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乐达凯

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Client:

LumCAT: MIAP15LAJUDLB

Luminaire: LED LAMP

Report No:

Ballast type:

Test No: LCZP26010195

Voltage(V): 120.040

LampCAT:

Current(A): 0.121

Lamp flux(lm): 1540.0

Power (W): 14.330

Number of Lamps: 1

PF: 0.987

Length(mm): -50

Width(mm): -50

Phm Type: C

Height(mm): 380

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Photometric Results

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Lumens(lm): 1540.02, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 107.47

Central intensity(cd): 16.120, Maximum intensity(cd): 162.334

Angle of maximum intensity: C=0.0  $\gamma$ =90.0

Beam Angle(50%Imax): [C0/180]Total=291.0

[C90/270]Total=294.0

Field angle(10%Imax): [C0/180]Total=339.6

[C90/270]Total=339.0

Maximum s/h(1/2): C0\_180=4.96 C90\_270=4.91

Maximum s/h(1/4): C0\_180=4.65 C90\_270=4.60

Up flux rate of lamp(%): 49.02%

Down flux rate of lamp(%): 50.98%

Up flux rate of LUM(%): 49.02%

Down flux rate of LUM(%): 50.98%

CIE Type : General diffuse lighting

Output flux ratio in  $\pi$  solid angle : 19.880%

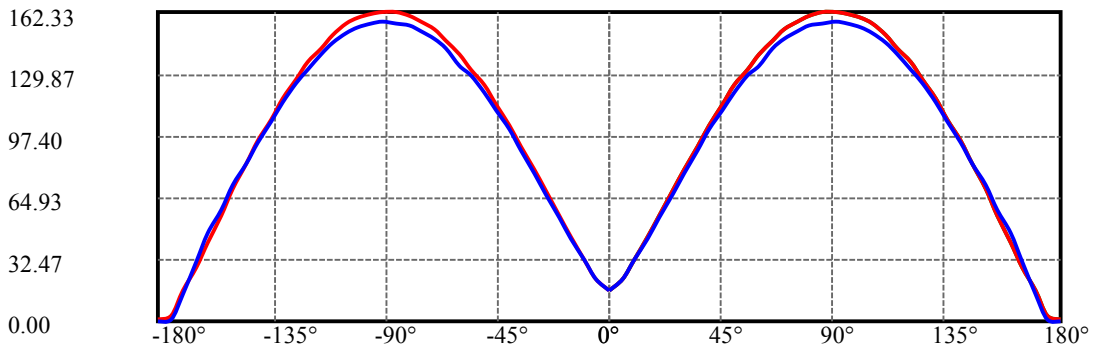
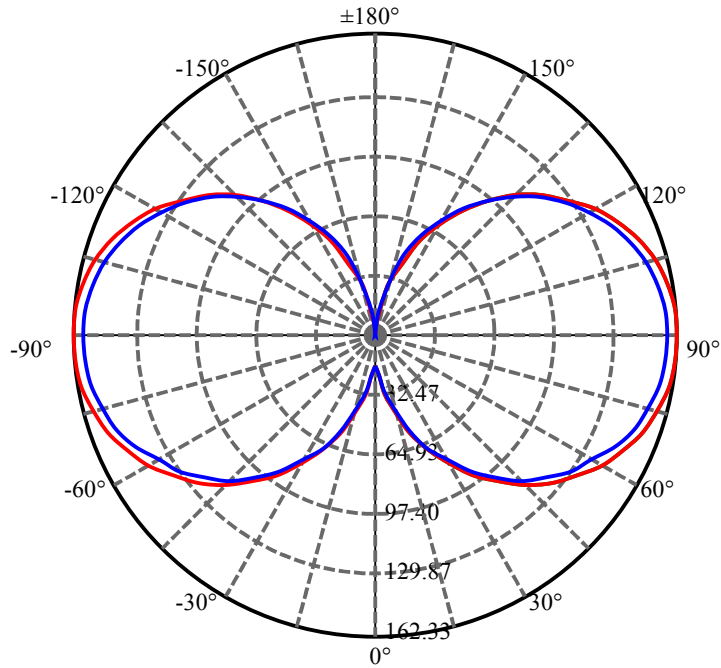
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	16.089	0.000	0	0.00%	0.00%
5.0	21.774	0.453	0.453	0.03%	0.03%
10.0	31.917	1.921	2.373	0.12%	0.15%
15.0	43.433	4.470	6.843	0.29%	0.44%
20.0	55.257	8.134	14.977	0.53%	0.97%
25.0	67.203	12.844	27.82	0.83%	1.81%
30.0	78.981	18.500	46.32	1.20%	3.01%
35.0	90.400	24.943	71.263	1.62%	4.63%
40.0	101.021	31.937	103.2	2.07%	6.70%
45.0	111.729	39.392	142.592	2.56%	9.26%
50.0	121.261	47.079	189.671	3.06%	12.32%
55.0	129.997	54.632	244.303	3.55%	15.86%
60.0	137.578	61.849	306.152	4.02%	19.88%
65.0	144.473	68.567	374.719	4.45%	24.33%
70.0	150.051	74.575	449.295	4.84%	29.17%
75.0	154.294	79.551	528.845	5.17%	34.34%
80.0	157.147	83.333	612.178	5.41%	39.75%
85.0	158.798	85.850	698.028	5.57%	45.33%
90.0	159.098	87.042	785.07	5.65%	50.98%
95.0	158.369	86.925	871.995	5.64%	56.62%
100.0	156.346	85.516	957.511	5.55%	62.18%
105.0	152.707	82.694	1040.205	5.37%	67.54%
110.0	147.679	78.516	1118.721	5.10%	72.64%
115.0	141.270	73.164	1191.885	4.75%	77.39%
120.0	133.943	66.905	1258.79	4.34%	81.74%
125.0	125.147	59.888	1318.678	3.89%	85.63%
130.0	115.657	52.359	1371.037	3.40%	89.03%
135.0	105.305	44.648	1415.685	2.90%	91.93%
140.0	94.346	36.967	1452.652	2.40%	94.33%
145.0	82.214	29.458	1482.11	1.91%	96.24%
150.0	69.548	22.348	1504.458	1.45%	97.69%
155.0	56.506	15.952	1520.41	1.04%	98.73%
160.0	43.126	10.450	1530.86	0.68%	99.41%
165.0	28.892	5.935	1536.795	0.39%	99.79%
170.0	14.302	2.562	1539.357	0.17%	99.96%
175.0	3.009	0.619	1539.977	0.04%	100.00%
180.0	0.524	0.042	1540.019	0.00%	100.00%

## ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	46.32	3.01%	3.01%
0-40	103.20	6.70%	6.70%
0-60	306.15	19.88%	19.88%
0-90	785.07	50.98%	50.98%
0-120	1258.79	81.74%	81.74%
0-180	1540.02	100.00%	100.00%
60-90	478.92	31.10%	31.10%
90-120	473.72	30.76%	30.76%
90-130	585.97	38.05%	38.05%
90-150	719.39	46.71%	46.71%
90-180	754.91	49.02%	49.02%
0-118.00	1232.02	80.00%	80.00%

## ZONAL LUMEN SUMMARY

0-10	2.37
10-20	12.60
20-30	31.34
30-40	56.88
40-50	86.47
50-60	116.48
60-70	143.14
70-80	162.88
80-90	172.89
90-100	172.44
100-110	161.21
110-120	140.07
120-130	112.25
130-140	81.62
140-150	51.81
150-160	26.40
160-170	8.50
170-180	0.62



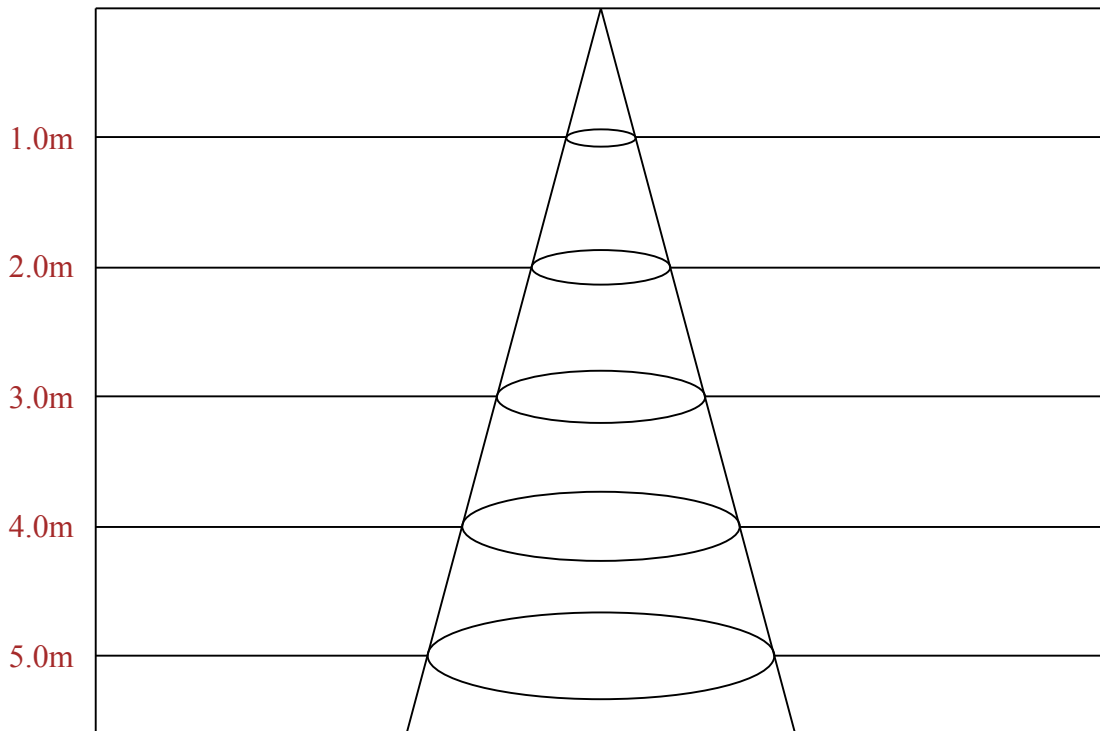
C0(Max): ———

C0/C180: ———

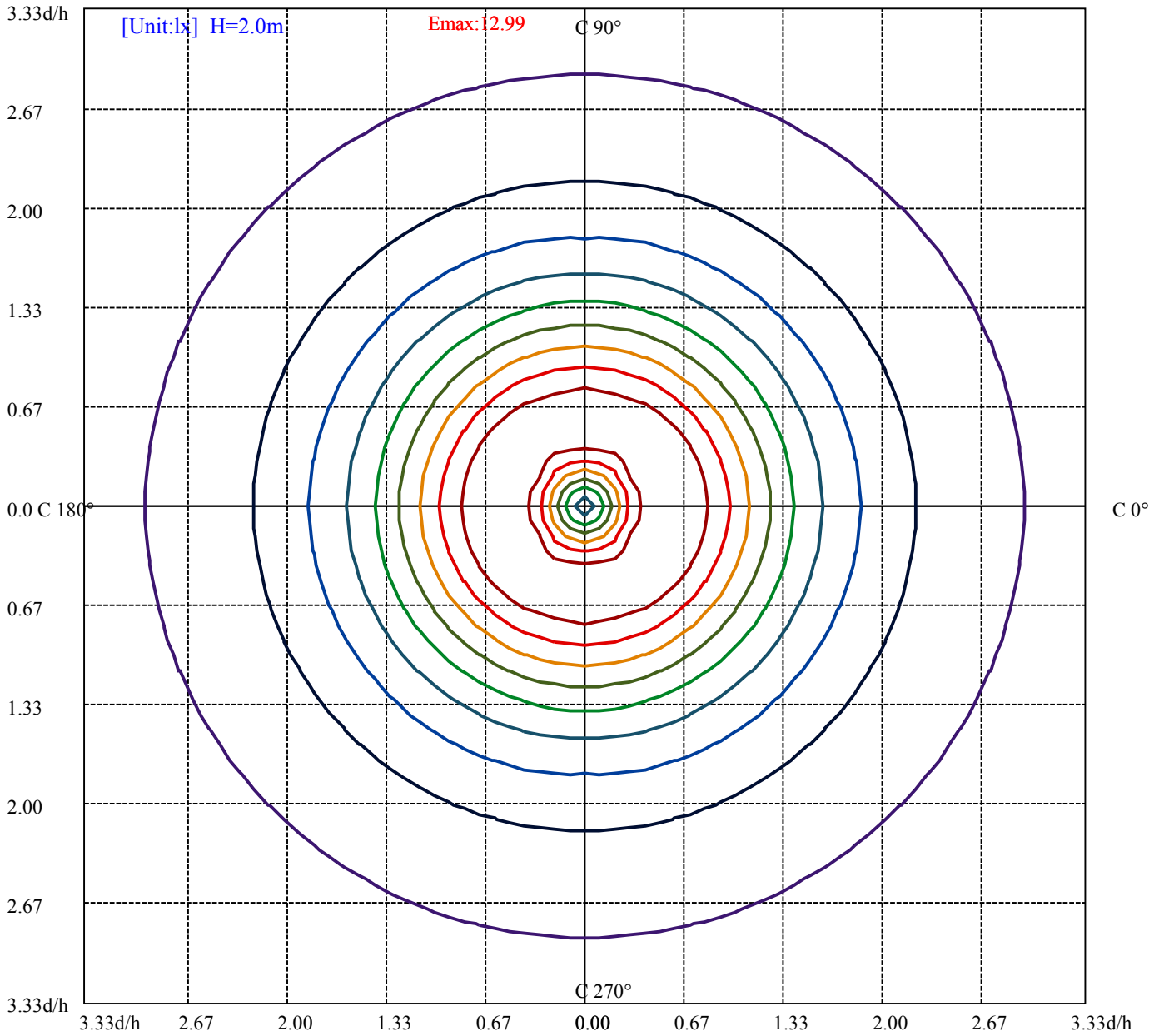
C90/C270: ———

Field angle(10%Imax):C0/180Left:259.8 Right:79.8  
:C90/270Left:259.5 Right:79.5

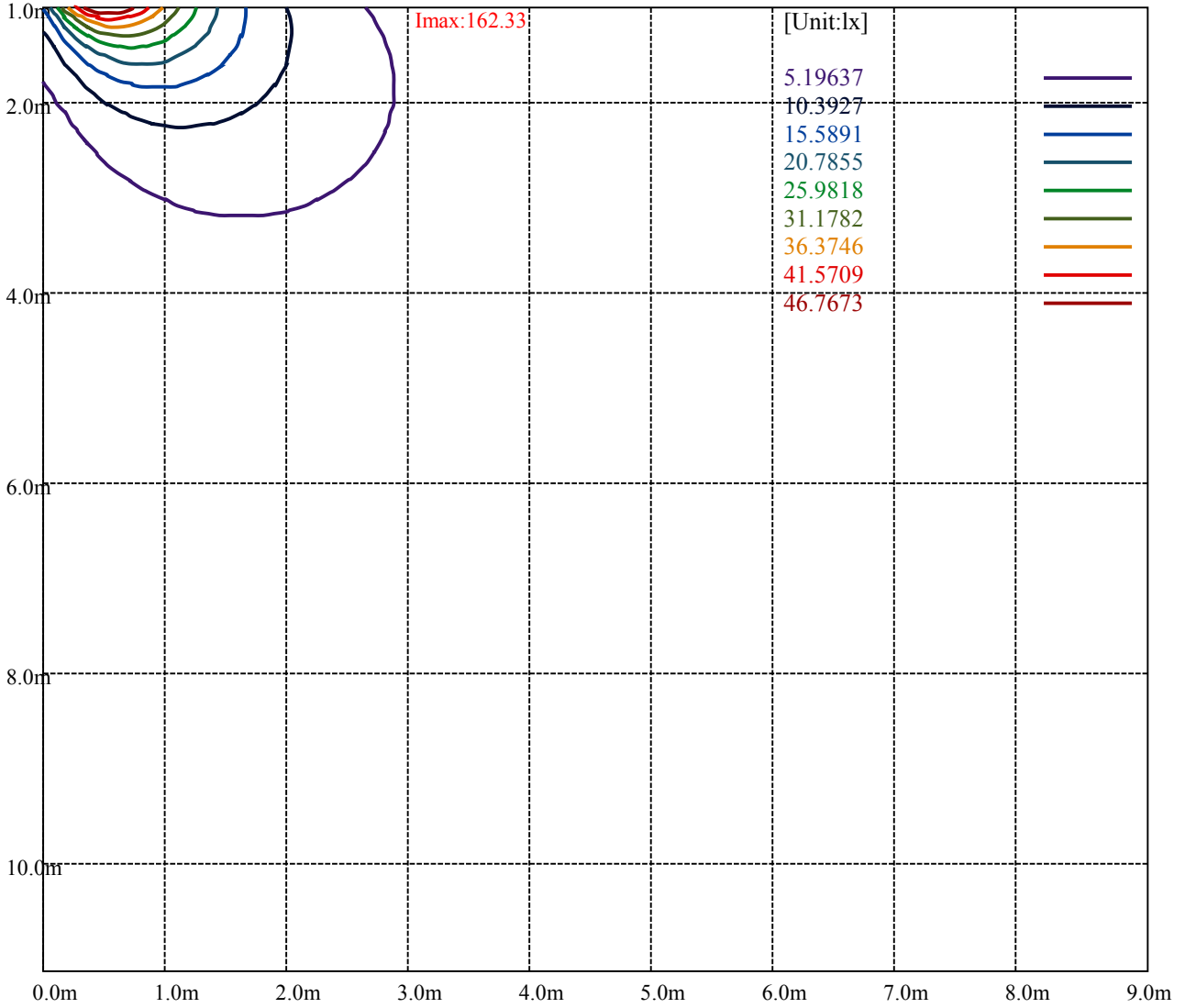
Beam Angle(50%Imax):C0/180Left:235.5 Right:55.5  
:C90/270Left:237.0 Right:57.0



Max , Ave      Beam angle of C0 plane 343.79



- (10%Emax) 1.29909
- (20%Emax) 2.598175
- (30%Emax) 3.897275
- (40%Emax) 5.196375
- (50%Emax) 6.49545
- (60%Emax) 7.79455
- (70%Emax) 9.09365
- (80%Emax) 10.39272
- (90%Emax) 11.69182



Luminance Table

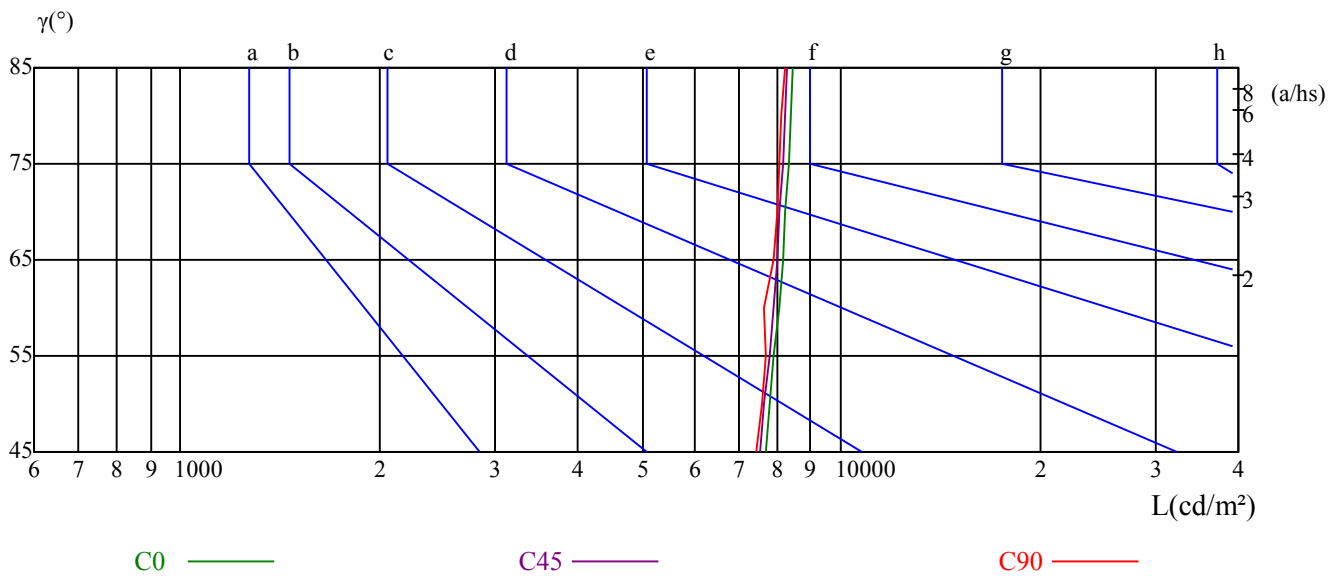
$\gamma$	45	50	55	60	65	70	75	80	85
C0	7680	7813	7934	8064	8161	8254	8344	8415	8483
C45	7526	7649	7778	7888	7993	8092	8171	8246	8301
C90	7462	7574	7713	7662	7909	7998	8083	8150	8209

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
177520	172032	173871	309670	299992	303263	946740	916140	926385

Glare Table

Glare	Quality	Service Values Illuminance(lx)							
		a	b	c	d	e	f	g	h
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	0.84	0.84	0.84	0.70	0.70	0.70	0.57	0.57	0.57	0.51
1	0.85	0.79	0.74	0.78	0.73	0.68	0.65	0.61	0.57	0.53	0.49	0.46	0.41	0.39	0.37	0.31
2	0.71	0.63	0.56	0.65	0.58	0.51	0.54	0.48	0.43	0.43	0.38	0.34	0.33	0.30	0.27	0.22
3	0.61	0.51	0.44	0.56	0.47	0.40	0.46	0.39	0.33	0.36	0.31	0.27	0.28	0.24	0.20	0.16
4	0.53	0.43	0.35	0.48	0.39	0.33	0.39	0.32	0.27	0.31	0.26	0.21	0.24	0.19	0.16	0.12
5	0.46	0.37	0.29	0.42	0.33	0.27	0.34	0.27	0.22	0.27	0.22	0.17	0.21	0.16	0.13	0.09
6	0.41	0.31	0.25	0.37	0.29	0.23	0.31	0.24	0.19	0.24	0.19	0.15	0.18	0.14	0.11	0.08
7	0.37	0.27	0.21	0.33	0.25	0.19	0.27	0.21	0.16	0.22	0.16	0.12	0.16	0.12	0.09	0.06
8	0.33	0.24	0.18	0.30	0.22	0.17	0.25	0.18	0.14	0.20	0.14	0.11	0.15	0.11	0.08	0.05
9	0.30	0.21	0.16	0.27	0.20	0.14	0.22	0.16	0.12	0.18	0.13	0.09	0.14	0.10	0.07	0.04
10	0.27	0.19	0.14	0.25	0.18	0.13	0.20	0.14	0.10	0.16	0.12	0.08	0.13	0.09	0.06	0.04

## Intensity data(cd)

C/ $\gamma$ (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	16.12	18.31	28.32	39.80	51.09	63.93	75.41	87.34	98.63
15.0	15.94	18.31	27.69	39.07	50.91	62.75	74.77	85.97	97.63
30.0	15.94	17.94	27.59	38.89	50.54	61.66	74.22	85.06	96.17
45.0	15.94	18.03	27.59	38.16	49.45	61.29	72.95	84.42	94.71
60.0	16.03	17.76	27.05	37.98	49.63	61.02	71.86	83.24	94.17
75.0	16.03	17.94	27.23	37.43	49.00	60.65	72.04	83.15	94.08
90.0	16.03	17.58	26.87	37.79	49.18	60.93	71.76	83.60	93.89
105.0	16.12	17.39	26.41	38.07	48.81	60.74	72.40	83.51	94.53
120.0	16.30	17.12	26.59	37.89	49.27	60.47	72.95	83.60	95.35
135.0	15.85	16.94	26.68	37.61	49.45	60.93	73.22	84.42	95.62
150.0	16.39	16.76	26.41	38.07	58.83	61.29	72.95	85.33	95.81
165.0	16.39	16.48	25.77	37.43	49.27	61.38	73.68	85.42	97.36
180.0	16.12	25.50	36.43	48.63	60.29	72.77	84.88	96.54	107.56
195.0	15.94	24.86	36.61	48.09	60.56	72.95	85.06	96.54	107.19
210.0	15.94	25.59	36.34	47.72	60.74	72.58	84.61	96.08	107.28
225.0	15.94	25.32	36.25	48.27	60.47	72.77	84.70	95.62	107.19
240.0	16.03	26.05	36.16	48.63	60.38	73.13	84.42	95.81	106.83
255.0	16.03	25.86	36.52	48.45	60.74	73.04	84.15	96.08	106.46
270.0	16.03	26.32	36.97	48.36	60.56	72.86	84.51	95.90	106.83
285.0	16.12	26.05	36.70	48.72	61.29	73.04	84.97	95.90	98.81
300.0	16.30	25.86	37.43	48.91	52.09	72.77	85.06	95.99	106.92
315.0	15.85	27.05	36.97	49.63	61.29	73.22	85.06	96.63	107.37
330.0	16.39	26.87	37.43	49.54	61.02	73.49	84.88	96.90	107.28
345.0	16.39	26.68	37.98	49.27	61.29	73.22	85.06	96.54	106.83
360.0	16.12	18.31	28.32	39.80	51.09	63.93	75.41	87.34	98.63
C/ $\gamma$ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	109.47	119.39	128.14	136.88	143.62	149.63	154.46	157.83	159.92
15.0	107.65	118.21	126.77	135.06	142.25	148.17	152.64	155.91	158.10
30.0	106.55	116.39	125.40	132.78	140.61	146.08	150.90	154.18	156.19
45.0	105.64	114.57	123.49	131.60	138.52	144.44	148.90	152.45	154.27
60.0	104.28	113.84	122.67	130.78	137.15	142.98	147.54	151.00	153.00
75.0	104.28	113.20	121.94	129.96	136.79	142.53	147.17	150.36	152.64
90.0	104.19	113.57	122.40	130.41	136.88	142.71	147.26	150.63	152.64
105.0	104.91	114.29	122.67	130.60	137.61	143.44	147.99	151.54	153.36
120.0	105.19	114.75	123.77	131.69	138.79	144.26	149.08	152.54	154.73
135.0	106.37	115.57	125.13	132.78	139.89	146.08	150.81	154.37	156.37
150.0	106.74	116.75	125.86	134.24	141.07	147.63	152.27	155.82	158.10
165.0	107.46	117.66	126.32	134.69	142.16	148.63	153.55	157.10	159.56
180.0	118.21	127.77	136.70	144.35	151.00	156.19	160.29	162.84	164.11
195.0	117.85	127.59	136.42	144.26	150.81	156.28	160.29	162.74	164.02
210.0	117.66	127.41	136.33	143.89	150.18	155.55	159.65	162.11	163.38
225.0	117.12	126.86	135.51	143.07	149.63	154.91	158.83	161.29	162.38
240.0	117.12	126.59	134.79	142.71	148.99	154.37	158.19	160.74	161.74
255.0	117.39	126.32	134.88	142.34	148.81	154.00	157.64	158.37	161.20
270.0	117.03	126.04	135.06	136.79	148.63	153.64	157.64	159.92	160.92
285.0	117.21	126.59	134.79	142.44	148.54	153.73	157.46	159.83	160.83
300.0	117.12	126.68	135.06	142.53	148.81	153.91	157.46	159.83	160.92
315.0	117.12	126.95	135.15	142.71	149.08	154.18	157.92	160.29	161.10
330.0	117.48	126.86	135.42	142.89	148.81	154.18	157.64	160.10	161.10
345.0	117.48	126.41	135.24	142.44	148.72	153.73	157.46	159.74	160.56
360.0	109.47	119.39	128.14	136.88	143.62	149.63	154.46	157.83	159.92

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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	160.56	160.19	158.65	155.55	150.45	143.62	136.06	126.68	116.66
15.0	158.74	158.37	157.10	153.82	149.27	142.62	134.60	125.59	116.30
30.0	156.82	156.64	155.19	152.18	147.63	141.89	133.87	125.68	116.21
45.0	155.00	154.73	153.27	150.72	145.99	140.43	133.51	125.40	116.12
60.0	153.73	153.55	152.18	149.63	145.17	139.61	133.24	124.95	116.57
75.0	153.09	153.00	151.54	148.81	145.08	139.61	132.96	124.95	116.12
90.0	153.36	153.27	151.82	149.17	144.99	139.34	132.78	125.68	117.03
105.0	154.09	154.00	152.64	149.72	145.80	140.43	133.78	126.04	117.85
120.0	155.46	155.28	154.09	151.18	146.99	141.34	134.51	127.59	119.12
135.0	157.28	157.19	155.73	153.27	148.54	143.35	136.70	129.23	120.76
150.0	158.92	158.92	157.64	154.82	150.45	144.89	138.25	130.50	121.85
165.0	160.38	160.38	159.01	156.10	152.18	146.26	139.98	132.33	123.67
180.0	164.11	163.02	160.19	156.10	150.54	143.62	135.70	126.77	116.84
195.0	164.02	162.84	160.19	155.64	149.81	142.89	134.97	125.77	115.75
210.0	163.38	162.20	159.47	155.19	149.90	143.07	134.88	125.86	116.39
225.0	162.47	161.29	158.55	154.37	148.81	142.25	139.89	125.40	115.21
240.0	161.74	160.47	159.65	153.27	147.81	140.70	133.33	124.59	114.66
255.0	161.01	159.83	156.82	152.82	147.35	140.52	132.60	123.77	114.29
270.0	160.74	159.56	156.73	152.45	146.90	140.43	132.33	123.40	113.47
285.0	160.65	159.19	156.55	152.27	146.72	139.79	131.69	122.58	112.84
300.0	160.65	159.28	156.46	152.09	146.53	139.43	131.05	121.94	111.65
315.0	160.92	159.47	156.55	152.36	146.26	138.88	130.32	121.40	110.47
330.0	160.83	159.37	156.46	151.91	145.90	138.25	129.23	119.39	108.37
345.0	160.38	158.83	155.82	151.54	145.26	137.24	128.41	118.03	107.56
360.0	160.56	160.19	158.65	155.55	150.45	143.62	136.06	126.68	116.66
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	105.73	94.71	81.14	67.67	52.37	35.52	22.95	12.20	1.09
15.0	105.37	93.26	79.87	64.84	48.45	35.15	25.23	13.84	1.00
30.0	105.46	90.98	78.96	60.84	44.08	27.78	19.85	8.01	0.91
45.0	106.74	95.17	81.87	66.21	50.18	32.60	16.03	3.92	0.91
60.0	106.55	95.72	84.61	73.13	59.56	42.99	24.50	7.38	0.91
75.0	107.19	95.99	85.52	73.86	62.47	47.81	30.78	10.75	0.91
90.0	107.19	96.81	85.88	74.86	62.29	49.18	33.06	13.84	1.09
105.0	107.83	97.99	87.34	75.22	62.66	49.54	34.97	17.30	3.19
120.0	109.65	99.45	88.52	76.04	63.75	51.00	35.61	21.31	6.83
135.0	111.74	100.91	90.62	78.59	65.84	52.37	38.52	24.22	8.29
150.0	111.47	99.72	87.34	75.32	62.93	51.82	39.16	26.41	10.20
165.0	114.20	103.73	93.26	81.42	69.03	56.10	43.26	28.87	12.29
180.0	106.74	95.44	83.69	71.49	58.83	46.63	33.79	19.49	4.74
195.0	105.01	93.53	82.06	69.21	57.56	54.46	33.24	19.31	3.55
210.0	105.82	102.46	82.42	70.67	58.19	45.35	32.60	19.12	3.46
225.0	104.82	93.44	81.78	69.76	58.01	44.99	32.69	18.03	3.19
240.0	104.00	92.80	81.51	69.31	56.92	44.53	31.51	16.30	2.28
255.0	103.37	92.26	80.96	69.03	55.83	43.90	30.78	15.30	1.55
270.0	102.55	91.62	80.42	68.12	55.55	42.62	29.51	14.12	1.27
285.0	102.00	91.16	79.05	66.94	55.01	41.53	27.23	11.84	1.00
300.0	100.63	89.98	77.14	65.39	53.00	38.98	24.04	10.20	0.91
315.0	99.72	88.25	75.59	62.93	50.91	36.88	21.95	6.56	0.91
330.0	97.54	84.97	72.77	60.02	47.63	33.70	18.58	2.73	0.91
345.0	95.99	83.97	70.85	58.29	45.08	29.60	13.57	2.19	0.82
360.0	105.73	94.71	81.14	67.67	52.37	35.52	22.95	12.20	1.09

Intensity data(cd)

C/ $\gamma$ ( $^{\circ}$ )	180.0
0.0	2.55
15.0	0.91
30.0	0.82
45.0	0.82
60.0	0.82
75.0	0.82
90.0	0.82
105.0	0.91
120.0	0.91
135.0	0.91
150.0	1.09
165.0	1.18
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	2.55