



Reikan FoCal Aperture Sharpness Test Report

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

Test run on: 26/01/2016 17:56:23 with FoCal 2.0.6.2416W Report created on: 26/01/2016 17:59:12 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)	16197
Test Colour Temp	3200 K
Lens	150-600mm f/5-6.3
Focal Length	600,0mm
Termination Reason	Success
Test ISO	100
Distance to Target	15,3m
Operation Mode	Normal Mode
Diffraction Limited Aperture	f/6,3
Worst Aperture	f/25,0
Optimal Aperture	f/7,1

User Notes

sur un coussin, exactement pareil que le test précédent, sans avoir retouché le focus (qui avait été fait en détection de contraste)





Test Details

Aperture Sharpness Profile

The Aperture Sharpness Profile shows how the image sharpness changes across the tested aperture range.

At small apertures (large f-numbers), diffraction will soften the image and reduce the sharpness. Where possible, the chart will include a red vertical marker at the Diffraction Limited Aperture (DLA) to indicate where diffraction will start to affect the sharpness of the image.

Lenses typically perform less well when close to maximum aperture (smallest f-number) which also results in a drop in sharpness.

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,
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Analysis Details

Property	Description
Astigmatism Factor Range	47,2% (±43,7%)
Spectral Power Range	R: 32% (±0,1%) G: 32% (±0,1%) B: 36% (±0,2%)
Red:	
Red Optimal Aperture	f/8,0
Red Peak QoF	1510,4
Green:	
Green Optimal Aperture	f/6,3
Green Peak QoF	1559,1
Blue:	
Blue Optimal Aperture	f/7,1
Blue Peak QoF	1547,8





Aperture	f/29,0
Shutter Speed	1/10s
EV	13,0
Colour Temperature	Unknown
Camera Temperature	Unknown
Quality Measure	914,0
Optimised	Yes
Ignored	No
Spectral Power (R/G/B)	32/33/36
Red Quality	920,3
Green Quality	914,8
Blue Quality	913,1
HVR	52,9%



Aperture	f/25,0
Shutter Speed	1/13s
EV	12,9
Colour Temperature	Unknown
Camera Temperature	Unknown
Quality Measure	913,2
Optimised	Yes
Ignored	No
Spectral Power (R/G/B)	32/33/36
Red Quality	919,2
Green Quality	916,5
Blue Quality	904,9
HVR	59,6%





Aperture	f/22,0
Shutter Speed	1/14s
EV	12,8
Colour Temperature	Unknown
Camera Temperature	Unknown
Quality Measure	960,0
Optimised	Yes
Ignored	No
Spectral Power (R/G/B)	32/33/36
Red Quality	949,3
Green Quality	965,3
Blue Quality	961,4
HVR	90,9%





Aperture	f/20,0
Shutter Speed	1/20s
EV	12,9
Colour Temperature	Unknown
Camera Temperature	Unknown
Quality Measure	981,5
Optimised	Yes
Ignored	No
Spectral Power (R/G/B)	32/33/36
Red Quality	980,4
Green Quality	994,6
Blue Quality	970,4
HVR	77,1%





Aperture	f/18,0
Shutter Speed	1/25s
EV	12,9
Colour Temperature	Unknown
Camera Temperature	Unknown
Quality Measure	1108,0
Optimised	Yes
Ignored	No
Spectral Power (R/G/B)	32/33/36
Red Quality	1084,0
Green Quality	1128,6
Blue Quality	1106,5
HVR	47,0%





Aperture	f/16,0
Shutter Speed	1/30s
EV	12,8
Colour Temperature	Unknown
Camera Temperature	Unknown
Quality Measure	1267,2
Optimised	Yes
Ignored	No
Spectral Power (R/G/B)	32/33/36
Red Quality	1259,8
Green Quality	1292,2
Blue Quality	1255,8
HVR	29,1%





Aperture	f/14,0
Shutter Speed	1/40s
EV	12,9
Colour Temperature	Unknown
Camera Temperature	Unknown
Quality Measure	1270,3
Optimised	Yes
Ignored	No
Spectral Power (R/G/B)	32/33/36
Red Quality	1271,1
Green Quality	1303,0
Blue Quality	1254,2
HVR	36,8%







Aperture	f/13,0
Shutter Speed	1/50s
EV	13,0
Colour Temperature	Unknown
Camera Temperature	Unknown
Quality Measure	1208,1
Optimised	Yes
Ignored	No
Spectral Power (R/G/B)	32/33/36
Red Quality	1219,8
Green Quality	1229,7
Blue Quality	1186,4
HVR	73,8%

Aperture	f/11,0
Shutter Speed	1/59s
EV	12,8
Colour Temperature	Unknown
Camera Temperature	Unknown
Quality Measure	1295,1
Optimised	Yes
Ignored	No
Spectral Power (R/G/B)	32/33/36
Red Quality	1301,2
Green Quality	1319,2
Blue Quality	1272,7
HVR	61,6%

Aperture	f/10,0
Shutter Speed	1/80s
EV	12,9
Colour Temperature	Unknown
Camera Temperature	Unknown
Quality Measure	1281,5
Optimised	Yes
Ignored	No
Spectral Power (R/G/B)	32/33/36
Red Quality	1277,9
Green Quality	1288,0
Blue Quality	1276,7
HVR	72,1%

Aperture	f/9,0
Shutter Speed	1/100s
EV	12,9
Colour Temperature	Unknown
Camera Temperature	Unknown
Quality Measure	1364,4
Optimised	Yes
Ignored	No
Spectral Power (R/G/B)	32/32/36
Red Quality	1353,1
Green Quality	1400,0
Blue Quality	1339,9
HVR	58,1%

Aperture	f/8,0
Shutter Speed	1/125s
EV	12,9
Colour Temperature	Unknown
Camera Temperature	Unknown
Quality Measure	1537,3
Optimised	Yes
Ignored	No
Spectral Power (R/G/B)	32/32/36
Red Quality	1510,4
Green Quality	1594,0
Blue Quality	1504,4
HVR	25,0%

Aperture	f/7,1
Shutter Speed	1/160s
EV	12,9
Colour Temperature	Unknown
Camera Temperature	Unknown
Quality Measure	1550,5
Optimised	Yes
Ignored	No
Spectral Power (R/G/B)	32/33/36
Red Quality	1501,5
Green Quality	1590,1
Blue Quality	1547,8
HVR	8,5%

Aperture	f/6,3
Shutter Speed	1/200s
EV	12,9
Colour Temperature	Unknown
Camera Temperature	Unknown
Quality Measure	1504,3
Optimised	Yes
Ignored	No
Spectral Power (R/G/B)	32/33/36
Red Quality	1480,5
Green Quality	1559,1
Blue Quality	1474,9
HVR	3,5%

Aperture Sharpness Profile

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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.

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ADS Difference

The ADS Difference chart shows the point-by-point difference between the data captured from your camera and lens and the processed data from many FoCal users.

The blue line indicates the difference between your data and the median value of other users, while the green area indicates the 25th and 75th percentile data from other users. The median of all the points is shown as a blue horizontal marker line.

Where possible, the chart will include a red vertical marker at the Diffraction Limited Aperture (DLA) to indicate where diffraction will start to affect the sharpness of the image.

A large variation or a median variation significantly away from the zero may indicate that your lens is not performing in the same way as a typical lens.

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.

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Corner Brightness Profile

The Corner Brightness Profile chart shows the relative change in brightness of the corners of the full-frame image through the test. The results use the centre of the image to compensate for common exposure differences. If the corners of the frame are unchanging and not completely dark, this chart can give an idea of the vignetting produced by this lens.

Be aware that a lot of cameras have in-camera lens corrections which are applied to JPEG images, so for a true indication of potential vignetting you should run the test with raw images.

