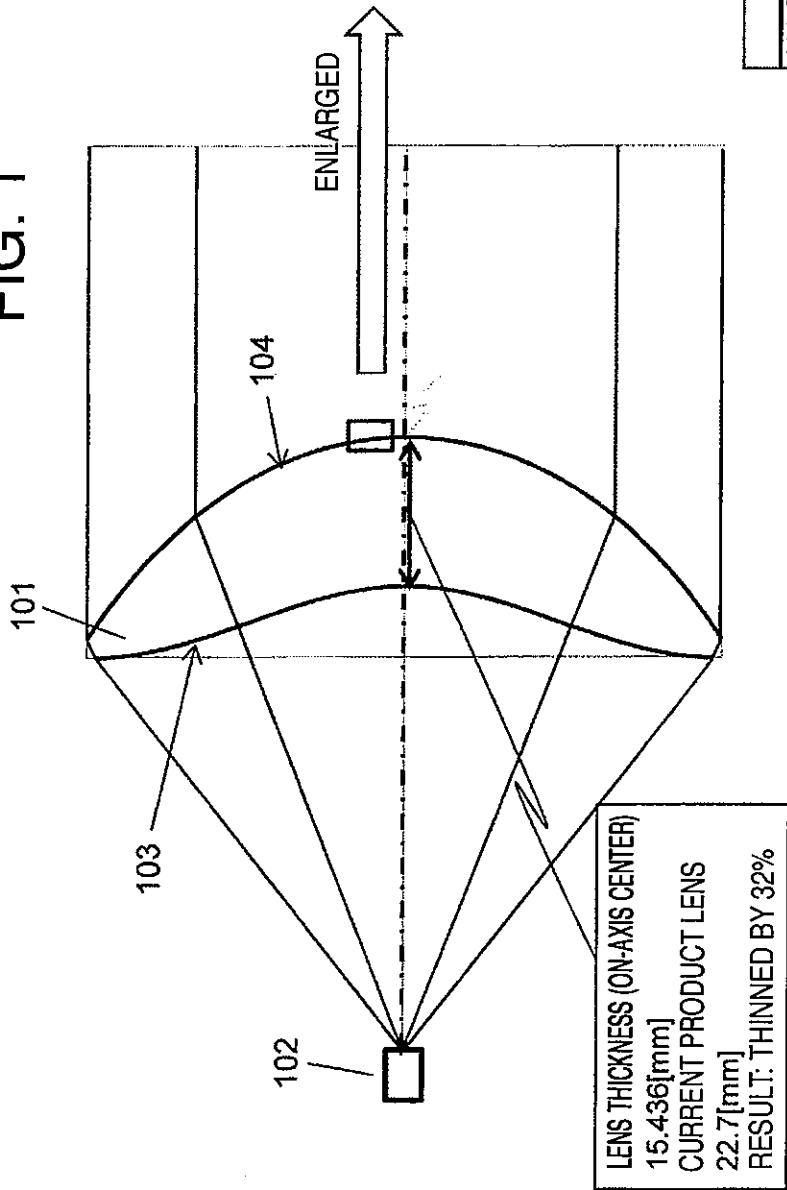


FIG. 1



INCIDENT SURFACE

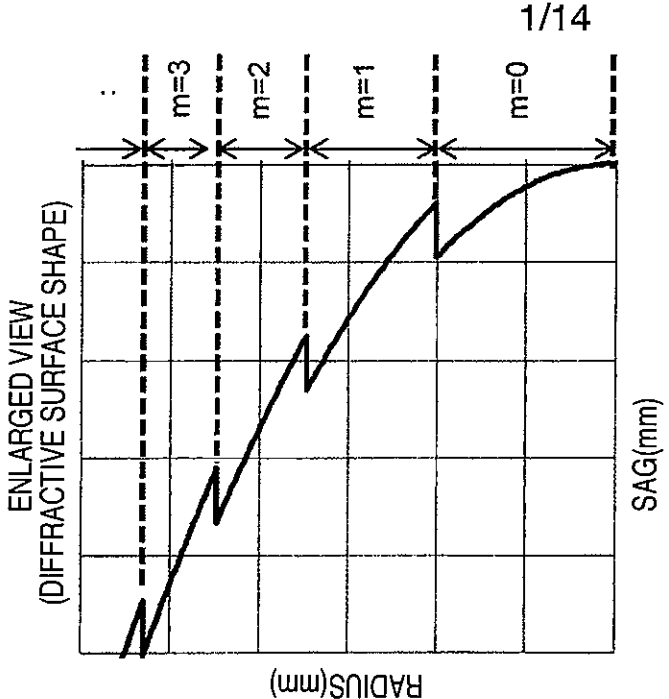
INNER DIAMETER	OUTER DIAMETER	CURVATURE	CONIC CONSTANT	ASPHERIC SURFACE COEFFICIENT
r[mm]		c	k	A4 A6 A8
0	30.4013	-3.98E-02	-1.21E+00	1.77E-05 -8.56E-09 2.03E-12

EXIT SURFACE BASE SURFACE SHAPE (ANNULUS ENVELOPE)

INNER DIAMETER	OUTER DIAMETER	CURVATURE	CONIC CONSTANT	ASPHERIC SURFACE COEFFICIENT
r[mm]		c	k	A4 A6 A8
0	31.17	-3.60E-02	-8.08E-01	-1.61E-06 -7.60E-10 0.00E+00

DIFFRACTIVE SURFACE PHASE FUNCTION

DIFFRACTION ORDER	NORMALIZED R	$\alpha 2$	$\alpha 4$	$\alpha 6$	$\alpha 8$	$\alpha 10$
30	31.170	-1954.0768	305.6069	264.2810	-407.2972	412.5362



ITEM		UNIT
LENS THICKNESS (ON-AXIS CENTER)	15.44	[mm]
EFFECTIVE RADIUS	31.17	[mm]
EDGE THICKNESS	1.87	[mm]
BASE SURFACE MAXIMUM TANGENTIAL ANGLE	58.25	[°]
BLAZE WAVELENGTH	0.55	[um]
BLAZE ORDER	30	
NUMBER OF ANNULI	220	
MINIMUM ANNULUS WIDTH	90.49	[um]
AMOUNT OF STEP (0TH ANNULUS)	33.458	[um]

GLASS MATERIAL ... PMMA

REFRACTIVE INDEX Nd	1.491756
ABBE'S NUMBER Vd	57.44079

FIG. 2

ANNULUS NUMBER	INNER RADIUS	OUTER RADIUS	ANNULUS WIDTH	ANNULUS COEFFICIENT			
m	r[mm]		[mm]	am0	am2	am4	am6
0	0	1.24995272	1.2499527	0	-0.028698	-9.322E-07	0
1	1.249953	2.16553876	0.915586	0.0334286	-0.028669	-7.068E-06	1.39E-08
2	2.165539	2.79641174	0.630873	0.0668586	-0.028651	-6.89E-06	-1.6E-09
3	2.796412	3.30960823	0.5131965	0.1002926	-0.028634	-6.744E-06	-5.6E-09
4	3.309608	3.75371349	0.4441053	0.1337125	-0.028614	-6.952E-06	1.05E-09
5	3.753713	4.15096659	0.3972531	0.1671452	-0.028596	-6.902E-06	2.9E-10
6	4.150967	4.51375894	0.3627924	0.2005635	-0.028575	-7.052E-06	3.67E-09
7	4.513759	4.8498331	0.3360742	0.2340435	-0.028564	-6.655E-06	-3.1E-09
8	4.849833	5.16441206	0.314579	0.2673663	-0.028533	-7.196E-06	4.5E-09
9	5.164412	5.46121431	0.2968022	0.3007507	-0.028511	-7.284E-06	5.11E-09
10	5.461214	5.74299998	0.2817857	0.3339806	-0.028473	-7.892E-06	1.16E-08
•	•	•	•	•	•	•	•
210	28.93328	29.0777656	0.1444886	-0.098024	0.0054834	-5.152E-05	2.41E-08
211	29.07777	29.2283292	0.1505636	3.2902201	-0.00642	-3.738E-05	1.85E-08
212	29.22833	29.3861858	0.1578566	2.7647617	-0.004442	-3.966E-05	1.94E-08
213	29.38619	29.5529978	0.166812	0.7846873	0.0025351	-4.767E-05	2.24E-08
214	29.553	29.7311338	0.178136	2.519228	-0.003319	-4.09E-05	1.98E-08
215	29.73113	29.9241989	0.1930651	3.2220095	-0.005581	-3.83E-05	1.88E-08
216	29.9242	30.138171	0.2139721	2.1466794	-0.001863	-4.24E-05	2.03E-08
217	30.13817	30.3843733	0.2462023	3.6006922	-0.006554	-3.718E-05	1.84E-08
218	30.38437	30.6903826	0.3060093	3.7273399	-0.006853	-3.681E-05	1.82E-08
219	30.69038	31.17	0.4796174	11.065746	-0.029938	-1.244E-05	9.65E-09

FIG. 3

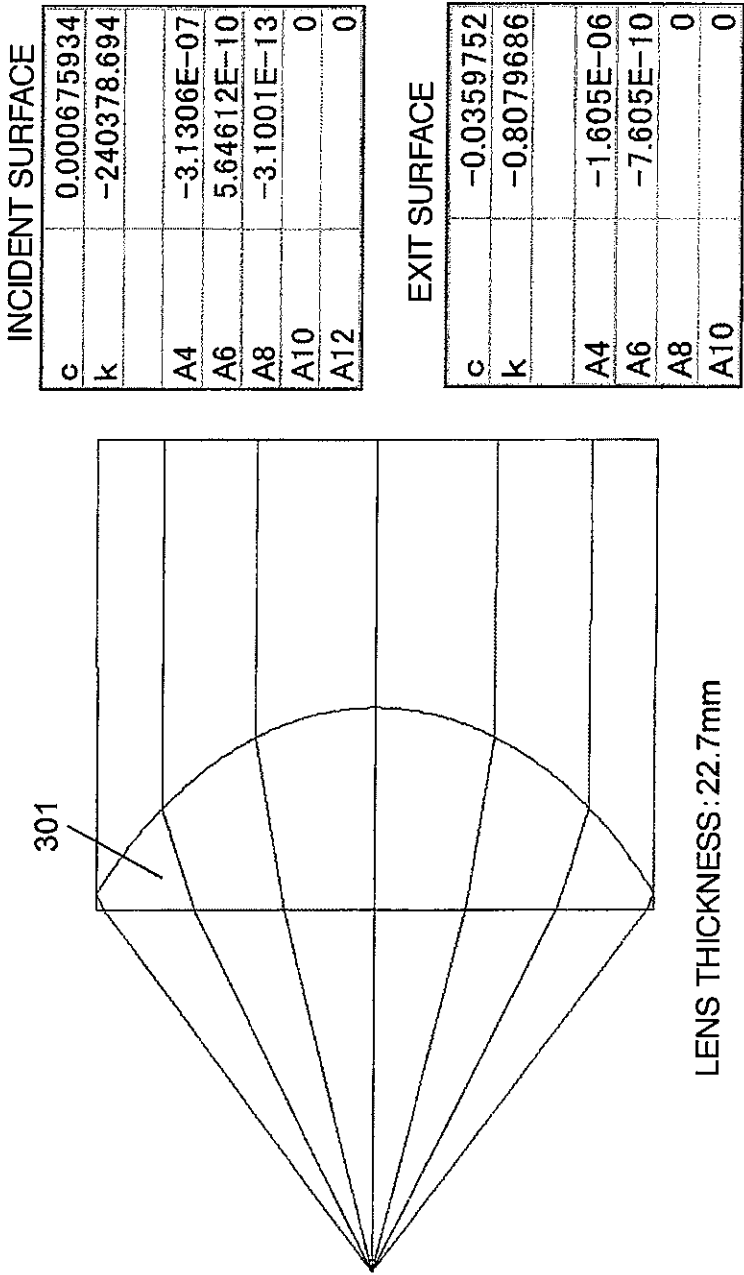


FIG. 4

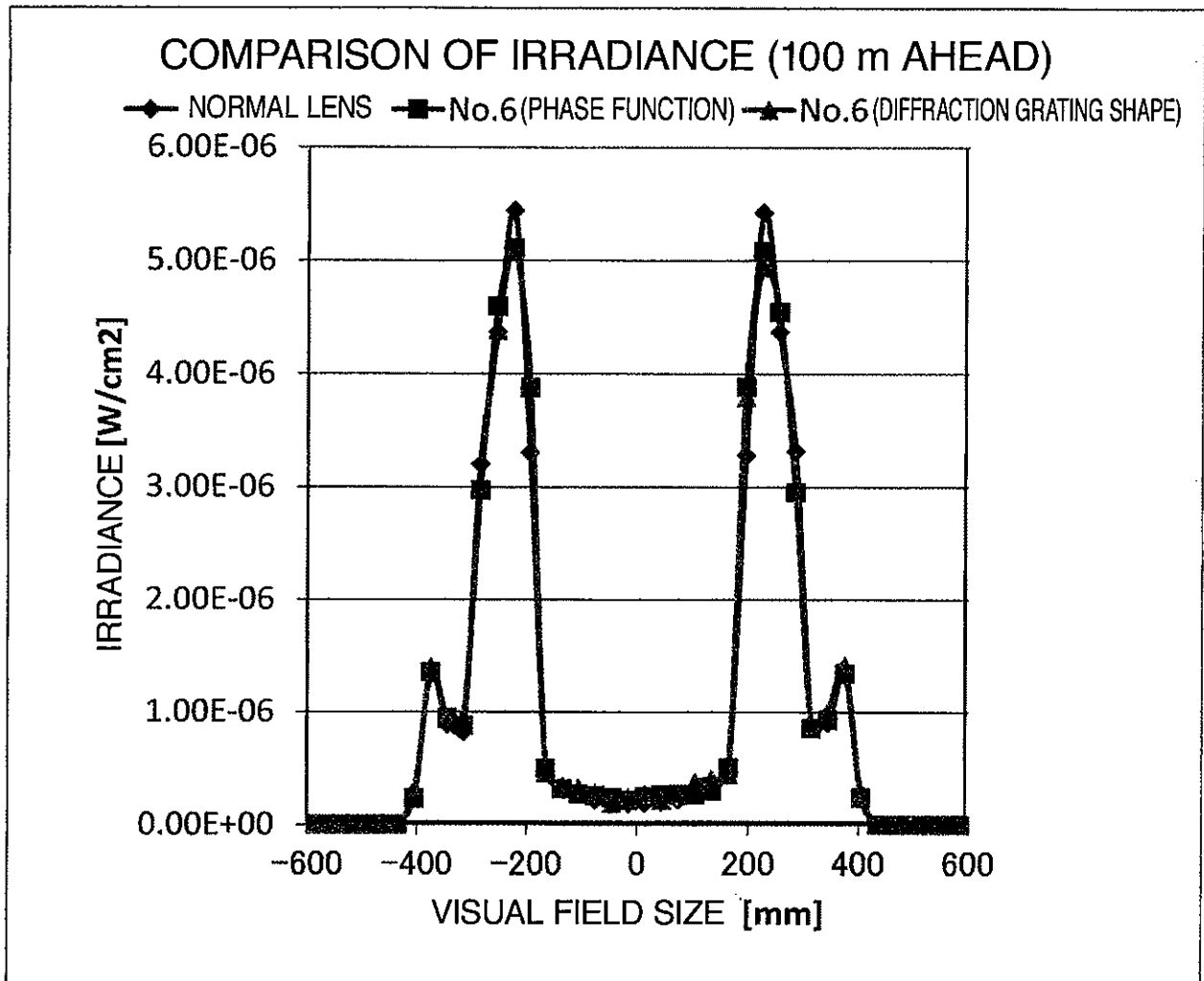


FIG. 5

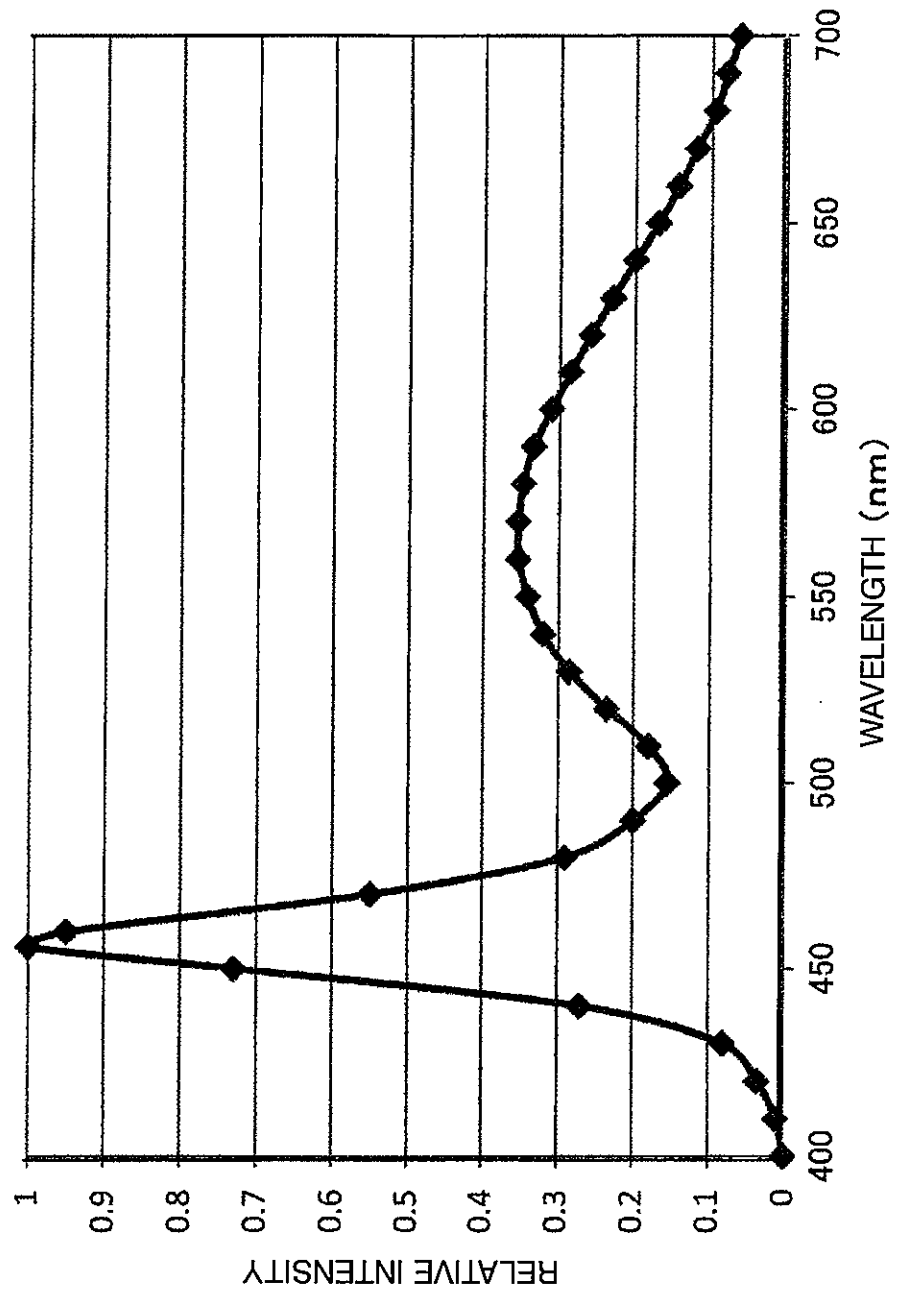


FIG. 6

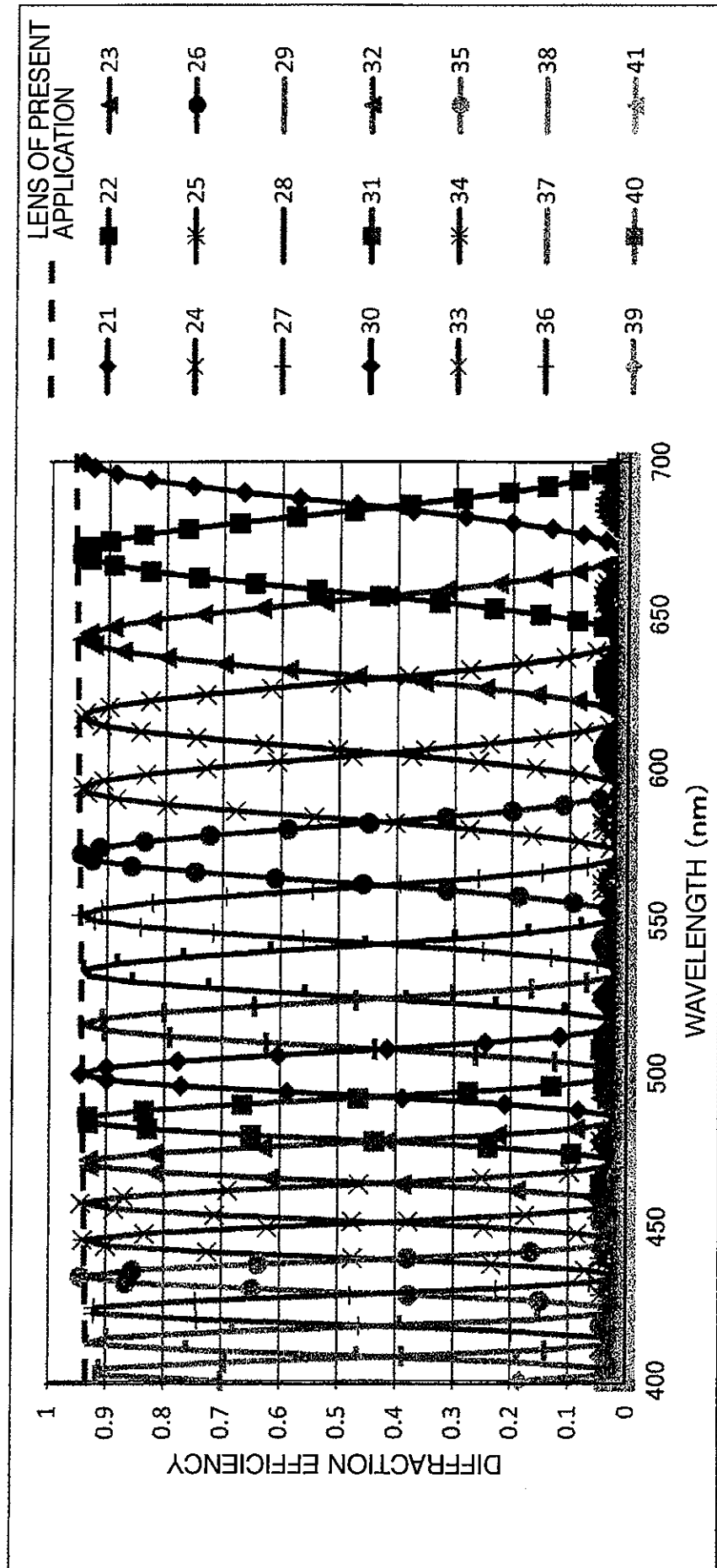


FIG. 7

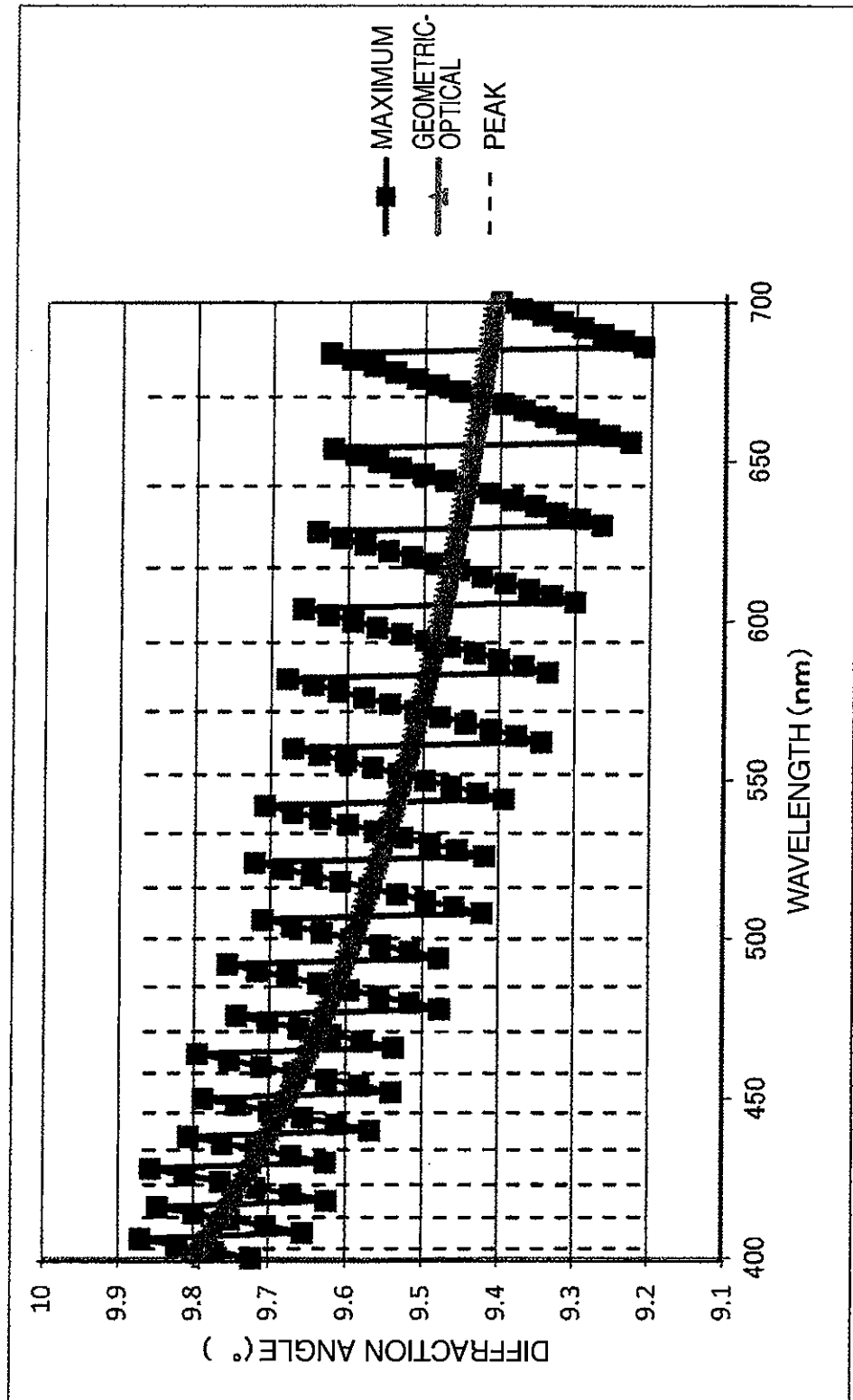
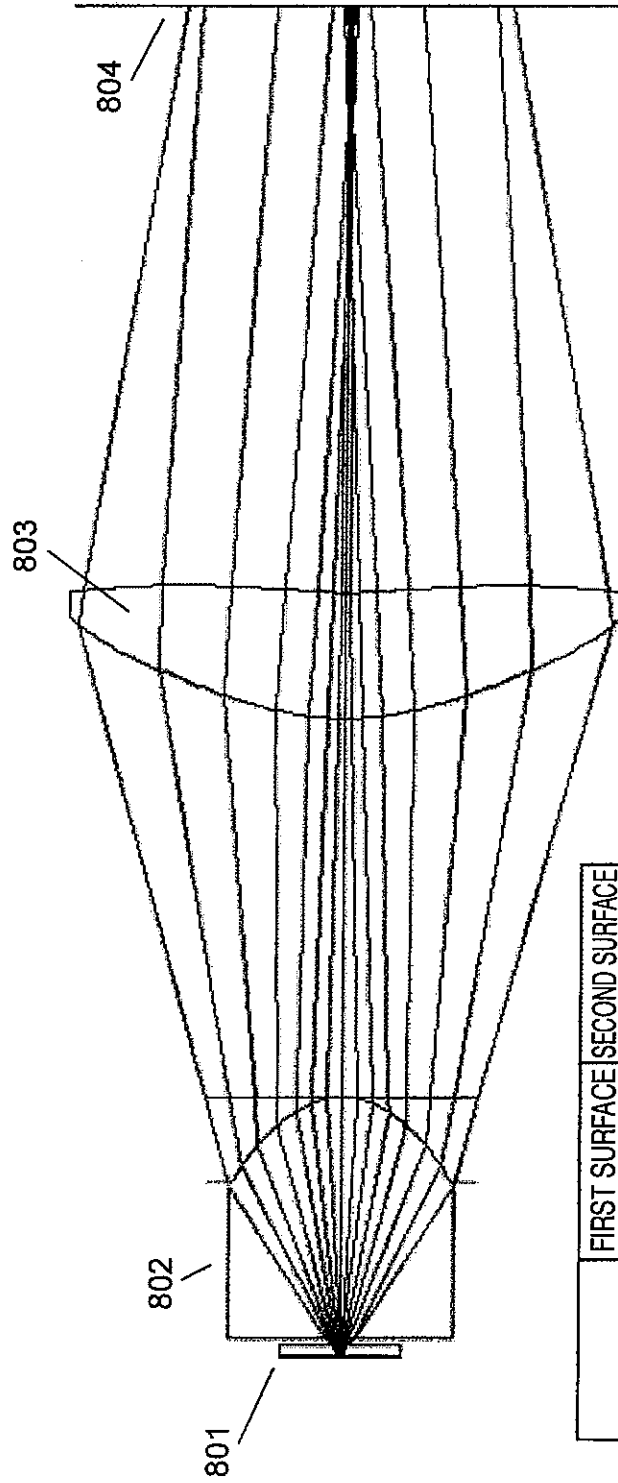


FIG. 8



	FIRST SURFACE	SECOND SURFACE
$r(=1/c)$	-4.678332	-2.26938
k	-374.2747	-1.216372
A2	0	0
A4	3.50E-04	2.17E-04
A6	-9.69E-06	-1.40E-04
A8	5.76E-09	0
A10	7.83E-11	0
SURFACE INTERVAL	7.9	
MATERIAL	PMMA	

FIG. 9

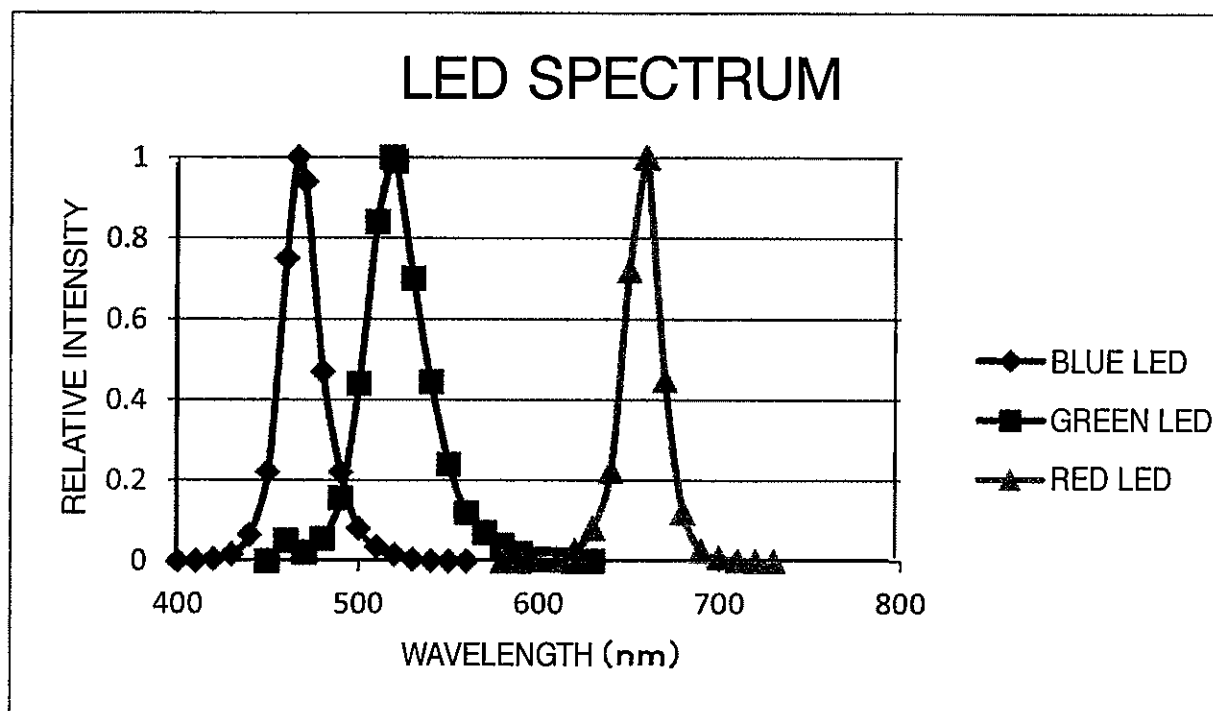
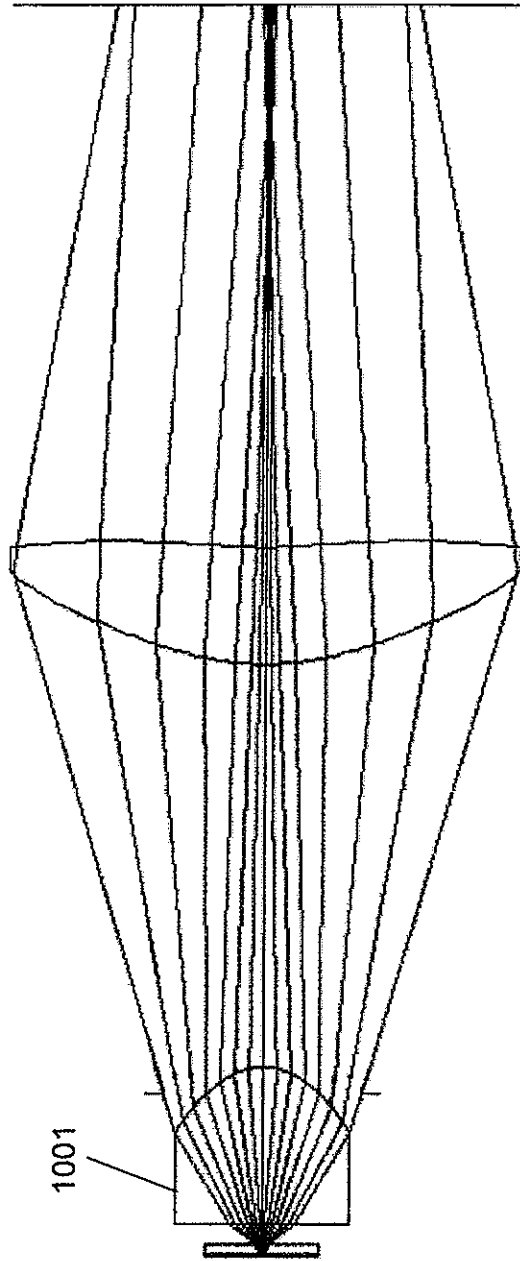


FIG. 10



SURFACE SHAPE

	FIRST SURFACE	SECOND SURFACE
$r(=1/c)$	-1.257766	-2.045436
k	-374.2747	-1.216372
A2	0	0
A4	9.69E-03	-1.30E-03
A6	1.71E-02	-1.97E-04
A8	3.56E-03	0
A10	-7.98E-03	0
SURFACE INTERVAL	5.5	
MATERIAL	PMMA	

SECOND SURFACE
PHASE FUNCTION

M	13
$\alpha 2$	-95.70866
$\alpha 4$	-20.25815
$\alpha 6$	2.3654754
$\alpha 8$	20.446842
$\alpha 10$	26.504047

FIG. 11

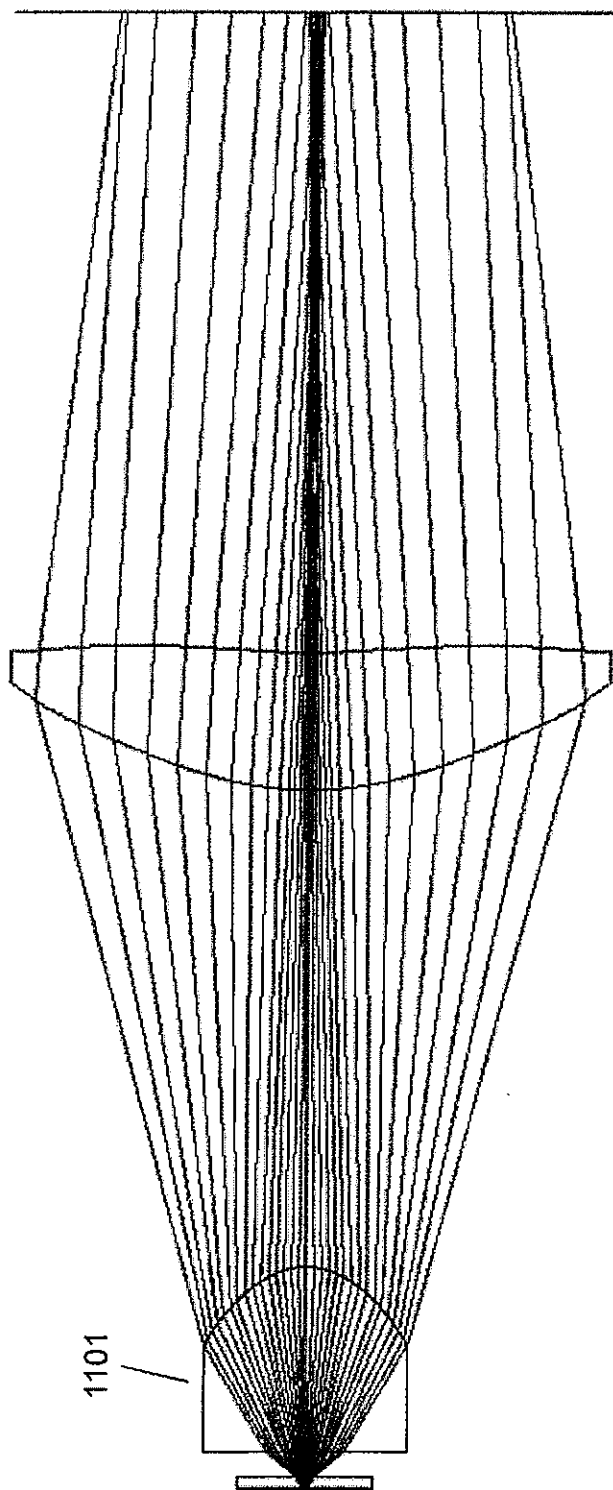


FIG. 12

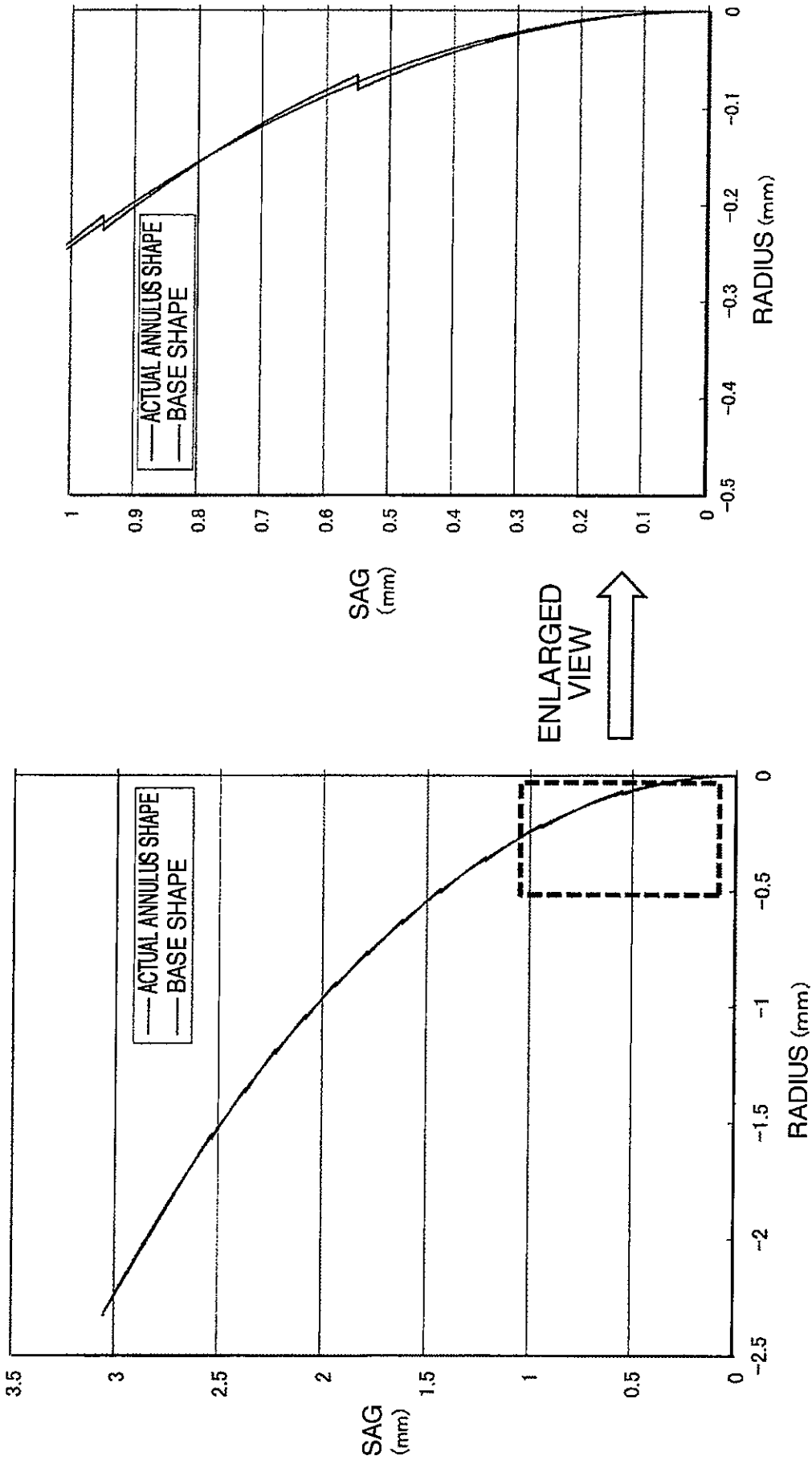


FIG. 13

ANNULUS NUMBER	INNER RADIUS(mm)	OUTER RADIUS(mm)	ANNULUS WIDTH(mm)	am0	am2	am4	am6
0	0	0.5513198	0.5513198	0	-0.26832	0.001156	0
1	0.5513198	0.9487518	0.397432	0.014489	-0.26767	0.000627	-0.00034
2	0.9487518	1.2176843	0.2689325	0.028963	-0.26718	0.000625	-0.00032
3	1.2176843	1.4335029	0.2158186	0.043333	-0.26651	0.000523	-0.00029
4	1.4335029	1.6188088	0.1853059	0.057416	-0.2655	0.000298	-0.00024
5	1.6188088	1.7845211	0.1657123	0.07079	-0.26382	-0.00012	-0.00018
6	1.7845211	1.9373578	0.1528367	0.082712	-0.261	-0.00081	-0.00011
7	1.9373578	2.0823786	0.1450208	0.091669	-0.2562	-0.00191	-4.9E-06
8	2.0823786	2.2244131	0.1420345	0.09474	-0.24796	-0.00364	0.000132
9	2.2244131	2.3698233	0.1454101	0.086019	-0.23361	-0.00637	0.000317
10	2.3698233	2.5319556	0.1621324	0.052661	-0.20795	-0.01075	0.000577
11	2.5319556	3.053447	0.5214914	0.681559	-0.44808	0.020302	-0.00074

FIG. 14

