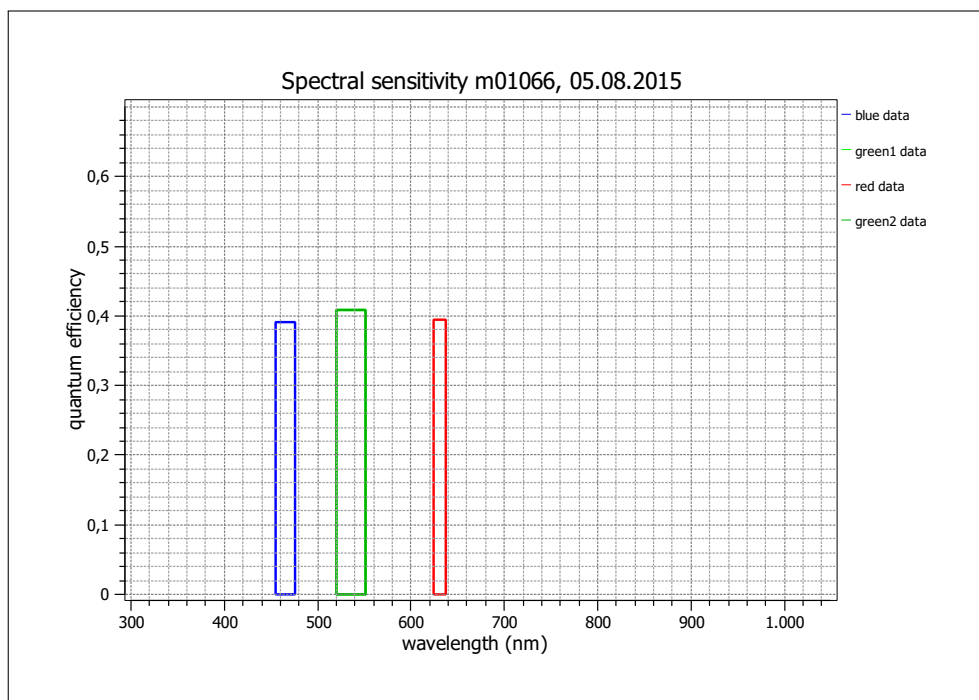


EMVA 1288 Summary Sheet

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, 27.08.2013, SN 0001(Baumer) . 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.

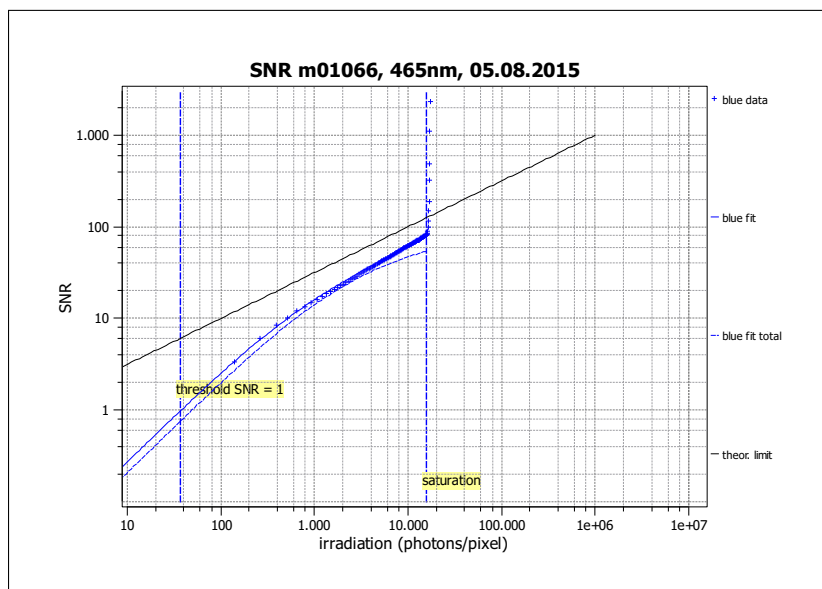
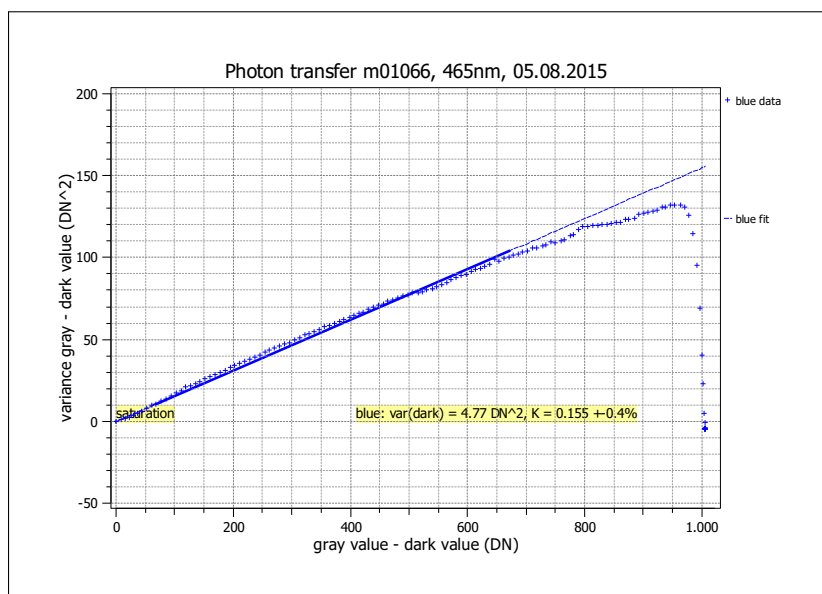
Vendor	Baumer
Model	LXG-20C
Serial number	0680943215
Sensor diagonal	12.75 mm
Lens category	C-Mount
Resolution	2048 × 1088, 10 bit
Pixel size	5.50 μm × 5.50 μm
Sensor type	CMOS
Shutter type	Global shutter
Overlap capabilities	Overlapped
Maximum frame rate	0.0 Hz
Interface type	GEV

Type of data presented	Single
Operation point 1	
Wavelength centroid	464.8 nm
Wavelength FWHM	20.8 nm
Gain, offset	BlackLevel = 10
Operation point 2	
Wavelength centroid	535.5 nm
Wavelength FWHM	32.0 nm
Gain, offset	BlackLevel = 10
Operation point 3	
Wavelength centroid	630.5 nm
Wavelength FWHM	13.5 nm
Gain, offset	BlackLevel = 10
Optional data measured	
None	



EMVA 1288 Summary Sheet for Operating Point 1

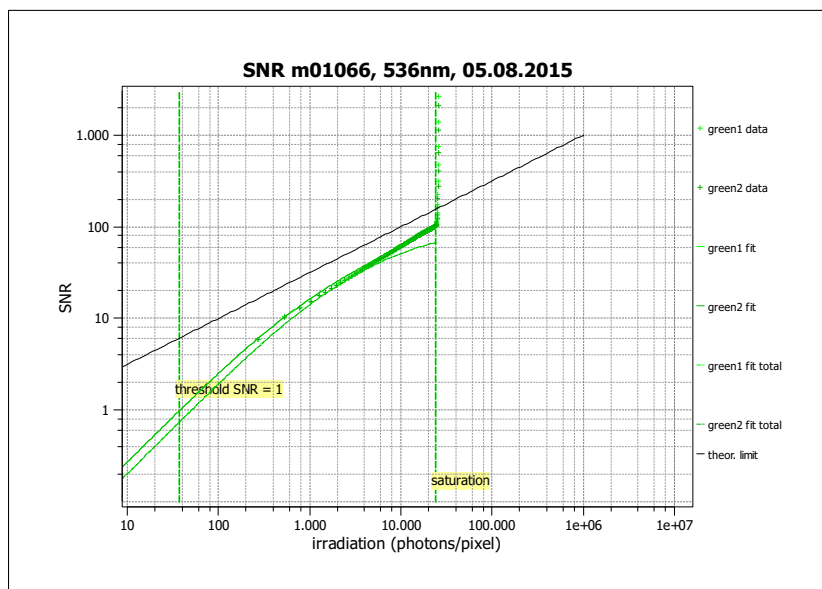
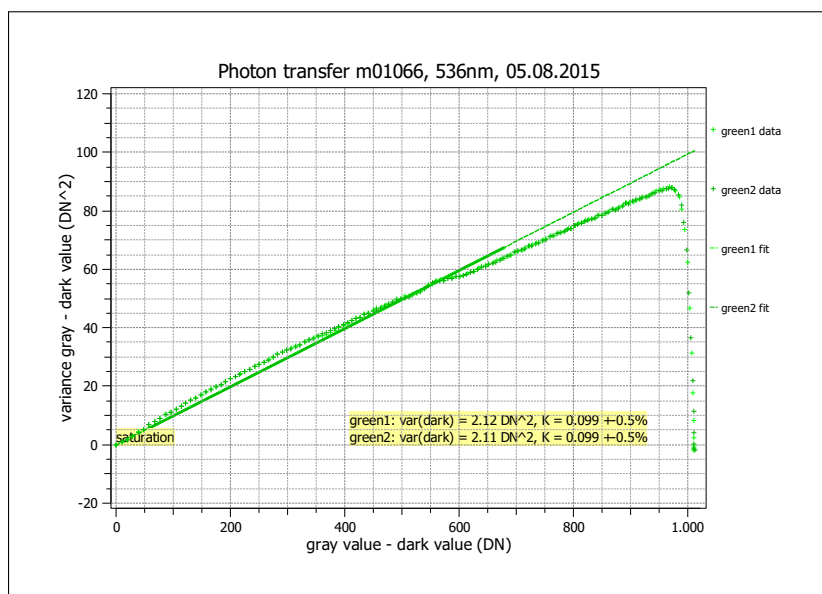
Type of data	Single	Gain, offset	BlackLevel = 10
Exposure time	500.0 μ s	Environmental temperature	27.9°C
Frame rate	0.0 Hz	Camera temperature	38.1°C
Data transfer mode	BayerGB10	Wavelength, centr., FWHM	465 nm, 20.8 nm



Quantum efficiency	
η	0.391
Gain	
K (DN/e)	0.155
$1/K$ (e/DN)	6.464
Dark noise & DSNU	
σ_d (DN)	2.18
σ_0 (e)	14.0
DSNU ₁₂₈₈ (DN)	1.88
DSNU ₁₂₈₈ (e)	12.16
Signal-to-noise ratio & PRNU	
SNR _{max}	78
SNR _{max} (dB)	37.9
SNR _{max} (bits)	6.3
$1/\text{SNR}_{\text{max}}$ (%)	1.27
PRNU ₁₂₈₈ (%)	1.316
Nonlinearity	
LE (%)	0.27
Sensitivity & saturation	
$\mu_{p,\text{min}}$ (p)	37.4
$\mu_{e,\text{min}}$ (e)	14.6
$\mu_{p,\text{sat}}$ (p)	15731
$\mu_{e,\text{sat}}$ (e)	6152
Dynamic range	
DR	421
DR (dB)	52.5
DR (bit)	8.7
Dark current	
$\mu_{c,\text{mean}}$ (DN/s)	113.36
$\mu_{c,\text{mean}}$ (e/s)	732.72
$\mu_{c,\text{var}}$ (e/s)	783.47

EMVA 1288 Summary Sheet for Operating Point 2

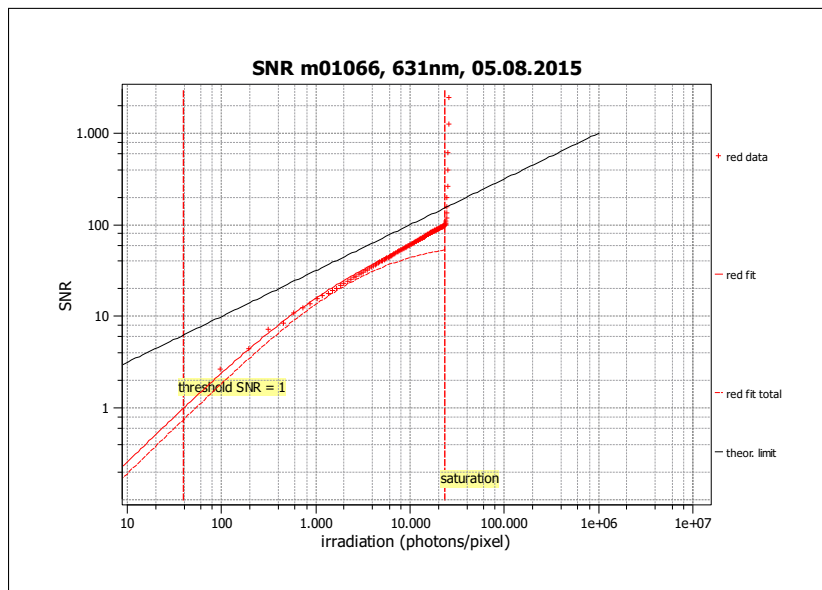
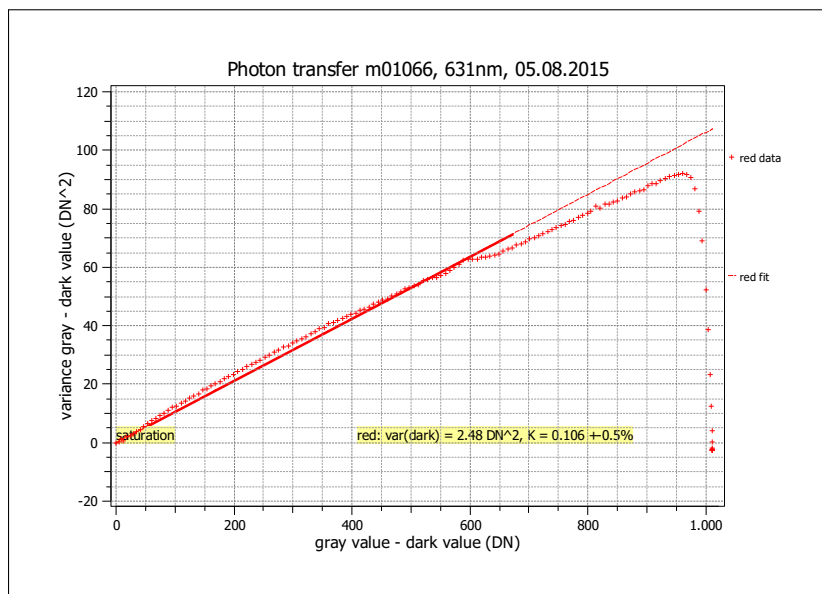
Type of data	Single	Gain, offset	BlackLevel = 10
Exposure time	500.0 μ s	Environmental temperature	27.9°C
Frame rate	0.0 Hz	Camera temperature	38.1°C
Data transfer mode	BayerGB10	Wavelength, centr., FWHM	536 nm, 32.0 nm



Quantum efficiency	
η	0.408
Gain	
K (DN/e)	0.099
$1/K$ (e/DN)	10.055
Dark noise & DSNU	
σ_d (DN)	1.46
σ_0 (e)	14.4
DSNU ₁₂₈₈ (DN)	1.33
DSNU ₁₂₈₈ (e)	13.36
Signal-to-noise ratio & PRNU	
SNR _{max}	99
SNR _{max} (dB)	39.9
SNR _{max} (bits)	6.6
$1/\text{SNR}_{\text{max}}$ (%)	1.01
PRNU ₁₂₈₈ (%)	1.064
Nonlinearity	
LE (%)	0.49
Sensitivity & saturation	
$\mu_{p,\text{min}}$ (p)	37.2
$\mu_{e,\text{min}}$ (e)	15.2
$\mu_{p,\text{sat}}$ (p)	24147
$\mu_{e,\text{sat}}$ (e)	9848
Dynamic range	
DR	650
DR (dB)	56.3
DR (bit)	9.3
Dark current	
$\mu_{c,\text{mean}}$ (DN/s)	77.74
$\mu_{c,\text{mean}}$ (e/s)	781.64
$\mu_{c,\text{var}}$ (e/s)	877.61

EMVA 1288 Summary Sheet for Operating Point 3

Type of data	Single	Gain, offset	BlackLevel = 10
Exposure time	500.0 μ s	Environmental temperature	27.9°C
Frame rate	0.0 Hz	Camera temperature	38.1°C
Data transfer mode	BayerGB10	Wavelength, centr., FWHM	631 nm, 13.5 nm



Quantum efficiency

η 0.394

Gain

K (DN/e) 0.106
 $1/K$ (e/DN) 9.423

Dark noise & DSNU

σ_d (DN) 1.57
 σ_0 (e) 14.6
 $DSNU_{1288}$ (DN) 1.45
 $DSNU_{1288}$ (e) 13.62

Signal-to-noise ratio & PRNU

SNR_{max} 96
 SNR_{max} (dB) 39.6
 SNR_{max} (bits) 6.6
 $1/SNR_{max}$ (%) 1.04
 $PRNU_{1288}$ (%) 1.553

Nonlinearity

LE (%) 0.64

Sensitivity & saturation

$\mu_{p,min}$ (p) 38.9
 $\mu_{e,min}$ (e) 15.3
 $\mu_{p,sat}$ (p) 23365
 $\mu_{e,sat}$ (e) 9204

Dynamic range

DR 600
 DR (dB) 55.6
 DR (bit) 9.2

Dark current

$\mu_{c,mean}$ (DN/s) 77.72
 $\mu_{c,mean}$ (e/s) 732.36
 $\mu_{c,var}$ (e/s) 769.65