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Client:

LumCAT: WAL-191

Luminaire: LED 灯具

Report No:

Ballast type:

Test No:

Voltage(V): 119.960

LampCAT:

Current(A): 0.397

Lamp flux(lm): 3471.4

Power (W): 47.490

Number of Lamps: 1

PF: 0.998

Length(mm): 870

Width(mm): 80

Phm Type: C

Height(mm): 50

Photometric Results

Lumens(lm): 3471.42, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 73.10

Central intensity(cd): 992.303, Maximum intensity(cd): 996.223

Angle of maximum intensity: C=0.0 γ =15.0

Beam Angle(50%Imax): [C0/180]Total=129.6

[C90/270]Total=95.8

Field angle(10%Imax): [C0/180]Total=209.4

[C90/270]Total=150.6

Maximum s/h(1/2): C0_180=1.41 C90_270=1.17

Maximum s/h(1/4): C0_180=1.49 C90_270=1.27

Up flux rate of lamp(%): 9.45%

Down flux rate of lamp(%): 90.55%

Up flux rate of LUM(%): 9.45%

Down flux rate of LUM(%): 90.55%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 66.495%

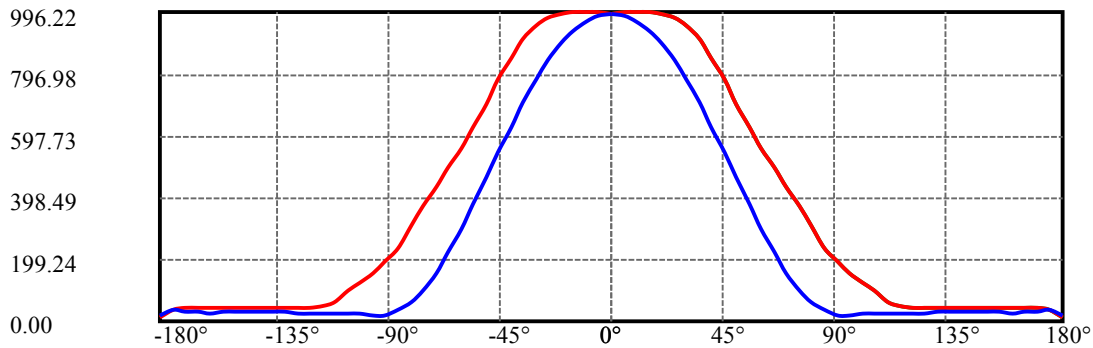
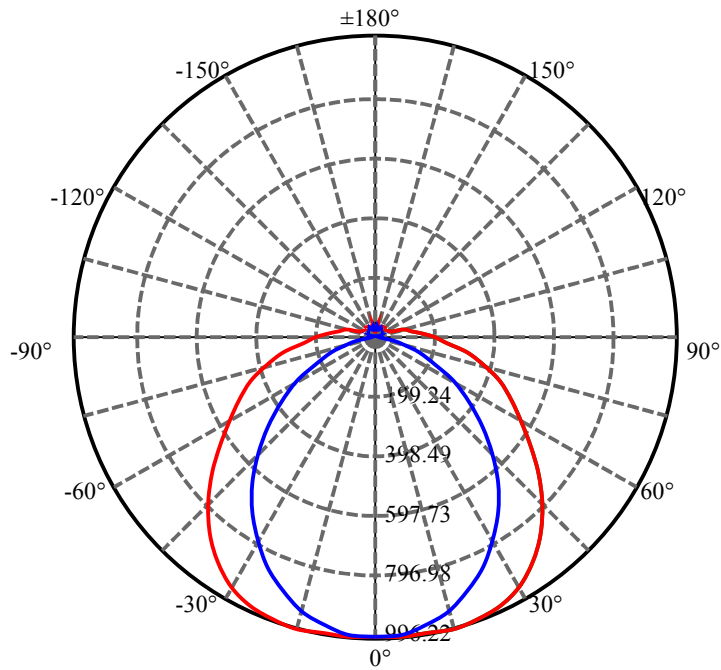
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	992.302	0.000	0	0.00%	0.00%
5.0	989.741	23.695	23.695	0.68%	0.68%
10.0	981.029	70.501	94.195	2.03%	2.71%
15.0	965.506	115.467	209.663	3.33%	6.04%
20.0	942.777	157.269	366.932	4.53%	10.57%
25.0	912.075	194.540	561.472	5.60%	16.17%
30.0	872.464	225.835	787.306	6.51%	22.68%
35.0	820.225	249.260	1036.567	7.18%	29.86%
40.0	758.310	263.367	1299.933	7.59%	37.45%
45.0	689.003	267.982	1567.915	7.72%	45.17%
50.0	610.565	262.597	1830.512	7.56%	52.73%
55.0	533.033	248.656	2079.168	7.16%	59.89%
60.0	458.411	229.170	2308.338	6.60%	66.50%
65.0	385.644	205.191	2513.529	5.91%	72.41%
70.0	319.867	178.640	2692.169	5.15%	77.55%
75.0	261.142	151.866	2844.035	4.37%	81.93%
80.0	206.788	125.205	2969.24	3.61%	85.53%
85.0	156.395	98.686	3067.926	2.84%	88.38%
90.0	119.062	75.422	3143.348	2.17%	90.55%
95.0	96.544	59.035	3202.383	1.70%	92.25%
100.0	79.781	47.912	3250.294	1.38%	93.63%
105.0	57.760	36.802	3287.097	1.06%	94.69%
110.0	43.210	26.392	3313.489	0.76%	95.45%
115.0	38.675	20.734	3334.222	0.60%	96.05%
120.0	37.763	18.582	3352.805	0.54%	96.58%
125.0	37.842	17.476	3370.281	0.50%	97.09%
130.0	38.065	16.505	3386.785	0.48%	97.56%
135.0	38.069	15.384	3402.169	0.44%	98.01%
140.0	37.964	14.078	3416.247	0.41%	98.41%
145.0	38.042	12.681	3428.928	0.37%	98.78%
150.0	38.230	11.232	3440.16	0.32%	99.10%
155.0	37.895	9.634	3449.793	0.28%	99.38%
160.0	37.040	7.859	3457.653	0.23%	99.60%
165.0	36.265	6.041	3463.694	0.17%	99.78%
170.0	36.793	4.334	3468.028	0.12%	99.90%
175.0	38.620	2.698	3470.726	0.08%	99.98%
180.0	19.671	0.697	3471.422	0.02%	100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	787.31	22.68%	22.68%
0-40	1299.93	37.45%	37.45%
0-60	2308.34	66.50%	66.50%
0-90	3143.35	90.55%	90.55%
0-120	3352.80	96.58%	96.58%
0-180	3471.42	100.00%	100.00%
60-90	835.01	24.05%	24.05%
90-120	209.46	6.03%	6.03%
90-130	243.44	7.01%	7.01%
90-150	296.81	8.55%	8.55%
90-180	327.38	9.43%	9.43%
0-72.80	2777.14	80.00%	80.00%

ZONAL LUMEN SUMMARY

0-10	94.20
10-20	272.74
20-30	420.37
30-40	512.63
40-50	530.58
50-60	477.83
60-70	383.83
70-80	277.07
80-90	174.11
90-100	106.95
100-110	63.19
110-120	39.32
120-130	33.98
130-140	29.46
140-150	23.91
150-160	17.49
160-170	10.38
170-180	2.70



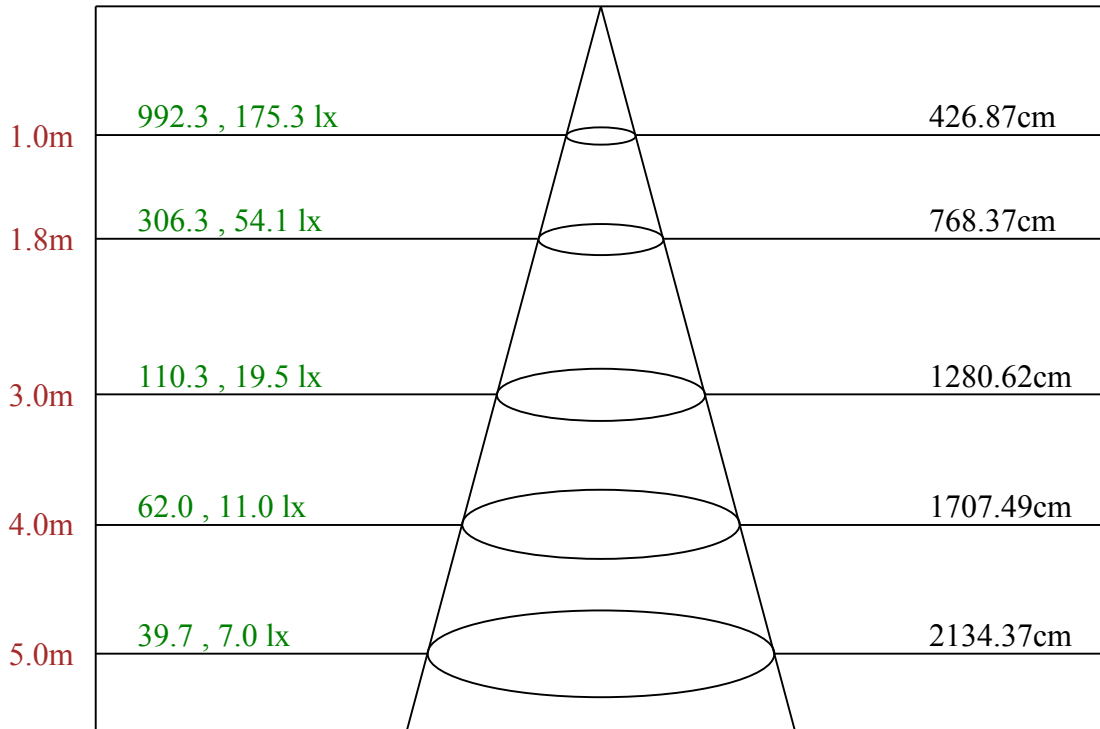
C0(Max): ———

C0/C180: ———

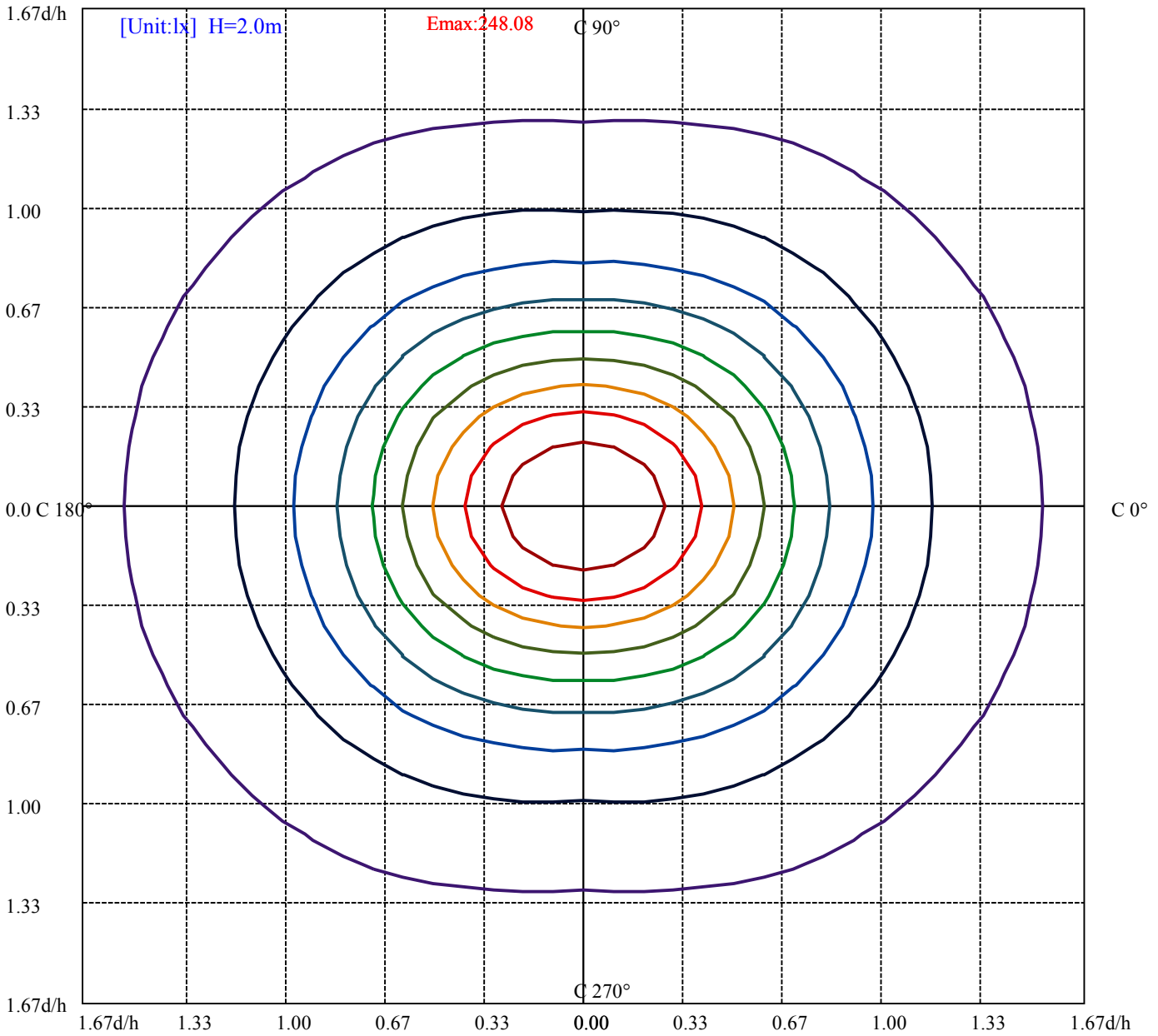
C90/C270: ———

Field angle(10%Imax):C0/180Left:119.7 Right:89.7
:C90/270Left:75.3 Right:75.3

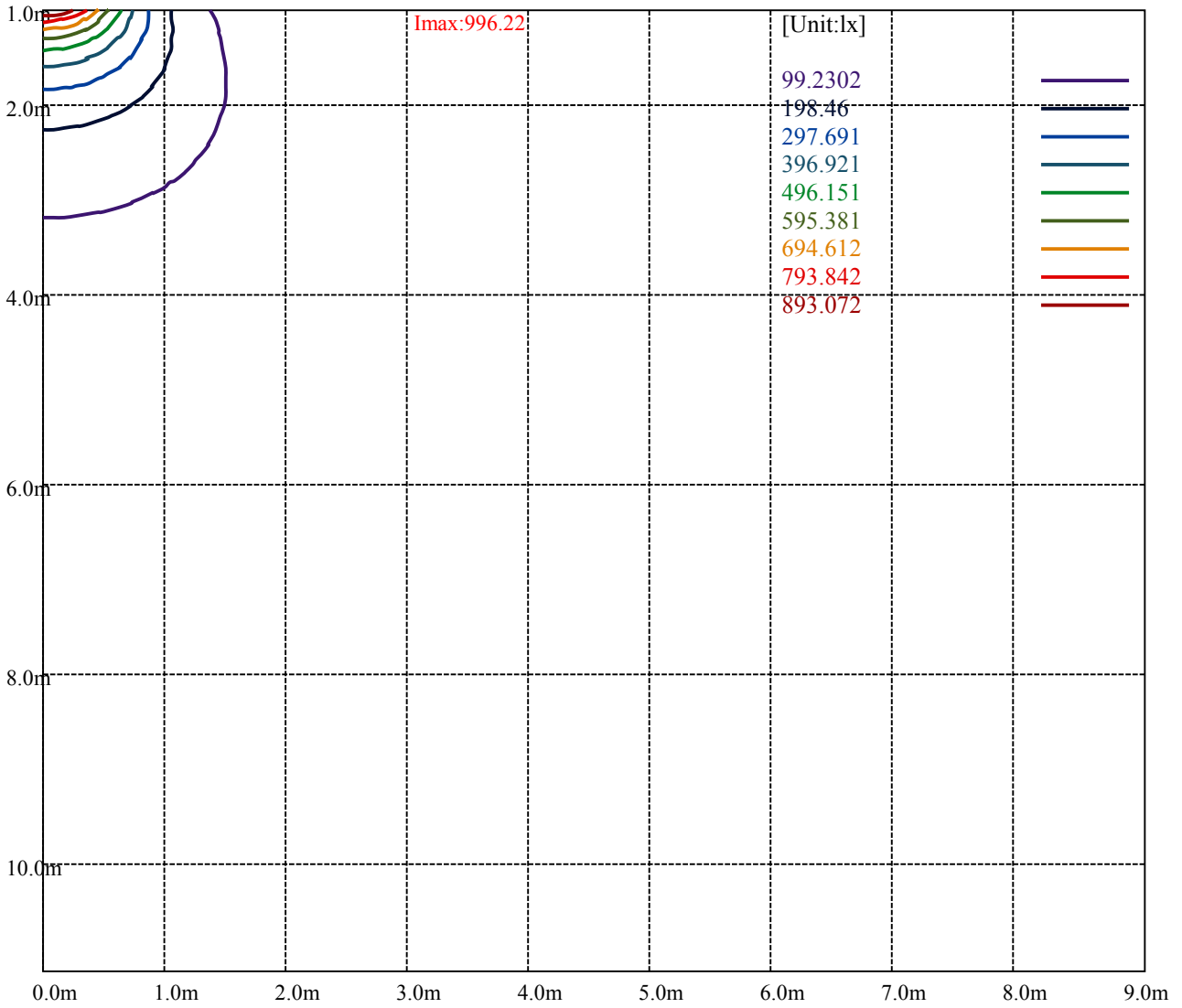
Beam Angle(50%Imax):C0/180Left:79.8 Right:49.8
:C90/270Left:47.9 Right:47.9



Max , Ave Beam angle of C0 plane 129.79



(10%Emax) 24.80755	—
(20%Emax) 49.615	—
(30%Emax) 74.42275	—
(40%Emax) 99.23025	—
(50%Emax) 124.0378	—
(60%Emax) 148.8452	—
(70%Emax) 173.653	—
(80%Emax) 198.4605	—
(90%Emax) 223.268	—



Luminance Table

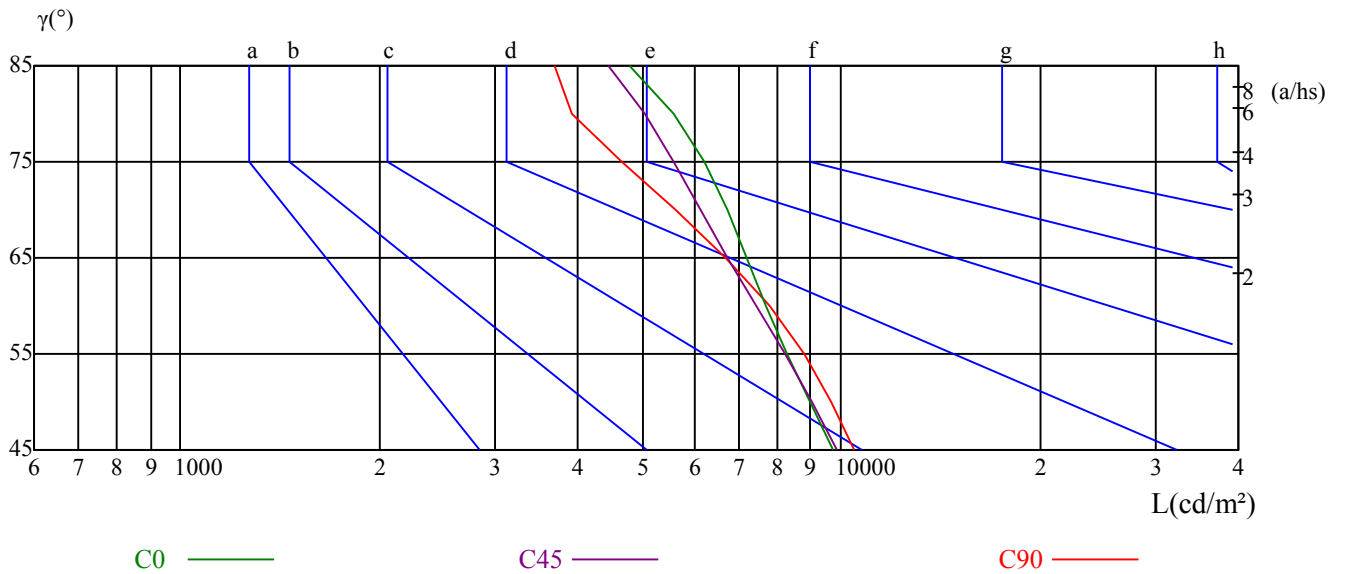
γ	45	50	55	60	65	70	75	80	85
C0	9739	8968	8285	7706	7201	6735	6197	5591	4797
C45	9858	9030	8251	7444	6743	6138	5586	5054	4459
C90	10459	9661	8779	7778	6698	5633	4650	3926	3685

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
16853	7524	13722	20651	5647	15646	39065	6105	29052

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	1.17	1.17	1.17	1.13	1.13	1.13	1.06	1.06	1.06	0.99	0.99	0.99	0.93	0.93	0.93	0.91
1	1.00	0.95	0.90	0.96	0.92	0.88	0.90	0.87	0.84	0.85	0.82	0.79	0.80	0.77	0.75	0.73
2	0.86	0.79	0.73	0.83	0.77	0.71	0.78	0.73	0.68	0.74	0.69	0.65	0.69	0.66	0.62	0.59
3	0.75	0.67	0.60	0.73	0.65	0.59	0.69	0.62	0.57	0.65	0.59	0.54	0.61	0.56	0.52	0.50
4	0.67	0.57	0.51	0.65	0.56	0.50	0.61	0.54	0.48	0.57	0.51	0.46	0.54	0.49	0.45	0.42
5	0.59	0.50	0.43	0.58	0.49	0.43	0.54	0.47	0.41	0.51	0.45	0.40	0.49	0.43	0.39	0.36
6	0.53	0.44	0.38	0.52	0.43	0.37	0.49	0.42	0.36	0.46	0.40	0.35	0.44	0.38	0.34	0.32
7	0.48	0.39	0.33	0.47	0.39	0.33	0.45	0.37	0.32	0.42	0.36	0.31	0.40	0.34	0.30	0.28
8	0.44	0.35	0.29	0.43	0.35	0.29	0.41	0.33	0.28	0.39	0.32	0.28	0.37	0.31	0.27	0.25
9	0.40	0.32	0.26	0.39	0.31	0.26	0.37	0.30	0.25	0.36	0.29	0.25	0.34	0.28	0.24	0.22
10	0.37	0.29	0.24	0.36	0.29	0.24	0.35	0.28	0.23	0.33	0.27	0.23	0.32	0.26	0.22	0.20

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	992.30	1001.89	1008.86	1016.70	1018.44	1013.21	992.30	951.36	893.86
15.0	992.30	1001.07	1009.83	1014.22	1014.22	1007.20	984.41	947.60	890.62
30.0	992.30	1000.23	1005.52	1005.52	999.35	987.90	964.10	926.21	873.33
45.0	992.30	999.40	1000.28	993.19	979.00	958.61	929.34	889.44	838.00
60.0	992.30	996.73	993.19	978.13	955.98	922.31	881.55	831.94	773.46
75.0	992.30	994.98	986.06	966.45	933.46	893.34	838.95	779.22	711.46
90.0	992.30	992.30	978.92	955.72	920.02	870.94	813.83	745.12	671.05
105.0	992.30	989.63	975.35	949.47	914.67	869.16	812.94	751.37	679.98
120.0	992.30	988.74	976.27	952.22	922.82	883.63	837.31	786.54	728.64
135.0	992.30	985.23	974.61	958.70	936.58	907.40	872.91	831.34	781.81
150.0	992.30	985.21	977.23	964.81	949.74	932.00	908.06	874.36	826.48
165.0	992.30	985.25	976.44	968.51	960.58	947.36	927.97	895.36	846.89
180.0	992.30	986.20	981.85	975.75	965.30	947.00	915.64	867.72	807.61
195.0	992.30	983.54	977.40	969.51	958.12	940.58	908.15	860.81	802.96
210.0	992.30	982.61	972.03	958.81	941.19	918.28	885.67	837.20	780.80
225.0	992.30	980.77	964.81	942.64	915.15	881.46	842.44	795.44	736.02
240.0	992.30	978.13	956.86	925.85	885.98	840.80	790.30	733.60	668.92
255.0	992.30	979.82	953.97	919.19	872.83	816.67	755.15	684.72	609.82
270.0	992.30	979.81	954.82	918.24	868.26	808.48	740.66	666.59	583.60
285.0	992.30	983.38	961.96	928.95	883.43	829.89	768.32	696.04	619.30
300.0	992.30	987.85	972.71	947.76	913.92	871.16	819.50	757.14	693.01
315.0	992.30	991.42	984.34	968.42	944.54	911.82	871.14	820.73	757.05
330.0	992.30	997.62	996.74	989.64	976.34	953.28	936.44	865.49	802.53
345.0	992.30	1002.00	1004.64	1003.76	996.71	977.32	942.07	890.08	822.22
360.0	992.30	1001.89	1008.86	1016.70	1018.44	1013.21	992.30	951.36	893.86
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	818.93	738.78	668.21	608.97	549.73	483.52	408.60	341.51	280.53
15.0	819.61	738.09	666.21	601.34	544.36	480.37	407.62	337.49	277.00
30.0	805.47	722.64	643.32	570.18	509.37	448.56	382.47	315.49	252.04
45.0	769.72	695.23	611.88	525.86	450.48	388.41	329.88	266.92	208.39
60.0	708.79	635.25	557.28	471.34	388.06	310.09	248.96	195.80	144.42
75.0	637.46	559.01	479.66	399.42	320.07	241.61	172.96	116.79	74.89
90.0	588.96	507.75	424.76	339.10	258.78	186.50	125.82	77.64	46.40
105.0	604.13	524.71	446.18	366.76	290.91	217.74	155.27	101.73	62.47
120.0	665.39	592.35	518.42	443.60	365.21	289.50	223.58	167.46	125.60
135.0	723.44	654.46	581.05	500.57	423.63	349.34	286.55	233.48	191.92
150.0	766.17	696.12	620.74	542.71	465.56	394.62	337.86	287.32	233.22
165.0	788.73	716.47	638.92	561.36	486.46	421.24	365.72	315.49	251.16
180.0	738.78	661.24	583.71	507.91	441.70	387.69	335.41	272.69	193.41
195.0	733.71	655.69	578.55	502.29	434.79	382.19	330.48	267.36	188.47
210.0	712.06	636.27	556.08	477.64	408.02	351.62	302.27	248.52	170.97
225.0	667.74	594.14	516.10	436.29	361.80	299.73	249.18	208.39	141.88
240.0	601.58	529.82	454.51	375.66	300.35	233.90	177.20	139.99	96.57
255.0	535.83	458.26	378.91	300.45	230.02	164.94	109.66	69.54	44.58
270.0	499.72	415.84	333.74	256.11	183.83	124.04	77.64	48.19	27.66
285.0	542.55	462.24	380.14	302.51	226.66	161.52	130.28	68.71	38.37
300.0	621.75	543.36	461.41	415.98	300.18	236.94	186.17	137.18	99.76
315.0	716.37	601.40	516.49	439.55	378.53	321.92	261.78	204.30	162.73
330.0	724.50	642.91	570.20	506.35	450.48	384.86	316.58	257.17	208.39
345.0	744.67	671.52	606.31	549.91	486.46	415.96	345.46	283.77	232.65
360.0	818.93	738.78	668.21	608.97	549.73	483.52	408.60	341.51	280.53

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	228.26	162.04	132.42	121.97	74.92	49.66	45.30	42.69	42.69
15.0	223.53	157.79	131.49	117.46	71.00	49.09	43.83	42.08	42.08
30.0	202.69	141.00	129.55	102.23	57.28	45.83	41.42	40.54	41.42
45.0	164.05	111.73	118.83	70.94	45.23	39.02	38.13	39.90	39.90
60.0	103.66	69.99	69.11	38.10	33.67	34.55	35.44	35.44	35.44
75.0	43.69	38.34	22.29	24.96	27.64	26.75	27.64	29.42	31.20
90.0	25.88	11.60	23.20	24.09	24.99	24.99	26.77	27.66	28.56
105.0	35.69	33.02	18.74	23.20	24.99	27.66	28.56	30.34	31.23
120.0	88.18	76.61	54.34	32.96	31.18	32.96	33.85	34.74	35.63
135.0	133.55	114.09	102.59	57.49	40.68	37.15	37.15	38.91	38.91
150.0	164.94	141.00	126.81	86.02	51.43	42.57	39.90	39.90	41.68
165.0	177.13	151.58	137.48	100.46	62.57	46.71	43.18	42.30	42.30
180.0	160.30	144.62	115.87	74.05	51.40	46.17	44.43	43.56	44.43
195.0	158.66	142.88	108.70	69.25	49.97	45.58	43.83	43.83	44.71
210.0	149.81	133.95	92.53	56.40	46.71	43.18	43.18	44.06	43.18
225.0	129.47	109.96	65.62	45.23	41.68	41.68	42.57	42.57	40.79
240.0	92.14	63.79	38.98	36.33	38.10	39.87	38.98	38.10	37.21
255.0	42.79	25.86	30.31	31.20	31.20	30.31	31.20	32.10	32.99
270.0	5.35	26.77	25.88	25.88	25.88	26.77	26.77	26.77	28.56
285.0	36.59	23.20	26.77	28.56	29.45	30.34	31.23	32.12	32.12
300.0	66.81	63.24	38.30	35.63	36.52	37.41	36.52	35.63	35.63
315.0	108.78	115.86	69.87	45.99	40.68	39.80	40.68	39.80	38.03
330.0	146.32	128.58	106.41	60.30	47.89	43.45	42.57	42.57	41.68
345.0	169.20	129.55	128.66	77.55	51.99	46.71	43.18	43.18	43.18
360.0	228.26	162.04	132.42	121.97	74.92	49.66	45.30	42.69	42.69
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	42.69	42.69	40.95	40.08	40.08	40.08	40.95	41.82	41.82
15.0	42.95	42.08	40.32	40.32	39.45	40.32	41.20	41.20	42.08
30.0	41.42	39.66	39.66	39.66	38.78	40.54	41.42	41.42	42.30
45.0	38.13	38.13	38.13	38.13	39.02	40.79	40.79	41.68	42.57
60.0	35.44	35.44	36.33	38.10	38.98	39.87	40.76	40.76	40.76
75.0	32.99	34.77	35.66	36.55	37.45	36.55	36.55	37.45	40.12
90.0	29.45	31.23	32.12	33.91	33.91	31.23	28.56	31.23	38.37
105.0	33.02	33.91	34.80	35.69	35.69	32.12	28.56	30.34	37.48
120.0	35.63	36.52	36.52	38.30	39.19	37.41	31.18	29.39	35.63
135.0	38.03	38.03	38.03	38.91	39.80	39.80	35.38	29.19	33.61
150.0	41.68	40.79	40.79	40.79	40.79	41.68	40.79	33.70	29.26
165.0	44.06	42.30	41.42	41.42	41.42	41.42	41.42	41.42	32.61
180.0	43.56	41.82	41.82	40.95	40.95	40.95	40.95	41.82	33.11
195.0	42.95	42.08	41.20	40.32	40.32	41.20	41.20	32.43	25.42
210.0	41.42	40.54	40.54	39.66	40.54	40.54	32.61	25.56	36.13
225.0	39.90	39.02	39.02	39.90	39.90	33.70	25.72	31.04	40.79
240.0	37.21	37.21	38.10	38.10	35.44	28.35	27.47	34.55	41.64
255.0	33.88	35.66	36.55	36.55	30.31	24.96	28.53	36.55	41.90
270.0	30.34	32.12	33.02	32.12	27.66	24.09	29.45	36.59	41.94
285.0	33.91	34.80	35.69	34.80	33.91	33.02	34.80	39.26	41.94
300.0	35.63	35.63	36.52	37.41	39.19	40.08	40.08	40.97	41.87
315.0	37.15	37.15	37.15	38.03	38.91	39.80	40.68	41.57	41.57
330.0	39.90	39.02	39.02	38.13	39.02	39.90	40.79	41.68	42.57
345.0	42.30	40.54	39.66	39.66	38.78	40.54	40.54	41.42	41.42
360.0	42.69	42.69	40.95	40.08	40.08	40.08	40.95	41.82	41.82

Intensity data(cd)

C/γ(°)	180.0
0.0	24.39
15.0	40.32
30.0	42.30
45.0	42.57
60.0	42.53
75.0	42.79
90.0	42.83
105.0	42.83
120.0	41.87
135.0	40.68
150.0	38.13
165.0	30.84
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	24.39