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Nata

LumCAT: 2-1121-A4	
Luminaire: 92.76.365.00	
Report No: NATA0100	Voltage(V): 218.0000
Test No: GC2019111502	Current(A): 0.0440
LampCAT: LUMENS EDC-47-10W	Power (W): 9.5000
Lamp flux(lm): 691.0	PF: 0.9940
Number of Lamps: 1	Ballast type: DC
Length(mm): 0	Width(mm): 0
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 628.18
Efficiency(%): 90.91%
Lumens(lm)/Power(W): 66.12
Central intensity(cd): 3056.625
Maximum intensity(cd): 3056.625
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=19.4
 [C90/270]Total=19.4
Field angle(10%Imax): [C0/180]Total=44.0
 [C90/270]Total=44.0
Maximum s/h(1/2): C0_180=0.33 C90_270=0.33
Maximum s/h(1/4): C0_180=0.33 C90_270=0.33
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 90.91%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.414%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	3056.625	0.000	0	.000%	.000%
1.0	3039.469	2.917	2.917	.422%	.464%
2.0	2988.352	8.652	11.569	1.252%	1.842%
3.0	2907.984	14.102	25.671	2.041%	4.086%
4.0	2794.500	19.088	44.759	2.762%	7.125%
5.0	2639.813	23.378	68.137	3.383%	10.847%
6.0	2419.453	26.588	94.725	3.848%	15.079%
7.0	2189.250	28.606	123.331	4.140%	19.633%
8.0	1962.141	29.711	153.041	4.300%	24.363%
9.0	1711.055	29.769	182.811	4.308%	29.101%
10.0	1442.348	28.537	211.348	4.130%	33.644%
11.0	1219.451	26.597	237.945	3.849%	37.878%
12.0	1039.416	24.693	262.637	3.573%	41.809%
13.0	847.638	22.395	285.032	3.241%	45.374%
14.0	709.594	19.932	304.964	2.885%	48.547%
15.0	602.409	18.012	322.976	2.607%	51.414%
16.0	522.570	16.484	339.46	2.386%	54.038%
17.0	455.323	15.228	354.689	2.204%	56.463%
18.0	407.018	14.218	368.907	2.058%	58.726%
19.0	371.763	13.549	382.456	1.961%	60.883%
20.0	342.977	13.082	395.538	1.893%	62.965%
21.0	321.145	12.752	408.29	1.846%	64.995%
22.0	305.395	12.591	420.881	1.822%	67.000%
23.0	292.711	12.550	433.431	1.816%	68.997%
24.0	282.930	12.586	446.016	1.821%	71.001%
25.0	275.822	12.705	458.721	1.839%	73.023%
26.0	266.829	12.809	471.53	1.854%	75.062%
27.0	261.260	12.920	484.45	1.870%	77.119%
28.0	256.057	13.097	497.548	1.895%	79.204%
29.0	251.297	13.274	510.821	1.921%	81.317%
30.0	245.855	13.423	524.244	1.943%	83.454%
31.0	238.303	13.473	537.718	1.950%	85.599%
32.0	225.281	13.281	550.999	1.922%	87.713%
33.0	204.806	12.671	563.669	1.834%	89.730%
34.0	177.792	11.579	575.248	1.676%	91.573%
35.0	146.433	10.069	585.317	1.457%	93.176%
36.0	114.391	8.305	593.622	1.202%	94.498%
37.0	82.195	6.412	600.034	.928%	95.519%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	54.844	4.574	604.608	.662%	96.247%
39.0	31.296	2.940	607.548	.425%	96.715%
40.0	17.719	1.709	609.257	.247%	96.987%
41.0	13.493	1.111	610.369	.161%	97.164%
42.0	10.526	0.873	611.241	.126%	97.303%
43.0	8.318	0.698	611.939	.101%	97.414%
44.0	7.073	0.581	612.52	.084%	97.507%
45.0	6.117	0.507	613.027	.073%	97.587%
46.0	5.337	0.448	613.475	.065%	97.659%
47.0	4.802	0.403	613.879	.058%	97.723%
48.0	4.402	0.372	614.251	.054%	97.782%
49.0	4.155	0.351	614.602	.051%	97.838%
50.0	4.008	0.340	614.942	.049%	97.892%
51.0	3.902	0.335	615.277	.048%	97.945%
52.0	3.832	0.332	615.609	.048%	97.998%
53.0	3.748	0.330	615.939	.048%	98.051%
54.0	3.684	0.328	616.266	.047%	98.103%
55.0	3.635	0.327	616.593	.047%	98.155%
56.0	3.579	0.326	616.919	.047%	98.207%
57.0	3.537	0.325	617.244	.047%	98.259%
58.0	3.495	0.325	617.569	.047%	98.310%
59.0	3.466	0.325	617.895	.047%	98.362%
60.0	3.431	0.326	618.221	.047%	98.414%
61.0	3.410	0.326	618.547	.047%	98.466%
62.0	3.375	0.327	618.874	.047%	98.518%
63.0	3.347	0.327	619.201	.047%	98.570%
64.0	3.333	0.328	619.529	.047%	98.622%
65.0	3.305	0.328	619.857	.048%	98.675%
66.0	3.291	0.329	620.186	.048%	98.727%
67.0	3.284	0.331	620.517	.048%	98.780%
68.0	3.284	0.333	620.85	.048%	98.832%
69.0	3.255	0.334	621.183	.048%	98.886%
70.0	3.234	0.333	621.516	.048%	98.939%
71.0	3.213	0.333	621.85	.048%	98.992%
72.0	3.220	0.335	622.184	.048%	99.045%
73.0	3.192	0.335	622.52	.049%	99.098%
74.0	3.199	0.336	622.856	.049%	99.152%
75.0	3.185	0.337	623.193	.049%	99.206%

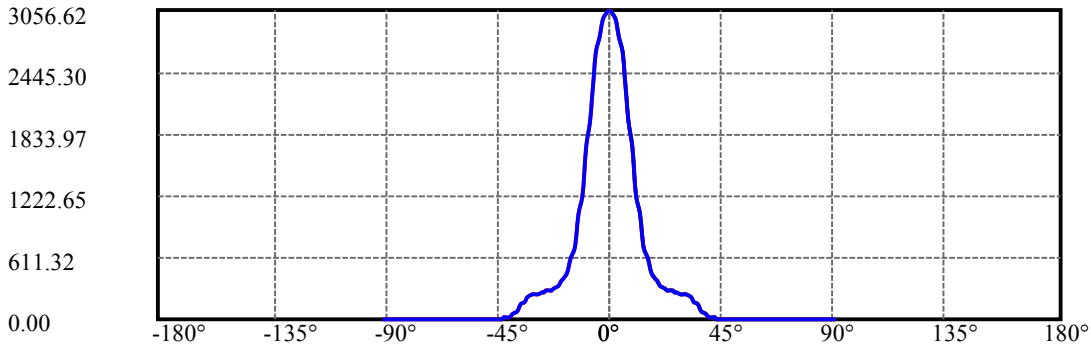
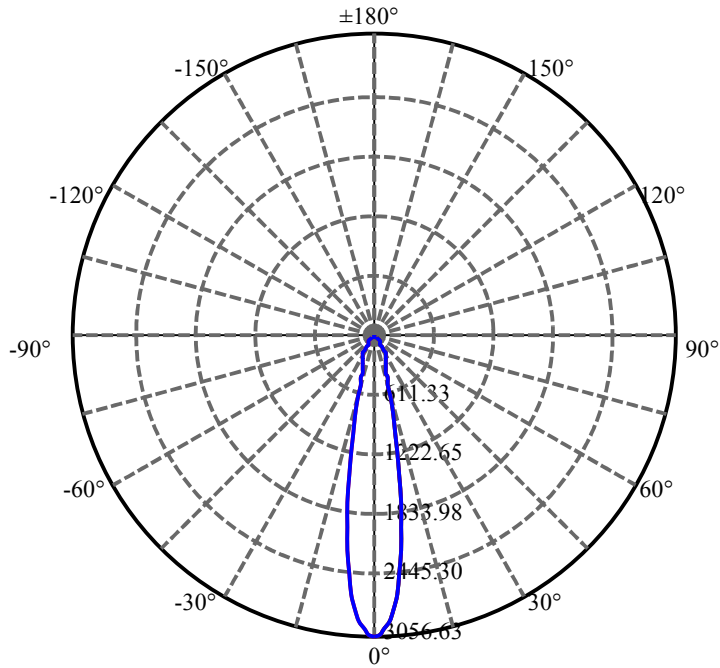
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	3.185	0.338	623.531	.049%	99.259%
77.0	3.178	0.339	623.87	.049%	99.313%
78.0	3.171	0.340	624.21	.049%	99.367%
79.0	3.178	0.341	624.551	.049%	99.422%
80.0	3.178	0.343	624.894	.050%	99.476%
81.0	3.178	0.344	625.238	.050%	99.531%
82.0	3.164	0.344	625.582	.050%	99.586%
83.0	3.143	0.343	625.925	.050%	99.640%
84.0	3.143	0.342	626.267	.050%	99.695%
85.0	3.080	0.340	626.607	.049%	99.749%
86.0	3.002	0.332	626.939	.048%	99.802%
87.0	2.876	0.322	627.261	.047%	99.853%
88.0	2.827	0.312	627.573	.045%	99.903%
89.0	2.770	0.307	627.88	.044%	99.952%
90.0	2.770	0.304	628.184	.044%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	524.24	75.87%	83.45%
0-40	609.26	88.17%	96.99%
0-60	618.22	89.47%	98.41%
0-90	627.88	90.87%	99.95%
0-120	627.88	90.87%	99.95%
0-180	628.18	90.91%	100.00%
60-90	9.99	1.45%	1.59%
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%
0-28.38	502.55	72.73%	80.00%

ZONAL LUMEN SUMMARY

0-10	211.35
10-20	184.19
20-30	128.71
30-40	85.01
40-50	5.68
50-60	3.28
60-70	3.30
70-80	3.38
80-90	2.99
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



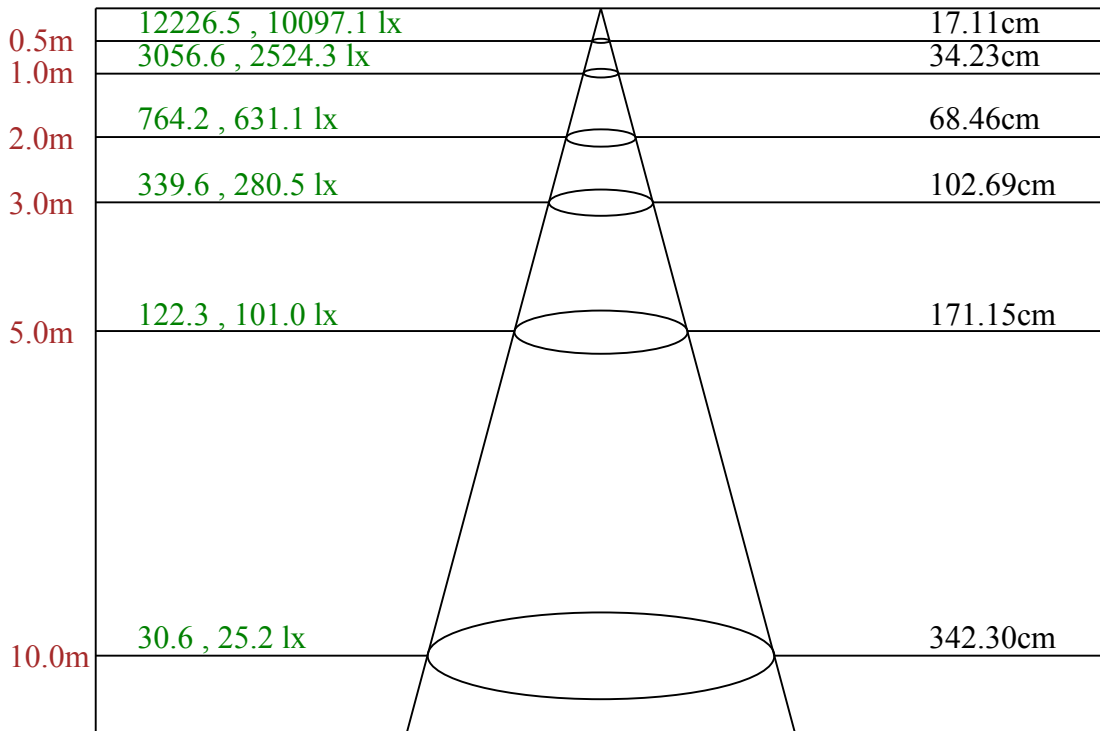
C0(Max): —————

C0/C180: —————

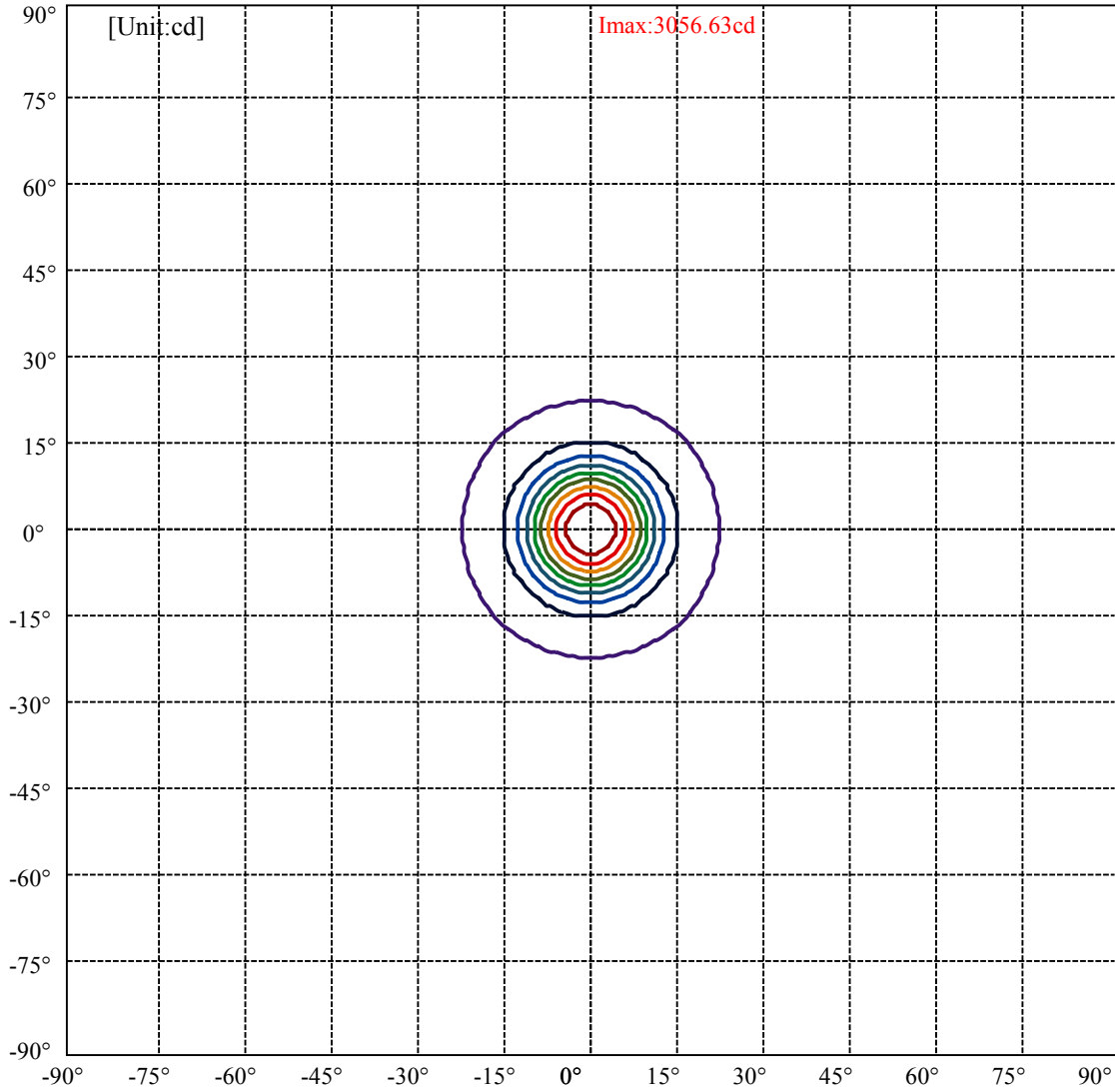
C90/C270: —————

Field angle(10%Imax):C0/180Left:22.0 Right:22.0
:C90/270Left:22.0 Right:22.0

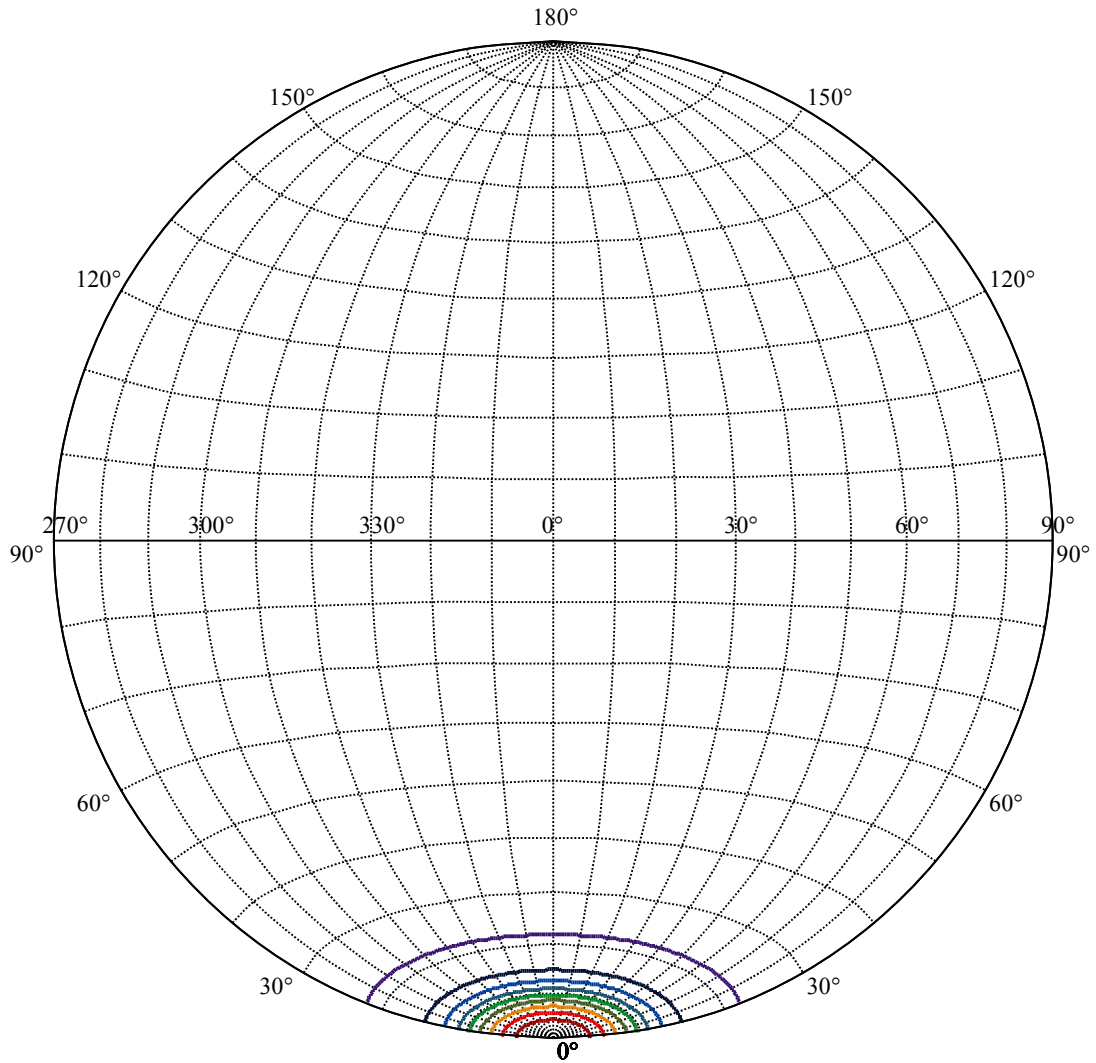
Beam Angle(50%Imax):C0/180Left:9.7 Right:9.7
:C90/270Left:9.7 Right:9.7



Max , Ave Beam angle of C0 plane 19.42



(10%Imax) 305.662	—
(20%Imax) 611.325	—
(30%Imax) 916.987	—
(40%Imax) 1222.65	—
(50%Imax) 1528.31	—
(60%Imax) 1833.97	—
(70%Imax) 2139.64	—
(80%Imax) 2445.3	—
(90%Imax) 2750.96	—



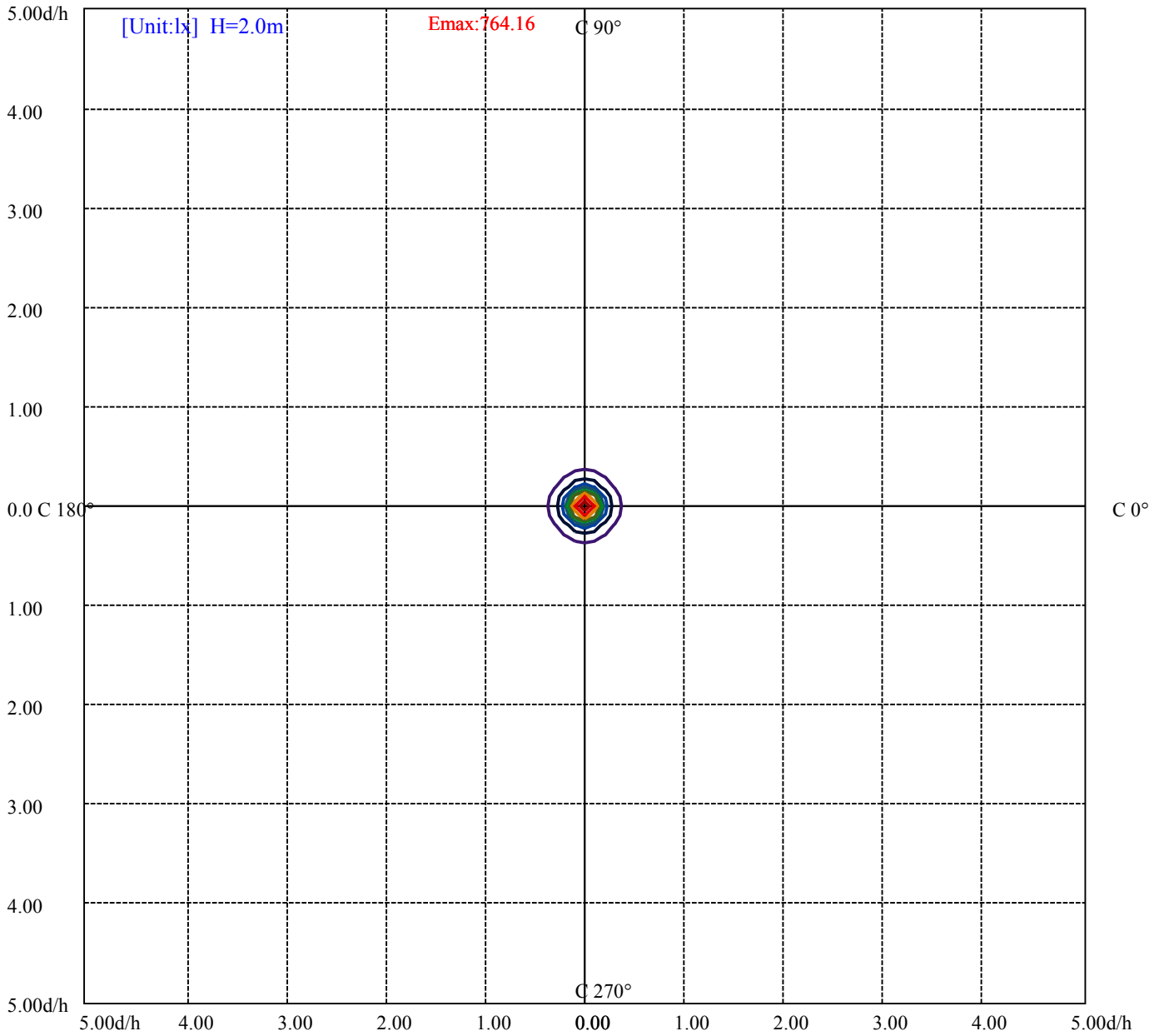
House

[Unit:cd]

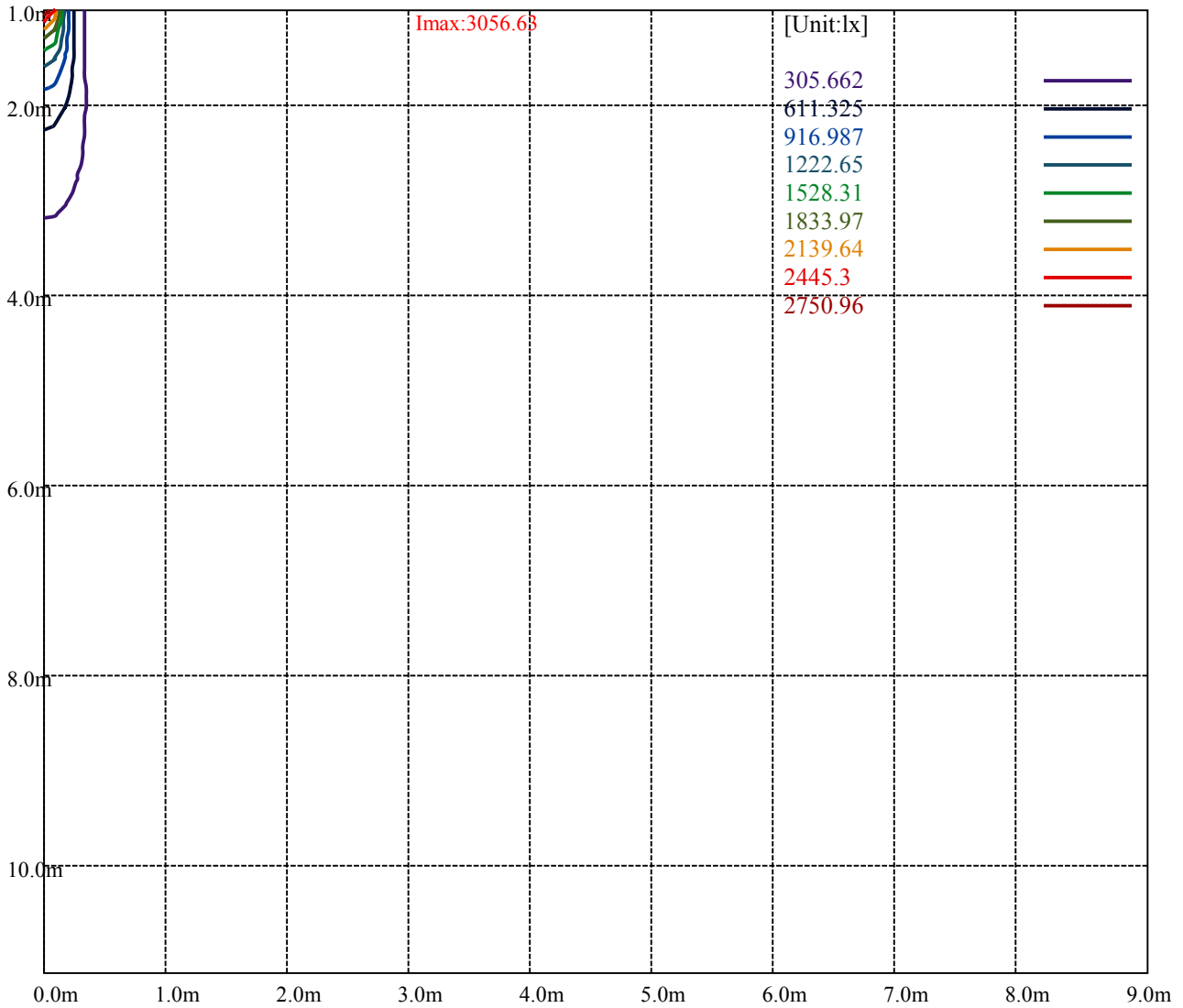
Road

Imax:3056.63

(10%Imax) 305.662	—
(20%Imax) 611.325	—
(30%Imax) 916.987	—
(40%Imax) 1222.65	—
(50%Imax) 1528.31	—
(60%Imax) 1833.97	—
(70%Imax) 2139.64	—
(80%Imax) 2445.3	—
(90%Imax) 2750.96	—



- (10%Emax) 76.4155
- (20%Emax) 152.831
- (30%Emax) 229.2467
- (40%Emax) 305.6625
- (50%Emax) 382.0775
- (60%Emax) 458.4925
- (70%Emax) 534.91
- (80%Emax) 611.325
- (90%Emax) 687.74



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

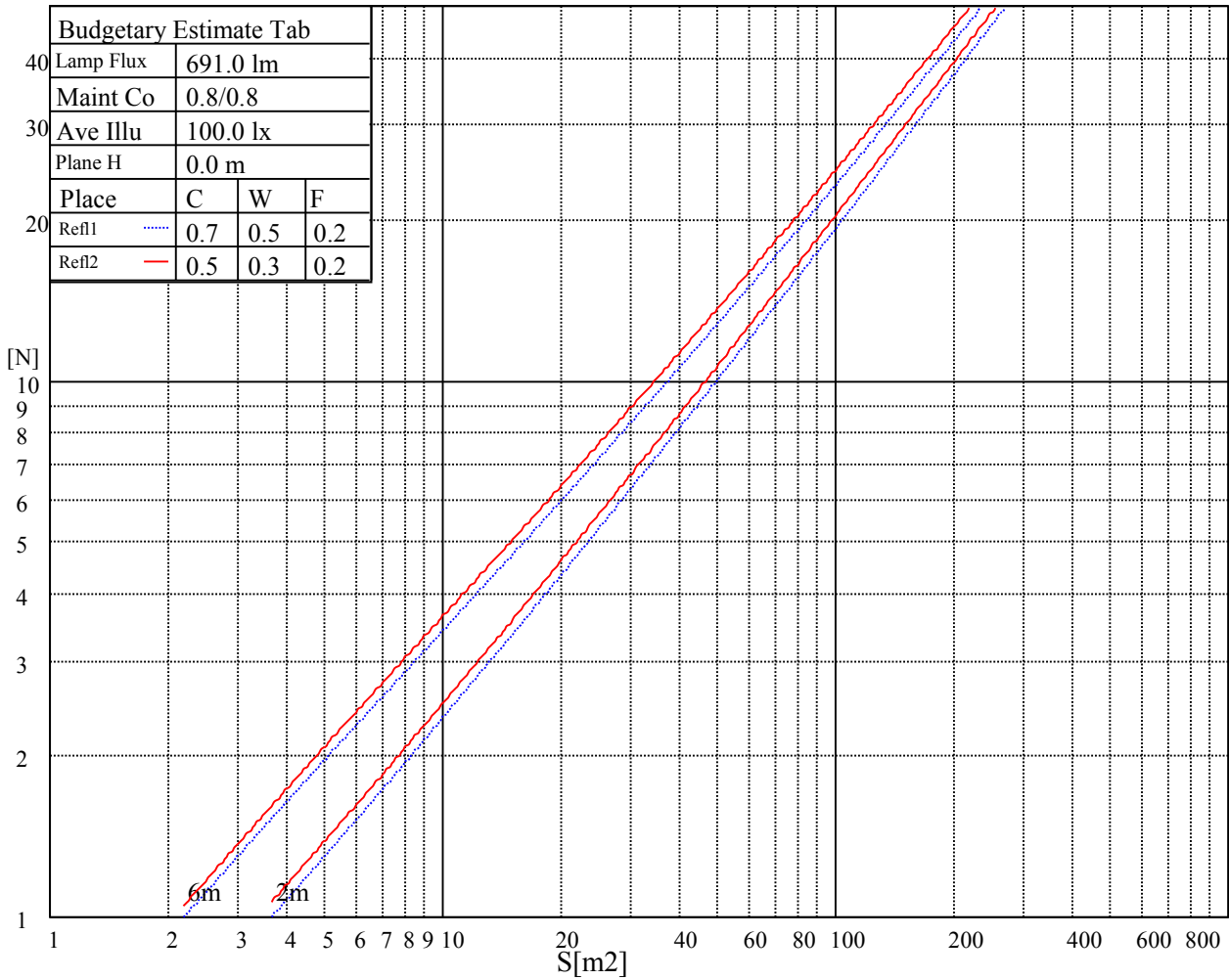
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

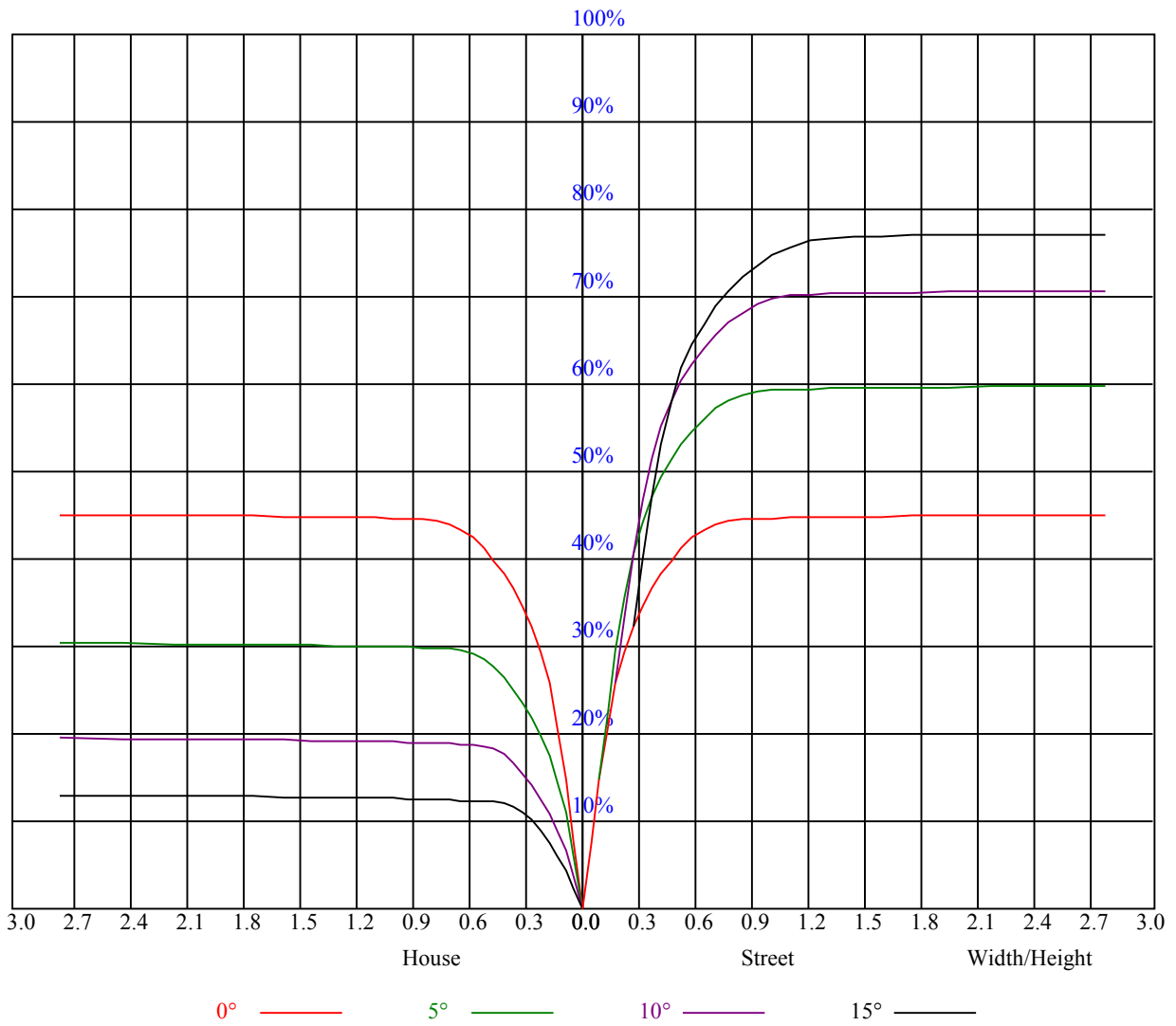
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.08	1.08	1.08	1.06	1.06	1.06	1.01	1.01	1.01	0.97	0.97	0.97	0.93	0.93	0.93	0.91
1	1.02	1.00	0.98	1.00	0.98	0.96	0.96	0.95	0.93	0.93	0.92	0.91	0.90	0.89	0.88	0.86
2	0.96	0.93	0.90	0.95	0.92	0.89	0.92	0.89	0.87	0.89	0.87	0.86	0.87	0.85	0.84	0.82
3	0.91	0.88	0.85	0.90	0.87	0.84	0.88	0.85	0.83	0.86	0.83	0.81	0.84	0.82	0.80	0.79
4	0.87	0.83	0.80	0.86	0.82	0.79	0.84	0.81	0.78	0.82	0.80	0.78	0.81	0.79	0.77	0.75
5	0.83	0.79	0.76	0.82	0.78	0.75	0.81	0.77	0.75	0.79	0.76	0.74	0.78	0.76	0.74	0.72
6	0.80	0.75	0.72	0.79	0.75	0.72	0.78	0.74	0.72	0.77	0.74	0.71	0.76	0.73	0.71	0.70
7	0.77	0.72	0.69	0.76	0.72	0.69	0.75	0.71	0.69	0.74	0.71	0.68	0.73	0.70	0.68	0.67
8	0.74	0.70	0.67	0.73	0.69	0.66	0.72	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.66	0.65
9	0.71	0.67	0.64	0.71	0.67	0.64	0.70	0.66	0.64	0.69	0.66	0.64	0.69	0.66	0.63	0.63
10	0.69	0.65	0.62	0.68	0.65	0.62	0.68	0.64	0.62	0.67	0.64	0.62	0.67	0.64	0.61	0.61



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	3043.13	3057.19	3023.44	2956.50	2860.31	2710.13	2517.75	2316.38	2074.50
45.0	3060.56	3047.63	2999.81	2926.69	2832.19	2675.81	2470.50	2257.88	2036.81
90.0	3052.69	2996.44	2926.69	2842.31	2697.19	2521.13	2287.13	2036.25	1809.56
135.0	3070.13	3026.25	2950.31	2851.88	2733.19	2596.50	2327.06	2107.13	1911.38
180.0	3043.13	2997.56	2916.56	2799.56	2665.13	2473.31	2244.38	2023.31	1773.00
225.0	3060.56	3039.75	2990.81	2906.44	2783.81	2632.50	2442.94	2169.00	1942.88
270.0	3052.69	3073.50	3060.56	3009.94	2930.63	2810.25	2593.13	2376.56	2144.81
315.0	3070.13	3077.44	3038.63	2970.56	2853.56	2698.88	2472.75	2227.50	2004.19
360.0	3043.13	3057.19	3023.44	2956.50	2860.31	2710.13	2517.75	2316.38	2074.50
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	1834.88	1621.69	1410.75	1183.50	982.13	813.94	694.69	598.50	505.69
45.0	1762.31	1546.31	1335.94	1110.94	909.56	766.13	646.88	555.75	489.94
90.0	1575.56	1111.73	1085.51	904.50	724.50	618.92	538.43	476.72	417.99
135.0	1607.06	1385.44	1202.06	964.13	784.69	673.88	552.94	482.06	430.88
180.0	1559.25	1329.19	1113.81	942.69	776.08	646.37	554.63	483.64	418.78
225.0	1719.00	1442.25	1121.01	1024.26	834.69	691.31	593.49	507.88	449.78
270.0	1852.31	1607.63	1366.88	1114.31	896.06	743.06	618.75	538.88	471.38
315.0	1778.06	1494.56	1119.66	1071.00	873.39	723.15	619.48	537.13	458.16
360.0	1834.88	1621.69	1410.75	1183.50	982.13	813.94	694.69	598.50	505.69
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	448.31	403.88	362.81	338.63	319.50	304.88	291.38	284.06	273.26
45.0	429.75	389.25	356.63	329.63	311.63	296.44	285.75	284.63	268.71
90.0	381.32	352.24	327.66	308.64	296.27	286.03	276.98	270.34	264.54
135.0	383.06	354.38	333.00	312.19	298.13	287.44	284.06	268.09	262.46
180.0	380.76	352.01	327.49	309.60	296.66	284.51	275.29	268.43	261.96
225.0	400.50	362.08	337.44	317.03	300.54	289.13	279.73	270.90	265.28
270.0	420.75	384.19	353.25	329.63	312.19	299.25	286.31	284.06	270.39
315.0	411.69	376.09	345.54	323.83	308.25	294.02	283.95	276.08	268.03
360.0	448.31	403.88	362.81	338.63	319.50	304.88	291.38	284.06	273.26
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	266.79	260.49	255.77	251.04	243.39	236.36	222.47	204.19	173.03
45.0	262.35	257.63	253.01	248.18	239.40	228.15	209.81	175.33	146.87
90.0	259.99	254.53	250.14	244.35	237.09	216.45	193.39	162.28	132.92
135.0	257.01	252.17	248.18	242.27	234.84	223.88	197.55	171.79	136.07
180.0	257.23	252.34	246.88	240.81	233.44	212.23	189.11	160.99	120.60
225.0	260.55	254.36	250.09	244.35	235.46	219.99	196.14	160.82	135.06
270.0	263.59	258.92	253.97	248.40	241.82	234.34	215.27	194.18	165.77
315.0	262.58	258.02	252.34	247.44	240.98	230.85	214.71	192.77	161.16
360.0	266.79	260.49	255.77	251.04	243.39	236.36	222.47	204.19	173.03
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	134.61	99.56	67.95	38.48	21.04	15.02	11.64	9.17	7.76
45.0	123.41	86.51	56.19	35.33	16.88	13.61	10.80	8.27	7.09
90.0	101.19	75.71	47.59	27.06	15.58	12.60	9.56	7.76	6.58
135.0	100.86	71.83	48.66	24.92	15.75	13.11	9.73	8.16	6.98
180.0	85.78	54.56	30.77	18.90	14.06	11.19	9.23	7.65	6.41
225.0	103.16	68.18	46.41	26.10	14.79	12.66	9.79	7.71	6.81
270.0	135.17	103.95	77.63	45.34	24.86	15.64	12.15	9.17	7.71
315.0	130.95	97.26	63.56	34.26	18.79	14.12	11.31	8.66	7.26
360.0	134.61	99.56	67.95	38.48	21.04	15.02	11.64	9.17	7.76

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	6.64	5.79	5.23	4.78	4.39	4.16	4.05	3.94	3.77
45.0	6.19	5.29	4.78	4.39	4.05	3.94	3.83	3.77	3.71
90.0	5.74	5.06	4.50	4.16	3.99	3.88	3.77	3.71	3.66
135.0	5.96	5.18	4.73	4.16	4.05	3.94	3.83	3.77	3.71
180.0	5.68	5.01	4.50	4.22	4.11	3.94	3.88	3.83	3.77
225.0	5.91	5.23	4.73	4.33	4.16	3.99	3.94	3.88	3.83
270.0	6.53	5.63	5.06	4.61	4.28	4.11	3.99	3.94	3.83
315.0	6.30	5.51	4.89	4.56	4.22	4.11	3.94	3.83	3.71
360.0	6.64	5.79	5.23	4.78	4.39	4.16	4.05	3.94	3.77
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	3.71	3.66	3.54	3.49	3.49	3.43	3.43	3.38	3.32
45.0	3.66	3.60	3.54	3.49	3.43	3.43	3.43	3.43	3.38
90.0	3.60	3.60	3.54	3.49	3.43	3.43	3.38	3.32	3.38
135.0	3.66	3.60	3.60	3.60	3.49	3.43	3.43	3.43	3.38
180.0	3.71	3.66	3.60	3.54	3.54	3.49	3.43	3.43	3.38
225.0	3.66	3.66	3.60	3.54	3.49	3.49	3.43	3.43	3.38
270.0	3.77	3.71	3.66	3.60	3.60	3.54	3.49	3.43	3.43
315.0	3.71	3.60	3.54	3.54	3.49	3.49	3.43	3.43	3.38
360.0	3.71	3.66	3.54	3.49	3.49	3.43	3.43	3.38	3.32
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	3.32	3.32	3.26	3.26	3.26	3.26	3.26	3.26	3.21
45.0	3.32	3.32	3.32	3.32	3.26	3.32	3.26	3.21	3.21
90.0	3.32	3.32	3.26	3.26	3.26	3.21	3.21	3.21	3.15
135.0	3.38	3.32	3.26	3.32	3.26	3.32	3.26	3.21	3.21
180.0	3.38	3.38	3.38	3.26	3.26	3.26	3.26	3.26	3.21
225.0	3.32	3.32	3.32	3.32	3.26	3.26	3.26	3.21	3.21
270.0	3.43	3.38	3.32	3.32	3.38	3.32	3.26	3.26	3.26
315.0	3.32	3.32	3.32	3.26	3.32	3.32	3.26	3.26	3.26
360.0	3.32	3.32	3.26	3.26	3.26	3.26	3.26	3.26	3.21
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	3.21	3.21	3.21	3.15	3.15	3.15	3.15	3.15	3.15
45.0	3.21	3.21	3.21	3.21	3.21	3.21	3.21	3.21	3.26
90.0	3.15	3.09	3.09	3.09	3.09	3.09	3.04	3.04	3.04
135.0	3.21	3.15	3.15	3.15	3.15	3.15	3.09	3.09	3.09
180.0	3.21	3.15	3.21	3.15	3.15	3.09	3.09	3.09	3.09
225.0	3.21	3.15	3.21	3.15	3.15	3.09	3.15	3.15	3.09
270.0	3.26	3.26	3.21	3.21	3.21	3.21	3.21	3.21	3.15
315.0	3.32	3.32	3.32	3.38	3.38	3.43	3.43	3.49	3.54
360.0	3.21	3.21	3.21	3.15	3.15	3.15	3.15	3.15	3.15
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	3.15	3.09	3.04	3.04	3.04	2.98	2.87	2.81	2.76
45.0	3.26	3.26	3.26	3.32	3.21	3.04	2.81	2.81	2.76
90.0	3.04	3.04	3.04	3.04	2.98	2.93	2.81	2.81	2.76
135.0	3.04	3.04	3.04	3.04	2.98	2.93	2.87	2.81	2.76
180.0	3.09	3.04	3.04	3.04	2.98	2.98	2.87	2.81	2.76
225.0	3.09	3.09	3.09	3.09	3.04	3.04	2.87	2.87	2.81
270.0	3.15	3.15	3.09	3.09	3.09	3.04	2.98	2.87	2.81
315.0	3.60	3.60	3.54	3.49	3.32	3.09	2.93	2.81	2.76
360.0	3.15	3.09	3.04	3.04	3.04	2.98	2.87	2.81	2.76

Intensity data(cd)

C/γ(°)	90.0
0.0	2.76
45.0	2.76
90.0	2.76
135.0	2.76
180.0	2.81
225.0	2.81
270.0	2.76
315.0	2.76
360.0	2.76