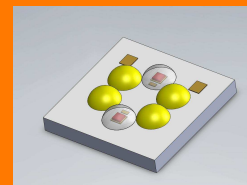


# XED-5

## LED Light Source

### Preliminary Datasheet



#### Unique Features:

- Compact COB module
- High optical efficacy
- Long life time with silicone encapsulation
- Low thermal resistance

#### Designed and specified for:

Use in LED Retrofit Bulbs.

#### Optical Data cold

Measurement conditions: 200ms-puls  $\rightarrow T_c \sim 25^\circ\text{C}$

Parameter	Symbol	Condition	typ.	Unit
Luminous Flux	$\Phi_v$	$I_F=350\text{mA}$	500	lm
Chromaticity coordinates CIE1931	x/y	$I_F=350\text{mA}$	X=0,467	
			Y=0,396	
Colour Temperature	CCT	$I_F=350\text{mA}$	2500	K
Luminous efficacy	$\eta$	$I_F=350\text{mA}$	80	lm/W
Colour Rendering Index	$R_a$	$I_F=350\text{mA}$	90	

#### Optical Data warm

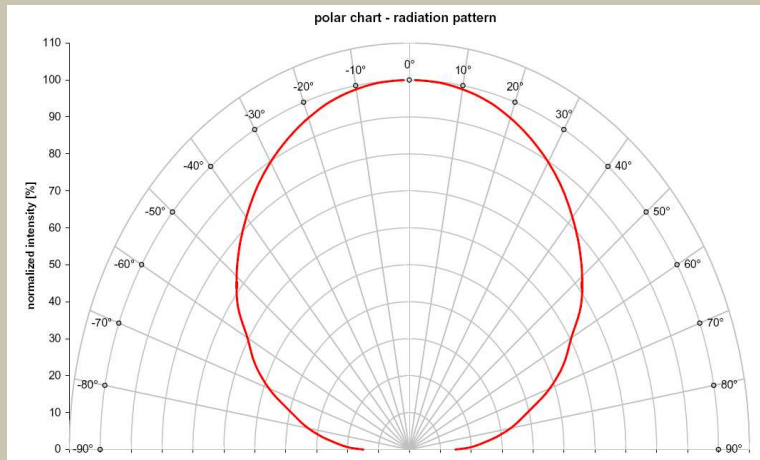
Measurement conditions: Steady state  $\rightarrow T_c \sim 75^\circ\text{C}$

Parameter	Symbol	Condition	typ.	Unit
Luminous Flux	$\Phi_v$	$I_F=350\text{mA}$	400	lm
Chromaticity coordinates CIE1931	x/y	$I_F=350\text{mA}$	X=0,437	
			Y=0,403	
Colour Temperature	CCT	$I_F=350\text{mA}$	3000	K
Luminous efficacy	$\eta$	$I_F=350\text{mA}$	65	lm/W
Colour Rendering Index	$R_a$	$I_F=350\text{mA}$	80	

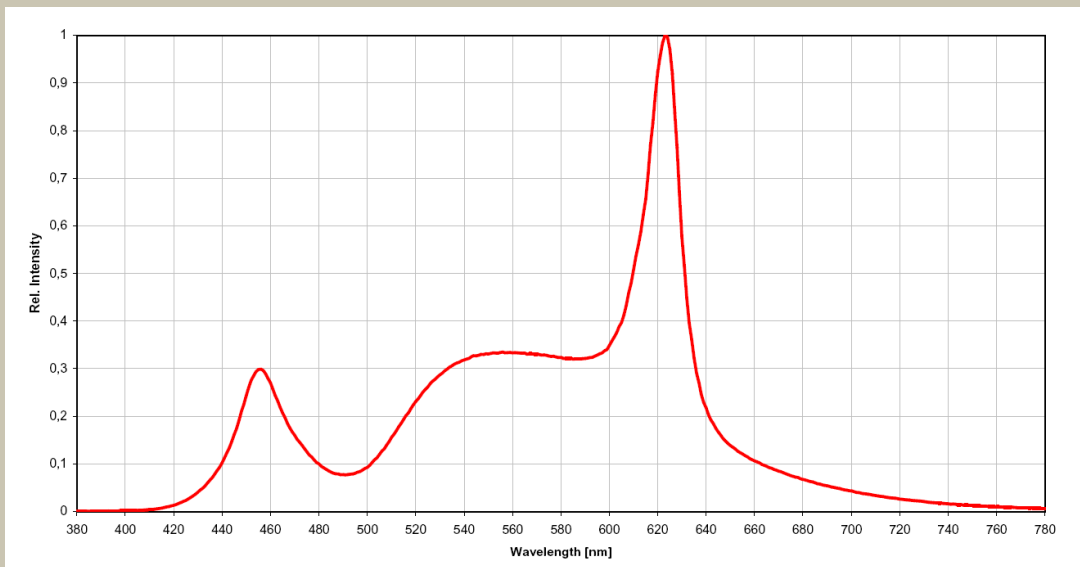
#### Electrical Data

Parameter	Symbol	min.	typ.	max.	Unit
Rated current	$I_{\text{rated}}$		350	500	mA
Forward Voltage @350mA	$U_F$	14.4	17.8	19.8	V
Power Consumption @350mA	$P_{\text{tot}}$	5	6.23	6.93	W
Dielectric Breakdown Voltage of PCB-dielectricum	$V_{\text{BR}}$	4			kV

## Typical Radiation



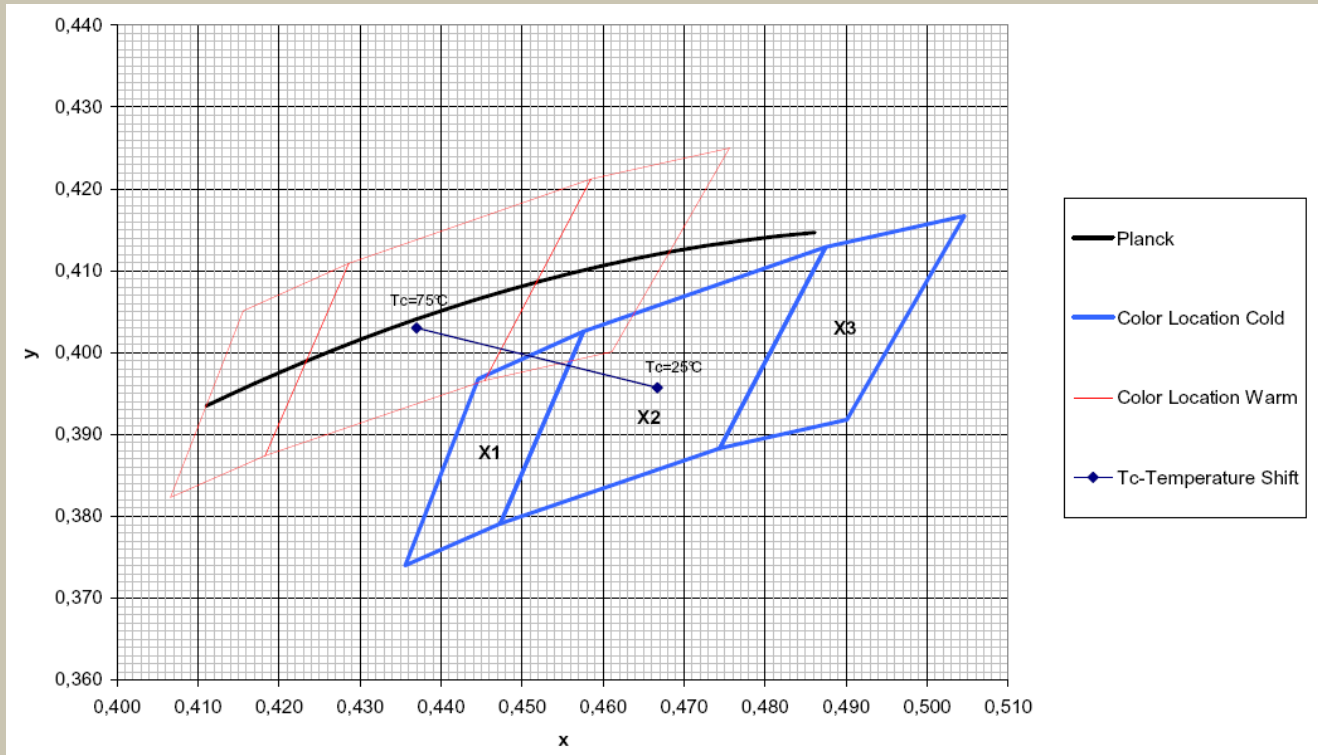
## Typical Spectrum



## Thermal conditions

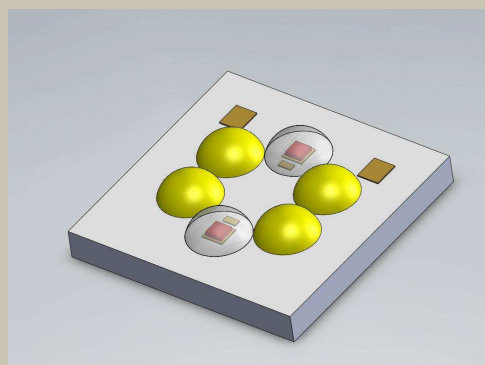
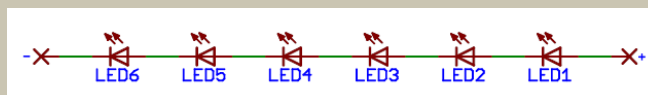
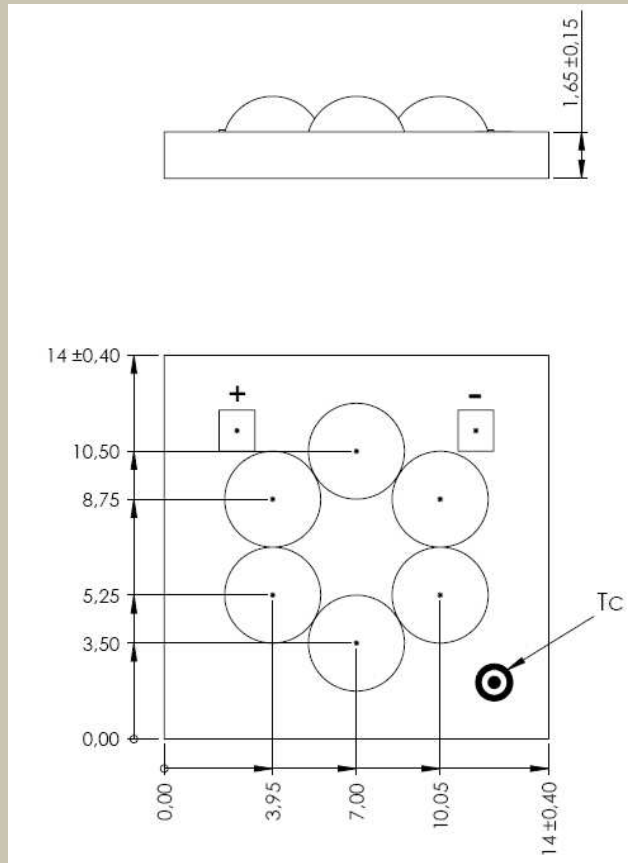
Parameter	Symbol	Value	Unit
Storage temperature range	$T_{stg}$	-35 to +80	°C
Operating Temperature range	$T_{op}$	-25 to +45	°C
Max. $T_c$ Point temperature	$T_c$	75	°C
Heat sink	The module is designed for use with heat sink in the specified operating temperature range.		
Operating environment	The module is designed only for indoor operation in non-condensing environment.		

CIE1931 Tolerance Window with typ. CIE-Shift versus T<sub>c</sub>-Temperature @ 350mA



The colour location is based on 3 Colour Bins (X1, X2, X3) and is specified at T<sub>c</sub>=25°C.  
 The online measurement values in our production at T<sub>c</sub>=25°C are basis for the release of the delivery.  
 Due to the temperature behaviour the colour will shift typical to the Planck Locus at T<sub>c</sub>=75°C.

Outline Dimensions and Electrical Circuit



### Assembly Guidelines

#### *Adhesion material*

An adequate thermal adhesive or grease should be used between module and heat sink. Air pockets should be avoided.

Recommended adhesion data:

- Thermal Conductivity: > 1 W/mK
- Temperature Range: -55 to +150 °C
- Coat Application: typ. 100 µm

#### *Carrier material*

The carrier material must be cleaned (e.g. Acetone) and must have adequate thermal conductivity (e.g. aluminium). The size of the cooling surface depends on the power of the LEDs, among other things. For information on the cooling surface required see chapter 'Heat Sink'.

#### *Surface quality*

The carrier material must be uncoated (thermal transport, adhesion) and level at the connection points.

### Warranty

The Lexedis Warranty conditions shall apply.

### General Guidelines

The XED described here is intended for use in LED retrofit Bulb.

User shall not reverse engineer by disassembling or analysis of the XED without having prior written consent from Lexedis. In the rare occurrence that the XED is found to be faulty, the user shall inform Lexedis directly before disassembling or analysis.

The formal specifications must be agreed and signed by both parties prior to large volume purchase begins.

The appearance and specifications of the product may be modified for improvement without prior notice.

### Packing

The XED module is packed in an antistatic bag.

The XED bag is packaged in cardboard boxes for transportation.

The packages should be handled carefully to avoid damaging the contents.

The boxes are not waterproof and therefore must be protected from water and moisture

When XED module is transported we recommend using the same packaging method as Lexedis.

### Precautions in Handling

#### *Safety Precautions*

The XED module light output is intense enough to cause injury to human eyes if viewed directly. Precautions must be taken to avoid looking directly at the XEDs with unprotected eyes.

#### *Protection against electrostatic discharge – ESD*

XEDs are electronic modules and sensitive to electrostatic discharge. Appropriate ESD protection measures must be taken when working with XED products. For example, earthed shoes or ESD wristbands have to be applied. Non-compliance with ESD protection measures may lead to damage or destruction of the product.

#### *Precaution in driving*

Products are designed exclusively for forward current driving. Please avoid driving system with reverse voltage, which may cause migration which damages the product.

#### *Cleaning*

Chemical solvents or cleaning agents must not be used to clean the XED module.

Mechanical stress on the XED component must be avoided. It is best to use a soft brush, damp cloth or low-pressure compressed air.

#### *Storage*

XEDs should ideally be stored in as-delivered condition and in the original packaging. The products should be stored away from direct light in dry location.

### Company Information:

Lexedis Lighting GmbH, a joint venture company between Ledon of the Zumtobel Group (Austria) and Toyoda Gosei (Japan), invents and produces innovative and high performance XED light sources marketed via the Ledon brand. Founded in 2005, Lexedis is a customer-oriented company providing advanced opto-semiconductor products for the advancement of energy efficient lighting solutions in general lighting, with an expertise in XED modules for LED retrofit bulbs.

As the creator of XED technology, Lexedis is the leading company in the development of intelligent light sources for the global general lighting market

### Lexedis Lighting GmbH

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