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 6, 26.11.2016, SN 0005(MatrixVision).

Measurements performed by T.Renner, Matrix Vision GmbH

<table>
<thead>
<tr>
<th>Vendor</th>
<th>MATRIX VISION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>mvBlueFOX3-2124rG</td>
</tr>
<tr>
<td>Serial number</td>
<td>FF000018</td>
</tr>
<tr>
<td>Sensor diagonal</td>
<td>9.39 mm</td>
</tr>
<tr>
<td>Lens category</td>
<td>C-Mount</td>
</tr>
<tr>
<td>Resolution</td>
<td>4064 x 3044, 12 bit</td>
</tr>
<tr>
<td>Pixel size (h x v)</td>
<td>1.85 µm x 1.85 µm</td>
</tr>
<tr>
<td>Sensor type</td>
<td>CMOS</td>
</tr>
<tr>
<td>Shutter type</td>
<td>Rolling</td>
</tr>
<tr>
<td>Overlap cap.</td>
<td>Overlapping</td>
</tr>
<tr>
<td>Max. frame rate</td>
<td>15.3 Hz</td>
</tr>
<tr>
<td>Interface type</td>
<td>USB3 Vision</td>
</tr>
</tbody>
</table>

Type of data presented: Single

Operation point 1 (page 3)
- Wavelength centroid: 536.0 nm
- Wavelength FWHM: 31.0 nm
- Gain, black-level: 0dB, 0.05

Optional data measured: None

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

<table>
<thead>
<tr>
<th>Type of data</th>
<th>Single</th>
<th>Gain, black-level</th>
<th>0dB, 0.05</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure control</td>
<td>By irradiance</td>
<td>Environmental</td>
<td>23.9°C</td>
</tr>
<tr>
<td>Exposure time</td>
<td>3.00 ms</td>
<td>Camera body</td>
<td>39.1°C</td>
</tr>
<tr>
<td>Frame rate</td>
<td>15.3 Hz</td>
<td>Internal temperature(s)</td>
<td>—</td>
</tr>
<tr>
<td>Data transfer mode</td>
<td>Mono12</td>
<td>Wavelength, centr., FWHM</td>
<td>536 nm, 31.0 nm</td>
</tr>
</tbody>
</table>

### Photon Transfer

![Graph of Photon Transfer](image)

### Signal-to-Noise Ratio

![Graph of Signal-to-Noise Ratio](image)

### Quantum efficiency

\( \eta = 72.7\% \)

### Overall system gain

\( K = 0.356 \text{DN/e}^- \)

\( 1/K = 2.805 \text{e}^-/\text{DN} \)

### Temporal dark noise

\( \sigma_d = 3.10 \text{e}^- \)

\( \sigma_y, \text{dark} = 1.14 \text{DN} \)

### Signal-to-noise ratio

\( \text{SNR}_{\text{max}} = 104 \)

40.3 dB

6.7 bit

\( 1/\text{SNR}_{\text{max}} = 0.96\% \)

### Absolute sensitivity threshold

\( \mu_{p, \text{min}} = 5.15 \text{p} \)

\( \mu_{p, \text{min.area}} = 1.504 \text{p/\mu m}^2 \)

\( \mu_{e, \text{min}} = 3.75 \text{e}^- \)

\( \mu_{e, \text{min.area}} = 1.094 \text{e}^-/\mu \text{m}^2 \)

### Saturation capacity

\( \mu_{p, \text{sat}} = 14818 \text{p} \)

\( \mu_{p, \text{sat.area}} = 4330 \text{p/\mu m}^2 \)

\( \mu_{e, \text{sat}} = 10780 \text{e}^- \)

\( \mu_{e, \text{sat.area}} = 3150 \text{e}^-/\mu \text{m}^2 \)

### Dynamic range

\( \text{DR} = 2878 \)

69.2 dB

11.5 bit

### Spatial nonuniformities

\( \text{DSNU}_{1288} = 0.27 \text{e}^- \)

0.10 DN

\( \text{PRNU}_{1288} = 1.54\% \)

### Linearity error

\( \text{LE}_{\text{min}} = -0.60\% \)

\( \text{LE}_{\text{max}} = 1.09\% \)

### Dark current

\( \mu_{c, \text{mean}} = 0.32 \pm 0.09 \text{e}^-/\text{s} \)

0.11 DN/s

\( \mu_{c, \text{var}} = 0.95 \pm 0.01 \text{e}^-/\text{s} \)

\( T_d = -{}^\circ\text{C} \)