

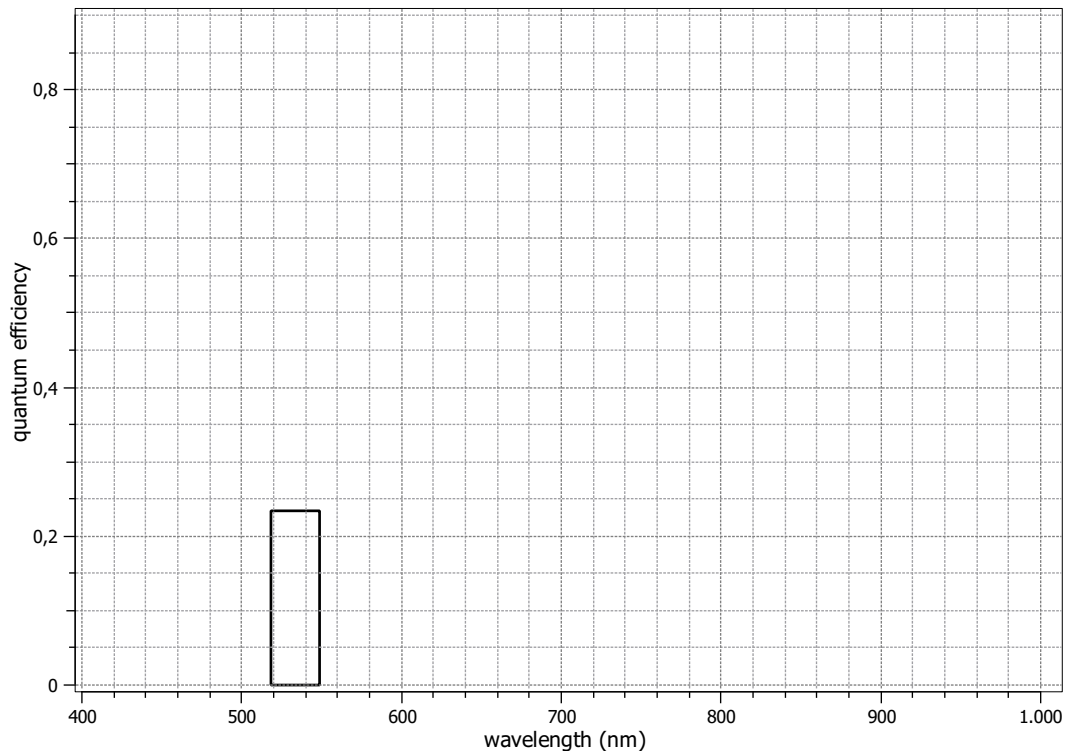
EMVA 1288 Summary Sheet

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 and the *zenodo EMVA 1288 community* with proprietary extensions from AEON. The measurements were performed with the AEON ACC3 Release 7, 21.08.2018, SN 0018(AEON).

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

Vendor	Baumer
Model	VCXU.2-50MP
Serial number	700008639322
Sensor diagonal	11.01 mm
Lens category	C-Mount
Resolution	2448 × 2048, 12 bit
Pixel size (h×v)	3.45 μm × 3.45 μm
Sensor	Sony IMX250MZR
Sensor type	CMOS
Shutter type	Global shutter
Overlap cap.	Overlapped
Max. frame rate	0.0 Hz
Interface type	U3V

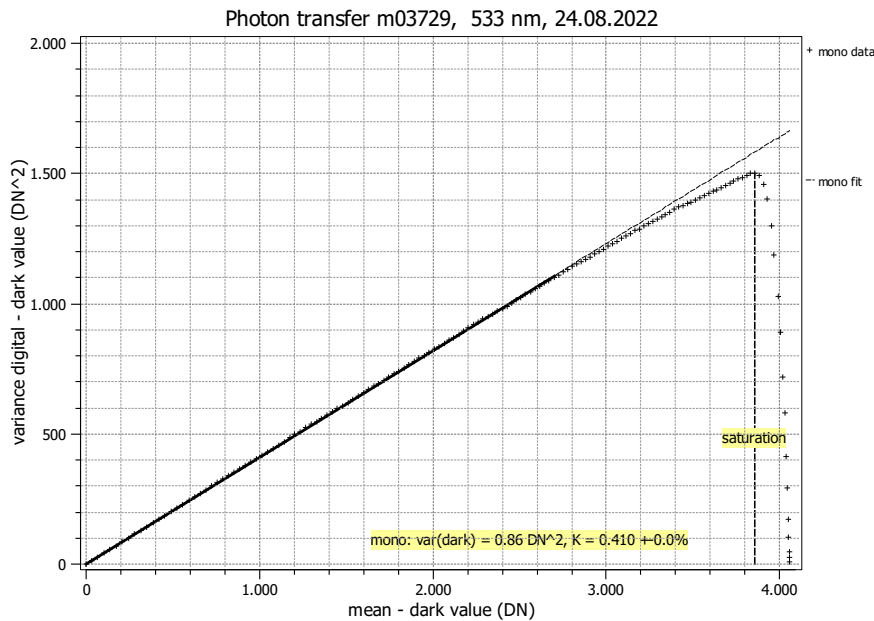
Type of data presented	Single
Operation point 1	
Wavelength centroid	533.3 nm
Wavelength FWHM	30.3 nm
Gain, black-level	1.0 / 40.0
Optional data measured	
None	



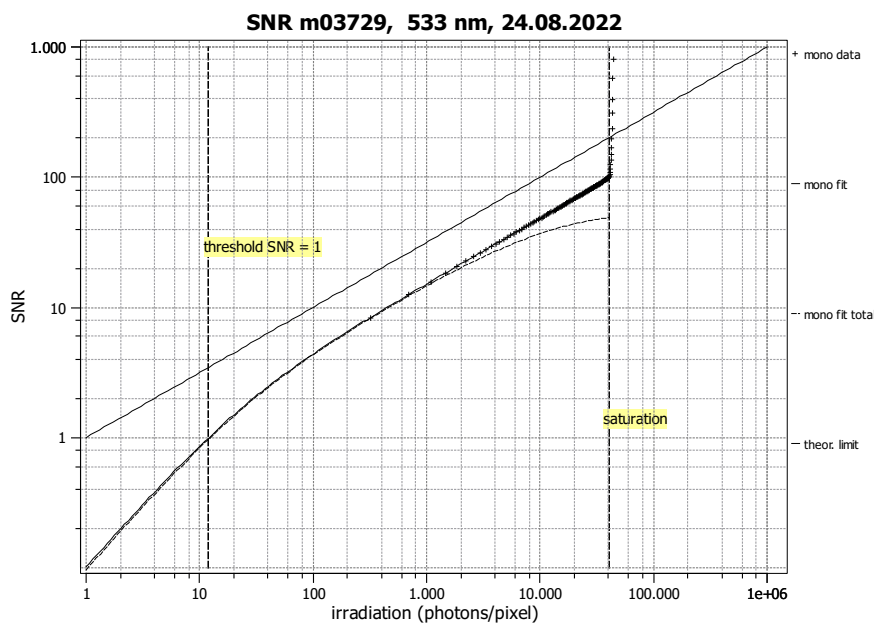
Summary Sheet for Operation Point 1 at a Wavelength of 533 nm

Type of data	Single	Gain, black-level	1.0 / 40.0
Exposure control	By irradiance	Environmental temperature	24.9°C
Exposure time	1.58 ms	Camera body temperature	33.8°C
Frame rate	10.0 Hz	Internal temperature(s)	—
Data transfer mode	Mono12	Wavelength, centr., FWHM	533 nm, 30.3 nm

Photon Transfer



Signal-to-Noise Ratio



Quantum efficiency

η 23.4%

Overall system gain

K 0.410 DN/e⁻

$1/K$ 2.438 e⁻/DN

Temporal dark noise

σ_d 2.14 e⁻

$\sigma_{y,\text{dark}}$ 0.93 DN

Signal-to-noise ratio

SNR_{max} 97

39.7 dB

6.6 bit

$1/\text{SNR}_{\text{max}}$ 1.03%

Absolute sensitivity threshold

$\mu_{p,\text{min}}$ 12.03 p

$\mu_{p,\text{min,area}}$ 1.011 p/μm²

$\mu_{e,\text{min}}$ 2.81 e⁻

$\mu_{e,\text{min,area}}$ 0.236 e⁻/μm²

Saturation capacity

$\mu_{p,\text{sat}}$ 40330 p

$\mu_{p,\text{sat,area}}$ 3388 p/μm²

$\mu_{e,\text{sat}}$ 9420 e⁻

$\mu_{e,\text{sat,area}}$ 791 e⁻/μm²

Dynamic range

DR 3352

70.5 dB

11.7 bit

Spatial nonuniformities

DSNU₁₂₈₈ 0.71 e⁻

0.29 DN

PRNU₁₂₈₈ 1.75%

Linearity error

LE_{min} -0.24%

LE_{max} 0.55%

Dark current

$\mu_{c,\text{mean}}$ -1.20 ± 0.17 e⁻/s

-0.49 DN/s

$\mu_{c,\text{var}}$ 0.88 ± 0.28 e⁻/s

T_d — °C