CV-HAZOP Checklist

Risk Id	Location	Guide Word	Parameter	Meaning	Consequence	Risk	Notes
123	Light Sources	No (not none)	Intensity	L.s. is off	No light from this l.s. in scene	Underexposure if no other light sources on	Gamma + contrast
124	Light Sources	No (not none)	Intensity	L.s. is off		Captured camera noise leads to fake effects	Gamma + ISO noise
125	Light Sources	More (more of, higher)	Intensity	L.s. is too strong	Too much light in scene	Overexposure of lit objects	Gamma + contrast
126	Light Sources	As well as	Intensity	Strong and weak light sources mixed	Weak light sources are outshined by strong ones	If light source should be detected by CV algorithm, this may be hampered	126,127: Adding a much stronger light source (point illumination)/ adjust overall brightness + contrast
127	Light Sources	As well as	Intensity	Strong and weak light sources mixed		Might exceed the intensity range of sensor	
128	Light Sources	Other than	Intensity	Intensity of light source is completely different than expected by appl.	Scene too bright or too dim	Over or underexposure of relevant objects or scene elements	
129	Light Sources	Temporal periodic	Intensity	The exposure time interval is not synchronized with the light source	Brightness of illuminated scene changes periodically over time	Brightness of captured image depends on period phase and frequency, but between single images it may vary significantly	
130	Light Sources	Temporal aperiodic	Intensity	L.s. intensity changes aperiodically over time	Brightness of illuminated scene changes aperiodically over time	Brightness of individual images depends on speed of changes, but may vary highly unpredictable	this one is more for sensor, but maybe we can add sunflare to mirror lights in the images
131	Light Sources	Close	Intensity	Two light sources have close intensity values	They are not distinguishable by their intensity	Algorithm is confused and misclassifies	
132	Light Sources	Before	Intensity	Light source is switched off before a picture was taken	See No	See No	
133	Light Sources	After	Intensity	Light source is switched on after a picture was taken	See no	See No	
134	Light Sources	After	Intensity	Light source takes too much time to reach the expected intensity after being switched on	Increases runtime if recognized by the algorithm, see Less otherwise	See Less	
135	Light Sources	After	Intensity	The aging light source delivers a different result as at its start	Change of texture over a longer time scope	Algorithm is confused by changing light source into thinking that the objects have changed	
136	Light Sources	Faster	Intensity	Intensity changes faster than expected.	Image brightness depends on exposure time and duration	Over- or under exposure	
137	Light Sources	Faster	Intensity	Intensity changes faster than expected.		Observer electronics (exposure control) gets confused when trying to compensate	
138	Light Sources	Slower	Intensity	Intensity changes Slowly over time,	Scene brightness changes	CV alg. may miss resulting scene changes	

Risk Id	Location	Guide Word	Parameter	Meaning	Consequence	Risk
				e.g. at sunset or sunrise	significantly over longer time intervals	