
乐达凯

Client:

LumCAT: CRNW0616LAJUDBK

Luminaire: LED lamp

Report No:

Ballast type:

Test No:

Voltage(V): 120.040

LampCAT:

Current(A): 0.179

Lamp flux(lm): 1610.0

Power (W): 21.260

Number of Lamps: 1

PF: 0.992

Length(mm): 570

Width(mm): 100

Phm Type: C

Height(mm): 120

Photometric Results

Lumens(lm): 1609.99, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 75.73

Central intensity(cd): 206.993, Maximum intensity(cd): 272.311

Angle of maximum intensity: C=90.0 γ =125.0

Beam Angle(50%Imax): [C0/180]Total=N.A.

[C90/270]Total=N.A.

Field angle(10%Imax): [C0/180]Total=N.A.

[C90/270]Total=N.A.

Maximum s/h(1/2): C0_180=1.27 C90_270=1.85

Maximum s/h(1/4): C0_180=1.39 C90_270=2.00

Up flux rate of lamp(%): 49.78%

Down flux rate of lamp(%): 50.22%

Up flux rate of LUM(%): 49.78%

Down flux rate of LUM(%): 50.22%

CIE Type : General diffuse lighting

Output flux ratio in π solid angle : 31.456%

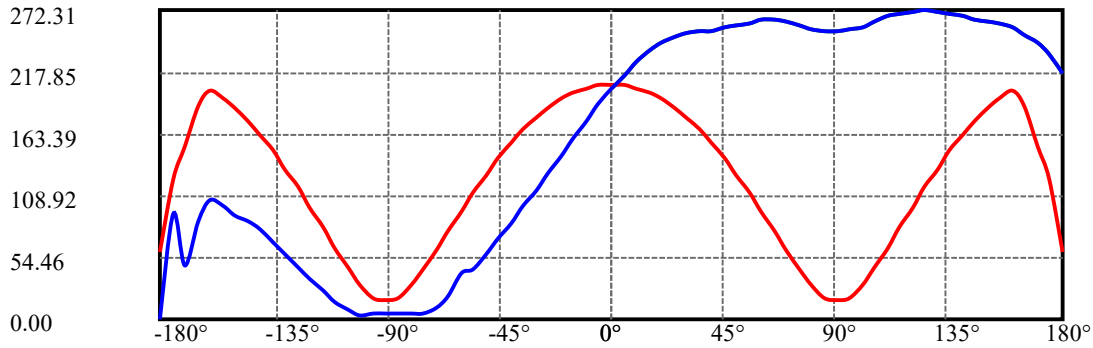
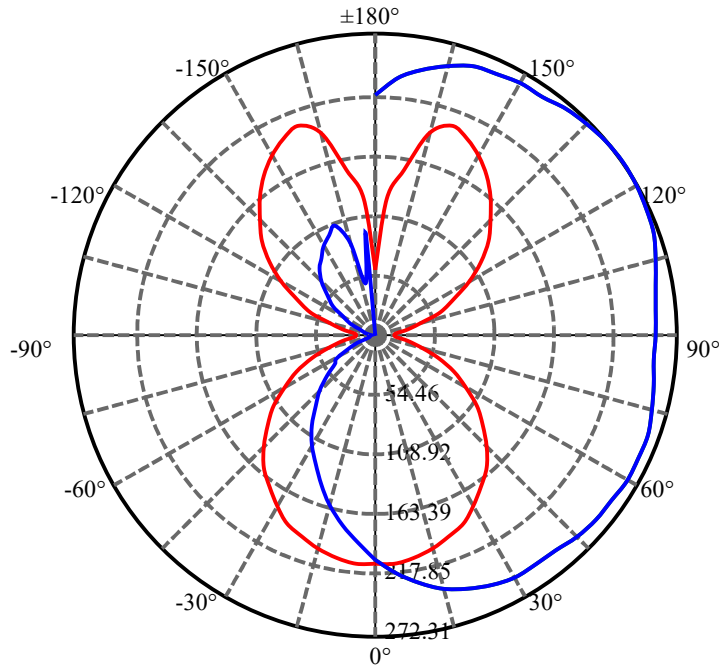
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	204.847	0.000	0	0.00%	0.00%
5.0	203.620	4.883	4.883	0.30%	0.30%
10.0	201.742	14.501	19.384	0.90%	1.20%
15.0	198.445	23.739	43.123	1.47%	2.68%
20.0	194.267	32.365	75.488	2.01%	4.69%
25.0	187.674	40.059	115.546	2.49%	7.18%
30.0	180.237	46.559	162.106	2.89%	10.07%
35.0	171.536	51.801	213.907	3.22%	13.29%
40.0	162.528	55.736	269.643	3.46%	16.75%
45.0	152.562	58.341	327.984	3.62%	20.37%
50.0	142.672	59.656	387.641	3.71%	24.08%
55.0	132.476	59.826	447.467	3.72%	27.79%
60.0	122.624	58.966	506.433	3.66%	31.46%
65.0	111.930	57.020	563.453	3.54%	35.00%
70.0	102.002	54.169	617.622	3.36%	38.36%
75.0	93.454	51.089	668.711	3.17%	41.54%
80.0	87.090	48.309	717.019	3.00%	44.54%
85.0	83.181	46.267	763.286	2.87%	47.41%
90.0	82.184	45.278	808.564	2.81%	50.22%
95.0	83.296	45.310	853.874	2.81%	53.04%
100.0	87.589	46.433	900.307	2.88%	55.92%
105.0	95.294	48.934	949.241	3.04%	58.96%
110.0	104.877	52.321	1001.562	3.25%	62.21%
115.0	115.073	55.693	1057.255	3.46%	65.67%
120.0	125.116	58.390	1115.645	3.63%	69.30%
125.0	135.657	60.277	1175.922	3.74%	73.04%
130.0	145.394	61.110	1237.032	3.80%	76.83%
135.0	154.593	60.617	1297.649	3.77%	80.60%
140.0	162.145	58.647	1356.295	3.64%	84.24%
145.0	169.428	55.320	1411.616	3.44%	87.68%
150.0	175.638	50.813	1462.429	3.16%	90.83%
155.0	180.659	45.090	1507.519	2.80%	93.64%
160.0	183.496	38.193	1545.712	2.37%	96.01%
165.0	176.826	29.696	1575.407	1.84%	97.85%
170.0	160.688	20.021	1595.428	1.24%	99.10%
175.0	162.068	11.546	1606.974	0.72%	99.81%
180.0	89.850	3.012	1609.986	0.19%	100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	162.11	10.07%	10.07%
0-40	269.64	16.75%	16.75%
0-60	506.43	31.46%	31.46%
0-90	808.56	50.22%	50.22%
0-120	1115.65	69.30%	69.30%
0-180	1609.99	100.00%	100.00%
60-90	302.13	18.77%	18.77%
90-120	307.08	19.07%	19.07%
90-130	428.47	26.61%	26.61%
90-150	653.86	40.61%	40.61%
90-180	798.41	49.59%	49.59%
0-134.20	1287.99	80.00%	80.00%

ZONAL LUMEN SUMMARY

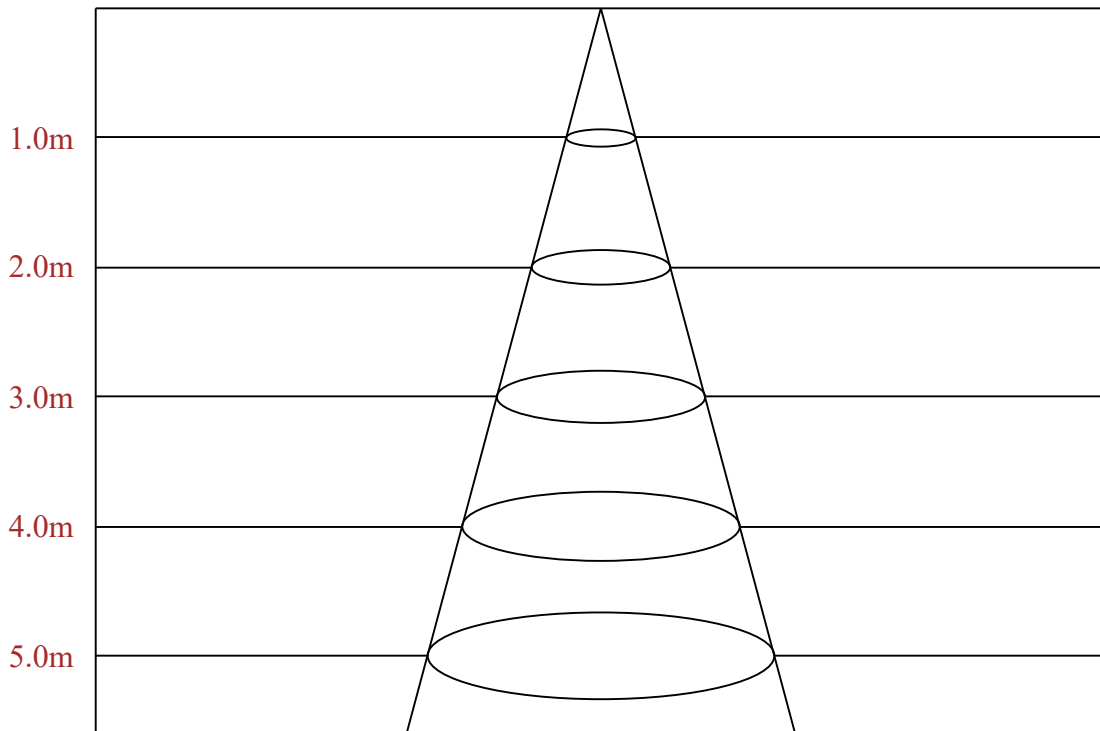
0-10	19.38
10-20	56.10
20-30	86.62
30-40	107.54
40-50	118.00
50-60	118.79
60-70	111.19
70-80	99.40
80-90	91.54
90-100	91.74
100-110	101.26
110-120	114.08
120-130	121.39
130-140	119.26
140-150	106.13
150-160	83.28
160-170	49.72
170-180	11.55



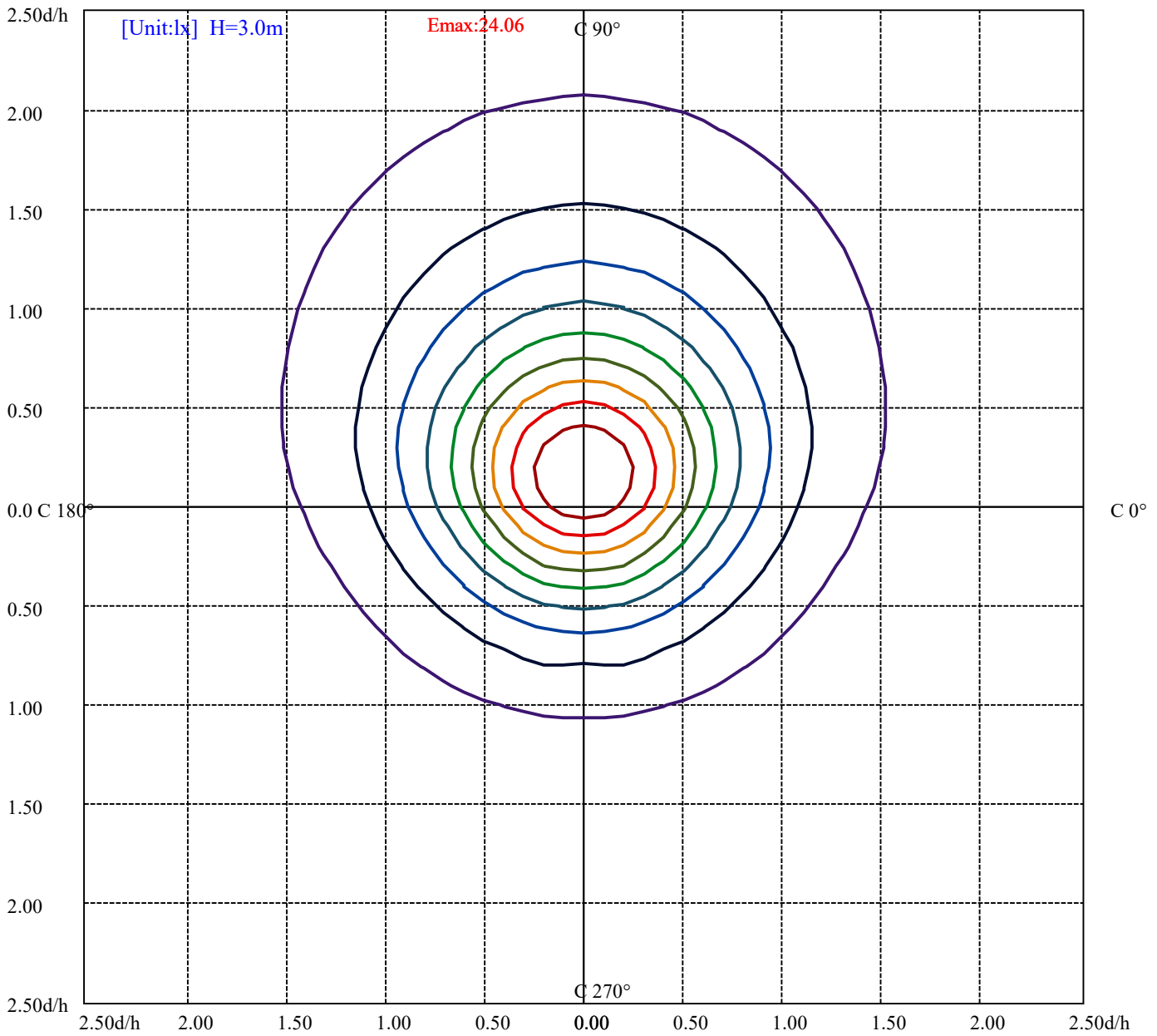
C90(Max): ———
 C0/C180: ———
 C90/C270: ———

Field angle(10%Imax):C0/180Left:0.0 Right:0.0
 :C90/270Left:0.0 Right:0.0

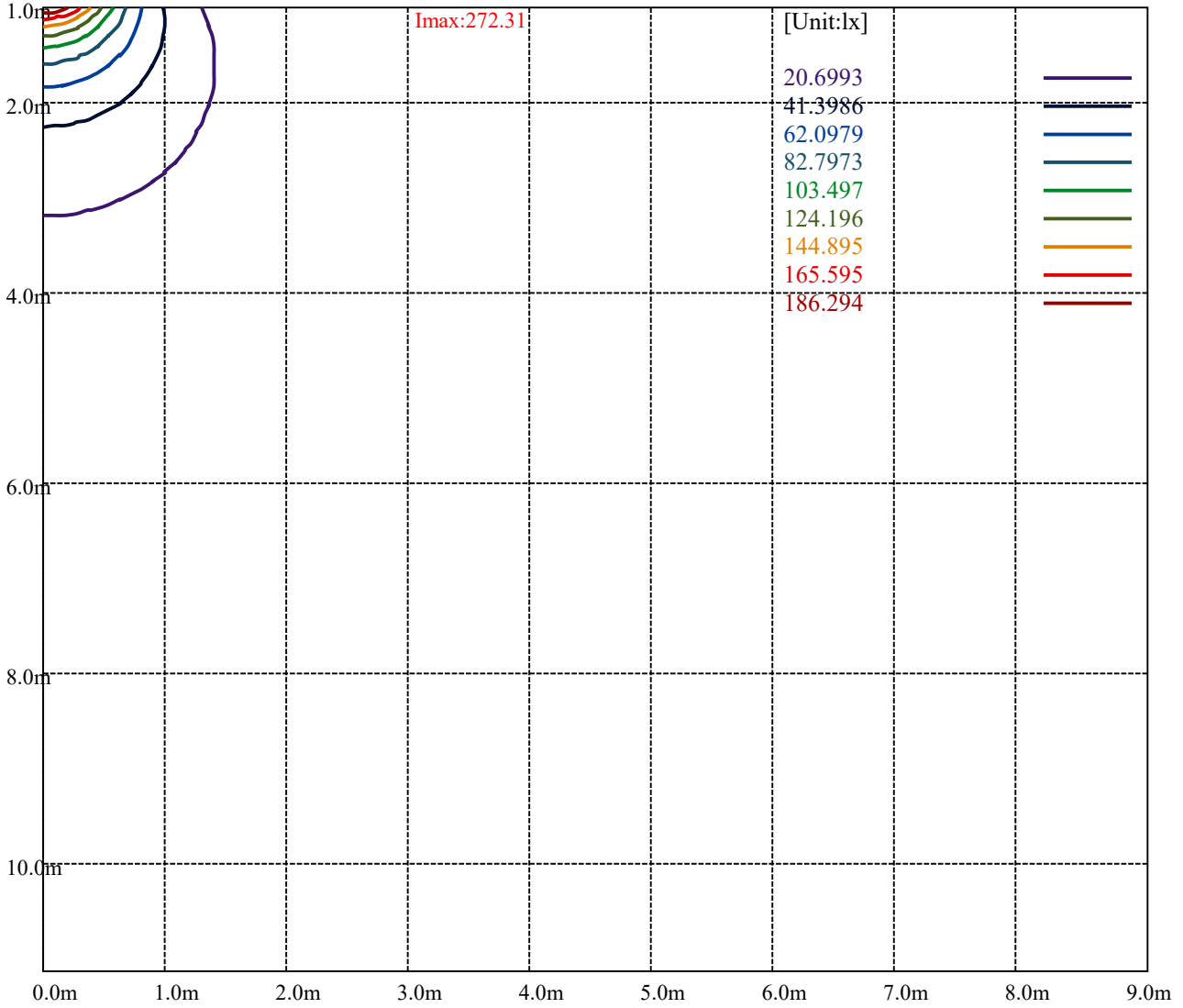
Beam Angle(50%Imax):C0/180Left:176.6 Right:176.6
 :C90/270Left:0.0 Right:0.0



Max , Ave Beam angle of C90 plane 216.72



- (10%Emax) 2.4058
- (20%Emax) 4.811589
- (30%Emax) 7.217389
- (40%Emax) 9.623178
- (50%Emax) 12.029
- (60%Emax) 14.43478
- (70%Emax) 16.84056
- (80%Emax) 19.24633
- (90%Emax) 21.65211



Luminance Table

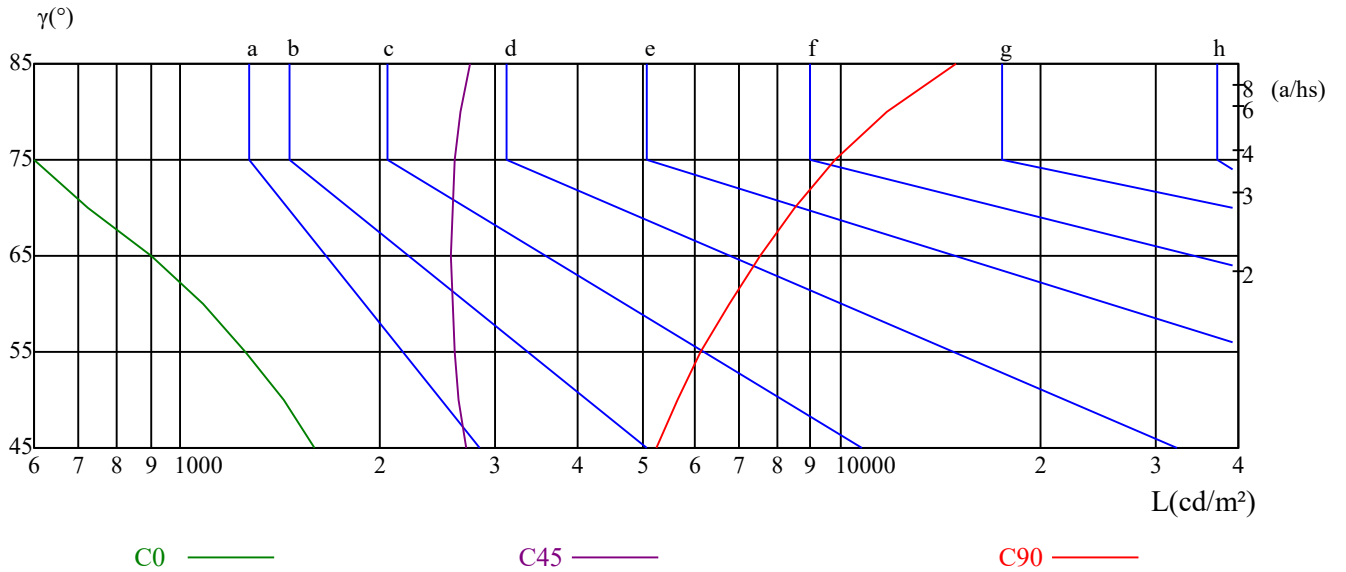
γ	45	50	55	60	65	70	75	80	85
C0	1598	1431	1255	1080	903	725	552	387	264
C45	2708	2639	2606	2580	2573	2580	2595	2646	2748
C90	5261	5661	6144	6765	7525	8521	9813	11777	14950

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
3227	5881	4745	3024	8949	6657	3889	25926	18287

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	1.07	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	0.90	0.85	0.81	0.83	0.79	0.75	0.69	0.66	0.63	0.57	0.55	0.53	0.46	0.44	0.43	0.37
2	0.77	0.70	0.64	0.71	0.65	0.60	0.60	0.55	0.51	0.49	0.45	0.42	0.39	0.36	0.34	0.29
3	0.67	0.59	0.52	0.62	0.55	0.49	0.52	0.46	0.42	0.43	0.38	0.35	0.34	0.31	0.28	0.24
4	0.59	0.50	0.44	0.54	0.47	0.41	0.46	0.40	0.35	0.37	0.33	0.29	0.30	0.27	0.24	0.20
5	0.52	0.44	0.37	0.48	0.40	0.35	0.41	0.34	0.30	0.33	0.29	0.25	0.27	0.23	0.20	0.17
6	0.47	0.38	0.32	0.43	0.35	0.30	0.36	0.30	0.26	0.30	0.25	0.22	0.24	0.20	0.18	0.15
7	0.42	0.34	0.28	0.39	0.31	0.26	0.33	0.27	0.22	0.27	0.22	0.19	0.22	0.18	0.15	0.13
8	0.38	0.30	0.24	0.35	0.28	0.23	0.30	0.24	0.20	0.25	0.20	0.17	0.20	0.16	0.14	0.11
9	0.35	0.27	0.22	0.32	0.25	0.20	0.27	0.22	0.18	0.23	0.18	0.15	0.19	0.15	0.12	0.10
10	0.32	0.24	0.19	0.29	0.23	0.18	0.25	0.20	0.16	0.21	0.17	0.13	0.17	0.14	0.11	0.09

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	206.99	206.99	205.15	201.47	196.87	189.51	180.31	170.19	159.15
15.0	206.07	209.75	210.67	210.67	208.83	206.07	200.55	192.27	183.07
30.0	206.07	211.59	217.11	219.87	221.71	220.79	218.03	213.43	206.99
45.0	204.23	213.43	221.71	228.15	231.83	233.67	232.75	230.91	226.31
60.0	204.23	214.35	224.47	232.75	239.19	242.87	243.79	242.87	240.11
75.0	203.31	215.27	227.23	235.51	242.87	247.47	250.23	250.23	223.55
90.0	202.39	215.27	227.23	236.43	243.79	249.31	252.07	252.99	252.99
105.0	202.39	214.35	226.31	235.51	241.95	246.55	249.31	249.31	248.39
120.0	202.39	213.43	223.55	231.83	237.35	241.03	241.95	241.03	238.27
135.0	210.67	212.51	219.87	225.39	229.07	230.91	230.91	228.15	223.55
150.0	204.23	210.67	214.35	218.03	218.95	218.03	215.27	210.67	204.23
165.0	205.15	207.91	208.83	208.83	206.99	203.31	196.87	189.51	180.31
180.0	206.99	206.07	202.39	198.71	192.27	183.99	174.79	163.75	151.79
195.0	206.07	201.47	195.03	187.67	178.47	168.35	156.39	143.52	130.64
210.0	206.07	197.79	188.59	178.47	167.43	154.55	140.76	125.12	110.40
225.0	204.23	194.11	183.07	170.19	157.31	142.60	127.88	113.16	98.44
240.0	204.23	191.35	178.47	164.67	149.96	134.32	119.60	104.88	91.08
255.0	203.31	189.51	175.71	160.07	144.44	129.72	115.00	101.20	86.48
270.0	202.39	188.59	174.79	158.23	144.44	128.80	114.08	99.36	84.64
285.0	202.39	189.51	174.79	160.07	145.36	130.64	116.84	102.12	98.44
300.0	202.39	191.35	177.55	164.67	160.99	136.16	122.36	107.64	92.92
315.0	210.67	194.11	182.15	170.19	157.31	143.52	129.72	115.00	101.20
330.0	204.23	196.87	187.67	177.55	166.51	154.55	140.76	126.96	112.24
345.0	205.15	200.55	195.03	187.67	178.47	167.43	155.47	142.60	128.80
360.0	206.99	206.99	205.15	201.47	196.87	189.51	180.31	170.19	159.15
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	145.36	131.56	115.00	99.36	80.96	64.40	47.84	32.20	20.24
15.0	172.95	160.99	147.20	131.56	115.00	97.52	80.96	68.08	57.04
30.0	198.71	187.67	175.71	164.67	154.55	143.52	133.40	123.28	116.84
45.0	218.95	213.43	208.83	203.31	197.79	191.35	183.99	178.47	173.87
60.0	238.27	238.27	237.35	235.51	232.75	229.07	225.39	220.79	218.03
75.0	252.07	253.91	255.75	256.67	255.75	253.91	251.15	247.47	244.71
90.0	256.67	259.43	261.27	263.11	263.11	262.19	258.51	255.75	252.99
105.0	250.23	252.99	253.91	253.91	252.99	251.15	248.39	244.71	241.03
120.0	235.51	234.59	233.67	230.91	228.15	224.47	219.87	214.35	210.67
135.0	217.11	209.75	204.23	197.79	191.35	184.91	177.55	170.19	164.67
150.0	195.95	185.83	173.87	160.99	149.04	137.08	126.04	115.92	107.64
165.0	170.19	158.23	144.44	129.72	113.16	95.68	77.28	62.56	49.68
180.0	138.00	123.28	107.64	90.16	74.52	57.04	41.40	27.60	18.40
195.0	115.00	99.36	83.72	68.08	53.36	39.56	28.52	19.32	15.64
210.0	94.76	80.96	67.16	54.28	41.40	30.36	21.16	14.72	13.80
225.0	85.56	71.76	57.96	46.00	34.04	23.00	15.64	11.96	11.96
240.0	77.28	64.40	50.60	39.56	27.60	17.48	11.04	9.20	9.20
255.0	72.68	58.88	46.00	34.04	22.08	12.88	6.44	5.52	5.52
270.0	71.76	57.04	44.16	40.48	20.24	10.12	5.52	4.60	4.60
285.0	73.60	59.80	46.92	34.04	22.08	12.88	7.36	6.44	6.44
300.0	79.12	65.32	51.52	39.56	27.60	17.48	11.96	10.12	10.12
315.0	87.40	72.68	59.80	46.00	34.04	23.92	15.64	11.96	12.88
330.0	98.44	83.72	69.00	55.20	42.32	29.44	21.16	15.64	14.72
345.0	115.92	100.28	83.72	68.08	52.44	38.64	26.68	19.32	15.64
360.0	145.36	131.56	115.00	99.36	80.96	64.40	47.84	32.20	20.24

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Appendix Page: 11 Total:12

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	16.56	19.32	30.36	46.00	63.48	81.88	99.36	116.84	133.40
15.0	53.36	56.12	66.24	80.04	95.68	113.16	130.64	147.20	162.83
30.0	115.00	116.84	124.20	133.40	144.44	156.39	167.43	177.55	189.51
45.0	172.95	174.79	179.39	186.75	194.11	201.47	208.83	215.27	220.79
60.0	217.11	218.95	222.63	228.15	233.67	239.19	242.87	246.55	248.39
75.0	244.71	246.55	250.23	254.83	259.43	262.19	264.95	265.87	265.87
90.0	253.91	254.83	257.59	262.19	266.79	269.55	271.39	272.31	271.39
105.0	241.03	242.87	245.63	250.23	254.83	258.51	260.35	262.19	262.19
120.0	210.67	211.59	214.35	219.87	225.39	230.91	235.51	239.19	241.95
135.0	162.83	163.75	168.35	174.79	183.07	190.43	197.79	205.15	211.59
150.0	103.96	104.88	111.32	120.52	131.56	143.52	156.39	168.35	180.31
165.0	43.24	45.08	54.28	68.08	84.64	102.12	120.52	137.08	152.71
180.0	16.56	19.32	30.36	45.08	62.56	80.04	97.52	115.00	131.56
195.0	15.64	16.56	23.00	33.12	45.08	60.72	76.36	92.00	107.64
210.0	13.80	13.80	17.48	24.84	34.96	46.00	58.88	71.76	84.64
225.0	11.96	11.96	12.88	18.40	26.68	35.88	38.64	57.04	69.00
240.0	9.20	9.20	9.20	13.80	22.08	31.28	41.40	52.44	63.48
255.0	5.52	5.52	5.52	10.12	18.40	26.68	36.80	46.92	57.96
270.0	4.60	4.60	3.68	8.28	15.64	24.84	34.96	46.00	57.04
285.0	6.44	6.44	6.44	11.04	18.40	27.60	36.80	47.84	57.96
300.0	10.12	10.12	10.12	14.72	23.00	31.28	41.40	51.52	62.56
315.0	12.88	12.88	13.80	20.24	26.68	36.80	46.00	57.04	67.16
330.0	14.72	14.72	19.32	25.76	35.88	46.92	57.96	70.84	80.96
345.0	15.64	18.40	25.76	36.80	50.60	64.40	80.04	93.84	108.56
360.0	16.56	19.32	30.36	46.00	63.48	81.88	99.36	116.84	133.40
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	149.04	162.83	175.71	186.75	195.03	202.39	194.11	160.07	127.88
15.0	175.71	188.59	198.71	206.99	214.35	218.95	218.03	192.27	146.28
30.0	201.47	211.59	219.87	226.31	229.99	232.75	232.75	220.79	173.87
45.0	225.39	231.83	237.35	241.95	243.79	243.79	241.95	237.35	209.75
60.0	249.31	249.31	251.15	253.91	253.91	252.07	247.47	241.03	229.99
75.0	264.95	263.11	260.35	260.35	259.43	255.75	250.23	242.87	233.67
90.0	269.55	266.79	263.11	262.19	260.35	257.59	251.15	243.79	233.67
105.0	261.27	259.43	257.59	258.51	257.59	254.83	249.31	241.95	233.67
120.0	242.87	243.79	246.55	249.31	250.23	249.31	245.63	240.11	231.83
135.0	217.11	224.47	231.83	236.43	239.19	239.19	238.27	234.59	228.15
150.0	193.19	203.31	212.51	219.87	224.47	227.23	228.15	227.23	223.55
165.0	167.43	180.31	191.35	200.55	207.91	213.43	217.11	218.03	217.11
180.0	147.20	160.99	173.87	184.91	195.03	199.63	182.15	144.44	118.68
195.0	124.20	138.00	150.88	160.99	170.19	172.03	154.55	120.52	108.56
210.0	98.44	101.20	118.68	126.04	134.32	139.84	130.64	100.28	95.68
225.0	80.04	88.32	98.44	103.96	108.56	114.08	108.56	78.20	74.52
240.0	74.52	82.80	90.16	97.52	102.12	107.64	102.12	61.64	63.48
255.0	69.92	80.04	86.48	94.76	101.20	106.72	98.44	46.00	61.64
270.0	68.08	79.12	85.56	92.00	99.36	104.88	86.48	47.84	92.92
285.0	69.92	78.20	84.64	91.08	97.52	105.80	79.12	63.48	116.84
300.0	71.76	78.20	85.56	91.08	97.52	100.28	85.56	81.88	143.52
315.0	75.44	82.80	90.16	97.52	103.96	105.80	101.20	105.80	159.15
330.0	92.00	102.12	111.32	118.68	126.96	130.64	130.64	134.32	175.71
345.0	121.44	134.32	144.44	153.63	162.83	169.27	170.19	172.03	189.51
360.0	149.04	162.83	175.71	186.75	195.03	202.39	194.11	160.07	127.88

Intensity data(cd)

C/γ(°)	180.0
0.0	119.60
15.0	124.20
30.0	126.96
45.0	138.00
60.0	168.35
75.0	201.47
90.0	216.19
105.0	216.19
120.0	214.35
135.0	212.51
150.0	209.75
165.0	208.83
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	119.60