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P.Q.L., Inc. 4 LAMPS

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LumCAT: 4 LAMPS	Luminaire: 3500K
Report No: /	Voltage(V): 276.900
Test No:	Current(A): 0.270
LampCAT: LED SMD 4' 15WT8/35K/FR/V4/1850Lm	Power (W): 71.340
Lamp flux(lm)	PF: 0.977
Number of Lamps: 4	Ballast type:
Length(mm): 1200	Width(mm): 500
Phm Type: C	Height(mm): 150

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Photometric Results

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Lumens(lm): 7576.05  
Lumens(lm)/Power(W): 106.20  
Central intensity(cd): 2716.875  
Maximum intensity(cd): 2722.652  
Angle of maximum intensity: C=30.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [H]Left=52.3 Right=56.0  
[V]Left=44.5 Right=60.9  
Field angle(10%Imax): [H]Left=80.2 Right=83.7  
[V]Left=83.5 Right=85.0  
Maximum s/h: C0\_180=1.09 C90\_270=1.27  
Up flux rate of LUM(%): 1.90%  
Down flux rate of LUM(%): 98.10%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 74.056%

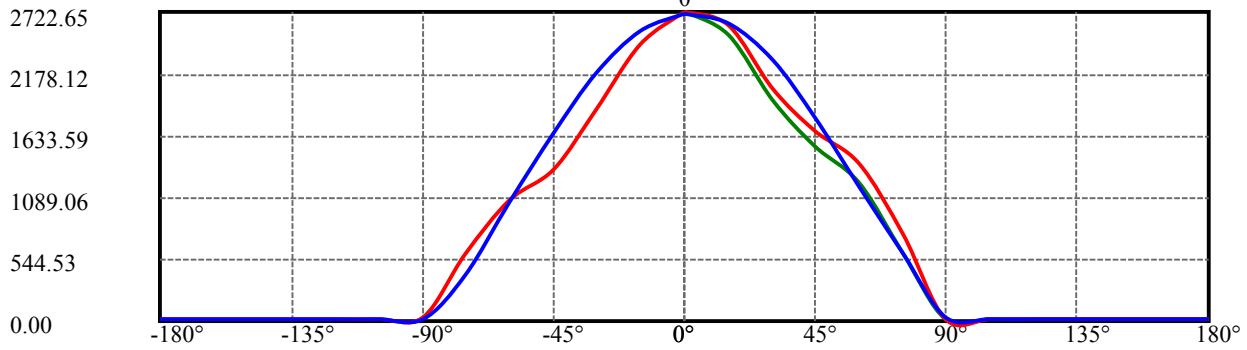
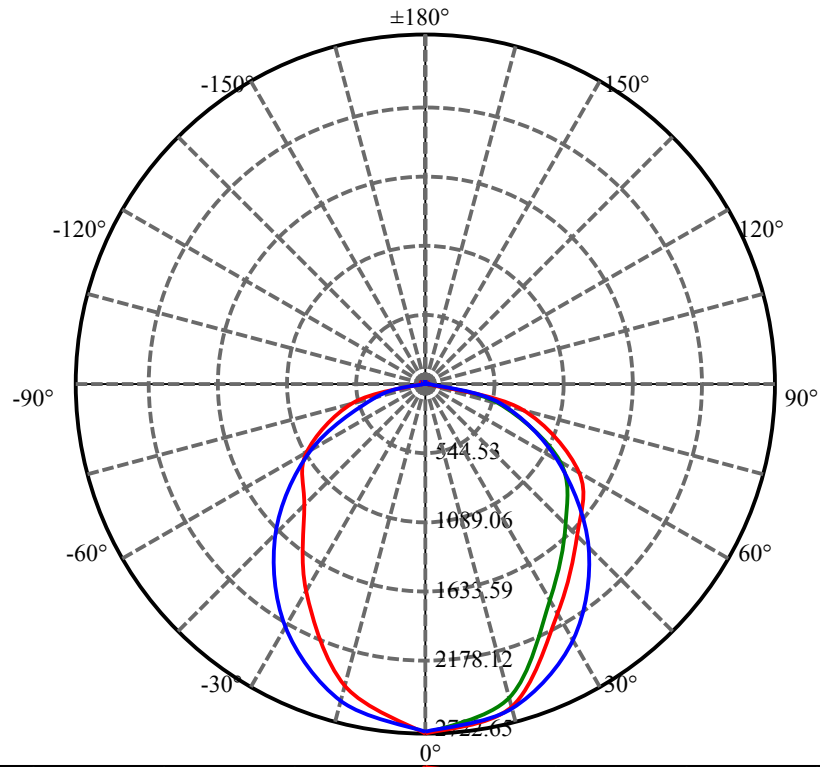
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2713.215	.000	.000	.000%	.000%
15.0	2563.947	564.905	564.905	7.456%	7.456%
30.0	2108.139	1466.317	2031.223	19.355%	26.811%
45.0	1574.404	1838.538	3869.760	24.268%	51.079%
60.0	1101.079	1740.790	5610.551	22.978%	74.056%
75.0	600.251	1289.085	6899.636	17.015%	91.072%
90.0	54.459	532.347	7431.983	7.027%	98.098%
105.0	16.381	57.600	7489.583	.760%	98.859%
120.0	16.911	25.225	7514.808	.333%	99.192%
135.0	18.692	23.165	7537.973	.306%	99.497%
150.0	20.695	19.665	7557.637	.260%	99.757%
165.0	22.429	13.534	7571.171	.179%	99.936%
180.0	23.151	4.879	7576.051	.064%	100.000%

ZONAL LUMEN SUMMARY

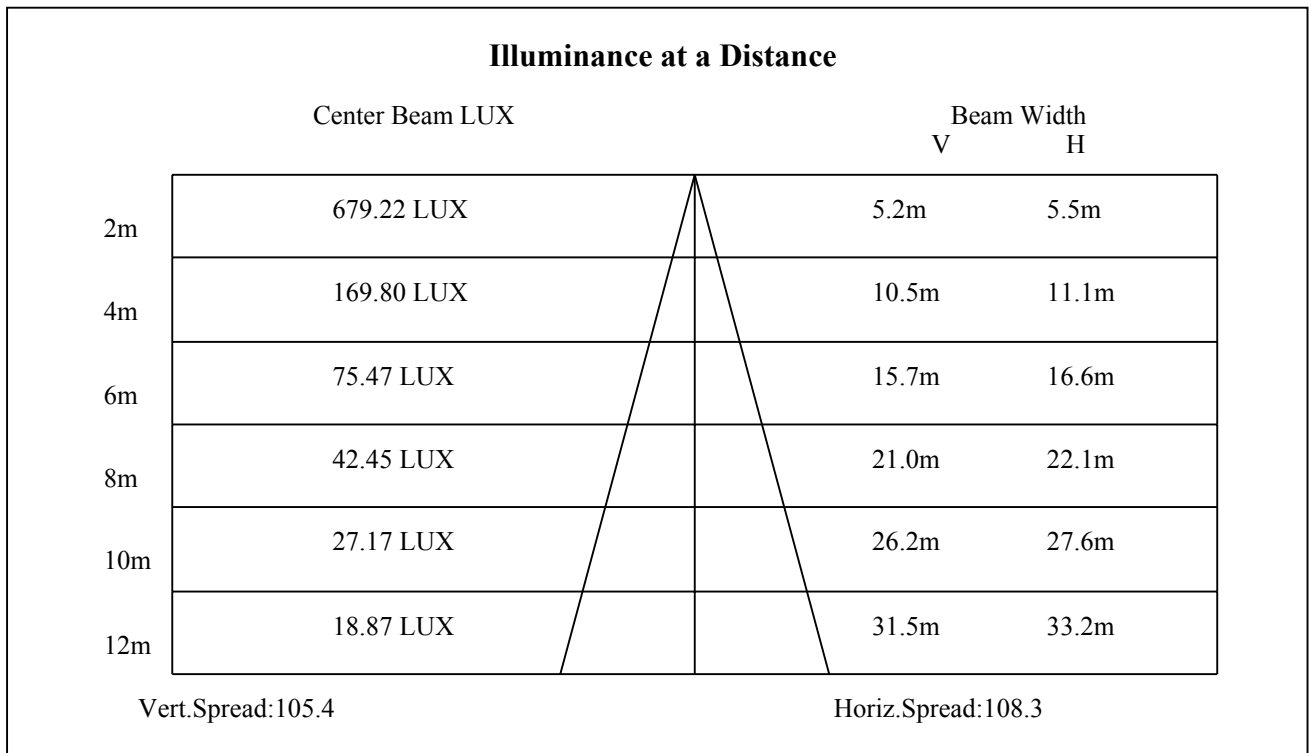
Zone	Lumens	%Fixt
0-30	2031.22	26.81%
0-40	2031.22	26.81%
0-60	5610.55	74.06%
0-90	7431.98	98.10%
90-120	82.82	1.09%
90-130	82.82	1.09%
90-150	125.65	1.66%
90-180	139.19	1.84%
0-180	7576.05	100.00%

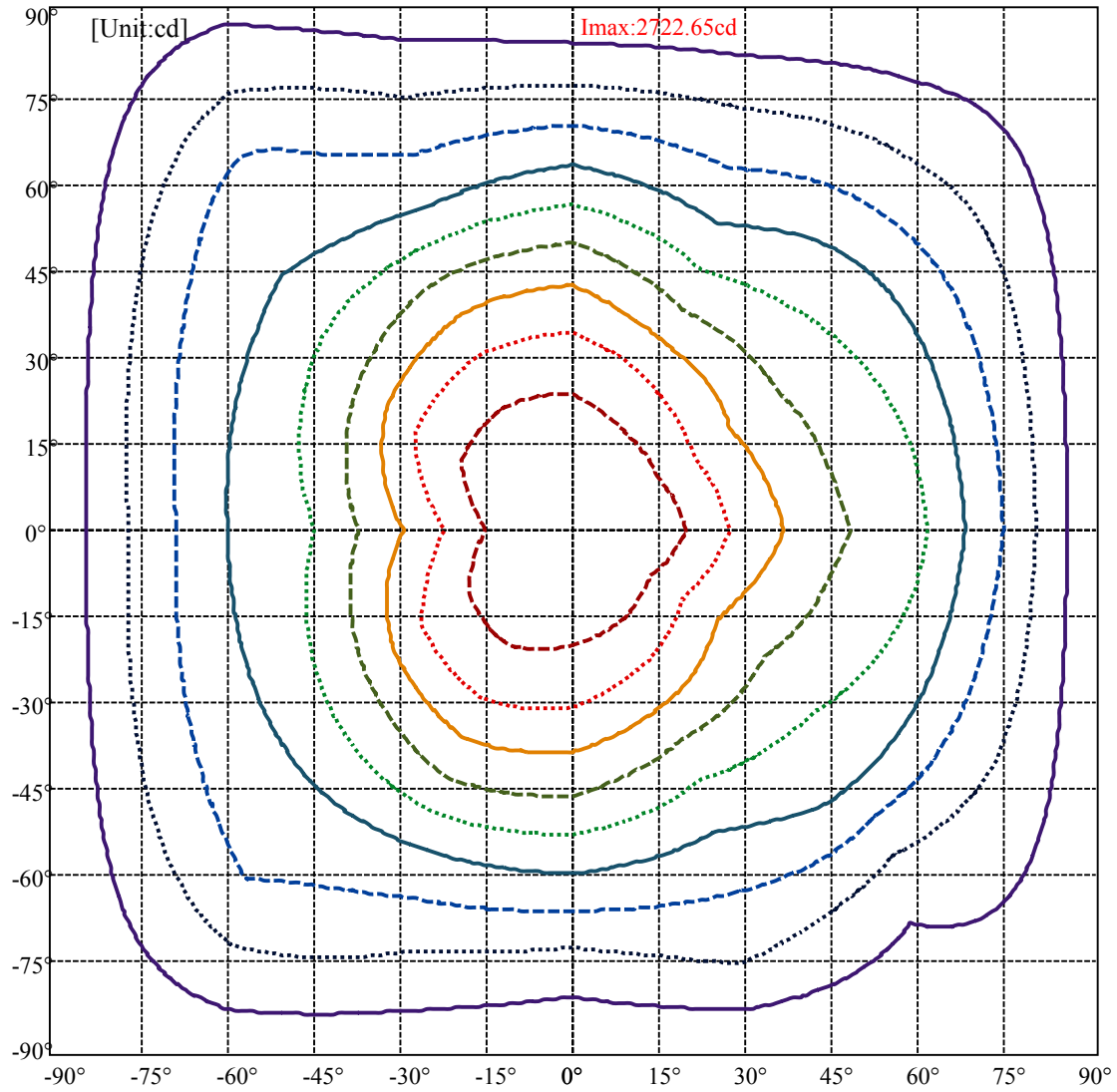
ZONAL LUMEN SUMMARY

0-10	0.00
10-20	564.91
20-30	1466.32
30-40	0.00
40-50	1838.54
50-60	1740.79
60-70	0.00
70-80	1289.09
80-90	532.35
90-100	0.00
100-110	57.60
110-120	25.22
120-130	0.00
130-140	23.16
140-150	19.66
150-160	0.00
160-170	13.53
170-180	0.00

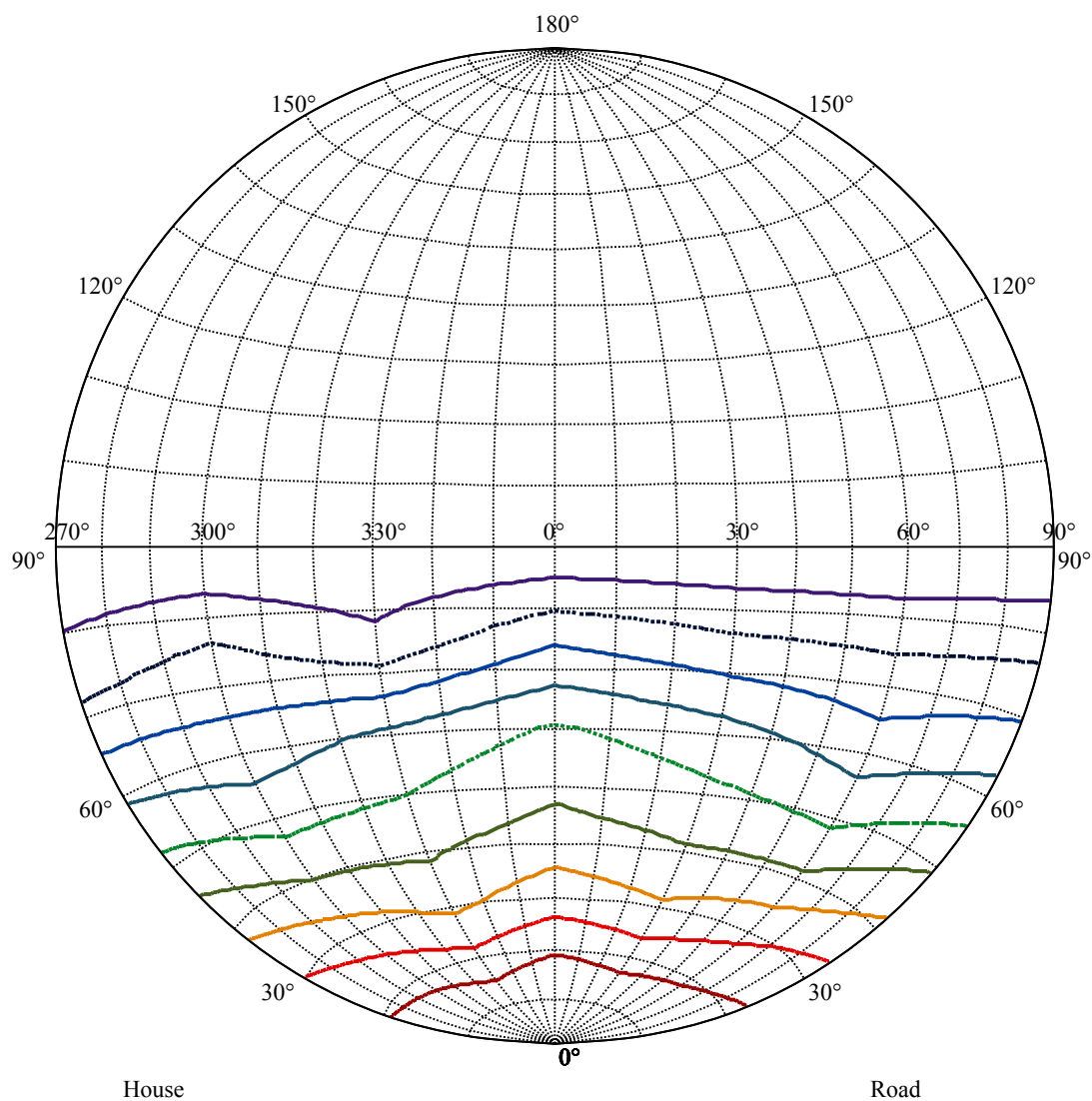


C30(Max): ———  
C0/C180: ———  
C90/C270: ———





(10%Imax)	270.925	———
(20%Imax)	541.849	.....
(30%Imax)	812.774	- - - - -
(40%Imax)	1083.7	———
(50%Imax)	1354.62	.....
(60%Imax)	1625.55	- - - - -
(70%Imax)	1896.47	———
(80%Imax)	2167.4	.....
(90%Imax)	2438.32	- - - - -

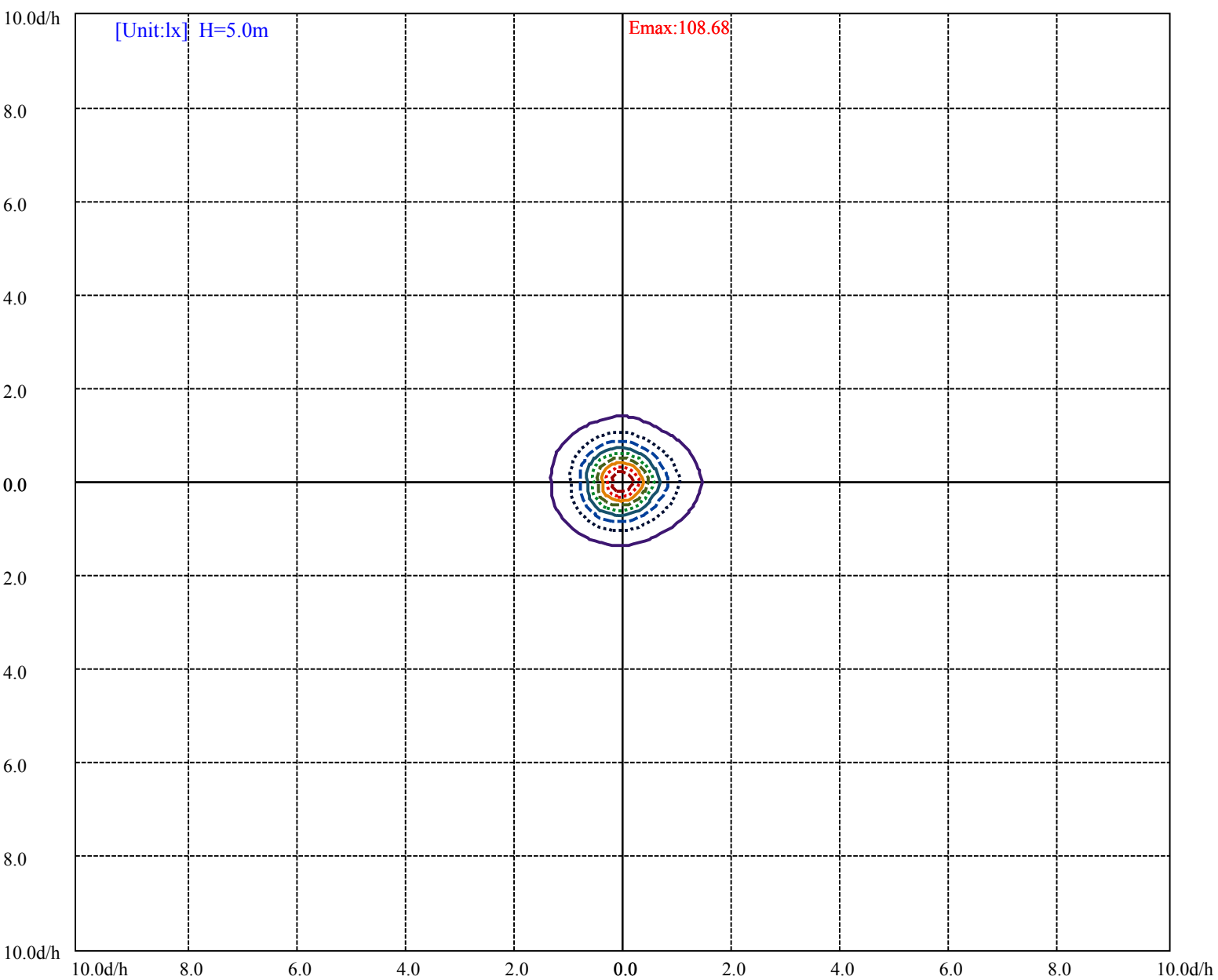


House

Road

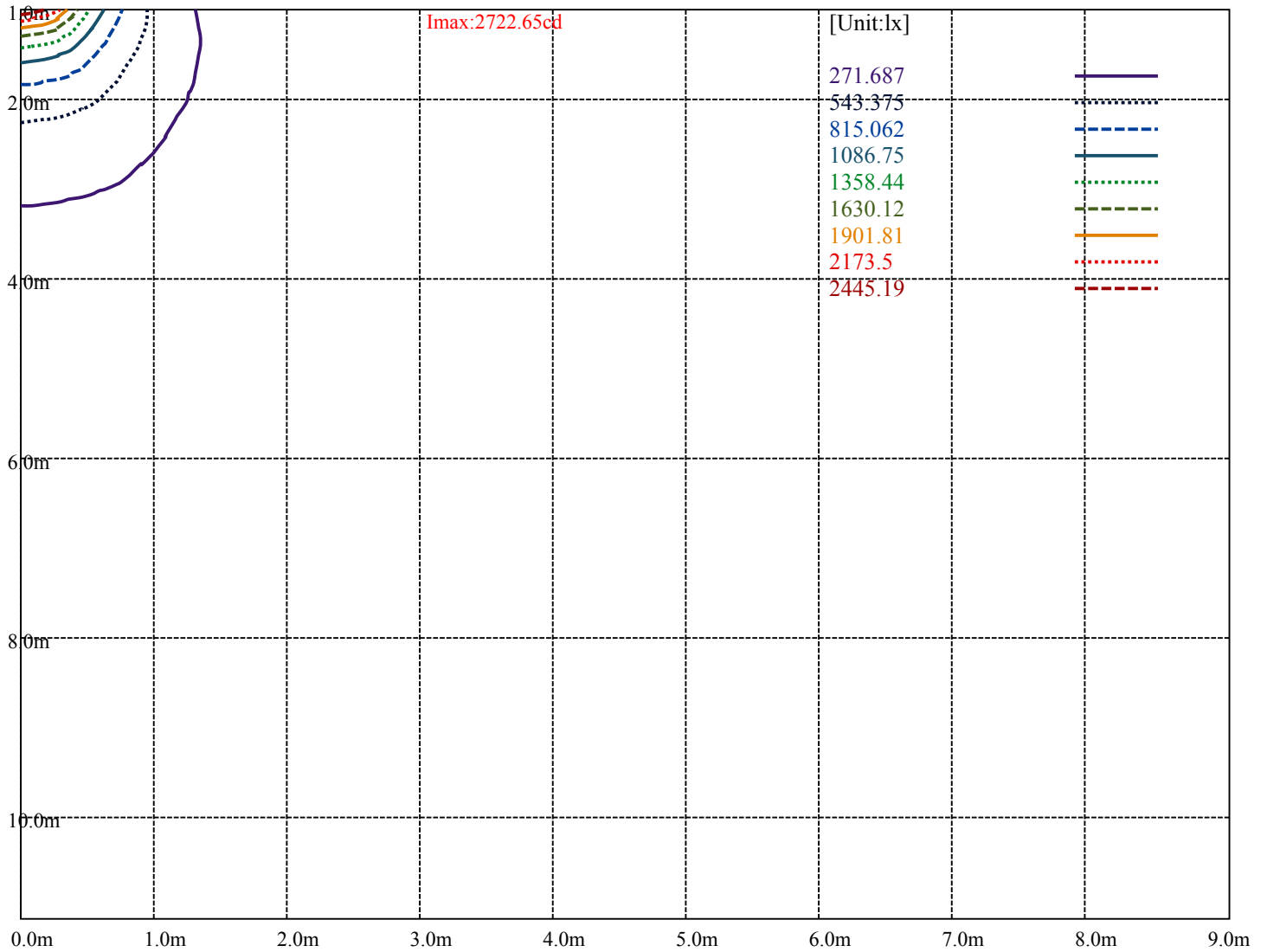
**I<sub>max</sub>:2722.65cd**

(10%I <sub>max</sub> ) 272.265	—
(20%I <sub>max</sub> ) 544.53	⋯
(30%I <sub>max</sub> ) 816.796	- - -
(40%I <sub>max</sub> ) 1089.06	—
(50%I <sub>max</sub> ) 1361.33	⋯
(60%I <sub>max</sub> ) 1633.59	- - -
(70%I <sub>max</sub> ) 1905.86	—
(80%I <sub>max</sub> ) 2178.12	⋯
(90%I <sub>max</sub> ) 2450.39	- - -



- (10%Emax) 10.86748 ————
- (20%Emax) 21.73496 ······
- (30%Emax) 32.60244 - - - -
- (40%Emax) 43.47 ————
- (50%Emax) 54.3376 ······
- (60%Emax) 65.2048 - - - -
- (70%Emax) 76.0724 ————
- (80%Emax) 86.94 ······
- (90%Emax) 97.8072 - - - -





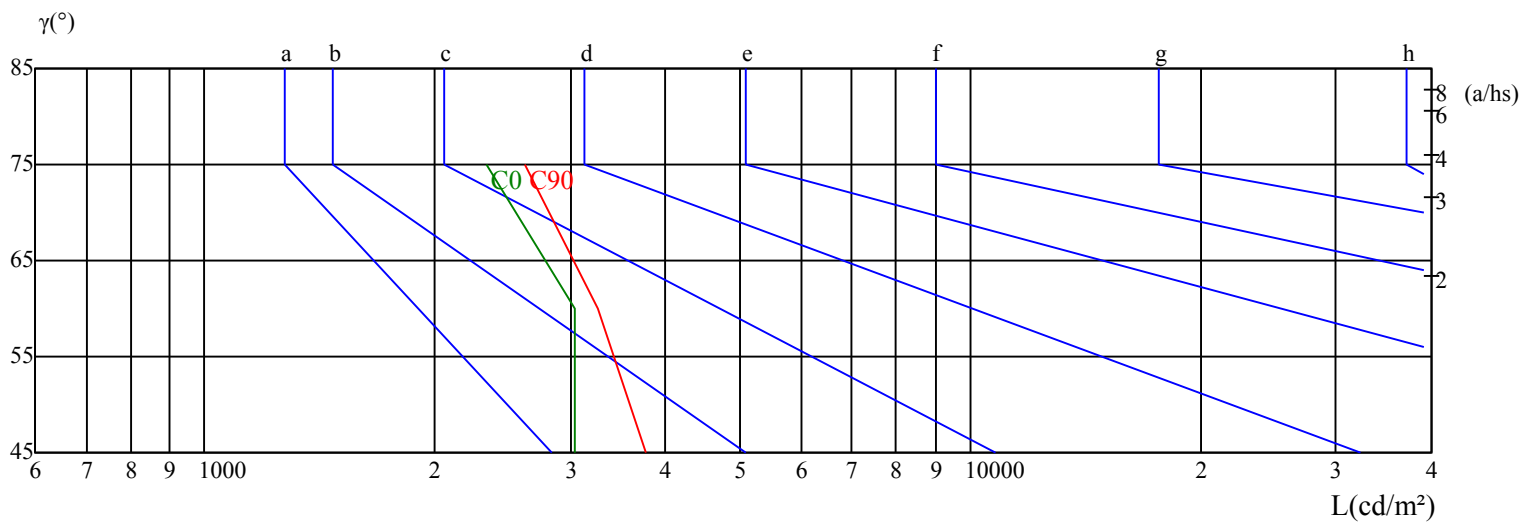
Luminance Table

$\gamma$	45	50	55	60	65	70	75	80	85
C0	3038	0	0	3049	0	0	2335	0	0
C45	0	0	0	0	0	0	0	0	0
C90	3770	0	0	3265	0	0	2623	0	0

Glare Table

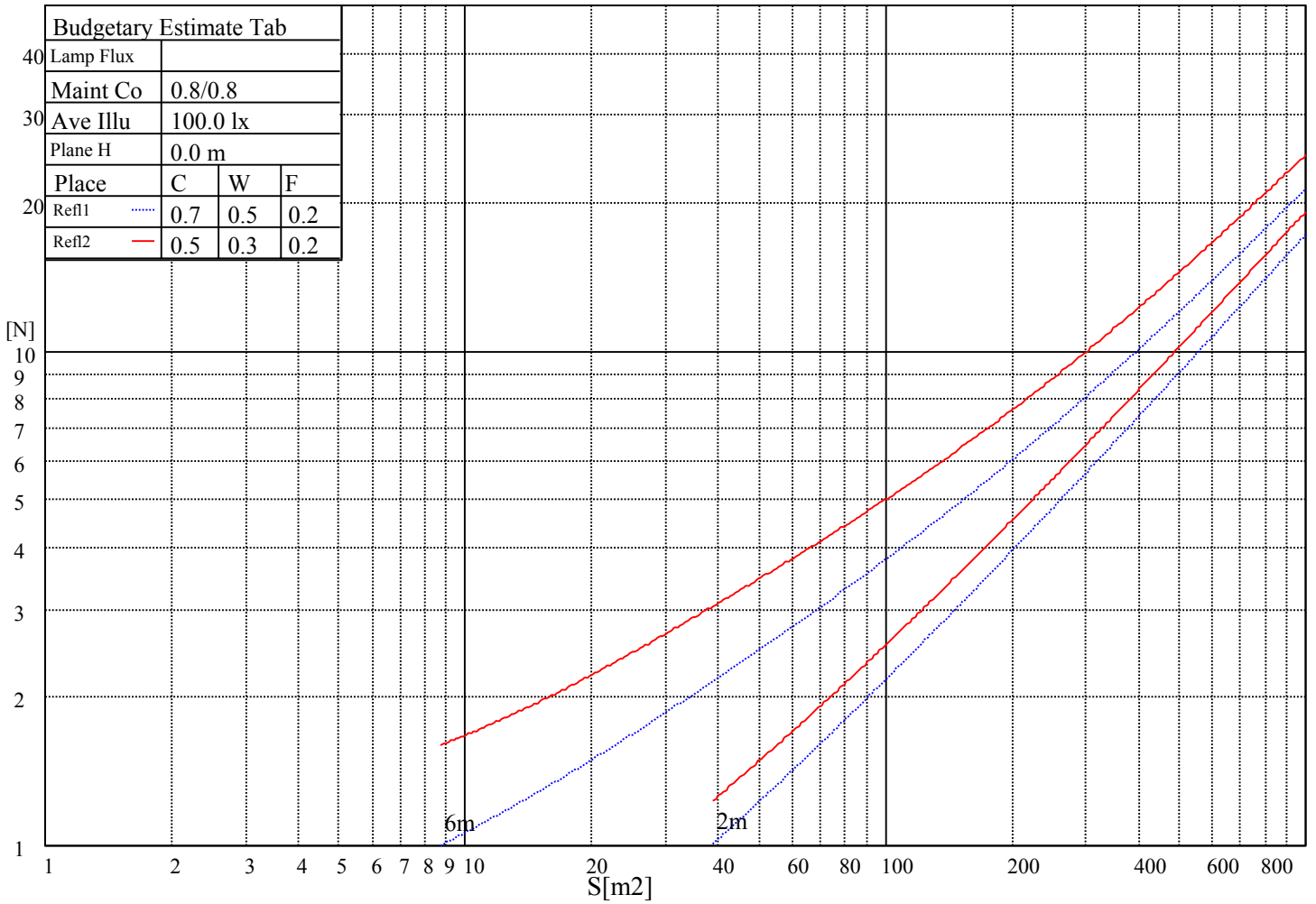
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	$\leq 300$				
1.5	B		2000	1000	500	$\leq 300$			
1.85	C			2000	1000	500	$\leq 300$		
2.2	D				2000	1000	500	$\leq 300$	
2.55	E					2000	1000	500	$\leq 300$
		a	b	c	d	e	f	g	h

Luminance Limiting Curve

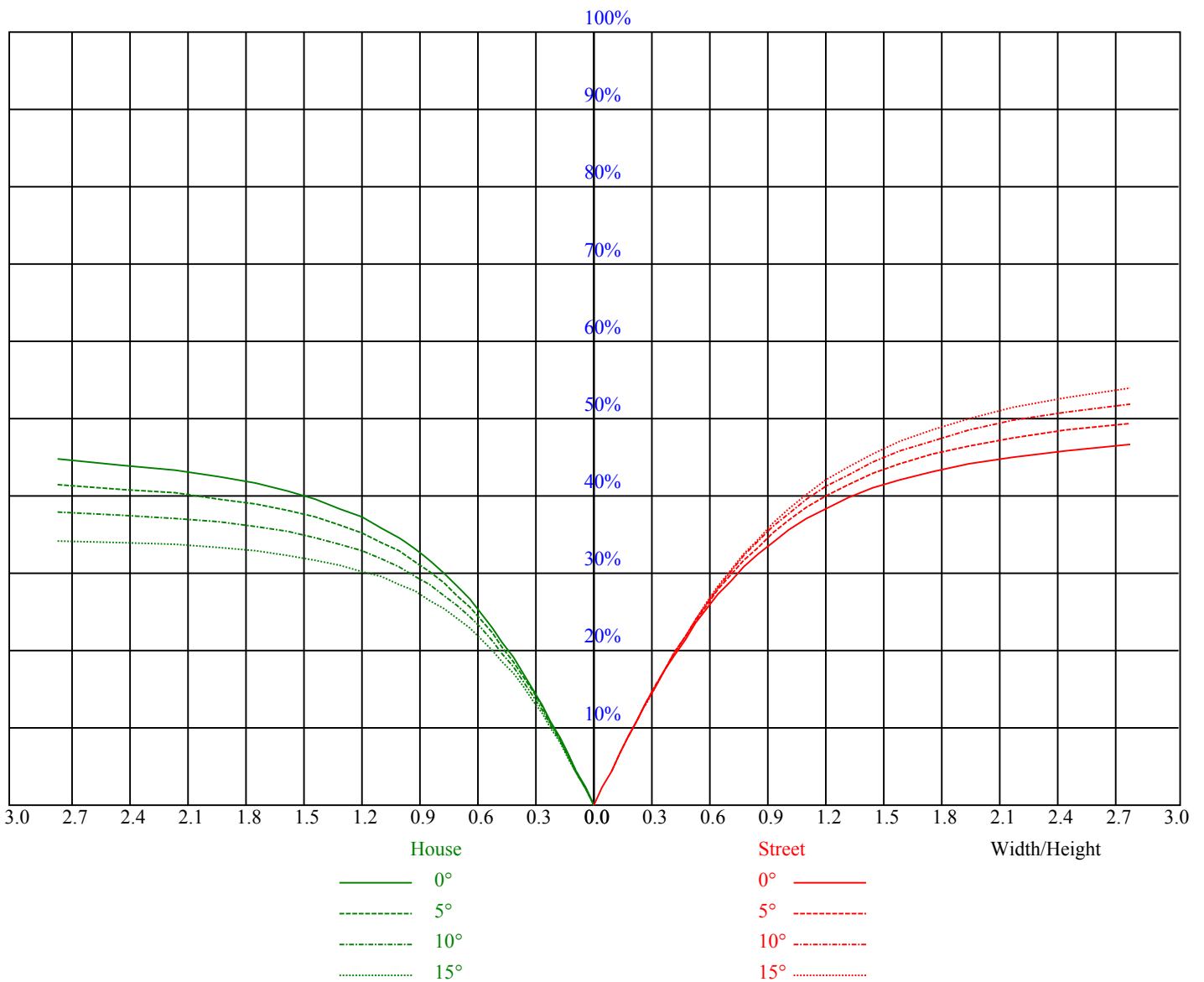


Illuminatin assessment according UGR											
Rf of Ceiling	70	70	50	50	30	70	70	50	50	30	
Rf of Wall	50	30	50	30	30	50	30	50	30	30	
Rf of Floor	20	20	20	20	20	20	20	20	20	20	
Room dimensions		Viewed crosswise					Viewed endwise				
X	Y										
2H	2H	9.1	10.7	9.4	11.0	11.3	8.5	10.1	8.8	10.4	10.7
	3H	11.0	12.4	11.4	12.8	13.1	10.3	11.8	10.7	12.1	12.4
	4H	11.6	12.9	12.0	13.3	13.7	10.9	12.2	11.3	12.5	12.9
	6H	12.3	13.6	12.7	14.0	14.3	11.6	12.9	12.0	13.3	13.7
	8H	12.5	13.8	13.0	14.2	14.6	11.9	13.2	12.3	13.5	13.9
	12H	12.5	13.5	13.0	14.0	14.4	11.9	12.9	12.3	13.3	13.8
4H	2H	9.4	10.7	9.8	11.0	11.4	8.9	10.2	9.3	10.6	11.0
	3H	11.4	12.5	11.9	12.9	13.4	10.8	11.9	11.3	12.3	12.8
	4H	12.4	13.5	12.9	13.9	14.4	11.8	12.8	12.3	13.3	13.7
	6H	13.2	14.3	13.7	14.7	15.2	12.6	13.7	13.1	14.1	14.6
	8H	13.4	14.1	13.9	14.6	15.1	12.8	13.5	13.3	14.0	14.6
	12H	13.6	14.3	14.1	14.8	15.4	13.0	13.7	13.5	14.3	14.8
8H	4H	12.6	13.3	13.1	13.8	14.4	12.0	12.7	12.5	13.2	13.8
	6H	13.5	14.2	14.0	14.7	15.3	12.9	13.7	13.5	14.2	14.7
	8H	13.9	14.6	14.4	15.1	15.7	13.4	14.1	13.9	14.6	15.1
	12H	14.2	14.9	14.7	15.4	16.0	13.7	14.4	14.2	14.9	15.5
12H	4H	12.6	13.3	13.2	13.9	14.4	12.1	12.8	12.6	13.3	13.9
	6H	13.6	14.3	14.1	14.8	15.4	13.0	13.8	13.6	14.3	14.8
	8H	14.0	14.7	14.5	15.2	15.8	13.5	14.2	14.0	14.7	15.3
Variation with the observer position at spacings:											
S = 1.0H	0.2/-0.7					0.2/-0.7					
S = 1.5H	0.6/-0.5					0.6/-0.5					
S = 2.0H	0.9/-0.5					0.8/-0.6					
Standard tables:	BKBF					BKBF					
Uncorrected UGR	-1.4					-1.9					
According 1000lm											

五、灯具的概算曲线



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 RHOF=20 CU															
0	1.19	1.19	1.19	1.16	1.16	1.16	1.10	1.10	1.10	1.05	1.05	1.05	1.00	1.00	1.00	0.98
1	0.93	0.86	0.80	0.90	0.84	0.78	0.85	0.80	0.75	0.81	0.76	0.72	0.77	0.73	0.70	0.67
2	0.80	0.71	0.63	0.78	0.69	0.62	0.73	0.66	0.60	0.70	0.64	0.58	0.66	0.61	0.57	0.54
3	0.69	0.59	0.51	0.67	0.58	0.50	0.64	0.56	0.49	0.60	0.54	0.48	0.58	0.52	0.47	0.44
4	0.60	0.50	0.42	0.59	0.49	0.41	0.56	0.47	0.40	0.53	0.45	0.39	0.50	0.44	0.39	0.36
5	0.53	0.42	0.34	0.51	0.41	0.34	0.49	0.40	0.33	0.47	0.39	0.33	0.44	0.38	0.32	0.30
6	0.47	0.36	0.29	0.45	0.36	0.29	0.43	0.35	0.28	0.41	0.34	0.28	0.39	0.33	0.27	0.25
7	0.42	0.32	0.25	0.41	0.31	0.24	0.39	0.30	0.24	0.37	0.29	0.24	0.35	0.29	0.23	0.21
8	0.37	0.28	0.21	0.37	0.27	0.21	0.35	0.27	0.21	0.33	0.26	0.21	0.32	0.25	0.20	0.18
9	0.34	0.25	0.19	0.33	0.24	0.18	0.32	0.24	0.18	0.31	0.23	0.18	0.29	0.23	0.18	0.16
10	0.31	0.22	0.16	0.30	0.22	0.16	0.29	0.21	0.16	0.28	0.21	0.16	0.27	0.20	0.16	0.14



Intensity data(cd)

C/γ(°)	0.0	15.0	30.0	45.0	60.0	75.0	90.0	105.0	120.0
0.0	2716.88	2602.47	2052.39	1675.66	1390.22	768.49	18.72	15.37	15.25
30.0	2722.65	2520.42	1941.45	1535.83	1211.10	592.84	18.03	16.87	17.91
60.0	2711.10	2552.78	2110.17	1480.24	969.45	534.13	18.26	16.41	17.80
90.0	2708.79	2618.65	2293.92	1799.31	1191.45	597.46	35.25	16.87	17.33
120.0	2712.25	2648.69	2300.27	1755.05	1044.45	582.09	117.76	17.10	17.68
150.0	2707.63	2632.51	2233.82	1568.18	1122.11	873.65	203.74	17.22	17.80
180.0	2716.88	2438.37	1862.52	1337.41	1070.92	591.10	25.65	17.22	18.03
210.0	2722.65	2605.93	2179.28	1503.12	1052.77	793.80	87.71	16.53	16.53
240.0	2711.10	2617.49	2260.40	1699.92	1023.88	529.97	77.08	16.06	16.06
270.0	2708.79	2553.93	2182.51	1650.46	1041.68	403.66	17.91	15.60	16.06
300.0	2712.25	2522.73	2029.28	1422.57	946.46	593.99	16.76	15.60	16.18
330.0	2707.63	2453.39	1851.66	1465.10	1148.46	341.83	16.64	15.72	16.29
360.0	2716.88	2602.47	2052.39	1675.66	1390.22	768.49	18.72	15.37	15.25

C/γ(°)	135.0	150.0	165.0	180.0
0.0	17.10	19.65	21.61	22.30
30.0	19.76	21.73	22.53	23.57
60.0	19.41	21.38	22.77	23.57
90.0	19.30	21.38	23.00	23.81
120.0	19.53	21.15	23.00	23.00
150.0	19.30	21.38	23.00	22.65
180.0	19.88	21.61	22.42	22.30
210.0	17.68	20.22	22.30	23.57
240.0	17.91	19.88	22.07	23.57
270.0	18.03	19.88	22.53	23.81
300.0	18.14	19.76	22.19	23.00
330.0	18.26	20.34	21.73	22.65
360.0	17.10	19.65	21.61	22.30