

HS Series 2K lens throw ratios

The following table details the information required to calculate the lens throw ratios for the Christie HS Series 2K (DWU23-HS, DWU23A-HS, DWU19-HS, DWU19A-HS, DWU15-HS, and DWU15A-HS) projectors.

Lens	Throw distance formula		Vertical and horizontal offset (%)	Diagonal screen sizes	
	Imperial (in)	Metric (cm)		Imperial (in)	Metric (cm)
0.38:1 fixed (900-300413-XX)	$TD_{min} = 0.38 \times W + 0.65$	$TD_{min} = 0.38 \times W + 1.65$	+ 100%/- 50% V + 25%/- 4% H	200 to 600	508 to 1,524
0.65-0.75:1 zoom (140-144100-XX)	$TD_{min} = 0.66 \times W + 3.39$	$TD_{min} = 0.66 \times W + 9$	+ 65%/- 65% V	50 to 500	127 to 1,270
	$TD_{max} = 0.77 \times W + 3.39$	$TD_{max} = 0.77 \times W + 9$	+ 30%/- 30% H		
0.84-1.02:1 zoom (140-114107-XX)	$TD_{min} = 0.87 \times W + 0.19$	$TD_{min} = 0.87 \times W + 1$	+ 27%/- 27% V	50 to 500	127 to 1,270
	$TD_{max} = 1.05 \times W + 0.27$	$TD_{max} = 1.05 \times W + 1$	+ 11%/- 11% H		
1.02-1.36:1 zoom (140-115108-XX)	$TD_{min} = 1.03 \times W - 0.36$	$TD_{min} = 1.03 \times W - 1$	+ 27%/- 27% V	50 to 500	127 to 1,270
	$TD_{max} = 1.37 \times W - 0.24$	$TD_{max} = 1.37 \times W - 1$	+ 11%/- 11% H		
1.2-1.50:1 zoom (140-109101-XX)	$TD_{min} = 1.24 \times W - 0.68$	$TD_{min} = 1.24 \times W - 2$	+ 120%/- 120% V	50 to 500	127 to 1,270
	$TD_{max} = 1.55 \times W - 0.21$	$TD_{max} = 1.55 \times W - 1$	+ 50%/- 50% H		
1.5-2.0:1 zoom (140-110103-XX)	$TD_{min} = 1.52 \times W + 1.35$	$TD_{min} = 1.52 \times W + 3$	+ 120%/- 120% V	50 to 500	127 to 1,270
	$TD_{max} = 2.02 \times W + 1.37$	$TD_{max} = 2.02 \times W + 3$	+ 50%/- 50% H		
2.0-4.0:1 zoom (140-111104-XX)	$TD_{min} = 1.95 \times W + 12.19$	$TD_{min} = 1.95 \times W + 31$	+ 120%/- 120% V	50 to 500	127 to 1,270
	$TD_{max} = 3.94 \times W + 9.07$	$TD_{max} = 3.94 \times W + 23$	+ 50%/- 50% H		

Lens	Throw distance formula		Vertical and horizontal offset (%)	Diagonal screen sizes	
	Imperial (in)	Metric (cm)		Imperial (in)	Metric (cm)
4.0-7.2:1 zoom (140-116109-XX)	TDmin = $3.95 \times W + 12.45$	TDmin = $3.95 \times W + 32$	+ 120%/- 120% V	50 to 500	127 to 1,270
	TDmax = $7.14 \times W + 10.51$	TDmax = $7.14 \times W + 27$	+ 50%/- 50% H		
7.2-10.8:1 zoom (140-145101-XX)	TDmin = $7.18 \times W + 10.12$	TDmin = $7.18 \times W + 26$	+ 120%/- 120% V	80 to 500	203 to 1,270
	TDmax = $10.80 \times W + 10.15$	TDmax = $10.80 \times W + 26$	+ 50%/- 50% H		

- The 0.38:1 lens throw distance measured from the center of the side feet of the projector closest to the screen.
- The 0.38:1 ultra short throw lens has a 35% brightness loss.
- For all other lenses, throw distance measured from the center of the front foot of the projector.
- All lenses are made of glass.
- Calculated throw distance (TD) values are subject to a +/- 5% tolerance for individual lens variation.
- Calculated offset values are subject to a +/- 7% centering tolerance.