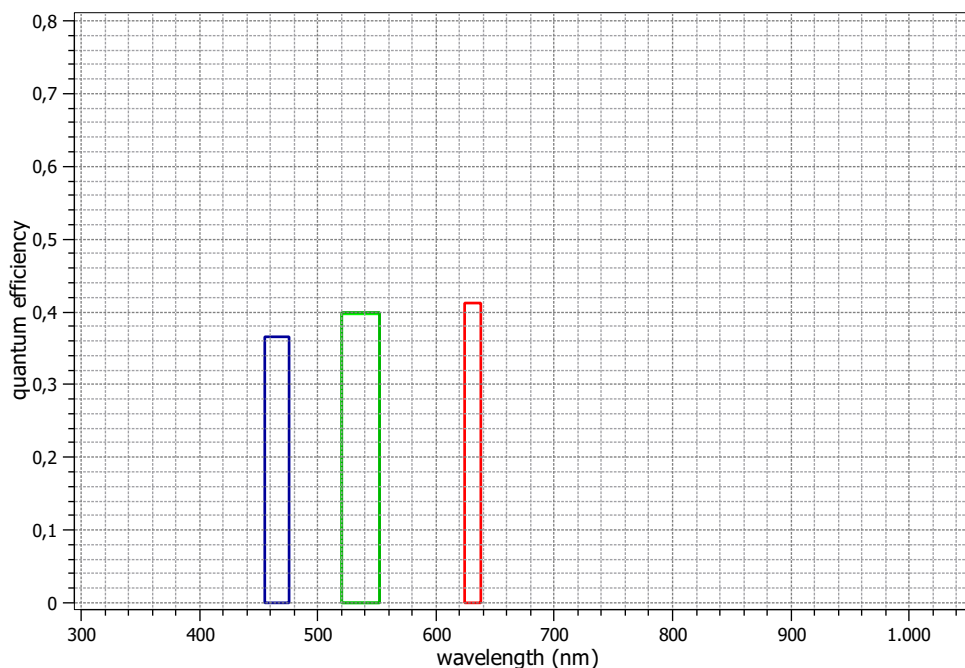


## EMVA 1288 Summary Sheet

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) or the *Zenodo EMVA 1288 community*) release 3.0 with proprietary extensions from AEON. The measurements were performed with the AEON ACC3 RGB Release 3, 15.08.2015, 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 specification and calibration report.

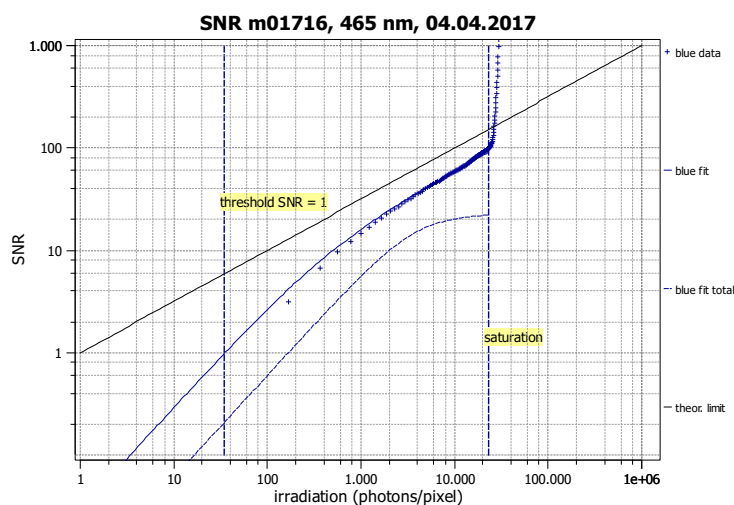
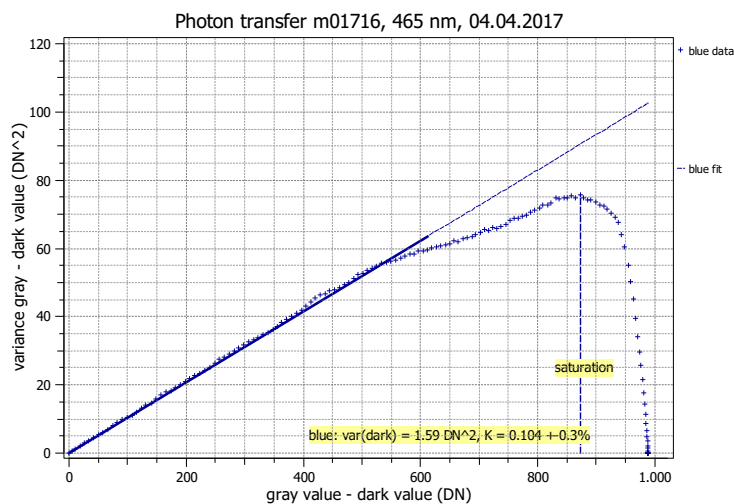
Measurements performed by Technical and Application Support Center, Baumer Optronik GmbH.

Vendor	Baumer	Type of data presented	Single
Model	LXG-250C	<b>Operation point 1</b>	
Serial number	1128471317	Wavelength centroid	465.3 nm
Sensor diagonal	32.58 mm	Wavelength FWHM	20.7 nm
Lens category	F-Mount	Gain / BlackLevel	1.0 / 39
Resolution	5120 × 5120, 10 bit	<b>Operation point 2</b>	
Pixel size	4.50 μm × 4.50 μm	Wavelength centroid	535.8 nm
Sensor	OnSemi PYTHON25000	Wavelength FWHM	32.0 nm
Sensor type	CMOS	Gain / BlackLevel	1.0 / 39
Shutter type	Global shutter	<b>Operation point 3</b>	
Overlap capabilities	Overlapped	Wavelength centroid	631.0 nm
Maximum frame rate	0.0 Hz	Wavelength FWHM	13.4 nm
Interface type	GEV	Gain / BlackLevel	1.0 / 39
		<b>Optional data measured</b>	
		None	



## EMVA 1288 Summary Sheet for Operating Point 1

Type of data	Single	Gain / BlackLevel	1.0 / 39
Exposure control	By irradiance	Environmental temperature	27.1°C
Exposure time	808.00 $\mu$ s	Camera body temperature	37.0°C
Frame rate	1.0 Hz	Internal temperature(s)	—
Data transfer mode	BayerRG10	Wavelength, centr., FWHM	465 nm, 20.7 nm



### Quantum efficiency

$\eta$  36.6%

### Overall system gain

$K$  0.104 DN/e<sup>-</sup>  
 $1/K$  9.638 e<sup>-</sup>/DN

### Temporal dark noise & DSNU

$\sigma_{y,\text{dark}}$  1.26 DN  
 $\text{DSNU}_{1288}$  6.18 DN  
 $\sigma_d$  11.85 e<sup>-</sup>  
 $\text{DSNU}_{1288}$  59.56 e<sup>-</sup>

### Signal-to-noise ratio & PRNU

$\text{SNR}_{\text{max}}$  92  
 39.3 dB  
 6.5 bit  
 $1/\text{SNR}_{\text{max}}$  1.08 %  
 $\text{PRNU}_{1288}$  4.34 %

### Nonlinearity

LE 0.78%  
 $\text{LE}_{\text{min}}$  -1.02%  
 $\text{LE}_{\text{max}}$  0.54%

### Sensitivity & saturation

$\mu_{p,\text{min}}$  34.6 p  
 1.71 p/ $\mu\text{m}^2$   
 $\mu_{p,\text{sat}}$  23210 p  
 1146 p/ $\mu\text{m}^2$   
 $\mu_{e,\text{min}}$  12.7 e<sup>-</sup>  
 0.63 e<sup>-</sup>/ $\mu\text{m}^2$   
 $\mu_{e,\text{sat}}$  8501 e<sup>-</sup>  
 420 e<sup>-</sup>/ $\mu\text{m}^2$

### Dynamic range

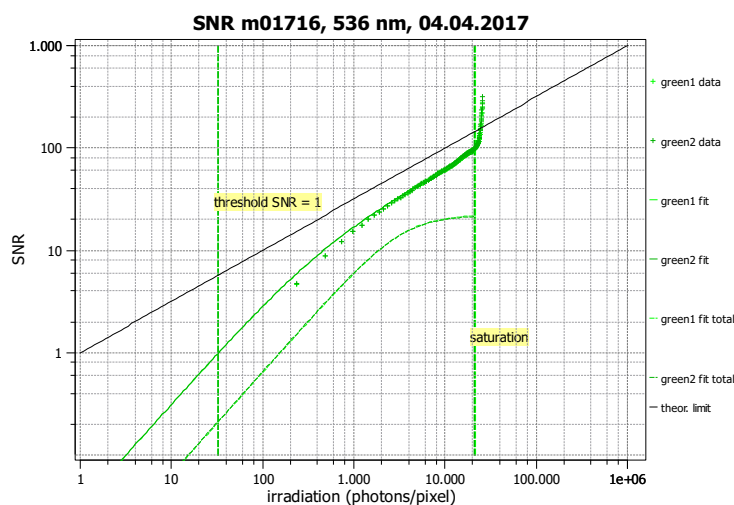
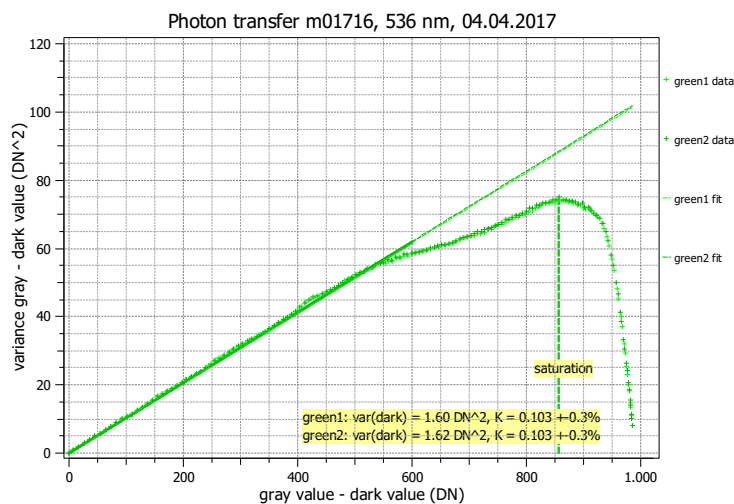
DR 670  
 56.5 dB  
 9.4 bit

### Dark current

$\mu_{c,\text{mean}}$  8.1 DN/s  
 $\mu_{c,\text{mean}}$  78.0 e<sup>-</sup>/s  
 $\mu_{c,\text{var}}$  38.4 e<sup>-</sup>/s

## EMVA 1288 Summary Sheet for Operating Point 2

Type of data	Single	Gain / BlackLevel	1.0 / 39
Exposure control	By irradiance	Environmental temperature	27.1°C
Exposure time	808.00 $\mu$ s	Camera body temperature	37.0°C
Frame rate	1.0 Hz	Internal temperature(s)	—
Data transfer mode	BayerRG10	Wavelength, centr., FWHM	536 nm, 32.0 nm



### Quantum efficiency

$\eta$  39.7%

### Overall system gain

$K$  0.103 DN/e<sup>-</sup>  
 $1/K$  9.719 e<sup>-</sup>/DN

### Temporal dark noise & DSNU

$\sigma_{y,\text{dark}}$  1.26 DN  
 DSNU<sub>1288</sub> 6.19 DN  
 $\sigma_d$  11.96 e<sup>-</sup>  
 DSNU<sub>1288</sub> 60.12 e<sup>-</sup>

### Signal-to-noise ratio & PRNU

SNR<sub>max</sub> 92  
 39.3 dB  
 6.5 bit  
 $1/\text{SNR}_{\text{max}}$  1.09 %  
 PRNU<sub>1288</sub> 4.42 %

### Nonlinearity

LE 0.77%  
 LE<sub>min</sub> -0.98%  
 LE<sub>max</sub> 0.56%

### Sensitivity & saturation

$\mu_{p,\text{min}}$  32.2 p  
 1.59 p/ $\mu\text{m}^2$   
 $\mu_{p,\text{sat}}$  21224 p  
 1048 p/ $\mu\text{m}^2$   
 $\mu_{e,\text{min}}$  12.8 e<sup>-</sup>  
 0.63 e<sup>-</sup>/ $\mu\text{m}^2$   
 $\mu_{e,\text{sat}}$  8425 e<sup>-</sup>  
 416 e<sup>-</sup>/ $\mu\text{m}^2$

### Dynamic range

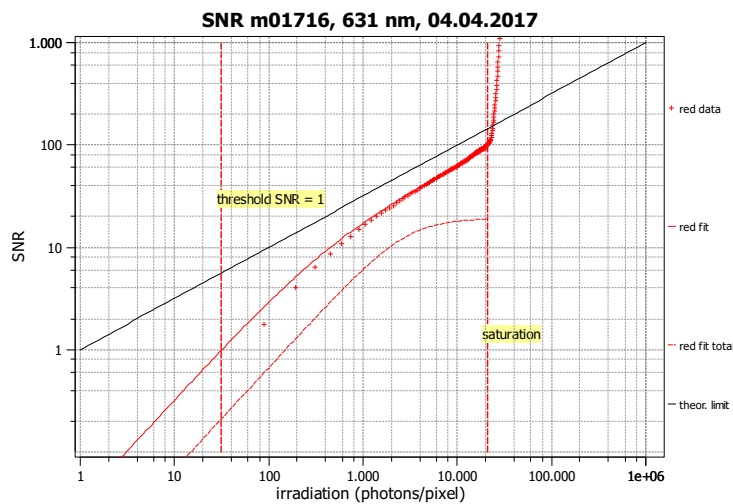
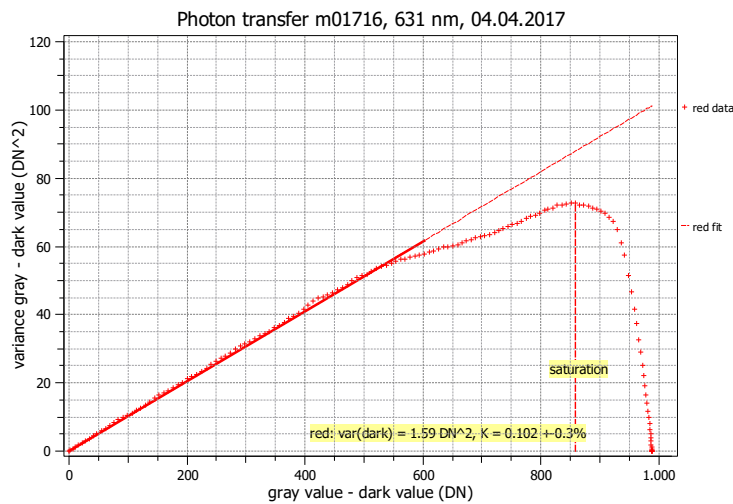
DR 659  
 56.4 dB  
 9.4 bit

### Dark current

$\mu_{c,\text{mean}}$  8.1 DN/s  
 $\mu_{c,\text{mean}}$  78.9 e<sup>-</sup>/s  
 $\mu_{c,\text{var}}$  40.8 e<sup>-</sup>/s

## EMVA 1288 Summary Sheet for Operating Point 3

Type of data	Single	Gain / BlackLevel	1.0 / 39
Exposure control	By irradiance	Environmental temperature	27.1°C
Exposure time	808.00 $\mu$ s	Camera body temperature	37.0°C
Frame rate	1.0 Hz	Internal temperature(s)	—
Data transfer mode	BayerRG10	Wavelength, centr., FWHM	631 nm, 13.4 nm



### Quantum efficiency

$\eta$  41.2%

### Overall system gain

$K$  0.102 DN/e<sup>-</sup>  
 $1/K$  9.765 e<sup>-</sup>/DN

### Temporal dark noise & DSNU

$\sigma_{y,\text{dark}}$  1.26 DN  
 $\text{DSNU}_{1288}$  6.15 DN  
 $\sigma_d$  11.99 e<sup>-</sup>  
 $\text{DSNU}_{1288}$  60.03 e<sup>-</sup>

### Signal-to-noise ratio & PRNU

$\text{SNR}_{\text{max}}$  92  
 39.3 dB  
 6.5 bit  
 $1/\text{SNR}_{\text{max}}$  1.08 %  
 $\text{PRNU}_{1288}$  5.13 %

### Nonlinearity

LE 0.82%  
 $\text{LE}_{\text{min}}$  -1.12%  
 $\text{LE}_{\text{max}}$  0.53%

### Sensitivity & saturation

$\mu_{p,\text{min}}$  31.2 p  
 1.54 p/ $\mu\text{m}^2$   
 $\mu_{p,\text{sat}}$  20718 p  
 1023 p/ $\mu\text{m}^2$   
 $\mu_{e,\text{min}}$  12.8 e<sup>-</sup>  
 0.63 e<sup>-</sup>/ $\mu\text{m}^2$   
 $\mu_{e,\text{sat}}$  8527 e<sup>-</sup>  
 421 e<sup>-</sup>/ $\mu\text{m}^2$

### Dynamic range

DR 665  
 56.5 dB  
 9.4 bit

### Dark current

$\mu_{c,\text{mean}}$  8.1 DN/s  
 $\mu_{c,\text{mean}}$  79.2 e<sup>-</sup>/s  
 $\mu_{c,\text{var}}$  41.3 e<sup>-</sup>/s