## 1. Color differentiation of leather imitations and fabrics in the interior area

Different dark and light leather imitations and fabrics should be differentiated. The colors of the different dark parts as well as of the light parts are very close, almost the same, but the structure of the respective surface is slightly different. For this purpose a color sensor type **SPECTRO-3-50-FCL-30°/30°** at a distance of 50mm to the object is used. With the digital input signal IN0 the respective lightning source for forward and backward reflection can be selected. The detecting range at a distance of 50mm is approximately 20mm. In using the trigger mode PARA the parameters of the sensor can be individually adjusted, thus a proper differentiation of very close products is possible. At this, the last decision is made from the software of the PLC, because the PLC can compare the results of the two parameter sets (PARA 0 and PARA 1) from the color sensor.
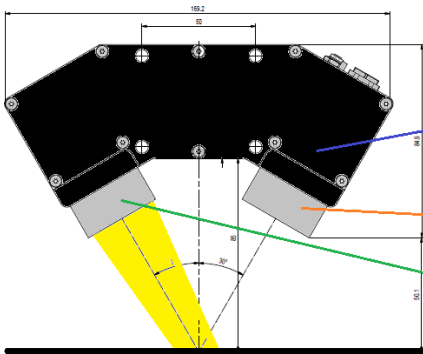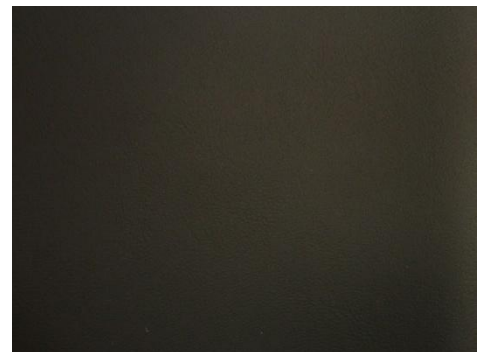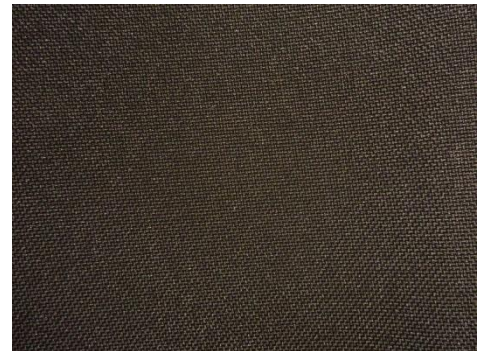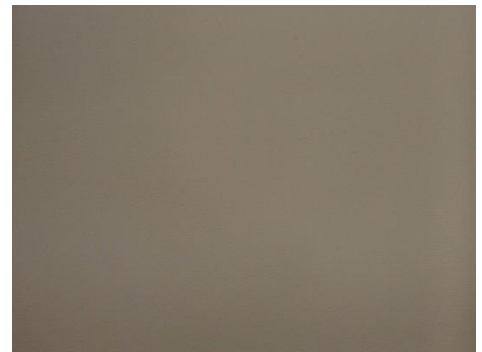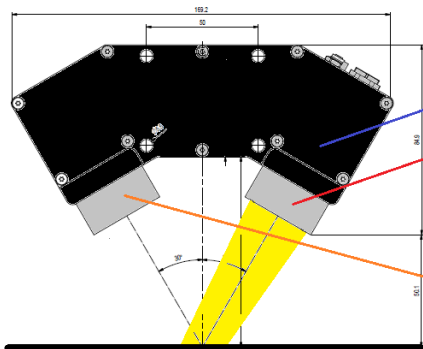
IN0 = 0V: forward reflection

True Color Detector position

lightning source for backward reflection

lightning source for forward reflection
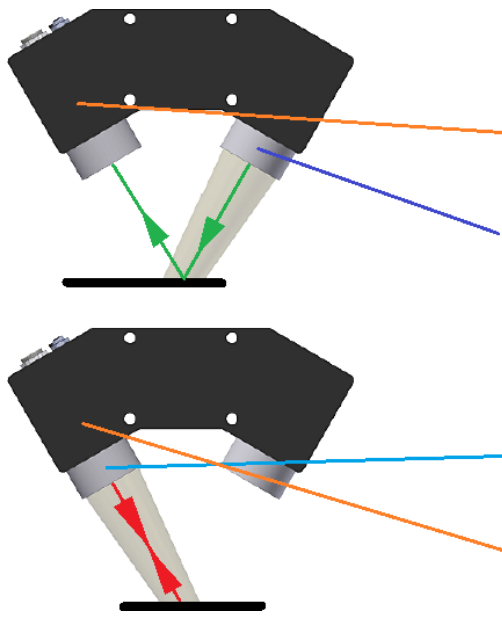
IN0 = +24V: backward reflection

True Color Sensor position

lightning source for backward reflection

lightning source for forward reflection

Col.-N°	IN0 = 0V forward reflection	IN0 = +24V backward reflection
0	0	0
1	1	1
2	2	2 or 3
3	3	2 or 3

the final decision is made from the PLC:
product 0: 0 (IN0 = LOW) and 0 (IN0 = HIGH)
product 1: 1 (IN0 = LOW) and 1 (IN0 = HIGH)
product 2: 2 (IN0 = LOW) and (2 or 3) (IN0 = HIGH)
product 3: 3 (IN0 = LOW) and (2 or 3) (IN0 = HIGH)

IN0 = HIGH
forward reflection

true color detector position

lightning source for forward reflection

IN0 = LOW
backward reflection

lightning source for backward reflection

true color detector position