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: LN01D03517EE-N
Luminaire: 92.70.307.00
Report No: 210519-B010
Test No: 210519-C010
LampCAT: CITIZEN CLU7B2 LES3.3
Lamp flux(lm): 399.2
Number of Lamps: 1
Length(mm): 74
Phm Type: C

Voltage(V): 221.4000
Current(A): 0.0530
Power (W): 5.4000
PF: 0.4570
Ballast type: DC
Width(mm): 74
Height(mm): 56

Photometric Results

Lumens(lm): 268.55
Efficiency(%): 67.27%
Lumens(lm)/Power(W): 49.73
Central intensity(cd): 1706.203
Maximum intensity(cd): 1706.203
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=16.8
[C90/270]Total=16.8
Field angle(10%Imax): [C0/180]Total=36.0
[C90/270]Total=36.0
Maximum s/h(1/2): C0_180=0.29 C90_270=0.29
Maximum s/h(1/4): C0_180=0.31 C90_270=0.31
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 67.27%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 94.007%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1706.203	0.000	0	.000%	.000%
1.0	1692.422	1.626	1.626	.407%	.606%
2.0	1638.070	4.780	6.406	1.197%	2.386%
3.0	1552.008	7.630	14.036	1.911%	5.227%
4.0	1437.216	10.006	24.042	2.506%	8.952%
5.0	1317.248	11.850	35.891	2.968%	13.365%
6.0	1158.420	13.010	48.902	3.259%	18.209%
7.0	1041.673	13.656	62.558	3.421%	23.294%
8.0	905.421	13.935	76.493	3.491%	28.483%
9.0	780.490	13.663	90.156	3.423%	33.571%
10.0	658.983	13.027	103.183	3.263%	38.422%
11.0	557.142	12.152	115.334	3.044%	42.946%
12.0	471.206	11.241	126.576	2.816%	47.132%
13.0	389.651	10.216	136.792	2.559%	50.936%
14.0	327.923	9.185	145.977	2.301%	54.357%
15.0	282.755	8.384	154.36	2.100%	57.478%
16.0	241.615	7.683	162.044	1.925%	60.339%
17.0	201.874	6.906	168.95	1.730%	62.911%
18.0	169.910	6.130	175.08	1.536%	65.194%
19.0	147.136	5.516	180.596	1.382%	67.247%
20.0	127.076	5.019	185.615	1.257%	69.116%
21.0	110.848	4.569	190.184	1.144%	70.818%
22.0	97.720	4.191	194.375	1.050%	72.378%
23.0	86.477	3.865	198.24	.968%	73.817%
24.0	75.572	3.543	201.783	.888%	75.137%
25.0	67.711	3.258	205.041	.816%	76.350%
26.0	60.813	3.034	208.075	.760%	77.479%
27.0	54.858	2.830	210.904	.709%	78.533%
28.0	49.057	2.631	213.535	.659%	79.513%
29.0	44.473	2.447	215.982	.613%	80.424%
30.0	40.507	2.294	218.277	.575%	81.278%
31.0	36.795	2.151	220.428	.539%	82.079%
32.0	33.602	2.017	222.445	.505%	82.830%
33.0	30.867	1.899	224.344	.476%	83.538%
34.0	28.505	1.797	226.141	.450%	84.207%
35.0	26.086	1.695	227.836	.425%	84.838%
36.0	24.180	1.600	229.437	.401%	85.434%
37.0	22.479	1.522	230.958	.381%	86.001%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	21.002	1.451	232.41	.364%	86.541%
39.0	19.399	1.379	233.789	.345%	87.055%
40.0	18.105	1.308	235.097	.328%	87.542%
41.0	16.924	1.247	236.344	.312%	88.006%
42.0	15.757	1.187	237.532	.297%	88.448%
43.0	14.766	1.131	238.662	.283%	88.869%
44.0	13.964	1.084	239.747	.272%	89.273%
45.0	13.163	1.043	240.789	.261%	89.661%
46.0	12.305	0.996	241.785	.249%	90.032%
47.0	11.651	0.953	242.738	.239%	90.387%
48.0	11.053	0.918	243.656	.230%	90.729%
49.0	10.512	0.886	244.541	.222%	91.058%
50.0	9.963	0.854	245.395	.214%	91.376%
51.0	9.506	0.824	246.219	.206%	91.683%
52.0	9.014	0.795	247.013	.199%	91.979%
53.0	8.557	0.764	247.778	.191%	92.264%
54.0	8.149	0.736	248.514	.184%	92.538%
55.0	7.805	0.712	249.226	.178%	92.803%
56.0	7.495	0.691	249.918	.173%	93.060%
57.0	7.123	0.668	250.586	.167%	93.309%
58.0	6.820	0.645	251.231	.162%	93.549%
59.0	6.539	0.625	251.855	.156%	93.782%
60.0	6.279	0.606	252.461	.152%	94.007%
61.0	5.998	0.586	253.047	.147%	94.225%
62.0	5.801	0.569	253.615	.142%	94.437%
63.0	5.569	0.553	254.168	.139%	94.643%
64.0	5.344	0.535	254.704	.134%	94.842%
65.0	5.175	0.521	255.224	.130%	95.036%
66.0	4.971	0.506	255.73	.127%	95.225%
67.0	4.809	0.492	256.222	.123%	95.408%
68.0	4.634	0.478	256.701	.120%	95.586%
69.0	4.753	0.479	257.179	.120%	95.764%
70.0	5.393	0.521	257.701	.131%	95.958%
71.0	6.286	0.604	258.304	.151%	96.183%
72.0	7.341	0.709	259.013	.177%	96.447%
73.0	8.156	0.810	259.823	.203%	96.749%
74.0	8.726	0.888	260.711	.222%	97.079%
75.0	8.859	0.929	261.64	.233%	97.425%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	8.423	0.917	262.557	.230%	97.767%
77.0	7.854	0.868	263.425	.217%	98.090%
78.0	7.214	0.807	264.232	.202%	98.390%
79.0	6.539	0.739	264.971	.185%	98.666%
80.0	5.977	0.675	265.645	.169%	98.917%
81.0	5.400	0.615	266.261	.154%	99.146%
82.0	4.746	0.550	266.811	.138%	99.351%
83.0	3.277	0.436	267.247	.109%	99.513%
84.0	2.123	0.294	267.541	.074%	99.623%
85.0	1.849	0.217	267.758	.054%	99.703%
86.0	1.610	0.189	267.947	.047%	99.774%
87.0	1.448	0.167	268.114	.042%	99.836%
88.0	1.364	0.154	268.268	.039%	99.894%
89.0	1.301	0.146	268.414	.037%	99.948%
90.0	1.252	0.140	268.554	.035%	100.000%

Zonal flux distribution table

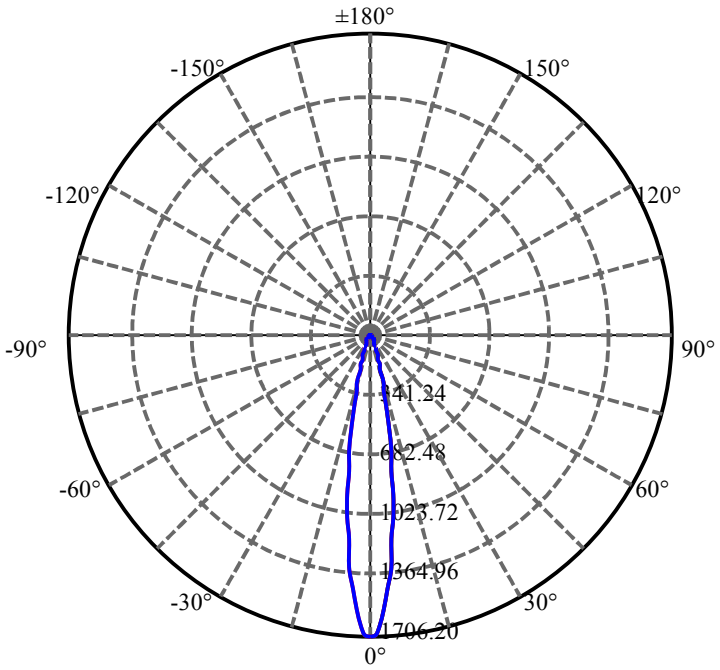
ZONAL LUMEN SUMMARY

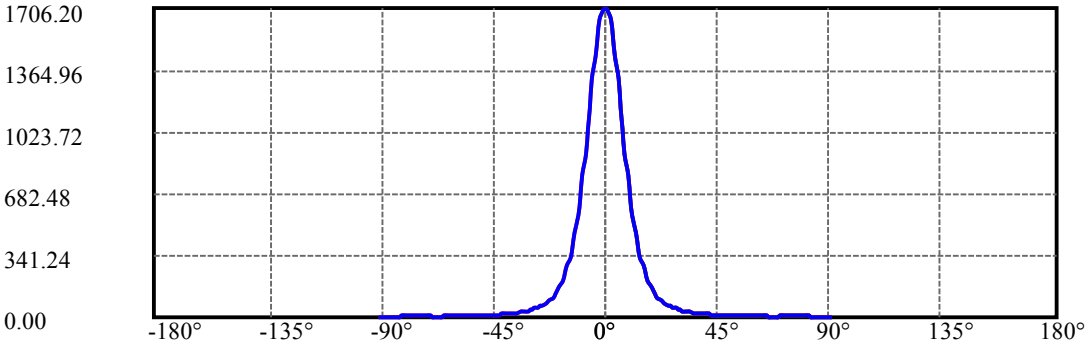
Zone	Lumens	%Lamp	%Fixt
0-30	218.28	54.68%	81.28%
0-40	235.10	58.89%	87.54%
0-60	252.46	63.24%	94.01%
0-90	268.41	67.24%	99.95%
0-120	268.41	67.24%	99.95%
0-180	268.55	67.27%	100.00%
60-90	16.56	4.15%	6.17%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-28.53	214.84	53.82%	80.00%

ZONAL LUMEN SUMMARY

0-10	103.18
10-20	82.43
20-30	32.66
30-40	16.82
40-50	10.30
50-60	7.07
60-70	5.24
70-80	7.94
80-90	2.77
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):

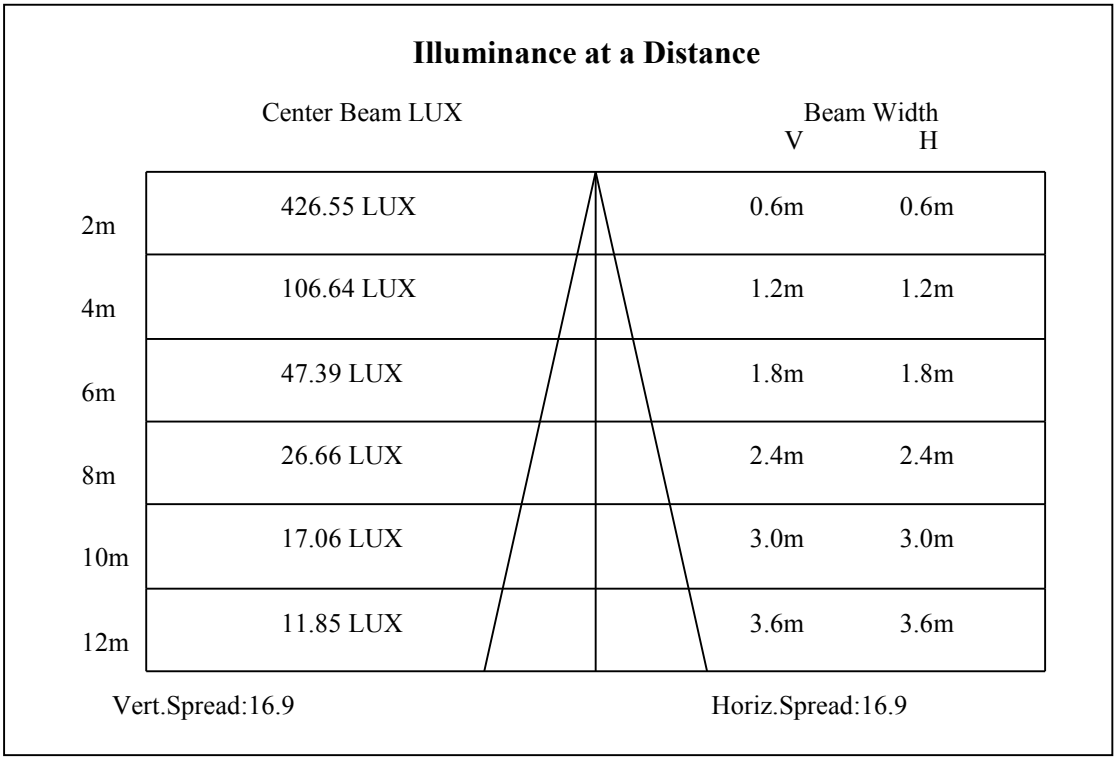
C0/C180:

C90/C270:

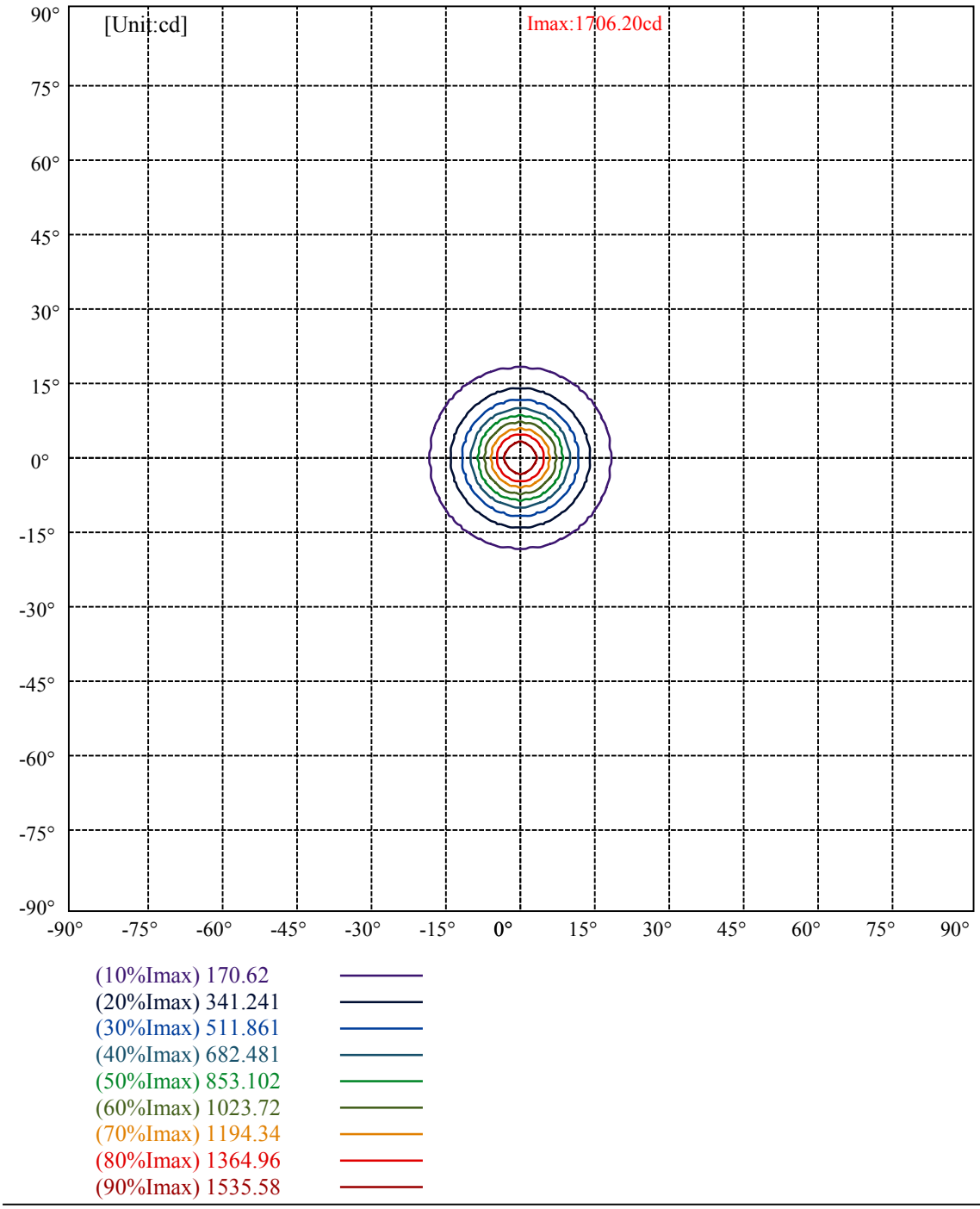
Field angle(10%Imax):C0/180Left:18.0 Right:18.0
:C90/270Left:18.0 Right:18.0

Beam Angle(50%Imax):C0/180Left:8.4 Right:8.4
:C90/270Left:8.4 Right:8.4

Lux distance Curve



ISO-Intensity(V-H)



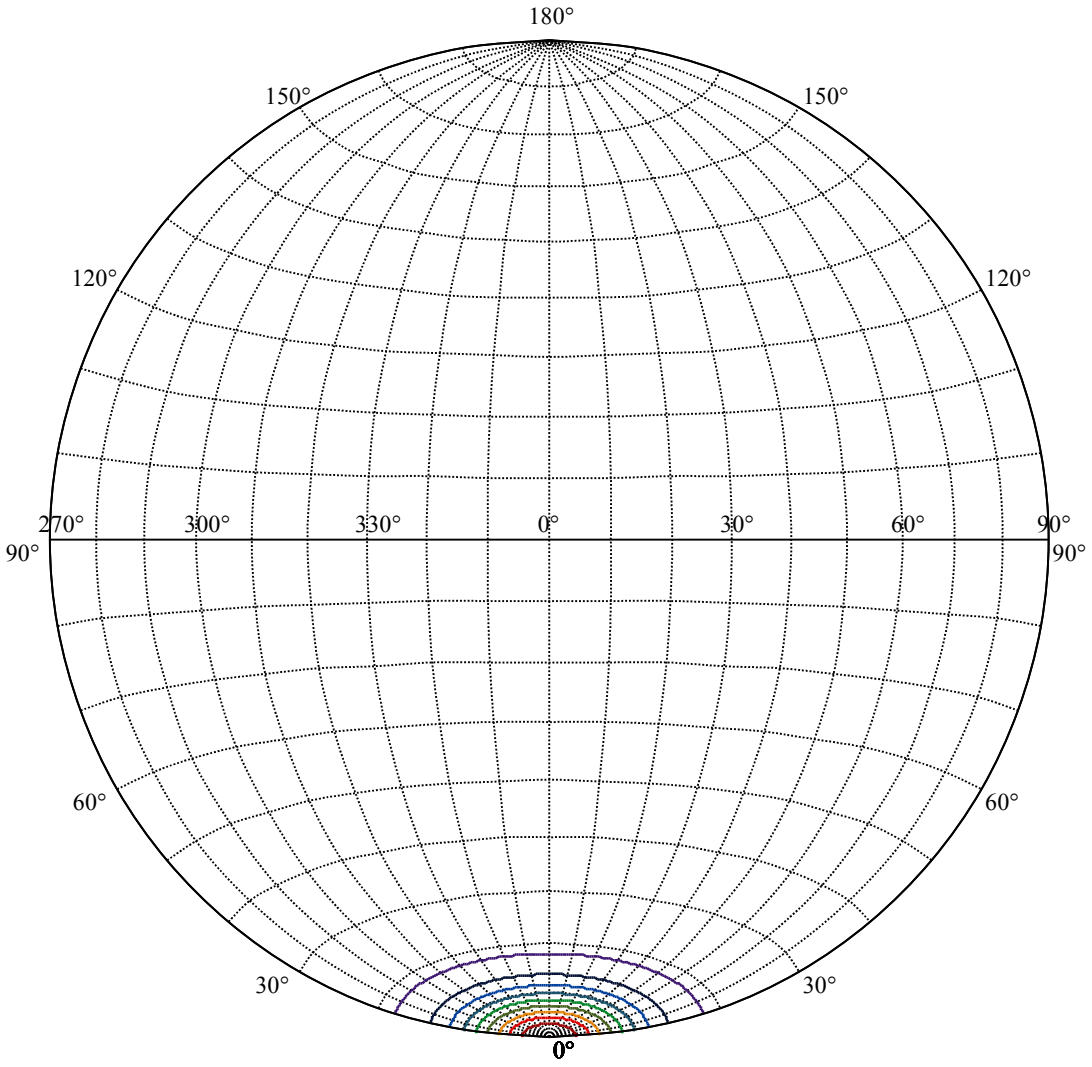
(10%Imax) 170.62
(20%Imax) 341.241
(30%Imax) 511.861
(40%Imax) 682.481
(50%Imax) 853.102
(60%Imax) 1023.72
(70%Imax) 1194.34
(80%Imax) 1364.96
(90%Imax) 1535.58

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:1706.20

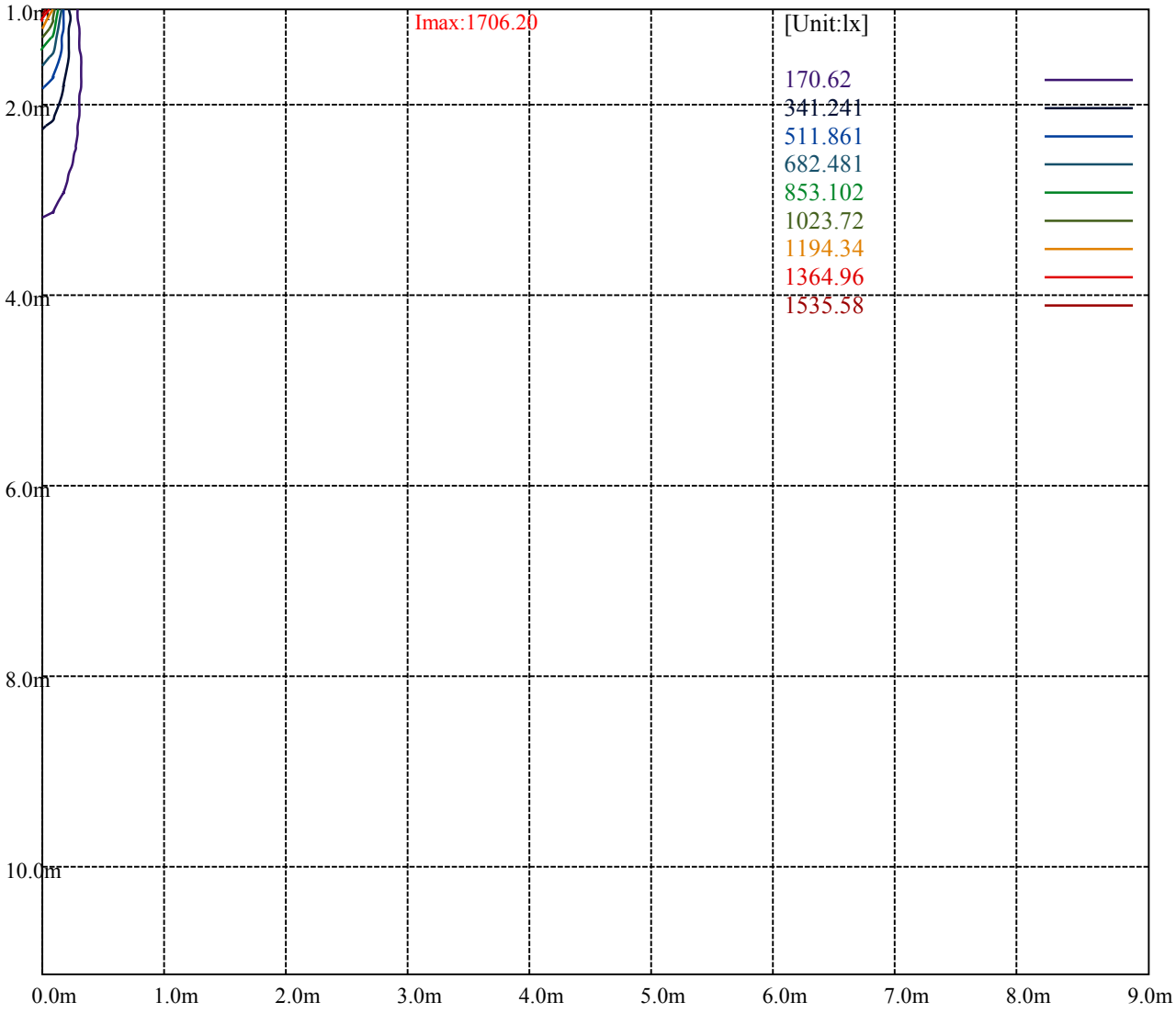
(10%Imax) 170.62
(20%Imax) 341.241
(30%Imax) 511.861
(40%Imax) 682.481
(50%Imax) 853.102
(60%Imax) 1023.72
(70%Imax) 1194.34
(80%Imax) 1364.96
(90%Imax) 1535.58

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 LN01D03517EE-N

Luminance Limitting Curve(no luminous side)

Luminance Table

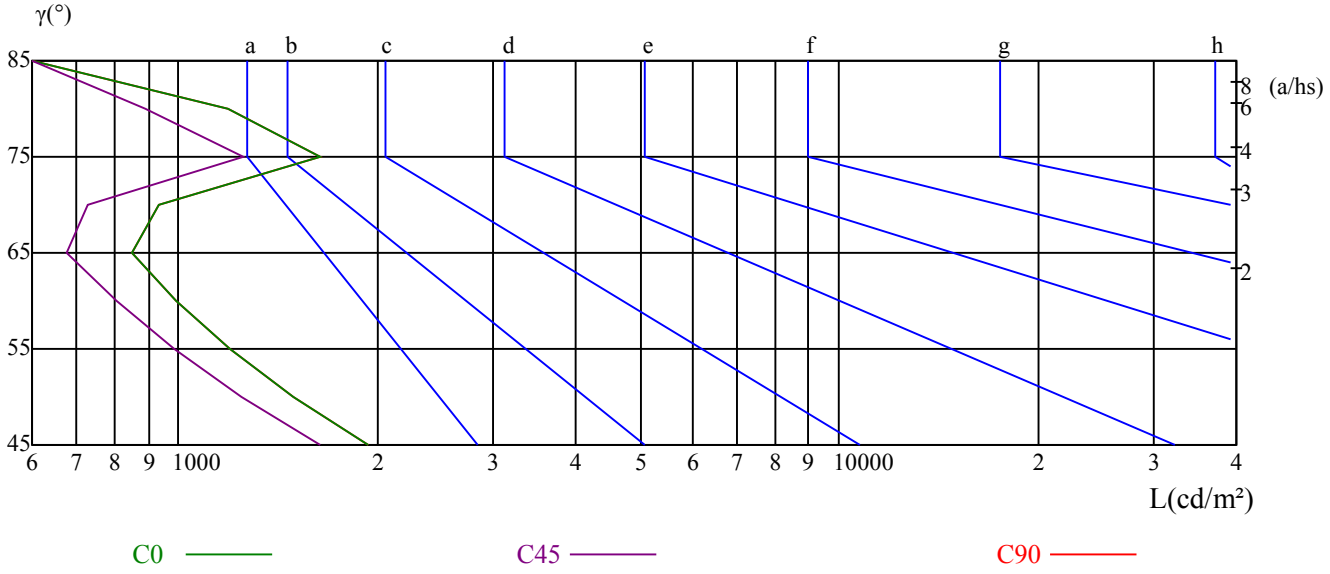
γ	45	50	55	60	65	70	75	80	85
C0	1935	1488	1194	992	853	935	1635	1188	402
C45	1642	1244	983	804	679	731	1252	889	293
C90	1935	1488	1194	992	853	935	1635	1188	402

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
2236	2236	2236	6251	6251	6251	3875	3875	3875

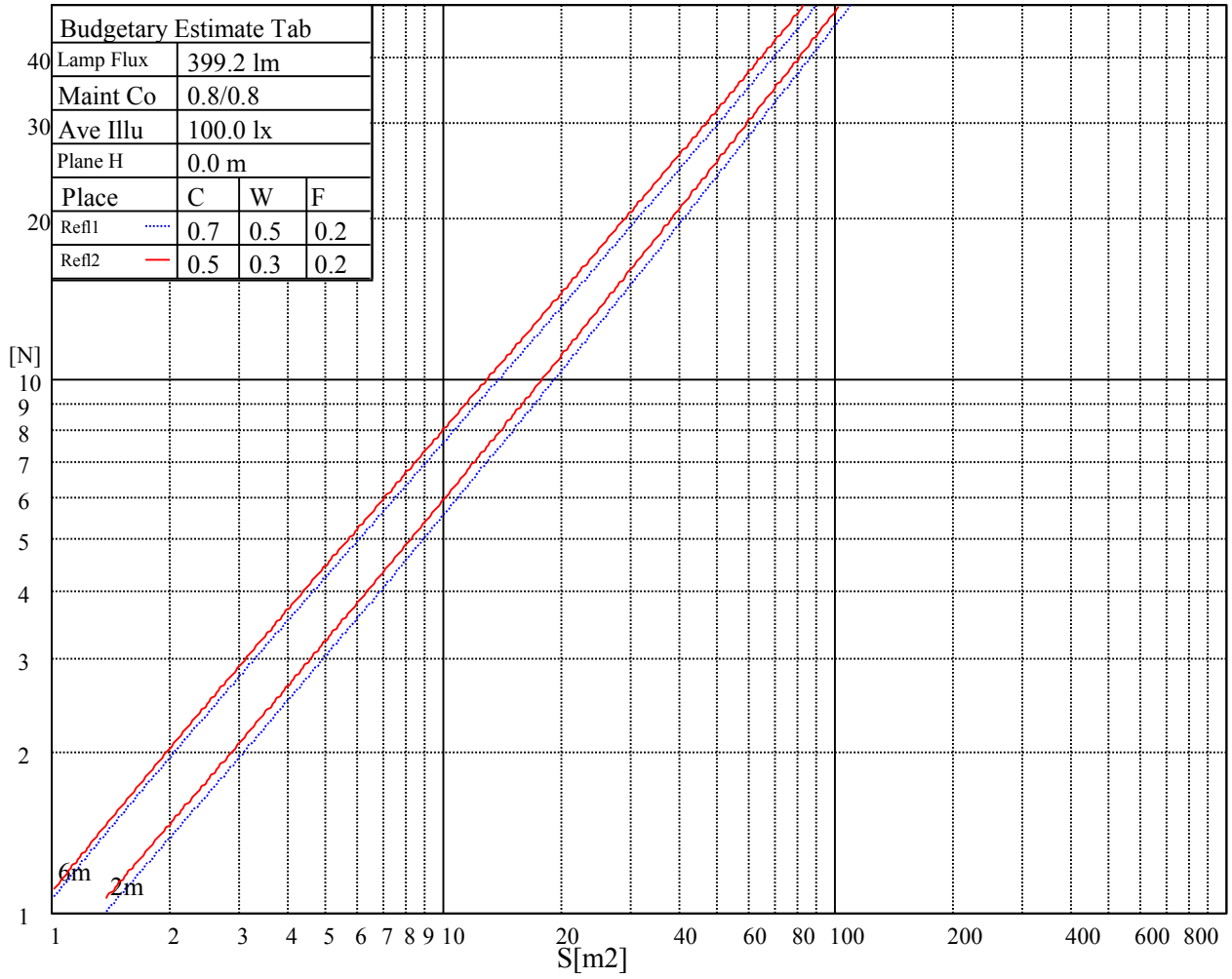
Glare Table

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

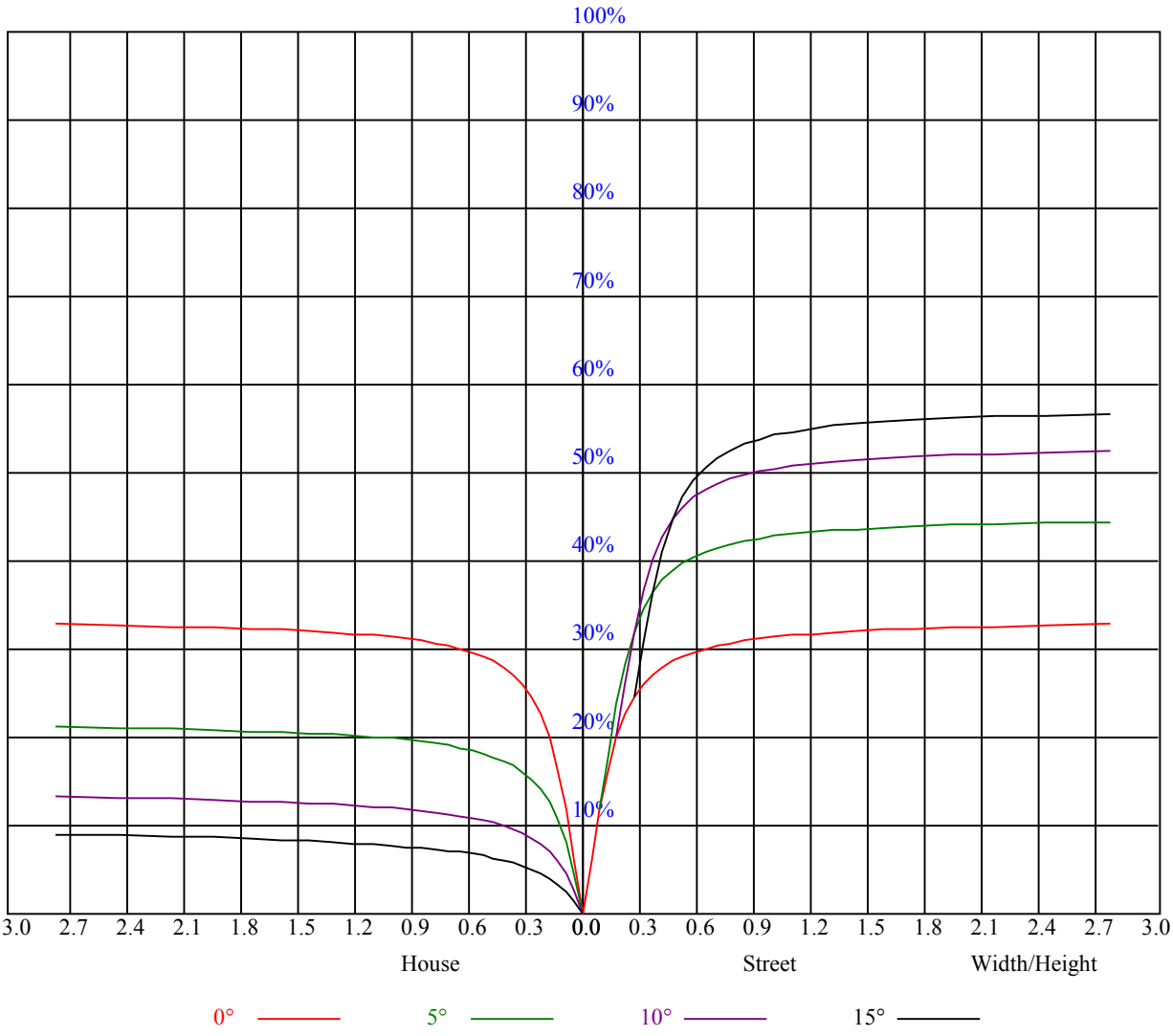


Equipment: GMS1980 Date: 2021/05/19 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

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	0.80	0.80	0.80	0.78	0.78	0.78	0.75	0.75	0.75	0.72	0.72	0.72	0.69	0.69	0.69	0.67
1	0.75	0.73	0.71	0.73	0.72	0.70	0.70	0.69	0.68	0.68	0.67	0.66	0.66	0.65	0.64	0.63
2	0.70	0.67	0.65	0.69	0.67	0.65	0.67	0.65	0.63	0.65	0.63	0.62	0.63	0.62	0.61	0.59
3	0.66	0.63	0.61	0.65	0.63	0.60	0.64	0.61	0.59	0.62	0.60	0.59	0.61	0.59	0.58	0.57
4	0.63	0.60	0.58	0.62	0.59	0.57	0.61	0.59	0.57	0.60	0.58	0.56	0.59	0.57	0.55	0.54
5	0.61	0.57	0.55	0.60	0.57	0.55	0.59	0.56	0.54	0.58	0.55	0.54	0.57	0.55	0.53	0.52
6	0.58	0.55	0.53	0.58	0.55	0.52	0.57	0.54	0.52	0.56	0.54	0.52	0.55	0.53	0.51	0.51
7	0.56	0.53	0.51	0.56	0.53	0.50	0.55	0.52	0.50	0.54	0.52	0.50	0.54	0.51	0.50	0.49
8	0.54	0.51	0.49	0.54	0.51	0.49	0.53	0.51	0.49	0.53	0.50	0.48	0.52	0.50	0.48	0.48
9	0.53	0.50	0.47	0.52	0.49	0.47	0.52	0.49	0.47	0.51	0.49	0.47	0.51	0.49	0.47	0.46
10	0.51	0.48	0.46	0.51	0.48	0.46	0.50	0.48	0.46	0.50	0.48	0.46	0.50	0.47	0.46	0.45

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	1643.63	1697.06	1706.63	1683.00	1608.75	1517.63	1407.38	1252.69	1125.00
45.0	1736.44	1744.31	1711.69	1649.25	1563.19	1442.25	1298.25	1166.06	1016.44
90.0	1736.44	1723.50	1663.31	1585.69	1482.75	1331.44	1111.16	1059.98	911.31
135.0	1708.31	1683.00	1616.63	1532.81	1409.63	1288.13	1138.50	988.31	861.19
180.0	1643.63	1580.06	1484.44	1327.50	1113.98	1079.55	916.54	793.07	678.60
225.0	1736.44	1695.38	1614.94	1506.38	1391.06	1204.31	1095.24	967.73	815.12
270.0	1736.44	1720.13	1653.75	1571.06	1465.88	1328.06	1181.25	1050.19	907.31
315.0	1708.31	1695.94	1653.19	1560.38	1462.50	1346.63	1119.04	1055.36	928.41
360.0	1643.63	1697.06	1706.63	1683.00	1608.75	1517.63	1407.38	1252.69	1125.00

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	992.25	838.13	721.69	617.63	503.44	426.38	360.00	298.69	286.31
45.0	887.63	751.50	628.88	533.81	441.56	366.19	311.06	287.44	216.84
90.0	787.22	661.61	563.74	468.62	388.69	330.24	276.30	236.76	200.08
135.0	727.88	607.50	515.81	435.94	353.81	300.94	289.13	219.04	182.42
180.0	577.91	469.24	397.52	336.99	275.01	235.18	201.94	171.68	146.42
225.0	716.34	602.72	492.30	426.43	354.26	289.63	252.51	216.28	175.78
270.0	774.00	668.25	560.81	478.13	398.81	332.44	284.06	257.40	199.97
315.0	780.69	672.92	576.39	472.11	401.63	342.39	287.04	245.64	207.17
360.0	992.25	838.13	721.69	617.63	503.44	426.38	360.00	298.69	286.31

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	211.22	178.82	153.17	133.37	115.03	101.42	88.48	77.57	69.30
45.0	186.64	162.06	136.69	119.64	105.81	93.71	80.38	72.06	64.80
90.0	170.49	148.95	131.01	114.36	102.88	91.18	79.48	71.89	65.03
135.0	158.34	136.18	117.96	104.18	91.07	81.11	71.10	64.01	57.38
180.0	127.63	110.53	97.59	85.22	75.04	67.39	59.91	53.72	48.83
225.0	155.64	135.90	117.23	101.87	90.06	78.86	69.53	62.66	55.97
270.0	173.53	151.82	129.49	114.53	101.70	89.61	79.20	71.38	63.62
315.0	175.78	152.83	133.48	113.63	100.18	88.54	76.50	68.40	61.59
360.0	211.22	178.82	153.17	133.37	115.03	101.42	88.48	77.57	69.30

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	62.04	54.51	49.39	45.06	40.44	37.07	34.09	31.16	28.52
45.0	57.99	52.03	47.14	42.53	38.59	35.49	32.40	30.04	27.39
90.0	58.39	52.43	47.64	43.09	39.49	36.00	32.96	30.60	28.07
135.0	52.20	46.91	42.13	38.48	34.43	31.78	29.25	27.11	24.64
180.0	44.83	39.99	36.68	33.64	30.66	28.01	26.04	24.08	22.44
225.0	50.79	45.68	41.29	37.86	34.76	31.44	28.97	26.78	24.41
270.0	57.54	51.64	46.63	42.81	38.76	35.27	32.46	29.98	27.28
315.0	55.07	49.28	44.89	40.61	37.24	33.75	30.77	28.29	25.93
360.0	62.04	54.51	49.39	45.06	40.44	37.07	34.09	31.16	28.52

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	26.44	24.47	22.84	21.21	19.80	18.68	17.44	16.20	15.30
45.0	25.14	23.40	21.88	20.03	18.68	17.55	16.31	15.36	14.63
90.0	25.76	24.13	22.89	21.09	19.52	17.89	16.26	15.19	14.46
135.0	22.95	21.43	19.86	18.45	17.33	16.20	15.19	14.34	13.50
180.0	21.04	19.63	18.51	17.27	16.03	15.02	14.06	13.28	12.71
225.0	22.78	21.09	19.80	18.28	17.16	16.14	15.13	14.18	13.33
270.0	25.31	23.46	21.54	19.80	18.39	17.10	15.92	14.96	14.01
315.0	24.02	22.22	20.70	19.07	17.94	16.82	15.75	14.63	13.78
360.0	26.44	24.47	22.84	21.21	19.80	18.68	17.44	16.20	15.30

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	14.40	13.50	12.83	12.09	11.31	10.63	10.13	9.62	9.17
45.0	13.89	12.83	12.09	11.42	10.91	10.41	9.96	9.39	8.94
90.0	13.67	12.88	12.32	11.70	11.19	10.69	10.29	9.45	8.72
135.0	12.77	11.98	11.25	10.69	10.24	9.68	9.28	8.89	8.44
180.0	12.04	10.97	10.41	9.96	9.45	9.06	8.66	8.33	7.99
225.0	12.49	11.76	11.19	10.63	10.18	9.62	9.06	8.66	8.33
270.0	13.22	12.43	11.70	11.08	10.52	9.84	9.39	8.94	8.44
315.0	12.83	12.09	11.42	10.86	10.29	9.79	9.28	8.83	8.44
360.0	14.40	13.50	12.83	12.09	11.31	10.63	10.13	9.62	9.17

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	8.83	8.49	8.21	7.88	7.43	7.09	6.81	6.41	6.13
45.0	8.55	8.16	7.88	7.43	7.14	6.86	6.53	6.24	6.08
90.0	8.21	7.88	7.54	7.14	6.86	6.64	6.41	6.19	6.02
135.0	8.04	7.76	7.37	7.03	6.81	6.47	6.19	5.96	5.74
180.0	7.65	7.31	6.98	6.58	6.30	6.02	5.79	5.46	5.29
225.0	7.88	7.54	7.26	6.92	6.58	6.36	6.08	5.79	5.63
270.0	7.99	7.65	7.37	6.98	6.75	6.47	6.24	6.02	5.85
315.0	8.04	7.65	7.37	7.03	6.69	6.41	6.19	5.91	5.68
360.0	8.83	8.49	8.21	7.88	7.43	7.09	6.81	6.41	6.13

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	5.91	5.68	5.46	5.23	5.06	4.84	4.67	4.50	4.28
45.0	5.74	5.46	5.34	5.06	4.89	4.73	4.50	4.33	4.16
90.0	5.85	5.63	5.46	5.29	5.18	5.06	6.69	10.24	13.89
135.0	5.51	5.29	5.01	4.84	4.67	4.44	4.28	4.11	3.94
180.0	5.06	4.84	4.67	4.50	4.33	4.16	3.99	3.88	3.88
225.0	5.40	5.18	5.01	4.78	4.61	4.39	4.22	4.05	3.83
270.0	5.63	5.46	5.34	5.18	5.01	4.95	5.29	7.88	12.32
315.0	5.46	5.23	5.12	4.89	4.73	4.50	4.39	4.16	3.99
360.0	5.91	5.68	5.46	5.23	5.06	4.84	4.67	4.50	4.28

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	4.16	4.05	3.94	3.94	3.99	4.11	3.99	3.71	3.38
45.0	3.88	3.77	3.60	3.38	3.26	3.09	2.87	2.70	2.59
90.0	18.56	21.88	24.02	23.96	22.05	20.25	18.28	16.26	14.57
135.0	3.77	3.60	3.43	3.26	3.04	2.87	2.76	2.59	2.36
180.0	3.94	3.94	3.77	3.49	3.09	2.81	2.59	2.36	2.25
225.0	3.66	3.54	3.38	3.21	3.04	2.93	2.76	2.53	2.42
270.0	16.93	20.76	24.13	26.27	25.71	23.74	21.54	19.41	17.61
315.0	3.83	3.71	3.54	3.38	3.21	3.04	2.93	2.76	2.64
360.0	4.16	4.05	3.94	3.94	3.99	4.11	3.99	3.71	3.38

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	3.04	2.70	2.42	2.25	2.08	1.91	1.69	1.52	1.46
45.0	2.42	2.31	2.19	2.08	1.97	1.69	1.52	1.41	1.35
90.0	12.94	10.35	3.71	2.19	1.74	1.46	1.35	1.24	1.18
135.0	2.25	2.14	1.91	1.80	1.63	1.41	1.35	1.29	1.18
180.0	2.08	1.91	1.80	1.69	1.46	1.41	1.29	1.24	1.24
225.0	2.31	2.19	2.08	2.03	1.91	1.74	1.46	1.41	1.35
270.0	15.75	14.12	9.96	2.98	2.14	1.63	1.46	1.35	1.29
315.0	2.42	2.25	2.14	1.97	1.86	1.63	1.46	1.46	1.35
360.0	3.04	2.70	2.42	2.25	2.08	1.91	1.69	1.52	1.46

Intensity data(cd)

C/γ(°)	90.0
0.0	1.35
45.0	1.24
90.0	1.13
135.0	1.18
180.0	1.24
225.0	1.35
270.0	1.24
315.0	1.29
360.0	1.35