



Shenzhen BST Technology Co., Ltd.  
http://www.bst-lab.com  
Email:christina@bst-lab.com

Address:Building No.23-24, Zhiheng Industrial Park, Guankouer Road, Nantou,Nanshan District,Shenzhen,Guangdong,China

---

s.r.o WD108

---

LumCAT: WD108	Luminaire: LED PANEL LIGHT
Report No:	Voltage(V): 220.500
Test No:	Current(A): 0.115
LampCAT: LED	Power (W): 12.200
Lamp flux(lm)	PF: 0.527
Number of Lamps: 1	Ballast type:
Length(mm): 120	Width(mm): 120
Phm Type: C	Height(mm): 0

---

Photometric Results

---

Lumens(lm): 882.38  
Lumens(lm)/Power(W): 72.33  
Central intensity(cd): 313.869  
Maximum intensity(cd): 320.378  
Angle of maximum intensity: C=30.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [H]Left=55.1 Right=54.0  
                                  [V]Left=59.2 Right=49.9  
Field angle(10%Imax): [H]Left=80.0 Right=79.0  
                                  [V]Left=84.1 Right=75.2  
Beam angle of C30plane: 110.38

---

Equipment: GMS1800B  
Temperature(°C): 25.0

Date: 2016-5-31  
Humidity(%): 60.0%

Operator: Jason Zhan  
Distance(m): 12.60

## Zonal flux distribution table

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	315.509	.000	.000	.000%	.000%
5.0	314.160	7.528	7.528	.853%	.853%
10.0	309.913	22.325	29.853	2.530%	3.383%
15.0	302.411	36.323	66.175	4.116%	7.500%
20.0	292.701	49.046	115.221	5.558%	13.058%
25.0	280.450	60.113	175.334	6.813%	19.871%
30.0	265.235	69.057	244.391	7.826%	27.697%
35.0	247.838	75.554	319.944	8.562%	36.259%
40.0	228.323	79.444	399.388	9.003%	45.263%
45.0	207.010	80.605	479.993	9.135%	54.398%
50.0	183.275	78.863	558.856	8.938%	63.335%
55.0	157.755	74.151	633.007	8.404%	71.739%
60.0	131.361	66.828	699.836	7.574%	79.312%
65.0	104.213	57.268	757.104	6.490%	85.803%
70.0	76.734	45.817	802.921	5.192%	90.995%
75.0	51.266	33.457	836.378	3.792%	94.787%
80.0	29.860	21.707	858.085	2.460%	97.247%
85.0	13.190	11.698	869.783	1.326%	98.573%
90.0	3.334	4.524	874.307	.513%	99.085%
95.0	.582	1.072	875.380	.122%	99.207%
100.0	.450	.280	875.660	.032%	99.239%
105.0	.569	.273	875.933	.031%	99.269%
110.0	.767	.349	876.282	.040%	99.309%
115.0	.820	.402	876.684	.046%	99.355%
120.0	1.032	.450	877.134	.051%	99.406%
125.0	1.283	.535	877.669	.061%	99.466%
130.0	1.323	.567	878.236	.064%	99.531%
135.0	1.601	.591	878.827	.067%	99.597%
140.0	1.693	.610	879.437	.069%	99.667%
145.0	1.879	.596	880.033	.068%	99.734%
150.0	1.932	.561	880.594	.064%	99.798%
155.0	2.117	.512	881.106	.058%	99.856%
160.0	2.051	.437	881.543	.050%	99.905%
165.0	2.170	.348	881.891	.039%	99.945%
170.0	2.276	.264	882.155	.030%	99.975%
175.0	2.395	.167	882.322	.019%	99.994%
180.0	2.355	.057	882.379	.006%	100.000%

Zonal flux distribution table

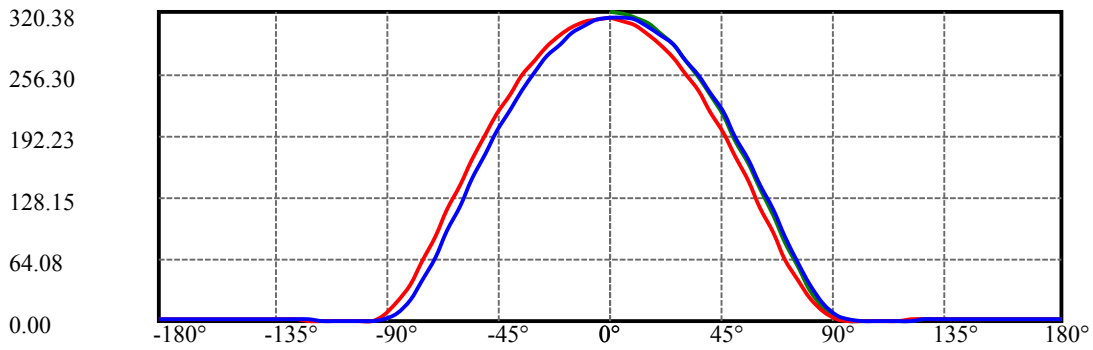
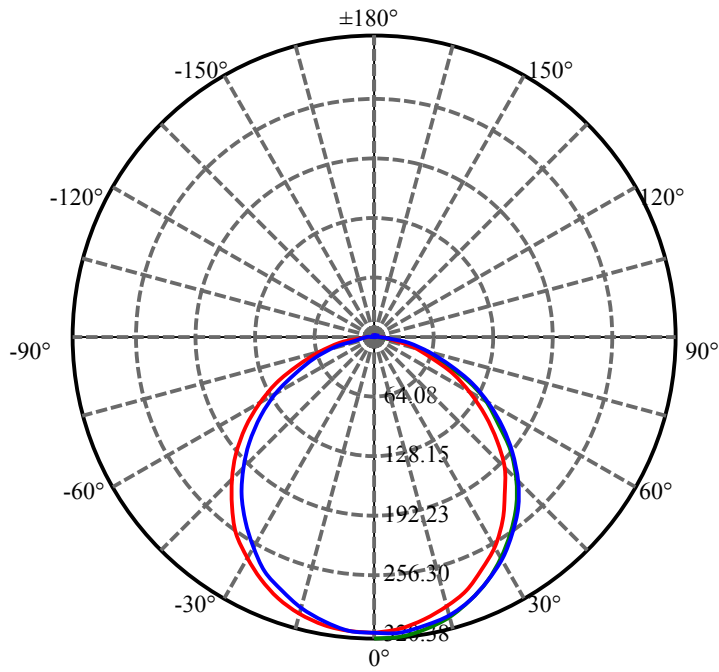
ZONAL LUMEN SUMMARY

Zone	Lumens	%Fixt
0-30	244.39	27.70%
0-40	399.39	45.26%
0-60	699.84	79.31%
0-90	874.31	99.09%
90-120	2.83	0.32%
90-130	3.93	0.45%
90-150	6.29	0.71%
90-180	8.01	0.91%
0-180	882.38	100.00%

ZONAL LUMEN SUMMARY

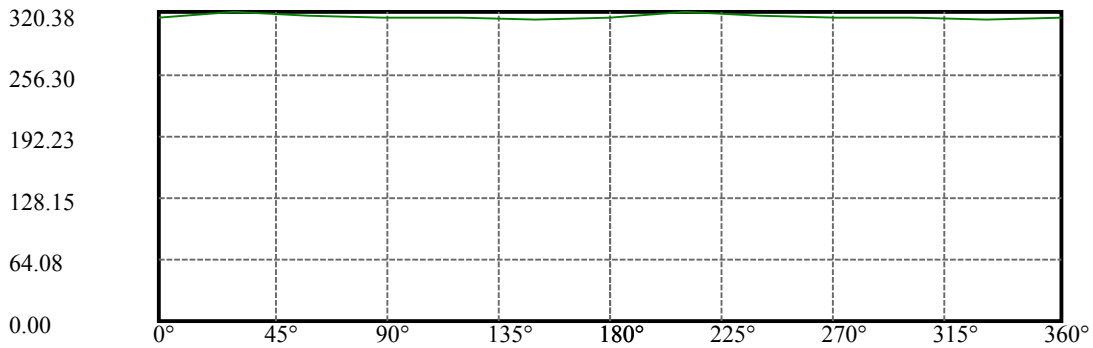
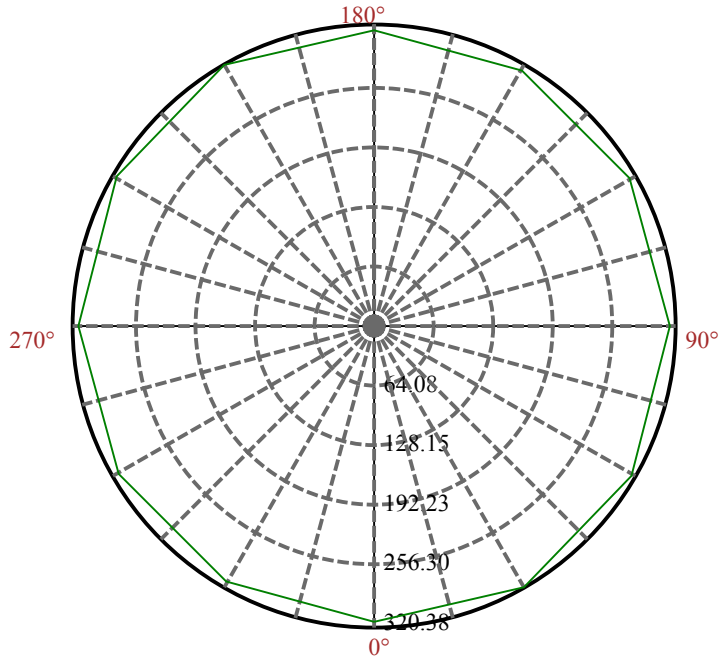
0-10	29.85
10-20	85.37
20-30	129.17
30-40	155.00
40-50	159.47
50-60	140.98
60-70	103.09
70-80	55.16
80-90	16.22
90-100	1.35
100-110	0.62
110-120	0.85
120-130	1.10
130-140	1.20
140-150	1.16
150-160	0.95
160-170	0.61
170-180	0.17

Light Distribution Curve [Unit: cd]



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

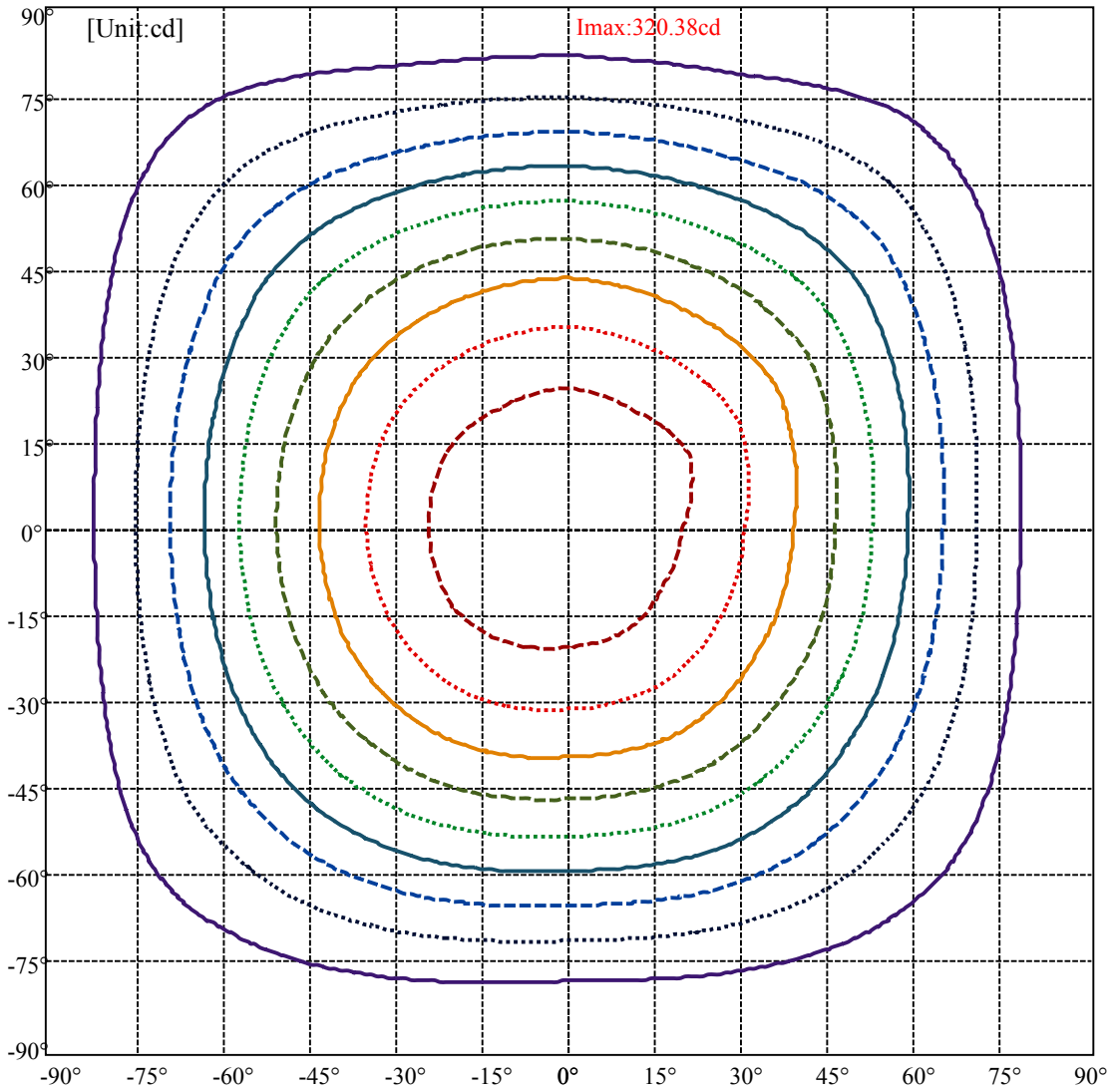
Light Distribution Curve [Unit: cd]



MaxG=0



ISO-Intensity(V-H)



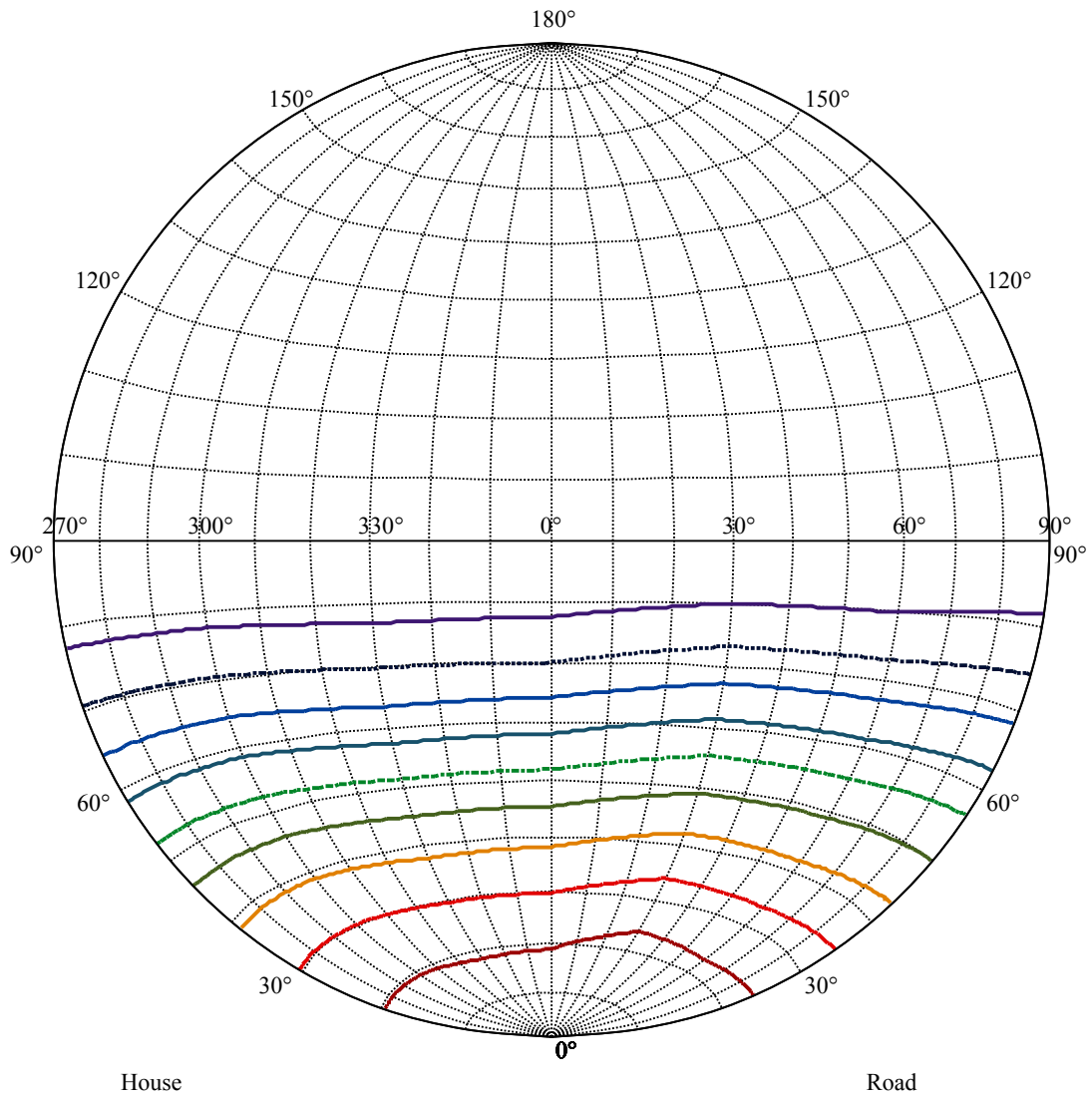
(10%Imax) 31.9145	———
(20%Imax) 63.829	.....
(30%Imax) 95.7435	- - - - -
(40%Imax) 127.658	———
(50%Imax) 159.572	.....
(60%Imax) 191.487	- - - - -
(70%Imax) 223.401	———
(80%Imax) 255.316	.....
(90%Imax) 287.23	- - - - -

Equipment: GMS1800B  
Temperature(°C): 25.0

Date: 2016-5-31  
Humidity(%): 60.0%

Operator: Jason Zhan  
Distance(m): 12.60

ISO candela diagram on circular web



House

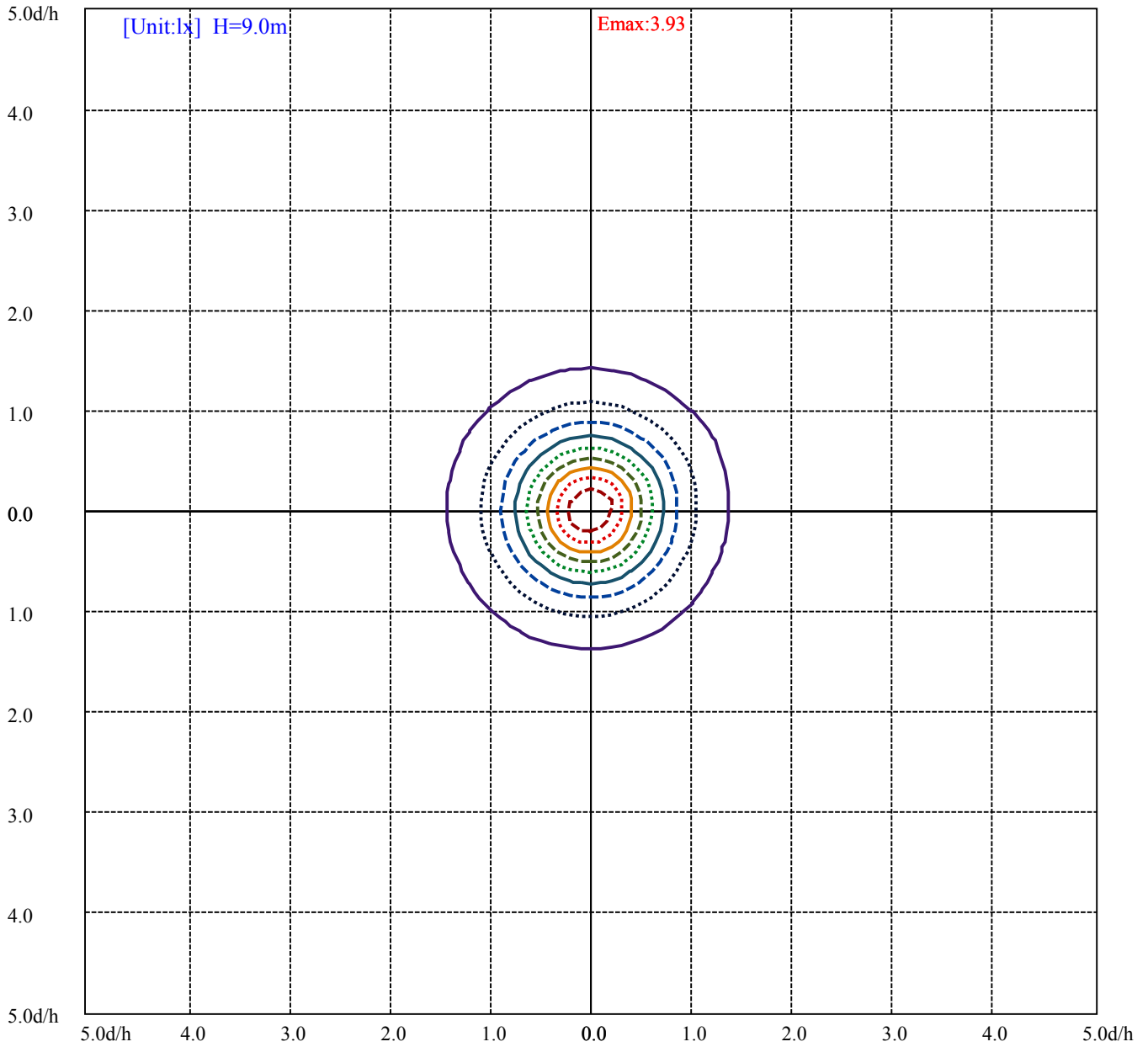
Road

**Imax:320.38cd**

(10%Imax) 32.0378	—
(20%Imax) 64.0755	⋯
(30%Imax) 96.1133	- - -
(40%Imax) 128.151	—
(50%Imax) 160.189	⋯
(60%Imax) 192.227	- - -
(70%Imax) 224.264	—
(80%Imax) 256.302	⋯
(90%Imax) 288.34	- - -

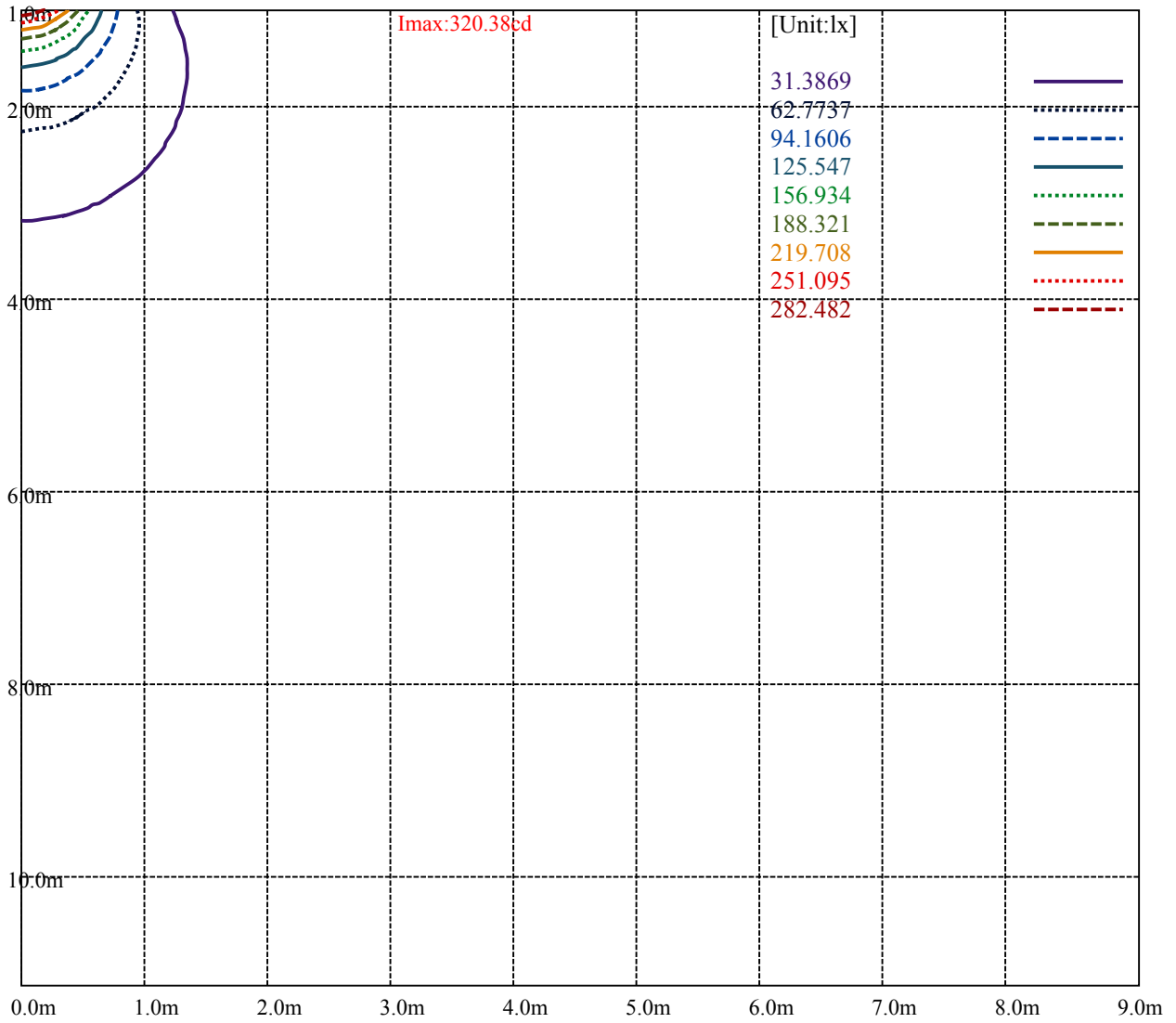


ISO illuminance diagram



- (10%Emax) 0.3932741
- (20%Emax) 0.7865469
- (30%Emax) 1.179821
- (40%Emax) 1.573099
- (50%Emax) 1.96637
- (60%Emax) 2.359642
- (70%Emax) 2.752913
- (80%Emax) 3.146185
- (90%Emax) 3.539457

Space ISO Lux diagram



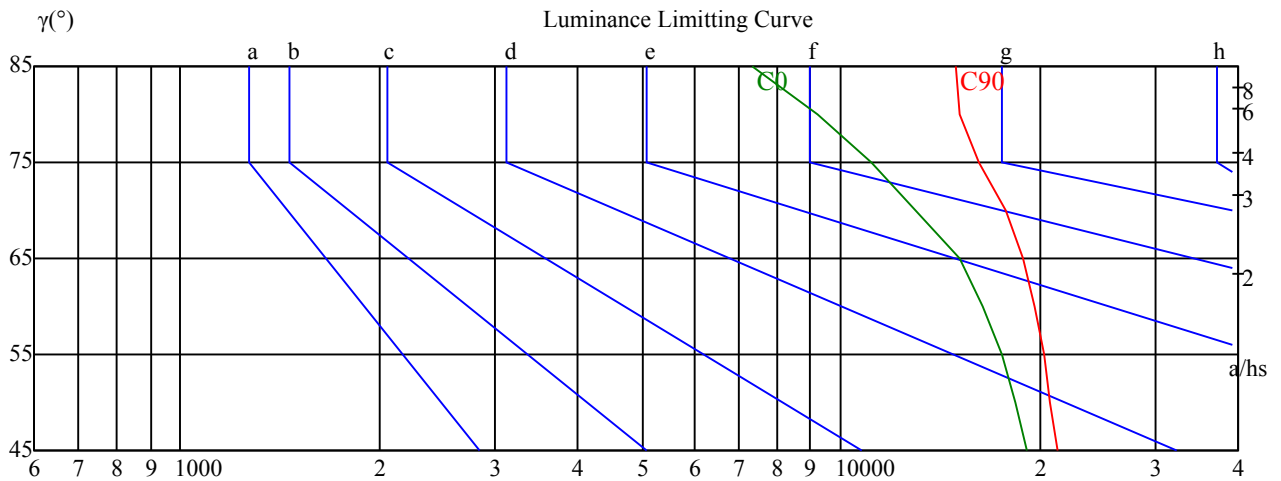
Luminance Limiting Curve(no luminous side)

Luminance Table

$\gamma$	45	50	55	60	65	70	75	80	85
C0	19162	18387	17530	16427	15131	13023	11161	9206	7337
C45	0	0	0	0	0	0	0	0	0
C90	21283	20702	20279	19669	18861	17729	16230	15174	14927

Glare Table

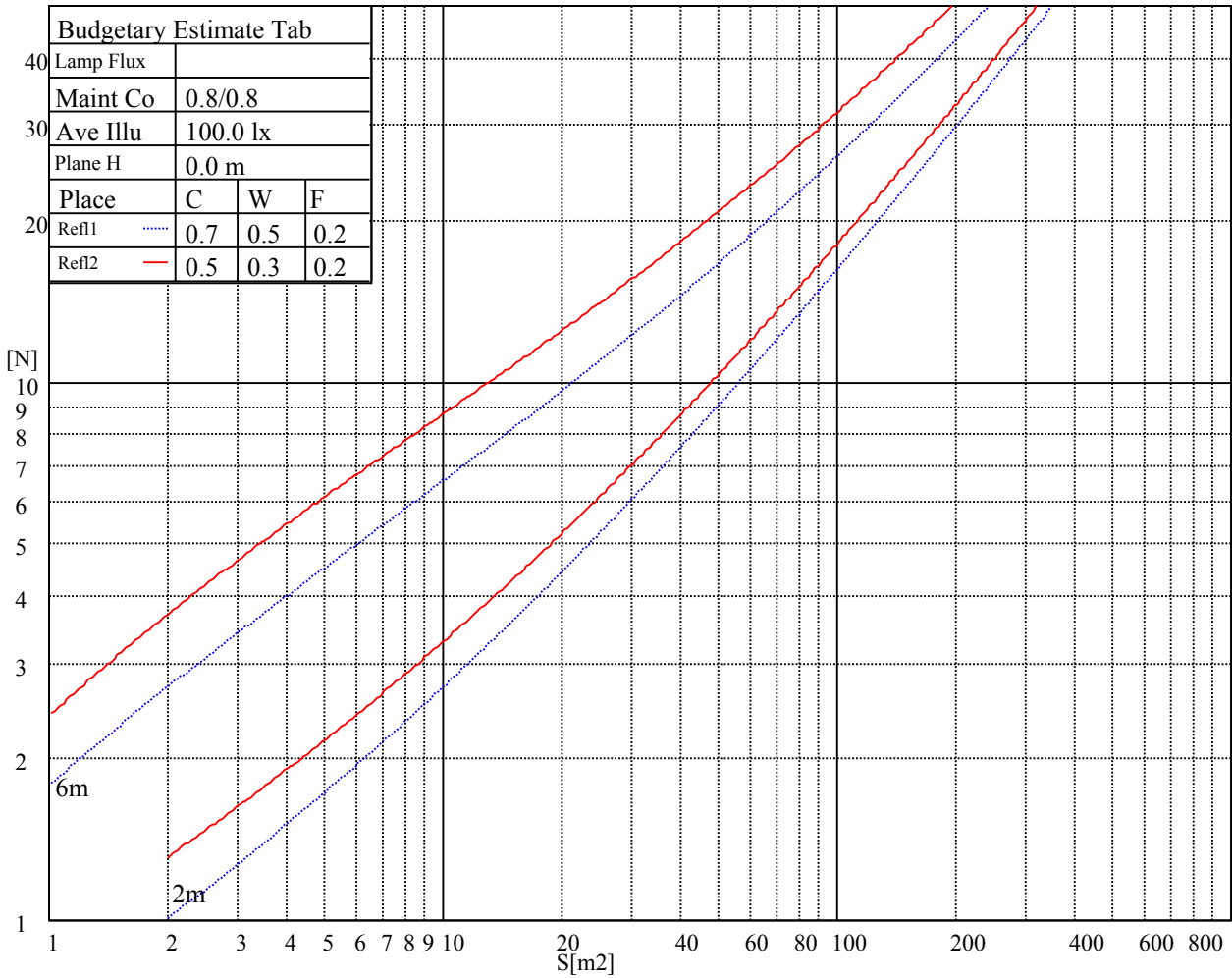
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h



UGR Glare

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	23.1	24.5	23.4	24.8	25.0	23.5	24.9	23.8	25.2	25.4
	3H	24.4	25.7	24.8	26.0	26.3	25.1	26.3	25.5	26.6	26.9
	4H	24.7	25.8	25.1	26.1	26.5	25.6	26.6	26.0	27.0	27.3
	6H	25.1	26.1	25.5	26.5	26.8	26.1	27.2	26.5	27.5	27.9
	8H	25.2	26.3	25.6	26.6	27.0	26.3	27.4	26.7	27.7	28.1
	12H	25.1	25.9	25.6	26.3	26.7	26.3	27.1	26.8	27.5	27.9
4H	2H	23.7	24.7	24.1	25.1	25.4	24.0	25.0	24.4	25.4	25.7
	3H	25.2	26.0	25.7	26.4	26.8	25.7	26.5	26.2	26.9	27.3
	4H	25.9	26.7	26.3	27.1	27.5	26.5	27.3	26.9	27.7	28.1
	6H	26.3	27.1	26.8	27.5	28.0	27.1	27.9	27.6	28.3	28.8
	8H	26.3	26.8	26.9	27.3	27.8	27.3	27.7	27.8	28.2	28.7
	12H	26.5	26.9	27.0	27.4	27.9	27.5	27.9	28.0	28.4	28.9
8H	4H	26.1	26.6	26.6	27.1	27.6	26.7	27.1	27.2	27.6	28.2
	6H	26.8	27.2	27.3	27.7	28.2	27.5	27.9	28.0	28.4	28.9
	8H	27.0	27.4	27.5	27.9	28.5	27.8	28.2	28.3	28.7	29.2
	12H	27.2	27.6	27.7	28.1	28.6	28.1	28.5	28.6	29.0	29.5
12H	4H	26.2	26.6	26.7	27.1	27.6	26.7	27.2	27.3	27.7	28.2
	6H	26.9	27.3	27.4	27.8	28.3	27.5	28.0	28.0	28.5	29.0
	8H	27.1	27.6	27.6	28.1	28.6	27.9	28.3	28.4	28.8	29.4
Variation with the observer position at spacings:											
S = 1.0H		0.3/-0.5					0.3/-0.6				
S = 1.5H		0.6/-0.8					0.6/-0.6				
S = 2.0H		0.9/-1.1					0.8/-0.7				
Standard tables:		BK4					BK3				
Uncorrected UGR		8.9					9.1				
According 1000lm											

Budgetary Estimate Table



Utilization factor table for indoor luminaire

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	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.01	1.01	1.01	0.99
1	1.04	1.00	0.96	1.02	0.98	0.94	0.97	0.94	0.91	0.93	0.91	0.88	0.89	0.87	0.85	0.83
2	0.91	0.84	0.78	0.89	0.83	0.77	0.85	0.80	0.75	0.82	0.77	0.74	0.79	0.75	0.72	0.70
3	0.80	0.72	0.65	0.78	0.71	0.65	0.75	0.69	0.63	0.72	0.67	0.62	0.69	0.65	0.61	0.59
4	0.71	0.62	0.55	0.69	0.61	0.55	0.67	0.60	0.54	0.64	0.58	0.53	0.62	0.57	0.52	0.50
5	0.63	0.54	0.48	0.62	0.54	0.47	0.60	0.52	0.47	0.58	0.51	0.46	0.56	0.50	0.46	0.43
6	0.57	0.48	0.42	0.56	0.48	0.41	0.54	0.47	0.41	0.52	0.46	0.41	0.51	0.45	0.40	0.38
7	0.52	0.43	0.37	0.51	0.42	0.37	0.49	0.42	0.36	0.48	0.41	0.36	0.46	0.40	0.36	0.34
8	0.47	0.39	0.33	0.46	0.38	0.33	0.45	0.38	0.32	0.44	0.37	0.32	0.42	0.36	0.32	0.30
9	0.43	0.35	0.30	0.43	0.35	0.29	0.41	0.34	0.29	0.40	0.34	0.29	0.39	0.33	0.29	0.27
10	0.40	0.32	0.27	0.39	0.32	0.27	0.38	0.31	0.26	0.37	0.31	0.26	0.36	0.30	0.26	0.24
RCR	COEFFICIENTS OF UTILIZATION RHOFC=20 WLC															
1	0.30	0.17	0.05	0.30	0.17	0.05	0.28	0.16	0.05	0.27	0.16	0.05	0.26	0.15	0.05	
2	0.29	0.16	0.05	0.28	0.15	0.05	0.27	0.15	0.05	0.26	0.14	0.05	0.25	0.14	0.04	
3	0.27	0.14	0.04	0.26	0.14	0.04	0.25	0.14	0.04	0.24	0.13	0.04	0.23	0.13	0.04	
4	0.25	0.13	0.04	0.24	0.13	0.04	0.23	0.12	0.04	0.22	0.12	0.04	0.21	0.12	0.04	
5	0.23	0.12	0.03	0.22	0.11	0.03	0.21	0.11	0.03	0.21	0.11	0.03	0.20	0.11	0.03	
6	0.21	0.11	0.03	0.21	0.10	0.03	0.20	0.10	0.03	0.19	0.10	0.03	0.19	0.10	0.03	
7	0.20	0.10	0.03	0.19	0.10	0.03	0.19	0.09	0.03	0.18	0.09	0.03	0.17	0.09	0.03	
8	0.18	0.09	0.03	0.18	0.09	0.03	0.17	0.09	0.02	0.17	0.09	0.02	0.16	0.08	0.02	
9	0.17	0.08	0.02	0.17	0.08	0.02	0.16	0.08	0.02	0.16	0.08	0.02	0.15	0.08	0.02	
10	0.16	0.08	0.02	0.16	0.08	0.02	0.15	0.08	0.02	0.15	0.07	0.02	0.15	0.07	0.02	
RCR	COEFFICIENTS OF UTILIZATION RHOFC=20 CCLU															
0	0.20	0.20	0.20	0.17	0.17	0.17	0.12	0.12	0.12	0.07	0.07	0.07	0.02	0.02	0.02	
1	0.16	0.15	0.14	0.14	0.13	0.12	0.10	0.09	0.08	0.06	0.05	0.05	0.02	0.02	0.02	
2	0.13	0.11	0.10	0.12	0.10	0.09	0.09	0.07	0.06	0.06	0.05	0.04	0.02	0.02	0.01	
3	0.10	0.09	0.07	0.10	0.08	0.06	0.08	0.06	0.05	0.05	0.04	0.03	0.02	0.01	0.01	
4	0.09	0.07	0.05	0.09	0.07	0.05	0.07	0.05	0.04	0.05	0.04	0.02	0.02	0.01	0.01	
5	0.08	0.06	0.04	0.08	0.06	0.04	0.07	0.05	0.03	0.05	0.03	0.02	0.02	0.01	0.01	
6	0.07	0.05	0.04	0.07	0.05	0.03	0.06	0.04	0.03	0.05	0.03	0.02	0.02	0.01	0.01	
7	0.06	0.04	0.03	0.06	0.04	0.03	0.06	0.04	0.02	0.04	0.03	0.01	0.02	0.01	0.01	
8	0.06	0.04	0.03	0.06	0.04	0.02	0.06	0.03	0.02	0.04	0.03	0.01	0.02	0.01	0.00	
9	0.05	0.03	0.02	0.06	0.03	0.02	0.05	0.03	0.02	0.04	0.02	0.01	0.02	0.01	0.00	
10	0.05	0.03	0.02	0.05	0.03	0.02	0.05	0.03	0.02	0.04	0.02	0.01	0.02	0.01	0.00	

Intensity data(cd)

C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	313.87	311.01	305.61	296.72	285.93	272.43	255.76	237.82	217.34
30.0	320.38	319.27	315.30	307.84	298.15	285.61	270.05	252.90	233.85
60.0	316.73	315.77	311.96	304.50	294.82	283.07	268.78	251.16	231.79
90.0	314.82	314.66	311.49	305.30	297.20	285.93	271.48	255.29	236.71
120.0	313.87	313.39	310.85	304.66	295.93	284.82	270.84	254.49	235.92
150.0	313.39	314.03	311.33	305.61	297.20	286.56	272.43	256.56	238.46
180.0	313.87	313.39	310.69	304.18	296.09	284.82	270.84	254.49	235.12
210.0	320.38	318.95	314.19	305.93	296.56	284.18	268.78	250.68	231.00
240.0	316.73	315.14	310.22	302.44	291.96	279.58	263.86	246.24	226.07
270.0	314.82	312.44	306.57	298.31	287.36	273.86	257.99	239.25	218.77
300.0	313.87	311.33	305.77	297.68	286.72	273.70	257.35	239.73	219.72
330.0	313.39	310.53	304.98	295.77	284.50	270.84	254.65	235.44	215.12
360.0	313.87	311.01	305.61	296.72	285.93	272.43	255.76	237.82	217.34
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	195.12	170.19	144.79	118.28	92.08	64.14	41.60	23.02	9.21
30.0	212.58	187.81	162.57	136.37	109.23	81.13	54.77	32.39	14.45
60.0	210.52	187.50	161.46	135.26	108.27	79.86	53.34	31.12	13.97
90.0	216.71	191.62	167.49	141.61	114.78	87.32	60.49	37.94	18.73
120.0	215.75	193.37	168.44	142.25	113.99	86.05	59.85	36.20	16.99
150.0	218.45	195.43	171.30	144.95	117.96	90.02	63.82	40.48	20.96
180.0	214.33	192.58	167.49	141.61	114.62	87.64	60.81	37.63	19.05
210.0	209.56	186.38	159.71	133.20	104.31	75.73	49.69	28.26	12.07
240.0	204.32	179.88	154.79	127.80	100.50	72.71	47.47	26.67	11.11
270.0	197.02	173.05	146.69	119.23	92.56	66.52	41.44	21.75	7.46
300.0	197.18	172.73	147.33	121.13	94.14	66.84	42.71	22.39	7.46
330.0	192.58	168.76	140.98	114.62	88.11	62.87	39.21	20.48	6.83
360.0	195.12	170.19	144.79	118.28	92.08	64.14	41.60	23.02	9.21
C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	2.22	0.32	0.48	0.79	0.95	0.79	1.27	1.11	1.43
30.0	3.81	0.64	0.32	0.64	0.79	0.95	0.79	1.11	1.11
60.0	3.49	0.95	0.64	0.64	0.64	0.95	0.95	1.43	1.43
90.0	6.19	1.59	0.48	0.32	0.64	0.95	0.79	1.11	1.43
120.0	4.45	0.48	0.32	0.48	0.64	0.64	1.27	0.95	1.11
150.0	6.51	0.79	0.48	0.32	0.64	0.48	0.79	1.11	0.95
180.0	6.35	0.32	0.32	0.64	0.64	0.48	0.79	1.11	1.11
210.0	1.75	0.32	0.32	0.64	1.11	0.79	1.11	1.43	1.27
240.0	1.91	0.32	0.64	0.79	0.95	0.95	1.27	1.59	1.43
270.0	1.27	0.16	0.64	0.48	0.79	0.95	1.11	1.27	1.59
300.0	1.11	0.64	0.16	0.64	0.64	0.95	1.27	1.59	1.43
330.0	0.95	0.48	0.64	0.48	0.79	0.95	0.95	1.59	1.59
360.0	2.22	0.32	0.48	0.79	0.95	0.79	1.27	1.11	1.43
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	1.75	1.75	1.91	1.91	2.06	1.91	2.06	2.22	2.38
30.0	1.59	1.59	2.06	2.06	1.91	2.22	2.06	2.38	2.22
60.0	1.43	1.75	1.91	1.91	2.38	2.06	2.22	2.38	2.38
90.0	1.43	1.59	1.75	1.75	2.06	2.06	2.06	2.22	2.38
120.0	1.59	2.06	1.43	1.91	2.06	1.91	2.22	2.22	2.38
150.0	1.43	1.43	1.75	1.91	2.06	1.75	2.22	2.06	2.54
180.0	1.59	1.75	2.06	1.75	2.22	1.91	2.22	2.06	2.38
210.0	1.59	1.59	1.91	2.06	2.06	2.06	2.06	2.22	2.70
240.0	1.59	1.75	1.91	2.06	1.91	2.22	2.22	2.38	2.38
270.0	1.75	1.59	2.22	1.91	2.38	2.38	2.38	2.38	2.70
300.0	1.91	1.75	1.75	2.06	2.06	2.06	2.22	2.38	2.06
330.0	1.59	1.75	1.91	1.91	2.22	2.06	2.06	2.38	2.22
360.0	1.75	1.75	1.91	1.91	2.06	1.91	2.06	2.22	2.38

Intensity data(cd)

C/ $\gamma$ (°)	180.0
0.0	2.22
30.0	2.38
60.0	2.22
90.0	2.54
120.0	2.38
150.0	2.38
180.0	2.22
210.0	2.38
240.0	2.22
270.0	2.54
300.0	2.38
330.0	2.38
360.0	2.22