

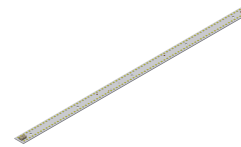
ADVANCE

by  Signify

LED Modules

Fortimo edge LV2

21.5in 8600lm



Fortimo edge LV2

21.5in 8600lm

- High-bay industrial lighting
- High-bay big box retail lighting
- Vapor tight high temperature applications

Key features and benefits

- Ultra high energy efficiency
- High lumen maintenance
- Robust 3030 LED platform
- Compact design enables innovative luminaire design
- High thermal limit: I-Life 90°C Tc
- Perfect match with Xitanium industrial driver portfolio
- Low total cost of ownership/Fast return on investment
- High lifetime and reliability data ensure low maintenance luminaires
- 8kV ESD rating
- Thermal Cycles designed for industrial applications
- Mounting pattern aligns with Fortimo edge LV1 for seamless upgrade

Ordering data

Commercial product name	12NC	Box quantity
Fortimo edge 21.5in 8600lm 830 LV2	9290 027 25313	156
Fortimo edge 21.5in 8600lm 835 LV2	9290 027 25413	156
Fortimo edge 21.5in 8600lm 840 LV2	9290 027 25513	156
Fortimo edge 21.5in 8600lm 850 LV2	9290 027 25613	156

March 2021

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo edge LV2 21.5in 8600lm	1050	1300	1750	mA

Module temperatures

Parameter	Nominal*	Life**	Max***	Unit
T _c (case temperature at T _c point)	65	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

Suggested maximum current at elevated ambient

Setting	1	2	3	4	Unit
Luminaire maximum ambient	35	45	55	65	°C
Suggested maximum current*	1300	1300	1000	700	mA

* Drive current that may be possible at the reference external ambient temperature. The maximum suggested current given is for a typical non-lensed luminaire design with good thermal transfer capability. Use of a lensed luminaire or luminaires with non-optimal thermal characteristics will require a further current reduction to meet the same maximum ambient temperature. The current suggestion is based on the module T_c-life and thermal testing must be used to verify T_c-life is never exceeded for your specific luminaire. It may be necessary to adjust the final current value in order to meet the T_c-life rating of the module.

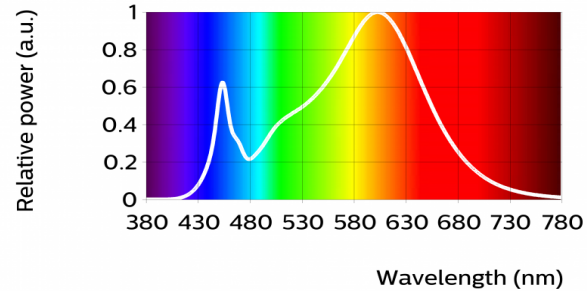
Optical characteristics - table per color (CCT)

Fortimo edge 21.5in 8600lm 830 LV2

Parameter	Min	Typ	Max	Unit
Luminous flux	7470	8110	8680	lm
Module efficacy	156	175		lm/W
Correlated color temperature (CCT)		3000		K
Color consistency			3	SDCM
CRI	80			
R9	0			

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 and R9 ± 3

Operation point	830	lm	lm/W
80% I-nom 840mA	Tc 25 °C	6820	183
	Tc-nom 65 °C	6560	179
	Tc-life 90 °C	6320	174
I-nom 1050mA	Tc 25 °C	8440	179
	Tc-nom 65 °C	8110	175
	Tc-life 90 °C	7820	170
I-life 1300mA	Tc 25 °C	10330	175
	Tc-nom 65 °C	9920	170
	Tc-life 90 °C	9560	165

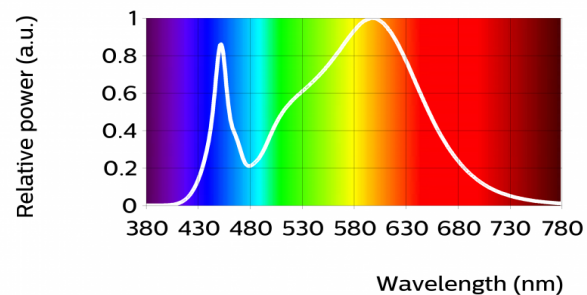


Fortimo edge 21.5in 8600lm 835 LV2

Parameter	Min	Typ	Max	Unit
Luminous flux	7780	8410	9040	lm
Module efficacy	163	181		lm/W
Correlated color temperature (CCT)		3500		K
Color consistency			3	SDCM
CRI	80			
R9	0			

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 and R9 ± 3

Operation point	835	lm	lm/W
80% I-nom 840mA	Tc 25 °C	7100	192
	Tc-nom 65 °C	6800	186
	Tc-life 90 °C	6540	180
I-nom 1050mA	Tc 25 °C	8790	187
	Tc-nom 65 °C	8410	181
	Tc-life 90 °C	8080	176
I-life 1300mA	Tc 25 °C	10760	182
	Tc-nom 65 °C	10290	176
	Tc-life 90 °C	9890	171

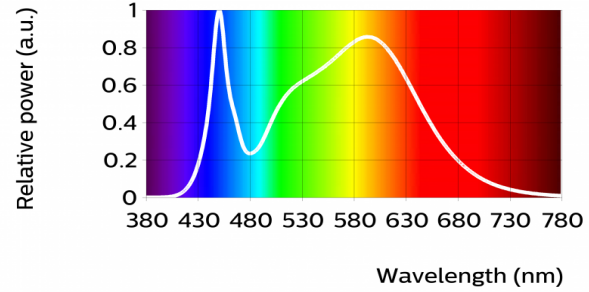


Fortimo edge 21.5in 8600lm 840 LV2

Parameter	Min	Typ	Max	Unit
Luminous flux	7950	8600	9240	lm
Module efficacy	166	185		lm/W
Correlated color temperature (CCT)		4000		K
Color consistency			3	SDCM
CRI	80			
R9	0			

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 and R9 ± 3

Operation point	840	lm	lm/W
80% I-nom 840mA	Tc 25 °C	7260	196
	Tc-nom 65 °C	6950	190
	Tc-life 90 °C	6680	184
I-nom 1050mA	Tc 25 °C	8990	191
	Tc-nom 65 °C	8600	185
	Tc-life 90 °C	8270	180
I-life 1300mA	Tc 25 °C	11000	186
	Tc-nom 65 °C	10520	180
	Tc-life 90 °C	10110	174

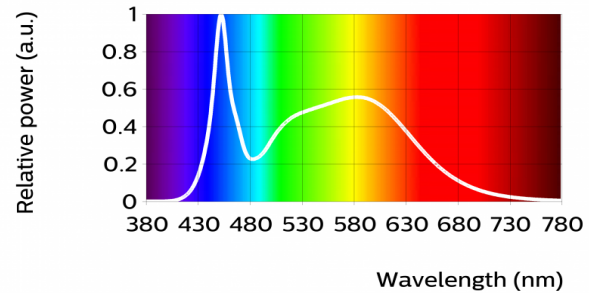


Fortimo edge 21.5in 8600lm 850 LV2

Parameter	Min	Typ	Max	Unit
Luminous flux	7950	8600	9240	lm
Module efficacy	166	185		lm/W
Correlated color temperature (CCT)		5000		K
Color consistency			3	SDCM
CRI	80			
R9	0			

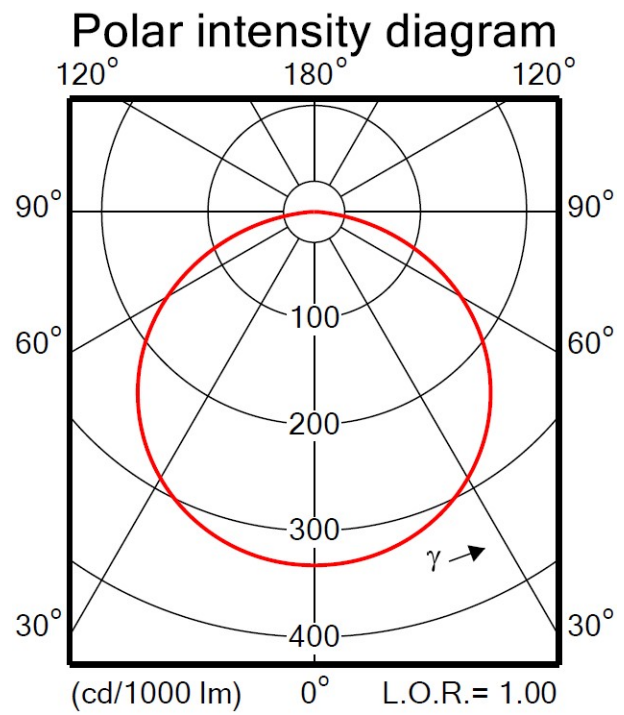
Measurement precision $\pm 5\%$ for the flux data and $\pm 6\%$ for the efficacy data. Measurement precision for color coordinates ± 0.005 . Measurement precision for CRI ± 1.5 and R9 ± 3

Operation point	850	lm	lm/W
80% I-nom 840mA	Tc 25 °C	7260	196
	Tc-nom 65 °C	6950	190
	Tc-life 90 °C	6680	184
I-nom 1050mA	Tc 25 °C	8990	191
	Tc-nom 65 °C	8600	185
	Tc-life 90 °C	8270	180
I-life 1300mA	Tc 25 °C	11000	186
	Tc-nom 65 °C	10520	180
	Tc-life 90 °C	10110	174



Beam shape

The LED-module has a Lambertian light distribution.



Electrical characteristics

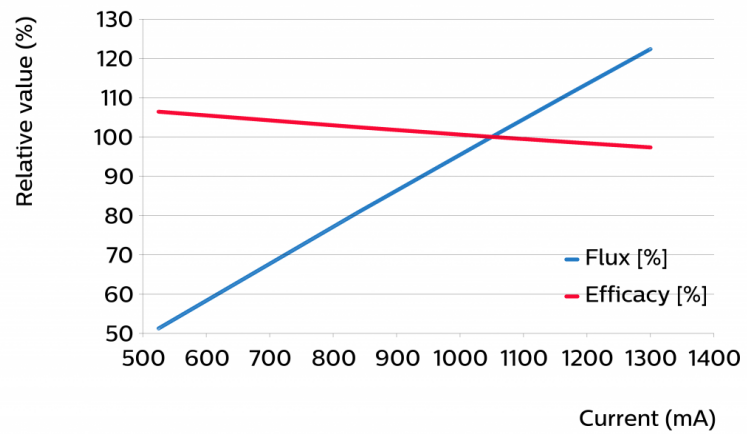
Parameter	Min	Typ	Max	Unit
Forward voltage	42.1	44.2	46.2	V
Power consumption	44.2	46.4	48.5	W = kWh/1000h
Number of modules in series per chain			1	

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

Tuning information

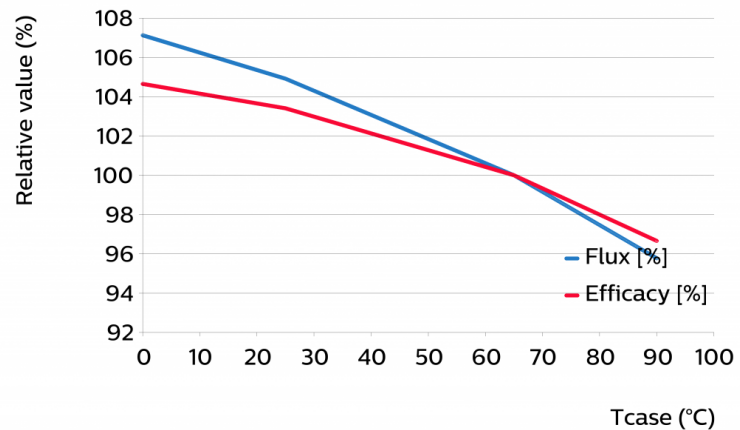
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
1300	122	97
1175	111	99
1050	100	100
840	81	102
525	51	106



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

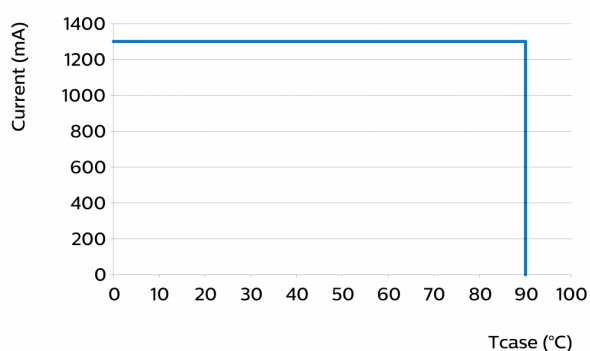
Tc [°C]	Flux [%]	Efficacy [%]
90	96	97
65	100	100
25	105	103
0	107	105



Lumen maintenance

Operation point	Lumen maintenance x 1000 hours	L70	L80	L90
		B50	B50	B50
80% I-nom 840 mA	Ts nom 65°C	>50	>50	>50
	Ts 75°C	>50	>50	>50
	Ts-life 90°C	>50	>50	>50
I-nom 1050 mA	Ts nom 65°C	>50	>50	>50
	Ts 75°C	>50	>50	>50
	Ts-life 90°C	>50	>50	>50
I-life 1300 mA	Ts nom 65°C	>50	>50	>50
	Ts 75°C	>50	>50	>50
	Ts-life 90°C	>50	>50	>50

Performance Window



Thermal switching table

Warranted Number of Full Thermal Product Cycles at 25°C ambient temperature

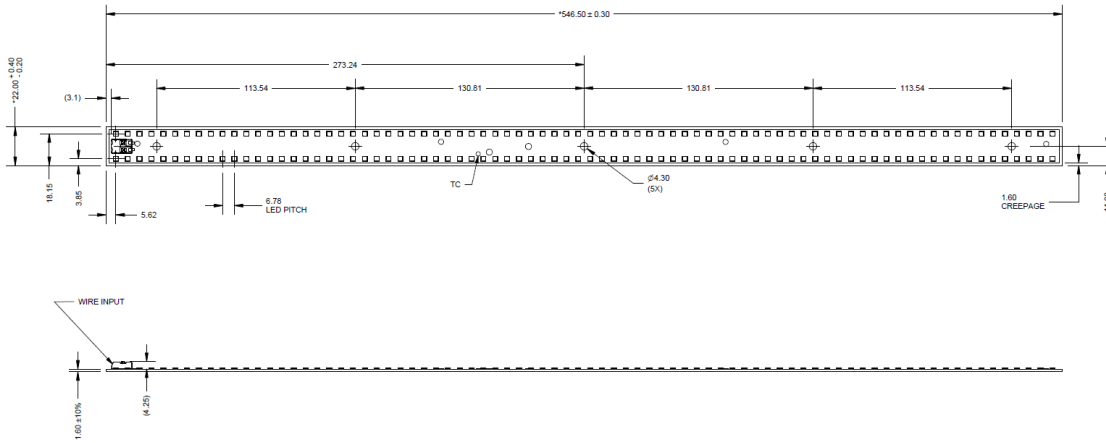
Case Temperature - T _c [°C]	Amount of Cycles
45 (or less)	>100000
55	>100000
65	>100000
75	50000
85	24000
90	18000

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	4.5...5.5	mm	
Input wire cross-section	0.45...0.7	mm ²	stranded wire
	20...22	AWG	stranded wire
Input wire strip length	4.5...5.5	mm	

Mechanical characteristics

Parameter	Min	Typ	Max	Unit
Length	546.2	546.5	546.8	mm
Width	21.8	22	22.4	mm
Height PCB	1.44	1.6	1.76	mm
Height total		5.85		mm
Warpage (IPC-TM-650)			5	%



Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		1750	mA
Case temperature (Tc-max)		95	°C
ESD (direct contact)	8		kV
Working voltage		60	V _{dc}
Ambient temperature	-40		°C

Surge protection of the module must be provided by the driver or other components. Advance Xitanium and Certadrive drivers have built in protection circuitry and will protect the module up to the specified driver surge rating. When using third party drivers testing or confirmation from manufacturer is suggested to ensure adequate module protection.

Application information

Certificates and Standards

UL 8750

Environmental

RoHS/REACH

Application

IP rating	No IP rating
Overheating protection	No protection
Luminaire class ANSI	Class 2
Dimming	Yes

There cannot be any ice/fog/mist on any part of the module surface during the application at -40°C.

Notes

View limited warranty at www.signify.com/warranties for details and restrictions.

