Reikan FoCal Fully Automatic Test Report

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

Test run on: 17/01/2016 00:34:37 with FoCal 2.0.6.2416W

Report created on: 17/01/2016 00:47:21 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)	13494
Test Colour Temp	5200 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	3,4m to 3,4m
Starting AF Fine Tune	-4
AF Consistency Constraint	6%
Shot Count	31
Calculated AF Fine Tune	-3
Result Confidence	Poor

User Notes

mire 1/4, et ça bouge beaucoup à 600mm

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
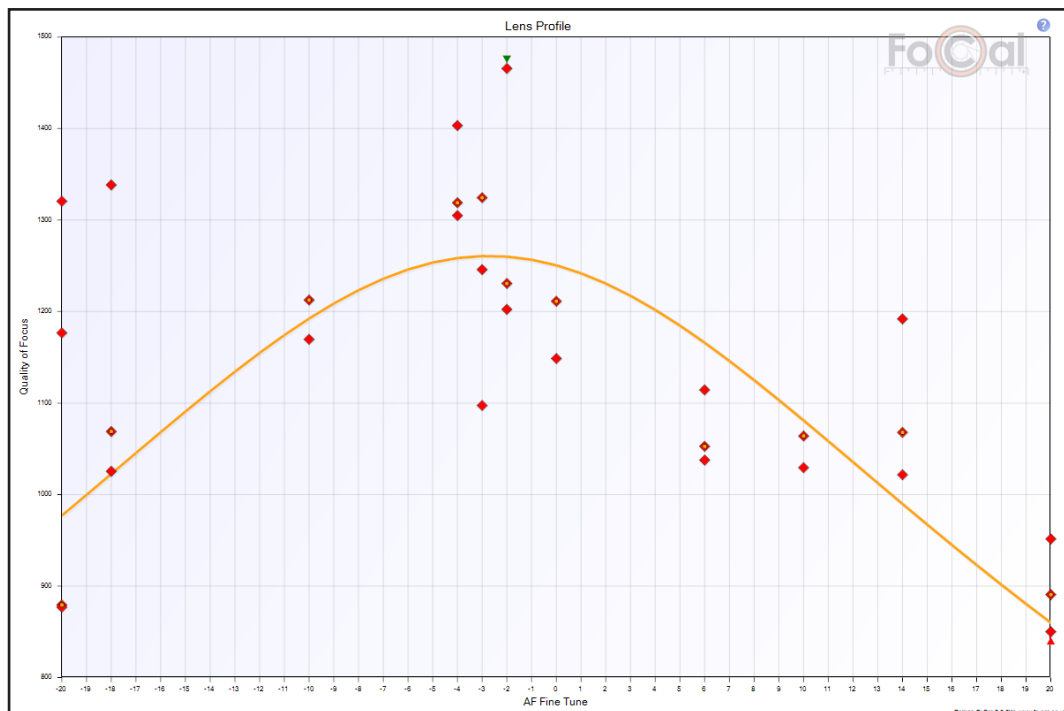
Before/After Comparison

The images show the before and after shots.

	AF Fine Tune
Before	-4
After	-3
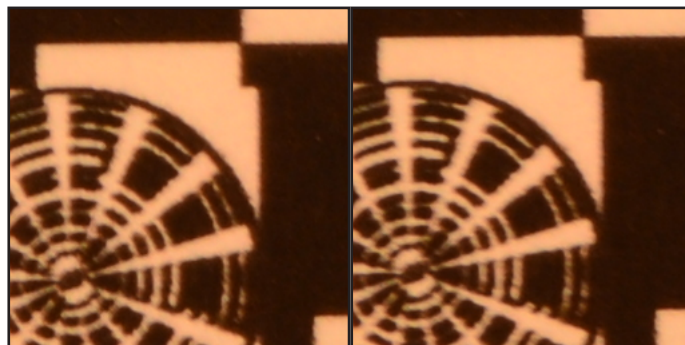
RGB Analysis Chart

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.
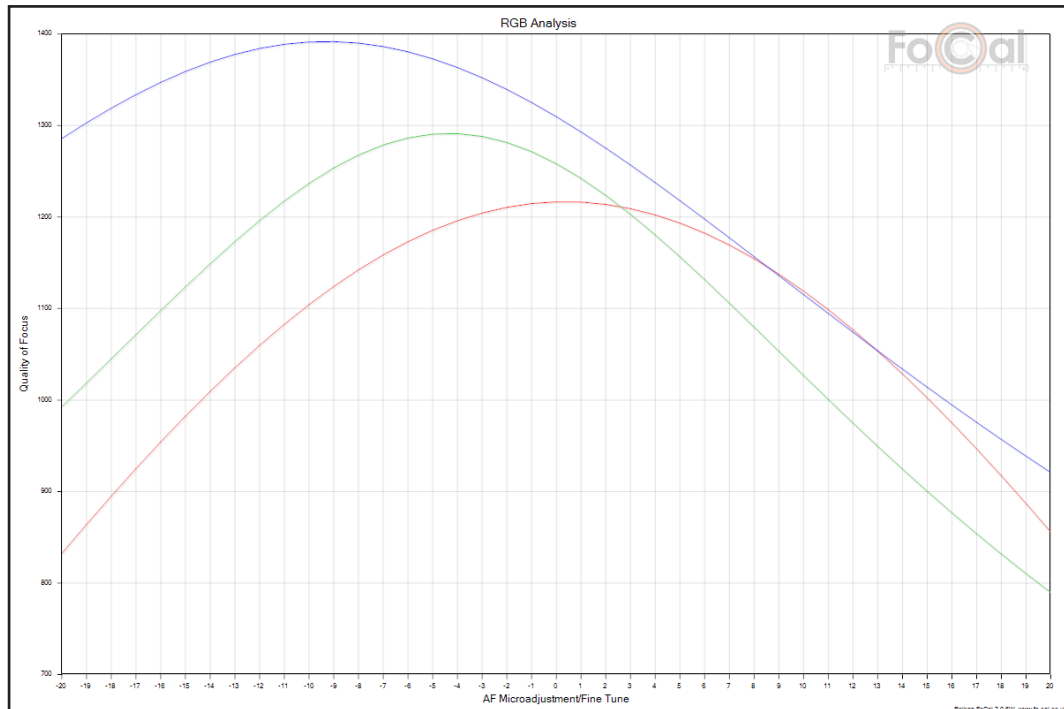

RGB Analysis Details

Property	Description
Red:	
Red Result	+0
Red Confidence	Poor
Green:	
Green Result	-4
Green Confidence	Poor
Blue:	
Blue Result	-9
Blue Confidence	Poor

AF Fine Tune: -20

The following table shows information obtained for this test point:

	Shot 1	Shot 2	Shot 3	Shot 4
Aperture	f/6,3	f/6,3	**f/6,3**	f/6,3
Shutter Speed	1/25s	1/25s	**1/25s**	1/25s
EV	9,9	9,9	**9,9**	9,9
Colour Temperature	Unknown	Unknown	**Unknown**	Unknown
Camera Temperature	Unknown	Unknown	**Unknown**	Unknown
Quality Measure	1176,7	1320,6	**879,4**	877,0
Optimised	No	No	**No**	No
Ignored	No	No	**No**	No
Spectral Power (R/G/B)	50/31/19	50/31/19	**50/31/19**	50/31/19
Red Quality	1026,0	1184,4	**800,1**	794,2
Green Quality	1231,6	1382,3	**875,8**	876,0
Blue Quality	1486,9	1573,3	**1093,3**	1098,2
HVR	-12,0%	-16,7%	**-15,7%**	-22,2%

The following image is a crop of the section of image analysed by FoCal:
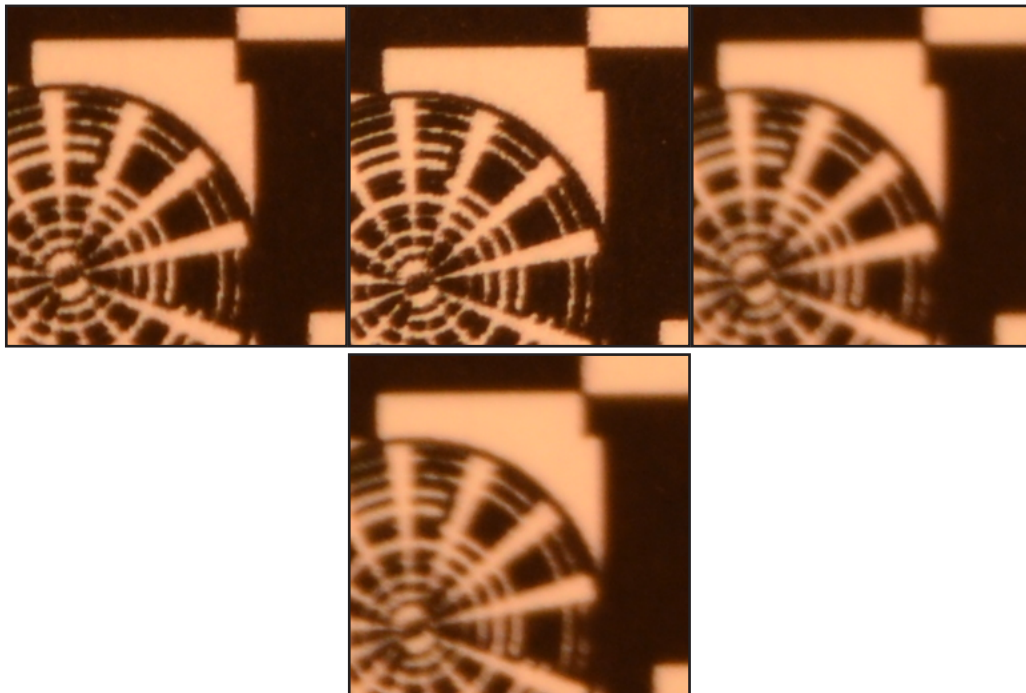
The following image is a crop of the section of image analysed by FoCal:
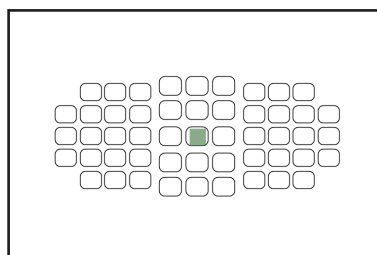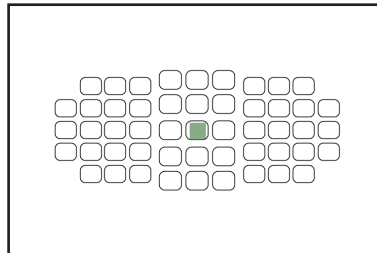
AF Fine Tune: -18

The following table shows information obtained for this test point:

	Shot 1	Shot 2	Shot 3
Aperture	f/6,3	f/6,3	**f/6,3**
Shutter Speed	1/25s	1/25s	**1/25s**
EV	9,9	9,9	**9,9**
Colour Temperature	Unknown	Unknown	**Unknown**
Camera Temperature	Unknown	Unknown	**Unknown**
Quality Measure	1338,4	1025,4	**1068,9**
Optimised	No	No	**No**
Ignored	No	No	**No**
Spectral Power (R/G/B)	49/31/19	52/31/18	**51/31/18**
Red Quality	1235,8	845,7	**910,0**
Green Quality	1390,7	1063,1	**1093,5**
Blue Quality	1510,0	1490,0	**1472,3**
HVR	-19,3%	-14,9%	**-20,9%**

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

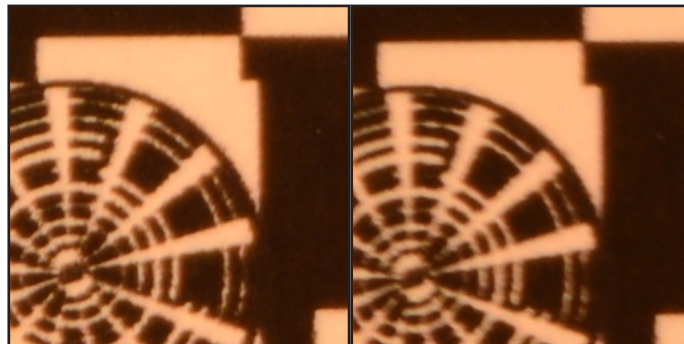The following image is a crop of the section of image analysed by FoCal:
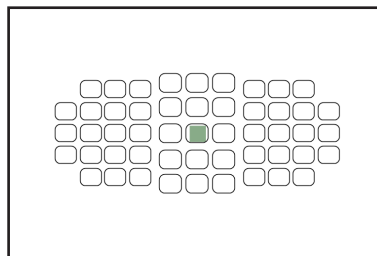
AF Fine Tune: -10

The following table shows information obtained for this test point:

	Shot 1	Shot 2
Aperture	f/6,3	f/6,3
Shutter Speed	1/25s	1/25s
EV	9,9	9,9
Colour Temperature	Unknown	Unknown
Camera Temperature	Unknown	Unknown
Quality Measure	1212,6	1169,7
Optimised	No	No
Ignored	No	No
Spectral Power (R/G/B)	50/31/19	50/31/19
Red Quality	1090,9	1059,8
Green Quality	1253,2	1207,2
Blue Quality	1460,0	1389,1
HVR	-15,0%	-27,7%

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

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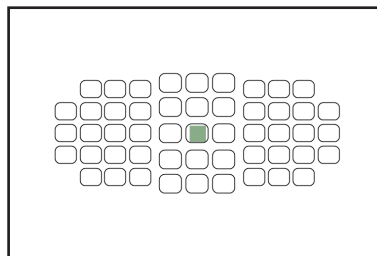
AF Fine Tune: -4

The following table shows information obtained for this test point:

	Shot 1	Shot 2	Shot 3
Aperture	f/6,3	f/6,3	**f/6,3**
Shutter Speed	1/25s	1/25s	**1/25s**
EV	9,9	9,9	**9,9**
Colour Temperature	Unknown	Unknown	**Unknown**
Camera Temperature	Unknown	Unknown	**Unknown**
Quality Measure	1403,3	1305,0	**1318,9**
Optimised	No	No	**No**
Ignored	No	No	**No**
Spectral Power (R/G/B)	50/31/19	48/32/20	**50/31/19**
Red Quality	1363,7	1328,4	**1227,6**
Green Quality	1468,3	1303,1	**1386,0**
Blue Quality	1401,1	1247,6	**1447,7**
HVR	-17,6%	-17,2%	**-15,9%**

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

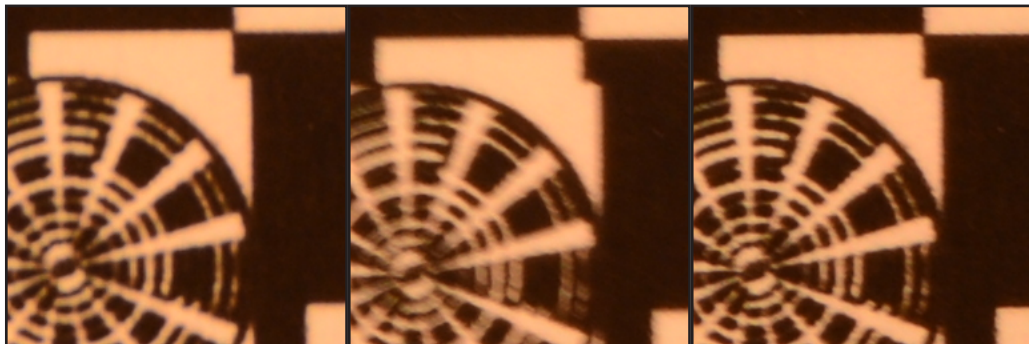The following image is a crop of the section of image analysed by FoCal:
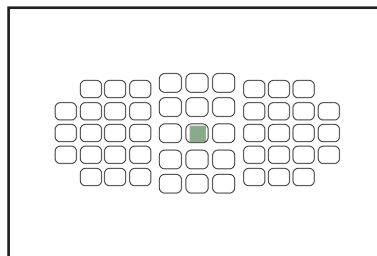
AF Fine Tune: -3

The following table shows information obtained for this test point:

	Shot 1	Shot 2	Shot 3
Aperture	f/6,3	f/6,3	**f/6,3**
Shutter Speed	1/25s	1/25s	**1/25s**
EV	9,9	9,9	**9,9**
Colour Temperature	Unknown	Unknown	**Unknown**
Camera Temperature	Unknown	Unknown	**Unknown**
Quality Measure	1245,9	1097,4	**1324,5**
Optimised	No	No	**No**
Ignored	No	No	**No**
Spectral Power (R/G/B)	49/31/20	49/31/20	**50/31/19**
Red Quality	1269,3	1067,5	**1250,8**
Green Quality	1230,2	1107,7	**1381,7**
Blue Quality	1213,6	1158,7	**1424,4**
HVR	-5,5%	-27,6%	**-26,0%**

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

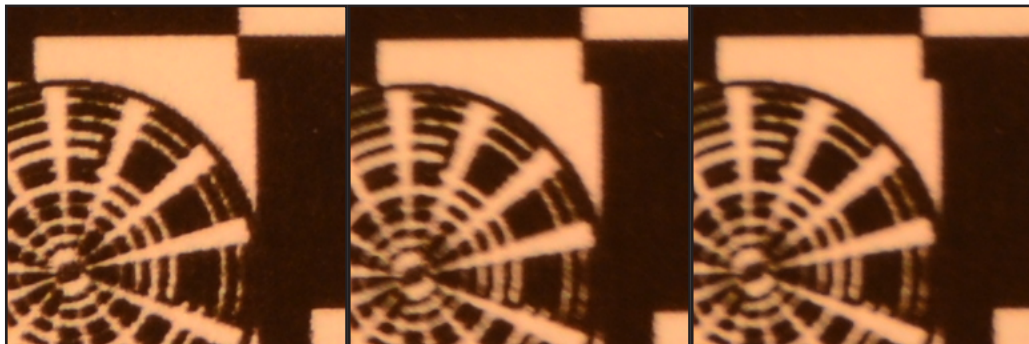The following image is a crop of the section of image analysed by FoCal:
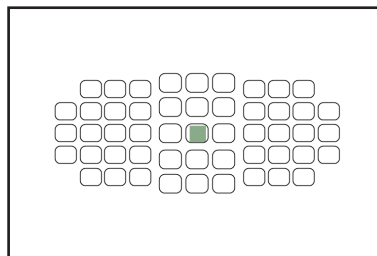
AF Fine Tune: -2

The following table shows information obtained for this test point:

	Shot 1	Shot 2	Shot 3
Aperture	f/6,3	**f/6,3**	f/6,3
Shutter Speed	1/25s	**1/25s**	1/25s
EV	9,9	**9,9**	9,9
Colour Temperature	Unknown	**Unknown**	Unknown
Camera Temperature	Unknown	**Unknown**	Unknown
Quality Measure	1465,7	**1230,7**	1202,4
Optimised	No	**No**	No
Ignored	No	**No**	No
Spectral Power (R/G/B)	49/31/20	**49/31/20**	49/31/20
Red Quality	1425,4	**1197,7**	1192,2
Green Quality	1519,5	**1256,6**	1220,5
Blue Quality	1481,5	**1268,3**	1203,4
HVR	-15,8%	**-25,8%**	-25,6%

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

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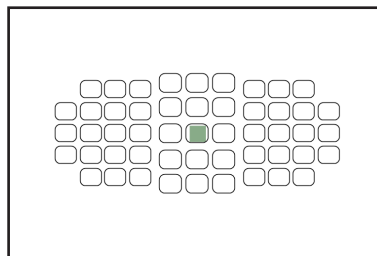
AF Fine Tune: 0

The following table shows information obtained for this test point:

	Shot 1	Shot 2
Aperture	f/6,3	f/6,3
Shutter Speed	1/30s	1/25s
EV	10,2	9,9
Colour Temperature	Unknown	Unknown
Camera Temperature	Unknown	Unknown
Quality Measure	1148,7	1211,3
Optimised	No	No
Ignored	No	No
Spectral Power (R/G/B)	48/32/21	48/32/21
Red Quality	1193,8	1265,9
Green Quality	1098,5	1159,3
Blue Quality	1128,4	1163,7
HVR	-7,8%	-24,2%

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

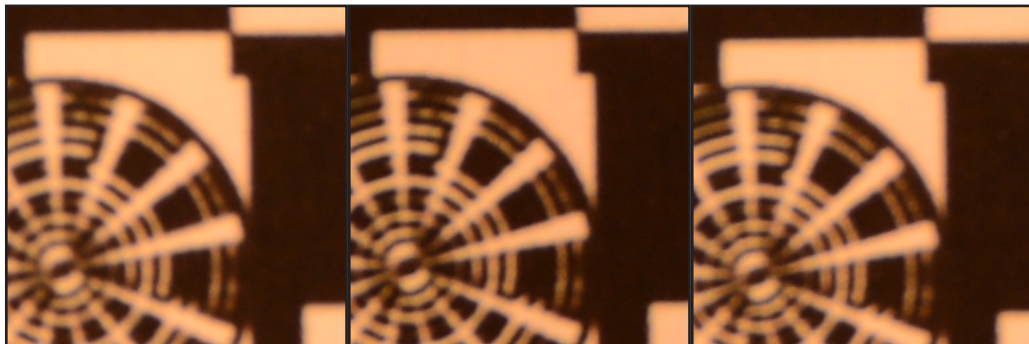The following image is a crop of the section of image analysed by FoCal:
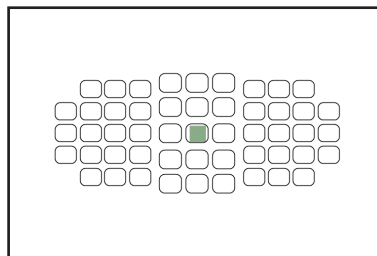
AF Fine Tune: 6

The following table shows information obtained for this test point:

	Shot 1	Shot 2	Shot 3
Aperture	f/6,3	f/6,3	**f/6,3**
Shutter Speed	1/25s	1/25s	**1/25s**
EV	9,9	9,9	**9,9**
Colour Temperature	Unknown	Unknown	**Unknown**
Camera Temperature	Unknown	Unknown	**Unknown**
Quality Measure	1037,7	1114,4	**1052,7**
Optimised	No	No	**No**
Ignored	No	No	**No**
Spectral Power (R/G/B)	48/32/21	49/31/20	**48/32/20**
Red Quality	1078,6	1116,1	**1067,4**
Green Quality	954,4	1074,3	**971,2**
Blue Quality	1067,7	1173,6	**1135,2**
HVR	-9,4%	-12,7%	**-12,6%**

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

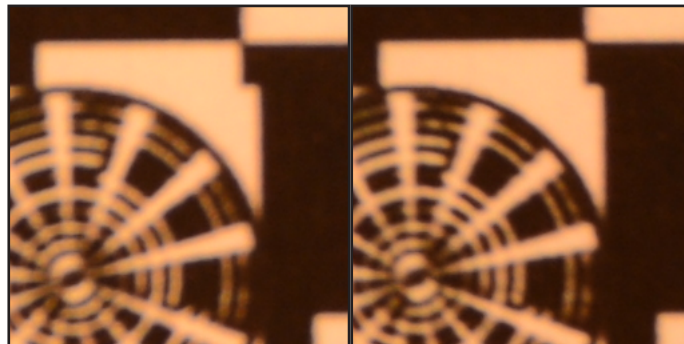The following image is a crop of the section of image analysed by FoCal:
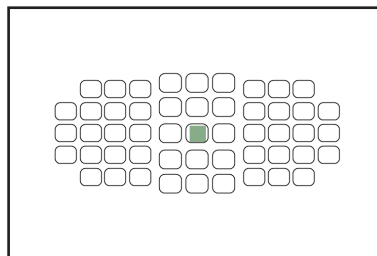
AF Fine Tune: 10

The following table shows information obtained for this test point:

	Shot 1	Shot 2
Aperture	f/6,3	f/6,3
Shutter Speed	1/30s	1/25s
EV	10,2	9,9
Colour Temperature	Unknown	Unknown
Camera Temperature	Unknown	Unknown
Quality Measure	1029,4	1064,0
Optimised	No	No
Ignored	No	No
Spectral Power (R/G/B)	47/32/21	48/31/20
Red Quality	1054,3	1080,9
Green Quality	933,7	1022,7
Blue Quality	1117,8	1087,8
HVR	-12,2%	-17,4%

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

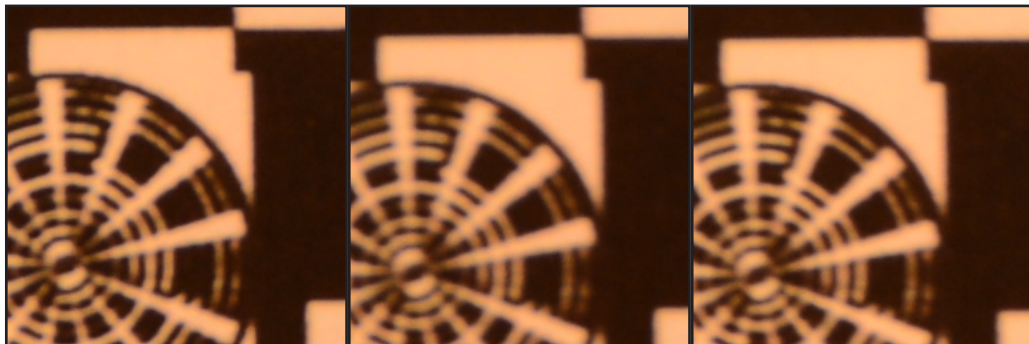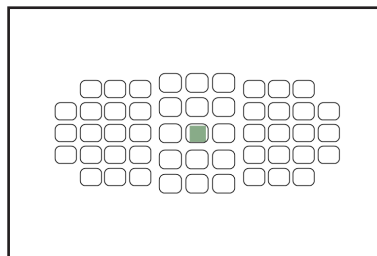The following image is a crop of the section of image analysed by FoCal:

AF Fine Tune: 14

The following table shows information obtained for this test point:

	Shot 1	Shot 2	Shot 3
Aperture	f/6,3	f/6,3	**f/6,3**
Shutter Speed	1/25s	1/25s	**1/25s**
EV	9,9	9,9	**9,9**
Colour Temperature	Unknown	Unknown	**Unknown**
Camera Temperature	Unknown	Unknown	**Unknown**
Quality Measure	1192,0	1021,7	**1068,0**
Optimised	No	No	**No**
Ignored	No	No	**No**
Spectral Power (R/G/B)	49/31/20	49/31/20	**48/31/20**
Red Quality	1205,1	1025,4	**1084,1**
Green Quality	1169,5	989,6	**1021,3**
Blue Quality	1194,3	1063,1	**1102,6**
HVR	-15,3%	-17,9%	**-23,4%**

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

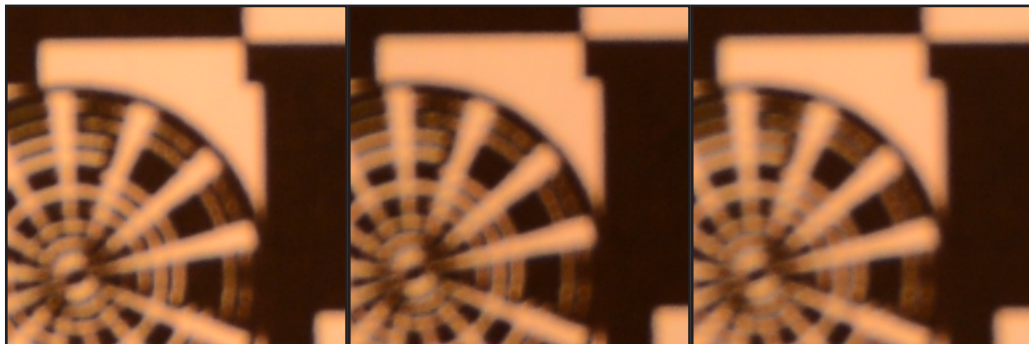The following image is a crop of the section of image analysed by FoCal:

AF Fine Tune: 20

The following table shows information obtained for this test point:

	Shot 1	Shot 2	Shot 3
Aperture	f/6,3	**f/6,3**	f/6,3
Shutter Speed	1/25s	**1/25s**	1/25s
EV	9,9	**9,9**	9,9
Colour Temperature	Unknown	**Unknown**	Unknown
Camera Temperature	Unknown	**Unknown**	Unknown
Quality Measure	951,5	**890,7**	850,1
Optimised	No	**No**	No
Ignored	No	**No**	No
Spectral Power (R/G/B)	48/32/21	**49/31/20**	48/31/20
Red Quality	951,7	**870,0**	833,7
Green Quality	862,1	**859,6**	820,0
Blue Quality	1080,2	**984,4**	954,8
HVR	-7,1%	**-5,3%**	-9,5%

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:
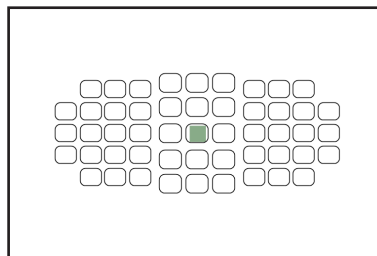
Lens Profile

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
- 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
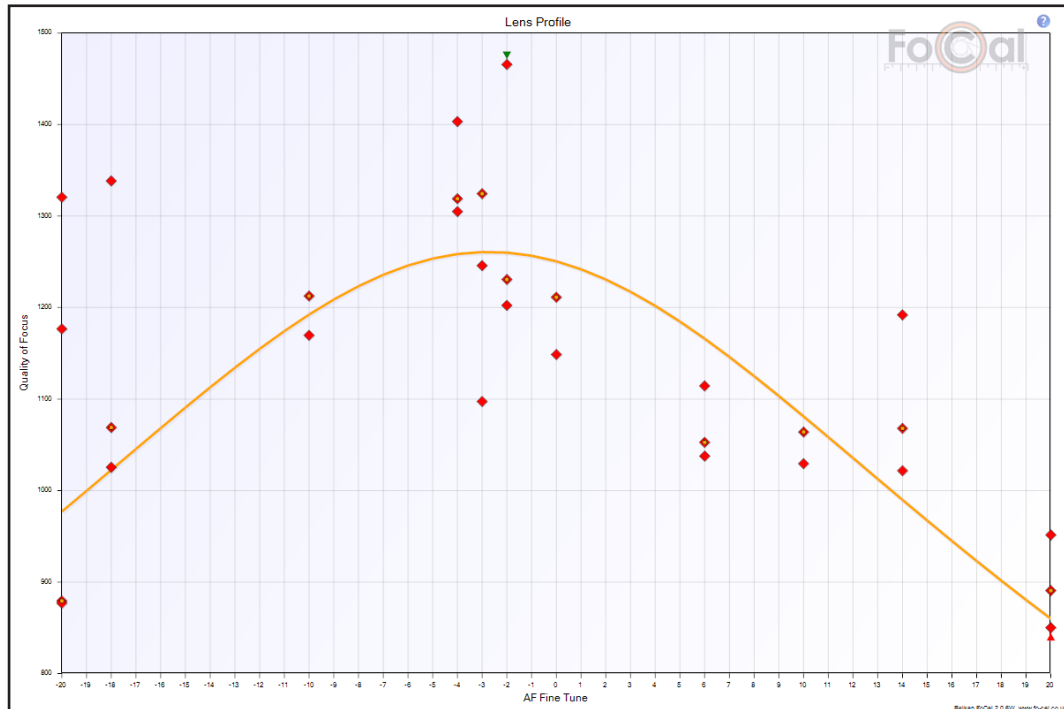
Focus Consistency

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.
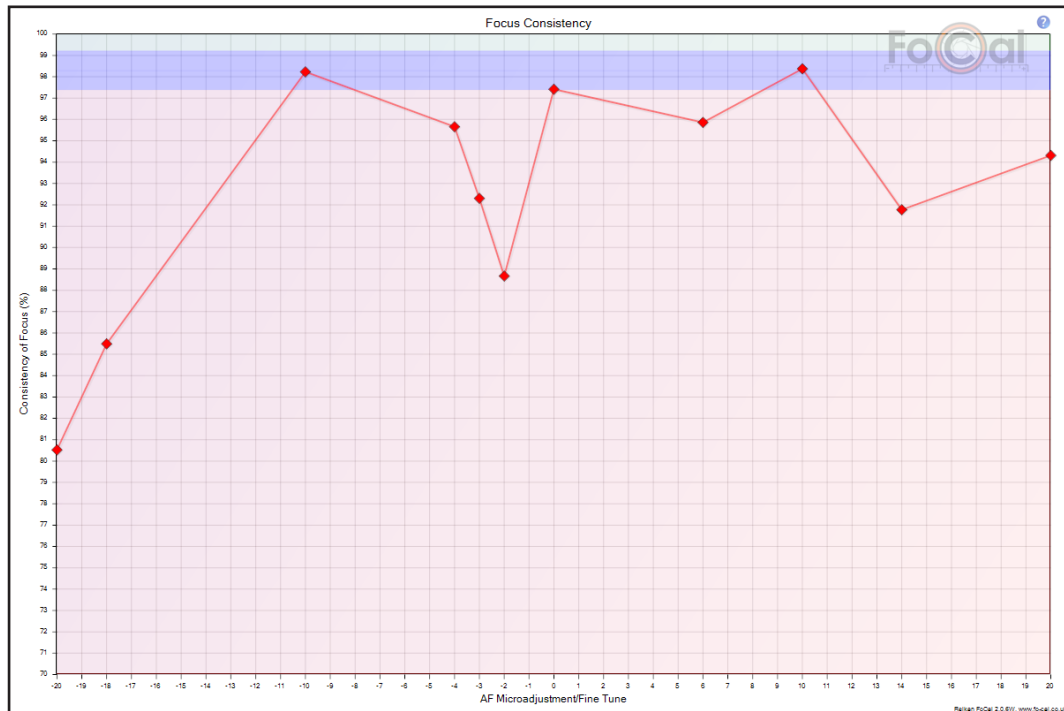
Astigmatism Factor

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 +/- 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.

See www.fo-cal.co.uk for further information
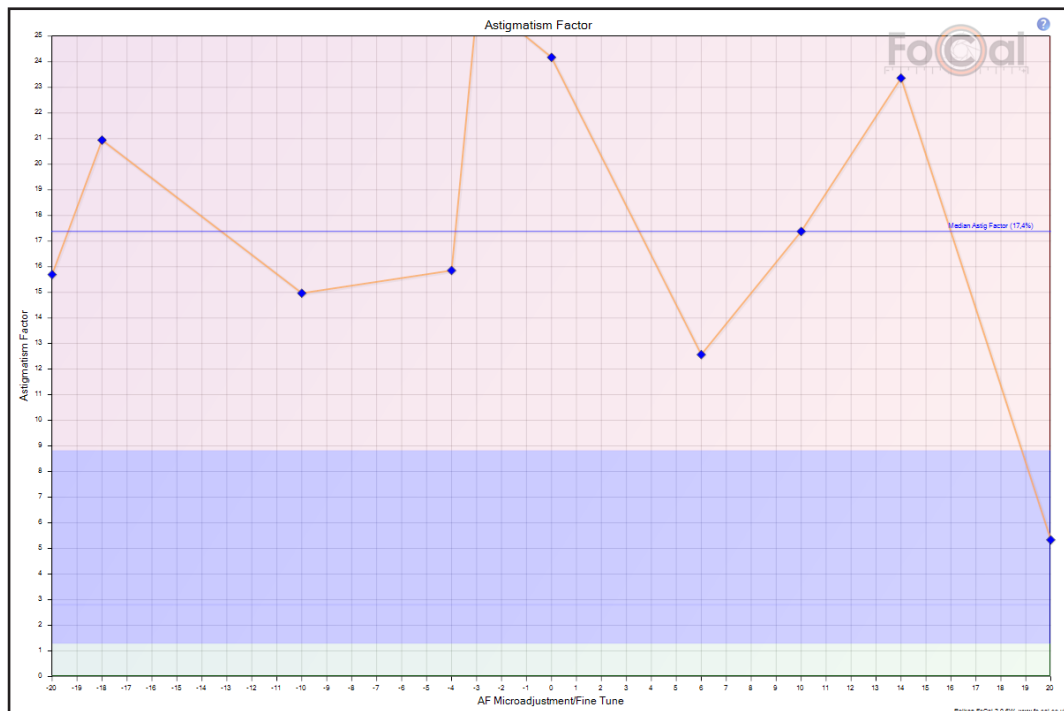
Result Convergence

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.

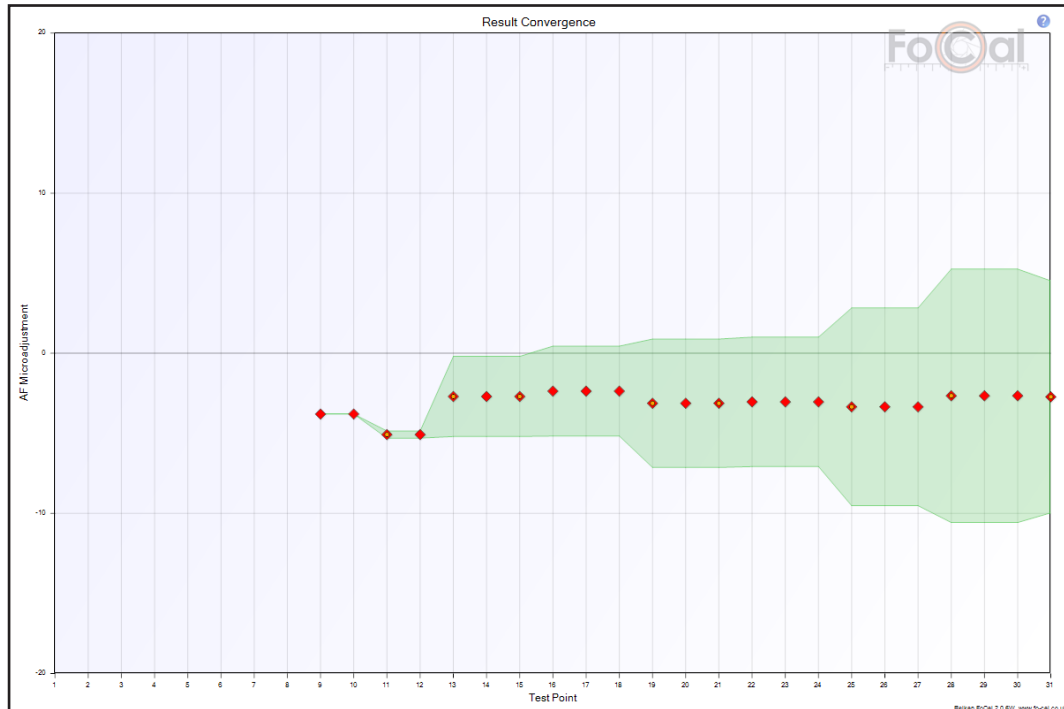See www.fo-cal.co.uk for further information

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:

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- Blue: typical performance experienced by other users
- Green: above average performance.