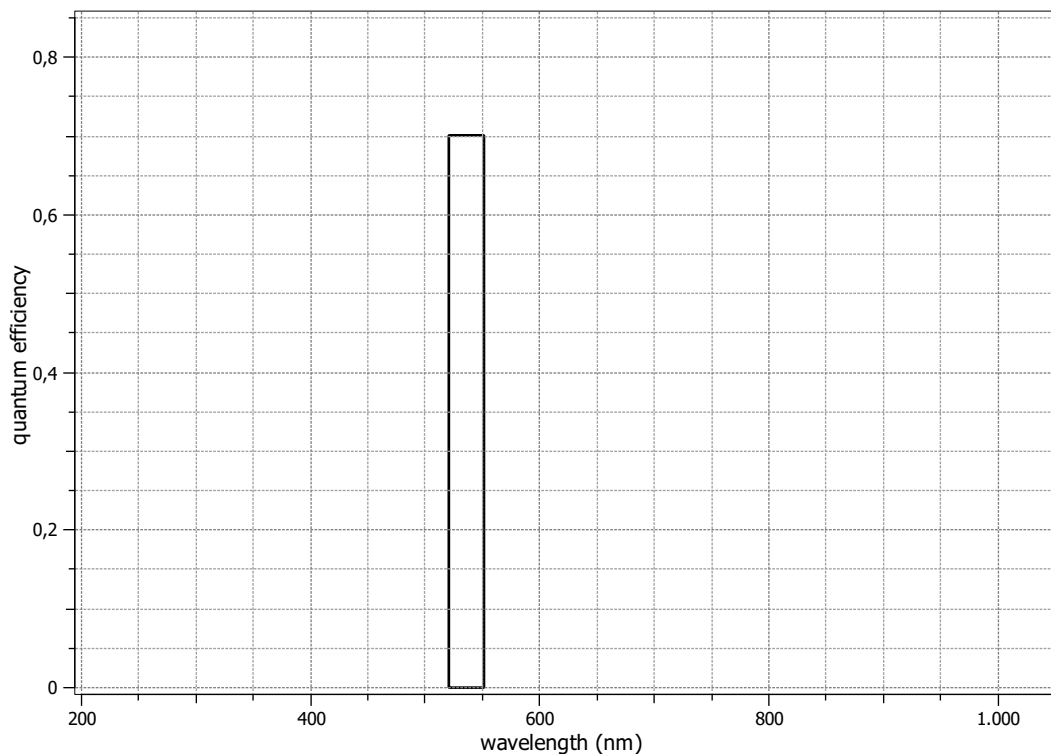


## EMVA 1288 Data Sheet m0749

This datasheet describes the specification according to the standard 1288 release 3.1 for "Characterization and Presentation of Specification Data for Image Sensors and Cameras" issued on December 30, 2016 by the European Machine Vision Association (EMVA), published at [www.standard1288.org](http://www.standard1288.org) and the *zenodo EMVA 1288 community* with proprietary extensions from AEON. The measurements were performed with the AEON ACC3 Release 6, 26.11.2016, SN 0005(MatrixVision.

Measurements performed by T.Renner, Matrix Vision GmbH

Vendor	MATRIX VI-SION	Type of data presented	Single
Model	mvBlueCOUGAR-X102nG	<b>Operation point 1 (page 3)</b>	
Serial number	GX025382	Wavelength centroid	536.0 nm
Sensor diagonal	9.25 mm	Wavelength FWHM	31.0 nm
Lens category	C-Mount	Gain, black-level	0dB, 0.1
Resolution	1632 × 1248, 12 bit	<b>Optional data measured</b>	
Pixel size (h×v)	4.50 μm × 4.50 μm	None	
Sensor	IMX430		
Sensor type	CMOS		
Shutter type	Global		
Overlap cap.	Overlapping		
Max. frame rate	29.3 Hz		
Interface type	GigE Vision		

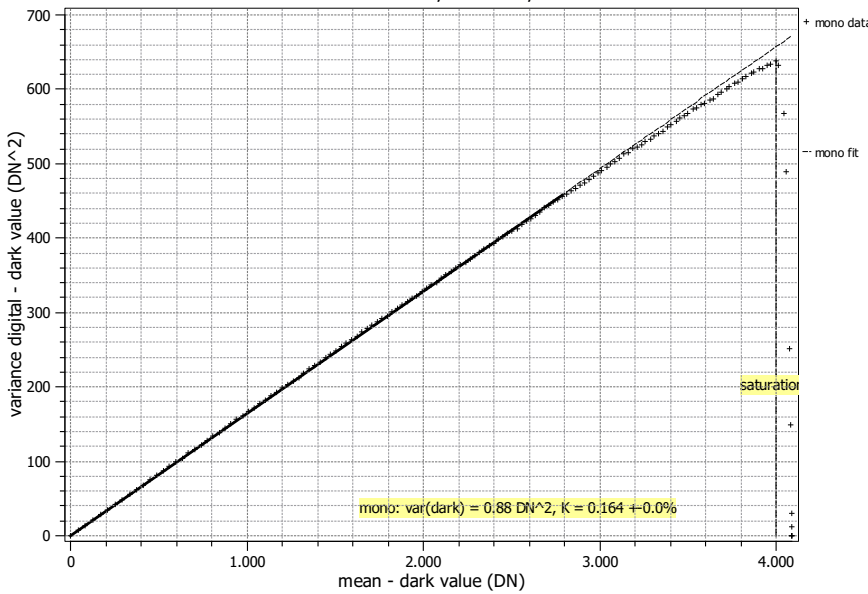


## Summary Sheet for Operation Point 1 at a Wavelength of 536 nm

Type of data	Single	Gain, black-level	0dB, 0.1
Exposure control	By irradiance	Environmental temperature	25.7°C
Exposure time	18.00 ms	Camera body temperature	35.6°C
Frame rate	28.0 Hz	Internal temperature(s)	—
Data transfer mode	Mono12	Wavelength, centr., FWHM	536 nm, 31.0 nm

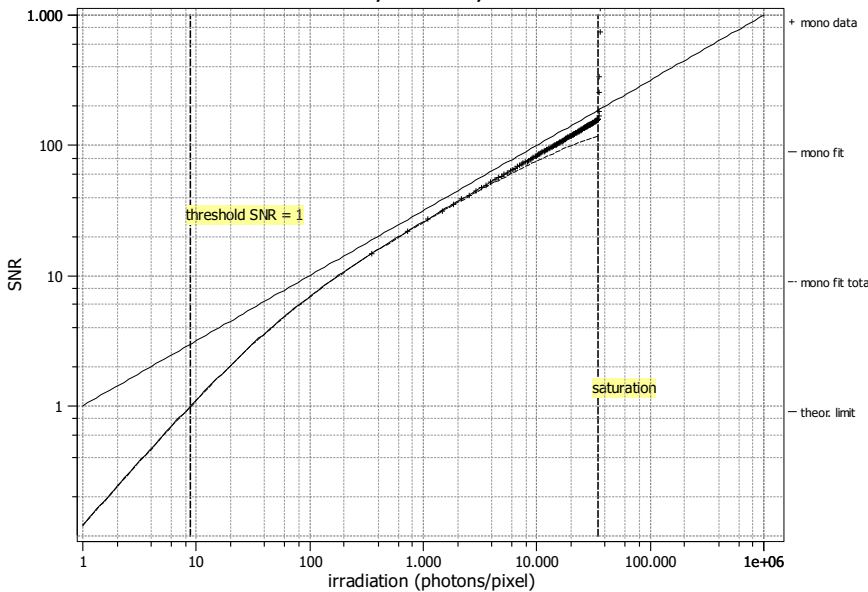
### Photon Transfer

Photon transfer m0749, 536 nm, 07.12.2018



### Signal-to-Noise Ratio

SNR m0749, 536 nm, 07.12.2018



#### Quantum efficiency

$\eta$  70.1%

#### Overall system gain

$K$  0.164 DN/e<sup>-</sup>

$1/K$  6.083 e<sup>-</sup>/DN

#### Temporal dark noise

$\sigma_d$  5.44 e<sup>-</sup>

$\sigma_{y,\text{dark}}$  0.94 DN

#### Signal-to-noise ratio

SNR<sub>max</sub> 156

43.9 dB

7.3 bit

$1/\text{SNR}_{\text{max}}$  0.64 %

#### Absolute sensitivity threshold

$\mu_{p,\text{min}}$  8.91 p

$\mu_{p,\text{min,area}}$  0.440 p/ $\mu\text{m}^2$

$\mu_{e,\text{min}}$  6.24 e<sup>-</sup>

$\mu_{e,\text{min,area}}$  0.308 e<sup>-</sup>/ $\mu\text{m}^2$

#### Saturation capacity

$\mu_{p,\text{sat}}$  34669 p

$\mu_{p,\text{sat,area}}$  1712 p/ $\mu\text{m}^2$

$\mu_{e,\text{sat}}$  24298 e<sup>-</sup>

$\mu_{e,\text{sat,area}}$  1200 e<sup>-</sup>/ $\mu\text{m}^2$

#### Dynamic range

DR 3892

71.8 dB

11.9 bit

#### Spatial nonuniformities

DSNU<sub>1288</sub> 0.88 e<sup>-</sup>

0.14 DN

PRNU<sub>1288</sub> 0.55 %

#### Linearity error

LE<sub>min</sub> -0.33%

LE<sub>max</sub> 0.62%

#### Dark current

$\mu_{c,\text{mean}}$  -16.2 ± 6.4 e<sup>-</sup>/s

-2.66 DN/s

$\mu_{c,\text{var}}$  4.7 ± 1.7 e<sup>-</sup>/s

$T_d$  — °C