

PHILIPS

CertaFlux

LED

CertaFlux LED Strip
2ft 2200lm 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 2ft 2200lm 830 HV3	8718696 728239 00	9290 014 37806	168
CertaFlux LED Strip 2ft 2200lm 840 HV3	8718696 728253 00	9290 014 37906	168
CertaFlux LED Strip 2ft 2200lm 865 HV3	8718696 728277 00	9290 014 38006	168

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
CertaFlux LED Strip 2ft 2200lm 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)

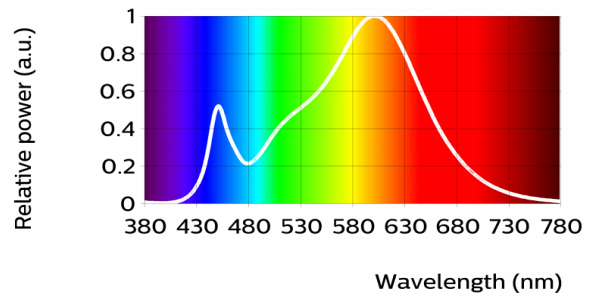
CertaFlux LED Strip 2ft 2200lm 830 HV3

Parameter	Min	Typ	Max	Unit
Luminous flux	1888	2041	2194	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++		
$\Delta u'v'$ at 6000 hours			0.007	

R9=1

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 256 mA	Tc 25 °C	1777	142
	Tc-nom 55 °C	1684	136
	Tc-life 75 °C	1613	132
I-nom 320 mA	Tc 25 °C	2158	134
	Tc-nom 55 °C	2041	129
	Tc-life 75 °C	1951	124
I-life 400 mA	Tc 25 °C	2607	126
	Tc-nom 55 °C	2459	121
	Tc-life 75 °C	2346	116



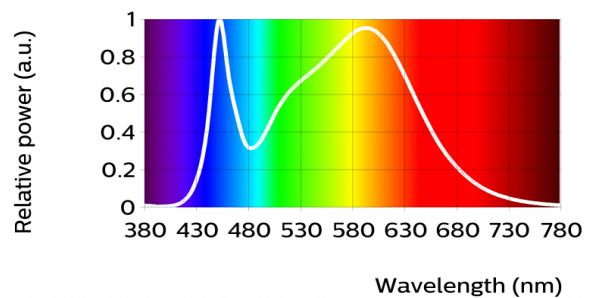
CertaFlux LED Strip 2ft 2200lm 840 HV3

Parameter	Min	Typ	Max	Unit
Luminous flux	2035	2200	2365	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++		
$\Delta u'v'$ at 6000 hours			0.007	

R9=4

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 256 mA	Tc 25 °C	1914	153
	Tc-nom 55 °C	1815	147
	Tc-life 75 °C	1738	142
I-nom 320 mA	Tc 25 °C	2326	145
	Tc-nom 55 °C	2200	139
	Tc-life 75 °C	2104	134
I-life 400 mA	Tc 25 °C	2810	136
	Tc-nom 55 °C	2651	130
	Tc-life 75 °C	2530	125



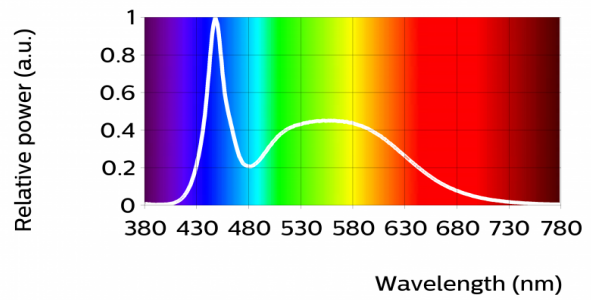
CertaFlux LED Strip 2ft 2200lm 865 HV3

Parameter	Min	Typ	Max	Unit
Luminous flux	2035	2200	2365	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++		
$\Delta u'v'$ at 6000 hours			0.007	

R9=7

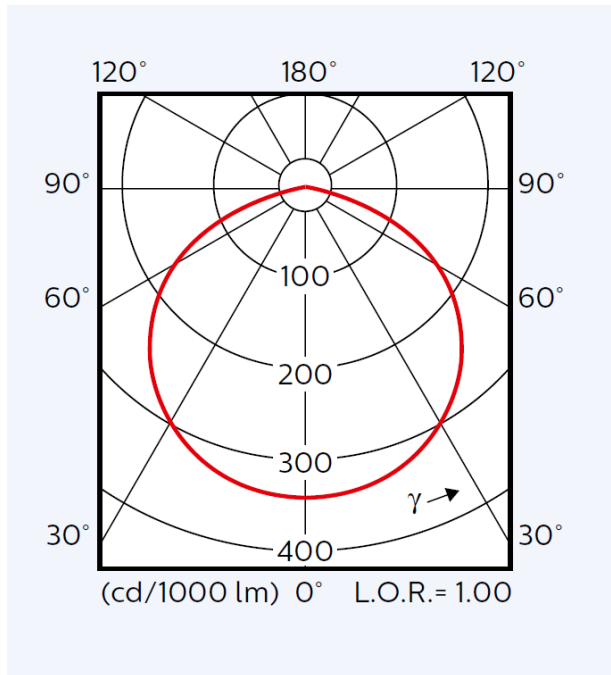
Measurement precision $\pm 5\%$ for the flux data and $\pm 6\%$ for the efficacy data. Measurement precision for color coordinates ± 0.005 . Measurement precision for CRI ± 1.5

Operation point	865	lm	lm/W
80% I-nom 256 mA	Tc 25 °C	1914	153
	Tc-nom 55 °C	1815	147
	Tc-life 75 °C	1738	142
I-nom 320 mA	Tc 25 °C	2326	145
	Tc-nom 55 °C	2200	139
	Tc-life 75 °C	2104	134
I-life 400 mA	Tc 25 °C	2810	136
	Tc-nom 55 °C	2651	130
	Tc-life 75 °C	2530	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 2ft 2200lm 830 HV3](#)
[CertaFlux LED Strip 2ft 2200lm 840 HV3](#)
[CertaFlux LED Strip 2ft 2200lm 865 HV3](#)

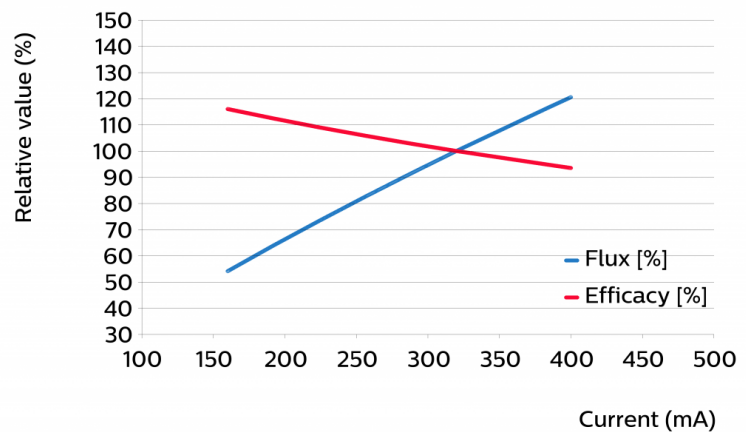
Parameter	Min	Typ	Max	Unit
Forward voltage	48.5	49.5	50.8	V
Power consumption	15.5	15.8	16.3	W
Number of modules in series per chain			6	

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

Tuning information

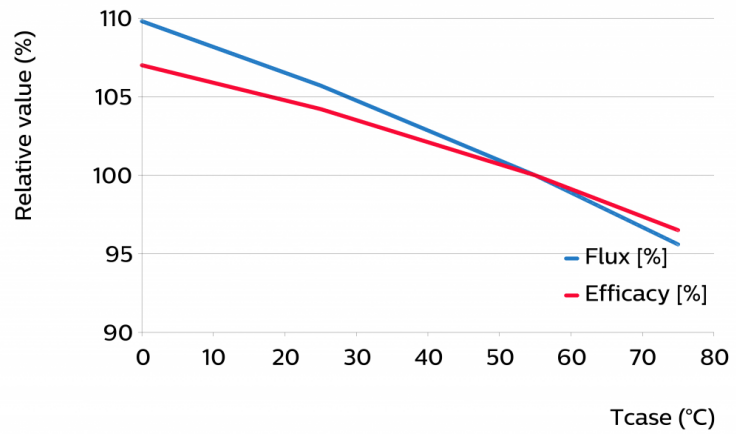
Flux and efficacy versus current (at Tc nominal)

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

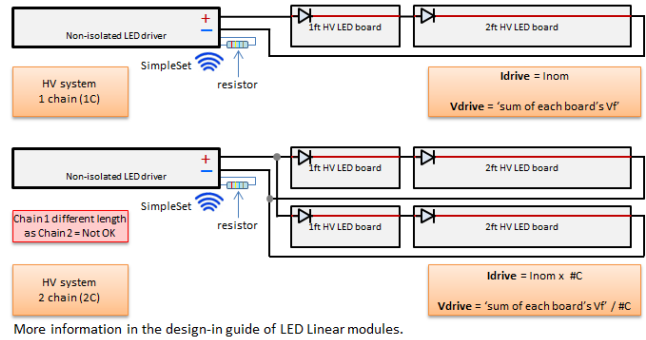
Thermal switching table

Calculated number of switches at which the survival rate of the population >90%, at a given ambient temperature and delta T with respect 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)	Continuous operation or dimming only	10	>100	>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

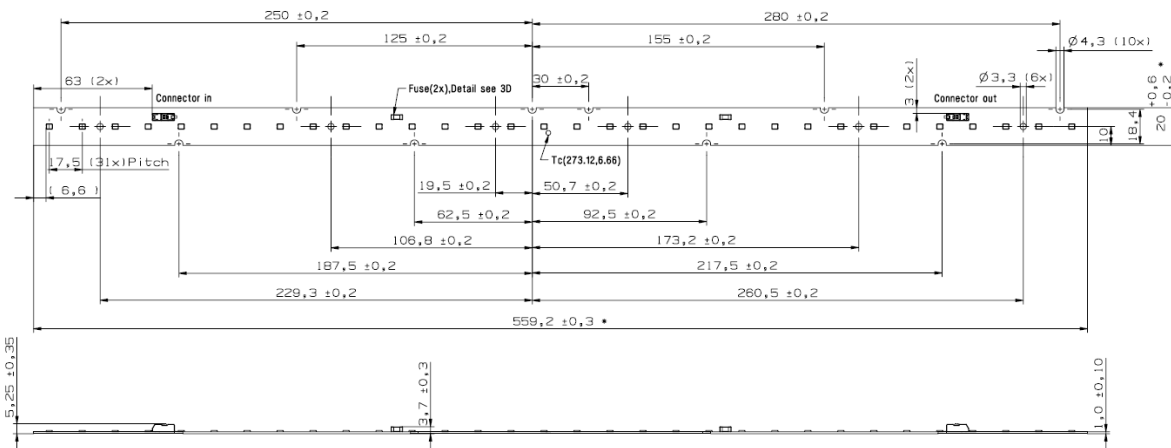
Specification item	Value	Unit	Condition
Input wire cross-section	0.25...0.75	mm ²	solid wire
	18...24	AWG	solid wire
Input wire strip length	7.5...8.5	mm	
Input wire cross-section	0.33...0.5	mm ²	stranded wire
	20...22	AWG	stranded wire
Input wire strip length	7.5...8.5	mm	



Mechanical characteristics

CertaFlux LED Strip 2ft 2200lm 830 HV3
 CertaFlux LED Strip 2ft 2200lm 840 HV3
 CertaFlux LED Strip 2ft 2200lm 865 HV3

Parameter	Min	Typ	Max	Unit
Length	558.9	559.2	559.5	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			27.1	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

IEC 62031:2008 (First Edition) + A1:2012 + A2:2014

Relevant clauses of IEC 62471:2006 (Incl. IEC/TR 62471-2: 2009 and IEC/TR 62778: 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, L56W2

Application

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



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