

Reikan FoCal Fully Automatic Test Report

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

Test run on: 26/01/2016 15:35:32 with FoCal 2.0.6.2416W

Report created on: 26/01/2016 15:42:54 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)	15936
Test Colour Temp	5600 K
Lens	150-600mm f/5-6.3
Focal Length	600,0mm
Termination Reason	Success
Test Aperture	f/8,0
Test ISO	200
Defocus Method	Defocus away from the camera
Distance to Target	53,1m
Starting AF Fine Tune	+20
AF Consistency Constraint	6%
Shot Count	22
Calculated AF Fine Tune	-5
Result Confidence	Good
Consistency of Focus	97,9%

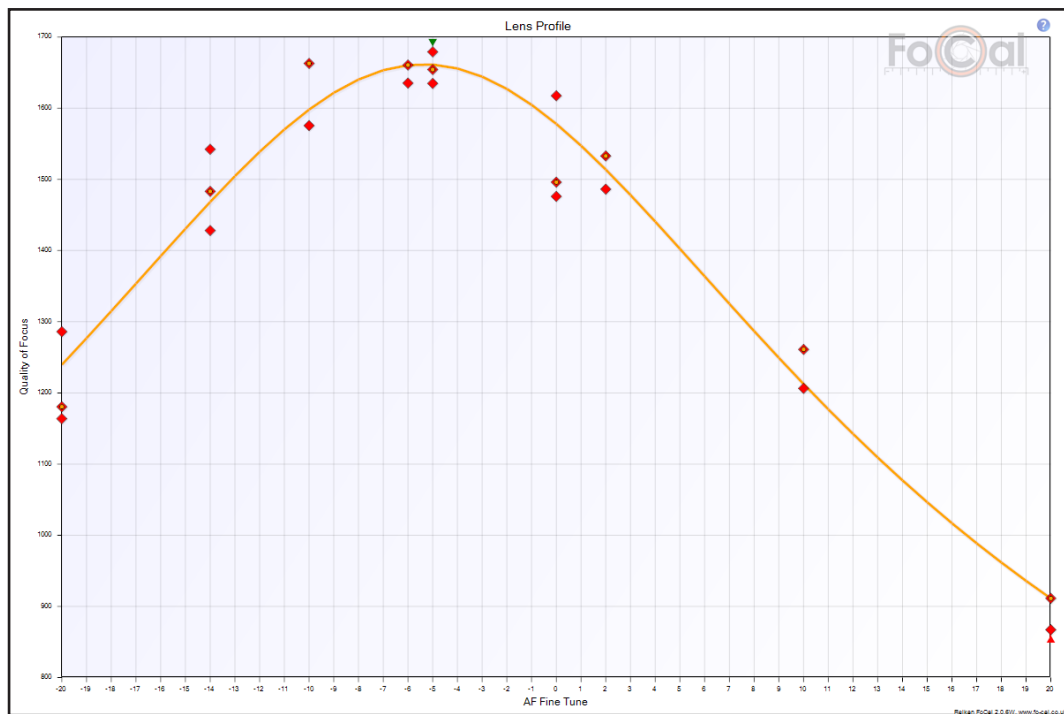
Test Details

Lens Profile Chart

The Lens Profile chart shows how the image quality changes as the AF Microadjustment changes. The orange line represents how the sharpness is expected to change through all values, so the highest point on this line corresponds to the best predicted AF Microadjustment value.

Each point on the chart represents the result of a single shot:

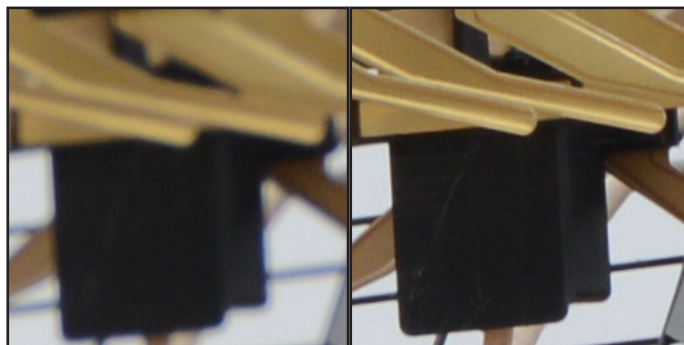
- Red marker: unoptimised sharpness
- Green marker: optimised sharpness
- Orange circle within marker - this is the representative sharpness for this AFMA
- Orange curve - the predicted sharpness across the AFMA range
- Green triangle - highest value
- Red triangle - lowest value



Before/After Comparison

The images show the before and after shots.

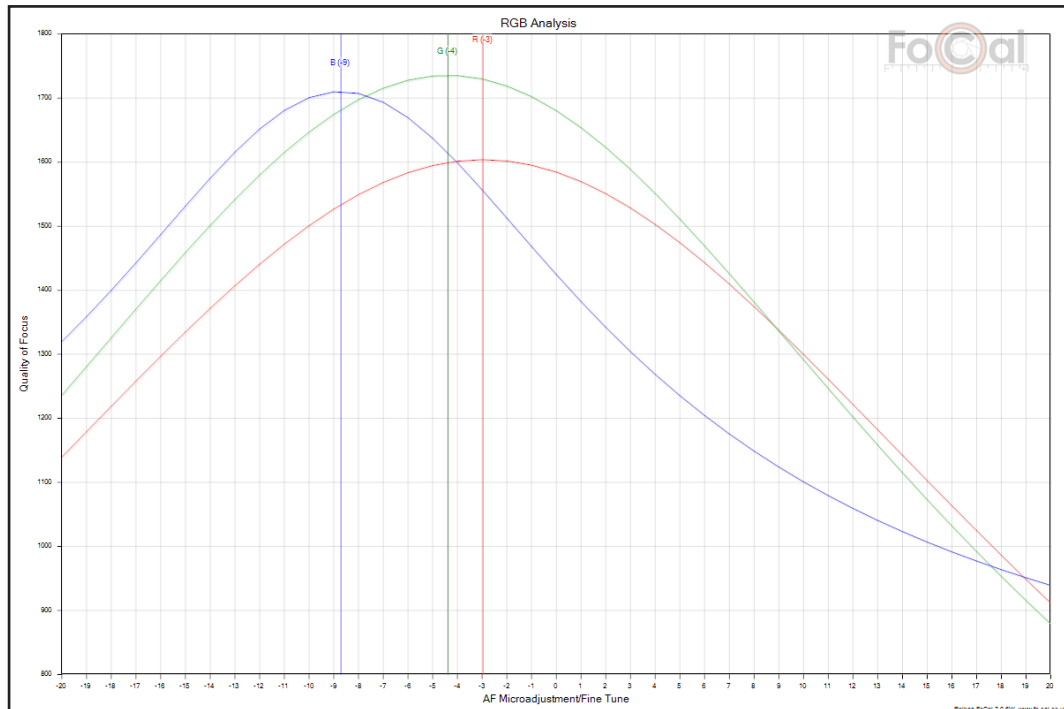
	AF Fine Tune
Before	+20
After	-5



RGB Analysis Chart

The RGB Analysis chart shows the predicted sharpness across the AF Microadjustment range for red, green and blue light. The vertical lines indicate the predicted best AF Microadjustment for each of the 3 colours.

It is important to note that when run in JPEG mode, there is some contamination between the colours so the result is not truly representative.



RGB Analysis Details

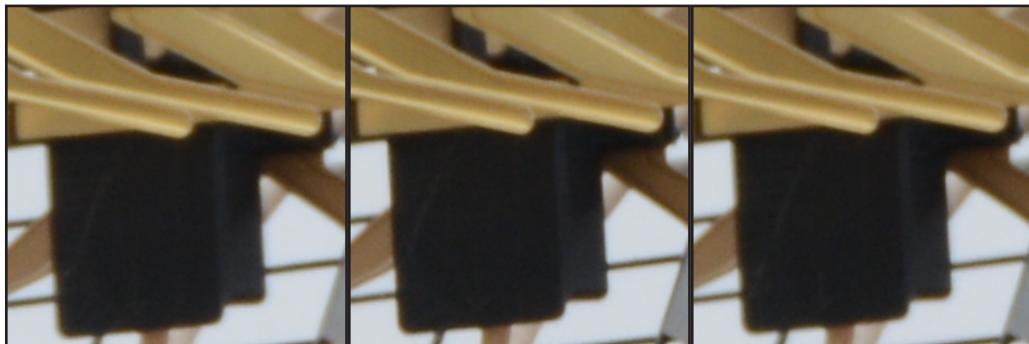
Property	Description
Red:	
Red Result	-3
Red Confidence	Good
Green:	
Green Result	-4
Green Confidence	Good
Blue:	
Blue Result	-9
Blue Confidence	Good

AF Fine Tune: -20

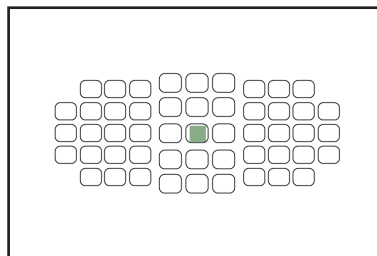
The following table shows information obtained for this test point:

	Shot 1	Shot 2	Shot 3
Aperture	f/8,0	f/8,0	f/8,0
Shutter Speed	1/80s	1/80s	1/80s
EV	11,2	11,2	11,2
Colour Temperature	Unknown	Unknown	Unknown
Camera Temperature	Unknown	Unknown	Unknown
Quality Measure	1163,8	1286,0	1180,5
Optimised	No	No	No
Ignored	No	No	No
Spectral Power (R/G/B)	37/34/29	37/34/29	37/34/29
Red Quality	1085,5	1193,6	1107,6
Green Quality	1148,0	1294,1	1168,1
Blue Quality	1280,7	1395,9	1291,7
HVR	-4,7%	13,7%	7,5%

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:



AF Fine Tune: -14

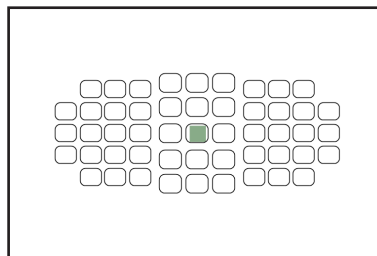
The following table shows information obtained for this test point:

	Shot 1	Shot 2	Shot 3
Aperture	f/8,0	f/8,0	f/8,0
Shutter Speed	1/80s	1/80s	1/80s
EV	11,2	11,2	11,2
Colour Temperature	Unknown	Unknown	Unknown
Camera Temperature	Unknown	Unknown	Unknown
Quality Measure	1542,4	1428,2	1483,2
Optimised	No	No	No
Ignored	No	No	No
Spectral Power (R/G/B)	37/34/29	37/34/29	37/34/29
Red Quality	1427,1	1306,8	1344,9
Green Quality	1592,4	1464,5	1531,1
Blue Quality	1627,8	1534,7	1597,5
HVR	1,0%	-1,9%	5,7%

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:

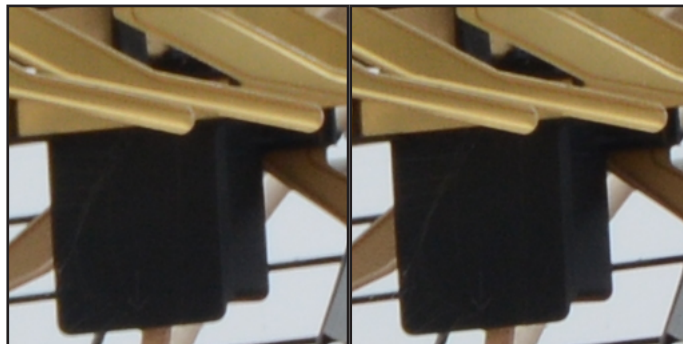


AF Fine Tune: -10

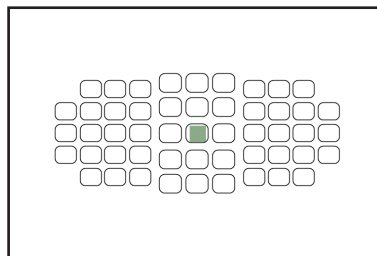
The following table shows information obtained for this test point:

	Shot 1	Shot 2
Aperture	f/8,0	f/8,0
Shutter Speed	1/80s	1/80s
EV	11,2	11,2
Colour Temperature	Unknown	Unknown
Camera Temperature	Unknown	Unknown
Quality Measure	1575,6	1663,0
Optimised	No	No
Ignored	No	No
Spectral Power (R/G/B)	37/34/29	37/34/29
Red Quality	1495,6	1586,1
Green Quality	1637,1	1721,2
Blue Quality	1617,9	1696,9
HVR	8,7%	7,9%

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:



AF Fine Tune: -6

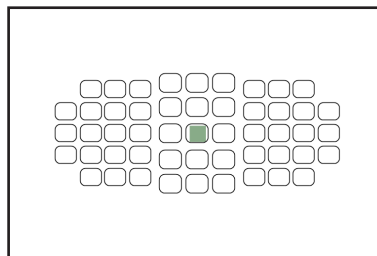
The following table shows information obtained for this test point:

	Shot 1	Shot 2
Aperture	f/8,0	f/8,0
Shutter Speed	1/80s	1/80s
EV	11,2	11,2
Colour Temperature	Unknown	Unknown
Camera Temperature	Unknown	Unknown
Quality Measure	1660,7	1635,4
Optimised	No	No
Ignored	No	No
Spectral Power (R/G/B)	37/34/29	37/34/29
Red Quality	1580,1	1606,6
Green Quality	1717,3	1716,5
Blue Quality	1692,9	1573,6
HVR	4,1%	12,3%

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:



AF Fine Tune: -5

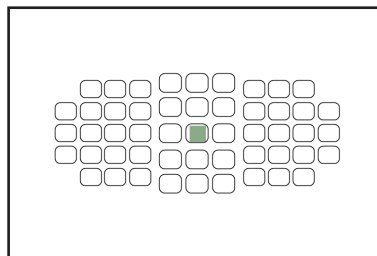
The following table shows information obtained for this test point:

	Shot 1	Shot 2	Shot 3
Aperture	f/8,0	f/8,0	f/8,0
Shutter Speed	1/80s	1/80s	1/80s
EV	11,2	11,2	11,2
Colour Temperature	Unknown	Unknown	Unknown
Camera Temperature	Unknown	Unknown	Unknown
Quality Measure	1679,2	1654,4	1634,8
Optimised	No	No	No
Ignored	No	No	No
Spectral Power (R/G/B)	37/34/29	37/34/29	37/34/29
Red Quality	1664,1	1607,9	1591,0
Green Quality	1755,0	1729,3	1734,4
Blue Quality	1636,4	1620,0	1577,3
HVR	7,0%	8,5%	13,6%

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:



AF Fine Tune: 0

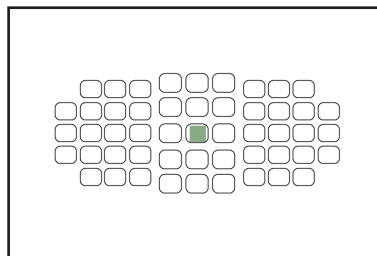
The following table shows information obtained for this test point:

	Shot 1	Shot 2	Shot 3
Aperture	f/8,0	f/8,0	f/8,0
Shutter Speed	1/80s	1/80s	1/80s
EV	11,2	11,2	11,2
Colour Temperature	Unknown	Unknown	Unknown
Camera Temperature	Unknown	Unknown	Unknown
Quality Measure	1617,5	1476,1	1496,1
Optimised	No	No	No
Ignored	No	No	No
Spectral Power (R/G/B)	37/34/29	37/34/30	37/34/30
Red Quality	1612,4	1481,6	1536,1
Green Quality	1723,6	1569,1	1612,6
Blue Quality	1499,7	1365,9	1340,3
HVR	9,2%	18,2%	18,9%

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:



AF Fine Tune: 2

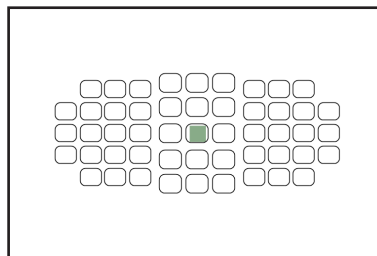
The following table shows information obtained for this test point:

	Shot 1	Shot 2
Aperture	f/8,0	f/8,0
Shutter Speed	1/80s	1/80s
EV	11,2	11,2
Colour Temperature	Unknown	Unknown
Camera Temperature	Unknown	Unknown
Quality Measure	1532,9	1486,3
Optimised	No	No
Ignored	No	No
Spectral Power (R/G/B)	37/34/29	37/34/29
Red Quality	1532,9	1496,7
Green Quality	1631,5	1599,0
Blue Quality	1409,8	1336,3
HVR	16,8%	10,6%

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



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AF Fine Tune: 10

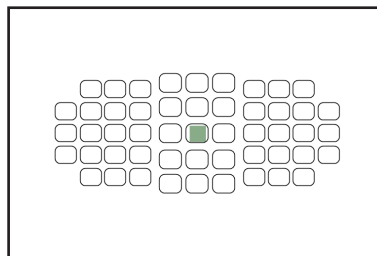
The following table shows information obtained for this test point:

	Shot 1	Shot 2
Aperture	f/8,0	f/8,0
Shutter Speed	1/80s	1/80s
EV	11,2	11,2
Colour Temperature	Unknown	Unknown
Camera Temperature	Unknown	Unknown
Quality Measure	1261,1	1206,4
Optimised	No	No
Ignored	No	No
Spectral Power (R/G/B)	37/34/30	37/34/30
Red Quality	1317,8	1256,2
Green Quality	1317,0	1244,3
Blue Quality	1149,6	1091,2
HVR	24,8%	19,9%

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:



AF Fine Tune: 20

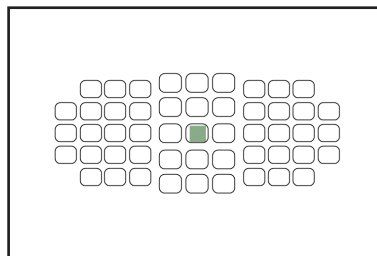
The following table shows information obtained for this test point:

	Shot 1	Shot 2
Aperture	f/8,0	f/8,0
Shutter Speed	1/80s	1/80s
EV	11,2	11,2
Colour Temperature	Unknown	Unknown
Camera Temperature	Unknown	Unknown
Quality Measure	911,3	867,2
Optimised	No	No
Ignored	No	No
Spectral Power (R/G/B)	37/34/29	37/34/30
Red Quality	923,9	881,5
Green Quality	892,8	869,3
Blue Quality	910,3	859,3
HVR	13,4%	7,2%

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:

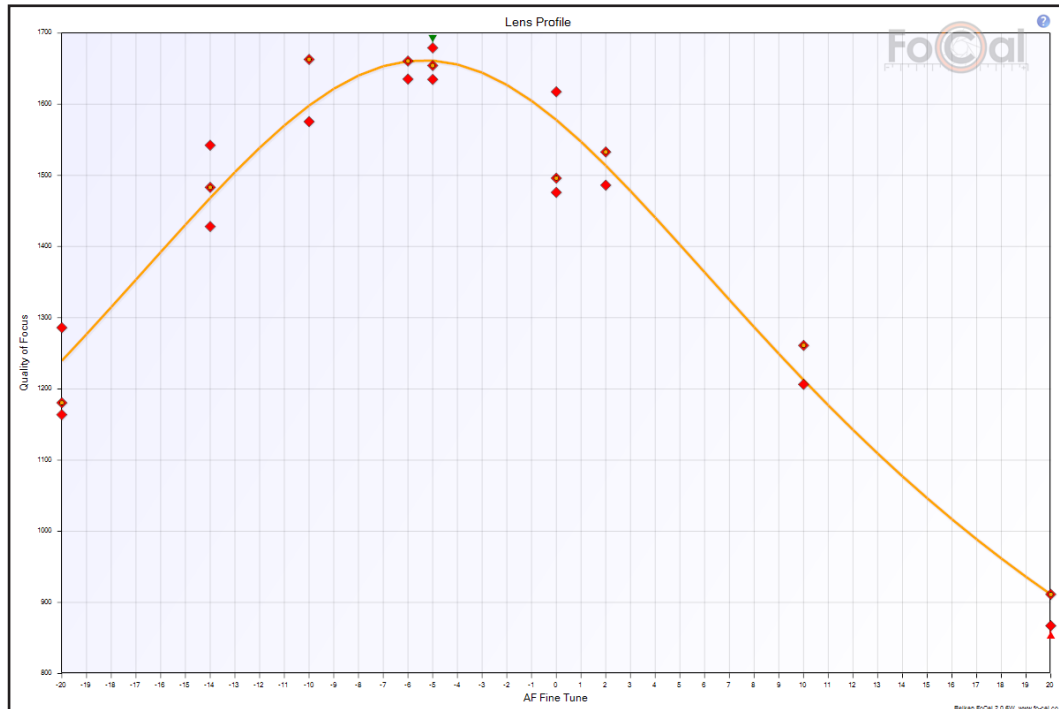


Lens Profile

The Lens Profile chart shows how the image quality changes as the AF Microadjustment changes. The orange line represents how the sharpness is expected to change through all values, so the highest point on this line corresponds to the best predicted AF Microadjustment value.

Each point on the chart represents the result of a single shot:

- Red marker: unoptimised sharpness
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- Orange curve - the predicted sharpness across the AFMA range
- Green triangle - highest value
- Red triangle - lowest value



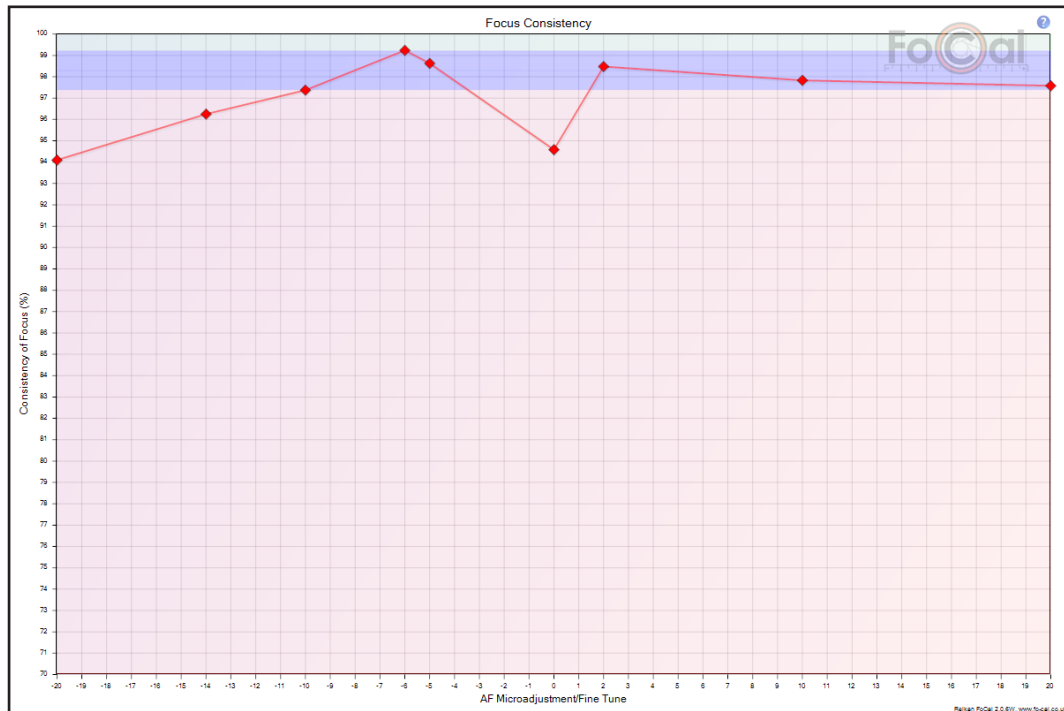
Focus Consistency

The Focus Consistency chart shows the focus variability at each tested point where available. This is calculated from the spread in sharpness values from shots at a single AF Microadjustment value.

A value of 100% indicated perfect repeatability. In normal use, a values above 97% indicate acceptable autofocus repeatability, and above 99% indicate very good repeatability. Note that the consistency of focus measurement is less relevant far from the best AF Microadjustment value.

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.

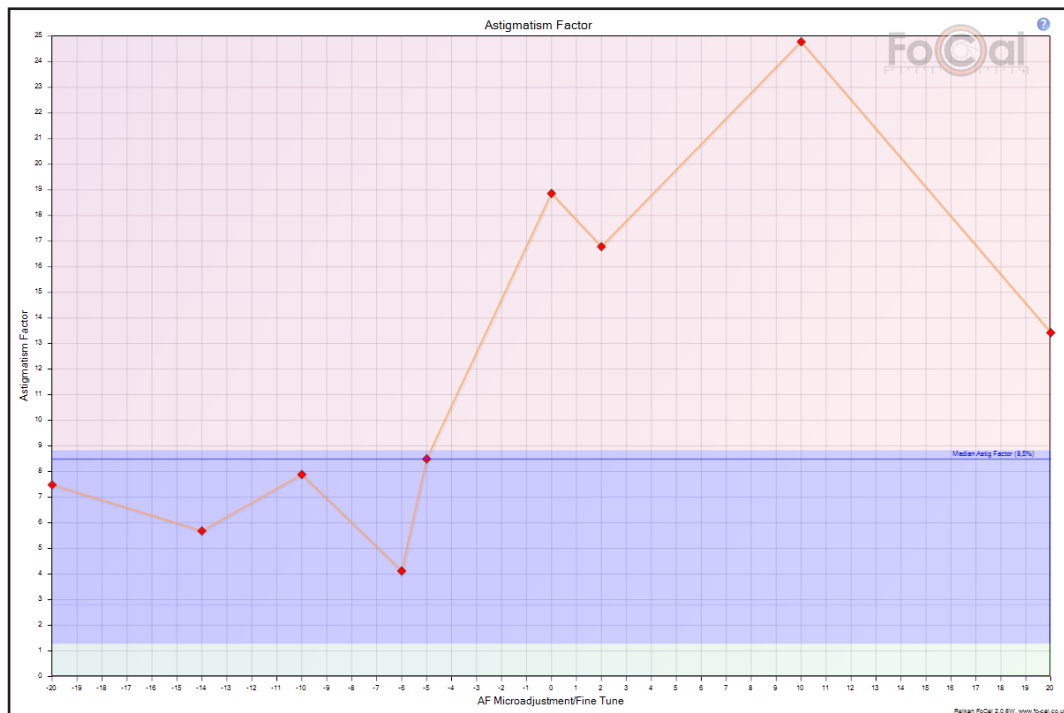


Astigmatism Factor

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 $\pm 5\%$ 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.



Result Convergence

The Result Convergence chart indicates how FoCal determined the best AF Microadjustment value as more points were added to the data. There is no result for the first few points, then the result should stabilise as more points are added towards the end of the test (the right side of the chart).

The size of the green area gives an indication of the confidence in the result at that point. A large green area spreading across many AF Microadjustment values indicates poor data that will not give an acceptable final result.

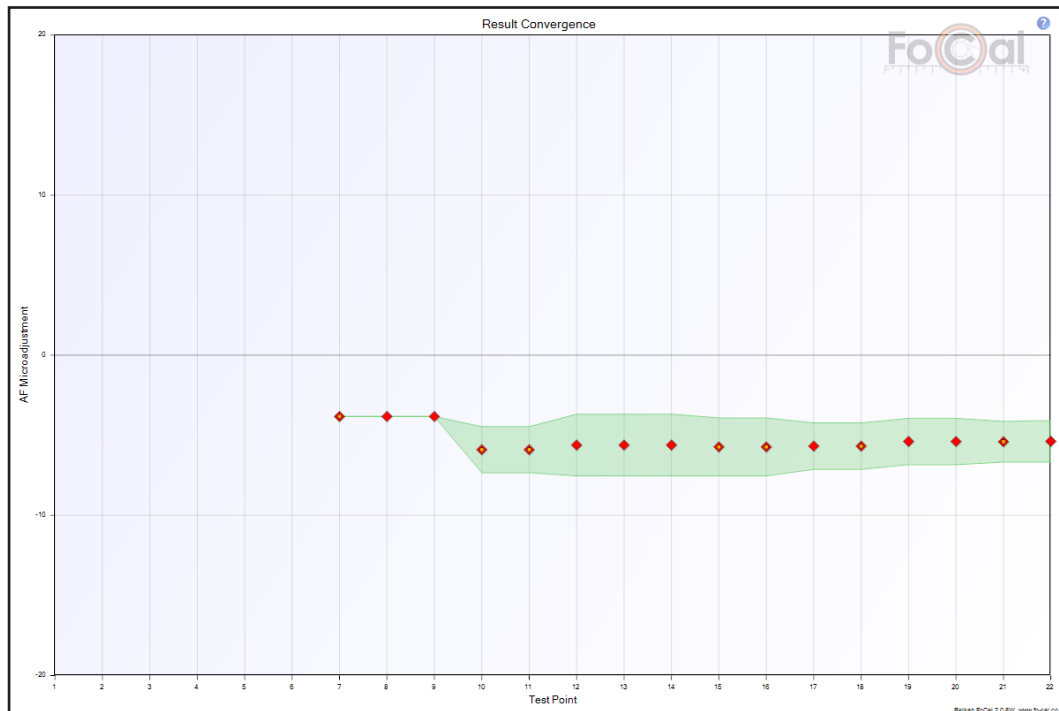


Image Motion

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.

