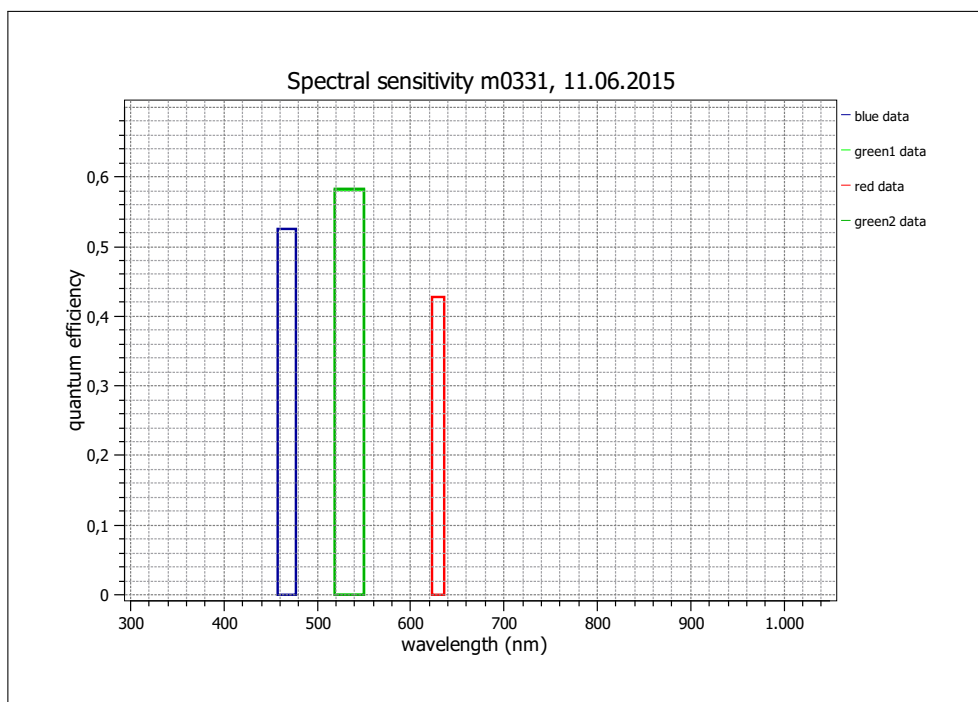


## EMVA 1288 Summary Sheet

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](http://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.

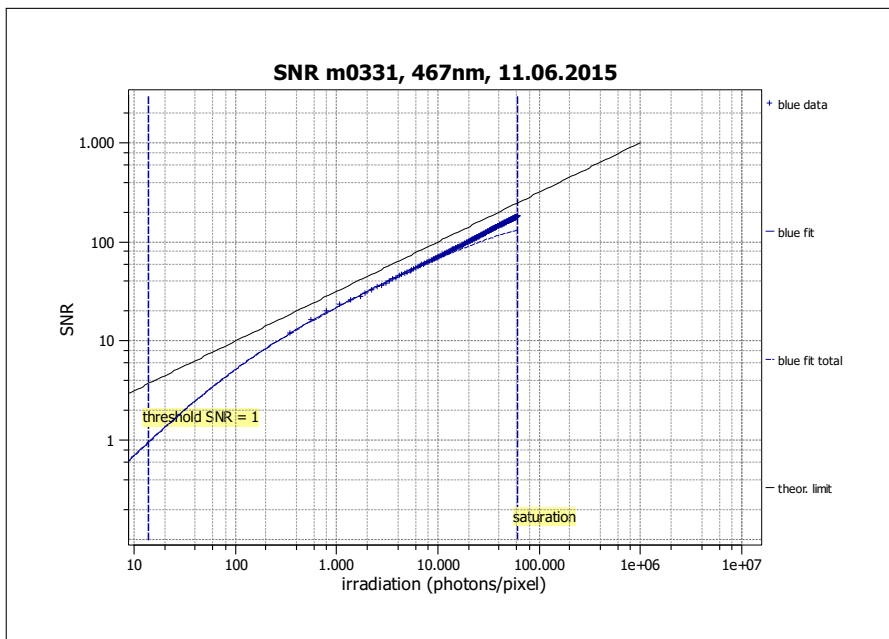
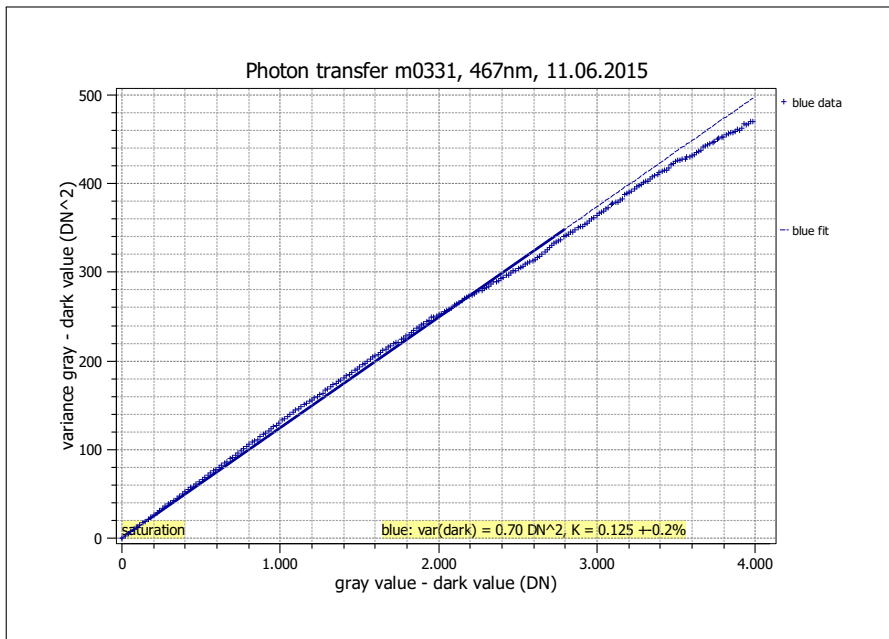
Vendor	MATRIX VISION
Model	mvBlueFOX3-2024aC
Serial number	FF000026
Sensor diagonal	13.40 mm
Lens category	C-Mount
Resolution	1936 × 1216, 12 bit
Pixel size	5.86 μm × 5.86 μm
Sensor type	CMOS
Shutter type	Global
Overlap capabilities	Overlapping
Maximum frame rate	32.0 Hz
Interface type	USB3 Vision

Type of data presented	Single
<b>Operation point 1, (page 5)</b>	
Wavelength centroid	467.3 nm
Wavelength FWHM	20.5 nm
Gain, offset	Gain = 0dB, Offset = 0.08
<b>Operation point 2, (page 17)</b>	
Wavelength centroid	534.2 nm
Wavelength FWHM	30.9 nm
Gain, offset	Gain = 0dB, Offset = 0.08
<b>Operation point 3, (page 29)</b>	
Wavelength centroid	629.5 nm
Wavelength FWHM	13.1 nm
Gain, offset	Gain = 0dB, Offset = 0.08
<b>Optional data measured</b>	
None	



## EMVA 1288 Summary Sheet for Operating Point 1

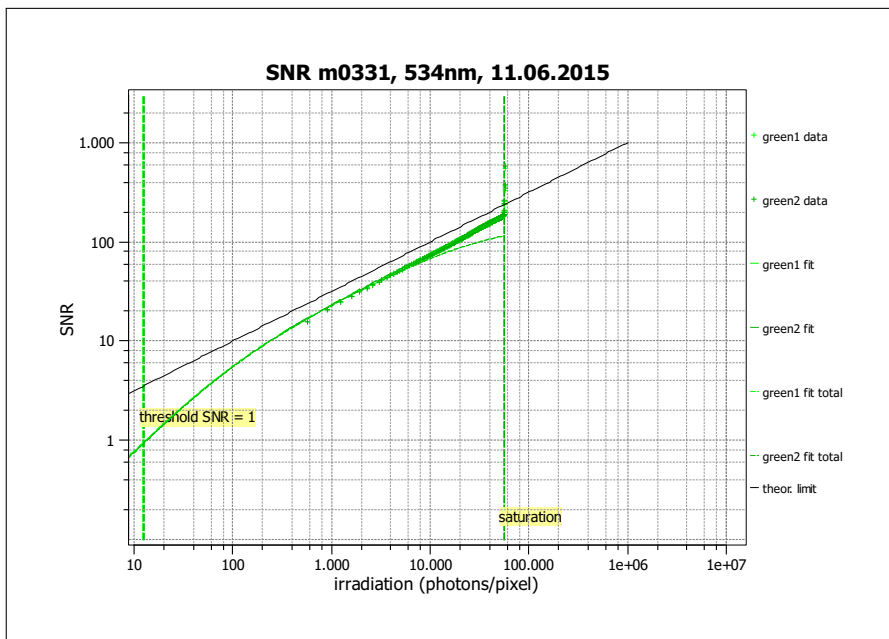
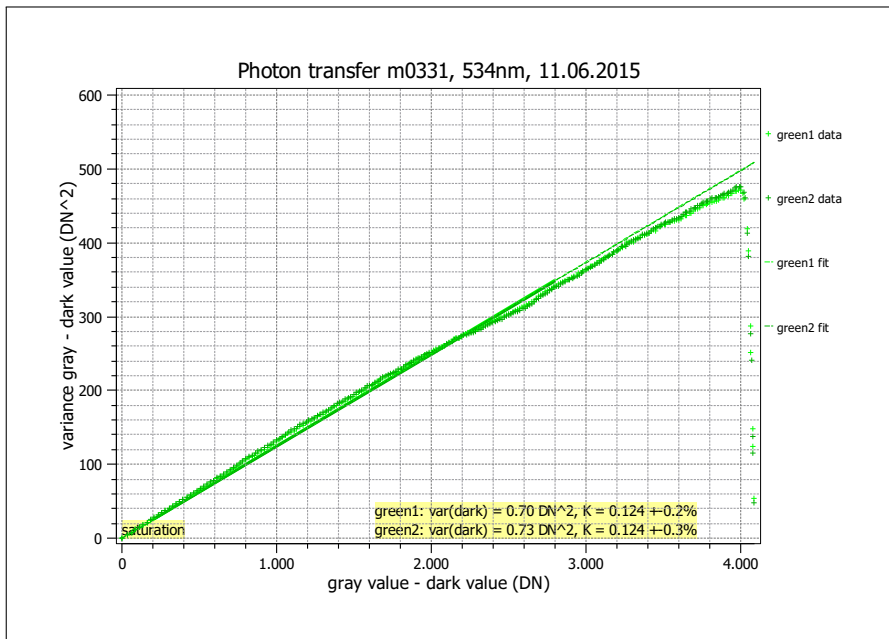
Type of data	Single	Gain, offset	Gain = 0dB, Offset = 0.08
Exposure time	17.0 ms	Environmental temperature	26.1°C
Frame rate	0.0 Hz	Camera temperature	35.4°C
Data transfer mode	BayerRG12	Wavelength, centr., FWHM	467 nm, 20.5 nm



Quantum efficiency	
$\eta$	0.526
Gain	
$K$ (DN/e)	0.125
$1/K$ (e/DN)	8.023
Dark noise & DSNU	
$\sigma_d$ (DN)	0.84
$\sigma_0$ (e)	6.3
DSNU <sub>1288</sub> (DN)	0.16
DSNU <sub>1288</sub> (e)	1.28
Signal-to-noise ratio & PRNU	
SNR <sub>max</sub>	180
SNR <sub>max</sub> (dB)	45.1
SNR <sub>max</sub> (bits)	7.5
$1/\text{SNR}_{\text{max}}$ (%)	0.55
PRNU <sub>1288</sub> (%)	0.515
Nonlinearity	
LE (%)	0.49
Sensitivity & saturation	
$\mu_{p,\text{min}}$ (p)	13.7
$\mu_{e,\text{min}}$ (e)	7.2
$\mu_{p,\text{sat}}$ (p)	61759
$\mu_{e,\text{sat}}$ (e)	32485
Dynamic range	
DR	4499
DR (dB)	73.1
DR (bit)	12.1
Dark current	
$\mu_{c,\text{mean}}$ (DN/s)	2.01
$\mu_{c,\text{mean}}$ (e/s)	16.10
$\mu_{c,\text{var}}$ (e/s)	11.89

## EMVA 1288 Summary Sheet for Operating Point 2

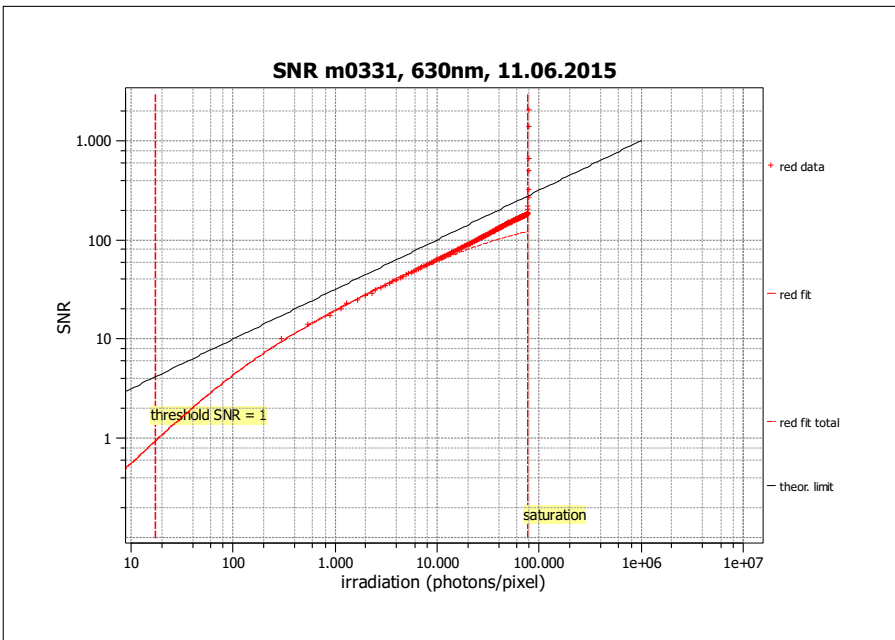
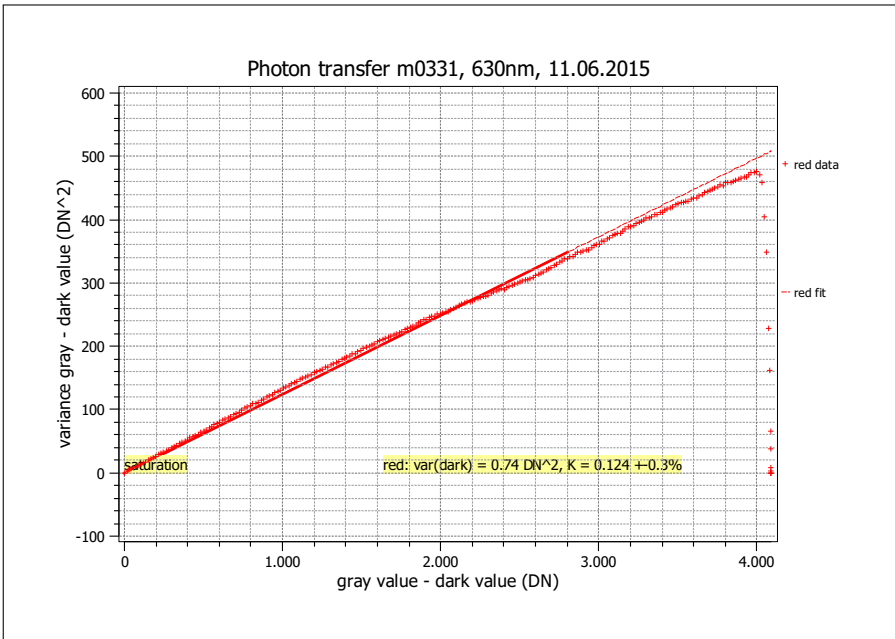
Type of data	Single	Gain, offset	Gain = 0dB, Offset = 0.08
Exposure time	17.0 ms	Environmental temperature	26.1°C
Frame rate	0.0 Hz	Camera temperature	35.4°C
Data transfer mode	BayerRG12	Wavelength, centr., FWHM	534 nm, 30.9 nm



Quantum efficiency	
$\eta$	0.582
Gain	
$K$ (DN/e)	0.124
$1/K$ (e/DN)	8.033
Dark noise & DSNU	
$\sigma_d$ (DN)	0.83
$\sigma_0$ (e)	6.3
DSNU <sub>1288</sub> (DN)	0.16
DSNU <sub>1288</sub> (e)	1.28
Signal-to-noise ratio & PRNU	
SNR <sub>max</sub>	180
SNR <sub>max</sub> (dB)	45.1
SNR <sub>max</sub> (bits)	7.5
$1/\text{SNR}_{\text{max}}$ (%)	0.56
PRNU <sub>1288</sub> (%)	0.675
Nonlinearity	
LE (%)	0.42
Sensitivity & saturation	
$\mu_{p,\text{min}}$ (p)	12.4
$\mu_{e,\text{min}}$ (e)	7.2
$\mu_{p,\text{sat}}$ (p)	55615
$\mu_{e,\text{sat}}$ (e)	32366
Dynamic range	
DR	4482
DR (dB)	73.0
DR (bit)	12.1
Dark current	
$\mu_{c,\text{mean}}$ (DN/s)	2.12
$\mu_{c,\text{mean}}$ (e/s)	17.04
$\mu_{c,\text{var}}$ (e/s)	13.71

### EMVA 1288 Summary Sheet for Operating Point 3

Type of data	Single	Gain, offset	Gain = 0dB, Offset = 0.08
Exposure time	17.0 ms	Environmental temperature	26.1°C
Frame rate	0.0 Hz	Camera temperature	35.4°C
Data transfer mode	BayerRG12	Wavelength, centr., FWHM	630 nm, 13.1 nm



Quantum efficiency	
$\eta$	0.427
Gain	
$K$ (DN/e)	0.124
$1/K$ (e/DN)	8.043
Dark noise & DSNU	
$\sigma_d$ (DN)	0.86
$\sigma_0$ (e)	6.5
DSNU <sub>1288</sub> (DN)	0.17
DSNU <sub>1288</sub> (e)	1.40
Signal-to-noise ratio & PRNU	
SNR <sub>max</sub>	181
SNR <sub>max</sub> (dB)	45.2
SNR <sub>max</sub> (bits)	7.5
$1/\text{SNR}_{\text{max}}$ (%)	0.55
PRNU <sub>1288</sub> (%)	0.616
Nonlinearity	
LE (%)	0.64
Sensitivity & saturation	
$\mu_{p,\text{min}}$ (p)	17.5
$\mu_{e,\text{min}}$ (e)	7.5
$\mu_{p,\text{sat}}$ (p)	76929
$\mu_{e,\text{sat}}$ (e)	32852
Dynamic range	
DR	4404
DR (dB)	72.9
DR (bit)	12.1
Dark current	
$\mu_{c,\text{mean}}$ (DN/s)	2.16
$\mu_{c,\text{mean}}$ (e/s)	17.35
$\mu_{c,\text{var}}$ (e/s)	15.13