Table 1. Model eye and parameters used for simulations.	
Parameter	**Design value**
Material	PMMA
Refractive index	1.4938
Wavelength (nm)	546.074
Radius curvature (mm)	
Anterior cornea	7.668
Posterior cornea	7.200
Conic constant	
Anterior cornea	-0.1386
Posterior cornea	0.0
Center thickness (mm)	1.0
Anterior chamber depth (mm)	5.0
Cornea SA at 6 mm entrance pupil (μm)	0.20

Table 2. IOL design with a refractive index of 1.5 for simulations.						
IOL design	**Radius curvature (mm)**		**Center thickness (mm)**	**Anterior asphere polynomials**		**Residual SA (μm)**
	Anterior	**Posterior**		**4th order**	**6th order**	
Spherical 20.0 D (■)	16.66	-16.66	0.72	0	0	0.3
Aspheric 20.0 D						
Reduced 0.0 μm SA (■)	16.66	-16.66	0.72	-0.00022	-0.0000010	0.2
Reduced 0.1 μm SA (■)	16.66	-16.66	0.72	-0.00042	-0.0000025	0.1
Reduced 0.2 μm SA (■)	16.66	-16.66	0.72	-0.00062	-0.0000046	0.0
Reduced 0.3 μm SA (■)	16.66	-16.66	0.72	-0.00081	-0.0000080	-0.1

The colors enclosed in parentheses under IOL design correspond to the color in Figs. 2 and 4

Table 3. IOL used in experiments (20.0 D).						
IOL model	**Group**	**Type**	**Optics**			
			Material*	**Diameter (mm)***	**Design***	**Reduced SA (μm)***
SENSAR® AR40e	A (■)	3-piece	Acrylic / UV	6.0	Spherical	N/A
Avansee™ Natural AN6K	B (■)	3-piece	Acrylic / UV-Yellow	6.0	Aspheric	-0.04
Nex-Acri AA NS-60YG	C (■)	1-piece	Acrylic / UV-Yellow	6.0	Aspheric	-0.13
Eternity Natural Uni W-60	D (■)	1-piece	Acrylic / UV-Yellow	6.0	Aspheric	-0.13
Vivinex™ iSert® XY1	E (■)	1-piece	Acrylic / UV-Yellow	6.0	Aspheric	-0.18
AcrySoft® IQ SN60WF	F (■)	1-piece	Acrylic / UV-Yellow	6.0	Aspheric	-0.20
TECNIS® OptiBlue ZCB00V	G (■)	1-piece	Acrylic / UV-Yellow	6.0	Aspheric	-0.27

The colors enclosed in parentheses under group correspond to the color in Figs. 5 and 6

UV = ultraviolet absorbing; Yellow = blue/violet light filtering

*Data from the intraocular lens specifications