

■ FS-60CP

We are releasing a new variant of the popular 2-group, 2-element fluorite objective telescope FS-60C- the FS-60CP, can be used with an ultra-high performance reducer. In order to insert the large diameter lens of this reducer into the draw tube, the 2-inch large focuser and $\Phi 95\text{mm}$ lens barrel have been adopted.

The newly released 60CP FU Reducer 0.65X uses fluorite for one of the four elements in the 4-group configuration, and almost completely eliminates the chromatic aberration that could not be corrected by the previous Reducer C0.72X, reducing the chromatic aberration to less than half of what it was before. The field curvature is also completely flat all the way to the periphery of the full frame, and the RMS-SPOT radius is within 3 microns from the center to the periphery. In addition, the placement of the large diameter lens increases the peripheral illumination, boasting approximately 80% even at the periphery of the full frame.

When used in combination with the 60CP FU Reducer 0.65X, the FS-60CP becomes an ultra-high performance astrograph with a focal length of 230mm F/3.8, it can also be used with a high performance flattener and focal length extender optimized for the FS-60CP such as the FC/FS MFL1.04X and Extender CQ1.7X.

■ FCT-65D

The "FCT-65D", which uses a newly developed 3-group, 3-element fluorite objective lens, follows the legendary FCT lens type, but has evolved further with modern optical design technology, boosting it to the highest magnification performance in its class of an objective lens with a focal length of 400mm at F/6.2 and a central Strehl ratio of 97.5% (calculated value). When the newly released "65D FU Reducer 0.65X" is attached to this, it becomes an astrograph with a focal length of 260mm F/4, while heaving the highest level correction among Takahashi's refractive systems, with an RMS-SPOT radius of 1.5 microns at the center and within about 2 microns to the full-frame periphery.

Although the FU Reducer has a large compression rate of 0.65X, there is little peripheral light falloff due to the use of a large-diameter lens, and about 70% of the light is secured even at the full-frame periphery.

■ FC-76DP

We will release the "FC-76DP" as the latest variant of the FC-76D, which is the dual diameter tube version of the current model FC-76DCU with a large 2-inch type focuser and a $\Phi 95\text{mm}$ telescope tube.

By screwing in the dedicated "76DP FU Reducer 0.64X" into the end of the draw tube, the focal length of 570mm F/7.5 is transformed into an astrograph with a focal length of 365mm F/4.8.

Compared to the previous "76D Reducer," it has far less chromatic aberration and field curvature, while it boasts a RMS-SPOT radius of 1.5 microns at the center and within 2 microns to the periphery of full-frame.

Although the peripheral light intensity drops slightly at the edge of the $\Phi 44$ image circle, abundant field illumination is ensured up to around APS size chips ($\Phi 35$ image circle).

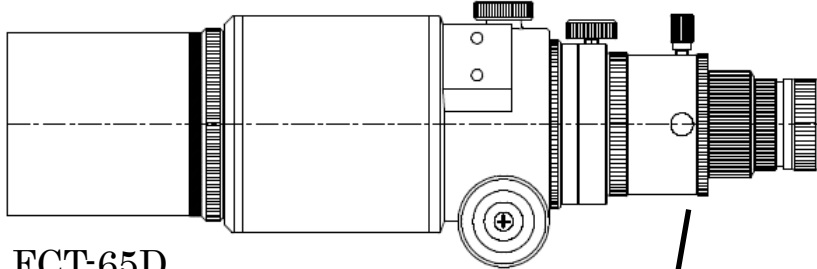
■ OTA Specifications

	FS-60CP	FCT-65D	FC-76DP
Optical Type	2 Elements in 2 Groups Fluorite Apochromat	3 Elements in 3 Groups Fluorite Corrected Triplet Apochromat	2 Elements in 2 Groups Fluorite Apochromat
OTA	FS-60CP	FCT-65D	FC-76DP
Maximum Tube Diameter (mm)	∅ 95 (Dew Shield ∅ 80)	∅ 95 (Dew Shield ∅ 80)	∅ 95 (Dew Shield ∅ 95)
Aperture (mm)	∅ 60	∅ 65	∅ 76
OTA Total Length (mm) ※ ¹	361	403	592
Focal Length (mm)	355	400	570
Aperture Ratio	1:5.9	1:6.2	1:7.5
Image Circle	-	-	-
Optimize Performance and Focal Length Modification Lenses ※ ²	Each FU reducer, FC/FS multi-flattener, Ortho extender 2X/4X, Extender CQ1.7X (FS-60CP Only)		
Finder	6x30 (Sold Separately)		
Mass (kg) ※ ¹	Around 1.8	Around 1.9	Around 2.3

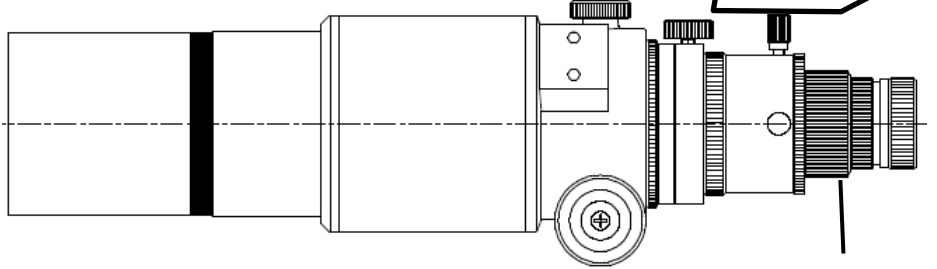
※¹ Includes objective cap and ocular plug.

※² “Reducer CO.72X” and “76D Reducer” are available until sold out.

• FS-60CP



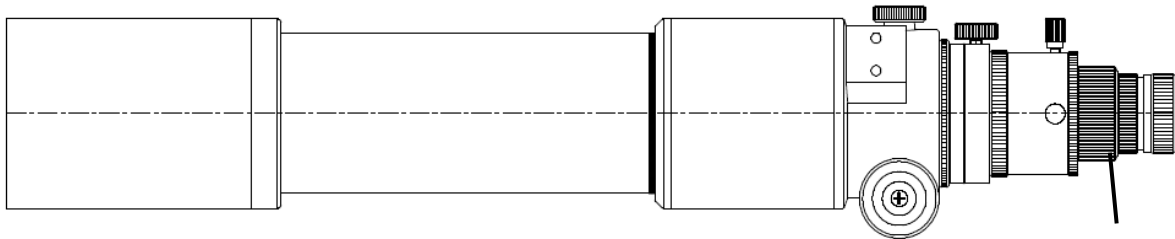
• FCT-65D



※3 For focusing, add the "50.8 extension tube" and "a mirror/prism diagonal".

※3

• FC-76DP



※3

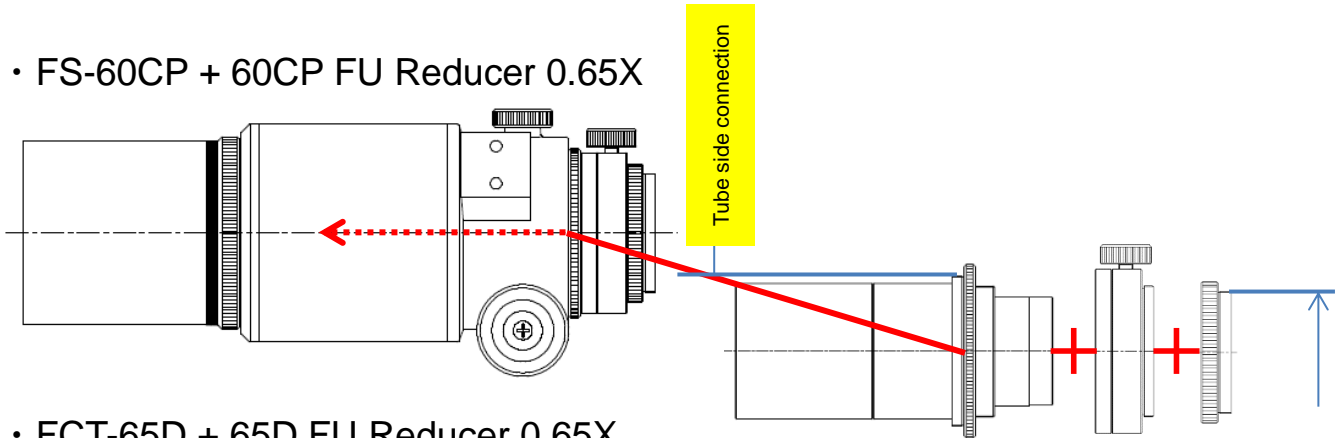
■ FU Reducer Specifications

	60CP FU Reducer 0.65X	65D FU Reducer 0.65X	65D FU Reducer 0.65X
Optical Type	4 Elements in 4 Groups (1 Fluorite Element)	4 Elements in 4 Groups (1 Fluorite Element)	4 Elements in 4 Groups (1 Fluorite Element)
OTA	FS-60CP	FCT-65D	FC-76DP
Maximum Tube Diameter x Total Length (mm)	∅ 74x137	∅ 74x136	∅ 74x128
OTA Side Connecting Thread ※4	M64x0.75 Male		
Camera Side Connecting Thread	M52x0.75 Male		
Focal Length (mm)	230	260	365
Aperture Ratio	1:3.8	1:4.0	1:4.8
Image Circle	∅44	∅44	∅44
Mass (kg) ※5	0.41	0.41	0.40
Mass with OTA (kg)	Around 1.9	Around 2.1	Around 2.4

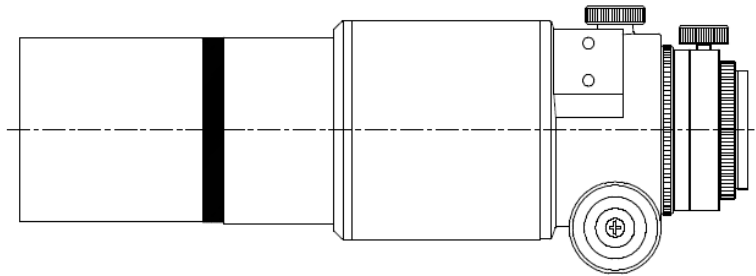
※4 Please note each FU reducer is designed for specific model only, the optical performance will be significantly degraded if attached to the wrong model.

※5 Total Mass include FU reducer body and CA ring, but exclude Camera Angle Adjuster S (CAAs).

- FS-60CP + 60CP FU Reducer 0.65X

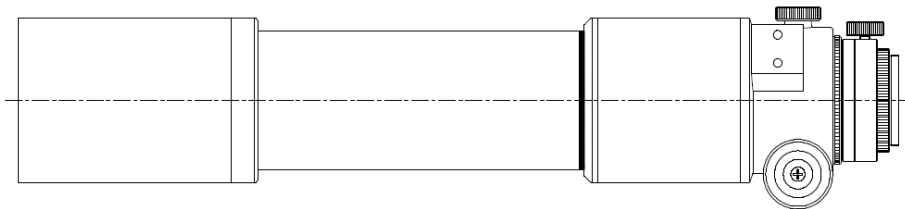


- FCT-65D + 65D FU Reducer 0.65X



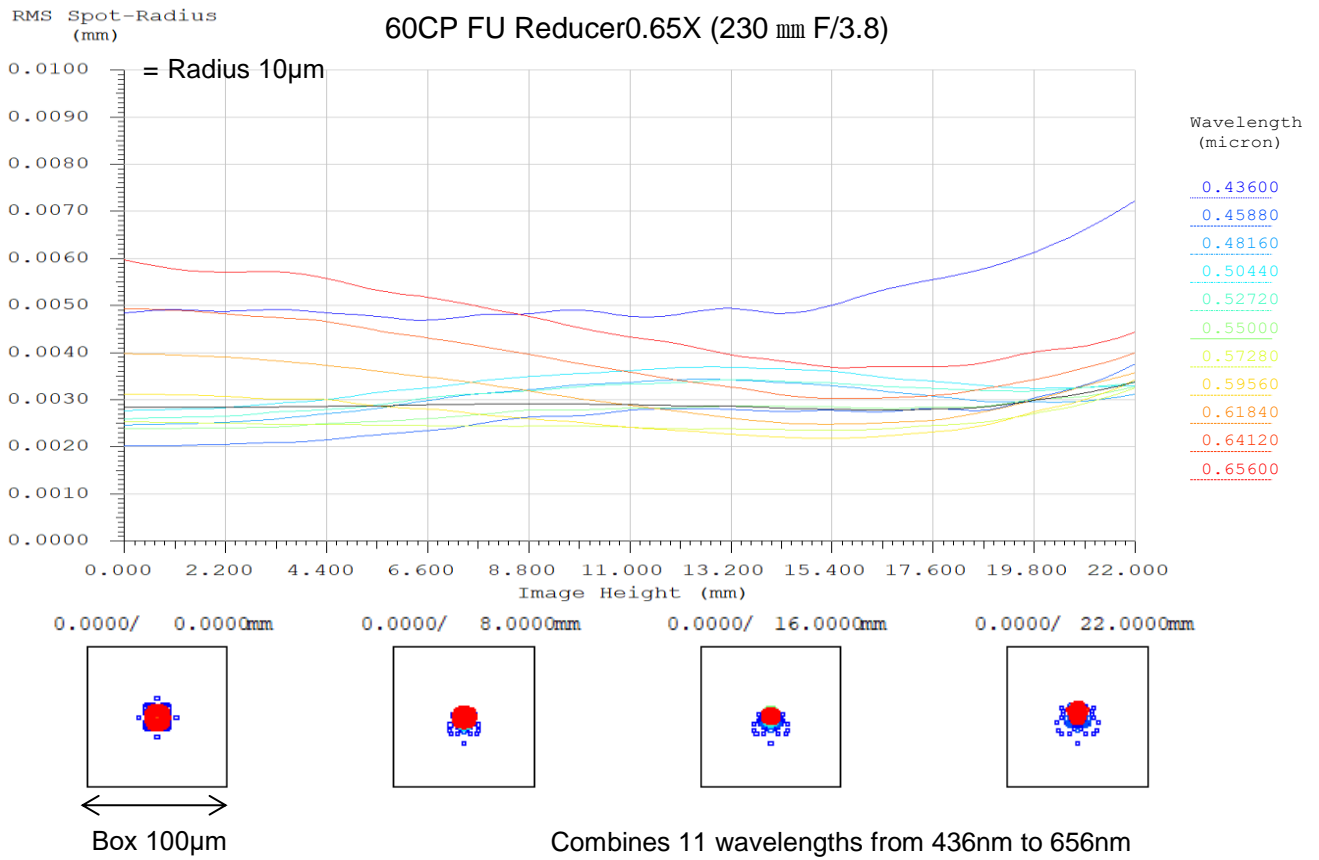
※4 Each dedicated **Common to all**

- FC-76DP + 76DP FU Reducer 0.64X

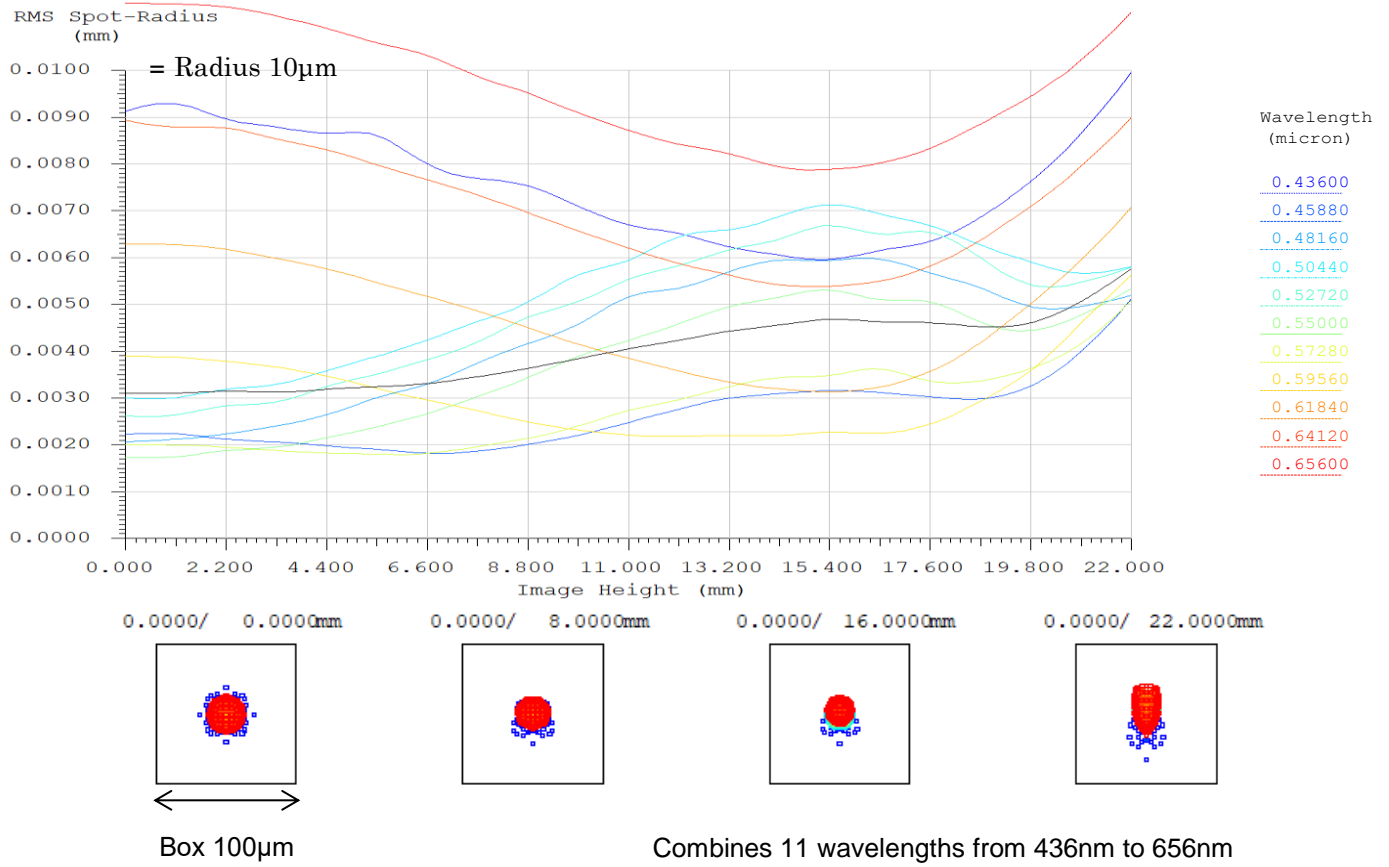


Camera side connection

■ Performance : FS-60CP+Reducer/Flattener



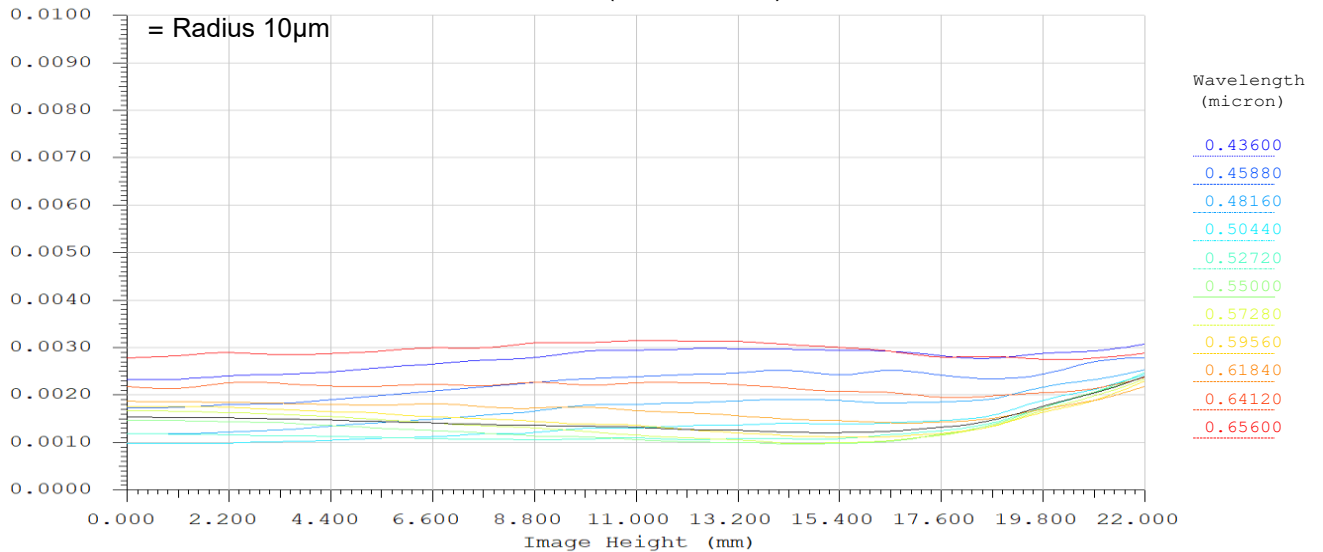
■ Performance: FC/FS Multi Flattener1.04X (370 mm F/6.2)



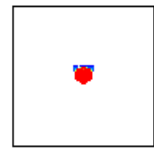
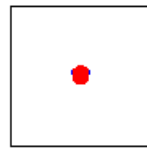
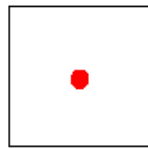
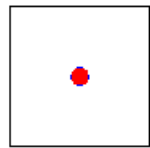
■ Performance : FCT-65D+Reducer/Flattener

RMS Spot-Radius
(mm)

65D FU Reducer 0.65X (260 mm F/4.0)



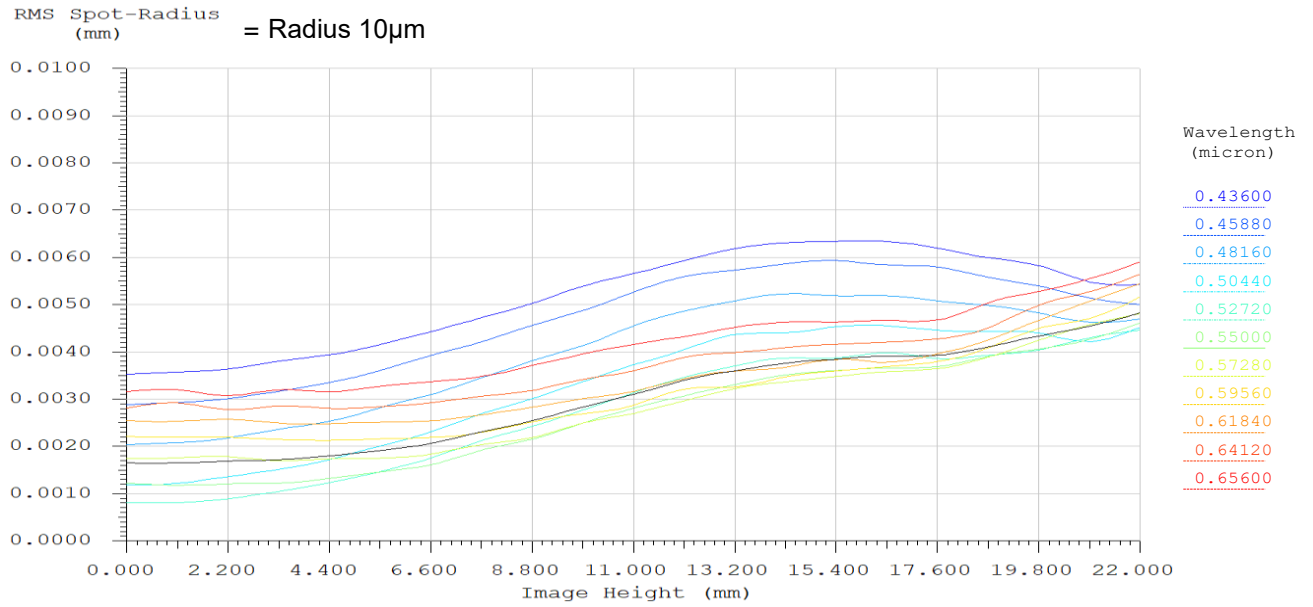
0.0000/ 0.0000mm 0.0000/ 8.0000mm 0.0000/ 16.0000mm 0.0000/ 22.0000mm



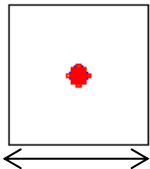
↔
Box 100µm

Combines 11 wavelengths from 436nm to 656nm

■ Performance: FC/FS Multi Flattener 1.04X (416 mm F/6.4)

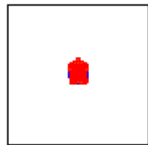


0.0000/ 0.0000mm

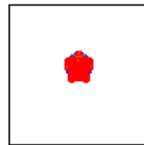


Box 100 μ m

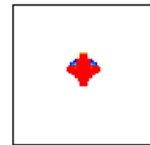
0.0000/ 8.0000mm



0.0000/ 16.0000mm



0.0000/ 22.0000mm

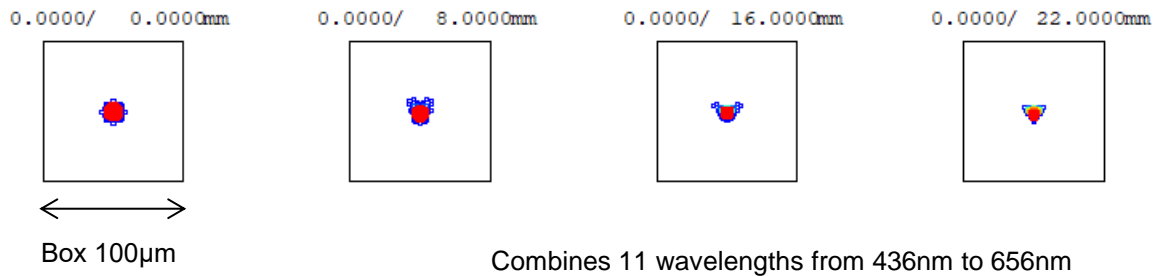
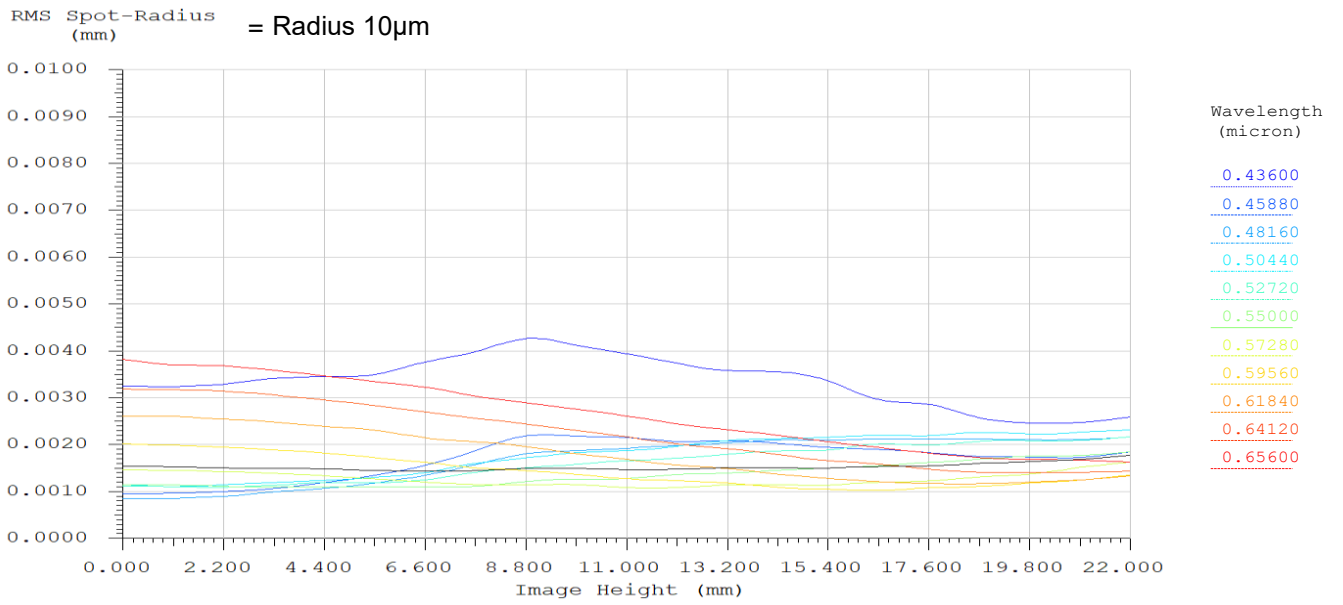


Combines 11 wavelengths from 436nm to 656nm

Product : FS-60CP/FCT-65D/FC-76DP & FU reducer

■ Performance: FC-76DP+Reducer/Flattener

76DP FU Reducer 0.64X (365 mm F/4.8)



■ Performance: FC/FS Multi Flattener 1.04X (590 mm F/7.8)

