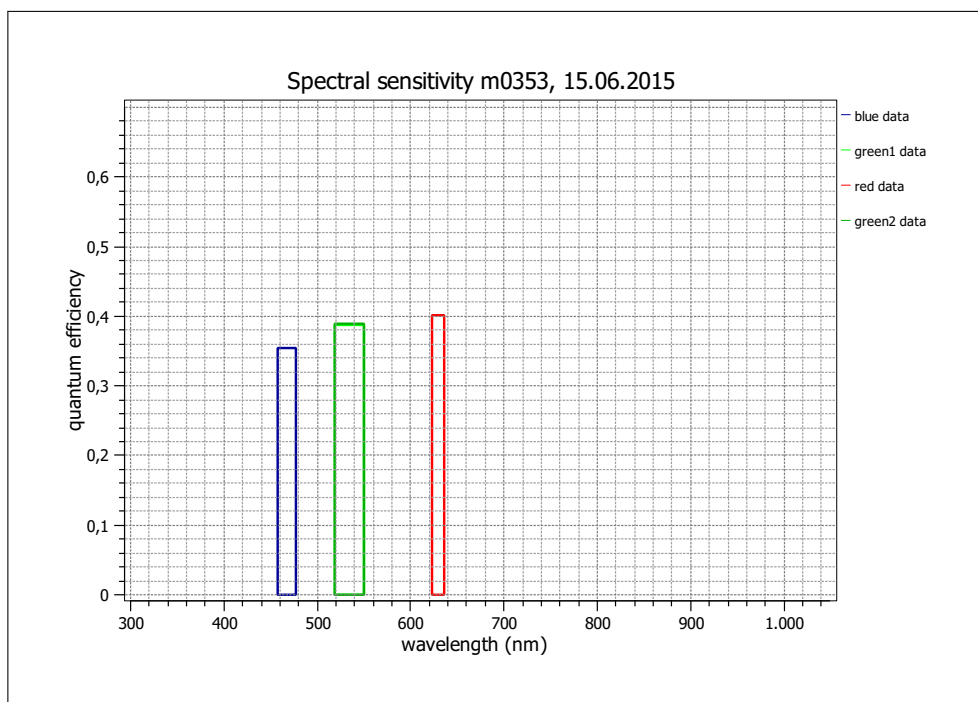


EMVA 1288 Summary Sheet

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.

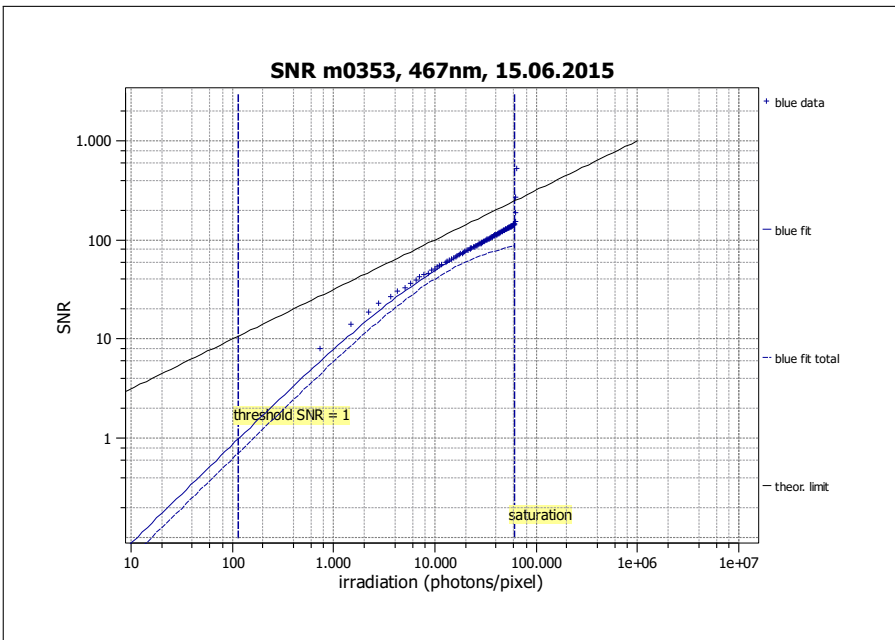
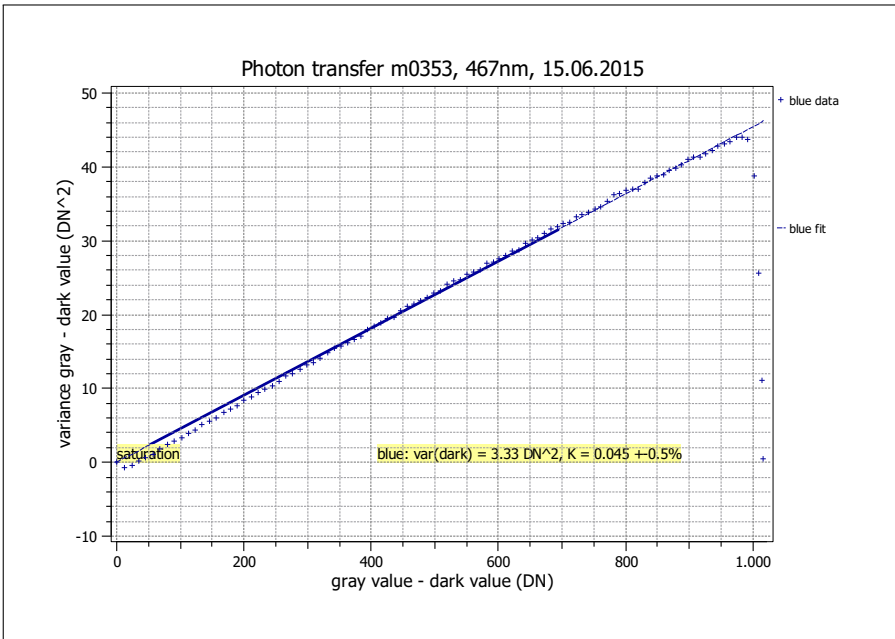
Vendor	MATRIX VISION
Model	mvBlueCOUGAR-X100wC
Serial number	GX006503
Sensor diagonal	5.35 mm
Lens category	C-Mount
Resolution	752 × 480, 10 bit
Pixel size	6.00 μm × 6.00 μm
Sensor type	CMOS
Shutter type	global
Overlap capabilities	pipelined
Maximum frame rate	63.3 Hz
Interface type	GigE Vision

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 = 0.5
Operation point 2, (page 17)	
Wavelength centroid	534.2 nm
Wavelength FWHM	30.9 nm
Gain, offset	Gain = 0dB, Offset = 0.5
Operation point 3, (page 29)	
Wavelength centroid	629.5 nm
Wavelength FWHM	13.1 nm
Gain, offset	Gain = 0dB, Offset = 0.5
Optional data measured	
None	



EMVA 1288 Summary Sheet for Operating Point 1

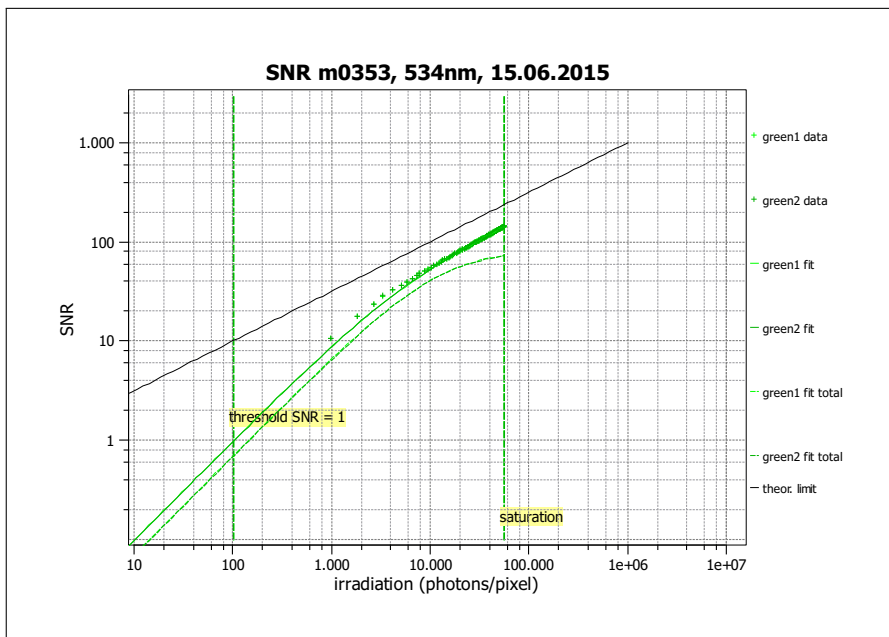
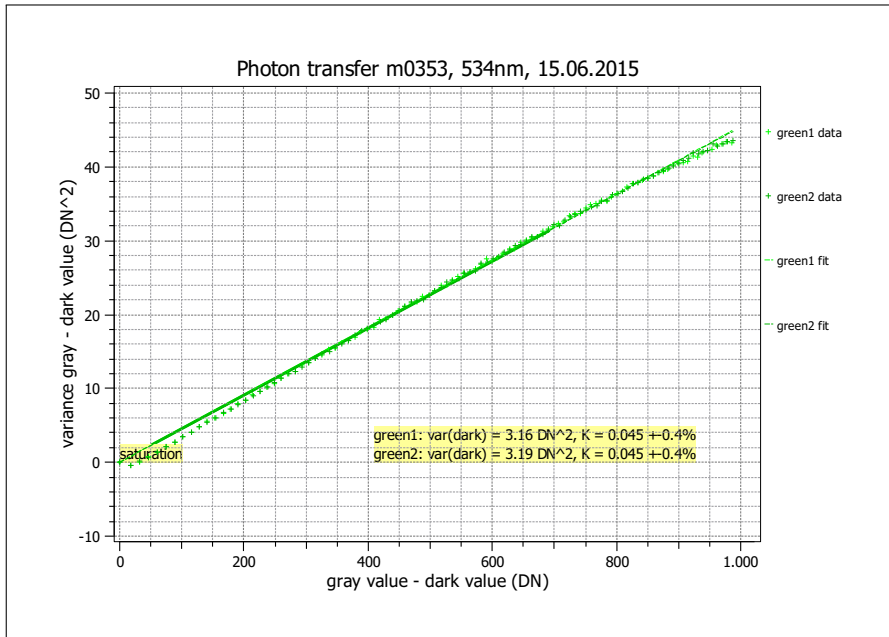
Type of data	Single	Gain, offset	Gain = 0dB, Offset = 0.5
Exposure time	15.0 ms	Environmental temperature	29.6°C
Frame rate	0.0 Hz	Camera temperature	40.4°C
Data transfer mode	BayerBG10	Wavelength, centr., FWHM	467 nm, 20.5 nm



Quantum efficiency	η	0.354
Gain	K (DN/e)	0.045
	$1/K$ (e/DN)	21.999
Dark noise & DSNU	σ_d (DN)	1.82
	σ_0 (e)	39.6
	DSNU ₁₂₈₈ (DN)	1.80
	DSNU ₁₂₈₈ (e)	39.49
Signal-to-noise ratio & PRNU	SNR _{max}	146
	SNR _{max} (dB)	43.3
	SNR _{max} (bits)	7.2
	$1/\text{SNR}_{\text{max}}$ (%)	0.68
	PRNU ₁₂₈₈ (%)	0.888
Nonlinearity	LE (%)	0.65
Sensitivity & saturation	$\mu_{p,\text{min}}$ (p)	114.7
	$\mu_{e,\text{min}}$ (e)	40.6
	$\mu_{p,\text{sat}}$ (p)	60402
	$\mu_{e,\text{sat}}$ (e)	21400
Dynamic range	DR	526
	DR (dB)	54.4
	DR (bit)	9.0
Dark current	$\mu_{c,\text{mean}}$ (DN/s)	506.49
	$\mu_{c,\text{mean}}$ (e/s)	11142.33
	$\mu_{c,\text{var}}$ (e/s)	-12128.02

EMVA 1288 Summary Sheet for Operating Point 2

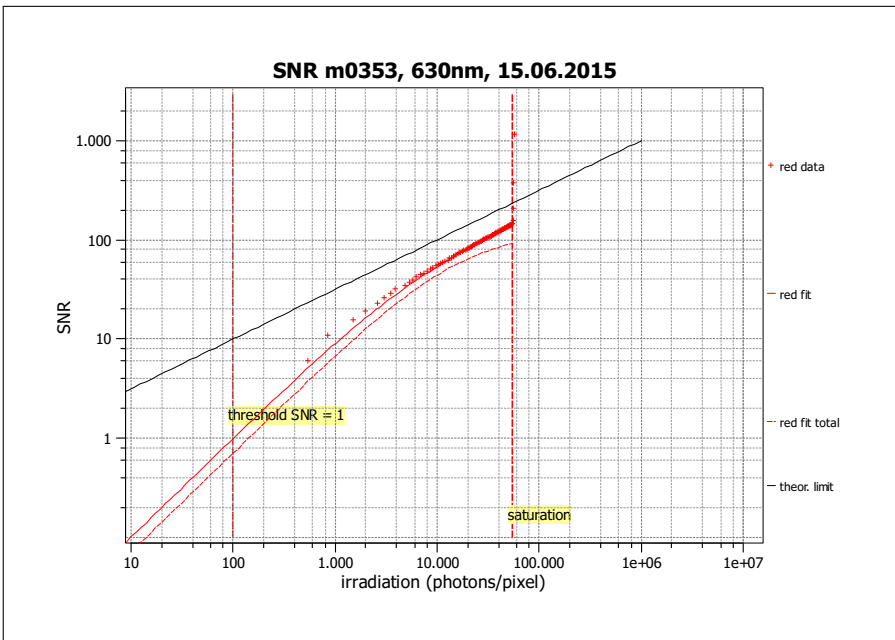
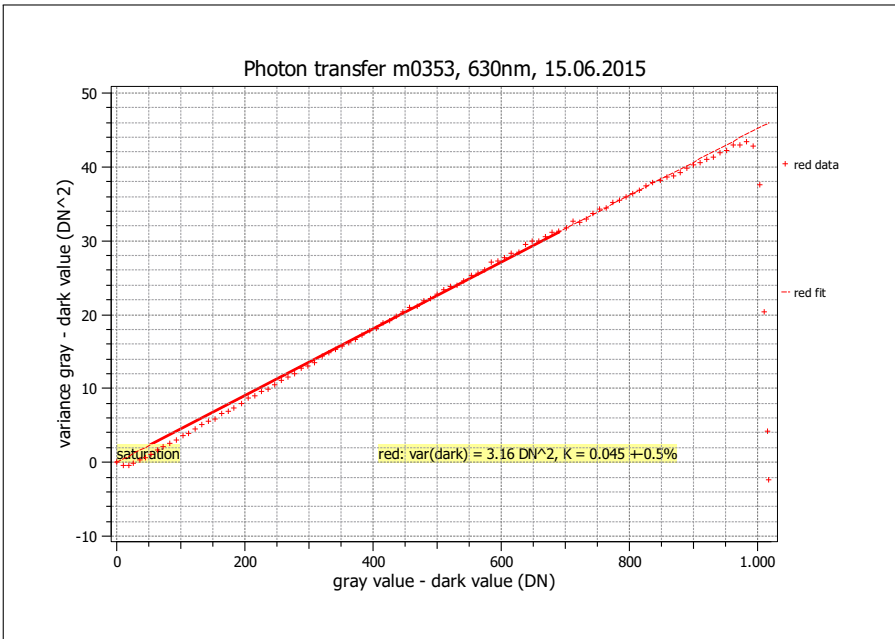
Type of data	Single	Gain, offset	Gain = 0dB, Offset = 0.5
Exposure time	15.0 ms	Environmental temperature	29.6°C
Frame rate	0.0 Hz	Camera temperature	40.4°C
Data transfer mode	BayerBG10	Wavelength, centr., FWHM	534 nm, 30.9 nm



Quantum efficiency	
η	0.388
Gain	
K (DN/e)	0.045
$1/K$ (e/DN)	21.990
Dark noise & DSNU	
σ_d (DN)	1.78
σ_0 (e)	38.6
DSNU ₁₂₈₈ (DN)	1.78
DSNU ₁₂₈₈ (e)	39.15
Signal-to-noise ratio & PRNU	
SNR _{max}	147
SNR _{max} (dB)	43.3
SNR _{max} (bits)	7.2
$1/\text{SNR}_{\text{max}}$ (%)	0.68
PRNU ₁₂₈₈ (%)	1.169
Nonlinearity	
LE (%)	0.53
Sensitivity & saturation	
$\mu_{p,\text{min}}$ (p)	102.1
$\mu_{e,\text{min}}$ (e)	39.6
$\mu_{p,\text{sat}}$ (p)	55651
$\mu_{e,\text{sat}}$ (e)	21592
Dynamic range	
DR	545
DR (dB)	54.7
DR (bit)	9.1
Dark current	
$\mu_{c,\text{mean}}$ (DN/s)	507.65
$\mu_{c,\text{mean}}$ (e/s)	11163.10
$\mu_{c,\text{var}}$ (e/s)	-11844.01

EMVA 1288 Summary Sheet for Operating Point 3

Type of data	Single	Gain, offset	Gain = 0dB, Offset = 0.5
Exposure time	15.0 ms	Environmental temperature	29.6°C
Frame rate	0.0 Hz	Camera temperature	40.4°C
Data transfer mode	BayerBG10	Wavelength, centr., FWHM	630 nm, 13.1 nm



Quantum efficiency	
η	0.401
Gain	
K (DN/e)	0.045
$1/K$ (e/DN)	22.146
Dark noise & DSNU	
σ_d (DN)	1.78
σ_0 (e)	38.9
DSNU ₁₂₈₈ (DN)	1.78
DSNU ₁₂₈₈ (e)	39.49
Signal-to-noise ratio & PRNU	
SNR _{max}	148
SNR _{max} (dB)	43.4
SNR _{max} (bits)	7.2
$1/\text{SNR}_{\text{max}}$ (%)	0.68
PRNU ₁₂₈₈ (%)	0.815
Nonlinearity	
LE (%)	0.56
Sensitivity & saturation	
$\mu_{p,\text{min}}$ (p)	99.5
$\mu_{e,\text{min}}$ (e)	39.9
$\mu_{p,\text{sat}}$ (p)	54259
$\mu_{e,\text{sat}}$ (e)	21762
Dynamic range	
DR	546
DR (dB)	54.7
DR (bit)	9.1
Dark current	
$\mu_{c,\text{mean}}$ (DN/s)	506.83
$\mu_{c,\text{mean}}$ (e/s)	11224.10
$\mu_{c,\text{var}}$ (e/s)	-12303.51