
乐达凯

Client:

LumCAT: LCD-RDD-DP-15-CCT-UNV-WT

Luminaire: LED LAMP

Report No:

Ballast type:

Test No:

Voltage(V): 120.010

LampCAT:

Current(A): 0.248

Lamp flux(lm): 2227.7

Power (W): 29.510

Number of Lamps: 1

PF: 0.992

Length(mm): 190

Width(mm): 70

Phm Type: C

Height(mm): 40

Photometric Results

Lumens(lm): 2227.71, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 75.49

Central intensity(cd): 495.740, Maximum intensity(cd): 536.729

Angle of maximum intensity: C=60.0 γ =25.0

Beam Angle(50%Imax): [C0/180]Total=134.0

[C90/270]Total=128.0

Field angle(10%Imax): [C0/180]Total=195.4

[C90/270]Total=177.4

Maximum s/h(1/2): C0_180=1.57 C90_270=1.57

Maximum s/h(1/4): C0_180=1.64 C90_270=1.64

Up flux rate of lamp(%): 7.09%

Down flux rate of lamp(%): 92.91%

Up flux rate of LUM(%): 7.09%

Down flux rate of LUM(%): 92.91%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 66.768%

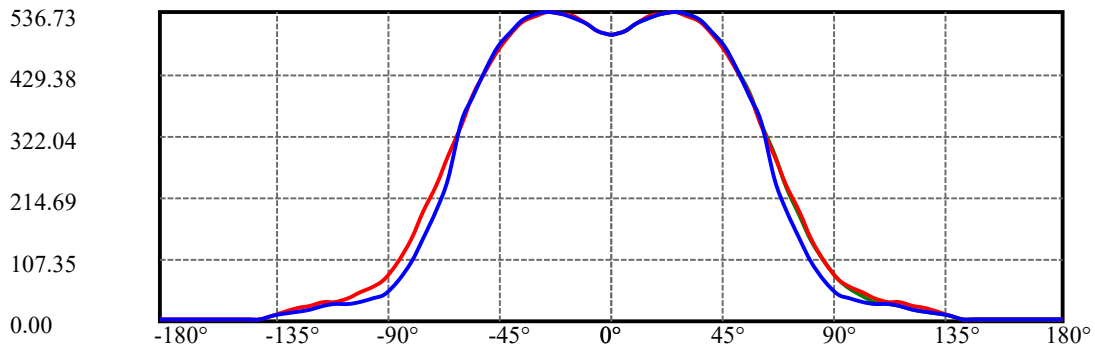
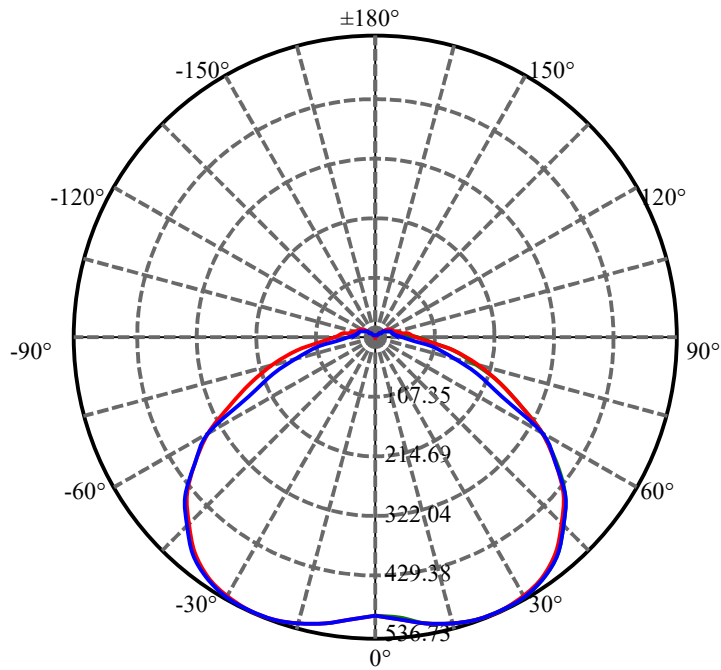
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	495.740	0.000	0	0.00%	0.00%
5.0	503.149	11.941	11.941	0.54%	0.54%
10.0	516.159	36.464	48.405	1.64%	2.17%
15.0	527.158	61.889	110.294	2.78%	4.95%
20.0	534.106	87.463	197.757	3.93%	8.88%
25.0	535.848	112.218	309.976	5.04%	13.91%
30.0	531.334	135.053	445.029	6.06%	19.98%
35.0	520.794	154.933	599.962	6.95%	26.93%
40.0	502.007	170.647	770.608	7.66%	34.59%
45.0	474.124	180.739	951.347	8.11%	42.71%
50.0	439.187	184.548	1135.895	8.28%	50.99%
55.0	394.629	181.299	1317.194	8.14%	59.13%
60.0	341.730	170.207	1487.401	7.64%	66.77%
65.0	281.884	151.602	1639.003	6.81%	73.57%
70.0	228.094	129.130	1768.133	5.80%	79.37%
75.0	180.265	106.738	1874.871	4.79%	84.16%
80.0	137.165	84.936	1959.807	3.81%	87.97%
85.0	97.873	63.865	2023.672	2.87%	90.84%
90.0	70.321	46.053	2069.725	2.07%	92.91%
95.0	55.076	34.335	2104.059	1.54%	94.45%
100.0	44.195	26.974	2131.033	1.21%	95.66%
105.0	35.790	21.402	2152.435	0.96%	96.62%
110.0	31.980	17.714	2170.149	0.80%	97.42%
115.0	29.013	15.444	2185.593	0.69%	98.11%
120.0	23.631	12.798	2198.391	0.57%	98.68%
125.0	19.814	10.042	2208.433	0.45%	99.13%
130.0	15.004	7.571	2216.004	0.34%	99.47%
135.0	9.146	4.880	2220.884	0.22%	99.69%
140.0	4.669	2.558	2223.442	0.11%	99.81%
145.0	2.316	1.165	2224.607	0.05%	99.86%
150.0	2.316	0.682	2225.289	0.03%	99.89%
155.0	2.780	0.645	2225.934	0.03%	99.92%
160.0	2.780	0.583	2226.517	0.03%	99.95%
165.0	3.243	0.496	2227.014	0.02%	99.97%
170.0	3.243	0.385	2227.398	0.02%	99.99%
175.0	3.706	0.249	2227.647	0.01%	100.00%
180.0	1.853	0.066	2227.714	0.00%	100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	445.03	19.98%	19.98%
0-40	770.61	34.59%	34.59%
0-60	1487.40	66.77%	66.77%
0-90	2069.72	92.91%	92.91%
0-120	2198.39	98.68%	98.68%
0-180	2227.71	100.00%	100.00%
60-90	582.32	26.14%	26.14%
90-120	128.67	5.78%	5.78%
90-130	146.28	6.57%	6.57%
90-150	155.56	6.98%	6.98%
90-180	157.92	7.09%	7.09%
0-70.66	1782.17	80.00%	80.00%

ZONAL LUMEN SUMMARY

0-10	48.41
10-20	149.35
20-30	247.27
30-40	325.58
40-50	365.29
50-60	351.51
60-70	280.73
70-80	191.67
80-90	109.92
90-100	61.31
100-110	39.12
110-120	28.24
120-130	17.61
130-140	7.44
140-150	1.85
150-160	1.23
160-170	0.88
170-180	0.25



C60(Max):

C0/C180:

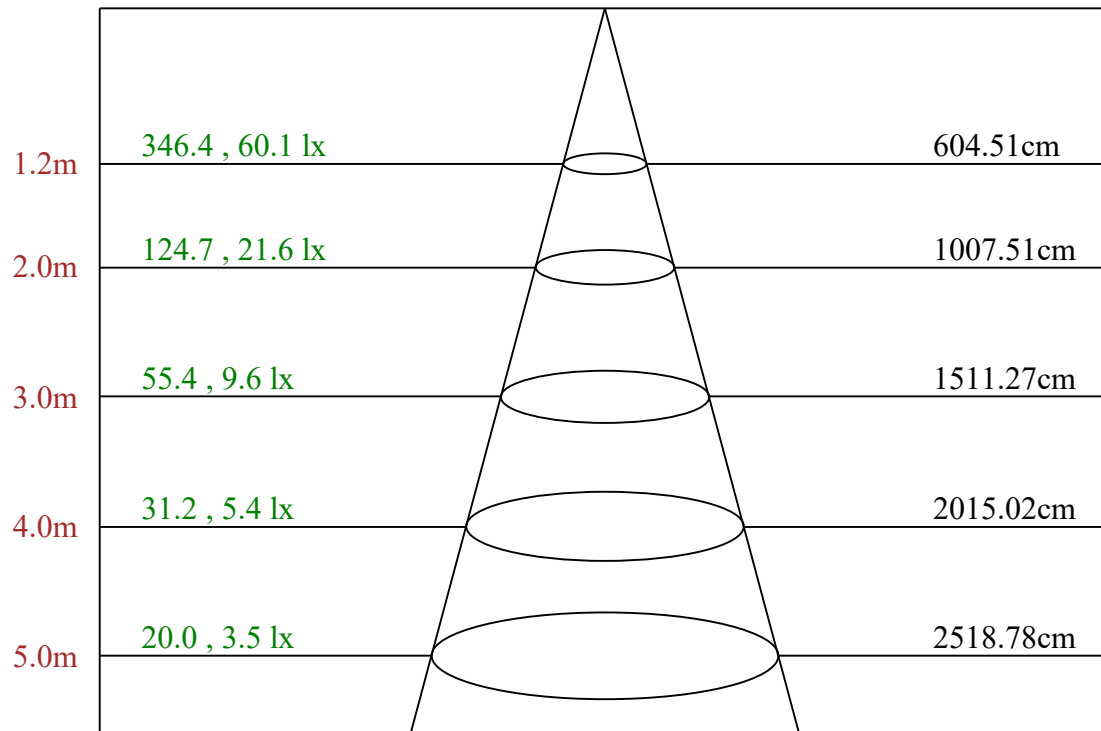
C90/C270:

Field angle(10%Imax):C0/180Left:122.7 Right:72.7

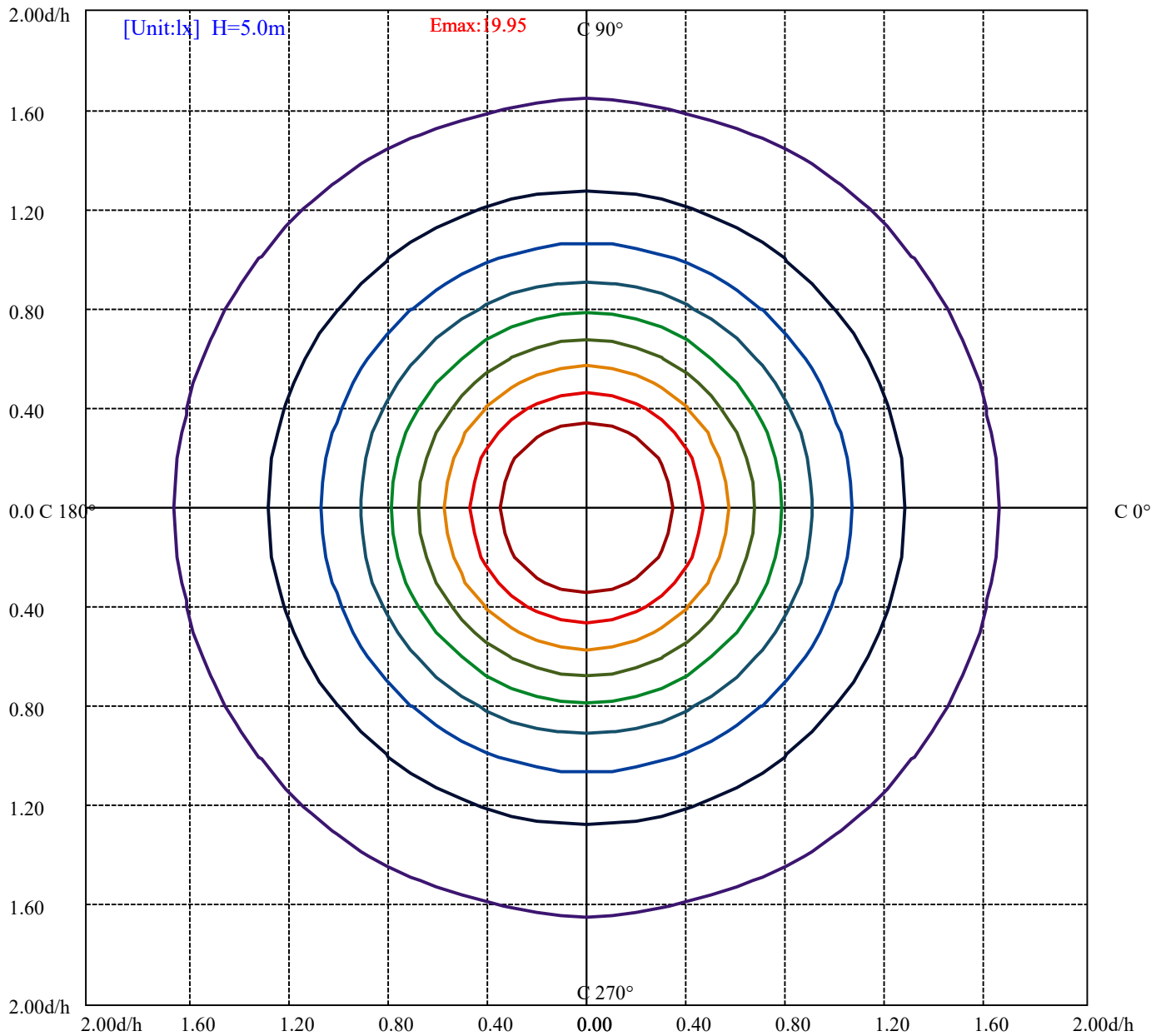
:C90/270Left:113.7 Right:63.7

Beam Angle(50%Imax):C0/180Left:92.0 Right:42.0

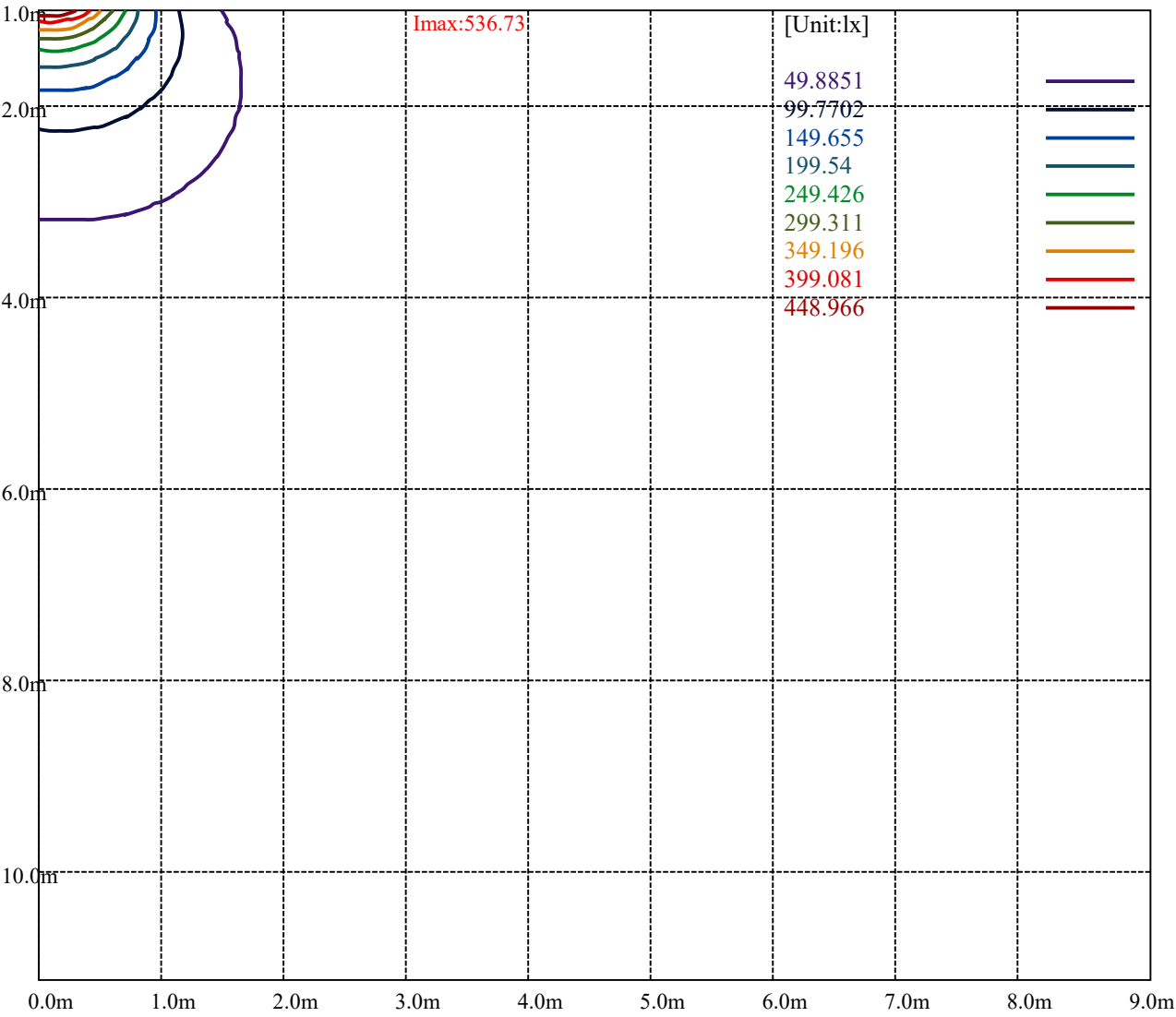
:C90/270Left:89.0 Right:39.0



Max , Ave Beam angle of C60 plane 136.69



(10%Emax) 1.995404	—
(20%Emax) 3.990808	—
(30%Emax) 5.9862	—
(40%Emax) 7.9816	—
(50%Emax) 9.977039	—
(60%Emax) 11.97244	—
(70%Emax) 13.96784	—
(80%Emax) 15.96324	—
(90%Emax) 17.95864	—



Luminance Table

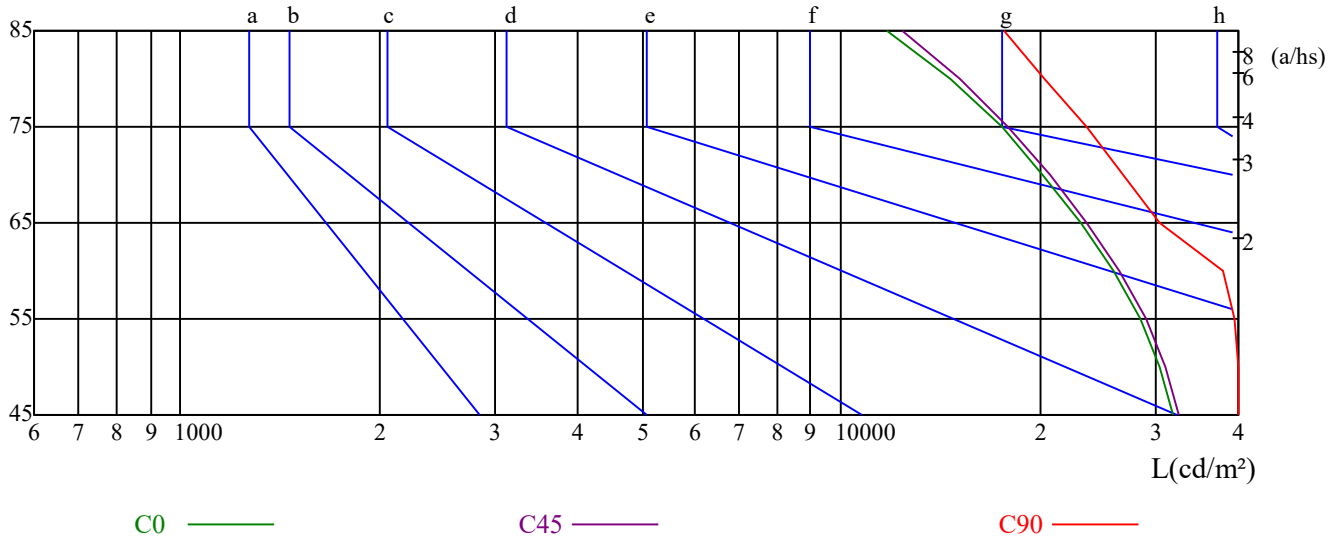
γ	45	50	55	60	65	70	75	80	85
C0	31867	30344	28394	25810	23045	20260	17495	14623	11777
C45	32471	31007	28977	26445	23544	20723	17891	15106	12427
C90	41738	41109	39405	38033	30439	26771	23586	20306	17648

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
51285	44182	51461	54805	42117	54811	88701	60115	90962

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

 $\gamma(^{\circ})$ 

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	1.17	1.17	1.17	1.14	1.14	1.14	1.07	1.07	1.07	1.01	1.01	1.01	0.96	0.96	0.96	0.93
1	1.00	0.95	0.90	0.97	0.92	0.88	0.91	0.87	0.84	0.86	0.83	0.80	0.81	0.79	0.77	0.74
2	0.86	0.78	0.72	0.83	0.76	0.70	0.78	0.73	0.68	0.74	0.69	0.65	0.70	0.66	0.62	0.60
3	0.74	0.66	0.59	0.72	0.64	0.58	0.68	0.61	0.56	0.64	0.59	0.54	0.61	0.56	0.52	0.49
4	0.65	0.56	0.49	0.64	0.55	0.48	0.60	0.53	0.47	0.57	0.50	0.45	0.54	0.48	0.44	0.41
5	0.58	0.48	0.41	0.56	0.47	0.41	0.53	0.46	0.40	0.51	0.44	0.39	0.48	0.42	0.38	0.35
6	0.52	0.42	0.36	0.50	0.42	0.35	0.48	0.40	0.34	0.45	0.39	0.33	0.43	0.37	0.33	0.30
7	0.47	0.38	0.31	0.46	0.37	0.31	0.43	0.36	0.30	0.41	0.34	0.29	0.39	0.33	0.29	0.26
8	0.42	0.34	0.27	0.41	0.33	0.27	0.39	0.32	0.27	0.38	0.31	0.26	0.36	0.30	0.25	0.23
9	0.39	0.30	0.24	0.38	0.30	0.24	0.36	0.29	0.24	0.34	0.28	0.23	0.33	0.27	0.23	0.21
10	0.36	0.27	0.22	0.35	0.27	0.22	0.33	0.26	0.21	0.32	0.25	0.21	0.30	0.25	0.20	0.19

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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	495.74	507.67	520.53	531.54	537.97	540.72	534.30	524.20	502.17
15.0	495.74	506.76	521.44	534.30	543.48	544.40	540.72	531.54	509.51
30.0	495.74	506.78	522.41	535.29	545.41	549.08	545.41	535.29	516.89
45.0	495.74	505.86	522.41	537.13	545.41	550.00	547.24	538.97	521.49
60.0	495.74	505.01	522.61	534.66	545.78	551.34	550.41	543.00	526.32
75.0	495.74	504.13	519.97	533.95	543.26	548.85	547.92	540.47	523.69
90.0	495.74	504.16	519.12	532.22	542.51	548.12	546.25	537.83	520.99
105.0	495.74	502.31	519.21	531.42	540.81	544.56	543.62	533.30	516.40
120.0	495.74	500.43	515.42	527.60	538.85	541.66	540.72	530.41	513.54
135.0	495.74	498.53	511.55	524.57	534.80	538.52	534.80	528.29	510.62
150.0	495.74	501.30	512.42	526.32	536.51	536.51	532.80	525.39	507.79
165.0	495.74	497.57	507.65	520.48	527.81	529.64	527.81	516.82	500.32
180.0	495.74	501.25	515.02	526.03	531.54	531.54	526.03	515.94	494.82
195.0	495.74	500.33	512.26	524.20	528.79	530.62	524.20	513.18	492.07
210.0	495.74	500.34	511.38	521.49	527.93	527.01	522.41	512.29	492.98
225.0	495.74	500.34	510.46	518.73	525.17	525.17	519.65	508.62	489.30
240.0	495.74	500.37	511.49	519.83	525.39	526.32	519.83	508.71	487.40
255.0	495.74	501.33	511.58	519.97	524.63	524.63	519.97	506.92	486.42
270.0	495.74	501.35	512.58	520.99	524.74	524.74	518.19	506.03	484.52
285.0	495.74	505.13	514.52	522.97	527.66	526.72	519.21	507.01	503.25
300.0	495.74	503.24	515.42	523.85	522.92	527.60	520.10	506.05	484.49
315.0	495.74	505.04	517.13	525.50	529.22	529.22	521.78	507.83	486.44
330.0	495.74	509.64	520.76	530.02	534.66	532.80	525.39	510.57	489.25
345.0	495.74	506.74	520.48	528.73	533.31	530.56	523.23	510.40	487.49
360.0	495.74	507.67	520.53	531.54	537.97	540.72	534.30	524.20	502.17
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	474.62	439.74	397.51	344.26	291.94	238.69	190.03	143.21	104.66
15.0	484.72	448.92	403.94	351.61	293.77	241.44	191.87	145.05	104.66
30.0	490.22	454.35	409.28	356.86	298.92	242.81	192.23	147.16	106.69
45.0	492.98	458.95	412.96	358.70	299.84	244.65	194.07	147.16	107.61
60.0	500.37	466.09	422.54	366.94	306.71	249.26	198.30	153.82	111.19
75.0	497.60	463.13	417.46	361.55	293.53	236.69	183.57	137.91	97.84
90.0	492.93	459.26	415.30	341.41	266.58	206.71	157.14	113.18	76.70
105.0	490.11	456.31	412.18	347.39	277.91	215.01	165.25	123.93	86.38
120.0	488.24	454.51	413.27	362.67	304.57	245.53	194.92	150.88	110.58
135.0	485.51	452.96	411.10	360.88	306.00	252.99	203.69	158.12	116.26
150.0	482.77	451.26	412.34	362.31	306.71	252.04	205.71	156.60	116.75
165.0	476.50	443.51	404.11	355.54	300.56	251.08	201.59	154.86	113.63
180.0	467.28	432.40	389.25	338.76	284.59	235.02	187.28	143.21	100.98
195.0	466.36	430.56	389.25	336.00	284.59	233.18	186.36	141.38	100.98
210.0	465.39	429.52	386.29	333.87	282.36	230.85	186.71	141.64	102.09
225.0	461.71	429.52	384.45	333.87	280.52	229.93	183.95	139.80	102.09
240.0	459.60	424.39	378.99	326.17	275.20	221.46	178.84	135.29	99.15
255.0	458.47	423.99	374.60	318.69	258.12	205.94	159.34	149.09	83.87
270.0	457.39	419.98	366.66	348.89	230.10	177.72	132.82	92.60	62.67
285.0	456.31	418.75	368.99	299.51	240.36	184.96	143.65	102.34	70.42
300.0	455.44	420.77	372.04	322.37	267.08	214.60	167.75	124.64	89.96
315.0	456.68	417.61	373.90	323.67	270.66	222.29	173.00	132.07	95.80
330.0	459.60	422.54	378.99	325.24	274.28	222.39	174.20	130.65	94.51
345.0	458.17	421.52	375.70	324.38	270.32	219.01	174.10	127.37	93.47
360.0	474.62	439.74	397.51	344.26	291.94	238.69	190.03	143.21	104.66

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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	74.36	60.59	49.57	40.39	35.80	32.13	28.46	24.79	17.44		
15.0	74.36	60.59	49.57	40.39	34.89	32.13	28.46	24.79	18.36		
30.0	78.18	61.62	49.67	40.47	34.95	31.27	28.51	24.83	17.48		
45.0	78.18	62.54	49.67	40.47	34.95	31.27	25.75	21.15	17.48		
60.0	81.54	62.08	46.33	35.21	30.58	27.80	21.31	17.61	13.90		
75.0	68.96	52.18	38.21	29.82	27.02	27.02	18.64	16.77	13.98		
90.0	52.38	39.29	32.74	29.93	29.00	29.00	19.64	15.90	14.03		
105.0	59.15	44.13	34.74	29.11	28.17	28.17	18.78	15.96	14.08		
120.0	78.72	56.23	42.17	31.86	28.11	27.18	19.68	15.93	14.99		
135.0	83.71	64.18	49.29	38.13	31.62	28.83	23.25	19.53	15.81		
150.0	84.32	65.79	51.89	41.70	35.21	31.50	28.73	25.02	18.53		
165.0	80.64	62.31	50.40	41.24	33.90	30.24	27.49	24.74	18.33		
180.0	72.52	57.84	47.74	39.48	33.97	31.21	27.54	23.87	17.44		
195.0	73.44	57.84	47.74	39.48	33.97	31.21	27.54	23.87	16.52		
210.0	74.50	58.86	47.83	38.63	34.03	31.27	28.51	22.99	15.64		
225.0	74.50	61.62	47.83	39.55	34.95	31.27	28.51	21.15	14.72		
240.0	71.35	54.67	51.89	33.36	30.58	25.95	20.39	15.75	12.05		
255.0	58.71	45.66	35.41	28.89	27.96	25.16	17.70	14.91	12.11		
270.0	43.96	37.41	31.80	30.87	29.00	27.13	17.77	14.97	12.16		
285.0	49.76	39.43	31.92	29.11	29.11	26.29	17.84	15.02	12.21		
300.0	62.79	48.73	37.49	29.99	28.11	23.43	17.81	14.99	12.18		
315.0	69.76	54.88	43.71	35.34	31.62	26.04	21.39	17.67	12.09		
330.0	72.28	57.45	47.26	37.99	35.21	30.58	25.95	21.31	14.83		
345.0	69.64	55.90	45.82	37.57	34.82	30.24	27.49	21.99	13.75		
360.0	74.36	60.59	49.57	40.39	35.80	32.13	28.46	24.79	17.44		
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0		
0.0	9.18	4.59	1.84	2.75	3.67	3.67	3.67	3.67	3.67		
15.0	9.18	4.59	2.75	2.75	3.67	3.67	3.67	3.67	3.67		
30.0	11.96	5.52	2.76	2.76	3.68	3.68	3.68	3.68	3.68		
45.0	11.04	5.52	2.76	2.76	3.68	3.68	3.68	3.68	3.68		
60.0	9.27	5.56	2.78	2.78	3.71	3.71	3.71	3.71	3.71		
75.0	10.25	5.59	2.80	2.80	3.73	3.73	3.73	3.73	3.73		
90.0	10.29	5.61	2.81	2.81	3.74	3.74	3.74	3.74	3.74		
105.0	10.33	5.63	2.82	2.82	3.76	3.76	3.76	3.76	3.76		
120.0	10.31	5.62	2.81	2.81	3.75	3.75	3.75	3.75	3.75		
135.0	10.23	5.58	2.79	2.79	3.72	3.72	3.72	3.72	3.72		
150.0	12.05	6.49	2.78	2.78	3.71	3.71	3.71	3.71	3.71		
165.0	11.91	6.41	3.67	2.75	3.67	3.67	3.67	3.67	3.67		
180.0	8.26	3.67	1.84	1.84	1.84	1.84	2.75	2.75	3.67		
195.0	8.26	3.67	1.84	1.84	1.84	1.84	2.75	2.75	3.67		
210.0	9.20	8.28	1.84	1.84	1.84	1.84	2.76	2.76	3.68		
225.0	8.28	4.60	1.84	1.84	1.84	1.84	2.76	2.76	3.68		
240.0	8.34	3.71	1.85	1.85	1.85	1.85	2.78	2.78	3.71		
255.0	7.45	3.73	1.86	1.86	1.86	1.86	2.80	2.80	3.73		
270.0	7.48	3.74	1.87	1.87	1.87	1.87	2.81	2.81	3.74		
285.0	7.51	2.82	1.88	1.88	1.88	1.88	2.82	2.82	3.76		
300.0	6.56	2.81	1.87	1.87	1.87	1.87	2.81	2.81	3.75		
315.0	6.51	2.79	1.86	1.86	1.86	1.86	2.79	2.79	3.72		
330.0	8.34	2.78	1.85	1.85	1.85	1.85	2.78	2.78	3.71		
345.0	7.33	2.75	1.83	1.83	1.83	1.83	2.75	2.75	3.67		
360.0	9.18	4.59	1.84	2.75	3.67	3.67	3.67	3.67	3.67		

Intensity data(cd)

C/ $\gamma(^{\circ})$	180.0
0.0	3.67
15.0	3.67
30.0	3.68
45.0	3.68
60.0	3.71
75.0	3.73
90.0	3.74
105.0	3.76
120.0	3.75
135.0	3.72
150.0	3.71
165.0	3.67
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	3.67