Lens 1

SurfType	Radius	Thickness	Semi-Diameter	Conic	X Radius	X Conic	Norm Radius
Biconic Zernike	9.5485e+02	1.0206e+01	1.0000e+02	-1.2443e+00	8.3774e+02	-4.4373e+01	1.0000e+02

X^1	X^2	X^3	X^4	X^5	X^6	X^7	X^8	X^9	X^10	X^11	X^12	X^13	X^14	X^15	X^16
0.0000e+00	4.7124e-06	0.0000e+00	9.4851e-11	0.0000e+00	-4.2154e-15	0.0000e+00	-1.4746e-18	0.0000e+00	-3.0640e-22	0.0000e+00	-6.5879e-28	0.0000e+00	0.0000e+00	0.0000e+00	0.0000e+00

Y^1	Y^2	Y^3	Y^4	Y^5	Y^6	Y^7	Y^8	Y^9	Y^10	Y^11	Y^12	Y^13	Y^14	Y^15	Y^16
0.0000e+00	6.7277e-12	0.0000e+00	4.4299e-14	0.0000e+00	-9.3278e-15	0.0000e+00	-9.1121e-19	0.0000e+00	-9.1122e-23	0.0000e+00	2.1065e-28	0.0000e+00	0.0000e+00	0.0000e+00	0.0000e+00

Biconic Zernike polynomial

$$z_{zernike} = \frac{c_x x^2 + c_y y^2}{1 + \sqrt{1 - (1 - k_x) c_x^2 x^2 - (1 + k_y) c_y^2 y^2}} + \sum_{i=1}^{16} \alpha_i x^i + \sum_{j=1}^{16} \beta_j y^j \qquad \text{, with } \mathrm{c_x} = \frac{1}{\mathrm{R_x}} \qquad \text{and } \mathrm{c_y} = \frac{1}{\mathrm{R_y}} \tag{1}$$

Lens 2

SurfType	Radius	Thickness	Semi-Diameter	Conic	X Radius	X Conic	Norm Radius
Biconic Zernike	-4.2193e+02	0.0000e+00	8.5113e+01	-6.2760e+00	-4.3229e+02	-5.3555e+00	1.0000e+02

Xˆ1	Xˆ2	Xˆ3	Xˆ4	Xˆ5	Xˆ6	Xˆ7	Xˆ8	Xˆ9	Xˆ10	Xˆ11	Xˆ12	Xˆ13	Xˆ14	Xˆ15	Xˆ16
0.0000e+00	-7.0079e-08	0.0000e+00	3.8447e-11	0.0000e+00	-1.6131e-13	0.0000e+00	5.6335e-21	0.0000e+00	4.4621e-25	0.0000e+00	-3.9332e-26	0.0000e+00	0.0000e+00	0.0000e+00	0.0000e+00

Yˆ1	Yˆ2	Yˆ3	Yˆ4	Yˆ5	Yˆ6	Yˆ7	Yˆ8	Yˆ9	Yˆ10	Yˆ11	Yˆ12	Yˆ13	Yˆ14	Yˆ15	Yˆ16
0.0000e+00	2.3967e-06	0.0000e+00	3.2821e-11	0.0000e+00	-5.2308e-15	0.0000e+00	-1.2575e-18	0.0000e+00	-2.3505e-22	0.0000e+00	-3.9908e-26	0.0000e+00	0.0000e+00	0.0000e+00	0.0000e+00

Biconic Zernike polynomial

$$z_{zernike} = \frac{c_x x^2 + c_y y^2}{1 + \sqrt{1 - (1 - k_x) c_x^2 x^2 - (1 + k_y) c_y^2 y^2}} + \sum_{i=1}^{16} \alpha_i x^i + \sum_{j=1}^{16} \beta_j y^j \qquad \text{, with } \mathrm{c_x} = \frac{1}{\mathrm{R_x}} \qquad \text{and } \mathrm{c_y} = \frac{1}{\mathrm{R_y}} \tag{2}$$

Lens 3

SurfType	Radius	Thickness	Semi-Diameter	Conic	X Radius	X Conic	Norm Radius
Biconic Zernike	3.1833e+02	1.4152e+01	8.2013e+01	-1.6820e+01	3.7107e+02	-7.3054e+00	1.0000e+02

X^1	X^2	X^3	X^4	X^5	X^6	X^7	X^8	X^9	X^10	X^11	X^12	X^13	X^14	X^15	X^16
0.0000e+00	-9.8282e-07	0.0000e+00	1.9185e-10	0.0000e+00	7.6709e-15	0.0000e+00	-3.5975e-18	0.0000e+00	-1.5933e-21	0.0000e+00	-4.9065e-25	0.0000e+00	0.0000e+00	0.0000e+00	0.0000e+00

Y^1	Y^2	Y^3	Y^4	Y^5	Y^6	Y^7	Y^8	Y^9	Y^10	Y^11	Y^12	Y^13	Y^14	Y^15	Y^16
0.0000e+00	2.7640e-06	0.0000e+00	-3.3734e-10	0.0000e+00	-6.3985e-14	0.0000e+00	-9.5073e-18	0.0000e+00	-1.1712e-21	0.0000e+00	-5.4911e-26	0.0000e+00	0.0000e+00	0.0000e+00	0.0000e+00

Biconic Zernike polynomial

$$z_{zernike} = \frac{c_x x^2 + c_y y^2}{1 + \sqrt{1 - (1 - k_x) c_x^2 x^2 - (1 + k_y) c_y^2 y^2}} + \sum_{i=1}^{16} \alpha_i x^i + \sum_{j=1}^{16} \beta_j y^j \qquad \text{, with } \mathrm{c_x} = \frac{1}{\mathrm{R_x}} \qquad \text{and } \mathrm{c_y} = \frac{1}{\mathrm{R_y}} \tag{3}$$