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乐达凯

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Client:

LumCAT: FTNW0418LAJUDBK-2700K

Luminaire: LED LAMP

Report No:

Ballast type:

Test No: LCZP25100177

Voltage(V): 120.080

LampCAT:

Current(A): 0.178

Lamp flux(lm): 969.4

Power (W): 21.190

Number of Lamps: 1

PF: 0.991

Length(mm): 70

Width(mm): 45

Phm Type: C

Height(mm): 380

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Photometric Results

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Lumens(lm): 969.39, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 45.75

Central intensity(cd): 8.344, Maximum intensity(cd): 173.605

Angle of maximum intensity: C=15.0  $\gamma$ =95.0

Beam Angle(50%Imax): [C0/180]Total=291.8

[C90/270]Total=109.0

Field angle(10%Imax): [C0/180]Total=341.2

[C90/270]Total=160.3

Maximum s/h(1/2): C0\_180=6.48 C90\_270=15.97

Maximum s/h(1/4): C0\_180=5.97 C90\_270=14.17

Up flux rate of lamp(%): 50.18%

Down flux rate of lamp(%): 49.82%

Up flux rate of LUM(%): 50.18%

Down flux rate of LUM(%): 49.82%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 18.528%

## 乐达凯 FTNW0418LAJUDBK-2700K

Zonal flux distribution table

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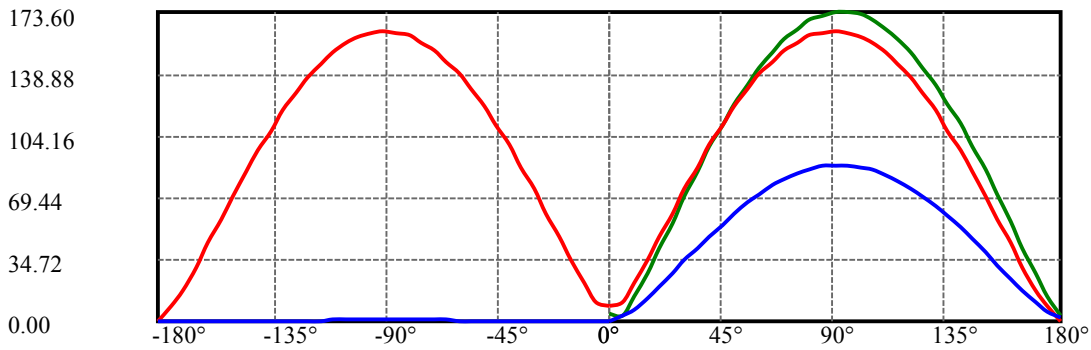
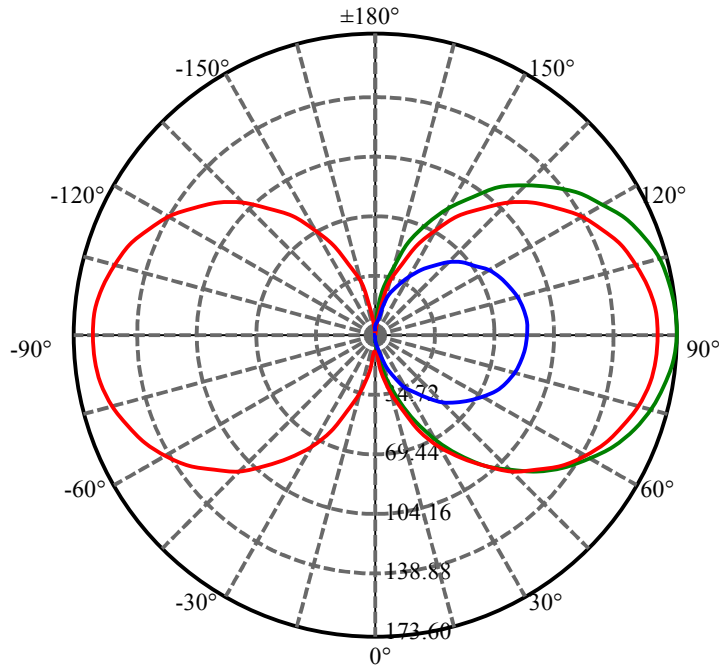
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2.953	0.000	0	0.00%	0.00%
5.0	4.897	0.094	0.094	0.01%	0.01%
10.0	11.293	0.579	0.673	0.06%	0.07%
15.0	19.076	1.802	2.475	0.19%	0.26%
20.0	27.734	3.858	6.332	0.40%	0.65%
25.0	35.581	6.641	12.973	0.69%	1.34%
30.0	43.917	10.061	23.033	1.04%	2.38%
35.0	52.003	14.125	37.158	1.46%	3.83%
40.0	59.752	18.646	55.804	1.92%	5.76%
45.0	67.109	23.489	79.293	2.42%	8.18%
50.0	73.928	28.499	107.792	2.94%	11.12%
55.0	80.096	33.490	141.282	3.45%	14.57%
60.0	85.700	38.323	179.605	3.95%	18.53%
65.0	90.511	42.837	222.442	4.42%	22.95%
70.0	94.526	46.852	269.294	4.83%	27.78%
75.0	97.726	50.251	319.546	5.18%	32.96%
80.0	100.055	52.920	372.466	5.46%	38.42%
85.0	101.475	54.760	427.227	5.65%	44.07%
90.0	101.991	55.711	482.937	5.75%	49.82%
95.0	101.557	55.733	538.67	5.75%	55.57%
100.0	100.226	54.829	593.5	5.66%	61.22%
105.0	97.976	53.033	646.533	5.47%	66.70%
110.0	94.813	50.392	696.925	5.20%	71.89%
115.0	90.870	47.016	743.941	4.85%	76.74%
120.0	86.272	43.063	787.005	4.44%	81.19%
125.0	80.690	38.593	825.598	3.98%	85.17%
130.0	74.642	33.774	859.372	3.48%	88.65%
135.0	67.879	28.798	888.17	2.97%	91.62%
140.0	61.023	23.867	912.038	2.46%	94.08%
145.0	53.046	19.032	931.069	1.96%	96.05%
150.0	45.035	14.443	945.512	1.49%	97.54%
155.0	36.747	10.350	955.862	1.07%	98.60%
160.0	28.743	6.869	962.731	0.71%	99.31%
165.0	20.059	4.022	966.753	0.41%	99.73%
170.0	12.146	1.910	968.663	0.20%	99.93%
175.0	5.768	0.641	969.304	0.07%	99.99%
180.0	1.193	0.083	969.387	0.01%	100.00%

## ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	23.03	2.38%	2.38%
0-40	55.80	5.76%	5.76%
0-60	179.60	18.53%	18.53%
0-90	482.94	49.82%	49.82%
0-120	787.00	81.19%	81.19%
0-180	969.39	100.00%	100.00%
60-90	303.33	31.29%	31.29%
90-120	304.07	31.37%	31.37%
90-130	376.43	38.83%	38.83%
90-150	462.58	47.72%	47.72%
90-180	486.37	50.17%	50.17%
0-118.67	775.51	80.00%	80.00%

## ZONAL LUMEN SUMMARY

0-10	0.67
10-20	5.66
20-30	16.70
30-40	32.77
40-50	51.99
50-60	71.81
60-70	89.69
70-80	103.17
80-90	110.47
90-100	110.56
100-110	103.43
110-120	90.08
120-130	72.37
130-140	52.67
140-150	33.47
150-160	17.22
160-170	5.93
170-180	0.64



C15(Max): ——

C0/C180: ——

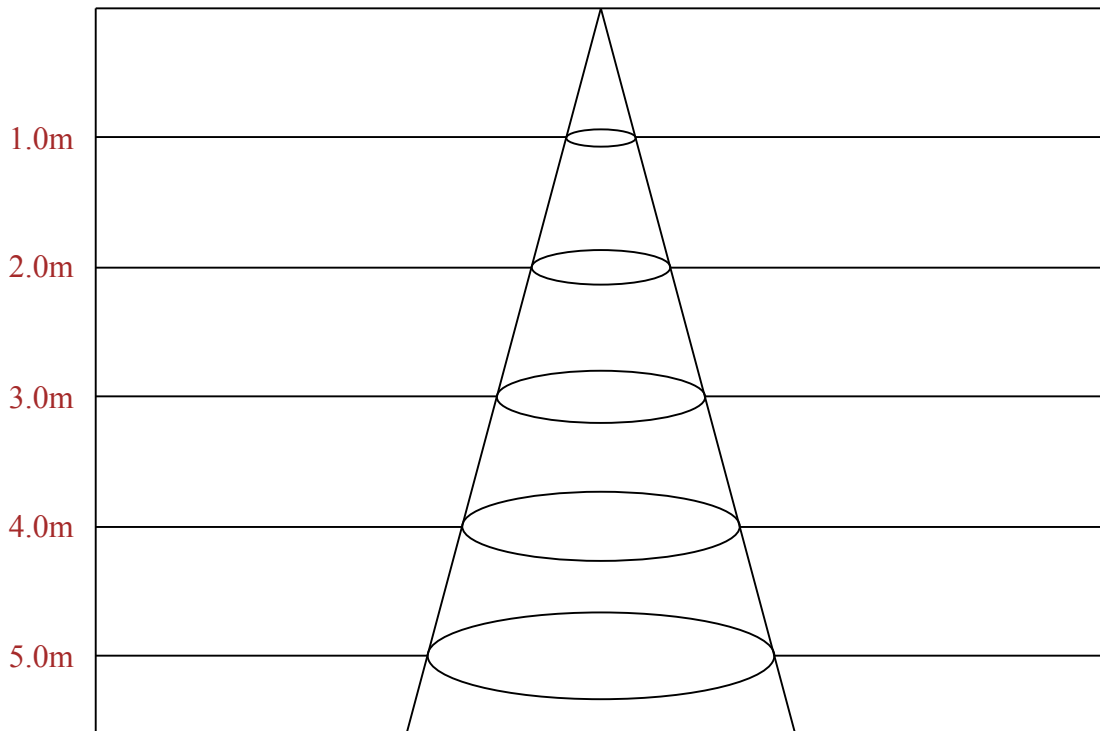
C90/C270: ——

Field angle(10%Imax):C0/180Left:260.6 Right:80.6

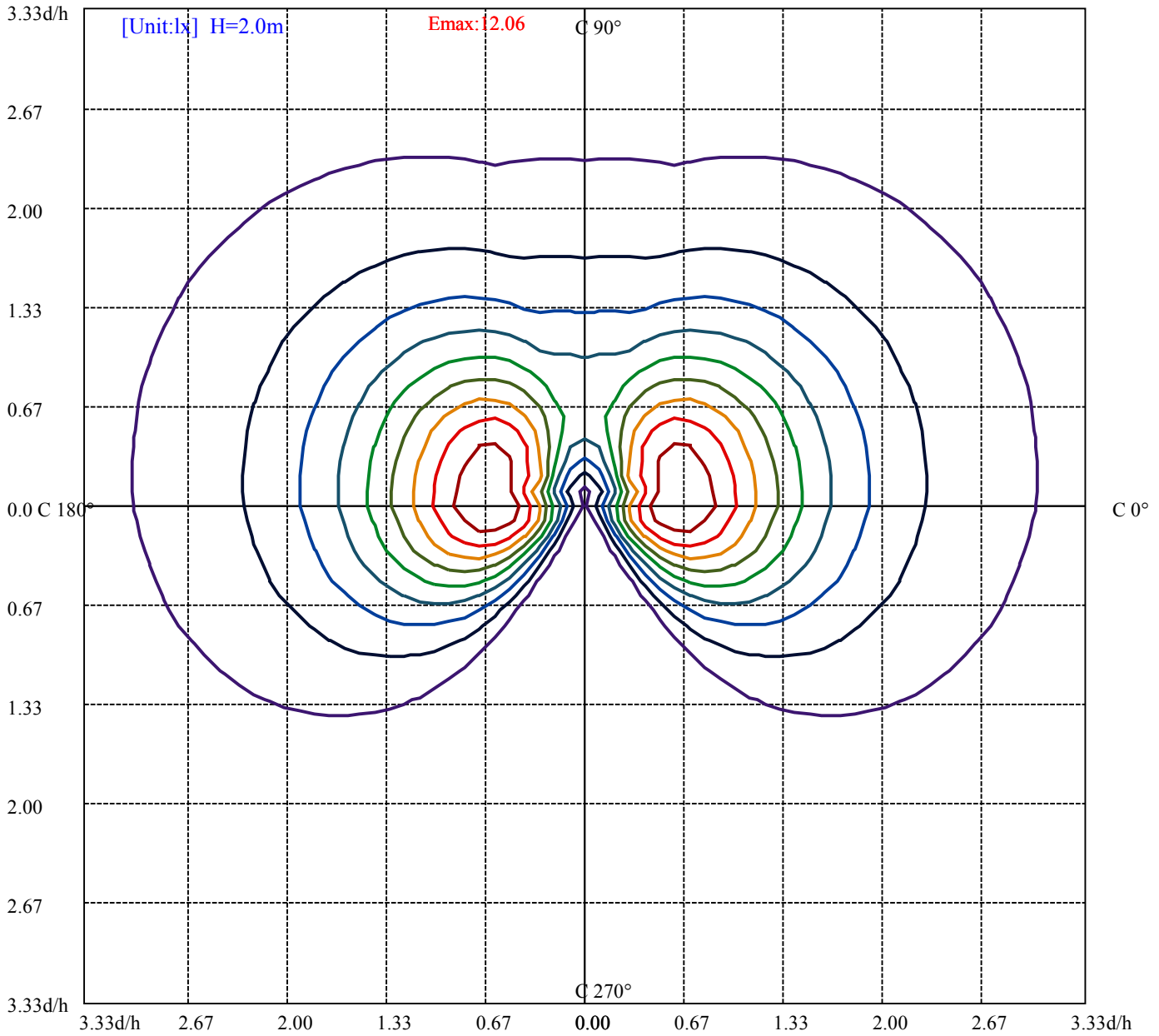
:C90/270Left:78.5 Right:81.8

Beam Angle(50%Imax):C0/180Left:235.9 Right:55.9

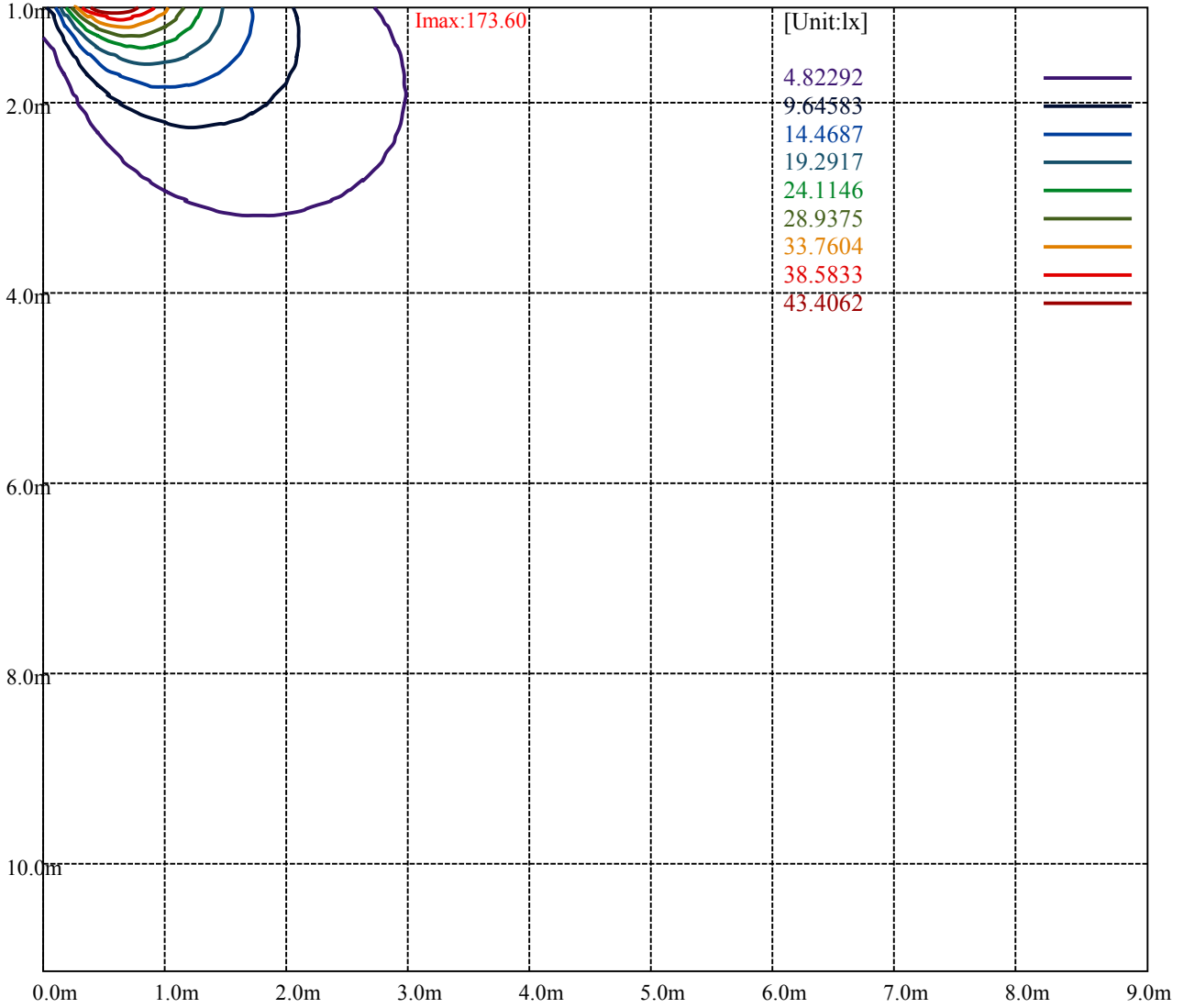
:C90/270Left:52.7 Right:56.3



Max , Ave      Beam angle of C15 plane 349.11



(10%Emax) 1.205727	—
(20%Emax) 2.411458	—
(30%Emax) 3.617175	—
(40%Emax) 4.822925	—
(50%Emax) 6.02865	—
(60%Emax) 7.234375	—
(70%Emax) 8.4401	—
(80%Emax) 9.645825	—
(90%Emax) 10.85155	—



Luminance Table

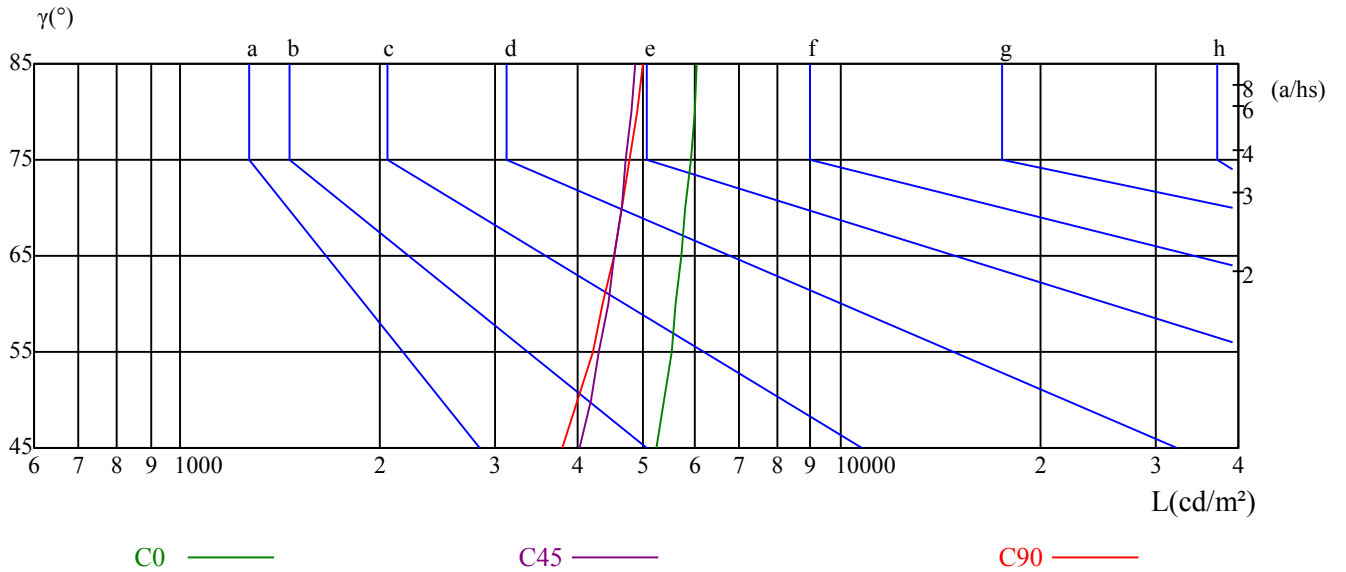
$\gamma$	45	50	55	60	65	70	75	80	85
C0	5244	5397	5528	5636	5738	5827	5914	5995	6059
C45	4009	4176	4307	4436	4543	4648	4736	4822	4896
C90	3797	4004	4204	4364	4537	4667	4798	4912	5023

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
109650	29013	69416	192305	51722	122454	590843	160619	377610

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	0.85	0.79	0.73	0.78	0.72	0.67	0.64	0.60	0.56	0.52	0.48	0.46	0.40	0.38	0.36	0.30
2	0.71	0.62	0.55	0.65	0.57	0.51	0.53	0.47	0.42	0.42	0.38	0.34	0.32	0.29	0.26	0.20
3	0.61	0.51	0.43	0.55	0.47	0.40	0.45	0.38	0.33	0.35	0.30	0.26	0.27	0.23	0.19	0.15
4	0.52	0.43	0.35	0.48	0.39	0.32	0.39	0.32	0.26	0.30	0.25	0.21	0.23	0.19	0.15	0.11
5	0.46	0.36	0.29	0.42	0.33	0.26	0.34	0.27	0.22	0.27	0.21	0.17	0.20	0.16	0.12	0.09
6	0.41	0.31	0.24	0.37	0.28	0.22	0.30	0.23	0.18	0.24	0.18	0.14	0.18	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	0.16	0.12	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	0.05
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

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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	8.34	0.36	8.43	20.01	32.66	45.22	59.30	71.68	84.07
15.0	7.36	0.45	9.60	21.44	34.99	49.35	63.61	77.61	91.06
30.0	5.92	0.54	9.06	21.44	35.08	49.17	62.62	77.25	89.90
45.0	4.67	0.90	7.90	19.47	31.22	44.05	56.97	69.53	81.91
60.0	2.96	1.44	6.10	14.98	24.94	34.72	45.76	55.80	66.12
75.0	1.44	2.24	5.65	12.38	19.02	26.47	34.00	41.54	48.90
90.0	0.45	3.05	7.00	12.92	19.74	26.74	34.00	40.73	47.64
105.0	0.27	4.04	9.96	16.60	23.06	30.32	37.59	44.86	51.95
120.0	0.18	4.93	13.19	22.61	32.30	42.35	52.22	61.46	70.88
135.0	3.23	5.29	16.06	27.45	40.46	52.31	64.78	77.16	88.82
150.0	0.09	5.74	17.76	31.22	56.07	59.30	73.57	87.39	99.95
165.0	0.54	6.10	17.94	31.94	46.38	61.37	75.99	89.54	104.43
180.0	8.34	20.81	34.27	48.18	62.35	75.63	88.82	101.65	113.58
195.0	7.36	17.94	29.70	41.72	53.92	65.31	77.43	88.37	98.15
210.0	5.92	14.62	23.60	32.39	41.72	50.78	59.66	68.10	75.90
225.0	4.67	9.87	15.43	21.35	27.18	32.57	37.41	42.17	46.56
240.0	2.96	4.67	5.74	6.55	7.09	7.63	7.98	8.43	8.70
255.0	1.44	0.45	0.36	0.27	0.18	0.18	0.09	0.18	0.18
270.0	0.45	0.27	0.09	0.09	0.00	0.00	0.00	0.00	0.00
285.0	0.27	0.18	0.09	0.00	0.00	0.00	0.00	0.00	0.00
300.0	0.18	0.18	0.00	0.09	0.09	0.00	0.00	0.09	0.18
315.0	3.23	0.90	3.77	7.36	11.13	14.98	18.84	22.70	26.47
330.0	0.09	4.67	11.75	19.38	26.92	35.53	43.06	50.78	58.32
345.0	0.54	7.90	17.58	27.99	39.12	49.97	60.29	71.06	80.39
360.0	8.34	0.36	8.43	20.01	32.66	45.22	59.30	71.68	84.07
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	95.82	106.94	117.17	126.05	134.31	141.31	147.23	152.07	155.21
15.0	103.80	115.29	126.23	136.28	145.16	152.70	159.16	164.00	167.41
30.0	102.82	114.75	125.78	135.74	144.18	151.80	158.17	163.11	166.61
45.0	93.22	104.43	114.21	123.63	131.62	138.61	144.27	149.02	152.07
60.0	75.99	85.32	93.85	101.47	108.38	114.03	119.15	122.91	125.61
75.0	55.63	62.62	68.46	74.11	78.86	83.17	86.40	89.00	90.88
90.0	54.37	60.56	66.48	71.51	76.35	80.03	83.17	85.41	86.94
105.0	58.77	65.23	70.70	76.08	80.57	84.60	87.56	89.90	91.24
120.0	79.67	88.01	95.55	102.19	107.84	112.87	116.72	119.41	121.30
135.0	99.86	110.17	119.41	127.76	134.94	141.31	146.15	149.74	152.07
150.0	113.04	123.99	134.67	144.36	152.52	159.34	164.81	169.03	171.81
165.0	116.19	128.21	138.44	148.57	156.83	163.92	169.57	173.69	176.48
180.0	124.80	134.85	143.73	151.35	157.63	162.57	166.34	168.58	169.21
195.0	108.11	116.27	123.99	130.63	136.10	140.32	143.55	145.25	145.79
210.0	83.26	89.90	95.82	100.75	104.97	108.11	110.26	111.52	111.97
225.0	50.60	54.37	57.33	60.20	62.26	63.79	64.60	64.96	64.60
240.0	8.88	9.06	9.15	9.24	9.24	8.97	8.61	8.16	7.63
255.0	0.27	0.54	0.63	0.81	1.17	1.17	1.35	1.35	1.35
270.0	0.09	0.18	0.45	0.54	0.90	1.08	1.17	1.17	1.26
285.0	0.09	0.27	0.36	0.72	0.99	1.17	1.17	1.35	1.26
300.0	0.27	0.54	0.63	0.99	1.17	1.35	1.53	1.61	1.61
315.0	29.97	33.02	36.07	38.58	40.82	42.71	44.32	45.40	45.94
330.0	65.14	71.60	77.43	82.63	86.94	90.53	93.49	95.46	96.45
345.0	89.99	98.15	105.78	112.60	118.52	123.18	126.68	129.19	130.72
360.0	95.82	106.94	117.17	126.05	134.31	141.31	147.23	152.07	155.21

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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	157.10	157.63	156.74	154.58	150.73	145.70	139.69	132.42	123.99
15.0	169.57	170.11	169.12	166.79	162.75	157.46	150.64	142.74	133.59
30.0	168.76	169.39	168.58	166.07	162.21	156.74	150.01	142.38	133.41
45.0	154.14	154.76	153.96	151.71	148.21	143.46	137.27	130.18	122.29
60.0	127.22	127.67	127.13	125.43	122.56	118.43	113.49	107.66	100.84
75.0	91.87	92.23	91.60	90.26	88.37	85.23	81.82	77.52	72.31
90.0	87.74	87.48	86.58	84.78	82.18	78.95	74.74	70.16	64.78
105.0	91.87	91.60	90.44	88.46	85.59	82.27	77.79	72.85	67.20
120.0	122.02	121.30	119.77	117.26	113.58	108.74	103.27	96.54	89.36
135.0	153.06	152.52	150.73	147.50	142.83	137.27	130.36	122.29	113.22
150.0	172.89	172.44	170.11	166.88	161.85	155.30	147.50	138.97	128.48
165.0	177.55	177.10	175.13	171.36	166.07	159.34	151.80	142.65	132.24
180.0	168.40	166.07	162.66	157.10	150.82	143.01	133.77	123.45	112.87
195.0	144.89	142.83	139.60	134.94	129.01	122.56	114.57	105.60	95.82
210.0	110.98	109.46	106.32	102.91	98.06	92.59	86.22	79.04	71.86
225.0	63.52	62.00	59.75	56.97	53.74	50.15	48.99	41.09	36.43
240.0	7.00	6.28	6.01	4.67	3.77	2.78	1.97	0.99	0.63
255.0	1.35	1.26	1.26	0.99	0.90	0.63	0.36	0.27	0.18
270.0	1.26	1.08	0.99	0.99	0.63	0.54	0.27	0.09	0.00
285.0	1.26	1.17	1.08	0.90	0.63	0.45	0.27	0.09	0.00
300.0	1.61	1.53	1.26	1.17	0.99	0.81	0.63	0.36	0.18
315.0	46.12	45.76	44.95	43.51	41.81	39.83	37.41	34.81	31.85
330.0	96.81	95.91	94.20	91.96	88.55	84.42	79.49	73.75	67.47
345.0	130.81	129.82	127.49	124.26	119.68	114.21	108.20	100.66	92.41
360.0	157.10	157.63	156.74	154.58	150.73	145.70	139.69	132.42	123.99

C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	114.48	104.07	93.04	81.11	68.46	55.18	42.35	28.35	16.15
15.0	123.81	112.60	100.48	87.39	74.38	59.39	45.40	30.95	17.32
30.0	123.00	111.79	99.50	87.03	73.57	59.30	44.86	31.22	17.58
45.0	112.42	102.46	91.15	79.22	66.75	54.37	41.27	28.17	15.88
60.0	92.95	84.42	75.63	65.14	55.18	44.50	33.55	22.88	13.37
75.0	66.57	60.65	54.01	46.92	39.48	32.12	24.40	16.78	9.78
90.0	58.86	52.31	45.85	38.49	31.49	24.22	17.41	10.41	5.74
105.0	60.83	54.37	47.19	39.75	32.03	24.76	17.05	9.87	3.50
120.0	81.19	72.31	62.80	53.56	42.98	33.20	23.06	13.37	4.67
135.0	103.09	92.14	81.02	68.81	56.07	43.24	31.13	18.75	7.63
150.0	117.62	105.42	92.59	78.86	65.23	50.60	36.16	22.07	9.15
165.0	120.76	108.83	94.92	82.27	67.02	52.75	37.05	23.33	9.96
180.0	99.86	87.74	74.20	60.11	45.76	32.30	18.66	6.28	0.36
195.0	85.23	74.65	62.09	50.51	38.13	35.35	14.62	4.13	0.45
210.0	63.52	61.37	45.58	36.34	26.83	17.58	8.43	0.99	0.27
225.0	31.22	25.93	20.37	15.16	10.32	5.38	1.53	0.36	0.36
240.0	0.45	0.45	0.36	0.36	0.27	0.27	0.27	0.18	0.27
255.0	0.09	0.09	0.00	0.00	0.09	0.09	0.18	0.18	0.27
270.0	0.00	0.00	0.00	0.00	0.00	0.09	0.09	0.18	0.27
285.0	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.18	0.27
300.0	0.09	0.09	0.09	0.09	0.09	0.18	0.45	0.54	0.36
315.0	28.71	25.66	22.07	18.30	14.53	10.77	7.27	3.68	0.81
330.0	60.92	53.38	46.12	38.58	30.77	22.70	15.25	7.90	1.61
345.0	83.44	73.84	64.06	52.84	42.53	31.49	20.90	10.77	2.42
360.0	114.48	104.07	93.04	81.11	68.46	55.18	42.35	28.35	16.15

Intensity data(cd)

C/γ(°)	180.0
0.0	0.36
15.0	5.20
30.0	5.56
45.0	5.38
60.0	4.40
75.0	3.23
90.0	2.15
105.0	0.90
120.0	0.45
135.0	0.36
150.0	0.36
165.0	0.27
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	0.36