PHILIPS

Fortimo

LED

Fortimo LED Line 2ft MF 8xx 1R LV5

Datasheet

Upgraded with the latest LED technology, the Fortimo LED Line 1R provides high quality white light on a well-known footprint. From a single line (1R) of LEDs, the modules provide a high energy efficiency whilst enabling two lumen ranges: MF (1100lm/ft) and HF (2000lm/ft). Combined with the wide range of CCT's and CRI's available, the product range is suitable in many indoor luminaire applications like retail, industry and office lighting.

Key features and benefits

- Latest LED technology providing an improved module efficiency
- Long life time: >50,000 hours
- High quality white light: CRI80 or CRI90
- Excellent color consistency of 3 SDCM
- Available color temperatures: 3000K / 4000K / 5000K / 6500K
- Two module lengths: 1ft/280mm or 2ft/560mm
- Two lumen packages: MF (1100lm/ft) or HF (2000lm/ft)
- High voltage (HV) or Low voltage (LV) designs
- Five year system warranty

March 2022

indirect

100%

instant

Ordering data

Commercial product name	EOC	12NC	Box quantity
Fortimo LED Line 2ft MF 830 1R LV5	8719514 411364 00	9290 029 31606	80
Fortimo LED Line 2ft MF 840 1R LV5	8719514 411388 00	9290 029 31706	80

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo LED Line 2ft MF 8xx 1R LV5	394	800	800	mA

Module temperatures

Parameter	Nominal*	Life**	Max***	Unit
T_c (case temperature at T_c point)	45	80	80	°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

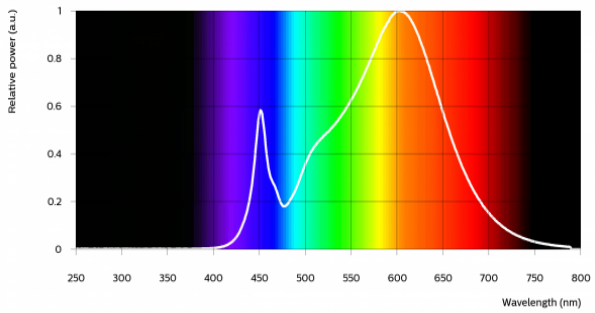
Optical characteristics - table per color (CCT)

Fortimo LED Line 2ft MF 830 1R LV5

Parameter	Min	Typ	Max	Unit
Luminous flux	2086	2110	2204	lm
Efficacy		176		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.431, 0.402)		-
Color consistency			3	SDCM
CRI	80			
R9	0			
Photometric code		830/369		
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 315mA	Tc 25 °C	1739	182
	Tc-nom 45 °C	1702	180
	Tc-max 80 °C	1623	174
I-nom 394mA	Tc 25 °C	2156	179
	Tc-nom 45 °C	2110	176
	Tc-max 80 °C	2012	170
I-max 800mA	Tc 25 °C	4204	162
	Tc-nom 45 °C	4112	160
	Tc-max 80 °C	3917	154

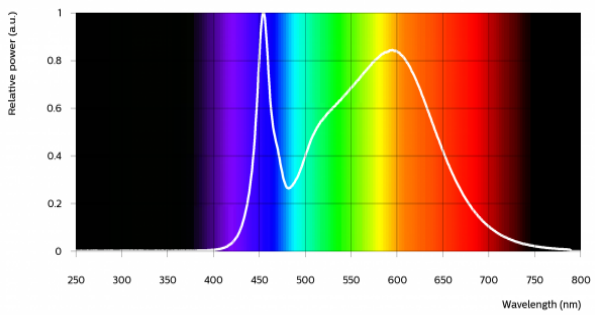


Fortimo LED Line 2ft MF 840 1R LV5

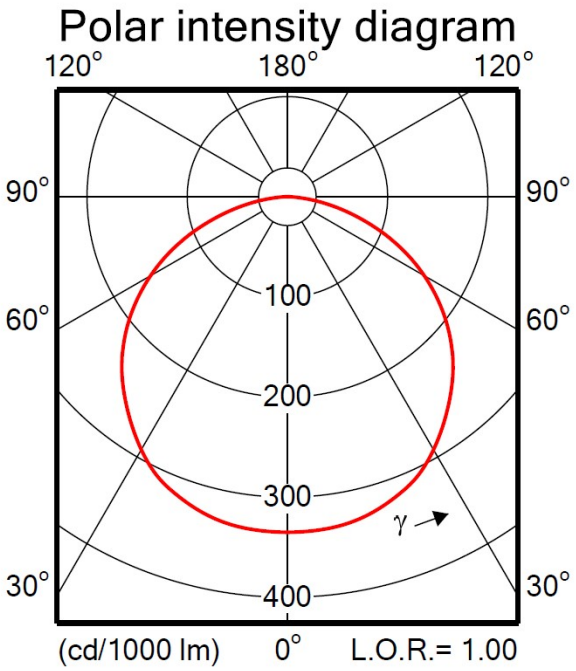
Parameter	Min	Typ	Max	Unit
Luminous flux	2176	2200	2294	lm
Efficacy		184		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.379, 0.378)		-
Color consistency			3	SDCM
CRI	80			
R9	0			
Photometric code		840/369		
Photobiological safety			RG1 unlimited	

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 315mA	Tc 25 °C	1814	190
	Tc-nom 45 °C	1774	187
	Tc-max 80 °C	1690	181
I-nom 394mA	Tc 25 °C	2251	187
	Tc-nom 45 °C	2200	184
	Tc-max 80 °C	2095	177
I-max 800mA	Tc 25 °C	4401	170
	Tc-nom 45 °C	4301	167
	Tc-max 80 °C	4093	161



Beam shape


Polar intensity diagram
120°
180°
120°
90°
90°
60°
60°
30°
30°
100
200
300
400
γ
(cd/1000 lm)
0°
L.O.R.= 1.00

Electrical characteristics

Parameter	Min	Typ	Max	Unit
Forward voltage	29.3	30.4	31.0	V
Power consumption	11.5	12.0	12.2	W = kWh/1000h
Number of modules in series per chain			1	
Number of modules per chain			2	

Lumen maintenance

Operation point	Lumen maintenance	L70			L80			L90		
	x 1000 hours	B50	B20	B10	B50	B20	B10	B50	B20	B10
80% Inom=315.2mA	Tc=25°C	>60	>60	>60	>60	>60	>60	>60	>60	>60
	Tc_nom=45°C	>60	>60	>60	>60	>60	>60	51	49	49
	Tc_life=80°C	>60	>60	>60	55	53	52	26	25	24
Inom=394mA	Tc=25°C	>60	>60	>60	>60	>60	>60	>60	>60	>60
	Tc_nom=45°C	>60	>60	>60	>60	>60	>60	49	47	46
	Tc_life=80°C	>60	>60	>60	52	51	50	25	24	24
Ilife=800mA	Tc=25°C	>60	>60	>60	>60	>60	>60	>60	>60	>60
	Tc_nom=45°C	>60	>60	>60	>60	>60	>60	42	41	40
	Tc_life=80°C	>60	>60	>60	46	44	43	21	21	20

Lifetime

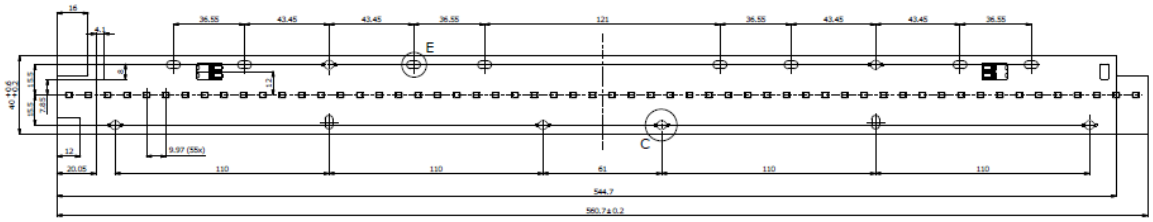
Parameter	Value	Unit
M70F50 nominal	>60000	hours
M70F50 life	>60000	hours

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...9	mm	

Mechanical characteristics

Parameter	Min	Typ	Max	Unit
Length	560.5	560.7	560.9	mm
Width	39.8	40	40.6	mm
Height PCB		1.6		mm
Height total		6.1		mm
Product mass		69		gram



Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		800	mA
Case temperature (Tc-max)		80	°C
ESD (direct contact)	8		kV
Working voltage		120	V_{dc}

Application information

Certificates and Standards
CE
ENEC
ENEC+

Environmental
RoHS/REACH

Application	
Dimming	Yes

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10/03/2022

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