

PHILIPS

LED Modules

Fortimo LED Strip NA LV4

4ft 8000lm



Philips Fortimo LED strip module comes in a new high flux version that rounds off the portfolio with a high LED count per foot. It is the next step in efficacy and economic fixture design in high-output and high-temperature applications like indoor high-bay. Fortimo LED strip 2ft 4000lm can also enable economical fixture designs for indoor recessed applications like 2' x 2' troffers utilizing only one LED strip module.

Commercial Product Name	12NC
Fortimo LED Strip 4ft 8000lm 830 NA LV4	929000779813
Fortimo LED Strip 4ft 8000lm 835 NA LV4	929000779913
Fortimo LED Strip 4ft 8000lm 840 NA LV4	929000780013
Fortimo LED Strip 4ft 8000lm 850 NA LV4	929000780113

Fortimo LED strip 4ft 8000lm NA LV4

Features

- High flux density of up to 2250 lm per foot
- Narrow width of only 20mm
- High energy efficacy of up to 173 lm/W
- High lumen maintenance (TM21) of L90 36,000 hours

Benefits

- High energy efficacy and long lifetime¹ provide optimized total cost of ownership
- Slim width and 4ft length provide excellent design-in options and assembly
- 5-year limited system warranty with Philips Advance Xitanium LED drivers²
- Specifications enable DLC Premium category³

Applications

- Industry
- Retail
- Office

Optical Characteristics – Table per CCT

Fortimo LED Strip 4ft 8000lm 830 NA LV4

Parameter	Min	Typ	Unit
Luminous Flux		7560	Lm
Lumen Efficiency		163	Lm/W
Forward Current		1360	mA
Correlated Color Temperature (CCT) Target		3000	K
CRI	80		-
Radiation Angle		120	deg

Parameter at I_{life}	Typ	Unit
Luminous Flux	8464	Lm
Lumen Efficiency	149	Lm/W
Forward Current	1620	mA

Nominal temperature for performance specification: $T_c = 45^\circ\text{C}$.

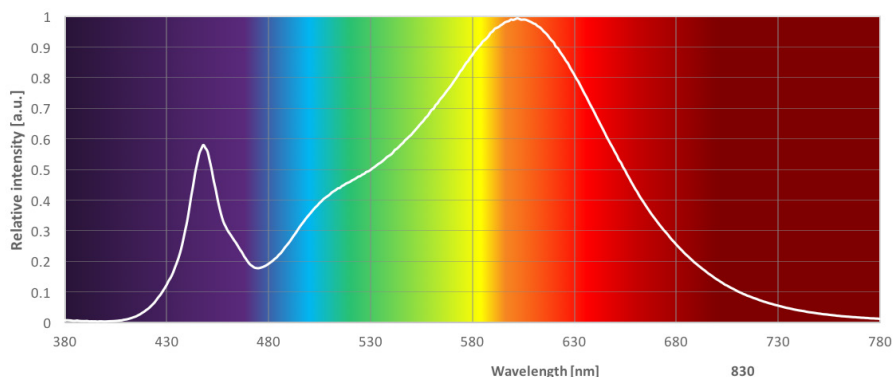
Max performance values at I_{life} .

Color consistency of 3 SDCM, averaged over the module.

Tolerance for flux data is $\pm 7.5\%$.

Tolerance for efficacy data is $\pm 10\%$.

Philips maintains a tester tolerance of $\pm 5\%$ on flux, ± 0.005 on color, ± 1.5 on CRI, $\pm 3\%$ on Vf, $\pm 3.3\%$ on power, $\pm 6\%$ on efficiency.



1. Average rated life is based on engineering data testing and probability analysis. The hours are at the B50, L70 point – 50,000 hours life with 70% lumen maintenance at T_c point.
2. View limited warranty at <http://www.usa.lighting.philips.com/support/support/warranty> for details and restrictions.
3. Fortimo LED strip NA LV4 is not a DesignLights Consortium™ (DLC) qualified product. It is an OEM component that meets certain performance specifications that are geared toward meeting DLC Standard Tier (v4.0) in a fully assembled fixture. The customer is liable for proper design, manufacturing, testing and qualification according to DLC requirements.

Fortimo LED strip 4ft 8000lm NA LV4

Optical Characteristics – Table per CCT

Fortimo LED Strip 4ft 8000lm 835 NA LV4

Parameter	Min	Typ	Unit
Luminous Flux		7800	Lm
Lumen Efficiency		168	Lm/W
Forward Current		1360	mA
Correlated Color Temperature (CCT) Target		3500	K
CRI	80		-
Radiation Angle		120	deg

Parameter at I_{life}	Typ	Unit
Luminous Flux	8732	Lm
Lumen Efficiency	154	Lm/W
Forward Current	1620	mA

Nominal temperature for performance specification: $T_c = 45^\circ\text{C}$.

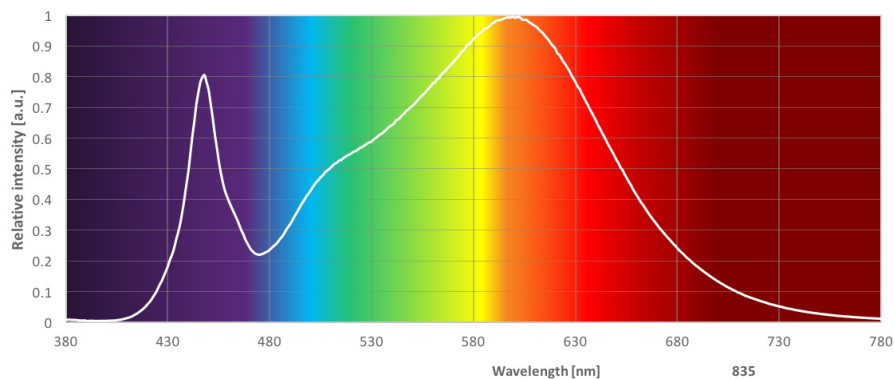
Max performance values at I_{life} .

Color consistency of 3 SDCM, averaged over the module.

Tolerance for flux data is $\pm 7.5\%$.

Tolerance for efficacy data is $\pm 10\%$.

Philips maintains a tester tolerance of $\pm 5\%$ on flux, ± 0.005 on color, ± 1.5 on CRI, $\pm 3\%$ on Vf, $\pm 3.3\%$ on power, $\pm 6\%$ on efficiency.



Fortimo LED strip 4ft 8000lm NA LV4

Optical Characteristics – Table per CCT

Fortimo LED Strip 4ft 8000lm 840 NA LV4

Parameter	Min	Typ	Unit
Luminous Flux		7950	Lm
Lumen Efficiency		171	Lm/W
Forward Current		1360	mA
Correlated Color Temperature (CCT) Target		4000	K
CRI	80		-
Radiation Angle		120	deg

Parameter at I_{life}	Typ	Unit
Luminous Flux	8907	Lm
Lumen Efficiency	157	Lm/W
Forward Current	1620	mA

Nominal temperature for performance specification: $T_c = 45^\circ\text{C}$.

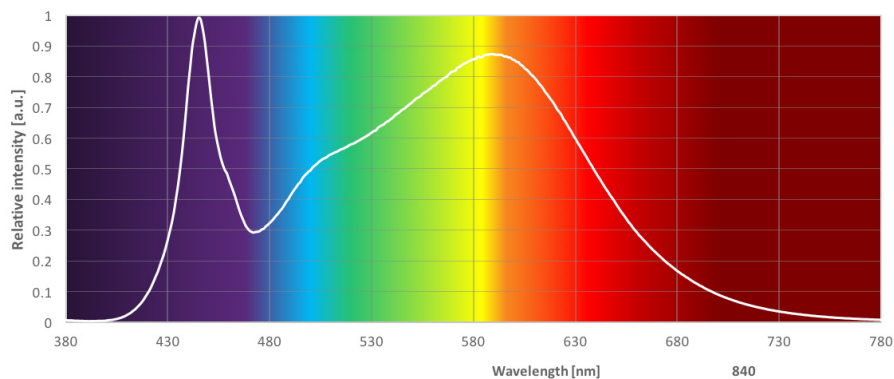
Max performance values at I_{life} .

Color consistency of 3 SDCM, averaged over the module.

Tolerance for flux data is $\pm 7.5\%$.

Tolerance for efficacy data is $\pm 10\%$.

Philips maintains a tester tolerance of $\pm 5\%$ on flux, ± 0.005 on color, ± 1.5 on CRI, $\pm 3\%$ on Vf, $\pm 3.3\%$ on power, $\pm 6\%$ on efficiency.



Fortimo LED strip 4ft 8000lm NA LV4

Optical Characteristics – Table per CCT

Fortimo LED Strip 4ft 8000lm 850 NA LV4

Parameter	Min	Typ	Unit
Luminous Flux		8040	Lm
Lumen Efficiency		173	Lm/W
Forward Current		1360	mA
Correlated Color Temperature (CCT) Target		5000	K
CRI	80		-
Radiation Angle		120	deg

Parameter at I_{life}	Typ	Unit
Luminous Flux	9001	Lm
Lumen Efficiency	159	Lm/W
Forward Current	1620	mA

Nominal temperature for performance specification: $T_c = 45^\circ\text{C}$.

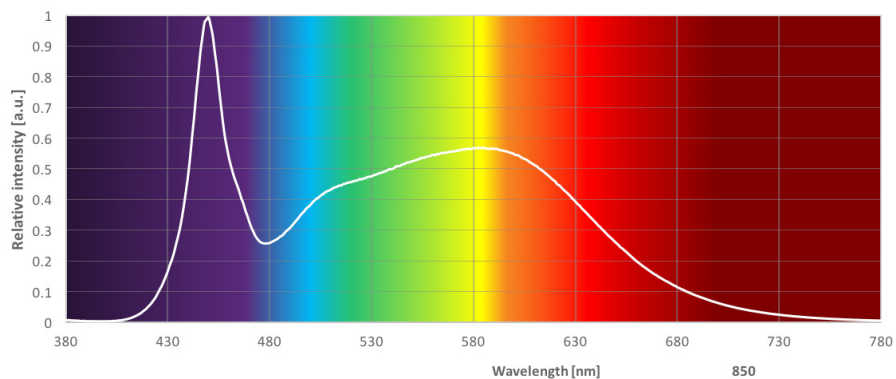
Max performance values at I_{life} .

Color consistency of 3 SDCM, averaged over the module.

Tolerance for flux data is $\pm 7.5\%$.

Tolerance for efficacy data is $\pm 10\%$.

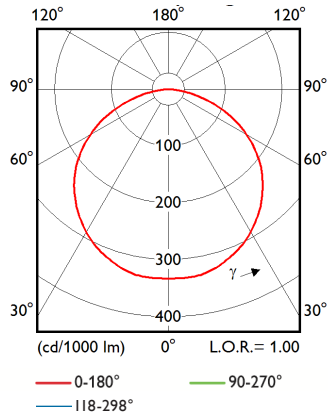
Philips maintains a tester tolerance of $\pm 5\%$ on flux, ± 0.005 on color, ± 1.5 on CRI, $\pm 3\%$ on Vf, $\pm 3.3\%$ on power, $\pm 6\%$ on efficiency.



Fortimo LED strip 4ft 8000lm NA LV4

Beam Shape

The Philips Fortimo LED strip generates a Lambertian beam shape, which is a pragmatic starting point for OEMs wishing to design secondary optics.



Electrical Characteristics

Parameter	Min	Typ	Max	Unit
Nominal Current		1360		mA
Forward Voltage	32.6	34.2	35.1	V
Power Consumption		23.2		W

Forward Voltage Range

@ I_{nom} and 45°C	Min.	Max.
Bin A [V]	32.6	33.9
Bin B [V]	33.8	35.1

Lifetime

Parameter	Nominal *	Life**	Max***
T_c [°C]	55	85	95
Current [mA]	1360	1620	1680

* Nominal value at which performance is specified

** Value at which lifetime is specified (max current for warranty)

*** Maximum value for safety

Parameter	Min	Typ	Max
$\Delta u'v'$ at 6000 Hours			0.007

Note: Specifications stated while $T_c < 85^\circ\text{C}$ and $I < 1620$ mA.

Abs Max Ratings

Parameter	Min	Typ	Max	Unit
Current I_{max}			840	mA
Case Temperature T_c Max			95	°C
ESD (Direct Contact)			8	kV
ESD (Air)			15	kV
Isolation Breakdown Voltage	500			Vdc
Ambient Temperature	-20 ⁴			°C
Number of Modules per Chain			1	

4. There cannot be any ice/fog/mist on any part of the L2 surface during the application at -20°C.

Fortimo LED strip 4ft 8000lm NA LV4

Wiring

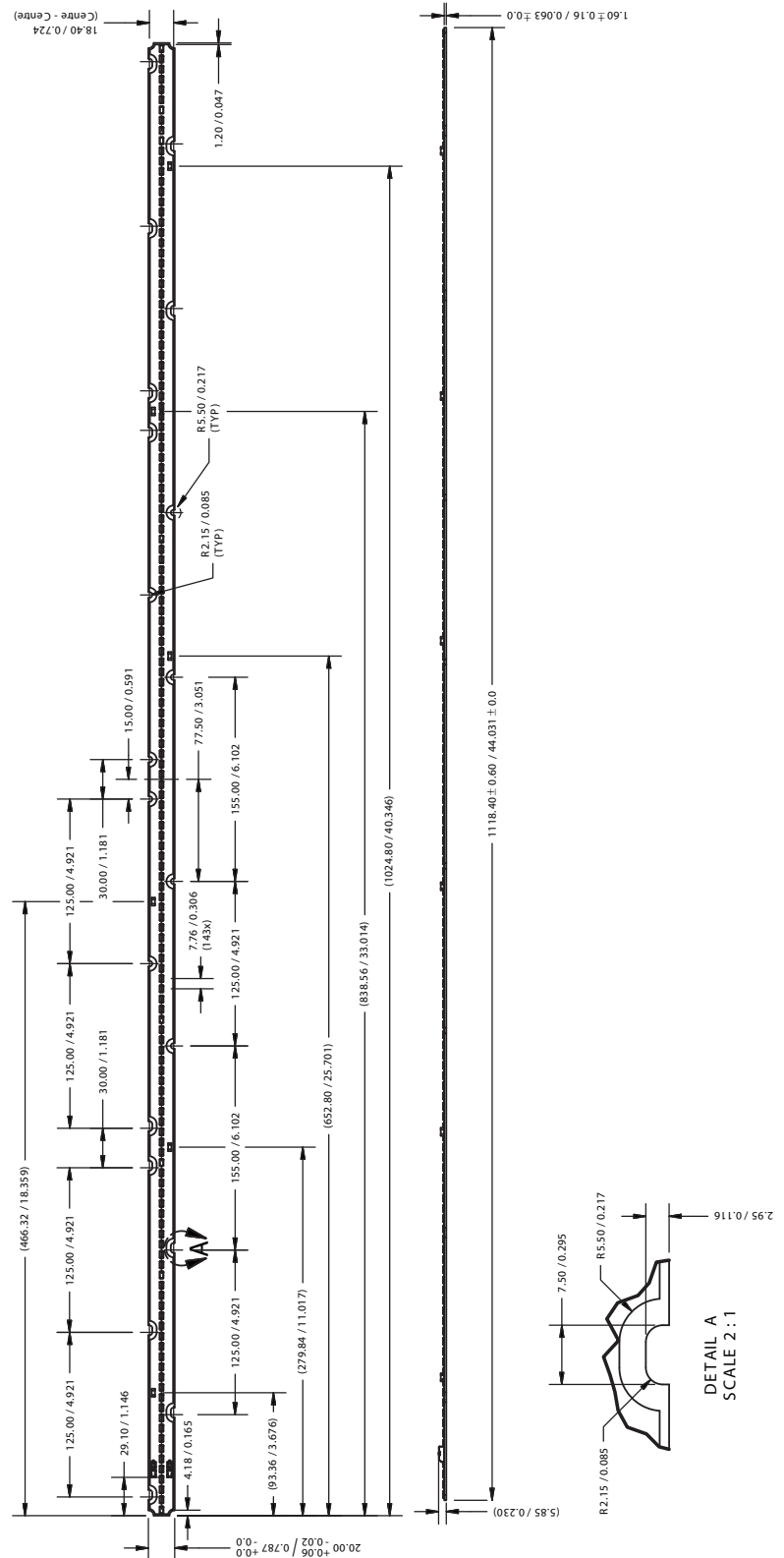
Specification Item	Value	Unit	Condition
Input Wire Cross-Section	0.2...0.8	mm ²	Solid
	18...24	AWG	
	0.45...0.7	mm ²	Stranded
	20...22	AWG	
Input Wire Strip Length	7.5...8.5	mm	

Note: Connector suited for robot wiring.

Mechanical Characteristics

Specification Item	Min	Typ	Max	Unit
Length	1117.8	1118.4	1119.0	mm
Width	19.8	20.0	20.6	mm
Height Excl. Connector		1.60		mm
Height Incl. Connector		5.85		mm
Warpage			≤ 0.75	%

Mechanical Characteristics



Fortimo LED strip 4ft 8000lm NA LV4

Application Information

Compliance and Approval

UL & cUL - UL8750

Environmental

RoHS / REACH

IP Rating	No IP rating
Overheating Protection	No protection
Luminaire Class	UL Class 2

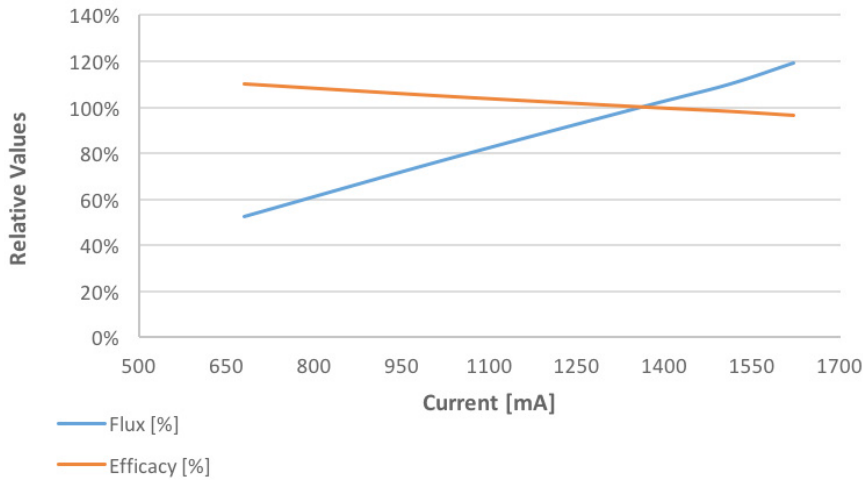
Warranted Number of Full Thermal Product Cycles @ 25°C Ambient Temperature

Case Temperature Tc [°C]	Amount of Cycles
35	
40	
45	100,000
50	
55	100,000
60	
65	58,100
70	
75	27,600
80	14,200
85	
90	
95	

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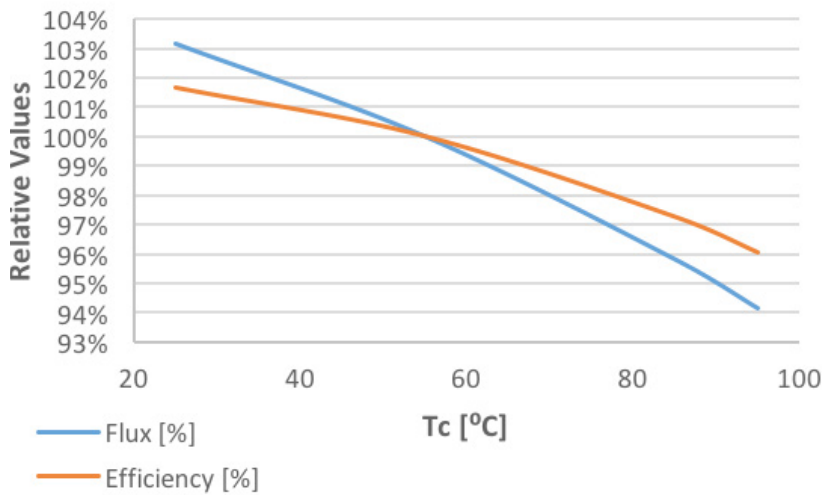
Tuning Information

Flux and Efficacy Vs. Current (at Nominal Temperature)



I [mA]	Flux [%]	Efficacy [%]
680	53%	110%
1020	77%	105%
1360	100%	100%
1507	110%	98%
1620	119%	96%
1800	128%	95%

Flux and Efficacy Vs. Tc



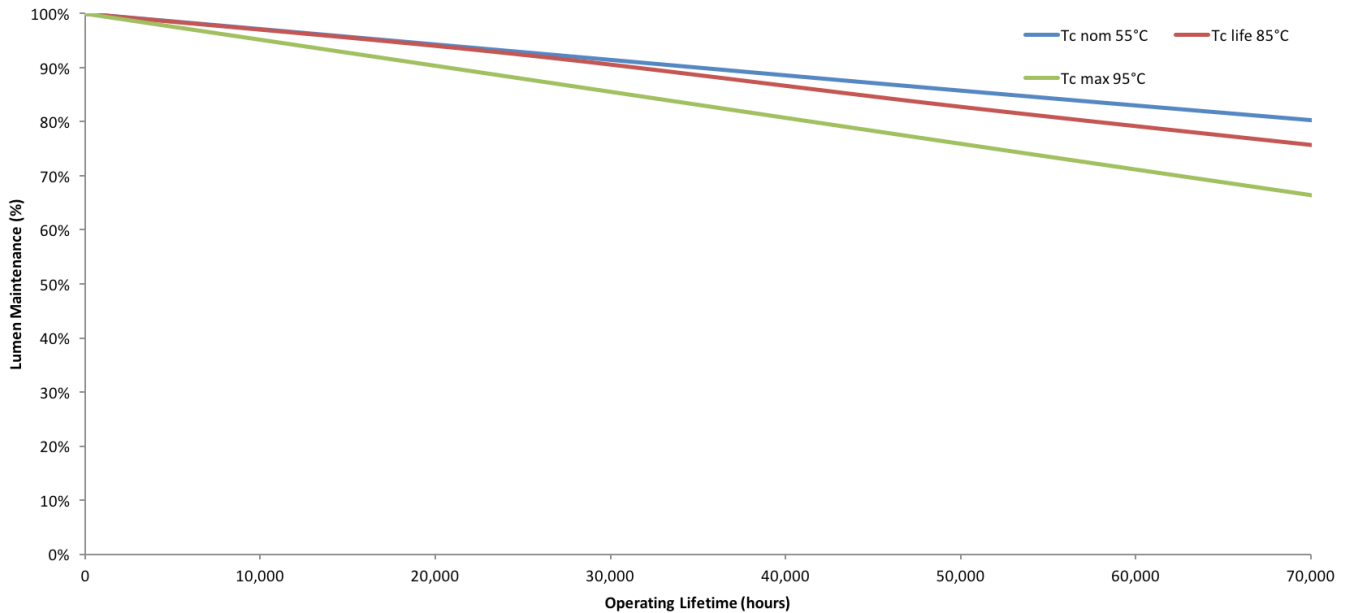
Tc [°C]	Flux [%]	Efficacy [%]
95	94%	96%
85	96%	97%
55	100%	100%
25	103%	102%

Fortimo LED strip 4ft 8000lm NA LV4

Lumen Maintenance

Lumen Maintenance: at I Life and Tc Life Conditions

Fortimo LED strip NA LV4 high flux high temperature 4ft



Lumen depreciation as a function of operating hours for I-life and Tc. 50,000 hours proven by certified laboratory.

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