

Image Quality

Image Quality

Image Quality is determined by the following measurements:

- Noise (Signal to noise ratio)
- Modulation Transfer Function
- Tone reproduction
- Colour
- Human Visual System

Image Quality - Noise

Each camera system will have one nominal ISO setting (usually the lowest ISO setting in the system). If a higher ISO setting is used the system will receive a reduced signal and will need to adjust the output to produce an acceptable image. This will mean amplifying the signal and therefore amplifying the noise within the image.

Image Quality - Noise

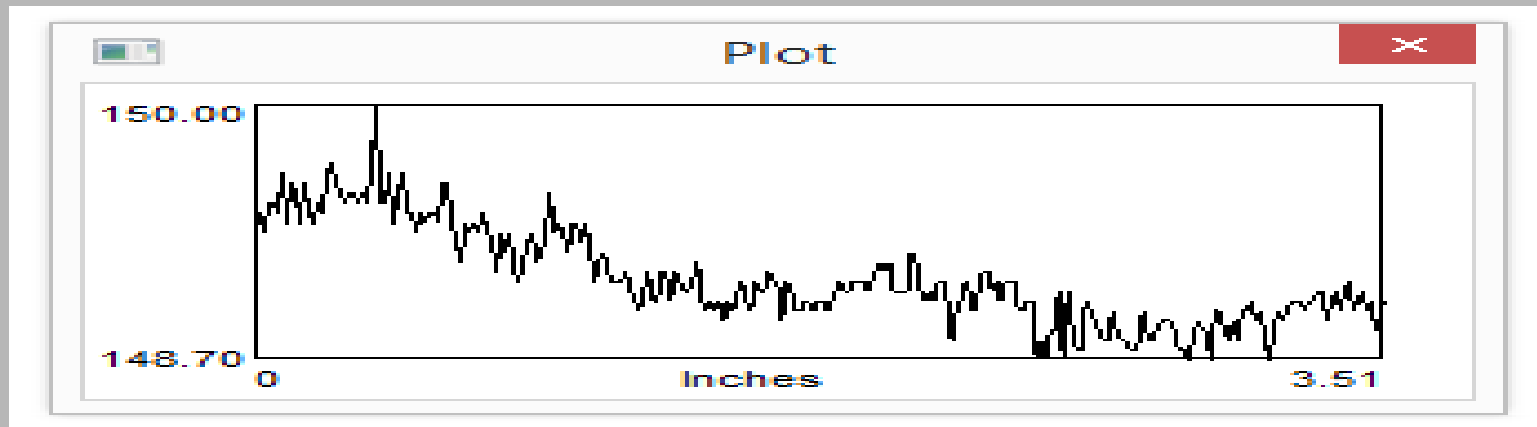


Image Quality – MTF (modulation Transfer Function)

The Modulation Transfer Function (MTF) of an imaging system is a measure its ability to resolve detail within the image. The MTF is usually represented as a graph and plots the Modulation Transfer Factor (M_u) over a range of spatial frequencies (u)

Image Quality – MTF (modulation Transfer Function)

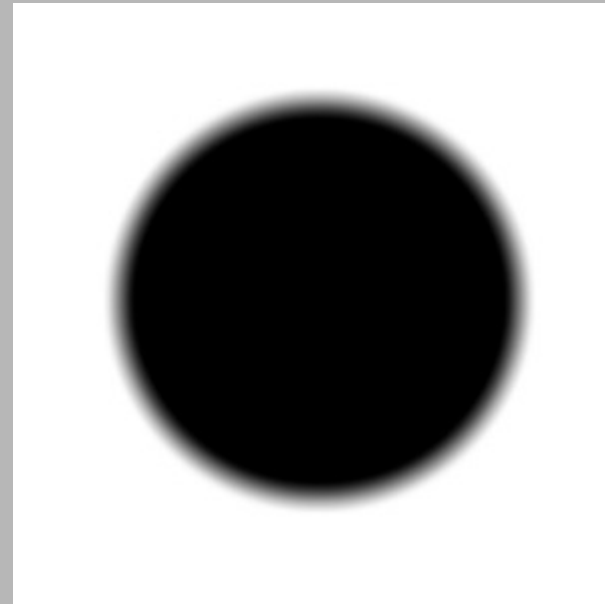
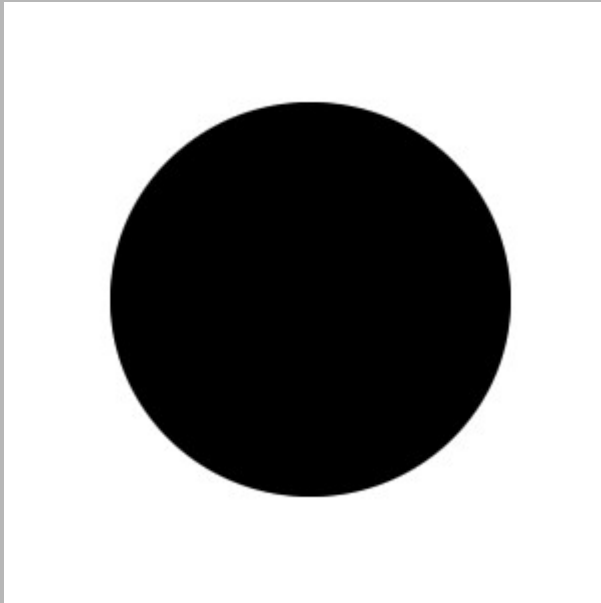


Image Quality – MTF (modulation Transfer Function)

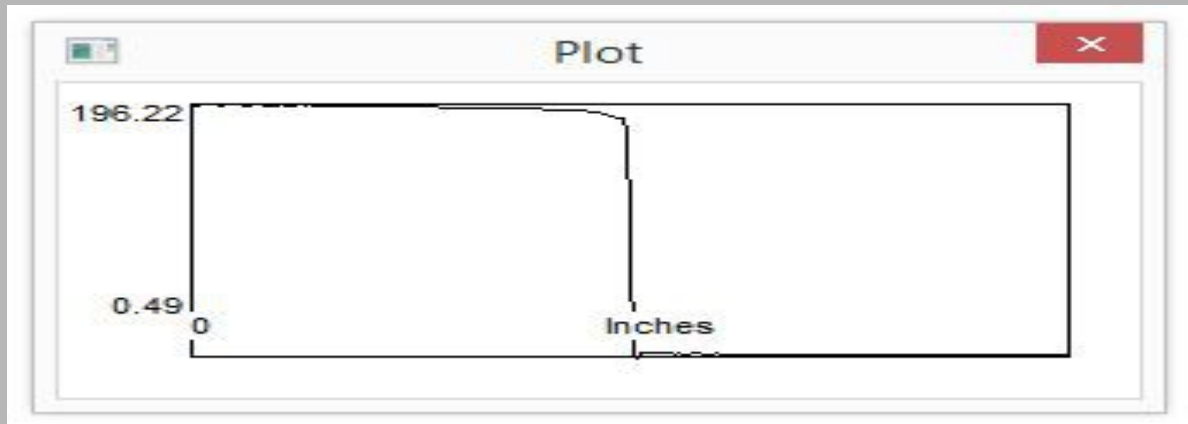
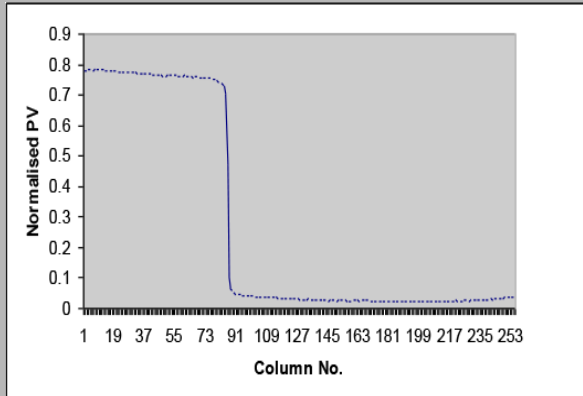
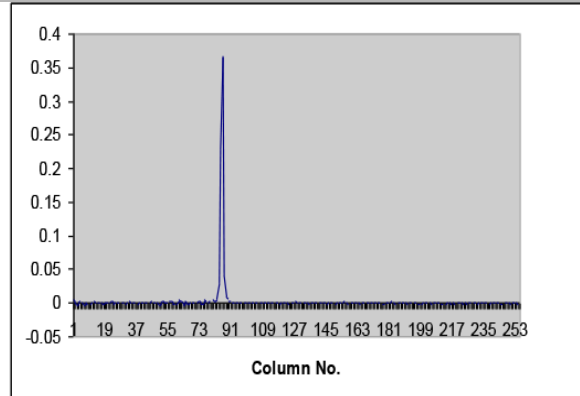


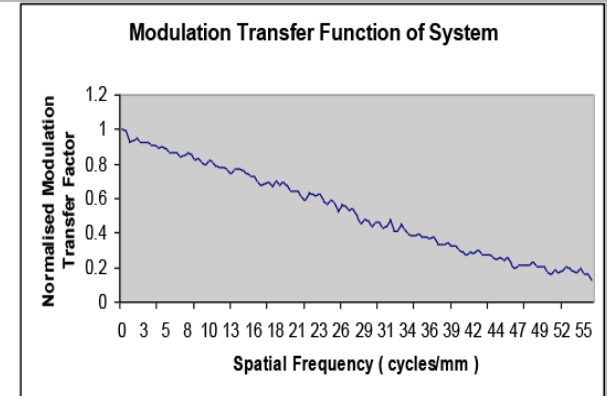
Image Quality – MTF (modulation Transfer Function)



Edge Spread Function



Line Spread Function



Modulation Transfer Function

Image Quality – MTF (modulation Transfer Function)

Affect on sharpness with change in aperture of Hasselblad 120mm lens

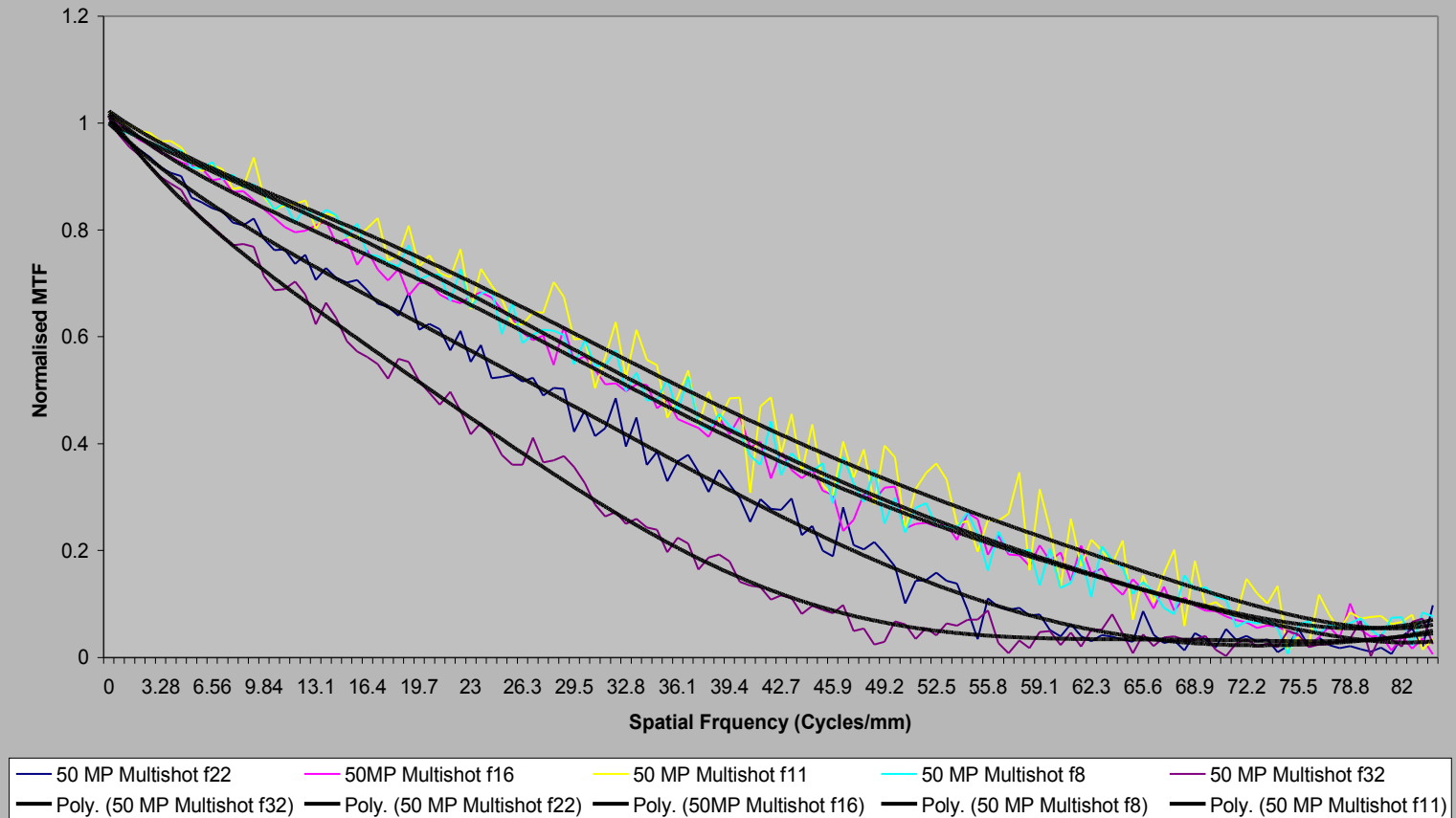
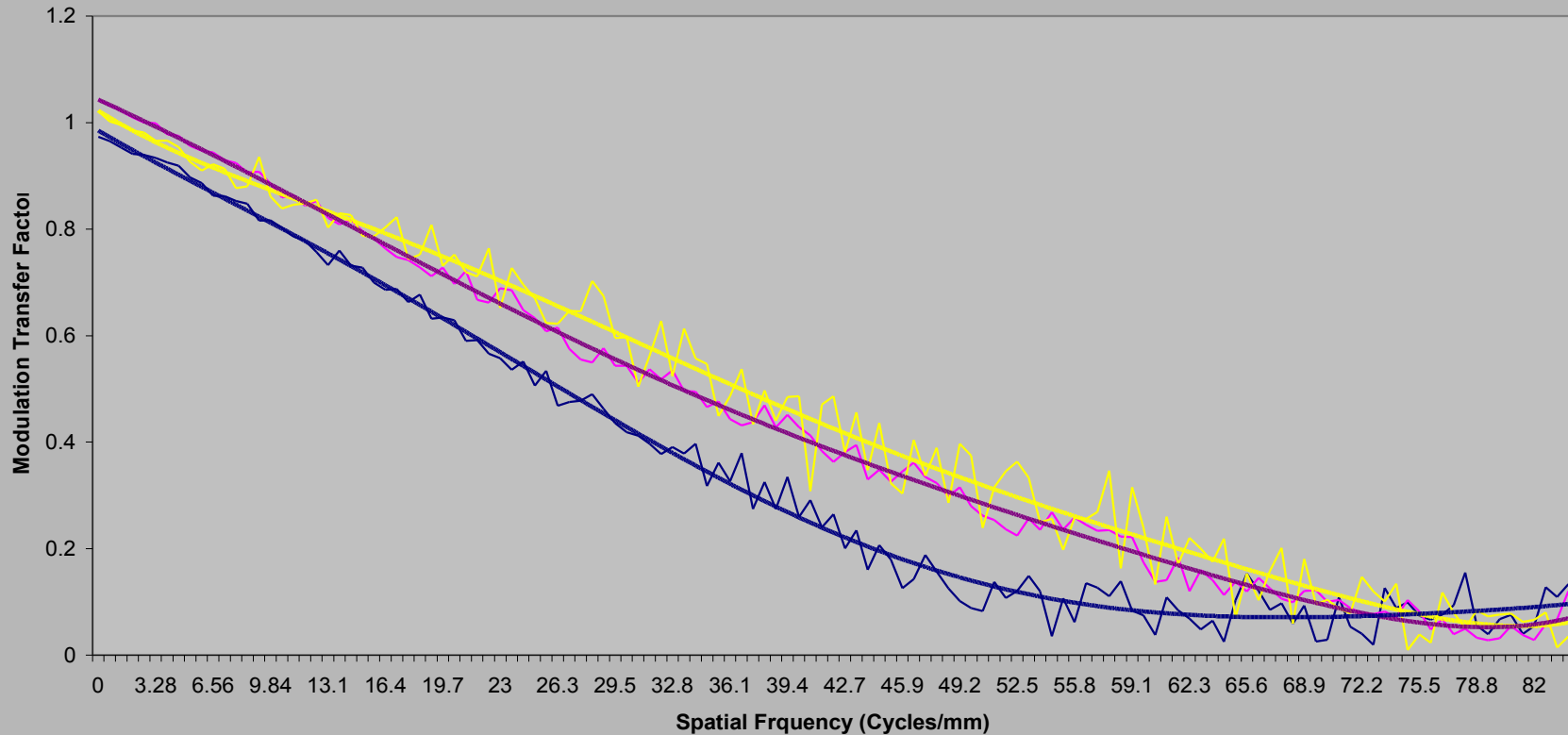


Image Quality – MTF (modulation Transfer Function)

MTF of Hasselblad 50 MP MS back displaying affect of single shot mode, multishot mode and increasing the ISO setting.
All imaging recorded using a Hasselblad 120 HC Macro 120mm f/4 lens at f/11 and a Hasselblad H2 body.



— 50MP Multishot 400ISO f11 — 50 MP SingleShot 50 ISO f11 — 50 MP Multishot 50 ISO f11
— Poly. (50 MP Multishot 50 ISO f11) — Poly. (50 MP SingleShot 50 ISO f11) — Poly. (50MP Multishot 400ISO f11)

Image Quality – Colour and Tone



Image Quality

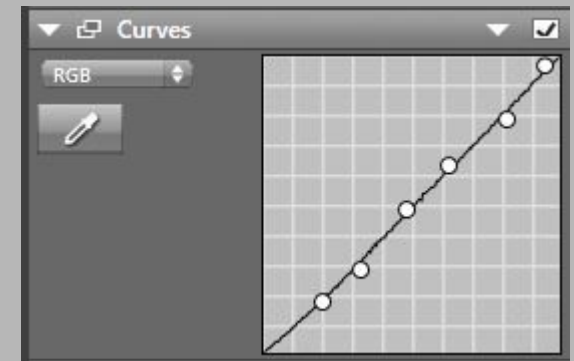
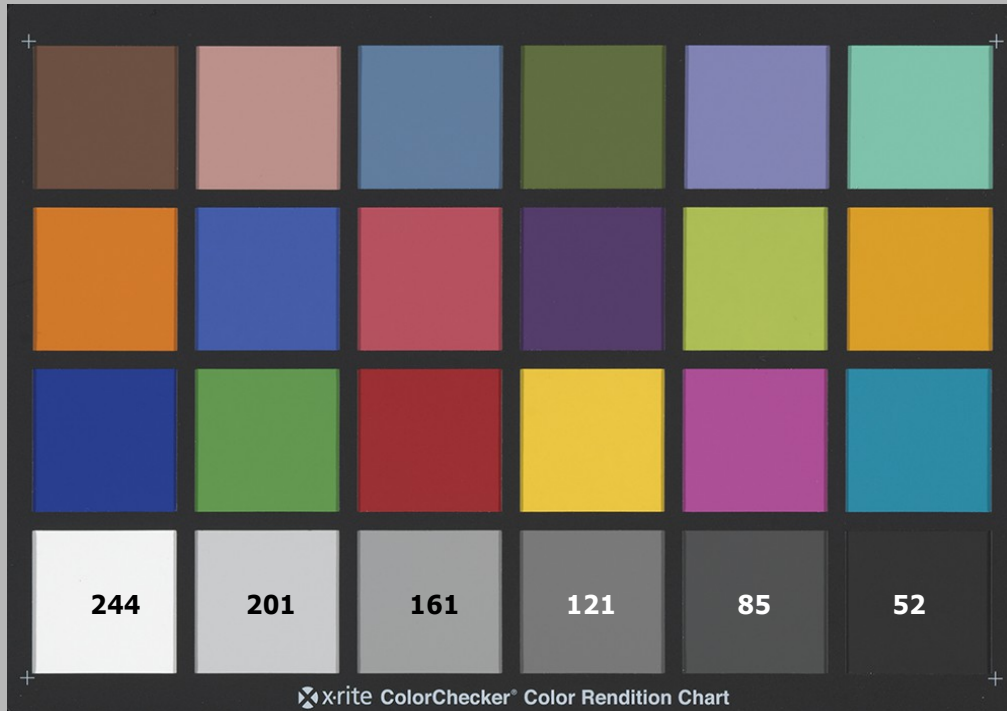


Image Quality

<http://delt.ae/upload>

Image Quality – ΔE 76

	CC24	SG Chart
RAW Process Default	3.9	3.8
RAW Process Measured Chart	3.7	3.8
Profiled	0.6	1.6

Colin White – Photography and Digital Imaging

Email : colin.white@niepce.co.uk

Web : <http://www.niepce.co.uk>

Tel : 07530 330 293