

**FAQ: "We have the ColorQuest XE in our lab and are attempting to do a standardization for the TTRAN Mode for the first time. I see in the directions that the black tab is placed inside, but it doesn't clearly specify if the light trap is placed outside like for the reflectance standardization, or if that area is left exposed to ambient light. Could you please explain how it should be set up?"**

Technically you always standardize where the sample is being measured. So if it is in TTRAN in the transmission compartment against the sphere, this is where you place your Light Blocker. It is a black anodized plate with a little handle on it. You can place the Light Blocker at the TTRAN port and close the transmission using the indent in the handle to hold the Light Blocker in place in front of the transmission sphere port. This bottom-of-scale standardization step blocks light getting to the lens and on to the detector, giving the instrument a reference for what is 0% transmission.

For this Light Blocker step, it does not matter what is at the reflectance port because you are blocking light from the position of the Light Blocker forward to the lens and detector.

Setting the top-of-scale to 100% is similar. In this case you put a white tile at the reflectance port that fills in the sphere. It stays there for all subsequent measurements because effectively, it is part of the sphere wall. What the instrument is standardizing on is what is at the TTRAN port which typically is Air for transparent solid samples like plastic plaques, or a cell of some path length filled with distilled water if measuring transparent liquids.

After successfully standardizing in TTRAN transmission, it is advised to read back the top-of-scale (Air or cell + distilled water) as a PQ Performance Qualification step. If you set it to 100% transmission, it should always read  $L^* = 100$ ,  $a^* = 0$ ,  $b^* = 0$  if you are set up correctly. If so, you are performance qualified to continue with sample measurements.