

Optimized Singlet Lens Design

The initial merit function value before optimization is 0.703158763, the worst RMS before optimization is $154.8 \text{ } \mu\text{m}^2$. After optimization, the merit function value drop to 0.056509814, the worst RMS after optimization become $109.0 \text{ } \mu\text{m}^2$. The final design parameters are listed as the below:

EFL	30 cm	35 cm	40 cm
Throw	26.2171 cm	27.3875 cm	29.0369 cm

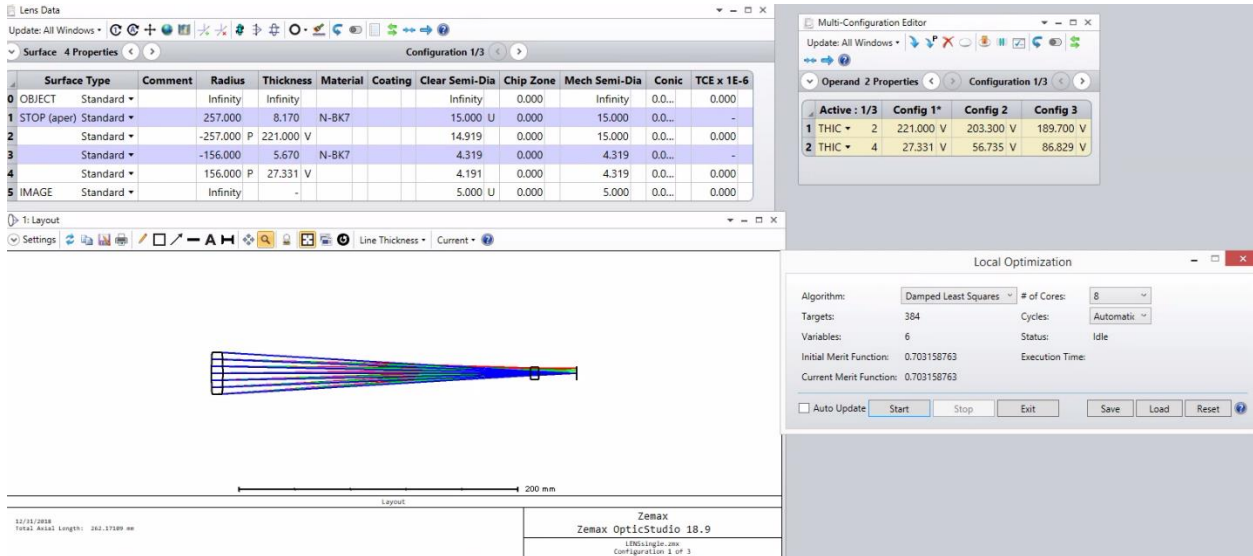


Fig. 1 Lens Data, Multi-Configuration and Merit Function of initial singlet design

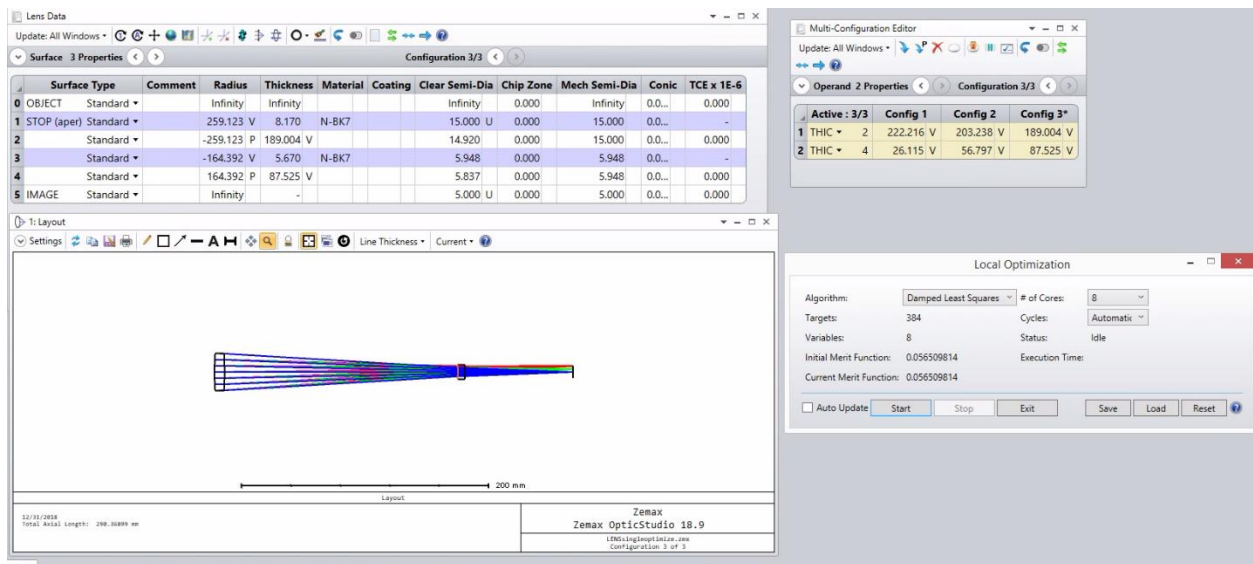


Fig. 2 Lens Data, Multi-Configuration and Merit Function of final singlet design

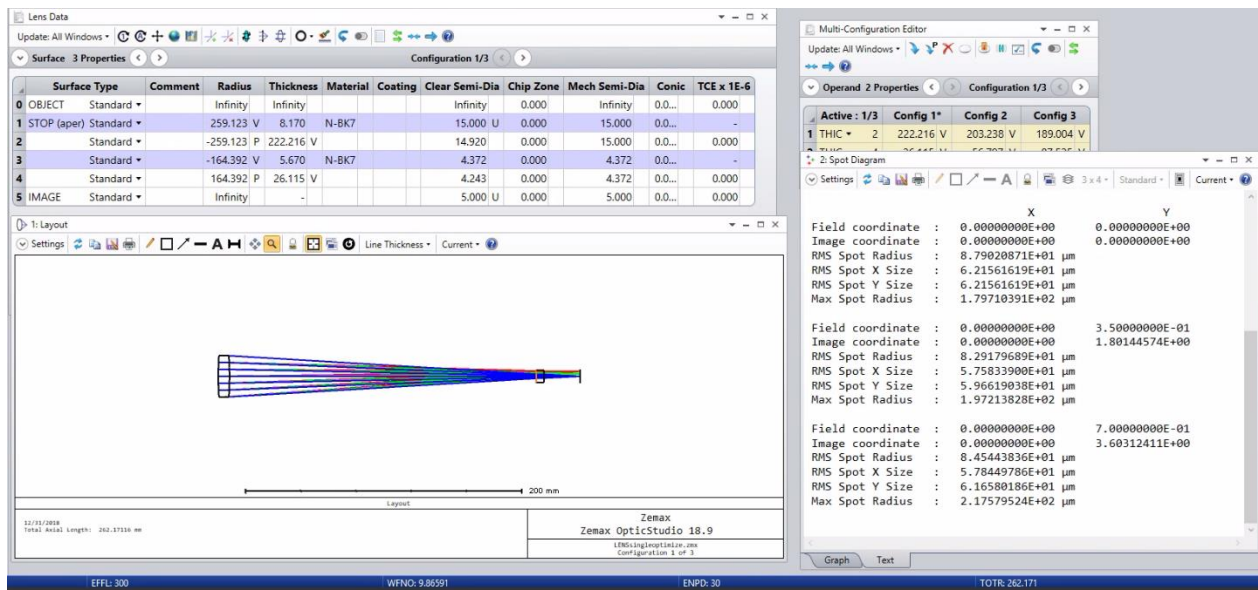


Fig. 3 Final OpticStudio lens data, layout and spot radius of planed EFL = 30 cm.

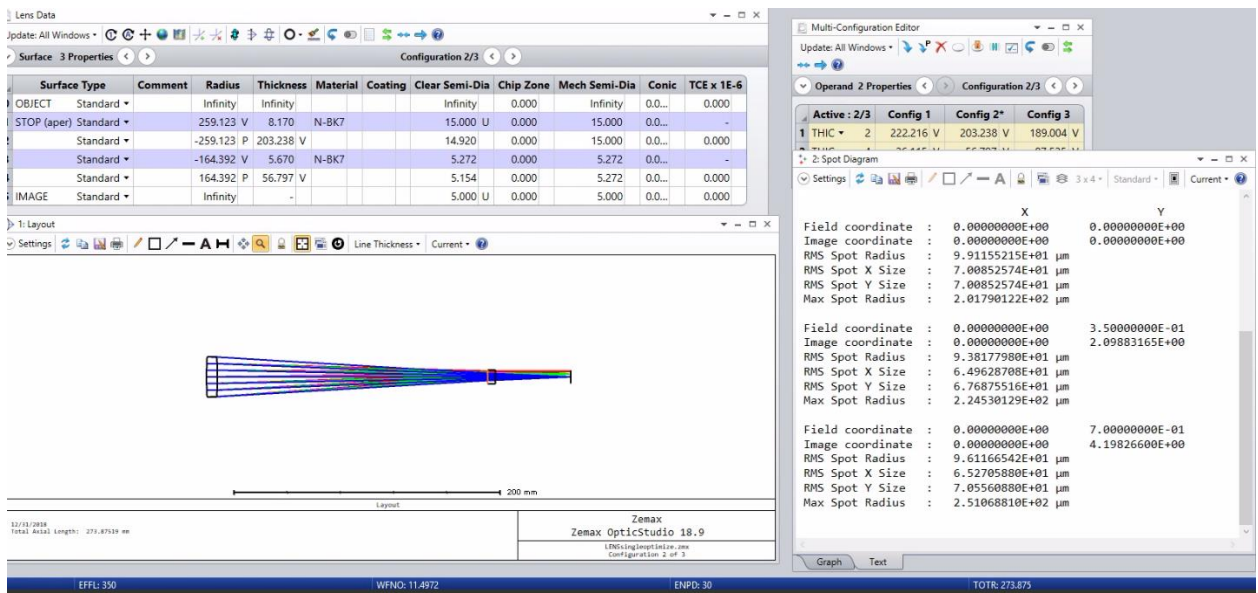


Fig. 4 Final OpticStudio lens data, layout and spot radius of planed EFL = 35 cm.

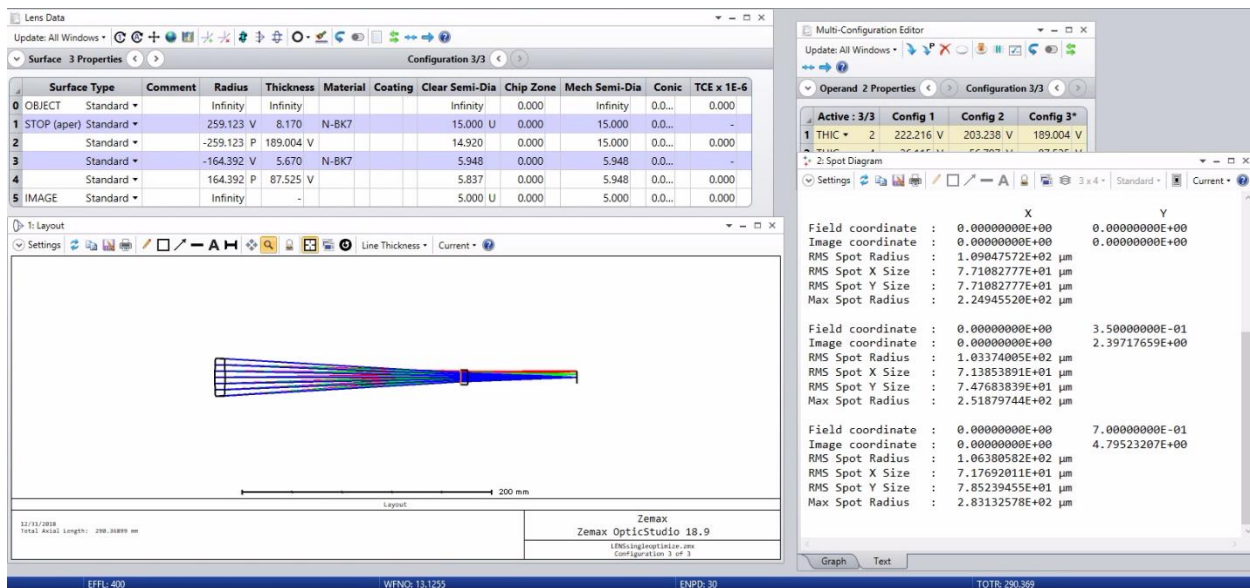


Fig. 5 Final OpticStudio lens data, layout and spot radius of planed EFL = 400 cm.