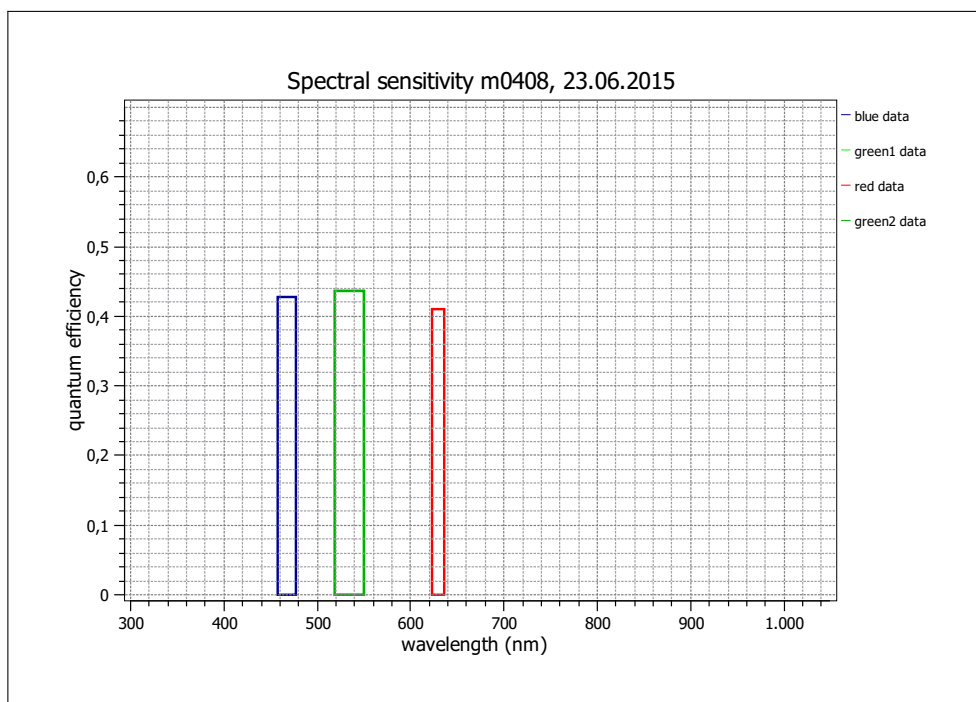


EMVA 1288 Summary Sheet

This datasheet describes the specification according to the standard 1288 for Characterization and Presentation of Specification Data for Image Sensors and Cameras of the European Machine Vision Association (EMVA)(see www.standard1288.org). The measurements were performed with an AEON ACC3 RGB Release 3, 20.01.2104, SN 0005() . The performance parameters and estimated accuracy of the measurements are described in the technical report for the instrument, its calibration in the corresponding calibration report.

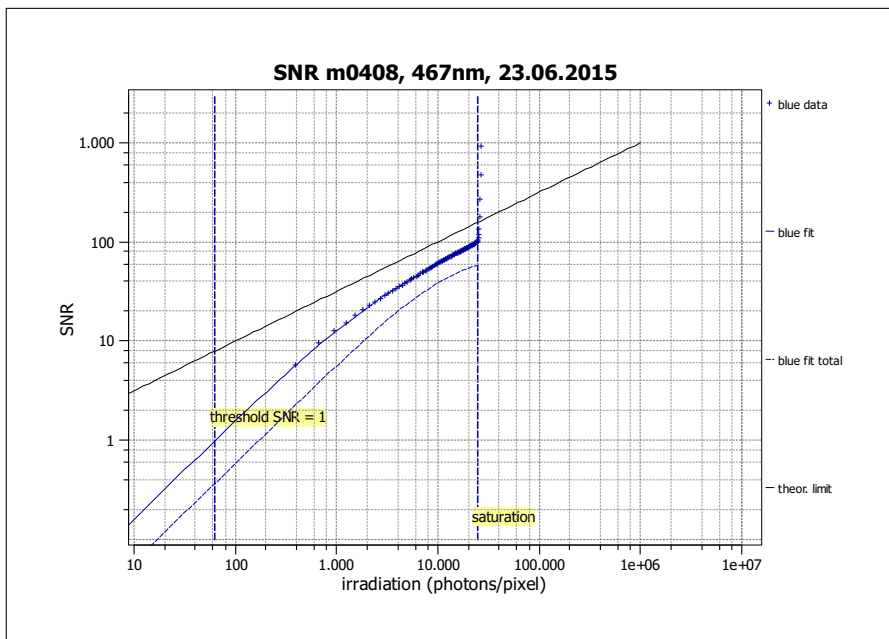
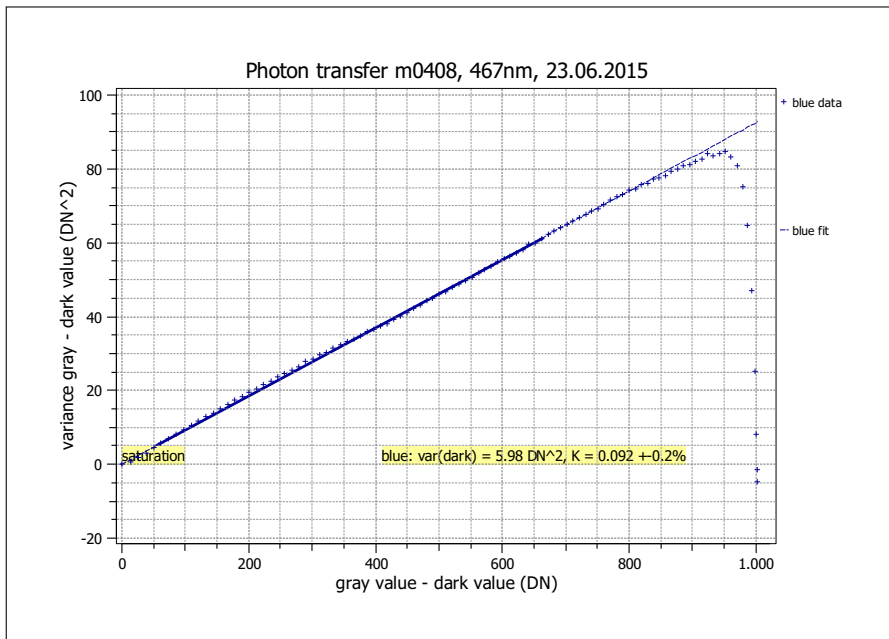
Vendor	MATRIX VISION
Model	mvBlueFOX3-1013C
Serial number	F0700031
Sensor diagonal	8.69 mm
Lens category	C-Mount
Resolution	1280 × 1024, 10 bit
Pixel size	5.30 μm × 5.30 μm
Sensor type	CMOS
Shutter type	global
Overlap capabilities	pipelined
Maximum frame rate	60.6 Hz
Interface type	USB3 Vision

Type of data presented	Single
Operation point 1, (page 5)	
Wavelength centroid	467.3 nm
Wavelength FWHM	20.5 nm
Gain, offset	Gain = 0dB, Offset = 17.0
Operation point 2, (page 17)	
Wavelength centroid	534.2 nm
Wavelength FWHM	30.9 nm
Gain, offset	Gain = 0dB, Offset = 17.0
Operation point 3, (page 29)	
Wavelength centroid	629.5 nm
Wavelength FWHM	13.1 nm
Gain, offset	Gain = 0dB, Offset = 17.0
Optional data measured	
None	



EMVA 1288 Summary Sheet for Operating Point 1

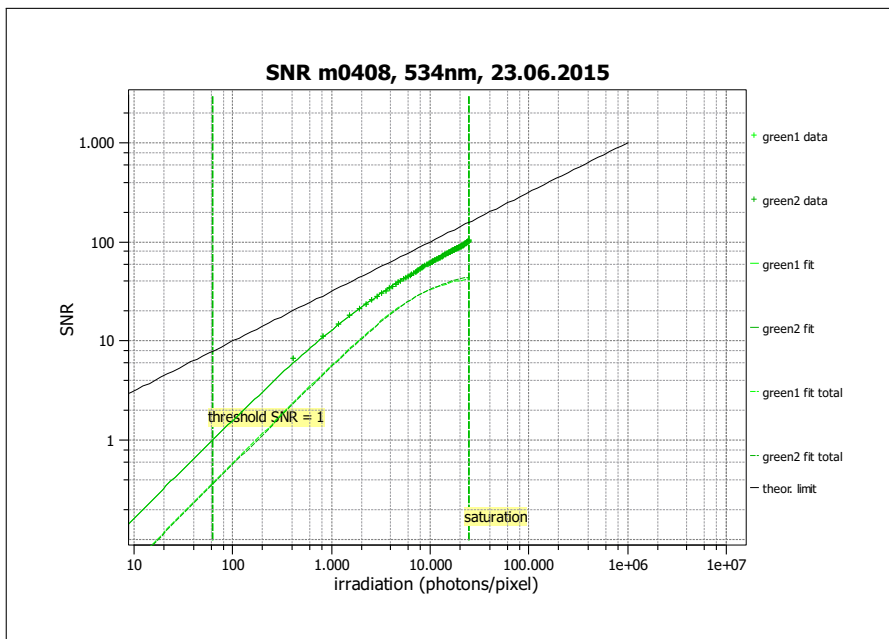
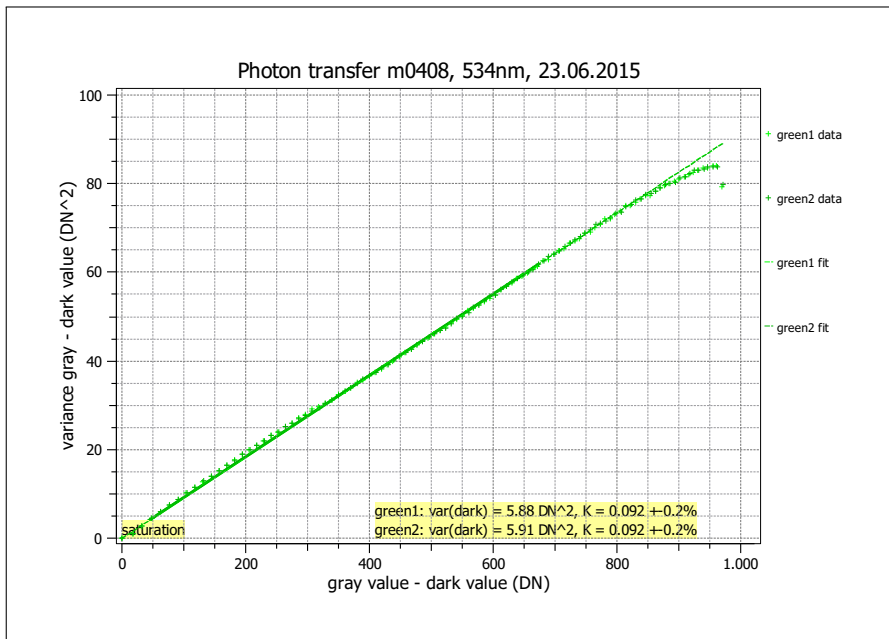
Type of data	Single	Gain, offset	Gain = 0dB, Offset = 17.0
Exposure time	9.0 ms	Environmental temperature	26.0°C
Frame rate	0.0 Hz	Camera temperature	33.5°C
Data transfer mode	BayerGR10	Wavelength, centr., FWHM	467 nm, 20.5 nm



Quantum efficiency	
η	0.428
Gain	
K (DN/e)	0.092
$1/K$ (e/DN)	10.812
Dark noise & DSNU	
σ_d (DN)	2.44
σ_0 (e)	26.2
DSNU ₁₂₈₈ (DN)	6.27
DSNU ₁₂₈₈ (e)	67.83
Signal-to-noise ratio & PRNU	
SNR _{max}	102
SNR _{max} (dB)	40.2
SNR _{max} (bits)	6.7
$1/\text{SNR}_{\text{max}}$ (%)	0.98
PRNU ₁₂₈₈ (%)	1.228
Nonlinearity	
LE (%)	0.50
Sensitivity & saturation	
$\mu_{p,\text{min}}$ (p)	63.0
$\mu_{e,\text{min}}$ (e)	26.9
$\mu_{p,\text{sat}}$ (p)	24416
$\mu_{e,\text{sat}}$ (e)	10443
Dynamic range	
DR	388
DR (dB)	51.8
DR (bit)	8.6
Dark current	
$\mu_{c,\text{mean}}$ (DN/s)	205.48
$\mu_{c,\text{mean}}$ (e/s)	2221.75
$\mu_{c,\text{var}}$ (e/s)	172.30

EMVA 1288 Summary Sheet for Operating Point 2

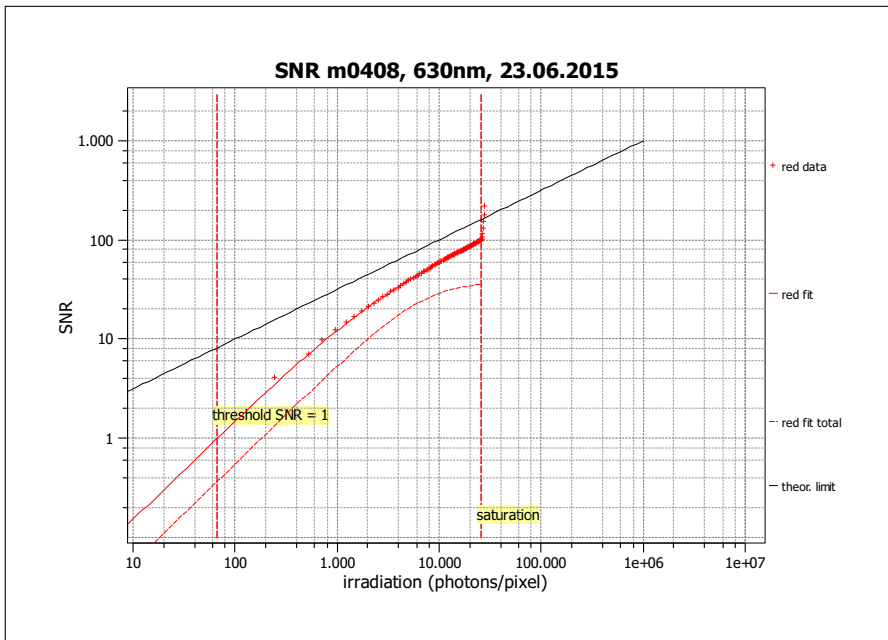
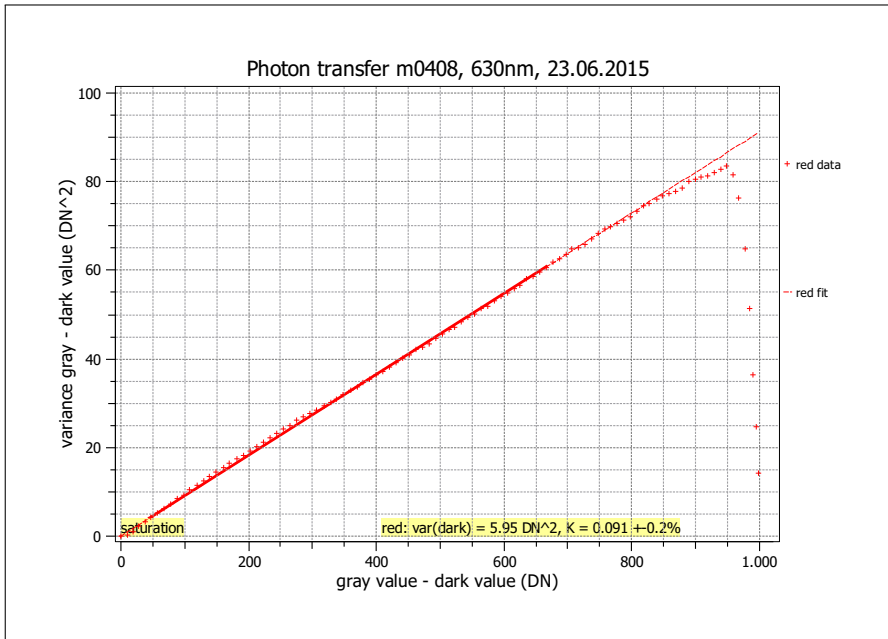
Type of data	Single	Gain, offset	Gain = 0dB, Offset = 17.0
Exposure time	9.0 ms	Environmental temperature	26.0°C
Frame rate	0.0 Hz	Camera temperature	33.5°C
Data transfer mode	BayerGR10	Wavelength, centr., FWHM	534 nm, 30.9 nm



Quantum efficiency	
η	0.436
Gain	
K (DN/e)	0.092
$1/K$ (e/DN)	10.890
Dark noise & DSNU	
σ_d (DN)	2.43
σ_0 (e)	26.2
DSNU ₁₂₈₈ (DN)	6.27
DSNU ₁₂₈₈ (e)	68.33
Signal-to-noise ratio & PRNU	
SNR _{max}	103
SNR _{max} (dB)	40.3
SNR _{max} (bits)	6.7
$1/\text{SNR}_{\text{max}}$ (%)	0.97
PRNU ₁₂₈₈ (%)	2.033
Nonlinearity	
LE (%)	0.59
Sensitivity & saturation	
$\mu_{p,\text{min}}$ (p)	61.8
$\mu_{e,\text{min}}$ (e)	26.9
$\mu_{p,\text{sat}}$ (p)	24456
$\mu_{e,\text{sat}}$ (e)	10652
Dynamic range	
DR	396
DR (dB)	51.9
DR (bit)	8.6
Dark current	
$\mu_{c,\text{mean}}$ (DN/s)	205.82
$\mu_{c,\text{mean}}$ (e/s)	2241.37
$\mu_{c,\text{var}}$ (e/s)	181.97

EMVA 1288 Summary Sheet for Operating Point 3

Type of data	Single	Gain, offset	Gain = 0dB, Offset = 17.0
Exposure time	9.0 ms	Environmental temperature	26.0°C
Frame rate	0.0 Hz	Camera temperature	33.5°C
Data transfer mode	BayerGR10	Wavelength, centr., FWHM	630 nm, 13.1 nm



Quantum efficiency	
η	0.410
Gain	
K (DN/e)	0.091
$1/K$ (e/DN)	10.971
Dark noise & DSNU	
σ_d (DN)	2.44
σ_0 (e)	26.6
DSNU ₁₂₈₈ (DN)	6.30
DSNU ₁₂₈₈ (e)	69.06
Signal-to-noise ratio & PRNU	
SNR _{max}	103
SNR _{max} (dB)	40.3
SNR _{max} (bits)	6.7
$1/\text{SNR}_{\text{max}}$ (%)	0.97
PRNU ₁₂₈₈ (%)	2.528
Nonlinearity	
LE (%)	0.62
Sensitivity & saturation	
$\mu_{p,\text{min}}$ (p)	66.5
$\mu_{e,\text{min}}$ (e)	27.3
$\mu_{p,\text{sat}}$ (p)	25857
$\mu_{e,\text{sat}}$ (e)	10608
Dynamic range	
DR	389
DR (dB)	51.8
DR (bit)	8.6
Dark current	
$\mu_{c,\text{mean}}$ (DN/s)	206.79
$\mu_{c,\text{mean}}$ (e/s)	2268.62
$\mu_{c,\text{var}}$ (e/s)	256.67