

PHILIPS

LED Modules

Fortimo Edge
21.5in 6150lm 8xx LV1



Fortimo edge LV1 is designed to provide top performance for high lumen and high temperature applications such as high-bay linear systems. Together with the wide range of available Philips Advance Xitanium LED drivers, it offers piece of mind for both OEM and end-user, backed up by a five-year limited system warranty¹.

Commercial Product Name	12NC	Box Quantity
Fortimo edge 21.5in 6150lm 830 LV1	929001749513	156
Fortimo edge 21.5in 6150lm 835 LV1	929001749613	156
Fortimo edge 21.5in 6150lm 840 LV1	929001749713	156
Fortimo edge 21.5in 6150lm 850 LV1	929001749813	156

¹ For more information on Philips' limited warranty please visit www.philips.com/warranties.

Fortimo edge 21.5in 6150lm 8xx LV1

Features

- High energy efficacy
- High lumen maintenance
- High output and compact design
- High thermal capability llife 90°C Tc

Benefits

- Perfect match with Xitanium edge industrial drivers
- Low total cost of ownership / Fast return on investment
- Lifetime² (low maintenance)
- Reliability (low maintenance)
- Usage in extreme application conditions and application heights

Application

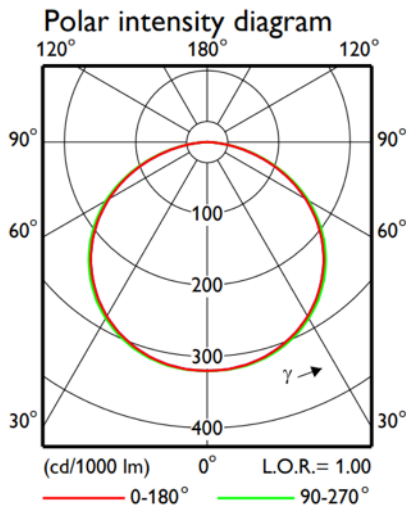
- High-bay industrial lighting
- High-bay big box retail lighting
- Vapor tight high temperature applications

Electrical Characteristics

Fortimo Edge 21.5in 6150lm 8xx LV1

Parameter	Min	Typ	Max	Unit
Forward voltage	44.7	46.50	48.3	V
Thermal power		37.20		W

Beam Shape



² Average rated life is based on engineering data and probability analysis.
The hours are at the B50, L70 point – 50,000 hours life with 70% lumen maintenance at Tc point.

Fortimo edge 21.5in 6150lm 8xx LV1

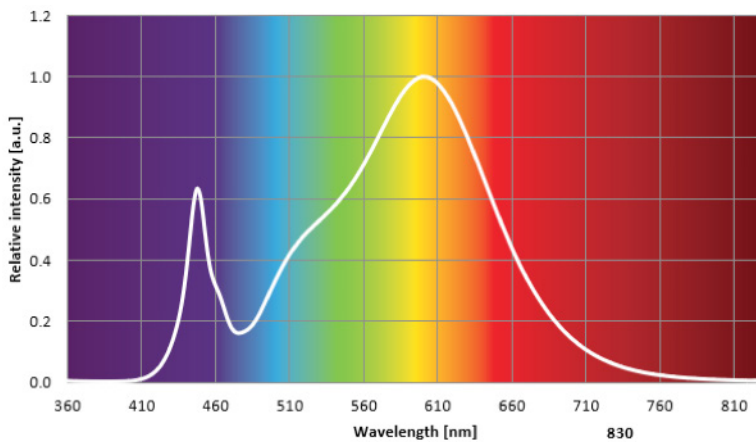
Optical Characteristics – Table per Color (CCT)

Fortimo edge 21.5in 6150lm 830 LV1

Parameter	Min	Typ	Max	Unit
Luminous flux	5400	5840	6280	lm
Module efficacy	141	157	173	lm/W
Correlated color temperature (CCT)		3000		K
Color consistency			3	SDCM
CRI	80			

R9=5. 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	Tc	lm	lm/W
525 mA	45 °C	3990	168
	65 °C	3870	165
	85 °C	3750	161
1050 mA	45 °C	7630	151
	65 °C	7410	148
	85 °C	7160	144
1100 mA	45 °C	7960	150
	65 °C	7730	147
	85 °C	7480	143



Fortimo edge 21.5in 6150lm 8xx LV1

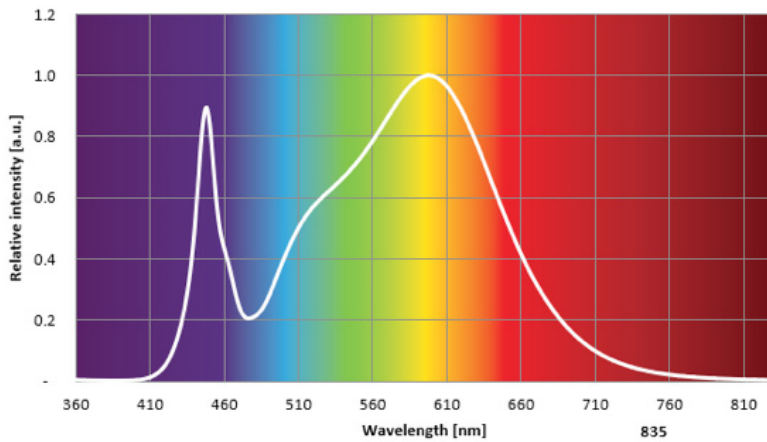
Optical Characteristics – Table per Color (CCT)

Fortimo edge 21.5in 6150lm 835 LV1

Parameter	Min	Typ	Max	Unit
Luminous flux	5630	6090	6540	lm
Module efficacy	147	163	179	lm/W
Correlated color temperature (CCT)		3500		K
Color consistency			3	SDCM
CRI	80			

R9=5. 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	Tc	lm	lm/W
525 mA	45 °C	4150	175
	65 °C	4030	172
	85 °C	3900	168
1050 mA	45 °C	7940	157
	65 °C	7710	154
	85 °C	7460	150
1100 mA	45 °C	8290	156
	65 °C	8050	153
	85 °C	7790	149



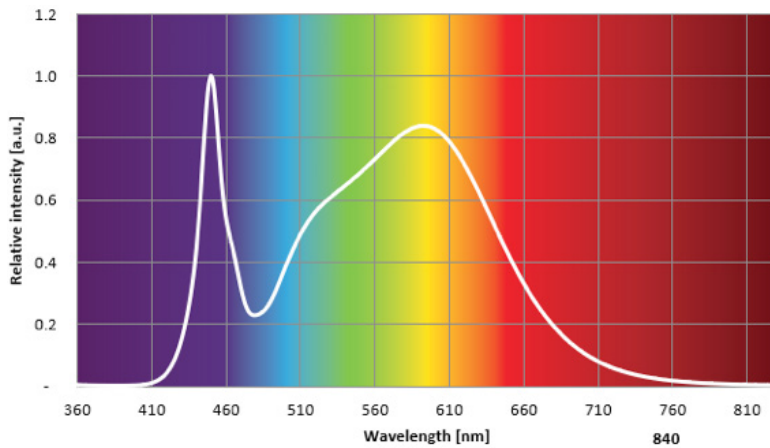
Fortimo edge 21.5in 6150lm 8xx LV1

Optical Characteristics – Table per Color (CCT)

Fortimo edge 21.5in 6150lm 840 LV1				
Parameter	Min	Typ	Max	Unit
Luminous flux	5820	6290	6760	lm
Module efficacy	152	169	186	lm/W
Correlated color temperature (CCT)		4000		K
Color consistency			3	SDCM
CRI	80			

R9=5. 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	Tc	lm	lm/W
525 mA	45 °C	4290	181
	65 °C	4170	177
	85 °C	4030	173
1050 mA	45 °C	8210	162
	65 °C	7979	159
	85 °C	7710	155
1100 mA	45 °C	8570	161
	65 °C	8320	158
	85 °C	8040	154



Fortimo edge 21.5in 6150lm 8xx LV1

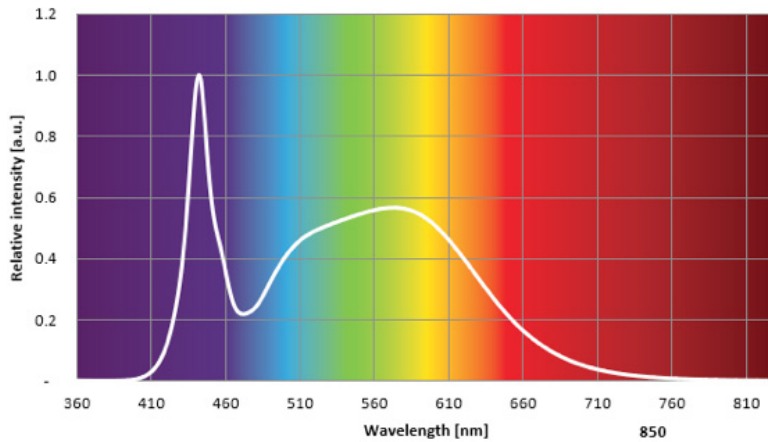
Optical Characteristics – Table per Color (CCT)

Fortimo edge 21.5in 6150lm 850 LV1

Parameter	Min	Typ	Max	Unit
Luminous flux	5820	6290	6760	lm
Module efficacy	152	169	186	lm/W
Correlated color temperature (CCT)		5000		K
Color consistency			3	SDCM
CRI	80			

R9=5. 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	Tc	lm	lm/W
525 mA	45 °C	4290	181
	65 °C	4170	177
	85 °C	4030	173
1050 mA	45 °C	8210	162
	65 °C	7970	159
	85 °C	7710	155
1100 mA	45 °C	8570	161
	65 °C	8320	158
	85 °C	8040	154



Fortimo edge 21.5in 6150lm 8xx LV1

Theoretical TM21 Calculations Based on LED LM80

Operation point	Lumen maintenance x 1000 hours	L70	L80	L90
80% I-nom 640 mA	Ts-nom 55 °C	>50	>50	>50
	Ts 75 °C	>50	>50	45
	Ts-life 90 °C	>50	>50	39
I-nom 800 mA	Ts-nom 55 °C	>50	>50	>50
	Ts 75 °C	>50	>50	45
	Ts-life 90 °C	>50	>50	39
I-life 1050 mA	Ts-nom 55 °C	>50	>50	48
	Ts 75 °C	>50	>50	41
	Ts-life 90 °C	>50	>50	36

Abs Max. Ratings

Parameter	Min.	Typ.	Max.	Unit
Current through the LED module (I-max)			1100	mA
Case temperature (Tc-max)			95	°C
Working voltage			48	Vdc
Dielectric withstand voltage	700			Vdc

Drive Currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo edge 21.5in 6150lm 8xx LV1	800	1050	1100	mA

Drive Temperatures

Module temperatures	Nominal*	Life**	Max***	Unit
Tc (case temperature at Tc 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.

* Max difference between Ts and Tc is 5°C

Warranted number of full thermal product cycles at 25 °C ambient temperature

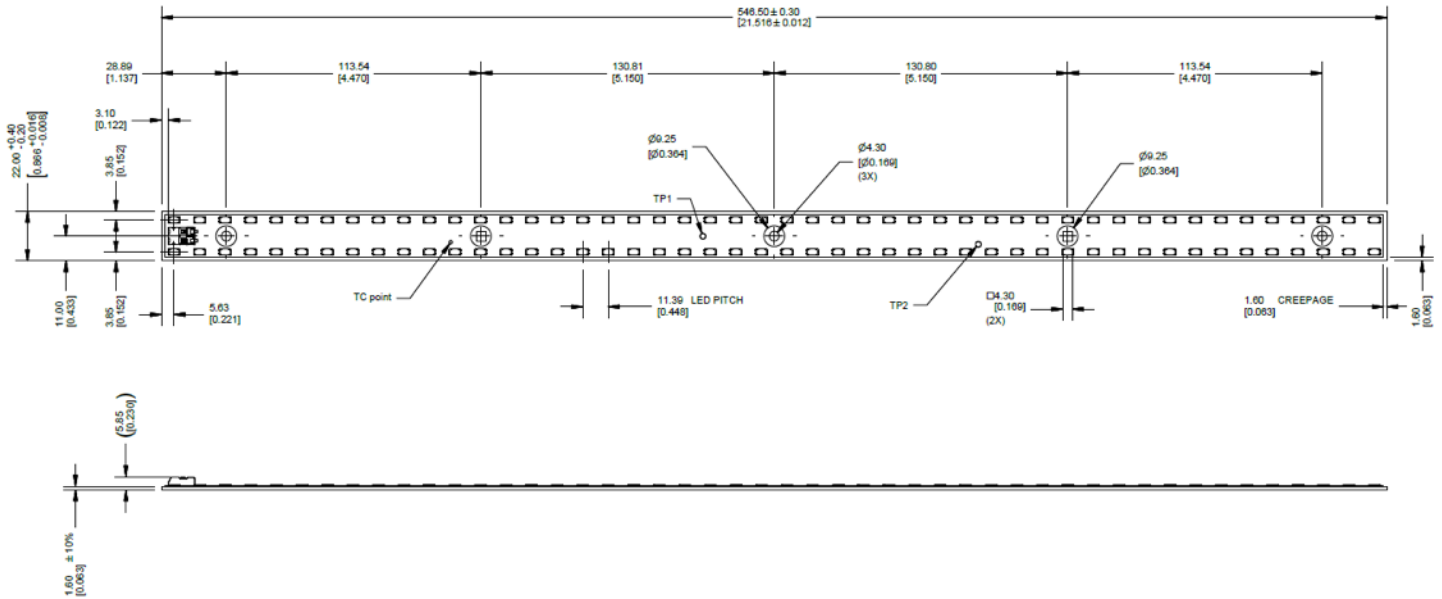
Case Temperature Tc2 [°C]	Amount of Cycles
25	>100,000
35	>100,000
45	>100,000
55	>100,000
65	>100,000
75	>100,000
85	98,000
90	66,000

Surge protection of the module must be provided by the driver or other components. Philips Advance Xitanium and Certadriver 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.

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Mechanical Characteristics

Parameter	Min.	Typ.	Max.	Unit
Warpage (IPC-TM-650)			5	%



Application Information

Compliance and Standards

UL8750

Environmental

RoHS / REACH

Application Information

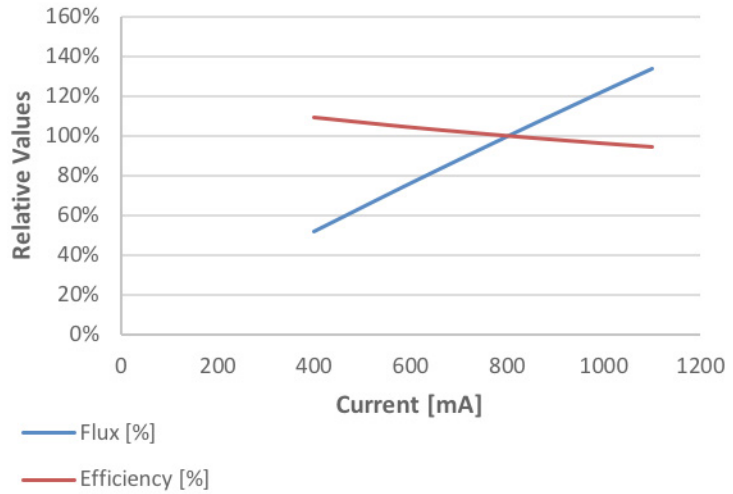
Dimming	Yes
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Tuning Information

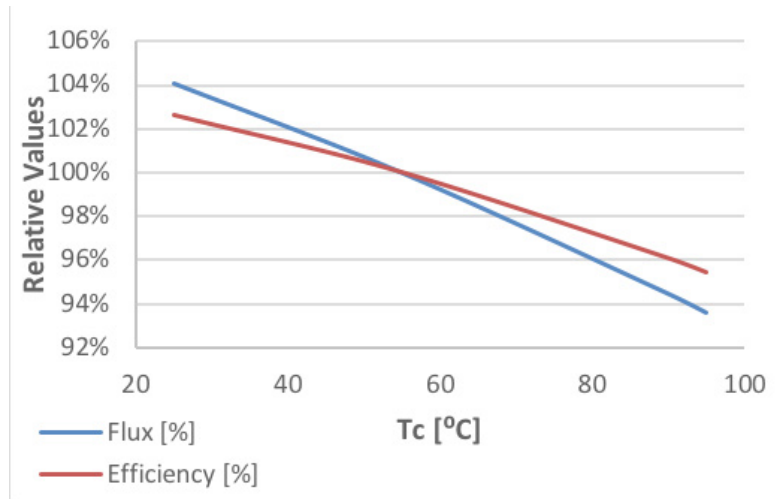
Flux and Efficacy Versus Current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
400	52	109
600	76	104
800	100	100
900	112	98
1000	123	96
1100	134	94



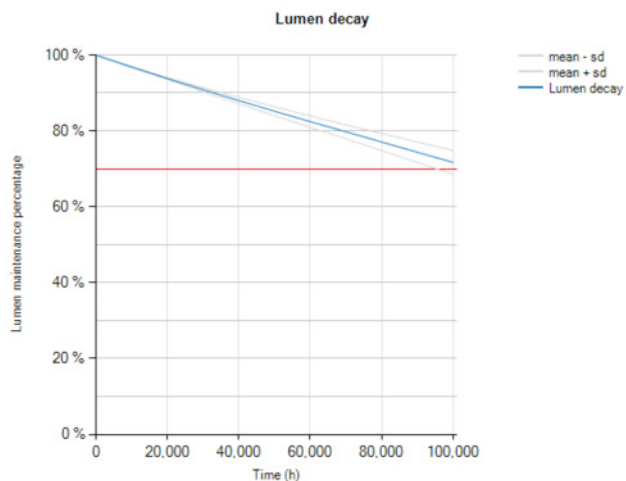
Flux and Efficacy Versus Temperature at Tc (at I nominal)

Tc [°C]	Flux [%]	Efficacy [%]
95	94	95
85	94	96
55	100	100
25	104	103



Fortimo edge 21.5in 6150lm 8xx LV1

Lumen Maintenance



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