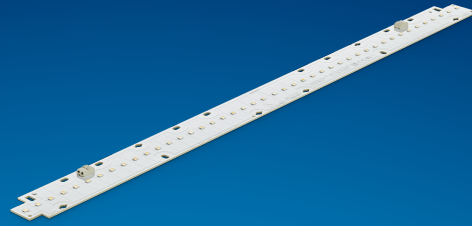


PHILIPS

Fortimo

LED

Fortimo LED Line 2ft HF
8xx 1R HV5



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



Ordering data

Commercial product name	EOC	12NC	Box quantity
Fortimo LED Line 2ft HF 830 1R HV5	8719514 411500 00	9290 029 32206	80
Fortimo LED Line 2ft HF 840 1R HV5	8719514 411548 00	9290 029 32306	80
Fortimo LED Line 2ft HF 850 1R HV5	8719514 411562 00	9290 029 32406	80
Fortimo LED Line 2ft HF 865 1R HV5	8719514 411609 00	9290 029 32506	80

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo LED Line 2ft HF 8xx 1R HV5	292	480	480	mA

Module temperatures

Parameter	Nominal*	Life**	Max***	Unit
T _c (case temperature at T _c point)	55	90	95	°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

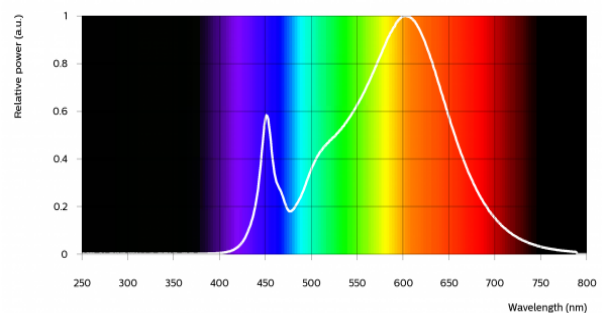
Optical characteristics - table per color (CCT)

Fortimo LED Line 2ft HF 830 1R HV5

Parameter	Min	Typ	Max	Unit
Luminous flux	3691	3720	4035	lm
Efficacy		158		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.430, 0.400)		-
Color consistency			3	SDCM
CRI	80			
R9	0			
Photometric code		830/369		
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 234mA	Tc 25 °C	3103	167
	Tc-nom 55 °C	3014	164
	Tc-max 95 °C	2843	156
I-nom 292mA	Tc 25 °C	3830	162
	Tc-nom 55 °C	3720	158
	Tc-max 95 °C	3508	152
I-max 480mA	Tc 25 °C	6077	148
	Tc-nom 55 °C	5899	145
	Tc-max 95 °C	5556	139

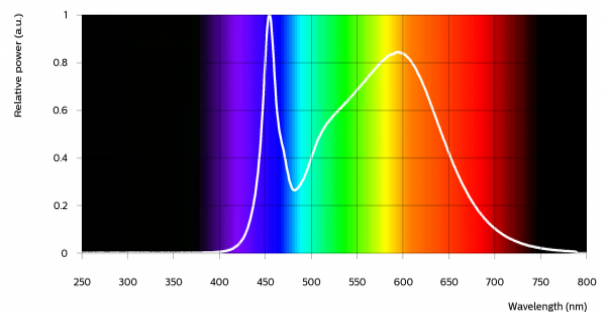


Fortimo LED Line 2ft HF 840 1R HV5

Parameter	Min	Typ	Max	Unit
Luminous flux	3971	4000	4258	lm
Efficacy		170		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.376, 0.373)		-
Color consistency			3	SDCM
CRI	80			
R9	0			
Photometric code		840/369		
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 234mA	Tc 25 °C	3342	179
	Tc-nom 55 °C	3241	175
	Tc-max 95 °C	3048	167
I-nom 292mA	Tc 25 °C	4125	174
	Tc-nom 55 °C	4000	170
	Tc-max 95 °C	3761	162
I-max 480mA	Tc 25 °C	6545	159
	Tc-nom 55 °C	6342	155
	Tc-max 95 °C	5955	147

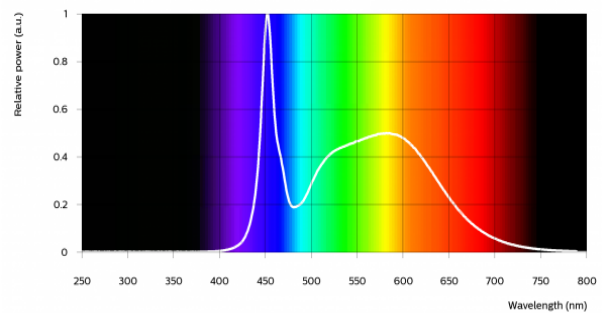


Fortimo LED Line 2ft HF 850 1R HV5

Parameter	Min	Typ	Max	Unit
Luminous flux	3971	4000	4258	lm
Efficacy		170		lm/W
Correlated color temperature (CCT)		5000		K
Color coordinates (CIEx, CIEy)		(0.338, 0.348)		-
Color consistency			3	SDCM
CRI	80			
R9	0			
Photometric code		850/369		
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	850	lm	lm/W
80% I-nom 234mA	Tc 25 °C	3342	179
	Tc-nom 55 °C	3241	175
	Tc-max 95 °C	3048	167
I-nom 292mA	Tc 25 °C	4125	174
	Tc-nom 55 °C	4000	170
	Tc-max 95 °C	3761	162
I-max 480mA	Tc 25 °C	6545	159
	Tc-nom 55 °C	6342	155
	Tc-max 95 °C	5955	147

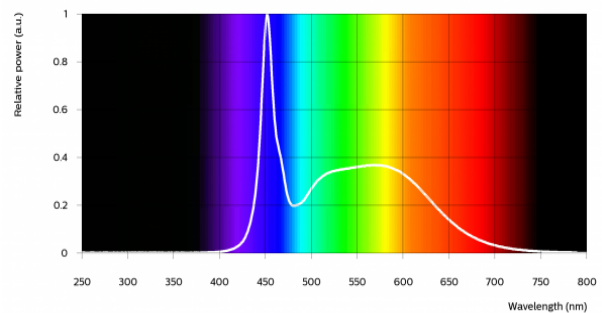


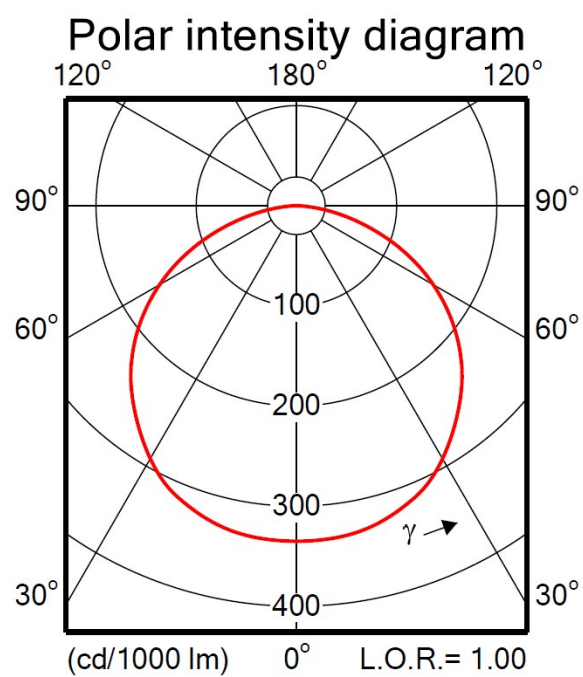
Fortimo LED Line 2ft HF 865 1R HV5

Parameter	Min	Typ	Max	Unit
Luminous flux	3911	3940	4258	lm
Efficacy		168		lm/W
Correlated color temperature (CCT)		6500		K
Color coordinates (CIEx, CIEy)		(0.308, 0.322)		-
Color consistency			3	SDCM
CRI	80			
R9	0			
Photometric code		865/369		
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	865	lm	lm/W
80% I-nom 234mA	Tc 25 °C	3300	177
	Tc-nom 55 °C	3192	173
	Tc-max 95 °C	2987	165
I-nom 292mA	Tc 25 °C	4074	172
	Tc-nom 55 °C	3940	168
	Tc-max 95 °C	3686	160
I-max 480mA	Tc 25 °C	6465	158
	Tc-nom 55 °C	6249	154
	Tc-max 95 °C	5839	146





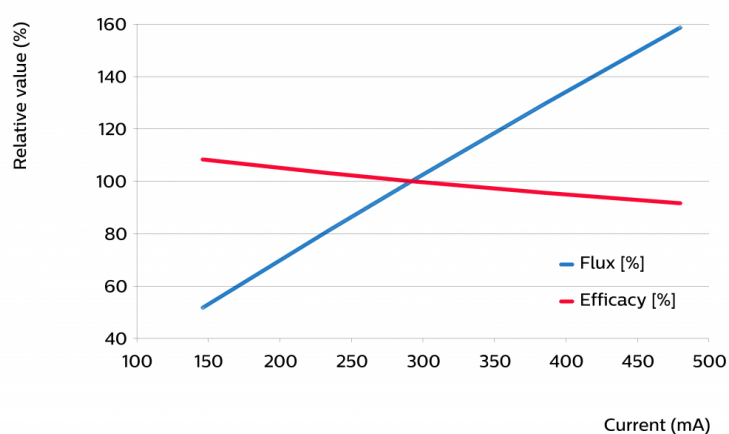
Electrical characteristics

Parameter	Min	Typ	Max	Unit
Forward voltage	77.5	80.4	82.0	V
Power consumption	22.6	23.5	23.9	W = kWh/1000h
Number of modules in series per chain			4	
Number of modules in parallel			1	

Tuning information

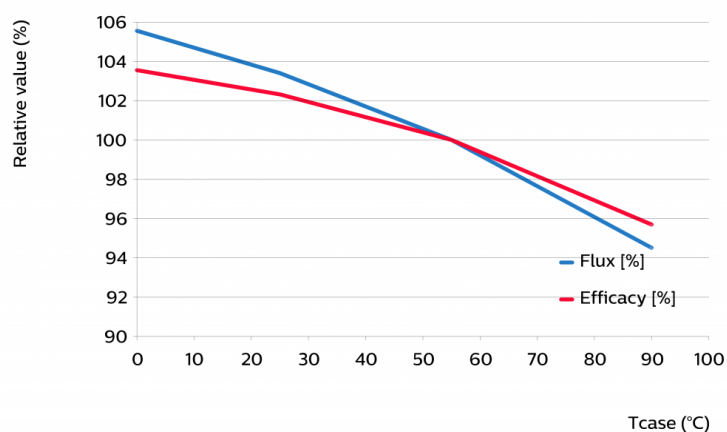
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
480	159	92
386	130	96
292	100	100
234	81	103
146	52	108



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

Tc [°C]	Flux [%]	Efficacy [%]
90	95	96
55	100	100
25	103	102
0	106	104



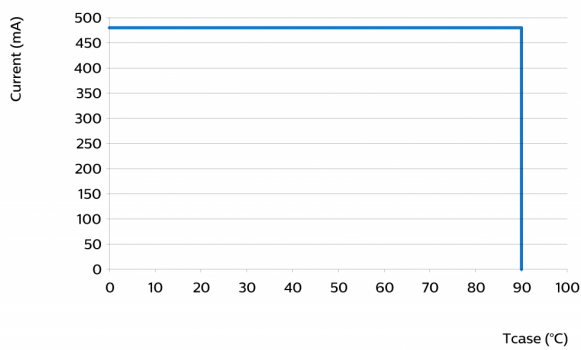
Lumen maintenance

Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% Inom=233.6mA	Tc=25°C	>100	>100	>100	>100	>100	>100	95	93	92
	Tc_nom=55°C	>100	>100	>100	>100	>100	>100	67	66	65
	Tc_life=90°C	>100	66	48	98	66	48	48	46	45
Inom=292mA	Tc=25°C	>100	>100	>100	>100	>100	>100	91	89	88
	Tc_nom=55°C	>100	>100	>100	>100	>83	>100	65	63	63
	Tc_life=90°C	>100	66	48	95	66	48	46	45	44
Ilife=480mA	Tc=25°C	>100	>100	>100	>100	>100	>100	83	81	80
	Tc_nom=55°C	>100	>100	>100	>100	>100	>100	59	57	57
	Tc_life=90°C	>100	65	48	87	65	48	42	41	40

Lifetime

Parameter	Value	Unit
M70F50 nominal	>100000	hours
M70F50 life	>100000	hours

Performance Window

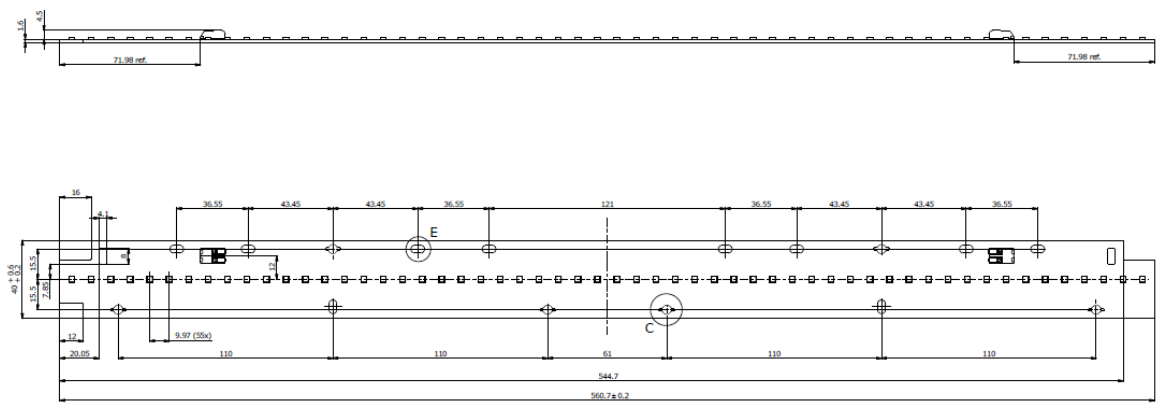


Wiring

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...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)		480	mA
Case temperature (Tc-max)		95	°C
ESD (direct contact)	8		kV
Working voltage		420	V _{dc}

Application information

Certificates and Standards

CE
ENEC
ENEC+

Environmental

RoHS/REACH

Application

Dimming	Yes
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