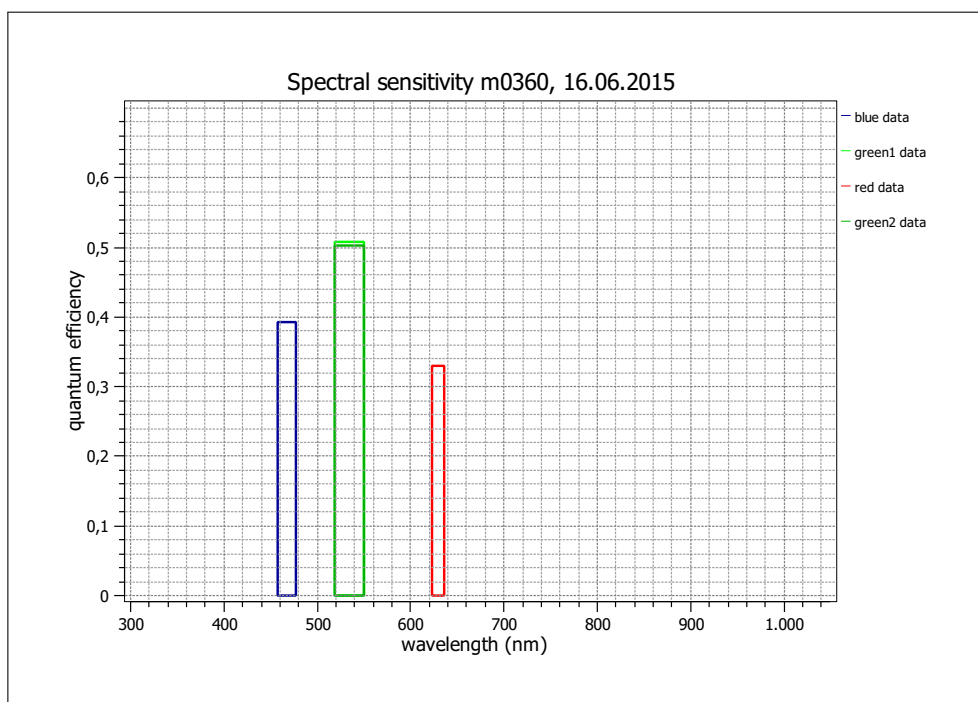


## EMVA 1288 Summary Sheet

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.

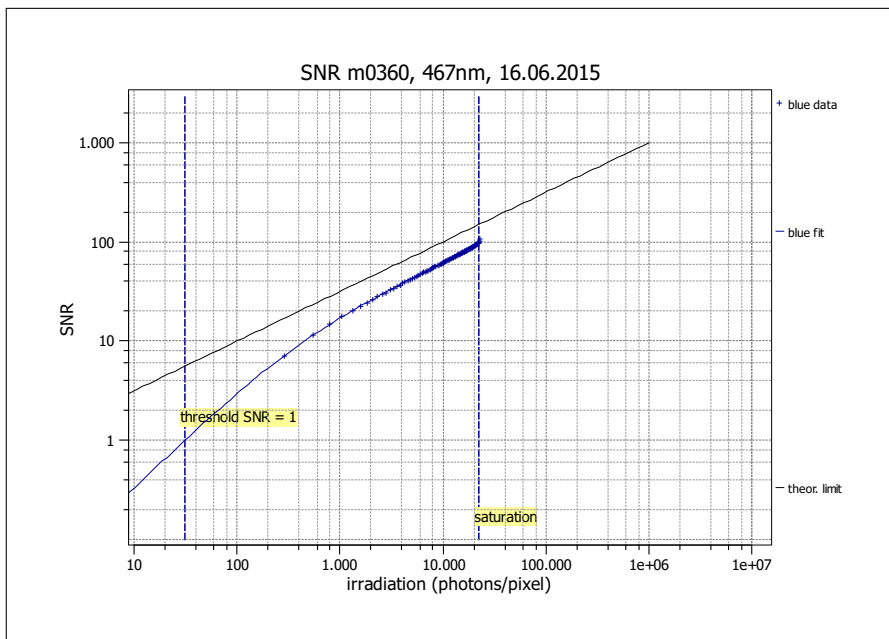
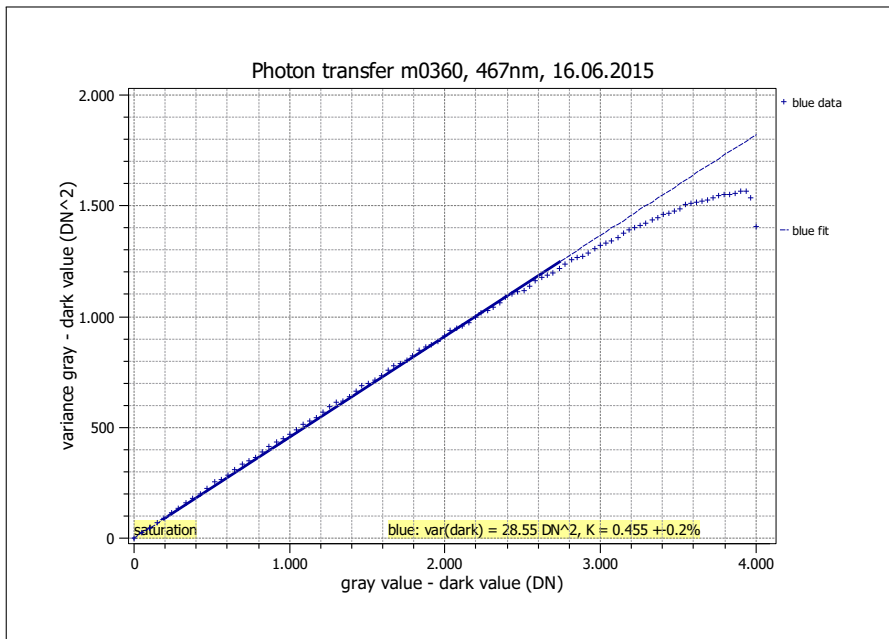
Vendor	MATRIX VISION
Model	mvBlueCOUGAR-XD1212aC
Serial number	GX201702
Sensor diagonal	15.83 mm
Lens category	C-Mount
Resolution	4248 × 2836, 12 bit
Pixel size	3.10 μm × 3.10 μm
Sensor type	CCD
Readout type	Progressive
Transfer type	Interline
Maximum frame rate	6.6 Hz
Interface type	GigE Vision

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 = -4dB, Offset = 0.2
<b>Operation point 2, (page 10)</b>	
Wavelength centroid	534.2 nm
Wavelength FWHM	30.9 nm
Gain, offset	Gain = -4dB, Offset = 0.2
<b>Operation point 3, (page 15)</b>	
Wavelength centroid	629.5 nm
Wavelength FWHM	13.1 nm
Gain, offset	Gain = -4dB, Offset = 0.2
<b>Optional data measured</b>	
None	



## EMVA 1288 Summary Sheet for Operating Point 1

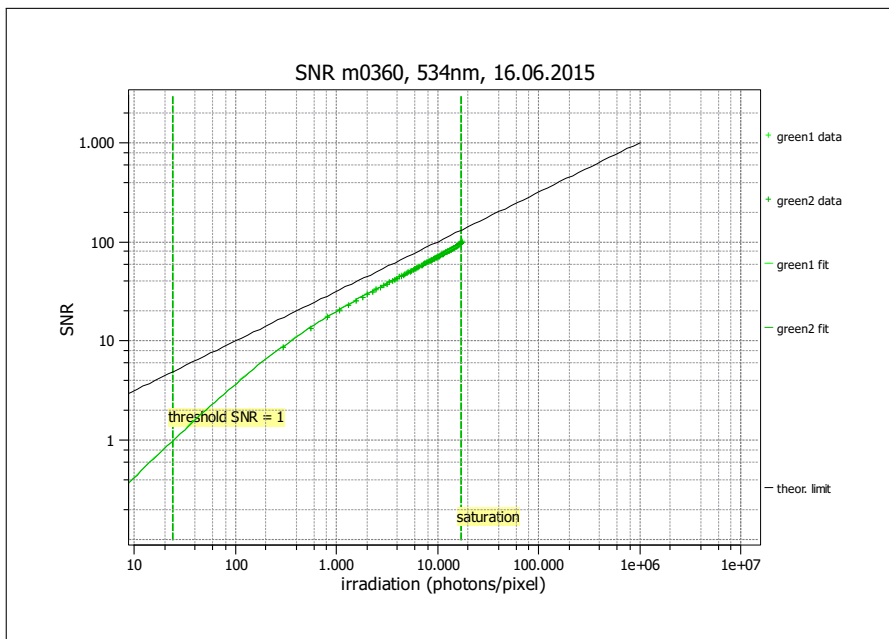
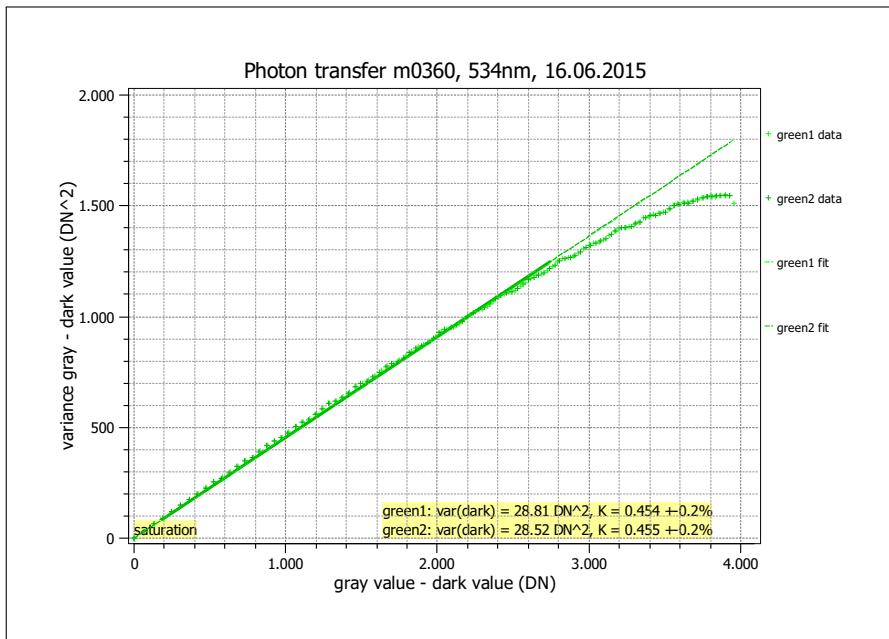
Type of data	Single	Gain, offset	Gain = -4dB, Offset = 0.2
Exposure time	20.0 ms	Environmental temperature	29.1°C
Frame rate	0.0 Hz	Camera temperature	46.8°C
Data transfer mode	BayerBG12	Wavelength, centr., FWHM	467 nm, 20.5 nm



Quantum efficiency	
$\eta$	0.393
Gain	
$K$ (DN/e)	0.455
$1/K$ (e/DN)	2.196
Dark noise & DSNU	
$\sigma_d$ (DN)	5.34
$\sigma_0$ (e)	11.7
DSNU <sub>1288</sub> (DN)	—
DSNU <sub>1288</sub> (e)	—
Signal-to-noise ratio & PRNU	
SNR <sub>max</sub>	93
SNR <sub>max</sub> (dB)	39.4
SNR <sub>max</sub> (bits)	6.5
$1/\text{SNR}_{\text{max}}$ (%)	1.07
PRNU <sub>1288</sub> (%)	—
Nonlinearity	
LE (%)	0.42
Sensitivity & saturation	
$\mu_{p,\text{min}}$ (p)	31.2
$\mu_{e,\text{min}}$ (e)	12.2
$\mu_{p,\text{sat}}$ (p)	22208
$\mu_{e,\text{sat}}$ (e)	8725
Dynamic range	
DR	713
DR (dB)	57.1
DR (bit)	9.5
Dark current	
$\mu_{c,\text{mean}}$ (DN/s)	—
$\mu_{c,\text{mean}}$ (e/s)	—
$\mu_{c,\text{var}}$ (e/s)	—

## EMVA 1288 Summary Sheet for Operating Point 2

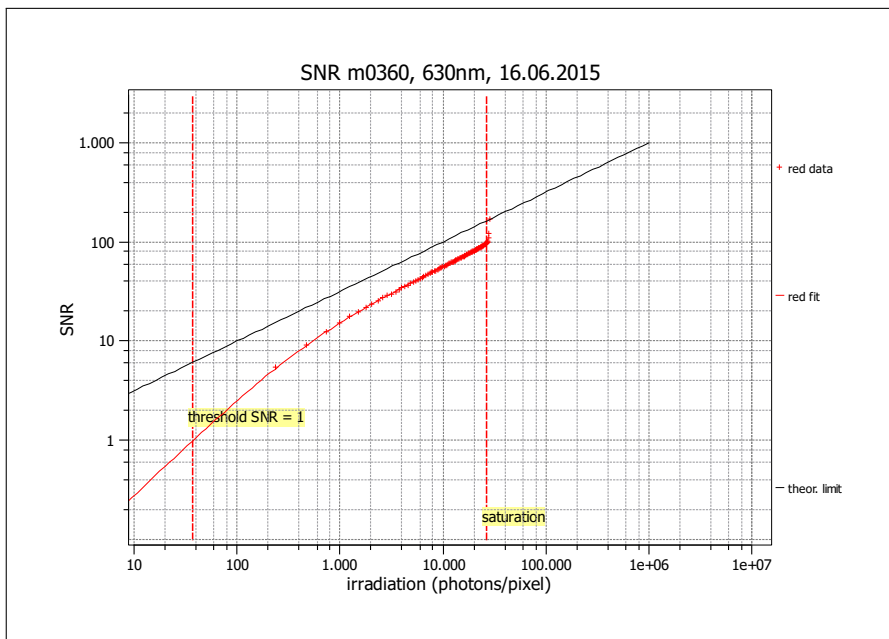
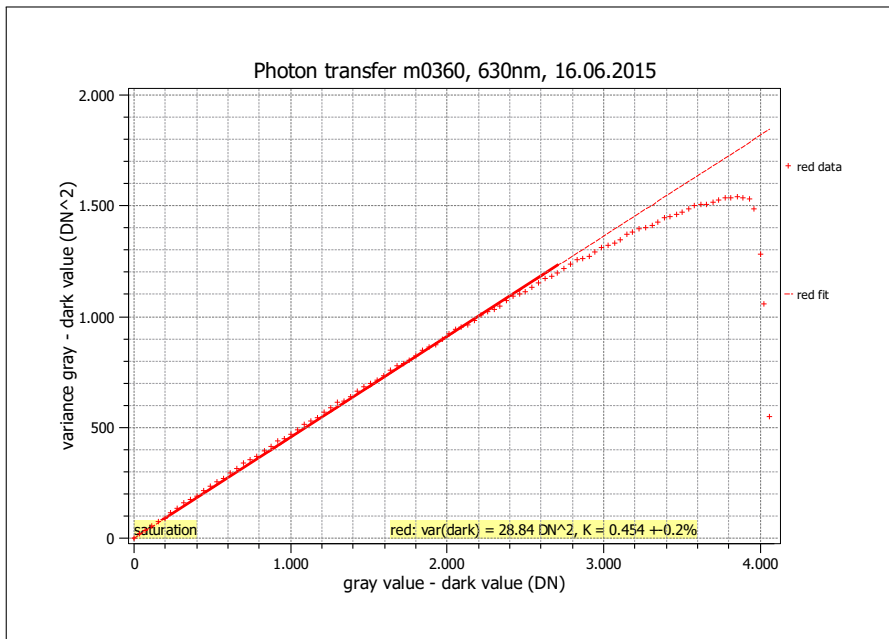
Type of data	Single	Gain, offset	Gain = -4dB, Offset = 0.2
Exposure time	20.0 ms	Environmental temperature	29.1°C
Frame rate	0.0 Hz	Camera temperature	46.8°C
Data transfer mode	BayerBG12	Wavelength, centr., FWHM	534 nm, 30.9 nm



Quantum efficiency	
$\eta$	0.507
Gain	
$K$ (DN/e)	0.454
$1/K$ (e/DN)	2.200
Dark noise & DSNU	
$\sigma_d$ (DN)	5.37
$\sigma_0$ (e)	11.8
DSNU <sub>1288</sub> (DN)	—
DSNU <sub>1288</sub> (e)	—
Signal-to-noise ratio & PRNU	
SNR <sub>max</sub>	94
SNR <sub>max</sub> (dB)	39.4
SNR <sub>max</sub> (bits)	6.5
$1/\text{SNR}_{\text{max}}$ (%)	1.07
PRNU <sub>1288</sub> (%)	—
Nonlinearity	
LE (%)	0.60
Sensitivity & saturation	
$\mu_{p,\text{min}}$ (p)	24.3
$\mu_{e,\text{min}}$ (e)	12.3
$\mu_{p,\text{sat}}$ (p)	17272
$\mu_{e,\text{sat}}$ (e)	8764
Dynamic range	
DR	711
DR (dB)	57.0
DR (bit)	9.5
Dark current	
$\mu_{c,\text{mean}}$ (DN/s)	—
$\mu_{c,\text{mean}}$ (e/s)	—
$\mu_{c,\text{var}}$ (e/s)	—

### EMVA 1288 Summary Sheet for Operating Point 3

Type of data	Single	Gain, offset	Gain = -4dB, Offset = 0.2
Exposure time	20.0 ms	Environmental temperature	29.1°C
Frame rate	0.0 Hz	Camera temperature	46.8°C
Data transfer mode	BayerBG12	Wavelength, centr., FWHM	630 nm, 13.1 nm



Quantum efficiency	
$\eta$	0.329
Gain	
$K$ (DN/e)	0.454
$1/K$ (e/DN)	2.201
Dark noise & DSNU	
$\sigma_d$ (DN)	5.37
$\sigma_0$ (e)	11.8
DSNU <sub>1288</sub> (DN)	—
DSNU <sub>1288</sub> (e)	—
Signal-to-noise ratio & PRNU	
SNR <sub>max</sub>	94
SNR <sub>max</sub> (dB)	39.4
SNR <sub>max</sub> (bits)	6.5
$1/\text{SNR}_{\text{max}}$ (%)	1.07
PRNU <sub>1288</sub> (%)	—
Nonlinearity	
LE (%)	0.72
Sensitivity & saturation	
$\mu_{p,\text{min}}$ (p)	37.5
$\mu_{e,\text{min}}$ (e)	12.3
$\mu_{p,\text{sat}}$ (p)	26626
$\mu_{e,\text{sat}}$ (e)	8765
Dynamic range	
DR	711
DR (dB)	57.0
DR (bit)	9.5
Dark current	
$\mu_{c,\text{mean}}$ (DN/s)	—
$\mu_{c,\text{mean}}$ (e/s)	—
$\mu_{c,\text{var}}$ (e/s)	—