

### Lens Information

Part Number:	MVTC23013
Serial Number:	491015
Test Date:	8/26/2013
Tested By:	VLW/MPB
N° Horizontal Pixels:	2108
N° Vertical Pixels:	2108

### Working Distance

is the distance between the object and the first mechanical surface of the lens.

W.D., Nominal (mm):	179.27
W.D., As Tested (mm):	179.34
W.D. Error (%):	0.04%

### Magnification

is measured on-axis from a square target of a known size in both the tangential and saggital directions and averaged.

Mag., Nominal:	0.128
Mag., As Tested:	0.126
Mag. Error (%):	1.56%

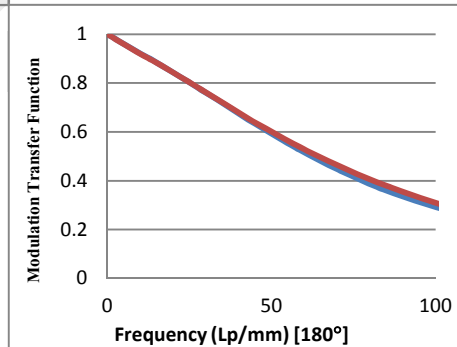
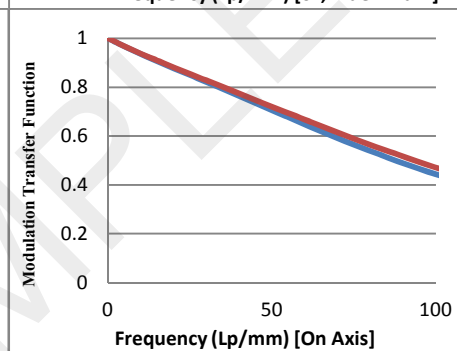
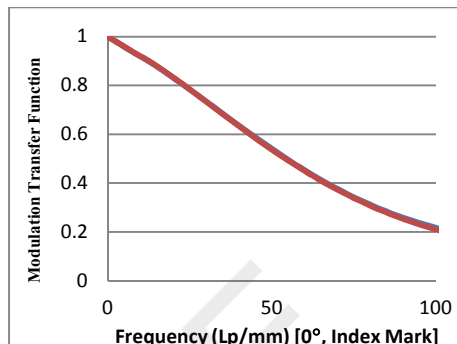
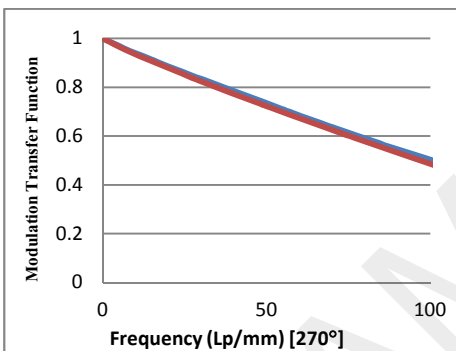
### Telecentricity

is measured by moving the target between the borders of the field depth test range and recording the change in field heights. The chief ray is then calculated from the ratio of the field height change to the total target displacement.

Maximum (deg):	0.119
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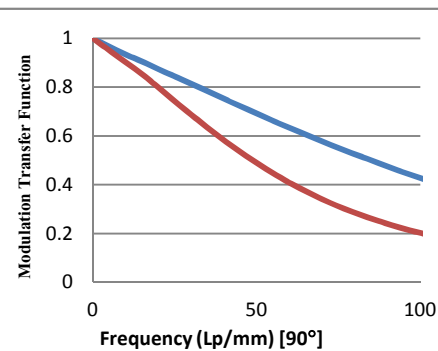
### Modulation Transfer Function

The loss of contrast determined from imaging an object, expressed in spatial frequency. The higher the ratio, the higher the contrast. MTF measured on-axis and at four quadrants in the field in both tangential and saggital directions.



### Test Conditions

**Target:** Chrome-on-glass 1mm dots  
**Illumination:** 450-650nm white LED telecentric back light source  
**Camera:** Grasshoper3 USB3.0 mono, 1" sensor cropped to 2/3" format



note: Tangential lines are blue Saggital lines are red

### Radial Distortion

is characterized by measuring the field heights from the center of the field to the edge and calculating the deviation of the measure vaules from the on-axis magnification.

Avg Radial Distortion (%):	-0.06%
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