Mirage SST lens throw ratios

The following table details the information required to calculate the lens throw ratios for the Mirage SST projectors.

Lens	Throw distance formula		Vertical & horizontal offset (%)	Min. diagonal screen sizes	
	Imperial (in)	Metric (m)		Imperial (in)	Metric (m)
High brightness lenses					
0.38:1 HB fixed (144-136101-XX)	TD = 0.3864 x W -2.825	TD = 0.3864 x W -0.072	-80% / +40% V -45% / 20% H	55	1.4
0.72:1 HB fixed (144-110103-XX)	TD = 0.745 x W + 9.57	TD = 0.745 x W + 0.243	0% V 0% H	55	1.4
0.9:1 HB fixed (144-111014-XX)	TD = 0.935 x W + 9.64	TD = 0.935 x W + 0.245	+/- 45% V +/- 15% H	150	3.8
1.13-1.31:1 HB zoom (144-103105-XX)	TD = 1.13 x W + 7.96 TD = 1.325 x W +7.23	TD = 1.13 x W + 0.202 TD = 1.325 x W + 0.184	+/- 60% V +/- 25% H	122	3.1
1.13 - 1.66:1 HB zoom (144-129103-XX)	TD = 1.6697 x W + 8.829 TD = 1.1292 x W + 9.321	TD = 1.6697 x W + 0.225 TD = 1.1292 x W + 0.237	+/-45% V +/-20% H	110.2	2.8
1.31-1.63:1 HB zoom (144-104106-XX)	TD = 1.305 x W + 6.16 TD = 1.644 x W + 4.71	TD = 1.305 x W + 0.156 TD = 1.644 x W + 0.120	+/- 80% V +/- 30% H	106	2.7

Lens	Throw distance formula		Vertical & horizontal offset (%)	Min. diagonal screen sizes	
	Imperial (in)	Metric (m)		Imperial (in)	Metric (m)
1.45 - 2.17:1 HB zoom (144-130105-XX)	TD = 2.201 x W + 3.739	TD = 2.201 x W + 0.095	+/-55% V	90.5	2.3
	TD = 1.4489 x W + 6.563	TD = 1.4489 x W + 0.167	+/-20% H		
1.63-2.17:1 HB zoom (144-105107-XX)	TD = 1.631 x W + 4.87	TD = 1.631 x W + 0.124	+/- 80% V	86.5	2.2
	TD = 2.195 x W + 3.06	TD = 2.195 x W + 0.078	+/- 30% H		
1.95 - 3.26:1 HB zoom (144-131106-XX)	TD = 3.3179 x W - 1.587	TD = 3.3179 x W - 0.040	+/-45% V	63	1.6
	TD = 1.9511 x W + 2.107	TD = 1.9511 x W + 0.054	+/-30% H		
1.99-2.71:1 HB zoom (144-106108-XX)	TD = 2.007 x W + 0.66	TD = 2.007 x W + 0.017	+/- 15% V	71	1.8
	TD = 2.728 x W - 1.82	TD = 2.728 x W - 0.046	+/- 5% H		
2.71-3.89:1 HB zoom (144-107109-XX)	TD = 2.734 x W + 1.14	TD = 2.734 x W + 0.029	+/- 45% V	51	1.3
	TD = 3.945 x W - 1.90	TD = 3.945 x W - 0.048	+/- 15% H		
3.89-5.43:1 HB zoom (144-108100-XX)	TD = 3.942 x W + 1.28	TD = 3.942 x W + 0.032	+/- 85% V	75	1.9
	TD = 5.553 x W - 2.36	TD = 5.553 x W - 0.06	+/- 25% H		
4.96-7.69:1 HB zoom (144-109101-XX)	TD = 5.031 x W + 1.64	TD = 5.031 x W - 0.042	+/- 90% V	59	1.5
	TD = 7.86 x W -2.57	TD = 7.86 x W -0.065	+/- 40% H		
Ultra high contrast lenses					
0.72:1 UHC 4K (163-116109-XX)	TD = 0.745 x W + 9.57	TD = 0.745 x W + 0.243	0% V	55	1.4
			0% H		
0.9:1 UHC 4K (144-111014-XX)	TD = 0.935 x W + 9.64	TD = 0.935 x W + 0.245	+/- 45% V	150	3.8
			+/- 15% H		

Lens	Throw distance formula		Vertical & horizontal offset (%)	Min. diagonal screen sizes	
	Imperial (in)	Metric (m)		Imperial (in)	Metric (m)
1.13-1.66 UHC 4K (163-118101-XX)	TD = 1.6697 x W + 8.829	TD = 1.6697 x W + 0.225	+/-45% V	110.2	2.8
	TD = 1.1292 x W + 9.321	TD = 1.1292 x W + 0.237	+/-20% H		
1.45-2.17 UHC 4K (163-119102-XX)	TD = 2.201 x W + 3.739	TD = 2.201 x W + 0.095	+/-55% V	90.5	2.3
	TD = 1.4489 x W + 6.563	TD = 1.4489 x W + 0.167	+/-20% H		
1.95-3.26 UHC 4K (163-120103-XX)	TD = 3.3179 x W - 1.587	TD = 3.3179 x W - 0.040	+/-45% V	63	1.6
	TD = 1.9511 x W + 2.107	TD = 1.9511 x W + 0.054	+/-30% H		
2.71-3.89:1 UHC 4K (163-121105-XX)	TD = 2.734 x W + 1.14	TD = 2.734 x W + 0.029	+/- 45% V	51	1.3
	TD = 3.945 x W - 1.90	TD = 3.945 x W - 0.048	+/- 15% H		
3.89-5.43:1 UHC 4K (163-122106-XX)	TD = 3.942 x W + 1.28	TD = 3.942 x W + 0.032	+/- 85% V	75	1.9
	TD = 5.553 x W - 2.36	TD = 5.553 x W - 0.06	+/- 25% H		

- Throw distances measured from the center of the front foot of the projector.
- The 0.38:1 lens throw distance measured from the center of the side feet 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.