
AFX

Client:

LumCAT: PTHW0618LAJUDBK-3000K

Luminaire: LED Lamp

Report No:

Ballast type:

Test No: LCZP25080180

Voltage(V): 119.940

LampCAT:

Current(A): 0.180

Lamp flux(lm): 1507.7

Power (W): 21.420

Number of Lamps: 1

PF: 0.991

Length(mm): 60

Width(mm): 40

Phm Type: C

Height(mm): 420

Photometric Results

Lumens(lm): 1507.65, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 70.39

Central intensity(cd): 4.037, Maximum intensity(cd): 298.493

Angle of maximum intensity: C=90.0 γ =90.0

Beam Angle(50%Imax): [C0/180]Total=291.4

[C90/270]Total=111.2

Field angle(10%Imax): [C0/180]Total=343.0

[C90/270]Total=163.1

Maximum s/h(1/2): C0_180=8.73 C90_270=19.76

Maximum s/h(1/4): C0_180=7.75 C90_270=16.10

Up flux rate of lamp(%): 50.05%

Down flux rate of lamp(%): 49.95%

Up flux rate of LUM(%): 50.05%

Down flux rate of LUM(%): 49.95%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 18.656%

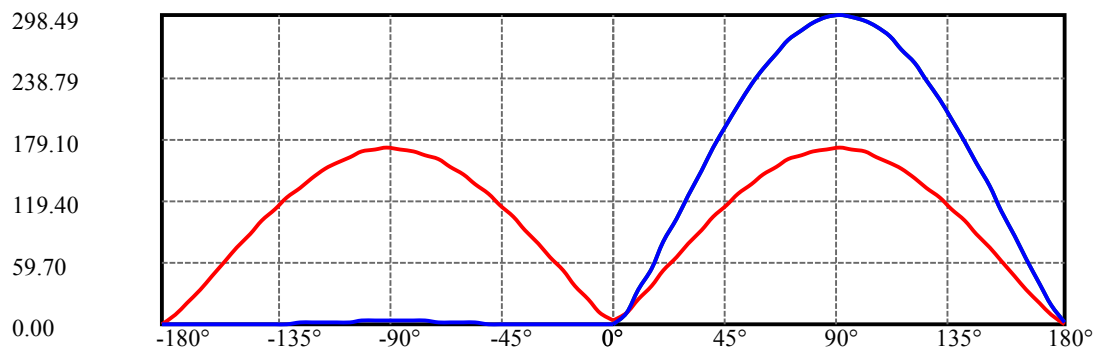
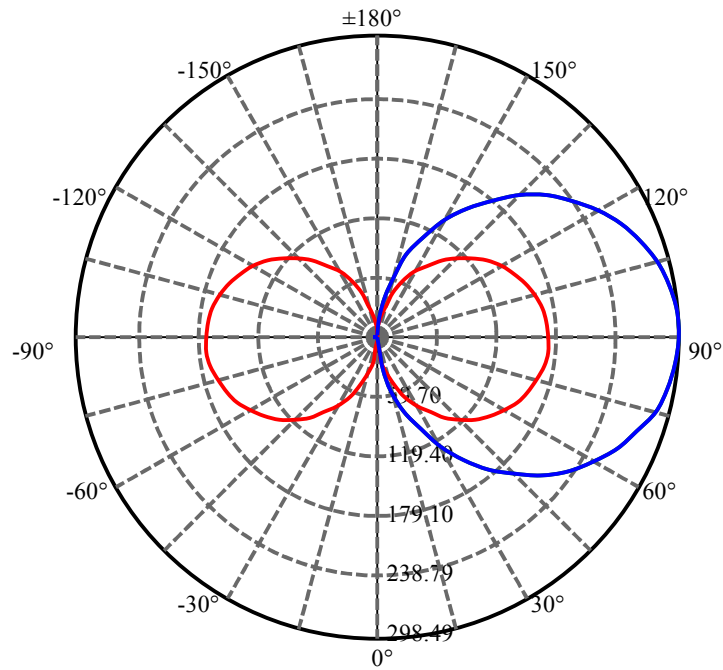
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2.191	0.000	0	0.00%	0.00%
5.0	8.359	0.126	0.126	0.01%	0.01%
10.0	19.716	1.004	1.13	0.07%	0.07%
15.0	32.078	3.072	4.203	0.20%	0.28%
20.0	45.199	6.369	10.572	0.42%	0.70%
25.0	57.244	10.744	21.316	0.71%	1.41%
30.0	69.576	16.049	37.365	1.06%	2.48%
35.0	81.688	22.275	59.64	1.48%	3.96%
40.0	93.374	29.208	88.848	1.94%	5.89%
45.0	104.443	36.628	125.475	2.43%	8.32%
50.0	114.783	44.298	169.773	2.94%	11.26%
55.0	124.398	52.006	221.779	3.45%	14.71%
60.0	132.966	59.489	281.268	3.95%	18.66%
65.0	140.540	66.490	347.758	4.41%	23.07%
70.0	146.951	72.795	420.553	4.83%	27.89%
75.0	152.001	78.141	498.694	5.18%	33.08%
80.0	155.766	82.350	581.044	5.46%	38.54%
85.0	158.143	85.297	666.34	5.66%	44.20%
90.0	158.861	86.798	753.139	5.76%	49.95%
95.0	157.998	86.758	839.897	5.75%	55.71%
100.0	155.788	85.263	925.16	5.66%	61.36%
105.0	152.016	82.360	1007.52	5.46%	66.83%
110.0	146.906	78.134	1085.654	5.18%	72.01%
115.0	140.514	72.777	1158.43	4.83%	76.84%
120.0	133.082	66.512	1224.942	4.41%	81.25%
125.0	124.458	59.530	1284.471	3.95%	85.20%
130.0	114.985	52.063	1336.534	3.45%	88.65%
135.0	104.739	44.398	1380.933	2.94%	91.60%
140.0	93.984	36.795	1417.728	2.44%	94.04%
145.0	82.174	29.391	1447.118	1.95%	95.99%
150.0	70.246	22.445	1469.563	1.49%	97.47%
155.0	58.025	16.233	1485.796	1.08%	98.55%
160.0	45.898	10.900	1496.696	0.72%	99.27%
165.0	33.181	6.517	1503.213	0.43%	99.71%
170.0	21.080	3.219	1506.432	0.21%	99.92%
175.0	9.484	1.093	1507.525	0.07%	99.99%
180.0	0.878	0.124	1507.649	0.01%	100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	37.37	2.48%	2.48%
0-40	88.85	5.89%	5.89%
0-60	281.27	18.66%	18.66%
0-90	753.14	49.95%	49.95%
0-120	1224.94	81.25%	81.25%
0-180	1507.65	100.00%	100.00%
60-90	471.87	31.30%	31.30%
90-120	471.80	31.29%	31.29%
90-130	583.40	38.70%	38.70%
90-150	716.42	47.52%	47.52%
90-180	754.39	50.04%	50.04%
0-118.59	1206.12	80.00%	80.00%

ZONAL LUMEN SUMMARY

0-10	1.13
10-20	9.44
20-30	26.79
30-40	51.48
40-50	80.93
50-60	111.49
60-70	139.28
70-80	160.49
80-90	172.09
90-100	172.02
100-110	160.49
110-120	139.29
120-130	111.59
130-140	81.19
140-150	51.84
150-160	27.13
160-170	9.74
170-180	1.09



C90(Max): —————

C0/C180: —————

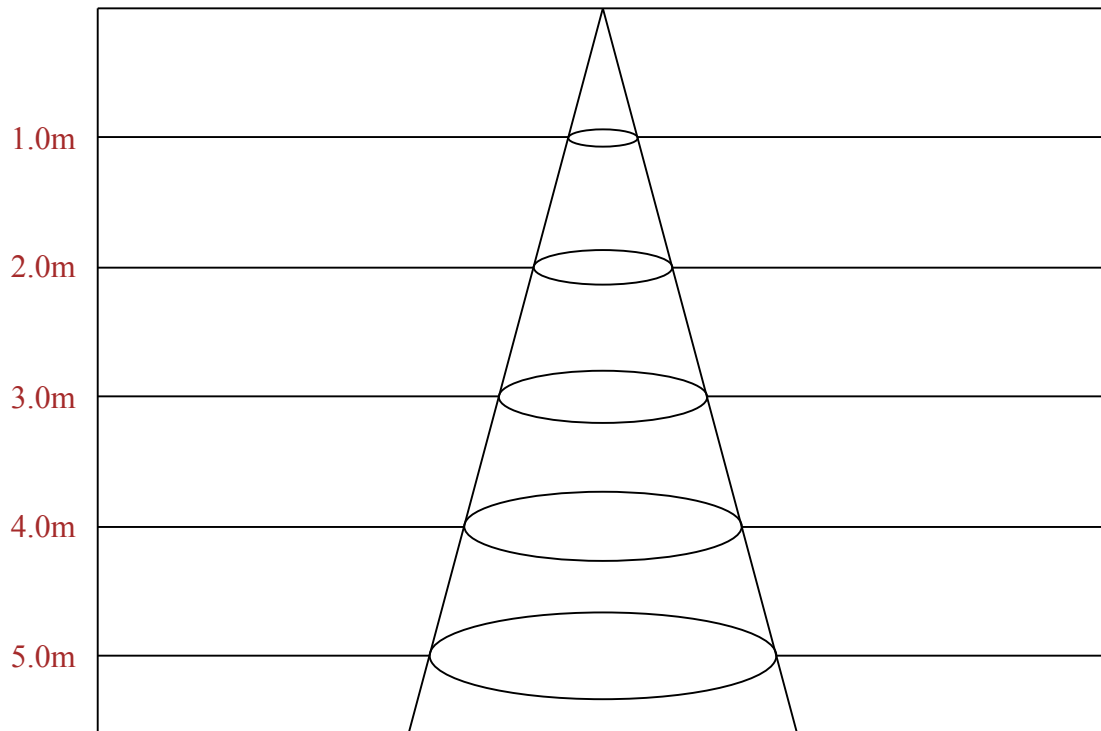
C90/C270: —————

Field angle(10%Imax):C0/180Left:261.5 Right:81.5

:C90/270Left:80.7 Right:82.4

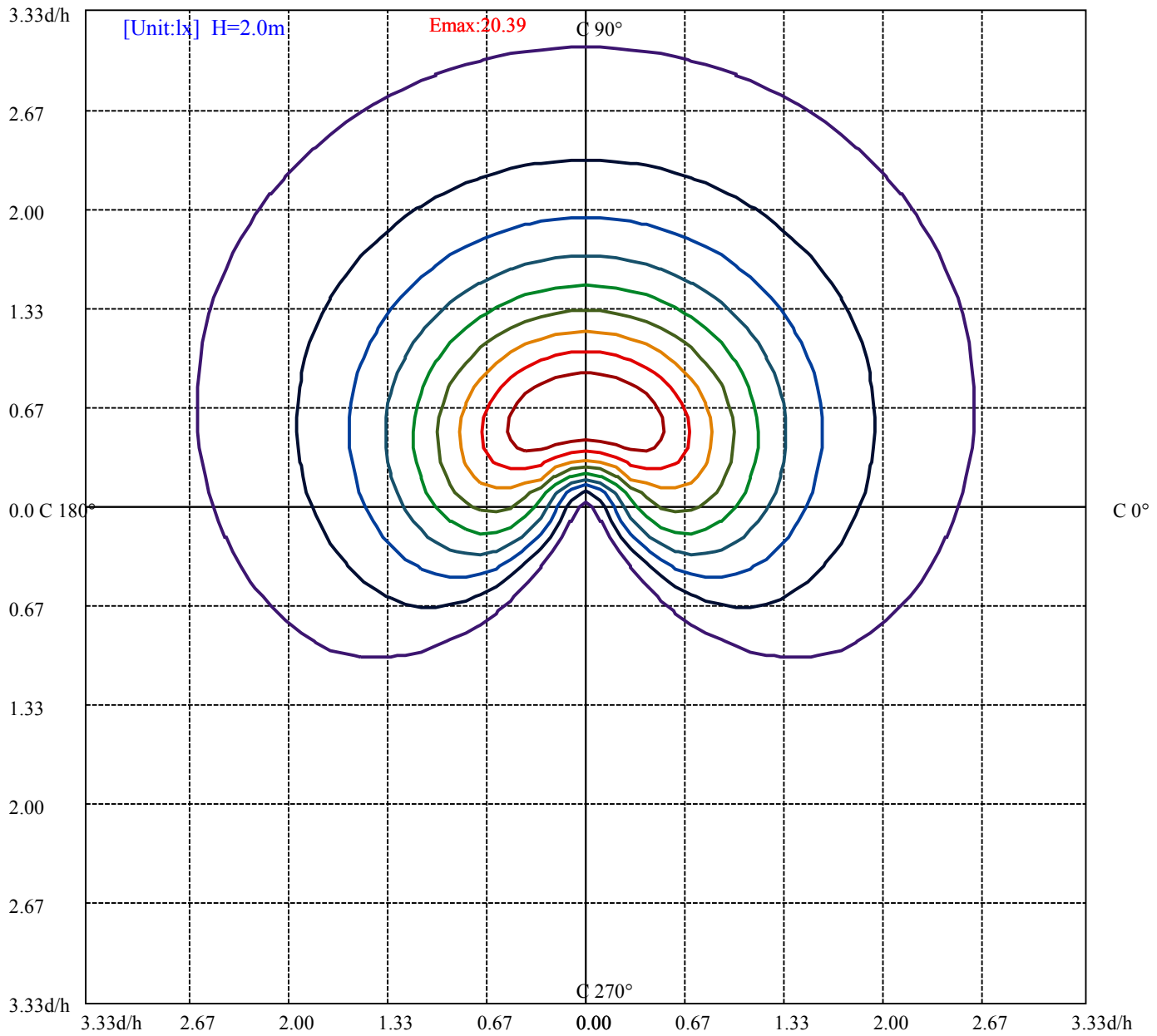
Beam Angle(50%Imax):C0/180Left:235.7 Right:55.7

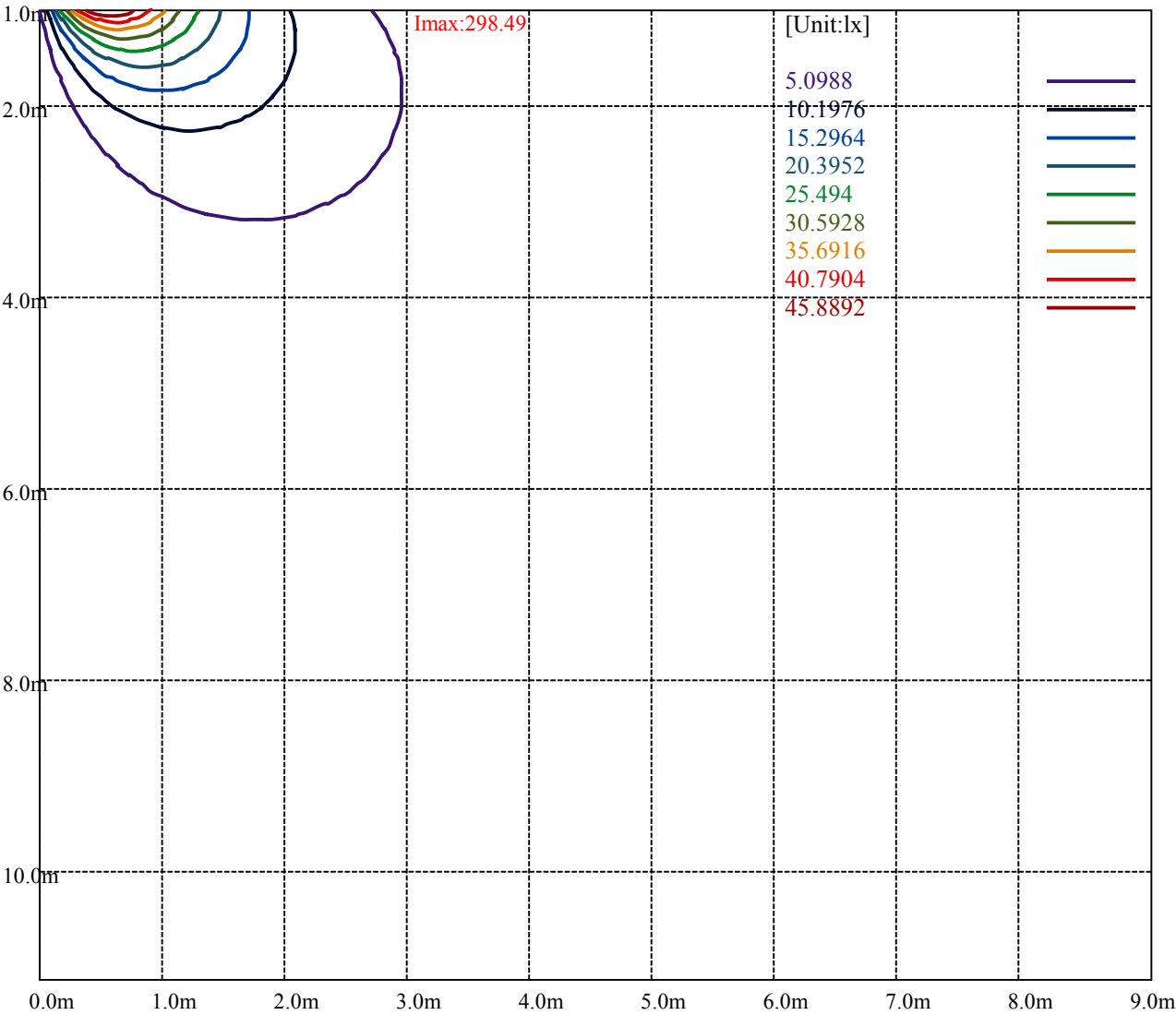
:C90/270Left:54.7 Right:56.5



Max , Ave

Beam angle of C90 plane 200.00





Luminance Table

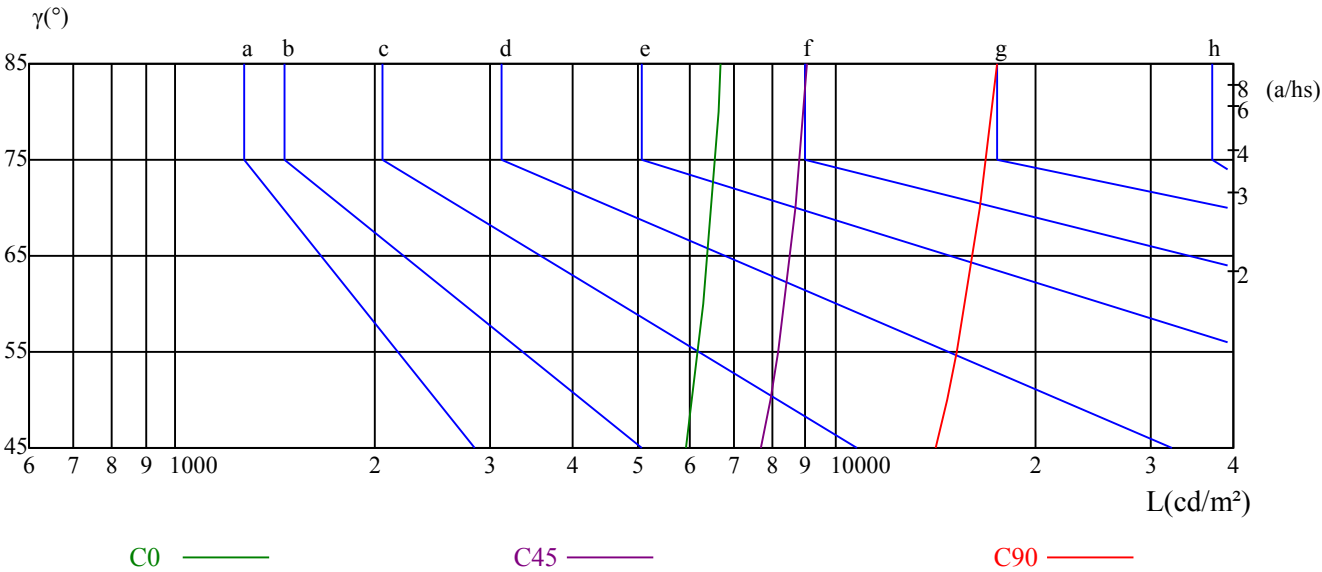
γ	45	50	55	60	65	70	75	80	85
C0	5926	6036	6175	6289	6392	6480	6561	6629	6692
C45	7708	7946	8161	8337	8530	8680	8806	8933	9044
C90	14155	14710	15255	15672	16104	16504	16885	17196	17509

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
150329	129940	136154	263667	231313	240087	809795	717149	742348

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



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	0.83	0.83	0.83	0.69	0.69	0.69	0.56	0.56	0.56	0.50
1	0.85	0.79	0.73	0.78	0.72	0.67	0.64	0.60	0.56	0.52	0.49	0.46	0.40	0.38	0.36	0.30
2	0.71	0.63	0.55	0.65	0.57	0.51	0.53	0.47	0.42	0.42	0.38	0.34	0.32	0.29	0.26	0.21
3	0.61	0.51	0.43	0.55	0.47	0.40	0.45	0.38	0.33	0.35	0.30	0.26	0.27	0.23	0.19	0.15
4	0.52	0.43	0.35	0.48	0.39	0.32	0.39	0.32	0.26	0.30	0.25	0.21	0.23	0.19	0.15	0.11
5	0.46	0.36	0.29	0.42	0.33	0.26	0.34	0.27	0.22	0.27	0.21	0.17	0.20	0.16	0.12	0.09
6	0.41	0.31	0.24	0.37	0.28	0.22	0.30	0.23	0.18	0.24	0.18	0.14	0.18	0.13	0.10	0.07
7	0.36	0.27	0.21	0.33	0.25	0.19	0.27	0.20	0.15	0.21	0.16	0.12	0.16	0.12	0.08	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	0.14	0.10	0.07	0.05
9	0.29	0.21	0.15	0.27	0.19	0.14	0.22	0.16	0.11	0.17	0.12	0.09	0.13	0.09	0.06	0.04
10	0.27	0.19	0.13	0.24	0.17	0.12	0.20	0.14	0.10	0.16	0.11	0.08	0.12	0.08	0.05	0.03

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	4.04	6.28	18.48	30.86	44.59	57.42	70.79	83.62	96.18
15.0	3.32	7.36	22.16	38.04	54.37	70.70	86.40	102.82	117.35
30.0	2.78	9.06	25.21	44.59	62.71	82.27	100.84	119.68	137.36
45.0	2.24	9.51	28.53	48.99	70.43	91.78	113.04	132.69	152.70
60.0	1.53	10.86	29.97	52.75	74.29	98.06	119.95	142.02	163.38
75.0	1.08	11.84	31.58	54.01	77.16	100.93	123.99	146.87	168.13
90.0	0.81	11.75	32.75	54.19	78.86	101.38	124.89	148.04	170.73
105.0	0.54	11.21	32.30	55.00	78.05	101.74	125.07	148.21	169.39
120.0	0.63	11.75	31.31	54.82	76.53	99.95	123.00	145.61	167.32
135.0	6.82	12.56	30.68	51.86	74.11	96.27	118.16	138.26	159.88
150.0	0.99	10.77	28.17	47.73	82.99	87.39	107.30	126.50	144.81
165.0	1.53	9.15	25.21	42.35	58.68	76.98	93.04	109.99	127.49
180.0	4.04	16.42	30.24	44.23	58.50	72.67	85.95	99.05	110.89
195.0	3.32	13.37	23.51	34.54	45.67	56.52	67.11	77.16	86.94
210.0	2.78	9.78	17.58	25.57	33.11	41.27	48.72	56.43	62.98
225.0	2.24	6.46	11.21	14.98	18.84	22.61	26.02	29.16	32.03
240.0	1.53	3.86	4.49	4.58	4.67	4.58	4.40	4.40	4.31
255.0	1.08	1.88	1.70	1.70	1.70	1.53	1.53	1.61	1.70
270.0	0.81	0.54	0.45	0.36	0.27	0.27	0.18	0.27	0.45
285.0	0.54	0.90	1.08	1.17	1.17	1.17	1.17	1.26	1.26
300.0	0.63	2.51	3.23	3.50	3.59	3.77	3.77	3.68	3.86
315.0	6.82	4.67	8.25	11.04	13.91	16.33	18.75	21.17	23.51
330.0	0.99	7.63	14.53	22.07	29.61	36.96	44.23	50.96	57.78
345.0	1.53	10.50	20.55	30.95	41.00	51.32	61.55	71.06	80.57
360.0	4.04	6.28	18.48	30.86	44.59	57.42	70.79	83.62	96.18
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	107.84	117.98	128.48	137.54	145.43	152.25	157.81	161.58	164.36
15.0	131.89	145.43	157.90	169.30	178.81	187.78	194.06	199.35	202.94
30.0	153.69	170.29	184.28	197.65	209.58	219.81	228.06	233.45	237.66
45.0	171.90	189.75	206.26	220.35	234.52	245.38	254.08	261.26	265.75
60.0	183.83	202.94	219.81	236.77	250.22	262.07	272.12	279.38	283.78
75.0	189.22	209.22	227.70	244.12	258.03	271.31	280.46	288.53	293.38
90.0	192.18	212.00	230.93	246.81	261.53	274.09	284.50	291.67	296.70
105.0	191.82	210.66	229.32	245.92	260.90	273.19	282.52	290.15	294.90
120.0	187.15	206.98	225.19	241.52	254.98	266.91	276.69	283.96	288.80
135.0	178.00	196.30	213.26	228.51	241.97	253.36	262.07	268.71	273.19
150.0	162.30	178.90	193.97	206.98	219.36	229.23	237.13	243.14	246.90
165.0	141.22	154.49	167.32	178.90	189.22	197.11	204.29	209.40	212.36
180.0	123.45	133.68	143.46	152.07	159.52	165.26	169.75	172.98	174.41
195.0	96.18	104.52	111.97	118.43	123.90	128.66	132.15	134.31	135.74
210.0	69.62	75.63	81.19	86.04	90.26	93.76	96.18	97.88	98.69
225.0	35.08	37.50	39.92	41.81	43.42	44.77	45.85	46.47	46.65
240.0	4.49	4.58	4.67	4.93	5.02	5.20	5.47	5.65	5.83
255.0	1.88	2.06	2.51	2.78	3.14	3.32	3.68	3.77	4.13
270.0	0.63	0.90	1.35	1.44	2.06	2.60	2.87	3.05	3.32
285.0	1.53	2.06	2.24	2.69	2.96	3.23	3.68	4.04	4.04
300.0	3.86	4.04	4.31	4.40	4.67	4.84	5.02	5.02	5.02
315.0	25.66	27.72	29.61	31.22	32.48	33.64	34.54	35.35	35.53
330.0	63.88	69.80	75.09	79.85	83.89	87.48	89.99	91.60	92.59
345.0	89.36	97.34	104.79	111.16	117.08	121.57	125.07	127.67	128.75
360.0	107.84	117.98	128.48	137.54	145.43	152.25	157.81	161.58	164.36

Intensity data(cd)

C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	165.53	165.17	163.20	159.97	154.76	148.84	141.49	132.78	123.18
15.0	204.20	203.39	201.24	196.84	190.65	182.85	173.43	163.47	151.18
30.0	238.92	238.38	235.42	230.22	223.13	213.71	202.94	190.11	175.85
45.0	267.45	266.64	263.14	257.49	249.15	238.56	226.18	212.72	196.93
60.0	285.48	284.14	280.91	274.63	266.19	254.44	241.43	226.18	209.94
75.0	295.08	293.83	290.33	283.42	274.45	262.78	249.60	232.64	216.04
90.0	298.49	297.06	293.56	286.74	277.50	265.92	251.48	235.51	217.57
105.0	296.79	295.80	291.76	285.39	275.88	264.13	249.87	233.90	216.94
120.0	290.24	288.80	285.12	278.66	269.33	257.67	244.48	229.05	211.47
135.0	274.54	273.37	270.23	263.50	255.43	244.57	231.47	216.76	201.24
150.0	248.34	247.53	244.12	238.56	230.58	221.96	210.30	197.02	181.95
165.0	213.71	212.72	209.94	205.63	199.00	190.74	180.87	169.93	157.01
180.0	174.23	172.53	169.21	164.00	158.17	150.19	141.84	131.89	120.76
195.0	135.65	134.22	131.53	127.49	122.29	116.27	109.37	102.19	93.49
210.0	98.42	97.61	95.55	92.68	89.00	84.60	79.49	73.93	67.38
225.0	46.56	45.67	44.59	42.89	40.91	38.58	37.95	33.29	30.06
240.0	5.83	5.56	5.47	5.02	4.58	4.22	3.95	3.68	3.50
255.0	4.13	4.04	3.77	3.41	2.96	2.60	2.15	1.88	1.53
270.0	3.32	3.14	2.96	2.60	2.24	1.97	1.44	1.08	0.63
285.0	4.04	3.68	3.50	3.32	2.96	2.60	2.06	1.53	1.08
300.0	4.84	4.40	4.13	3.86	3.32	2.96	2.96	2.69	2.60
315.0	35.53	35.17	34.45	33.29	32.03	30.41	28.80	26.92	25.12
330.0	92.77	91.78	90.08	87.30	84.16	80.12	75.27	70.34	64.69
345.0	128.57	127.31	124.71	121.48	117.08	111.61	105.15	97.52	89.54
360.0	165.53	165.17	163.20	159.97	154.76	148.84	141.49	132.78	123.18
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	113.04	101.29	89.90	77.52	64.60	51.41	38.58	25.39	12.92
15.0	138.08	123.99	109.46	94.65	78.95	62.80	46.47	31.04	14.89
30.0	160.42	144.98	127.76	109.19	90.71	71.77	53.74	35.17	17.32
45.0	179.44	160.60	142.20	120.85	101.11	80.03	58.77	38.13	18.21
60.0	190.47	171.72	149.29	128.84	106.41	83.71	61.19	40.37	19.56
75.0	196.75	176.21	154.14	131.35	108.29	86.31	63.16	40.55	19.11
90.0	198.91	176.92	156.11	133.14	109.64	86.04	63.88	39.83	19.38
105.0	197.74	176.83	154.94	131.98	108.74	86.40	62.80	40.10	18.39
120.0	192.63	173.43	150.91	129.91	107.21	83.89	61.01	39.75	18.39
135.0	183.65	164.36	144.09	123.27	102.64	80.66	58.77	37.41	18.12
150.0	166.25	148.84	131.44	112.51	93.13	73.39	53.47	34.00	16.42
165.0	143.73	129.01	113.49	97.25	81.28	64.24	47.10	30.06	14.09
180.0	109.19	97.34	83.35	70.34	56.43	42.71	28.80	16.15	4.13
195.0	84.25	74.38	63.97	53.29	42.98	40.01	22.70	12.11	1.79
210.0	61.10	59.12	46.20	39.12	31.40	23.42	15.79	8.88	0.72
225.0	27.09	23.69	20.55	17.23	13.82	10.50	7.45	3.68	0.63
240.0	3.32	3.23	3.14	3.14	2.96	2.06	0.72	0.54	0.63
255.0	1.26	0.99	0.99	0.81	0.63	0.45	0.45	0.45	0.63
270.0	0.45	0.27	0.36	0.27	0.27	0.36	0.45	0.45	0.54
285.0	0.63	0.63	0.81	0.72	0.45	0.27	0.45	0.45	0.54
300.0	2.51	2.60	2.78	2.96	3.14	2.78	1.53	0.72	0.72
315.0	22.88	20.81	18.48	16.15	13.64	11.30	8.79	6.19	2.15
330.0	58.59	52.04	45.22	38.49	31.40	24.04	16.78	10.50	3.77
345.0	81.37	72.31	62.62	52.93	42.80	33.02	23.51	14.00	4.58
360.0	113.04	101.29	89.90	77.52	64.60	51.41	38.58	25.39	12.92

Intensity data(cd)

C/ γ (°)	180.0
0.0	1.44
15.0	2.69
30.0	2.51
45.0	2.60
60.0	2.15
75.0	2.15
90.0	1.53
105.0	1.44
120.0	1.17
135.0	0.99
150.0	1.26
165.0	1.17
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	1.44