
德莹

Client:

LumCAT: the half of model DYU-TTBTWC-ZZ(4000K)

Luminaire: LED lamp

Report No:

Ballast type:

Test No: LCZP25040137

Voltage(V): 120.030

LampCAT:

Current(A): 0.256

Lamp flux(lm): 3551.1

Power (W): 29.560

Number of Lamps: 1

PF: 0.962

Length(mm): 1140

Width(mm): 25

Phm Type: C

Height(mm): 15

Photometric Results

Lumens(lm): 3551.09, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 120.13

Central intensity(cd): 849.332, Maximum intensity(cd): 849.333

Angle of maximum intensity: C=15.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=153.2

[C90/270]Total=111.0

Field angle(10%Imax): [C0/180]Total=264.4

[C90/270]Total=159.6

Maximum s/h(1/2): C0_180=1.34 C90_270=1.24

Maximum s/h(1/4): C0_180=1.51 C90_270=1.36

Up flux rate of lamp(%): 14.11%

Down flux rate of lamp(%): 85.89%

Up flux rate of LUM(%): 14.11%

Down flux rate of LUM(%): 85.89%

CIE Type : Semidirect lighting

Output flux ratio in π solid angle : 57.670%

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Zonal flux distribution table

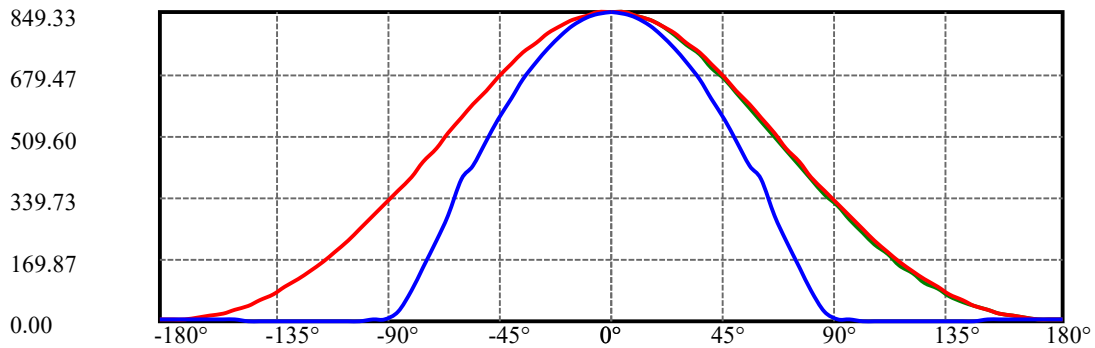
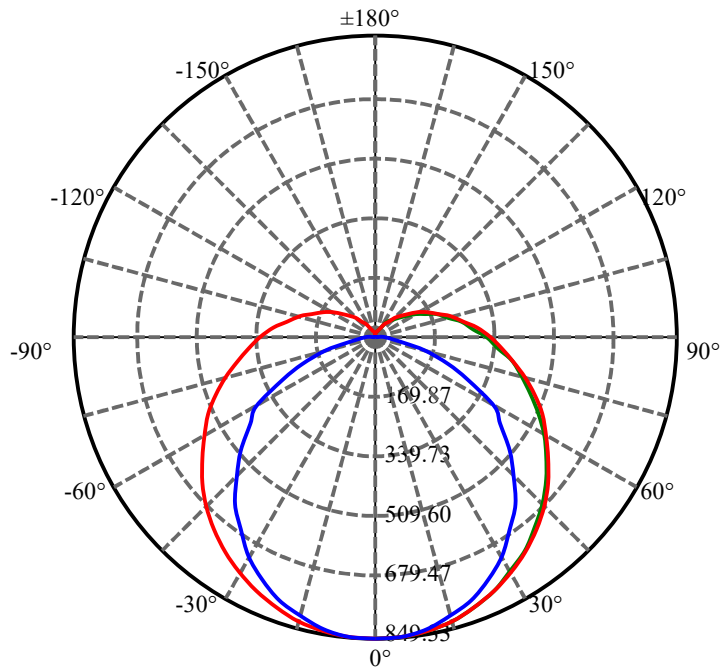
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$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	849.332	0.000	0	0.00%	0.00%
5.0	846.224	20.270	20.27	0.57%	0.57%
10.0	836.495	60.196	80.466	1.70%	2.27%
15.0	820.967	98.320	178.786	2.77%	5.03%
20.0	799.831	133.576	312.362	3.76%	8.80%
25.0	771.387	164.792	477.154	4.64%	13.44%
30.0	738.759	191.110	668.264	5.38%	18.82%
35.0	701.486	212.086	880.35	5.97%	24.79%
40.0	661.874	227.466	1107.816	6.41%	31.20%
45.0	615.154	236.452	1344.268	6.66%	37.86%
50.0	567.998	239.073	1583.342	6.73%	44.59%
55.0	518.262	236.189	1819.531	6.65%	51.24%
60.0	469.698	228.364	2047.895	6.43%	57.67%
65.0	416.235	215.372	2263.267	6.06%	63.73%
70.0	365.560	197.955	2461.222	5.57%	69.31%
75.0	316.421	178.259	2639.481	5.02%	74.33%
80.0	272.503	157.580	2797.061	4.44%	78.77%
85.0	229.665	136.451	2933.512	3.84%	82.61%
90.0	195.663	116.458	3049.97	3.28%	85.89%
95.0	166.626	99.197	3149.167	2.79%	88.68%
100.0	142.679	84.045	3233.213	2.37%	91.05%
105.0	120.505	70.421	3303.633	1.98%	93.03%
110.0	101.689	58.078	3361.711	1.64%	94.67%
115.0	85.260	47.337	3409.048	1.33%	96.00%
120.0	70.772	37.932	3446.98	1.07%	97.07%
125.0	58.038	29.774	3476.754	0.84%	97.91%
130.0	46.980	22.834	3499.588	0.64%	98.55%
135.0	37.113	16.992	3516.58	0.48%	99.03%
140.0	29.146	12.268	3528.849	0.35%	99.37%
145.0	21.815	8.502	3537.351	0.24%	99.61%
150.0	16.422	5.631	3542.982	0.16%	99.77%
155.0	11.846	3.577	3546.559	0.10%	99.87%
160.0	8.797	2.165	3548.724	0.06%	99.93%
165.0	6.159	1.233	3549.957	0.03%	99.97%
170.0	5.009	0.662	3550.619	0.02%	99.99%
175.0	5.384	0.372	3550.991	0.01%	100.00%
180.0	2.692	0.097	3551.087	0.00%	100.00%

ZONAL LUMEN SUMMARY			
Zone	Lumens	%Lamp	%Fixt
0-30	668.26	18.82%	18.82%
0-40	1107.82	31.20%	31.20%
0-60	2047.89	57.67%	57.67%
0-90	3049.97	85.89%	85.89%
0-120	3446.98	97.07%	97.07%
0-180	3551.09	100.00%	100.00%
60-90	1002.08	28.22%	28.22%
90-120	397.01	11.18%	11.18%
90-130	449.62	12.66%	12.66%
90-150	493.01	13.88%	13.88%
90-180	501.02	14.11%	14.11%
0-81.61	2840.87	80.00%	80.00%

ZONAL LUMEN SUMMARY

0-10	80.47
10-20	231.90
20-30	355.90
30-40	439.55
40-50	475.53
50-60	464.55
60-70	413.33
70-80	335.84
80-90	252.91
90-100	183.24
100-110	128.50
110-120	85.27
120-130	52.61
130-140	29.26
140-150	14.13
150-160	5.74
160-170	1.89
170-180	0.37



C15(Max): —————

C0/C180: —————

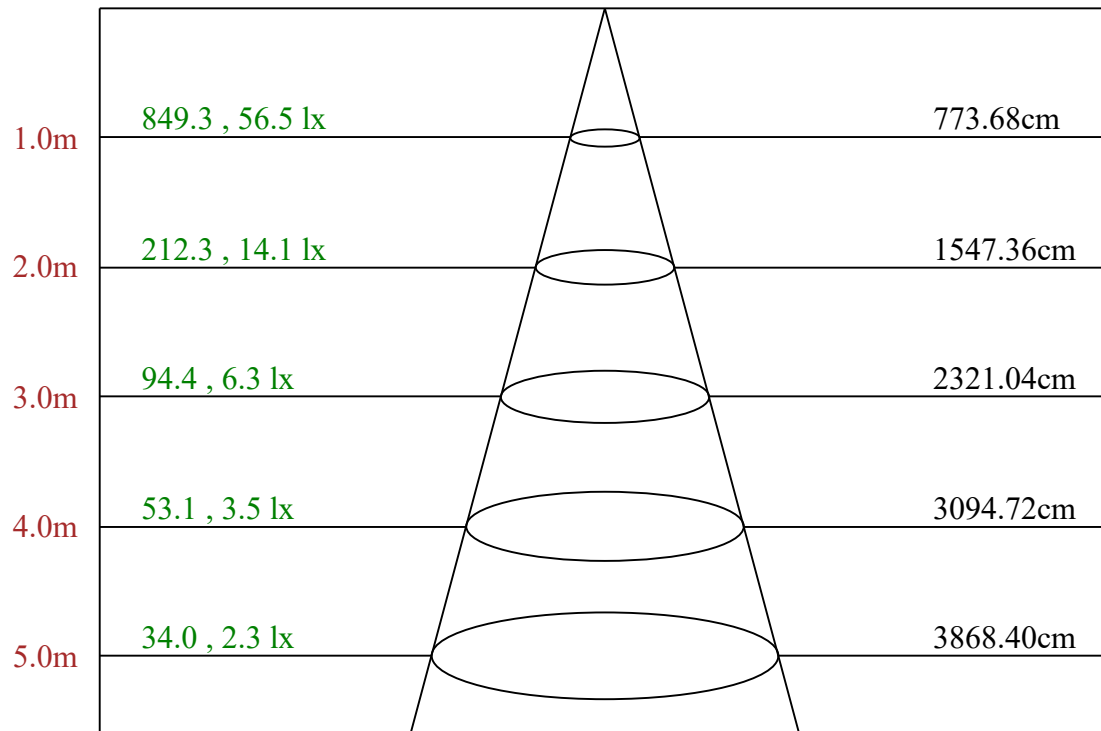
C90/C270: —————

Field angle(10%Imax):C0/180Left:132.2 Right:132.2

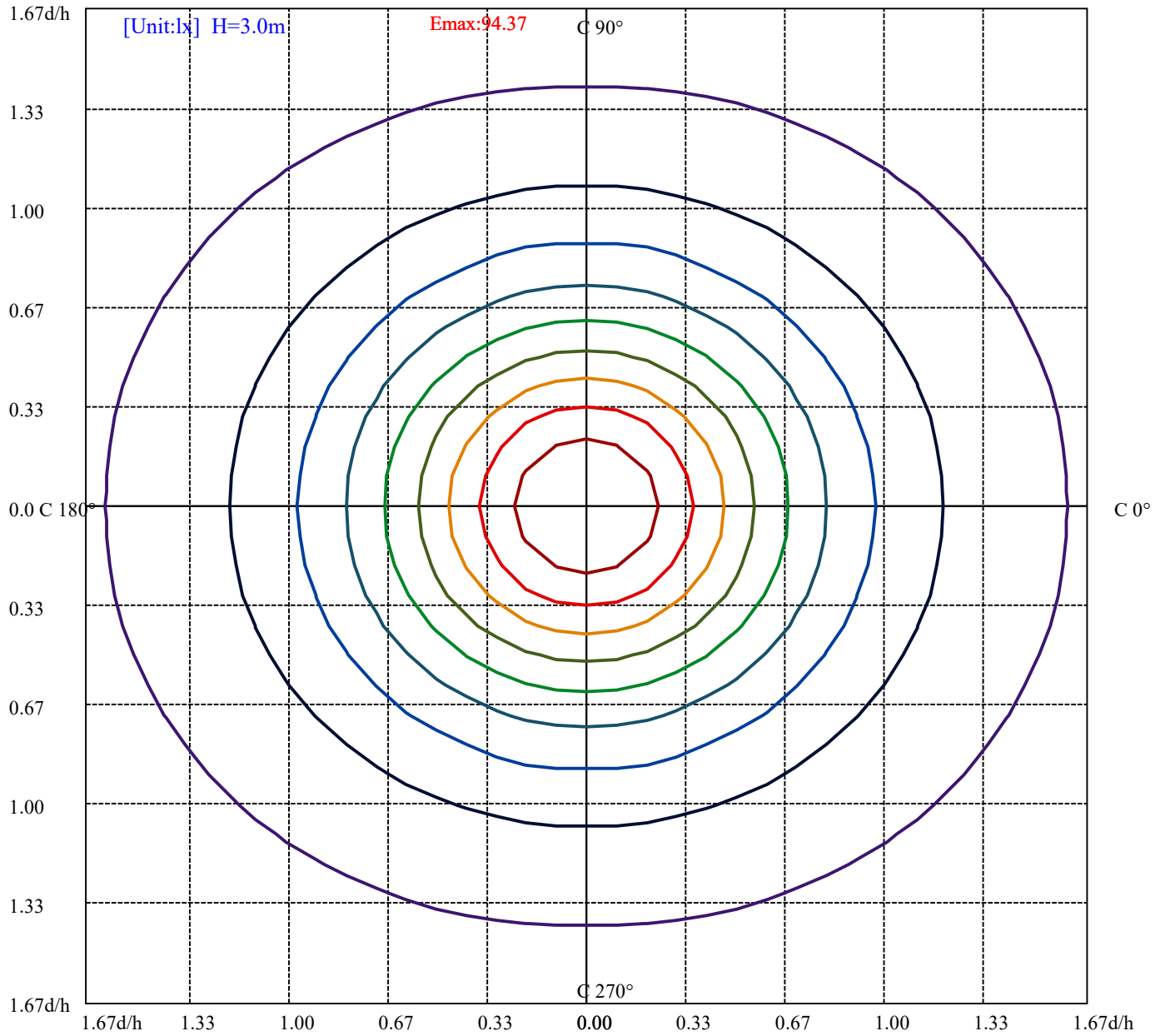
:C90/270Left:79.8 Right:79.8

Beam Angle(50%Imax):C0/180Left:76.6 Right:76.6

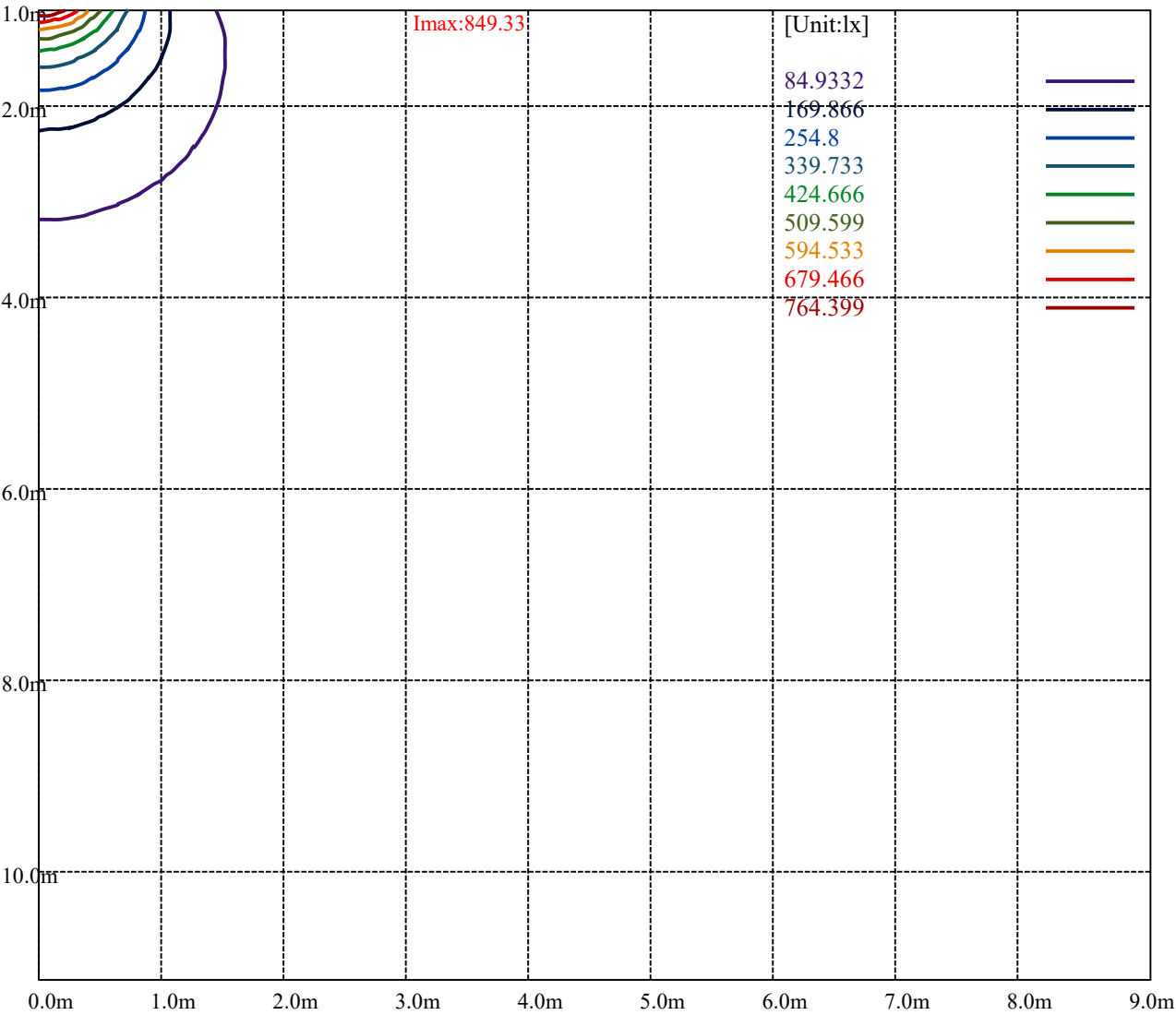
:C90/270Left:55.5 Right:55.5



Max , Ave Beam angle of C15 plane 151.01



(10%Emax) 9.437022	
(20%Emax) 18.874	
(30%Emax) 28.31111	
(40%Emax) 37.74811	
(50%Emax) 47.18511	
(60%Emax) 56.62211	
(70%Emax) 66.05923	
(80%Emax) 75.49622	
(90%Emax) 84.93322	



Luminance Table

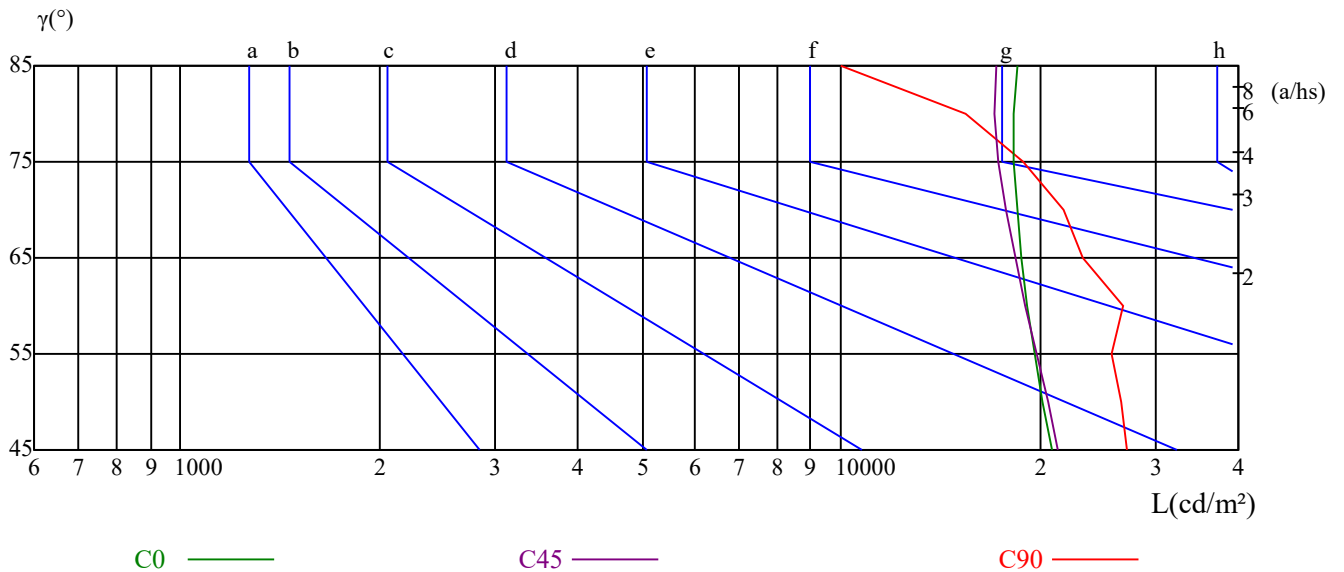
γ	45	50	55	60	65	70	75	80	85
C0	20835	20232	19665	19177	18793	18463	18289	18277	18462
C45	21362	20588	19790	19061	18396	17834	17331	17129	17151
C90	27156	26566	25744	26779	23225	21762	18935	15477	9971

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
42975	23881	35499	59244	19865	45375	145072	11470	102145

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



RHOC	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	1.16	1.16	1.16	1.11	1.11	1.11	1.03	1.03	1.03	0.96	0.96	0.96	0.89	0.89	0.89	0.86
1	0.97	0.92	0.87	0.93	0.88	0.84	0.86	0.82	0.79	0.80	0.77	0.74	0.74	0.71	0.69	0.66
2	0.83	0.75	0.69	0.80	0.73	0.67	0.74	0.68	0.63	0.68	0.64	0.59	0.63	0.59	0.56	0.53
3	0.72	0.63	0.56	0.69	0.61	0.54	0.64	0.57	0.52	0.60	0.54	0.49	0.55	0.50	0.46	0.43
4	0.63	0.54	0.47	0.61	0.52	0.46	0.57	0.49	0.43	0.53	0.46	0.41	0.49	0.44	0.39	0.36
5	0.56	0.47	0.40	0.54	0.45	0.39	0.50	0.43	0.37	0.47	0.40	0.35	0.44	0.38	0.34	0.31
6	0.50	0.41	0.34	0.49	0.40	0.34	0.45	0.38	0.32	0.42	0.36	0.31	0.39	0.34	0.29	0.27
7	0.45	0.36	0.30	0.44	0.35	0.29	0.41	0.34	0.28	0.38	0.32	0.27	0.36	0.30	0.26	0.24
8	0.41	0.33	0.27	0.40	0.32	0.26	0.38	0.30	0.25	0.35	0.29	0.24	0.33	0.27	0.23	0.21
9	0.38	0.29	0.24	0.37	0.29	0.23	0.34	0.27	0.22	0.32	0.26	0.22	0.30	0.25	0.21	0.19
10	0.35	0.27	0.21	0.34	0.26	0.21	0.32	0.25	0.20	0.30	0.24	0.20	0.28	0.23	0.19	0.17

德莹 the half of model DYU-TTBTWC-ZZ(4000K)

Intensity data(cd)										Appendix Page: 10 Total:12	
C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0		
0.0	849.33	840.52	826.43	807.92	785.90	757.70	728.63	696.91	665.19		
15.0	849.33	840.44	826.21	807.53	785.30	757.73	727.49	693.70	658.12		
30.0	849.33	842.20	826.16	808.34	782.49	753.08	720.11	685.35	647.92		
45.0	849.33	840.40	826.11	806.46	781.46	749.31	713.58	673.39	630.52		
60.0	849.33	840.44	827.10	805.75	777.29	743.50	702.59	658.12	607.43		
75.0	849.33	843.00	829.43	807.73	782.40	746.22	705.52	659.39	608.73		
90.0	849.33	845.71	833.96	814.06	786.92	752.55	710.94	664.81	615.07		
105.0	849.33	847.52	837.54	821.20	799.43	764.94	729.55	686.00	637.91		
120.0	849.33	851.14	843.90	830.32	808.59	782.33	749.73	712.61	667.33		
135.0	849.33	851.14	845.73	836.71	818.68	797.94	768.19	733.92	694.25		
150.0	849.33	852.94	849.33	843.03	816.01	809.70	788.09	756.56	725.04		
165.0	849.33	854.73	853.83	848.43	837.65	821.47	799.90	774.74	741.48		
180.0	849.33	856.38	855.50	849.33	837.88	822.02	799.99	776.21	745.37		
195.0	849.33	854.67	852.89	845.78	835.10	817.32	796.86	771.07	740.83		
210.0	849.33	852.90	851.11	843.09	829.73	810.12	785.16	756.65	724.56		
225.0	849.33	851.12	846.65	835.04	819.86	796.64	768.95	735.02	696.61		
240.0	849.33	848.44	841.33	827.10	804.86	775.52	739.94	700.81	657.23		
255.0	849.33	846.62	837.57	818.58	795.06	761.60	725.41	681.09	632.25		
270.0	849.33	846.62	832.15	814.96	786.92	750.74	710.04	662.10	610.54		
285.0	849.33	843.89	830.28	808.50	780.37	745.89	703.24	657.87	645.17		
300.0	849.33	842.09	829.41	809.49	801.34	746.11	705.36	660.09	613.00		
315.0	849.33	838.51	824.99	804.25	778.10	746.55	709.58	669.01	623.93		
330.0	849.33	838.52	824.11	804.30	782.68	750.26	718.74	681.81	642.18		
345.0	849.33	839.45	824.17	805.29	781.93	754.06	722.61	688.45	654.30		
360.0	849.33	840.52	826.43	807.92	785.90	757.70	728.63	696.91	665.19		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	629.07	592.07	553.30	513.65	474.89	435.24	399.12	362.99	327.75		
15.0	619.88	581.64	541.62	504.26	464.24	424.22	386.87	350.41	314.83		
30.0	604.25	565.03	520.47	477.69	434.92	393.03	354.71	316.38	280.73		
45.0	584.08	536.75	490.31	438.51	393.85	348.31	303.65	264.36	226.85		
60.0	556.74	503.37	448.23	392.20	337.95	288.15	237.46	194.77	156.53		
75.0	551.75	491.15	432.35	366.33	303.91	238.79	178.19	124.82	83.21		
90.0	558.08	496.57	432.35	364.52	293.96	226.13	151.05	87.74	32.56		
105.0	584.37	527.20	466.41	401.07	337.56	273.13	209.61	150.63	103.44		
120.0	621.15	570.45	516.12	458.17	400.22	344.98	294.28	243.57	198.30		
135.0	652.78	609.50	560.81	513.93	464.34	416.55	368.77	324.59	282.21		
150.0	687.21	647.58	607.05	562.92	521.49	474.65	432.32	389.99	348.56		
165.0	710.02	673.17	636.33	596.78	555.44	514.09	470.95	431.41	388.27		
180.0	714.53	679.29	640.52	600.88	560.35	518.06	474.89	433.48	392.95		
195.0	707.93	671.46	632.33	592.31	552.29	509.60	467.80	426.00	385.09		
210.0	685.35	647.03	602.46	561.47	516.91	471.46	427.79	385.90	345.79		
225.0	654.64	609.98	563.54	514.42	463.52	416.18	367.06	322.41	281.32		
240.0	607.43	554.96	502.48	445.57	390.43	336.18	282.81	234.79	192.10		
255.0	577.98	520.09	458.59	393.46	330.15	265.93	202.61	185.42	99.50		
270.0	550.84	492.05	425.12	416.07	281.30	213.46	142.01	76.88	24.42		
285.0	549.89	486.37	423.76	359.33	293.09	228.67	168.78	118.87	76.22		
300.0	561.39	506.16	448.21	391.16	338.65	282.51	236.33	190.15	154.84		
315.0	577.04	531.96	480.57	435.49	388.60	342.62	299.34	261.47	224.51		
330.0	601.65	558.42	515.18	471.95	431.42	389.99	353.06	315.23	280.11		
345.0	615.65	579.70	540.16	500.61	460.17	421.52	384.67	347.82	311.87		
360.0	629.07	592.07	553.30	513.65	474.89	435.24	399.12	362.99	327.75		

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Intensity data(cd)										Appendix Page: 11 Total:12	
C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0		
0.0	293.39	260.79	229.95	200.88	174.45	148.90	125.99	105.73	88.11		
15.0	284.59	252.58	220.56	192.10	165.42	141.41	120.06	99.61	82.71		
30.0	248.65	216.57	187.16	162.20	137.25	116.75	98.03	81.10	66.84		
45.0	196.48	166.12	139.32	117.00	97.35	81.27	67.88	56.26	45.55		
60.0	126.29	98.72	78.26	63.14	51.58	41.80	34.68	28.46	23.12		
75.0	54.27	34.37	24.42	18.09	13.57	10.85	9.05	7.24	6.33		
90.0	3.62	1.81	1.81	0.90	0.90	0.90	0.90	1.81	1.81		
105.0	65.33	42.65	28.13	19.06	13.61	9.98	7.26	6.35	5.44		
120.0	160.27	125.86	99.60	76.97	61.57	47.99	37.12	28.98	23.54		
135.0	246.14	206.47	174.01	144.26	119.01	98.28	79.34	64.02	49.59		
150.0	309.83	268.40	232.37	200.85	169.33	141.41	117.09	95.47	77.46		
165.0	350.52	307.38	271.43	235.48	203.12	170.77	143.80	118.64	96.17		
180.0	355.06	315.42	277.53	241.41	207.93	177.97	148.02	122.47	98.68		
195.0	342.40	303.27	268.58	230.34	198.33	168.09	140.52	114.73	91.60		
210.0	301.23	266.47	229.93	196.96	165.77	138.14	114.97	91.80	73.97		
225.0	240.24	203.63	170.58	142.90	117.00	96.45	77.70	62.52	48.23		
240.0	155.64	123.62	115.62	76.48	60.48	48.03	37.35	29.35	22.23		
255.0	64.22	41.61	28.94	20.80	15.38	11.76	9.05	7.24	5.43		
270.0	3.62	3.62	2.71	2.71	2.71	2.71	1.81	1.81	1.81		
285.0	49.91	32.67	23.59	18.15	14.52	11.80	9.07	7.26	5.44		
300.0	124.05	97.79	77.87	63.38	51.61	41.65	34.41	28.07	21.73		
315.0	192.95	165.00	137.05	117.21	98.28	82.05	67.62	55.00	45.08		
330.0	247.68	216.16	186.44	160.32	137.80	117.09	98.17	81.06	65.75		
345.0	279.52	248.06	218.40	190.54	163.58	140.21	118.64	97.97	80.89		
360.0	293.39	260.79	229.95	200.88	174.45	148.90	125.99	105.73	88.11		
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0		
0.0	70.48	57.27	44.05	33.48	23.79	16.74	10.57	6.17	5.29		
15.0	66.70	53.36	41.80	31.13	23.12	16.01	9.78	6.23	5.34		
30.0	54.36	43.67	33.87	24.95	18.72	13.37	8.02	5.35	5.35		
45.0	36.62	29.47	22.33	16.97	12.50	9.82	6.25	5.36	5.36		
60.0	18.68	14.23	11.56	8.89	7.11	5.34	5.34	5.34	5.34		
75.0	4.52	3.62	3.62	3.62	4.52	4.52	5.43	5.43	5.43		
90.0	1.81	1.81	2.71	3.62	3.62	4.52	5.43	5.43	5.43		
105.0	3.63	3.63	2.72	3.63	3.63	4.54	5.44	5.44	5.44		
120.0	17.20	13.58	10.87	8.15	6.34	5.43	5.43	5.43	5.43		
135.0	38.77	29.75	21.64	16.23	11.72	8.11	5.41	5.41	5.41		
150.0	60.34	45.93	34.23	25.22	18.01	11.71	7.21	5.40	5.40		
165.0	75.50	57.52	43.14	31.46	21.57	14.38	8.99	5.39	5.39		
180.0	77.53	58.15	43.17	30.84	20.26	13.22	7.93	4.41	5.29		
195.0	72.93	53.36	40.02	28.46	18.68	16.90	7.11	4.45	5.34		
210.0	57.04	53.47	31.19	22.28	15.15	9.80	5.35	4.46	5.35		
225.0	36.62	27.69	20.54	14.29	9.82	6.25	4.47	4.47	5.36		
240.0	16.90	12.45	8.89	7.11	4.45	3.56	3.56	4.45	5.34		
255.0	3.62	2.71	1.81	2.71	2.71	3.62	3.62	4.52	5.43		
270.0	1.81	1.81	1.81	2.71	2.71	3.62	4.52	4.52	5.43		
285.0	4.54	2.72	2.72	2.72	2.72	3.63	3.63	4.54	5.44		
300.0	17.20	13.58	9.96	8.15	5.43	4.53	4.53	4.53	5.43		
315.0	36.07	27.05	20.74	15.33	10.82	7.21	4.51	4.51	5.41		
330.0	53.14	41.43	31.52	23.42	16.21	10.81	7.21	4.50	5.40		
345.0	64.71	51.23	38.65	28.76	20.67	13.48	8.09	4.49	5.39		
360.0	70.48	57.27	44.05	33.48	23.79	16.74	10.57	6.17	5.29		

Intensity data(cd)

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C/γ(°)	180.0
0.0	5.29
15.0	5.34
30.0	5.35
45.0	5.36
60.0	5.34
75.0	5.43
90.0	5.43
105.0	5.44
120.0	5.43
135.0	5.41
150.0	5.40
165.0	5.39
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	5.29