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Nata

LumCAT: 1-0914-S	
Luminaire: 92.70.064.00	
Report No: 220527-B007	Voltage(V): 35.3800
Test No: 220527-C007	Current(A): 0.3430
LampCAT: OSRAM OPTO SOLERIQ S9	Power (W): 12.1350
Lamp flux(lm): 1561.6	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 43	Width(mm): 43
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 1209.15
Efficiency(%): 77.43%
Lumens(lm)/Power(W): 99.64
Central intensity(cd): 2905.336
Maximum intensity(cd): 2905.336
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=37.3
 [C90/270]Total=37.3
Field angle(10%Imax): [C0/180]Total=60.6
 [C90/270]Total=60.6
Maximum s/h(1/2): C0_180=0.61 C90_270=0.61
Maximum s/h(1/4): C0_180=0.60 C90_270=0.60
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 77.43%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.011%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2905.335	0.000	0	.000%	.000%
1.0	2903.169	2.779	2.779	.178%	.230%
2.0	2888.007	8.312	11.091	.532%	.917%
3.0	2861.193	13.750	24.842	.881%	2.054%
4.0	2831.391	19.055	43.896	1.220%	3.630%
5.0	2792.701	24.195	68.091	1.549%	5.631%
6.0	2737.056	29.060	97.151	1.861%	8.035%
7.0	2679.992	33.624	130.775	2.153%	10.815%
8.0	2613.741	37.886	168.661	2.426%	13.949%
9.0	2536.660	41.741	210.402	2.673%	17.401%
10.0	2451.886	45.145	255.547	2.891%	21.134%
11.0	2359.866	48.079	303.626	3.079%	25.111%
12.0	2261.050	50.513	354.139	3.235%	29.288%
13.0	2155.138	52.409	406.548	3.356%	33.623%
14.0	2040.711	53.706	460.255	3.439%	38.064%
15.0	1929.869	54.510	514.765	3.491%	42.572%
16.0	1811.409	54.820	569.585	3.511%	47.106%
17.0	1674.948	54.292	623.877	3.477%	51.596%
18.0	1546.032	53.107	676.984	3.401%	55.988%
19.0	1400.653	51.266	728.25	3.283%	60.228%
20.0	1286.764	49.187	777.437	3.150%	64.296%
21.0	1151.909	46.827	824.265	2.999%	68.169%
22.0	1046.408	44.176	868.441	2.829%	71.822%
23.0	934.984	41.575	910.016	2.662%	75.261%
24.0	832.433	38.642	948.658	2.475%	78.456%
25.0	729.463	35.514	984.172	2.274%	81.393%
26.0	637.123	32.258	1016.43	2.066%	84.061%
27.0	548.644	29.010	1045.44	1.858%	86.461%
28.0	454.727	25.403	1070.844	1.627%	88.561%
29.0	373.568	21.671	1092.514	1.388%	90.354%
30.0	313.733	18.557	1111.071	1.188%	91.888%
31.0	237.645	15.344	1126.415	.983%	93.157%
32.0	178.967	11.935	1138.351	.764%	94.144%
33.0	125.825	8.979	1147.33	.575%	94.887%
34.0	88.755	6.494	1153.824	.416%	95.424%
35.0	57.445	4.540	1158.364	.291%	95.800%
36.0	41.312	3.144	1161.509	.201%	96.060%
37.0	30.885	2.355	1163.863	.151%	96.254%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	22.938	1.797	1165.66	.115%	96.403%
39.0	17.836	1.392	1167.051	.089%	96.518%
40.0	14.826	1.139	1168.191	.073%	96.612%
41.0	13.698	1.016	1169.206	.065%	96.696%
42.0	12.847	0.964	1170.171	.062%	96.776%
43.0	12.137	0.925	1171.096	.059%	96.853%
44.0	11.570	0.895	1171.991	.057%	96.927%
45.0	11.107	0.871	1172.863	.056%	96.999%
46.0	10.711	0.853	1173.716	.055%	97.069%
47.0	10.397	0.840	1174.555	.054%	97.139%
48.0	10.158	0.831	1175.386	.053%	97.207%
49.0	9.926	0.825	1176.211	.053%	97.276%
50.0	9.717	0.819	1177.03	.052%	97.343%
51.0	9.531	0.814	1177.844	.052%	97.411%
52.0	9.381	0.812	1178.656	.052%	97.478%
53.0	9.239	0.810	1179.466	.052%	97.545%
54.0	9.105	0.809	1180.274	.052%	97.612%
55.0	8.963	0.807	1181.081	.052%	97.678%
56.0	8.836	0.804	1181.885	.052%	97.745%
57.0	8.739	0.804	1182.689	.051%	97.811%
58.0	8.649	0.804	1183.493	.051%	97.878%
59.0	8.567	0.805	1184.298	.052%	97.944%
60.0	8.515	0.807	1185.105	.052%	98.011%
61.0	8.440	0.809	1185.914	.052%	98.078%
62.0	8.380	0.811	1186.724	.052%	98.145%
63.0	8.350	0.814	1187.538	.052%	98.212%
64.0	8.343	0.819	1188.357	.052%	98.280%
65.0	8.328	0.825	1189.182	.053%	98.348%
66.0	8.298	0.830	1190.012	.053%	98.417%
67.0	8.291	0.834	1190.846	.053%	98.486%
68.0	8.306	0.841	1191.687	.054%	98.555%
69.0	8.313	0.848	1192.534	.054%	98.626%
70.0	8.321	0.854	1193.389	.055%	98.696%
71.0	8.373	0.863	1194.252	.055%	98.768%
72.0	8.388	0.872	1195.123	.056%	98.840%
73.0	8.380	0.877	1196	.056%	98.912%
74.0	8.343	0.879	1196.879	.056%	98.985%
75.0	8.328	0.881	1197.76	.056%	99.058%

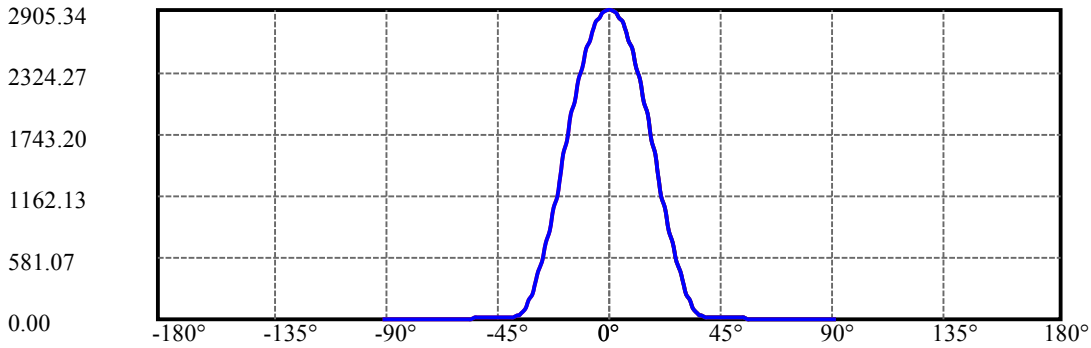
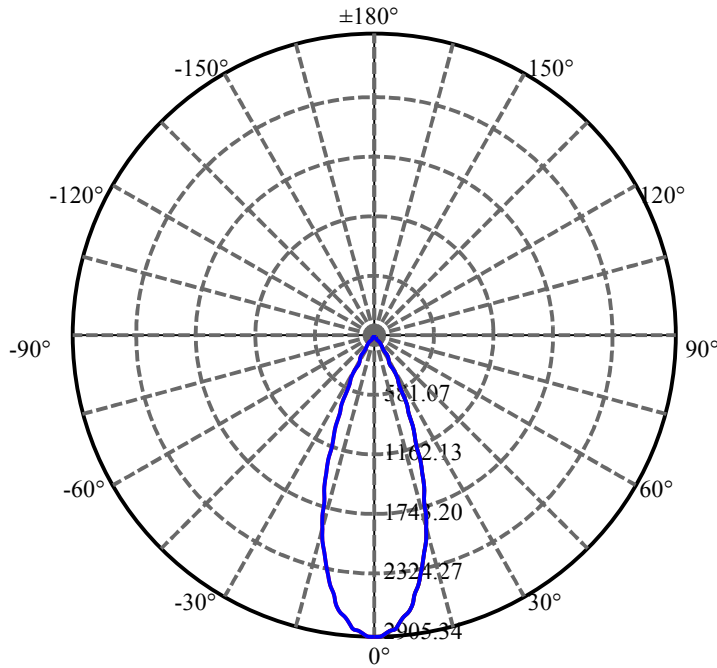
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	8.306	0.883	1198.643	.057%	99.131%
77.0	8.246	0.882	1199.525	.057%	99.204%
78.0	8.156	0.878	1200.403	.056%	99.276%
79.0	8.029	0.870	1201.273	.056%	99.348%
80.0	7.872	0.857	1202.13	.055%	99.419%
81.0	7.686	0.841	1202.972	.054%	99.489%
82.0	7.484	0.823	1203.794	.053%	99.557%
83.0	7.185	0.797	1204.592	.051%	99.623%
84.0	6.700	0.756	1205.348	.048%	99.685%
85.0	6.319	0.711	1206.059	.046%	99.744%
86.0	6.155	0.682	1206.741	.044%	99.800%
87.0	5.557	0.641	1207.382	.041%	99.853%
88.0	5.393	0.600	1207.981	.038%	99.903%
89.0	5.333	0.588	1208.569	.038%	99.952%
90.0	5.325	0.584	1209.154	.037%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1111.07	71.15%	91.89%
0-40	1168.19	74.81%	96.61%
0-60	1185.10	75.89%	98.01%
0-90	1208.57	77.39%	99.95%
0-120	1208.57	77.39%	99.95%
0-180	1209.15	77.43%	100.00%
60-90	24.27	1.55%	2.01%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-24.53	967.32	61.95%	80.00%

ZONAL LUMEN SUMMARY

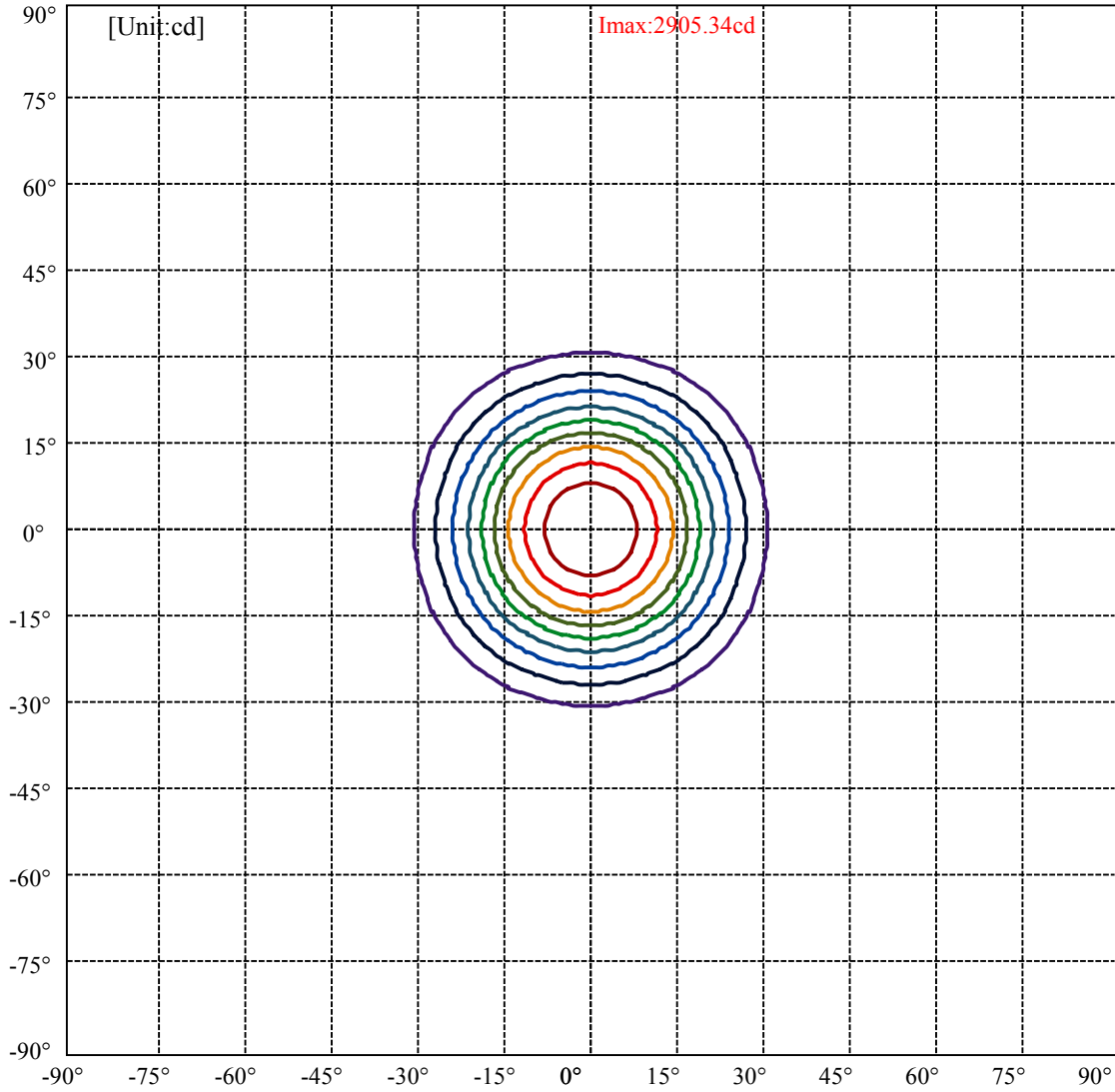
0-10	255.55
10-20	521.89
20-30	333.63
30-40	57.12
40-50	8.84
50-60	8.07
60-70	8.28
70-80	8.74
80-90	6.44
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00



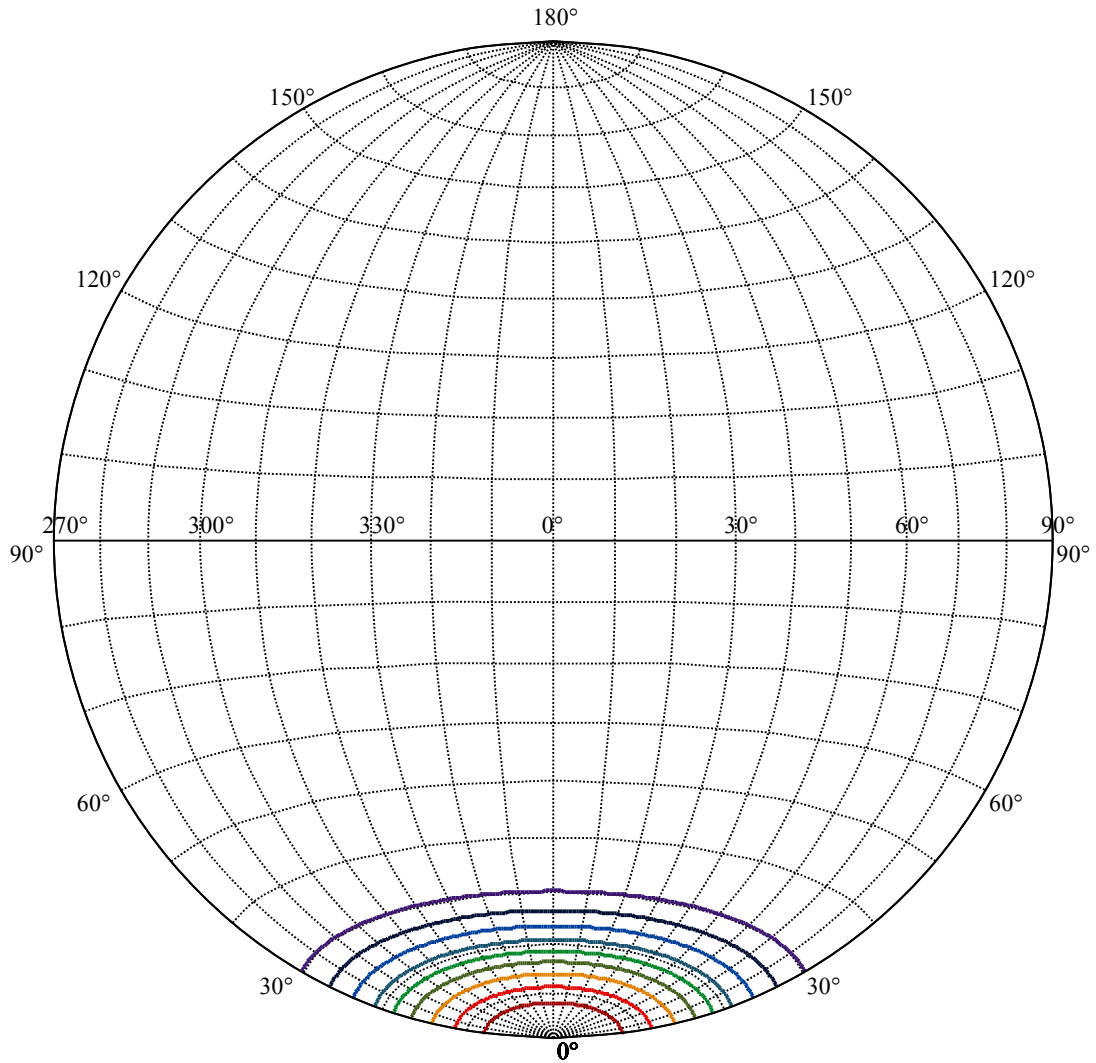
C0(Max): —————
C0/C180: —————
C90/C270: —————

Field angle(10%Imax):C0/180Left:30.3 Right:30.3
:C90/270Left:30.3 Right:30.3

Beam Angle(50%Imax):C0/180Left:18.6 Right:18.6
:C90/270Left:18.6 Right:18.6



(10%Imax) 290.534	—
(20%Imax) 581.067	—
(30%Imax) 871.601	—
(40%Imax) 1162.13	—
(50%Imax) 1452.67	—
(60%Imax) 1743.2	—
(70%Imax) 2033.73	—
(80%Imax) 2324.27	—
(90%Imax) 2614.8	—



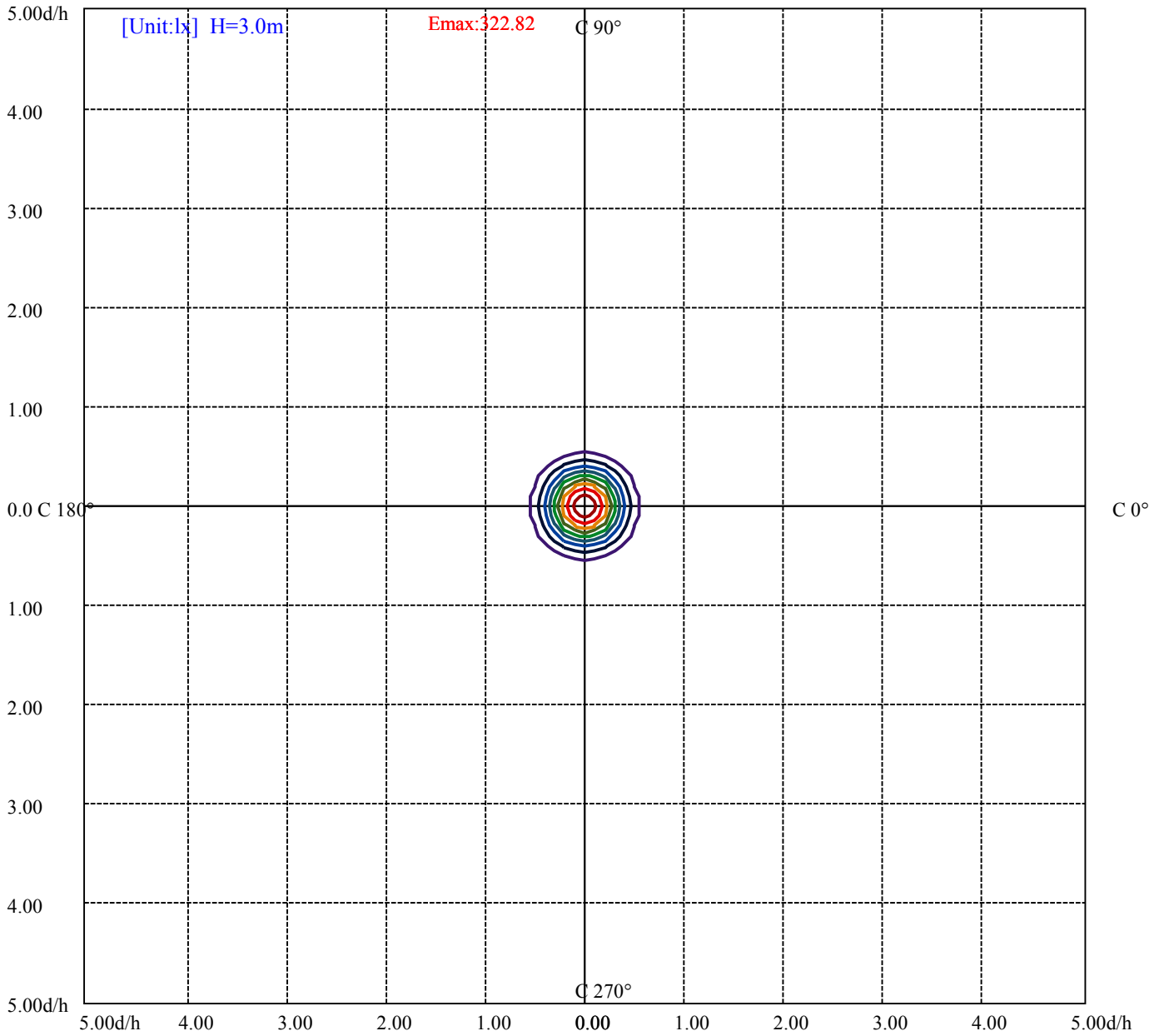
House

[Unit:cd]

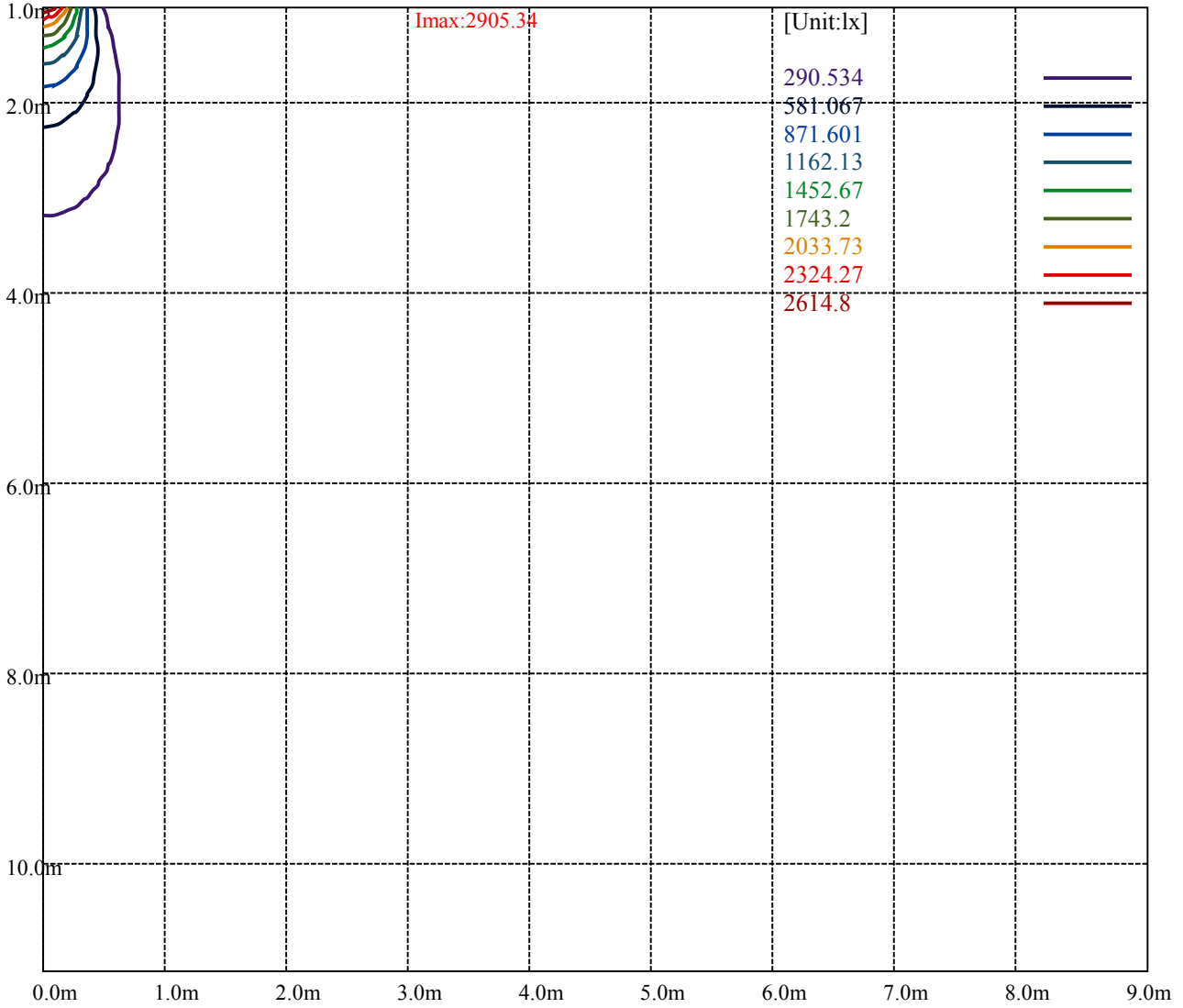
Road

Imax:2905.34

(10%Imax) 290.534	—
(20%Imax) 581.067	—
(30%Imax) 871.601	—
(40%Imax) 1162.13	—
(50%Imax) 1452.67	—
(60%Imax) 1743.2	—
(70%Imax) 2033.73	—
(80%Imax) 2324.27	—
(90%Imax) 2614.8	—



- (10%Emax) 32.28156
- (20%Emax) 64.563
- (30%Emax) 96.84456
- (40%Emax) 129.1255
- (50%Emax) 161.4078
- (60%Emax) 193.6889
- (70%Emax) 225.97
- (80%Emax) 258.2522
- (90%Emax) 290.5333



Luminance Table

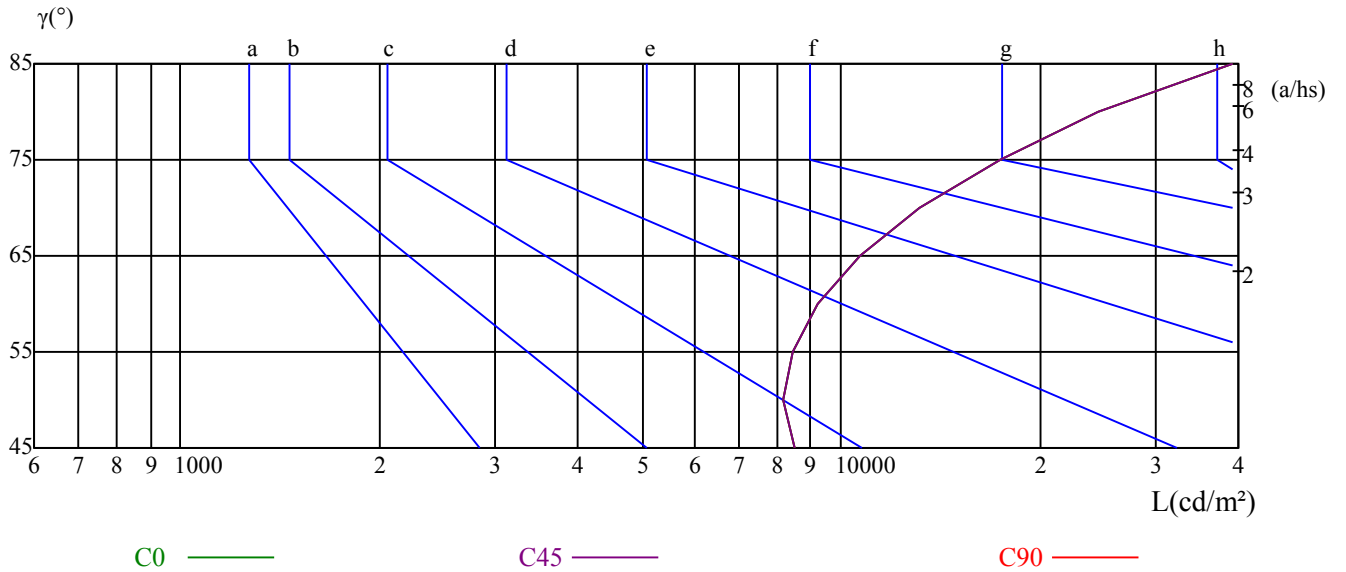
γ	45	50	55	60	65	70	75	80	85
C0	8495	8176	8451	9210	10658	13157	17402	24519	39211
C45	8495	8176	8451	9210	10658	13157	17402	24519	39211
C90	8495	8176	8451	9210	10658	13157	17402	24519	39211

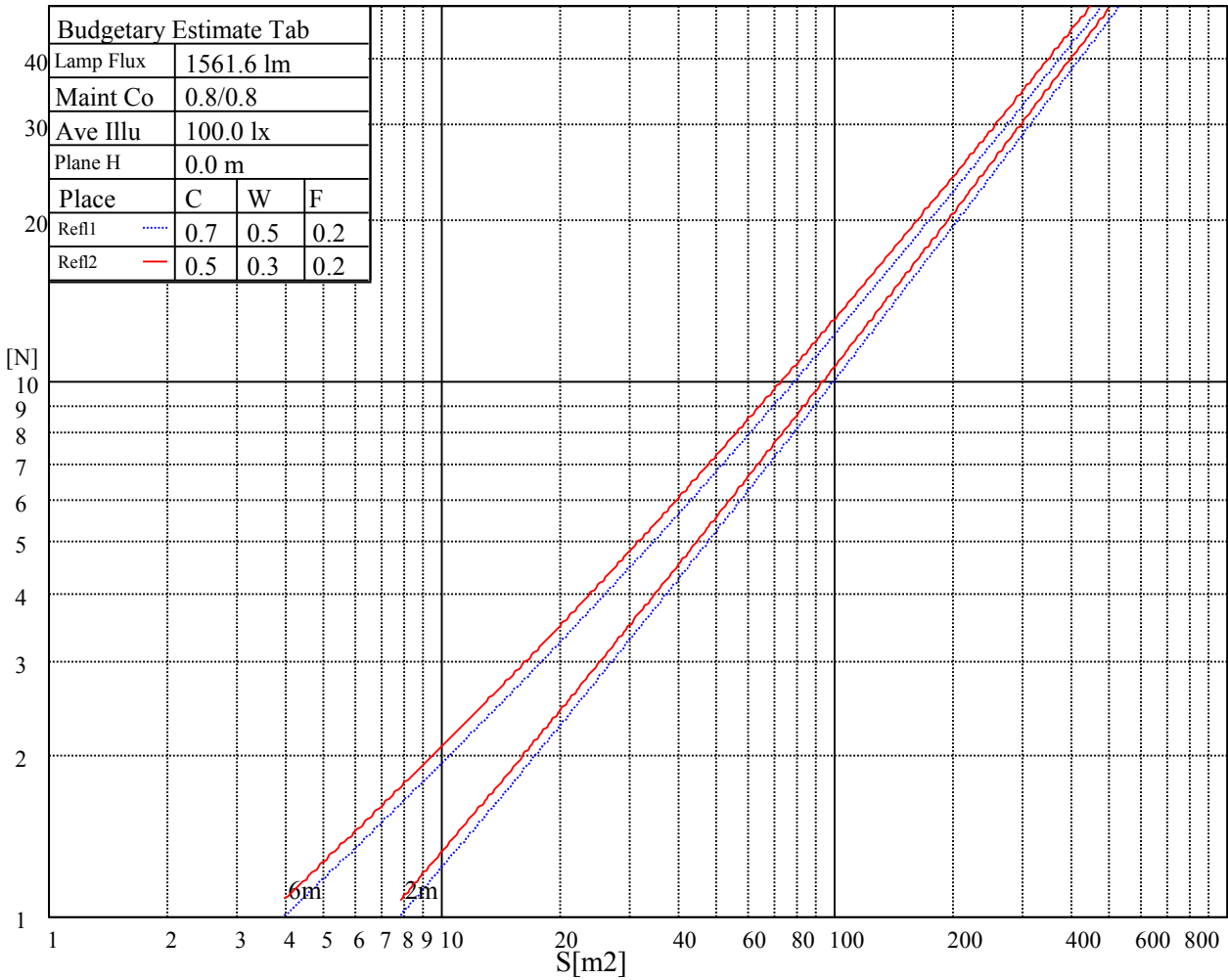
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
10658	10658	10658	17402	17402	17402	39211	39211	39211

Glare Table

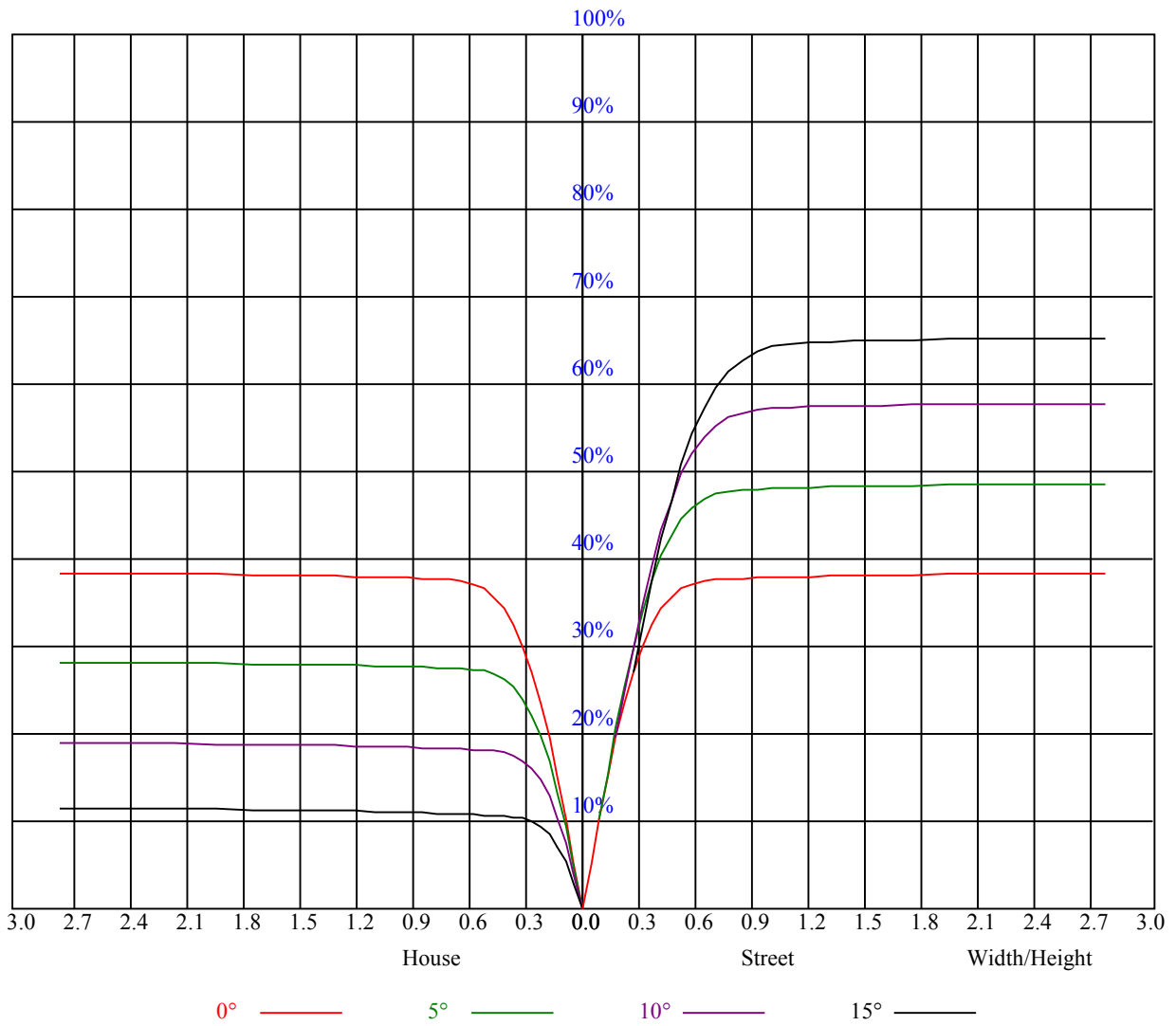
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve





RHOCC	80			70			50			30			10			0
RHOW	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR	COEFFICIENTS OF UTILIZATION RHOFC=20 CU															
0	0.92	0.92	0.92	0.90	0.90	0.90	0.86	0.86	0.86	0.82	0.82	0.82	0.79	0.79	0.79	0.77
1	0.86	0.85	0.83	0.85	0.83	0.82	0.82	0.80	0.79	0.79	0.78	0.77	0.76	0.75	0.75	0.73
2	0.82	0.79	0.77	0.80	0.78	0.76	0.78	0.76	0.74	0.75	0.74	0.72	0.73	0.72	0.71	0.70
3	0.77	0.74	0.71	0.76	0.73	0.71	0.74	0.72	0.70	0.72	0.70	0.69	0.71	0.69	0.68	0.67
4	0.74	0.70	0.67	0.73	0.69	0.67	0.71	0.68	0.66	0.70	0.67	0.65	0.68	0.66	0.65	0.64
5	0.70	0.66	0.64	0.69	0.66	0.63	0.68	0.65	0.63	0.67	0.64	0.62	0.66	0.64	0.62	0.61
6	0.67	0.63	0.61	0.67	0.63	0.60	0.65	0.62	0.60	0.64	0.62	0.60	0.63	0.61	0.59	0.58
7	0.64	0.60	0.58	0.64	0.60	0.58	0.63	0.60	0.57	0.62	0.59	0.57	0.61	0.59	0.57	0.56
8	0.62	0.58	0.55	0.61	0.58	0.55	0.61	0.57	0.55	0.60	0.57	0.55	0.59	0.57	0.55	0.54
9	0.59	0.56	0.53	0.59	0.55	0.53	0.58	0.55	0.53	0.58	0.55	0.53	0.57	0.54	0.53	0.52
10	0.57	0.53	0.51	0.57	0.53	0.51	0.56	0.53	0.51	0.56	0.53	0.51	0.55	0.53	0.51	0.50



Intensity data(cd)

C/γ(°)	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0
0.0	2899.81	2913.55	2910.56	2897.42	2884.27	2853.20	2811.37	2777.91	2722.34
45.0	2912.95	2903.39	2879.49	2847.23	2811.97	2774.92	2725.93	2647.05	2578.34
90.0	2903.99	2887.26	2854.99	2822.13	2782.69	2742.66	2669.76	2608.81	2529.34
135.0	2904.59	2890.25	2879.49	2844.84	2806.59	2761.78	2703.22	2641.08	2567.58
180.0	2899.81	2889.05	2854.99	2821.53	2779.70	2726.52	2656.02	2582.52	2504.24
225.0	2912.95	2915.34	2900.41	2874.11	2855.59	2817.35	2763.57	2710.39	2639.88
270.0	2903.99	2909.37	2914.75	2893.83	2867.54	2837.07	2785.68	2736.68	2688.28
315.0	2904.59	2917.14	2909.37	2888.46	2862.76	2828.10	2780.90	2735.49	2679.92
360.0	2899.81	2913.55	2910.56	2897.42	2884.27	2853.20	2811.37	2777.91	2722.34
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	2661.39	2597.46	2514.40	2428.36	2329.77	2224.60	2124.22	2013.08	1876.84
45.0	2513.80	2425.97	2319.61	2222.81	2121.83	1982.60	1879.83	1771.67	1634.24
90.0	2433.74	2338.13	2243.72	2117.64	2023.23	1903.13	1760.32	1652.17	1515.33
135.0	2486.92	2389.52	2293.91	2212.05	2075.22	1968.26	1879.83	1737.02	1600.78
180.0	2419.99	2319.01	2209.66	2121.23	2019.05	1886.40	1777.05	1660.53	1509.36
225.0	2567.58	2491.70	2402.07	2280.17	2179.19	2081.79	1959.90	1833.82	1696.38
270.0	2606.42	2525.16	2449.27	2360.84	2243.72	2139.15	2036.38	1912.69	1784.82
315.0	2603.43	2528.15	2446.28	2345.30	2249.10	2139.75	2021.44	1910.30	1781.83
360.0	2661.39	2597.46	2514.40	2428.36	2329.77	2224.60	2124.22	2013.08	1876.84
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1756.74	1634.84	1477.69	1352.21	1236.29	1124.55	984.13	886.14	789.34
45.0	1484.86	1359.98	1230.31	1122.16	994.89	864.62	792.92	684.77	595.74
90.0	1354.00	1188.01	1131.84	995.96	895.52	803.62	700.78	597.89	513.93
135.0	1492.03	1341.45	1212.98	1115.59	986.52	885.54	801.29	687.76	598.72
180.0	1385.07	1181.55	1123.71	1012.87	911.29	798.30	719.07	620.95	514.29
225.0	1579.87	1440.64	1317.55	1165.90	1068.08	946.07	824.89	746.37	660.45
270.0	1667.11	1530.87	1394.63	1275.13	1146.66	1037.31	918.40	815.03	720.62
315.0	1648.58	1527.88	1405.39	1175.46	1132.02	1019.86	917.98	796.80	703.89
360.0	1756.74	1634.84	1477.69	1352.21	1236.29	1124.55	984.13	886.14	789.34
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	680.59	574.82	488.18	401.54	322.07	304.74	188.76	138.57	89.09
45.0	512.08	431.42	334.62	310.12	213.68	146.81	101.94	70.63	46.01
90.0	431.30	352.66	287.77	224.91	170.77	118.61	81.56	57.30	42.78
135.0	518.66	418.87	346.57	310.72	192.40	140.84	98.95	65.31	44.75
180.0	447.61	363.06	277.73	223.95	169.58	106.48	73.74	51.87	34.96
225.0	557.43	476.95	391.44	322.19	257.48	189.66	144.78	105.40	63.70
270.0	629.80	518.66	442.17	369.27	304.14	223.30	168.20	120.64	73.68
315.0	611.69	501.39	420.06	347.16	271.04	201.31	148.67	100.33	64.59
360.0	680.59	574.82	488.18	401.54	322.07	304.74	188.76	138.57	89.09
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	56.53	40.81	32.03	23.78	15.83	13.98	12.85	12.19	11.65
45.0	35.37	29.64	17.51	14.88	13.86	12.91	12.19	11.65	11.11
90.0	33.46	25.34	19.12	16.67	15.36	14.34	13.44	12.55	11.95
135.0	35.67	27.67	17.45	15.83	14.70	13.80	12.97	12.31	11.83
180.0	29.22	20.85	15.48	14.28	13.50	12.67	12.01	11.41	10.93
225.0	45.77	34.54	27.31	18.22	15.72	14.46	13.56	12.73	12.01
270.0	50.13	35.85	28.38	21.03	15.66	14.34	13.38	12.67	11.95
315.0	44.34	32.39	26.23	17.99	13.98	13.09	12.37	11.59	11.11
360.0	56.53	40.81	32.03	23.78	15.83	13.98	12.85	12.19	11.65

Intensity data(cd)

C/γ(°)	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	53.0
0.0	10.99	10.52	10.16	9.86	9.68	9.50	9.26	9.20	9.08
45.0	10.76	10.52	10.16	9.92	9.68	9.44	9.20	9.02	8.84
90.0	11.47	10.99	10.64	10.40	10.10	9.86	9.62	9.38	9.32
135.0	11.35	10.93	10.64	10.40	10.04	9.80	9.56	9.32	9.14
180.0	10.58	10.22	9.92	9.68	9.50	9.32	9.14	9.02	8.84
225.0	11.53	11.11	10.82	10.58	10.28	9.98	9.74	9.56	9.38
270.0	11.41	10.93	10.58	10.28	10.10	9.92	9.86	9.80	9.68
315.0	10.76	10.46	10.28	10.16	10.04	9.92	9.86	9.74	9.62
360.0	10.99	10.52	10.16	9.86	9.68	9.50	9.26	9.20	9.08
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	8.96	8.90	8.84	8.84	8.84	8.90	8.90	8.90	8.96
45.0	8.66	8.48	8.37	8.25	8.07	7.95	7.89	7.77	7.71
90.0	9.08	8.90	8.78	8.60	8.48	8.37	8.25	8.07	8.01
135.0	9.02	8.78	8.60	8.48	8.31	8.13	8.01	7.89	7.77
180.0	8.72	8.60	8.48	8.37	8.31	8.13	8.07	7.95	7.83
225.0	9.20	9.02	8.78	8.66	8.54	8.43	8.31	8.31	8.19
270.0	9.62	9.56	9.50	9.44	9.50	9.50	9.62	9.62	9.62
315.0	9.56	9.44	9.32	9.26	9.14	9.14	9.08	9.02	8.96
360.0	8.96	8.90	8.84	8.84	8.84	8.90	8.90	8.90	8.96
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	8.96	9.02	9.02	9.02	9.08	9.08	9.08	9.14	9.20
45.0	7.65	7.59	7.59	7.53	7.53	7.53	7.53	7.53	7.59
90.0	7.95	7.89	7.77	7.71	7.65	7.71	7.65	7.59	7.59
135.0	7.65	7.59	7.47	7.41	7.35	7.17	7.17	7.11	7.11
180.0	7.77	7.65	7.59	7.47	7.41	7.41	7.41	7.35	7.35
225.0	8.25	8.31	8.37	8.43	8.48	8.60	8.66	8.72	8.84
270.0	9.68	9.80	9.92	9.98	10.04	10.16	10.28	10.34	10.52
315.0	8.90	8.90	8.90	8.84	8.78	8.78	8.72	8.78	8.78
360.0	8.96	9.02	9.02	9.02	9.08	9.08	9.08	9.14	9.20
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	9.20	9.14	9.20	9.20	9.20	9.08	8.90	8.72	8.54
45.0	7.53	7.53	7.47	7.41	7.35	7.29	7.29	7.17	7.05
90.0	7.59	7.59	7.53	7.53	7.47	7.41	7.35	7.23	7.05
135.0	7.05	7.05	6.99	6.99	6.93	6.87	6.81	6.75	6.63
180.0	7.35	7.35	7.29	7.29	7.23	7.17	7.05	6.93	6.87
225.0	8.90	8.96	8.90	8.96	8.96	8.90	8.84	8.72	8.54
270.0	10.64	10.70	10.64	10.64	10.70	10.70	10.58	10.52	10.34
315.0	8.84	8.72	8.72	8.60	8.60	8.54	8.43	8.19	7.95
360.0	9.20	9.14	9.20	9.20	9.20	9.08	8.90	8.72	8.54
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	8.31	8.01	7.59	7.23	7.11	7.11	6.15	5.50	5.44
45.0	6.99	6.99	6.87	6.75	5.62	5.50	5.44	5.38	5.32
90.0	6.93	6.69	6.63	5.80	5.44	5.44	5.32	5.32	5.26
135.0	6.57	6.45	6.33	6.15	5.50	5.44	5.38	5.38	5.26
180.0	6.69	6.57	6.51	5.74	5.56	5.44	5.44	5.26	5.20
225.0	8.31	8.07	7.65	7.05	6.81	5.86	5.56	5.44	5.44
270.0	9.92	9.62	8.60	7.83	7.47	7.41	5.56	5.44	5.38
315.0	7.77	7.47	7.29	7.05	7.05	7.05	5.62	5.44	5.38
360.0	8.31	8.01	7.59	7.23	7.11	7.11	6.15	5.50	5.44

Intensity data(cd)

C/γ(°)	90.0
0.0	5.44
45.0	5.32
90.0	5.26
135.0	5.26
180.0	5.26
225.0	5.38
270.0	5.32
315.0	5.38
360.0	5.44