
Lotus LED Lights

Client:

LumCAT: LFR-4R-FE-9W-5CCT-3000K

Luminaire: Fire rated slim panel

Report No:

Ballast type:

Test No: LCZP23080240

Voltage(V): 119.990

LampCAT:

Current(A): 0.079

Lamp flux(lm): 869.0

Power (W): 9.120

Number of Lamps: 1

PF: 0.965

Length(mm): -75

Width(mm): -75

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 869.01, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 95.29

Central intensity(cd): 306.212, Maximum intensity(cd): 306.212

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=110.8

[C90/270]Total=111.4

Field angle(10%Imax): [C0/180]Total=163.6

[C90/270]Total=162.6

Maximum s/h(1/2): C0_180=1.24 C90_270=1.25

Maximum s/h(1/4): C0_180=1.36 C90_270=1.37

Up flux rate of lamp(%): 0.23%

Down flux rate of lamp(%): 99.77%

Up flux rate of LUM(%): 0.23%

Down flux rate of LUM(%): 99.77%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 78.105%

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Zonal flux distribution table

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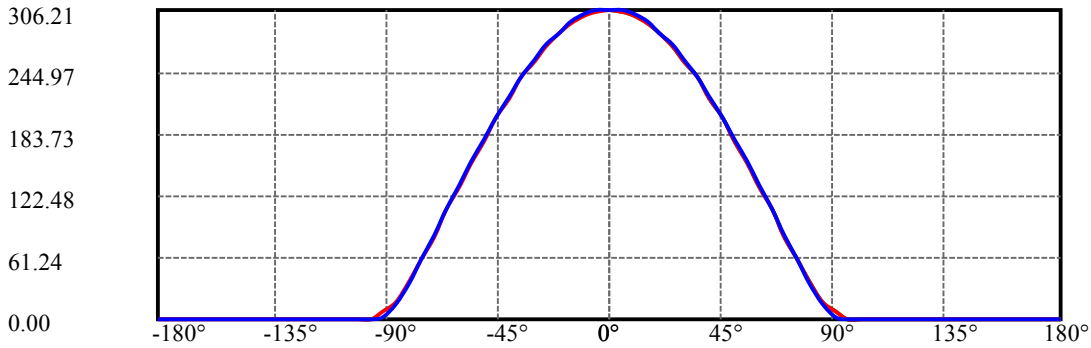
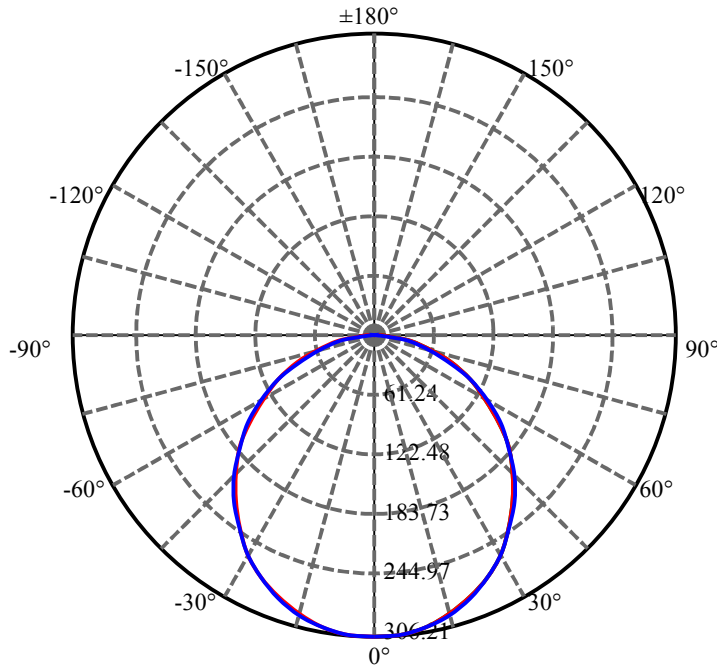
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	306.212	0.000	0	0.00%	0.00%
5.0	304.827	7.305	7.305	0.84%	0.84%
10.0	300.412	21.651	28.956	2.49%	3.33%
15.0	293.151	35.210	64.166	4.05%	7.38%
20.0	283.121	47.493	111.659	5.47%	12.85%
25.0	270.434	58.058	169.716	6.68%	19.53%
30.0	255.874	66.605	236.321	7.66%	27.19%
35.0	238.809	72.846	309.167	8.38%	35.58%
40.0	219.947	76.540	385.707	8.81%	44.38%
45.0	200.148	77.784	463.49	8.95%	53.34%
50.0	177.806	76.371	539.862	8.79%	62.12%
55.0	155.389	72.448	612.309	8.34%	70.46%
60.0	131.996	66.428	678.737	7.64%	78.10%
65.0	107.186	58.146	736.883	6.69%	84.80%
70.0	82.521	48.035	784.918	5.53%	90.32%
75.0	59.391	37.094	822.012	4.27%	94.59%
80.0	36.304	25.605	847.617	2.95%	97.54%
85.0	16.207	14.268	861.885	1.64%	99.18%
90.0	2.517	5.127	867.012	0.59%	99.77%
95.0	0.000	0.689	867.701	0.08%	99.85%
100.0	0.038	0.010	867.711	0.00%	99.85%
105.0	0.075	0.030	867.741	0.00%	99.85%
110.0	0.038	0.029	867.771	0.00%	99.86%
115.0	0.000	0.010	867.78	0.00%	99.86%
120.0	0.037	0.009	867.789	0.00%	99.86%
125.0	0.000	0.009	867.798	0.00%	99.86%
130.0	0.000	0.000	867.798	0.00%	99.86%
135.0	0.000	0.000	867.798	0.00%	99.86%
140.0	0.187	0.035	867.832	0.00%	99.86%
145.0	0.823	0.168	868.001	0.02%	99.88%
150.0	0.898	0.254	868.254	0.03%	99.91%
155.0	0.898	0.227	868.482	0.03%	99.94%
160.0	0.898	0.188	868.67	0.02%	99.96%
165.0	0.898	0.148	868.818	0.02%	99.98%
170.0	0.898	0.107	868.925	0.01%	99.99%
175.0	0.936	0.066	868.99	0.01%	100.00%
180.0	0.449	0.017	869.007	0.00%	100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	236.32	27.19%	27.19%
0-40	385.71	44.38%	44.38%
0-60	678.74	78.10%	78.10%
0-90	867.01	99.77%	99.77%
0-120	867.79	99.86%	99.86%
0-180	869.01	100.00%	100.00%
60-90	188.27	21.67%	21.67%
90-120	0.78	0.09%	0.09%
90-130	0.79	0.09%	0.09%
90-150	1.24	0.14%	0.14%
90-180	1.98	0.23%	0.23%
0-61.42	695.21	80.00%	80.00%

ZONAL LUMEN SUMMARY

0-10	28.96
10-20	82.70
20-30	124.66
30-40	149.39
40-50	154.15
50-60	138.88
60-70	106.18
70-80	62.70
80-90	19.39
90-100	0.70
100-110	0.06
110-120	0.02
120-130	0.01
130-140	0.03
140-150	0.42
150-160	0.42
160-170	0.25
170-180	0.07



C0(Max): —————

C0/C180: —————

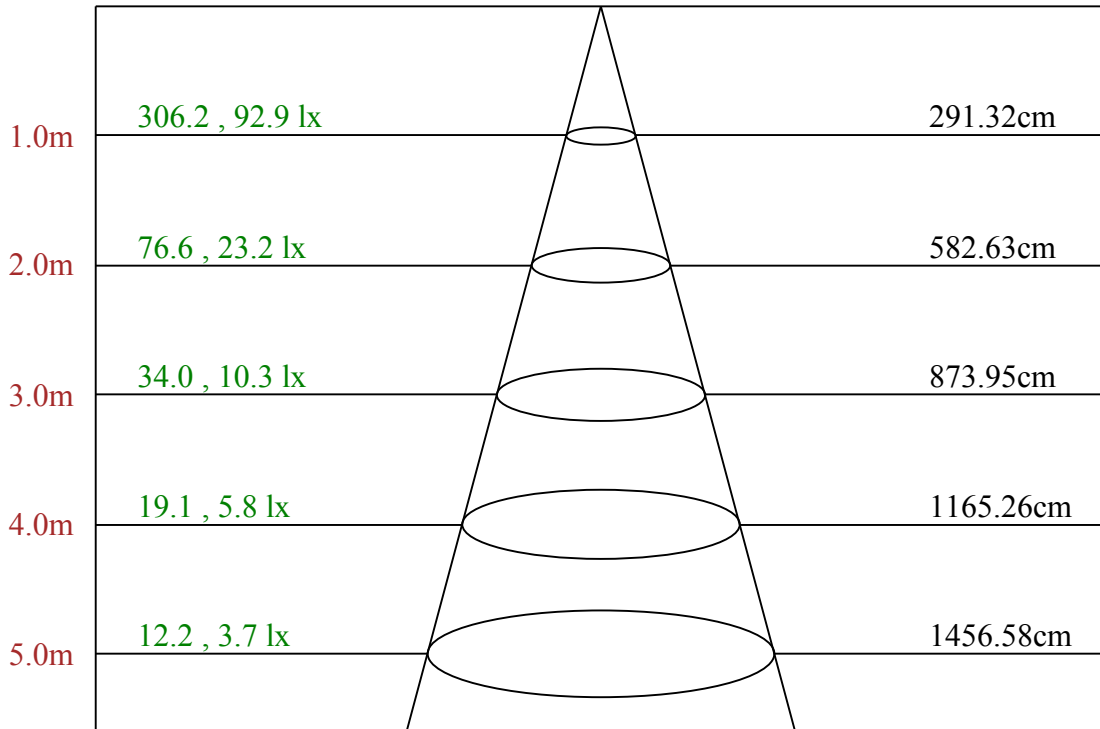
C90/C270: —————

Field angle(10%Imax):C0/180Left:81.8 Right:81.8

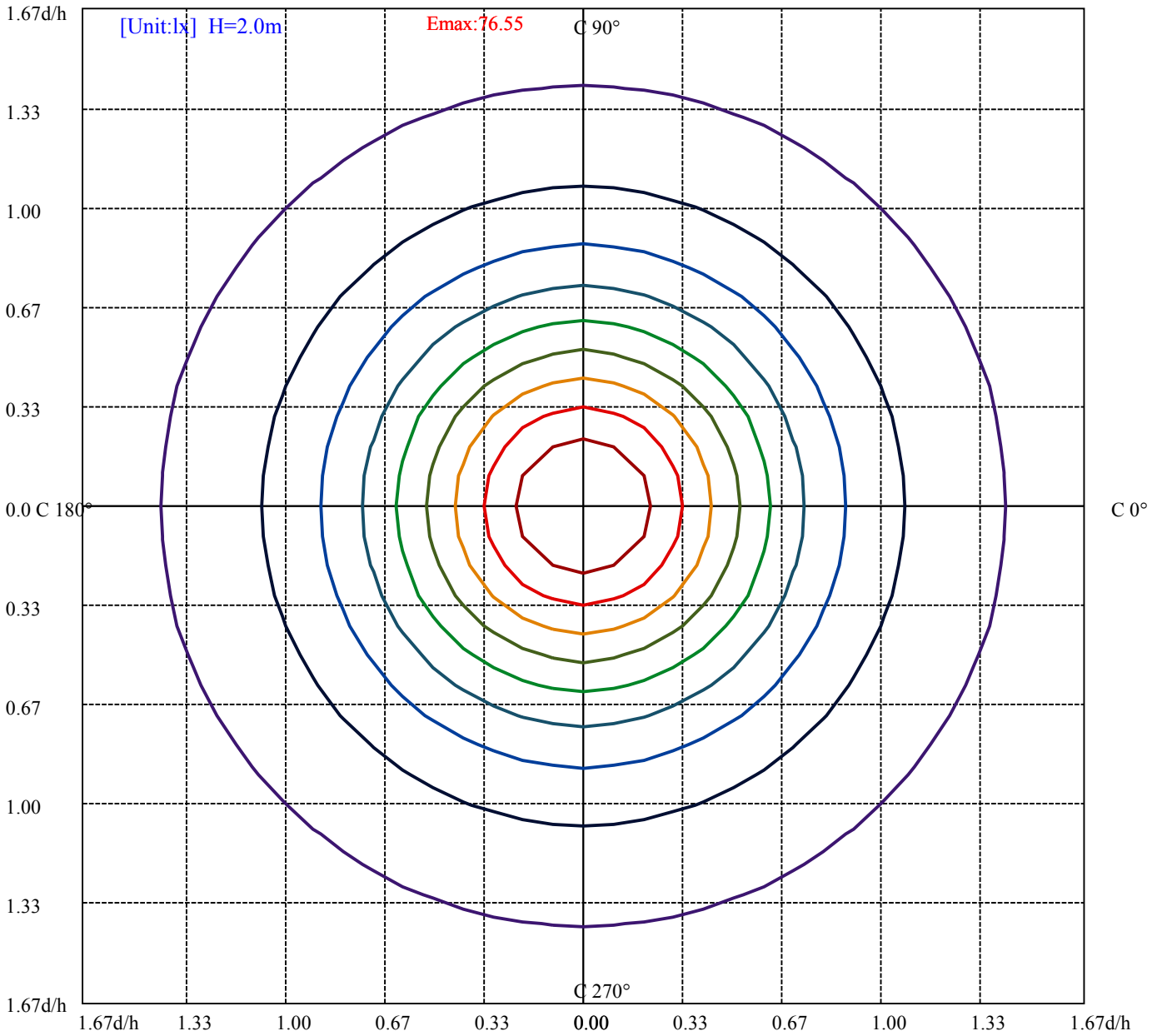
:C90/270Left:86.3 Right:76.3

Beam Angle(50%Imax):C0/180Left:55.4 Right:55.4

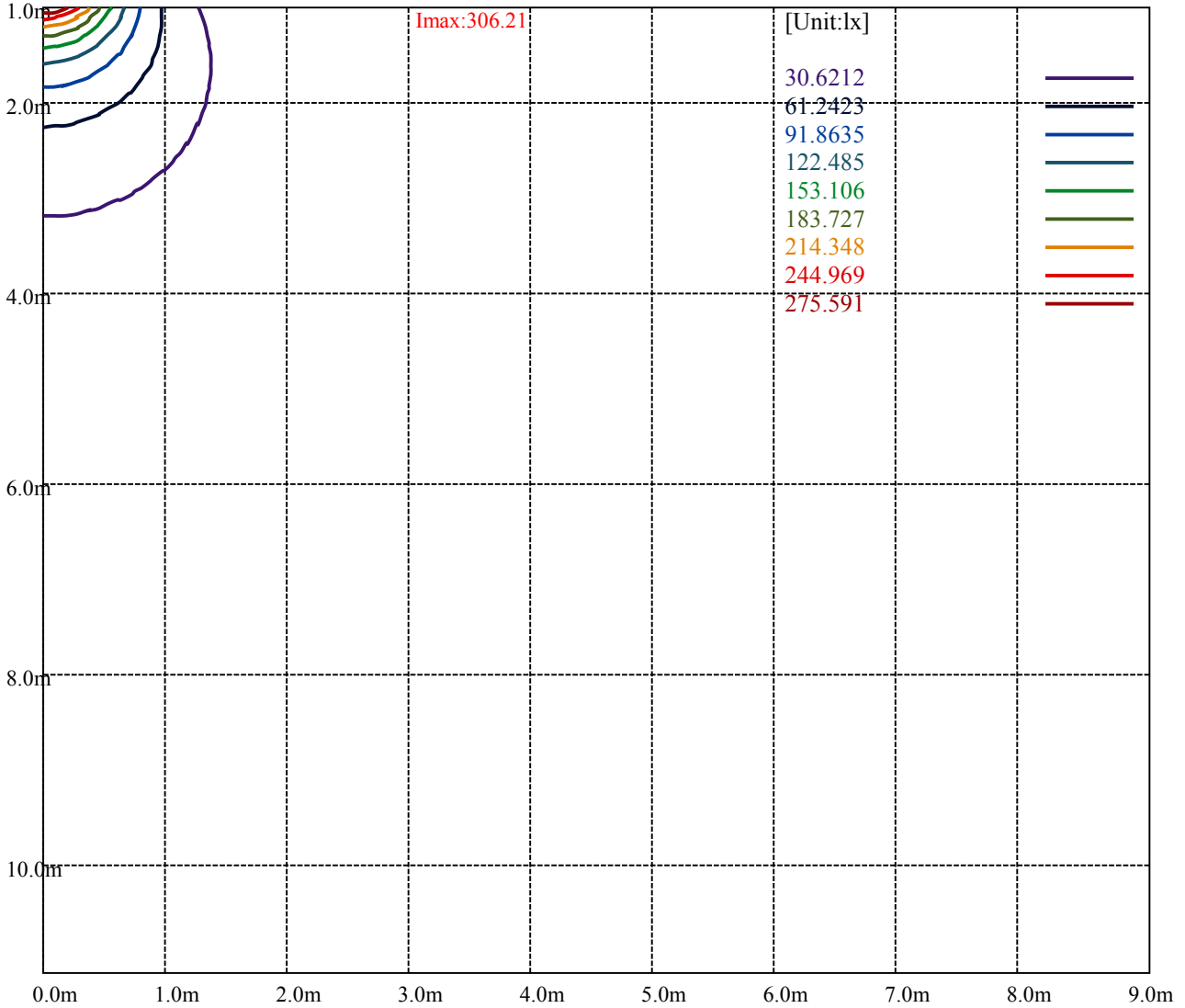
:C90/270Left:60.7 Right:50.7



Max , Ave Beam angle of C0 plane 111.06



- (10%Emax) 7.6553
- (20%Emax) 15.31057
- (30%Emax) 22.96588
- (40%Emax) 30.62125
- (50%Emax) 38.2765
- (60%Emax) 45.93175
- (70%Emax) 53.587
- (80%Emax) 61.24225
- (90%Emax) 68.8975



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Luminance Limiting Curve(no luminous side)

Luminance Table

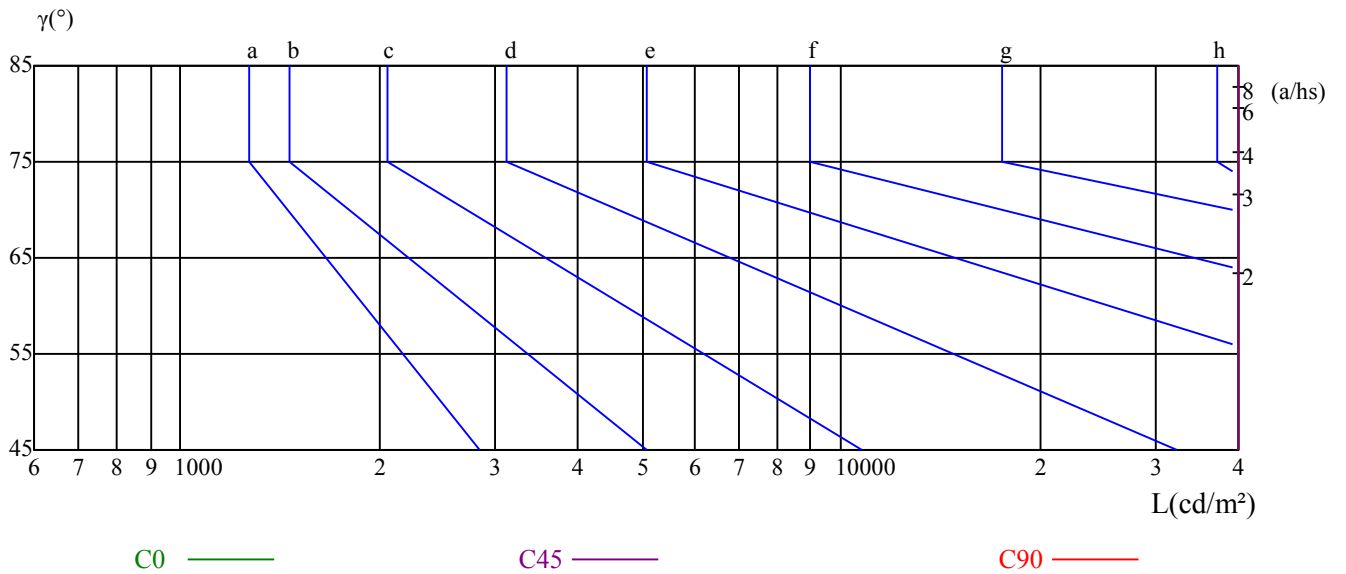
γ	45	50	55	60	65	70	75	80	85
C0	63902	62504	61134	59498	57572	54699	52138	48864	46918
C45	64675	62611	61218	59454	57354	54675	51439	47407	41979
C90	64147	62954	61665	59935	57643	54836	51591	46959	40933

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
57572	57643	57354	52138	51591	51439	46918	40933	41979

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	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1	1.04	0.99	0.95	1.01	0.97	0.94	0.97	0.94	0.91	0.93	0.90	0.88	0.89	0.87	0.85	0.83
2	0.90	0.83	0.77	0.88	0.82	0.76	0.85	0.79	0.75	0.81	0.77	0.73	0.78	0.75	0.71	0.69
3	0.79	0.71	0.64	0.77	0.70	0.64	0.74	0.68	0.62	0.72	0.66	0.61	0.69	0.64	0.60	0.58
4	0.70	0.61	0.54	0.69	0.60	0.54	0.66	0.59	0.53	0.64	0.58	0.52	0.62	0.56	0.52	0.49
5	0.63	0.53	0.47	0.61	0.53	0.47	0.59	0.52	0.46	0.57	0.51	0.45	0.55	0.50	0.45	0.43
6	0.56	0.47	0.41	0.55	0.47	0.41	0.53	0.46	0.40	0.52	0.45	0.40	0.50	0.44	0.39	0.37
7	0.51	0.42	0.36	0.50	0.42	0.36	0.49	0.41	0.36	0.47	0.40	0.35	0.46	0.40	0.35	0.33
8	0.47	0.38	0.32	0.46	0.38	0.32	0.45	0.37	0.32	0.43	0.37	0.32	0.42	0.36	0.31	0.29
9	0.43	0.34	0.29	0.42	0.34	0.29	0.41	0.34	0.29	0.40	0.33	0.28	0.39	0.33	0.28	0.26
10	0.39	0.31	0.26	0.39	0.31	0.26	0.38	0.31	0.26	0.37	0.30	0.26	0.36	0.30	0.26	0.24

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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	306.21	308.02	306.21	301.70	293.57	283.63	270.98	255.63	238.47
15.0	306.21	308.02	305.31	300.79	291.76	281.82	269.18	253.82	236.66
30.0	306.21	305.31	304.41	298.11	290.00	279.19	266.58	250.37	233.26
45.0	306.21	306.21	303.51	298.11	290.00	278.29	264.78	248.57	230.56
60.0	306.21	306.21	302.61	297.21	288.20	276.49	262.98	246.77	228.76
75.0	306.21	306.21	301.72	296.33	286.46	274.78	260.41	244.25	226.29
90.0	306.21	306.21	302.61	296.30	287.30	274.69	260.28	244.07	226.06
105.0	306.21	304.43	299.96	293.71	283.00	271.39	257.11	241.04	222.29
120.0	306.21	305.32	300.84	293.68	284.72	272.19	256.97	241.75	222.94
135.0	306.21	304.42	300.84	293.68	283.83	272.19	256.97	241.75	222.94
150.0	306.21	306.21	301.73	294.57	285.62	272.19	257.86	241.75	222.05
165.0	306.21	305.32	300.86	294.61	284.79	273.18	258.00	241.04	223.19
180.0	306.21	301.70	295.37	284.53	272.79	258.34	240.27	222.21	200.53
195.0	306.21	302.60	296.28	286.34	273.69	259.24	242.08	224.01	203.24
210.0	306.21	301.71	294.50	286.40	275.59	260.28	244.07	225.16	205.34
225.0	306.21	302.61	297.21	288.20	276.49	262.08	245.87	227.86	208.04
240.0	306.21	303.51	299.01	289.10	278.29	263.88	247.67	230.56	210.75
255.0	306.21	303.52	298.13	289.15	278.37	264.90	249.64	232.58	213.72
270.0	306.21	306.21	300.81	291.80	280.99	268.39	253.07	235.06	215.25
285.0	306.21	303.53	298.18	291.04	280.32	266.93	251.75	235.68	215.15
300.0	306.21	304.42	299.94	291.89	282.04	268.61	254.28	237.27	218.47
315.0	306.21	304.42	299.94	292.78	282.93	269.50	255.18	237.27	219.36
330.0	306.21	305.32	300.84	292.78	282.93	269.50	261.44	237.27	218.47
345.0	306.21	304.43	299.07	292.82	281.21	268.72	253.54	235.68	216.94
360.0	306.21	308.02	306.21	301.70	293.57	283.63	270.98	255.63	238.47
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	220.40	198.72	177.04	154.46	130.98	105.68	82.20	57.81	35.23
15.0	217.69	196.91	175.24	151.75	129.17	102.97	79.49	55.10	32.52
30.0	214.35	193.63	172.02	148.60	125.19	99.97	76.55	51.34	29.72
45.0	211.65	190.93	169.32	145.90	121.58	97.27	72.95	49.53	27.02
60.0	209.85	188.23	165.71	142.30	118.88	93.66	69.35	45.93	24.32
75.0	206.54	185.88	163.43	140.09	115.84	90.70	67.35	43.10	21.55
90.0	205.34	183.73	162.11	138.70	114.38	89.16	64.84	40.53	19.81
105.0	202.65	181.23	158.91	135.70	110.70	86.60	62.49	39.28	18.75
120.0	202.35	180.86	158.48	134.30	111.02	85.95	62.67	38.50	17.91
135.0	202.35	179.97	157.58	134.30	110.13	85.95	61.78	38.50	17.91
150.0	203.25	180.86	158.48	135.20	111.02	85.95	61.78	39.40	17.91
165.0	203.55	182.12	159.80	135.70	111.59	87.49	63.38	39.28	19.64
180.0	178.85	156.27	132.78	108.39	84.00	59.62	37.03	17.16	0.90
195.0	181.56	158.07	135.49	111.10	85.81	61.42	38.84	18.97	0.90
210.0	183.73	160.31	138.70	113.48	88.26	63.94	41.43	20.71	2.70
225.0	186.43	163.91	140.50	116.18	91.86	67.55	44.13	23.42	5.40
240.0	189.13	167.52	144.10	119.78	95.47	70.25	47.73	26.12	8.11
255.0	194.86	169.72	148.17	123.02	97.88	73.63	50.29	28.74	9.88
270.0	195.44	173.82	150.40	126.09	100.87	76.55	53.14	31.52	11.71
285.0	194.62	174.09	150.87	126.77	101.77	78.56	66.06	32.14	13.39
300.0	196.98	175.49	153.11	140.57	104.76	79.69	55.51	34.02	13.43
315.0	207.72	176.39	153.11	128.93	104.76	79.69	56.41	34.02	14.33
330.0	198.77	175.49	153.11	128.93	103.86	79.69	56.41	34.02	13.43
345.0	195.51	173.19	150.87	127.66	102.67	78.56	53.56	32.14	12.50
360.0	220.40	198.72	177.04	154.46	130.98	105.68	82.20	57.81	35.23

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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	14.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15.0	12.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30.0	9.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45.0	8.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60.0	6.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
75.0	3.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
90.0	1.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
105.0	0.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
120.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
135.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165.0	0.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180.0	0.90	0.00	0.90	0.90	0.00	0.00	0.00	0.00	0.00
195.0	0.00	0.00	0.00	0.90	0.00	0.00	0.00	0.00	0.00
210.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
225.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
240.0	0.00	0.00	0.00	0.00	0.90	0.00	0.00	0.00	0.00
255.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
270.0	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
285.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
300.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
315.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
330.0	0.00	0.00	0.00	0.00	0.00	0.00	0.90	0.00	0.00
345.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
360.0	14.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	0.00	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90
15.0	0.00	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90
30.0	0.00	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90
45.0	0.00	0.00	0.90	0.90	0.90	0.90	0.90	0.90	1.80
60.0	0.00	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90
75.0	0.00	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90
90.0	0.00	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90
105.0	0.00	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
120.0	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
135.0	0.00	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90
150.0	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
165.0	0.00	0.00	0.89	0.89	0.89	0.89	0.89	0.89	0.89
180.0	0.00	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90
195.0	0.00	0.00	0.00	0.90	0.90	0.90	0.90	0.90	0.90
210.0	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
225.0	0.00	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90
240.0	0.00	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90
255.0	0.00	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90
270.0	0.00	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90
285.0	0.00	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
300.0	0.00	0.00	0.00	0.90	0.90	0.90	0.90	0.90	0.90
315.0	0.00	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90
330.0	0.00	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90
345.0	0.00	0.00	0.89	0.89	0.89	0.89	0.89	0.89	0.89
360.0	0.00	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90

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Intensity data(cd)

C/γ(°)	180.0
0.0	0.90
15.0	0.90
30.0	0.90
45.0	0.90
60.0	0.90
75.0	0.90
90.0	0.90
105.0	0.89
120.0	0.90
135.0	0.90
150.0	0.90
165.0	0.89
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	0.90