
乐达凯

Client:

LumCAT: RYNW0618LAJUDBK

Luminaire: LED lamp

Report No:

Ballast type:

Test No: LCZP24090312

Voltage(V): 120.010

LampCAT:

Current(A): 0.171

Lamp flux(lm): 358.6

Power (W): 20.310

Number of Lamps: 1

PF: 0.991

Length(mm): 30

Width(mm): 20

Phm Type: C

Height(mm): 420

Photometric Results

Lumens(lm): 358.57, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 17.65

Central intensity(cd): 1.099, Maximum intensity(cd): 86.531

Angle of maximum intensity: C=30.0 γ =90.0

Beam Angle(50%Imax): [C0/180]Total=289.0

[C90/270]Total=111.2

Field angle(10%Imax): [C0/180]Total=344.4

[C90/270]Total=292.8

Maximum s/h(1/2): C0_180=7.58 C90_270=8.63

Maximum s/h(1/4): C0_180=7.10 C90_270=7.70

Up flux rate of lamp(%): 48.97%

Down flux rate of lamp(%): 51.03%

Up flux rate of LUM(%): 48.97%

Down flux rate of LUM(%): 51.03%

CIE Type : General diffuse lighting

Output flux ratio in π solid angle : 19.490%

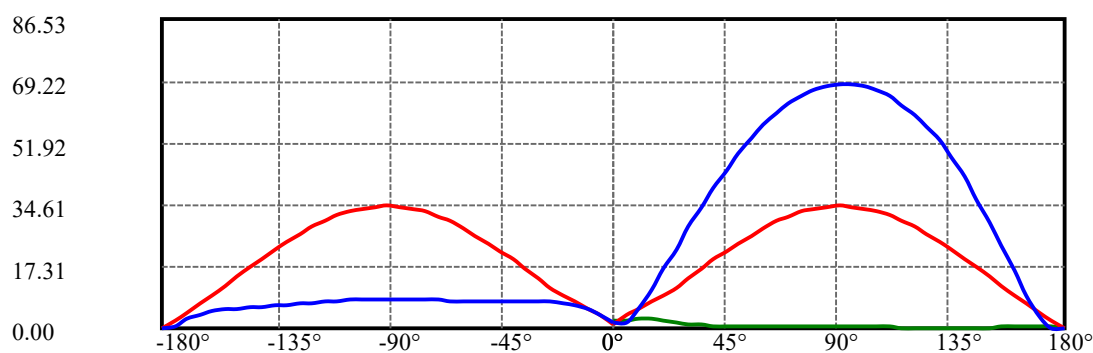
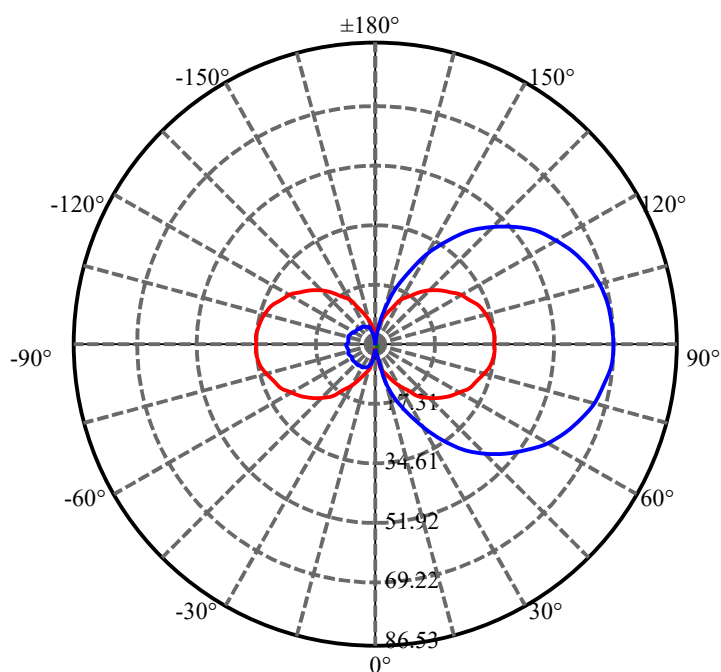
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1.770	0.000	0	0.00%	0.00%
5.0	3.716	0.066	0.066	0.02%	0.02%
10.0	6.517	0.366	0.432	0.10%	0.12%
15.0	9.283	0.937	1.369	0.26%	0.38%
20.0	12.075	1.760	3.129	0.49%	0.87%
25.0	14.849	2.824	5.953	0.79%	1.66%
30.0	17.749	4.125	10.078	1.15%	2.81%
35.0	20.450	5.625	15.703	1.57%	4.38%
40.0	23.121	7.269	22.973	2.03%	6.41%
45.0	25.604	9.022	31.994	2.52%	8.92%
50.0	27.997	10.831	42.825	3.02%	11.94%
55.0	30.183	12.650	55.475	3.53%	15.47%
60.0	32.163	14.411	69.886	4.02%	19.49%
65.0	33.899	16.060	85.946	4.48%	23.97%
70.0	35.314	17.525	103.471	4.89%	28.86%
75.0	36.447	18.757	122.229	5.23%	34.09%
80.0	37.245	19.718	141.947	5.50%	39.59%
85.0	37.691	20.362	162.308	5.68%	45.27%
90.0	37.802	20.671	182.979	5.76%	51.03%
95.0	37.508	20.620	203.599	5.75%	56.78%
100.0	36.928	20.226	223.826	5.64%	62.42%
105.0	35.940	19.497	243.323	5.44%	67.86%
110.0	34.605	18.439	261.762	5.14%	73.00%
115.0	32.987	17.115	278.877	4.77%	77.77%
120.0	31.278	15.623	294.5	4.36%	82.13%
125.0	29.004	13.934	308.434	3.89%	86.02%
130.0	26.688	12.109	320.543	3.38%	89.39%
135.0	24.120	10.267	330.809	2.86%	92.26%
140.0	21.553	8.457	339.266	2.36%	94.62%
145.0	18.420	6.669	345.935	1.86%	96.48%
150.0	15.383	4.978	350.913	1.39%	97.86%
155.0	12.316	3.505	354.418	0.98%	98.84%
160.0	9.126	2.249	356.667	0.63%	99.47%
165.0	5.898	1.238	357.905	0.35%	99.81%
170.0	2.976	0.526	358.432	0.15%	99.96%
175.0	0.706	0.132	358.563	0.04%	100.00%
180.0	0.023	0.009	358.572	0.00%	100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	10.08	2.81%	2.81%
0-40	22.97	6.41%	6.41%
0-60	69.89	19.49%	19.49%
0-90	182.98	51.03%	51.03%
0-120	294.50	82.13%	82.13%
0-180	358.57	100.00%	100.00%
60-90	113.09	31.54%	31.54%
90-120	111.52	31.10%	31.10%
90-130	137.56	38.36%	38.36%
90-150	167.93	46.83%	46.83%
90-180	175.58	48.97%	48.97%
0-117.55	286.86	80.00%	80.00%

ZONAL LUMEN SUMMARY

0-10	0.43
10-20	2.70
20-30	6.95
30-40	12.89
40-50	19.85
50-60	27.06
60-70	33.58
70-80	38.48
80-90	41.03
90-100	40.85
100-110	37.94
110-120	32.74
120-130	26.04
130-140	18.72
140-150	11.65
150-160	5.75
160-170	1.76
170-180	0.13



C30(Max): —————

C0/C180: —————

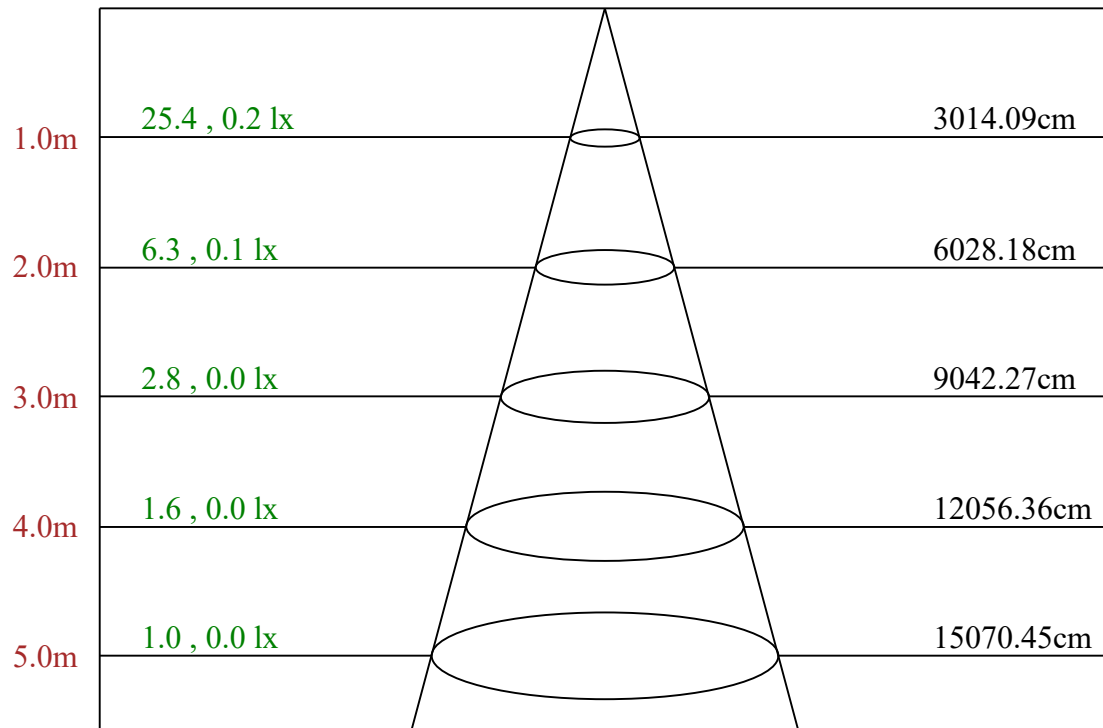
C90/C270: —————

Field angle(10%Imax):C0/180Left:262.2 Right:82.2

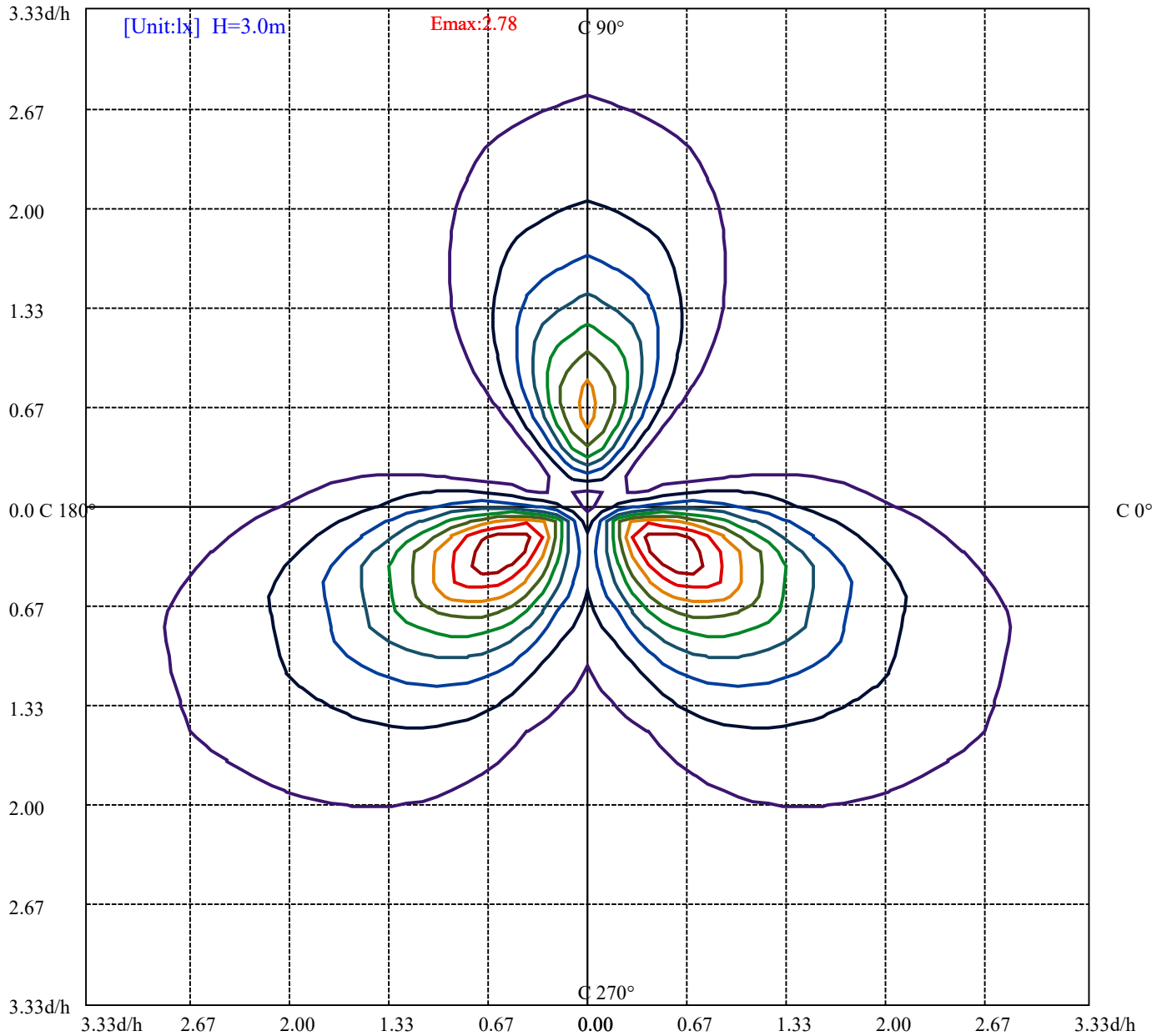
:C90/270Left:215.8 Right:77.0

Beam Angle(50%Imax):C0/180Left:234.5 Right:54.5

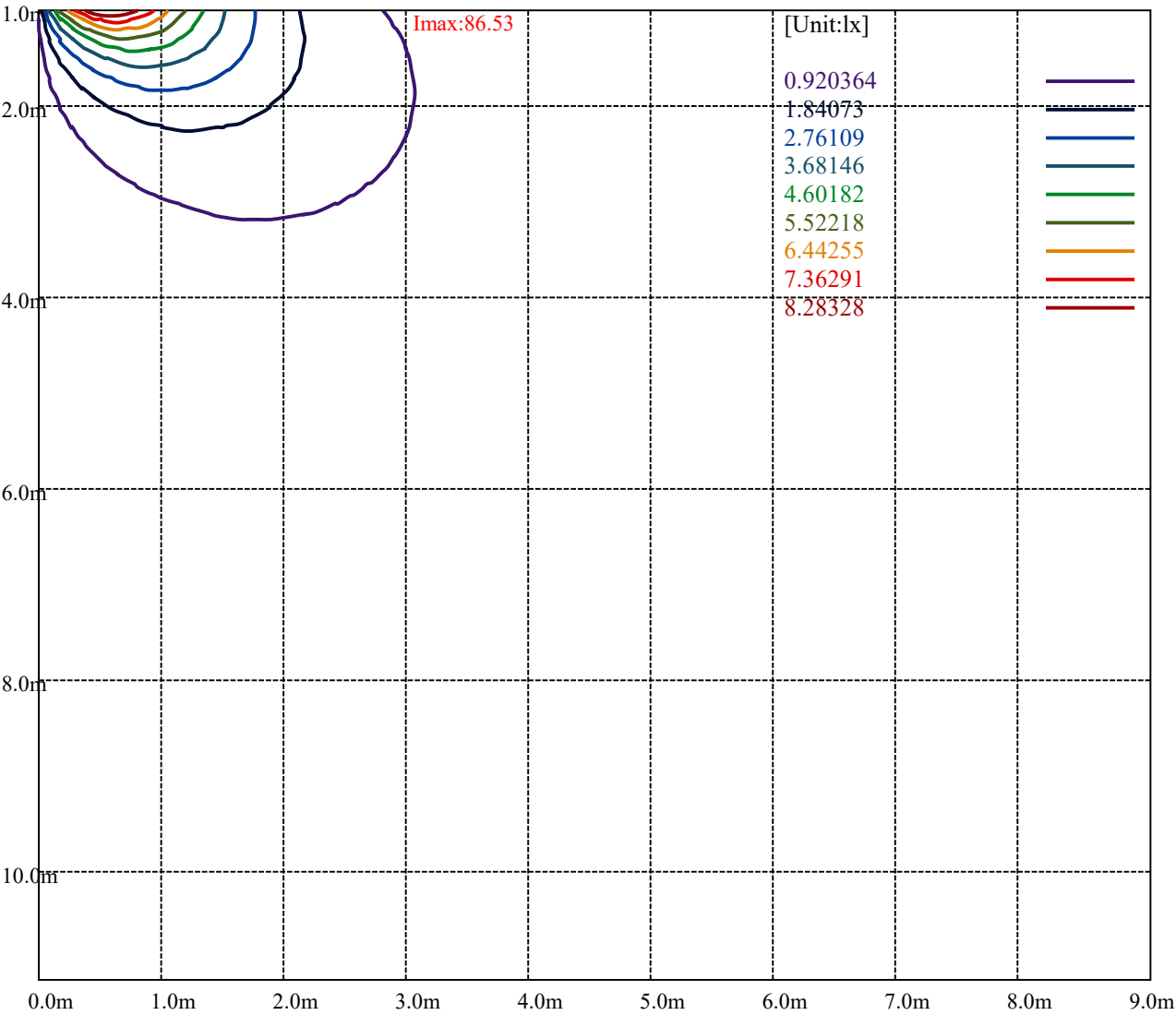
:C90/270Left:54.6 Right:56.6



Max , Ave Beam angle of C30 plane 172.41



(10%Emax) 0.2781589	—
(20%Emax) 0.5563177	—
(30%Emax) 0.8344767	—
(40%Emax) 1.112633	—
(50%Emax) 1.3908	—
(60%Emax) 1.668956	—
(70%Emax) 1.947111	—
(80%Emax) 2.225266	—
(90%Emax) 2.503433	—



Luminance Table

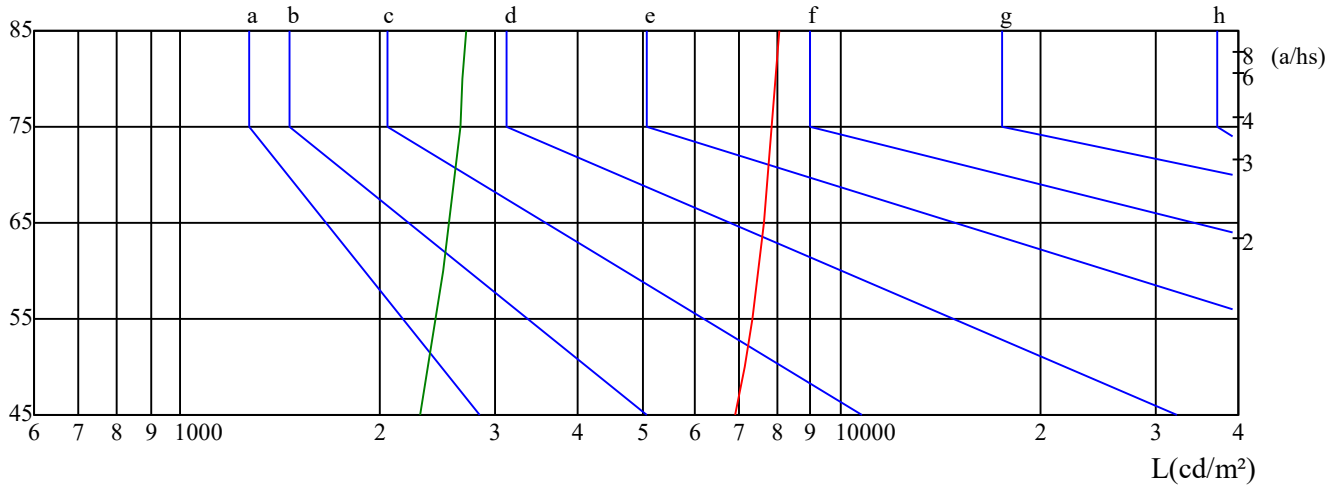
γ	45	50	55	60	65	70	75	80	85
C0	2305	2376	2438	2499	2557	2604	2648	2678	2702
C45	348	343	337	341	344	346	347	351	349
C90	6935	7156	7338	7495	7636	7756	7862	7969	8069

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
117722	133791	126208	210208	235268	220527	651379	726672	675455

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

 $\gamma(^{\circ})$ 

C0 ———

C45 ———

C90 ———

RHOC	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	1.07	1.07	1.07	0.99	0.99	0.99	0.84	0.84	0.84	0.70	0.70	0.70	0.57	0.57	0.57	0.51
1	0.85	0.79	0.74	0.78	0.73	0.68	0.65	0.61	0.57	0.52	0.49	0.46	0.41	0.39	0.36	0.31
2	0.71	0.63	0.56	0.65	0.57	0.51	0.53	0.48	0.42	0.43	0.38	0.34	0.33	0.29	0.26	0.21
3	0.61	0.51	0.44	0.55	0.47	0.40	0.45	0.39	0.33	0.36	0.31	0.26	0.27	0.23	0.20	0.15
4	0.53	0.43	0.35	0.48	0.39	0.32	0.39	0.32	0.27	0.31	0.25	0.21	0.23	0.19	0.16	0.12
5	0.46	0.36	0.29	0.42	0.33	0.27	0.34	0.27	0.22	0.27	0.22	0.17	0.20	0.16	0.13	0.09
6	0.41	0.31	0.24	0.37	0.29	0.22	0.30	0.23	0.18	0.24	0.19	0.14	0.18	0.14	0.10	0.07
7	0.36	0.27	0.21	0.33	0.25	0.19	0.27	0.20	0.16	0.22	0.16	0.12	0.16	0.12	0.09	0.06
8	0.33	0.24	0.18	0.30	0.22	0.16	0.24	0.18	0.13	0.19	0.14	0.10	0.15	0.11	0.08	0.05
9	0.30	0.21	0.16	0.27	0.19	0.14	0.22	0.16	0.12	0.18	0.13	0.09	0.13	0.09	0.06	0.04
10	0.27	0.19	0.14	0.25	0.17	0.12	0.20	0.14	0.10	0.16	0.11	0.08	0.12	0.08	0.06	0.04

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Intensity data(cd)										Appendix Page: 10 Total:12	
C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0		
0.0	1.10	3.75	7.33	11.08	15.02	19.05	23.81	28.02	32.69		
15.0	1.19	3.02	3.57	3.75	3.75	3.85	4.12	4.76	5.22		
30.0	1.37	2.56	2.66	2.29	1.74	1.28	1.01	0.82	0.55		
45.0	1.28	2.29	2.75	2.56	2.01	1.56	1.10	0.82	0.64		
60.0	1.47	2.11	3.11	3.57	3.94	4.40	4.94	5.49	6.04		
75.0	1.56	2.01	4.40	7.42	10.62	14.01	17.49	21.06	24.36		
90.0	1.65	1.65	5.31	10.71	16.48	22.16	28.29	33.79	39.47		
105.0	2.01	1.37	5.40	11.35	17.03	22.98	28.94	34.52	39.83		
120.0	2.11	1.37	7.51	8.33	11.90	15.47	19.05	22.16	25.46		
135.0	2.20	1.37	3.39	4.40	4.94	5.31	6.23	6.23	6.68		
150.0	2.66	1.56	2.75	2.75	2.38	2.01	1.47	1.10	0.73		
165.0	2.66	2.01	2.75	2.56	2.11	1.47	1.19	0.92	0.73		
180.0	1.10	3.39	3.66	3.75	3.75	4.03	4.49	4.94	5.49		
195.0	1.19	5.59	9.25	13.19	17.58	21.88	26.65	31.22	35.89		
210.0	1.37	6.32	12.27	19.41	26.37	33.97	41.57	49.08	56.31		
225.0	1.28	5.40	10.07	15.75	21.70	27.65	34.25	40.11	45.97		
240.0	1.47	4.67	8.15	12.18	16.21	20.51	24.72	28.84	32.69		
255.0	1.56	4.12	6.78	9.43	11.72	14.01	15.84	17.58	18.68		
270.0	1.65	3.66	5.40	6.50	7.23	7.42	7.60	7.69	7.69		
285.0	2.01	4.21	4.67	7.42	8.33	8.79	9.07	9.16	9.16		
300.0	2.11	5.13	7.97	10.71	13.37	15.66	17.76	19.60	21.34		
315.0	2.20	6.04	10.07	14.28	18.50	22.62	26.83	30.58	34.34		
330.0	2.66	7.42	12.73	18.13	24.63	30.49	36.54	42.40	47.98		
345.0	2.66	8.15	14.47	21.24	28.48	35.80	43.04	49.90	56.95		
360.0	1.10	3.75	7.33	11.08	15.02	19.05	23.81	28.02	32.69		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	36.99	41.21	45.14	48.71	52.01	54.76	57.05	58.69	59.79		
15.0	5.68	6.13	6.50	6.87	7.14	7.42	7.60	7.78	7.78		
30.0	0.55	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46		
45.0	0.46	0.37	0.27	0.37	0.37	0.37	0.46	0.46	0.37		
60.0	6.78	7.33	8.06	8.61	9.25	9.61	10.16	10.35	10.71		
75.0	27.47	30.40	32.87	35.34	37.45	39.37	40.75	41.94	42.67		
90.0	44.14	48.81	53.02	56.77	60.07	62.81	65.01	66.75	67.94		
105.0	44.78	49.26	53.11	56.95	59.98	62.63	64.74	66.39	67.39		
120.0	28.20	30.95	33.42	35.71	37.73	39.19	40.66	41.48	42.03		
135.0	7.14	7.69	8.15	8.61	9.07	9.43	9.61	9.89	9.98		
150.0	0.55	0.46	0.27	0.27	0.27	0.37	0.37	0.37	0.37		
165.0	0.55	0.46	0.46	0.46	0.55	0.55	0.46	0.55	0.55		
180.0	6.04	6.50	6.87	7.33	7.69	7.97	8.24	8.33	8.33		
195.0	40.38	44.68	48.81	52.47	55.86	58.60	60.71	62.27	63.09		
210.0	63.09	69.96	76.00	81.68	86.44	90.47	93.76	96.15	97.24		
225.0	51.46	56.86	61.81	66.20	70.05	73.16	75.36	77.19	78.20		
240.0	36.44	39.83	43.04	45.69	48.16	50.18	51.83	52.93	53.57		
255.0	19.69	20.69	21.70	22.53	23.17	23.62	23.81	24.08	24.08		
270.0	7.69	7.78	7.78	7.78	7.78	7.97	8.06	8.06	8.06		
285.0	9.34	9.43	9.61	9.71	9.80	9.89	9.89	9.89	9.98		
300.0	23.07	24.63	26.10	27.38	28.57	29.39	30.13	30.49	30.67		
315.0	37.63	40.84	43.77	46.33	48.53	50.27	51.55	52.38	52.74		
330.0	53.11	57.78	62.17	65.84	69.13	71.70	73.80	75.08	75.63		
345.0	63.27	69.41	74.99	79.85	84.06	87.35	90.28	91.93	92.94		
360.0	36.99	41.21	45.14	48.71	52.01	54.76	57.05	58.69	59.79		

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Intensity data(cd)									Appendix Page: 11 Total:12
C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	60.25	59.98	58.97	57.69	55.49	52.83	49.63	46.24	42.40
15.0	7.87	7.87	7.69	7.42	7.14	6.87	6.50	6.13	5.59
30.0	0.46	0.55	0.46	0.46	0.37	0.18	0.18	0.18	0.18
45.0	0.37	0.46	0.46	0.37	0.27	0.18	0.18	0.18	0.18
60.0	10.80	10.90	10.90	10.71	10.44	10.16	9.71	9.25	8.79
75.0	43.13	43.22	42.94	42.12	41.02	39.65	38.00	35.99	33.51
90.0	68.40	68.31	67.94	66.57	64.92	62.54	59.70	56.31	52.65
105.0	67.85	67.67	67.03	65.74	63.91	61.26	58.69	55.21	51.28
120.0	42.30	42.21	41.66	40.93	39.65	38.18	36.35	34.06	31.50
135.0	9.98	9.98	9.80	9.61	9.25	8.88	8.42	7.87	7.23
150.0	0.37	0.37	0.37	0.37	0.18	0.27	0.18	0.18	0.09
165.0	0.55	0.55	0.55	0.46	0.46	0.46	0.37	0.27	0.27
180.0	8.42	8.24	8.15	7.97	7.60	7.23	6.87	6.41	5.95
195.0	63.09	62.27	60.80	58.69	56.04	52.65	48.99	44.78	40.56
210.0	97.52	96.33	94.68	91.66	87.72	82.87	77.83	71.51	65.20
225.0	78.38	77.74	76.28	74.35	71.24	67.94	67.03	58.97	54.21
240.0	53.84	53.29	53.20	51.19	49.54	47.34	44.68	41.66	38.27
255.0	23.90	23.62	22.98	22.07	21.15	19.78	18.50	17.03	15.38
270.0	8.15	7.97	7.87	7.87	7.60	7.42	7.14	6.87	6.68
285.0	9.80	9.71	9.52	9.34	9.07	8.97	8.61	8.42	8.06
300.0	30.58	30.31	29.76	29.03	28.11	26.83	25.46	23.99	22.25
315.0	52.74	52.19	51.19	49.81	47.89	45.51	43.04	39.92	36.63
330.0	75.54	74.72	73.25	71.15	68.22	64.83	60.89	56.50	51.64
345.0	92.94	91.75	89.83	86.99	83.23	78.84	73.71	68.13	61.99
360.0	60.25	59.98	58.97	57.69	55.49	52.83	49.63	46.24	42.40
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	38.27	33.88	29.67	25.00	20.42	16.21	11.90	7.97	4.30
15.0	5.13	4.67	4.21	3.66	3.20	3.02	2.84	2.66	2.11
30.0	0.18	0.27	0.18	0.27	0.46	0.64	1.10	1.37	1.19
45.0	0.18	0.18	0.18	0.18	0.27	0.37	0.64	1.01	0.73
60.0	8.06	7.14	6.23	5.22	4.12	3.11	2.01	0.92	0.09
75.0	30.58	27.20	23.44	19.23	14.83	10.35	5.86	1.65	0.00
90.0	47.89	42.40	36.26	29.76	22.98	16.39	9.34	3.20	0.00
105.0	46.42	40.84	34.80	28.66	21.98	15.38	8.88	3.48	0.00
120.0	28.57	25.00	21.24	17.12	13.19	8.88	5.22	1.74	0.00
135.0	6.50	5.59	4.76	3.85	2.93	2.01	1.10	0.27	0.00
150.0	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.09	0.09
165.0	0.37	0.27	0.37	0.46	0.46	0.37	0.27	0.18	0.09
180.0	5.40	4.85	4.21	3.66	3.30	2.47	1.56	0.73	0.18
195.0	35.99	31.59	26.83	22.16	18.22	14.38	7.97	3.66	0.55
210.0	58.24	56.68	43.77	36.26	28.94	20.79	13.28	6.13	0.92
225.0	48.81	43.04	37.27	30.95	24.36	17.86	11.26	5.22	0.64
240.0	34.80	30.77	26.83	22.43	18.22	13.19	8.61	4.12	0.55
255.0	13.92	12.27	10.62	9.89	8.15	6.13	4.49	2.93	0.55
270.0	6.41	6.13	5.86	5.59	5.49	5.04	4.03	2.75	0.73
285.0	7.78	7.42	7.14	6.78	6.04	4.94	3.66	2.11	0.82
300.0	20.42	18.50	16.39	14.01	11.54	8.70	5.59	2.84	0.46
315.0	32.96	29.03	25.09	20.79	16.48	12.09	8.06	3.94	0.73
330.0	46.42	40.84	34.89	28.66	22.80	16.67	10.80	5.49	0.82
345.0	55.40	48.53	41.66	34.43	27.01	19.87	12.91	6.96	1.37
360.0	38.27	33.88	29.67	25.00	20.42	16.21	11.90	7.97	4.30

Intensity data(cd)

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C/ γ (°)	180.0
0.0	0.18
15.0	0.09
30.0	0.09
45.0	0.00
60.0	0.00
75.0	0.00
90.0	0.09
105.0	0.00
120.0	0.00
135.0	0.00
150.0	0.00
165.0	0.09
180.0	0.00
195.0	0.00
210.0	0.00
225.0	0.00
240.0	0.00
255.0	0.00
270.0	0.00
285.0	0.00
300.0	0.00
315.0	0.00
330.0	0.00
345.0	0.00
360.0	0.18