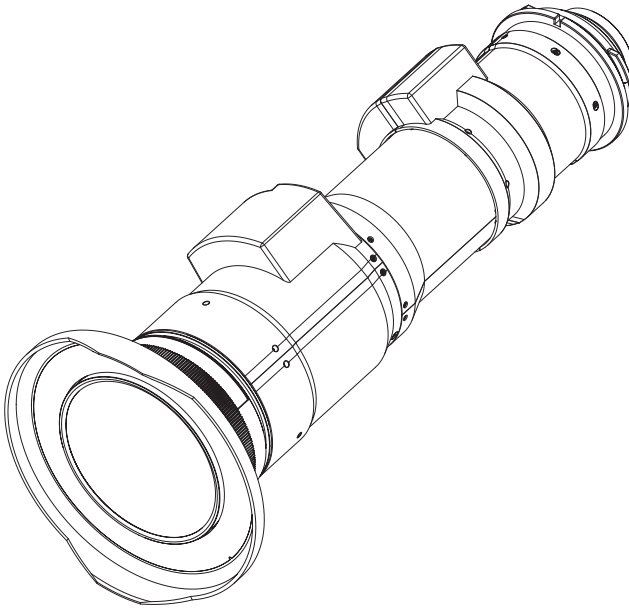


Panasonic®

Operating Instructions

Zoom Lens **Commercial Use**

Model No. **ET-ELU20**



ENGLISH

FRANÇAIS

日本語

Thank you for purchasing this Panasonic product.

- To ensure correct use of this lens, please read the operating instructions supplied with the lens and the projector carefully.
- **Before using this product, be sure to read “Read this first!” (▶ Page 3).**
- Please save this manual for future use.

Contents

Read this first!	3
Before Use	5
Preparation	6
Before replacing the projection lens	6
Attaching the Lens / Detaching the Lens.....	6
Focus Adjustment.....	6
Setting the lens type.....	7
Lens calibration	7
Projection relationships	8
Lens shift ranges	10
Specifications	11
Dimensions	11
Projected image size and Projection distance	Appendix / Annexe / 付録 1

The "Appendix" can be found after the Japanese language section (**日本語**).

WARNING:

Do not look at or place your skin into the light emitted from the lens while the projector is being used.

Doing so can cause burns or loss of sight.

- Strong light is emitted from the projector's lens. Do not look at or place your hands directly into this light.
- Turn off the power when moving away from the projection lens or projector.

Do not project an image with the lens cover attached.

- Doing so can cause fire.

CAUTION:

Before replacing the projection lens, be sure to turn off the power and disconnect the power plug from the wall outlet.

- Unexpected projection of light may cause injury to eyes.
- Replacing the projection lens without removing the power plug may result in electric shock.

Do not stand in front of the lens while the projector is being used.

Doing so can cause damage and burns to clothing.

- Strong light is emitted from the projector's lens.

Do not place objects in front of the lens while the projector is being used.

Doing so can cause fire, damage to the object, or malfunction of the lens and projector.

- Strong light is emitted from the projector's lens.

Do not open the desiccant bag. Do not eat the contents.

Inadvertently ingesting desiccant could be harmful.

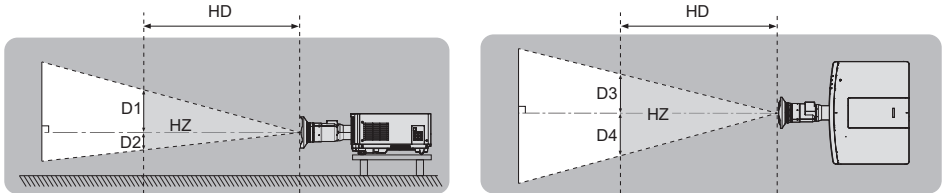
- If the desiccant gets into your eyes or mouth, immediately rinse with plenty of water and seek medical attention.
- Keep desiccant out of the reach of children.

Read this first! (continued)

■ Hazard distance (IEC 62471-5:2015)

The distance from the projection lens surface, at which the emission reaches the Accessible Emission Limit (AEL) of risk group 2, is known as the hazard distance (HD) or safety distance. The area where the emission exceeds the Accessible Emission Limit of risk group 2 is called the hazard zone (HZ).

Within the hazard zone, never look into the light projected from the projector. The eyes may be damaged by direct irradiation even if you look at the light just for a moment. If you are outside the hazard zone, it is considered to be safe in all circumstances except deliberately staring into the light projected from the projector.



■ Risk group

The combination of the projector and the projection lens is categorized as risk group 2 when the hazard distance is 1 m (39-3/8") or less. It is categorized as risk group 3 when the hazard distance exceeds 1 m (39-3/8"), and it will be for professional use instead of consumer use.

In case of risk group 3, there is a possibility of damaging the eyes by direct irradiation when looking into the projection light from inside the hazard zone even for a moment.

In the case of risk group 2, safe use without damaging the eyes is possible in all circumstances except deliberately staring into the light projected from the projector.

The risk group for the combination of the projection lens and a compatible projector is as follows.

Projector model	Risk group
PT-MZ880 / PT-MZ780 / PT-MZ680	Risk group 2

Before Use

Supported projectors

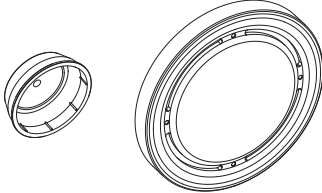
PT-MZ880 / PT-MZ780 / PT-MZ680

Note

- This manual omits the alphabets at the end of projector model numbers.
- Models other than the above may also be supported. Refer to the operating instructions for your projector or the Panasonic website (<https://panasonic.net/cns/projector/>).
- If the main version of the firmware of the PT-MZ880 / PT-MZ780 / PT-MZ680 is less than 1.03, this Projection lens cannot be used. Update the firmware to the latest version before use. Check the update procedure by accessing the page containing the latest information on the firmware at the Panasonic website (<https://panasonic.net/cns/projector/pass/>).

Supplied Accessories

Make sure that the following has been provided.

Part name	Appearance
Lens cover	 <ul style="list-style-type: none">● The product is delivered with lens covers attached. <p>1 each for front and rear</p>

Preparation

Before replacing the projection lens

Return the projection lens to the home position before replacing or removing it. For details on how to return the lens to the home position, refer to the operating instructions of the projector.

Attention

- Make sure that the projector power supply is switched off before attaching or detaching the projection lens.
- After removing the projection lens, store it safely away from vibration or impacts.
- Do not touch the electric contact points of the projection lens with your fingers. Dust and dirt on the contacts may cause contact malfunctions, while static electricity may damage the unit.
- Do not turn the gear (ring) part of the projection lens barrel by hand. Doing so may damage the motor.
- Do not touch the surface of the lens with bare hands. Finger prints and dirt on the surface of the lens will be magnified by the lens and lower the quality of the projected image. Place the supplied lens cover on the zoom lens when the projector is not in use.
- The lens is made of glass. The lens could be damaged if brought into contact with or rubbed against hard objects. Handle the lens carefully.
- Use a clean, soft and dry cloth to wipe away dust and dirt from the projection lens. Do not use fluffy cloths containing oil, water or dust for cleaning. The lens is easily damaged, so do not apply excessive pressure when wiping it.

Attaching the Lens / Detaching the Lens

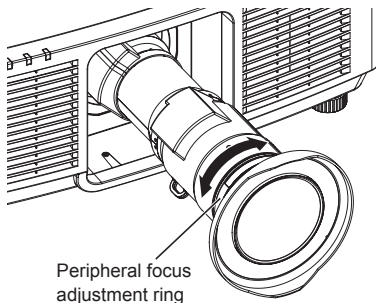
For details on attaching or removing the projection lens, refer to the operating instructions for the projector.

Focus Adjustment

The focus balance of the center of the projected image and that of the peripheral areas differs depending on the size of the image.

This lens is equipped with a function for adjusting the peripheral focus balance.

■ Adjusting the focus



- 1) Operate the projector to align the focus of the center of the image.
- 2) Manually turn the peripheral focus adjustment ring as shown on the left, and align the focus of the peripheral areas of the image.

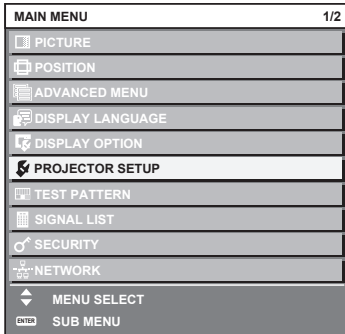
Attention

- The projected images sizes indicated on the peripheral focus adjustment ring are approximate guides.

Preparation (continued)

Setting the lens type

Confirm the [LENS TYPE] setting for PT-MZ880 / PT-MZ780 / PT-MZ680.
Change the setting if the type does not match this projection lens.



- 1) Turn on the projector to start the projection.
- 2) Press the <MENU> button to display the [MAIN MENU] screen.
- 3) Select [PROJECTOR SETUP] in the main menu and then press the <ENTER> button.
- 4) Select [LENS] in the [PROJECTOR SETUP] menu and then press the <ENTER> button.
 - The [LENS] screen appears.
- 5) Select [LENS TYPE] on the [LENS] screen and then use the ▲ ▼ buttons to select [ET-ELU20].
- 6) Press the <ENTER> button.

Lens calibration

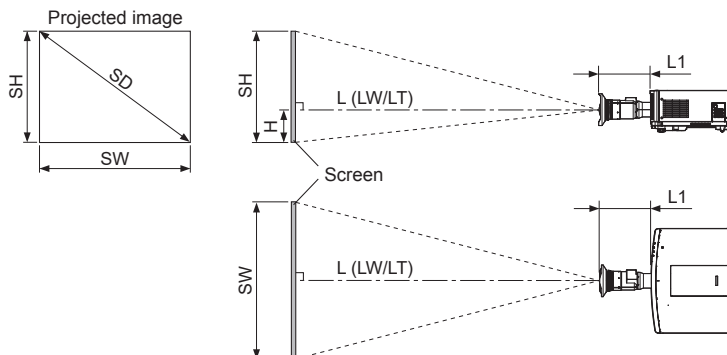
Perform lens calibration after attaching the lens.

For instructions on lens calibration, refer to “Projecting” in the operating instructions for the projector.

Projection relationships

The dimensional relationship between the screen and the projector is shown below.

■ Dimensional relationship diagram



Note

- This diagram assumes that the size and position of the projected image will be adjusted so that the image fills the entire screen.
- This illustration is not drawn to scale.

L		Projection distance
	LW	Minimum distance
	LT	Maximum distance
L1		Lens protrusion dimension
SH		Projected image height
H		Distance from the lens center to the lower edge of the projected image
SW		Projected image width
SD		Projected image size

● Dimension for L1 (approximate values)

(Unit: m)

Projector model	Dimension for L1 (approximate values)
PT-MZ880 / PT-MZ780 / PT-MZ680	0.275

Note

- The illustrations of projectors in this manual are for informational purposes only and do not represent a specific projector model. Configurations may vary with the model.

Attention

- To prevent blocking of the intake and exhaust vents, maintain clearances from walls and objects of at least 1 000 mm (3'3") for the exhaust vent and at least 500 mm (1'8") for the intake vent.
- Avoid setting up in places which are subject to sudden temperature changes, such as near an air conditioner or lighting equipment (studio lamps, etc.).

Projection relationships (continued)

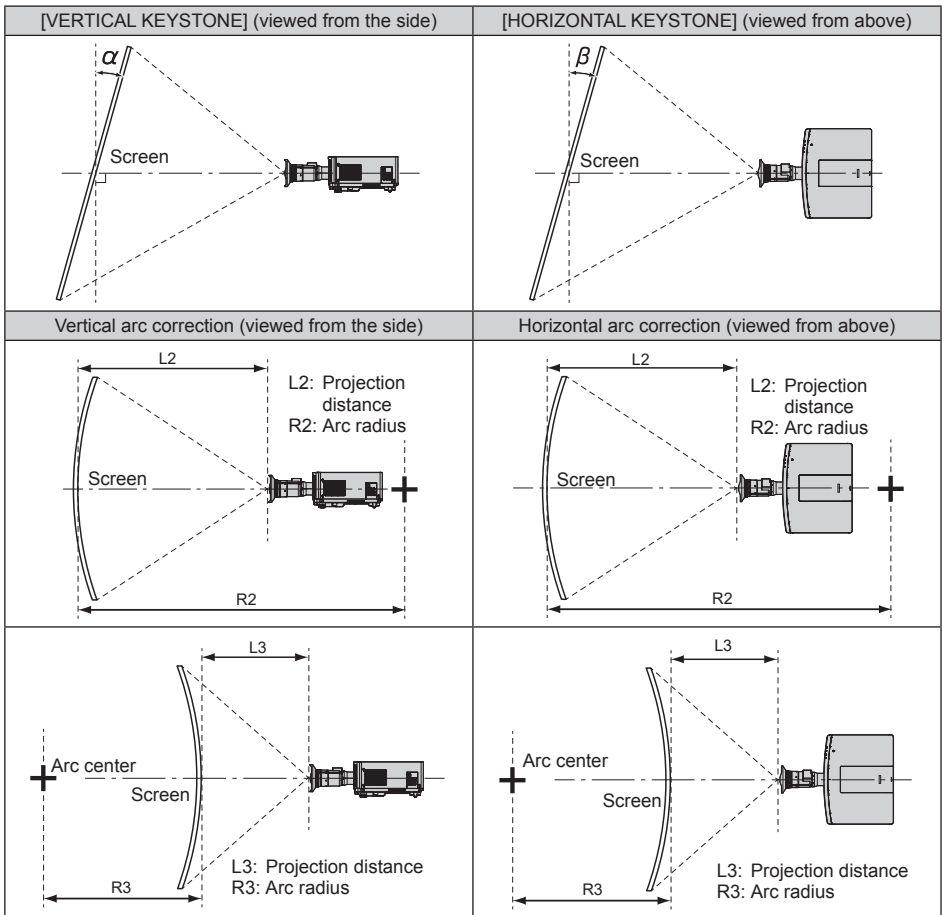
■ Dimensional relationship

For details on the projection distance (L), refer to “Projected image size and Projection distance” and “Projection distance formulas” in the Appendix.

Note

- For details on “Projected image size and Projection distance” for projector models other than PT-MZ880 / PT-MZ780 / PT-MZ680, refer to “Setting up” in the operating instructions of the projector.

■ [GEOMETRY] projection range



Projection relationships (continued)

Projector model	Only [KEystone] used		[KEystone] and [CURVED CORRECTION] used together				Only [CURVED CORRECTION] used	
	Vertical keystone correction angle α (°)	Horizontal keystone correction angle β (°)	Vertical keystone correction angle α (°)	Horizontal keystone correction angle β (°)	Min. value of R2/L2	Min. value of R3/L3	Min. value of R2/L2	Min. value of R3/L3
PT-MZ880 / PT-MZ780 / PT-MZ680	±5	0	-	-	-	-	-	-

Note

- When [GEOMETRY] is used, the focus of the entire screen may be lost as correction increases.

Lens shift ranges

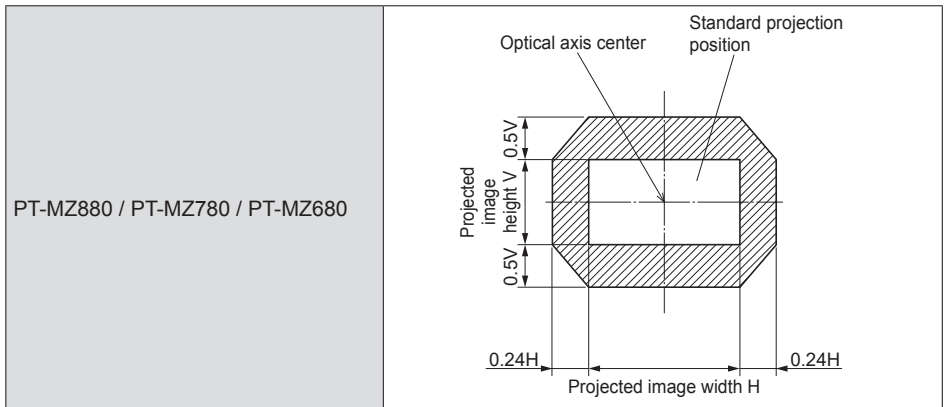
Perform the lens position shift within the adjustment range.

Perform lens shift adjustment within the ranges shown in the following illustrations.

The focus may change when the lens position is shifted out of the adjustment range.

This is because the movement of the lens is restricted to protect the optical parts.

The following illustrations depict lens shift ranges for floor installations of the projector.



Note

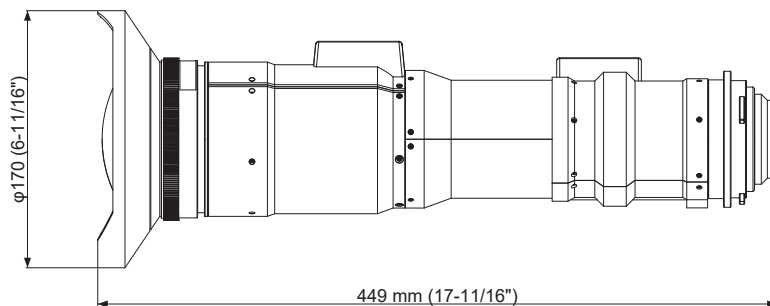
- The home position of the projector a point of origin position for the lens shift (i.e., vertical and horizontal positions of the lens) based on the results of lens calibration. It is not the optical center position of the screen.

Specifications

F value	2.00
Focal Length (f)	5.43 mm (7/32") - 5.82 mm (15/64")
Dimensions	Width 170 mm (6-11/16") Height 170 mm (6-11/16") Depth 449 mm (17-11/16")
Net Weight	4.0 kg (8.82 lb)

Dimensions

(Unit: mm)



Information for users in the European Union

Importer's name and address within the European Union
Panasonic Marketing Europe GmbH
Panasonic Testing Centre
Winsbergring 15, 22525 Hamburg, Germany

Disposal of Old Equipment

Only for European Union and countries with recycling systems



This symbol on the products, packaging, and/or accompanying documents means that used electrical and electronic products must not be mixed with general household waste. For proper treatment, recovery and recycling of old products, please take them to applicable collection points in accordance with your national legislation.

By disposing of them correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the environment.

For more information about collection and recycling, please contact your local municipality. Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.

Information on Disposal in other Countries outside the European Union

This symbol is only valid in the European Union.

If you wish to discard this product, please contact your local authorities or dealer and ask for the correct method of disposal.

Product Information (for Turkey only)



AEEE Yönetmeliğine Uygundur.

Eski Ekipman ve Bataryaların İşlenmesi.

Sadece geri dönüşüm sistemleri olan Avrupa Birliği ve ülkeleri için geçerlidir.

Ürünler, ambalaj ve/veya ekli belgeler üzerindeki bu semboller kullanılmış elektrik ve elektronik ürünlerin genel ev atığı ile karıştırılmaması gerektiğini ifade eder.

Eski ürünlerin toplanması ve geri kazanılması için bu atıklar lütfen yasayla belirlenmiş olan uygun toplama merkezlerine teslim ediniz.

Bu atıkların doğru işlenmesiyle, değerli kaynakların korunmasına ve insan sağlığı ve çevreye olası negatif etkilerinin engellenmesine yardımcı olabilirsiniz.

Atıkların toplanması ve geri dönüşümü için detaylı bilgi için lütfen bağlı olduğunuz yerel yönetimlerle iletişime geçiniz.

Atıkların atılmasıyla ilgili yanlış uygulamalar yasayla belirlenmiş olan cezalara sebebiyet verebilir.

Environment care information for users in China



This symbol is only valid in China.

Panasonic Corporation

Web Site : <https://panasonic.net/cns/projector/>

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Appendix / Annexe / 付録

■ Projected image size and Projection distance

■ Taille de l'image projetée et distance de projection

■ 投写画面サイズと投写距離

- When the screen aspect ratio is 16:10
- Lorsque le rapport d'aspect de l'écran est 16:10
- 画面アスペクト比 16 : 10 のとき

(Unit / Unités / 単位 : m)

Throw ratio / Rapport de projection / スローレシオ : [0.330 - 0.353:1]					
SD	SH	SW	LW	LT	H
2.54 (100")	1.346	2.154	0.70	0.75	0.00 - 1.35
3.05 (120")	1.615	2.585	0.84	0.91	0.00 - 1.62
3.81 (150")	2.019	3.231	1.06	1.14	0.00 - 2.02
5.08 (200")	2.692	4.308	1.43	1.53	0.00 - 2.69
6.35 (250")	3.365	5.385	1.79	1.93	0.00 - 3.37
7.62 (300")	4.039	6.462	2.16	2.32	0.00 - 4.04
8.89 (350")	4.712	7.539	2.52	2.71	0.00 - 4.71
10.16 (400")	5.385	8.616	2.88	3.10	0.00 - 5.38

- When the screen aspect ratio is 16:9
- Lorsque le rapport d'aspect de l'écran est 16:9
- 画面アスペクト比 16 : 9 のとき

(Unit / Unités / 単位 : m)

Throw ratio / Rapport de projection / スローレシオ : [0.330 - 0.353:1]					
SD	SH	SW	LW	LT	H
2.54 (100")	1.245	2.214	0.72	0.77	-0.07 - 1.31
3.05 (120")	1.494	2.657	0.87	0.93	-0.08 - 1.58
3.81 (150")	1.868	3.321	1.09	1.17	-0.10 - 1.97
5.08 (200")	2.491	4.428	1.47	1.58	-0.14 - 2.63
6.35 (250")	3.113	5.535	1.84	1.98	-0.17 - 3.29
7.62 (300")	3.736	6.641	2.22	2.38	-0.21 - 3.94
8.89 (350")	4.358	7.748	2.59	2.79	-0.24 - 4.60
10.16 (400")	4.981	8.855	2.97	3.19	-0.28 - 5.26

- When the screen aspect ratio is 4:3
- Lorsque le rapport d'aspect de l'écran est 4:3
- 画面アスペクト比 4 : 3 のとき

(Unit / Unités / 単位 : m)

Throw ratio / Rapport de projection / スローレシオ : [0.397 - 0.425:1]					
SD	SH	SW	LW	LT	H
2.54 (100")	1.524	2.032	0.80	0.85	0.00 - 1.52
3.05 (120")	1.829	2.438	0.96	1.03	0.00 - 1.83
3.81 (150")	2.286	3.048	1.21	1.30	0.00 - 2.29
5.08 (200")	3.048	4.064	1.62	1.74	0.00 - 3.05
6.35 (250")	3.810	5.080	2.03	2.19	0.00 - 3.81
7.62 (300")	4.572	6.096	2.44	2.63	0.00 - 4.57
8.89 (350")	5.334	7.112	2.86	3.07	0.00 - 5.33
10.16 (400")	6.096	8.128	3.27	3.52	0.00 - 6.10

Note

- A $\pm 5\%$ error in listed projection distances may occur.
In addition, when [KEYSTONE] is used, distance is corrected to become smaller than the specified screen size.
- The throw ratio is based on the value during projection with the projected image size of 3.81m (150").
- The periods used in the numbers in the tables are decimal points.

Remarque

- Une erreur de $\pm 5\%$ dans des distances de projection énumérées peut se produire.
En outre, lorsque [CORRECTION DE TRAPÈZE] est utilisé, la distance est corrigée pour devenir inférieure à la taille d'écran spécifiée.
- Le rapport de projection est basé sur la valeur en cours de projection avec une taille de l'image projetée de 3,81m (150").
- Les points utilisés dans les nombres dans les tableaux sont des points décimaux.

お知らせ

- 記載の投写距離は $\pm 5\%$ 以下の範囲内で誤差が発生します。
また、[台形補正] 使用時は、所定の画面サイズよりも小さくなる方向で補正されます。
- スローレシオは、投写画面サイズ 150 型投写時の値を基準にしています。

Setting-up dimensions which are not given in the above table can be calculated using the formulas below on the next page. Check the projected image size SD (m) and use the following formula to determine projection distance (L).

La configuration des dimensions qui ne sont pas données dans le tableau ci-dessus peut être calculée à l'aide des formules de la page suivante. Vérifiez la taille de l'image projetée SD (m) et utilisez la formule suivante pour déterminer la distance de projection (L).

上記の表以外の投写寸法は次ページの計算式で求めることができます。画面対角サイズ SD (m) をご確認のうえ、それぞれの計算式で投写距離 (L) を求めてください。

- Projection distance formulas
- Formules de distance de projection
- 投写距離計算式

The dimensions of the following table contain a slight error.

Periods are used to represent decimal points in the calculation formulas in the following table.

Les dimensions du tableau suivant peuvent présenter un léger écart.

Les points sont utilisés pour indiquer les décimales dans les formules de calcul dans le tableau suivant.

次の表内の寸法は若干の誤差があります。

(Unit / Unités / 単位 : m)

	L	
	LW	LT
When the screen aspect ratio is 16:10 Lorsque le rapport d'aspect de l'écran est 16:10 画面アスペクト比 16 : 10 のとき	= 0.2868 × SD - 0.0294	= 0.3088 × SD - 0.0346
When the screen aspect ratio is 16:9 Lorsque le rapport d'aspect de l'écran est 16:9 画面アスペクト比 16 : 9 のとき	= 0.2948 × SD - 0.0294	= 0.3174 × SD - 0.0346
When the screen aspect ratio is 4:3 Lorsque le rapport d'aspect de l'écran est 4:3 画面アスペクト比 4 : 3 のとき	= 0.3247 × SD - 0.0294	= 0.3496 × SD - 0.0346

Panasonic Corporation

Web Site : <https://panasonic.net/cns/projector/>

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