

EPSON

# Throw distance simulator User's manual

REV.B

SEIKO EPSON CORPORATION

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## 【User's manual revision history】

Rev.	Date	Page	Contents
A	Jan 17 <sup>th</sup> , 2020	All	New release
B	Mar 2 <sup>nd</sup> , 2020	All	Revised the explanation of all functions

## 1. Summary and notice

### What's "Throw distance simulator"?

"Throw distance simulator" is HTML5 web application for calculating the throw distance between screen and the EPSON projector.

### Supported browser

This simulator works with the following web browser.

- Google Chrome
- Firefox
- Safari

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## 2. Whole image



Search Projector


Categories

Please enter the model name

Search result: 684 models

EB-L610U

Model Name



**EB-L610U**  
 Brightness: 6000lm  
 Resolution: WUXGA  
 Weight: Approx. 18.7 lbs. / 8.5 kg  
[Spec. Info](#)

Near Models

Select>>

CB-109W  
 CB-1780W  
 CB-1785W  
 CB-1795F  
 CB-2848

Lenses ( No lens exchange )

Lenses	V code	Zoom ratio	Lens shift(V)	Lens shift(H)
No result				

Basic setting

Room size

Width 5.000 m

Height 3.500 m

Depth 10.000 m

Position

Desktop Ceiling Wall

Units Meter

Screen Size

Diagonal 100.00 inch

Width 2.154 m

Height 1.346 m

Aspect ratio 16:10

Screen position

From floor to bottom of screen 1.158 m

Offset 0.000 m

Throw distance

From screen to lens 2.923 m

Advanced setting

Projector angle

Ambient condition

Application Custom

Room brightness 300 lx


Screen gain 1.0

View

Side View

☒ Change the projector position
 

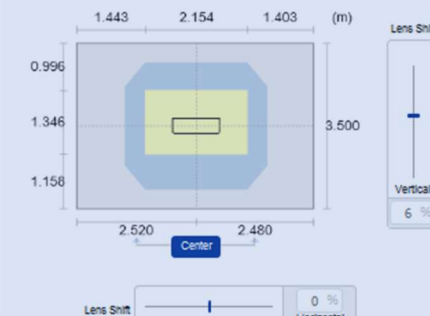
☐ Available range  
☐ Project on outside of front wall



Front View

☒ Change the projector position  
☐ Change the screen position
 

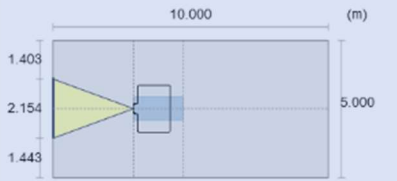
☐ Lens shift range



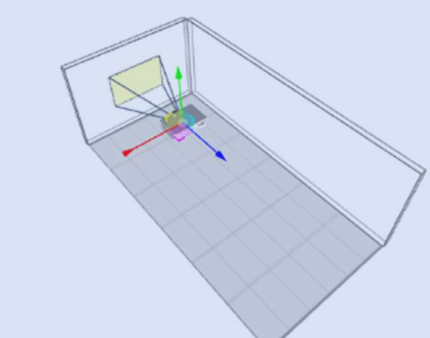
Top View

☒ Change the projector position
 

☐ Available range  
☐ Project on outside of front wall




3D View

☒ Change the projector position
 

Brightness & Contrast guide

Brightness on the screen (nit): 658.7  
 Brightness on the screen (lx): 2069.3  
 Actual Contrast: 7.9:1



Simulation result

Projector position

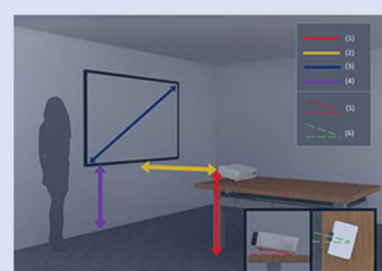
- (1) From floor to lens center: 1.750 m
- (2) Throw distance: 2.923 m
- (3) Screen size: 100.00 inch
- (4) From floor to bottom of screen: 1.158 m
- (5) Projector angle (Vertical): 0°
- (6) Projector angle (Horizontal): 0°

Projector setting

- Lens shift (Vertical): 6%
- Lens shift (Horizontal): 0%
- Keystone correction (Vertical): Available
- Keystone correction (Horizontal): Available

Copy to clipboard

Output as PDF



Notes and Disclaimer

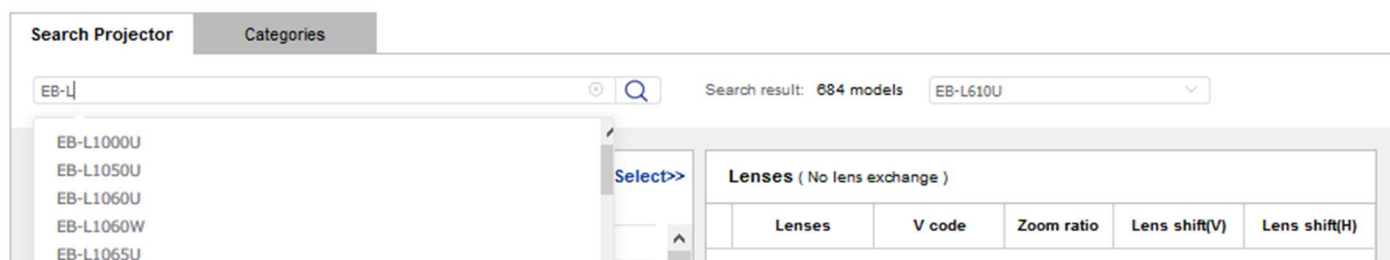
- The value displayed in this simulator is a computational value and does not guarantee actual performance.
- The projection distance is calculated from the lens center and the tip of the lens to the screen.
- Projector size is image.
- Specifications may change without notice.


THROW DISTANCE SIMULATOR USER'S MANUAL

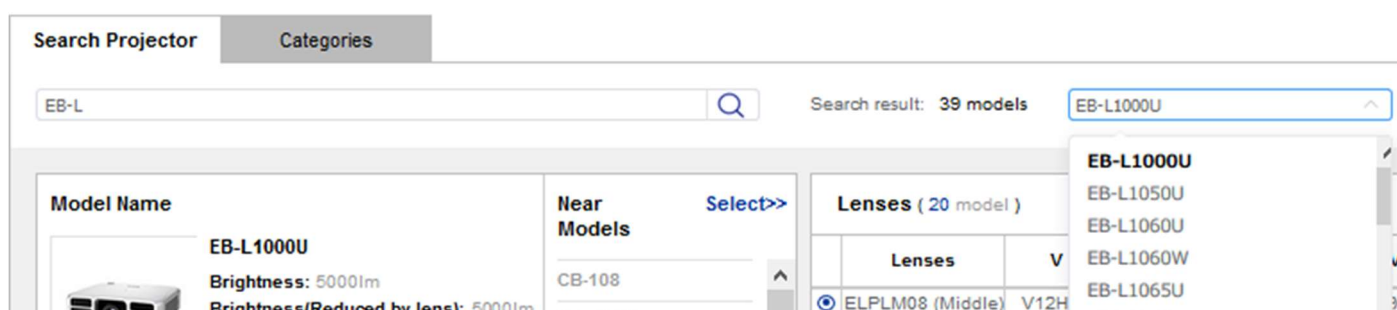
- 3 -

### 3. Search the projector by model name

- Please input the model name to the cell (full or part of the model name), then the corresponding models will be displayed.

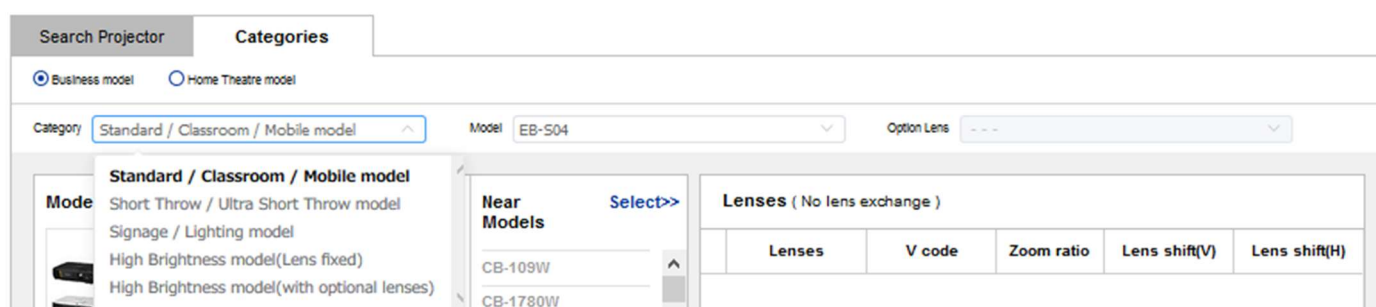


- After you input the model name and press  icon, you can select the projector from the pull-down menu.



### 4. Select the projector from the category list

- You can select the projector from the categories (Also you can select and optional lens here.)



### 5. Confirm the projector's information

- The basic specification of the projector which has been selected by "3" or "4" will be displayed.
  - Brightness: The brightness of the selected projector
  - Brightness (Reduced by lens): The brightness reduced due to loss by optical characteristics of the selected lens. (It will be displayed only with the lens replaceable models.)
  - Resolution: The native resolution of the LCD panel
  - Weight: The weight (In cases of the lens replaceable models, it is without the lens weight.)

After pressing “Spec Info” button, the window will pop-up and you can confirm the detailed specification.

## 6. The model list which can be installed on the same conditions as the selected projector

- After simulating with selected projector by “3” or “4”, the other model which can be installed on the same conditions will be listed here.

ex) When having simulated on conditions with a screen size of 100 inch and a distance of 5m, all models which can be installed on the same condition will be listed.

## 7. Select a lens (Only with lens replaceable models)

- You can select an optional lens here, and can change the lenses while simulating.
- The lens names are indicated as below according to the sales situation.

Black character: The optional lens which is available (for sales)

Gray character: The optional lens which has been discontinued

## 8. Input the installation conditions

### 8.1 Basic setting

- Room size
- Position\* (\*Wall mount UI will be released in April, 2020)
- Unit: m, mm, inch, feet

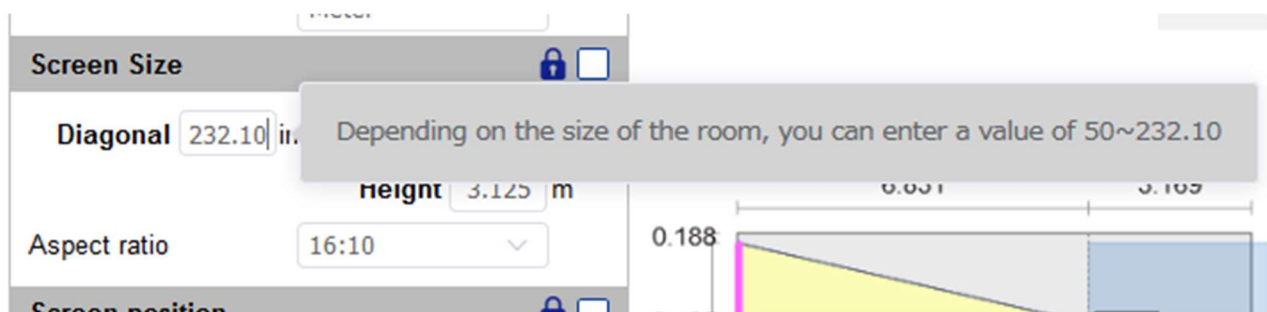
### 8.2 Screen Size

Please input the screen size on this box. Unit of the “Diagonal” is fixed at inch, regardless of any unit setting.

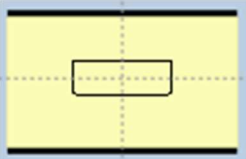
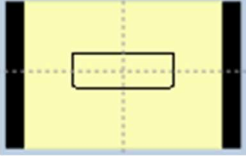
“Diagonal”, “Width” and “Height” work with each other, so you don’t need to input all values.


If the input screen size is bigger than the room size, the following message will pop-up and indicate the available value. And also, it will be automatically corrected to the maximum or minimum value according to the input value.

ex) If you input “250 inch”, it automatically corrects to “232.10” and the following message will pop-up.




- Aspect ratio: The initial value is the aspect ratio of the LCD panel. When the aspect ratio setting is changed from the initial value, the black band will appear onto the left/right or top/bottom of the screen image.

	<p>Ex 1) In the case of the models with "16:10" LCD aspect ratio, when you change to "16:9"</p> <p>⇒ The black bands appear on the top/bottom of projection image.</p>
	<p>Ex 2) In the case of the models with "16:10" aspect ratio, when you change to "4:3"</p> <p>⇒ The black bands appear on the left/right of projection image.</p>

- Lock function  : The input screen size is locked.

### 8.3 Screen position

- From floor to the bottom of screen: Input the height from floor to the screen bottom.
- Offset: Input the thickness if you use blackboards or whiteboards and so on.
- Lock function  : The screen position will be locked (the base point is the left-bottom of the screen)

### 8.4 Throw distance

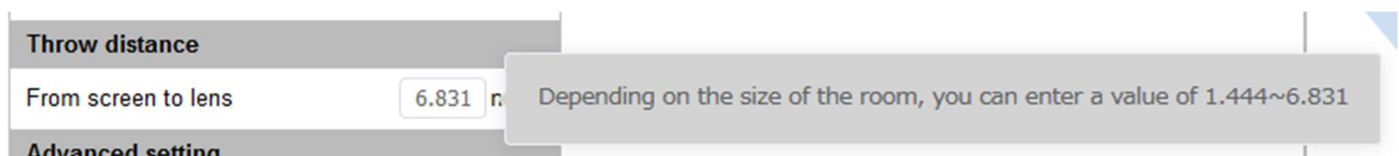
Please input the throw distance here. The input value is limited according to the lock status of the screen size.

1. If screen size is not locked:

The screen size will be automatically corrected to the maximum size (with wide zoom position) within the room size.

2. Screen size is locked:

- If the input throw distance is an available value, the projector position of "View" area will be moved.
- If the input throw distance is over the available range (wide ~ tele), the following message will pop up and the throw distance will be corrected automatically.



### 8.5 Advanced setting

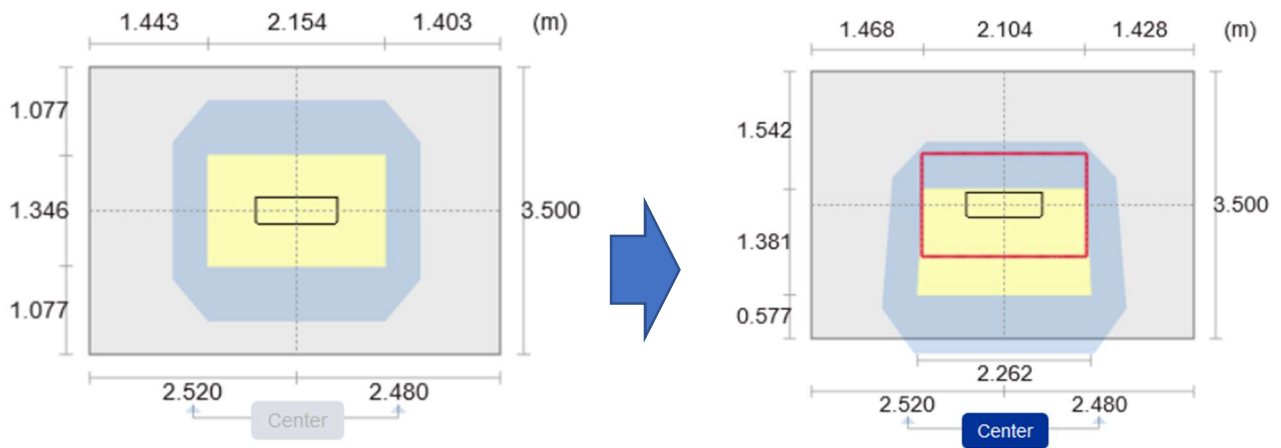
#### 8.5.1 Projector angle

If you want to simulate the diagonal projection in a horizontal or vertical direction, please turn on this function.

Note) You cannot turn on this function in both vertical and horizontal directions at the same time.

When this function is turned on, the slider bar and the input box will appear on the side view or front view window.

• When projector angle is turned on with the screen position is locked, the screen position lock will be released and the red frame will be displayed. That is useful to confirm whether the projector can diagonally project the image on the fixed screen position.



#### 8.5.2 Ambient condition

When you input the room brightness and the screen gain, you can confirm the actual brightness, contrast on the screen, and whether the brightness of the selected projector is enough or not. (Refer to "10. Brightness & Contrast guide" below)

- Application: If the brightness of the installation environment is unknown, please select the appropriate application from the pull-down menu. The general brightness for each application will be selected automatically. If the brightness of the installation environment can be specific, please select "Custom" and input the brightness value.
- Room brightness: Input the brightness value of the installation environment. If you measure the actual brightness by a measurement tool, we recommend measuring the brightness of the wall surface on which you project the image.
- Screen gain: Please input the screen gain according to the screen spec.

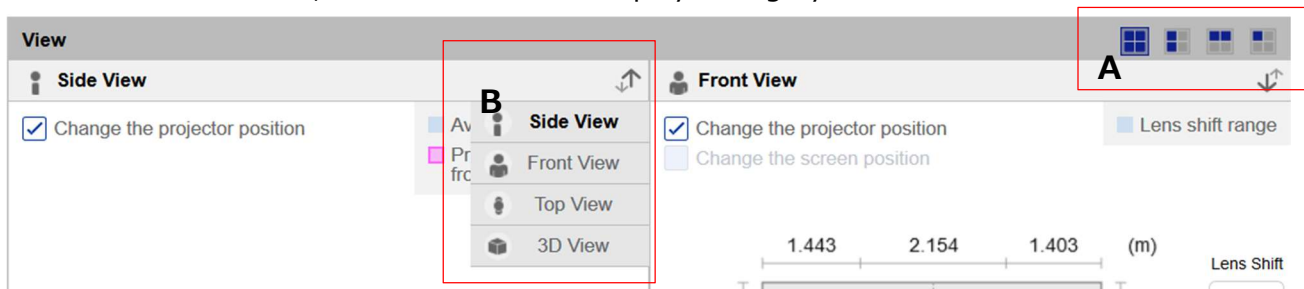


## 9. View

You can check the projector's position visually in this area. Four Views(Side, Front, Top and 3D) are related each other.

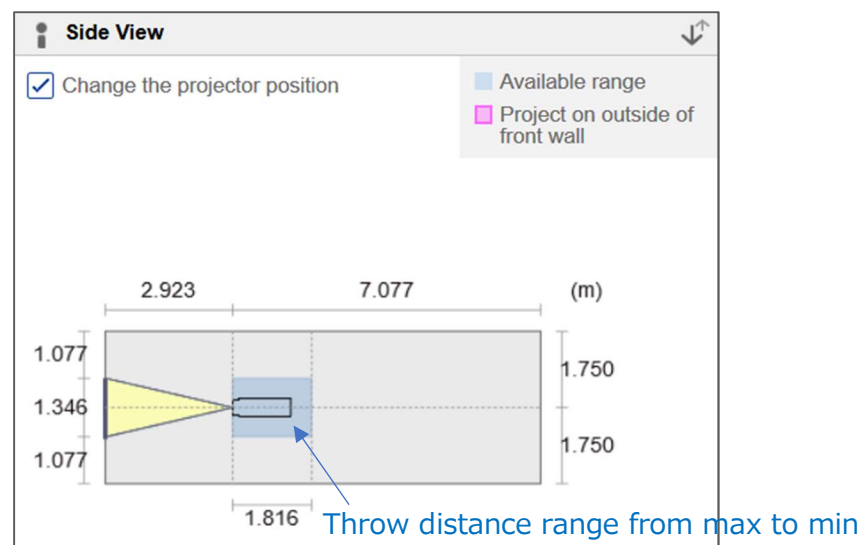
### 9.1 Change View

- A. Change the view number: You can select from "Four view", "Double view (Top/Bottom)", "Double view (Left/Right)", "Single view"
- B. Change the view type: You can change (swap) the view. The current view is indicated in black characters, and the others are displayed in gray characters.

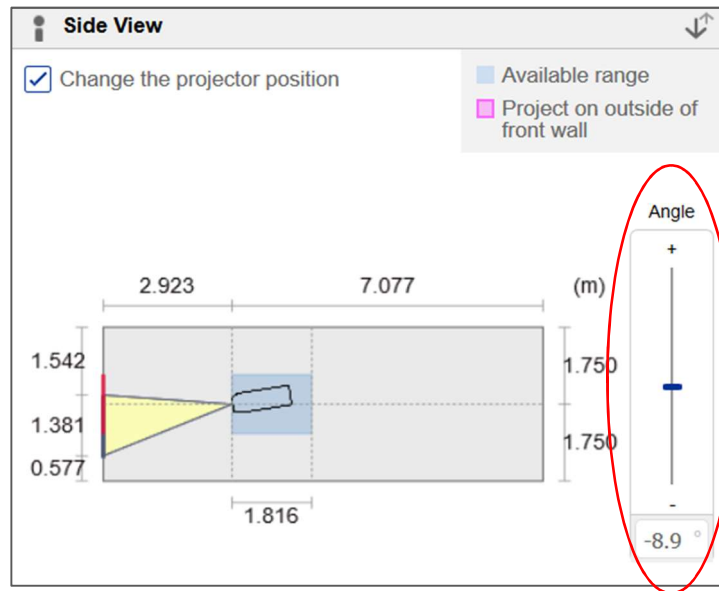


### 9.2 Side view

- This is the room view from the side. The projector position can be changed by mouse operations or cursor key of the keyboard operations.
- If you want to change the projector's position (zoom ~ wide) without changing the screen size, please lock the screen size (details are described in "8.2")
- The "Available range" will be displayed if the selected has the lens shift function. If you want to change the projector's position in the available range, please lock the screen size and the screen position (details are described in "8.2" and "8.3")

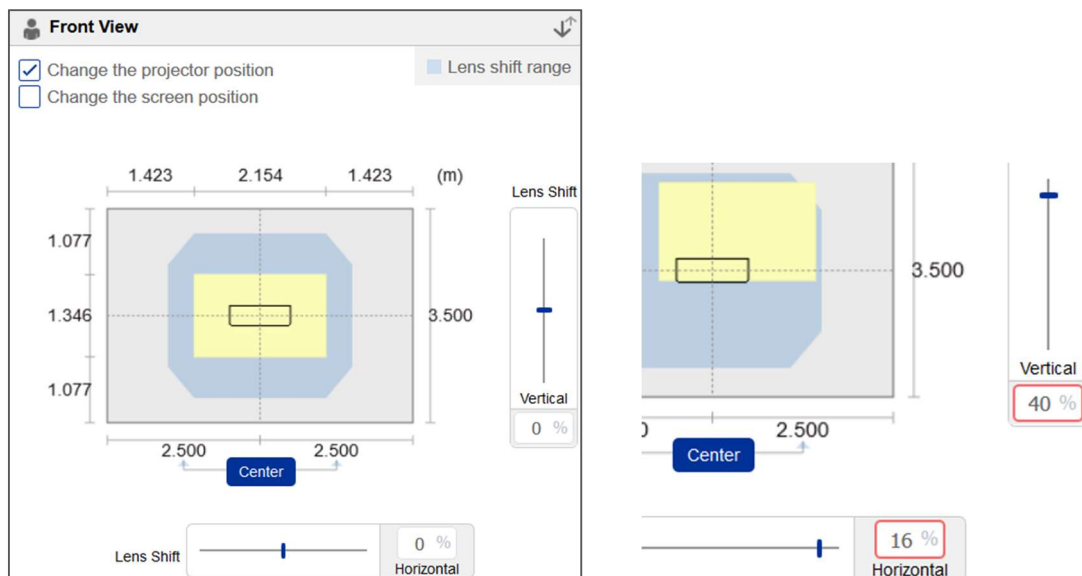


- When the vertical angle is turned "ON" (Ref: 8.5.2), the slider bar and the input box will appear on the right side of side view area.



### 9.3 Front view

- This is the view of projection wall.
- The "Available range" will be displayed if the selected projector has the lens shift function. If you want to change the projector's position in available range, please mark a checkbox of "Change the screen position" or move the slider bar (Right side: vertical lens shift, bottom side: horizontal lens shift). If the frame of input box becomes red, that means the value is "out of lens shift range".
- If you want to move the projector's position (and the lens shift position) to the center horizontally, please press the "Center" button.

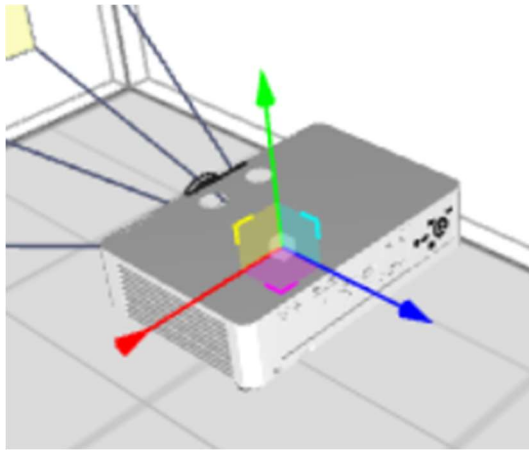


### 9.4 Top view

- This is the room view from the top.
- The basic operation is the same as "9.2 Side view".
- When the horizontal angle is turned "ON" (Ref: 8.5.2), the slider bar and the input box will appear on the right side of top view area.

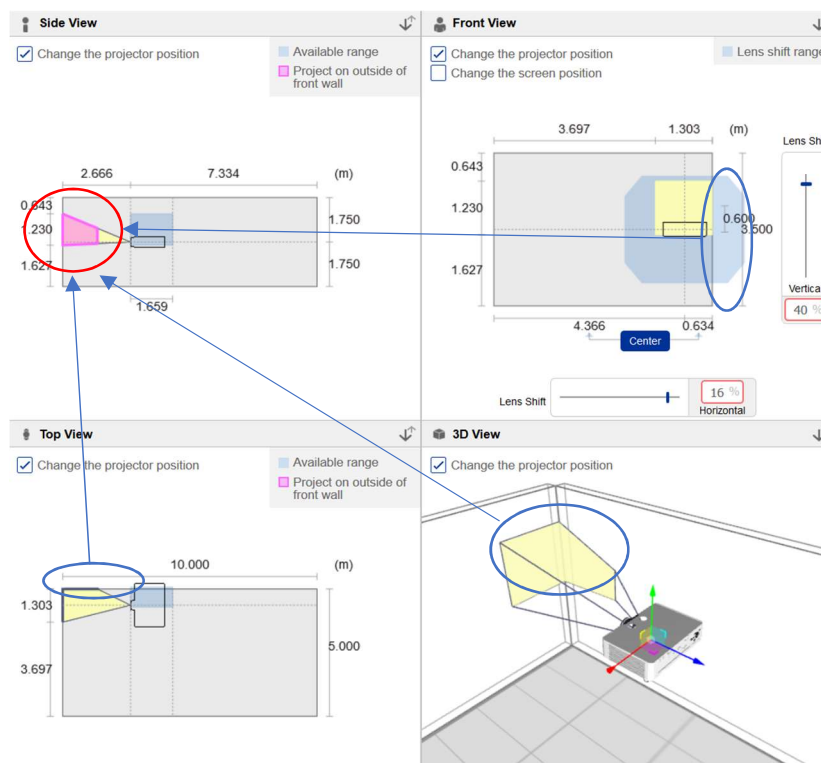
## 9.5 3D view

- This is the 3D room view. Operations are as follows.
  - Zoom: Rotate the mouse wheel or drag the mouse while clicking the wheel.
  - Rotation: Drag the mouse while left-clicking.
  - Pan: Drag the mouse while pressing “Shift” key or drag the mouse while right-clicking.
- Move the projector position by dragging the mouse while left-clicking on each axis.
  - Yellow: Up-down direction
  - Cyan: Front-back direction
  - Magenta: Left-right direction



## 9.6 Others

If the projection beam hits on the side wall or the ceiling or the floor, the projection beam will be indicated in pink such as the following image.




## 10. Guideline of the brightness & contrast

According to the ambient condition (Ref: 8.5.2), you can check whether the brightness of selected projector is enough or not.

- (1) The actual brightness on the screen in nit ( $\text{cd/m}^2$ ).
- (2) The actual brightness on the screen in lx (lux).
- (3) The actual contrast on the screen.
- (4) The guideline whether the brightness of the selected projector is enough based on the actual contrast (3) or not.

(This is the EPSON unique guideline based on the INFOCOMM guideline.)

	The brightness is more than sufficient for this environment.
	The brightness is sufficient for this environment
	The brightness (contrast) meets the recommended value
	The brightness (contrast) is marginal in this environment. EPSON recommends choosing another brighter model.
	The brightness is might not be enough. Please select another brighter model.

- (5) The projection image according to the result of (4).


(This is just for a sample image, EPSON cannot guarantee the actual image.)


**Brightness & Contrast guide**

(1) Brightness on the screen (nit): 789.6

(2) Brightness on the screen (lx): 2480.7

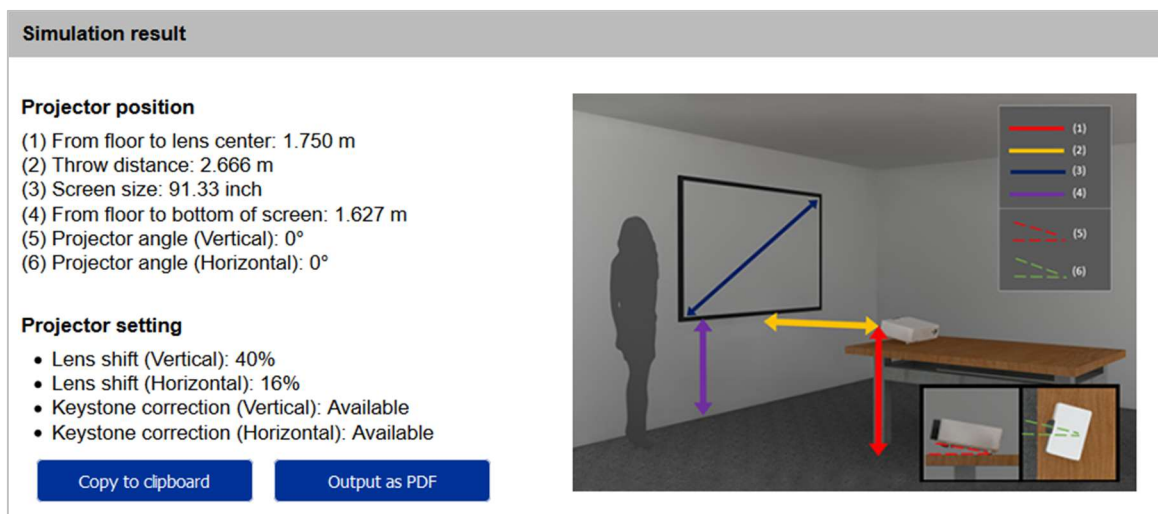
(3) Actual Contrast: 9.3:1

(4) 

(5) 

## 11. Simulation result

The simulation result will be displayed. The “Keystone correction” let you know whether built-in keystone correction function can correct the tilted image or not.



“Copy to Clipboard” : The above result can be copied to the clip board.

“PDF Output” : The projector spec (including the lens spec), the simulation result and Side/Front/Top view image will be collectively output into 1 page of a PDF file.



EB-L610U

6000 lm Brightness	WUXGA Resolution	0.67 inch LCD Panel Size	100 - 240 V AC ±10%, 50/60 Hz Power Supply Voltage	353W/265W Power consumption
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Simulation result

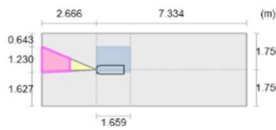
Projector position

- (1) From floor to lens center: 1.750 m
- (2) Throw distance: 2.666 m
- (3) Screen size: 91.33 inch
- (4) From floor to bottom of screen: 1.627 m
- (5) Projector angle (Vertical): 0°
- (6) Projector angle (Horizontal): 0°

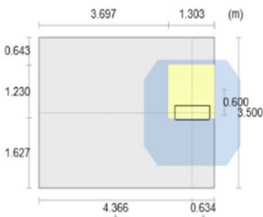
Projector setting

- Lens shift (Vertical): 40%
- Lens shift (Horizontal): 16%
- Keystone correction (Vertical): Available
- Keystone correction (Horizontal): Available

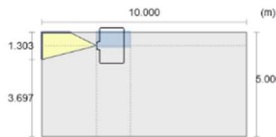
Side View



Front View



Top View



COMMENT

2020-01-14

End of document