Virtual Light Booth

Immersive 3D visualization environment for comparing virtual and physical materials

- The X-Rite Virtual Light Booth, a component of the Total Appearance Capture Ecosystem, presents virtual materials with a very high degree of realism and accuracy. This enables users to evaluate digitized materials rendered on virtual objects in direct comparison to physical material samples. It is a fully immersive experience through the use of face tracking and other autosteroscopic technologies – a real 3D experience that does not require special glasses.

- The Virtual Light Booth provides diffuse and spot light sources that enable accurate visual assessment, in a well-defined and standardized visual observation environment, even for highly complex materials such as special-effects paints and coatings whose color and appearance change based on the angle at which they are being observed.

- The most accurate material evaluation available is achieved with integrated camera-based sensors, spectrophotometers, and colorimeters and the synchronisation of real time rendering (based on X-Rite's patent-pending Full Immersion Technology), sample motion and face tracking.

In a typical workflow:

- Physical material samples are scanned using the X-Rite TAC7 Scanner or X-Rite Scanning Service to create highly realistic and accurate digital materials specifications in Appearance eXchange Format (AxF).
- Alternatively, existing AxF files can be accessed from digital material catalogs such as the PantoneLIVE Cloud or Pantone® Silk, a mobile Digital Materials catalog for iOS.
- AxF files are stored and managed using X-Rite's Pantora Digital Material Hub and distributed from there to Digital Material rendering cores and plug-ins for third-party 3D rendering systems.
- Virtual Light Booth is used to select, inspect and compare materials under multiple lighting conditions, and to directly compare them to physical material samples for activities such as material consistency quality assurance (QA).

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TAC Virtual Light Booth Specifications

Illumination:	**D65 diffuse illumination**, SpectraLight QC class **6500K LED point light** for effect pigment evaluation
Integrated Virtual Light Booth:	**High Brightness Display** 47", 5000 cd/m2 **X-Rite "Full Immersion Technology"** (patent pending) Fully integrated display, dynamic real-time visualization, fully controlled and synchronized material appearance Synchronized sample position (real to virtual sample) Synchronized virtual light booth perspective (to observer position) and seamless "round edge" real-to-virtual transition
Render Engine:	**X-Rite mview** rendering engine Real-time engine based on OpenGL, optimized for rendering of virtual materials **X-Rite Color Pipeline** fully controlled, including 10 bit-per-component color control, dynamic observer-position-dependent display profiling and real-time consideration of ambient light
Sensors & Controls:	**Face Tracking** and **Sample Tracking** sensors **Ambient Light Tracking** i1Pro sensor **Luminaire** (i1Pro) and **Display** (i1D3) **Consistency Control** Sensors **Turntable** to rotate physical sample, **Hydraulic Height Adjustment** to automatically adapt to observer height
User Interface:	13.3" Touch Screen Monitor, demo & evaluation or evaluation & approval workflow
PC & Data Interface:	Embedded Workstation with pre-installed Virtual Light Booth software including full Virtual Light Booth calibration data Point-to-point Gigabit Ethernet connection to external PC running Pantora software for exchange of virtual materials and virtual objects for evaluation of materials Key-locked Gigabit Ethernet port for service and software updates
Dimensions	H 1810 mm x W 1160 mm x D 750 mm
Weight:	230 kg

X-Rite is a world leader in color measurement, management, and communication technology for industries and applications that reach around the globe. We provide the expertise and know-how to make the most of your color and appearance opportunities…right the first time, right every time.

Specifications can change without prior notice. L10-560 (03/17)