Pyramid Imaging

# Lenses for image circle 22 mm

**Xenoplan 2.0/28**

These high-resolution, high-speed lenses are optimized for the use of 4 and 8 megapixel 1.3" sensors. The image circles are very large for C-Mount lenses. With a 1.3" sensor, the relatively short focal lengths allow a large coverage range at a short working distance. The lenses are also broadband coated and can be used in the visible range 400 – 700 nm or the near infrared range 700 – 1000 nm.


Xenoplan 2.0/28

**Key Features**

- Lens for sensor sizes up to 1.3"(image circle 22 mm)
- Designed for 4 Mpix sensors
- High resolution optics 400 - 700 nm (VIS) / 700 - 1000 nm (NIR)
- Very high MTF across the entire sensor
- Robust mechanics for industrial environment
- Compact and low weight
- Focus and iris setting lockable

**Applications**

- Machine Vision and other imaging applications
- 3D measurement
- Traffic
- Etc.

**Technical Specifications**

| | |
|---|---|
| F-number | 2.0 |
| Focal length | 29,3 mm |
| Image circle | 22 mm |
| Transmission | 400 - 1000 nm |
| Interface | C-Mount |
| Weight | 78 gr. |
| Option | Optical filter |
| Code No. | 1001972 |

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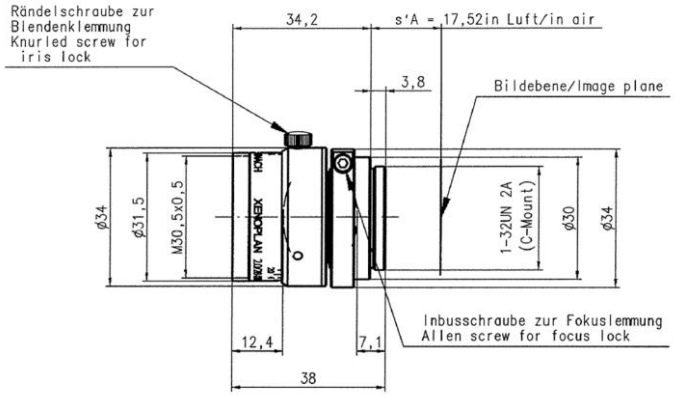
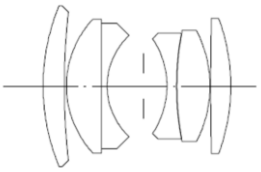
# Pyramid Imaging

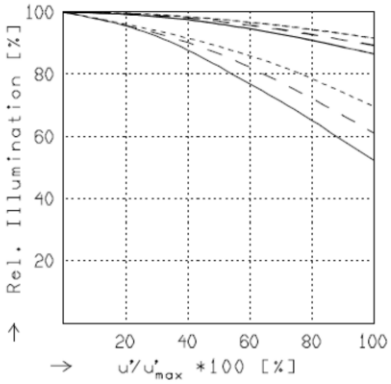
## Xenoplan 2.0/28



XENOPLAN 2.0/28

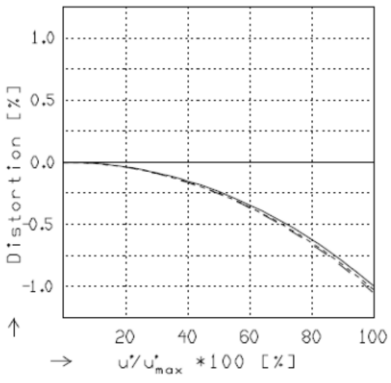
| | | | | | |
|---|---|---|---|---|---|
| $f'$ | = | 29.3 mm | $\beta'_p$ | = | 1.041 |
| $s_F$ | = | -16.3 mm | $s_{EP}$ | = | 11.8 mm |
| $s'_F$ | = | 20.8 mm | $s'_{AP}$ | = | -9.7 mm |
| $HH'$ | = | -2.9 mm | $\Sigma$ d | = | 18.5 mm |




### RELATIVE ILLUMINATION

The relativ illumination is shown for the given focal distances or magnifications.

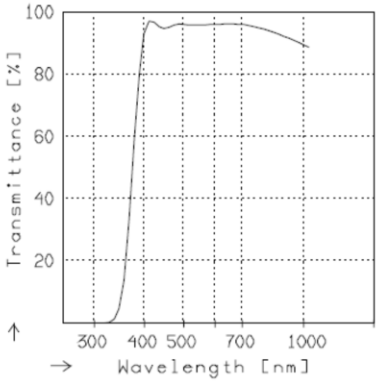
| | f / 2.0 | f / 4.0 | f / 8.0 |
|---|---|---|---|
| —— | ß' = -0.2000 | $u'_{max}$ = 10.9 | OO' = 208. |
| — — | ß' = -0.3333 | $u'_{max}$ = 10.9 | OO' = 153. |
| ----- | ß' = -0.5000 | $u'_{max}$ = 10.9 | OO' = 129. |




### DISTORTION

Distortion is shown for the given focal distances or magnifications. Positive values indicate pincushion distortion and negative values barrel distortion.

| | | | |
|---|---|---|---|
| —— | ß' = -0.2000 | $u'_{max}$ = 10.9 | OO' = 208. |
| — — | ß' = -0.3333 | $u'_{max}$ = 10.9 | OO' = 153. |
| ----- | ß' = -0.5000 | $u'_{max}$ = 10.9 | OO' = 129. |




### TRANSMITTANCE

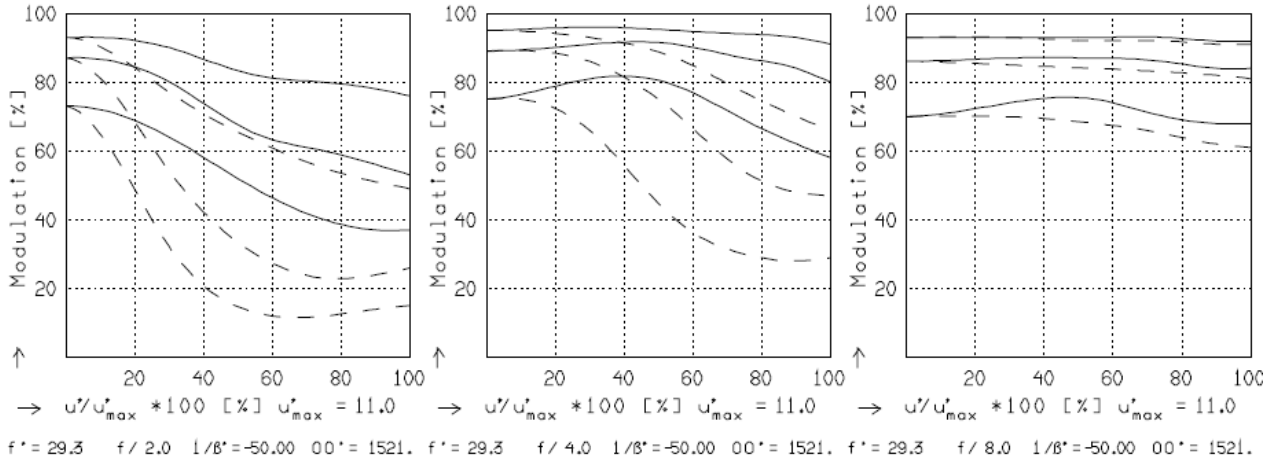
Relative spectral transmittance is shown with reference to wavelength.

XENOPLAN 2.0/28

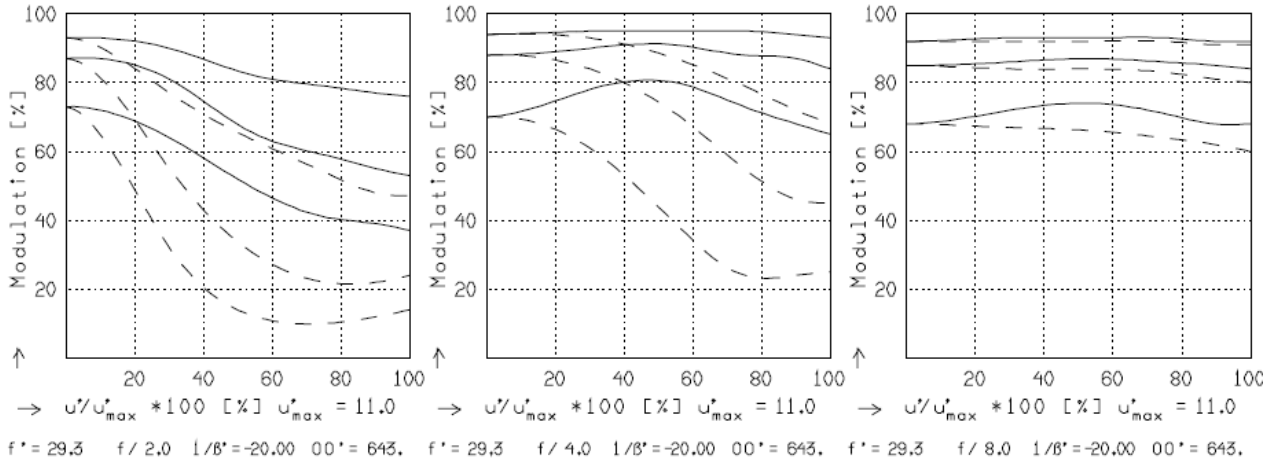
MODULATION with reference to the relative image height

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Wavelength | λ | [nm] : | 555 | 655 | 605 | 505 | 455 | 405 |
| Spectral weighting | | [%] : | 19.6 | 23.7 | 22.2 | 15.7 | 12.1 | 6.7 |
| Spatial frequency R | | [1/mm] : | 10 | 20 | 40 | | | |
| Format | | [mm X mm] : | 15.2 | X 15.2 | | | | |
| Diagonal 2u' | | [mm] : | 22.0 | | | | | |

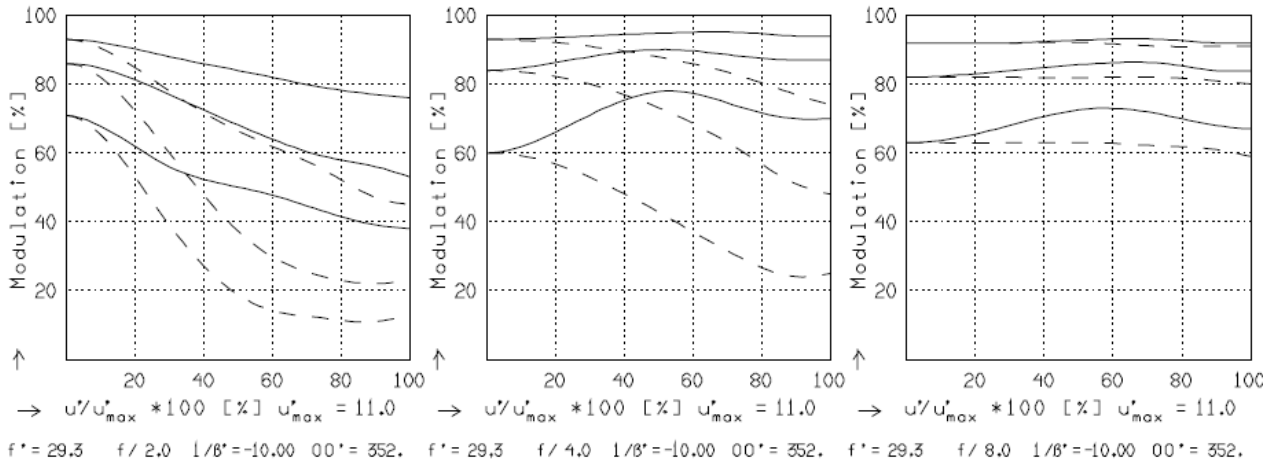
radial ——
tangential — —




f' = 29.3 f/ 2.0 l/β' = -50.00 OO' = 1521. f' = 29.3 f/ 4.0 l/β' = -50.00 OO' = 1521. f' = 29.3 f/ 8.0 l/β' = -50.00 OO' = 1521.




f' = 29.3 f/ 2.0 l/β' = -20.00 OO' = 643. f' = 29.3 f/ 4.0 l/β' = -20.00 OO' = 643. f' = 29.3 f/ 8.0 l/β' = -20.00 OO' = 643.




f' = 29.3 f/ 2.0 l/β' = -10.00 OO' = 352. f' = 29.3 f/ 4.0 l/β' = -10.00 OO' = 352. f' = 29.3 f/ 8.0 l/β' = -10.00 OO' = 352.

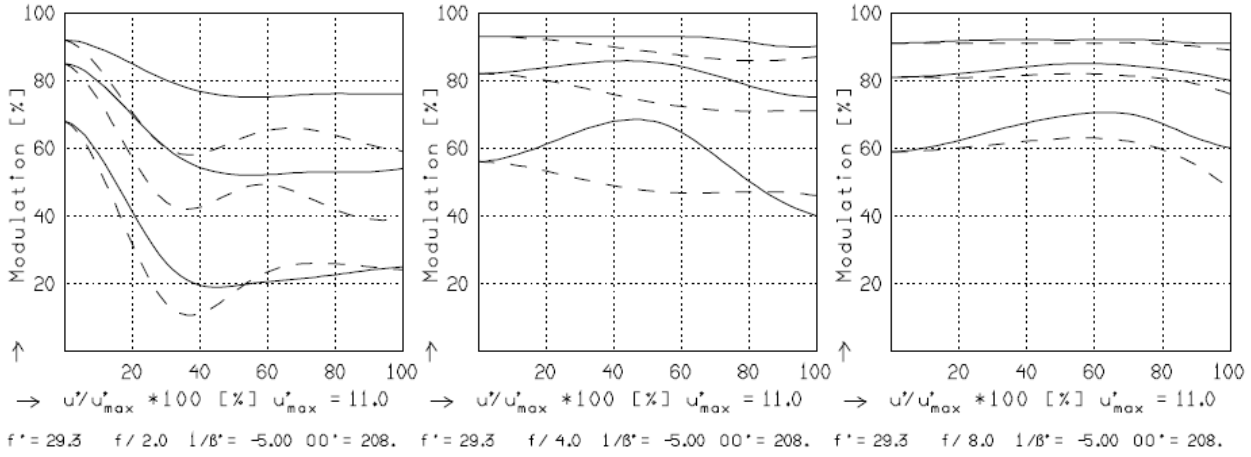
Focusing : $MTF_{max}$ at f / 2.0 , R = 40 l/mm, $u'/u'_{max}$ = 0

## XENOPLAN 2.0/28

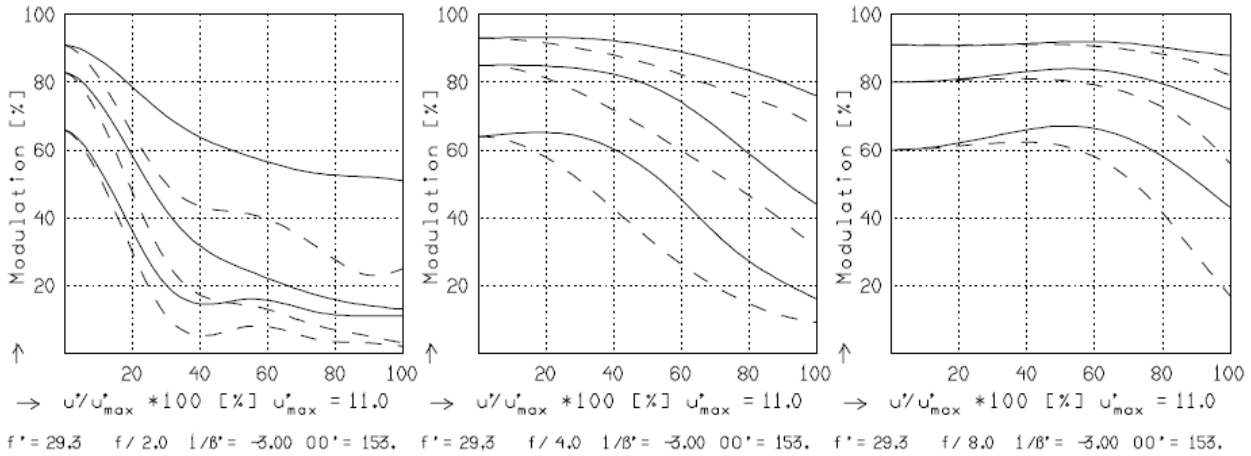
**MODULATION** with reference to the relative image height

| | | | | | | |
|---|---|---|---|---|---|---|
| Wavelength λ [nm] : | 555 | 655 | 605 | 505 | 455 | 405 |
| Spectral weighting [%] : | 19.6 | 23.7 | 22.2 | 15.7 | 12.1 | 6.7 |
| Spatial frequency R [1/mm] : | 10 | 20 | 40 | | | |
| Format [mm X mm] : | 15.2 X 15.2 | | | | | |
| Diagonal 2u' [mm] : | 22.0 | | | | | |

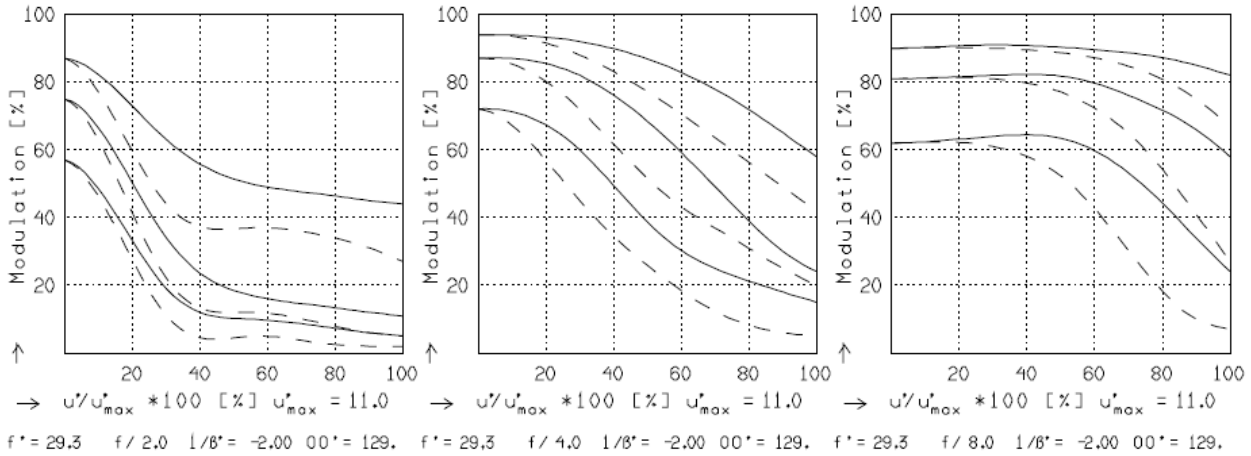
radial ——
tangential — —




f' = 29.3 f/ 2.0 1/β' = -5.00 OO' = 208. | f' = 29.3 f/ 4.0 1/β' = -5.00 OO' = 208. | f' = 29.3 f/ 8.0 1/β' = -5.00 OO' = 208.




f' = 29.3 f/ 2.0 1/β' = -3.00 OO' = 153. | f' = 29.3 f/ 4.0 1/β' = -3.00 OO' = 153. | f' = 29.3 f/ 8.0 1/β' = -3.00 OO' = 153.




f' = 29.3 f/ 2.0 1/β' = -2.00 OO' = 129. | f' = 29.3 f/ 4.0 1/β' = -2.00 OO' = 129. | f' = 29.3 f/ 8.0 1/β' = -2.00 OO' = 129.

Focusing : $MTF_{max}$ at f / 2.0 . R = 40 1/mm. $u'/u'_{max}$ = 0