

Client:

LumCAT: CL-11-3CCT

Luminaire: LED lamp

Report No:

Ballast type:

Test No: LCZP19060300

Voltage(V): 120.000

LampCAT:

Current(A): 0.127

Lamp flux(lm): 1387.2

Power (W): 14.970

Number of Lamps: 1

PF: 0.986

Length(mm): -280

Width(mm): -280

Phm Type: C

Height(mm): 60

Photometric Results

Lumens(lm): 1387.20, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 92.67

Central intensity(cd): 272.313, Maximum intensity(cd): 273.260

Angle of maximum intensity: C=45.0 γ =5.0

Beam Angle(50%Imax): [C0/180]Total=150.2

[C90/270]Total=149.0

Field angle(10%Imax): [C0/180]Total=243.2

[C90/270]Total=251.2

Maximum s/h(1/2): C0_180=1.41 C90_270=1.40

Maximum s/h(1/4): C0_180=1.57 C90_270=1.56

Up flux rate of lamp(%): 16.01%

Down flux rate of lamp(%): 83.99%

Up flux rate of LUM(%): 16.01%

Down flux rate of LUM(%): 83.99%

CIE Type : Semidirect lighting

Output flux ratio in π solid angle : 53.524%

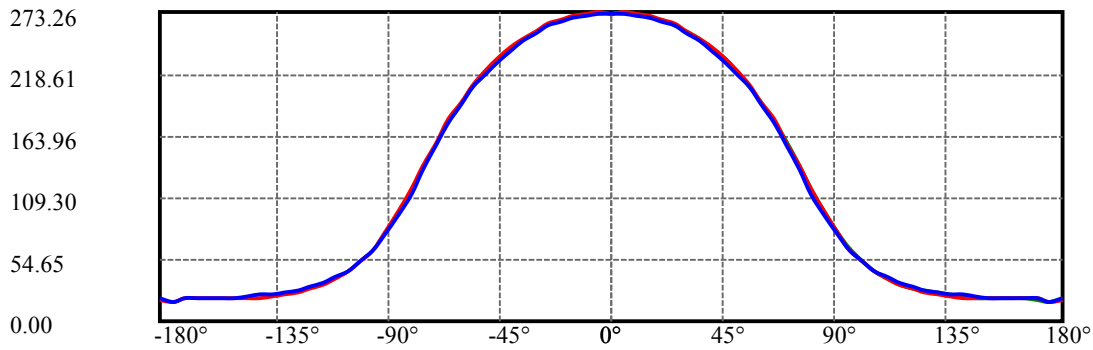
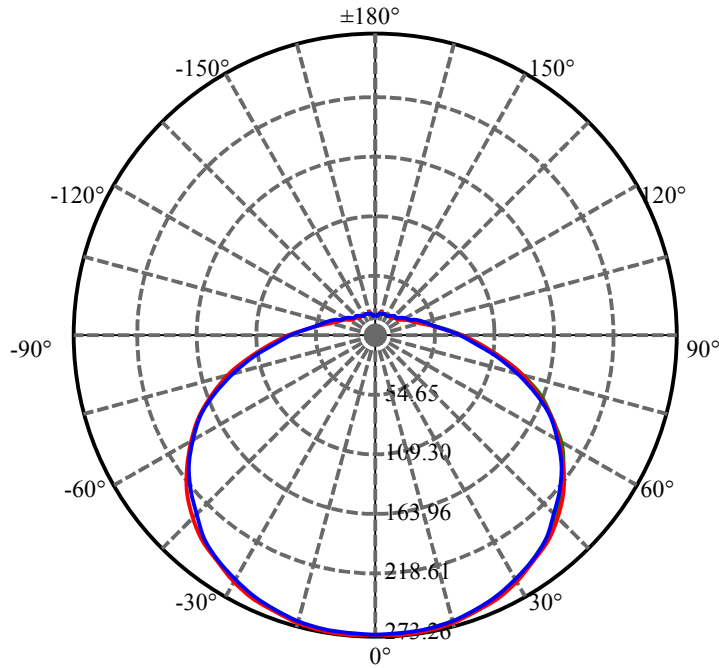
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	272.313	0.000	0	0.00%	0.00%
5.0	272.223	6.510	6.51	0.47%	0.47%
10.0	270.756	19.424	25.934	1.40%	1.87%
15.0	268.626	31.996	57.93	2.31%	4.18%
20.0	265.386	44.010	101.94	3.17%	7.35%
25.0	261.031	55.211	157.151	3.98%	11.33%
30.0	255.495	65.367	222.518	4.71%	16.04%
35.0	248.717	74.249	296.767	5.35%	21.39%
40.0	240.665	81.650	378.416	5.89%	27.28%
45.0	231.075	87.346	465.763	6.30%	33.58%
50.0	220.236	91.194	556.957	6.57%	40.15%
55.0	207.438	92.991	649.947	6.70%	46.85%
60.0	192.924	92.543	742.49	6.67%	53.52%
65.0	176.204	89.736	832.225	6.47%	59.99%
70.0	157.361	84.461	916.686	6.09%	66.08%
75.0	136.448	76.797	993.483	5.54%	71.62%
80.0	115.247	67.347	1060.83	4.85%	76.47%
85.0	95.013	57.133	1117.962	4.12%	80.59%
90.0	77.364	47.198	1165.161	3.40%	83.99%
95.0	63.364	38.532	1203.693	2.78%	86.77%
100.0	52.263	31.418	1235.111	2.26%	89.04%
105.0	43.914	25.734	1260.845	1.86%	90.89%
110.0	37.606	21.308	1282.154	1.54%	92.43%
115.0	32.704	17.803	1299.957	1.28%	93.71%
120.0	29.164	15.040	1314.997	1.08%	94.79%
125.0	26.505	12.868	1327.865	0.93%	95.72%
130.0	24.517	11.094	1338.959	0.80%	96.52%
135.0	23.036	9.609	1348.567	0.69%	97.21%
140.0	21.925	8.325	1356.892	0.60%	97.82%
145.0	21.157	7.188	1364.08	0.52%	98.33%
150.0	20.628	6.153	1370.233	0.44%	98.78%
155.0	20.373	5.189	1375.422	0.37%	99.15%
160.0	20.305	4.266	1379.688	0.31%	99.46%
165.0	20.778	3.386	1383.074	0.24%	99.70%
170.0	19.398	2.383	1385.457	0.17%	99.87%
175.0	17.132	1.307	1386.764	0.09%	99.97%
180.0	19.555	0.439	1387.203	0.03%	100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	222.52	16.04%	16.04%
0-40	378.42	27.28%	27.28%
0-60	742.49	53.52%	53.52%
0-90	1165.16	83.99%	83.99%
0-120	1315.00	94.80%	94.79%
0-180	1387.20	100.00%	100.00%
60-90	422.67	30.47%	30.47%
90-120	149.84	10.80%	10.80%
90-130	173.80	12.53%	12.53%
90-150	205.07	14.78%	14.78%
90-180	221.60	15.97%	15.97%
0-84.28	1109.76	80.00%	80.00%

ZONAL LUMEN SUMMARY

0-10	25.93
10-20	76.01
20-30	120.58
30-40	155.90
40-50	178.54
50-60	185.53
60-70	174.20
70-80	144.14
80-90	104.33
90-100	69.95
100-110	47.04
110-120	32.84
120-130	23.96
130-140	17.93
140-150	13.34
150-160	9.45
160-170	5.77
170-180	1.31



C45(Max): —

C0/C180: —

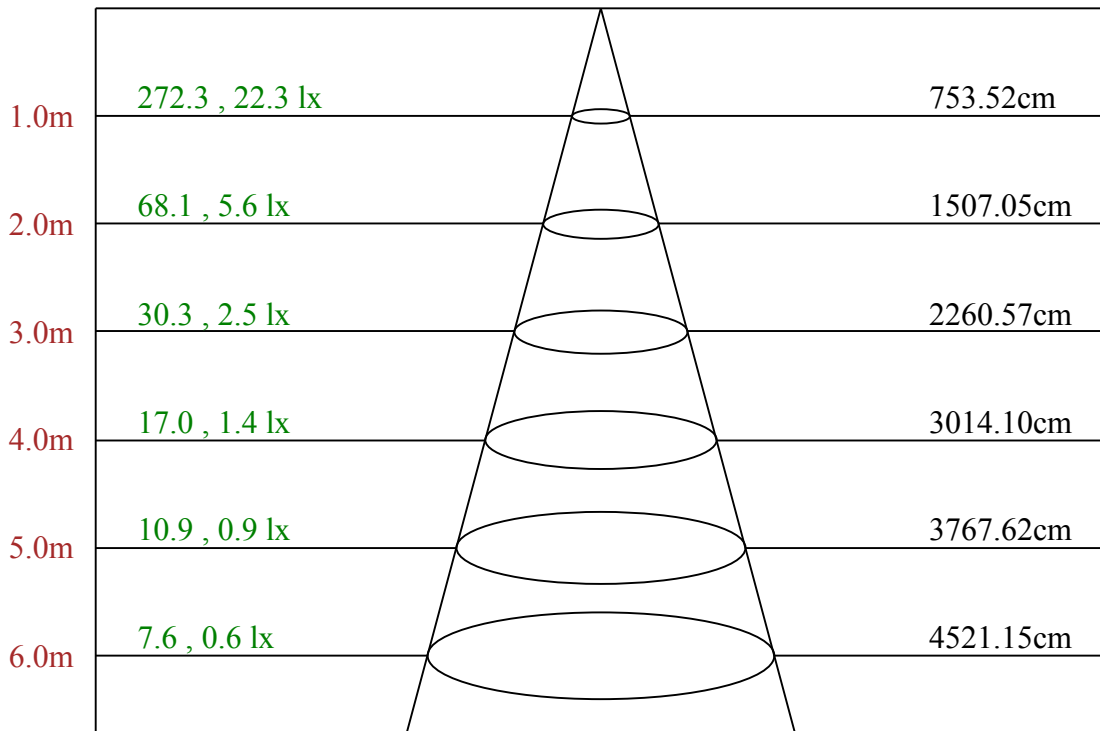
C90/C270: —

Field angle(10%Imax):C0/180Left:126.6 Right:116.6

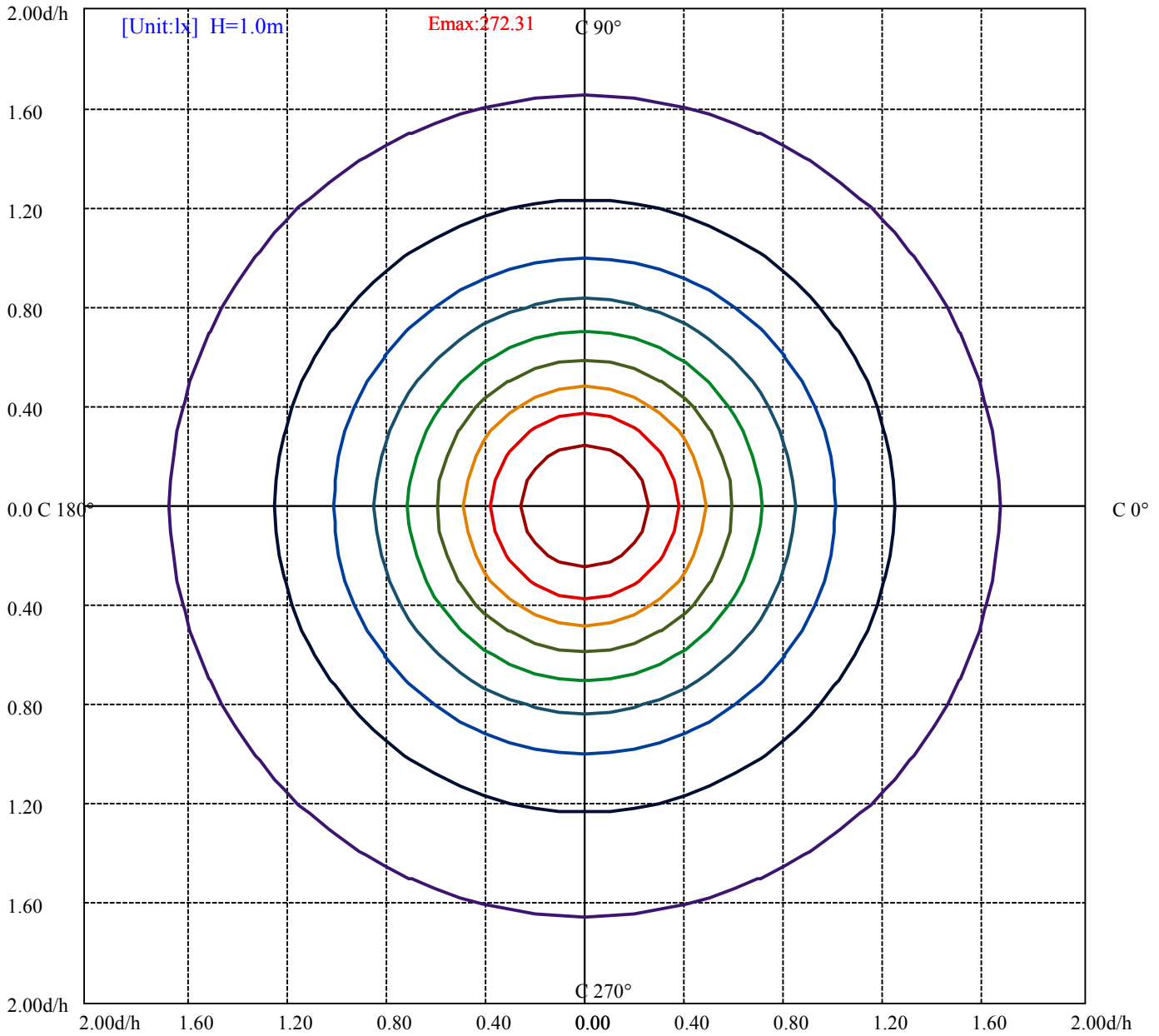
:C90/270Left:125.6 Right:125.6

Beam Angle(50%Imax):C0/180Left:80.1 Right:70.1

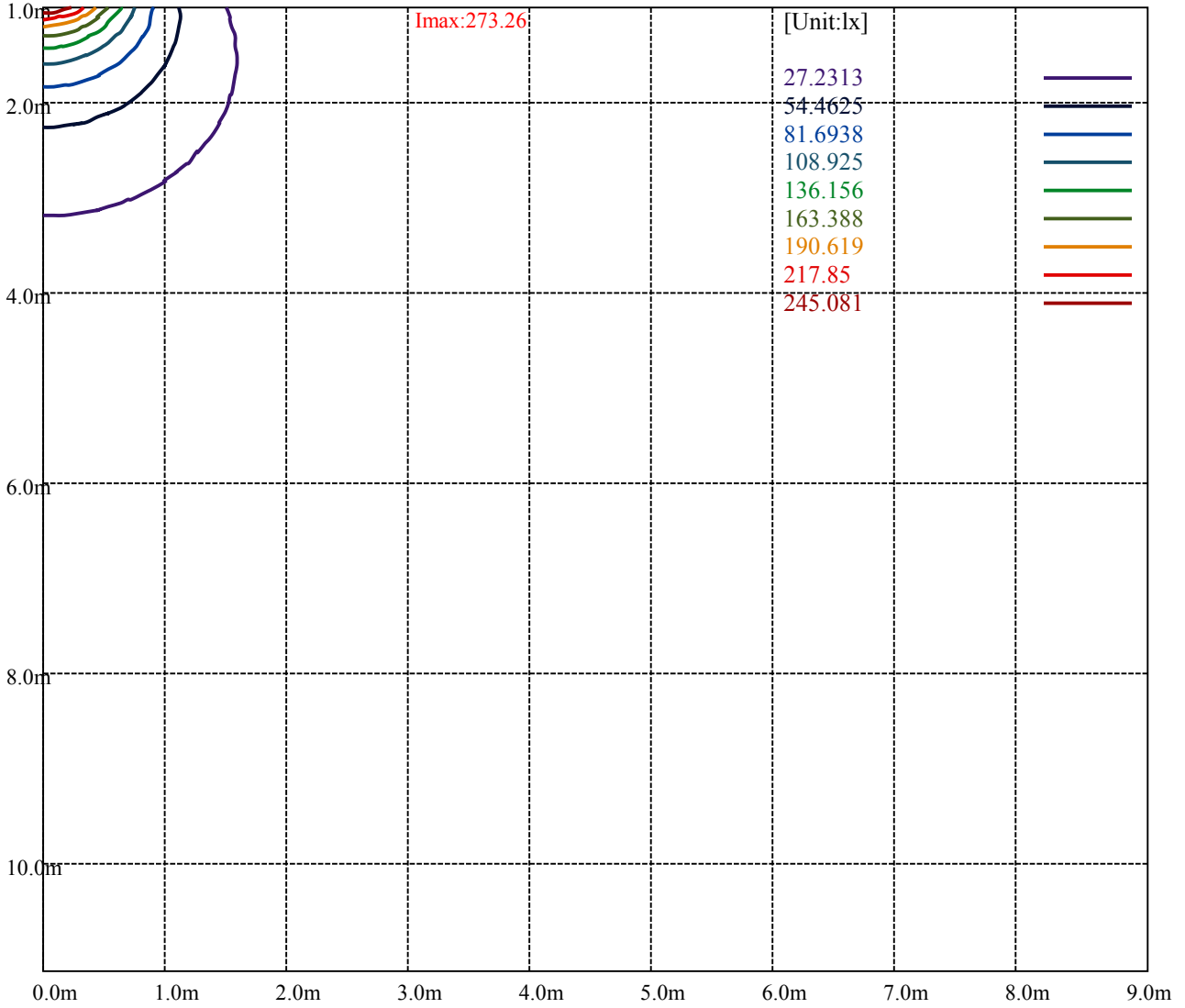
:C90/270Left:74.5 Right:74.5



Max , Ave Beam angle of C45 plane 150.27



(10%Emax) 27.2313	—
(20%Emax) 54.4625	—
(30%Emax) 81.6938	—
(40%Emax) 108.925	—
(50%Emax) 136.156	—
(60%Emax) 163.388	—
(70%Emax) 190.619	—
(80%Emax) 217.85	—
(90%Emax) 245.081	—



CL-11-3CCT

Luminance Limiting Curve(no luminous side)

Luminance Table

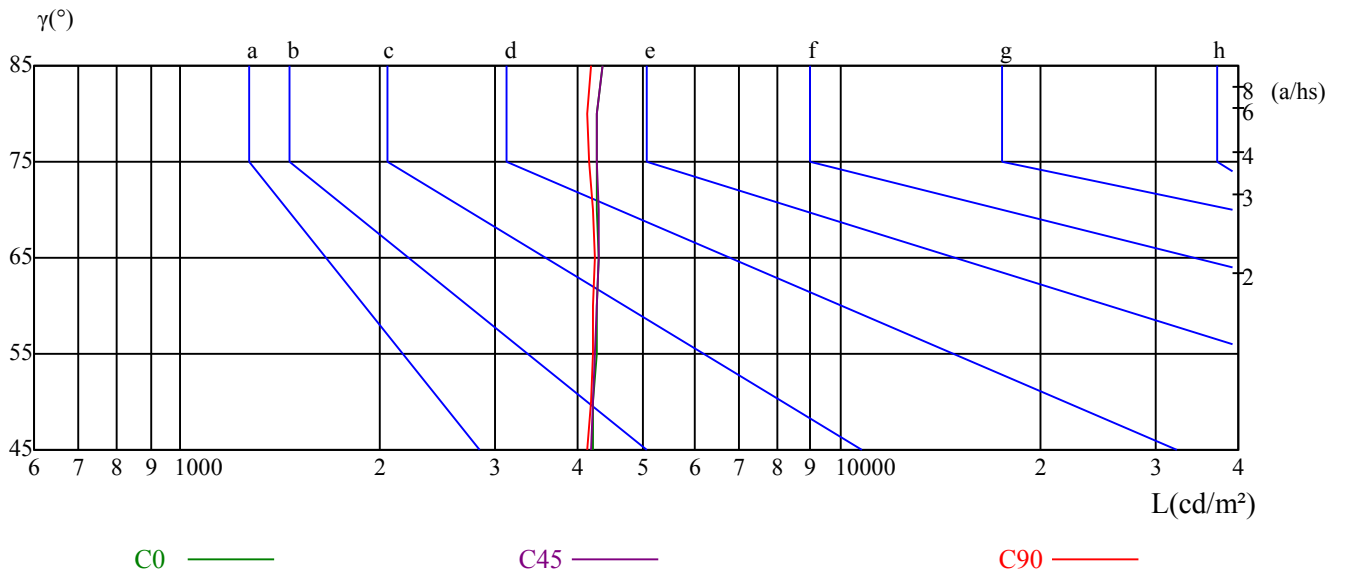
γ	45	50	55	60	65	70	75	80	85
C0	4201	4225	4258	4277	4303	4281	4262	4270	4350
C45	4182	4210	4234	4279	4286	4309	4265	4271	4345
C90	4141	4174	4208	4214	4241	4226	4165	4117	4196

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
6821	6723	6793	8602	8405	8609	17915	17280	17895

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	1.15	1.15	1.15	1.11	1.11	1.11	1.02	1.02	1.02	0.94	0.94	0.94	0.87	0.87	0.87	0.84
1	0.96	0.90	0.85	0.92	0.87	0.82	0.84	0.80	0.77	0.78	0.74	0.72	0.72	0.69	0.67	0.63
2	0.81	0.73	0.67	0.78	0.71	0.64	0.72	0.66	0.61	0.66	0.61	0.57	0.61	0.57	0.53	0.50
3	0.70	0.61	0.54	0.67	0.59	0.52	0.62	0.55	0.49	0.57	0.51	0.46	0.52	0.48	0.43	0.40
4	0.61	0.52	0.44	0.59	0.50	0.43	0.54	0.47	0.41	0.50	0.44	0.39	0.46	0.41	0.36	0.33
5	0.54	0.45	0.37	0.52	0.43	0.37	0.48	0.41	0.35	0.45	0.38	0.33	0.41	0.35	0.31	0.28
6	0.49	0.39	0.32	0.47	0.38	0.31	0.43	0.36	0.30	0.40	0.33	0.28	0.37	0.31	0.27	0.24
7	0.44	0.34	0.28	0.42	0.33	0.27	0.39	0.32	0.26	0.36	0.30	0.25	0.34	0.28	0.23	0.21
8	0.40	0.31	0.25	0.38	0.30	0.24	0.36	0.28	0.23	0.33	0.27	0.22	0.31	0.25	0.21	0.19
9	0.36	0.28	0.22	0.35	0.27	0.21	0.33	0.25	0.20	0.30	0.24	0.20	0.28	0.23	0.19	0.17
10	0.33	0.25	0.20	0.32	0.24	0.19	0.30	0.23	0.18	0.28	0.22	0.18	0.26	0.21	0.17	0.15

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	272.31	273.03	270.78	268.16	264.46	258.50	252.91	245.23	236.57
15.0	272.31	271.14	269.08	266.83	262.25	258.21	251.47	244.64	236.20
30.0	272.31	271.86	269.25	267.18	262.87	258.10	251.89	244.24	236.24
45.0	272.31	273.12	270.06	266.82	263.84	258.80	253.66	245.46	237.08
60.0	272.31	271.23	269.80	267.46	263.05	258.02	253.16	246.42	238.15
75.0	272.31	272.49	270.15	268.98	264.83	260.68	254.56	246.89	239.14
90.0	272.31	270.33	270.42	268.08	265.20	260.52	254.58	247.57	240.10
105.0	272.31	273.03	270.87	268.26	264.57	262.05	255.48	249.00	240.90
120.0	272.31	271.50	270.87	269.25	266.11	262.87	257.02	250.10	243.17
135.0	272.31	273.22	273.49	270.69	268.70	264.09	259.49	253.07	245.76
150.0	272.31	272.94	271.95	270.42	267.54	265.02	258.44	253.40	246.73
165.0	272.31	272.94	271.77	269.62	268.00	264.59	260.00	253.81	247.61
180.0	272.31	273.03	272.85	270.79	269.44	266.12	259.66	255.35	248.17
195.0	272.31	271.32	271.05	270.34	267.10	263.78	258.84	252.64	244.64
210.0	272.31	272.58	271.32	270.42	267.27	263.14	259.09	251.89	243.97
225.0	272.31	273.39	270.60	270.33	266.64	262.94	258.35	251.50	243.12
240.0	272.31	271.68	270.96	269.89	266.02	261.43	256.04	249.39	241.30
255.0	272.31	272.49	271.68	269.34	266.54	261.50	256.36	249.96	241.21
270.0	272.31	271.77	270.24	267.81	265.20	260.70	255.84	248.64	239.56
285.0	272.31	271.59	271.14	268.44	264.12	260.43	254.58	247.65	239.82
300.0	272.31	271.50	269.70	266.92	264.04	258.82	254.51	246.86	238.86
315.0	272.31	273.31	270.42	267.98	265.36	259.85	253.44	246.84	237.63
330.0	272.31	273.03	270.78	266.73	263.75	257.63	251.68	244.93	235.65
345.0	272.31	270.79	268.90	266.29	262.34	256.95	250.84	243.74	234.40
360.0	272.31	273.03	270.78	268.16	264.46	258.50	252.91	245.23	236.57
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	225.92	213.73	200.29	184.22	166.44	146.13	124.56	104.70	85.48
15.0	226.13	214.90	201.88	187.05	169.71	149.95	129.55	107.99	87.78
30.0	227.15	215.91	203.67	188.65	171.65	152.39	130.98	108.49	89.42
45.0	227.98	216.35	204.19	190.13	173.64	154.36	131.83	110.47	90.11
60.0	228.26	216.66	204.71	189.96	173.33	154.09	131.62	110.76	90.35
75.0	228.14	218.32	204.53	190.74	175.05	153.51	131.96	111.05	90.41
90.0	229.21	218.23	206.26	191.23	175.75	155.32	132.74	111.23	92.24
105.0	231.71	221.90	208.67	193.90	176.98	157.90	138.36	115.68	94.97
120.0	234.18	223.93	211.70	196.86	180.40	162.33	141.37	119.61	98.56
135.0	236.91	226.25	214.33	201.32	185.15	167.90	145.32	124.55	103.05
150.0	238.53	227.36	215.92	202.23	187.46	168.81	148.36	126.56	104.58
165.0	238.53	228.83	217.15	203.94	188.04	169.89	149.32	127.94	106.01
180.0	239.73	229.41	217.65	203.56	188.57	169.37	149.62	127.90	106.81
195.0	235.84	225.15	212.21	198.46	181.93	164.41	144.11	122.10	102.15
210.0	234.53	224.63	212.40	196.93	181.27	163.73	143.67	122.53	101.21
225.0	234.11	223.92	209.87	196.17	178.78	161.21	141.20	120.75	100.65
240.0	231.23	220.35	207.67	193.92	176.75	159.31	138.81	117.68	98.08
255.0	232.11	221.20	207.59	193.26	176.13	157.74	136.38	116.28	96.63
270.0	229.75	219.58	206.80	190.87	174.13	156.13	135.17	113.03	93.23
285.0	229.91	218.30	204.71	191.02	173.56	154.12	134.49	113.07	92.81
300.0	227.35	217.36	203.34	189.40	172.31	152.97	132.20	111.96	91.64
315.0	228.15	216.77	202.86	188.32	169.53	151.56	130.42	109.56	90.32
330.0	225.38	214.66	201.33	184.93	167.64	147.73	127.73	107.02	87.74
345.0	225.06	211.94	198.82	183.10	164.68	145.81	124.97	105.03	86.07
360.0	225.92	213.73	200.29	184.22	166.44	146.13	124.56	104.70	85.48

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	69.32	56.86	47.39	40.08	34.03	29.88	26.90	24.46	22.66
15.0	71.16	57.77	47.98	40.34	34.41	29.92	26.59	24.62	22.73
30.0	71.97	58.83	48.67	40.57	35.08	30.59	27.35	24.83	23.12
45.0	73.35	59.56	49.02	41.63	35.86	31.27	28.02	25.50	23.88
60.0	73.27	60.05	49.72	42.16	36.41	32.01	28.59	25.98	24.09
75.0	73.82	61.11	50.75	42.91	37.23	32.72	29.30	26.77	25.15
90.0	75.14	61.73	51.65	43.74	37.89	33.21	29.61	27.09	25.29
105.0	77.60	64.27	52.93	44.56	38.80	33.49	29.80	27.28	25.39
120.0	81.30	66.01	53.96	45.51	38.67	33.63	29.95	27.34	25.18
135.0	83.73	68.64	55.55	46.15	39.20	33.78	29.99	27.46	25.20
150.0	84.13	69.00	55.94	46.57	39.27	33.78	29.55	26.66	24.32
165.0	85.53	69.09	56.33	46.27	38.90	33.06	29.29	26.23	23.99
180.0	86.43	69.74	56.28	46.67	39.22	33.39	29.53	26.39	24.32
195.0	82.74	67.02	54.62	45.64	38.54	33.15	29.38	26.59	24.44
210.0	82.76	67.11	55.33	46.15	39.31	34.01	29.87	27.08	24.83
225.0	82.09	67.13	55.24	46.32	39.74	34.51	30.64	27.66	25.59
240.0	80.10	66.53	54.93	46.21	39.83	34.79	31.02	28.05	25.71
255.0	78.96	64.72	54.62	46.15	39.48	34.79	31.19	28.21	26.14
270.0	77.30	64.16	53.27	45.27	39.06	34.20	30.69	27.81	25.83
285.0	76.16	63.01	52.03	44.20	38.26	33.67	29.98	27.46	25.48
300.0	75.09	61.96	51.44	43.35	37.23	32.47	29.32	26.80	25.00
315.0	73.88	60.78	50.31	42.45	36.31	31.70	28.81	26.37	24.30
330.0	71.07	58.64	48.55	40.81	35.49	30.99	27.74	25.13	23.24
345.0	69.81	56.96	47.80	40.25	34.32	29.92	26.86	24.35	22.55
360.0	69.32	56.86	47.39	40.08	34.03	29.88	26.90	24.46	22.66
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	21.30	20.58	20.40	20.04	20.13	19.95	20.76	18.86	16.34
15.0	21.47	20.75	20.30	19.86	19.77	19.86	20.84	18.24	15.99
30.0	21.86	20.96	20.60	20.15	19.88	20.06	20.78	18.53	15.92
45.0	22.62	21.27	20.73	20.18	19.91	20.09	20.55	18.47	16.22
60.0	22.66	21.94	21.04	20.14	20.05	20.14	20.32	18.61	16.54
75.0	23.53	22.35	21.54	20.91	20.19	19.92	20.55	18.93	16.77
90.0	23.85	22.86	22.05	21.15	20.43	20.25	20.61	19.44	17.10
105.0	23.95	22.69	21.69	20.97	20.70	20.52	20.79	19.62	17.55
120.0	23.74	22.39	21.40	20.95	20.59	20.68	21.04	19.87	17.54
135.0	23.39	22.22	21.32	20.77	20.77	20.59	21.04	20.23	17.88
150.0	22.70	21.53	21.08	20.81	20.72	20.72	20.99	20.45	18.02
165.0	22.64	21.65	21.02	20.66	20.75	20.57	20.66	20.39	17.97
180.0	22.80	21.81	21.18	20.82	20.73	20.73	20.91	20.28	18.04
195.0	23.00	21.83	21.20	20.93	20.57	20.57	20.93	19.59	17.25
210.0	23.30	21.95	21.41	20.78	20.51	20.60	21.05	19.61	17.27
225.0	23.88	22.62	21.54	21.00	20.73	20.55	21.09	19.55	17.57
240.0	24.09	22.84	21.94	21.31	20.86	20.59	20.95	19.78	17.62
255.0	24.43	22.90	21.90	21.27	20.91	20.64	20.73	19.83	17.58
270.0	24.39	23.13	22.05	20.97	20.61	20.43	20.61	19.62	17.37
285.0	24.04	22.87	21.60	20.88	20.43	20.16	20.61	19.44	17.19
300.0	23.56	22.12	20.95	20.68	20.23	20.05	20.59	19.25	17.18
315.0	22.76	21.50	20.68	20.32	20.14	19.96	20.86	19.06	17.07
330.0	21.71	20.90	20.00	19.73	19.64	19.73	20.72	18.92	16.75
345.0	21.20	20.57	20.12	19.77	19.68	19.95	20.66	18.96	16.44
360.0	21.30	20.58	20.40	20.04	20.13	19.95	20.76	18.86	16.34

Intensity data(cd)

C/ γ (°)	180.0
0.0	19.41
15.0	19.05
30.0	19.34
45.0	19.46
60.0	19.69
75.0	19.83
90.0	19.71
105.0	19.71
120.0	19.78
135.0	19.69
150.0	19.64
165.0	19.41
180.0	19.30
195.0	19.05
210.0	19.34
225.0	19.46
240.0	19.69
255.0	19.83
270.0	19.71
285.0	19.71
300.0	19.78
315.0	19.69
330.0	19.64
345.0	19.41
360.0	19.41