

# VEO\_YK Emerald 2.2 / 50

For V48 Mounts

## Key Features

VEO\_YK Emerald 2.2 / 50 is a high-performance industrial lens optimized for area scan and line scan cameras with image circle diameters of up to 43.2 mm.

- V48 Mount
- 43.2 mm image circle
- Optimized for short working distance
- 400 – 1000 nm broadband AR-coating

## Applications

- FPD inspection
- PCB inspection
- Web inspection
- Factory automation

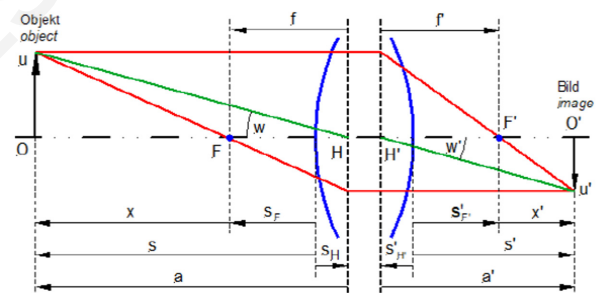


## Performance

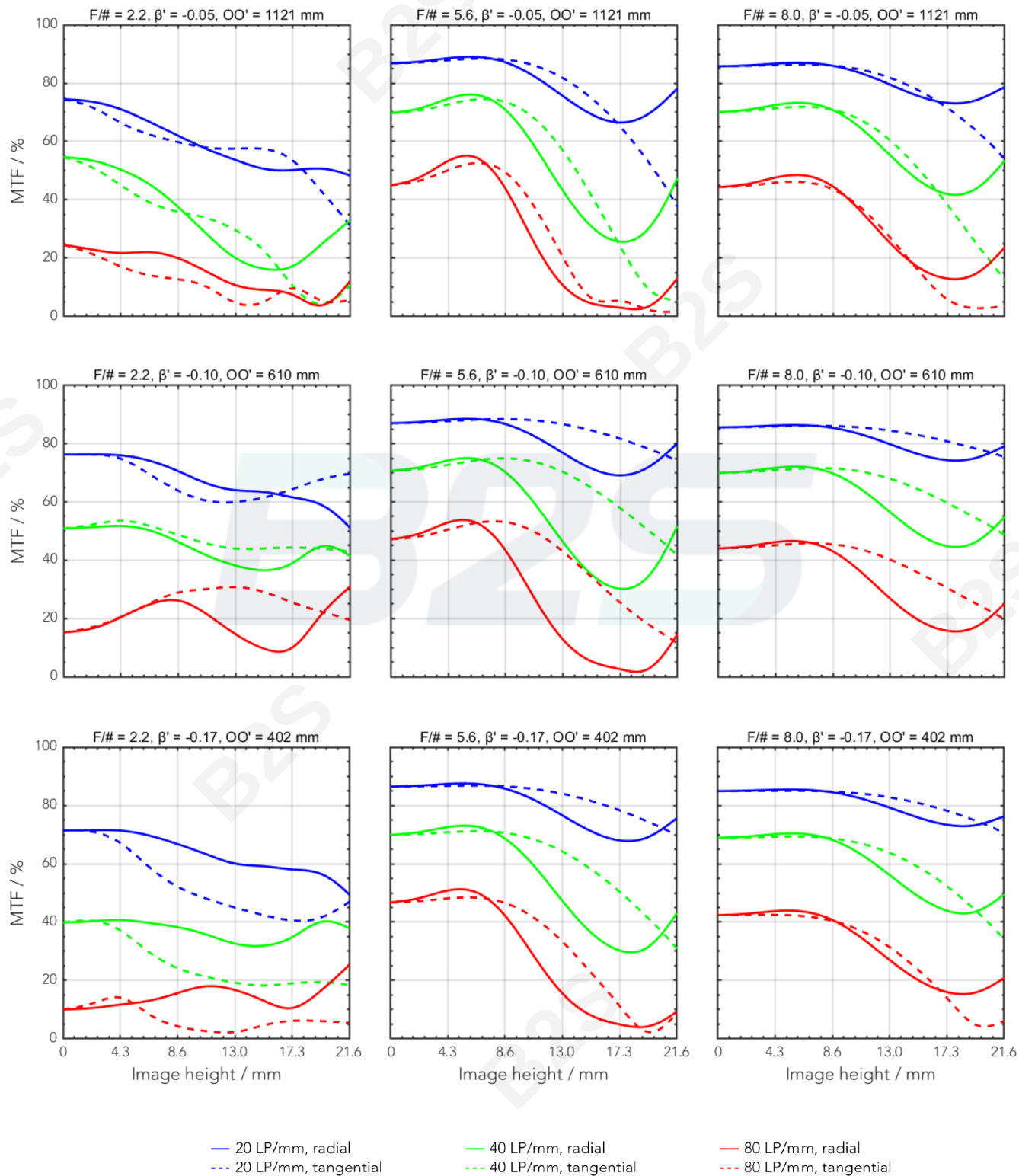
| Parameter                | Specification             | Remarks       |
|--------------------------|---------------------------|---------------|
| Magnification range      | $\times 0 - \times 0.167$ | -             |
| F/# range                | F/2.2 ... F/16            | -             |
| Numerical aperture       | 0.22                      | Image plane   |
| Max. sensor size [mm]    | 43.2                      | -             |
| Focal length [mm]        | 50                        | -             |
| Wavelength [nm]          | 400 – 1000                | Visible – IR  |
| Distortion [%]           | < 0.2                     | -             |
| Working distance [mm]    | 327 ... $\infty$          | -             |
| Total length [mm]        | 1121                      | 0.05 $\times$ |
|                          | 610                       | 0.1 $\times$  |
|                          | 402                       | 0.17 $\times$ |
| Interface                | V48 mount                 | -             |
| Iris                     | Changeable                | -             |
| Weight [g]               | 202                       | -             |
| Storage temperature [°C] | -25 ~ 70                  | -             |
| Filter thread [mm]       | M43 * 0.75 pitch          | -             |

## Optical Parameters

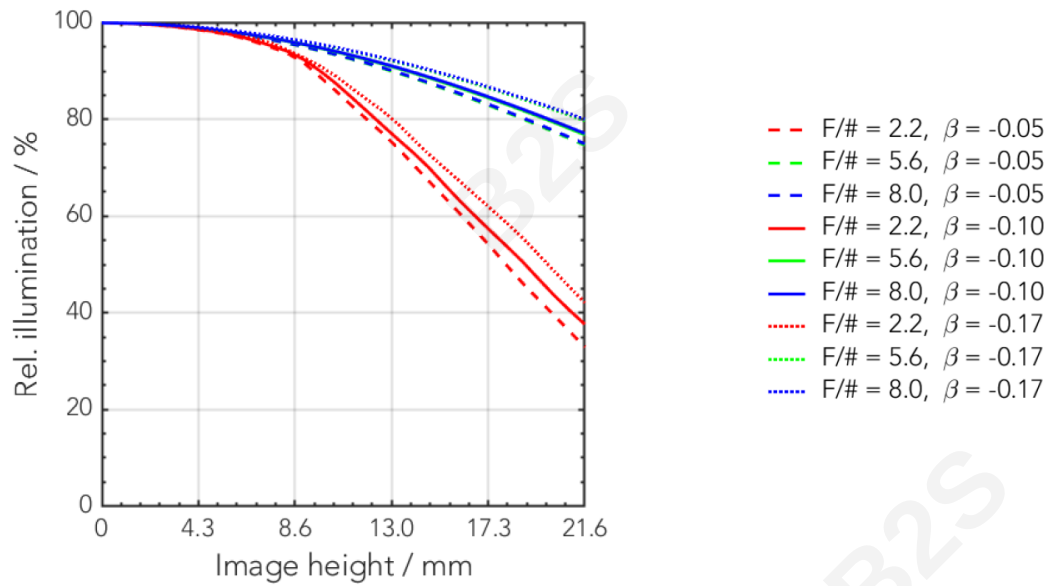
| Contents                               | Parameter       | Value  |
|----------------------------------------|-----------------|--------|
| Chief Ray Angle (Max.) in object plane | CRA[° ]         | 45°    |
| Effective focal length                 | f'eff [mm]      | 51.21  |
| Front focal length                     | SF [mm]         | -23.75 |
| Back focal length                      | S'F' [mm]       | 32.17  |
| Principal plane distance               | HH' [mm]        | -10.90 |
| Pupil magnification                    | $\beta'P$       | 1.07   |
| Entrance pupil position                | SEP [mm]        | 23.94  |
| Exit pupil position                    | S'AP [mm]       | -22.81 |
| Vertex width                           | $\Sigma d$ [mm] | 35.59  |



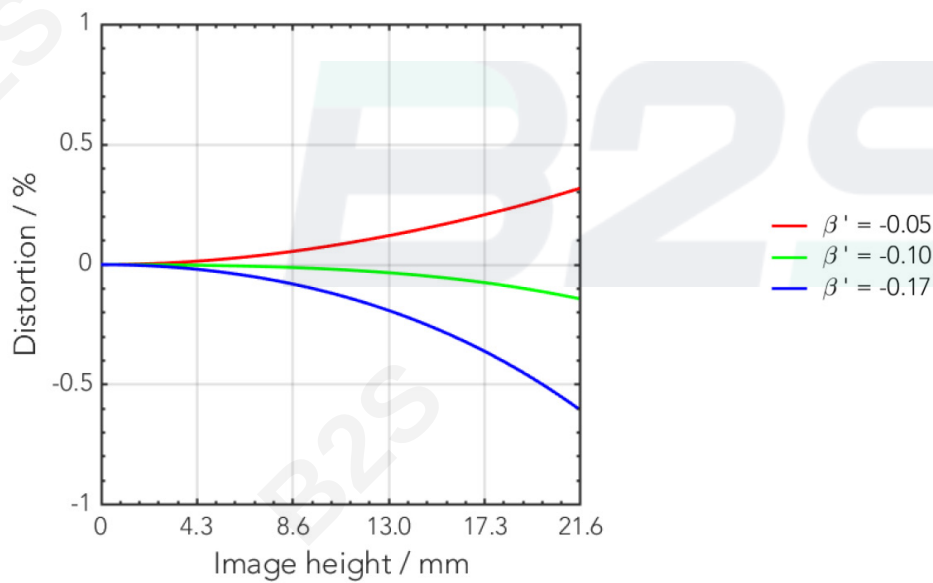
## MTF



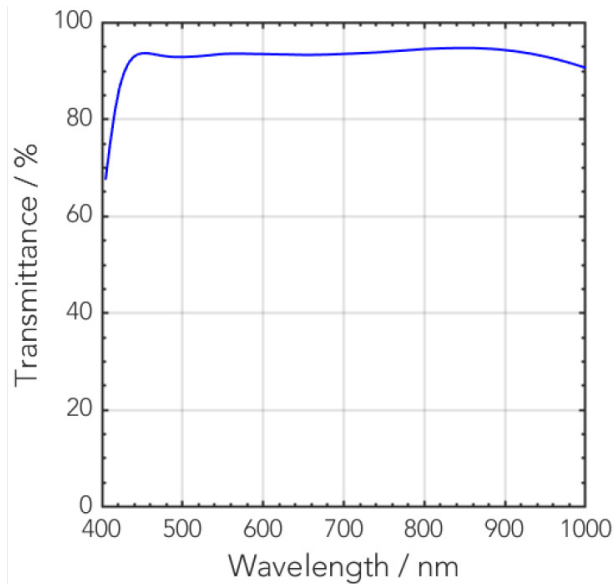
## Relative Illumination



## Distortion



## Transmittance vs. Wavelength



## Dimensions

Unit: mm

