
"If you're ready to move up from a white wall or an inexpensive roll-up screen, the Screen Innovations Zero Edge FLEX with Slate .8 material is one of the best upgrades I can think of. Highly Recommended."

Screen Innovations Zero Edge FLEX Slate .8

Screen Innovations makes several unique systems with materials that allow you to leave the room lights on while you watch. Their latest addition to the product line is the Slate .8 high-contrast model. It rejects 65-percent of your room's ambient light while providing a quality picture with deep blacks, bright whites and neutral color-rendering. When you order it along with the Zero Edge FLEX frame system, you get a border-free screen and an integrated LED bias light. Let's take a look.



Highlights

- Zero Edge FLEX has virtually no border and stands out from the wall like a giant flat panel TV.
- Slate .8 material is a high-contrast dark gray surface that provides deep blacks and enhances the perceived contrast of any projector.
- The included LED bias-light enhances image depth and creates a high-end look.
- Assembly and installation is well within the capabilities of a do-it-yourselfer.
- Light-rejection qualities make it possible to turn the room lights on without washing out the image.
- Pairs well with modern high-output DLP and LCD projectors.

Introduction

Short of buying an enormously expensive flat panel, the only way to have a large-screen display in your home is with front projection. Also known as a two-piece display, you'll need a projector and a screen to complete the system. While many users simply point their projector at a white wall, a purpose-built screen provides the best possible image quality.

Screen Innovations projection screen review specifications

DESIGN:**Fixed front projection screen with bias-light****SCREEN MATERIAL:****Flexible****AVAILABLE MATERIALS:****Slate, Maestro, Pure White, Pure Gray****TESTED MATERIAL:****Slate .8 gain****HALF-GAIN ANGLE:****45°****COLOR:****Dark Gray****MAX SIZE:****390" Seamed, 200" Unseamed****SIZE AS TESTED:****92" Diagonal (80" x 45")****FRAME MATERIAL:****Extruded Metal with Plastic Trim****BIAS-LIGHT:****Integrated RGB LEDs with Remote Control****MSRP:****\$2,935 (92" with Bias Light)****COMPANY:****Screen Innovations****SECRETS TAGS:****SI, Zero Edge FLEX Slate .8 Projection Screen, Secrets screen reviews 2015, DLP, LCD, projection screen reviews**

Of course there are compromises, chief of which is the requirement that you eliminate ambient light. Screen Innovations seeks to overcome this obstacle with its Black Diamond material and now the Slate .8 which is the subject of today's review.

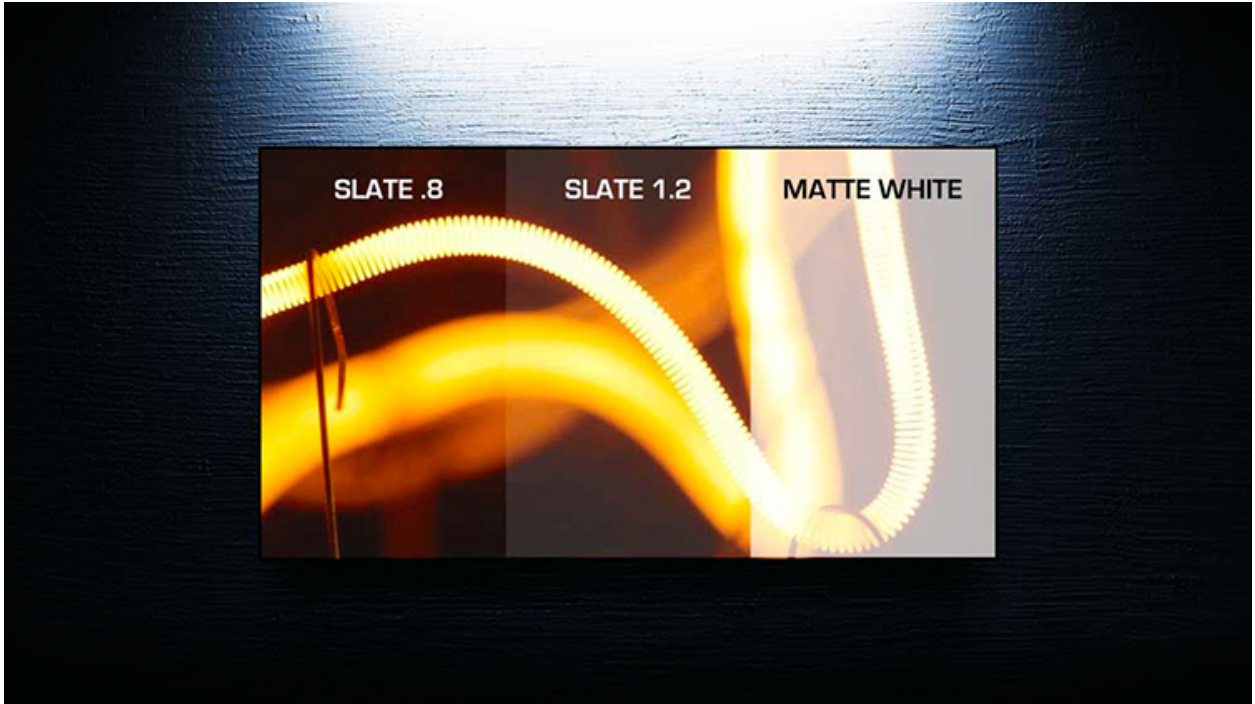
SI markets the system as a "television replacement" because you can have the lights on and still enjoy a quality image with good depth, color and contrast. In the Zero Edge FLEX configuration, you also get a cool bias-lighting system that adds a glow around the screen's edges. It can be used in many ways to enhance the image. The Zero Edge is also interesting for its borderless construction. Aside from a thin outer bezel, the picture goes all the way to the four corners and stands out from the wall. Notwithstanding its extra size, you'd swear you're looking at a high-end flat panel TV. SI sent me a complete Zero Edge FLEX kit with an integrated full perimeter bias-light, remote control and the new Slate .8 high-contrast material.

Design

Screen Innovations makes screens for just about any projection environment in a variety of frame styles. The system I received highlights two of SI's products, Zero Edge FLEX and Slate .8 material.



I reviewed a Zero Edge screen back in 2012 that came in a rigid form that ships fully assembled as a single large panel. This newer version is called Zero Edge FLEX and came to me as a kit consisting of frame pieces, rolled-up screen material and all the necessary hardware for installation. I'm told customers can also order the FLEX pre-assembled if they wish.



Zero Edge is aptly named as it has virtually no border. While traditional fixed-frame products have a two or three-inch frame covered with light-absorbing material, the Zero Edge has only a thin black trim piece. When you project an image, it simply floats in space and creates a unique effect not found with traditional screens. This is amplified by the fact that the screen stands out from the wall rather than fitting flush against it.

The frame parts are made from extruded metal and are almost tank-like in their build quality. When assembled, the unit is solid and rigid and holds the thin material perfectly flat as it should.

Speaking of the material, that is also a new product for SI. Slate has two main design goals, high contrast and high image quality with some ambient light present. The latter is also a feature of the Black Diamond material which I've covered in the past. If you want ultimate brightness with the room lights on, that is still the best choice with its 85-percent light rejection for the 1.4 gain material. Slate .8 is able to reject 65-percent of ambient light falling on it versus the 10-percent found with white screens. This means you don't have to watch your movie in complete darkness if you don't want to.

The FLEX system I received also includes a full perimeter bias-lighting system pre-installed. This is a huge value-add because installing a backlight with a typical screen system is usually a difficult and expensive proposition. The challenge is in preventing the light from bleeding behind the screen and therefore shining through the material and spoiling the image. SI has set the LEDs into a track so when the screen is installed, light can only radiate outwards towards the edges. I saw no light bleed during my time with the Zero Edge FLEX.

There is actual science behind bias lighting and it's something the Imaging Science Foundation has promoted for years. But it's difficult to do correctly and getting it wrong only creates a distraction. Done properly, the picture will have greater perceived contrast, better-looking blacks and less viewer fatigue.



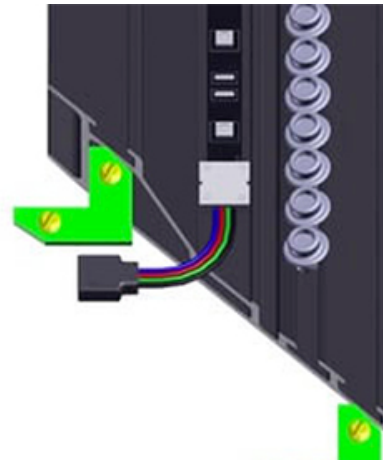
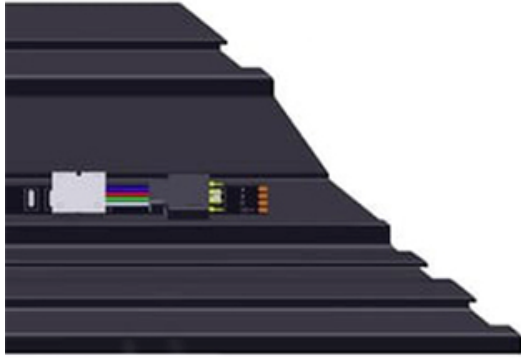
Bias lighting in a professional setting incorporates a color temperature of 6500K set to 10-percent of the display's peak output. The system included with my Zero Edge FLEX can do that by simply selecting the White setting from the remote and adjusting intensity to the appropriate level.

As you can see from the remote, there are many possible color combinations, as well as discrete On/Off buttons. You can create a program that flashes, fades and/or changes colors. For critical viewing, the only correct choice is white with no change in intensity. But if you're entertaining, the party lighting might be a great way to impress your guests! For my viewing I set it to solid white at the lowest brightness level.

Setup

It's important to remember that SI's screen materials can be combined with different frame systems depending on what you'd like your final installation to look like. For instance you can get the Slate .8 material with a traditional fixed frame or you can get one like my review sample – Zero Edge FLEX. Zero Edge is just what it says, a borderless screen. There is a tiny outer bezel around the edge which measures less than half-an-inch but in use, the image appears to go all the way across the projection surface.

I reviewed a Zero Edge with Black Diamond material previously which came as a fully assembled rigid unit much like a giant flat-panel TV. The Zero Edge FLEX is far easier to ship because it arrives as a kit with frame parts, hardware and the screen material rolled up in a tube.



The frame is assembled by sliding two pieces of hardware into each corner and tightening a series of Allen screws. The necessary tool is provided. As I secured the fasteners, I made sure the corners lined up properly to avoid any sharp edges which could damage the screen material. You also don't want the frame to be anything else than perfectly square. To finish the frame assembly, I connected the four lighting strips together.

The screen material is packed in a rigid cardboard tube and wrapped securely in a foam sheet. When you unroll it projection-side down, the foam protects it from your flooring. Be sure said floor is clean before you begin. I laid the assembled frame over the material and worked it around the edges snapping it from the corners into the center. The material stretches predictably and when I was done, I had no wrinkles at all.

To finish up, I snapped the edge trim in place and connected the power cord to the lighting controller. SI included mounting brackets in the box but I was able to hang the Zero Edge from my existing bracket which is nothing more than a metal strip that stands out a bit from the wall. The screen isn't terribly heavy but I suggest engaging at least one wall stud to your particular bracket system. If you use the SI mounts, each one should be screwed into a stud.

In Use

I have reviewed high-contrast screen materials before but this was my first opportunity to use bias lighting for an extended period and I was anxious to see its effect on familiar content. With a low-gain screen like this, my reference Anthem LTX-500 proved a bit too dim so I installed an Optoma HD91+ LED unit for this review. It's rated at 1500 lumens and in my particular setup it yielded just over 17 foot-Lamberts peak; plenty of light for my completely darkened theater. Look for more on this excellent projector in an upcoming Secrets review.



Babylon 5

If you're a fan of science fiction like me, you'll no doubt remember the epic TV series Babylon 5. It's only available on DVD but the transfer is good with consistent contrast, deep blacks and saturated color. Some scenes and especially the CGI material, can be quite soft. Fortunately the Slate .8 did not add any texture to the image. Screens that reject ambient light can sometimes show hotspots or sparkling effects but those artifacts did not appear here. If you sit too far off-center, the picture dims somewhat. The half-gain rating is 45 degrees so viewers to the sides will notice the difference. But at my 10-foot seating distance, I saw a bright picture with plenty of contrast that looked great from edge to edge. Engaging the bias light put a whole new spin on the viewing experience. Since my particular

room is completely black, I'm accustomed to seeing the image float in front of me. The screen's frame is invisible no matter what model I have installed. Turning on the LED system defined the picture in a way I hadn't seen before. It

most certainly increases depth and perceived contrast just as the science behind it says it should. And it is undeniably cool to see a soft glow coming from behind the screen. Choosing anything but steady white light (at the lowest intensity) created a distraction and flashing colors are best left for parties. But I suspect most users of this system will prefer to leave the bias light turned on. I enjoyed it very much and used it for all my viewing.



The Hobbit: The Battle of the Five Armies

The Hobbit: The Battle of the Five Armies is one of the cleanest and sharpest Blu-ray transfers I've ever seen. If the Slate had any texture, this is where I'd see it. Happily that was not the case. All I saw were smooth tones and a picture completely free of any screen artifacts. This film is mesmerizing on a regular white screen. The Slate's extra depth and superb blacks took it to another level.



Gravity

Speaking of blacks, there are few movies that highlight the black of space quite like Gravity. The entire film is a feast of star-fields and bright objects flying over a black background. The only way you'll see greater contrast is to watch it on a good plasma or OLED television. The combination of the Slate, the bias light and the Optoma HD91+ easily equaled the best LCD displays I've seen. And I don't say that lightly; there are some excellent LCD panels out there. If you're looking for a TV-like experience from your front projection system, the SI Slate .8 is a great way to make that happen.



The Incredibles

To watch something truly colorful, I chose The Incredibles. CGI animation makes just about anything look good and I really enjoyed the bright saturated palette. Color detail was exquisite and the picture was 3D-like with plenty of pop. My notes filled up with comparisons to high-end HDTVs as I watched. Short of a giant OLED or plasma display, it's hard to imagine the jumbo screen experience being any better. Since SI markets the Slate .8 as light-rejecting, I watched some content with the lights on. The image holds up well as long as nothing illuminates the screen directly. Overhead lights should be avoided. Place diffusers over your fixtures or better yet, install a soffit-based system. And the level should be kept as low as possible. If you have an array of 100-watt bulbs blazing, the image will look

washed-out and dull. Compared to a typical white screen though the Slate .8 does extremely well. Only the Black Diamond can outperform it in an ambient light environment.



Avatar

Since the Optoma HD91+ is 3D-capable I cued up my copy of Avatar. The depth and color looked fantastic thanks to the high perceived contrast of the Slate .8 but I found the picture to be too dark. In fairness to SI, this is more a function of the projector used than the screen material. If you want to watch in 3D on the Slate .8, you'll need a brighter projector than the HD91+ to make things look their best. When watching 3D content I discovered a minor quirk concerning the LED lighting system. If you lower its level as I did, the bias-light will appear to flicker when viewed through active 3D glasses. This is due to mismatched frequencies

between the glasses' shutters and the LED's pulse modulation. The workaround is to either run the LEDs at full intensity or turn them off.

One final thought before I move on to the benchmarks. Dark gray screens like the Slate .8 require a projector with decent light output. The Optoma HD91+ at 1500 lumens is the dimmest unit I would recommend. If you plan to have the lights on, there cannot be too much output. Fortunately there are many affordable DLP and LCD units available today that can provide as much as 50fL peak. That would be more than enough light for the Slate to look its best.

On The Bench

When I evaluate a projection surface I'm looking for two major things – color neutrality and contrast performance. It's important to remember when calibrating any projector, one should measure color, grayscale and gamma from the screen to be sure that the entire system is adjusted to spec. If you only measure from the lens, the screen may introduce color errors that are visible to the viewer.

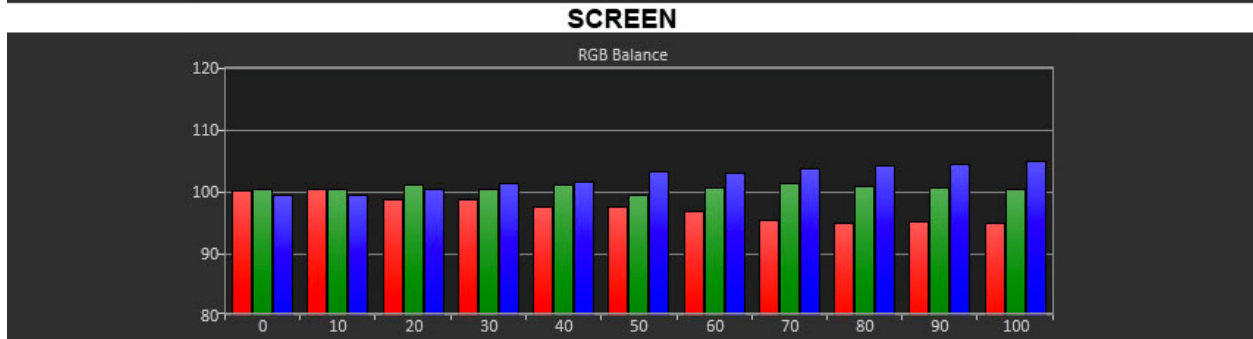
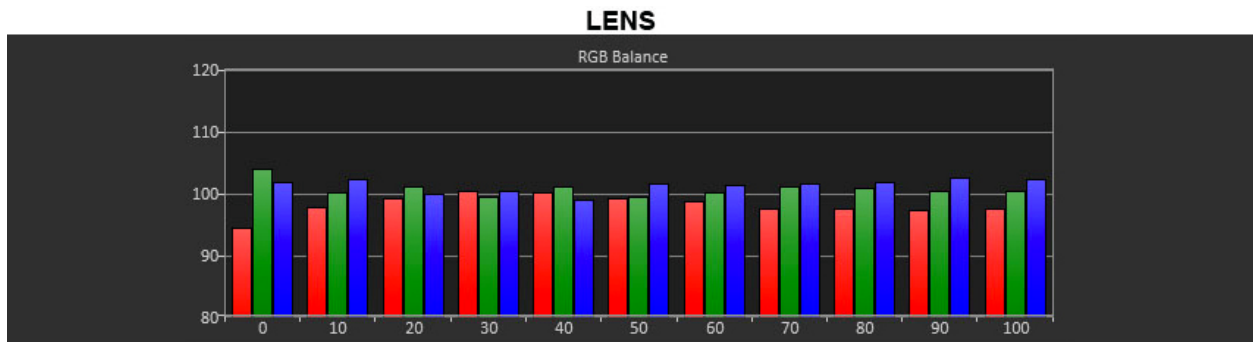
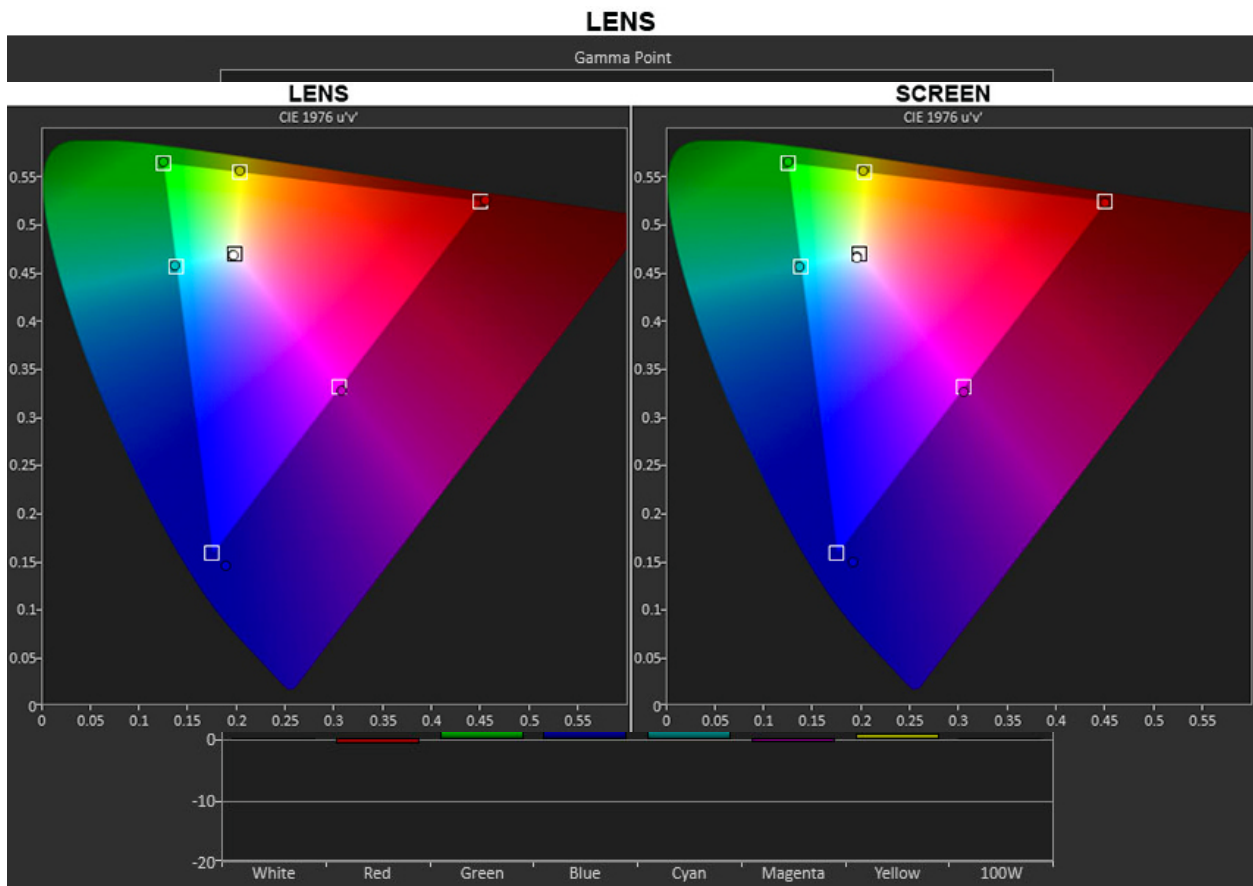
To perform these tests I measured an Optoma HD91+ LED projector with an i1Pro Spectrophotometer and CalMAN 5. Patterns came from an Accupel DVG-5000 signal generator. Each chart below shows the results from the lens, representing the projector's native image; and from the Slate .8 screen. We'll start with RGB levels which represent grayscale tracking.

There is a slight increase in blue as light levels rise towards the peak value. Lowering your projector's blue gain control one or two clicks would be sufficient to correct this error. Let's see if the difference is actually visible.



The Delta E values tell us there is no visible difference between the lens and screen measurements. All errors below the green line (3dE) cannot be seen with the naked eye. It is therefore possible to calibrate a projector from the lens and use it with the Slate .8 without further adjustments.

Some high-contrast screens can affect gamma performance but the Slate .8 is not among them. The two tracking graphs are pretty much identical.



Moving on to color gamut tests you can see a slight difference in the blue luminance level. This makes sense given the grayscale result above. The Slate .8 emphasizes the blue primary just a little. The only shift we see here is in the red primary. The screen actually pulls it in towards the target. When measured from the lens, it's slightly over-saturated.

Like the grayscale result, the gamut error levels are pretty much the same in both tests and any differences are beneath the threshold of visibility. The final conclusion is that the Slate .8 is completely color neutral and requires no special



treatment during calibration. If your projector has screen offset presets, I recommend you don't use them.

Contrast Performance

For contrast testing I compared the Slate .8 to my reference Carada Brilliant White with a gain of 1.4. Obviously peak output will be lower but so will the black levels. Measurements were taken with a C6 tri-stimulus colorimeter off the center of the screen from a 10-foot distance.

Screen Innovations Slate .8

- Peak White – 17.6195
- Minimum Black – .0175
- Contrast Ratio – 1005.6

Carada Brilliant White 1.4

- Peak White – 22.7865
- Minimum Black – .0235
- Contrast Ratio – 970.9

Obviously the difference in measured contrast is small. But the black level is quite a bit lower. .006fL may seem like a tiny amount but the difference is easily seen with the naked eye. And those lower black levels are what makes the Slate .8 appear to deliver greater contrast; even though the ratios are close in value.

LIKES

- Increases perceived contrast
- Improves black levels visibly and measurably
- Integrated bias-light enhances image depth
- Superb build quality
- Easy to assemble and install

WOULD LIKE TO SEE

- The Zero Edge FLEX with Slate .8 had no drawbacks in my experience.



Conclusions

SCREEN INNOVATIONS ZERO EDGE FLEX SLATE .8 is a Best Value Fully-Integrated Projection Screen/Bias-Light System.

I found nothing to dislike about SI's latest screen product. It performs exactly as advertised and when paired with the right projector, provides an image that rivals the best LCD flat panels available today.

Price-wise, this is definitely a high-end product. In my opinion it provides excellent value because you're getting not only a high-tech material with capabilities beyond most screens, it also offers a superb bias-lighting system.

That bias-light combined with the Slate .8's high-contrast rendered some of the best image quality I've seen in my theater to date. As long as one uses a bright enough projector (I recommend at least 1500 lumens), it will enhance the viewer's perception of contrast and color saturation.

Its main design goal is to maintain image quality with the room lights on. SI markets it as a television replacement and I'd say they've succeeded. With any medium- to high-output projector, you can enjoy a picture to rival any high-end LCD and still leave the lights on; all without any screen artifacts to spoil the fun.

If you've read my recent projector reviews you know that each new model puts out more light and costs less than the ones before. A screen like the Slate .8 is the perfect complement to a bright display that doesn't have high native contrast. When paired with any decent DLP or LCD product, this screen will enable the best possible picture. Even without the bias-light or the light-rejection feature I would still recommend this screen.