

- Solid, vivid black color, even in ambient light
- Superior Color Fidelity
- Low Scintillation
- High Definition
- Versatile Incident Angle Acceptance

BOS-F is a monolithic film screen designed for all light conditions. Excellent for all front projection applications: completely dark room, multi-purpose entertainment and living rooms, fully lit conference rooms and business presentation applications.



Specifications

16:9 Aspect Ratio

Screen Size	Screen Thickness	Screen Dimension	Image Area	Screen Weight
		Height x Width	Height x Width	
80"	3 (0.12)	1040 x 1820 (41) x (72)	996 x 1771 (39) x (70)	5 (11)
100"	5 (0.2)	1290 x 2260 (51) x (89)	1245 x 2214 (49) x (87)	17 (37)
120"	5 (0.2)	1540 x 2700 (61) x (106)	1494 x 2657 (59) x (112)	25 (55)

4:3 Aspect Ratio

Screen Size	Screen Thickness	Screen Dimension	Image Area	Screen Weight
		Height x Width	Height x Width	
80"	5 (0.2)	1260 x 1670 (50) x (66)	1219 x 1626 (48) x (64)	13 (29)
100"	5 (0.2)	1570 x 2080 (62) x (82)	1524 x 2032 (60) x (80)	20 (44)

Screen material

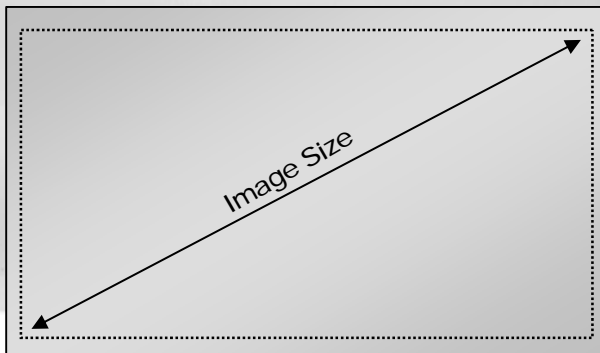
PMMA

Finishes

Matte Finish on surface.

Form of Screen

BOS- has one center-hall at top of the screen and four loose-hole lined up near to the center-hall. Hole diameter and the distance between each hole vary with the screen size.



Reflectance

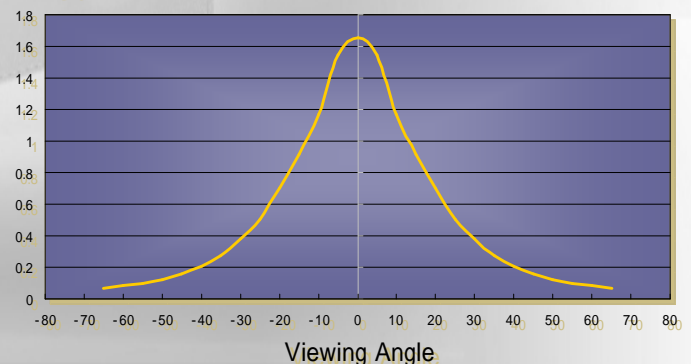
21%

Viewing Angle

Peak Gain (5°)	1.5
1/2 Gain Angle	20
1/3 Gain Angle	25

Gain

BOS-F5711W



* Specification are subject to change at any time.

Reflection Behavior of the Screen

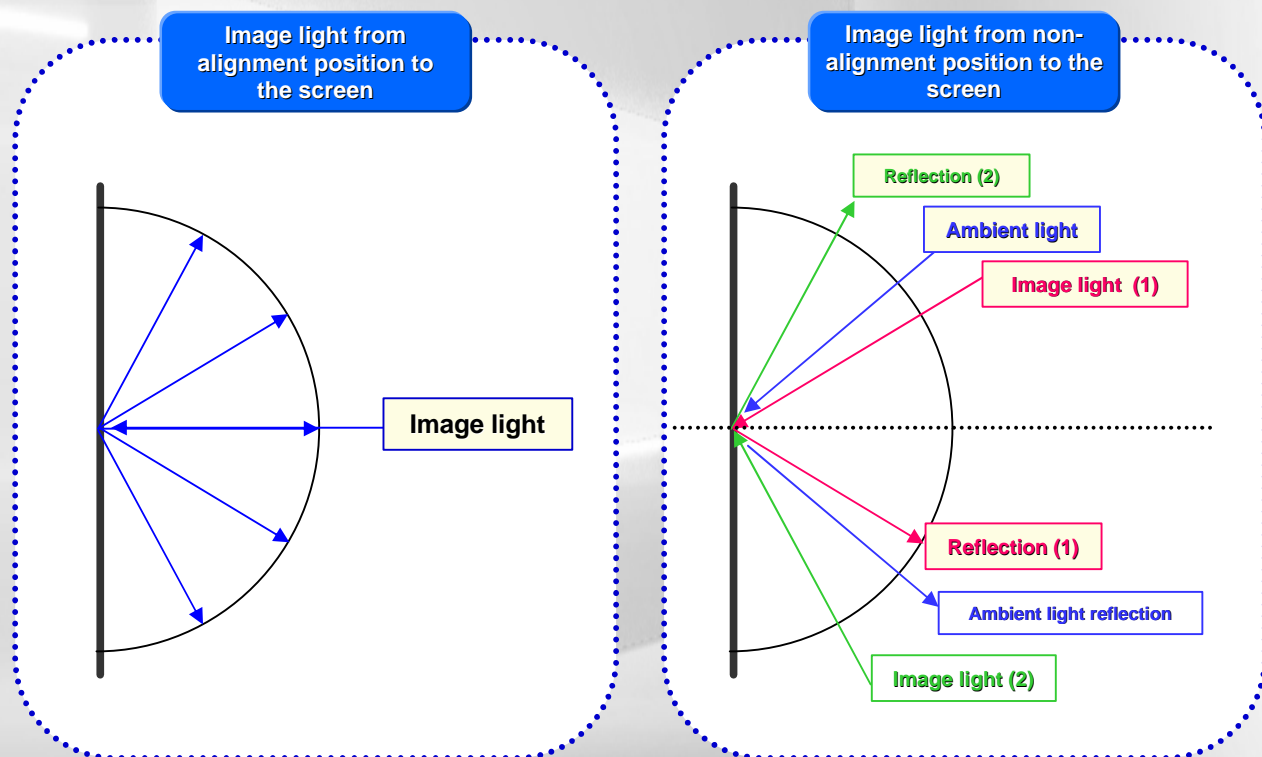
The light reflection behavior on the BOS-F5711W is a Regular Reflection (also called mirror, angular, or specular reflection) in which the projected light reflects off the screen at the same optical angle as it hit the surface (angle of incidence equals the angle of reflection).

It is very important to consider the light reflection behavior of the screen when designing the theater room: positioning the screen and projector for the optimal viewing position.

Note the following points for ideal installation.

1. Place the screen where the center axis of image light reflects to the viewing position.
2. Avoid placing the screen where the ambient light reflects to the viewing position as much as possible.

The reflection behavior on the screen surface is the same between image light from the projector and ambient light.



Ambient Light Reflection Behavior on the Screen

The reflection behavior on the BOS-F5711W is a regular reflection (mirror / angular / specular).
The projected light reflects off the screen at the same optical angle as it hit the surface.

(Example 1)

When the position of the window is near the screen as described in figure 1, the light from the window hits on the screen and reflects to the other side in the same optical angle as it comes in.

Use of curtain/drape on the window is recommended when the ambient light reflection is inside the visible range of the viewer.



Window

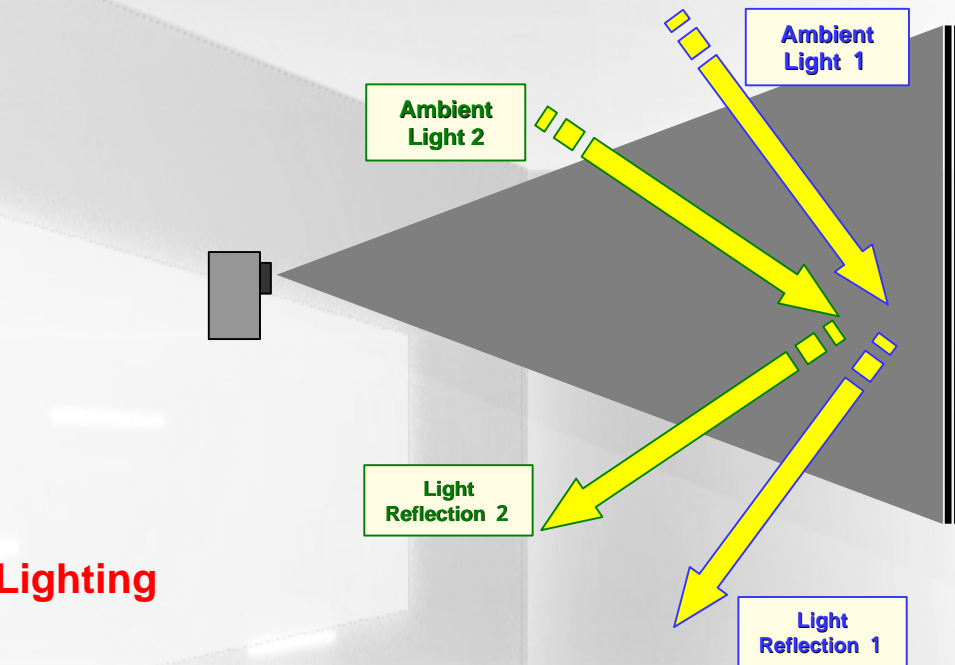
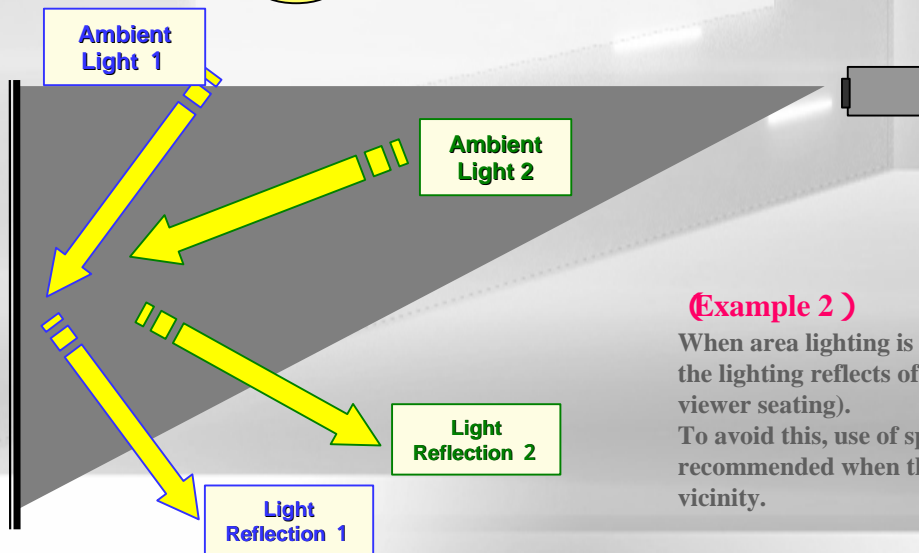


Fig. 1

Fig. 2



(Example 2)

When area lighting is ceiling-mounted as described in figure 2, the lighting reflects off the screen to the floor (and possibly to viewer seating).

To avoid this, use of spotlighting (directional lighting) is recommended when the area lighting is installed in the screen vicinity.

Installation

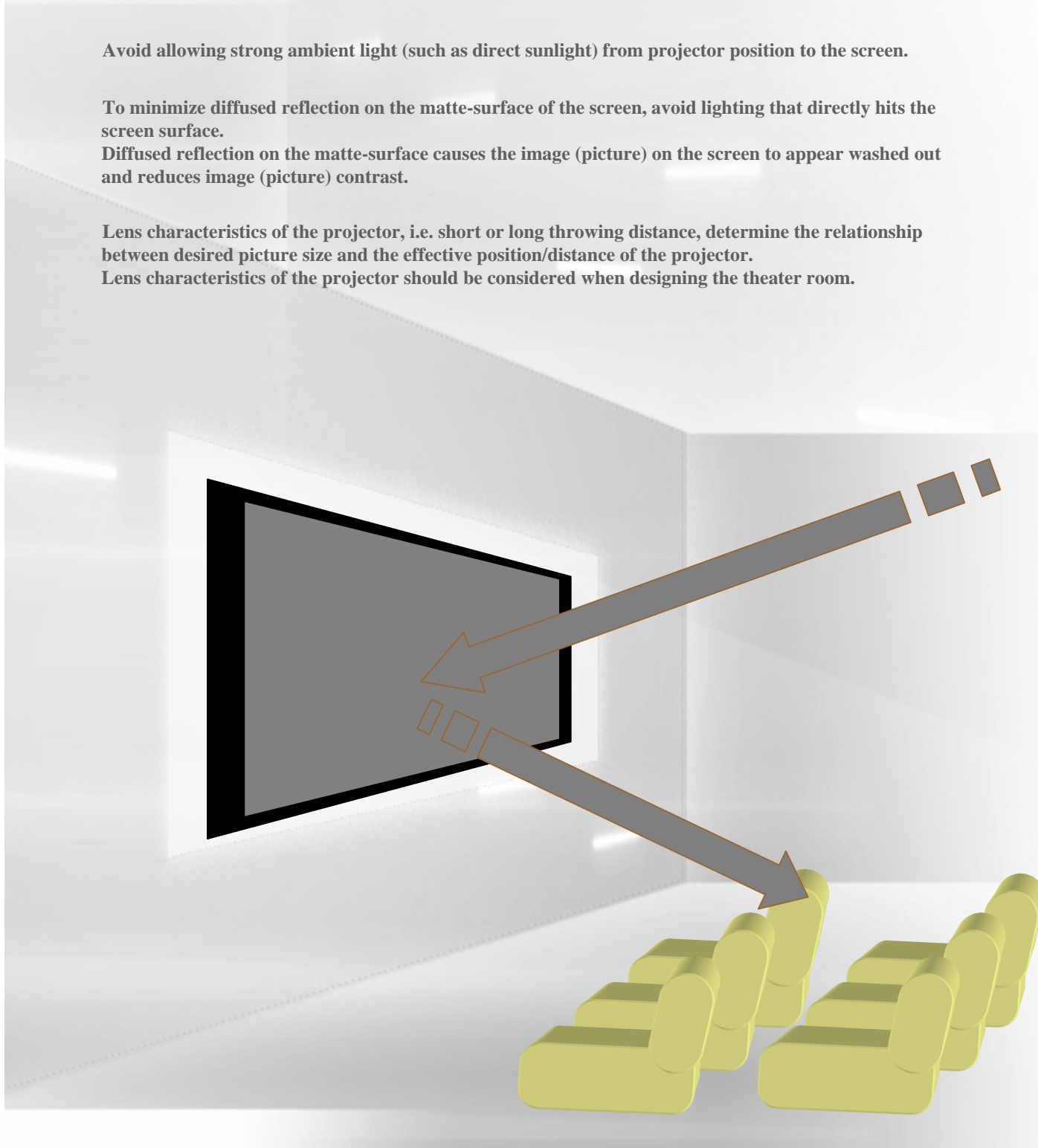
Avoid allowing strong ambient light (such as direct sunlight) from projector position to the screen.

To minimize diffused reflection on the matte-surface of the screen, avoid lighting that directly hits the screen surface.

Diffused reflection on the matte-surface causes the image (picture) on the screen to appear washed out and reduces image (picture) contrast.

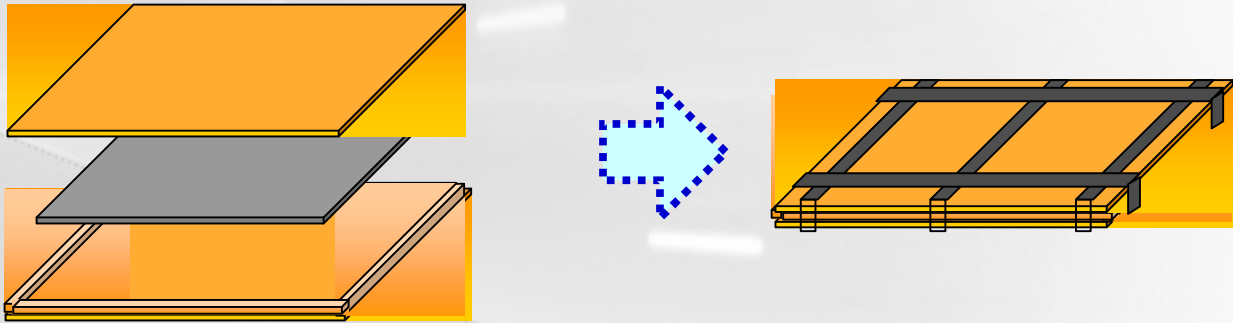
Lens characteristics of the projector, i.e. short or long throwing distance, determine the relationship between desired picture size and the effective position/distance of the projector.

Lens characteristics of the projector should be considered when designing the theater room.



Packaging

All screens are packed and shipped individually in reinforced cardboard packaging, suitable for international shipment.



Packaging Estimated measurement and weight of packing

Cardboard packaging dimension and Weight

*Total Package Weight includes screen weight.

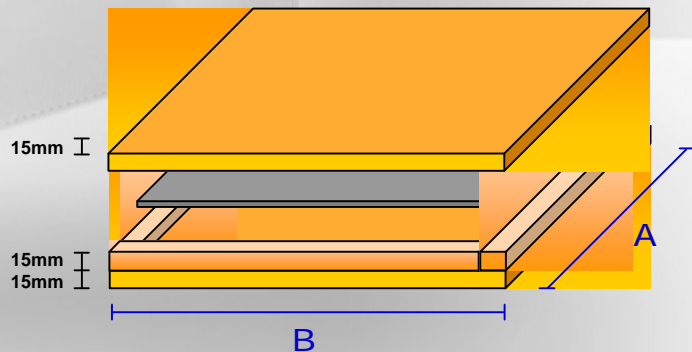
16:9 Aspect Ratio

Screen Size	Total Package Thickness	Package Dimension	Total Package Weight *	
		A x B	A/W	V/W
80"	45 (1.77)	1160 x 1940 (46) x (76)	16 (35)	17 (37)
100"	45 (1.77)	1410 x 2380 (56) x (94)	33 (73)	25 (55)
120"	45 (1.77)	1660 x 2820 (65) x (111)	47 (104)	35 (77)

4:3 Aspect Ratio

Screen Size	Total Package Thickness	Package Dimension	Total Package Weight *	
		A x B	A/W	V/W
80"	45 (1.77)	1380 x 1790 (54) x (70)	24 (53)	19 (42)
100"	45 (1.77)	1690 x 2200 (67) x (87)	37 (81)	28 (62)

*A/W = Actual Weight
V/W = Volume Weight



Handling Instruction

Please read the following instruction carefully before using and handling the screen. Mishandling the screen may cause serious loss of its optical characteristic, or may cause you injury.

1) Protection Film

A clear protective surface film is attached on the surface of BOS-F5711WL. Please do not forget to remove clear protective surface film before using.

2) Physical Damage

Do not hit, knock, scratch or rub the surface of the screen when using and handling. There is a micro-matte diffusion surface layer on the screen surface which functions to make "hot spotting" inconspicuous. Although its hardness is about 2H pencil hardness, the micro-matte diffusion surface layer and its function may be damaged in case of rough handling such as knocking and rubbing by hard or soft materials. When touching the screen surface is needed during handling, place soft cloth or film on the surface and avoid touching it directly.

3) Installation

When mounting the screen into screen frame or wall, remove the protection film only in necessary area around the edge and keep it attached as long as possible right before using. If removing the protection film is necessary before or during installation, be very careful with screen surface and avoid knocking, rubbing and touching.

The edge of the screen board might be sharp so please be very careful with the edge of the screen to avoid cutting the finger or hands.

4) Cleaning & Maintenance

When cleaning the screen surface, gently wipe with dry soft cloth. Make certain cloth does not contain foreign particles that may damage the screen during cleaning. Avoid contact of oil or grease material to the screen surface. It may cause exfoliation of micro-matte diffusion surface layer. For stains, spray a small amount of diluted neutral detergent (about 2 to 3 drops for 1 liter of water) and gently wipe with dry soft flannel.

5) Fire Precautions

Screen should never be set up anywhere near flames, high heat, or high heat lighting as Screen materials are a combustible. Hi-heat exposure will damage Screen.

Nippura Blue Ocean® Rear Projection Screens enhance any rear projector system's capability, but its bold value is its complete utilization of the advancements in high definition video resolution and rear projector technology. It fully maximizes any projector's capability delivering through the projected light efficiently and beautifully to the viewer even in ambient conditions that would make most conventional screens inoperable. What viewers encounter is an amazingly brilliant & color-faithful image so deep and bodied that it appears to be *flowing* out of the Blue Ocean® Projection Screen.



Blue Ocean® Projection Screens are the first ever to cast the screen into a hi-tolerance viewing plane centered between two ultra-clear panels of cell-cast acrylic, the same type of material used in hi-optic fighter jet canopies and the world's largest aquariums. Blue Ocean® Projection Screens also offer something never before found in screens: self-rigidity. The thickness of each screen can be fabricated so that it maintains its form without external frames or tension systems. Frameless

high definition projected images without borders amplify the infinite depth viewing experience. Because of its durability, outdoor applications of entertainment around the garden and pool are also possible. Normal wear and tear scratching has no long-term effect on the screens' performance, and a ten year old screen, simply re-polished, will literally look and perform exactly as it did the day it left the factory. Users are no longer forced to deal with the risk of conventional surface-mounted screens that can be easily rendered useless by the slightest damage or scratch; remember this is the same material that is in Shamu's bay window.

“ ... this is the same material that is in Shamu's bay window ”

Blue Ocean® Projection Screens will not end in expensive obsolescence; made from an innovative proprietary diffusion material which does not restrict resolution, the screen never needs to be upgraded and does not degrade like many of today's hi-tech displays. Blue Ocean® Projection Screens can fully utilize and enhance all upcoming advancements in high resolution feed & high definition projectors without the hassle and expense of upgrades typical of other media technologies.



Standard sizes are available in 72", 84" and 100" 16:9. Blue Ocean® Projection Screens can also be custom fabricated into any geometric shape imaginable: curved walls, hemispheres, teardrops, or tunnels. These shapes will come in the world's largest seamless sizes up to 27' by 11'.

For more information, please visit www.usnippura.com

About Blue Ocean®

Clarity

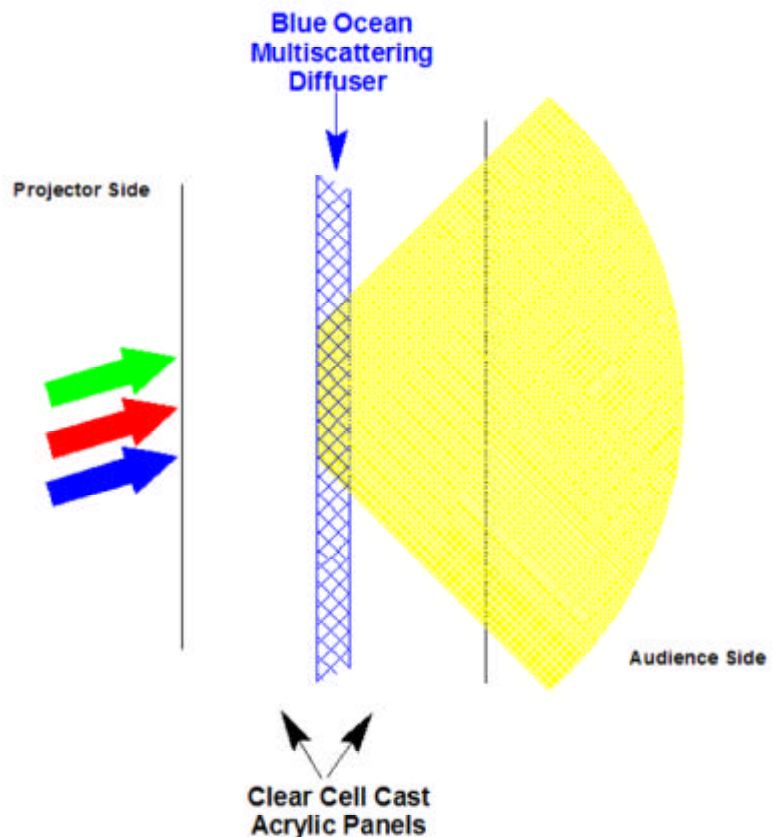
Blue Ocean® Projection Screen production begins by utilizing Nippura's highest optical grade of cell cast acrylic panels. This is the best grade of acrylic with the highest optical properties and tolerances, the same acrylic (PMMA) we use for our aquarium products around the globe. Almost all other conventional screens are made of commodity grade extruded acrylic. Blue Ocean® Projection Screens are processed to exacting uniform thickness so there is no surface waviness across the face of the screen like what is easily found on conventional screens made from extruded acrylic.

Brilliance

Screens utilize the proprietary diffuser Blue Ocean®. This highly efficient micron order multi-scattering diffuser radiates out uniform brightness and brilliantly balanced colors.

Strength

Blue Ocean® is not coated onto the screen surface like conventional screens. Blue Ocean® is cast within an acrylic monomer matrix into a hi-tolerance 2.5mm plane centered between the two cell cast acrylic plates. Diffusion takes place in the center of the screen. This configuration makes the Blue Ocean® medium essentially impossible to damage from normal wear and tear, shields out ambient light for far greater ambient light performance at much lower gain metrics with amazing contrast, and creates the deep bodied effect that differentiates it from all other screens.



Blue Ocean® Advantages

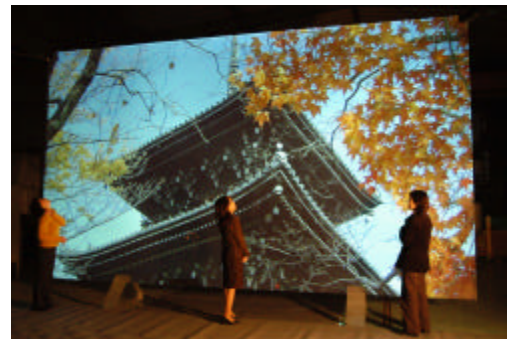
- Amazingly deep and bodied optical presentation of the projection
- Truly faithful replication without lens element aberrations, moiré or rainbows
- Extremely uniform & balanced color representation
- Outstanding contrast and sharpness
- Expansive viewing cone horizontally and vertically (as seen in the photo to the right)
- Unrivaled comparative performance in ambient exposure conditions
- Unlimited resolution acceptability without scintillation
- No ghosting (white/bright shadow-bleaching on darker image backgrounds)
- Custom thickness, sizes, and shapes up to 340" diagonal (see photo of 270" 16:9 screen to the right)
- Beyond real 3-D stereoscopic projection (spectacular 3-D contrast ratios)
- Diverse range of applications, conditions, and designs
- Self-rigidity for frame-less presentation upright in a stand or free-floating suspension
- Durability and safety during shipping, installation, and client use
- Standard acrylic finish for limited simultaneous projection functionality
- Three standard screen gain levels: Ultra Low 0.7, Medium Gain 1.0, High Gain 1.3 plus custom gain levels
- Ease of maintenance & repair. Direct contact with screen with pointers or color markers in presentations. Minor scratches and wear/tear fixable by simple surface re-polishing. No lenses or surface screen elements to be damaged. (as seen in the photo to the right)
- Custom thickness, sizes and shapes for unique applications



Traditional screen at angle



BLUE OCEAN screen at angle
A brilliant, uniform, and extremely wide viewing cone.



About Nippura

Nippura is known for its core business of creating the world's largest acrylic panels, tunnels, cylinders and spheres for the professional aquarium industry. Nippura was the first company ever in 1968 to produce a large scale aquarium from acrylic (PMMA). Nippura has been the catalyst for the modernization of theme park aquariums. While Nippura Aquarium products can be found all over the world you may find yourself staring through them at some of the more local notable aquariums like the Monterey Bay Aquarium, Atlantis Paradise Island, Baltimore Aquarium, New York Aquarium, Ripley's Aquarium Gatlinburg, & the new Georgia Aquarium just to mention a few... The largest size Aquarium Window Aqua-wall® created to date by Nippura measures more 74' x 27' x 2' thick (297,000lbs) and listed in the 2004 Guinness Book of Records. Nippura's technology for consistently producing hi-tolerance cell cast acrylic in large sizes with exacting optical properties has been leveraged for developing Blue Ocean® Rear Projection Screens.



Not a projection, actual photo of Okinawa Aquarium Tank through Nippura Aqua-wall®