

HunterLab's references to LAV (Large Area of View), MAV (Medium Area of View) and SAV (Small Area of View) are always relative to the area of sample viewed by the instrument at the reflectance port. The same optical path is used for both reflectance and transmission but the area of sample view will be different depending on where the sample is placed. The actual sample area viewed at all ports depends on the position of the port along the optical path and the lens configuration.

<b>Port and Sample View diameters in RSIN/RSEX reflectance modes on the front</b>	
<b>Lens Position</b>	<b>Port Diameter/Viewed Sample Area for Measurement</b>
Large Area View (LAV)	25 mm (1 in) illuminated port diameter/19 mm (0.75 in) measured
Medium Area View (MAV)	13 mm (0.5 in) illuminated port diameter/9 mm (0.35 in) measured
Small Area View (SAV)	7 mm (0.25 in) illuminated port diameter/4 mm (0.16 in) measured

\* Specular inclusion/exclusion is a function of whether the specular exclusion door is open (RSEX - reflectance specular excluded) or closed (RSIN - reflectance specular included).

<b>Port and Sample View diameters in TTRAN transmission mode against the sphere</b>	
<b>Lens Position</b>	<b>Port Diameter/Viewed Sample Area for Measurement</b>
Large Area View (LAV)	25 mm (1 in) illuminated port diameter/17.4 mm (0.685 in) measured
Medium Area View (MAV)	25 mm (1 in) illuminated port diameter/13.2 mm (0.52 in) measured
Small Area View (SAV)	25 mm (1 in) illuminated port diameter/11.6 mm (0.46 in) measured

<b>Port and Sample View diameters in RTRAN transmission mode against the lens</b>	
<b>Lens Position</b>	<b>Port Diameter/Viewed Sample Area for Measurement</b>
Large Area View (LAV)	17 mm (1 in) illuminated port diameter/17 mm (0.67 in) measured
Medium Area View (MAV)	17 mm (1 in) illuminated port diameter/17 mm (0.67 in) measured
Small Area View (SAV)	17 mm (1 in) illuminated port diameter/17 mm (0.67 in) measured

\*\* The first surface of the lens at the RTRAN port is a system aperture stop which explains why the viewed sample areas for all modes are the same at the RTRAN position.

**FAQ: "The area view can change between LAV, MAV and SAV with the USPRO. I would like to know how and when the area view to be use and apply?"**

The rule is to use the largest area of view in for both reflectance and transmission measurements unless your sample size is limited, that is, it will not cover the port. In reflectance, there are different snap-on ports with openings slightly larger than the viewed area.