







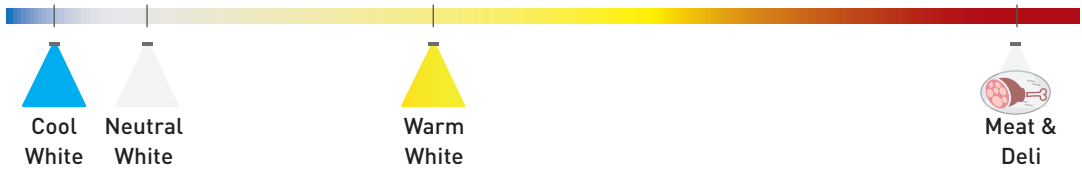



**DOOR AND CANOPY LIGHTING | Sense Line PI-LED**

**! INNOVATION !**  
All needed light colours  
out of one luminaire:  
simply adjustable by  
switch or push button

 Refrigeration and Freezer equipment	 Various lengths	 High efficiency
 CANOPY LIGHTING	 Central DOOR LIGHTING	 Lateral DOOR LIGHTING
 Excellent CRI CRI > 90 und CRI9 > 90	 Dimmbar	

Cool White    Neutral White    Warm White

 Meat & Deli

## DOOR AND CANOPY LIGHTING | Sense Line PI-LED

### III PRODUCT DESCRIPTION

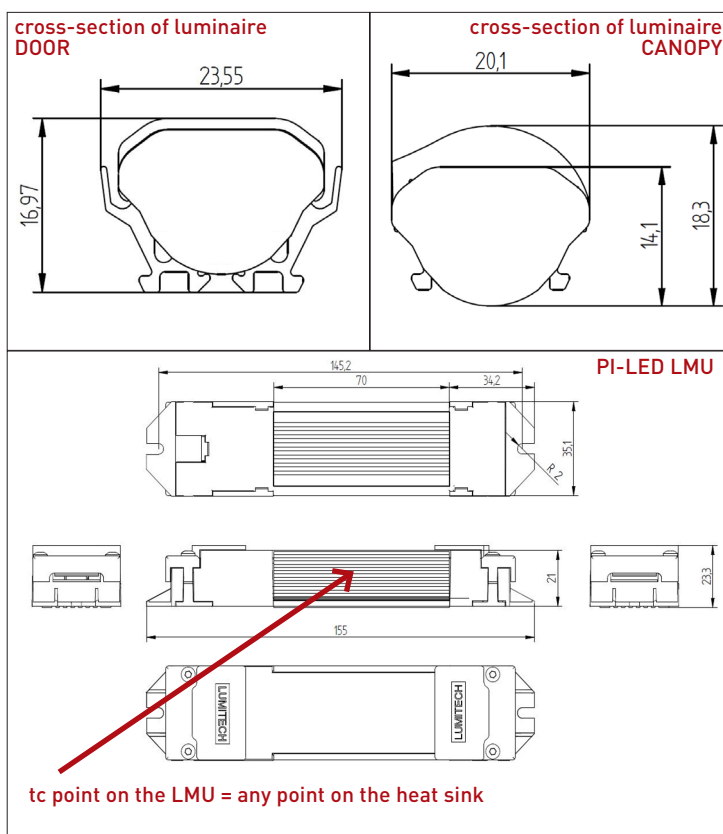
- DOOR LIGHTING: High efficient, extra slim lighting for freezer equipment doors without glare and reflections
- CANOPY LIGHTING: High efficient canopy lighting for cooling and freezer cabinets
- High operational performance due to directional lighting, integrated heat dissipation and highly efficient LEDs
- Very high CRI and CRI9 due to patented PI-LED technology including Phosphor Converted Red Chips
- Excellent product illumination thanks to the combination of SMD LEDs and innovative optics
- Safe-use operation due to safety extra-low voltage (SELV)
- Simple installation with application of FIXING Plates
- Heat sink profile made of anodised, extruded aluminium
- LED modules protected against moisture & dust by conformal coating
- End caps made of plastic
- Linear lenses made of Polycarbonate (GWT up to 850°C)
- Dimmable: 1%-100% Modular Dimming / Camera Ready
- All light colours needed for the cooling or freezer equipment can be realized with only one luminaire (kit)
- Low tolerance for all light colours (max. SDCM2)
- Single articles, article kits (sets consisting of Door Lighting luminaires or Canopy Lighting luminaires) or article combinations (combination of Door Lighting and Canopy Lighting luminaires) available - for each article number, 1 pc. PI-LED LMU is provided
- Lifetime: 50,000h (L70B10)
- Standards: EN 60598-1 / EN 60598-2-1 / EN 62471

### III TECHNICAL DATA

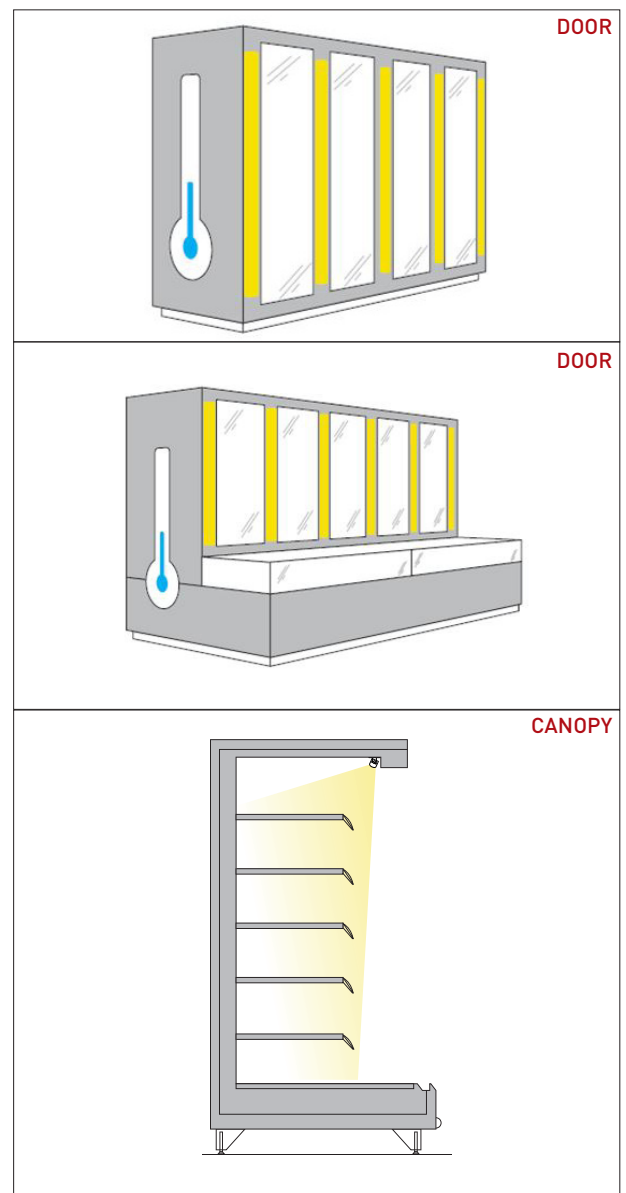
Supply voltage	48 V DC (constant voltage drivers available as accessory)
Ambient temperature ta	-30 ... +30 °C
Max. surface temperature on profile tc	60 °C
Type of protection	IP54 (luminaire) / IP20 (PI-LED LMU)
Protection class	III
Risk group (EN 62471:2008)	0



### III SKETCHES AND DIMENSIONS - size in mm



### III APPLICATION



## DOOR AND CANOPY LIGHTING | Sense Line PI-LED

### TECHNICAL DATA | ORDER DATA - CANOPY AND DOOR LIGHTING

Art. No.	Type	Length	Modules	Light colour	Efficiency	Luminous flux	Power	
93000500	Sense Line PI-LED 905mm LM1 Canopy 3 / Z208 / 4000	905mm	3	Neutral White	132lm/W	1080lm	8.2W	SINGLE ARTICLES CANOPY LIGHTING
				Warm White	126lm/W	1080lm	8.6W	
				Meat & Deli	127lm/W	1080lm	8.5W	
				Cool White	132lm/W	1080lm	8.2W	
93000501	Sense Line PI-LED 905mm LM2 Canopy 3 / Z208 / 4000	905mm	3	Neutral White	125lm/W	1430lm	11.4W	
				Warm White	121lm/W	1430lm	11.8W	
				Meat & Deli	121lm/W	1430lm	11.8W	
				Cool White	125lm/W	1430lm	11.3W	
93000502	Sense Line PI-LED 1200mm LM1 Canopy 4 / Z208 / 4000	1,200mm	4	Neutral White	131lm/W	1440lm	11.0W	
				Warm White	126lm/W	1440lm	11.4W	
				Meat & Deli	127lm/W	1440lm	11.3W	
				Cool White	132lm/W	1440lm	10.9W	
93000503	Sense Line PI-LED 1200mm LM2 Canopy 4 / Z208 / 4000	1,200mm	4	Neutral White	125lm/W	1900lm	15.2W	
				Warm White	120lm/W	1900lm	15.8W	
				Meat & Deli	121lm/W	1900lm	15.7W	
				Cool White	126lm/W	1900lm	15.1W	
93000504	Sense Line PI-LED 1760mm LM1 Canopy 6 / Z208 / 4000	1,760mm	6	Neutral White	132lm/W	2160lm	16.4W	
				Warm White	126lm/W	2160lm	17.1W	
				Meat & Deli	127lm/W	2160lm	17.0W	
				Cool White	133lm/W	2160lm	16.3W	
93000505	Sense Line PI-LED 1760mm LM2 Canopy 6 / Z208 / 4000	1,760mm	6	Neutral White	125lm/W	2860lm	22.8W	
				Warm White	121lm/W	2860lm	23.7W	
				Meat & Deli	122lm/W	2860lm	23.5W	
				Cool White	127lm/W	2860lm	22.6W	
93000506	Sense Line PI-LED 2 x 905mm LM1 Canopy 3 / Z208 / 4000	2 x 905mm	6	Data result from 2 x article 93000500				KITS
93000507	Sense Line PI-LED 2 x 905mm LM2 Canopy 3 / Z208 / 4000	2 x 905mm	6	Data result from 2 x article 93000501				
93000508	Sense Line PI-LED 2 x 1200mm LM1 Canopy 4 / Z208 / 4000	2 x 1,200mm	8	Data result from 2 x article 93000502				
93000509	Sense Line PI-LED 2 x 1200mm LM2 Canopy 4 / Z208 / 4000	2 x 1,200mm	8	Data result from 2 x article 93000503				

Art. No.	Type*	Length	Modules	Light colour	Efficiency	Luminous flux	Power
<b>Single articles Door Lighting</b>							
93000510	Sense Line PI-LED 1500mm LM1 Door 5 / Z30 / SES C / 4000	1,500mm	5	Neutral White	118lm/W	1620lm	13,7W
				Warm White	113lm/W	1620lm	14,3W
				Meat & Deli	114lm/W	1620lm	14,2W
				Cool White	119lm/W	1620lm	13,6W
93000511	Sense Line PI-LED 1500mm LM2 Door 5 / Z30 / SES C / 4000	1,500mm	5	Neutral White	113lm/W	2150lm	19,0W
				Warm White	109lm/W	2150lm	19,7W
				Meat & Deli	110lm/W	2150lm	19,6W
				Cool White	114lm/W	2150lm	18,8W
93000512	Sense Line PI-LED 1500mm LM1 Door 5 / Z30 / SES LE / 4000	1,500mm	5	Neutral White	115lm/W	1580lm	13,7W
				Warm White	110lm/W	1580lm	14,3W
93000514	Sense Line PI-LED 1500mm LM1 Door 5 / Z30 / SES RE / 4000	1,500mm	5	Meat & Deli	111lm/W	1580lm	14,2W
				Cool White	116lm/W	1580lm	13,6W
93000513	Sense Line PI-LED 1500mm LM2 Door 5 / Z30 / SES LE / 4000	1,500mm	5	Neutral White	111lm/W	2100lm	19,0W
				Warm White	107lm/W	2100lm	19,7W
93000515	Sense Line PI-LED 1500mm LM2 Door 5 / Z30 / SES RE / 4000	1,500mm	5	Meat & Deli	107lm/W	2100lm	19,6W
				Cool White	112lm/W	2100lm	18,8W
<b>Article kits</b>							
93000516	Sense Line PI-LED 2 x 1500mm LM1 Door 5 / Z30 / SES C+C / 4000	2 x 1,500mm	10	Data result from 2 x article 93000510			
93000517	Sense Line PI-LED 2 x 1500mm LM1 Door 5 / Z30 / SES C+LE / 4000	2 x 1,500mm	10	Data result from 1 x art. 93000510 and 1 x art. 93000512			
93000518	Sense Line PI-LED 2 x 1500mm LM1 Door 5 / Z30 / SES C+RE / 4000	2 x 1,500mm	10	Data result from 1 x art. 93000510 and 1 x art. 93000514			
93000519	Sense Line PI-LED 2 x 1500mm LM1 Door 5 / Z30 / SES LE+RE / 4000	2 x 1,500mm	10	Data result from 1 x art. 93000512 and 1 x art. 93000514			
93000520	Sense Line PI-LED 2 x 1500mm LM2 Door 5 / Z30 / SES C+C / 4000	2 x 1,500mm	10	Data result from 2 x article 93000511			
93000521	Sense Line PI-LED 2 x 1500mm LM2 Door 5 / Z30 / SES C+LE / 4000	2 x 1,500mm	10	Data result from 1 x art. 93000511 and 1 x art. 93000513			
93000522	Sense Line PI-LED 2 x 1500mm LM2 Door 5 / Z30 / SES C+RE / 4000	2 x 1,500mm	10	Data result from 1 x art. 93000511 and 1 x art. 93000515			
93000523	Sense Line PI-LED 2 x 1500mm LM2 Door 5 / Z30 / SES LE+RE / 4000	2 x 1,500mm	10	Data result from 1 x art. 93000513 and 1 x art. 93000515			

- All typical values for Ta = 25°C +/- 2°C
- Tolerance range for illumination data +/- 15%
- Tolerance range for mechanical dimensions +/- 1mm
- Tolerance range for supply voltage 48V DC +/- 5%
- Tolerance range for electrical data +/- 15%

\*SES C: luminaire for application in the center of the equipment (two-sided emission)  
 SES LE (Left End): luminaire for application at the left end of the equipment (one-sided emission)  
 SES RE (Right End): luminaire for application at the right end of the equipment (one-sided emission)



Alternative luminaire lengths (adapted to a particular freezer/cooler equipment) and light output can be configured on request.

## DOOR AND CANOPY LIGHTING | Sense Line PI-LED

### TECHNICAL DATA | ORDER DATA - DOOR & CANOPY LIGHTING: ARTICLE COMBINATIONS

Art. No.	Type	Article combinations*	Length Door	Length Canopy
93000524	Sense Line PI-LED 2xDoor+1xCanopy LM1 SET1 C	1 x art. 93000502 + 2 x art. 93000510	2 x 1,500mm	1,200mm
93000525	Sense Line PI-LED 2xDoor+1xCanopy LM1 SET1 LE+C	1 x art. 93000502 + 1 x art. 93000510 + 1 x art. 93000512	2 x 1,500mm	1,200mm
93000526	Sense Line PI-LED 2xDoor+1xCanopy LM1 SET1 RE+C	1 x art. 93000502 + 1 x art. 93000510 + 1 x art. 93000514	2 x 1,500mm	1,200mm
93000527	Sense Line PI-LED 2xDoor+1xCanopy LM1 SET1 RE+C	1 x art. 93000502 + 1 x art. 93000512 + 1 x art. 93000514	2 x 1,500mm	1,200mm
93000528	Sense Line PI-LED 2xDoor+1xCanopy LM2 SET1 C	1 x art. 93000503 + 2 x art. 93000511	2 x 1,500mm	1,200mm
93000529	Sense Line PI-LED 2xDoor+1xCanopy LM2 SET1 LE+C	1 x art. 93000503 + 1 x art. 93000511 + 1 x art. 93000513	2 x 1,500mm	1,200mm
93000530	Sense Line PI-LED 2xDoor+1xCanopy LM2 SET1 RE+C	1 x art. 93000503 + 1 x art. 93000511 + 1 x art. 93000515	2 x 1,500mm	1,200mm
93000531	Sense Line PI-LED 2xDoor+1xCanopy LM2 SET1 LE+RE	1 x art. 93000503 + 1 x art. 93000513 + 1 x art. 93000515	2 x 1,500mm	1,200mm

\*The articles given in this column are designed with PI-LED LMU when used as single articles.  
As part of an article combination, this 1:1 association between luminaire and PI-LED LMU is dropped, i.e. a number of luminaires is combined with 1 pc. PI-LED LMU.

### ACCESSORIES: DRIVER | ORDERING DATA

Art. No.	Type	Power
LTP-1067	CONVERTER 60W 48V IP20 LT 123x80x23,5mm	60W
LTP-1060	CONVERTER 75W 48V 180x52x30mm	75W
LTP-1061	CONVERTER 120W 48V 300x40x30mm	120W

For one driver, one or more Sense Line PI-LED luminaires of different types and number can be combined. The total quantity of Sense Line PI-LED luminaires connected to one driver depends on the total power of these luminaires.

In order to plan which and how many drivers are needed, the following notes must be considered:

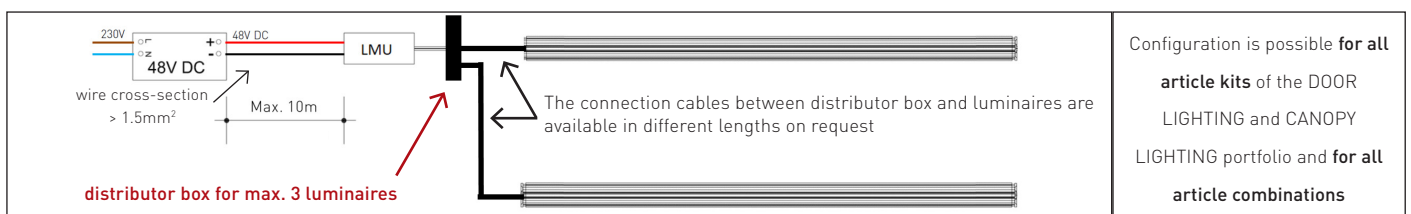
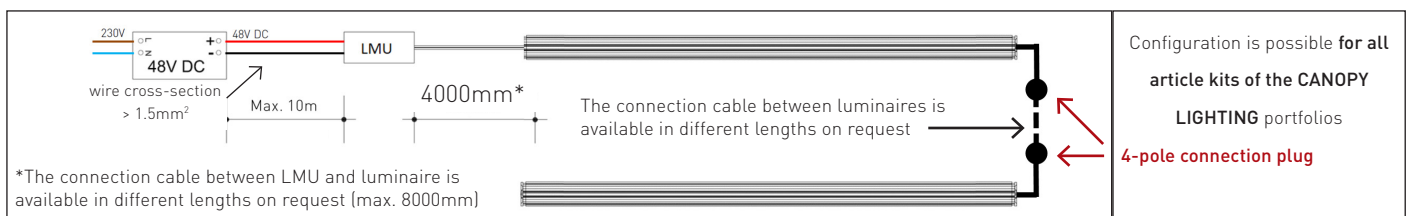
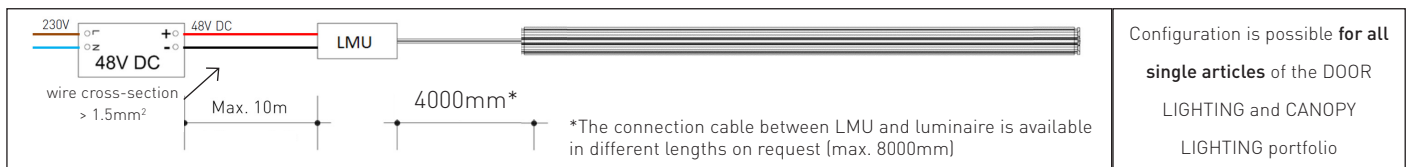
- The max. given power of the luminaires +25% serves as calculation base for obtaining the total power of the used luminaires.
- Final power value = calculated total power x 1.15.

**Sense Line PI-LED products must be supplied with constant voltage DC! The usage of the provided driver for a Sense Line PI-LED product is mandatory!**

Operation with a constant current driver will lead to an irreversible damage of the Sense Line PI-LED.

Connecting the supply line to the control terminals or connecting an improper power supply to the power terminals may result in an irreversible damage of the Sense Line PI-LED.

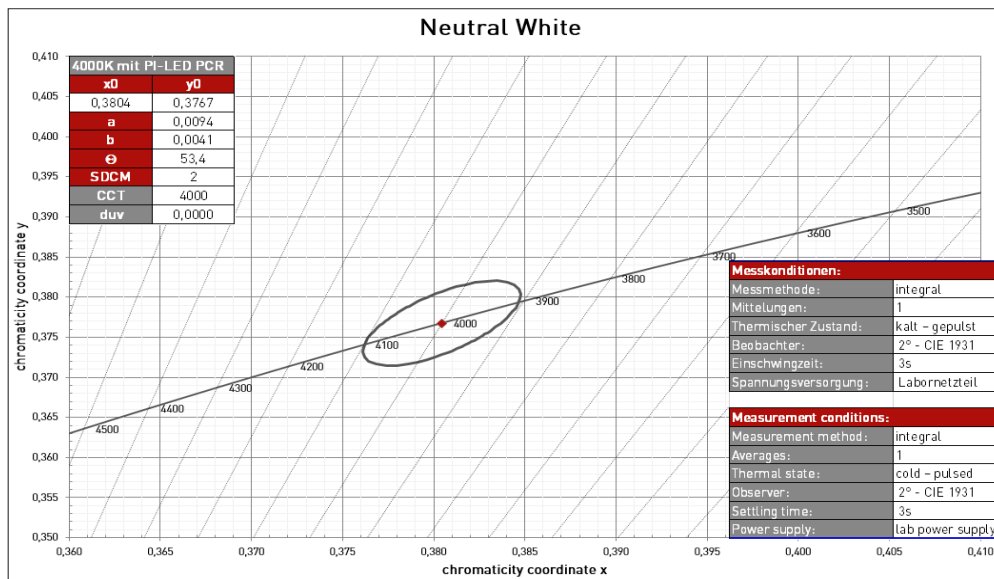
### CONFIGURATION POSSIBILITIES



## DOOR AND CANOPY LIGHTING | Sense Line PI-LED

### COORDINATES AND TOLERANCES

given information refers to the measurement of LED modules

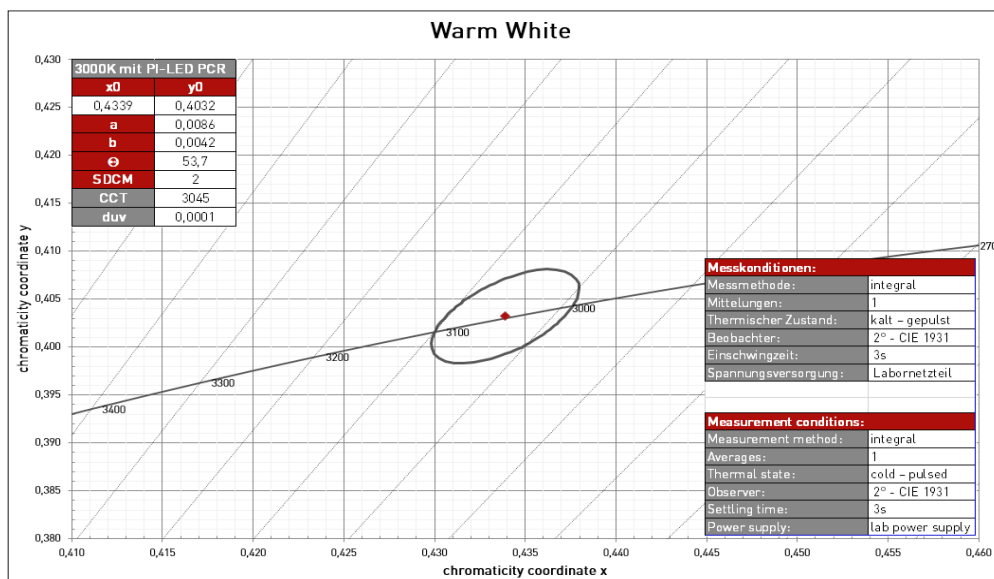


### COLOUR KEY

Colour	Neutral White
CCT	4000K

up to  
**CRI 97**

up to  
**CRi9 95**

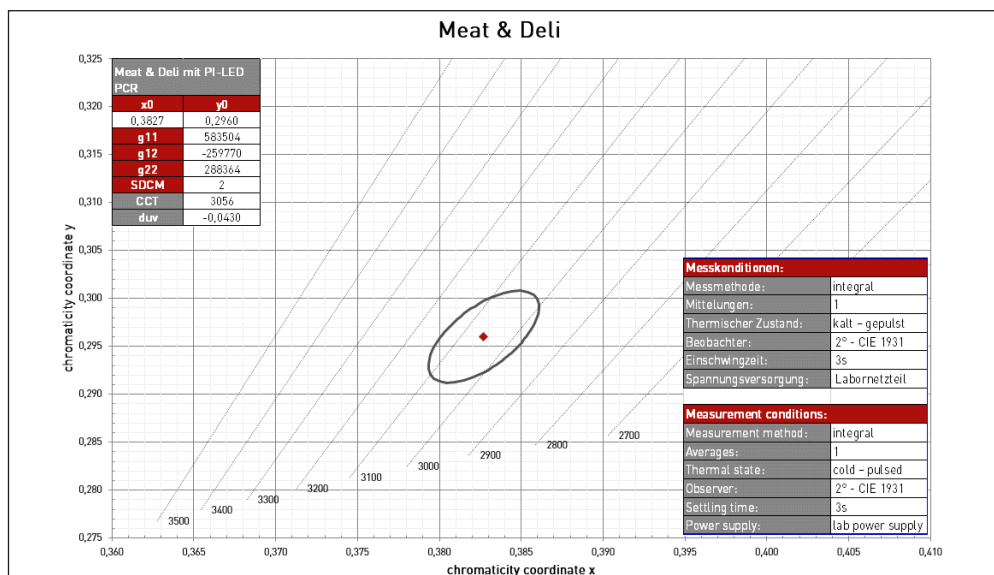


### COLOUR KEY

Colour	Warm White
CCT	3000K

up to  
**CRI 95**

up to  
**CRi9 95**



### COLOUR KEY

Colour	Meat & Deli
CCT	special colour

up to  
**CRI 95**

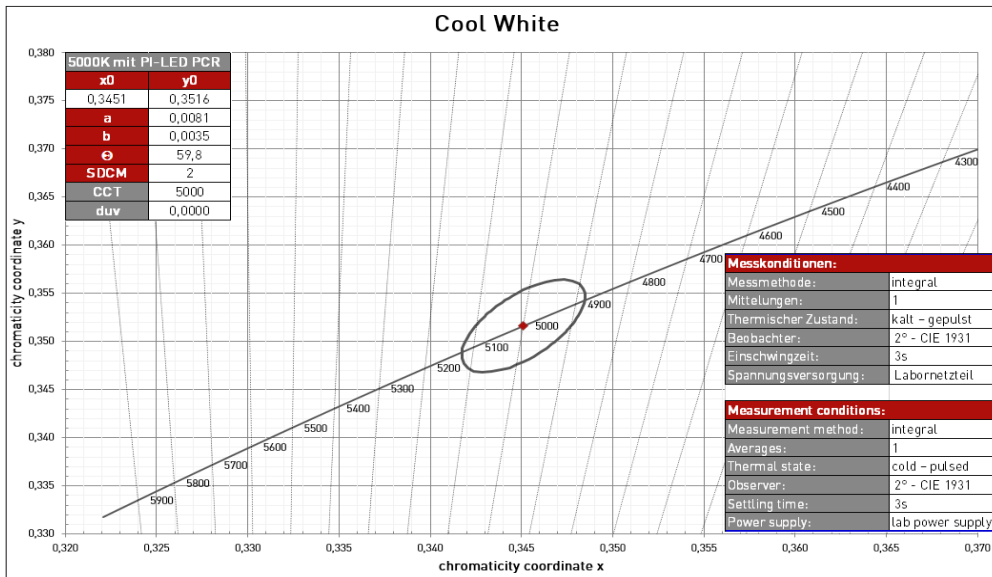
up to  
**CRi9 95**



## DOOR AND CANOPY LIGHTING | Sense Line PI-LED

### COORDINATES AND TOLERANCES

given information refers to the measurement of LED modules

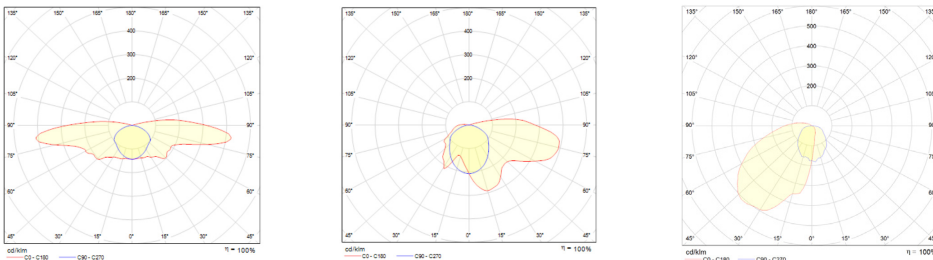


### COLOUR KEY

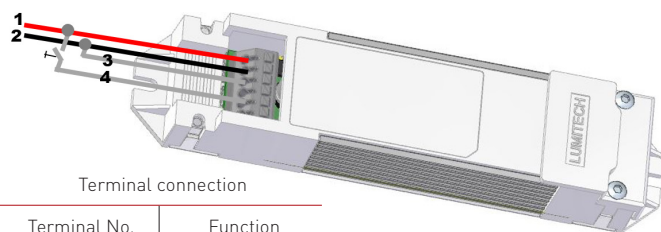
Colour	Cool White
CCT	5000K



### OPTICAL PROPERTIES: DOOR LIGHTING CENTER / DOOR LIGHTING END / CANOPY LIGHTING



### CONNECTION - SWITCH OR PUSH-BUTTON



Terminal connection

Terminal No.	Function
1	+ 48V DC
2	- 0V DC
3	push-button IN
4	push-button IN



Each Sense Line PI-LED luminaire is programmed with initial light colour 4,000K Neutral White. By using the switch or push-button, the following light colour are cyclically set:

- 1) 3,000K Warm White
- 2) Meat & Deli
- 3) 5,000K Cool White
- 4) 4,000K Neutral White (initial light colour)
- 5) Blue (detection of end of one cycle)



Per PI-LED LMU, one switch or push-button must be connected.

Number and type of light colours can be individually specified. Each Sense Line PI-LED luminaire can be set to colour temperatures from 1,800K to 16,000K and to all special colours within the PI-LED triangle.

### THERMAL BEHAVIOUR

Operating temperature (operation, no defects)	ta	-30 ... +30 °C
Storage temperature	ts	-10 ... +40 °C
Temperature cooling profile <sup>12</sup>	tc	-30 ... +60 °C

<sup>1</sup> Values apply to operation at 100% output, natural convection.

<sup>2</sup> If the maximum temperature limits are exceeded, the lifetime of the LED modules in the luminaire will be greatly reduced or the modules may be destroyed. The tc point temperature at the profile of the luminaire should be measured in the thermally stable state and under operating conditions by means of a temperature sensor or temperature-sensitive sticker (available for example from conrad.com or rs-components.com) in accordance with EN60598-1. The entire profile can be used as the tc point.

### Note

- Installation should only be conducted by a licensed electrician.
- Make sure that the 48V DC driver is switched off before connecting the luminaire. If this is not observed, the luminaire may be damaged!
- Connection or operation is only permitted when using the specified drivers. Higher voltages result in damage to or failure of the luminaire.
- The user is responsible for correct selection of illumination intensity. Excessive illumination intensity may lead to greying or colour changes of displayed products.