Reikan Technology

FoCal
Focus Calibration and Analysis Software

# Reikan FoCal Dust Analysis Test Report

for Canon EOS-1D Mark III (serial number 573094) with Canon EF 28-90mm f/4-5.6

Test run on: 08/03/2019 11:38:48 with FoCal 2.9.3.5431W

Report created on: 08/03/2019 11:39:08 with FoCal 2.9.3.5431W ALPHA

## Overview

### Test Information

| Property | Description |
|---|---|
| Report ID | 6C905602 |
| Data Creation FoCal Version | 2.9.3.5431W |
| Data Analysis FoCal Version | 2.9.3.5431W ALPHA |
| OS Version | Microsoft Windows NT 6.2.9200.0 |
| Source Mode | Camera Mode |
| Image Capture Mode | JPEG |
| Camera Model | Canon EOS-1D Mark III |
| Firmware Version | 1.3.2 |
| Serial Number | 573094 |
| Lens | Canon EF 28-90mm f/4-5.6 |
| Focal Length | Unknown |
| Test Outcome | Success |
| Test Aperture | f/5.6 to f/32.0 |

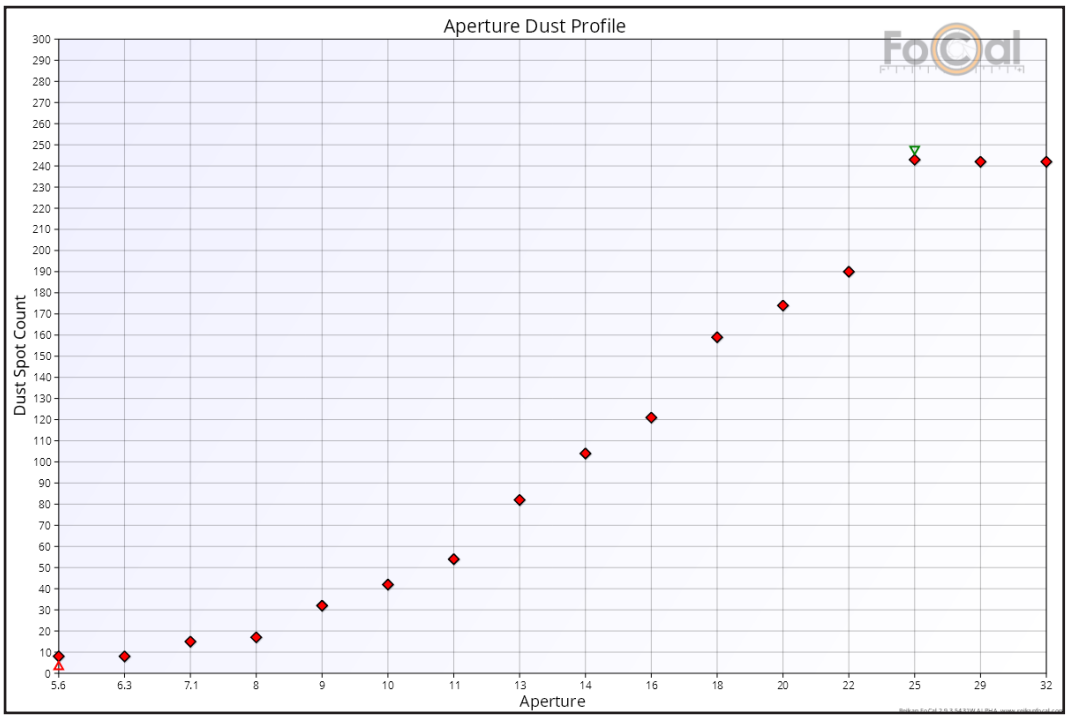
# Test Details

## Aperture Dust Profile

The Aperture Dust Profile chart shows the number of high-confidence dust spots detected at each aperture. Detected spots are filtered by aperture, so if they do not appear in the same place over a range of apertures they will be ignored.

This chart says nothing about the size or opacity of the dust spots, just the overall quantity.

It is not uncommon - even with a clean sensor - to have some spots detected at smaller apertures (higher f-number). A sensor usually only needs cleaning if dust spots are detected at or below commonly used apertures, so typically portrait photography (where wide apertures are used) will tolerate more dust than landscape photography where very narrow apertures may be used.



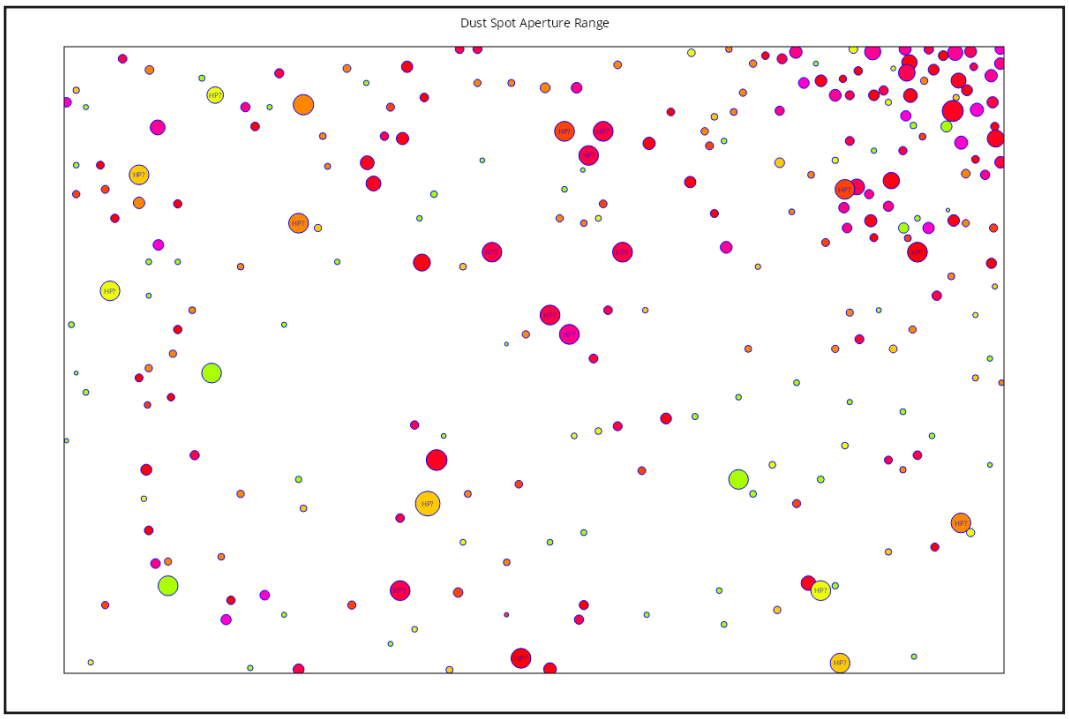
## Dust Spot Aperture Range

The Dust Spot Aperture Range chart shows all detected high-confidence dust spots. Detected spots are filtered by aperture, so if they do not appear in the same place over a range of apertures they will be ignored.

The size of each displayed dust spot is relative to the detected size of the spot. Note that the spots shown on this chart are considerably larger than real life in order to make them easier to see.

The colour of each spot indicates how many apertures this spot is detected over:
- Green spots are detected at a few apertures
- Yellow/Orange spots are detected at between 20% and 40% of the tested apertures.
- Red spots are detected at 50% or more of the tested apertures.

Generally green spots will only be noticeable on captured images when the lens is used at a high f-number (small aperture).

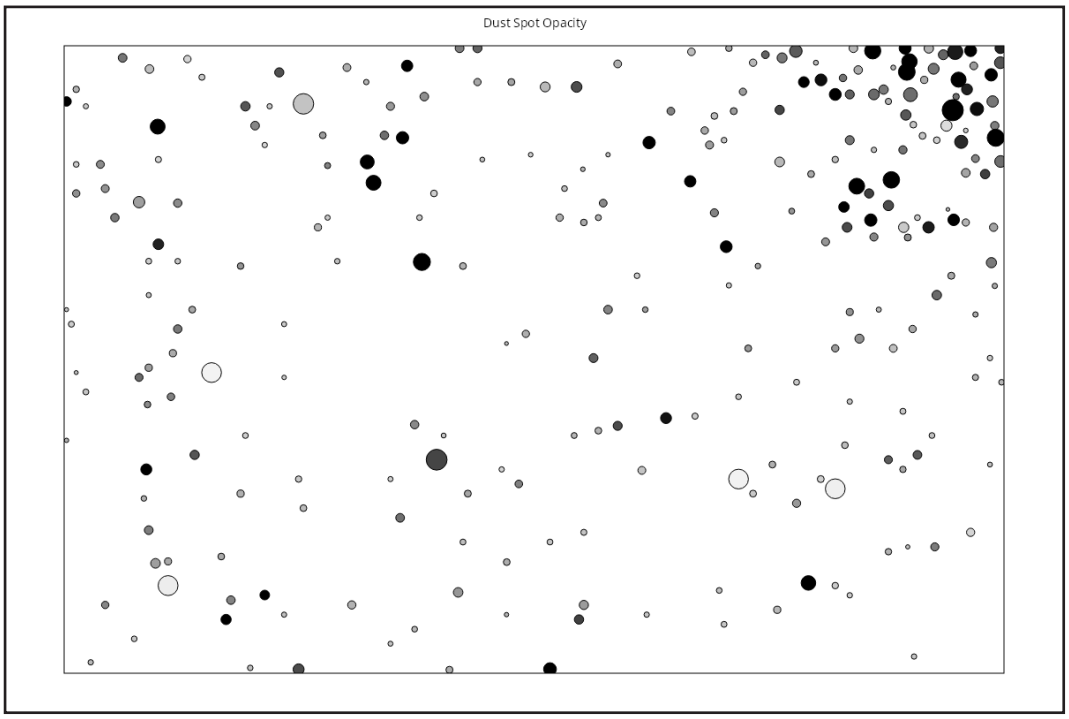


## Dust Spot Opacity

The Dust Spot Opacity chart displays all detected high-confidence dust spots. Detected spots are filtered by aperture, so if they do not appear in the same place over a range of apertures they will be ignored.

The size of each displayed dust spot is relative to the detected size of the spot. Note that the spots shown on this chart are considerably larger than real life in order to make them easier to see.

The darkness of each spot indicates the maximum detected opacity of the spots on the sensor. A spot on the chart closer to black indicates a darker spot on the sensor. The opacity value used is the most opaque spot in this location detected across the whole aperture range.

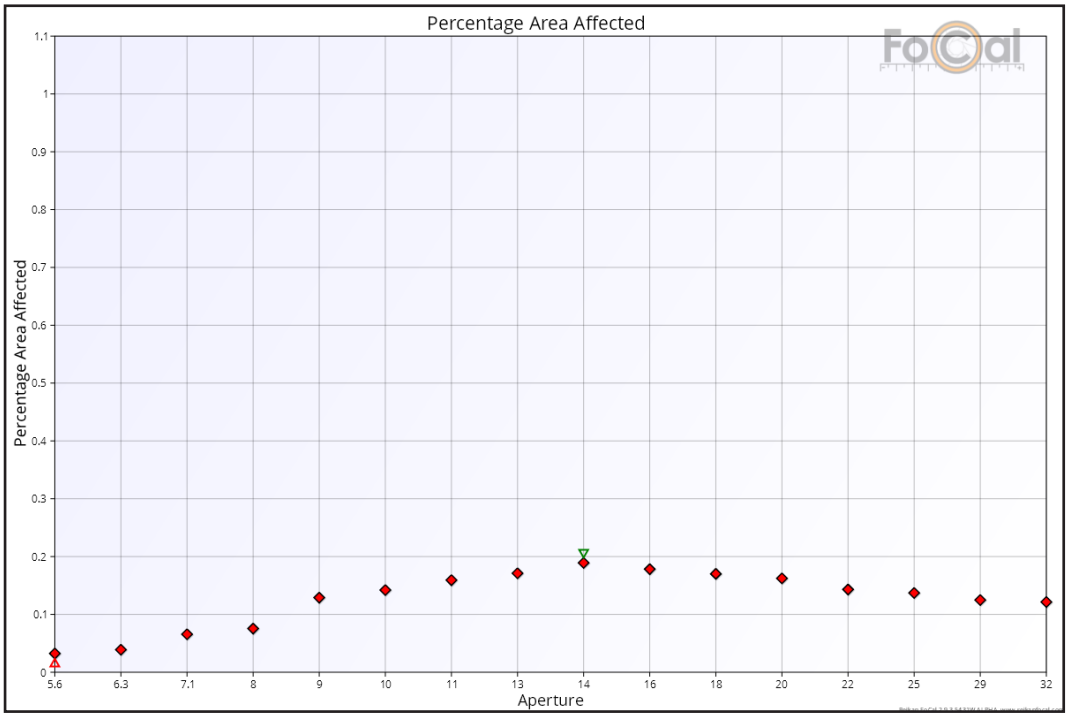


## Percentage Area Affected

The Percentage Area Affected chart shows the area affected by high-confidence dust spots across the whole sensor.

Typically this value will be very low - usually lower than 0.05% of the sensor - even at its peak.

The peak of this value is usually a little before the lens is fully stopped down. At this point, the dust spots are clear enough to be dark and invasive, but not at their sharpest (which occurs at the narrowest aperture) and therefore affect a larger area of the sensor.

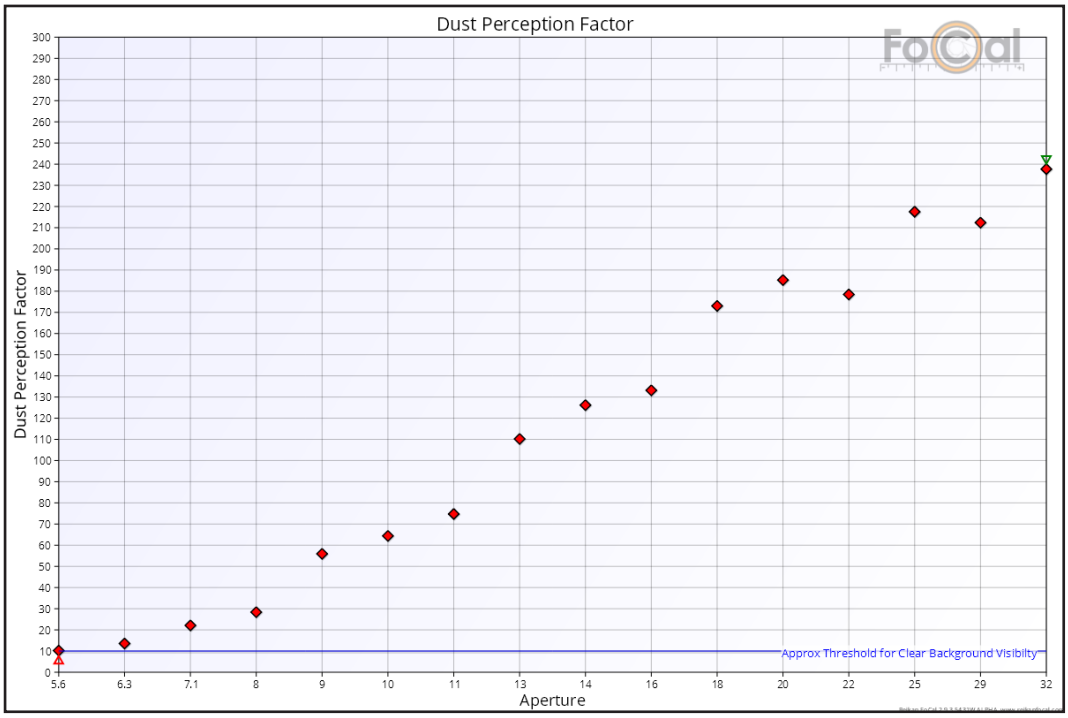


## Dust Perception Factor

Dust Perception Factor (DPF) is an experimental metric designed to indicate how likely a dust spot is to be notices in a final image. The DPF is a calculated from the frequency of occurrence of the dust spots, their size and their opacity. A higher value suggests that the dust spot is more likely to be noticed in an image.

The value of 10 is approximately the point where a dust spot would be noticed against a plain background.

There are many factors which can affect how noticeable sensor marks are, not least of which is image content which cannot be taken into account here. As such, DPF is a guidance value which may be of some use in deciding whether to clean your sensor but may produce incorrect values under some circumstances.



## Potential Hot Pixels

The Potential Hot Pixels display shows points detected on the sensor which cover a number of apertures and exhibit features more likely associated with hot pixels than dust spots.

This is NOT a 100% reliable detection of hot pixels, so it's important to review the images and check your camera before assuming that these points are indeed pixels which are "stuck" in a fixed state.