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Nata

LumCAT: 1-1005-M
Luminaire: BJB 47.360.1030
Report No: NATA0100
Test No: GC2019101907
LampCAT: LUMILEDS LUXEON 1203
Lamp flux(lm): 1293.3
Number of Lamps: 1
Length(mm): 0
Phm Type: C

Voltage(V): 35.4300
Current(A): 0.2970
Power (W): 10.5000
PF: 0.0000
Ballast type: DC
Width(mm): 0
Height(mm): 0

Photometric Results

Lumens(lm): 955.35
Efficiency(%): 73.87%
Lumens(lm)/Power(W): 90.99
Central intensity(cd): 6795.000
Maximum intensity(cd): 6795.000
Angle of maximum intensity: $C=0.0$ $\gamma=0.0$
Beam Angle(50%Imax): [C0/180]Total=18.3
[C90/270]Total=18.3
Field angle(10%Imax): [C0/180]Total=38.7
[C90/270]Total=38.7
Maximum s/h(1/2): C0_180=0.31 C90_270=0.31
Maximum s/h(1/4): C0_180=0.34 C90_270=0.34
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 73.87%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.241%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	6795.000	0.000	0	.000%	.000%
2.0	6592.992	25.622	25.622	1.981%	2.682%
4.0	5940.281	71.928	97.55	5.562%	10.211%
6.0	4976.086	104.330	201.88	8.067%	21.132%
8.0	3960.352	119.425	321.305	9.234%	33.632%
10.0	2984.766	119.137	440.442	9.212%	46.103%
12.0	2257.594	109.688	550.13	8.481%	57.584%
14.0	1631.250	95.928	646.058	7.417%	67.625%
16.0	1207.814	80.576	726.634	6.230%	76.060%
18.0	867.115	66.523	793.157	5.144%	83.023%
20.0	590.653	52.043	845.201	4.024%	88.471%
22.0	359.613	37.343	882.544	2.887%	92.379%
24.0	179.663	23.106	905.65	1.787%	94.798%
26.0	68.273	11.490	917.14	.888%	96.001%
28.0	21.727	4.480	921.62	.346%	96.470%
30.0	12.094	1.798	923.418	.139%	96.658%
32.0	9.077	1.196	924.614	.092%	96.783%
34.0	8.093	1.025	925.64	.079%	96.890%
36.0	7.460	0.978	926.618	.076%	96.993%
38.0	7.003	0.954	927.572	.074%	97.093%
40.0	6.694	0.945	928.517	.073%	97.192%
42.0	6.483	0.948	929.465	.073%	97.291%
44.0	6.335	0.959	930.424	.074%	97.391%
46.0	6.230	0.974	931.398	.075%	97.493%
48.0	6.145	0.992	932.391	.077%	97.597%
50.0	6.026	1.007	933.398	.078%	97.702%
52.0	5.927	1.019	934.417	.079%	97.809%
54.0	5.808	1.028	935.444	.079%	97.917%
56.0	5.688	1.033	936.477	.080%	98.025%
58.0	5.555	1.034	937.511	.080%	98.133%
60.0	5.435	1.033	938.544	.080%	98.241%
62.0	5.344	1.034	939.578	.080%	98.349%
64.0	5.273	1.037	940.615	.080%	98.458%
66.0	5.217	1.043	941.658	.081%	98.567%
68.0	5.288	1.060	942.718	.082%	98.678%
70.0	5.871	1.142	943.86	.088%	98.798%
72.0	6.398	1.272	945.132	.098%	98.931%
74.0	6.581	1.361	946.494	.105%	99.073%

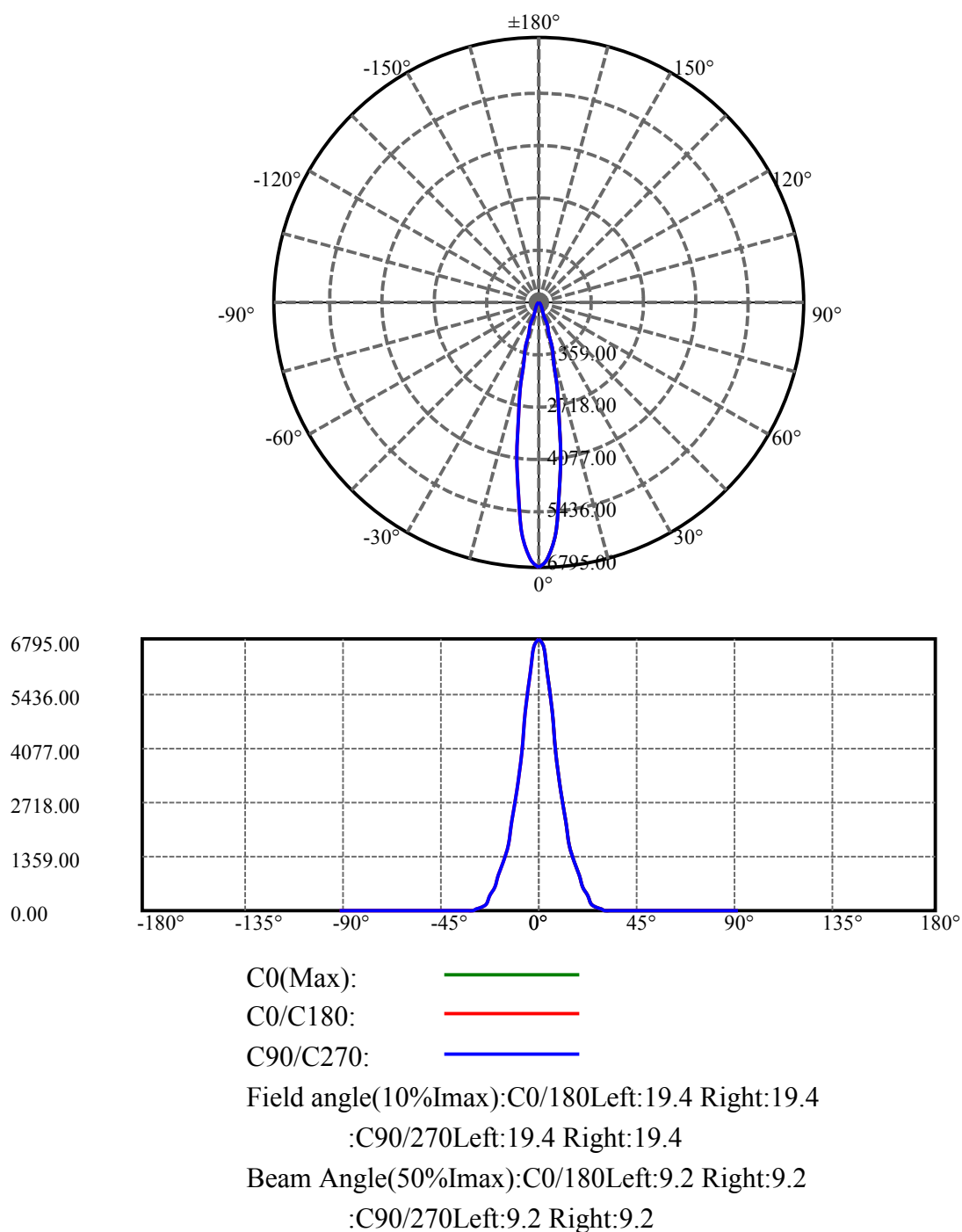
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	6.567	1.393	947.886	.108%	99.219%
78.0	5.991	1.342	949.228	.104%	99.359%
80.0	5.126	1.197	950.425	.093%	99.485%
82.0	4.613	1.055	951.479	.082%	99.595%
84.0	4.514	0.993	952.473	.077%	99.699%
86.0	4.472	0.982	953.454	.076%	99.802%
88.0	4.282	0.959	954.413	.074%	99.902%
90.0	4.240	0.934	955.347	.072%	100.000%

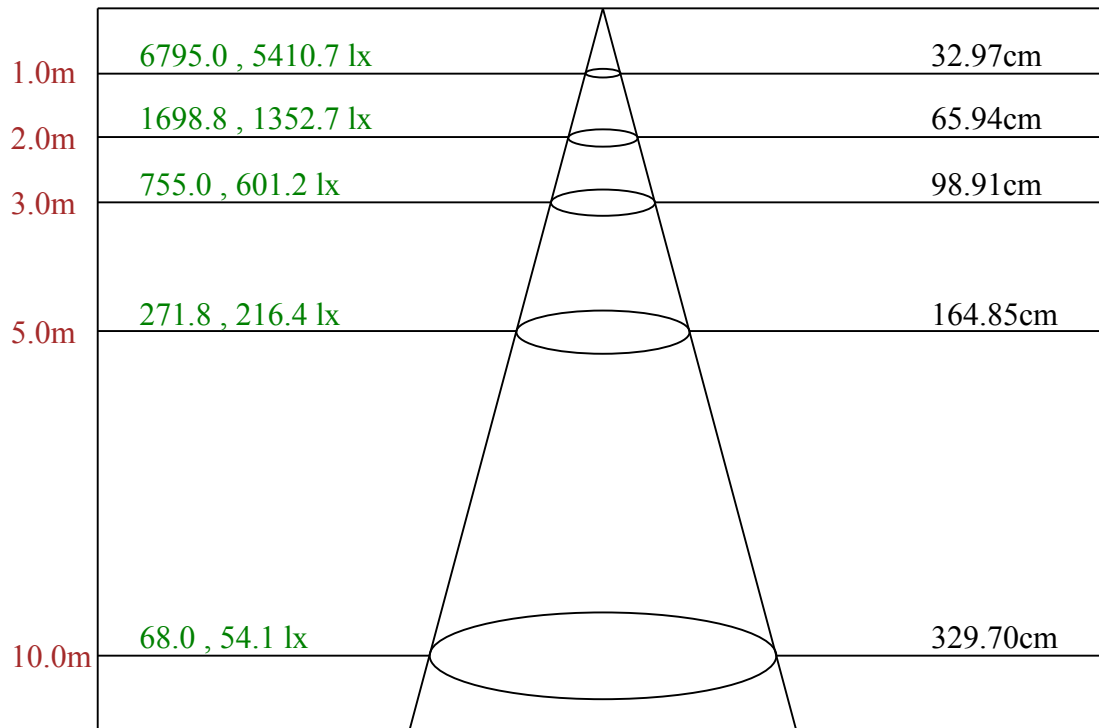
ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	923.42	71.40%	96.66%
0-40	928.52	71.79%	97.19%
0-60	938.54	72.57%	98.24%
0-90	954.41	73.80%	99.90%
0-120	954.41	73.80%	99.90%
0-180	955.35	73.87%	100.00%
60-90	16.90	1.31%	1.77%
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%
0-17.13	764.28	59.09%	80.00%

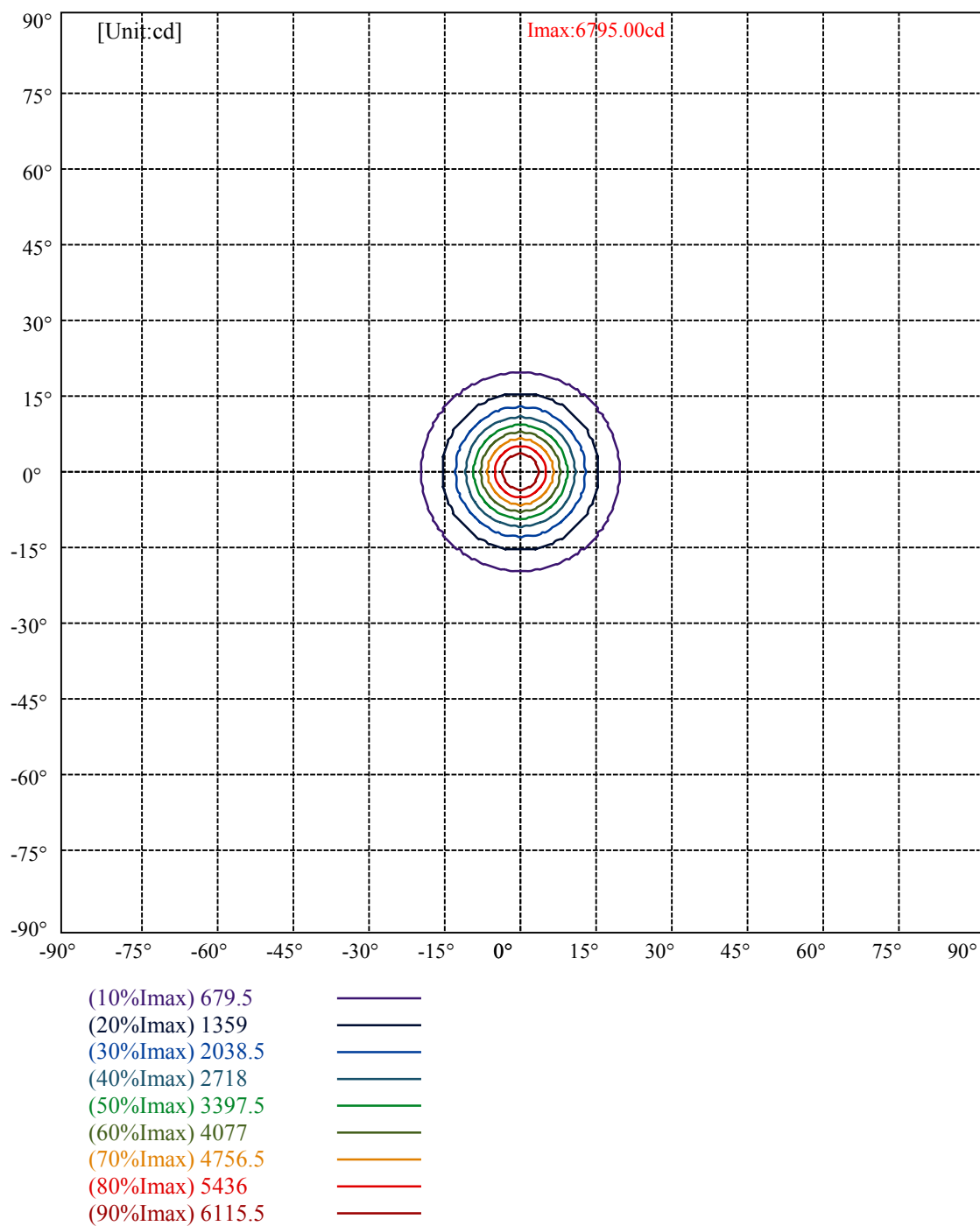
ZONAL LUMEN SUMMARY

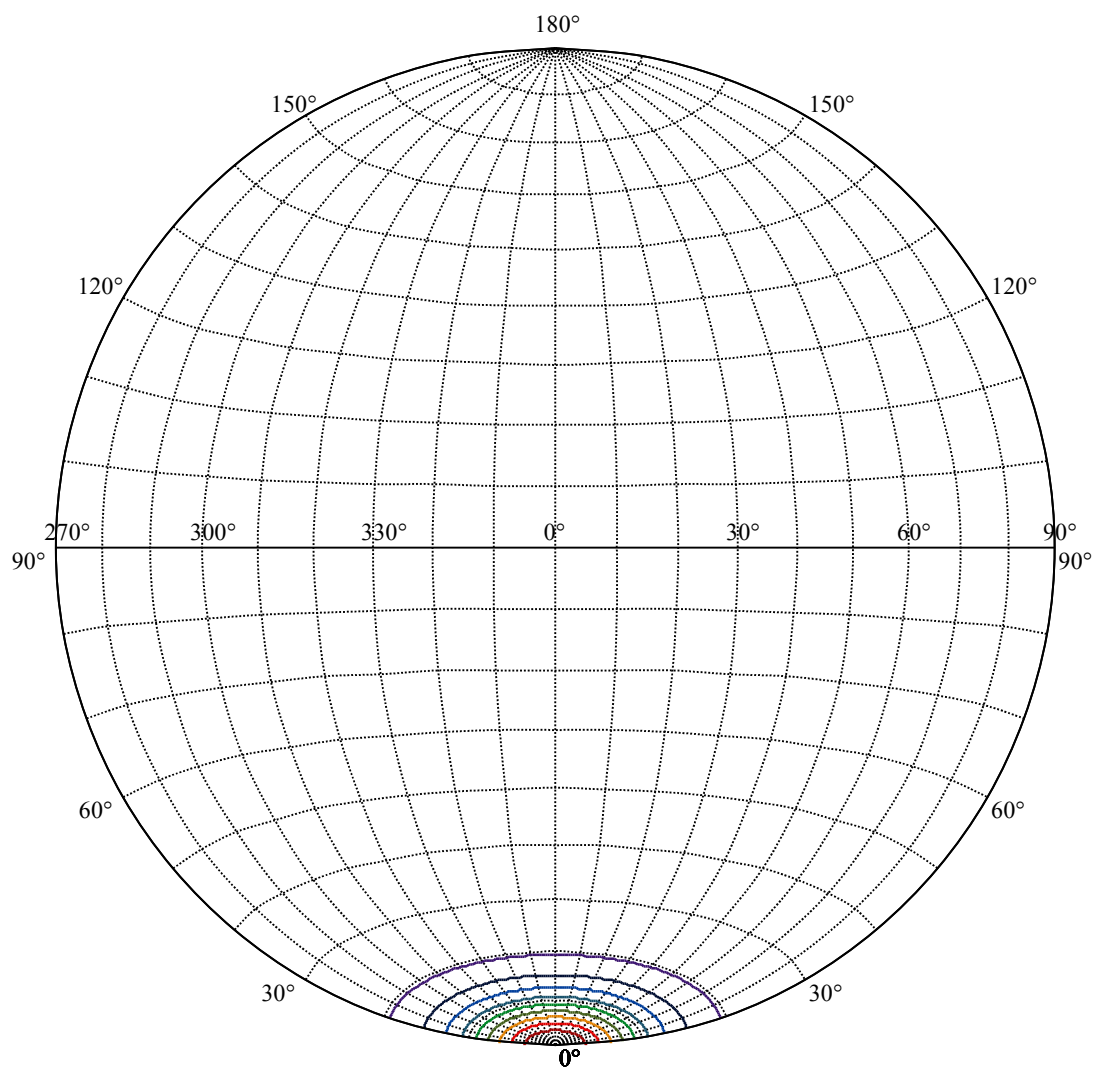
0-10	440.44
10-20	404.76
20-30	78.22
30-40	5.10
40-50	4.88
50-60	5.15
60-70	5.32
70-80	6.56
80-90	3.99
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00





Max , Ave Beam angle of C0 plane 18.72





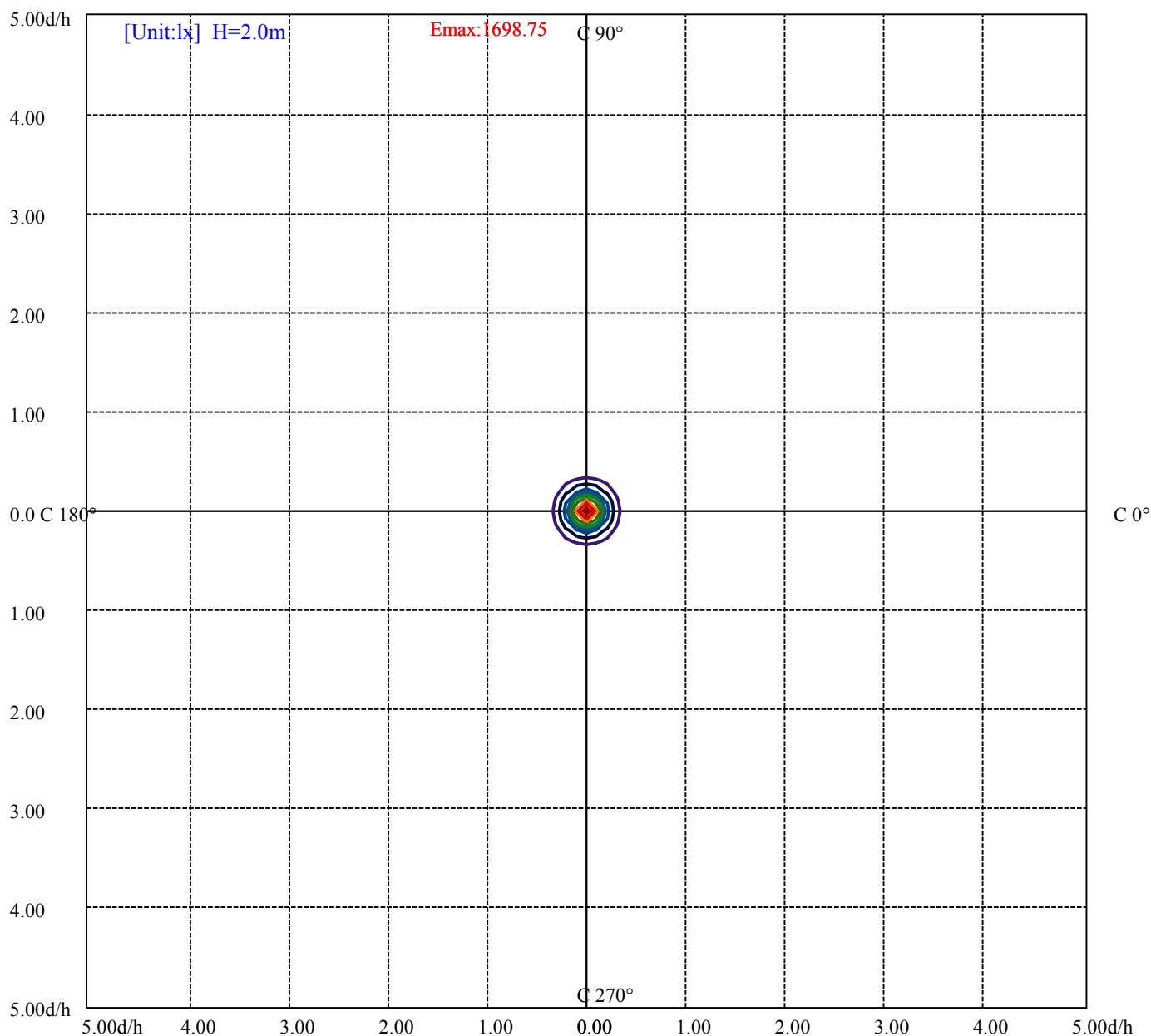
House

[Unit:cd]

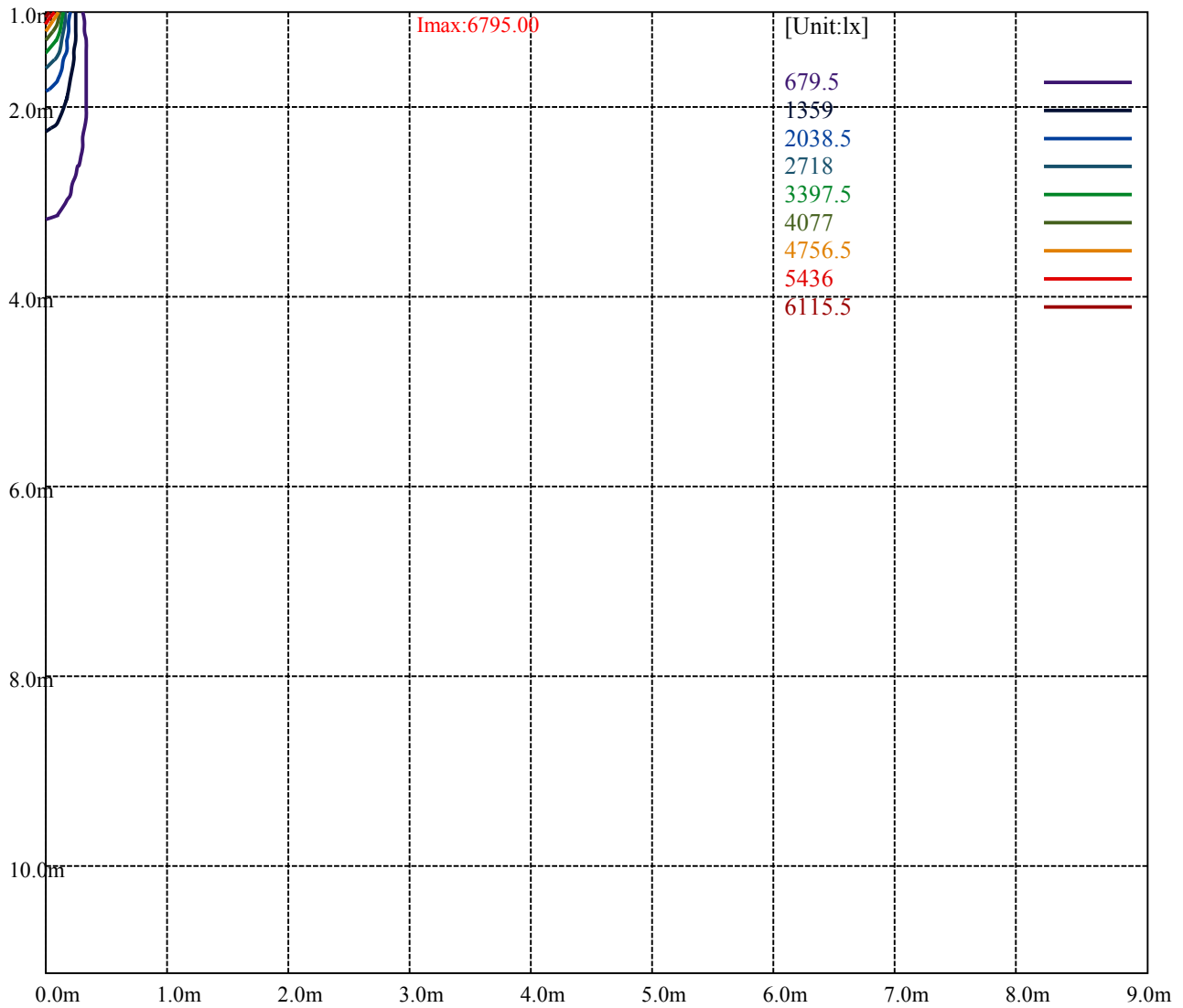
Road

Imax:6795.00

(10%Imax)	679.5	—
(20%Imax)	1359	—
(30%Imax)	2038.5	—
(40%Imax)	2718	—
(50%Imax)	3397.5	—
(60%Imax)	4077	—
(70%Imax)	4756.5	—
(80%Imax)	5436	—
(90%Imax)	6115.5	—



(10%Emax)	169.8745	—
(20%Emax)	339.75	—
(30%Emax)	509.625	—
(40%Emax)	679.4975	—
(50%Emax)	849.3725	—
(60%Emax)	1019.247	—
(70%Emax)	1189.123	—
(80%Emax)	1358.998	—
(90%Emax)	1528.873	—



Luminance Table

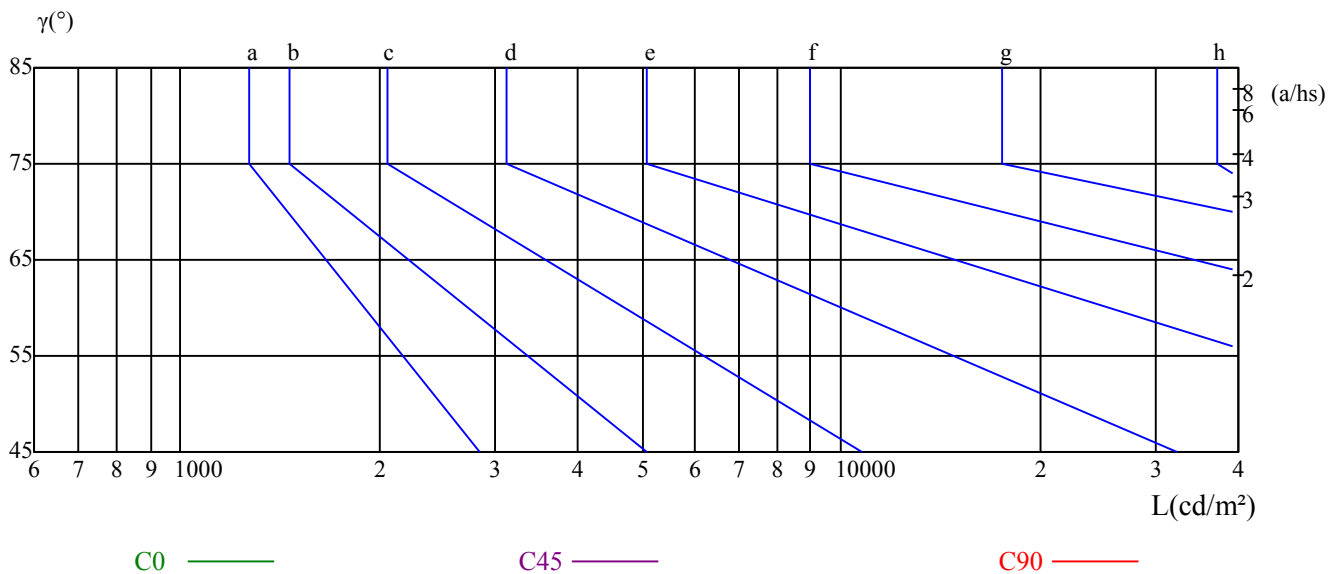
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

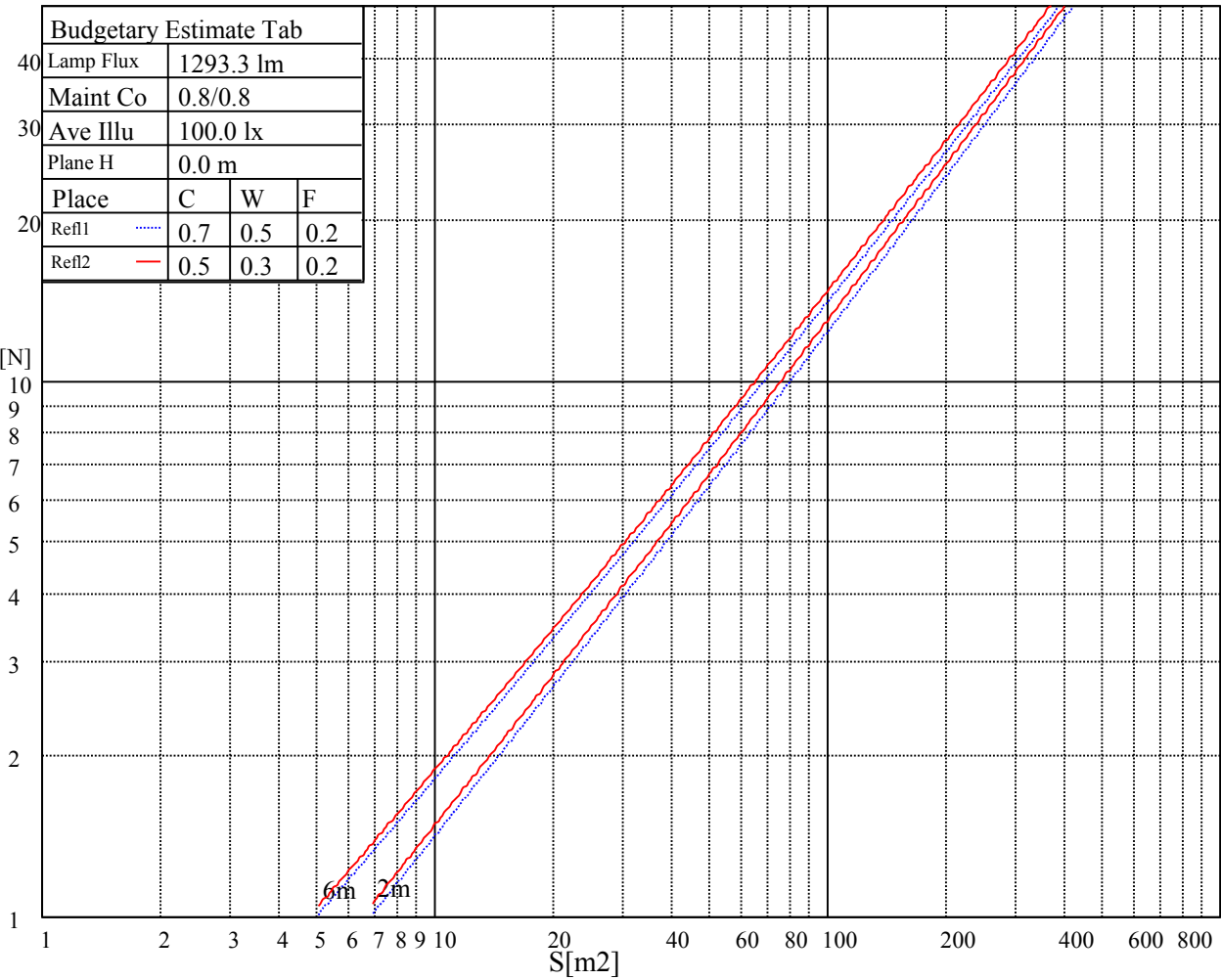
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

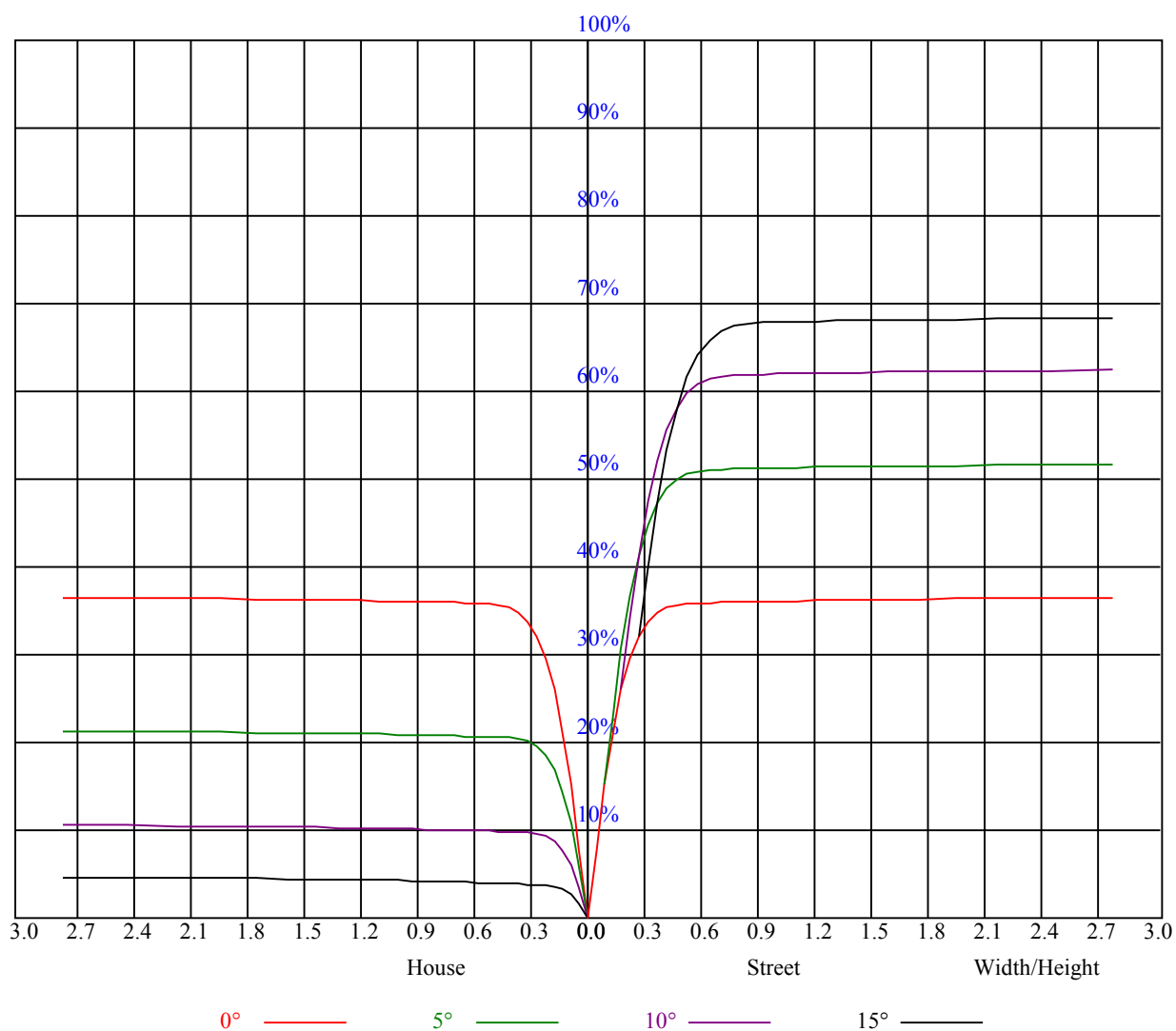
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

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	0.88	0.88	0.88	0.86	0.86	0.86	0.82	0.82	0.82	0.79	0.79	0.79	0.75	0.75	0.75	0.74
1	0.83	0.82	0.81	0.82	0.81	0.79	0.79	0.78	0.77	0.76	0.75	0.75	0.74	0.73	0.73	0.71
2	0.80	0.78	0.76	0.79	0.77	0.75	0.76	0.75	0.73	0.74	0.73	0.72	0.72	0.71	0.70	0.69
3	0.77	0.74	0.72	0.76	0.73	0.72	0.74	0.72	0.71	0.72	0.71	0.69	0.71	0.70	0.68	0.68
4	0.74	0.71	0.69	0.73	0.71	0.69	0.72	0.70	0.68	0.71	0.69	0.67	0.69	0.68	0.67	0.66
5	0.72	0.69	0.67	0.71	0.69	0.67	0.70	0.68	0.66	0.69	0.67	0.66	0.68	0.66	0.65	0.64
6	0.70	0.67	0.65	0.69	0.67	0.65	0.68	0.66	0.64	0.68	0.66	0.64	0.67	0.65	0.64	0.63
7	0.68	0.65	0.63	0.68	0.65	0.63	0.67	0.65	0.63	0.66	0.64	0.63	0.66	0.64	0.62	0.62
8	0.66	0.64	0.62	0.66	0.64	0.62	0.65	0.63	0.62	0.65	0.63	0.61	0.64	0.62	0.61	0.60
9	0.65	0.62	0.60	0.65	0.62	0.60	0.64	0.62	0.60	0.64	0.62	0.60	0.63	0.61	0.60	0.59
10	0.64	0.61	0.59	0.63	0.61	0.59	0.63	0.61	0.59	0.62	0.60	0.59	0.62	0.60	0.59	0.58



Intensity data(cd)

C/γ(°)	0.0	2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0
0.0	6770.81	6855.75	6579.00	5769.00	4730.06	3672.00	2791.13	2118.94	1542.38
45.0	6799.50	6621.75	5981.63	4990.50	3906.00	2938.50	2254.50	1666.13	1256.06
90.0	6775.31	6217.88	5166.56	4105.69	3063.94	2269.13	1736.44	1228.50	950.57
135.0	6834.38	6354.56	5300.44	4096.69	3199.50	2323.69	1724.06	1278.56	920.25
180.0	6770.81	6253.31	5237.44	4115.25	3107.25	2266.31	1699.31	1114.31	906.08
225.0	6799.50	6620.63	5902.31	4851.56	3828.94	2848.50	2127.94	1523.25	1100.87
270.0	6775.31	6890.06	6663.94	5875.88	4928.63	3763.69	2875.50	2061.00	1455.75
315.0	6834.38	6930.00	6690.94	6004.13	4918.50	3796.31	2851.88	2059.31	1530.56
360.0	6770.81	6855.75	6579.00	5769.00	4730.06	3672.00	2791.13	2118.94	1542.38
C/γ(°)	18.0	20.0	22.0	24.0	26.0	28.0	30.0	32.0	34.0
0.0	1119.38	829.69	548.44	308.25	137.48	34.82	15.08	10.13	8.72
45.0	928.69	637.88	389.81	185.79	60.47	17.10	10.18	8.66	7.82
90.0	674.83	422.10	204.02	77.29	19.07	9.96	8.61	7.71	7.09
135.0	646.88	402.75	235.86	64.74	19.91	9.90	8.38	7.48	6.86
180.0	613.63	378.39	189.56	63.73	21.49	10.74	8.94	7.99	7.37
225.0	789.75	528.13	296.89	132.47	42.86	18.00	11.03	9.39	8.44
270.0	1071.00	744.75	492.19	303.19	119.53	34.26	17.78	10.86	9.39
315.0	1092.77	781.54	520.14	301.84	125.38	39.04	16.76	10.41	9.06
360.0	1119.38	829.69	548.44	308.25	137.48	34.82	15.08	10.13	8.72
C/γ(°)	36.0	38.0	40.0	42.0	44.0	46.0	48.0	50.0	52.0
0.0	7.82	7.20	6.75	6.41	6.24	6.02	5.91	5.79	5.68
45.0	7.26	6.81	6.47	6.24	6.08	5.96	5.85	5.79	5.68
90.0	6.69	6.47	6.30	6.19	6.13	6.19	6.19	6.08	6.02
135.0	6.53	6.19	5.96	5.85	5.74	5.63	5.57	5.51	5.46
180.0	6.98	6.64	6.41	6.24	6.08	5.96	5.85	5.74	5.68
225.0	7.76	7.31	6.98	6.81	6.58	6.47	6.36	6.19	6.02
270.0	8.61	7.99	7.65	7.43	7.31	7.26	7.20	7.03	6.92
315.0	8.04	7.43	7.03	6.69	6.53	6.36	6.24	6.08	5.96
360.0	7.82	7.20	6.75	6.41	6.24	6.02	5.91	5.79	5.68
C/γ(°)	54.0	56.0	58.0	60.0	62.0	64.0	66.0	68.0	70.0
0.0	5.57	5.51	5.46	5.40	5.29	5.23	5.18	5.12	5.06
45.0	5.57	5.46	5.34	5.29	5.18	5.06	5.06	5.01	5.01
90.0	5.91	5.74	5.51	5.34	5.29	5.29	5.23	6.08	8.61
135.0	5.40	5.34	5.29	5.23	5.18	5.18	5.12	5.01	5.01
180.0	5.57	5.51	5.46	5.40	5.34	5.23	5.18	5.12	5.06
225.0	5.85	5.68	5.57	5.40	5.29	5.18	5.12	5.12	5.29
270.0	6.69	6.41	6.08	5.79	5.63	5.51	5.46	5.51	7.65
315.0	5.91	5.85	5.74	5.63	5.57	5.51	5.40	5.34	5.29
360.0	5.57	5.51	5.46	5.40	5.29	5.23	5.18	5.12	5.06
C/γ(°)	72.0	74.0	76.0	78.0	80.0	82.0	84.0	86.0	88.0
0.0	5.01	4.95	4.89	4.78	4.73	4.61	4.56	4.56	4.50
45.0	5.12	5.29	5.40	5.29	5.01	4.56	4.33	4.28	4.16
90.0	9.84	10.07	9.39	6.81	4.67	4.56	4.56	4.73	4.22
135.0	4.95	5.01	5.74	4.84	4.84	4.73	4.78	4.67	4.28
180.0	5.01	4.95	4.84	4.78	4.67	4.61	4.56	4.39	4.39
225.0	5.63	5.79	5.63	5.34	4.84	4.39	4.28	4.22	4.16
270.0	10.46	11.42	11.25	10.35	7.09	4.56	4.39	4.33	4.22
315.0	5.18	5.18	5.40	5.74	5.18	4.89	4.67	4.61	4.33
360.0	5.01	4.95	4.89	4.78	4.73	4.61	4.56	4.56	4.50

Intensity data(cd)

Appendix Page: 16 Total:16

C/ $\gamma(^{\circ})$	90.0
0.0	4.39
45.0	4.16
90.0	4.16
135.0	4.22
180.0	4.39
225.0	4.16
270.0	4.16
315.0	4.28
360.0	4.39