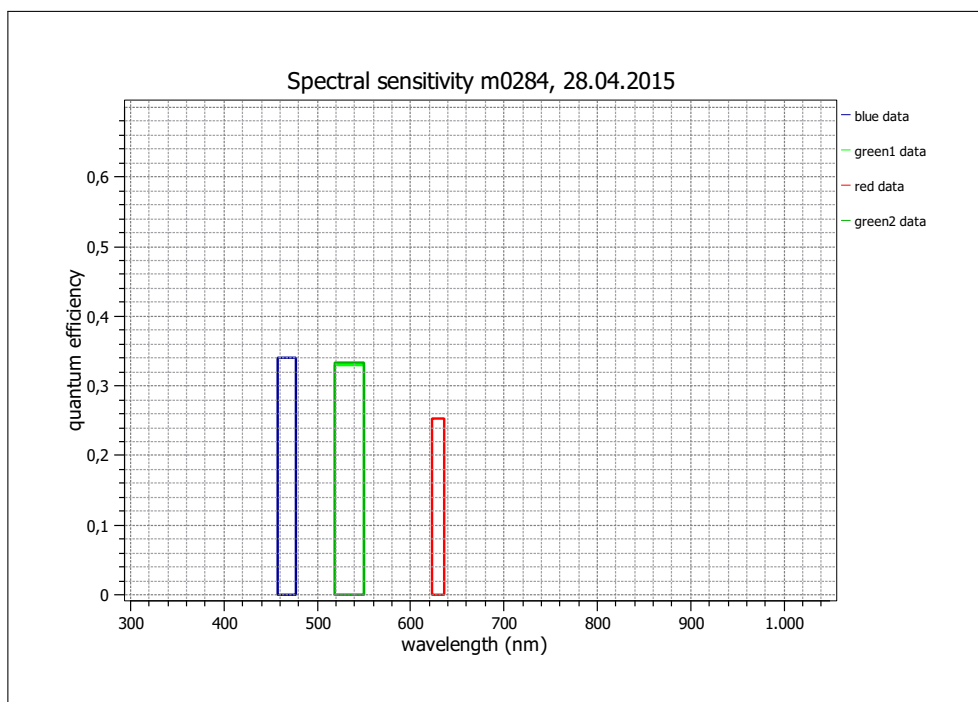


## EMVA 1288 Summary Sheet

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.

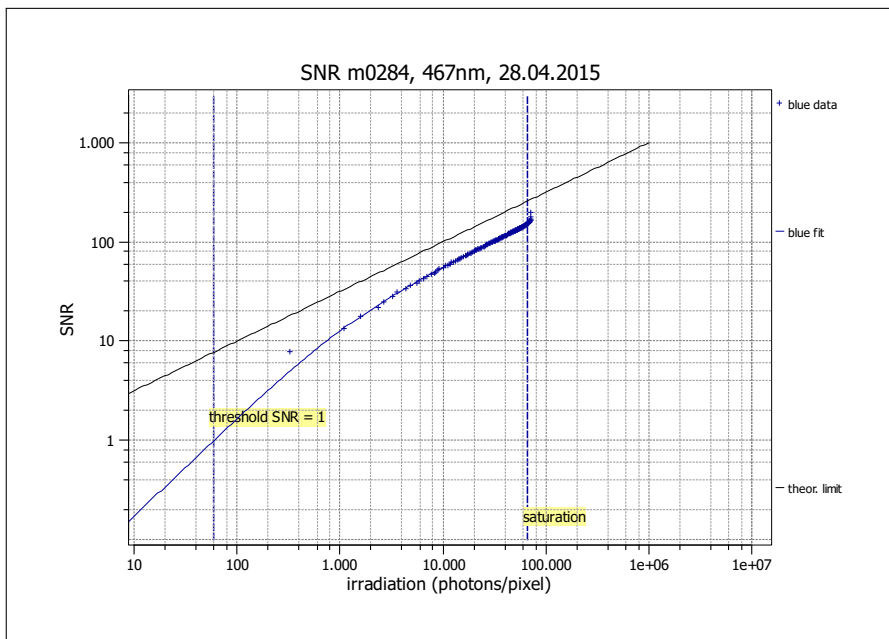
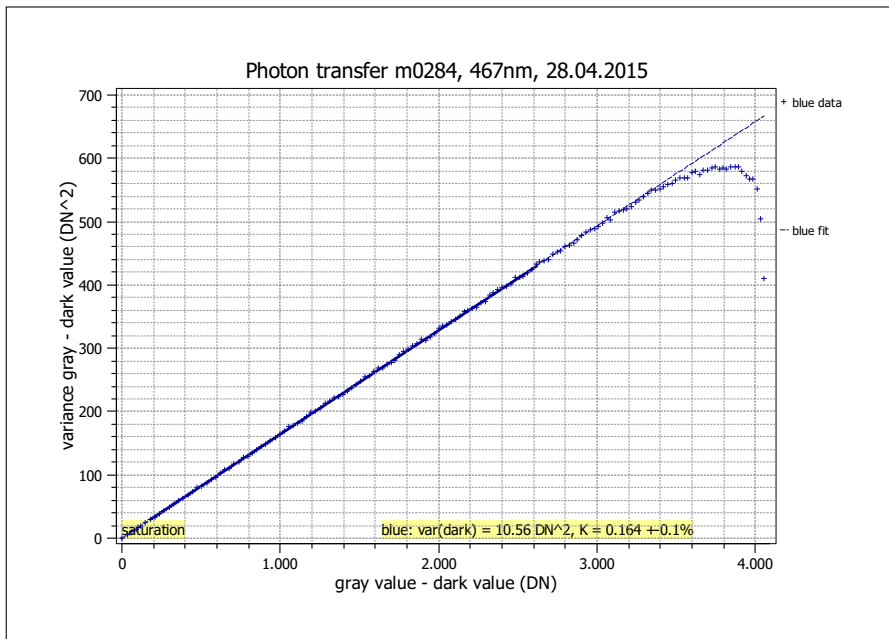
Vendor	MATRIX VISION
Model	mvBlueCOUGAR-X120dC
Serial number	GX008450
Sensor diagonal	8.04 mm
Lens category	C-Mount
Resolution	776 × 580, 12 bit
Pixel size	8.30 μm × 8.30 μm
Sensor type	CCD
Readout type	Progressive
Transfer type	Interline
Maximum frame rate	53.5 Hz
Interface type	GigE Vision

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 = -5dB, Offset = 0.23
<b>Operation point 2, (page 10)</b>	
Wavelength centroid	534.2 nm
Wavelength FWHM	30.9 nm
Gain, offset	Gain = -5dB, Offset = 0.23
<b>Operation point 3, (page 15)</b>	
Wavelength centroid	629.5 nm
Wavelength FWHM	13.1 nm
Gain, offset	Gain = -5dB, Offset = 0.23
<b>Optional data measured</b>	
None	



## EMVA 1288 Summary Sheet for Operating Point 1

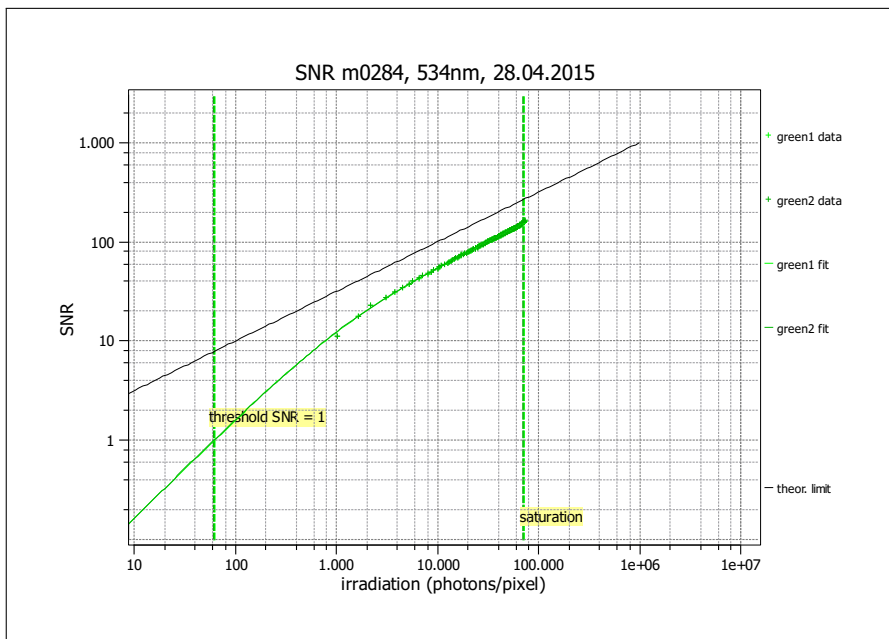
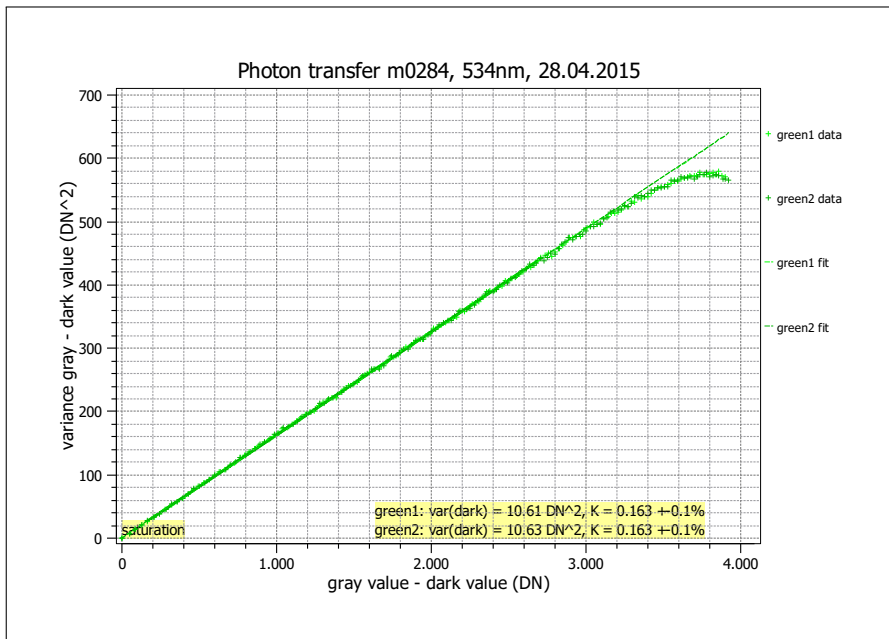
Type of data	Single	Gain, offset	Gain = -5dB, Offset = 0.23
Exposure time	11.0 ms	Environmental temperature	27.8°C
Frame rate	0.0 Hz	Camera temperature	40.8°C
Data transfer mode	BayerRG12	Wavelength, centr., FWHM	467 nm, 20.5 nm



Quantum efficiency	
$\eta$	0.341
Gain	
$K$ (DN/e)	0.164
$1/K$ (e/DN)	6.079
Dark noise & DSNU	
$\sigma_d$ (DN)	3.25
$\sigma_0$ (e)	19.7
DSNU <sub>1288</sub> (DN)	—
DSNU <sub>1288</sub> (e)	—
Signal-to-noise ratio & PRNU	
SNR <sub>max</sub>	151
SNR <sub>max</sub> (dB)	43.6
SNR <sub>max</sub> (bits)	7.2
$1/\text{SNR}_{\text{max}}$ (%)	0.66
PRNU <sub>1288</sub> (%)	—
Nonlinearity	
LE (%)	0.62
Sensitivity & saturation	
$\mu_{p,\text{min}}$ (p)	59.5
$\mu_{e,\text{min}}$ (e)	20.3
$\mu_{p,\text{sat}}$ (p)	66940
$\mu_{e,\text{sat}}$ (e)	22800
Dynamic range	
DR	1125
DR (dB)	61.0
DR (bit)	10.1
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

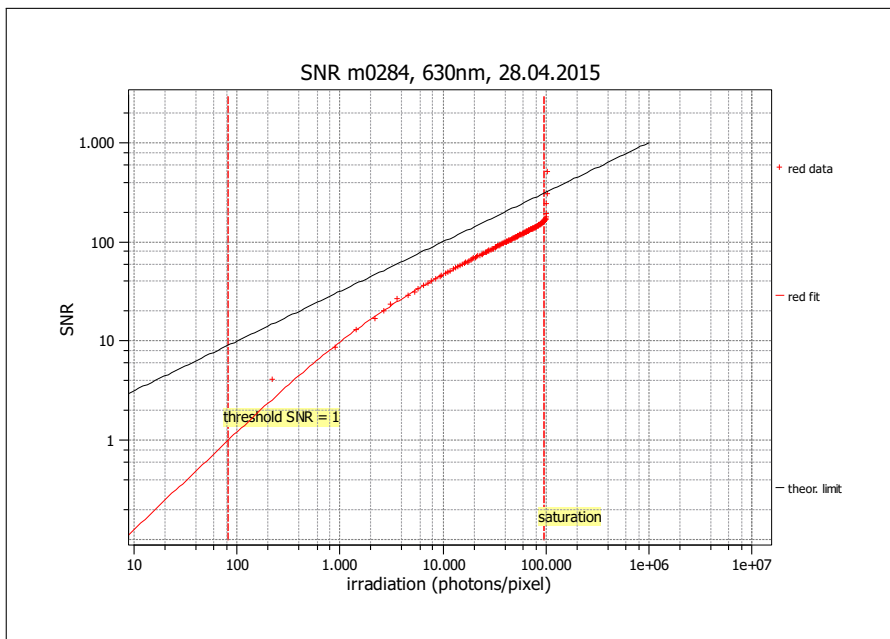
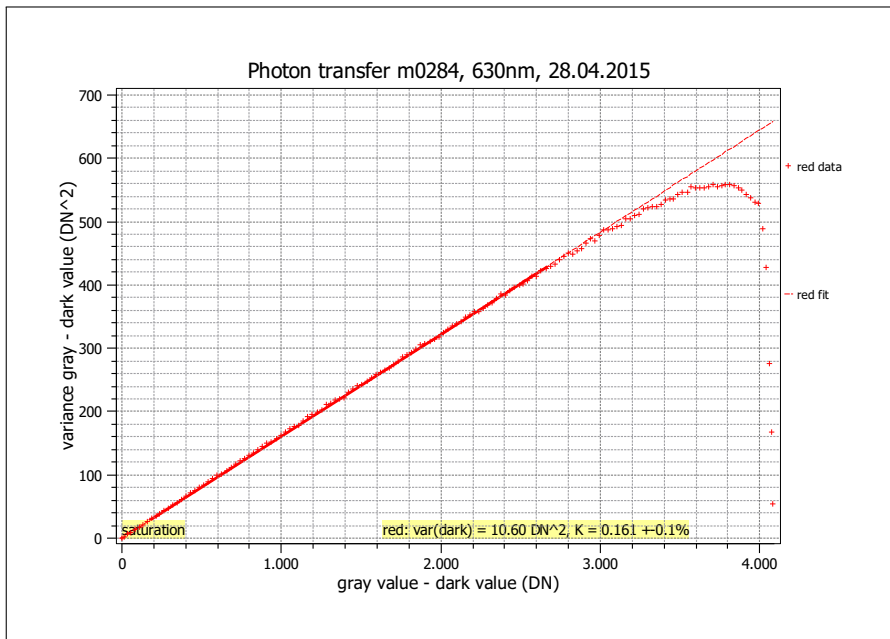
Type of data	Single	Gain, offset	Gain = -5dB, Offset = 0.23
Exposure time	11.0 ms	Environmental temperature	27.8°C
Frame rate	0.0 Hz	Camera temperature	40.8°C
Data transfer mode	BayerRG12	Wavelength, centr., FWHM	534 nm, 30.9 nm



Quantum efficiency	
$\eta$	0.330
Gain	
$K$ (DN/e)	0.163
$1/K$ (e/DN)	6.136
Dark noise & DSNU	
$\sigma_d$ (DN)	3.26
$\sigma_0$ (e)	19.9
DSNU <sub>1288</sub> (DN)	—
DSNU <sub>1288</sub> (e)	—
Signal-to-noise ratio & PRNU	
SNR <sub>max</sub>	155
SNR <sub>max</sub> (dB)	43.8
SNR <sub>max</sub> (bits)	7.3
$1/\text{SNR}_{\text{max}}$ (%)	0.65
PRNU <sub>1288</sub> (%)	—
Nonlinearity	
LE (%)	0.62
Sensitivity & saturation	
$\mu_{p,\text{min}}$ (p)	62.0
$\mu_{e,\text{min}}$ (e)	20.5
$\mu_{p,\text{sat}}$ (p)	72451
$\mu_{e,\text{sat}}$ (e)	23942
Dynamic range	
DR	1168
DR (dB)	61.3
DR (bit)	10.2
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 = -5dB, Offset = 0.23
Exposure time	11.0 ms	Environmental temperature	27.8°C
Frame rate	0.0 Hz	Camera temperature	40.8°C
Data transfer mode	BayerRG12	Wavelength, centr., FWHM	630 nm, 13.1 nm



Quantum efficiency	
$\eta$	0.253
Gain	
$K$ (DN/e)	0.161
$1/K$ (e/DN)	6.203
Dark noise & DSNU	
$\sigma_d$ (DN)	3.26
$\sigma_0$ (e)	20.1
DSNU <sub>1288</sub> (DN)	—
DSNU <sub>1288</sub> (e)	—
Signal-to-noise ratio & PRNU	
SNR <sub>max</sub>	155
SNR <sub>max</sub> (dB)	43.8
SNR <sub>max</sub> (bits)	7.3
$1/\text{SNR}_{\text{max}}$ (%)	0.65
PRNU <sub>1288</sub> (%)	—
Nonlinearity	
LE (%)	0.59
Sensitivity & saturation	
$\mu_{p,\text{min}}$ (p)	81.8
$\mu_{e,\text{min}}$ (e)	20.7
$\mu_{p,\text{sat}}$ (p)	94944
$\mu_{e,\text{sat}}$ (e)	24036
Dynamic range	
DR	1161
DR (dB)	61.3
DR (bit)	10.2
Dark current	
$\mu_{c,\text{mean}}$ (DN/s)	—
$\mu_{c,\text{mean}}$ (e/s)	—
$\mu_{c,\text{var}}$ (e/s)	—