

4K40-RGB lens throw ratios

The following table details the information required to calculate the lens throw ratios for the D4K40-RGB, Mirage 4K40-RGB, and Roadie 4K40-RGB projectors.

Lens	Throw distance formula		Vertical and horizontal offset (%)	Minimum 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 -6.769	TD = 0.3864 x W -0.172	-60% / +85% V	55	1.4
			-35% / +15% H		
0.72:1 HB fixed (144-110103-XX)	TD = 0.7449 x W + 9.59	TD = 0.7449 x W + 0.244	0% V	55	1.4
			0% H		
0.9:1 HB fixed (144-111014-XX)	TD = 0.9354 x W + 9.70	TD = 0.9354 x W + 0.246	+/- 45% V	150	3.8
			+/- 15% H		
1.13-1.31:1 HB zoom (144-103105-XX)	TD = 1.130 x W + 8.00	TD = 1.130 x W + 0.203	+/- 60% V	122	3.1
	TD = 1.325 x W +7.28	TD = 1.325 x W + 0.185	+/- 25% H		
1.13 - 1.66:1 HB zoom (144-129103-XX)	TD = 1.670 x W + 8.898	TD = 1.670 x W + 0.228	+/-45% V	395	10.03
	TD = 1.129 x W + 9.45	TD = 1.129 x W + 0.24	+/-20% H		
1.31-1.63:1 HB zoom (144-104106-XX)	TD = 1.305 x W + 6.19	TD = 1.305 x W + 0.157	+/- 80% V	106	2.7
	TD = 1.644 x W + 4.75	TD = 1.644 x W + 0.121	+/- 30% H		

Lens	Throw distance formula		Vertical and horizontal offset (%)	Minimum diagonal screen sizes	
	Imperial (in)	Metric (m)		Imperial (in)	Metric (m)
1.45 - 2.17:1 HB zoom (144-130105-XX)	TD = 1.449 x W + 6.69	TD = 1.449 x W + 0.170	+/-55% V	302	7.7
	TD = 2.195 x W + 3.13	TD = 2.195 x W + 0.079	+/20% H		
1.63-2.17:1 HB zoom (144-105107-XX)	TD = 1.631 x W + 4.93	TD = 1.631 x W + 0.125	+/- 80% V	87	2.2
	TD = 2.195 x W + 3.13	TD = 2.195 x W + 0.079	+/- 30% H		
1.95 - 3.26:1 HB zoom (144-131106-XX)	TD = 3.318 x W - 1.46	TD = 3.318 x W - 0.037	+/-45% V	201	5.1
	TD = 1.951 x W + 2.24	TD = 1.951 x W + 0.057	+/30% H		
1.99-2.71:1 HB zoom (144-106108-XX)	TD = 2.007 x W + 1.20	TD = 2.007 x W + 0.031	+/- 15% V	71	1.8
	TD = 2.728 x W - 1.28	TD = 2.728 x W - 0.032	+/- 5% H		
2.71-3.89:1 HB zoom (144-107109-XX)	TD = 2.734 x W + 1.19	TD = 2.734 x W + 0.030	+/- 45% V	51	1.3
	TD = 3.945 x W - 1.85	TD = 3.945 x W - 0.047	+/- 15% H		
3.89-5.43:1 HB zoom (144-108100-XX)	TD = 3.942 x W + 1.31	TD = 3.942 x W + 0.033	+/- 85% V	75	1.9
	TD = 5.553 x W - 2.32	TD = 5.553 x W - 0.059	+/- 25% H		
Ultra high contrast lenses					
0.72:1 UHC fixed (163-116109-XX)	TD = 0.7449 x W + 9.59	TD = 0.7449 x W + 0.244	0% V	55	1.4
			0% H		
0.9:1 UHC fixed (163-117100-XX)	TD = 0.9354 x W + 9.70	TD = 0.9354 x W + 0.246	+/- 45% V	150	3.8
			+/- 15% H		
1.13 - 1.66:1 UHC zoom (163-118101-XX)	TD = 1.670 x W + 8.898	TD = 1.670 x W + 0.228	+/-45% V	395	10.03
	TD = 1.129 x W + 9.45	TD = 1.129 x W + 0.24	+/-20% H		

Lens	Throw distance formula		Vertical and horizontal offset (%)	Minimum diagonal screen sizes	
	Imperial (in)	Metric (m)		Imperial (in)	Metric (m)
1.45 - 2.17:1 UHC zoom (163-119102-XX)	TD = 1.449 x W + 6.69	TD = 1.449 x W + 0.170	+/-55% V	302	7.7
	TD = 2.195 x W + 3.13	TD = 2.195 x W + 0.079	+/-20% H		
1.95 - 3.26:1 UHC zoom (163-120103-XX)	TD = 3.318 x W - 1.46	TD = 3.318 x W - 0.037	+/-45% V	201	5.1
	TD = 1.951 x W + 2.24	TD = 1.951 x W + 0.057	+/-30% H		
2.71-3.89:1 UHC zoom (163-121105-XX)	TD = 2.734 x W + 1.19	TD = 2.734 x W + 0.030	+/- 45% V	51	1.3
	TD = 3.945 x W - 1.85	TD = 3.945 x W - 0.047	+/- 15% H		
3.89-5.43:1 UHC zoom (163-122106-XX)	TD = 3.942 x W + 1.31	TD = 3.942 x W + 0.033	+/- 85% V	75	1.9
	TD = 5.553 x W - 2.32	TD = 5.553 x W - 0.059	+/- 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 right 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.