Lumiblade OLED

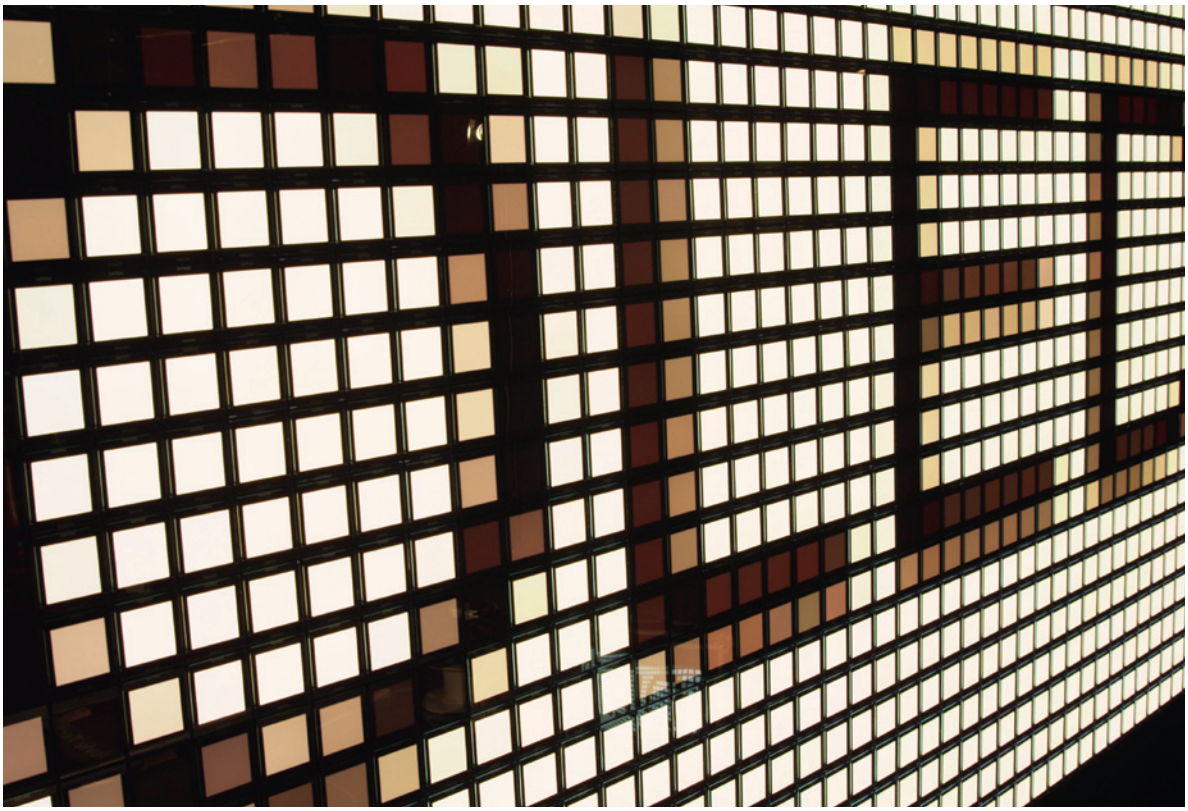
Product Catalog OLED panels 2012

PHILIPS

Welcome to the new art of lighting

Lumiblade is OLED lighting at Philips and definitely more than just another light source – it is a highly-adaptable material that removes the boundaries of shape and size associated with conventional lighting. It offers incredible potential to change the way we use light to shape objects and architecture.

At the forefront of OLED technology, Philips Lumiblade demonstrates unique characteristics and capabilities that can redefine lighting, and the way we use and experience it: its homogenous output, unusual appearance, low heat emission, extremely flat nature and high degree of controllability.



Reduce to the max

With less than 2mm total height of the light emitting surface, Lumiblade OLEDs enable thin lighting applications. Plus, there is no secondary optics needed anymore as the lit material can already be the functional surface. This adds up to 100% system efficiency and 0% waste of space.

Finest material in lighting

If quality of lighting matters, the natural light from the surface of Lumiblade OLED panels will be the right material to satisfy any customers' requirements. As an alternative to the shiny reflective surfaces, Philips is also offering solutions which contain a light outcoupling foil for higher light output and for a soft and warm material surface.

Almost no heat, definitely in all materials

With OLEDs being surface emitters, they also do not have a heat sink as the temperature is already distributed. Thus, Lumiblade OLED panels can be used in harmonic coexistence with most other materials, where using other light sources was simply not possible before.

These factors open up endless opportunities to create groundbreaking new lighting concepts and experiences, which will in turn provide consumers with dramatic and unexpected ways to create atmosphere in a room.
This catalog can only deliver basic information on the nominal operating characteristics. In case you cannot find the characteristics you are looking for or you want to discuss an OLED lighting project with our experts, feel free to contact us any time.

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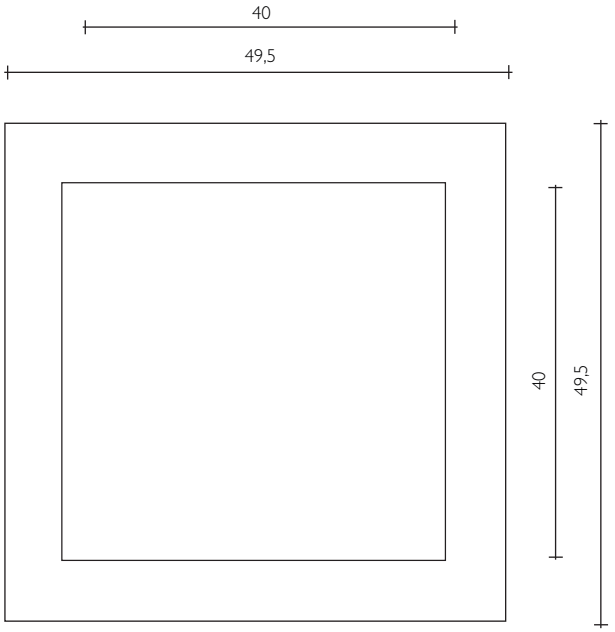
Philips Lumiblade OLED panel GL8

L0032 CE30



Type	Color / CCT CIE x/y	Lum. Flux	CRI	Voltage	Rated Current
L0032 CE30 9254.000.031	white 2950K	8.0 lm	89	7.0 V	75 mA

Notes:
All values are nominal values measured at standard temperature and pressure.

Connectors

This OLED is delivered with solderable patches.

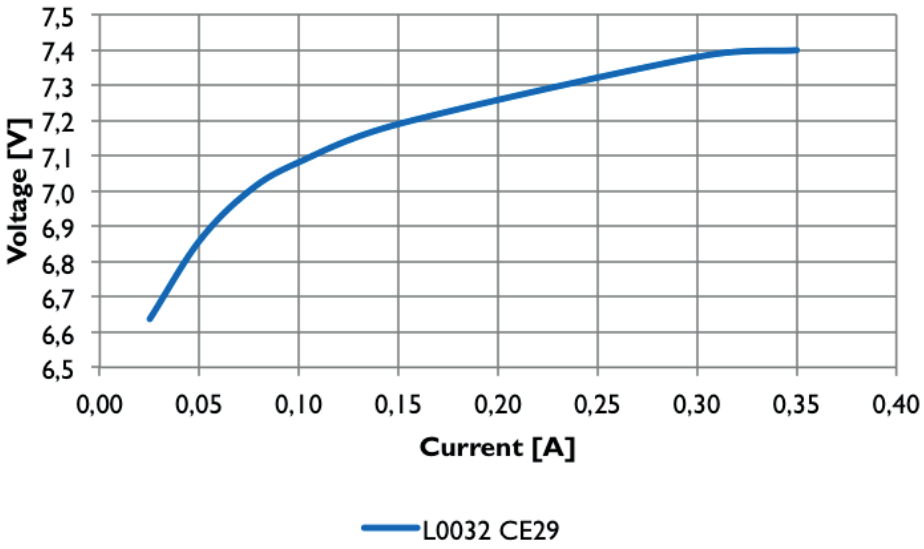
Electrical

Rated voltages

Type	Rated Current	Max Current	Minimum voltage	Nominal voltage	Maximum voltage
L0032 CE30	75 mA	225 mA	6.7 V	7.0 V	7.3 V

Rated voltages and maximum values apply to new OLEDs. Voltage can increase over lifetime. We strongly recommend the usage of a short protection circuit.

Forward current versus forward voltage

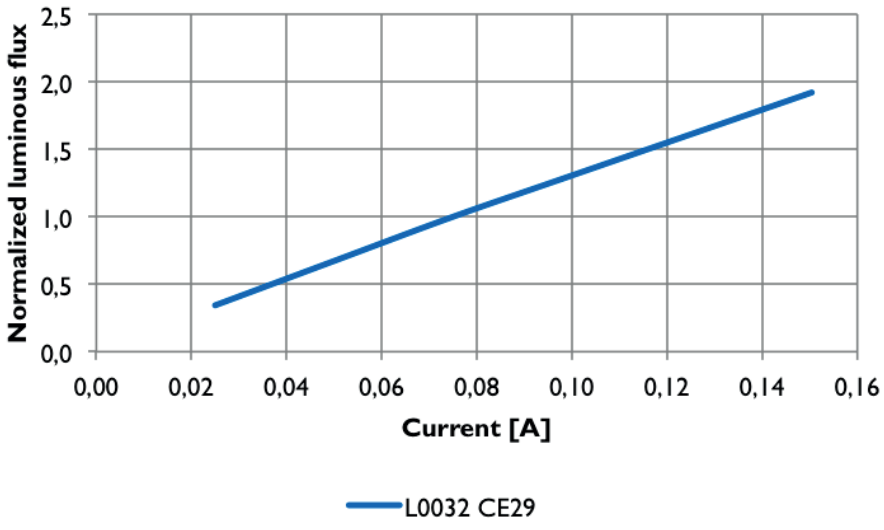


Luminous flux

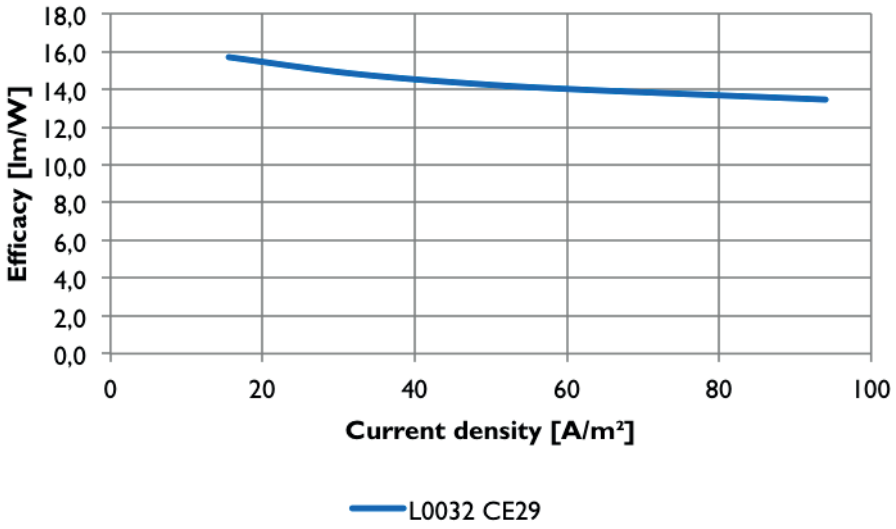
Rated luminous flux

Type	Rated Current	Luminous flux min	Luminous flux nominal	Luminous flux max
L0032 CE29	75 mA	7.2 lm	8.0 lm	8.8 lm

Luminous flux versus forward current



Luminous efficacy versus current density



Lifetime

Lifetime

Type	Lifetime
L0032 CE29	10000 h[1]

[1] Until 50% decrease in luminance or defect (L50B50) at nominal current Homogeneity. At room temperature.

Homogeneity

Homogeneity

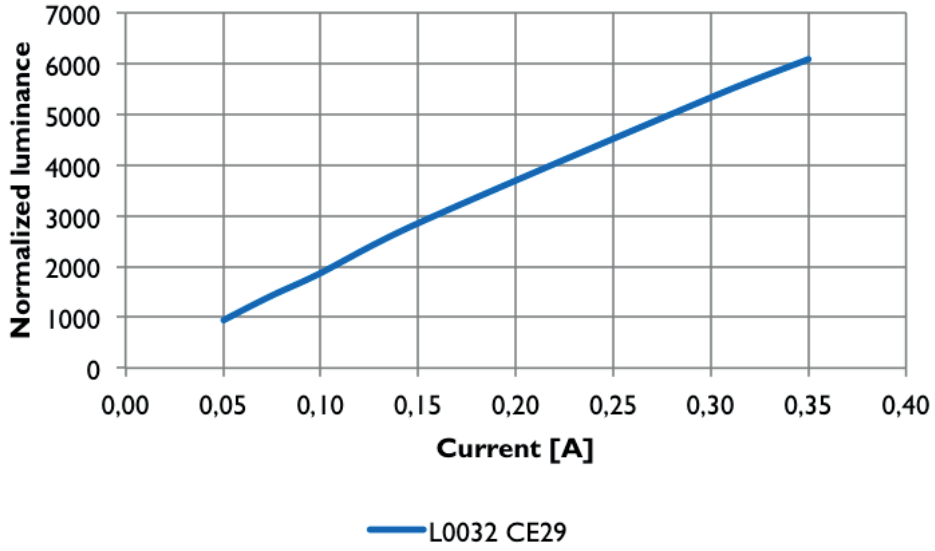
Type	Rated Current	Homogeneity min	Homogeneity nominal	Homogeneity max
L0032 CE29	75 mA		90%	

Luminance

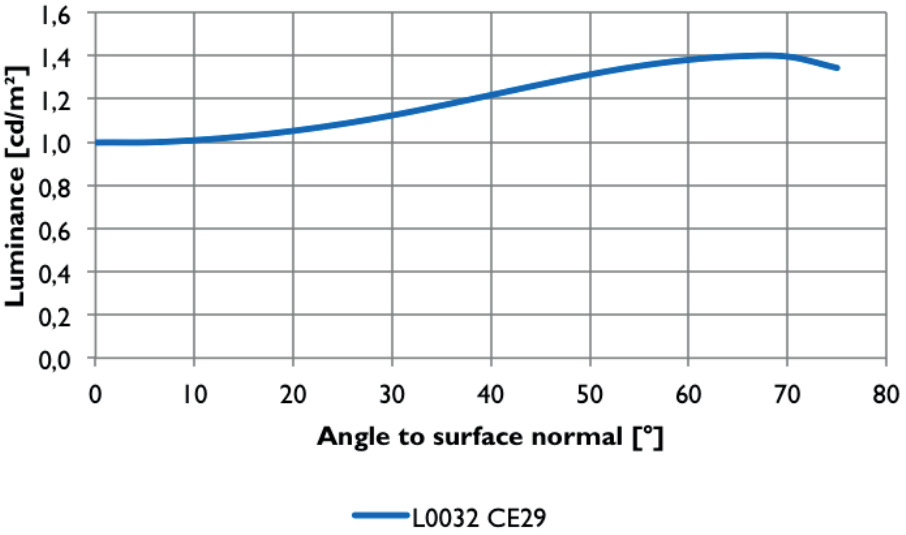
Luminance

Type	Rated Current	Luminance min	Luminance nominal	Luminance max
L0032 CE29	75 mA	1350 cd/m²	1500 cd/m²	1650 cd/m²

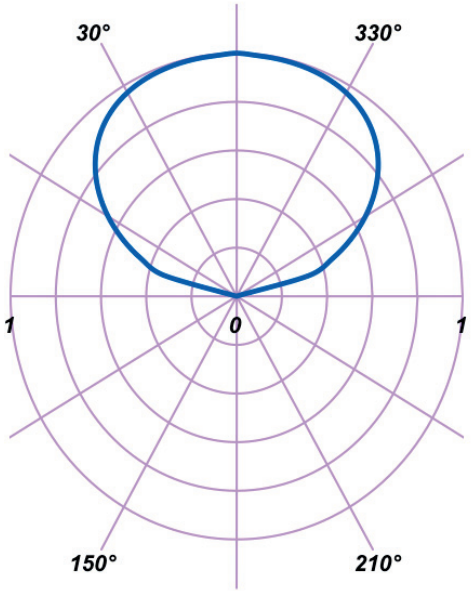
Luminance versus current



Luminance versus angle

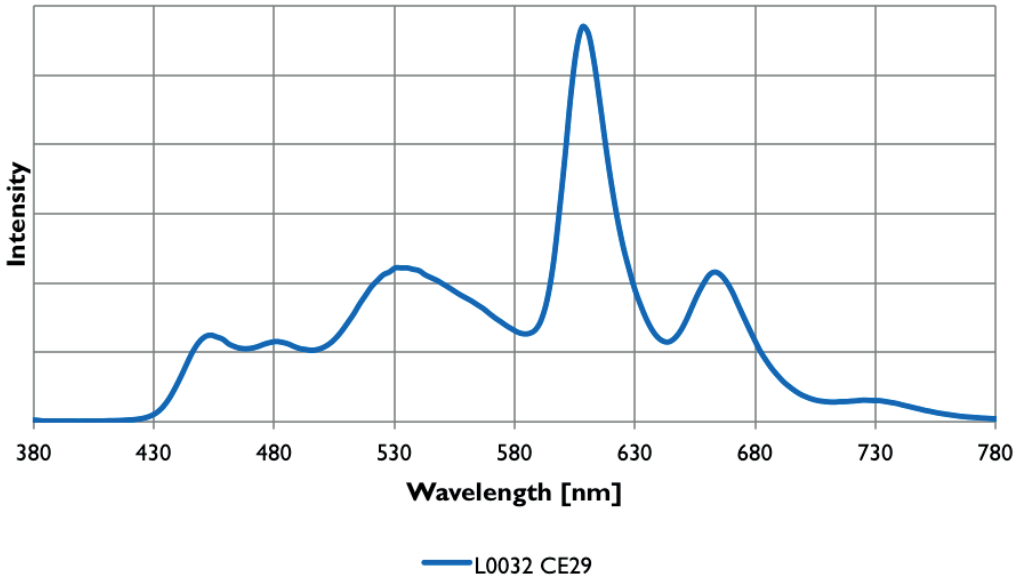


Normalized luminous intensity versus angle



Color

Integral spectrum



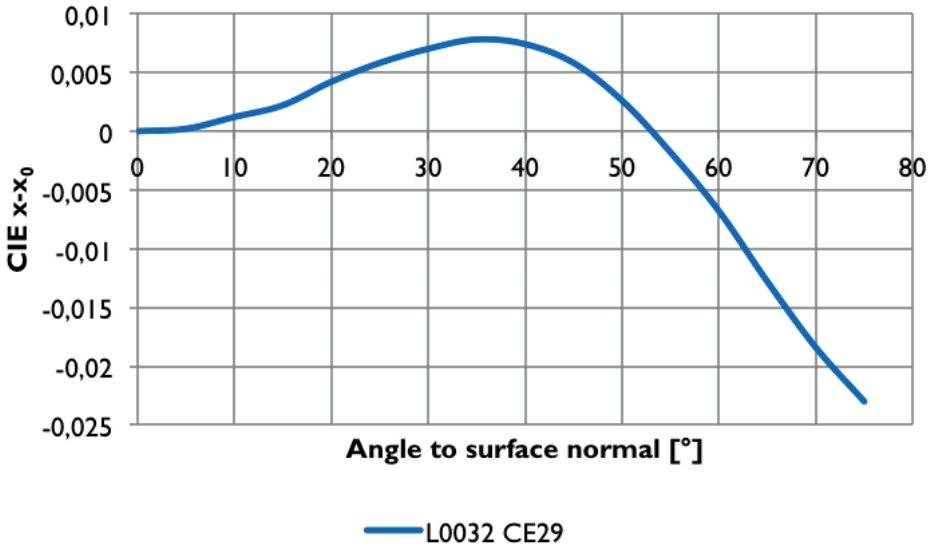
Correlated Color Temperature

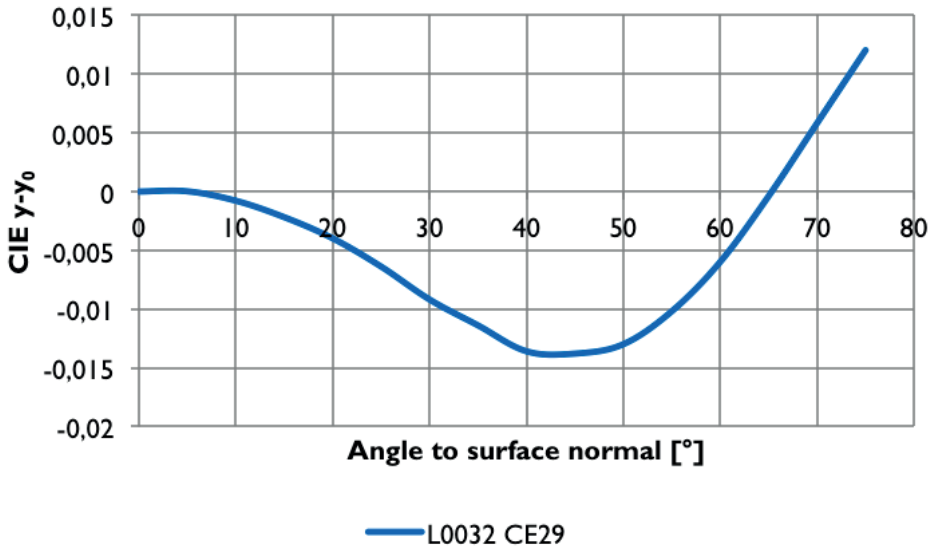
Type	Rated Current	CCT min	CCT nominal	CCT max
L0032 CE29	75 mA		2950 K	

Color rendering index

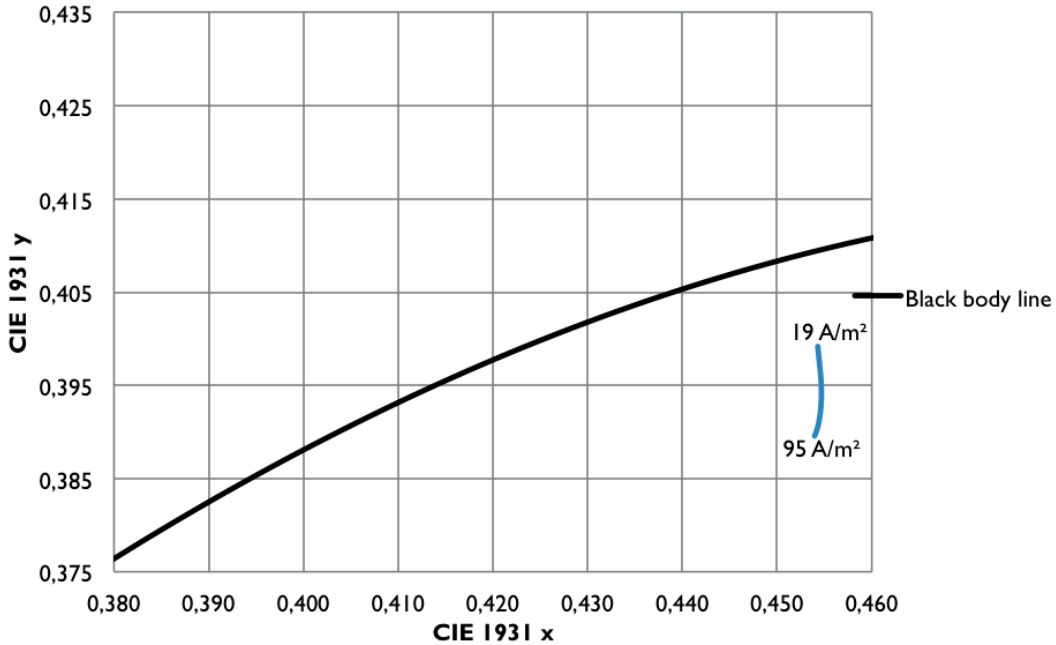
Type	Rated Current	CRI min	CRI nominal	CRI max
L0032 CE29			87	

Color versus angle



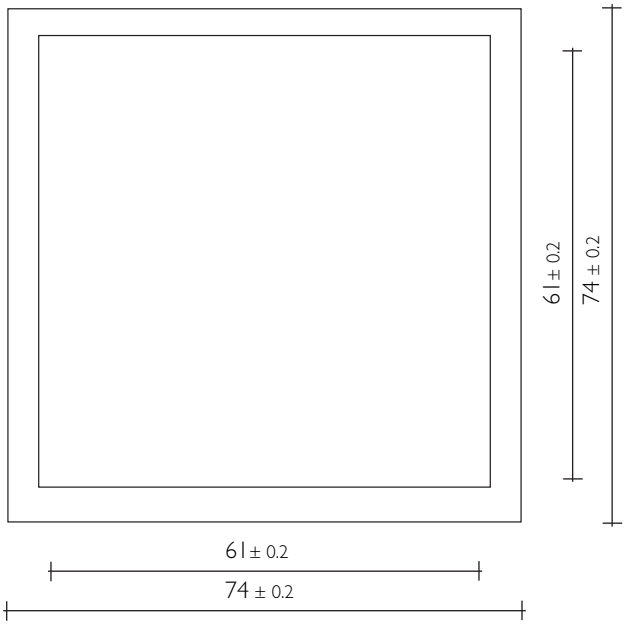


Integral color point versus current density



Philips Lumiblade OLED panel GL26

L0023 CE29



Type	Color / CCT CIE x/y	Lum. Flux1	CRI	Voltage	Rated Current
L0023 CE29 9254.000.032	white 2900K	26.0 lm	87	7.2 V	270 mA

Notes:
All values are nominal values measured at standard temperature and pressure.

Connectors

OLEDs of this product family are shipped with minimal 100mm red cables, finished with Molex Picoblade connector: 51021-0500.

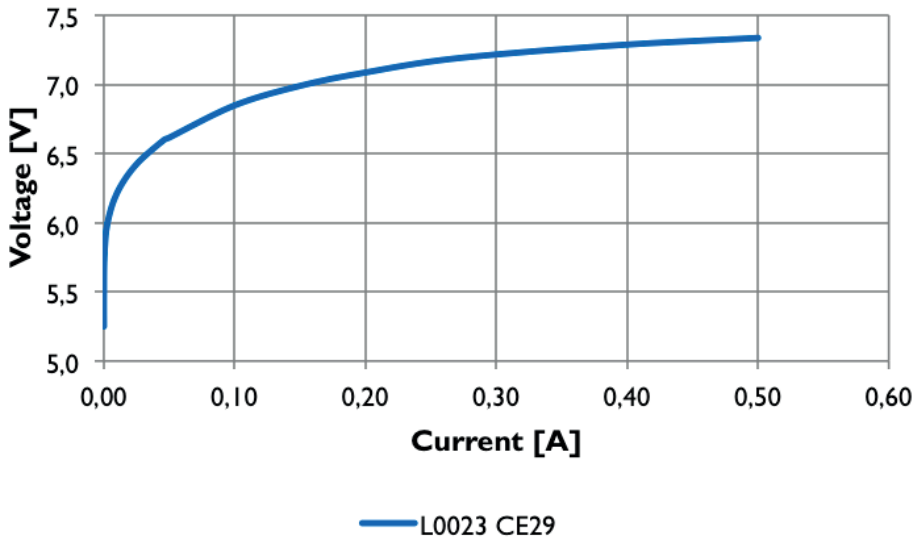
Electrical

Rated voltages

Type	Rated Current	Max Current	Minimum voltage	Nominal voltage	Maximum voltage
L0023 CE29	270 mA	450 mA	6.9 V	7.2 V	7.5 V

Rated voltages and maximum values apply to new OLEDs. Voltage can increase over lifetime. Philips strongly recommend the usage of SCP 1002, see page 32.

Forward current versus forward voltage

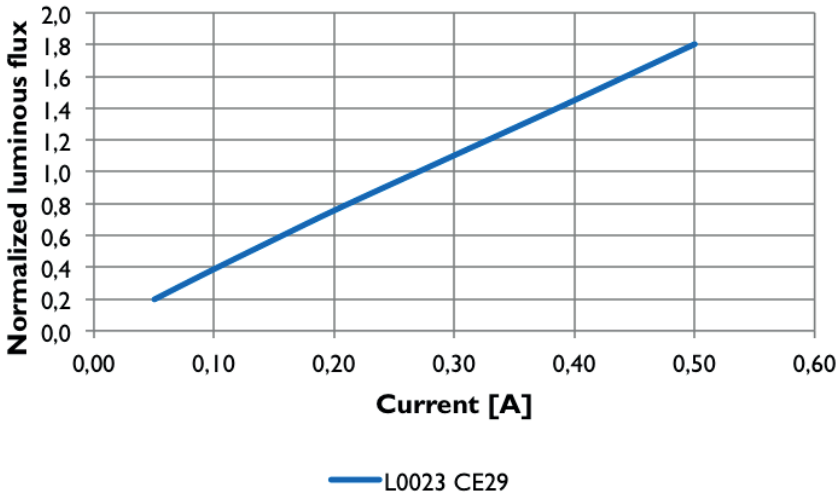


Luminous flux

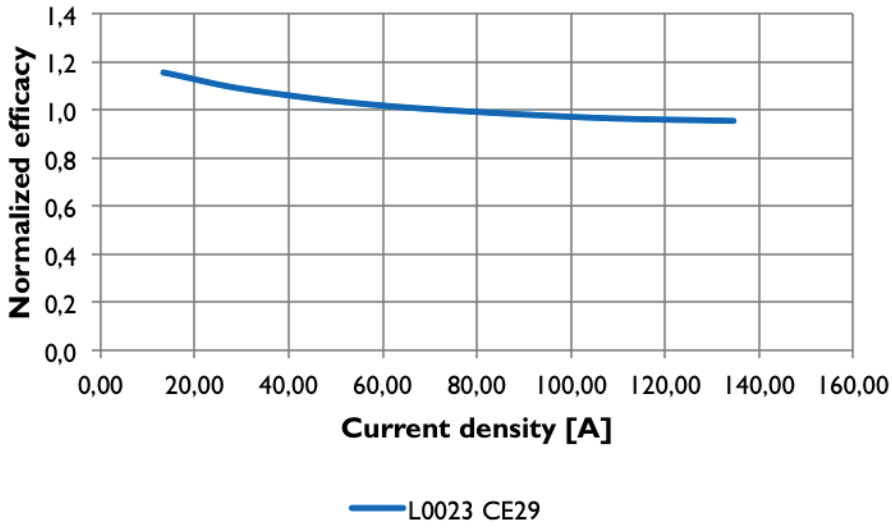
Rated luminous flux

Type	Rated Current	Luminous flux min	Luminous flux nominal	Luminous flux max
L0023 CE29	270 mA	24.7 lm	27.5 lm	30.3 lm

Luminous flux versus forward current



Luminous efficacy versus current density



Lifetime

Lifetime

Type	Lifetime
L0023 CE29	10000 h[1]

[1] Until 50% decrease in luminance or defect (L50B50) at nominal current

Homogeneity

Homogeneity

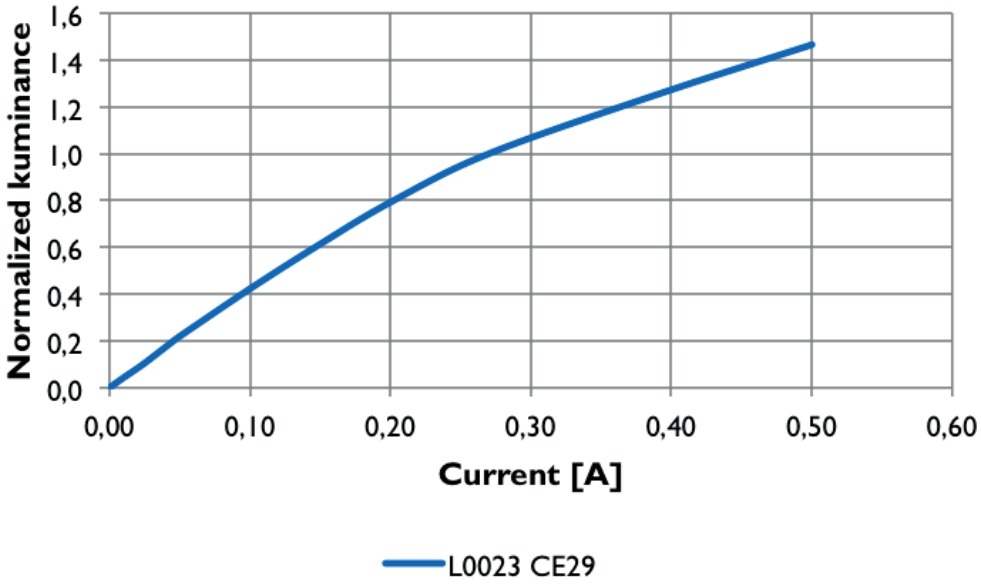
Type	Rated Current	Homogeneity min	Homogeneity nominal	Homogeneity max
L0023 CE29	270 mA		90%	

Luminance

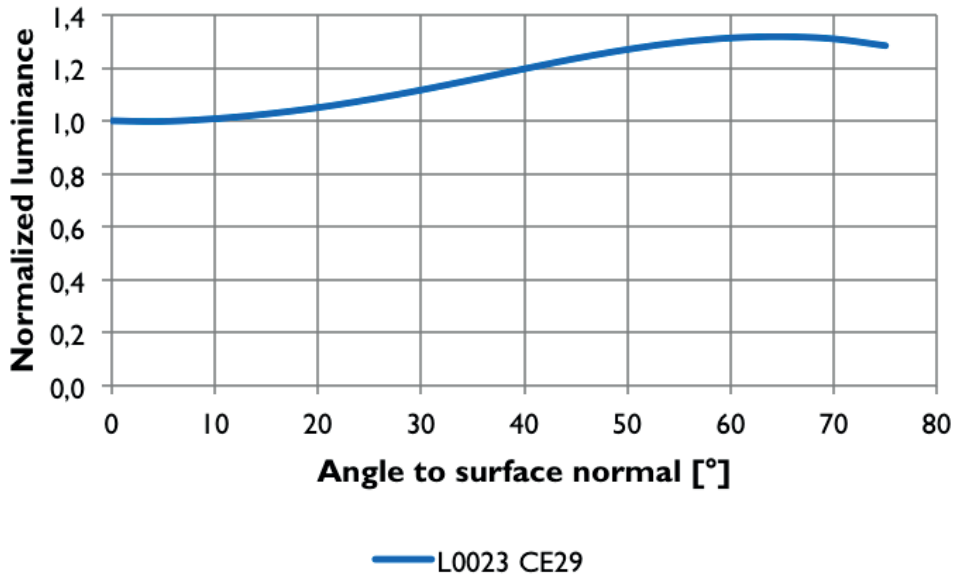
Luminance

Type	Rated Current	Luminance min	Luminance nominal	Luminance max
L0023 CE29	270 mA	1800 cd/m²	2000 cd/m²	2200 cd/m²

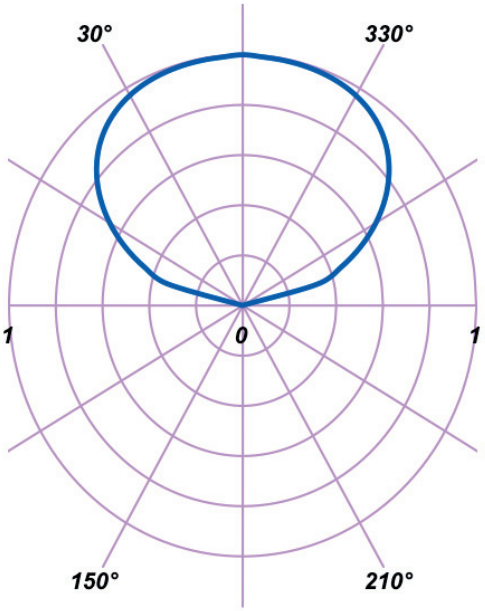
Luminance versus current



Luminance versus angle

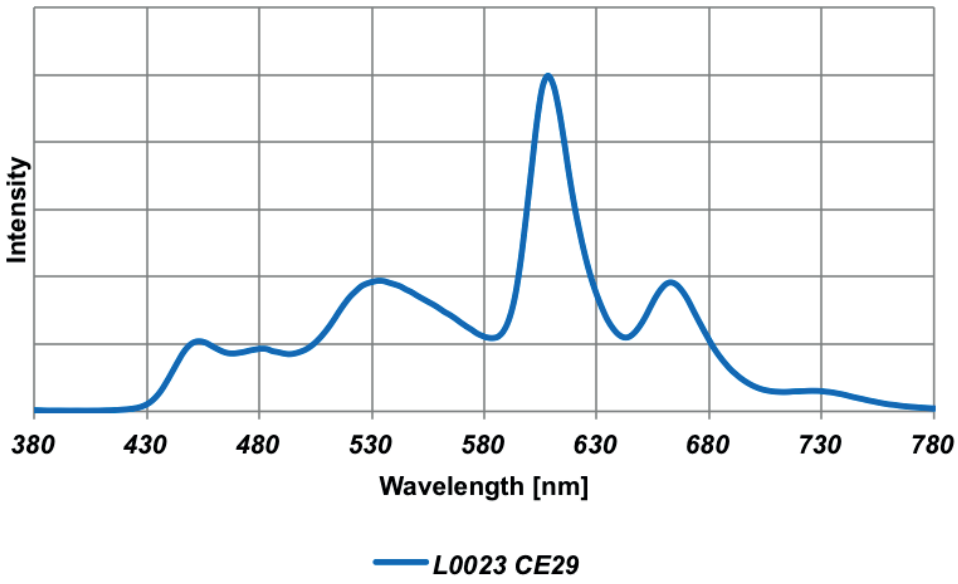


Luminous intensity versus angle



Color

Integral spectrum



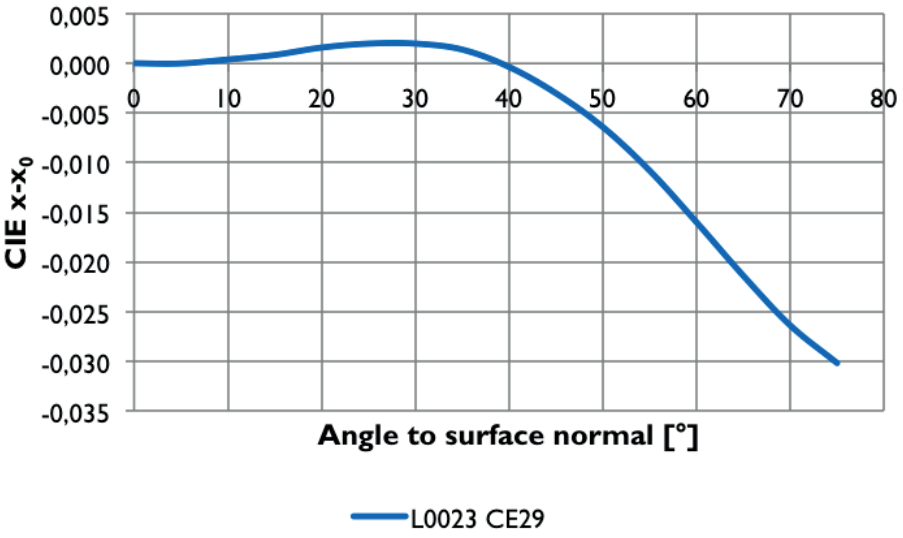
Correlated Color Temperature

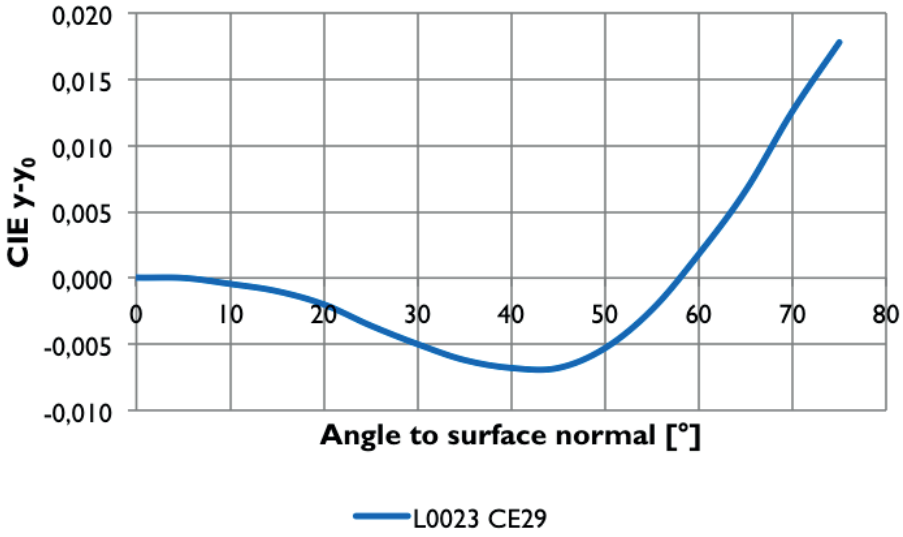
Type	Rated Current	CCT min	CCT nominal	CCT max
L0023 CE29	270 mA		2900 K	

Color rendering index

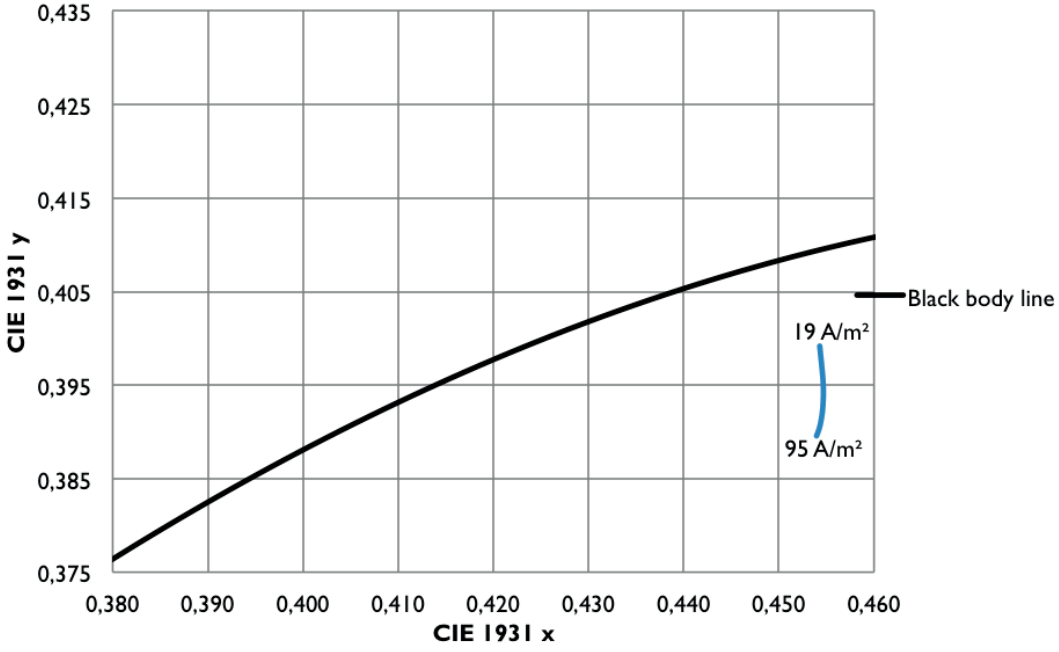
Type	Rated Current	CRI min	CRI nominal	CRI max
L0023 CE29	270 mA		87	

Color versus angle



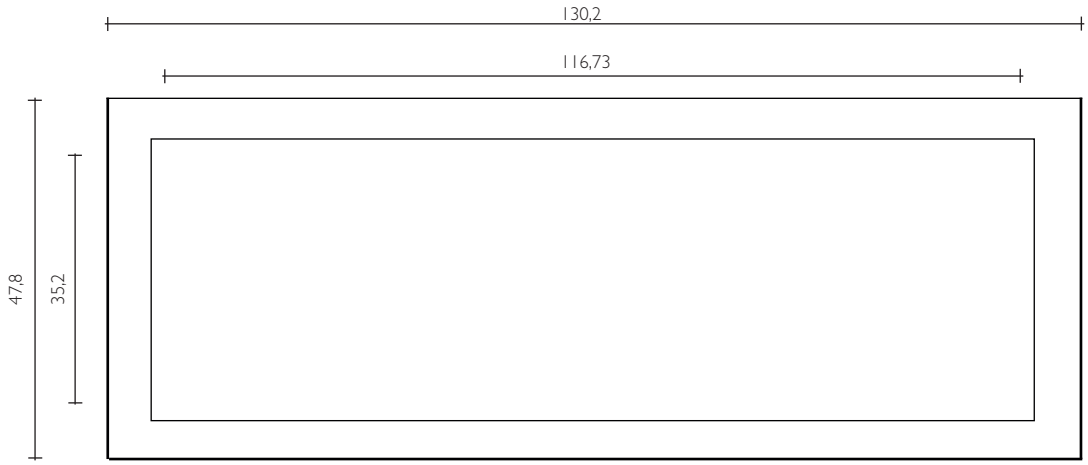


Integral color point versus current density



Philips Lumiblade OLED panel GL55

L0022 CE32 ILO



Type	Color / CCT CIE x/y	Lum. Flux[1]	CRI	Voltage	Rated Current
L0022 CE32 ILO 9254.000.033	white 3200K	55.0 lm	86	7.2 V	390 mA

Notes:
All values are nominal values measured at standard temperature and pressure.

Connectors

OLEDs of this product family are shipped with minimal 100mm long red cables, finished with Molex Picoblade connector: 51021-0500.

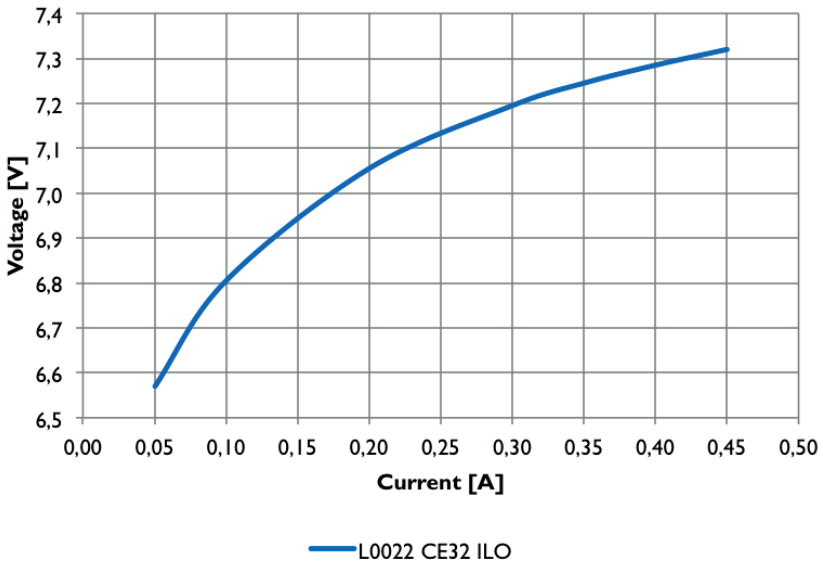
Electrical

Rated voltages

Type	Rated Current	Max Current	Minimum voltage	Nominal voltage	Maximum voltage
L0022 CE32 ILO	390 mA	450 mA	7.0 V	7.3 V	7.6 V

Rated voltages and maximum values apply to new OLEDs. Voltage can increase over lifetime. Philips strongly recommend the usage of SCP 1002, see page 32.

Forward current versus forward voltage

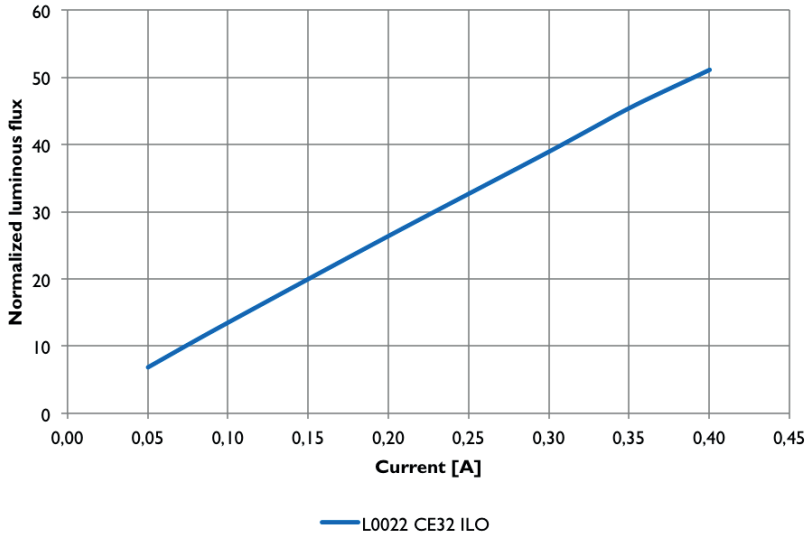


Luminous flux

Rated luminous flux

Type	Rated Current	Luminous flux min	Luminous flux nominal	Luminous flux max
L0022 CE32 ILO	390 mA	49.0 lm	55.0 lm	61.0 lm

Luminous flux versus forward current



Lifetime

Lifetime

Type	Lifetime
L0022 CE32 ILO	7000 h[1]
L0022 CE32 ILO	20000 h[2]

[1] Until 50% decrease in luminance or defect (L50B50) at nominal current

[2] Until 70% decrease in luminance or defect (L70B50) at 1000 cd/m²

Homogeneity

Homogeneity

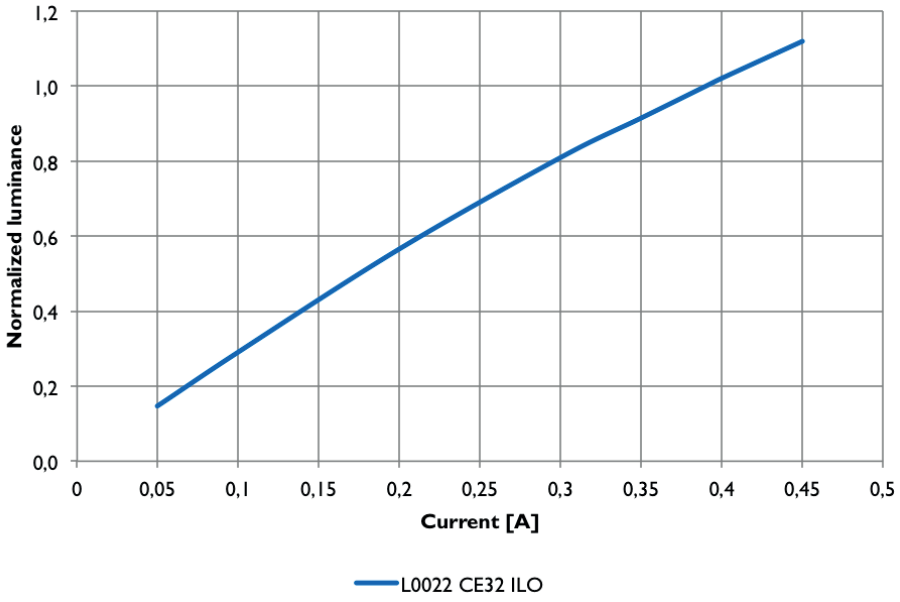
Type	Rated Current	Homogeneity min	Homogeneity nominal	Homogeneity max
L0022 CE32 ILO	390 mA		80%	

Luminance

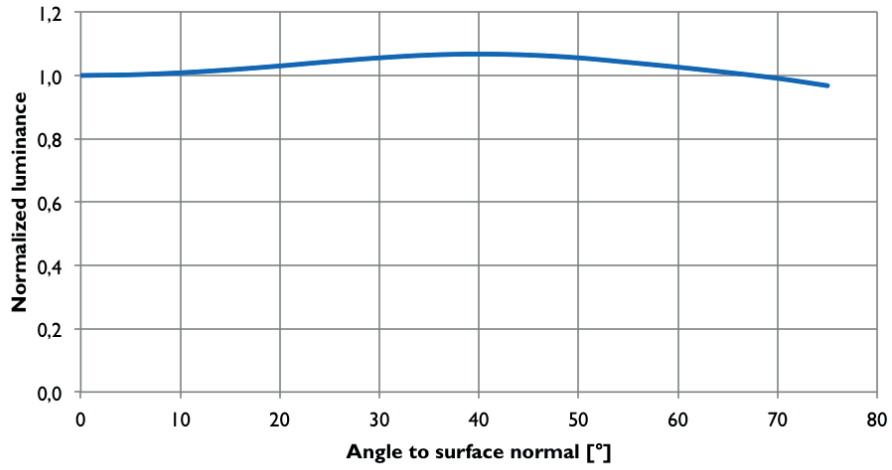
Luminance

Type	Rated Current	Luminance min	Luminance nominal	Luminance max
L0022 CE32 ILO	390 mA	3750 cd/m²	4200 cd/m²	4650 cd/m²

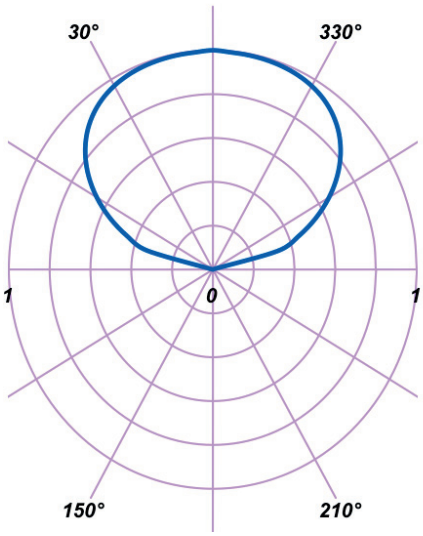
Luminance versus current



Luminance versus angle

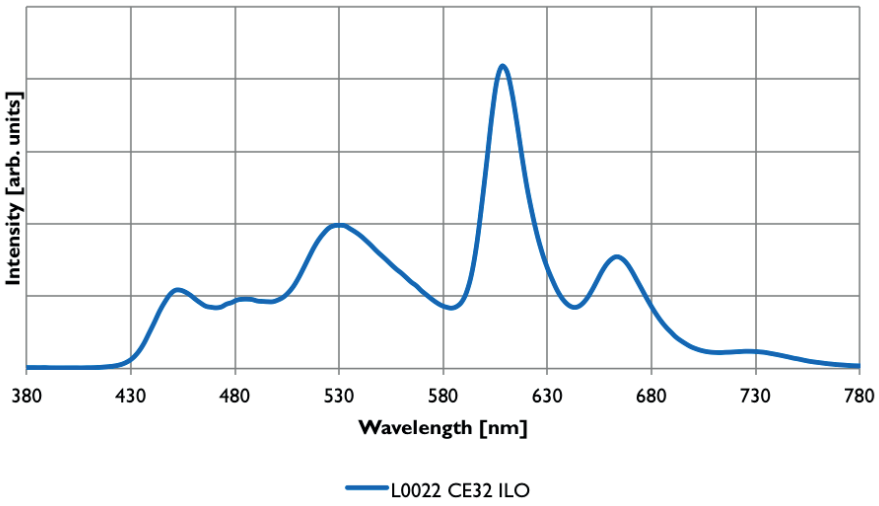


Normalized luminous intensity versus angle



Color

Integral spectrum



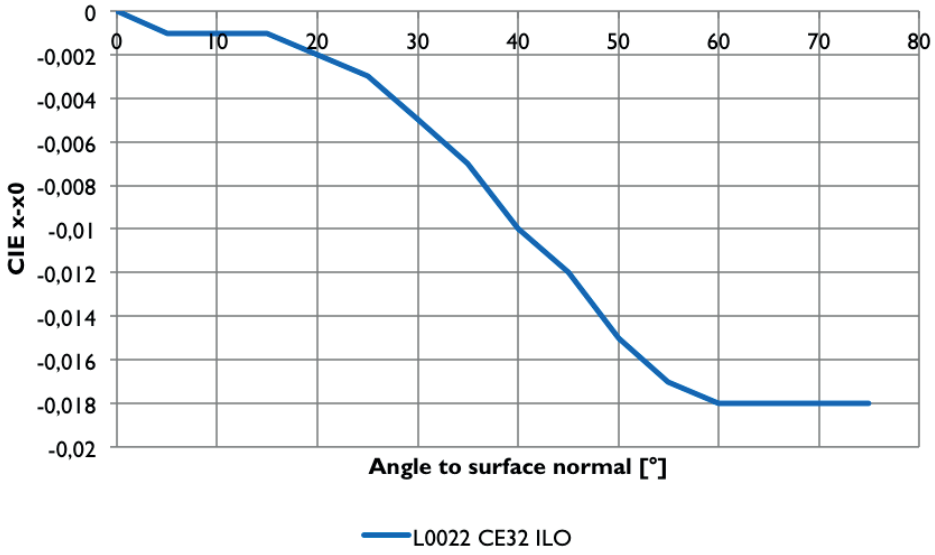
Correlated Color Temperature

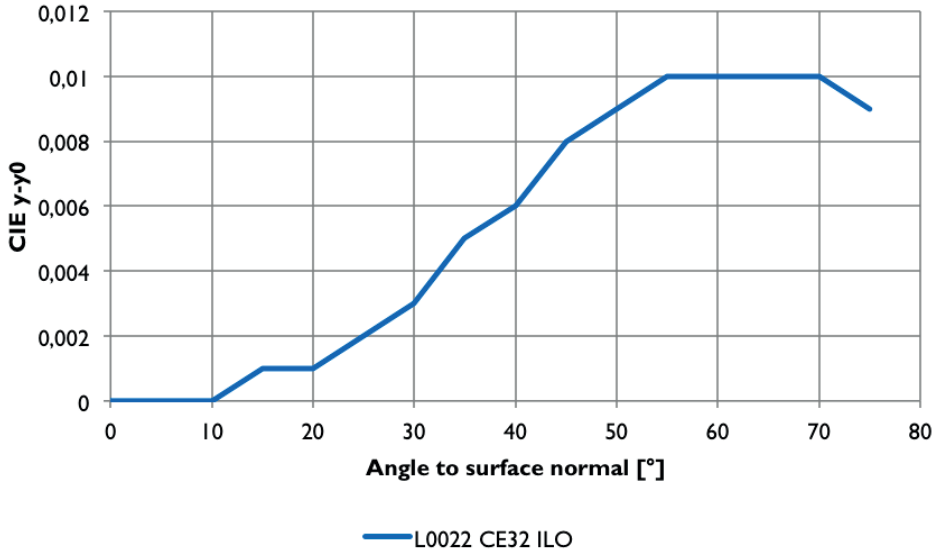
Type	Rated Current	CCT min	CCT nominal	CCT max
L0022 CE32 ILO	390 mA		3200 K	

Color rendering index

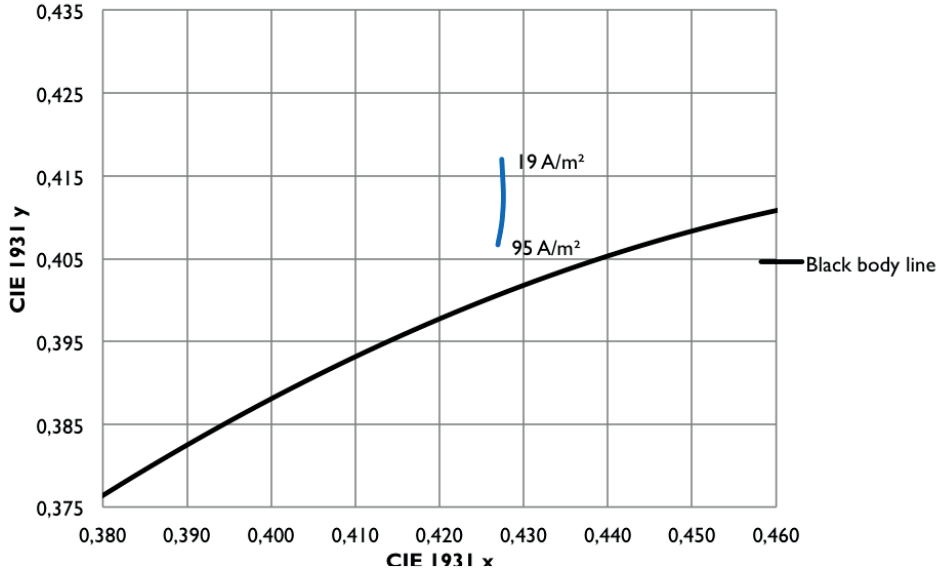
Type	Rated Current	CRI min	CRI nominal	CRI max
L0022 CE32 ILO	390 mA		86	

Color versus angle



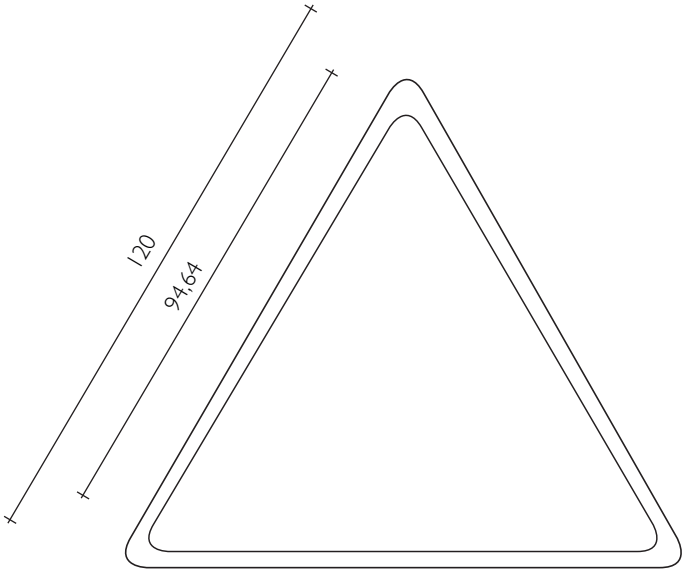


Integral color point versus current density



Philips Lumiblade OLED panel GL30

L0060 CE32



Type	Color / CCT CIE x/y	Lum. Flux1	CRI	Voltage	Rated Current
L0060 CE32 9254.000.035	white 3200K	35.6 lm	86	7.3 V	350 mA

Notes:
All values are nominal values measured at standard temperature and pressure.

Connectors

OLEDs of this product family are shipped with minimal 100mm long red cables, finished with Molex Picoblade connector: 51021-0500.

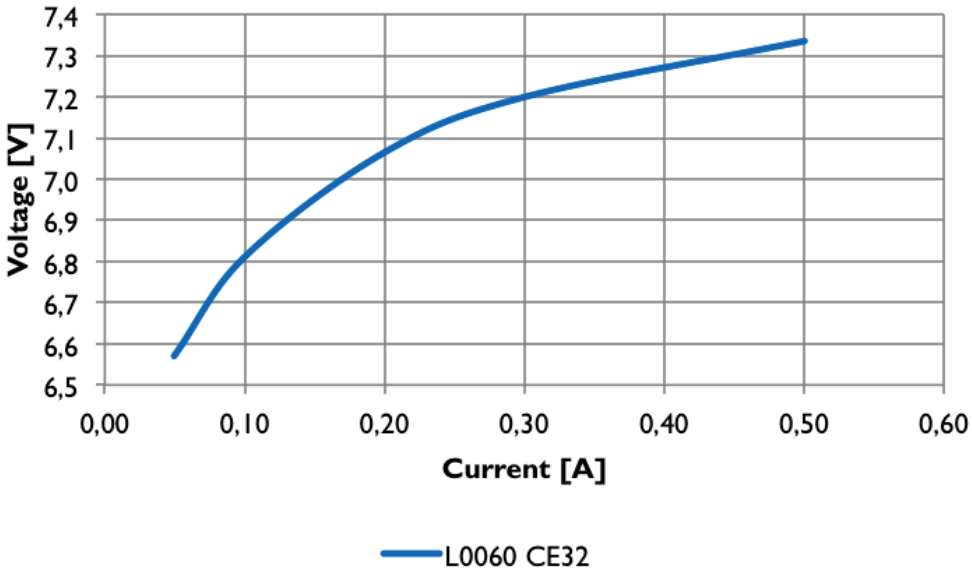
Electrical

Rated voltages

Type	Rated Current	Max Current	Minimum voltage	Nominal voltage	Maximum voltage
L0060 CE32	350 mA	400 mA	7.0 V	7.3 V	7.6 V

Rated voltages and maximum values apply to new OLEDs. Voltage can increase over lifetime. Philips strongly recommend the usage of SCP 1002, see page 32.

Forward current versus forward voltage

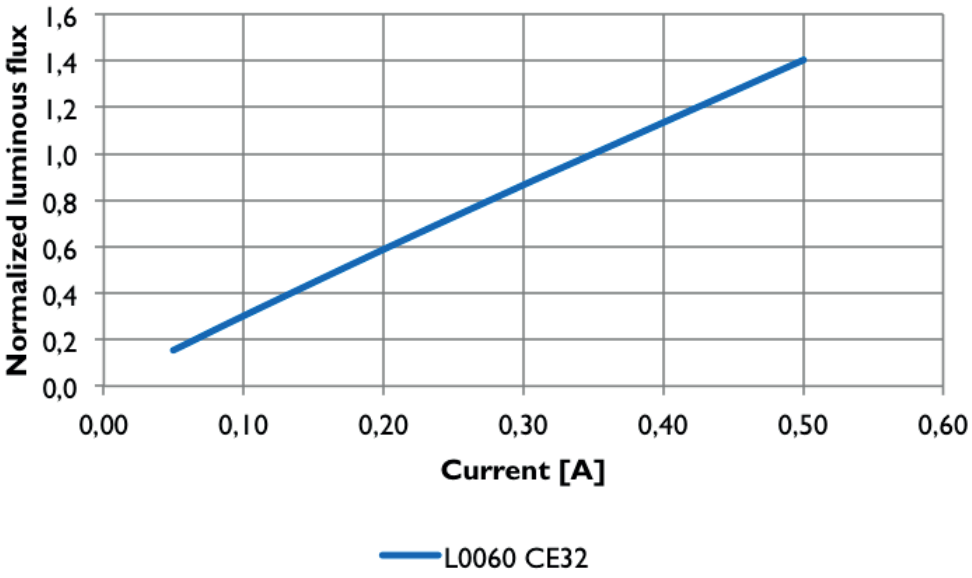


Luminous flux

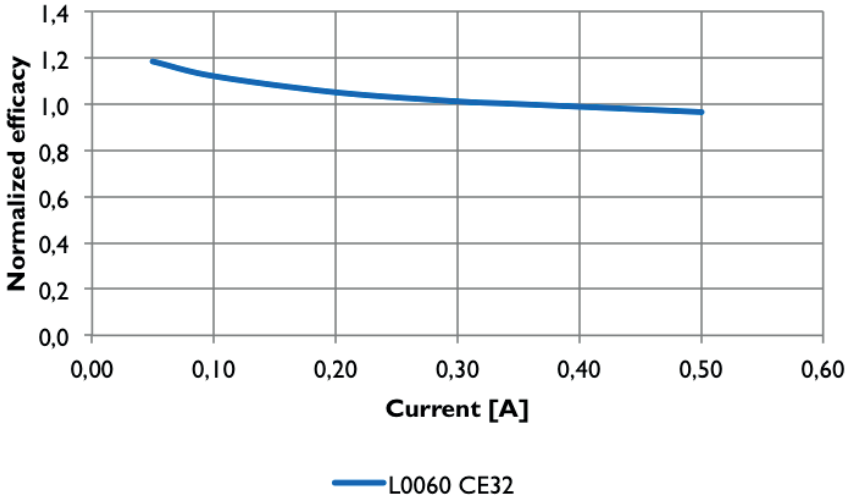
Rated luminous flux

Type	Rated Current	Luminous flux min	Luminous flux nominal	Luminous flux max
L0060 CE32	350 mA		35.6 lm	

Luminous flux versus forward current



Luminous efficacy versus current density



Lifetime

Lifetime

Type	Lifetime
L0060 CE32	6500 h[1]
L0060 CE32	10000 h[2]

[1] Until 50% decrease in luminance or defect (L50B50) at nominal current

[2] Until 70% decrease in luminance or defect (L70B50) at 1000 cd/m²

Homogeneity

Homogeneity

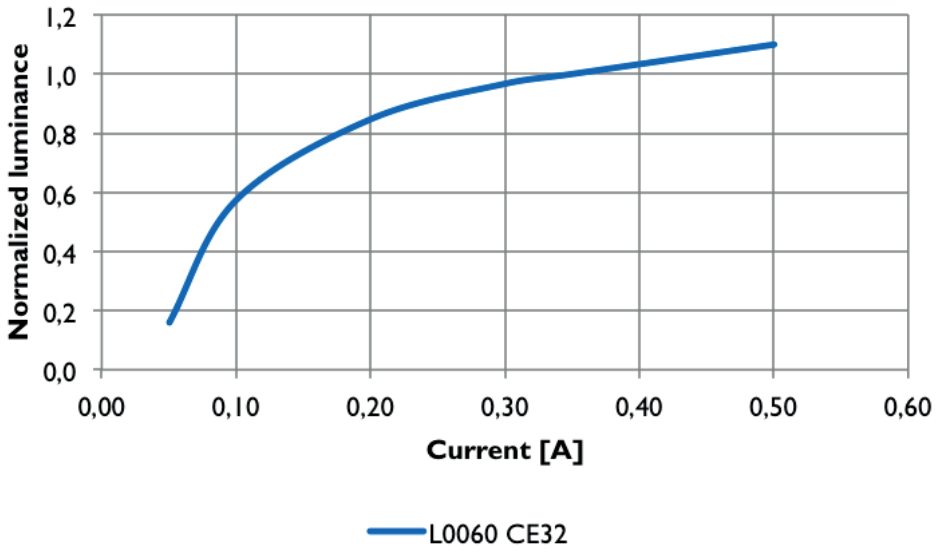
Type	Rated Current	Homogeneity min	Homogeneity nominal	Homogeneity max
L0060 CE32	350 mA		80%	

Luminance

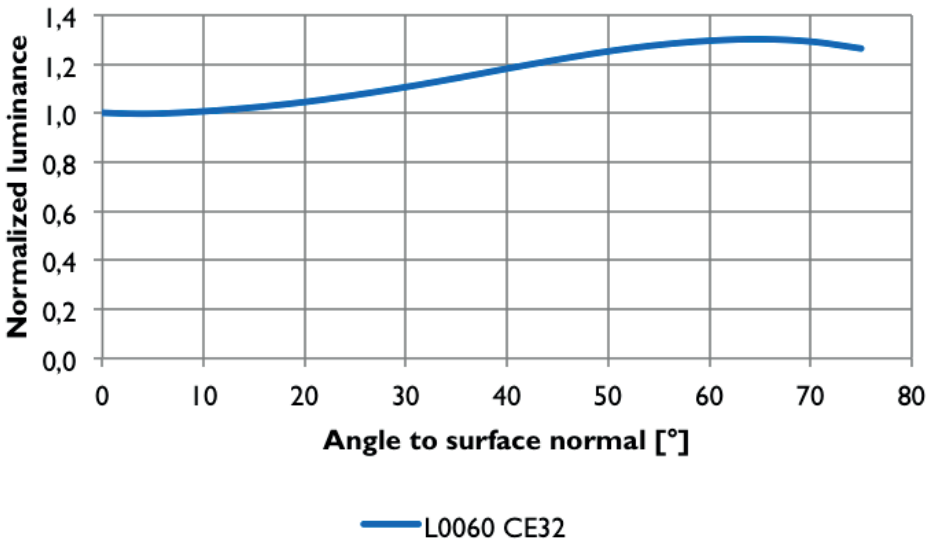
Luminance

Type	Rated Current	Luminance min	Luminance nominal	Luminance max
L0060 CE32	350 mA	2250 cd/m²	2450 cd/m²	2700 cd/m²

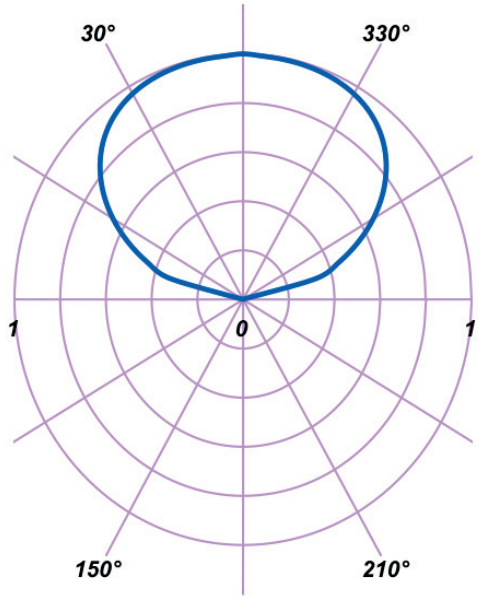
Luminance versus current



Luminance versus angle

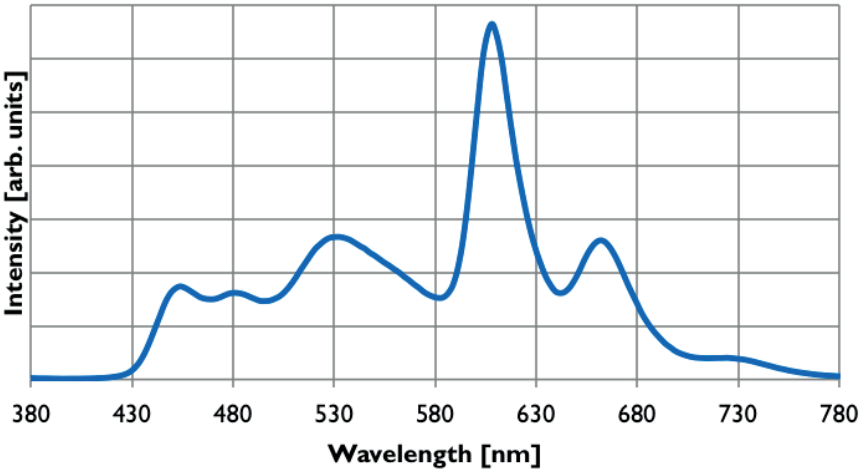


Normalized luminous intensity versus angle



Color

Integral spectrum



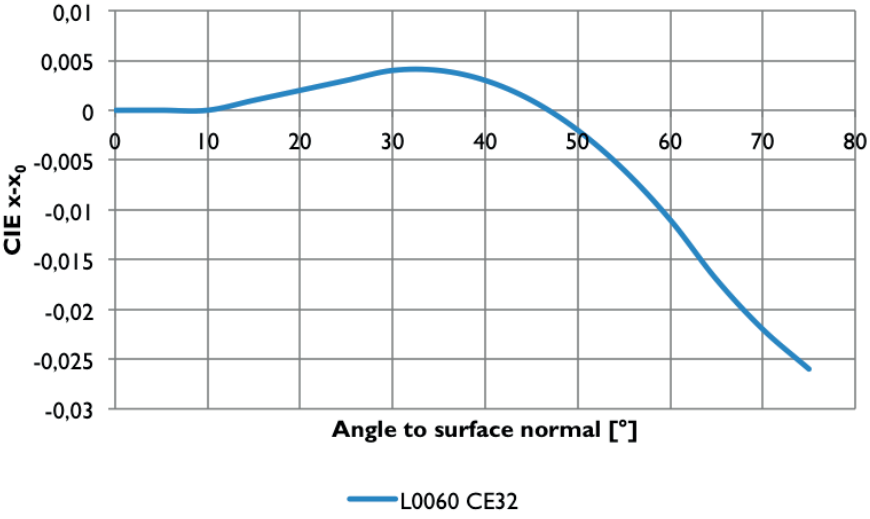
Correlated Color Temperature

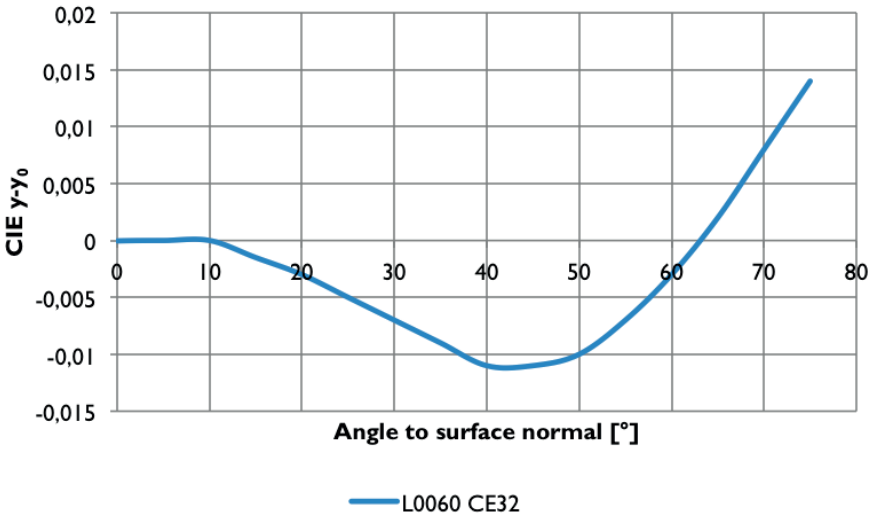
Type	Rated Current	CCT min	CCT nominal	CCT max
L0060 CE32	350 mA		3200 K	

Color rendering index

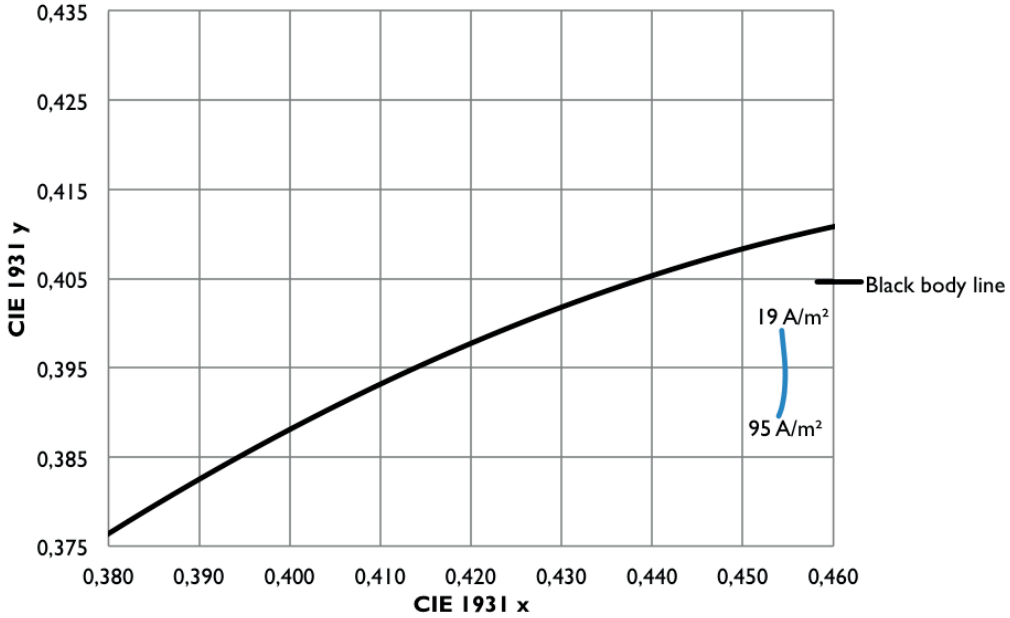
Type	Rated Current	CRI min	CRI nominal	CRI max
L0060 CE32	350 mA		86	

Color versus angle



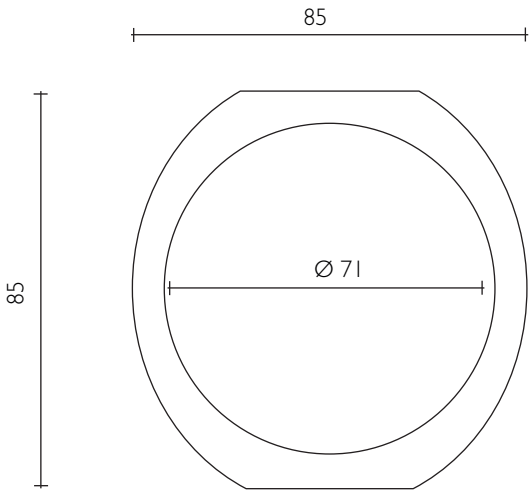


Integral color point versus current density



Philips Lumiblade OLED panel GL46

L0050 CE32 ILO



Type	Color / CCT CIE x/y	Lum. Flux l	CRI	Voltage	Rated Current
L0050 CE32 ILO 9254.000.034	white 3200K	48.0 lm	89	7.1 V	350 mA

Notes:
All values are nominal values measured at standard temperature and pressure.

Connectors

OLEDs of this product family are shipped with minimal 100mm long red cables, finished with Molex Picoblade connector: 51021-0500.

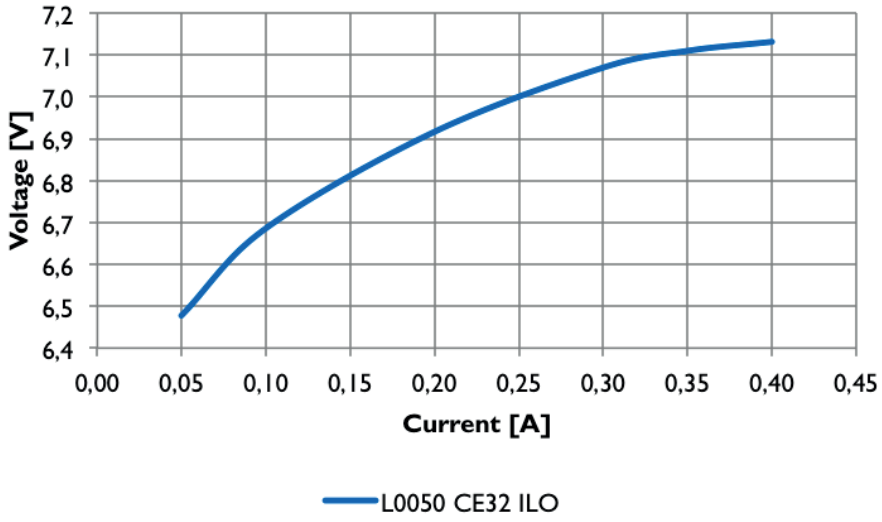
Electrical

Rated voltages

Type	Rated Current	Max Current	Minimum voltage	Nominal voltage	Maximum voltage
L0050 CE32 ILO	350 mA	400 mA	6.9 V	7.1 V	7.3 V

Rated voltages and maximum values apply to new OLEDs. Voltage can increase over lifetime. Philips strongly recommend the usage of SCP 1002, see page 32.

Forward current versus forward voltage

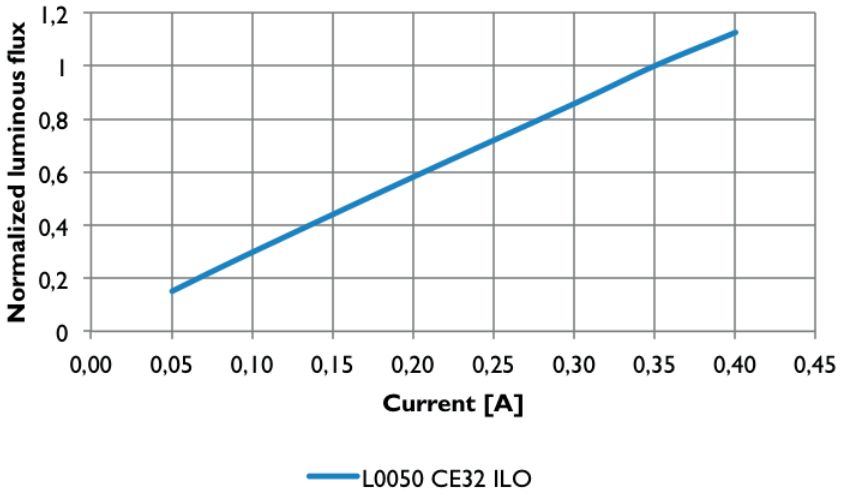


Luminous flux

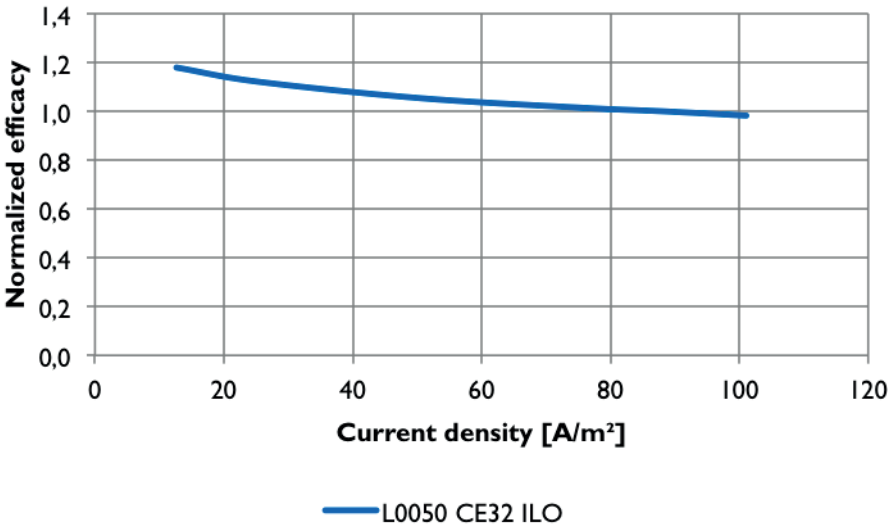
Rated luminous flux

Type	Rated Current	Luminous flux min	Luminous flux nominal	Luminous flux max
L0050 CE32 ILO	350 mA	43.0 lm	48.0 lm	53.0 lm

Luminous flux versus forward current



Luminous efficacy versus current density



Lifetime

Lifetime

Type	Lifetime
L0050 CE32 ILO	8500 h[1]
L0050 CE32 ILO	20000 h[2]

[1] Until 50% decrease in luminance or defect (L50B50) at nominal current

[2] Until 70% decrease in luminance or defect (L70B50) at 1000 cd/m²

Homogeneity

Homogeneity

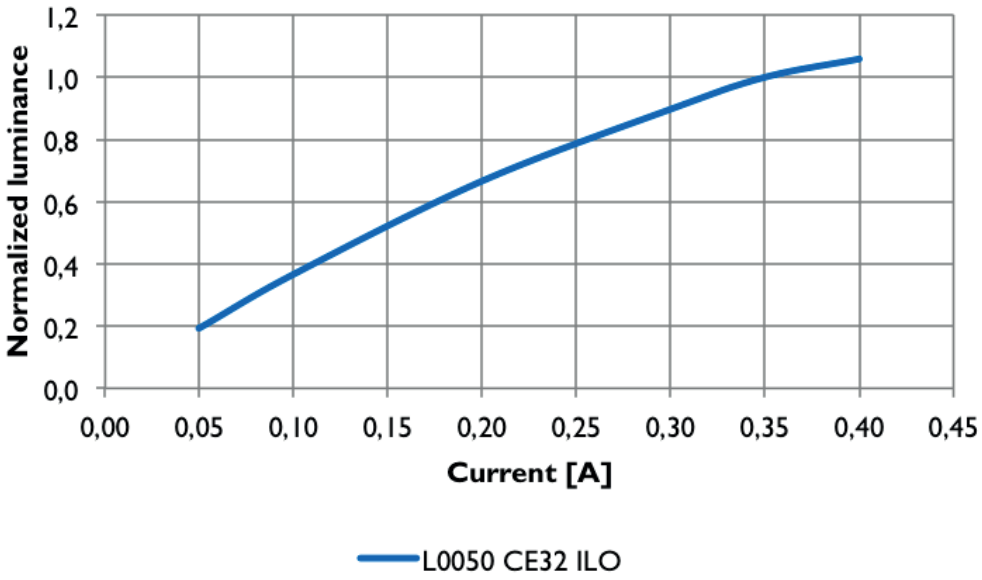
Type	Rated Current	Homogeneity min	Homogeneity nominal	Homogeneity max
L0050 CE32 ILO	350 mA		75%	

Luminance

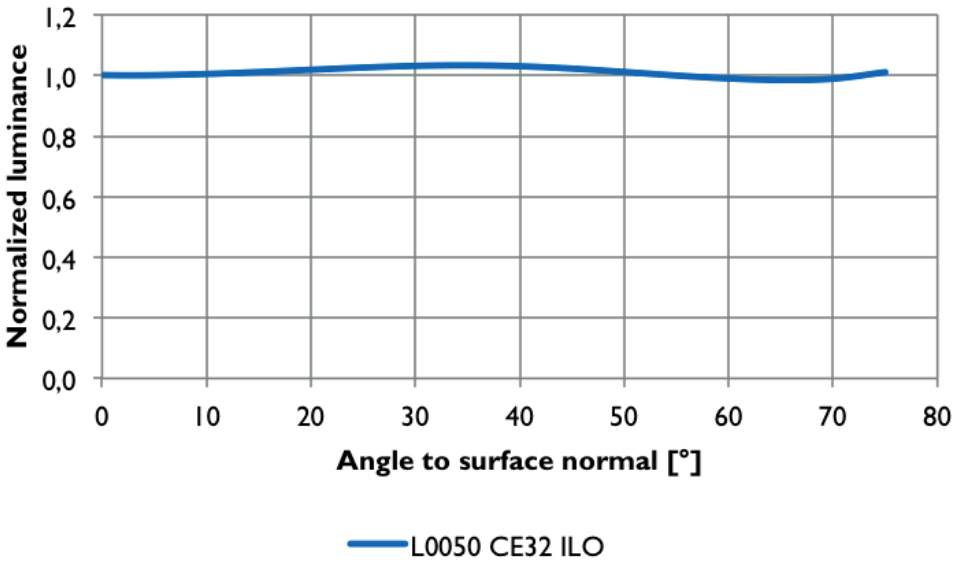
Luminance

Type	Rated Current	Luminance min	Luminance nominal	Luminance max
L0050 CE32 ILO	350 mA	3400 cd/m²	3800 cd/m²	4200 cd/m²

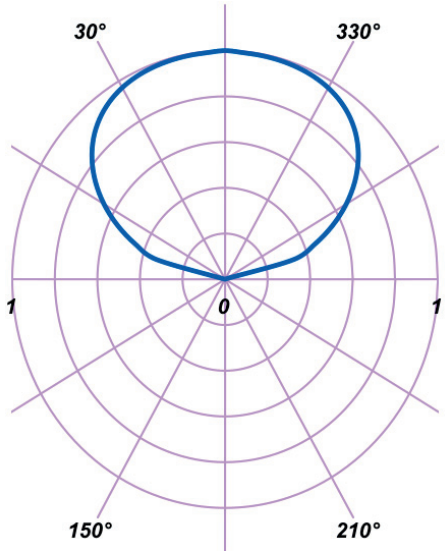
Luminance versus current



Luminance versus angle

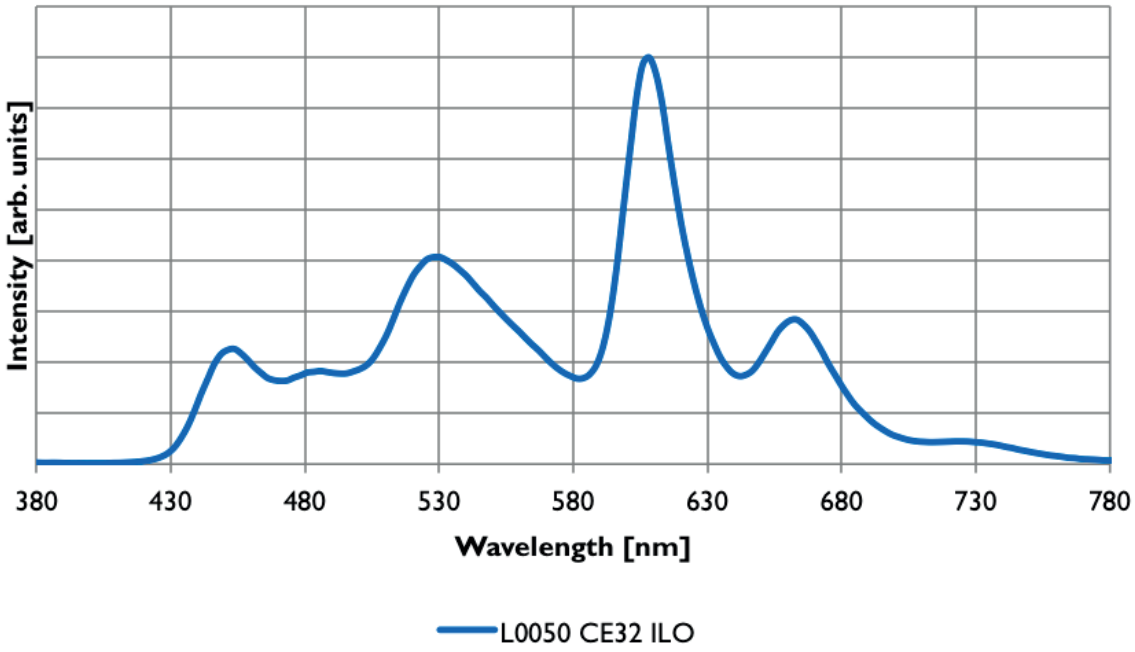


Normalized luminous intensity versus angle



Color

Integral spectrum



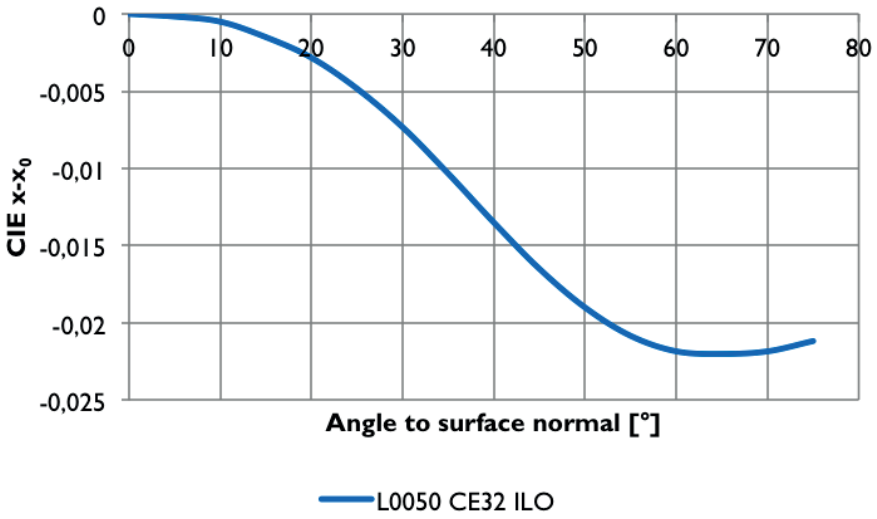
Correlated Color Temperature

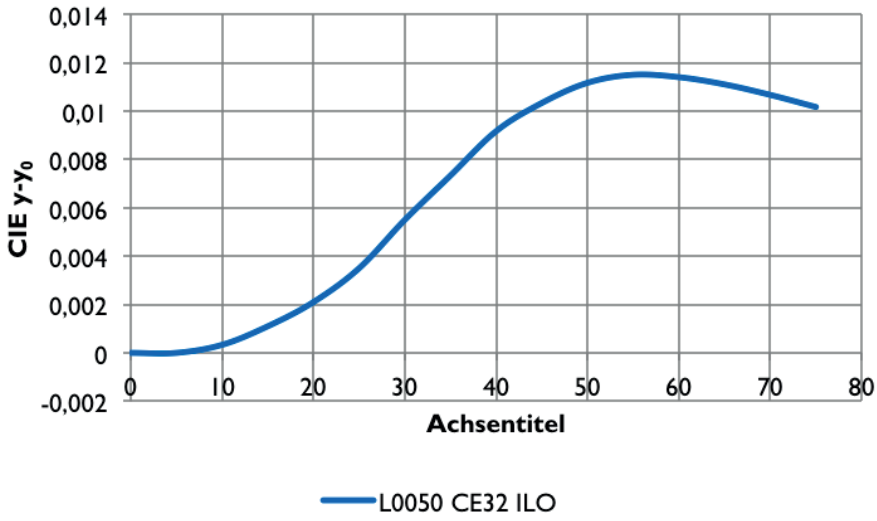
Type	Rated Current	CCT min	CCT nominal	CCT max
L0050 CE32 ILO	350 mA		3200 K	

Color rendering index

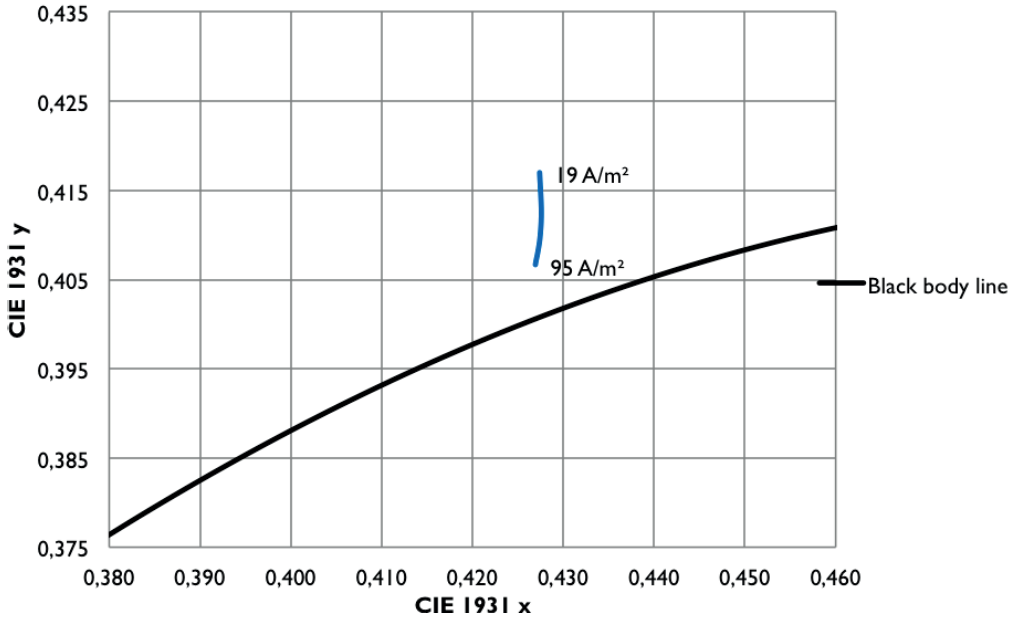
Type	Rated Current	CRI min	CRI nominal	CRI max
L0050 CE32 ILO	350 mA		89	

Color versus angle





Integral color point versus current density



OLED Application Note

Introduction

The purpose of this application note is to give general information on how to drive and handle an organic light emitting diode (OLED). Recommendations are made and a few best practice examples are presented.

OLED

OLED Architecture

A typical example of the architecture of an OLED is depicted in Figure 1. It comprises the following layers/components:

- glass substrate
- transparent anode made of indium tin oxide (ITO) being the first electrode
- multiple organic layers, each having a different function
- metallic cathode being the second electrode
- cover glued to the substrate protecting the organic materials, mostly made of glass
- getter to chemically bind oxygen and water penetrating through the glue rim.

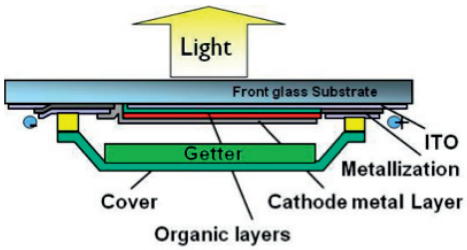


Figure 1: Lumiblade GL350 B1 STAN

In the case a constant voltage is applied to the electrodes of the OLED a current starts to flow through the organics generating light.

Electrical parameters

OLEDs are supplied by direct current (DC). The OLED current depends on the size of the OLED and the light output one wants to achieve. The voltage of an OLED depends on the organic stack, the internal architecture and the aging of the OLED. It may vary between 3 V and 16 V per OLED. Details about voltage and current are given in the individual datasheets.
A simple equivalent OLED model is given in Figure 4. It comprises the ITO resistance $R_{ITO} \approx 15\ \Omega/\square$, OLED capacitance $C_{OLED} \approx 200\ldots400\ pF/mm^2$ and the OLED IV-characteristic, which can be described with a parabolic or exponential equation.

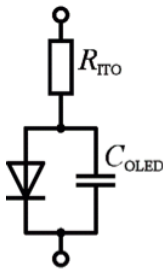


Figure 4: Simplified equivalent circuit of an OLED

The obtained model is well suitable to use for the design of the OLED driver, especially for simulations, e.g. with PSpice, Matlab/ Simulink and Simplorer.

OLED Short Circuit Protection

In the rare event that an OLED fails it goes into a short condition, its voltage decreases. This condition should be avoided! Hence, an electronic circuitry to prevent local heating due to shorts is strongly recommended. Philips offers approved short circuit protection circuitries.

DRIVER ARCHITECTURES

Drivers for LEDs

Drivers developed for inorganic LEDs can be used for OLEDs. An example of a LED driver that can be used to power OLEDs is the Philips Xitanium 25W LED TD/Is.

Figure 5: Xitanium LED driver

However, these drivers do not shut off in the case a short occurs. Philips has designed products, so called short circuit protection, to overcome this problem. Examples are the SCP1002 and the Philips Lumiblade SCP GL350. The resulting architecture is depicted in the example below.

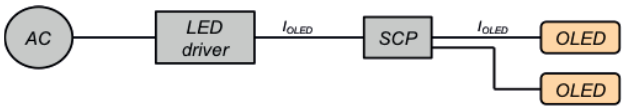


Figure 6: Dual-stage architecture using LED driver and SCP

Low –voltage intermediate bus

A second driver architecture is depicted in Figure 7. It uses an intermediate low-voltage bus. Short-circuit protection is implemented in the LV drivers.

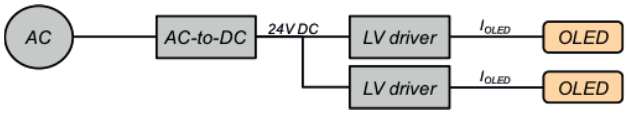


Figure 7: Dual-stage driver architecture with 24V DC bus

The LV driver can be integrated in the module as has been done in the Philips Lumiblade TILE-T product. Integrating the driver in the OLED lamp enables the inclusion of special functions. Examples are protection circuits, e.g. over current, over temperature and short circuit protection, dimming (AM and/or PWM), communication and compensation techniques.

Figure 8: Lumiblade TILE-T

BEST PRACTICES

GL350

A system based on GL350 that has been successfully tested at Philips. It comprises:

- 3 OLEDs of type Lumiblade GL350 B1 STAN
  10NC: 9254 000 019
- 1 SCP of type Lumiblade SCP GL350 PCBK
  10NC: 9254 000 020
- 1 cable of type Fortimo LED DLM cable
  10NC:9290 004 631
- 1 driver Xitanium LH 0.3-1A 62V TD/TE /I 230V
  10NC:9290 006 171

All components can be easily clicked together. The light output of this system is 350 lm.

L0022/ L0023 / L0050 / L0060

A second system that has been tested is depicted in Figure 9 below.

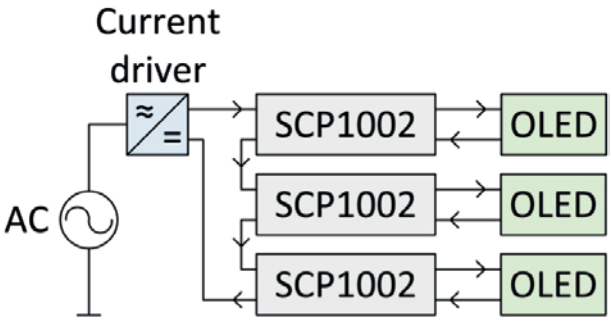


Figure 9: Proposed architecture for L0022 with LED drivers (AC-to-DC)

The system setup comprises the following components:

- 3 OLEDs of type Lumiblade L0022, L0023, L0050 or L006010NC: 9254 000 007
- 3 SCP of type Lumiblade SC1001 or SCP1002 0NC: 9254 000 008
- 1 driver: Microdriver 9 MDU-9-SC-35/70

The components have to be wired according to the scheme depicted in Figure 9.

DOS AND DON'TS

Electrical handling

– OLEDs should be powered by direct current (DC).
– The OLED driver should be current controlled [2].
– OLEDs can only conduct current in forward direction.
– Dimming can be done by amplitude modulation (AM) or by pulse width modulation (PWM).
– It should be guaranteed that OLEDs are not powered during fault conditions (shorted OLED).
– Preferably OLEDs are connected in series not in parallel.

Mechanical handling

OLEDs are made of 1.8 mm glass, thus please avoid mechanical stress, such as shock, pressure and especially point loads on the OLED. To avoid fingerprints on the glass, preferably pick up the OLED by touching the sides. Gloves or finger cots are recommended to wear during the contact with the OLED at any time. Also the OLED edges are very sensitive. Please handle OLEDs with care and caution at any time.
Please avoid contact with water, because the contact area might be damaged due to corrosion of the conductive metal. So if water has to be used, please pay attention to cover the contact areas with waterproof material. Do not submerge OLEDs in any kind of solvent, acids, bases, salts or other chemicals. Please avoid touching the OLED's front glass and the electrodes with bare fingers, as this will leave moisture and cause corrosion.

Cleaning

Please avoid scratching the front glass with any hard or sharp objects. Do not use any other chemical than isopropanol or ethanol for removing stains and finger prints. OLEDs can be cleaned with any soft textile.
For every day cleaning, it is advised to use a compressed air deduster spray to remove regular dust from the individual panels. Cleaning should start on the top left and go from left to right downwards. Should finger prints or more persistent contamination have occurred, a lint-free cloth in combination with Isopropyl alcohol should be used. Apply a little of the liquid to the cloth and gently clean the surface of each OLED in circular movements beginning at the center of the OLED towards the outside. Never use water on the OLEDs as this may damage the electronic back plane of the installation.

Storage and Operating

Please note that the recommended storage temperature is 15°C to 40°C. The recommended relative storage humidity is below 70%. The optimal operating temperature range is between 15°C and 25°C.

Safety

Please be cautious when handling OLEDs. Especially, the edges of the OLED panels are sharp, can chip and break. Since OLED is a low voltage technology, no further danger from electricity is expected.

Disposition

Dispose OLED according to the local legislation.

Philips Lumiblade SCP1002

Description

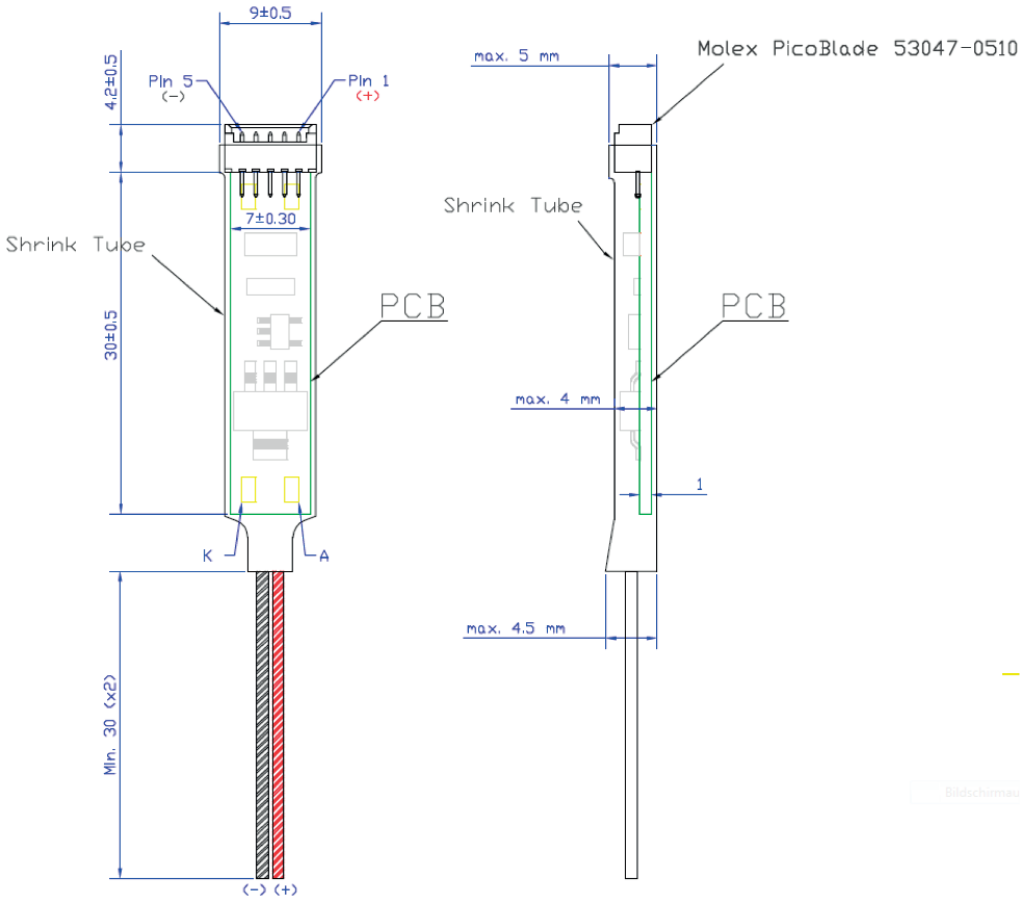
The Philips Lumiblade SCP1002 is an OLED supervision circuit, which bypasses the OLED in the case a fault occurs. It monitors the OLED forward voltage. If the OLED voltage drops below a defined threshold value, a bypass is created taking over the OLED current.

The SCP1002 contains an OLED voltage detector, a fixed trigger delay and a bypass thyristor. The voltage detector monitors the OLED forward voltage. The trigger delay enables proper start-up of the OLED. The thyristor is used as bypass.

System setup

The SCP1002 has to be placed between a standard LED driver, which can be connected to the wires of SCP1002 and compatible Philips Lumiblade OLED Panels. It is also possible to use multiple OLED Panels with multiple SCP1002 in series. An example is given in figure 3.

Drawings



Functional Description

The working of the detection circuit can be explained with the waveforms shown in figure 2.

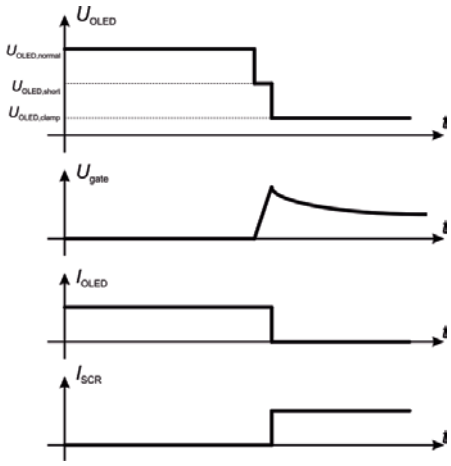


Figure 2: Idealized typical waveforms of the separate failure detection circuit.

During normal operation a current is fed to the OLED resulting in an OLED voltage $U_{OLED} = U_{OLED,normal}$. At the instant the OLED fault occurs, the OLED voltage U_{OLED} drops to $U_{OLED} = U_{OLED,short}$. This voltage drop is detected by the internal electronics of the SCP1002. The voltage at the gate Ugate of a bypass thyristor (SCR = silicon controlled rectifier) starts to rise. After some time has passed and a threshold value has been reached, the thyristor is triggered. The current through the OLED commutates to the SCR. Since the forward voltage of the SCR is lower than the forward voltage of the faulted OLED, also the OLED voltage drops to a level of $U_{OLED} = U_{OLED,clamp}$, which is equal to the forward voltage of the SCR.

Characteristics

Symbol	Parmeter	Condition	Min	Typ	Max	Unit
U_{OLED}	OLED voltage	Normal operation	5	7	10	V
I_{OLED}	OLED current	Normal operation	300		500	mA
$U_{OLED, short}$	Shorted OLED voltage	Fault condition	2	3.5	4	V
$t_{SCR\ on, delay}$	SCR on delay time	Fault condition	2			ms
$U_{SCR,on}$	SCR on-state voltage	Fault condition,		0.8		V
$I_{SCR,on}$	SCR on-state current	I_{OLED} = 350mA			500	mA
$t_{lifetime}$		Fault condition		20000		h

Limiting Values

Symbol	Parmeter	Condition	Min	Typ	Max	Unit
U_{in}	Input voltage	Normal operation			10	V
I_{in}	Input current	Normal operation			500	mA
$U_{in,switch-on}$	Switch on voltage				10	V
$t_{SCR\ on, delay}$	SCR on delay time	Fault condition	2			ms

Environmental

Storage conditions

	min	type	max	unit
temperature	10	20	40	°C
relative humidity	5	70	85	%
due		none		

Transport conditions

	min	type	max	unit
temperature	-25	20	60	°C
relative humidity	5	70	85	%
due		none		

Operating conditions

	min	type	max	unit
temperature	5	20	40	°C
relative humidity	5	70	85	%
due		none		

Mechanical Dimensions (without wires)

	min	type	max	unit
dimension, x		40		mm
dimension, y		9		mm
dimension, d		5		mm
weight		2		g

Typical application with three OLEDs

A typical use of the SCP1002 with three OLEDs in series is demonstrated in figure 3. A 230 V / 50 Hz power source feeds an non-diming AC-to-DC converter normally used for inorganic LEDs. The AC voltage is converted to a constant current, e.g. 350 mA. The constant current is fed to a series connection of three OLEDs. The supervision circuits SCP1002 are connected in parallel to the OLEDs.

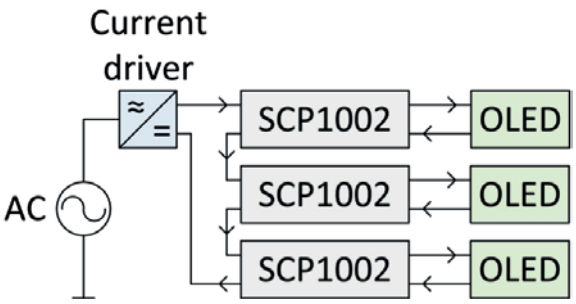


Figure 3: Typical application with three OLEDs

Under normal operation, the OLED current is equal to the converter's output current. If a fault is detected the OLED is bypassed by the SCP1002. The current flows through the corresponding SCP1002. The other OLEDs are not affected.

Driver requirements

Philips Lumiblade SCP1002 is designed for use within OLED application with normal inorganic LED drivers. To protect an OLED in case of a failure, the SCP1002 is connected to the OLED. The rise up time of the LED driver has to be shorter than the specified SCR on delay time tSCR,on,delay. Recommended drivers can be found in the application note.

OLED connection

Make sure that the OLED is only connected with its connector to the output socket of SCP1002. Make sure that the wiring of OLED is not modified!

OLED dimming

The functionality of SCP1002 is only guaranteed for a minimum OLED current of 300mA. The functionality of SCP1002 cannot be guaranteed if a lower OLED current is used. Pulse with modulation (PWM) dimming cannot be used with SCP1002.

Product compatibility list

The SCP1002 can be used with the following Philips Lumiblade Panels:

10NC	Product name
9254.000.03200	Philips Lumiblade OLED Panel GL26
9254.000.03300	Philips Lumiblade OLED Panel GL55
9254.000.03400	Philips Lumiblade OLED Panel GL46
9254.000.03500	Philips Lumiblade OLED Panel GL30

Attention: Please note the minimum OLED current of SCP1002!

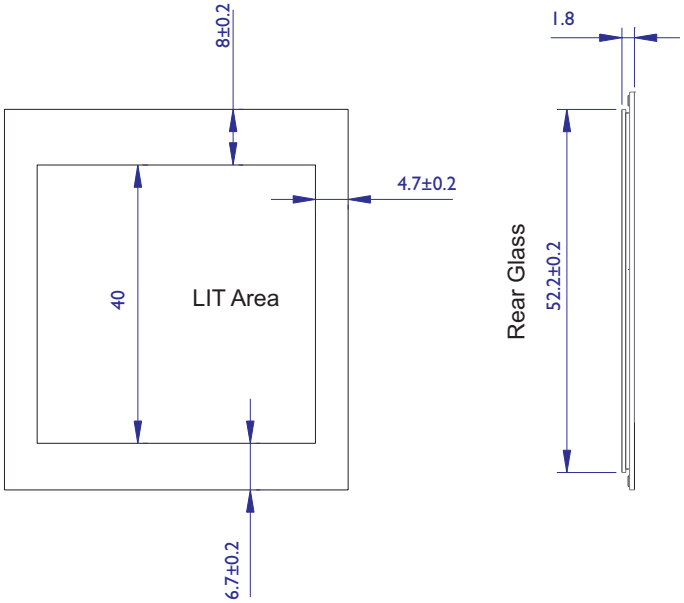
Product Identifier & Naming

10NC	Product name
9254.000.04700	Philips Lumiblade SCP1002 BK

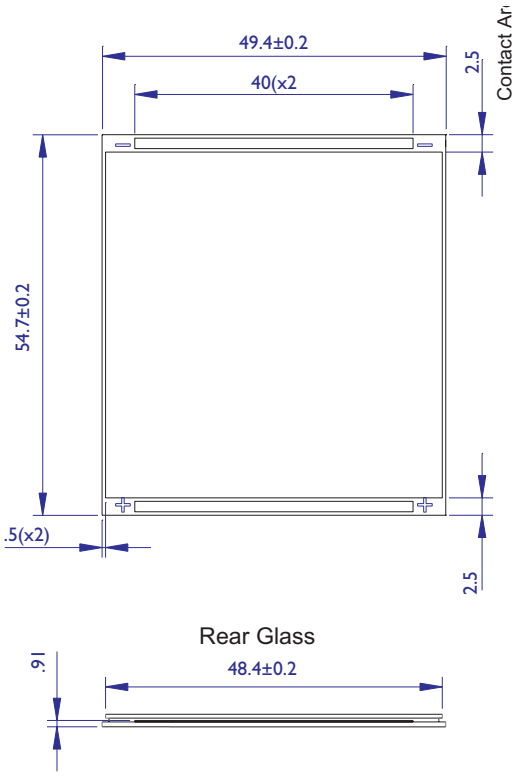
Technical Drawings

Philips Lumiblade OLED panel GL8

Emission Side

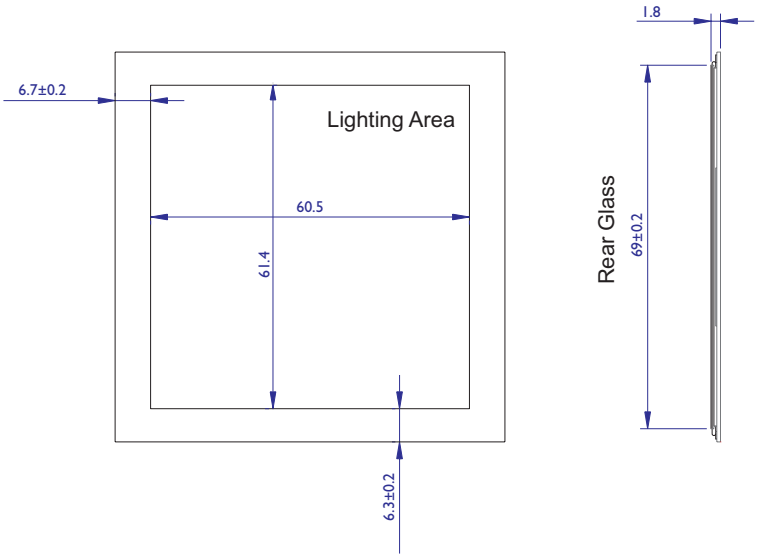


Back Side

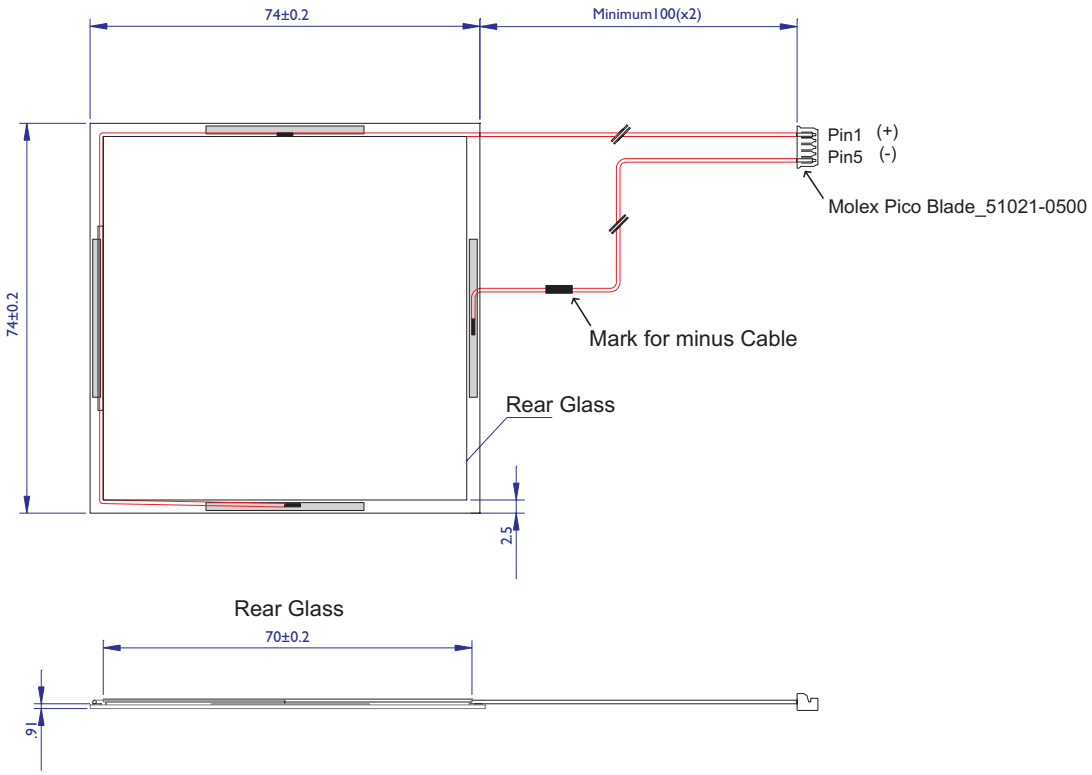


Philips Lumiblade OLED panel GL26

Emission Side

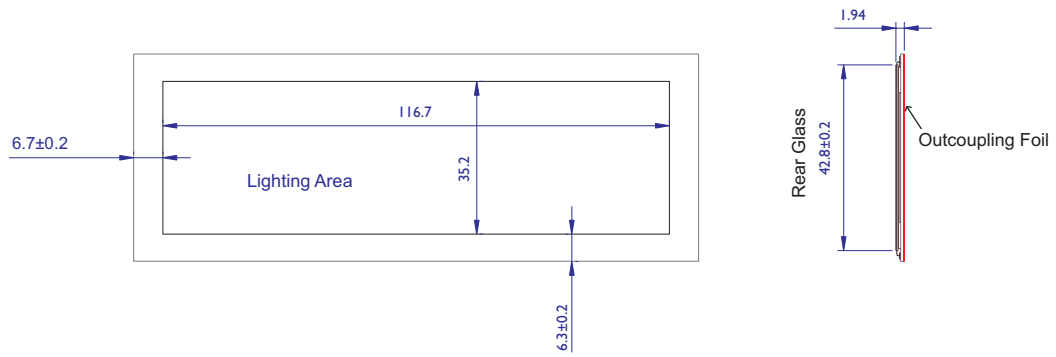


Back Side

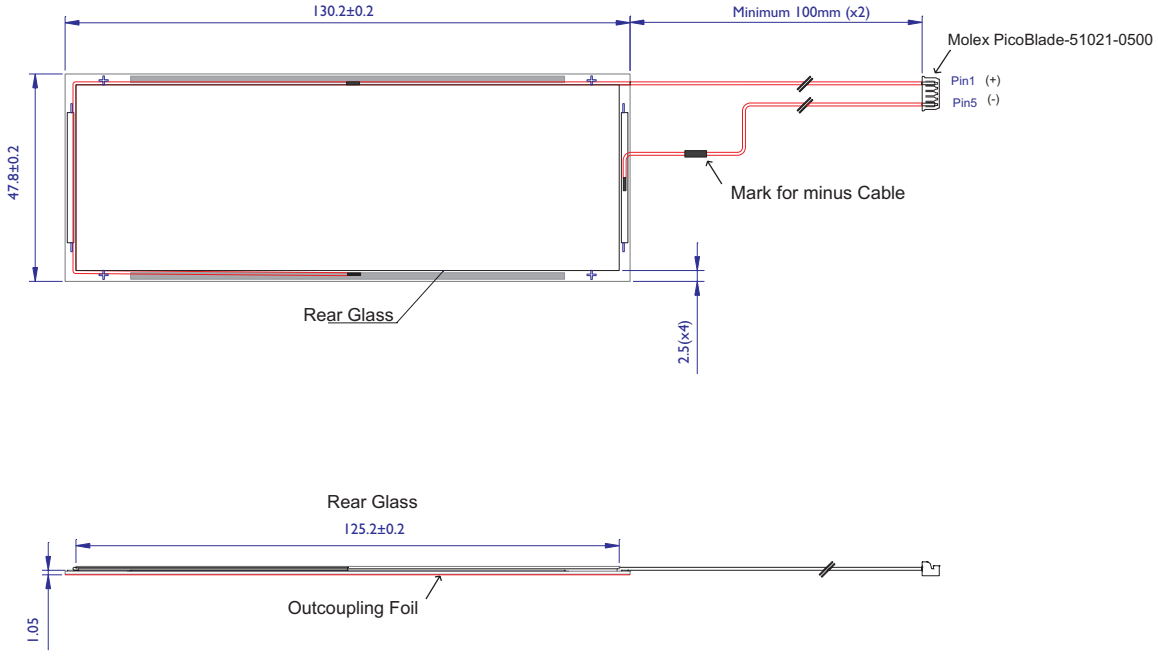


Philips Lumiblade OLED panel GL55

Emission Side

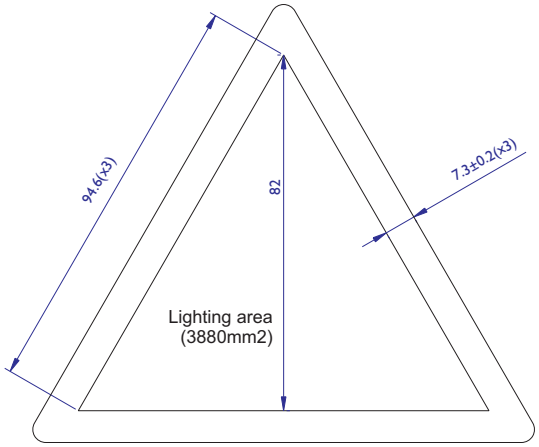


Back Side

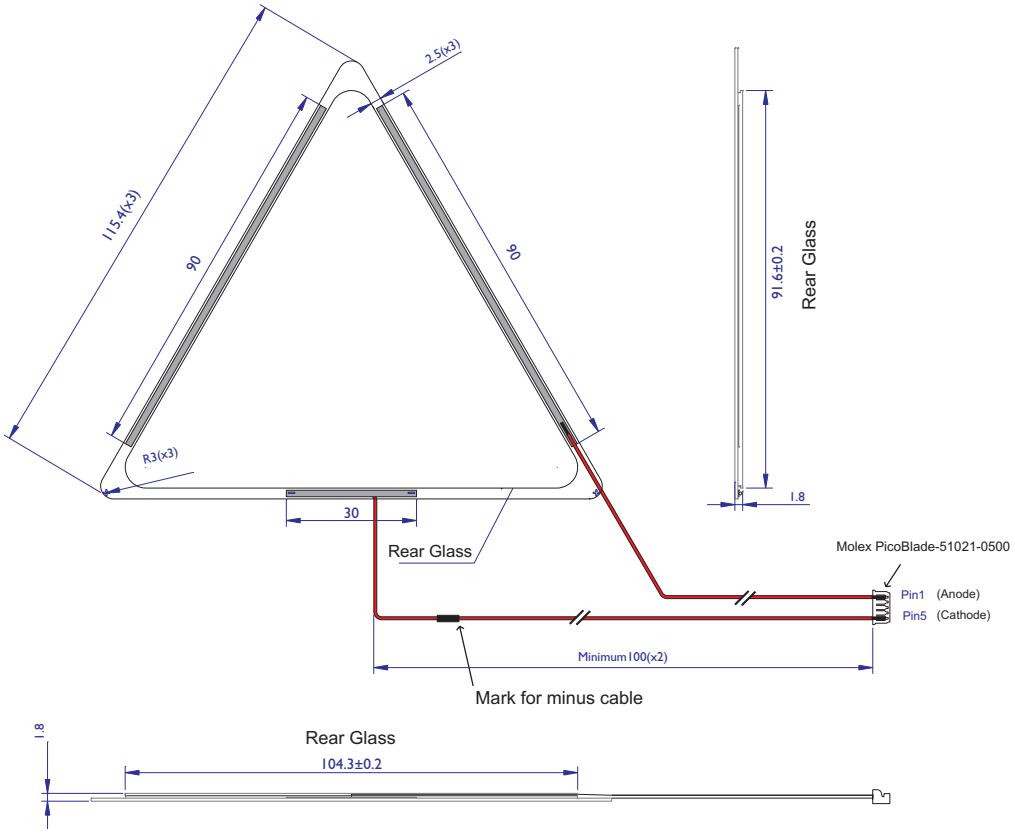


Philips Lumiblade OLED panel GL30

Emission Side

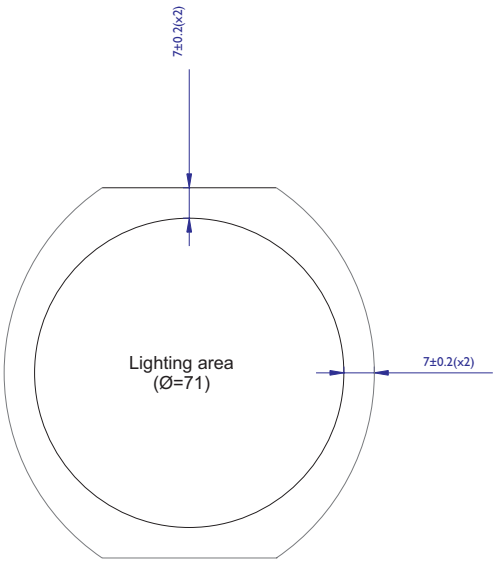


Back Side

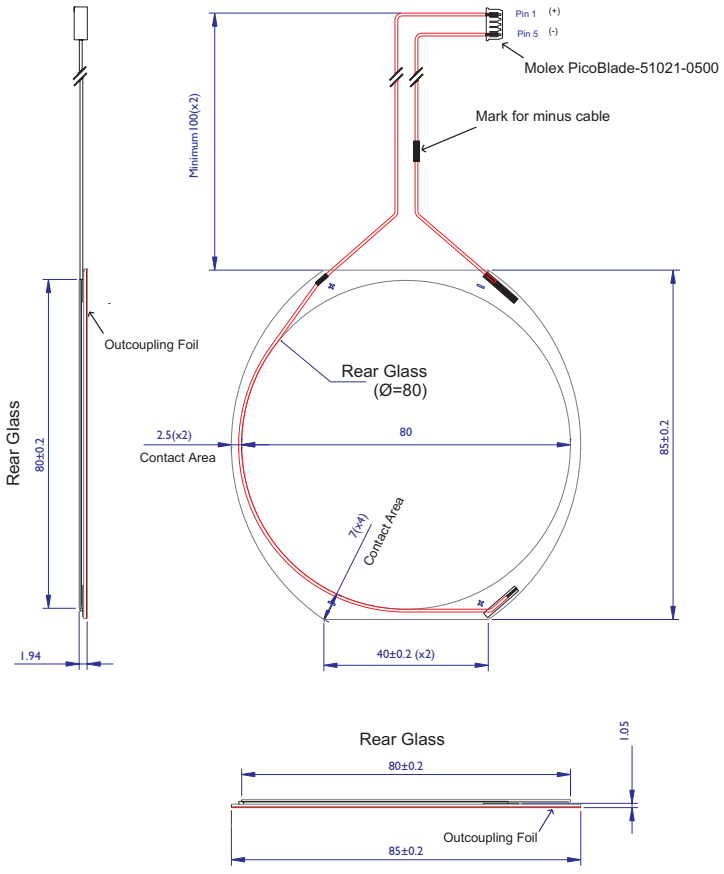


Philips Lumiblade OLED panel GL46

Emission Side



Back Side



Safety Statement

Intended use

This OLED panel is a component intended to be incorporated as light source into luminaires for indoor use only. It shall be installed by qualified professionals in accordance with these instructions and general safety requirements for electrical installations.

Safety instructions

In case of damage to the product, the OLED must be disconnected from the supply voltage immediately. It may not be reconnected or used in any other way. For safety reasons it is not permitted to convert or modify the product.

Philips Lumiblade OLED panels may only be used in conjunction with a short circuit protection approved for the OLED panel to be used. Short circuit protections are available from Philips Lumiblade.
The OLED panel is a class III electrical component with accessible live parts. Care must be taken that adequate electrical protection is provided when the OLED is connected to a power supply. This can be achieved by supplying the OLED from an SELV power supply and/or through appropriate electrical insulation.

OLED panels are intended for use in dry, weather-protected locations. OLEDs may not be exposed directly to any liquids.
OLEDs are fragile electrical components and not toys. Keep out of reach of children!
OLEDs contain glass with sharp corners. In case of improper use OLEDs can break and glass splinters may be exposed. Please handle all OLEDs with care to avoid breakage. In case of broken OLEDs or OLEDs with sharps edges/corners, protective gloves shall be worn to avoid injury. Avoid direct contact with broken OLEDs.
OLEDs are sensitive to direct pressure to the glass surface. Avoid applying pressure to the glass surface by handling OLEDs near the edges.

Standards, compliance and sustainability

Philips Lumiblade products are environmentally friendly by avoiding the use of hazardous materials and by providing efficient illumination.

This product is RoHS (EU directive 2002/95/EC) compliant.

Contact:

Philips Technologie GmbH
Business Center OLED Lighting
Philipsstr. 8, 52068 Aachen, Germany
info.lumiblade@philips.com

For more information visit:

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