NATA LIGHTING CO.,LTD.
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Tel:+86-750-3770000 Fax:+86-750-3771111
Address:380 JinOu Road,GaoXin Zone,Jiang Men City,Guangdong,China

Nata

Client:
LumCAT: 1449-E
Luminaire: 92.70.064.00

Report No: nata-0100	Voltage(V): 35.4000
Test No:	Current(A): 0.1800
LampCAT: CITIZEN CLU026-1202	Power (W): 6.3720
Lamp flux(lm): 974.7	PF: 0.0000
Number of Lamps: 1	Ballast type:
Length(mm): 46	Width(mm): 46
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 865.74, Efficiency(%): 88.82% , Luminous Efficacy(lm/W): 135.87
Central intensity(cd): 4668.576, Maximum intensity(cd): 4668.576
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=15.8
[C90/270]Total=15.8
Field angle(10%Imax): [C0/180]Total=35.2
[C90/270]Total=35.2
Maximum s/h(1/2): C0_180=0.27 C90_270=0.27
Maximum s/h(1/4): C0_180=0.29 C90_270=0.29
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 89.52%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.039%

Equipment: GMS1980	Date: 2015-12-23	Operator: S
Temperature(°C): 25.0	Humidity(%): 60.0%	Distance(m): 7.42

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4668.576	6.981	6.981	.716%	.806%
2.5	4222.633	50.492	57.473	5.180%	6.639%
5.0	3426.263	81.861	139.334	8.399%	16.094%
7.5	2490.593	89.118	228.452	9.143%	26.388%
10.0	1610.881	76.683	305.135	7.867%	35.246%
12.5	967.203	57.388	362.522	5.888%	41.874%
15.0	626.714	44.466	406.988	4.562%	47.010%
17.5	468.874	38.651	445.639	3.965%	51.475%
20.0	402.146	37.705	483.344	3.868%	55.830%
22.5	372.615	39.090	522.434	4.010%	60.345%
25.0	354.432	41.062	563.496	4.213%	65.088%
27.5	340.765	43.134	606.63	4.425%	70.071%
30.0	327.840	44.936	651.567	4.610%	75.261%
32.5	312.913	46.090	697.656	4.729%	80.585%
35.0	289.769	45.562	743.218	4.674%	85.848%
37.5	249.061	41.564	784.782	4.264%	90.649%
40.0	184.177	32.454	817.236	3.330%	94.397%
42.5	112.707	20.874	838.11	2.142%	96.809%
45.0	53.563	10.383	848.493	1.065%	98.008%
47.5	12.869	2.601	851.094	.267%	98.308%
50.0	4.687	0.984	852.078	.101%	98.422%
52.5	3.820	0.831	852.909	.085%	98.518%
55.0	3.689	0.828	853.737	.085%	98.614%
57.5	3.586	0.829	854.566	.085%	98.709%
60.0	3.524	0.837	855.402	.086%	98.806%
62.5	3.489	0.848	856.251	.087%	98.904%
65.0	3.448	0.857	857.107	.088%	99.003%
67.5	3.441	0.871	857.979	.089%	99.104%
70.0	3.448	0.888	858.867	.091%	99.206%
72.5	3.462	0.905	859.772	.093%	99.311%
75.0	3.482	0.922	860.694	.095%	99.417%
77.5	3.517	0.941	861.636	.097%	99.526%
80.0	3.462	0.935	862.57	.096%	99.634%
82.5	3.407	0.926	863.496	.095%	99.741%
85.0	3.352	0.915	864.411	.094%	99.847%
87.5	3.248	0.890	865.301	.091%	99.949%
90.0	3.200	0.439	865.739	.045%	100.000%

Zonal flux distribution table

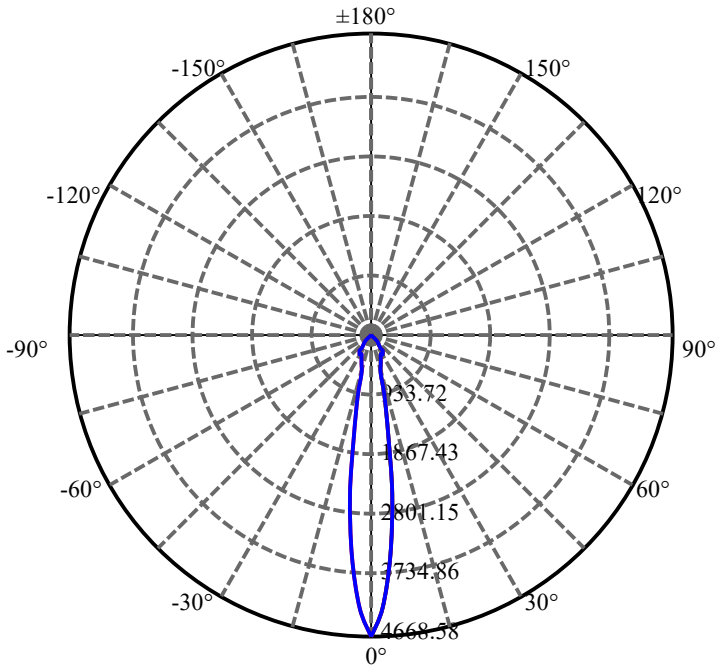
ZONAL LUMEN SUMMARY

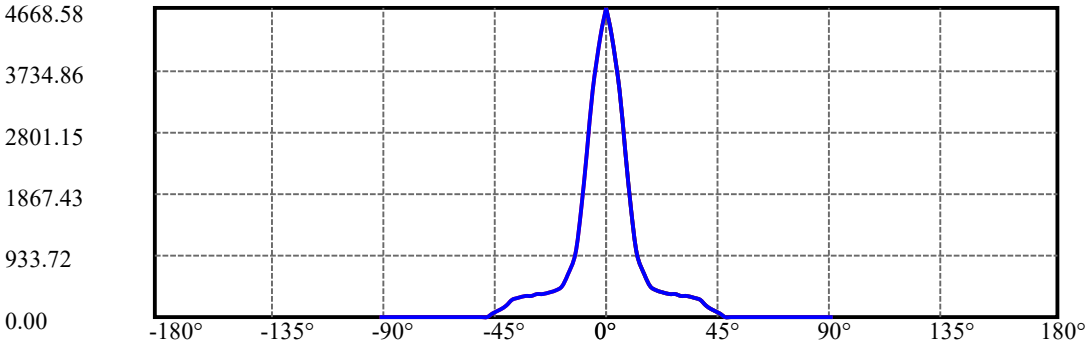
Zone	Lumens	%Lamp	%Fixt
0-30	651.57	66.85%	75.26%
0-40	817.24	83.84%	94.40%
0-60	855.40	87.76%	98.81%
0-90	865.30	88.78%	99.95%
0-120	865.30	88.78%	99.95%
0-180	865.74	88.82%	100.00%
60-90	10.73	1.10%	1.24%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-32.23	692.59	71.06%	80.00%

ZONAL LUMEN SUMMARY

0-10	305.13
10-20	178.21
20-30	168.22
30-40	165.67
40-50	34.84
50-60	3.32
60-70	3.46
70-80	3.70
80-90	2.73
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

Light Distribution Curve [Unit:cd]





C0(Max):

C0/C180:

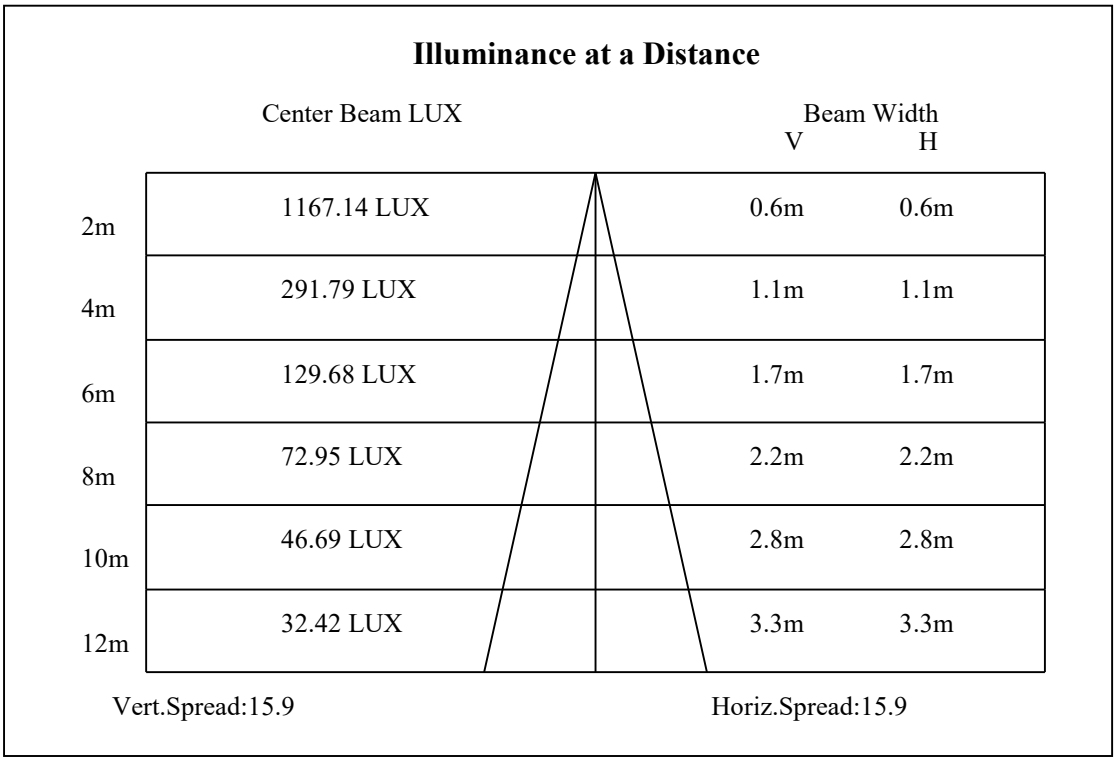
C90/C270:

Field angle(10%Imax):C0/180Left:17.6 Right:17.6
:C90/270Left:17.6 Right:17.6

Beam Angle(50%Imax):C0/180Left:7.9 Right:7.9
:C90/270Left:7.9 Right:7.9

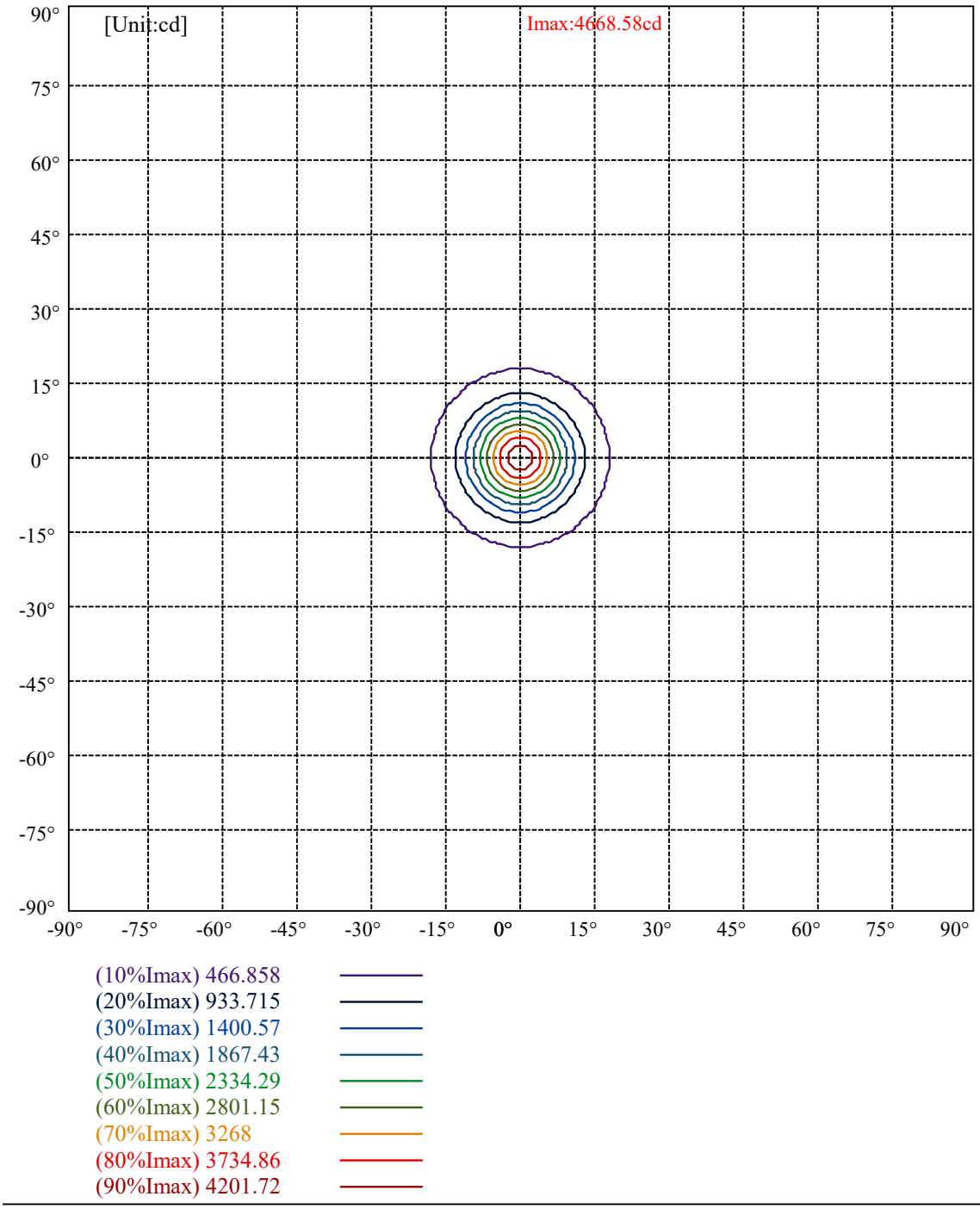
Equipment: GMS1980	Date: 2015-12-23	Operator: S
Temperature(°C): 25.0	Humidity(%): 60.0%	Distance(m): 7.42

Lux distance Curve



Equipment: GMS1980 Date: 2015-12-23 Operator: S
Temperature(°C): 25.0 Humidity(%): 60.0% Distance(m): 7.42

ISO-Intensity(V-H)



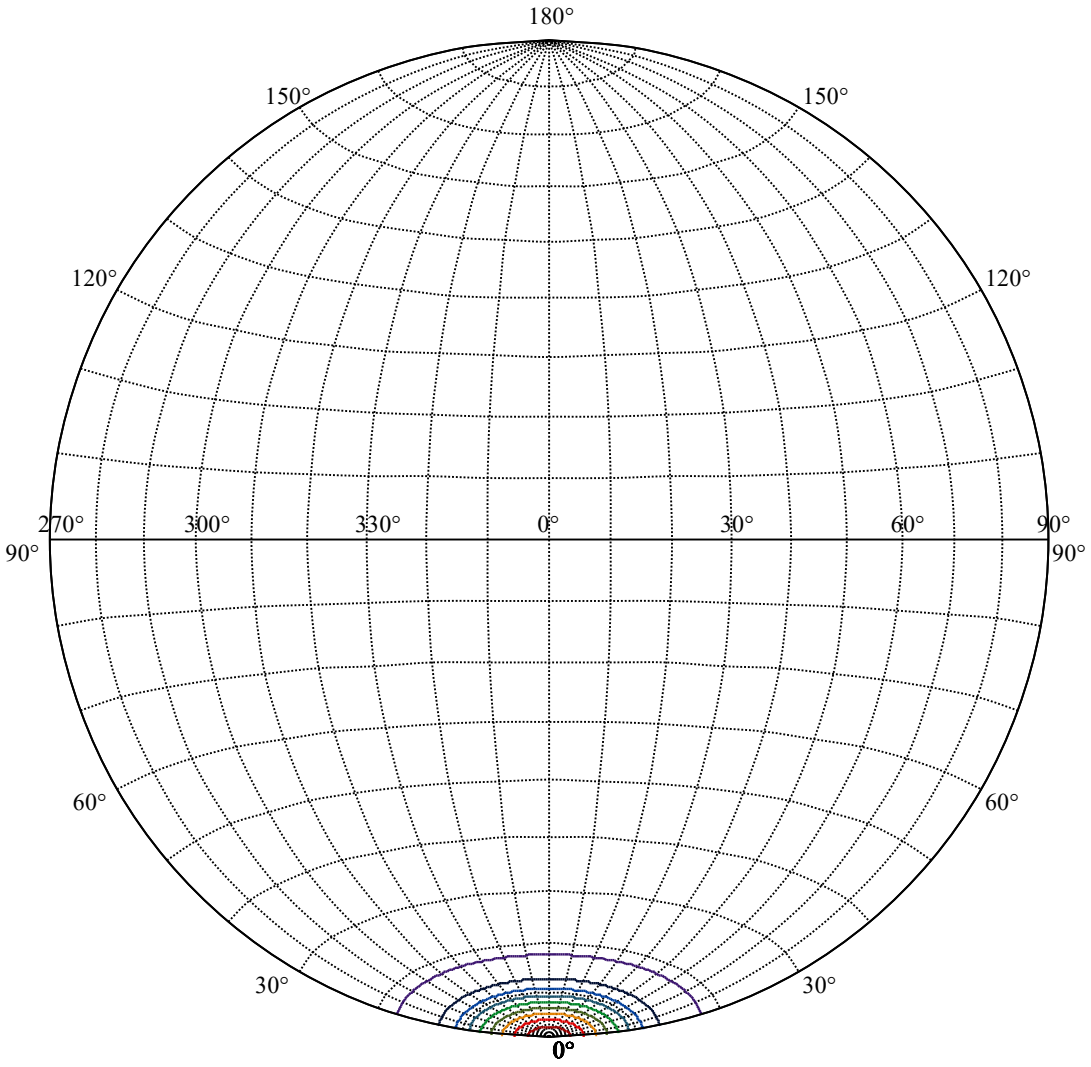
(10%Imax) 466.858
(20%Imax) 933.715
(30%Imax) 1400.57
(40%Imax) 1867.43
(50%Imax) 2334.29
(60%Imax) 2801.15
(70%Imax) 3268
(80%Imax) 3734.86
(90%Imax) 4201.72

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2015-12-23
Humidity(%): 60.0%

Operator: S
Distance(m): 7.42

ISO candela diagram on circular web



House [Unit:cd] Road

Imax:4668.58

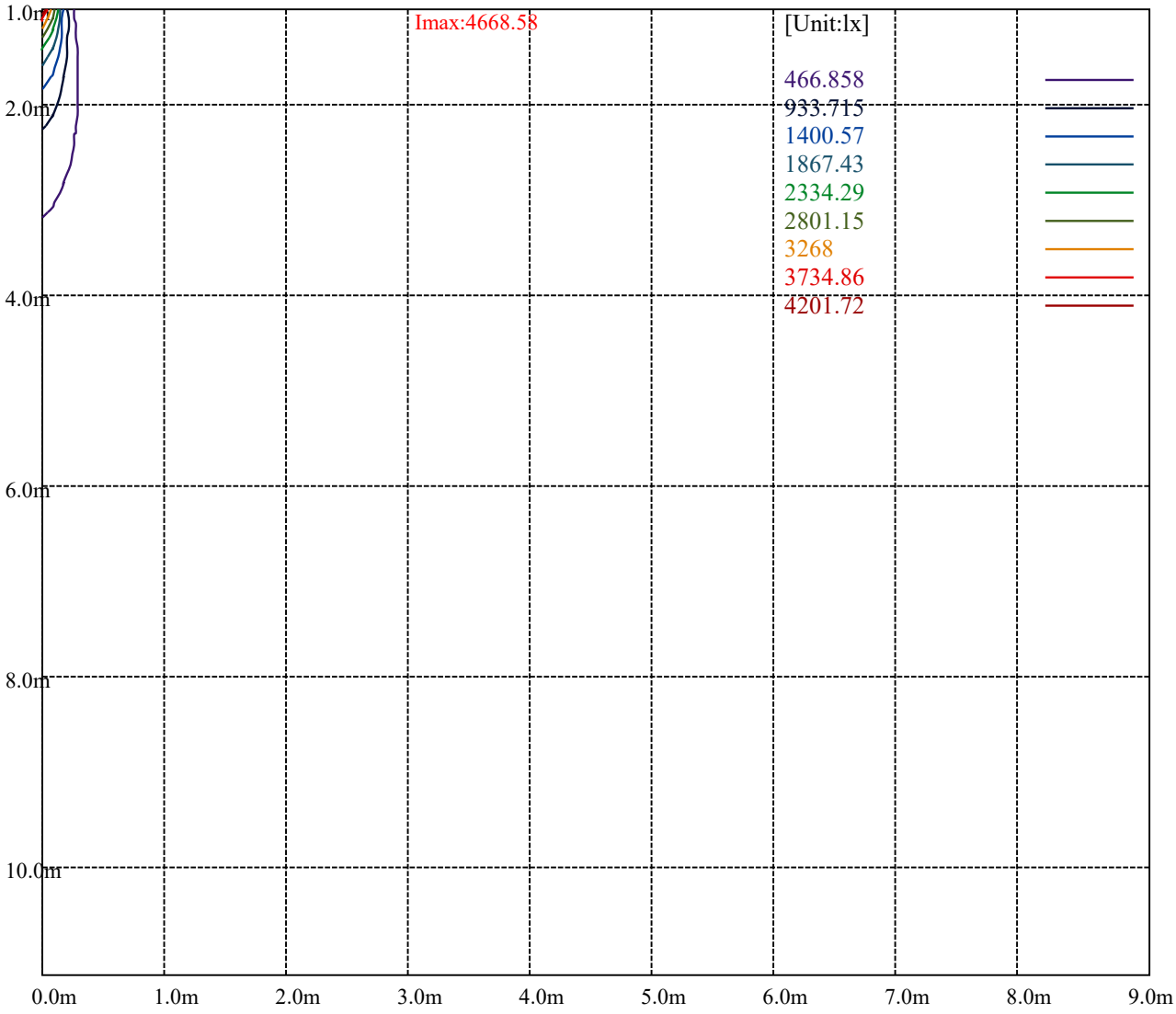
(10%Imax) 466.858
(20%Imax) 933.715
(30%Imax) 1400.57
(40%Imax) 1867.43
(50%Imax) 2334.29
(60%Imax) 2801.15
(70%Imax) 3268
(80%Imax) 3734.86
(90%Imax) 4201.72

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2015-12-23
Humidity(%): 60.0%

Operator: S
Distance(m): 7.42

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2015-12-23
Humidity(%): 60.0%

Operator: S
Distance(m): 7.42

Luminance Limitting Curve(no luminous side)

Luminance Table

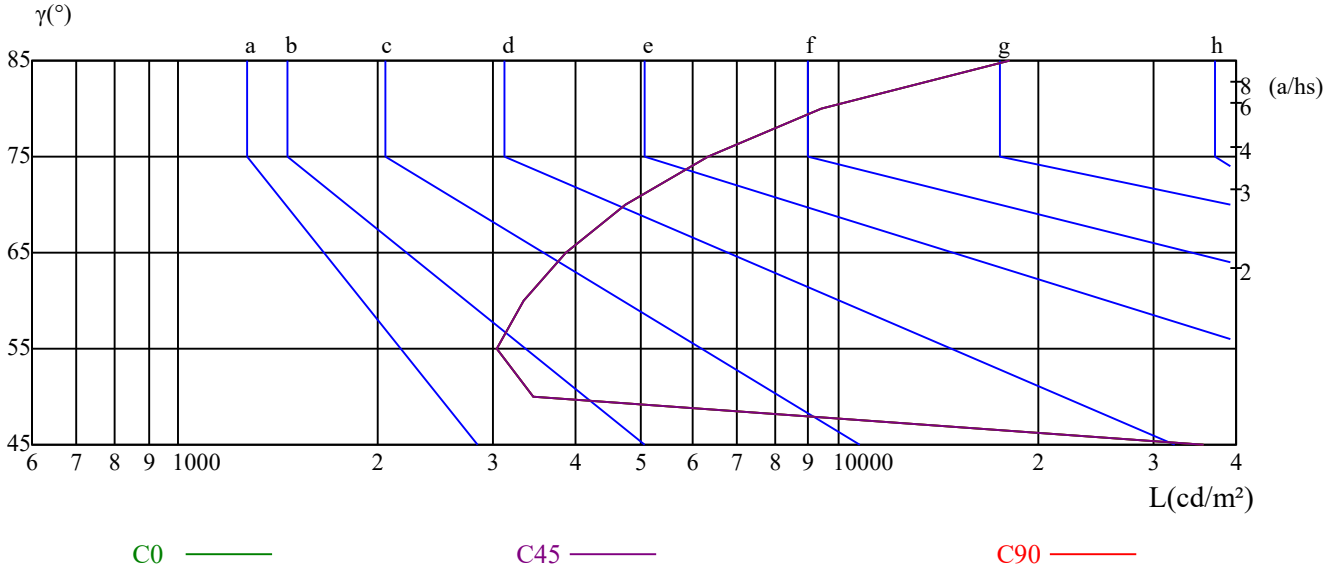
γ	45	50	55	60	65	70	75	80	85
C0	35798	3446	3039	3330	3856	4764	6359	9421	18173
C45	35798	3446	3039	3330	3856	4764	6359	9421	18173
C90	35798	3446	3039	3330	3856	4764	6359	9421	18173

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
3856	3856	3856	6359	6359	6359	18173	18173	18173

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 Limitting Curve

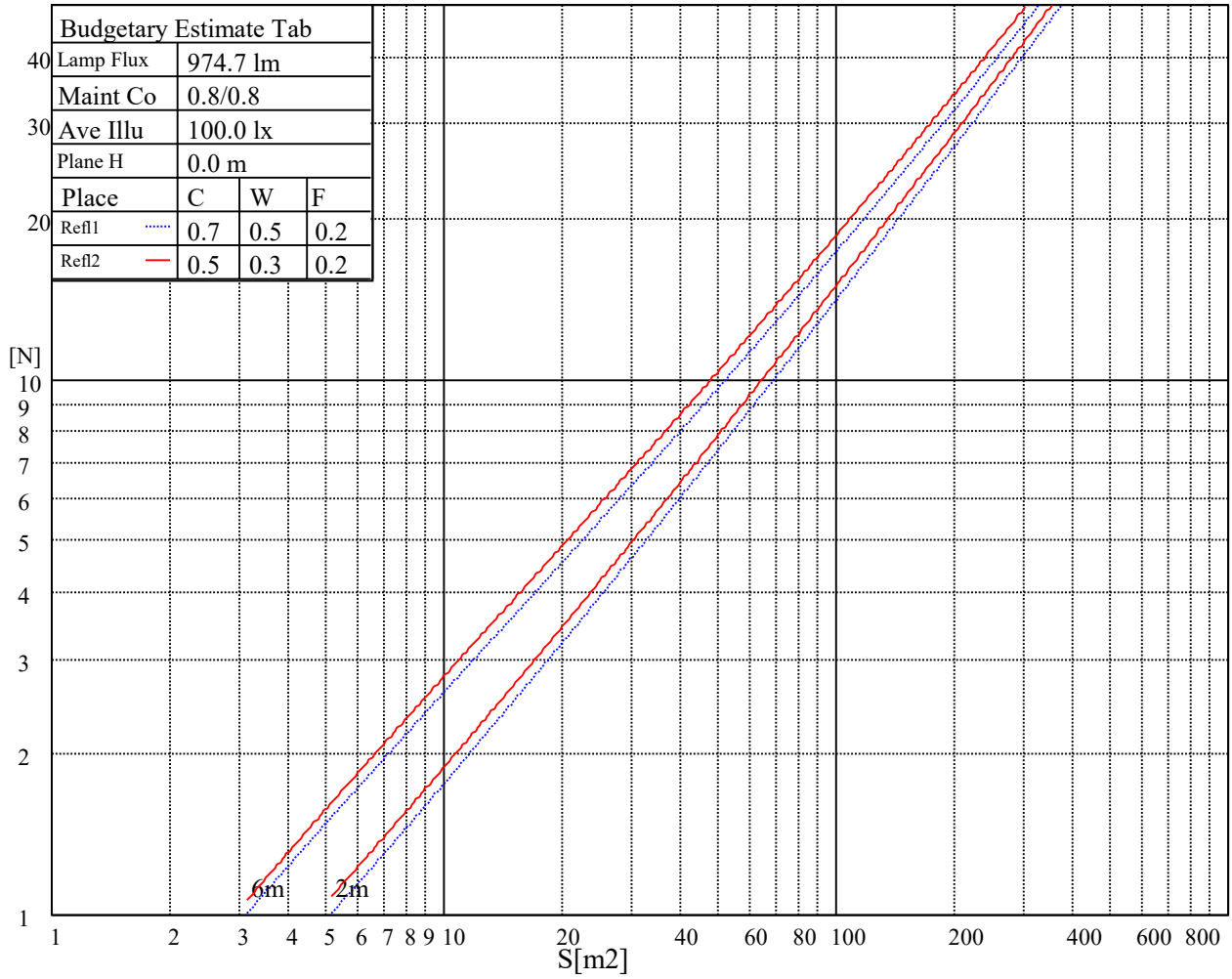


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2015-12-23
Humidity(%): 60.0%

Operator: S
Distance(m): 7.42

Budgetary Estimate Table

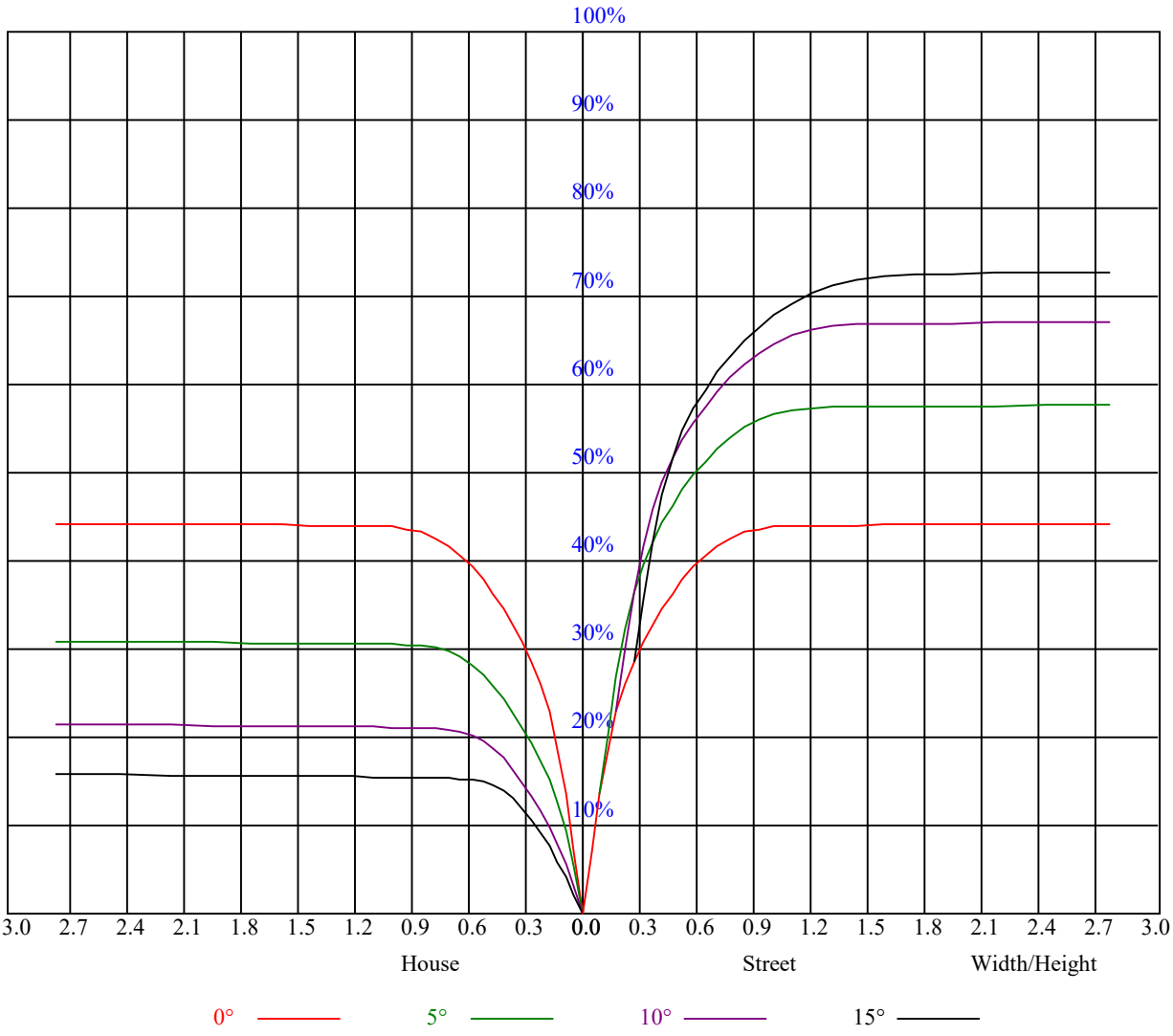


Equipment: GMS1980 Date: 2015-12-23 Operator: S
Temperature(°C): 25.0 Humidity(%): 60.0% Distance(m): 7.42

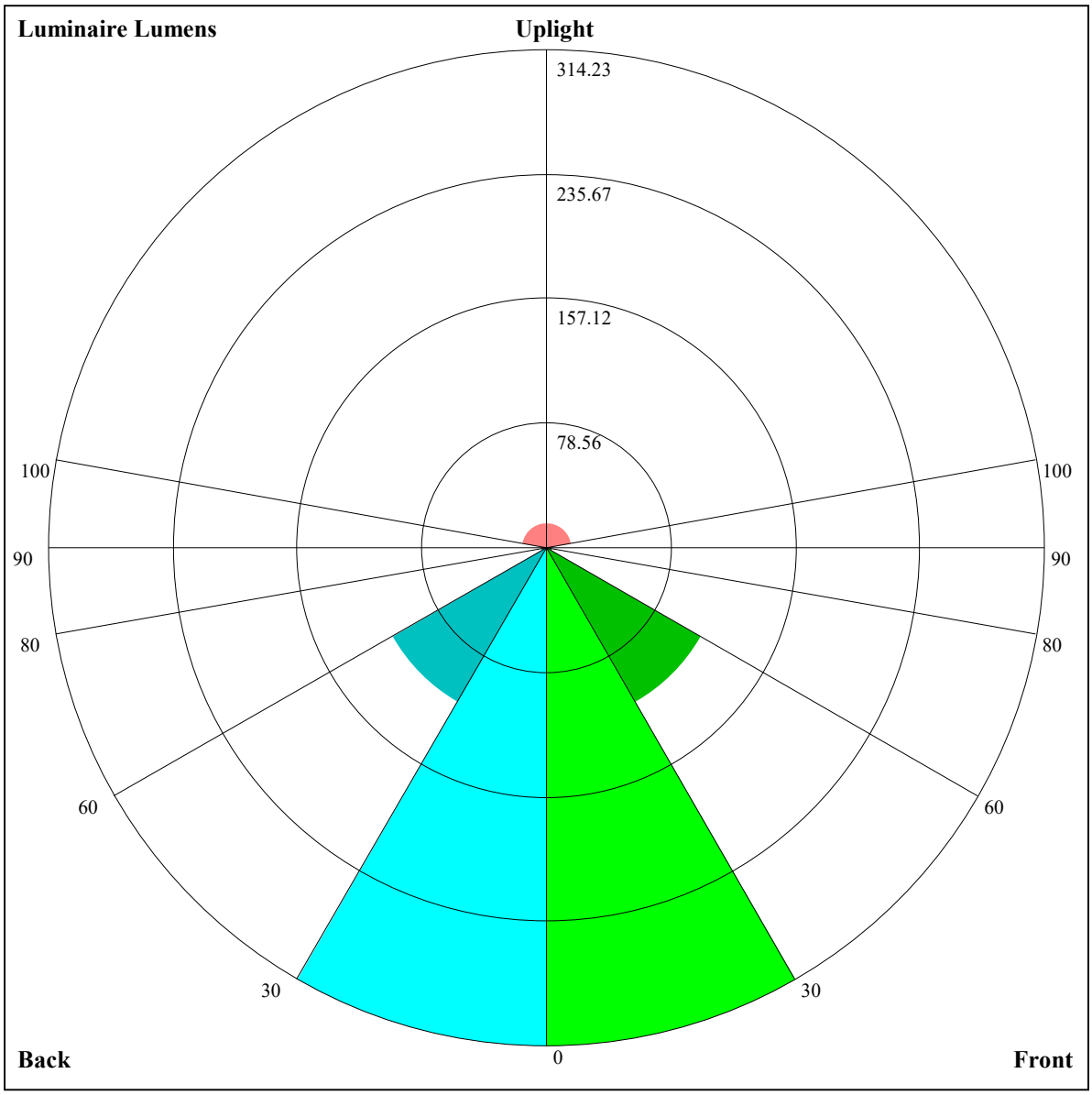
Utilization factor table for indoor luminaire

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	COEFFCIENTS OF UTILIZATION RHOFC=20 CU															
0	1.07	1.07	1.07	1.04	1.04	1.04	0.99	0.99	0.99	0.95	0.95	0.95	0.91	0.91	0.91	0.90
1	0.99	0.97	0.95	0.97	0.95	0.93	0.93	0.92	0.90	0.90	0.89	0.88	0.87	0.86	0.85	0.84
2	0.93	0.90	0.87	0.92	0.89	0.86	0.89	0.86	0.84	0.86	0.84	0.82	0.84	0.82	0.81	0.79
3	0.88	0.84	0.81	0.87	0.83	0.80	0.85	0.81	0.79	0.82	0.80	0.78	0.80	0.78	0.77	0.75
4	0.84	0.79	0.76	0.83	0.78	0.75	0.81	0.77	0.74	0.79	0.76	0.74	0.77	0.75	0.73	0.72
5	0.80	0.75	0.72	0.79	0.74	0.71	0.77	0.73	0.71	0.76	0.73	0.70	0.74	0.72	0.69	0.68
6	0.76	0.71	0.68	0.75	0.71	0.68	0.74	0.70	0.67	0.73	0.69	0.67	0.72	0.69	0.66	0.65
7	0.73	0.68	0.65	0.72	0.68	0.65	0.71	0.67	0.64	0.70	0.67	0.64	0.69	0.66	0.64	0.63
8	0.70	0.65	0.62	0.69	0.65	0.62	0.68	0.64	0.62	0.67	0.64	0.61	0.67	0.64	0.61	0.60
9	0.67	0.63	0.60	0.67	0.62	0.59	0.66	0.62	0.59	0.65	0.62	0.59	0.64	0.61	0.59	0.58
10	0.65	0.60	0.57	0.64	0.60	0.57	0.64	0.60	0.57	0.63	0.59	0.57	0.62	0.59	0.57	0.56

Coefficient Utilization Curve



Equipment: GMS1980	Date: 2015-12-23	Operator: S
Temperature(°C): 25.0	Humidity(%): 60.0%	Distance(m): 7.42



Luminaire Lumens:
FL=314.23,FM=113.19,FH=3.56,FVH=1.82
BL=314.23,BM=113.19,BH=3.56,BVH=1.82
UL=3.49,UH=16.62

BUG Rating:B1-U2-G0

Intensity data(cd)

C/γ(°)	0.0	2.5	5.0	7.5	10.0	12.5	15.0	17.5	20.0
0.0	4674.84	4214.02	3422.86	2539.48	1604.07	982.37	632.49	472.44	402.30
22.5	4601.06	4216.66	3424.23	2501.76	1609.85	974.28	631.88	472.88	403.45
45.0	4668.23	4224.48	3423.96	2488.44	1607.37	968.55	627.31	468.42	402.63
67.5	4647.86	4229.05	3430.56	2478.80	1611.23	955.45	620.32	465.78	400.98
90.0	4669.33	4226.68	3429.74	2447.26	1626.09	958.70	622.19	464.40	400.76
112.5	4700.72	4229.05	3430.56	2478.80	1611.23	955.45	620.32	465.78	400.98
135.0	4668.23	4224.48	3423.96	2488.44	1607.37	968.55	627.31	468.42	402.63
157.5	4718.33	4216.66	3424.23	2501.76	1609.85	974.28	631.88	472.88	403.45
180.0	4674.84	4214.02	3422.86	2539.48	1604.07	982.37	632.49	472.44	402.30
202.5	4601.06	4216.66	3424.23	2501.76	1609.85	974.28	631.88	472.88	403.45
225.0	4668.23	4224.48	3423.96	2488.44	1607.37	968.55	627.31	468.42	402.63
247.5	4647.86	4229.05	3430.56	2478.80	1611.23	955.45	620.32	465.78	400.98
270.0	4669.33	4226.68	3429.74	2447.26	1626.09	958.70	622.19	464.40	400.76
292.5	4700.72	4229.05	3430.56	2478.80	1611.23	955.45	620.32	465.78	400.98
315.0	4668.23	4224.48	3423.96	2488.44	1607.37	968.55	627.31	468.42	402.63
337.5	4718.33	4216.66	3424.23	2501.76	1609.85	974.28	631.88	472.88	403.45
360.0	4674.84	4214.02	3422.86	2539.48	1604.07	982.37	632.49	472.44	402.30

C/γ(°)	22.5	25.0	27.5	30.0	32.5	35.0	37.5	40.0	42.5
0.0	371.63	352.69	338.27	325.49	310.57	287.89	243.68	183.56	112.98
22.5	373.61	355.39	341.24	328.14	313.16	289.87	249.46	183.72	113.69
45.0	372.57	353.96	340.85	328.19	313.33	290.59	247.92	184.71	113.25
67.5	372.35	354.78	341.24	328.19	313.22	289.65	247.97	184.49	112.26
90.0	372.24	354.51	341.18	328.19	313.33	290.04	258.10	184.00	110.28
112.5	372.35	354.78	341.24	328.19	313.22	289.65	247.97	184.49	112.26
135.0	372.57	353.96	340.85	328.19	313.33	290.59	247.92	184.71	113.25
157.5	373.61	355.39	341.24	328.14	313.16	289.87	249.46	183.72	113.69
180.0	371.63	352.69	338.27	325.49	310.57	287.89	243.68	183.56	112.98
202.5	373.61	355.39	341.24	328.14	313.16	289.87	249.46	183.72	113.69
225.0	372.57	353.96	340.85	328.19	313.33	290.59	247.92	184.71	113.25
247.5	372.35	354.78	341.24	328.19	313.22	289.65	247.97	184.49	112.26
270.0	372.24	354.51	341.18	328.19	313.33	290.04	258.10	184.00	110.28
292.5	372.35	354.78	341.24	328.19	313.22	289.65	247.97	184.49	112.26
315.0	372.57	353.96	340.85	328.19	313.33	290.59	247.92	184.71	113.25
337.5	373.61	355.39	341.24	328.14	313.16	289.87	249.46	183.72	113.69
360.0	371.63	352.69	338.27	325.49	310.57	287.89	243.68	183.56	112.98

C/γ(°)	45.0	47.5	50.0	52.5	55.0	57.5	60.0	62.5	65.0
0.0	54.89	14.42	4.84	3.85	3.74	3.63	3.52	3.47	3.41
22.5	55.00	13.49	4.73	3.85	3.74	3.58	3.52	3.47	3.41
45.0	54.29	12.94	4.62	3.80	3.69	3.58	3.52	3.52	3.47
67.5	51.59	11.78	4.73	3.80	3.63	3.58	3.52	3.47	3.47
90.0	51.86	12.11	4.46	3.80	3.63	3.58	3.52	3.52	3.47
112.5	51.59	11.78	4.73	3.80	3.63	3.58	3.52	3.47	3.47
135.0	54.29	12.94	4.62	3.80	3.69	3.58	3.52	3.52	3.47
157.5	55.00	13.49	4.73	3.85	3.74	3.58	3.52	3.47	3.41
180.0	54.89	14.42	4.84	3.85	3.74	3.63	3.52	3.47	3.41
202.5	55.00	13.49	4.73	3.85	3.74	3.58	3.52	3.47	3.41
225.0	54.29	12.94	4.62	3.80	3.69	3.58	3.52	3.52	3.47
247.5	51.59	11.78	4.73	3.80	3.63	3.58	3.52	3.47	3.47
270.0	51.86	12.11	4.46	3.80	3.63	3.58	3.52	3.52	3.47
292.5	51.59	11.78	4.73	3.80	3.63	3.58	3.52	3.47	3.47
315.0	54.29	12.94	4.62	3.80	3.69	3.58	3.52	3.52	3.47
337.5	55.00	13.49	4.73	3.85	3.74	3.58	3.52	3.47	3.41
360.0	54.89	14.42	4.84	3.85	3.74	3.63	3.52	3.47	3.41

Intensity data(cd)

C/γ(°)	67.5	70.0	72.5	75.0	77.5	80.0	82.5	85.0	87.5
0.0	3.36	3.41	3.41	3.41	3.58	3.41	3.36	3.30	3.25
22.5	3.41	3.41	3.47	3.52	3.58	3.47	3.41	3.30	3.25
45.0	3.47	3.47	3.47	3.47	3.47	3.41	3.36	3.30	3.25
67.5	3.47	3.47	3.47	3.52	3.52	3.52	3.47	3.41	3.25
90.0	3.47	3.47	3.47	3.41	3.41	3.47	3.41	3.47	3.25
112.5	3.47	3.47	3.47	3.52	3.52	3.52	3.47	3.41	3.25
135.0	3.47	3.47	3.47	3.47	3.47	3.41	3.36	3.30	3.25
157.5	3.41	3.41	3.47	3.52	3.58	3.47	3.41	3.30	3.25
180.0	3.36	3.41	3.41	3.41	3.58	3.41	3.36	3.30	3.25
202.5	3.41	3.41	3.47	3.52	3.58	3.47	3.41	3.30	3.25
225.0	3.47	3.47	3.47	3.47	3.47	3.41	3.36	3.30	3.25
247.5	3.47	3.47	3.47	3.52	3.52	3.52	3.47	3.41	3.25
270.0	3.47	3.47	3.47	3.41	3.41	3.47	3.41	3.47	3.25
292.5	3.47	3.47	3.47	3.52	3.52	3.52	3.47	3.41	3.25
315.0	3.47	3.47	3.47	3.47	3.47	3.41	3.36	3.30	3.25
337.5	3.41	3.41	3.47	3.52	3.58	3.47	3.41	3.30	3.25
360.0	3.36	3.41	3.41	3.41	3.58	3.41	3.36	3.30	3.25

C/γ(°)	90.0
0.0	3.25
22.5	3.19
45.0	3.19
67.5	3.19
90.0	3.19
112.5	3.19
135.0	3.19
157.5	3.19
180.0	3.25
202.5	3.19
225.0	3.19
247.5	3.19
270.0	3.19
292.5	3.19
315.0	3.19
337.5	3.19
360.0	3.25