



Who we are

Lux Labs was founded by a group of MIT professors and students who aim to bring laboratory innovations to the real-world. We're an advanced optical materials company which uses cutting-edge nanophotonics to produce novel display technologies. Our first product, ClearBright™, allows any glass surface to be turned into a dynamic display.



Location

Location

Lux Labs office

One Boston Place, Ste 1700
201 Washington Street
Boston, MA 02108
United States

Contact Us - Demos at our office available on request

team@luxlabs.co
+1-860-885-4885

Find us online

LuxLabsDisplays.com



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Our Commitments

01

Provide solutions

We'll work with you to find a solution using our products. For the budget conscience customer we have tips to do it yourself. Larger commercial endeavors often require additional support. We'll connect you with the right professionals for the job.

02

Available Worldwide

We partner with great companies to bring our products to customers around the world. If there's not a distributor in your area we're happy to ship direct from our homebase in Boston, USA.

03

Research and Development

With roots in academics, we listen to customers and work to develop better solutions to meet their needs. Our products enjoy worldwide patent protection.

Modern Solutions

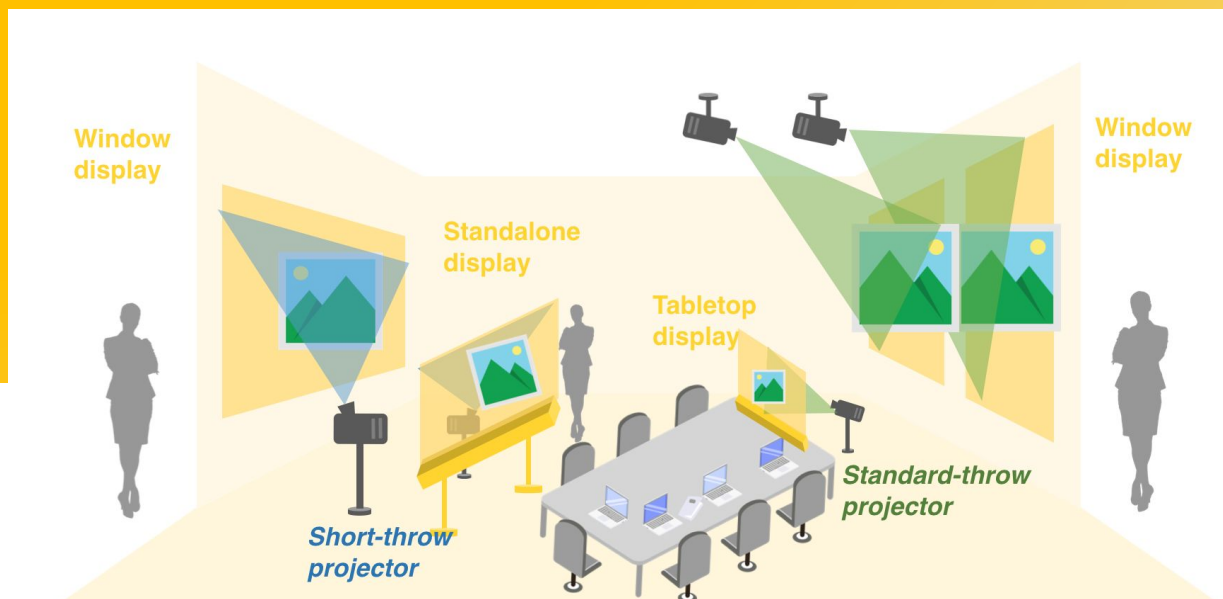


Introducing ClearBright™

ClearBright™ transparent display film turns any clear surface into a high-resolution display while maintaining its transparency. Incorporating state of the art nanotechnology developed at MIT, the ClearBright™ polymer film is easily applied to glass and compatible with any off-the-shelf projector, these flexible films offer full color, high brightness and contrast, and a 360° viewing angle.

Applications

Retail | Offices | Corporate Real Estate | Automotive | Out of Home Marketing | Live Event



ClearBright™ is Clear



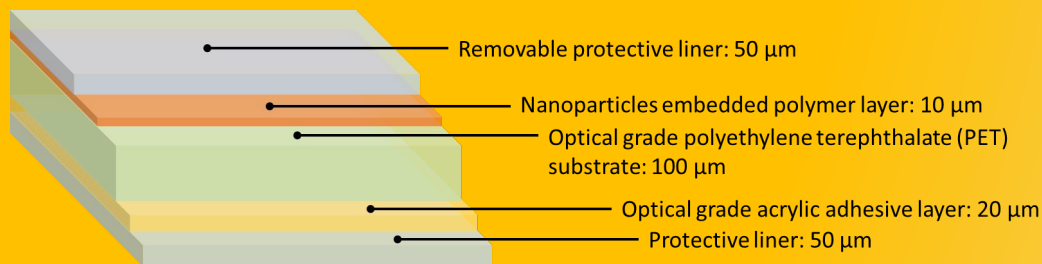
This window panel has nothing on it besides a few stickers

Projected Content

This window panel is fully covered in ClearBright™ Transparent Projection Film

Use multiple panels of ClearBright™ to cover large surfaces. The window panel on the right is covered with 2 panels of film. The resulting seam down the middle is hardly noticeable and creates no image distortion

Film Construction



Performance and Specs

- Omnidirectional scattering allows projection and viewing from any angle
- Image can be viewed in both front and rear projection (360° viewing angle)
- $\geq 90\%$ transparency and improves when applied to glass
- $\leq 10\%$ haze and improves when applied to glass; no tint
- Flexible, scrollable display film, roll width of 36 inches
- UV and temperature stable
- Passive film requires no external power, image is generated entirely by the projector
- Acrylic film with proprietary nanoparticles



ClearBright™ Retail Price List

Linear Feet - 36 inch width (0.9144m)	Price/Square Foot	Total Price
6 feet	\$19	\$342
12 feet	\$16	\$576
50 feet	\$15	\$2,250 ¹
Half Roll (464 feet)	\$12.20	\$16,982 ¹
Full Roll (928 feet)	\$10.40	\$28,953 ¹

¹ Wholesale pricing available to distribution partners

All prices US Dollars

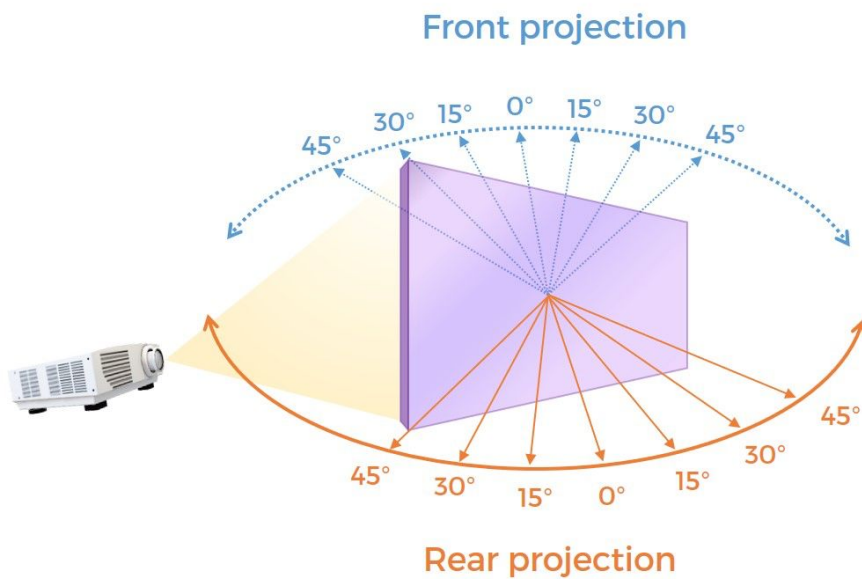
Purchase

Quantities up to 50 feet are available directly through our website: <https://luxlabsdisplays.com/buy-now>. Larger quantities or interest for distribution or resale are available by contacting us directly. We ship worldwide.

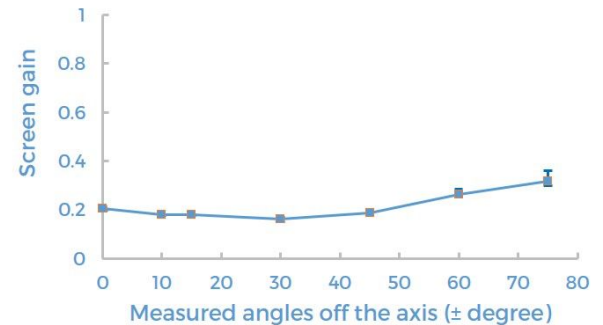
Contact

Clinton Hayes, Product Manager
clinton@luxlabsdisplays.com | +1-860-885-4885

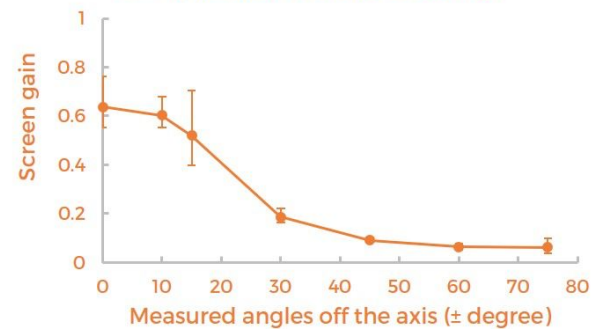
Test	Method standard	Conditions	Results
Low Temperature	IEC 60068-2-1	<ul style="list-style-type: none"> -20°C 72 hrs 	<ul style="list-style-type: none"> Change of optical properties: <ul style="list-style-type: none"> Total Transmittance $\leq 0.6\%$ Haze $\leq 2\%$ The peeling force maintains in the range of 300-400gf/25mm. Exterior side outdoor window applications have shown no signs of degradation or image quality lose across real temperatures from -18°C to 35°C and high humidity
High Temperature	IEC 60068-2-2	<ul style="list-style-type: none"> 85°C 72 hrs 	
High Temperature / High Humidity	IEC 60068-2-30	<ul style="list-style-type: none"> 85°C / 85%RH 72 hours 	
Temperature Cycling	IEC 60068-2-14	<ul style="list-style-type: none"> -20°C / 85°C Cycling time 2hrs - 2hrs 72 hrs 	
UV Exposure	ISO 4892-2	<ul style="list-style-type: none"> Light <ul style="list-style-type: none"> UVA 340nm 0.63mW/m² 60°C Dark <ul style="list-style-type: none"> 50°C 50%RH Cycling time 4hrs - 4hrs 72 hrs 	



Front projection (backward scattering)



Rear projection (forward scattering)



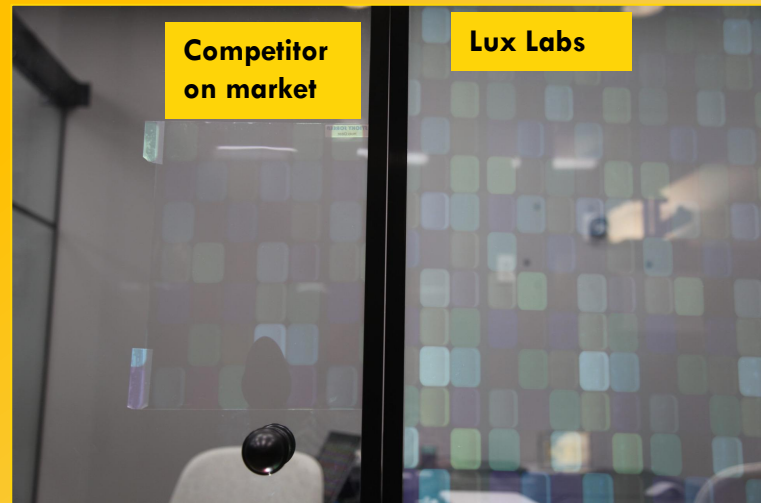
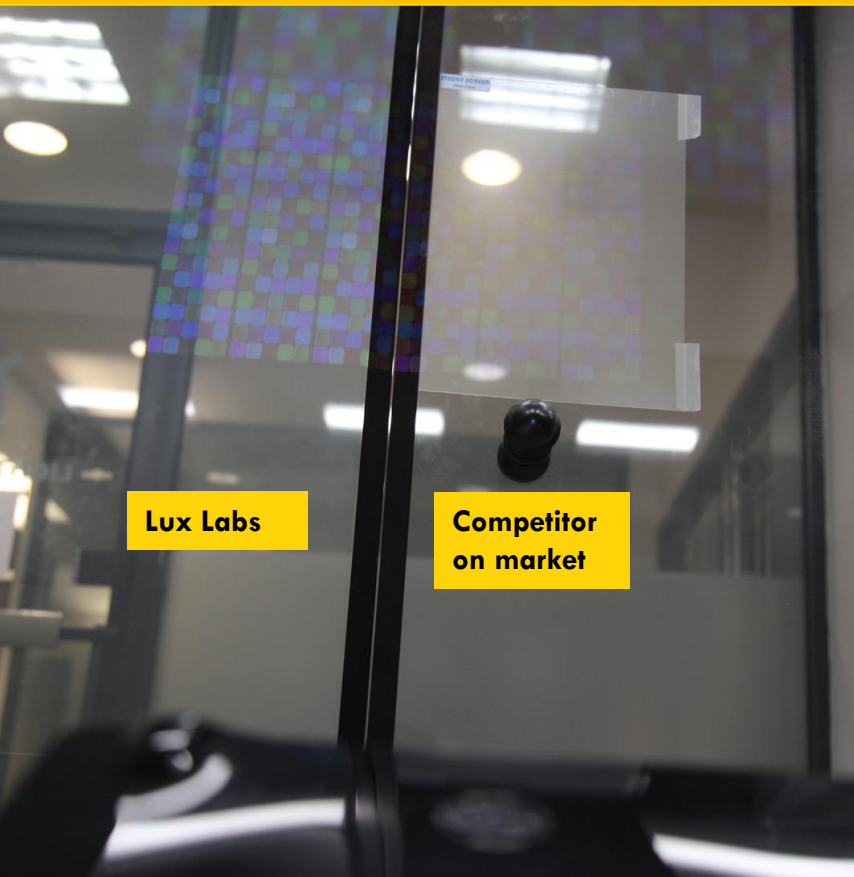
Advanced Technology First developed at MIT. Our advanced nanoparticle formula enables more efficient projection which results in a brighter image and better optical clarity.

Any Projector Works with any off the shelf projector. Just match its power to your desired application projection size.

Any Angle ClearBright™ even works with ultra short throw projectors at extremely steep angles. Unlike other products, you can position the projector at any angle relative to the film.

Easy install Adhesive backed for quick installation on any clear surface.

Clear and Bright While other films are either less clear at the same level of brightness or less bright at the same level of clarity, ClearBright™ achieves superior performance in both categories. Windows truly look clear whether projecting an image or not.



	Smart/ PDLC/ Switchable Films	Standard Projection Films	Holographic and Semi-Transpar ent Films	CLEAR  BRIGHT
Passive: No electricity required				
Clear: Window stays a window	 Projection only in foggy mode		 Not as clear as ClearBright™	
Holographic Content: Images appear on a clear surface				
Compatible with all types of projectors (including UST)				
360 degree projection and viewing angles				
Nanoparticle Formulation: Best transparency to brightness ratio				

Easy and Flexible Install

Wet Use on existing windows or to create large screens with multiple panels of ClearBright. Excess liquid evaporates out in about 3 days and continues to improve over time. See luxlabsdisplays.com/faq. Any commercial sign installer will be familiar with this method, or you can do it yourself.

Dry For use on clear substrates that can be passed through a cold lamination machine to create a see-through screen. This service is available through most custom sign and graphics shops. Also available through Lux Labs with the ability to customize requirements. Thinner substrates display slightly better optical properties. We commonly use clear acrylic 1/16 to 1/4 inch thick depending on application.

Commercial Glass Lamination Use as an interlayer in multi-layer commercial glass. Layering in high quality glass displays the best optical properties and highest level of durability. Contact Lux Labs if interested or would like a proof of concept demo.

Projector Guide - Overview

Projector tech can be intimidating but we've narrowed it down to the 5 most important features that you should look for along with 5 recommended projectors based on budget and use case

- **Distance from window:** Regular projectors, also known as long throw, require 8-12 feet of space between the projector and your window for a 100 inch image. On the other hand, short throw options only need 2-4 feet of space to produce the same size image. The farther away a projector is placed from the window, the larger your projection.
- **Lumens** are loosely defined as the measure of a projector's brightness. All our recommended projectors are at least 3500 lumens which we've found is enough for windows up to around 20 square feet in most lighting conditions. Increase lumens for larger display sizes.
- **USB Reader:** This options allows you to play pre-saved content directly from a small usb stick plugged into the back of the projector. It's like wireless control except you preload your content. We recommend this option for ultimate ease of use!
- **Wireless Compatible:** All projectors except the most affordable economy model have a USB port that can power a wireless HDMI extender (sold separately). This allows you to control content directly from a smartphone or computer.
- **Resolution:** We list the resolution on each projector in case you're curious but all 5 projector options are good enough to show sharp content that will be more than sufficient for nearly all applications

Projector Recommendations

Diagonal screen size up to 120"

When you have room to place projector 10ft - 16ft from window

*Shorter distances from window = smaller projection size and slightly brighter content

Economy

Our choice for video demos and brochure pictures

**ViewSonic
PA503S**

- 3600 lumens
- 800 x 600 resolution
- \$299

Plus

PC free content input and better resolution

**BenQ
MX731**

- 4000 lumens
- 1024 x 768 resolution
- USB reader
- \$649

Supreme

Large windows

**Optoma
EH412**

- 4500 lumens
- 1920 x 1080 resolution
- \$849

Diagonal screen size up to 120"

When you have limited distance less than 4ft from window

Short Throw

Short distance from window

**ViewSonic
PS501X**

- 3500 lumens
- 1024 x 768 resolution
- 4.8ft distance for 120" size
- \$469

Ultra Short Throw

**Optoma
W340UST**

- 4000 lumens
- 1280 x 800 resolution
- 2.2ft distance for 120" size
- \$1499

Wireless Capability: Pair your projector with a HDMI transmitter or media player to stream content from a phone or computer. Lux Labs does not endorse any specific options. Prices vary from \$30-\$250 and performance is generally correlated with price. Product descriptions and reviews are widely available online.

Screens

**Transparent
Projection
Anywhere**



Perfect for any application where portability is necessary. ClearBright™ is laminated onto lightweight acrylic to create clear projection screens.

Portable Screens



Lightweight $\frac{1}{8}$ "
thick screen with
great optical
clarity

Stick to any
window or use as a
stand alone
display

Model	Lite Edition	Pro Edition
Total Dimensions	25" x 30" x $\frac{1}{8}$ "	35" x 45" x $\frac{1}{8}$ "
Weight	3 Lbs / 1.3 kg	4 Lbs / 1.8 kg
Material	Clear Acrylic	Clear Acrylic
Price	\$385	\$595

Custom Sizes

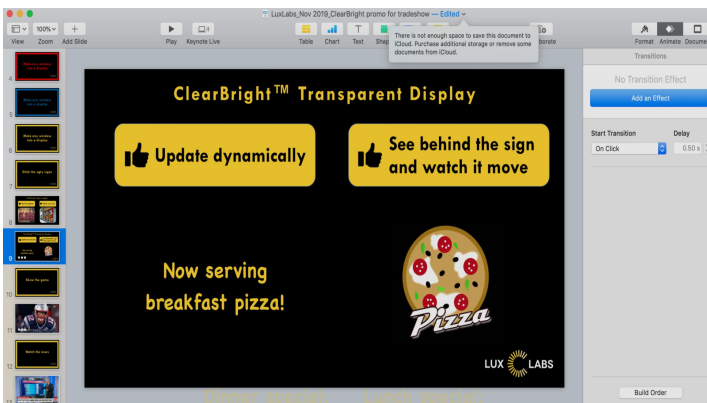


Have a project? We can produce custom screens to most specifications

Screen Size	See max height
Aspect Ratio	Any
Max Height	35.5 inches / 90.17 cm
Max Length	90 inches / 228.6 cm
Width	1/16 inch / 1 mm - no max width
Material	Acrylic / Glass /other clear substrates
Price	Based on size, width, and material

Note: Thinner screens display slightly better optical properties

- **Powerpoint works great:** Export and save as a video so you can easily play your content on loop
- **Experiment with colors:** Dark reds and blues don't appear as bright compared to yellow and white.
- **Make it move!** Use the animate features on powerpoint to create eye catching imagery.
- **Black Background:** Set your content to a black background for that eye catching floating on glass look



Powerpoint slide as it appears on a computer

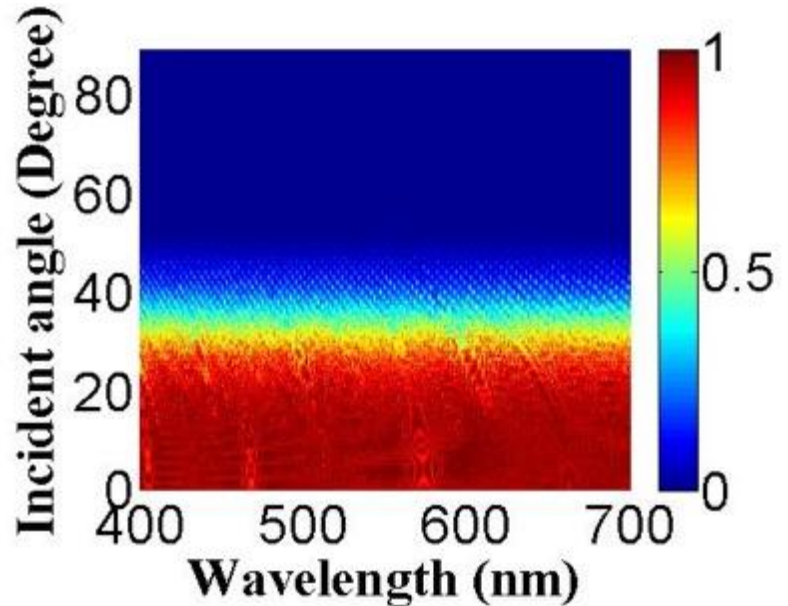
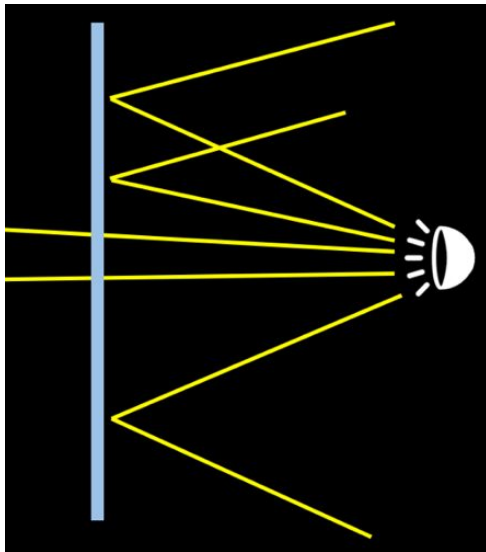


Powerpoint slide projected onto ClearBright™

*Projection using viewsonic PA503s projector with 3600 lumens

Front Projection Prototypes We've listened to interest from the auto, train, and airplane industries and are working on developing better solutions for heads up display and passenger window applications. Our current prototypes display enhanced brightness for front projection where the viewer and projector are on the same side. We're currently selling 4 x 6 inch samples with a 2 week lead time, producing individually in the lab. Contact us for prices and details.

Broadband Angular Selective A whole new type of film technology. Angular-Selective Transparent film can be used in electronic displays for brightness and privacy enhancement. When using our film, battery life can be extended by concentrating the display's light toward the viewer. Our film can also be utilized for light-controlling features in windows and high-efficiency solar energy conversion. Lux Labs R&D team is close to bringing this film to the general public, but is not currently at the point where we can offer samples.



More Information Our team is happy to discuss applications and partnerships for these technologies in industry. Contact our Product Manager, Clinton Hayes at clinton@luxlabsdisplays.com. At this time we can share more technical information subject to a mutual non-disclosure agreement.

Distribution

Opportunities

Authorized Resale

Add ClearBright to your product portfolio. Exclusive rights available subject to agreement and order minimums.

Solution Integration

Sell a modern solution for experiential and out of home marketing. Offer an end to end marketing solution integrating the technology and installation components with sale of ClearBright™.

Flexible Commission

Our affiliate program allows anyone to earn commission on product sales simply by sharing links to our website.

More Information If you're a business serious about bringing Lux Labs' products to end users, send an email to our product manager, Clinton Hayes: clinton@luxlabsdisplays.com

***Serious inquiries only**

Terms and Conditions

For most up to date product and pricing information please visit our website at luxlabsdisplays.com

Pricing and Specifications

Lux Labs reserves the right to revise all pricing, discounts, and freight terms, at any time, without notice. Current product pricing is included on product pages at Luxlabsdisplays.com. Prices which are in effect at the time of order shall apply. All prices in the catalog are effective March 1, 2020, and are list price and are in U.S. dollars. All measurements are accurate within 0.25". Visit Lux Labs's website luxlabsdisplays.com for the most up-to-date product and ordering information, as well as additional specs, dimensional drawings, alternative images and more resources.

Shipping

ClearBright™

Lux Labs offers shipping within 48 hours for all sales of ClearBright™ although most ship within 24 hours on weekdays only. See ClearBright™ retail price list for standard shipping charges in the US and international. US and International orders under 50 linear feet ship Fedex Ground/Economy with online tracking. US 3-5 days, international 5-8 days. Faster shipping methods are available by request for an additional charge. Orders over 50 feet ship UPS, Fedex, or DHL international with similar delivery times.

Screens

Lux Labs produces all screens to order requiring a 5 day lead time before shipping.

We can occasionally speed up this process on request. Shipping for our standard screen sizes can be found on the appropriate product page when you checkout. Prices for custom projects depend on size, weight, and destination.

Returns

If you're unsatisfied, simply return your product within 30 days of purchase. Please contact our team before returning any product by emailing team@luxlabsdisplays.com. Used ClearBright™ film is not eligible for return since it can not be reused. Screens are subject to inspection once returned and if there's significant scratching or other damage may not be refunded.

Warranty

Lux Labs offers a 2 year limited warranty on our ClearBright™ projection film. This warranty does not cover damage due to mishandling or misuse which results in damage to the product. It is the users responsibility to protect both screen and film products against scratching, chipping, and normal "wear and tear". Film can be mounted to the outdoor surface of windows and has shown to be very durable during hot humid summers and cold New England winters.

Intellectual Property

Customer acknowledges that Lux Labs is the owner of intellectual property related to certain Products, including the registered trademarks and other trademarks (the "Marks") and proprietary designs and patterns, patents and/or pending patent

Terms and Conditions

applications, if any, used in connection with its Products (collectively, "Intellectual Property"). Customer shall not use the Marks or any part thereof as part of Customer's name, nor register any name, including domain names, or mark confusingly similar to the Marks. Customer acknowledges that it is not being licensed any right or interest of any kind in the Marks and that Customer may not use same without the prior, written consent of Lux Labs. Lux Labs reserves the right to discontinue deliveries of any products, the manufacture, sale or use of which would, in Lux Labs's opinion, infringe upon any U.S. patent, trademark or design now or hereinafter issued, registered, or existing and under which Lux Labs is not licensed.

Relationship of parties

The relationship of the Parties hereto is that of vendor and purchaser. Nothing in these Terms and Conditions, and no course of dealing between the Parties, shall be construed to create any other type of relationship. Accordingly, Customer shall not be empowered to bind Lux Labs in any way, to incur any liability or otherwise act on behalf of Lux Labs.

Governing law

These Terms and Conditions shall be governed by the laws of the State of Massachusetts, without giving effect to the principles of conflicts of law of such state, and shall be binding upon the Parties hereto in the United States and worldwide. Lux Labs and Customer agree that any legal action arising out of or relating to this agreement or the transactions contemplated by this

agreement shall be brought in the appropriate court of law and consents to personal jurisdiction of such courts over them in any such action. Customer waives any defense or inconvenient forum to the maintenance of any such action or proceeding so brought and waives any bond, surety, or other security that might be required of Lux Labs.

Severability

If any clause or portion of these Terms and Conditions shall be held by a court of competent jurisdiction to be illegal, invalid, or unenforceable, the remaining clauses or portions shall remain in full force and effect.

Force majeure

Neither Party shall be liable hereunder for any failure or delay in the performance of its obligations under these Terms and Conditions, except for the payment of money, if such failure or delay is on account of causes beyond its control, including labor disputes, civil commotion, war, fires, floods, inclement weather, governmental regulations or controls, casualty, government authority, strikes, or acts of God, in which event the non-performing Party shall be excused from its obligations for the period of the delay and for a reasonable time thereafter. Each Party shall use reasonable efforts to notify the other Party of the occurrence of such an event within five business days of its occurrence.

LUX  **LABS**