

# HS Series 4K lens throw ratios

The following table details the information required to calculate the lens throw ratios for the Christie HS Series 4K (4K22-HS, 4K22A-HS, 4K13-HS, and 4K13A-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 (140-142108-XX)	TDmin = 0.38 x W + 0.65	TDmin = 0.38 x W + 1.65	Table mount: +120%/-60% V +25%/-8% H	200 to 600	508 to 1,524
			Ceiling mount: +120%/-60% V +8%/-25% H		
0.65-0.75:1 zoom (140-144100-XX)	TDmin = 0.66 x W + 3.39	TDmin = 0.66 x W + 9	+75%/-75% V	50 to 500	127 to 1,270
	TDmax = 0.77 x W + 3.39	TDmax = 0.77 x W + 9	+31%/-31% H		
0.75-1.08:1 zoom (140-159106-XX)	TDmin = 0.76 x W + 5.66	TDmin = 0.76 x W + 14.37	+120%/-120% V	50 to 500	127 to 1,270
	TDmax = 1.10 x W + 5.79	TDmax = 1.10 x W + 14.70	+44%/-44% H		
1.02-1.36:1 zoom (140-115108-XX)	TDmin = 1.03 x W - 0.36	TDmin = 1.03 x W - 1	+40%/-40% V	50 to 500	127 to 1,270
	TDmax = 1.37 x W - 0.24	TDmax = 1.37 x W - 1	+14%/-14% H		
1.08-1.50:1 zoom (140-158105-XX)	TDmin = 1.10 x W + 4.53	TDmin = 1.10 x W + 11.50	+80%/-80% V	50 to 500	127 to 1,270
	TDmax = 1.52 x W + 4.81	TDmax = 1.52 x W + 12.21	+30%/-30% H		
1.2-1.50:1 zoom	TDmin = 1.24 x W - 0.68	TDmin = 1.24 x W - 2	+140%/-140% V	50 to 500	127 to 1,270

Lens	Throw distance formula		Vertical and horizontal offset (%)	Diagonal screen sizes	
	Imperial (In)	Metric (cm)		Imperial (In)	Metric (cm)
(140-109101-XX)	TDmax = 1.55 x W -0.21	Tdmax = 1.55 x W - 1	+50%/-50% H		
1.5-2.0:1 zoom (140-110103-XX)	TDmin = 1.52 x W + 1.35	TDmin = 1.52 x W + 3	+140%/-140% V	50 to 500	127 to 1,270
	TDmax = 2.02 x W + 1.37	TDmax = 2.02 x W + 3	+50%/-50% H		
2.0-4.0:1 zoom (140-111104-XX )	TDmin = 1.95 x W + 12.19	TDmin = 1.95 x W + 31	+140%/-140% V	50 to 500	127 to 1,270
	TDmax =3.94 x W + 9.07	TDmax =3.94 x W + 23	+50%/-50% H		
4.0-7.2:1 zoom (140-116109-XX)	TDmin = 3.95 x W + 12.45	TDmin = 3.95 x W + 32	+140%/-140% V	50 to 500	127 to 1,270
	TDmax =7.14 x W + 10.51	TDmax =7.14 x W + 27	+50%/-50% H		
7.2-10.8:1 zoom (140-145101-XX)	TDmin =7.18 x W+10.12	TDmin =7.18 x W+26	+140%/-140% V	80 to 500	203 to 1,270
	TDmax =10.80 x W+10.15	TDmax =10.80 x W+26	+ 50%/- 50% H		

- The 0.38:1 ultra short throw 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.