
AFX

Client:

LumCAT: PTHW0624LAJUDBK-3000K

Luminaire: LED Lamp

Report No:

Ballast type:

Test No: LCZP25080181

Voltage(V): 120.030

LampCAT:

Current(A): 0.199

Lamp flux(lm): 1792.8

Power (W): 23.660

Number of Lamps: 1

PF: 0.993

Length(mm): 60

Width(mm): 40

Phm Type: C

Height(mm): 570

Photometric Results

Lumens(lm): 1792.81, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 75.77

Central intensity(cd): 2.692, Maximum intensity(cd): 354.746

Angle of maximum intensity: C=90.0 γ =90.0

Beam Angle(50%Imax): [C0/180]Total=294.6

[C90/270]Total=111.7

Field angle(10%Imax): [C0/180]Total=345.6

[C90/270]Total=163.4

Maximum s/h(1/2): C0_180=10.57 C90_270=20.09

Maximum s/h(1/4): C0_180=10.01 C90_270=16.78

Up flux rate of lamp(%): 50.94%

Down flux rate of lamp(%): 49.06%

Up flux rate of LUM(%): 50.94%

Down flux rate of LUM(%): 49.06%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 18.004%

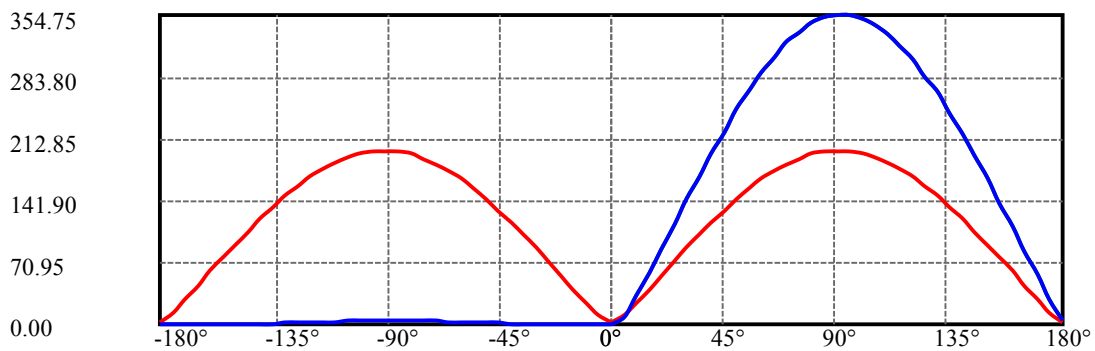
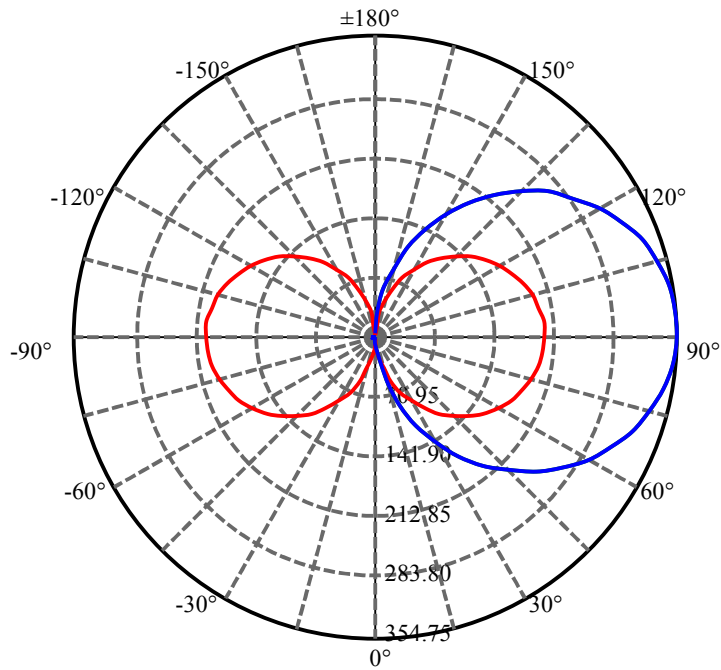
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1.779	0.000	0	0.00%	0.00%
5.0	7.450	0.110	0.11	0.01%	0.01%
10.0	20.411	0.997	1.107	0.06%	0.06%
15.0	34.691	3.269	4.376	0.18%	0.24%
20.0	49.909	6.972	11.348	0.39%	0.63%
25.0	63.984	11.945	23.293	0.67%	1.30%
30.0	78.556	18.039	41.332	1.01%	2.31%
35.0	92.959	25.257	66.589	1.41%	3.71%
40.0	106.910	33.347	99.935	1.86%	5.57%
45.0	120.196	42.051	141.986	2.35%	7.92%
50.0	132.929	51.148	193.134	2.85%	10.77%
55.0	144.544	60.332	253.465	3.37%	14.14%
60.0	155.291	69.306	322.771	3.87%	18.00%
65.0	164.696	77.790	400.561	4.34%	22.34%
70.0	172.823	85.462	486.023	4.77%	27.11%
75.0	179.354	92.054	578.077	5.13%	32.24%
80.0	184.274	97.297	675.373	5.43%	37.67%
85.0	187.556	101.035	776.408	5.64%	43.31%
90.0	189.003	103.105	879.513	5.75%	49.06%
95.0	188.520	103.369	982.882	5.77%	54.82%
100.0	186.300	101.848	1084.729	5.68%	60.50%
105.0	182.296	98.626	1183.355	5.50%	66.01%
110.0	176.659	93.825	1277.181	5.23%	71.24%
115.0	169.489	87.647	1364.827	4.89%	76.13%
120.0	160.917	80.322	1445.15	4.48%	80.61%
125.0	150.936	72.084	1517.234	4.02%	84.63%
130.0	140.024	63.264	1580.498	3.53%	88.16%
135.0	128.065	54.171	1634.669	3.02%	91.18%
140.0	115.426	45.084	1679.754	2.51%	93.69%
145.0	101.875	36.255	1716.009	2.02%	95.72%
150.0	87.808	27.932	1743.941	1.56%	97.27%
155.0	73.408	20.402	1764.343	1.14%	98.41%
160.0	59.005	13.888	1778.231	0.77%	99.19%
165.0	43.861	8.478	1786.708	0.47%	99.66%
170.0	29.155	4.331	1791.04	0.24%	99.90%
175.0	14.643	1.567	1792.606	0.09%	99.99%
180.0	2.527	0.205	1792.812	0.01%	100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	41.33	2.31%	2.31%
0-40	99.94	5.57%	5.57%
0-60	322.77	18.00%	18.00%
0-90	879.51	49.06%	49.06%
0-120	1445.15	80.61%	80.61%
0-180	1792.81	100.00%	100.00%
60-90	556.74	31.05%	31.05%
90-120	565.64	31.55%	31.55%
90-130	700.99	39.10%	39.10%
90-150	864.43	48.22%	48.22%
90-180	913.09	50.93%	50.93%
0-119.32	1434.25	80.00%	80.00%

ZONAL LUMEN SUMMARY

0-10	1.11
10-20	10.24
20-30	29.98
30-40	58.60
40-50	93.20
50-60	129.64
60-70	163.25
70-80	189.35
80-90	204.14
90-100	205.22
100-110	192.45
110-120	167.97
120-130	135.35
130-140	99.26
140-150	64.19
150-160	34.29
160-170	12.81
170-180	1.57

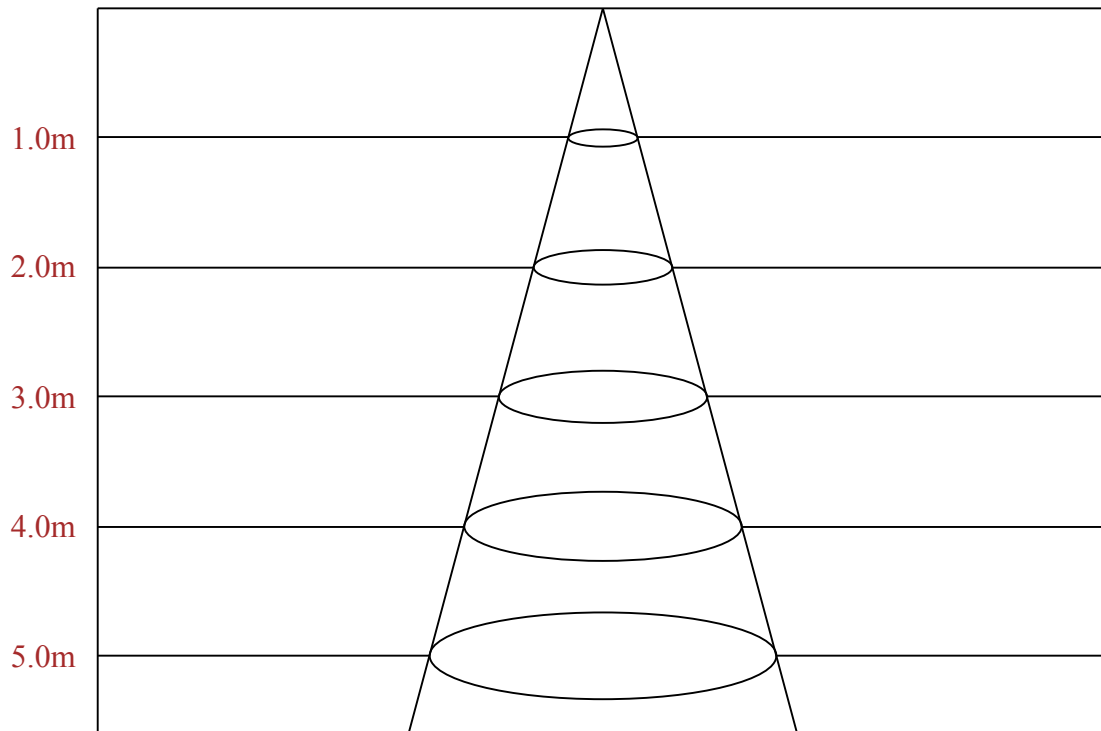
C90(Max): ———C0/C180: ———C90/C270: ———

Field angle(10%Imax):C0/180Left:262.8 Right:82.8

:C90/270Left:79.5 Right:83.9

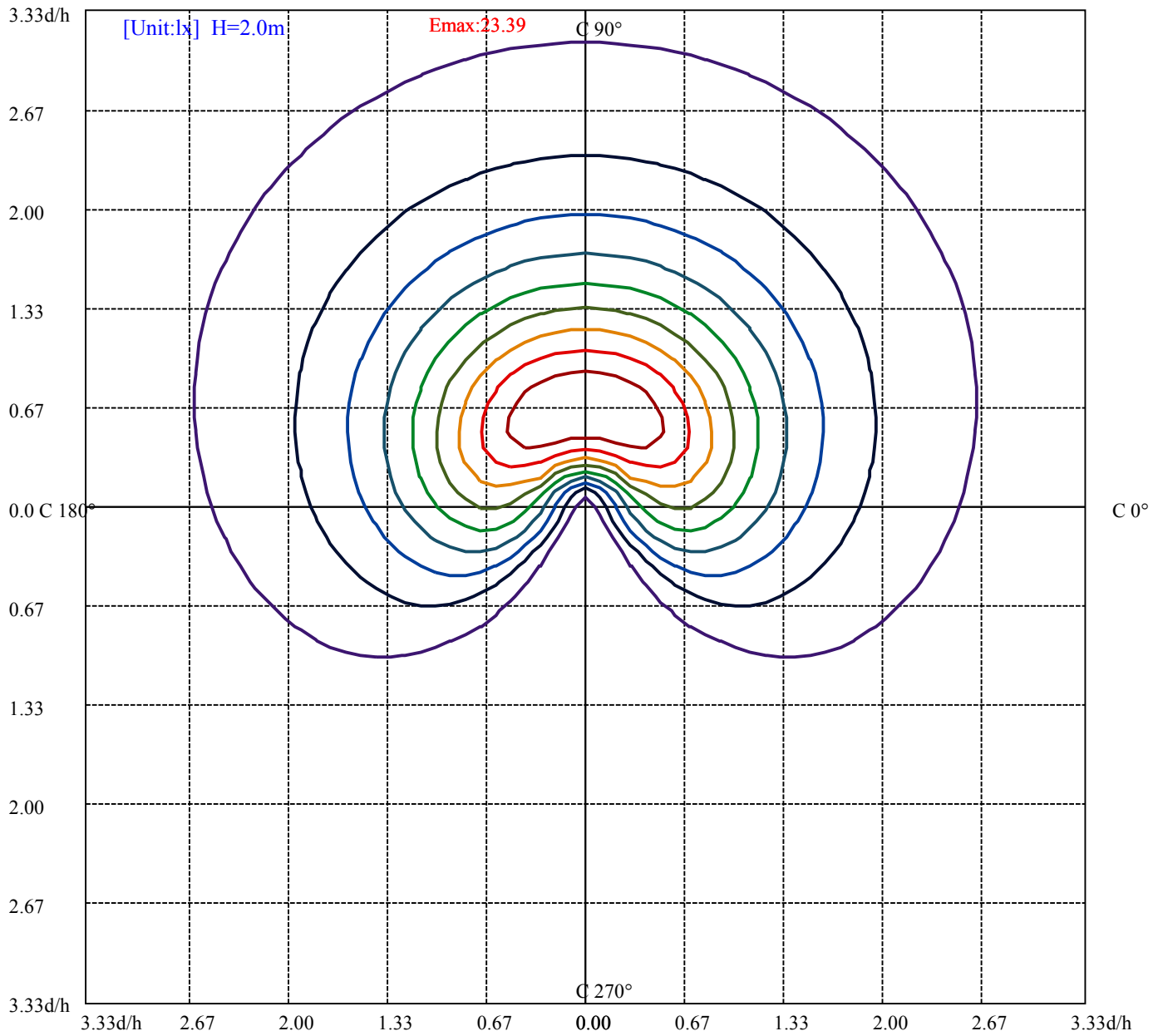
Beam Angle(50%Imax):C0/180Left:237.3 Right:57.3

:C90/270Left:53.7 Right:58.0

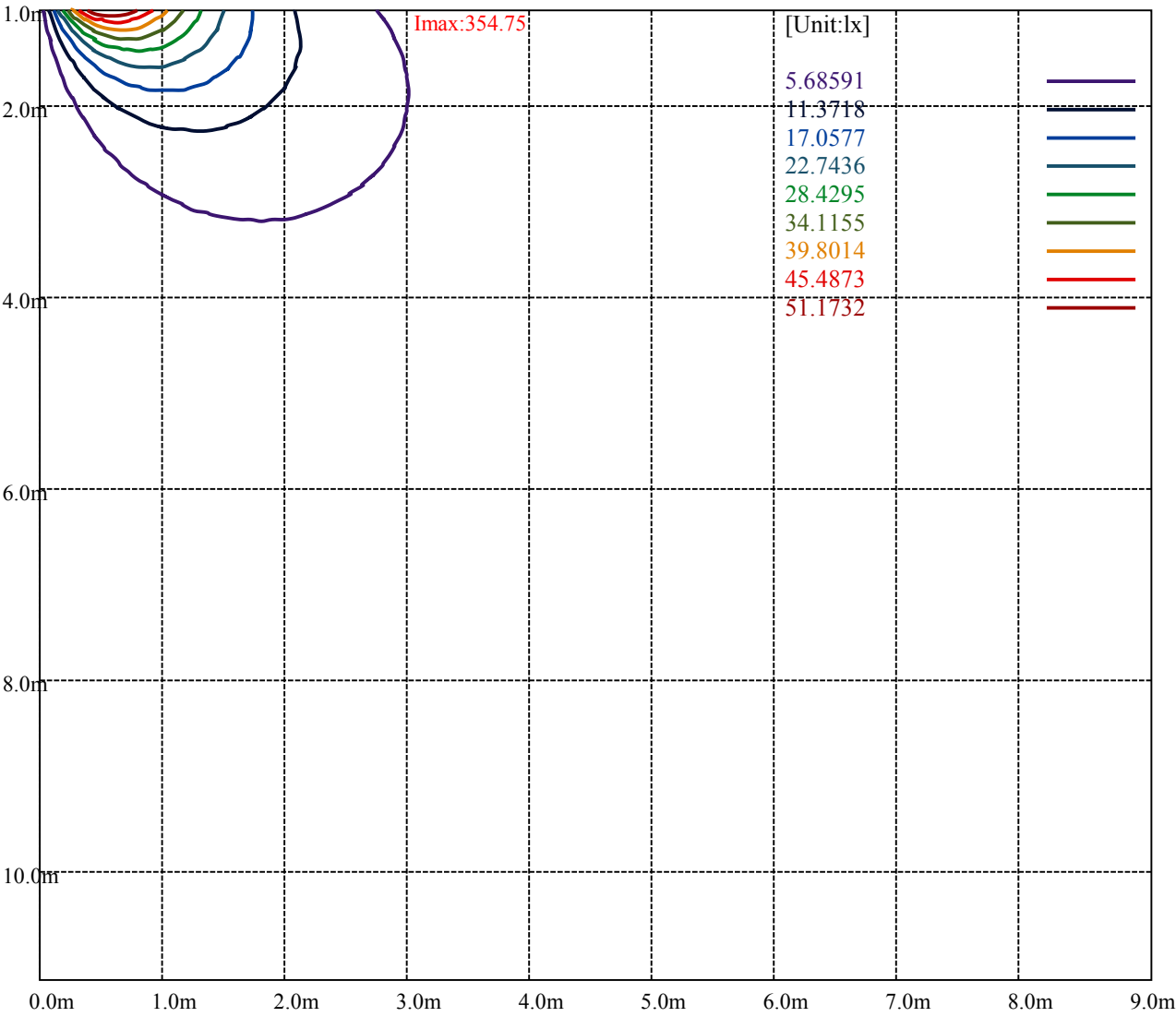


Max , Ave

Beam angle of C90 plane 180.00



(10%Emax) 2.33878	—
(20%Emax) 4.67755	—
(30%Emax) 7.01635	—
(40%Emax) 9.355125	—
(50%Emax) 11.6939	—
(60%Emax) 14.03267	—
(70%Emax) 16.37145	—
(80%Emax) 18.71022	—
(90%Emax) 21.04902	—



Luminance Table

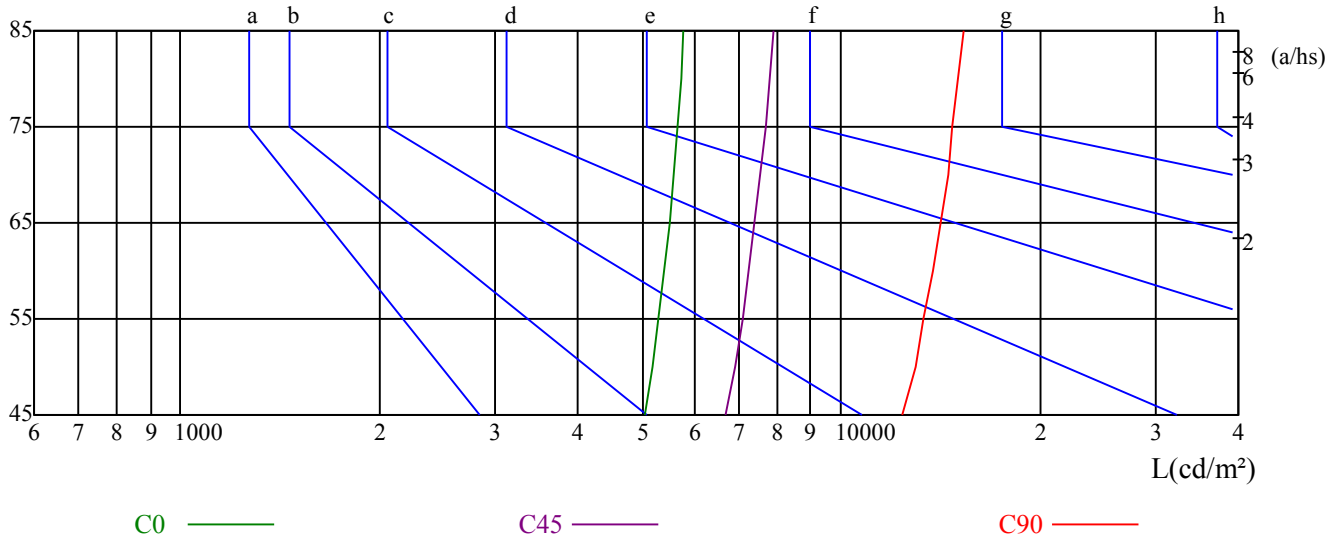
γ	45	50	55	60	65	70	75	80	85
C0	5054	5192	5299	5413	5503	5579	5655	5724	5783
C45	6692	6911	7086	7257	7408	7554	7679	7789	7885
C90	12396	12975	13368	13788	14167	14527	14790	15084	15343

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
173681	152938	160545	306419	272766	286054	947692	851186	889467

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

 $\gamma(^{\circ})$ 

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	1.07	1.07	1.07	0.99	0.99	0.99	0.83	0.83	0.83	0.68	0.68	0.68	0.55	0.55	0.55	0.49
1	0.85	0.79	0.73	0.78	0.72	0.67	0.64	0.60	0.56	0.51	0.48	0.45	0.40	0.37	0.35	0.29
2	0.71	0.62	0.55	0.65	0.57	0.51	0.53	0.47	0.42	0.42	0.37	0.33	0.32	0.28	0.25	0.20
3	0.60	0.51	0.43	0.55	0.46	0.40	0.45	0.38	0.33	0.35	0.30	0.26	0.26	0.22	0.19	0.14
4	0.52	0.43	0.35	0.48	0.39	0.32	0.38	0.32	0.26	0.30	0.25	0.20	0.22	0.18	0.15	0.11
5	0.46	0.36	0.29	0.42	0.33	0.26	0.34	0.27	0.21	0.26	0.21	0.17	0.19	0.15	0.12	0.08
6	0.41	0.31	0.24	0.37	0.28	0.22	0.30	0.23	0.18	0.23	0.18	0.14	0.17	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	0.15	0.11	0.08	0.05
8	0.32	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	0.04
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	2.69	7.72	21.80	37.95	54.82	71.68	87.48	104.79	119.41
15.0	2.24	8.34	25.21	45.94	65.31	86.58	105.69	125.78	144.89
30.0	2.06	9.24	28.98	51.68	75.27	98.69	122.02	143.73	167.32
45.0	1.61	9.06	31.85	55.54	82.63	107.03	132.96	158.53	182.76
60.0	1.35	9.51	32.48	58.59	85.68	113.13	139.42	167.59	192.45
75.0	1.17	8.97	33.29	59.84	85.86	114.03	142.02	169.66	196.21
90.0	0.90	9.42	32.66	59.30	86.76	114.48	142.47	170.20	196.93
105.0	0.90	9.06	33.29	59.66	86.94	112.69	141.93	167.68	193.79
120.0	0.90	8.70	33.29	57.69	83.89	110.62	137.09	163.56	187.33
135.0	5.11	9.15	30.86	54.91	78.23	104.43	127.94	151.89	175.40
150.0	1.17	8.61	28.17	49.52	88.10	93.04	114.84	135.30	156.92
165.0	1.26	8.25	24.22	43.06	60.83	79.67	97.97	116.10	134.40
180.0	2.69	14.27	27.54	43.15	57.33	72.22	86.85	100.84	114.39
195.0	2.24	11.04	21.80	33.02	43.78	55.54	66.12	76.80	87.03
210.0	2.06	7.90	15.79	23.15	31.13	38.85	46.29	53.74	60.47
225.0	1.61	4.93	6.73	8.88	11.13	13.10	15.43	17.94	20.55
240.0	1.35	2.69	3.32	3.86	4.22	4.76	5.02	5.47	6.28
255.0	1.17	1.26	1.44	1.44	1.44	1.70	1.79	2.06	2.24
270.0	0.90	0.72	0.63	0.54	0.54	0.54	0.54	0.63	0.81
285.0	0.90	1.35	1.70	2.06	2.15	2.42	2.60	2.78	2.87
300.0	0.90	3.05	4.04	4.84	5.02	6.10	6.64	7.63	8.88
315.0	5.11	5.47	9.69	14.89	20.37	25.84	31.22	36.52	41.54
330.0	1.17	8.52	17.58	26.47	36.61	45.49	55.00	63.97	72.49
345.0	1.26	11.57	23.51	36.61	49.79	62.98	75.99	87.83	100.48
360.0	2.69	7.72	21.80	37.95	54.82	71.68	87.48	104.79	119.41
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	134.58	148.93	162.03	173.87	184.64	192.89	200.25	205.99	209.76
15.0	163.02	180.60	195.59	211.38	223.58	234.79	243.94	250.94	255.25
30.0	187.15	207.52	226.09	243.41	258.48	271.22	281.98	289.97	295.62
45.0	206.62	228.87	249.87	267.72	284.68	299.03	311.23	319.94	326.22
60.0	217.57	241.16	263.14	283.42	300.83	316.71	329.00	338.87	345.42
75.0	221.87	246.01	267.99	288.44	306.75	322.81	335.99	345.50	352.23
90.0	220.89	246.64	268.08	288.80	307.11	323.17	334.92	344.97	351.70
105.0	219.18	243.05	265.48	284.77	302.89	318.32	330.79	340.66	346.76
120.0	212.99	234.70	255.79	275.70	292.93	308.00	319.58	328.37	334.83
135.0	197.56	219.18	237.57	256.32	271.58	285.57	296.25	304.86	310.25
150.0	175.94	194.51	211.74	227.62	241.25	252.74	262.61	269.87	274.72
165.0	149.56	165.53	180.06	192.45	203.93	214.16	222.23	228.06	232.10
180.0	127.04	139.15	149.47	159.79	167.68	174.86	180.42	184.37	186.70
195.0	96.72	105.60	113.85	121.30	127.67	132.69	137.00	139.87	141.58
210.0	67.47	73.66	79.40	84.60	89.00	92.68	95.28	97.25	98.24
225.0	23.24	25.75	28.17	30.32	32.21	33.82	34.99	35.89	36.69
240.0	7.00	7.98	8.88	9.87	10.77	11.48	12.20	12.56	12.83
255.0	2.78	3.32	4.04	4.58	5.20	5.74	6.19	6.28	6.64
270.0	1.17	1.53	2.06	2.24	3.14	3.59	3.95	4.22	4.40
285.0	3.59	4.04	4.76	5.29	5.92	6.37	6.91	7.27	7.27
300.0	10.14	11.21	12.29	13.55	14.44	15.34	16.15	16.69	16.87
315.0	46.83	51.23	55.45	59.48	62.89	65.85	68.28	69.98	71.06
330.0	80.57	88.19	95.37	101.20	106.85	111.16	114.66	117.17	118.79
345.0	111.25	121.93	131.89	140.86	148.30	154.76	159.70	163.02	165.44
360.0	134.58	148.93	162.03	173.87	184.64	192.89	200.25	205.99	209.76

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	211.47	211.56	209.13	205.28	199.26	191.28	182.31	172.17	160.06
15.0	257.67	257.49	254.53	249.60	242.87	232.64	222.14	208.68	193.70
30.0	298.31	297.42	294.81	289.07	280.55	269.60	256.06	240.27	224.30
45.0	329.45	328.91	325.41	318.77	309.26	297.86	282.97	265.92	246.73
60.0	348.38	347.66	343.71	337.43	327.92	314.46	298.94	280.82	260.99
75.0	355.19	355.10	350.98	343.71	333.21	319.85	304.32	285.66	265.12
90.0	354.75	354.48	351.16	342.90	333.66	320.20	303.97	285.21	265.84
105.0	350.17	349.81	346.22	338.78	327.92	315.90	299.93	281.89	261.44
120.0	337.43	336.80	333.30	326.84	316.88	304.23	288.98	271.04	251.75
135.0	312.85	312.76	308.90	302.80	293.56	281.72	268.08	251.84	233.81
150.0	277.14	276.78	273.64	267.90	260.18	249.95	237.48	223.13	207.16
165.0	234.07	233.27	231.11	226.63	219.63	211.38	200.70	189.13	175.58
180.0	187.15	185.90	182.94	178.45	172.44	164.81	155.93	145.88	134.58
195.0	142.02	141.04	138.88	135.30	130.36	125.07	118.07	110.44	101.83
210.0	98.51	97.52	96.00	93.31	89.90	85.68	80.84	75.27	69.62
225.0	36.87	36.61	35.89	34.90	33.64	31.94	31.49	27.99	25.66
240.0	12.83	12.47	12.38	11.48	10.68	9.78	8.70	7.81	6.82
255.0	6.64	6.37	6.10	5.65	5.02	4.40	3.77	3.14	2.42
270.0	4.49	4.22	3.95	3.68	3.23	2.69	2.06	1.53	1.17
285.0	7.27	7.09	6.82	6.19	5.47	4.84	4.13	3.41	2.78
300.0	16.96	16.69	16.24	15.61	14.80	13.82	12.83	11.93	10.68
315.0	71.51	71.24	70.16	68.46	66.39	63.43	60.29	56.43	52.31
330.0	119.06	118.52	116.54	113.94	109.99	105.33	99.68	93.04	86.31
345.0	165.89	164.81	162.39	158.44	152.97	146.87	138.35	129.82	119.95
360.0	211.47	211.56	209.13	205.28	199.26	191.28	182.31	172.17	160.06
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	146.78	132.33	117.35	101.56	85.86	69.08	51.86	34.90	18.30
15.0	177.64	161.04	141.58	123.09	103.18	82.81	62.09	42.53	22.52
30.0	205.28	185.18	163.65	141.22	119.24	95.64	71.95	48.27	26.56
45.0	225.91	203.48	180.78	156.11	130.63	104.43	78.23	53.47	28.44
60.0	239.28	215.23	190.02	164.00	137.09	110.62	82.90	55.63	29.25
75.0	242.69	218.28	194.15	167.41	140.05	111.70	85.05	55.89	30.50
90.0	243.23	218.91	193.25	166.43	139.15	112.33	84.34	56.61	29.70
105.0	239.10	215.14	191.01	164.99	137.72	110.26	83.62	55.00	29.70
120.0	231.11	208.06	183.83	158.53	132.42	106.94	80.30	53.65	27.99
135.0	214.07	192.80	170.11	147.95	123.63	99.14	74.11	50.78	26.74
150.0	190.29	171.54	151.71	130.99	110.62	87.83	66.84	44.86	23.51
165.0	160.78	144.89	129.19	111.61	93.58	75.00	56.34	38.58	20.46
180.0	122.47	109.28	96.36	81.28	67.38	52.49	37.41	22.61	7.81
195.0	93.04	82.81	72.85	62.00	50.87	48.09	28.35	16.96	2.42
210.0	63.07	61.64	49.26	41.63	33.91	26.65	19.02	11.30	1.17
225.0	23.15	20.72	18.30	15.97	13.37	10.23	7.09	3.77	1.08
240.0	6.01	5.02	4.13	3.23	2.42	1.44	0.72	0.81	0.99
255.0	2.06	1.53	1.08	0.90	0.63	0.54	0.72	0.81	0.90
270.0	0.72	0.63	0.54	0.45	0.54	0.45	0.63	0.63	0.90
285.0	2.24	2.06	1.79	1.44	1.17	0.90	0.54	0.72	0.81
300.0	9.69	8.79	7.90	7.36	6.64	5.65	5.02	4.40	1.97
315.0	47.82	43.06	38.22	32.93	27.54	21.89	16.33	10.23	4.31
330.0	78.14	70.43	61.82	52.93	43.69	34.72	25.12	15.70	6.46
345.0	109.01	97.34	86.13	73.39	60.47	47.28	34.09	21.62	8.97
360.0	146.78	132.33	117.35	101.56	85.86	69.08	51.86	34.90	18.30

Intensity data(cd)

C/ $\gamma(^{\circ})$	180.0
0.0	2.60
15.0	3.95
30.0	4.67
45.0	5.56
60.0	6.46
75.0	6.01
90.0	5.47
105.0	5.92
120.0	6.19
135.0	5.29
150.0	4.40
165.0	4.13
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	2.60