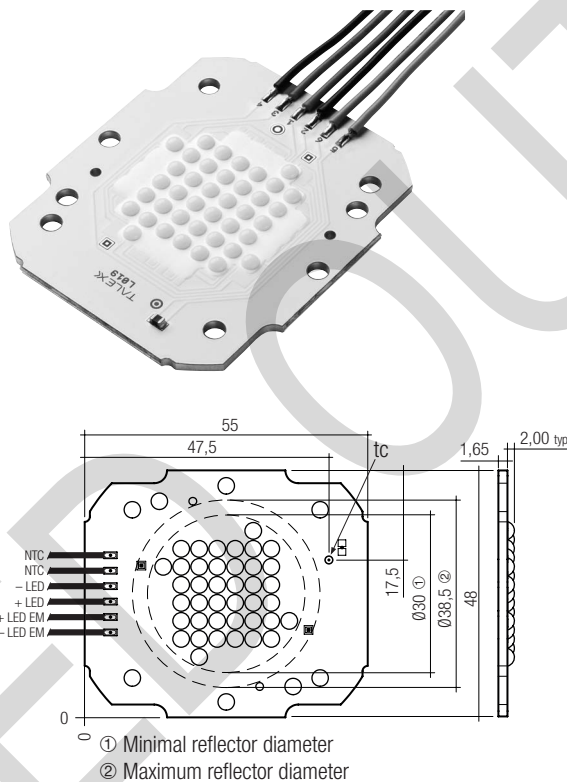




## TALEXmodule SPOT P340-3 EM TALEXmodule SPOT

### Product description

- Combined LED module for general and emergency lighting
- Spotlights
- Downlights
- High-flux LED module
- Narrow colour temperature tolerance band
- Lifetime up to 50,000 hours
- Compact design
- Excellent thermal management<sup>①</sup>
- NTC for temperature control
- High-power LED in chip-on-board technology
- Beam characteristic: 140°
- Uniform distribution of light
- Fixing holes for M3 screws
- Connection: Cable 300 mm
- Built-in LED module
- Cooling required



### Technical data

|                            |                |
|----------------------------|----------------|
| Beam characteristic        | 140°           |
| Ambient temperature $t_a$  | -30 ... +55 °C |
| Typ. tc point              | 65 °C          |
| Weight                     | 0.020 kg       |
| Risk group (EN 62471:2008) | 0              |

### Ordering data

| Colour temperature | Type                      | Article number |
|--------------------|---------------------------|----------------|
| 3,000 K            | LED P340-3 EM 3000K 55x48 | 89601435       |
| 4,000 K            | LED P340-3 EM 4000K 55x48 | 89601436       |

Packaging: 20 pieces/packaging, 360 pieces/carton

Standards, page 2

Colour temperatures and tolerances, page 6

### Specific technical data

| Type                                | Photometric code | Typ. luminous flux at 700 mA <sup>② ③ ④</sup> | Typ. luminous flux at 1,050 mA <sup>② ③ ④</sup> | Typ. luminous flux at 1,400 mA <sup>② ③ ④</sup> | Typ. forward voltage <sup>② ③</sup> | Power consumption module | Typ. efficacy | Colour rendering index CRI |
|-------------------------------------|------------------|-----------------------------------------------|-------------------------------------------------|-------------------------------------------------|-------------------------------------|--------------------------|---------------|----------------------------|
| <b>Normal operation</b>             |                  |                                               |                                                 |                                                 |                                     |                          |               |                            |
| LED P340-3 EM 3000K 55x48           | 830 / 5x8        | –                                             | 2,680 lm                                        | 3,350 lm                                        | 38.4 V                              | 40.3 W                   | 66 lm/W       | > 80                       |
| LED P340-3 EM 4000K 55x48           | 840 / 5x8        | –                                             | 2,960 lm                                        | 3,680 lm                                        | 38.4 V                              | 40.3 W                   | 73 lm/W       | > 80                       |
| <b>Emergency operation – 700 mA</b> |                  |                                               |                                                 |                                                 |                                     |                          |               |                            |
| LED P340-3 EM 3000K 55x48           | 830 / 5x8        | 300 lm                                        | –                                               | –                                               | 5.8 V                               | 4.1 W                    | 71 lm/W       | > 80                       |
| LED P340-3 EM 4000K 55x48           | 840 / 5x8        | 330 lm                                        | –                                               | –                                               | 5.8 V                               | 4.1 W                    | 79 lm/W       | > 80                       |

All values for  $t_a = 25$  °C,  $t_c = 65$  °C.

<sup>①</sup> If the maximum temperature limits are exceeded, the life of the module will be greatly reduced or the module may be damaged.

The temperature of the TALEXmodule SPOT at the tc point in the thermally stable state by mean of a temperature sensor or temperature-sensitive sticker as per EN 60598-1. For the precise position of the tc point see the drawing above.

<sup>②</sup> At  $t_c = 65$  °C

<sup>③</sup> Tolerance range for optical and electrical data:  $\pm 15$  %.

<sup>④</sup> Max. permissible surge current: 3 A, duration max. 10  $\mu$ s.

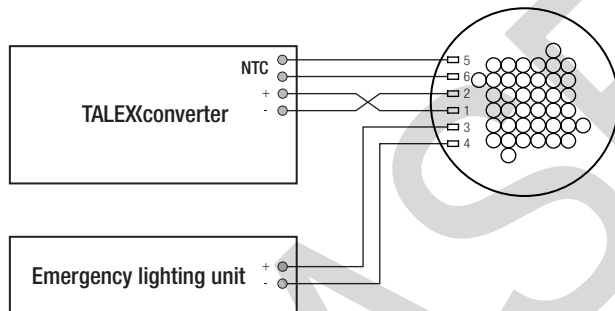
Converter matrix – TALEX(module SPOT 340-3 EM

| REMOTE LCI                         |  |                      |      |                      |      |                       |      |                       |      | IN-BUILT LCI         |      |                      |      |                       |      |                       |      |
|------------------------------------|--|----------------------|------|----------------------|------|-----------------------|------|-----------------------|------|----------------------|------|----------------------|------|-----------------------|------|-----------------------|------|
| Type                               |  | LCI 050/1050<br>T020 |      | LCI 055/1400<br>T020 |      | LCAI 050/1050<br>T020 |      | LCAI 055/1400<br>T020 |      | LCI 050/1050<br>R010 |      | LCI 055/1400<br>R010 |      | LCAI 050/1050<br>R010 |      | LCAI 055/1400<br>R010 |      |
| Art. No.                           |  | 86459218             |      | 86459219             |      | 86459247              |      | 86459248              |      | 86459216             |      | 86459217             |      | 86459245              |      | 86459246              |      |
| Assignable converter               |  |                      |      |                      |      |                       |      |                       |      | Assignable converter |      |                      |      |                       |      |                       |      |
| Type                               |  | Min.                 | Max. | Min.                 | Max. | Min.                  | Max. | Min.                  | Max. | Min.                 | Max. | Min.                 | Max. | Min.                  | Max. | Min.                  | Max. |
| LED P340-3 EM 3000K 55x48 89601435 |  | 1                    | 1    | 1                    | 1    | 1                     | 1    | 1                     | 1    | 1                    | 1    | 1                    | 1    | 1                     | 1    | 1                     | 1    |
| LED P340-3 EM 4000K 55x48 89601436 |  | 1                    | 1    | 1                    | 1    | 1                     | 1    | 1                     | 1    | 1                    | 1    | 1                    | 1    | 1                     | 1    | 1                     | 1    |

Converter matrix – TALEX(module SPOT P340-3 EM in emergency operation

| Converter for emergency operation |                                       |   |                                      |   |                                    |   |                                   |   |                                          |   |                                         |   |
|-----------------------------------|---------------------------------------|---|--------------------------------------|---|------------------------------------|---|-----------------------------------|---|------------------------------------------|---|-----------------------------------------|---|
| Type                              | EM powerLED<br>4 W BASIC<br>screw-fix |   | EM powerLED<br>4 W BASIC<br>clip-fix |   | EM powerLED<br>4 W ST<br>screw-fix |   | EM powerLED<br>4 W ST<br>clip-fix |   | EM powerLED<br>4 W PRO EZ-3<br>screw-fix |   | EM powerLED<br>4 W PRO EZ-3<br>clip-fix |   |
| Article number                    | 89800122                              |   | 89800121                             |   | 89800124                           |   | 89800123                          |   | 89800126                                 |   | 89800125                                |   |
| Assignable converter              |                                       |   |                                      |   |                                    |   |                                   |   |                                          |   |                                         |   |
| Type                              | Min.                                  |   | Max.                                 |   | Min.                               |   | Max.                              |   | Min.                                     |   | Max.                                    |   |
| TALEX(module SPOT P340-3 EM       | 1                                     | 1 | 1                                    | 1 | 1                                  | 1 | 1                                 | 1 | 1                                        | 1 | 1                                       | 1 |

Wiring diagram converter + Emergency lighting unit



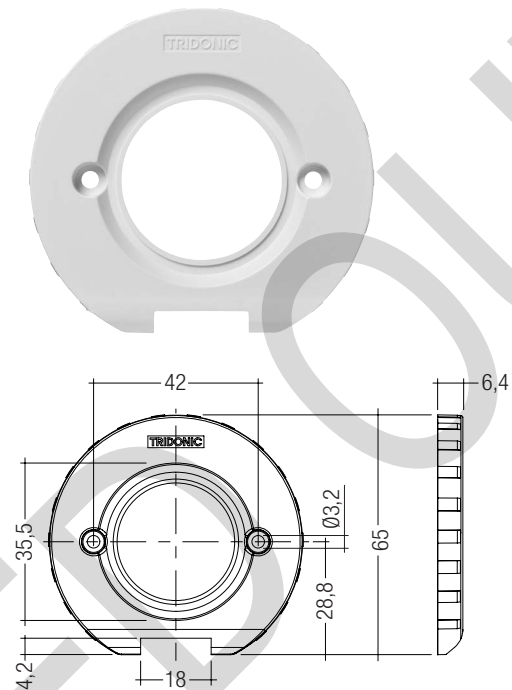
#### Wiring

Cable: AWG24; length 300 mm

| pin      | 1       | 2       | 3      | 4      | 5         | 6         |
|----------|---------|---------|--------|--------|-----------|-----------|
| function | + (LED) | - (LED) | + (EM) | - (EM) | NTC (LED) | NTC (LED) |
| colour   | red     | black   | red    | black  | grey      | grey      |

#### Product description

- Housing for LED module
- Diameter: 65 mm
- Glow wire test acc. IEC 60695-2-11 at 960 °C passed



#### Ordering data

| Type                                              | Article number |
|---------------------------------------------------|----------------|
| P 340-3 EM LED cover white D65 LES 30 mm          | 88167488       |
| Packaging: 10 pieces/packaging, 200 pieces/carton |                |

## Standards

EN 62031

EN 62471

## Photometric code

Key for photometric code, e. g. 830 / 559

| 1 <sup>st</sup> digit | 2 <sup>nd</sup> + 3 <sup>rd</sup> digit | 4 <sup>th</sup> digit              | 5 <sup>th</sup> digit                         | 6 <sup>th</sup> digit                                   |
|-----------------------|-----------------------------------------|------------------------------------|-----------------------------------------------|---------------------------------------------------------|
| Code                  | CRI                                     | Colour temperature in Kelvin x 100 | McAdams after 25% of the lifetime (max.6000h) | Lumen maintenance after 25% of the lifetime (max.6000h) |
| 7                     | 67 – 76                                 |                                    |                                               | Code                                                    |
| 8                     | 77 – 86                                 |                                    |                                               | Remaining lumen                                         |
| 9                     | 87 – ≥90                                |                                    |                                               | 7 ≥ 70 %                                                |
|                       |                                         |                                    |                                               | 8 ≥ 80 %                                                |
|                       |                                         |                                    |                                               | 9 ≥ 90 %                                                |

## Thermal design and heat sink

The rated life of TALEX products depends to a large extent on the temperature. If the permissible temperature limits are exceeded, the life of the TALEXmodule SPOT will be greatly reduced or the TALEXmodule SPOT may be destroyed.

Therefore the TALEXmodule SPOT P340-3 EM needs to be mounted onto a heat sink.

Tridonic's excellent thermal design for the TALEXmodule SPOT products provides the lowest thermal resistance and therefore allowing new compact designs without sacrificing quality, safety and life time.

## tc point, ambient temperature and lifetime

The temperature at tc reference point is crucial for the light output and life time of a TALEX product.

For TALEXmodule SPOT P340-3 EM a tc temperature of 65 °C has to be complied in order to achieve an optimum between heat sink requirements, light output and life time.

Compliance with the maximum permissible reference temperature at the tc point must be checked under operating conditions in a thermally stable state. The maximum value must be determined under worst-case conditions for the relevant application.

## Mounting instruction



TALEXmodule SPOT from Tridonic which have to be installed on a heat sink have to be connected with heat-conducting paste or heat conducting adhesive film and fixed with M3 screws with plastic washer.

The fixing/cooling surface must be cleaned before installing the TALEX modules to remove all dirt, dust and grease.

None of the components of the TALEXmodule SPOT (substrate, LED, electronic components etc.) may be exposed to tensile or compressive stresses.

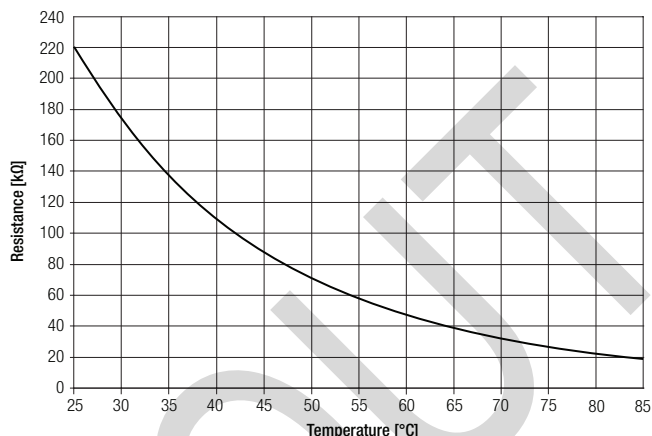


## EOS/ESD safety guidelines

The device / module contains components that are sensitive to electrostatic discharge and may only be installed in the factory and on site if appropriate EOS/ESD protection measures have been taken. No special measures need be taken for devices/modules with enclosed casings (contact with the pc board not possible), just normal installation practice. Please note the requirements set out in the document EOS / ESD guidelines (Guideline\_EOS\_ESD.pdf) at:  
<http://www.tridonic.com/com/en/technical-docs.asp>

## Temperature control

An NTC resistor is on the board of the TALEXmodule SPOT P340-3 EM to control the tc temperature during the operation with a resistor value of 220 kΩ.



## Typical heat sink surface

### TALEXmodule SPOT P340-3 EM, 1,050 mA

| ta    | tc    | Rth, hs-a |
|-------|-------|-----------|
| 25 °C | 65 °C | 0.96 K/W  |
| 30 °C | 65 °C | 0.82 K/W  |
| 40 °C | 65 °C | 0.54 K/W  |
| 50 °C | 65 °C | 0.25 K/W  |

### TALEXmodule SPOT P340-3 EM, 1,400 mA

| ta    | tc    | Rth, hs-a |
|-------|-------|-----------|
| 25 °C | 65 °C | 0.68 K/W  |
| 30 °C | 65 °C | 0.57 K/W  |
| 40 °C | 65 °C | 0.36 K/W  |
| 50 °C | 65 °C | 0.15 K/W  |

## Notes

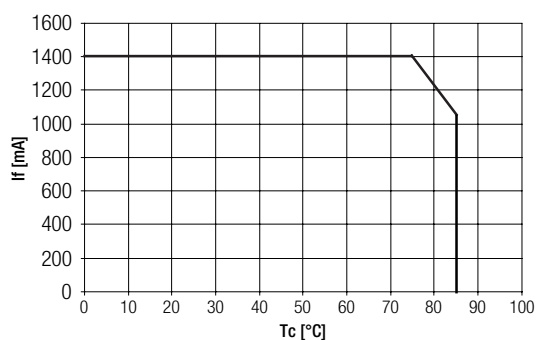
The actual cooling surface can differ because of the material, the structural shape, outside influences and the installation situation. A thermal connection between TALEXmodule SPOT and heat sink with heat-conducting paste or heat conducting adhesive film is absolutely necessary.

## Thermal behaviour

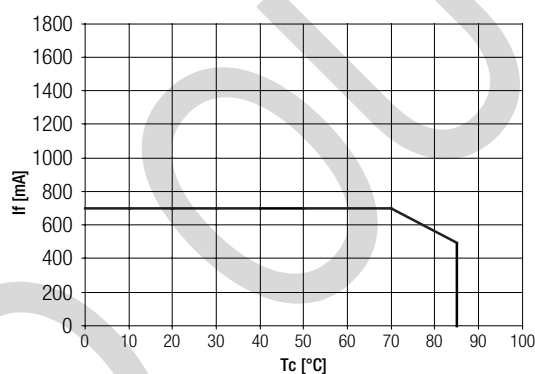
|                           |               |
|---------------------------|---------------|
| storage temperature       | -30 ... 85 °C |
| operating temperature     | -30 ... 55 °C |
| tc max. (at typ. current) | 85 °C         |
| max. humidity             | 0 ... 80 %    |

The LED module have to be within the specified operating temperature range (ta) before they can be operated.

## Normal operation Pin 1&2



## Emergency operation Pin 3&4



## Lumen maintenance

| tc temperature in °C | luminous flux in % | operating time in h |
|----------------------|--------------------|---------------------|
| 25                   | 80                 | 60,000              |
|                      | 70                 | 81,000              |
|                      | 50                 | 132,000             |
| 45                   | 80                 | 44,000              |
|                      | 70                 | 64,000              |
|                      | 50                 | 110,000             |
| 65                   | 80                 | 32,000              |
|                      | 70                 | 50,000              |
|                      | 50                 | 91,000              |
| 75                   | 80                 | 25,000              |
|                      | 70                 | 41,000              |
|                      | 50                 | 81,000              |

## Electrical supply/choice of converter

TALEXmodule SPOT from Tridonic are not protected against overvoltages, overcurrents, overloads or short-circuit currents. Safe and reliable operation can only be guaranteed in conjunction with a converter which complies with the relevant standards. The use of TALEX converters from Tridonic in combination with TALEXmodule SPOT guarantees the necessary protection for safe and reliable operation.

If a converter other than Tridonic TALEXconverter is used, it must provide the following protection:

- Short-circuit protection
- Overload protection
- Overtemperature protection

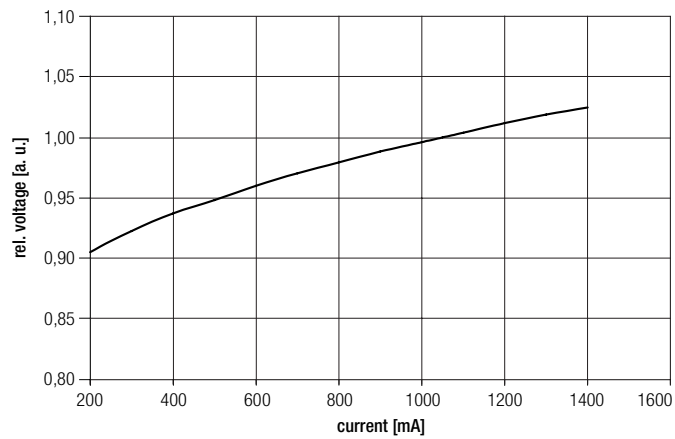


TALEXmodule SPOT P340-3 EM must be supplied by a constant current converter.

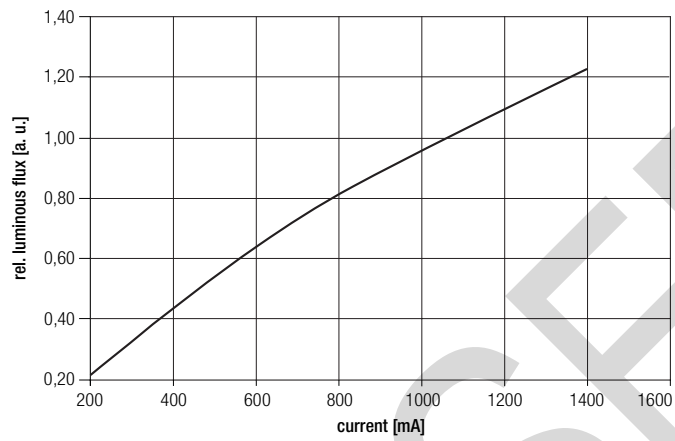
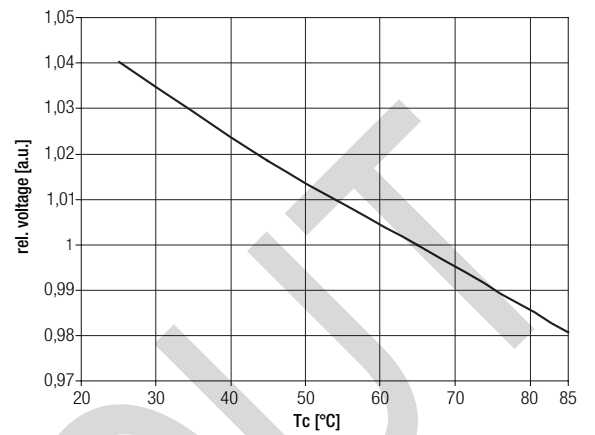
Operation with a constant voltage converter will lead to an irreversible damage of the module.

Wrong polarity can damage the TALEXmodule SPOT P340-3 EM.

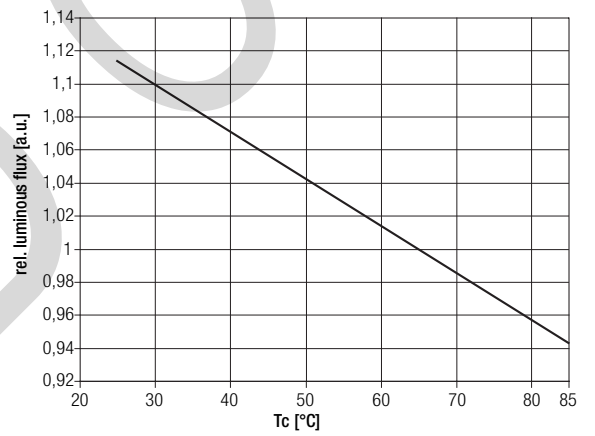
Relative forward voltage and relative luminous flux in normal operation



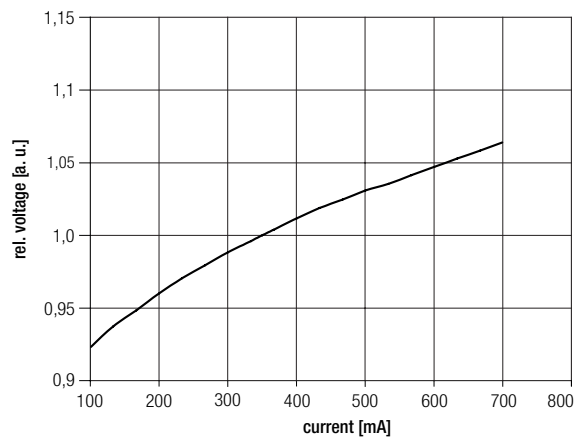
— Relative forward voltage at  $T_c = 65\text{ °C}$



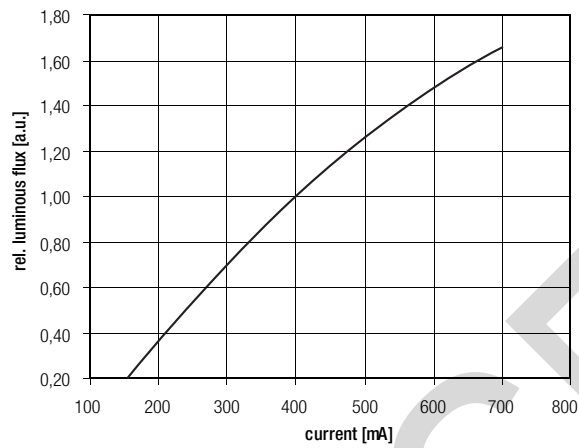
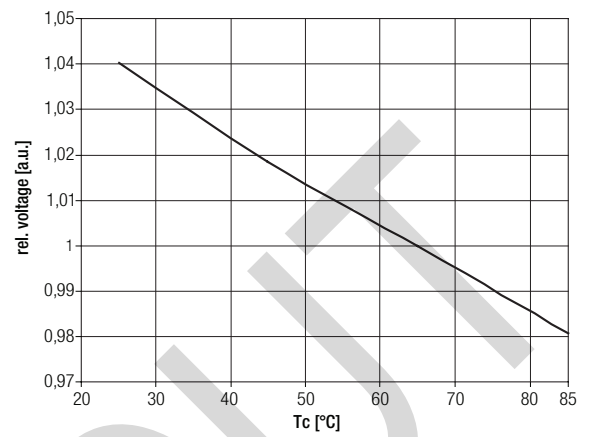
— Relative luminous flux at  $T_c = 65\text{ °C}$



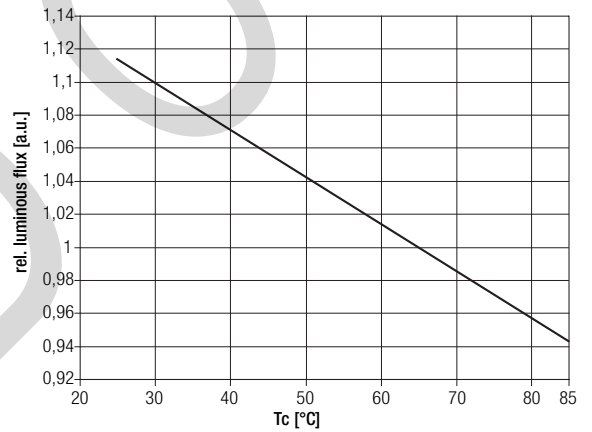
# Relative forward voltage and relative luminous flux in emergency operation



— Relative forward voltage at  $T_c = 65\text{ °C}$



— Relative luminous flux at  $T_c = 65\text{ °C}$

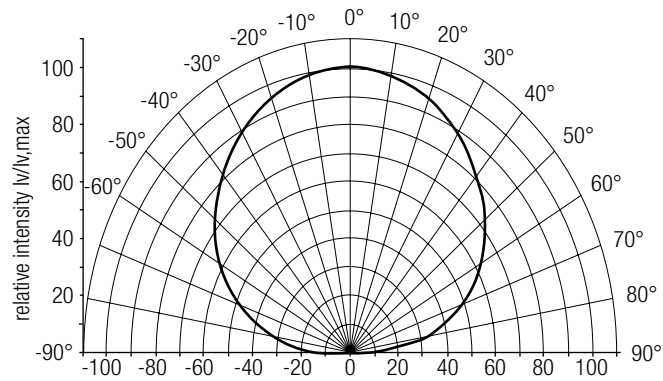


The diagrams based on statistic values.  
The real values can be different.

## Optical characteristics TALEXmodule SPOT P340-3 EM

The optical design of the TALEXmodule SPOT product line ensures optimum homogeneity for the light distribution.

### TALEXmodule SPOT P340-3 EM 140°: Light distribution

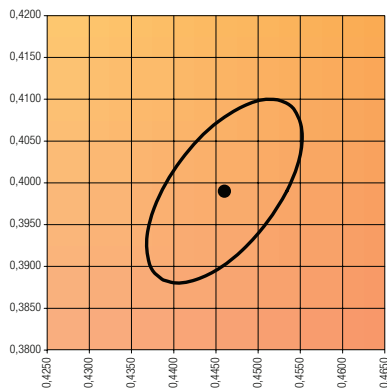


### Coordinates and tolerances according to CIE 1964

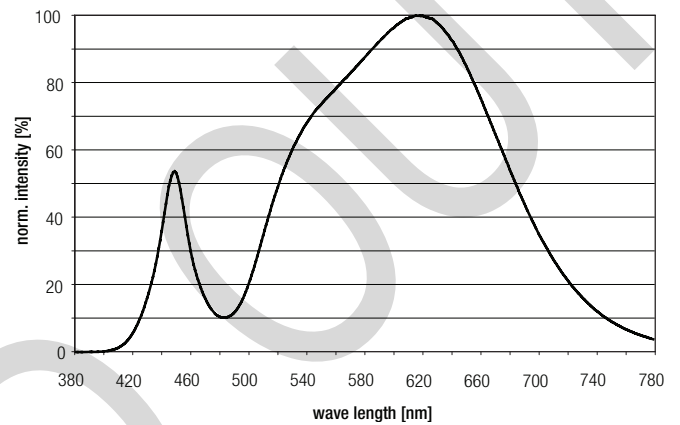
The specified colour coordinates are measured by a current impulse of 1,050 mA and a duration of 100 ms.  
The ambient temperature of the measurement is  $t_a = 25\text{ °C}$ .  
The measurement tolerance of the colour coordinates are  $\pm 0.01$ .

#### 3,000 K

|        | x0     | y0     |
|--------|--------|--------|
| Centre | 0,4460 | 0,3990 |

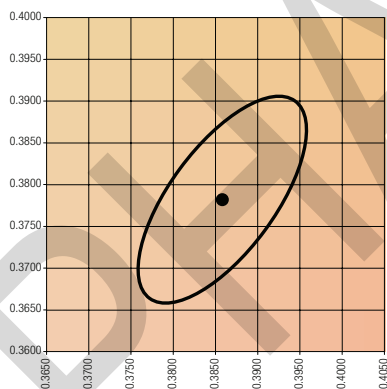


MacAdam ellipse: 4SDCM



#### 4,000 K

|        | x0     | y0     |
|--------|--------|--------|
| Centre | 0,3860 | 0,3780 |



MacAdam ellipse: 4SDCM

