PHILIPS

CertaFlux

LED

CertaFlux LED Strip
1ft 1100lm 8xx HV3

Datasheet

CertaFlux LED Strip

CertaFlux LED Strip systems are designed to enable linear LED luminaires for high volume markets. CertaFlux LED Strip offers good product performance and functionality, with good quality of light, meeting market needs for basic lighting.

Key features and benefits

- LED module efficiency up to 149 lm/W
- Long life-time: >50,000 hours
- High color rendering (CRI >80)
- Color consistency of 4 SDCM
- Choice of color temperatures (3000 K, 4000 K and 6500 K)
- One-foot (280 mm) and two-foot (560 mm) lengths
- Two lumen packages: 775 lm and 1100 lm per foot
- Small LED module width of only 20mm
- Wide temperature (Tc) range from -40 °C to +85 °C
- Push-in connectors enabling automated wiring
- Three year system warranty

June 2017

Zhaga

Ordering data

Commercial product name	EOC	12NC	Box quantity
CertaFlux LED Strip 1ft 1100lm 830 HV3	8718696 728116 00	9290 014 37206	168
CertaFlux LED Strip 1ft 1100lm 840 HV3	8718696 728130 00	9290 014 37306	168
CertaFlux LED Strip 1ft 1100lm 865 HV3	8718696 728154 00	9290 014 37406	168

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
CertaFlux LED Strip 1ft 1100lm 8xx HV3	320	400	480	mA

Module temperatures

Parameter	Nominal*	Life**	Max***	Unit
T_c (case temperature at T_c point)	55	75	85	°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)

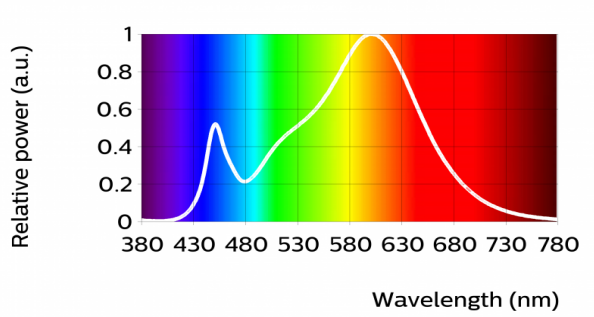
CertaFlux LED Strip 1ft 1100lm 830 HV3

Parameter	Min	Typ	Max	Unit
Luminous flux	944	1021	1098	lm
Module efficacy	116	129	142	lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.430, 0.402)		-
Color consistency			4	SDCM
CRI	80			
Radiation angle		120		deg
Photobiological safety			RG1	
Energy efficiency label		A++		
Δu'v' at 6000 hours			0.007	

R9=1

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 256 mA	Tc 25 °C	888	142
	Tc-nom 55 °C	842	136
	Tc-life 75 °C	806	132
I-nom 320 mA	Tc 25 °C	1079	134
	Tc-nom 55 °C	1021	129
	Tc-life 75 °C	976	124
I-life 400 mA	Tc 25 °C	1303	126
	Tc-nom 55 °C	1230	121
	Tc-life 75 °C	1173	116



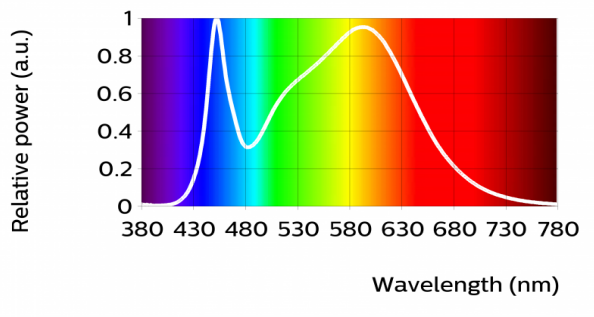
CertaFlux LED Strip 1ft 1100lm 840 HV3

Parameter	Min	Typ	Max	Unit
Luminous flux	1018	1100	1183	lm
Module efficacy	125	139	153	lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.379, 0.377)		-
Color consistency			4	SDCM
CRI	80			
Radiation angle		120		deg
Photobiological safety			RG1	
Energy efficiency label		A++		
Δu'v' at 6000 hours			0.007	

R9=4

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 256 mA	Tc 25 °C	957	153
	Tc-nom 55 °C	907	147
	Tc-life 75 °C	869	142
I-nom 320 mA	Tc 25 °C	1163	145
	Tc-nom 55 °C	1100	139
	Tc-life 75 °C	1052	134
I-life 400 mA	Tc 25 °C	1405	136
	Tc-nom 55 °C	1326	130
	Tc-life 75 °C	1265	125



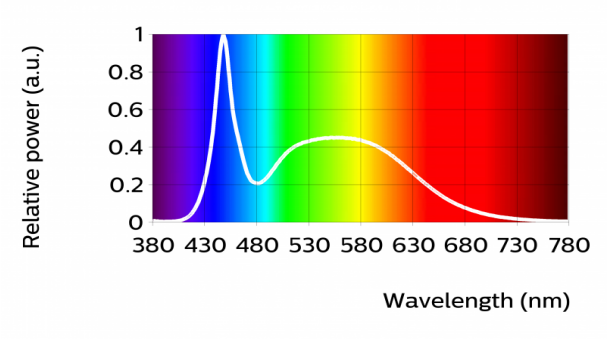
CertaFlux LED Strip 1ft 1100lm 865 HV3

Parameter	Min	Typ	Max	Unit
Luminous flux	1018	1100	1183	lm
Module efficacy	125	139	153	lm/W
Correlated color temperature (CCT)		6500		K
Color coordinates (CIEx, CIEy)		(0.311, 0.325)		-
Color consistency			4	SDCM
CRI	80			
Radiation angle		120		deg
Photobiological safety			RG1	
Energy efficiency label		A++		
Δu'v' at 6000 hours			0.007	

R9=7

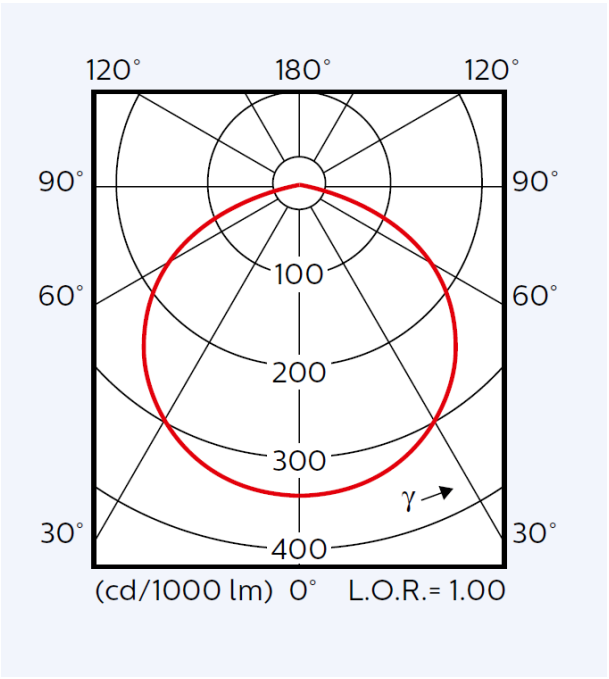
Measurement precision ± 5% for the flux data and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5

Operation point	865	lm	lm/W
80% I-nom 256 mA	Tc 25 °C	957	153
	Tc-nom 55 °C	907	147
	Tc-life 75 °C	869	142
I-nom 320 mA	Tc 25 °C	1163	145
	Tc-nom 55 °C	1100	139
	Tc-life 75 °C	1052	134
I-life 400 mA	Tc 25 °C	1405	136
	Tc-nom 55 °C	1326	130
	Tc-life 75 °C	1265	125



Beam shape

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



Electrical characteristics

CertaFlux LED Strip 1ft 1100lm 830 HV3
CertaFlux LED Strip 1ft 1100lm 840 HV3
CertaFlux LED Strip 1ft 1100lm 865 HV3

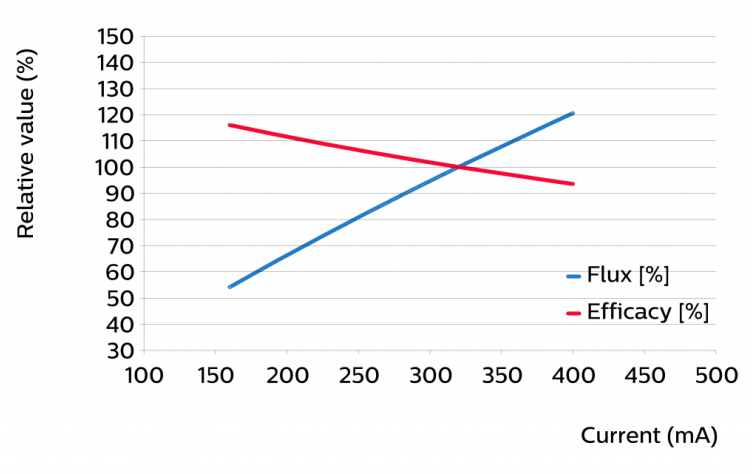
Parameter	Min	Typ	Max	Unit
Forward voltage	24.2	24.7	25.4	V
Power consumption	7.7	7.9	8.1	W
Number of modules in series per chain			12	

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

Tuning information

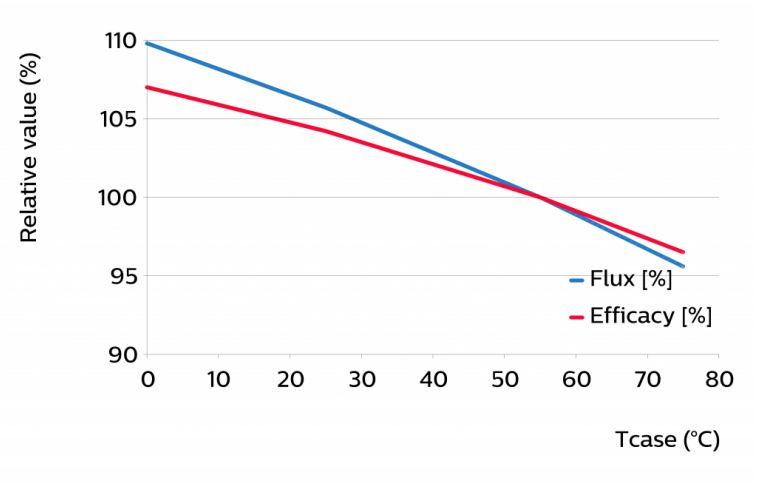
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
400	121	94
384	117	95
320	100	100
288	91	103
256	83	106
224	73	109
192	64	112
160	54	116



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

Tcase [°C]	Flux [%]	Efficacy [%]
75	96	97
55	100	100
25	106	104
0	110	107



Lumen maintenance

Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% I-nom 256 mA	Tc 25°C	>50	>50	>50	45	44	43	21	21	20
	Tc-nom 55°C	>50	>50	>50	34	33	32	16	16	15
	Tc-life 75°C	45	44	43	28	28	27	13	13	13
I-nom 320 mA	Tc 25°C	>50	>50	>50	43	42	41	20	20	20
	Tc-nom 55°C	>50	50	49	32	31	31	15	15	15
	Tc-life 75°C	43	42	42	27	26	26	13	12	12
I-life 400 mA	Tc 25°C	48	47	46	30	29	29	14	14	14
	Tc-nom 55°C	36	35	34	22	22	21	10	10	10
	Tc-life 75°C	30	29	29	19	18	18	9	9	8

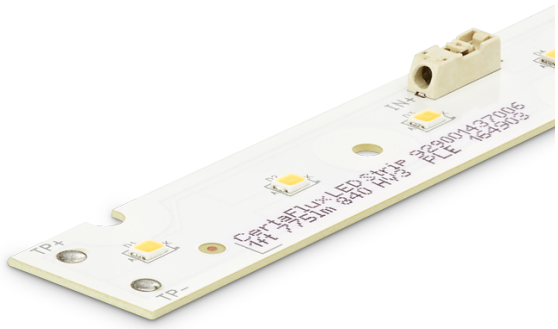
Thermal switching table

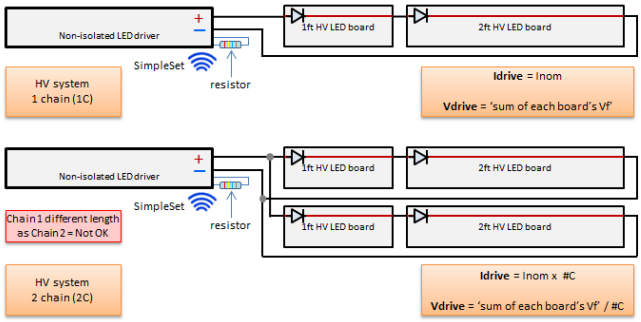
Calculated number of switches at which the survival rate of the population >90%, at a given ambient temperature and delta T with repect to Tc (where Tc = Tambient + delta T)

		Tambient [°C]											
		-40	-30	-20	-10	0	10	20	30	40	50	60	70
delta T [°C] (delta T = Tc - Tambient)	10	Continuous operation or dimming only	>100	>100	>100	>100	>100	>100	>100	>100	97	77	54
	20		59	59	59	59	58	58	57	52	42	29	X
	30		36	36	36	35	35	35	33	28	20	X	X
	40		23	23	24	23	23	22	20	15	X	X	X
	50		16	16	16	16	16	14	12	X	X	X	X
	60		11	11	11	11	11	10	X	X	X	X	X
	70		9	9	8	8	8	X	X	X	X	X	X
	80		6	6	6	6	X	X	X	X	X	X	X
	90		5	5	5	X	X	X	X	X	X	X	X
	100		4	4	X	X	X	X	X	X	X	X	X

Wiring

Specification item	Value	Unit	Condition
Input wire cross-section	0.25…0.75	mm²	solid wire
	18…24	AWG	solid wire
Input wire strip length	7.5…8.5	mm	
Input wire cross-section	0.33…0.5	mm²	stranded wire
	20…22	AWG	stranded wire
Input wire strip length	7.5…8.5	mm	



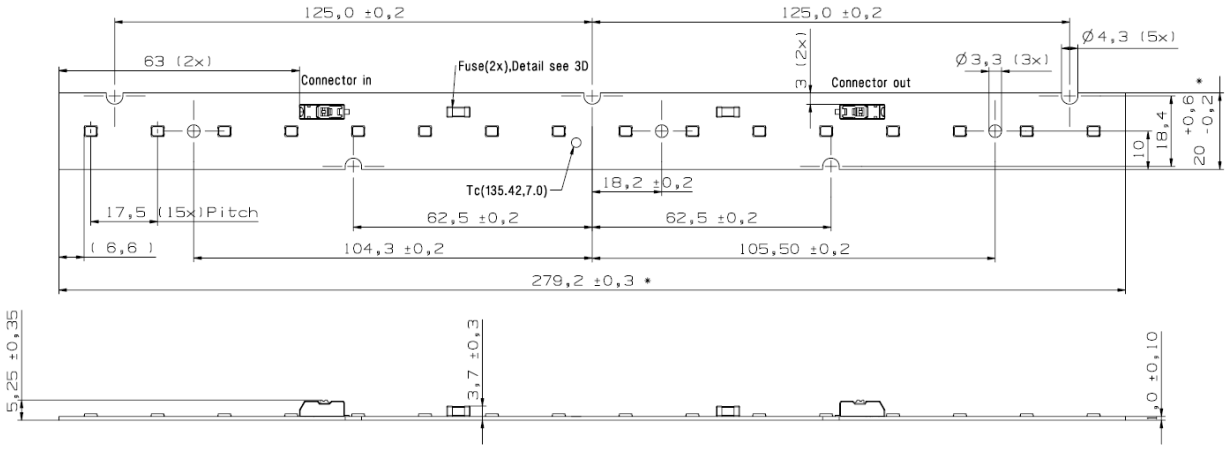


More information in the design-in guide of LED Linear modules.

Mechanical characteristics

CertaFlux LED Strip 1ft 1100lm 830 HV3
CertaFlux LED Strip 1ft 1100lm 840 HV3
CertaFlux LED Strip 1ft 1100lm 865 HV3

Parameter	Min	Typ	Max	Unit
Length	278.9	279.2	279.5	mm
Width	19.8	20	20.6	mm
Height excl. connector	3.4	3.7	5.6	mm
Height incl. connector	4.9	5.25	5.6	mm
Warpage (IPC-TM-650)			0.7	%



Absolute ratings

Parameter	Min	Typ	Max	Unit
Current through the LED module (I-max)			480	mA
Case temperature (Tc-max)			85	°C
Power at rated Vf-max and I-max			13.6	W
ESD (direct contact)			8	kV
ESD (air)			15	kV
Working voltage			350	V_{dc}
Voltage strength	1700			V_{dc}
Ambient temperature	-40			°C

Application information

Certificates and Standards
Relevant clauses of IEC 62471:2006 (Incl. IEC/TR 62471-2: 2009 and IEC/TR 62778: 2014)
IEC 62031:2008 (First Edition) + A1:2012 + A2:2014
CE
ENEC
EN 62031:2008 (First Edition) + A1:2013 + A2:2015
Relevant clauses of EN 62471:2008 (With IEC/TR 62471-2: 2009 and IEC/TR 62778: 2014)

Environmental
RoHS/REACH

Zhaga	Compliant*

*Book 7, L28W2

Application	
IP rating	No IP-rating
Overheating protection	No protection
Luminaire class	IEC Class I
Dimming	Yes

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