PRODUCT DATASHEET

TCCR12080

Bi-telecentric CORE lens for 1/2" detectors, magnification 0.080 x, C-mount

OPTO ENGINEERING

SPECIFICATIONS

Part number **(8)**		TCCR12080
Magnification	(x)	0.080
Image shape dimension **(9)**	(Ø, x mm)	Ø=8.1, x=6.9
Phase adjustment **(7)**		Yes

Object field of view (6)

with 1/3" detector (4.8 x 3.6 mm)	(mm × mm)	59.8 x 44.8
with 1/2.5" detector (5.70 x 4.28 mm)	(mm × mm)	71.0 x 53.2
with 1/2" detector (6.4 x 4.8 mm)	(mm × mm)	79.7 x 59.8
with 1/1.8" detector (7.13 x 5.37 mm)	(mm × mm)	86.0 x 66.8
with 2/3" - 5 MP detector (8.45 x 7.07 mm)	(mm × mm)	Ø=101, x=86

Optical specifications

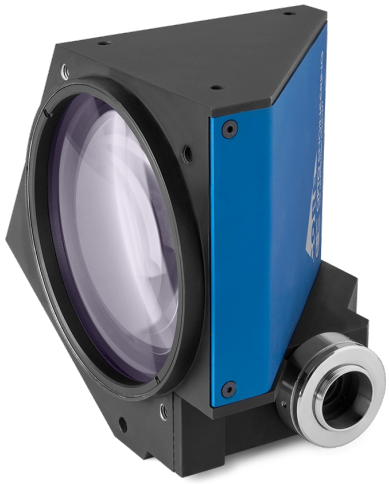
Working distance **(1)**	(mm)	226.7
wF/# **(2)**		8
Telecentricity typical (max) **(3)**	(deg)	< 0.03 (0.08)
Distortion typical (max) **(4)**	(%)	< 0.04 (0.10)
Field depth **(5)**	(mm)	104
CTF @ 70 lp/mm	(%)	> 50

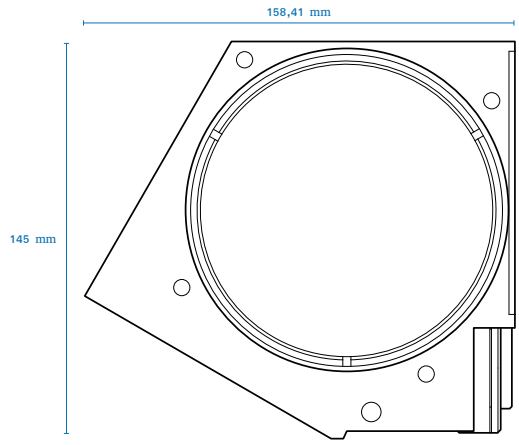
Dimensions

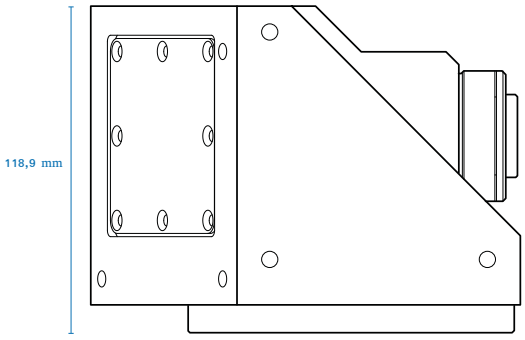
Mount		C
A	(mm)	119
B	(mm)	145
C	(mm)	159
Mass	(g)	2984

Compatibility

LTCLCR080-x, CMHOCR080, CMPTCR080, LTCLHP080-x







NOTES

1. Working distance: distance between the front end of the mechanics and the object. Set this distance within +/- 3% of the nominal value for maximum resolution and minimum distortion.
2. Working F-number (wF/#): the real F-number of a lens when used as a macro. Lenses with smaller apertures can be supplied on request.
3. Maximum slope of chief rays inside the lens: when converted to millirad, it gives the maximum measurement error for any millimeter of object displacement. Typical (average production) values and maximum (guaranteed) values are listed.
4. Percent deviation of the real image compared to an ideal, undistorted image: typical (average production) values and maximum (guaranteed) values are listed.
5. At the borders of the field depth the image can be still used for measurement but, to get a perfectly sharp image, only half of the nominal field depth should be considered. Pixel size used for calculation is 5.5 µm.
6. In case the of vignetting, FOV dimensions are indicated with "Ø = , x= ", where "Ø =" stands for diameter and "x=" indicates the nominal FOV height and length (see **Tech Info** for related drawing).
7. Indicates the availability of an integrated camera phase adjustment feature.
8. Due to the special shape of TCCR120xx it might be necessary to check the mechanical compatibility with your camera.
9. Indicates the dimensions and shape of image, where "Ø =" stands for diameter and "x=" indicates the nominal image height and length (**Tech Info** for related drawing).

COMPATIBLE PRODUCTS

LTCLHP080-R	Telecentric HP illuminator, beam diameter 100 mm, red
LTCLHP080-G	Telecentric HP illuminator, beam diameter 100 mm, green

LTCLHP080-B	Telecentric HP illuminator, beam diameter 100 mm, blue
LTCLHP080-W	Telecentric HP illuminator, beam diameter 100 mm, white

LTCLCR080-R	Telecentric CORE illuminator, beam dimensions Ø = 98; x = 90, red
LTCLCR080-G	Telecentric CORE illuminator, beam dimensions Ø = 98; x = 90, green
LTCLCR080-W	Telecentric CORE illuminator, beam dimensions Ø = 98; x = 90, white

CMHOCR080	Clamping mechanics for CORE telecentric lenses and illuminators TCCRxx80 and LTCLCR080-x

CMPTCR080	Mechanical components designed for CORE telecentric lenses and illuminators Ø 80mm