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Address:380JinOu Road,GaoXin Zone,Jiang Men City,Guangdong,China

Nata

LumCAT: LN01D04515DA-N
Luminaire: 97.70.234.00
Report No: 200709-B002
Test No: 200709-C002
LampCAT: CITIZEN CLU700
Lamp flux(lm): 534.4
Number of Lamps: 1
Length(mm): 0
Phm Type: C

Voltage(V): 11.0000
Current(A): 0.6000
Power (W): 6.6000
PF: 0.0000
Ballast type: DC
Width(mm): 0
Height(mm): 0

Photometric Results

Lumens(lm): 468.38
Efficiency(%): 87.64%
Lumens(lm)/Power(W): 70.97
Central intensity(cd): 4774.922
Maximum intensity(cd): 4774.922
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=15.1
[C90/270]Total=15.1
Field angle(10%Imax): [C0/180]Total=28.2
[C90/270]Total=28.2
Maximum s/h(1/2): C0_180=0.26 C90_270=0.26
Maximum s/h(1/4): C0_180=0.26 C90_270=0.26
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 87.64%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 96.000%

Nata LM01D04515DA

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4774.922	0.000	0	.000%	.000%
1.0	4718.180	4.542	4.542	.850%	.970%
2.0	4546.125	13.297	17.839	2.488%	3.809%
3.0	4261.430	21.065	38.904	3.942%	8.306%
4.0	3903.117	27.329	66.233	5.114%	14.141%
5.0	3501.141	31.853	98.086	5.960%	20.941%
6.0	3043.195	34.392	132.478	6.435%	28.284%
7.0	2609.297	35.085	167.563	6.565%	35.775%
8.0	2220.188	34.564	202.127	6.467%	43.154%
9.0	1808.859	32.653	234.78	6.110%	50.126%
10.0	1394.620	28.990	263.771	5.425%	56.315%
11.0	1106.845	24.995	288.765	4.677%	61.651%
12.0	866.679	21.573	310.339	4.037%	66.257%
13.0	641.552	17.899	328.238	3.349%	70.079%
14.0	488.756	14.468	342.706	2.707%	73.168%
15.0	369.063	11.777	354.482	2.204%	75.682%
16.0	295.123	9.732	364.214	1.821%	77.760%
17.0	230.245	8.181	372.396	1.531%	79.506%
18.0	175.760	6.694	379.09	1.253%	80.936%
19.0	144.387	5.570	384.66	1.042%	82.125%
20.0	120.284	4.844	389.504	.906%	83.159%
21.0	100.863	4.246	393.75	.795%	84.066%
22.0	86.906	3.773	397.524	.706%	84.871%
23.0	75.867	3.415	400.939	.639%	85.600%
24.0	65.939	3.100	404.039	.580%	86.262%
25.0	58.542	2.830	406.87	.530%	86.867%
26.0	52.713	2.626	409.496	.491%	87.427%
27.0	47.496	2.452	411.948	.459%	87.951%
28.0	42.595	2.281	414.229	.427%	88.438%
29.0	38.573	2.124	416.352	.397%	88.891%
30.0	35.100	1.989	418.341	.372%	89.316%
31.0	31.901	1.865	420.206	.349%	89.714%
32.0	29.018	1.745	421.951	.327%	90.086%
33.0	26.726	1.642	423.593	.307%	90.437%
34.0	24.708	1.557	425.15	.291%	90.769%
35.0	22.823	1.476	426.626	.276%	91.085%
36.0	21.305	1.405	428.031	.263%	91.385%
37.0	20.011	1.347	429.379	.252%	91.672%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	18.865	1.298	430.676	.243%	91.949%
39.0	17.733	1.249	431.925	.234%	92.216%
40.0	16.819	1.205	433.131	.225%	92.473%
41.0	15.905	1.165	434.296	.218%	92.722%
42.0	14.991	1.122	435.418	.210%	92.962%
43.0	14.091	1.077	436.496	.202%	93.192%
44.0	13.268	1.033	437.528	.193%	93.412%
45.0	12.502	0.990	438.518	.185%	93.624%
46.0	11.721	0.947	439.466	.177%	93.826%
47.0	10.990	0.903	440.369	.169%	94.019%
48.0	10.371	0.864	441.233	.162%	94.203%
49.0	9.816	0.829	442.062	.155%	94.380%
50.0	9.239	0.794	442.856	.149%	94.550%
51.0	8.845	0.765	443.621	.143%	94.713%
52.0	8.487	0.744	444.365	.139%	94.872%
53.0	8.114	0.722	445.087	.135%	95.026%
54.0	7.777	0.700	445.787	.131%	95.175%
55.0	7.516	0.683	446.47	.128%	95.321%
56.0	7.263	0.668	447.138	.125%	95.464%
57.0	6.982	0.651	447.789	.122%	95.603%
58.0	6.743	0.635	448.424	.119%	95.738%
59.0	6.518	0.620	449.044	.116%	95.871%
60.0	6.300	0.606	449.649	.113%	96.000%
61.0	6.089	0.591	450.241	.111%	96.126%
62.0	5.885	0.577	450.818	.108%	96.249%
63.0	5.702	0.564	451.381	.105%	96.370%
64.0	5.498	0.550	451.931	.103%	96.487%
65.0	5.337	0.536	452.467	.100%	96.602%
66.0	5.168	0.524	452.991	.098%	96.713%
67.0	5.027	0.513	453.504	.096%	96.823%
68.0	4.964	0.506	454.01	.095%	96.931%
69.0	5.168	0.517	454.527	.097%	97.041%
70.0	5.688	0.558	455.084	.104%	97.160%
71.0	6.518	0.631	455.715	.118%	97.295%
72.0	7.495	0.729	456.444	.136%	97.451%
73.0	8.297	0.826	457.27	.155%	97.627%
74.0	9.070	0.913	458.183	.171%	97.822%
75.0	9.780	0.996	459.179	.186%	98.035%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	10.076	1.054	460.233	.197%	98.260%
77.0	9.780	1.059	461.291	.198%	98.486%
78.0	9.105	1.011	462.302	.189%	98.701%
79.0	8.395	0.940	463.243	.176%	98.902%
80.0	7.763	0.871	464.114	.163%	99.088%
81.0	7.102	0.804	464.918	.150%	99.260%
82.0	6.391	0.732	465.649	.137%	99.416%
83.0	4.943	0.616	466.266	.115%	99.548%
84.0	3.452	0.457	466.723	.086%	99.645%
85.0	2.791	0.341	467.064	.064%	99.718%
86.0	2.602	0.295	467.358	.055%	99.781%
87.0	2.475	0.278	467.636	.052%	99.840%
88.0	2.355	0.265	467.901	.050%	99.897%
89.0	2.173	0.248	468.149	.046%	99.950%
90.0	2.123	0.236	468.385	.044%	100.000%

Zonal flux distribution table

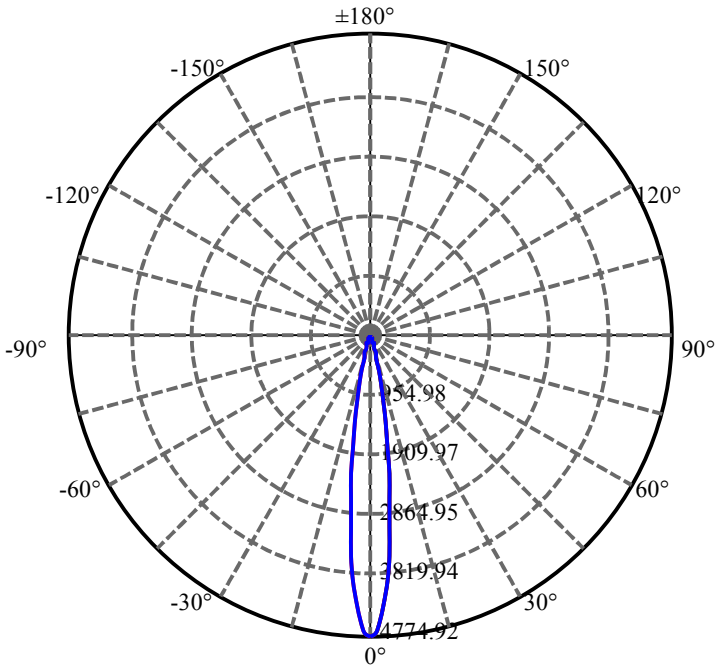
ZONAL LUMEN SUMMARY

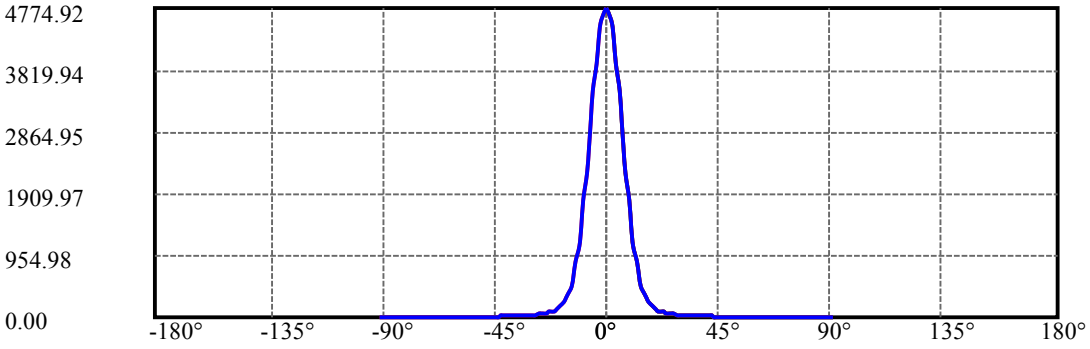
Zone	Lumens	%Lamp	%Fixt
0-30	418.34	78.28%	89.32%
0-40	433.13	81.05%	92.47%
0-60	449.65	84.14%	96.00%
0-90	468.15	87.60%	99.95%
0-120	468.15	87.60%	99.95%
0-180	468.38	87.64%	100.00%
60-90	19.11	3.57%	4.08%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-17.35	374.71	70.11%	80.00%

ZONAL LUMEN SUMMARY

0-10	263.77
10-20	125.73
20-30	28.84
30-40	14.79
40-50	9.73
50-60	6.79
60-70	5.43
70-80	9.03
80-90	4.04
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:14.1 Right:14.1
:C90/270Left:14.1 Right:14.1

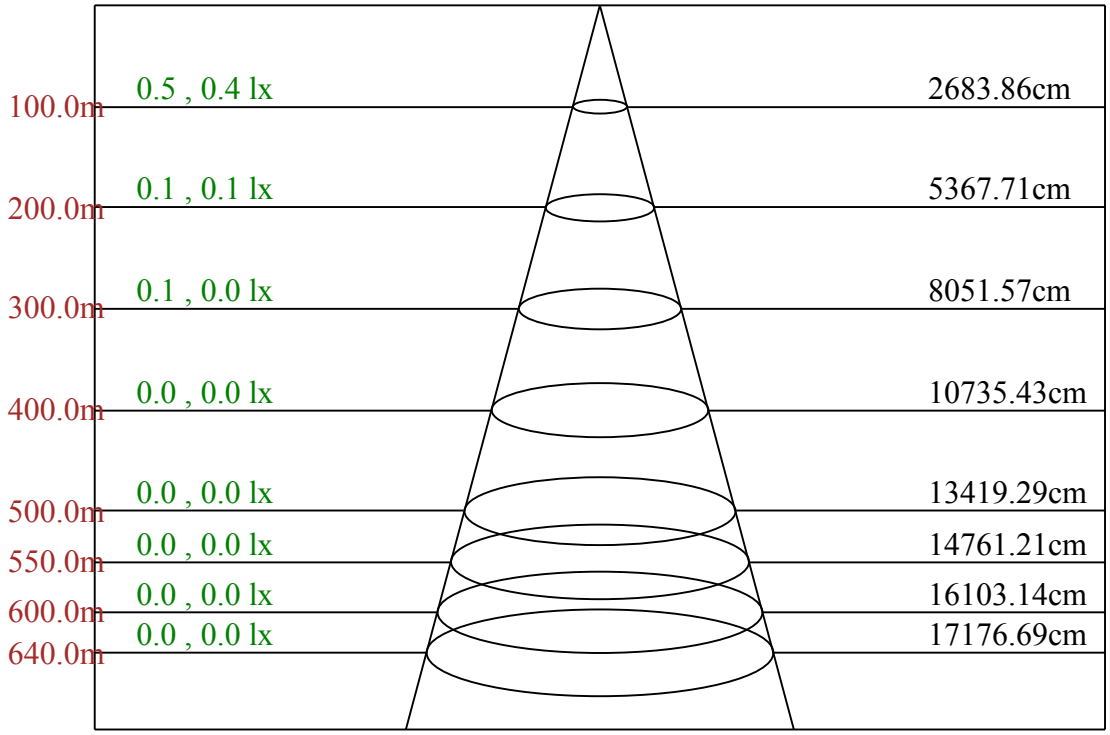
Beam Angle(50%Imax):C0/180Left:7.6 Right:7.6
:C90/270Left:7.6 Right:7.6

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2020/7/9
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

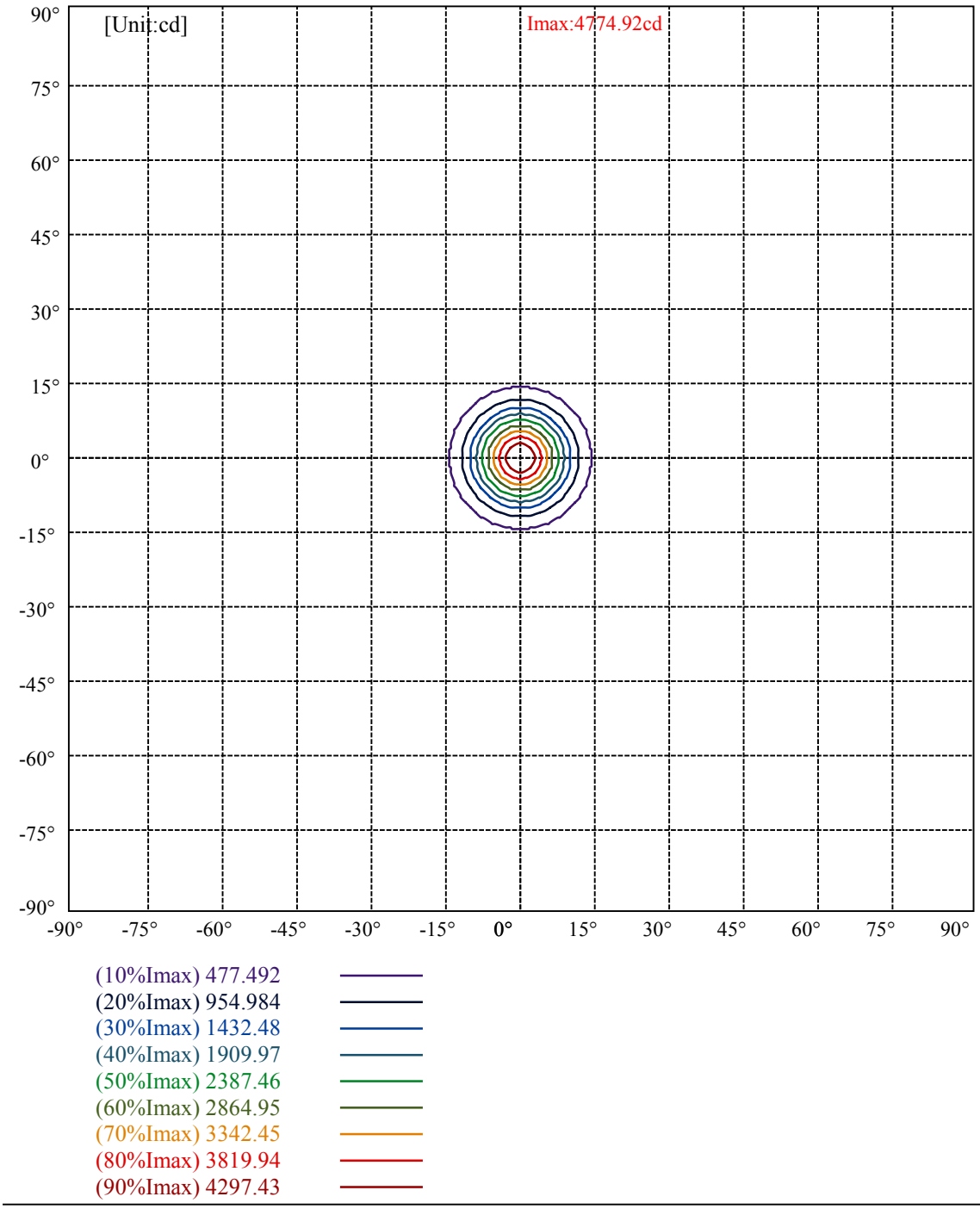
Lux distance Curve



Max , Ave

Beam angle of C0 plane 15.29

ISO-Intensity(V-H)

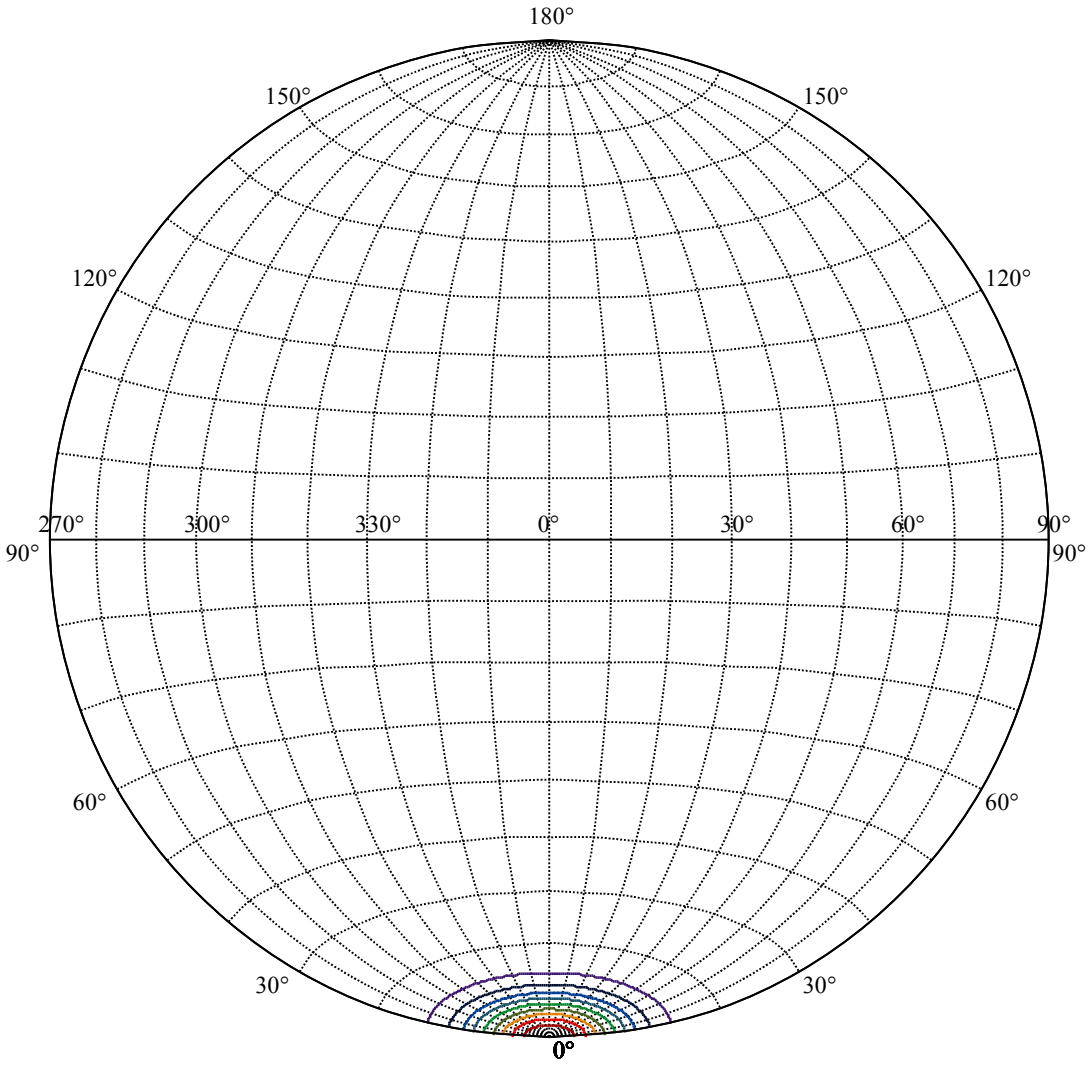


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2020/7/9
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web



[Unit:cd]

Imax:4774.92

(10%Imax) 477.492
(20%Imax) 954.984
(30%Imax) 1432.48
(40%Imax) 1909.97
(50%Imax) 2387.46
(60%Imax) 2864.95
(70%Imax) 3342.45
(80%Imax) 3819.94
(90%Imax) 4297.43

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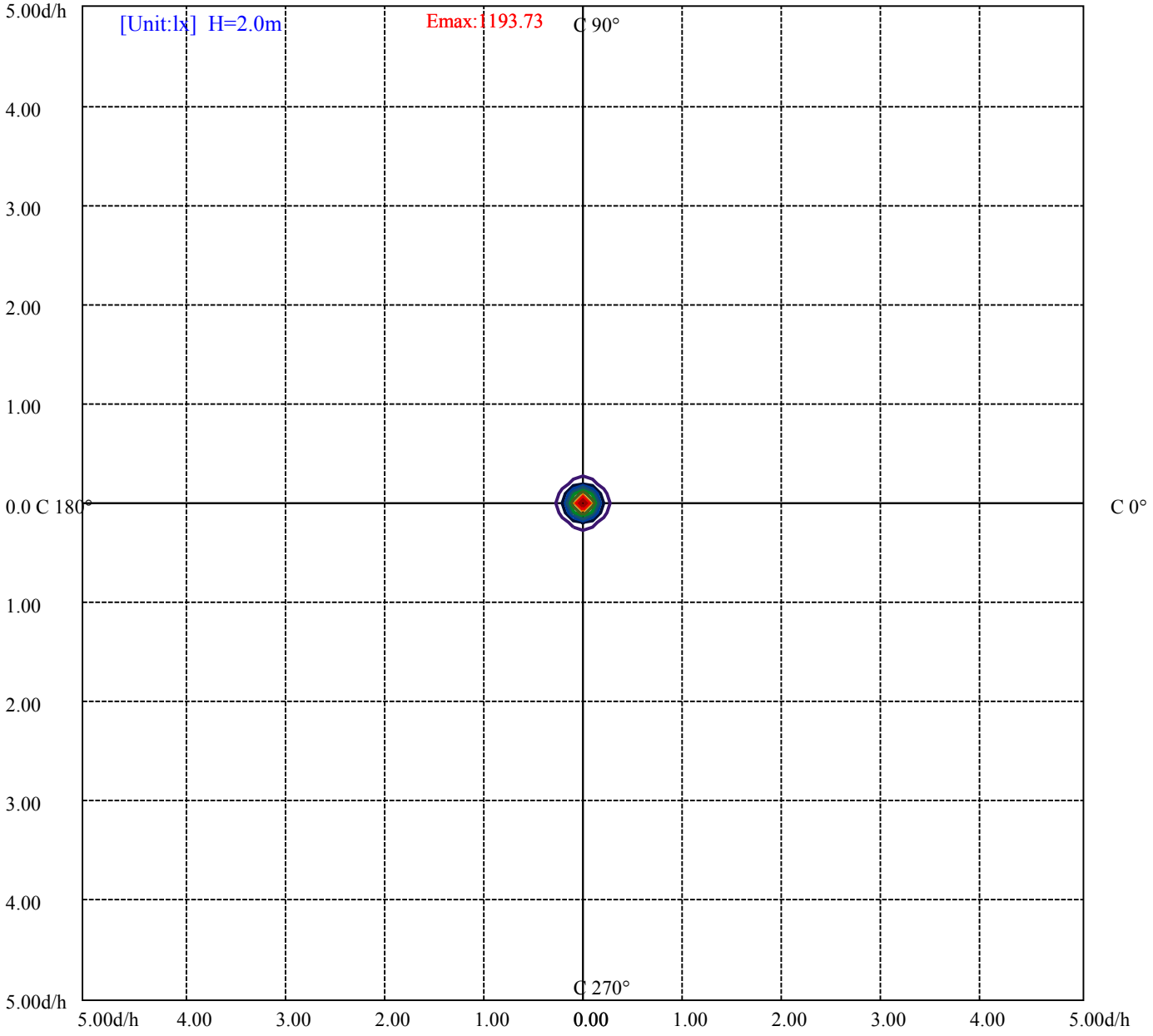
ISO illuminance diagram



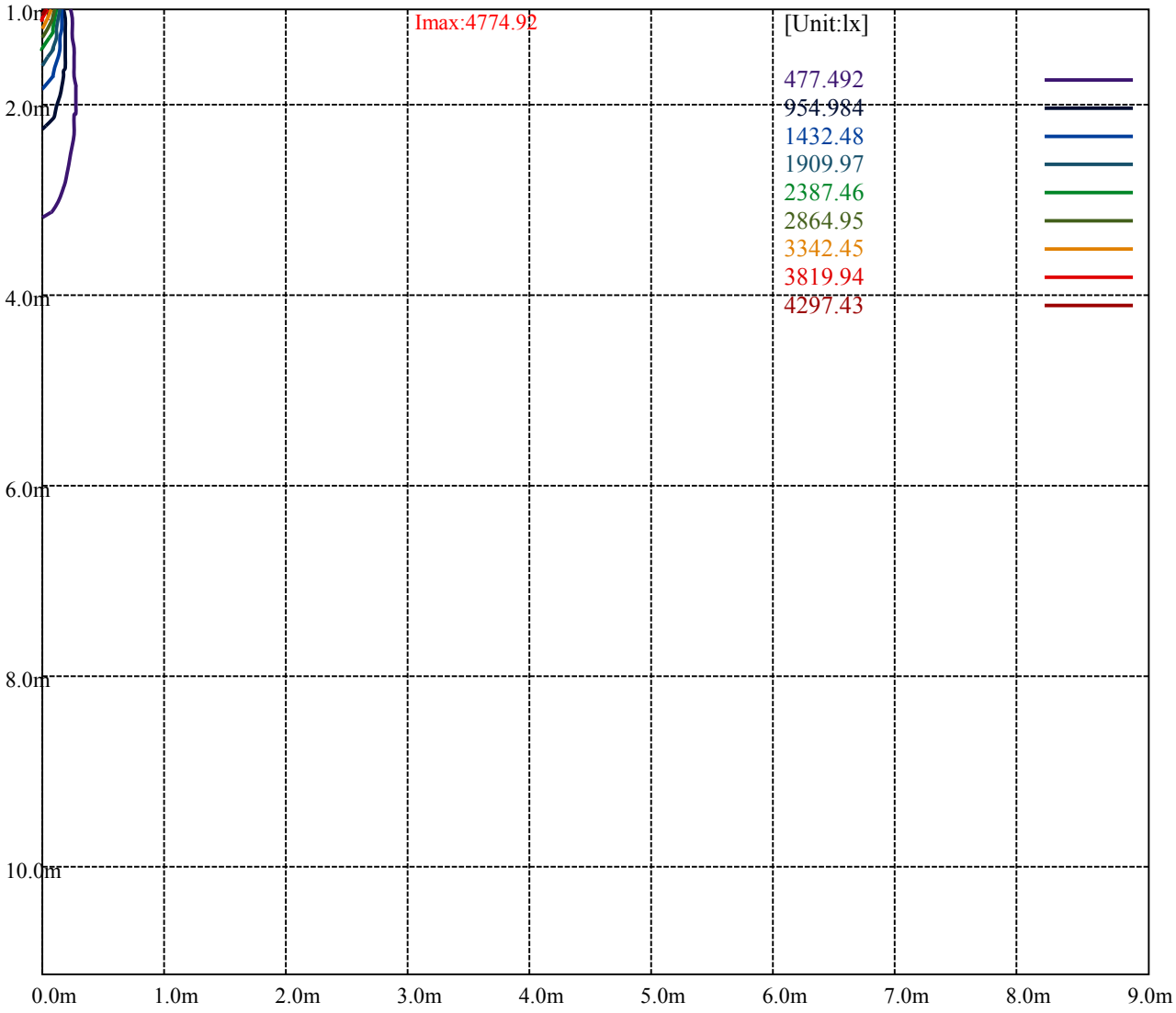
(10%Emax) 119.3727
(20%Emax) 238.7457
(30%Emax) 358.1175
(40%Emax) 477.4925
(50%Emax) 596.865
(60%Emax) 716.2375
(70%Emax) 835.61
(80%Emax) 954.9825
(90%Emax) 1074.355

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2020/7/9
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2020/7/9
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

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Luminance Limitting Curve(no luminous side)

Luminance Table

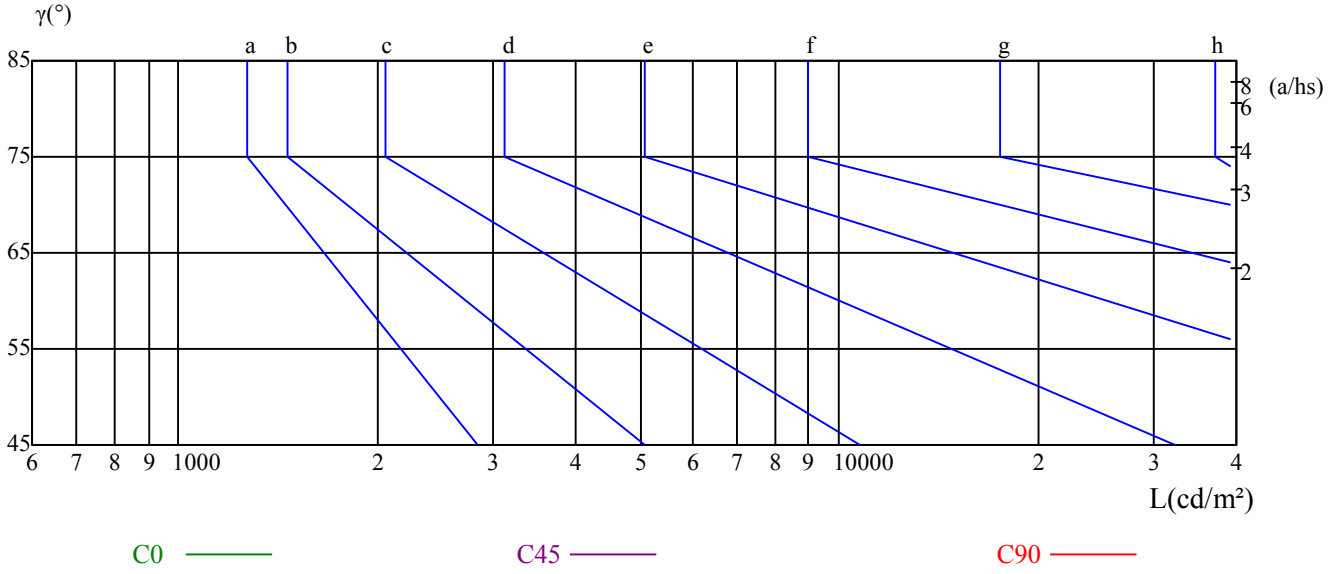
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

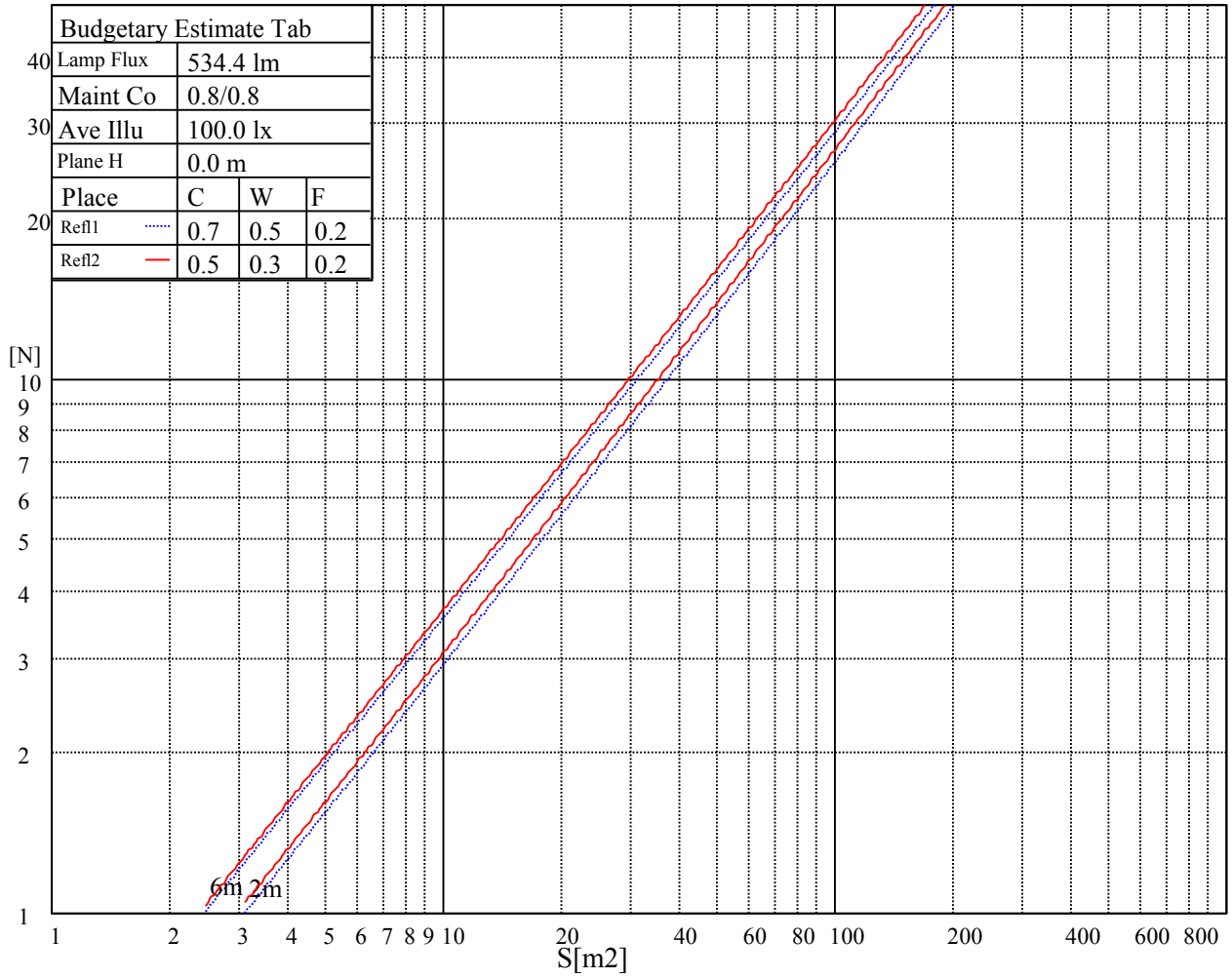
Glare Table

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

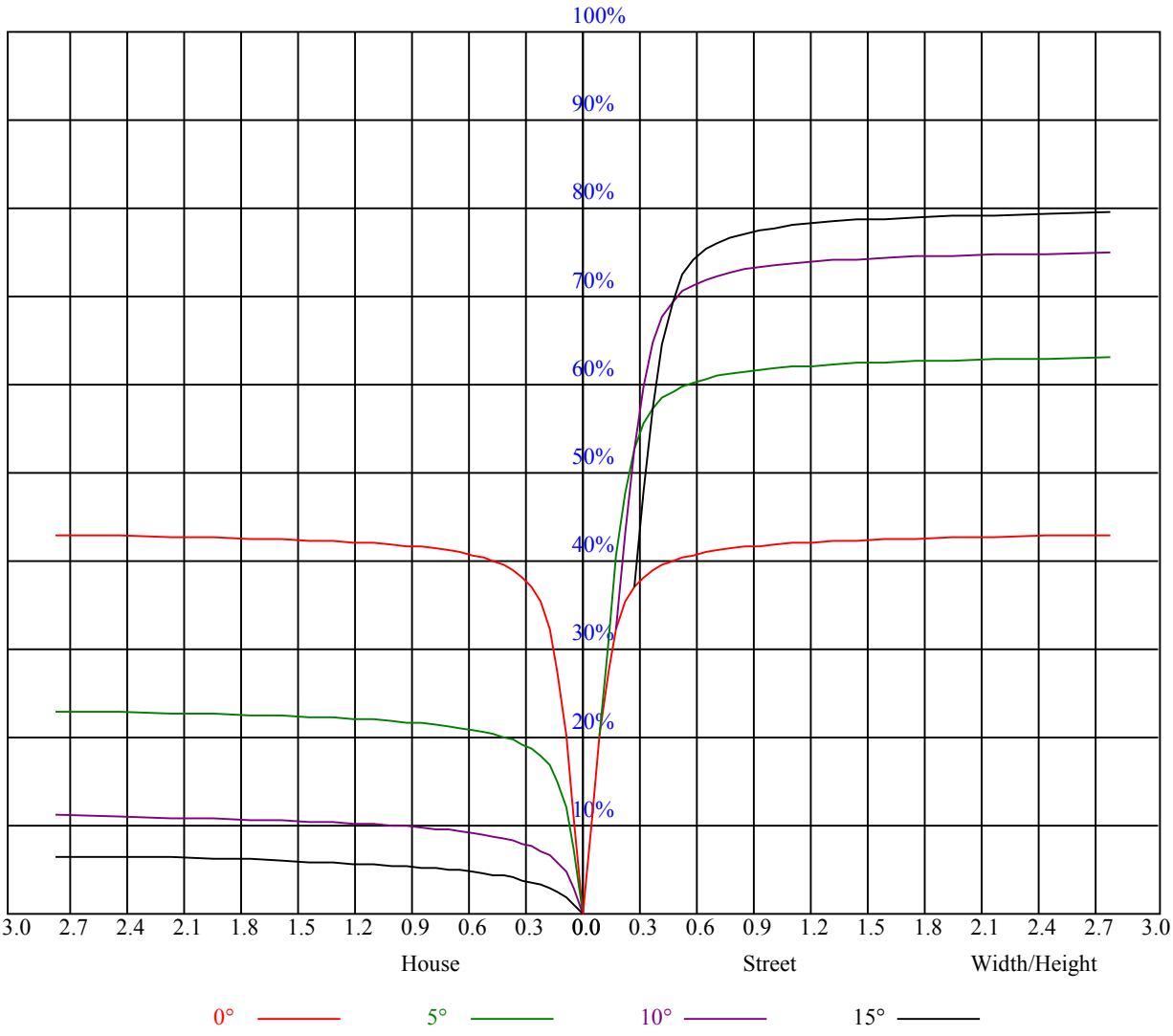


Equipment: GMS1980 Date: 2020/7/9 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

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	1.04	1.04	1.04	1.02	1.02	1.02	0.97	0.97	0.97	0.93	0.93	0.93	0.89	0.89	0.89	0.88
1	0.98	0.97	0.95	0.97	0.95	0.93	0.93	0.92	0.91	0.90	0.89	0.88	0.87	0.86	0.85	0.84
2	0.94	0.91	0.89	0.92	0.90	0.88	0.90	0.88	0.86	0.87	0.85	0.84	0.85	0.83	0.82	0.81
3	0.90	0.87	0.84	0.89	0.86	0.84	0.87	0.84	0.82	0.85	0.83	0.81	0.83	0.81	0.80	0.79
4	0.87	0.83	0.81	0.86	0.83	0.80	0.84	0.82	0.79	0.83	0.80	0.79	0.81	0.79	0.78	0.77
5	0.84	0.81	0.78	0.84	0.80	0.78	0.82	0.79	0.77	0.81	0.78	0.77	0.80	0.78	0.76	0.75
6	0.82	0.79	0.76	0.81	0.78	0.76	0.80	0.77	0.75	0.79	0.77	0.75	0.78	0.76	0.74	0.74
7	0.80	0.77	0.74	0.80	0.76	0.74	0.79	0.76	0.74	0.78	0.75	0.73	0.77	0.75	0.73	0.72
8	0.78	0.75	0.73	0.78	0.75	0.73	0.77	0.74	0.72	0.76	0.74	0.72	0.76	0.73	0.72	0.71
9	0.77	0.73	0.71	0.76	0.73	0.71	0.76	0.73	0.71	0.75	0.73	0.71	0.74	0.72	0.71	0.70
10	0.75	0.72	0.70	0.75	0.72	0.70	0.74	0.72	0.70	0.74	0.71	0.70	0.73	0.71	0.69	0.69

Coefficient Utilization Curve



Equipment: GMS1980	Date: 2020/7/9	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	4777.31	4731.19	4518.00	4239.00	3888.56	3443.06	2982.94	2580.75	2149.31
45.0	4786.31	4710.38	4499.44	4170.94	3806.44	3364.88	2904.75	2495.25	2107.13
90.0	4758.75	4606.31	4411.13	4051.13	3574.13	3220.31	2757.94	2251.13	1919.25
135.0	4777.31	4753.13	4604.63	4338.56	4019.06	3646.13	3151.13	2748.94	2401.88
180.0	4777.31	4734.00	4549.50	4298.63	3975.75	3562.31	3116.81	2718.00	2277.00
225.0	4786.31	4749.75	4624.88	4366.69	4007.81	3629.25	3245.06	2745.00	2352.38
270.0	4758.75	4772.25	4686.19	4444.31	4128.19	3764.25	3264.19	2859.75	2459.25
315.0	4777.31	4688.44	4475.25	4182.19	3825.00	3378.94	2922.75	2475.56	2095.31
360.0	4777.31	4731.19	4518.00	4239.00	3888.56	3443.06	2982.94	2580.75	2149.31

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	1744.88	1408.50	1078.88	833.06	615.94	464.63	340.31	286.31	200.14
45.0	1659.38	1327.50	1037.25	770.06	563.06	424.69	311.63	291.94	182.70
90.0	1564.31	1063.86	907.03	693.28	507.38	370.74	283.44	219.71	163.46
135.0	1894.50	1550.81	1275.75	943.31	707.63	567.00	417.38	329.63	288.00
180.0	1901.81	1512.56	1100.36	917.04	690.41	521.61	409.50	324.84	248.40
225.0	1982.25	1549.69	1100.42	972.51	709.03	553.50	433.97	325.35	270.84
270.0	1987.31	1634.63	1312.88	997.88	740.81	563.63	414.00	316.69	287.44
315.0	1736.44	1109.42	1042.20	806.29	598.16	444.26	342.28	266.51	200.98
360.0	1744.88	1408.50	1078.88	833.06	615.94	464.63	340.31	286.31	200.14

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	153.39	127.91	109.58	92.19	81.84	73.35	64.74	58.89	53.89
45.0	148.39	121.05	101.25	87.30	75.49	66.04	58.33	52.37	47.59
90.0	132.30	109.69	90.90	77.46	68.51	60.69	54.34	49.78	45.06
135.0	203.34	168.24	137.98	114.41	97.59	84.26	70.88	61.93	55.29
180.0	202.78	167.79	137.81	114.64	98.83	84.66	73.29	65.08	57.66
225.0	217.35	172.46	147.94	122.74	101.08	88.71	76.89	64.46	57.99
270.0	183.26	149.63	121.39	100.52	86.85	75.71	64.86	58.16	52.59
315.0	165.26	138.32	115.43	97.65	85.05	73.52	64.18	57.66	51.64
360.0	153.39	127.91	109.58	92.19	81.84	73.35	64.74	58.89	53.89

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	48.77	44.21	40.67	36.96	33.58	30.83	28.07	25.76	23.63
45.0	43.09	39.04	35.49	32.46	29.14	26.66	24.69	22.56	21.09
90.0	41.23	37.24	33.69	31.11	28.74	26.10	24.41	22.84	21.21
135.0	49.11	43.48	39.21	35.21	31.78	29.14	26.66	24.69	22.89
180.0	52.26	46.86	42.19	38.42	35.10	31.50	29.03	26.83	24.47
225.0	51.75	45.73	40.67	36.96	33.19	29.93	27.51	25.14	23.40
270.0	47.19	42.41	38.87	35.16	32.01	29.48	27.17	25.43	23.63
315.0	46.58	41.79	37.80	34.54	31.67	28.52	26.27	24.41	22.28
360.0	48.77	44.21	40.67	36.96	33.58	30.83	28.07	25.76	23.63

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	21.77	20.31	19.13	17.83	16.88	15.86	14.63	13.73	12.88
45.0	19.80	18.51	17.49	16.59	15.69	14.91	14.12	13.22	12.54
90.0	20.08	19.01	17.94	16.99	16.20	15.30	14.51	13.61	12.88
135.0	21.38	20.08	19.01	17.78	16.93	16.03	14.96	14.18	13.44
180.0	22.78	21.38	19.86	18.73	17.78	16.54	15.75	14.74	13.67
225.0	21.77	20.36	19.29	18.11	17.10	16.26	15.41	14.46	13.67
270.0	21.99	20.81	19.74	18.56	17.61	16.88	15.86	15.02	14.18
315.0	20.87	19.63	18.45	17.27	16.37	15.47	14.68	13.78	12.88
360.0	21.77	20.31	19.13	17.83	16.88	15.86	14.63	13.73	12.88

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	12.04	11.19	10.52	9.79	9.28	8.78	8.33	7.99	7.59
45.0	11.76	11.03	10.46	9.96	9.28	8.78	8.49	8.16	7.82
90.0	12.15	11.42	10.69	10.13	9.68	9.17	8.78	8.49	8.10
135.0	12.60	11.87	11.19	10.52	10.01	9.45	9.00	8.61	8.27
180.0	12.94	12.04	11.19	10.63	10.07	9.39	9.06	8.72	8.33
225.0	12.94	12.15	11.31	10.63	10.07	9.45	9.00	8.66	8.33
270.0	13.39	12.60	11.87	11.19	10.52	9.90	9.45	9.00	8.61
315.0	12.21	11.48	10.69	10.13	9.62	9.00	8.66	8.27	7.88
360.0	12.04	11.19	10.52	9.79	9.28	8.78	8.33	7.99	7.59

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	7.26	7.03	6.81	6.47	6.30	6.13	5.91	5.68	5.57
45.0	7.48	7.20	6.92	6.75	6.47	6.19	6.02	5.74	5.57
90.0	7.76	7.48	7.26	6.98	6.75	6.53	6.30	6.08	5.85
135.0	7.93	7.65	7.43	7.09	6.86	6.64	6.36	6.24	6.02
180.0	8.04	7.82	7.54	7.20	7.03	6.75	6.64	6.53	6.30
225.0	7.93	7.71	7.43	7.20	6.86	6.64	6.41	6.19	6.02
270.0	8.21	7.93	7.71	7.37	7.09	6.92	6.64	6.36	6.13
315.0	7.59	7.31	7.03	6.81	6.58	6.36	6.13	5.91	5.63
360.0	7.26	7.03	6.81	6.47	6.30	6.13	5.91	5.68	5.57

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	5.40	5.29	5.18	5.06	5.06	5.74	7.99	11.25	15.64
45.0	5.40	5.18	5.06	4.84	4.67	4.56	4.39	4.28	4.16
90.0	5.63	5.40	5.23	5.06	4.89	4.73	4.56	4.44	4.22
135.0	5.79	5.57	5.40	5.23	5.06	4.89	4.73	4.61	4.50
180.0	6.13	5.96	5.74	5.57	5.46	5.34	5.63	7.31	10.41
225.0	5.79	5.63	5.40	5.23	5.06	4.84	4.67	4.56	4.44
270.0	5.96	5.68	5.57	5.34	5.18	5.01	4.84	4.67	4.50
315.0	5.51	5.29	5.12	5.01	4.84	4.61	4.56	4.39	4.28
360.0	5.40	5.29	5.18	5.06	5.06	5.74	7.99	11.25	15.64

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	19.69	23.23	26.33	29.42	29.93	27.84	25.20	22.73	20.48
45.0	3.99	3.88	3.77	3.60	3.49	3.38	3.26	3.15	3.04
90.0	4.11	3.99	3.88	3.71	3.66	3.54	3.43	3.38	3.26
135.0	4.33	4.22	4.11	3.94	3.83	3.71	3.60	3.54	3.43
180.0	15.13	18.68	22.50	26.04	28.58	29.03	26.89	24.24	22.11
225.0	4.28	4.22	4.05	3.88	3.71	3.60	3.49	3.38	3.26
270.0	4.33	4.16	4.05	3.94	3.83	3.66	3.60	3.49	3.38
315.0	4.11	3.99	3.88	3.71	3.60	3.49	3.38	3.26	3.15
360.0	19.69	23.23	26.33	29.42	29.93	27.84	25.20	22.73	20.48

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	18.11	15.36	9.11	3.49	2.93	2.76	2.64	2.48	2.14
45.0	2.93	2.81	2.70	2.59	2.48	2.31	2.19	2.14	2.03
90.0	3.21	3.04	2.93	2.81	2.64	2.48	2.36	2.31	2.19
135.0	3.26	3.15	3.04	2.93	2.76	2.64	2.48	2.42	2.31
180.0	19.74	17.61	12.88	7.37	3.38	2.93	2.81	2.59	2.14
225.0	3.21	3.04	2.93	2.76	2.64	2.48	2.36	2.25	2.08
270.0	3.32	3.21	3.09	2.98	2.87	2.70	2.53	2.42	2.36
315.0	3.04	2.93	2.87	2.70	2.64	2.53	2.42	2.25	2.14
360.0	18.11	15.36	9.11	3.49	2.93	2.76	2.64	2.48	2.14

Intensity data(cd)

C/γ(°)	90.0
0.0	2.08
45.0	2.03
90.0	2.19
135.0	2.19
180.0	2.08
225.0	2.08
270.0	2.25
315.0	2.08
360.0	2.08