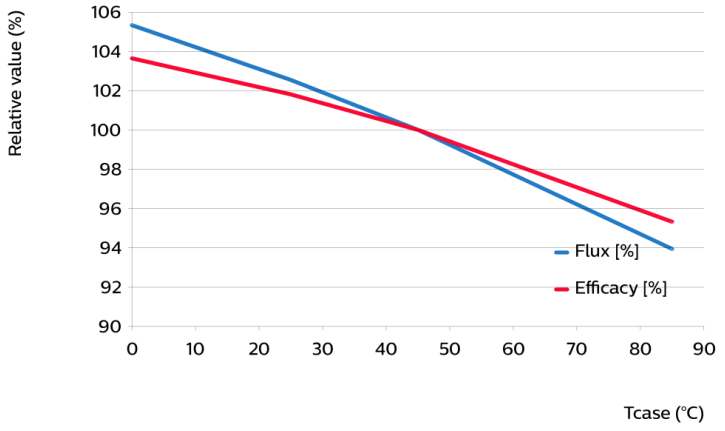
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
720	248	86
494	177	92
267	100	100
214	81	102
134	52	106



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

Tc [°C]	Flux [%]	Efficacy [%]
85	94	95
45	100	100
25	103	102
0	105	104



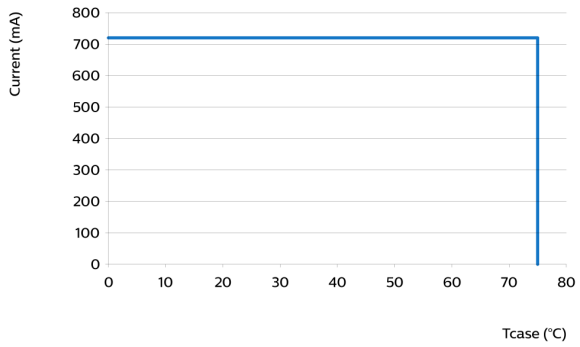
Lumen maintenance

Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% Inom=214mA	Tc=25°C	>72	>72	>72	>72	>72	>72	>68	>68	>68
	Tc_nom=45°C	>72	>72	>72	>72	>72	>72	>68	67	66
	Tc_life=75°C	>72	>72	>72	>72	>72	>72	47	46	45
Inom=267mA	Tc=25°C	>72	>72	>72	>72	>72	>72	>68	>68	>68
	Tc_nom=45°C	>72	>72	>72	>72	>72	>72	>68	67	66
	Tc_life=75°C	>72	>72	>72	>72	>72	>72	47	46	45
Ilife=720mA	Tc=25°C	>72	>72	>72	>72	>72	>72	>41	>41	>41
	Tc_nom=45°C	>72	>72	>72	>72	>72	>72	>41	>41	>41
	Tc_life=75°C	>72	>72	>72	>72	>72	>72	41	40	39

Lifetime

Parameter	Value	Unit
M70F50 nominal	>72000	hours
M70F50 life	>72000	hours

Performance Window



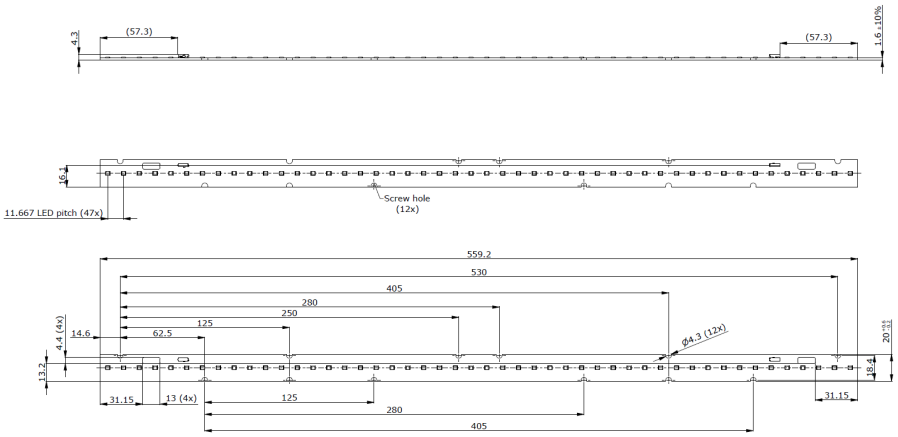
Wiring

Specification item	Value	Unit	Condition
Input wire cross-section	0.25…0.75	mm^2	solid wire
	18…24	AWG	solid wire
Input wire strip length	7.5…8.5	mm	
Input wire cross-section	0.33…0.5	mm^2	stranded wire
	20…22	AWG	stranded wire
Input wire strip length	7.5…8.5	mm	

Mechanical characteristics

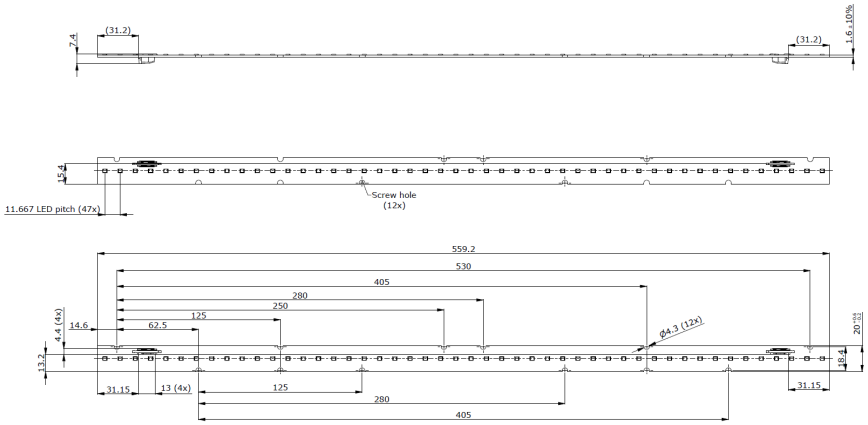
Fortimo LED Strip 2ft MF 830 FC HV6
Fortimo LED Strip 2ft MF 835 FC HV6
Fortimo LED Strip 2ft MF 840 FC HV6
Fortimo LED Strip 2ft MF 850 FC HV6
Fortimo LED Strip 2ft MF 865 FC HV6

Parameter	Min	Typ	Max	Unit
Length	558.9	559.2	559.5	mm
Width	19.8	20	20.6	mm
Height PCB	1.45	1.6	1.75	mm
Height Total		4.3		mm
Product mass		35.2		gram



Fortimo LED Strip 2ft MF 830 BC HV6
Fortimo LED Strip 2ft MF 835 BC HV6
Fortimo LED Strip 2ft MF 840 BC HV6
Fortimo LED Strip 2ft MF 865 BC HV6

Parameter	Min	Typ	Max	Unit
Length	558.9	559.2	559.5	mm
Width	19.8	20	20.6	mm
Height PCB	1.45	1.6	1.75	mm
Height Total		7.4		mm
Product mass		35.5		gram



Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		720	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+

Environmental
RoHS/REACH

Application	
Dimming	Yes

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