NATA LIGHTING CO.,LTD.
www.nata.cn
Email:info@nata.com
Tel:+86-750-3770000 Fax:+86-750-3771111
Address:380JinOu Road,GaoXin Zone,Jiang Men City,Guangdong,China

Nata

LumCAT: LN01D03524EE-N
Luminaire: 92.70.307.00
Report No: 210519-B009
Test No: 210519-C009
LampCAT: CITIZEN CLU7B2 LES3.3
Lamp flux(lm): 399.2
Number of Lamps: 1
Length(mm): 74
Phm Type: C

Voltage(V): 221.3000
Current(A): 0.0530
Power (W): 5.4000
PF: 0.4600
Ballast type: DC
Width(mm): 74
Height(mm): 56

Photometric Results

Lumens(lm): 276.53
Efficiency(%): 69.27%
Lumens(lm)/Power(W): 51.21
Central intensity(cd): 1054.153
Maximum intensity(cd): 1054.153
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=23.7
[C90/270]Total=23.7
Field angle(10%Imax): [C0/180]Total=47.1
[C90/270]Total=47.1
Maximum s/h(1/2): C0_180=0.40 C90_270=0.40
Maximum s/h(1/4): C0_180=0.41 C90_270=0.41
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 69.27%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 93.670%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1054.153	0.000	0	.000%	.000%
1.0	1050.645	1.007	1.007	.252%	.364%
2.0	1035.886	2.995	4.002	.750%	1.447%
3.0	1011.755	4.897	8.899	1.227%	3.218%
4.0	980.852	6.670	15.569	1.671%	5.630%
5.0	940.085	8.264	23.833	2.070%	8.619%
6.0	887.484	9.604	33.437	2.406%	12.092%
7.0	835.024	10.692	44.129	2.678%	15.958%
8.0	776.222	11.531	55.66	2.889%	20.128%
9.0	710.255	12.047	67.707	3.018%	24.485%
10.0	644.977	12.264	79.972	3.072%	28.920%
11.0	580.388	12.244	92.216	3.067%	33.348%
12.0	518.400	12.011	104.227	3.009%	37.691%
13.0	454.683	11.548	115.775	2.893%	41.867%
14.0	399.354	10.932	126.706	2.738%	45.820%
15.0	348.884	10.272	136.979	2.573%	49.535%
16.0	304.066	9.568	146.546	2.397%	52.995%
17.0	259.530	8.777	155.323	2.199%	56.169%
18.0	225.042	7.990	163.312	2.001%	59.058%
19.0	196.249	7.330	170.642	1.836%	61.709%
20.0	169.629	6.697	177.339	1.678%	64.130%
21.0	146.580	6.072	183.41	1.521%	66.326%
22.0	128.651	5.531	188.941	1.385%	68.326%
23.0	113.400	5.079	194.02	1.272%	70.163%
24.0	98.796	4.639	198.66	1.162%	71.841%
25.0	88.235	4.253	202.912	1.065%	73.378%
26.0	78.349	3.932	206.845	.985%	74.800%
27.0	69.806	3.625	210.469	.908%	76.111%
28.0	61.924	3.335	213.804	.835%	77.317%
29.0	55.695	3.077	216.882	.771%	78.430%
30.0	50.309	2.862	219.744	.717%	79.465%
31.0	45.366	2.662	222.406	.667%	80.428%
32.0	41.147	2.478	224.885	.621%	81.324%
33.0	37.582	2.319	227.204	.581%	82.163%
34.0	34.313	2.176	229.38	.545%	82.950%
35.0	31.282	2.037	231.417	.510%	83.686%
36.0	28.666	1.909	233.326	.478%	84.377%
37.0	26.367	1.795	235.12	.450%	85.026%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	24.441	1.696	236.816	.425%	85.639%
39.0	22.373	1.598	238.414	.400%	86.217%
40.0	20.728	1.503	239.918	.377%	86.760%
41.0	19.350	1.427	241.345	.358%	87.277%
42.0	17.902	1.353	242.698	.339%	87.766%
43.0	16.636	1.279	243.977	.320%	88.229%
44.0	15.595	1.216	245.194	.305%	88.669%
45.0	14.597	1.160	246.354	.291%	89.088%
46.0	13.605	1.103	247.457	.276%	89.487%
47.0	12.860	1.053	248.51	.264%	89.868%
48.0	12.101	1.009	249.519	.253%	90.233%
49.0	11.384	0.964	250.483	.242%	90.581%
50.0	10.758	0.923	251.406	.231%	90.915%
51.0	10.202	0.887	252.293	.222%	91.236%
52.0	9.675	0.853	253.146	.214%	91.544%
53.0	9.211	0.822	253.968	.206%	91.841%
54.0	8.803	0.794	254.762	.199%	92.129%
55.0	8.430	0.769	255.531	.193%	92.407%
56.0	8.058	0.745	256.276	.187%	92.676%
57.0	7.706	0.721	256.997	.181%	92.937%
58.0	7.376	0.697	257.694	.175%	93.189%
59.0	7.073	0.676	258.37	.169%	93.433%
60.0	6.771	0.654	259.024	.164%	93.670%
61.0	6.483	0.633	259.656	.158%	93.899%
62.0	6.272	0.615	260.271	.154%	94.121%
63.0	6.033	0.598	260.869	.150%	94.337%
64.0	5.787	0.580	261.449	.145%	94.547%
65.0	5.590	0.563	262.012	.141%	94.751%
66.0	5.421	0.549	262.562	.138%	94.949%
67.0	5.344	0.541	263.103	.136%	95.145%
68.0	5.611	0.555	263.658	.139%	95.346%
69.0	5.970	0.591	264.249	.148%	95.559%
70.0	6.420	0.636	264.885	.159%	95.789%
71.0	6.975	0.692	265.577	.173%	96.040%
72.0	7.819	0.769	266.347	.193%	96.318%
73.0	8.515	0.854	267.201	.214%	96.627%
74.0	8.838	0.912	268.113	.229%	96.957%
75.0	8.923	0.938	269.051	.235%	97.296%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	8.775	0.939	269.991	.235%	97.636%
77.0	8.374	0.914	270.905	.229%	97.966%
78.0	7.748	0.863	271.768	.216%	98.279%
79.0	7.031	0.794	272.562	.199%	98.566%
80.0	6.455	0.727	273.289	.182%	98.829%
81.0	5.730	0.659	273.948	.165%	99.067%
82.0	4.380	0.548	274.497	.137%	99.265%
83.0	3.846	0.447	274.944	.112%	99.427%
84.0	3.234	0.386	275.33	.097%	99.566%
85.0	2.166	0.295	275.624	.074%	99.673%
86.0	1.898	0.222	275.846	.056%	99.753%
87.0	1.673	0.195	276.042	.049%	99.824%
88.0	1.519	0.175	276.217	.044%	99.887%
89.0	1.427	0.161	276.378	.040%	99.946%
90.0	1.315	0.150	276.529	.038%	100.000%

Zonal flux distribution table

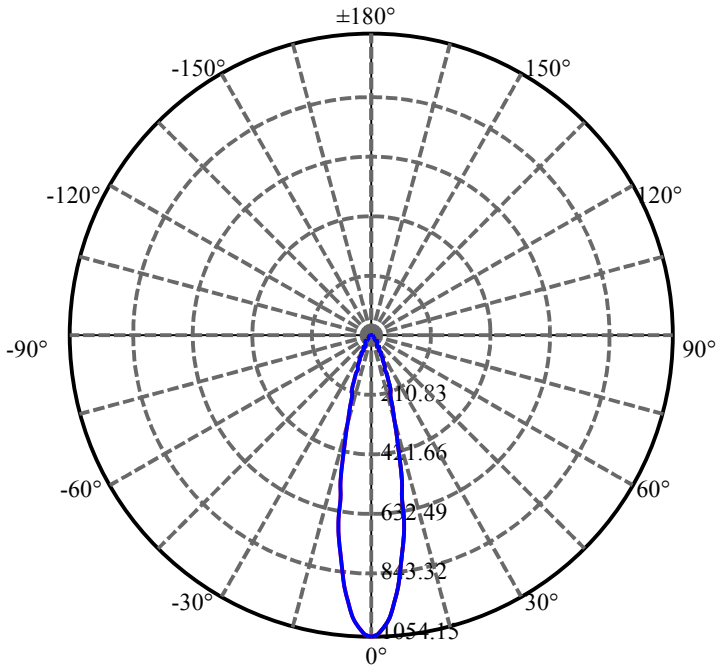
ZONAL LUMEN SUMMARY

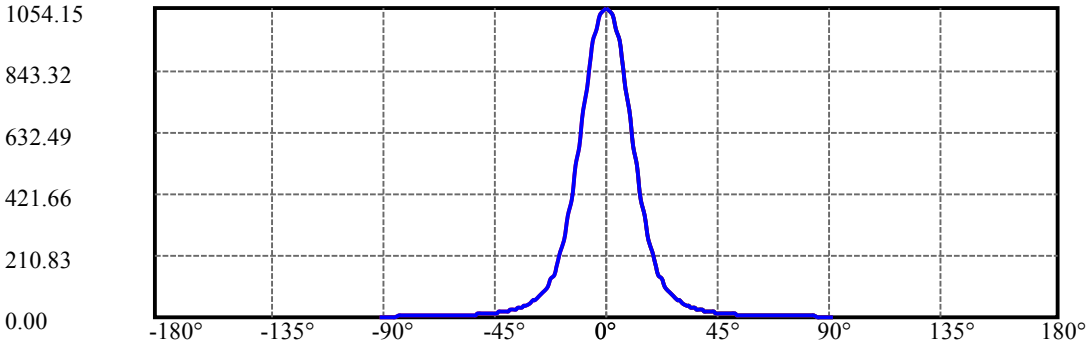
Zone	Lumens	%Lamp	%Fixt
0-30	219.74	55.05%	79.47%
0-40	239.92	60.10%	86.76%
0-60	259.02	64.89%	93.67%
0-90	276.38	69.23%	99.95%
0-120	276.38	69.23%	99.95%
0-180	276.53	69.27%	100.00%
60-90	18.01	4.51%	6.51%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-30.56	221.22	55.42%	80.00%

ZONAL LUMEN SUMMARY

0-10	79.97
10-20	97.37
20-30	42.41
30-40	20.17
40-50	11.49
50-60	7.62
60-70	5.86
70-80	8.40
80-90	3.09
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):

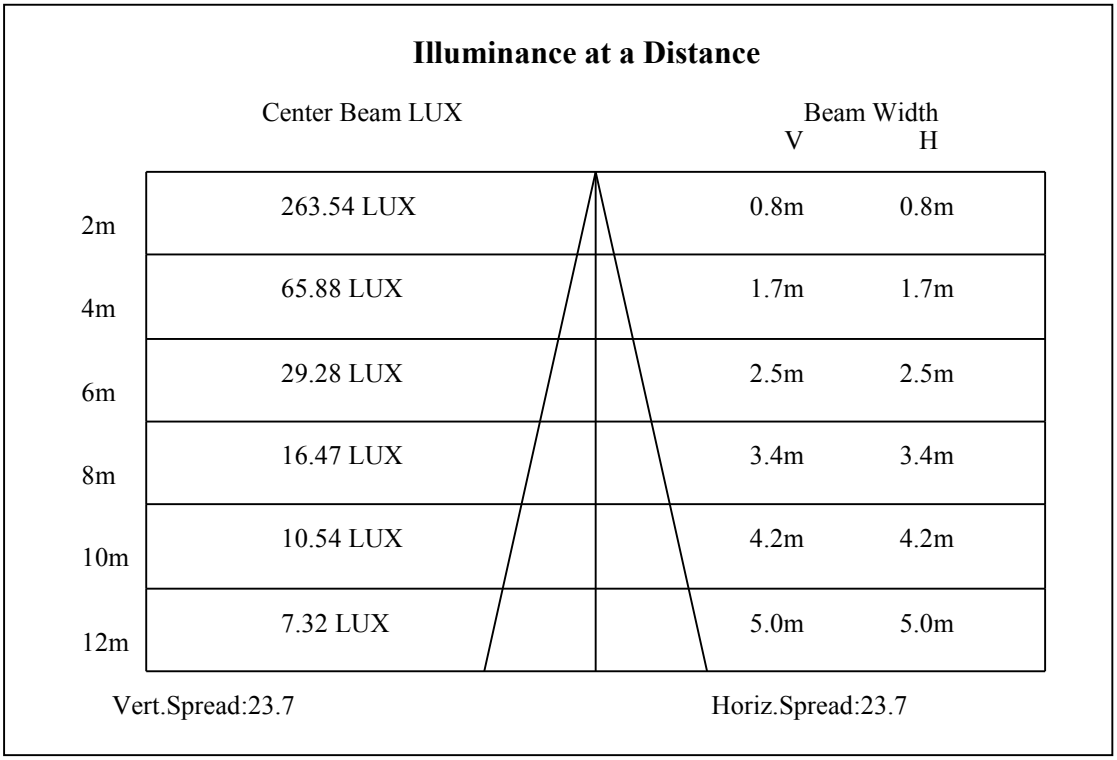
C0/C180:

C90/C270:

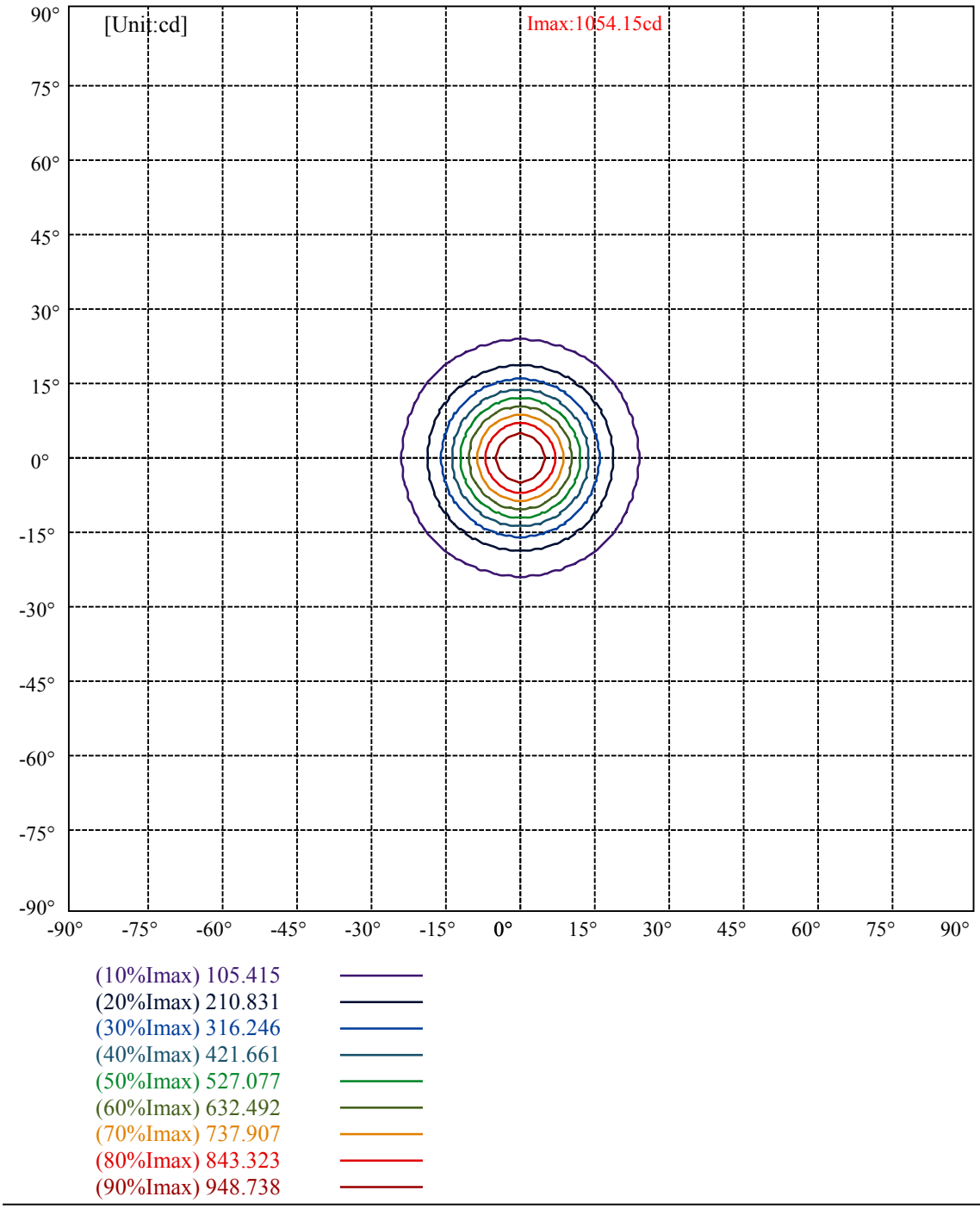
Field angle(10%Imax):C0/180Left:23.5 Right:23.5
:C90/270Left:23.5 Right:23.5

Beam Angle(50%Imax):C0/180Left:11.9 Right:11.9
:C90/270Left:11.9 Right:11.9

Lux distance Curve



ISO-Intensity(V-H)



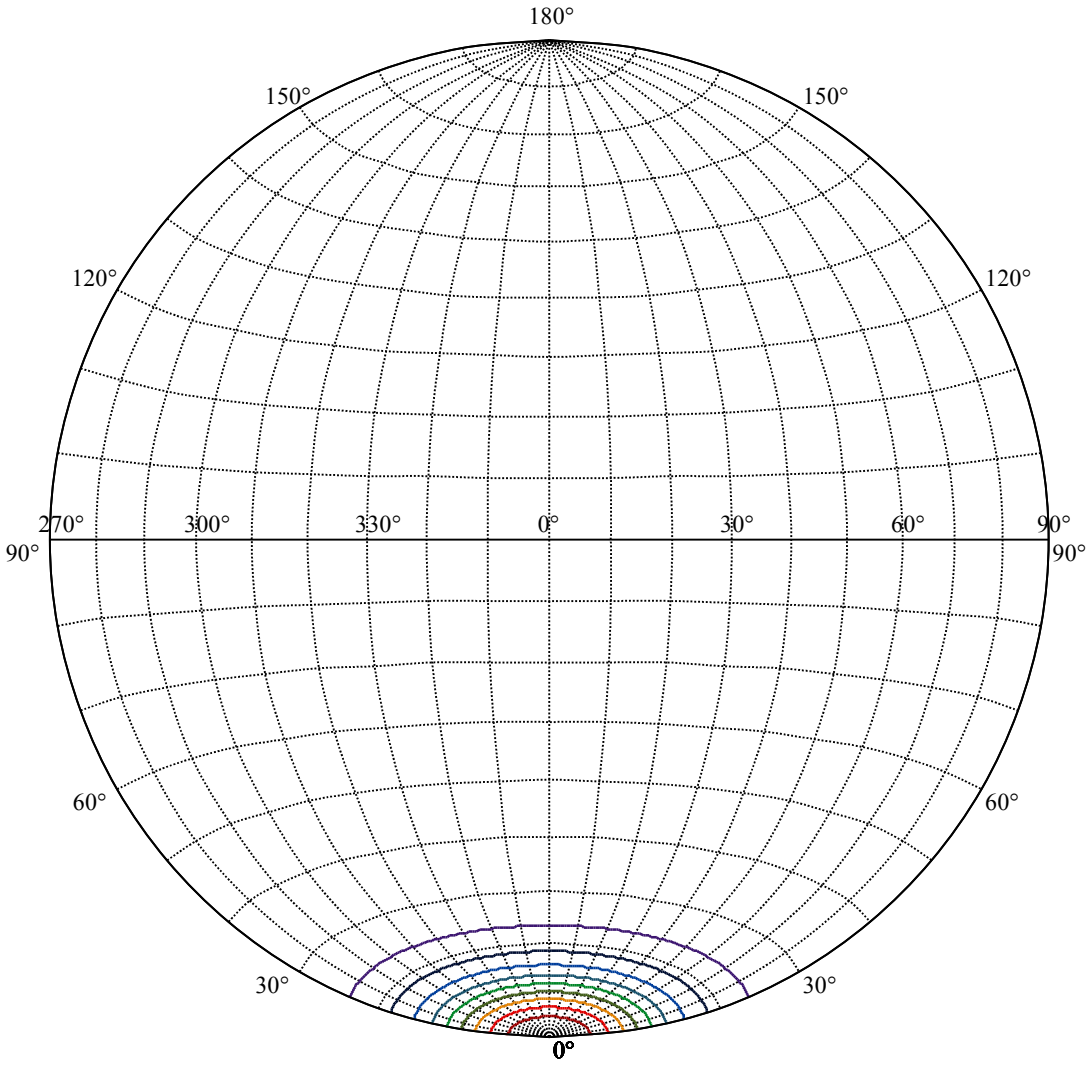
(10%Imax) 105.415
(20%Imax) 210.831
(30%Imax) 316.246
(40%Imax) 421.661
(50%Imax) 527.077
(60%Imax) 632.492
(70%Imax) 737.907
(80%Imax) 843.323
(90%Imax) 948.738

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/05/19
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web



House [Unit:cd] Road

Imax:1054.15

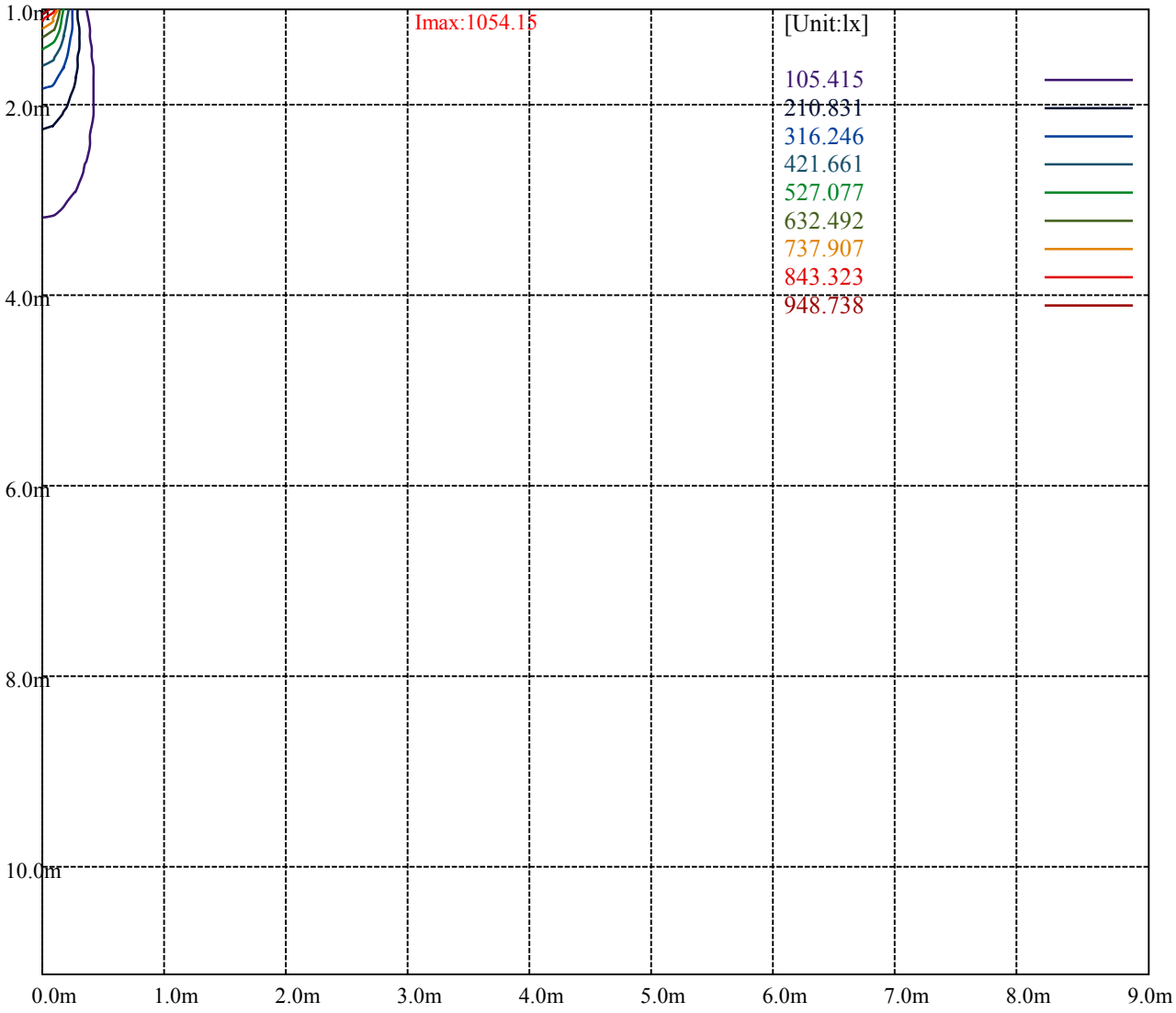
(10%Imax) 105.415
(20%Imax) 210.831
(30%Imax) 316.246
(40%Imax) 421.661
(50%Imax) 527.077
(60%Imax) 632.492
(70%Imax) 737.907
(80%Imax) 843.323
(90%Imax) 948.738

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/05/19
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/05/19
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Nata LN01D03524EE-N

Luminance Limitting Curve(no luminous side)

Luminance Table

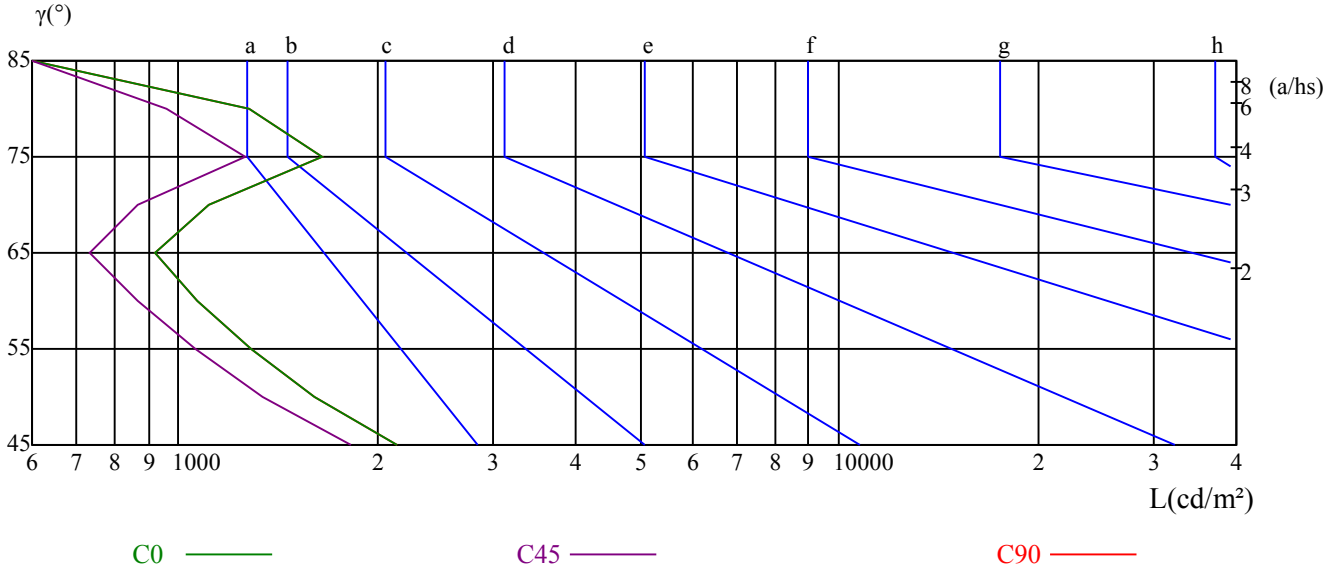
γ	45	50	55	60	65	70	75	80	85
C0	2146	1607	1290	1070	921	1113	1646	1283	470
C45	1821	1343	1062	867	733	870	1261	960	343
C90	2146	1607	1290	1070	921	1113	1646	1283	470

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
2415	2415	2415	6296	6296	6296	4538	4538	4538

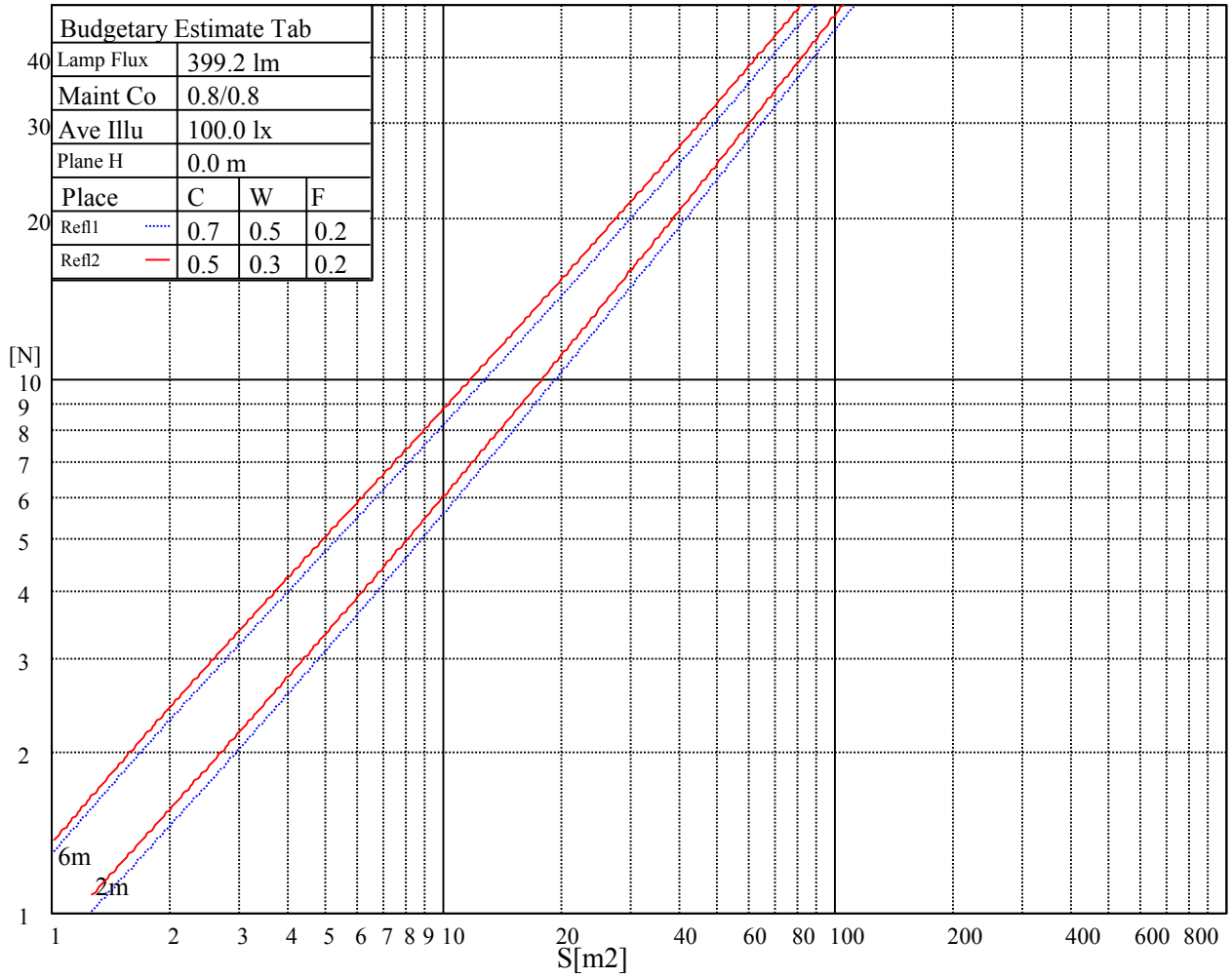
Glare Table

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



Budgetary Estimate Table

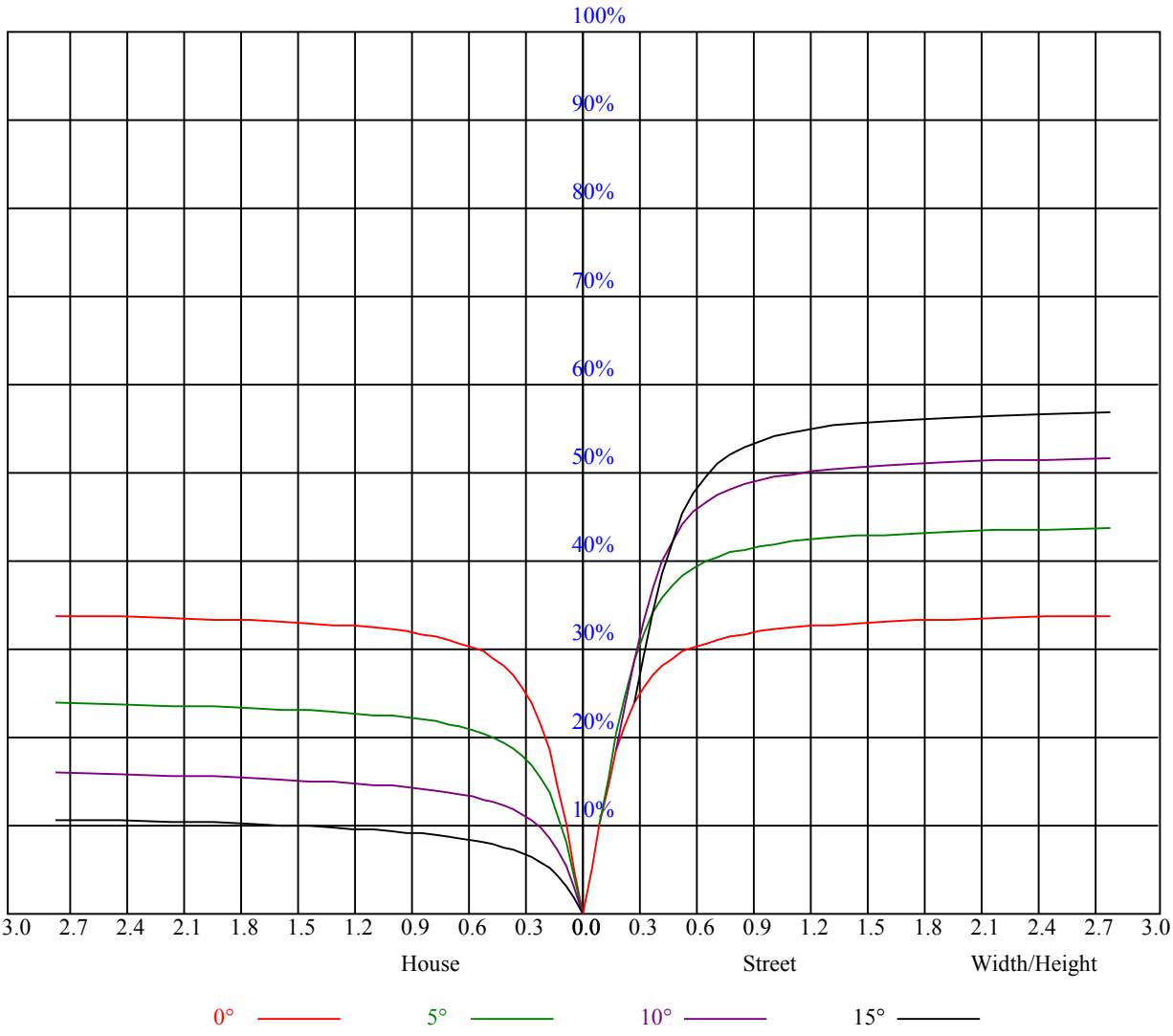


Equipment: GMS1980 Date: 2021/05/19 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

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	0.82	0.82	0.82	0.81	0.81	0.81	0.77	0.77	0.77	0.74	0.74	0.74	0.71	0.71	0.71	0.69
1	0.76	0.75	0.73	0.75	0.73	0.72	0.72	0.71	0.70	0.69	0.68	0.67	0.67	0.66	0.66	0.64
2	0.71	0.69	0.66	0.70	0.68	0.66	0.68	0.66	0.64	0.66	0.64	0.63	0.64	0.63	0.61	0.60
3	0.67	0.64	0.61	0.66	0.63	0.61	0.65	0.62	0.60	0.63	0.61	0.59	0.61	0.60	0.58	0.57
4	0.64	0.60	0.58	0.63	0.60	0.57	0.62	0.59	0.57	0.60	0.58	0.56	0.59	0.57	0.55	0.54
5	0.61	0.57	0.54	0.60	0.57	0.54	0.59	0.56	0.54	0.58	0.55	0.53	0.57	0.55	0.53	0.52
6	0.58	0.54	0.52	0.58	0.54	0.52	0.57	0.54	0.51	0.56	0.53	0.51	0.55	0.52	0.51	0.50
7	0.56	0.52	0.50	0.55	0.52	0.49	0.54	0.51	0.49	0.54	0.51	0.49	0.53	0.51	0.49	0.48
8	0.54	0.50	0.48	0.53	0.50	0.48	0.53	0.50	0.47	0.52	0.49	0.47	0.51	0.49	0.47	0.46
9	0.52	0.48	0.46	0.51	0.48	0.46	0.51	0.48	0.46	0.50	0.47	0.46	0.50	0.47	0.45	0.45
10	0.50	0.47	0.44	0.50	0.46	0.44	0.49	0.46	0.44	0.49	0.46	0.44	0.48	0.46	0.44	0.43

Coefficient Utilization Curve



Equipment: GMS1980	Date: 2021/05/19	Operator: NT07
Temperature(°C): 25.0	Humidity(%): 65.0%	Distance(m): 7.50

Intensity data(cd)

C/γ(°)	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0
0.0	1059.47	1058.91	1044.62	1024.09	993.26	950.91	898.65	844.14	785.19
45.0	1055.25	1037.19	1007.16	970.88	928.07	864.96	805.44	744.69	673.09
90.0	1046.03	1031.46	1006.54	959.01	921.04	871.31	793.01	739.07	675.56
135.0	1055.87	1049.34	1032.53	1005.75	974.25	935.61	876.43	822.71	766.01
180.0	1059.47	1053.23	1033.71	1010.19	979.14	936.96	886.89	835.09	771.36
225.0	1055.25	1062.51	1060.31	1048.73	1029.09	999.06	965.25	921.32	869.12
270.0	1046.03	1058.06	1058.18	1050.47	1029.54	1003.44	966.26	920.98	873.28
315.0	1055.87	1054.46	1044.06	1024.93	992.42	958.44	907.93	852.19	796.16
360.0	1059.47	1058.91	1044.62	1024.09	993.26	950.91	898.65	844.14	785.19

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	707.57	644.51	572.96	512.04	446.01	392.06	336.71	292.73	244.58
45.0	601.26	545.91	469.86	413.89	362.14	305.61	266.06	231.69	194.85
90.0	603.17	533.31	474.64	412.76	356.34	311.63	267.41	232.88	199.35
135.0	689.51	626.91	564.36	495.84	432.00	380.48	328.16	286.43	245.48
180.0	712.74	644.74	576.84	518.46	454.89	396.39	348.53	304.93	256.73
225.0	817.26	754.99	696.94	630.00	570.49	505.80	445.33	394.14	341.55
270.0	814.89	751.39	691.76	631.01	555.64	497.36	442.01	384.02	331.54
315.0	735.64	658.07	595.74	533.19	459.96	405.51	356.85	305.72	262.18
360.0	707.57	644.51	572.96	512.04	446.01	392.06	336.71	292.73	244.58

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	212.57	185.63	159.81	138.04	122.06	108.62	94.50	87.24	75.54
45.0	169.54	151.26	126.62	111.77	99.06	85.67	76.28	68.68	61.43
90.0	171.23	150.13	132.08	113.34	100.80	90.00	78.41	70.59	63.68
135.0	209.76	183.26	157.95	136.18	120.04	106.14	90.90	81.68	73.46
180.0	223.65	194.91	167.40	144.79	127.69	112.05	98.33	89.61	78.08
225.0	294.92	258.30	225.79	191.08	167.51	146.98	127.24	110.81	98.61
270.0	290.36	250.14	215.83	189.39	163.74	144.34	125.78	110.31	97.99
315.0	228.32	196.37	171.56	148.05	128.31	113.40	98.94	86.96	78.02
360.0	212.57	185.63	159.81	138.04	122.06	108.62	94.50	87.24	75.54

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	66.77	59.23	53.78	48.49	43.88	40.28	36.62	33.81	30.94
45.0	54.84	50.01	44.72	40.78	36.90	33.53	30.88	28.46	25.88
90.0	57.60	51.08	46.41	42.30	38.31	34.76	32.01	29.19	26.61
135.0	65.42	58.28	52.71	47.08	42.41	38.81	35.33	32.40	29.59
180.0	69.64	61.99	55.35	50.29	46.01	41.06	37.69	34.76	31.44
225.0	86.79	77.51	68.68	61.37	55.74	50.01	45.17	41.23	37.74
270.0	87.36	75.83	68.12	61.48	54.56	49.56	45.17	40.78	36.90
315.0	70.03	61.48	55.80	50.68	45.11	41.18	37.80	33.86	31.16
360.0	66.77	59.23	53.78	48.49	43.88	40.28	36.62	33.81	30.94

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	28.29	26.27	24.64	22.28	20.76	19.58	17.78	16.59	15.69
45.0	24.02	22.33	20.48	19.13	17.78	16.48	15.30	14.40	13.56
90.0	24.53	22.56	20.98	19.18	17.94	16.82	15.81	14.68	13.89
135.0	27.06	25.03	23.29	21.26	19.80	18.51	16.93	15.92	14.91
180.0	29.08	26.89	24.81	22.89	21.26	19.74	18.45	17.16	15.86
225.0	33.86	31.16	28.74	26.10	24.24	22.50	20.81	19.24	17.94
270.0	33.81	30.66	28.18	25.71	23.51	21.83	20.14	18.62	17.38
315.0	28.69	26.04	24.41	22.44	20.53	19.35	18.00	16.48	15.53
360.0	28.29	26.27	24.64	22.28	20.76	19.58	17.78	16.59	15.69

Intensity data(cd)

C/γ(°)	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	53.0
0.0	14.46	13.44	12.83	11.98	11.31	10.80	10.18	9.73	9.39
45.0	12.77	12.09	11.36	10.74	10.18	9.73	9.23	8.78	8.33
90.0	13.16	12.38	11.81	11.08	10.13	9.56	9.11	8.66	8.27
135.0	14.01	13.05	12.38	11.70	11.03	10.46	9.96	9.34	8.89
180.0	14.85	13.84	12.99	12.26	11.64	10.91	10.46	9.96	9.51
225.0	16.65	15.58	14.57	13.67	12.94	12.15	11.42	10.86	10.29
270.0	16.26	15.02	14.12	13.28	12.49	11.70	11.08	10.41	9.84
315.0	14.63	13.44	12.83	12.09	11.36	10.74	10.18	9.68	9.17
360.0	14.46	13.44	12.83	11.98	11.31	10.80	10.18	9.73	9.39

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	9.00	8.83	8.44	7.99	7.65	7.31	6.92	6.69	6.47
45.0	7.99	7.59	7.26	6.98	6.75	6.47	6.19	5.96	5.79
90.0	7.88	7.48	7.20	6.92	6.64	6.47	6.24	6.02	5.91
135.0	8.49	8.10	7.71	7.37	7.03	6.75	6.47	6.19	6.02
180.0	9.17	8.83	8.33	7.99	7.82	7.43	7.09	6.75	6.41
225.0	9.73	9.28	8.89	8.44	7.99	7.71	7.37	7.03	6.81
270.0	9.45	9.00	8.72	8.38	7.93	7.54	7.20	6.86	6.64
315.0	8.72	8.33	7.93	7.59	7.20	6.92	6.69	6.36	6.13
360.0	9.00	8.83	8.44	7.99	7.65	7.31	6.92	6.69	6.47

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	6.24	5.96	5.74	5.51	5.34	5.18	5.01	4.89	4.84
45.0	5.57	5.34	5.18	5.01	4.84	4.67	4.50	4.33	4.11
90.0	5.68	5.51	5.40	5.29	5.91	9.34	13.28	17.83	21.71
135.0	5.79	5.51	5.34	5.18	5.01	4.78	4.67	4.50	4.33
180.0	6.19	5.85	5.63	5.46	5.29	5.06	4.89	4.78	4.61
225.0	6.47	6.24	6.02	5.79	5.63	5.40	5.18	5.01	4.89
270.0	6.41	6.19	5.96	5.85	5.63	5.51	5.40	5.29	6.81
315.0	5.91	5.68	5.46	5.29	5.12	4.95	4.84	4.73	4.50
360.0	6.24	5.96	5.74	5.51	5.34	5.18	5.01	4.89	4.84

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	4.78	4.73	4.73	4.67	4.44	4.22	3.88	3.54	3.26
45.0	3.94	3.77	3.60	3.38	3.21	3.04	2.87	2.70	2.53
90.0	25.37	27.23	26.49	24.24	21.99	20.03	18.17	16.03	14.46
135.0	4.16	3.99	3.88	3.66	3.49	3.32	3.15	2.98	2.81
180.0	4.50	4.39	4.33	4.16	3.99	3.66	3.43	3.21	2.98
225.0	4.78	4.50	4.39	4.16	3.94	3.77	3.54	3.38	3.21
270.0	10.69	15.36	19.29	23.29	25.48	25.54	23.68	21.32	19.46
315.0	4.33	4.16	3.99	3.83	3.66	3.43	3.26	3.09	2.93
360.0	4.78	4.73	4.73	4.67	4.44	4.22	3.88	3.54	3.26

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	2.98	2.76	2.59	2.31	2.14	1.91	1.69	1.58	1.46
45.0	2.42	2.25	2.08	1.97	1.69	1.58	1.46	1.41	1.41
90.0	11.48	3.83	2.36	1.86	1.63	1.46	1.29	1.18	1.18
135.0	2.64	2.48	2.31	2.14	1.86	1.74	1.63	1.46	1.35
180.0	2.81	2.64	2.48	2.25	2.03	1.86	1.69	1.52	1.41
225.0	3.04	2.87	2.70	2.53	2.36	2.25	1.97	1.80	1.63
270.0	17.72	15.69	13.84	10.58	3.54	2.48	1.97	1.69	1.58
315.0	2.76	2.53	2.42	2.25	2.08	1.91	1.69	1.52	1.41
360.0	2.98	2.76	2.59	2.31	2.14	1.91	1.69	1.58	1.46

Intensity data(cd)

C/γ(°)	90.0
0.0	1.41
45.0	1.18
90.0	1.13
135.0	1.18
180.0	1.24
225.0	1.63
270.0	1.41
315.0	1.35
360.0	1.41