

BT SH 3.0 Screen Testing for CCTV Overexposure & Glare - (March 2025)

1. Glass Composition

The BT SH 3.0 unit uses Pilkington OptiView glass in combination with an integrated ambient light sensor to adapt the luminance of the display to the environmental lighting conditions. The glass has a light reflection level of just 5%. See Figure 1 Source: NSGSpectrum Version 2.1.0.20220425, Pilkington (2023)

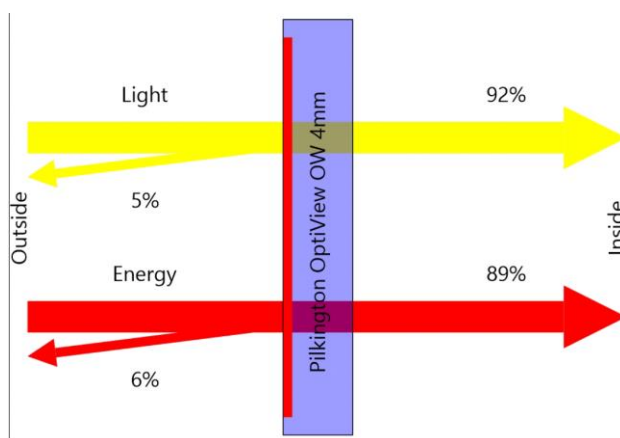


Figure 1 – anti-reflective design of Pilkington OptiView

Figure 2 is a cross-sectional diagram of the glass that shows the location of the anti-reflective coating on the glass' external surface. The glass is bonded to the LCD using an optically clear resin, which eliminates any internal reflections on the glass. This means additional anti-reflective coating on the inner surface of the glass is not required.

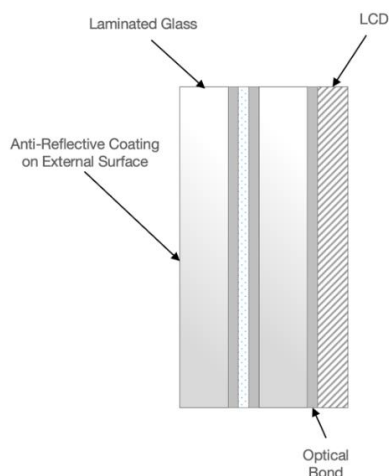


Figure 2 - composition cross section

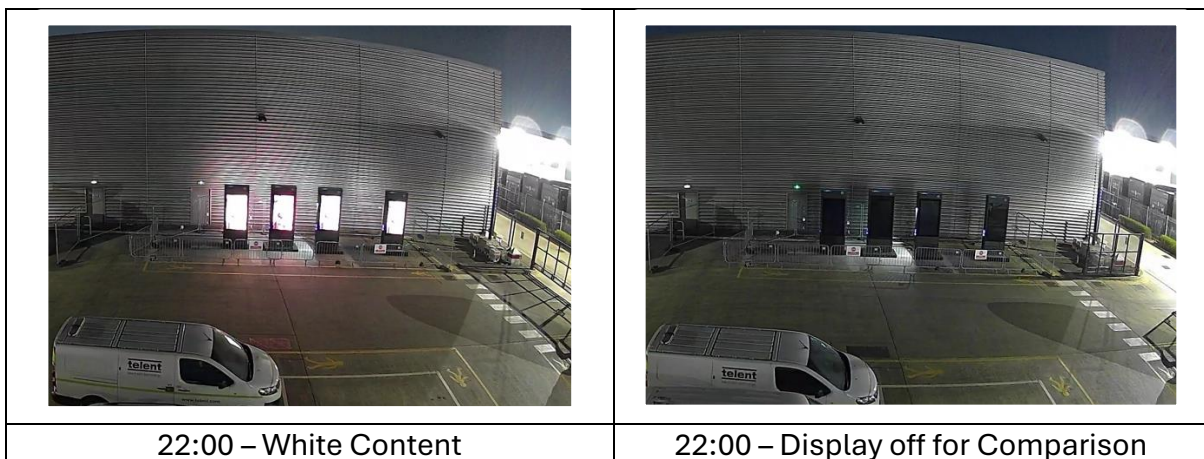
Testing on prototypes in bright sunlight demonstrated that reflection on the glass is minimal. See Figure 3 below.

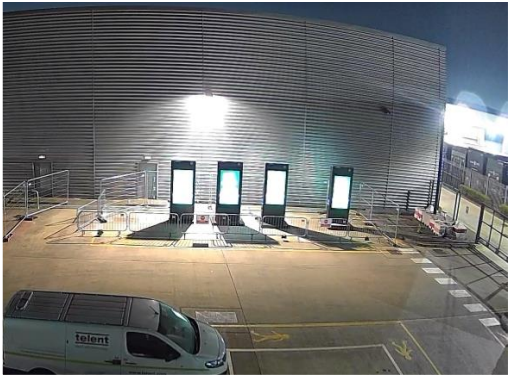
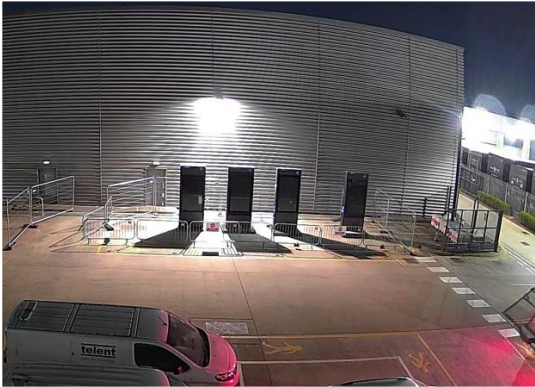
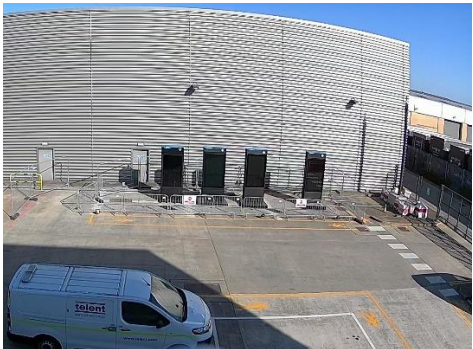


Figure 3 - close up image of screens in direct sunlight

2. CCTV Testing

A CCTV camera (TP-Link C501GW 1.0) was used to monitor the behaviour of four units at various times of the day. The following still images were captured to demonstrate the effect on the performance of the CCTV camera.



	
<p>22:00 – Content with additional rear lighting</p>	<p>00:00 – Display off with additional rear lighting</p>
	
<p>06:00 – Content at dawn</p>	<p>Units off in direct sunlight</p>

The images show that there is no loss of detail in the CCTV image caused by the BT SH 3.0. There is however evidence of overexposure caused by other light sources in the images, particularly very bright light sources at elevated positions; as annotated in Figure 4.

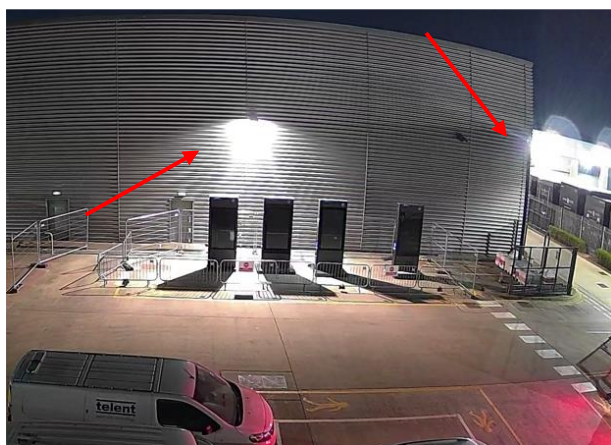


Figure 4 - demonstration of building lights causing overexposure