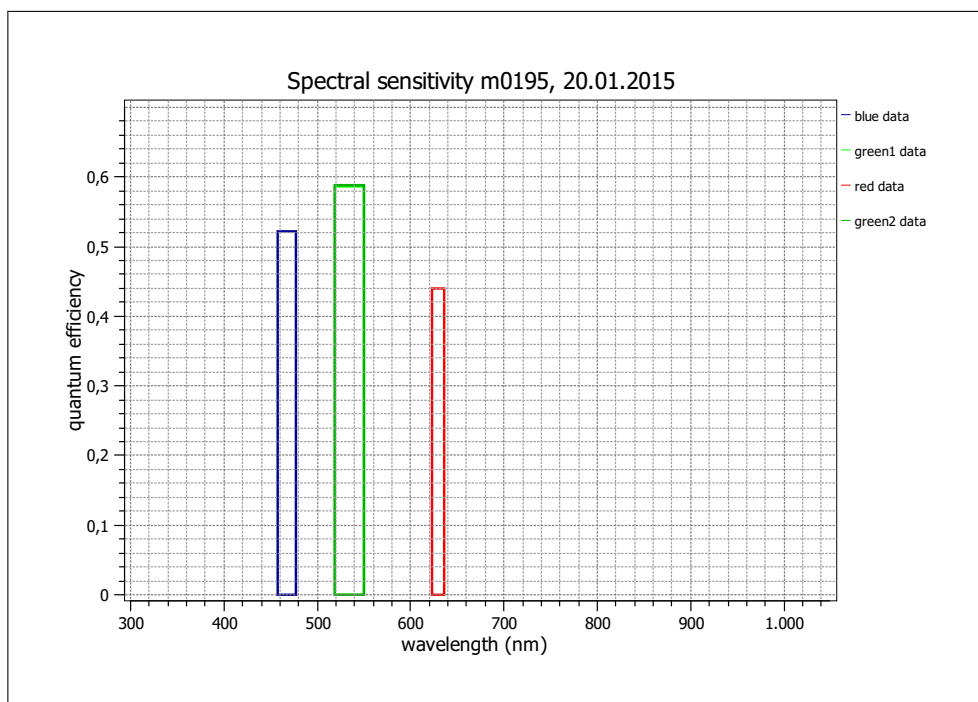


EMVA 1288 Summary Sheet

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.

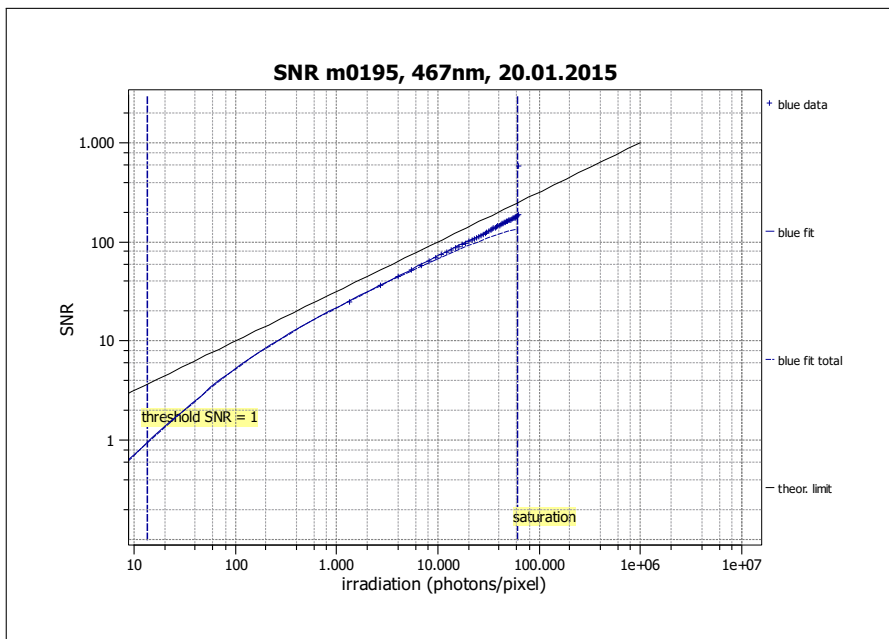
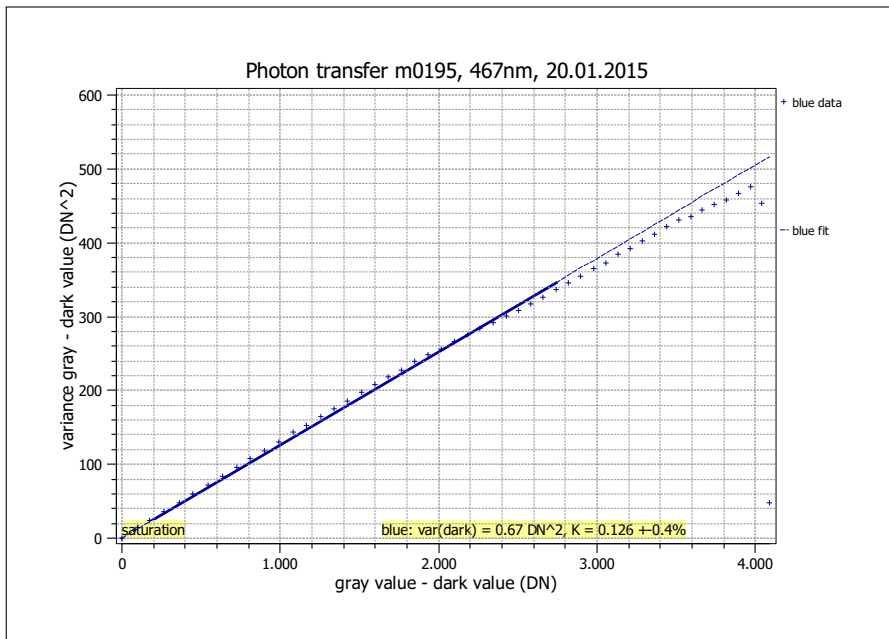
| | |
|----------------------|---------------------|
| Vendor | MATRIX VISION |
| Model | mvBlueFOX3-2024C |
| Serial number | FF000003 |
| Sensor diagonal | 13.39 mm |
| Lens category | C-Mount |
| Resolution | 1936 × 1214, 12 bit |
| Pixel size | 5.86 μm × 5.86 μm |
| Sensor type | CMOS |
| Shutter type | Global |
| Overlap capabilities | Overlapping |
| Maximum frame rate | 49.8 Hz |
| Interface type | USB3 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 = 0.08 |
| Operation point 2, (page 17) | |
| Wavelength centroid | 534.2 nm |
| Wavelength FWHM | 30.9 nm |
| Gain, offset | Gain = 0dB, Offset = 0.08 |
| Operation point 3, (page 29) | |
| Wavelength centroid | 629.5 nm |
| Wavelength FWHM | 13.1 nm |
| Gain, offset | Gain = 0dB, Offset = 0.08 |
| Optional data measured | |
| None | |



EMVA 1288 Summary Sheet for Operating Point 1

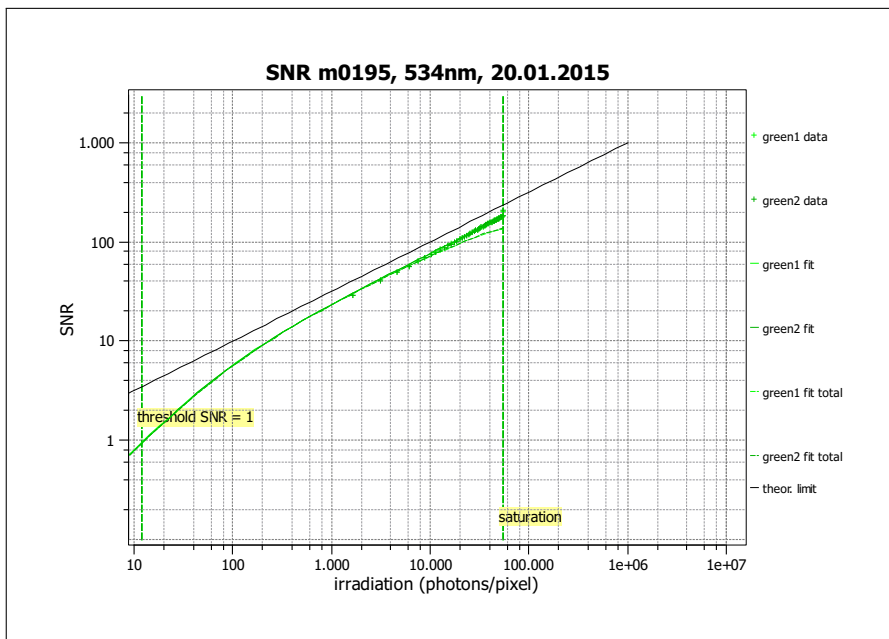
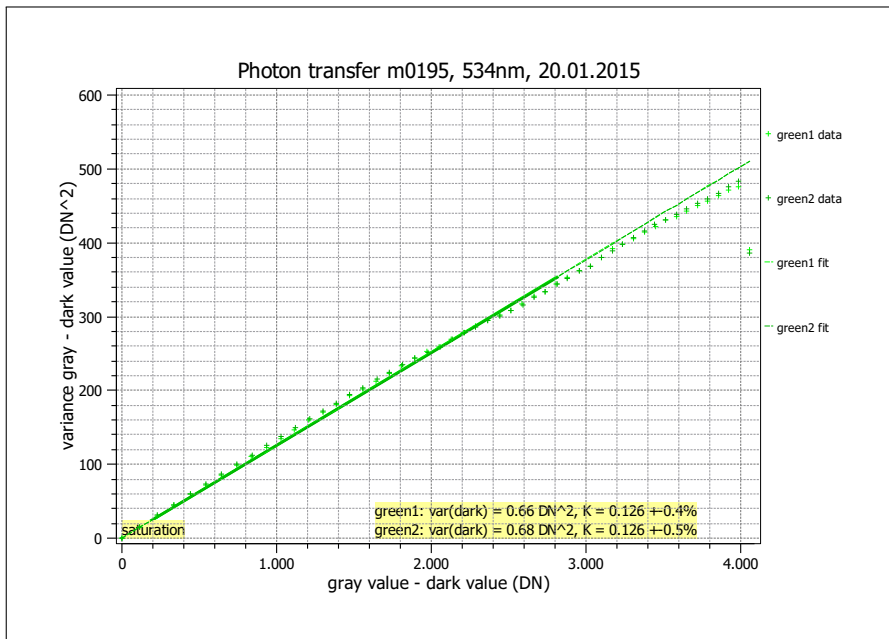
| | | | |
|--------------------|-----------|---------------------------|---------------------------|
| Type of data | Single | Gain, offset | Gain = 0dB, Offset = 0.08 |
| Exposure time | 1.0 ms | Environmental temperature | 23.1°C |
| Frame rate | 0.0 Hz | Camera temperature | 34.4°C |
| Data transfer mode | BayerRG12 | Wavelength, centr., FWHM | 467 nm, 20.5 nm |



| | |
|---------------------------------|-------|
| Quantum efficiency | |
| η | 0.522 |
| Gain | |
| K (DN/e) | 0.126 |
| $1/K$ (e/DN) | 7.915 |
| Dark noise & DSNU | |
| σ_d (DN) | 0.82 |
| σ_0 (e) | 6.0 |
| DSNU ₁₂₈₈ (DN) | 0.20 |
| DSNU ₁₂₈₈ (e) | 1.60 |
| Signal-to-noise ratio & PRNU | |
| SNR _{max} | 179 |
| SNR _{max} (dB) | 45.0 |
| SNR _{max} (bits) | 7.5 |
| $1/\text{SNR}_{\text{max}}$ (%) | 0.56 |
| PRNU ₁₂₈₈ (%) | 0.481 |
| Nonlinearity | |
| LE (%) | 0.42 |
| Sensitivity & saturation | |
| $\mu_{p,\text{min}}$ (p) | 13.4 |
| $\mu_{e,\text{min}}$ (e) | 7.0 |
| $\mu_{p,\text{sat}}$ (p) | 61018 |
| $\mu_{e,\text{sat}}$ (e) | 31873 |
| Dynamic range | |
| DR | 4570 |
| DR (dB) | 73.2 |
| DR (bit) | 12.2 |
| Dark current | |
| $\mu_{c,\text{mean}}$ (DN/s) | 2.62 |
| $\mu_{c,\text{mean}}$ (e/s) | 20.71 |
| $\mu_{c,\text{var}}$ (e/s) | 20.74 |

EMVA 1288 Summary Sheet for Operating Point 2

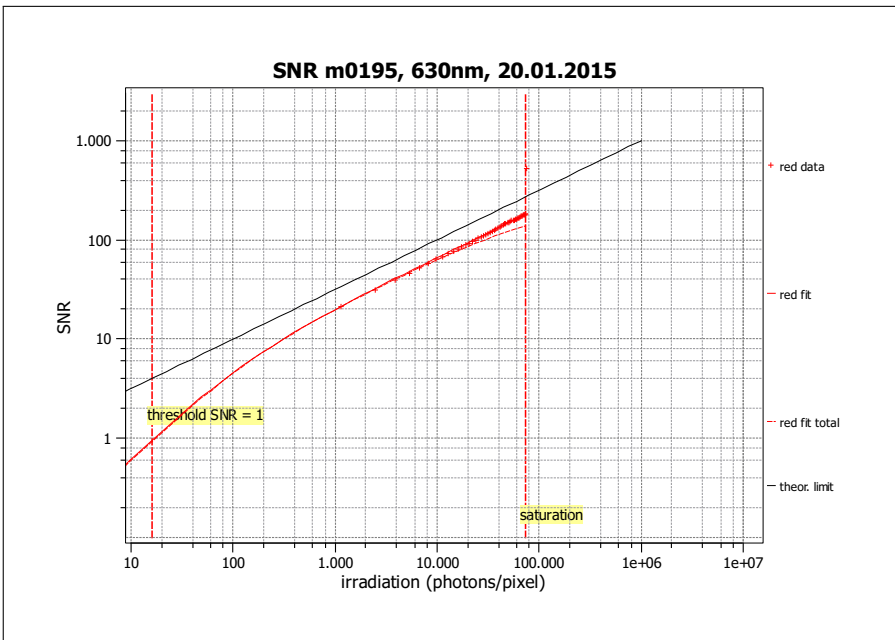
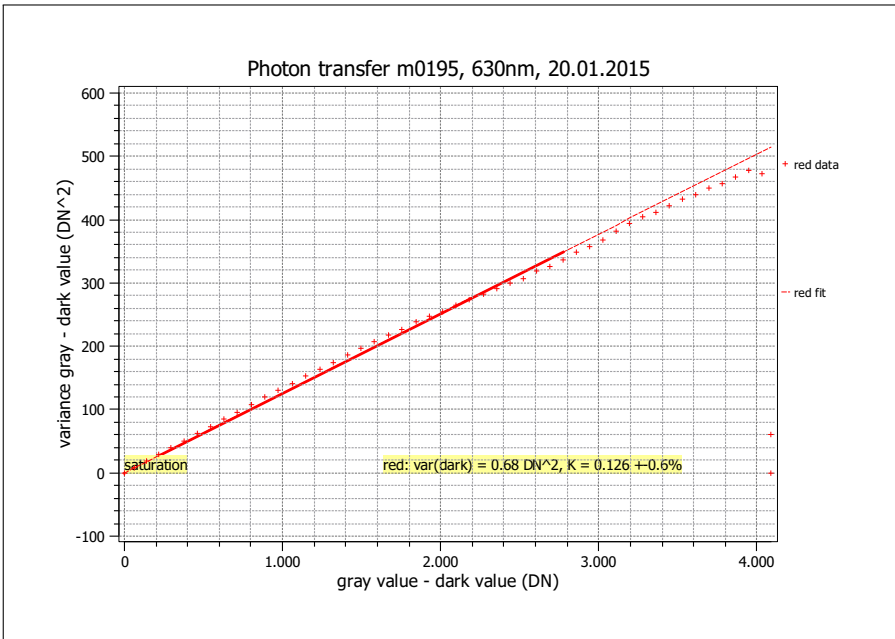
| | | | |
|--------------------|-----------|---------------------------|---------------------------|
| Type of data | Single | Gain, offset | Gain = 0dB, Offset = 0.08 |
| Exposure time | 1.0 ms | Environmental temperature | 23.1°C |
| Frame rate | 0.0 Hz | Camera temperature | 34.4°C |
| Data transfer mode | BayerRG12 | Wavelength, centr., FWHM | 534 nm, 30.9 nm |



| | |
|---------------------------------|--------|
| Quantum efficiency | |
| η | 0.586 |
| Gain | |
| K (DN/e) | 0.126 |
| $1/K$ (e/DN) | 7.948 |
| Dark noise & DSNU | |
| σ_d (DN) | 0.82 |
| σ_0 (e) | 6.1 |
| DSNU ₁₂₈₈ (DN) | 0.20 |
| DSNU ₁₂₈₈ (e) | 1.57 |
| Signal-to-noise ratio & PRNU | |
| SNR _{max} | 179 |
| SNR _{max} (dB) | 45.0 |
| SNR _{max} (bits) | 7.5 |
| $1/\text{SNR}_{\text{max}}$ (%) | 0.56 |
| PRNU ₁₂₈₈ (%) | 0.474 |
| Nonlinearity | |
| LE (%) | 0.26 |
| Sensitivity & saturation | |
| $\mu_{p,\text{min}}$ (p) | 11.9 |
| $\mu_{e,\text{min}}$ (e) | 7.0 |
| $\mu_{p,\text{sat}}$ (p) | 54444 |
| $\mu_{e,\text{sat}}$ (e) | 31915 |
| Dynamic range | |
| DR | 4560 |
| DR (dB) | 73.2 |
| DR (bit) | 12.2 |
| Dark current | |
| $\mu_{c,\text{mean}}$ (DN/s) | 2.19 |
| $\mu_{c,\text{mean}}$ (e/s) | 17.39 |
| $\mu_{c,\text{var}}$ (e/s) | -34.29 |

EMVA 1288 Summary Sheet for Operating Point 3

| | | | |
|--------------------|-----------|---------------------------|---------------------------|
| Type of data | Single | Gain, offset | Gain = 0dB, Offset = 0.08 |
| Exposure time | 1.0 ms | Environmental temperature | 23.1°C |
| Frame rate | 0.0 Hz | Camera temperature | 34.4°C |
| Data transfer mode | BayerRG12 | Wavelength, centr., FWHM | 630 nm, 13.1 nm |



| | |
|---------------------------------|--------|
| Quantum efficiency | |
| η | 0.439 |
| Gain | |
| K (DN/e) | 0.126 |
| $1/K$ (e/DN) | 7.945 |
| Dark noise & DSNU | |
| σ_d (DN) | 0.82 |
| σ_0 (e) | 6.1 |
| DSNU ₁₂₈₈ (DN) | 0.20 |
| DSNU ₁₂₈₈ (e) | 1.57 |
| Signal-to-noise ratio & PRNU | |
| SNR _{max} | 179 |
| SNR _{max} (dB) | 45.0 |
| SNR _{max} (bits) | 7.5 |
| $1/\text{SNR}_{\text{max}}$ (%) | 0.56 |
| PRNU ₁₂₈₈ (%) | 0.470 |
| Nonlinearity | |
| LE (%) | 0.55 |
| Sensitivity & saturation | |
| $\mu_{p,\text{min}}$ (p) | 16.1 |
| $\mu_{e,\text{min}}$ (e) | 7.1 |
| $\mu_{p,\text{sat}}$ (p) | 72786 |
| $\mu_{e,\text{sat}}$ (e) | 31969 |
| Dynamic range | |
| DR | 4534 |
| DR (dB) | 73.1 |
| DR (bit) | 12.1 |
| Dark current | |
| $\mu_{c,\text{mean}}$ (DN/s) | 1.85 |
| $\mu_{c,\text{mean}}$ (e/s) | 14.67 |
| $\mu_{c,\text{var}}$ (e/s) | -91.08 |