

Reikan FoCal Focus Consistency Test Report

for D7100 (serial number 4341964) with 150-600mm f/5-6.3

Test run on: 26/01/2016 18:24:05 with FoCal 2.0.6.2416W

Report created on: 26/01/2016 18:32:25 with FoCal 2.0.6W

Overview

Test Information

Property	Description
Data Creation FoCal Version	2.0.6.2416W
Data Analysis FoCal Version	2.0.6W
OS Version	Microsoft Windows NT 6.2.9200.0
Source Mode	Camera Mode
Image Capture Mode	JPEG
Analysis Method	Multi-ESH (RGB)
Camera Model	D7100
Firmware Version	V1.02
Serial Number	4341964
Shutter count (start)	16271
Test Colour Temp	3200 K
Lens	150-600mm f/5-6.3
Focal Length	600,0mm
Termination Reason	Success
Test Aperture	f/6,3
Test ISO	100
Defocus Method	Defocus away from the camera
Distance to Target	15,3m to 15,3m
Test AF Fine Tune	-3
Focus Mode	Phase Detect
Consistency of Focus	99,3%

User Notes

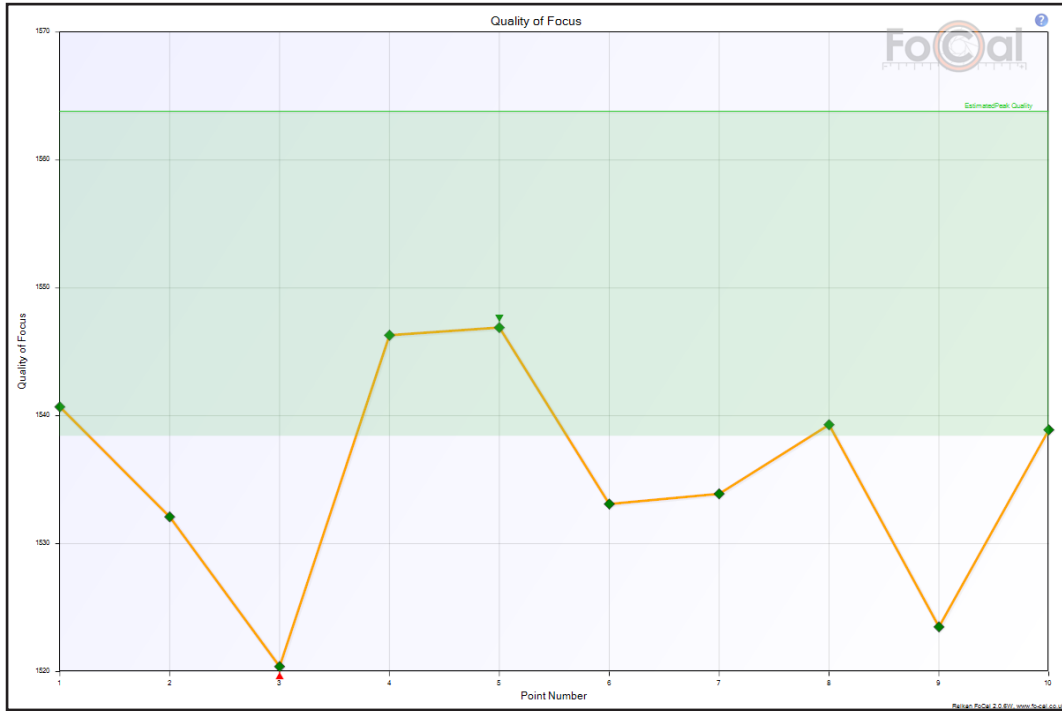
Idem test précédent, mais avec spot allumé.
Appareil posé sur coussin

Test Details

Quality of Focus Chart

The Quality of Focus chart shows the absolute sharpness value for each of the points through the test. This chart is scaled to fill the vertical area of the chart, so it's important to look at the numerical values of the Quality of Focus scale in order to determine the differences between the values.

If the option to Determine Focus Error is enabled for the test, a horizontal green band will be shown on the graph after a few shots which indicates the calculated approximate best sharpness that could be achieved through manually focusing this lens.



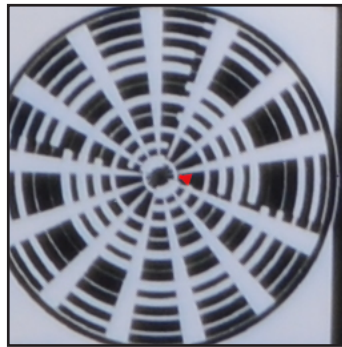
Analysis Details

Property	Description
Astigmatism Factor Range	3,3% ($\pm 1,7\%$)
Spectral Power Range	R: 32% ($\pm 0,2\%$) G: 32% ($\pm 0,1\%$) B: 36% ($\pm 0,3\%$)
Red Consistency of Focus	98,8%
Green Consistency of Focus	98,8%
Blue Consistency of Focus	98,8%

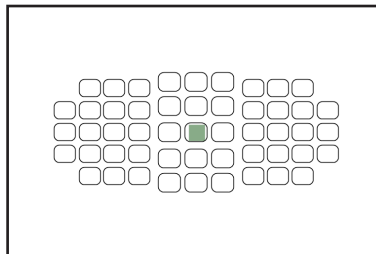
Point 1, QoF=1540,7

Aperture	f/6,3
Shutter Speed	1/250s
EV	13,2
Colour Temperature	Unknown
Camera Temperature	Unknown
Quality Measure	1540,7
Optimised	Yes
Ignored	No
Spectral Power (R/G/B)	32/33/36
Red Quality	1502,0
Green Quality	1588,7
Blue Quality	1536,4
HVR	2,6%

The following image is a crop of the section of image analysed by FoCal:



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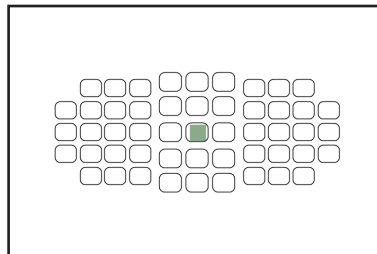
Point 2, QoF=1532,1

Aperture	f/6,3
Shutter Speed	1/250s
EV	13,2
Colour Temperature	Unknown
Camera Temperature	Unknown
Quality Measure	1532,1
Optimised	Yes
Ignored	No
Spectral Power (R/G/B)	31/32/36
Red Quality	1530,3
Green Quality	1608,8
Blue Quality	1454,9
HVR	4,7%

The following image is a crop of the section of image analysed by FoCal:



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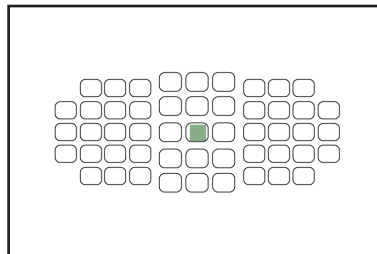
Point 3, QoF=1520,4

Aperture	f/6,3
Shutter Speed	1/200s
EV	12,9
Colour Temperature	Unknown
Camera Temperature	Unknown
Quality Measure	1520,4
Optimised	Yes
Ignored	No
Spectral Power (R/G/B)	32/33/36
Red Quality	1510,4
Green Quality	1593,0
Blue Quality	1452,1
HVR	4,9%

The following image is a crop of the section of image analysed by FoCal:



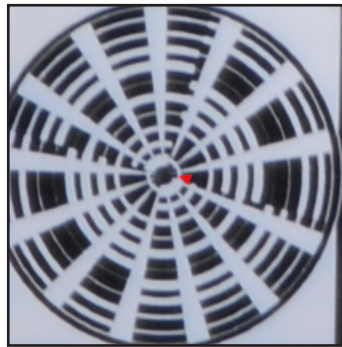
The following image is a crop of the section of image analysed by FoCal:



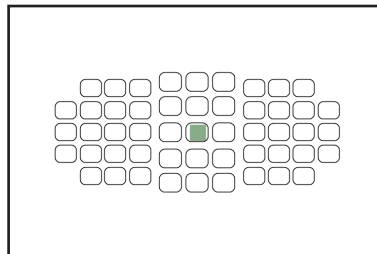
Point 4, QoF=1546,3

Aperture	f/6,3
Shutter Speed	1/250s
EV	13,2
Colour Temperature	Unknown
Camera Temperature	Unknown
Quality Measure	1546,3
Optimised	Yes
Ignored	No
Spectral Power (R/G/B)	32/33/36
Red Quality	1523,8
Green Quality	1608,1
Blue Quality	1506,4
HVR	3,7%

The following image is a crop of the section of image analysed by FoCal:



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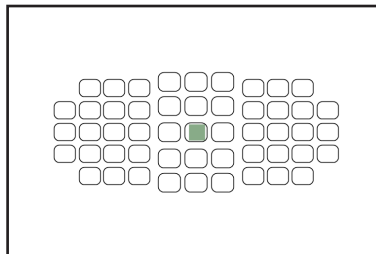
Point 5, QoF=1546,9

Aperture	f/6,3
Shutter Speed	1/250s
EV	13,2
Colour Temperature	Unknown
Camera Temperature	Unknown
Quality Measure	1546,9
Optimised	Yes
Ignored	No
Spectral Power (R/G/B)	32/33/36
Red Quality	1524,6
Green Quality	1610,3
Blue Quality	1495,8
HVR	3,7%

The following image is a crop of the section of image analysed by FoCal:



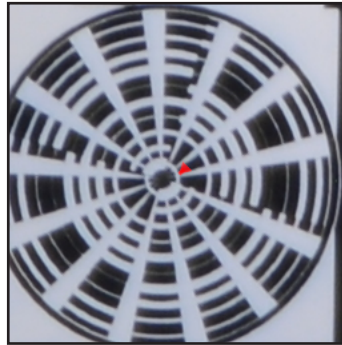
The following image is a crop of the section of image analysed by FoCal:



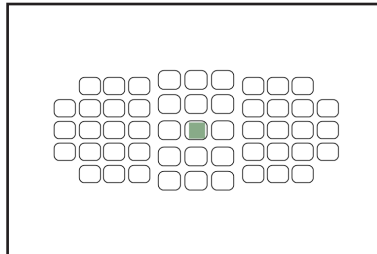
Point 6, QoF=1533,1

Aperture	f/6,3
Shutter Speed	1/250s
EV	13,2
Colour Temperature	Unknown
Camera Temperature	Unknown
Quality Measure	1533,1
Optimised	Yes
Ignored	No
Spectral Power (R/G/B)	32/33/36
Red Quality	1500,6
Green Quality	1587,7
Blue Quality	1517,4
HVR	1,6%

The following image is a crop of the section of image analysed by FoCal:



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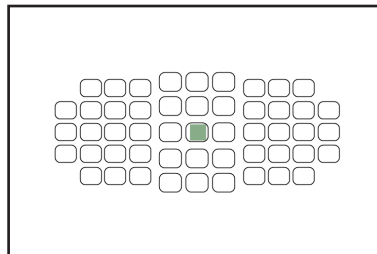
Point 7, QoF=1533,9

Aperture	f/6,3
Shutter Speed	1/250s
EV	13,2
Colour Temperature	Unknown
Camera Temperature	Unknown
Quality Measure	1533,9
Optimised	Yes
Ignored	No
Spectral Power (R/G/B)	32/33/36
Red Quality	1513,5
Green Quality	1595,5
Blue Quality	1499,2
HVR	2,9%

The following image is a crop of the section of image analysed by FoCal:



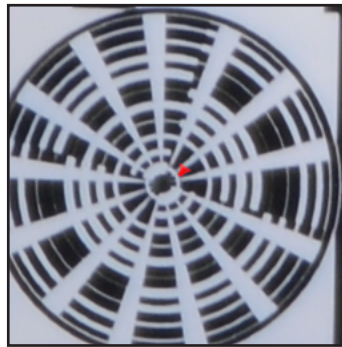
The following image is a crop of the section of image analysed by FoCal:



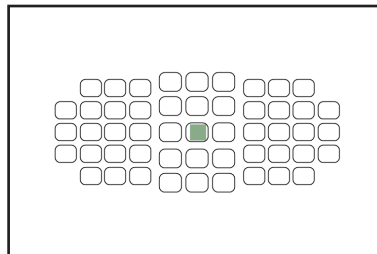
Point 8, QoF=1539,3

Aperture	f/6,3
Shutter Speed	1/250s
EV	13,2
Colour Temperature	Unknown
Camera Temperature	Unknown
Quality Measure	1539,3
Optimised	Yes
Ignored	No
Spectral Power (R/G/B)	32/33/36
Red Quality	1500,7
Green Quality	1596,9
Blue Quality	1524,8
HVR	2,6%

The following image is a crop of the section of image analysed by FoCal:



The following image is a crop of the section of image analysed by FoCal:



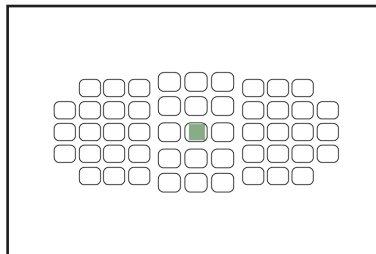
Point 9, QoF=1523,5

Aperture	f/6,3
Shutter Speed	1/250s
EV	13,2
Colour Temperature	Unknown
Camera Temperature	Unknown
Quality Measure	1523,5
Optimised	Yes
Ignored	No
Spectral Power (R/G/B)	32/32/36
Red Quality	1512,7
Green Quality	1599,8
Blue Quality	1469,0
HVR	5,0%

The following image is a crop of the section of image analysed by FoCal:



The following image is a crop of the section of image analysed by FoCal:



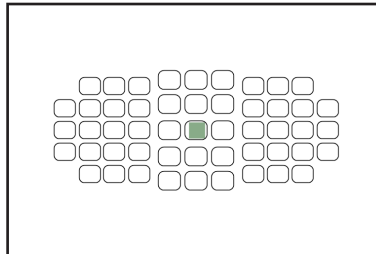
Point 10, QoF=1538,9

Aperture	f/6,3
Shutter Speed	1/250s
EV	13,2
Colour Temperature	Unknown
Camera Temperature	Unknown
Quality Measure	1538,9
Optimised	Yes
Ignored	No
Spectral Power (R/G/B)	32/32/36
Red Quality	1534,4
Green Quality	1613,5
Blue Quality	1482,4
HVR	4,0%

The following image is a crop of the section of image analysed by FoCal:



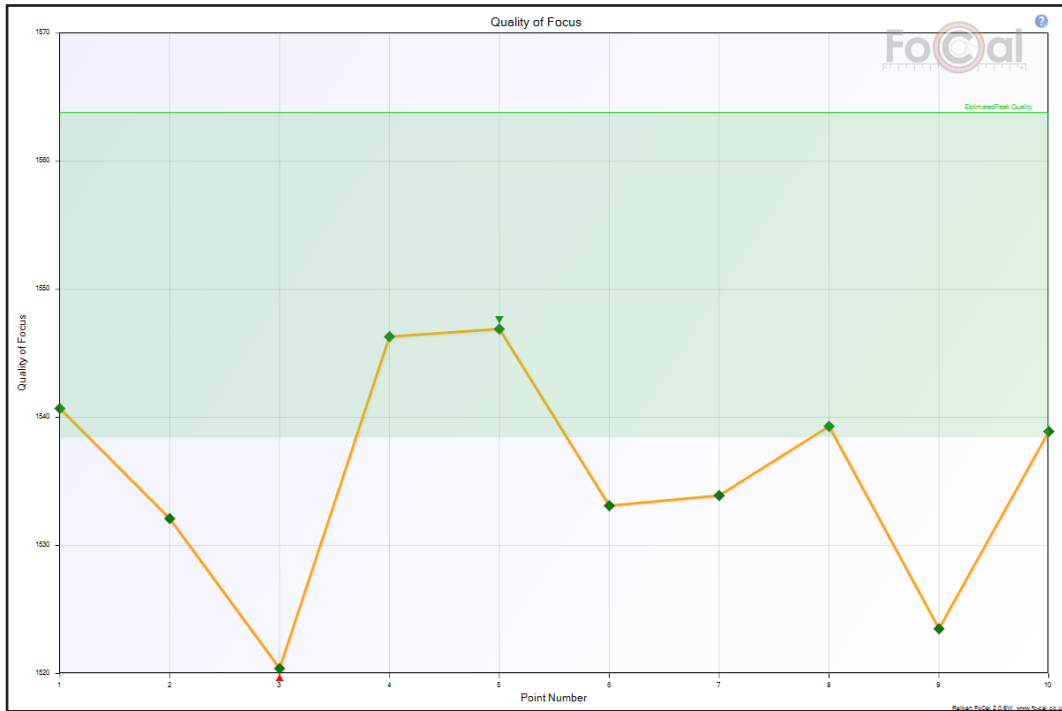
The following image is a crop of the section of image analysed by FoCal:



Quality of Focus

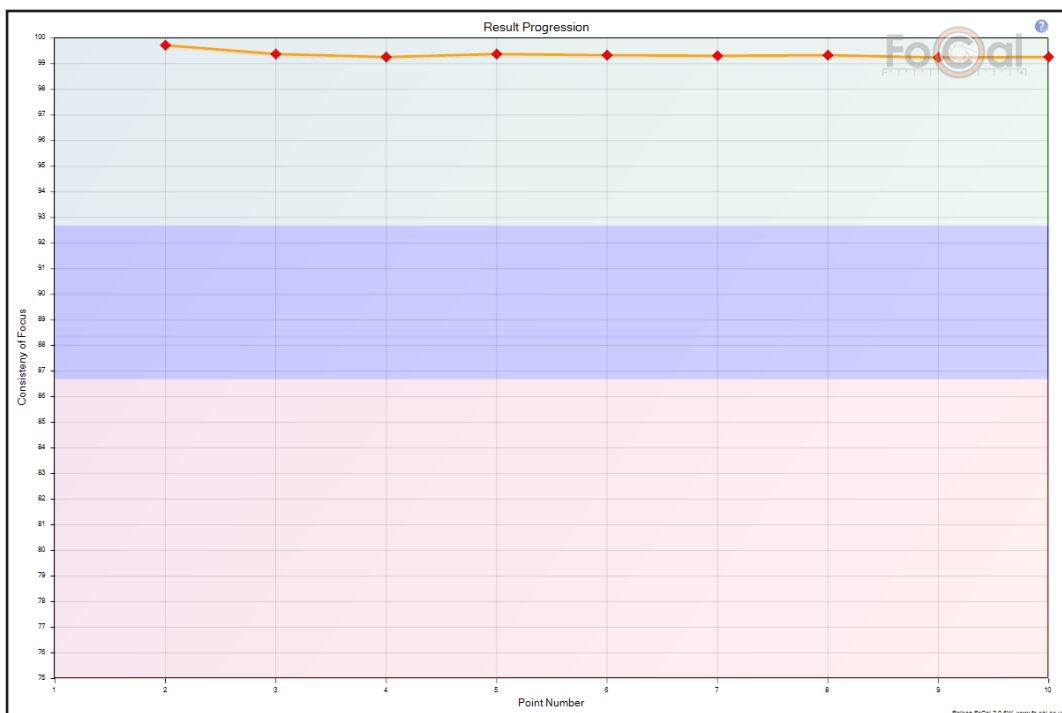
The Quality of Focus chart shows the absolute sharpness value for each of the points through the test. This chart is scaled to fill the vertical area of the chart, so it's important to look at the numerical values of the Quality of Focus scale in order to determine the differences between the values.

If the option to Determine Focus Error is enabled for the test, a horizontal green band will be shown on the graph after a few shots which indicates the calculated approximate best sharpness that could be achieved through manually focusing this lens.



Result Progression

The Result Progression chart shows how the Consistency of Focus result changes through the test. The value of each point is calculated using only data up to that point.

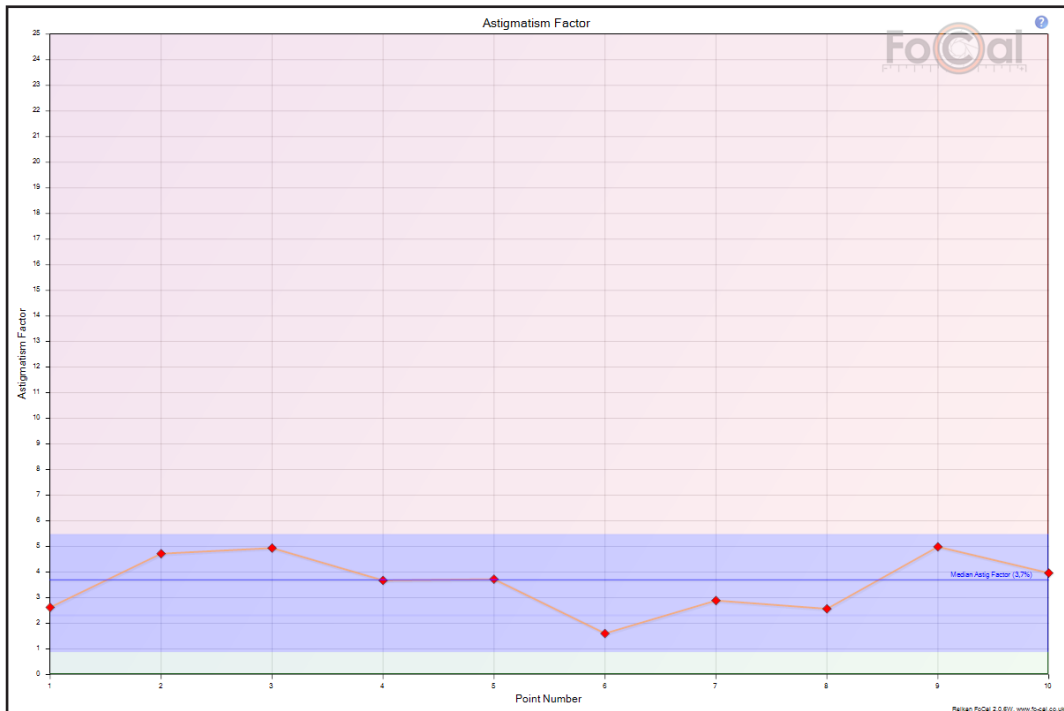


Astigmatism Factor

The Astigmatism Factor chart shows the image quality ratio between the horizontal and vertical analysis directions. If this value varies by more than 10% across the range, or the average value is more than +/- 5% then your lens may be suffering from some decentering or lens element alignment issues.

If FoCal Comparison Data is available for this camera and lens a red/blue/green overlay will be added to indicate how your camera and lens performance compares with other users as follows:

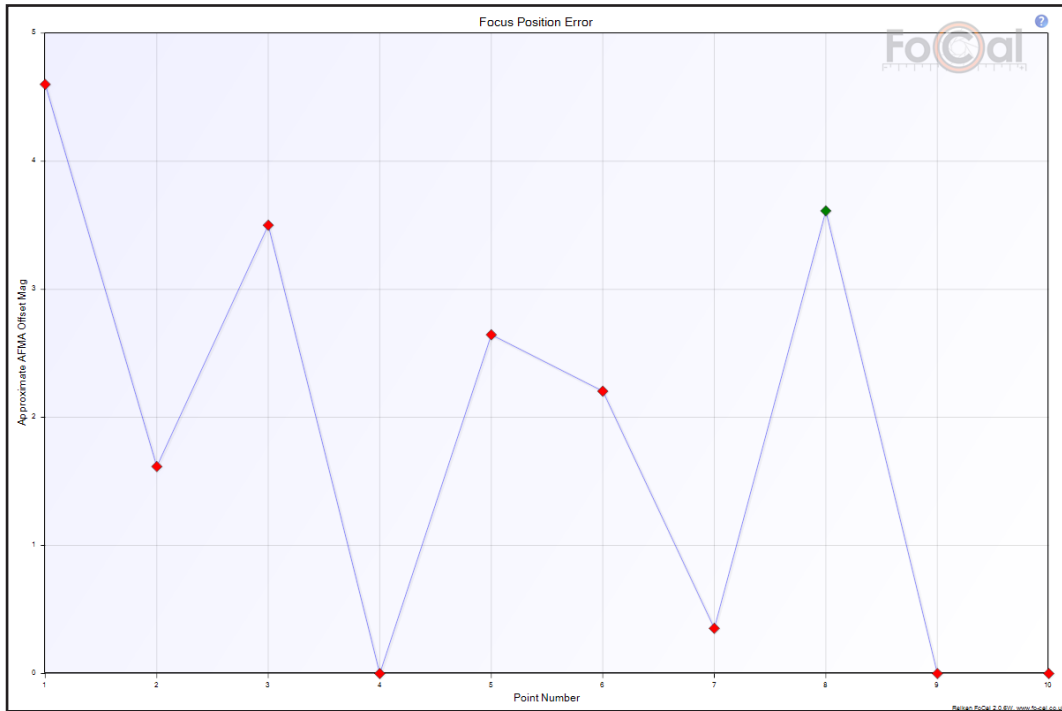
- Red: indicates below-average performance,
- Blue: typical performance experienced by other users
- Green: above average performance.



Focus Position Error

Note: This chart will only be populated if the test was run with the option to Determine Focus Error enabled and there is FoCal Comparison Data available for this camera and lens.

The Focus Position Error chart shows an estimate of the difference between the focus position of the shot captured and the best possible focus that could be achieved. Using the FoCal Comparison Data to build a profile of how the lens performs, the error is estimated in AF Microadjustment units. Please note this is quite experimental and may not produce accurate results.

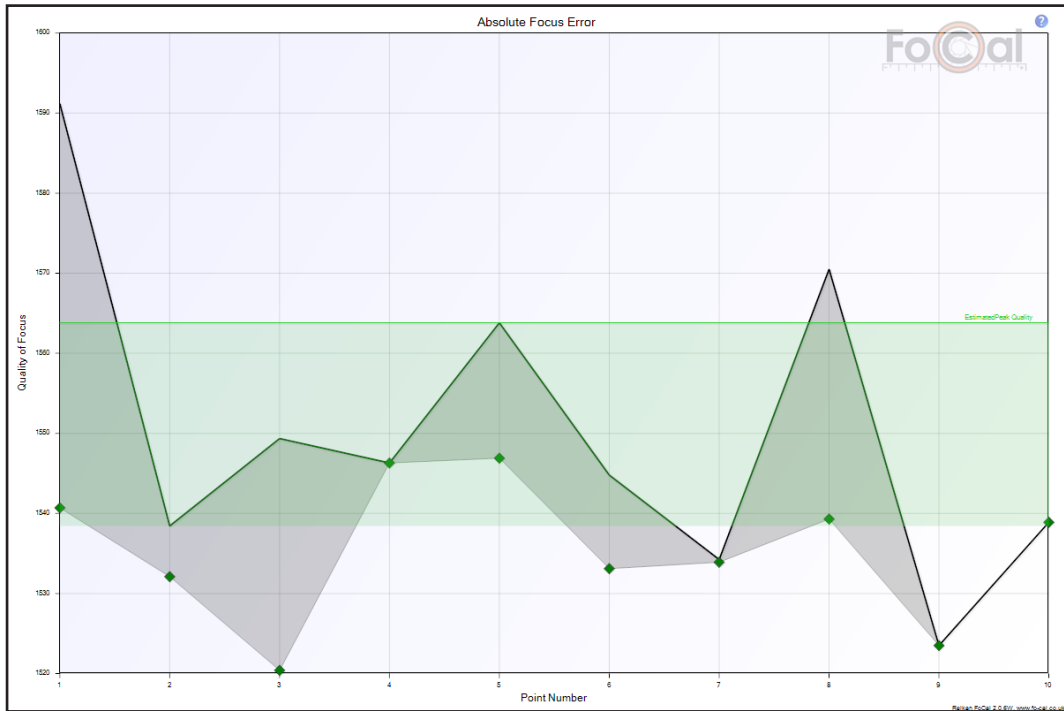


Absolute Focus Error

Note: This chart will only be populated if the test was run with the option to Determine Focus Error enabled.

The Absolute Focus Error chart shows the absolute sharpness value for each of the points through the test. A black line indicates the estimated best possible focus quality that could be achieved for that point (if the lens was manually focussed) and the grey area shows the difference between the achieved autofocus quality and this estimated best quality line.

A horizontal green band will be shown on the graph after a few shots which indicates the calculated approximate best sharpness that could be achieved through manually focusing this lens.



Percentage Focus Error

Note: This chart will only be populated if the test was run with the option to Determine Focus Error enabled.

The Percentage Focus Error chart shows the approximate quality improvement that could be obtained by refocusing the lens after using the camera autofocus system.

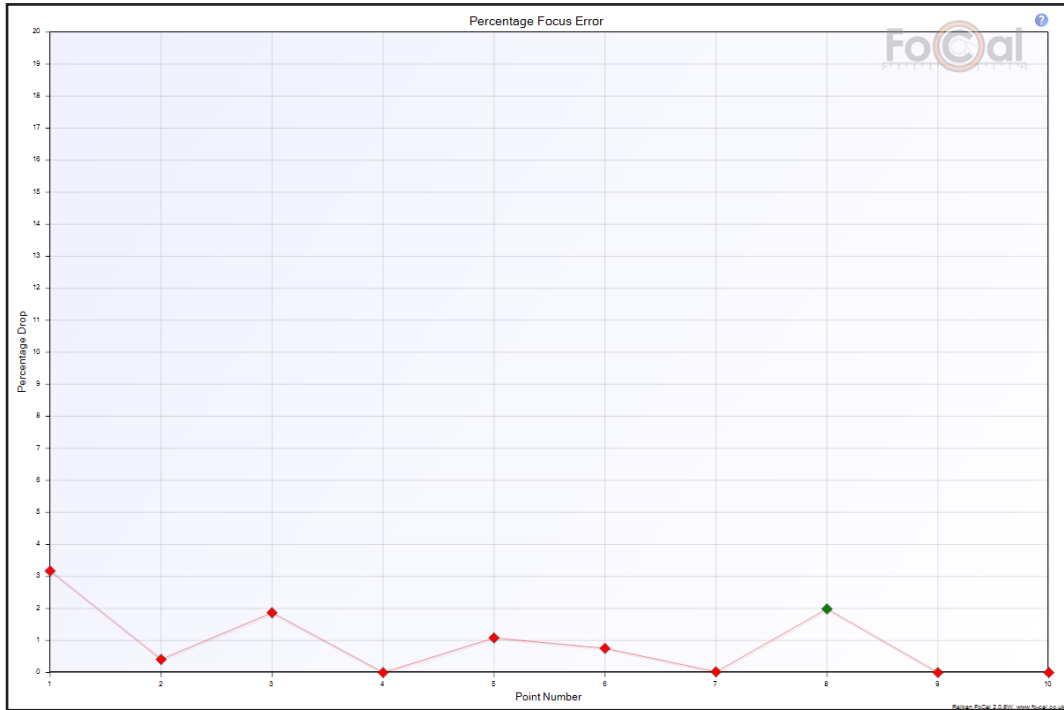


Image Motion

As changes are made inside a lens (e.g. focussing or aperture change), the image projected onto the sensor can move slightly. The Image Motion chart shows the absolute number of pixels moved for each image compared to the first image captured.

Typically, the Image Motion should be significantly less than 10 pixels, and a repeatable higher value could indicate misaligned lens optics, camera movement or vibration during the test or other environmental or lens issues.

If FoCal Comparison Data is available for this camera and lens a red/blue/green overlay will be added to indicate how your camera and lens performance compares with other users as follows:

- Red: indicates below-average performance,
- Blue: typical performance experienced by other users
- Green: above average performance.

