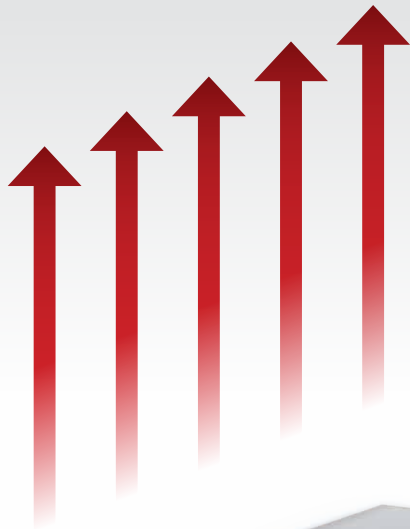


# SEMI-COLLIMATED CSBACK



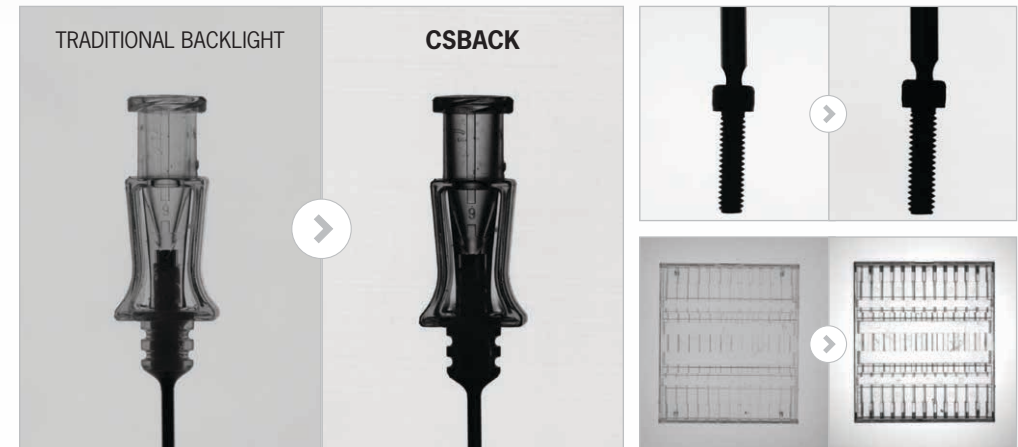
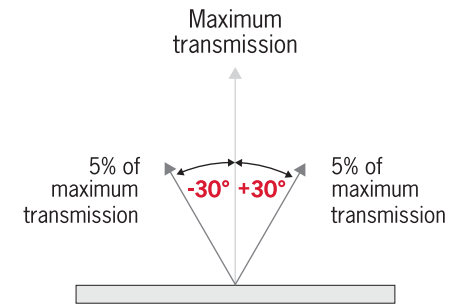
**IDEAL LIGHTING** for measurement applications or for inspection of subtle scratches/dents on transparent surfaces



- **PRECISION LIGHTING**
- **50x50 mm → 200x200 mm**
- **THIN BORDERS** (5 mm)
- **WHITE, RED, INFRARED, GREEN, BLUE**
- **HIGH HOMOGENEITY**



## COLLIMATION EFFECT



24V  
±5%

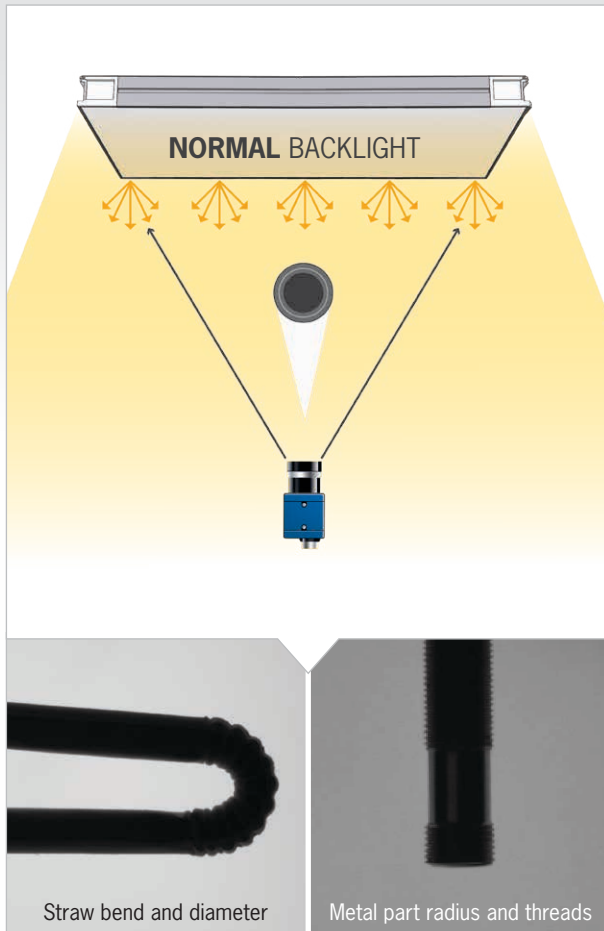
CE

RoHS

TPL Vision is an **ISO 9001** certified manufacturer.

# SEMI-COLLIMATED CSBACK

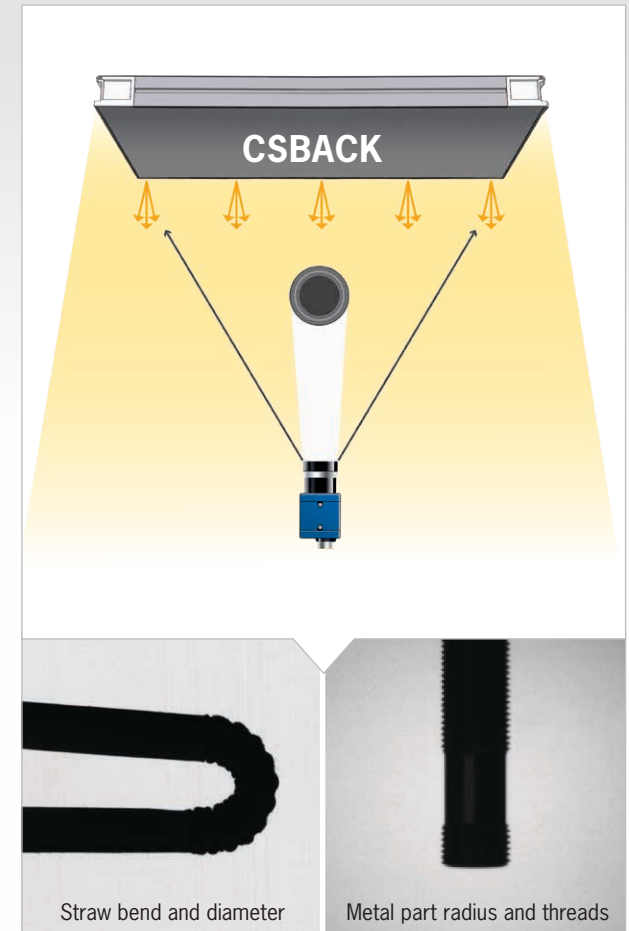
## Normal Backlight vs CSBACK | ROUND PARTS



**HIGH EDGE DEFINITION  
ON ROUND PARTS**  
(light from sides of the semi-collimated  
backlight doesn't wrap around the object)

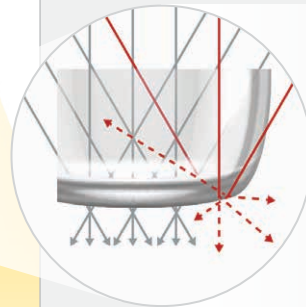
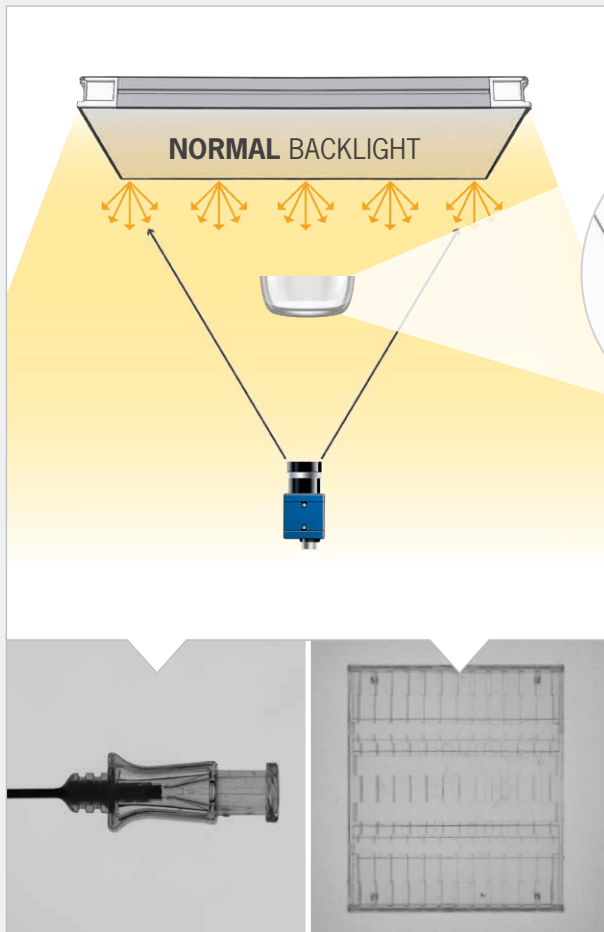
**LIGHT AT  $\pm 30$  deg FROM  
THE NORMAL IS REDUCED IN  
INTENSITY TO 5%**

**PERFECT  
FOR MEASUREMENT  
APPLICATIONS**



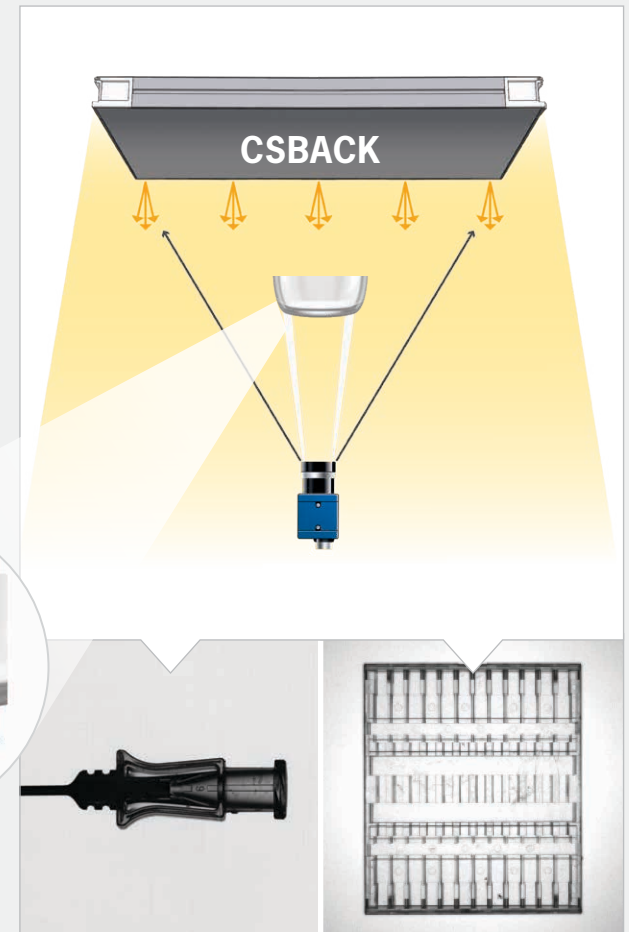
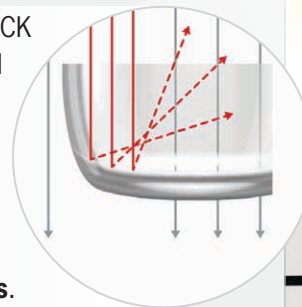
# SEMI-COLLIMATED CSBACK

## Normal Backlight vs CSBACK | TRANSPARENT PARTS



Since the light comes from all directions on a normal backlight, the light that hits any curve or edge will transmit a lot of the light and **make it difficult to see the contrast** where the edge is (the edge is whitewashed).

The light from the semi-collimated CSBACK is more linear and direct than a traditional backlight. This means a lot of the light will **reflect away from the camera due to internal reflection** in the areas where there are curves or changes in geometry, resulting in **higher contrast and sharper images**.



# SEMI-COLLIMATED CSBACK

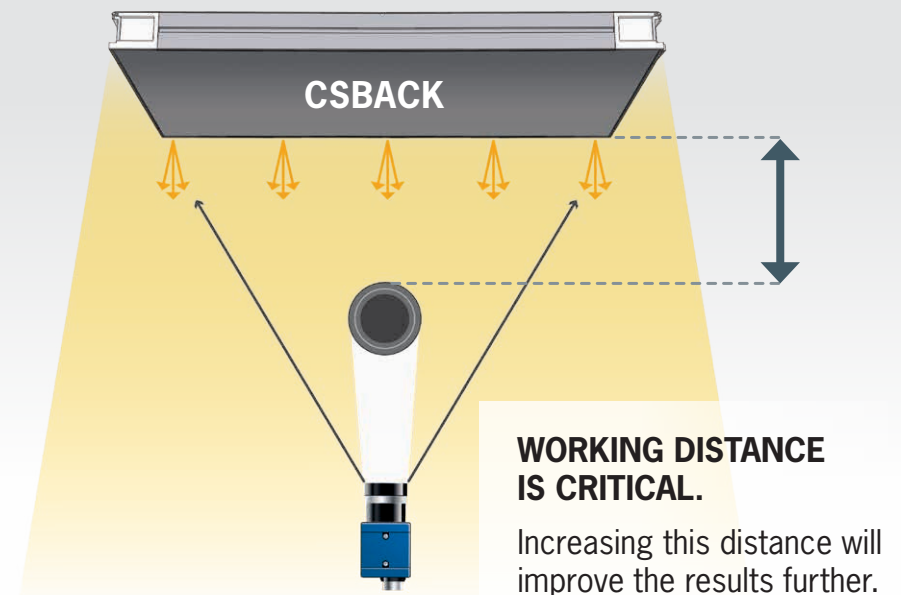
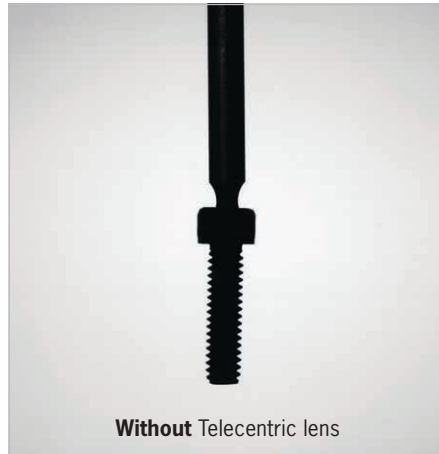
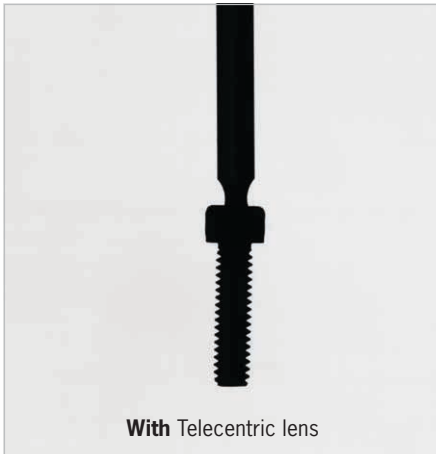
## SETTING UP the CSBACK

### DO I NEED A TELECENTRIC LENS?

No. A telecentric lens works well with this product, **but it is not essential**. It will reduce the effects of parallax and allow the camera to see the real shape of round and tall parts. Telecentric lenses are particularly useful when the camera is placed very close to the part.

A telecentric lens will also improve the **perceived** homogeneity of the light because of the collimation effect.

### EXAMPLE WITH AND WITHOUT TELECENTRIC LENS:



**SEE OUR TECHNOTE**  
FOR A FULL GUIDE TO SET UP  
THE CSBACK

# SEMI-COLLIMATED CSBACK



## CSBACK SPECIFICATIONS

### COLOUR OPTIONS

- White (6000K)
- Red (630nm)
- IR (880nm)
- Green (525nm)
- Blue (470nm)

LOW **21mm** THICKNESS  
& NARROW **5mm** BORDERS

**M12 4P A-coded**  
Connector

**MOUNTING POINTS  
ON ALL SIDES**

(except the connector side  
on xx05 versions)



HIGH HOMOGENEITY LIGHTING

### ORDERING CODES

CSBACK	DIMENSIONS (cm)	COLOUR
	0505	WHI (white)
	1005	630 (red)
	1505	880 (infrared)
	2005	525 (green)
	1010	470 (blue)
	1510	
	2010	
	1515	
	2015	
	2020	

#### EXAMPLE:

- Semi-collimated CSBACK 10x10cm white LED → CSBACK-1010-WHI
- Semi-collimated CSBACK 20x15cm Infrared LED → CSBACK-2015-880



TPL Vision is an **ISO 9001**  
certified manufacturer.

# SEMI-COLLIMATED CSBACK



## TECHNICAL DATA

CSBACK-XXXX	0505	1005	1505	2005	1010	1510	2010	1515	2015	2020
Power Supply	24 VDC ±10%									
Consumption (W)	3	6	9	12	12	18	24	25	36	45
Connector	M12 – 4 pins [ 24 VDC / GND / STROBE & DIM ]									
Lighting Area (mm)	51x51	102x51	153x51	204x51	102x102	153x102	204x102	153x153	204x153	204x204
Overall Size (mm) (without connector)	61x61	112x61	163x61	214x61	112x112	163x112	214x112	163x163	214x163	214x214
Product Thickness	21.1 mm									
Rise Time	1.5 ms									
Fall Time	1 ms									
Operating temperature	0 - 40°C									
Storage temperature	0 - 60°C									
Dimming Levels	100 % to 20% brightness									
Colours	White, Red, Infrared, Green, Blue									
Running Modes	Continuous & Strobe (non-Overdrive)									
Housing Material	Aluminium (black anodised) / PMMA / PC / Brass									
IP Rating	IP40									
Labels	RoHS / CE / UKCA / WEEE									
Country of Origin	Made in France									
Tariff Number	94054990									