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

Nata

LumCAT: 1-0926-M
Luminaire:92.70.124.00

Report No: NATA0100	Voltage(V): 34.1100
Test No: GC2019091104	Current(A): 0.2470
LampCAT: CITIZEN CLU 028	Power (W): 8.4100
Lamp flux(lm): 1237.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 0	Width(mm): 0
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 915.89
Efficiency(%): 74.04%
Lumens(lm)/Power(W): 108.91
Central intensity(cd): 7309.547
Maximum intensity(cd): 7309.547
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=16.6
[C90/270]Total=16.6
Field angle(10%Imax): [C0/180]Total=37.7
[C90/270]Total=37.7
Maximum s/h(1/2): C0_180=0.28 C90_270=0.28
Maximum s/h(1/4): C0_180=0.32 C90_270=0.32
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 74.04%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.581%

Equipment: GMS1980	Date: 2019/9/11	Operator: NT07
Temperature(°C): 25.0	Humidity(%): 65.0%	Distance(m): 7.50

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	7309.547	0.000	0	.000%	.000%
1.0	7195.078	6.940	6.94	.561%	.758%
2.0	6920.227	20.260	27.2	1.638%	2.970%
3.0	6482.250	32.054	59.254	2.591%	6.470%
4.0	5980.219	41.716	100.97	3.372%	11.024%
5.0	5436.492	49.114	150.084	3.970%	16.387%
6.0	4880.742	54.220	204.304	4.383%	22.306%
7.0	4302.984	57.003	261.307	4.608%	28.530%
8.0	3806.367	58.037	319.344	4.692%	34.867%
9.0	3297.445	57.573	376.917	4.654%	41.153%
10.0	2863.688	55.756	432.673	4.507%	47.240%
11.0	2513.250	53.727	486.399	4.343%	53.106%
12.0	2185.664	51.366	537.765	4.152%	58.715%
13.0	1882.195	48.275	586.041	3.903%	63.986%
14.0	1612.631	44.733	630.774	3.616%	68.870%
15.0	1404.759	41.424	672.198	3.349%	73.392%
16.0	1195.530	38.102	710.3	3.080%	77.553%
17.0	1024.214	34.567	744.867	2.794%	81.327%
18.0	857.686	31.028	775.895	2.508%	84.714%
19.0	709.341	27.263	803.158	2.204%	87.691%
20.0	567.499	23.370	826.528	1.889%	90.243%
21.0	427.591	19.108	845.636	1.545%	92.329%
22.0	320.871	15.041	860.677	1.216%	93.971%
23.0	224.852	11.451	872.127	.926%	95.221%
24.0	142.833	8.039	880.166	.650%	96.099%
25.0	70.488	4.850	885.017	.392%	96.629%
26.0	37.329	2.545	887.562	.206%	96.907%
27.0	19.238	1.384	888.946	.112%	97.058%
28.0	12.509	0.804	889.749	.065%	97.145%
29.0	10.477	0.601	890.351	.049%	97.211%
30.0	9.387	0.536	890.887	.043%	97.270%
31.0	8.501	0.498	891.385	.040%	97.324%
32.0	7.861	0.469	891.854	.038%	97.375%
33.0	7.355	0.448	892.302	.036%	97.424%
34.0	6.891	0.431	892.733	.035%	97.471%
35.0	6.546	0.417	893.15	.034%	97.517%
36.0	6.230	0.407	893.557	.033%	97.561%
37.0	5.977	0.398	893.955	.032%	97.605%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	5.759	0.392	894.347	.032%	97.647%
39.0	5.562	0.386	894.733	.031%	97.690%
40.0	5.414	0.383	895.116	.031%	97.731%
41.0	5.280	0.381	895.497	.031%	97.773%
42.0	5.161	0.379	895.876	.031%	97.814%
43.0	5.048	0.378	896.254	.031%	97.856%
44.0	4.957	0.378	896.632	.031%	97.897%
45.0	4.880	0.378	897.01	.031%	97.938%
46.0	4.823	0.379	897.39	.031%	97.980%
47.0	4.753	0.381	897.77	.031%	98.021%
48.0	4.704	0.382	898.153	.031%	98.063%
49.0	4.641	0.384	898.537	.031%	98.105%
50.0	4.598	0.385	898.922	.031%	98.147%
51.0	4.570	0.388	899.31	.031%	98.189%
52.0	4.514	0.390	899.699	.032%	98.232%
53.0	4.493	0.392	900.091	.032%	98.275%
54.0	4.458	0.395	900.486	.032%	98.318%
55.0	4.430	0.397	900.882	.032%	98.361%
56.0	4.402	0.399	901.282	.032%	98.404%
57.0	4.373	0.401	901.683	.032%	98.448%
58.0	4.345	0.403	902.086	.033%	98.492%
59.0	4.331	0.406	902.492	.033%	98.537%
60.0	4.303	0.408	902.899	.033%	98.581%
61.0	4.275	0.409	903.309	.033%	98.626%
62.0	4.247	0.411	903.719	.033%	98.671%
63.0	4.247	0.413	904.133	.033%	98.716%
64.0	4.226	0.416	904.548	.034%	98.761%
65.0	4.233	0.419	904.967	.034%	98.807%
66.0	4.212	0.421	905.388	.034%	98.853%
67.0	4.191	0.422	905.811	.034%	98.899%
68.0	4.191	0.425	906.235	.034%	98.945%
69.0	4.170	0.426	906.662	.034%	98.992%
70.0	4.170	0.428	907.09	.035%	99.039%
71.0	4.141	0.430	907.52	.035%	99.086%
72.0	4.141	0.431	907.95	.035%	99.133%
73.0	4.141	0.433	908.383	.035%	99.180%
74.0	4.127	0.435	908.818	.035%	99.227%
75.0	4.127	0.436	909.254	.035%	99.275%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	4.113	0.437	909.692	.035%	99.323%
77.0	4.120	0.439	910.131	.035%	99.371%
78.0	4.106	0.440	910.571	.036%	99.419%
79.0	4.099	0.441	911.012	.036%	99.467%
80.0	4.092	0.442	911.454	.036%	99.515%
81.0	4.092	0.443	911.896	.036%	99.563%
82.0	4.099	0.444	912.34	.036%	99.612%
83.0	4.085	0.445	912.785	.036%	99.660%
84.0	4.099	0.446	913.231	.036%	99.709%
85.0	4.085	0.447	913.678	.036%	99.758%
86.0	4.050	0.445	914.123	.036%	99.806%
87.0	4.050	0.443	914.566	.036%	99.855%
88.0	4.036	0.443	915.009	.036%	99.903%
89.0	4.043	0.443	915.452	.036%	99.952%
90.0	4.043	0.443	915.895	.036%	100.000%

Zonal flux distribution table

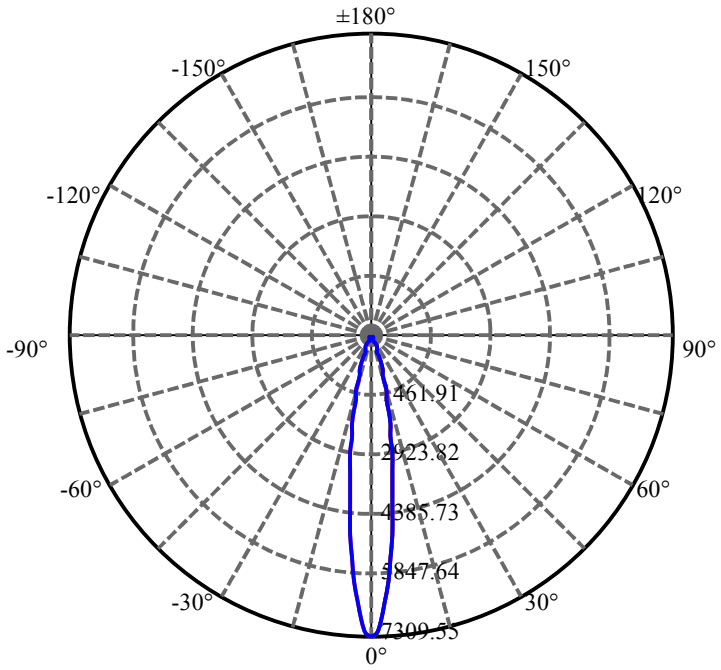
ZONAL LUMEN SUMMARY

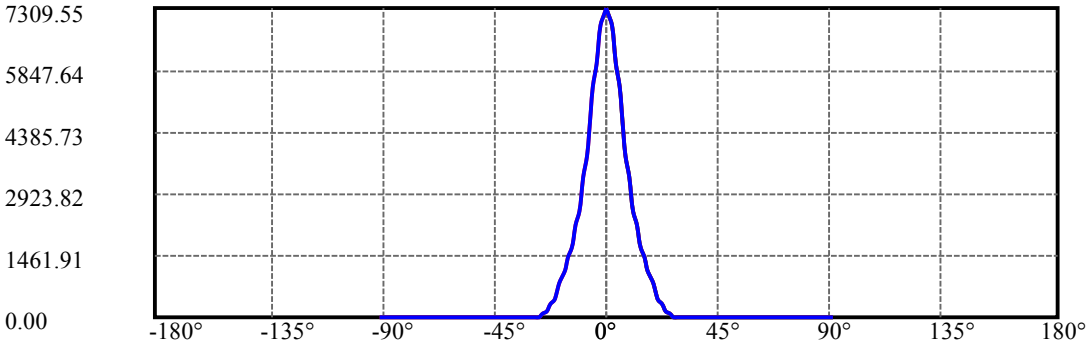
Zone	Lumens	%Lamp	%Fixt
0-30	890.89	72.02%	97.27%
0-40	895.12	72.36%	97.73%
0-60	902.90	72.99%	98.58%
0-90	915.45	74.01%	99.95%
0-120	915.45	74.01%	99.95%
0-180	915.89	74.04%	100.00%
60-90	12.96	1.05%	1.42%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-16.65	732.72	59.23%	80.00%

ZONAL LUMEN SUMMARY

0-10	432.67
10-20	393.86
20-30	64.36
30-40	4.23
40-50	3.81
50-60	3.98
60-70	4.19
70-80	4.36
80-90	4.00
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):

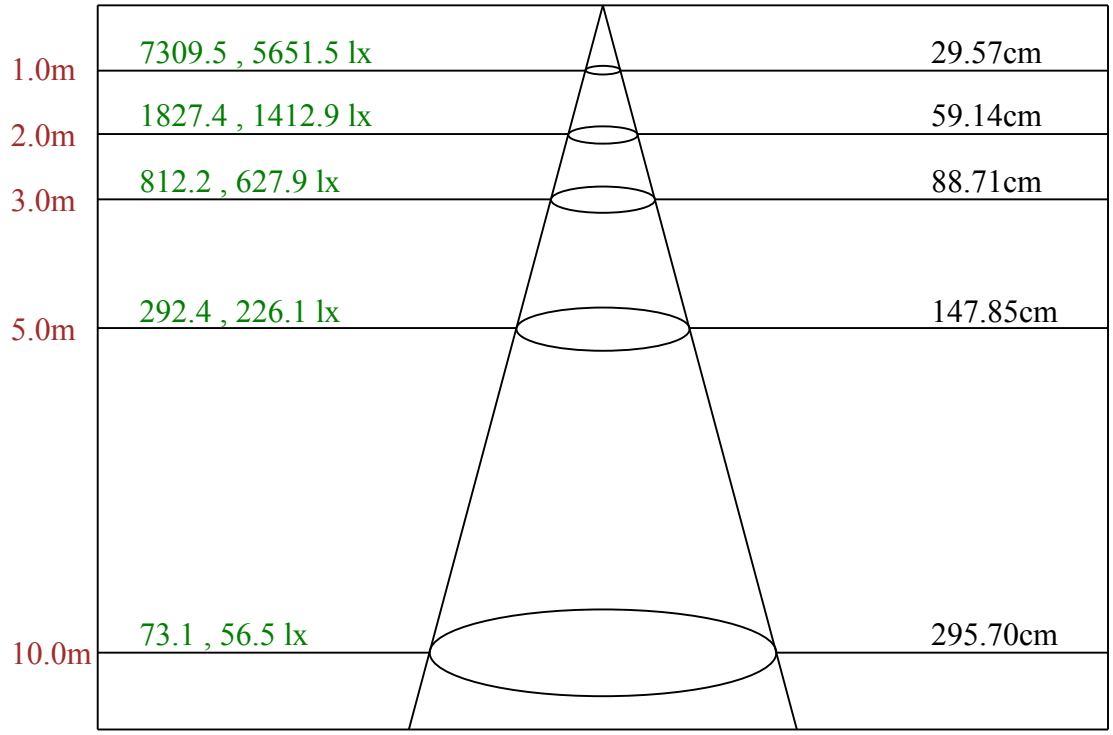
C0/C180:

C90/C270:

Field angle(10%Imax):C0/180Left:18.9 Right:18.9
:C90/270Left:18.9 Right:18.9

Beam Angle(50%Imax):C0/180Left:8.3 Right:8.3
:C90/270Left:8.3 Right:8.3

Lux distance Curve

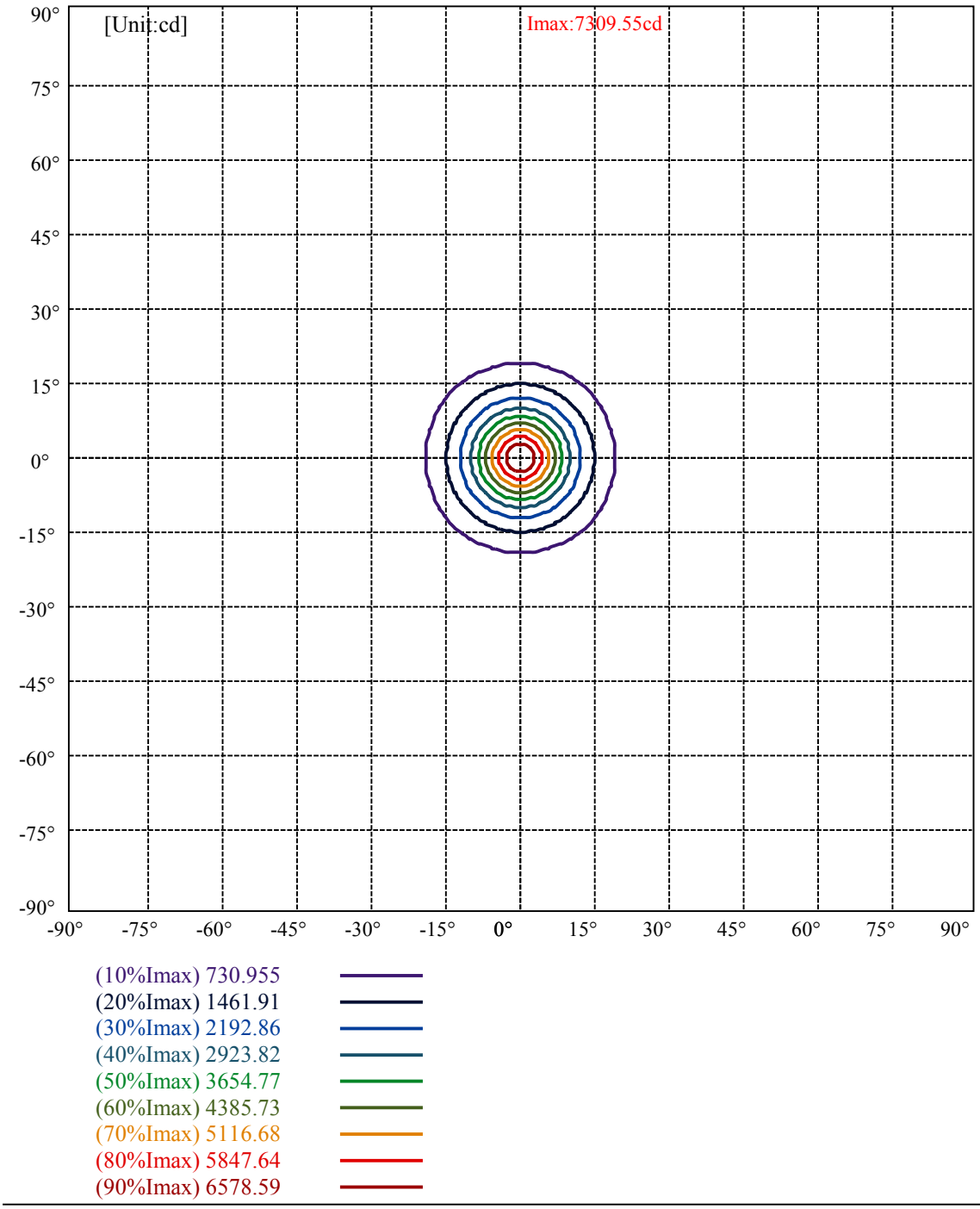


Max , Ave

Beam angle of C0 plane 16.82

Equipment: GMS1980	Date: 2019/9/11	Operator: NT07
Temperature(°C): 25.0	Humidity(%): 65.0%	Distance(m): 7.50

ISO-Intensity(V-H)

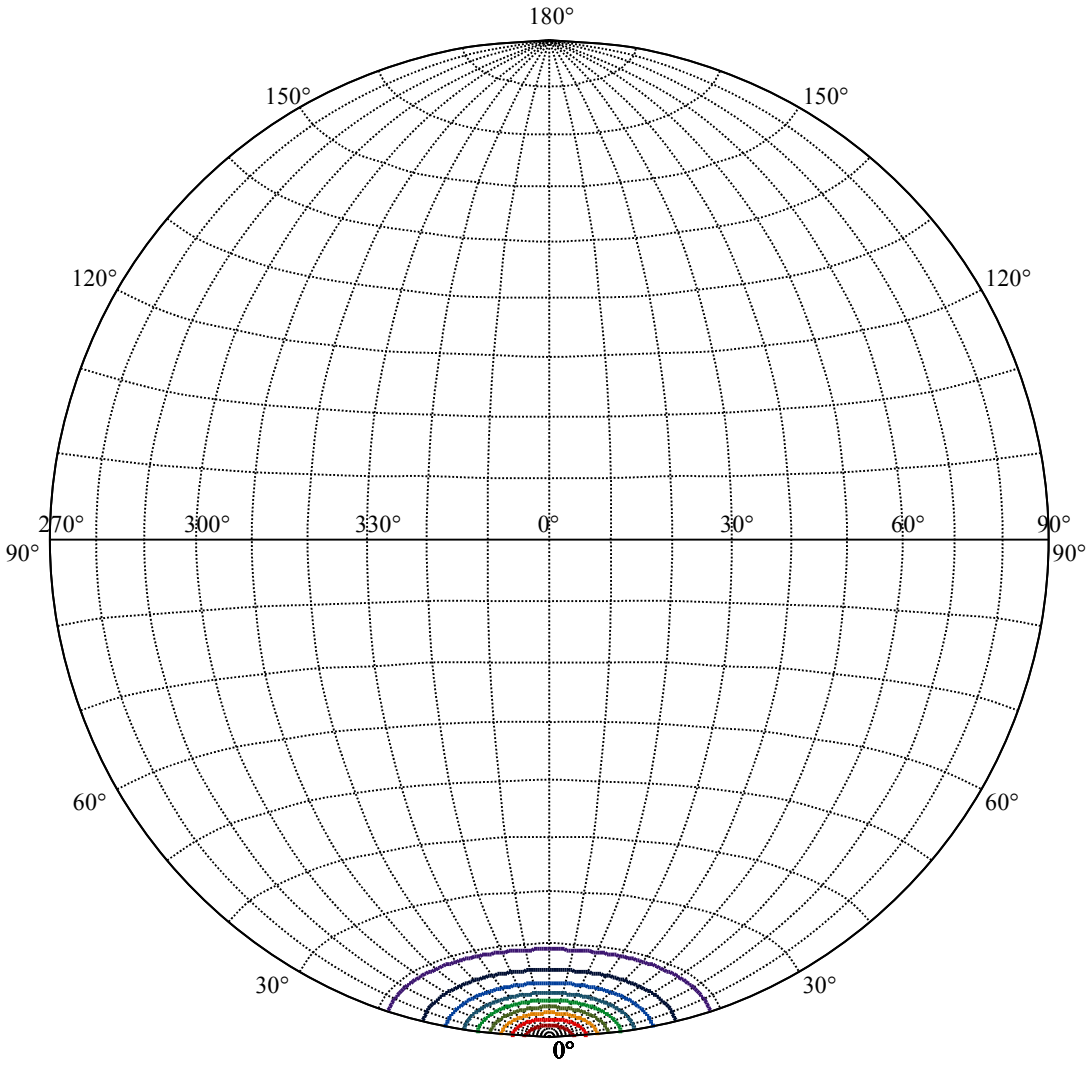


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/9/11
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web



House [Unit:cd] Road

Imax:7309.55

(10%Imax) 730.955
(20%Imax) 1461.91
(30%Imax) 2192.86
(40%Imax) 2923.82
(50%Imax) 3654.77
(60%Imax) 4385.73
(70%Imax) 5116.68
(80%Imax) 5847.64
(90%Imax) 6578.59

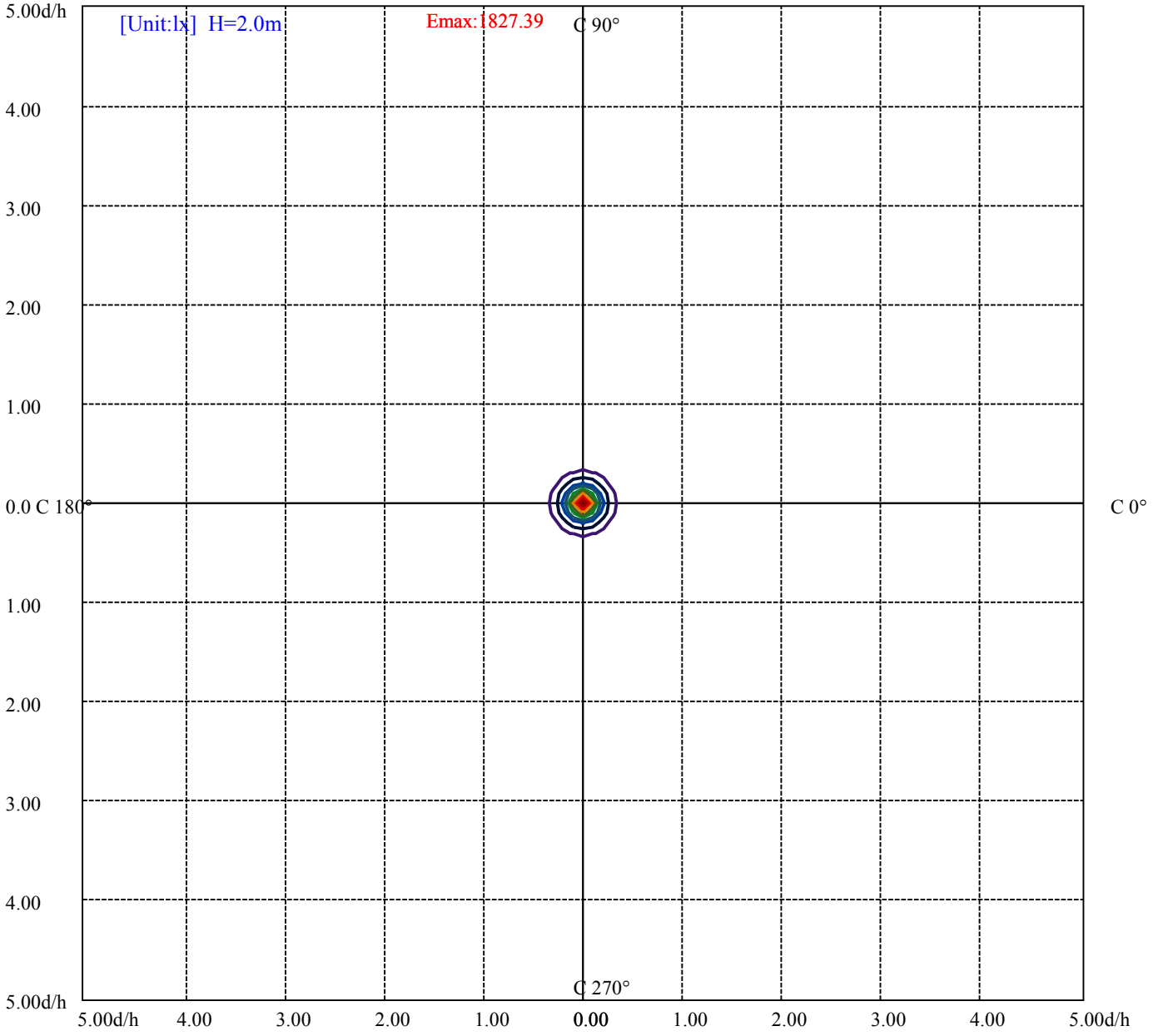
Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/9/11
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Nata 1-0920-M

ISO illuminance diagram

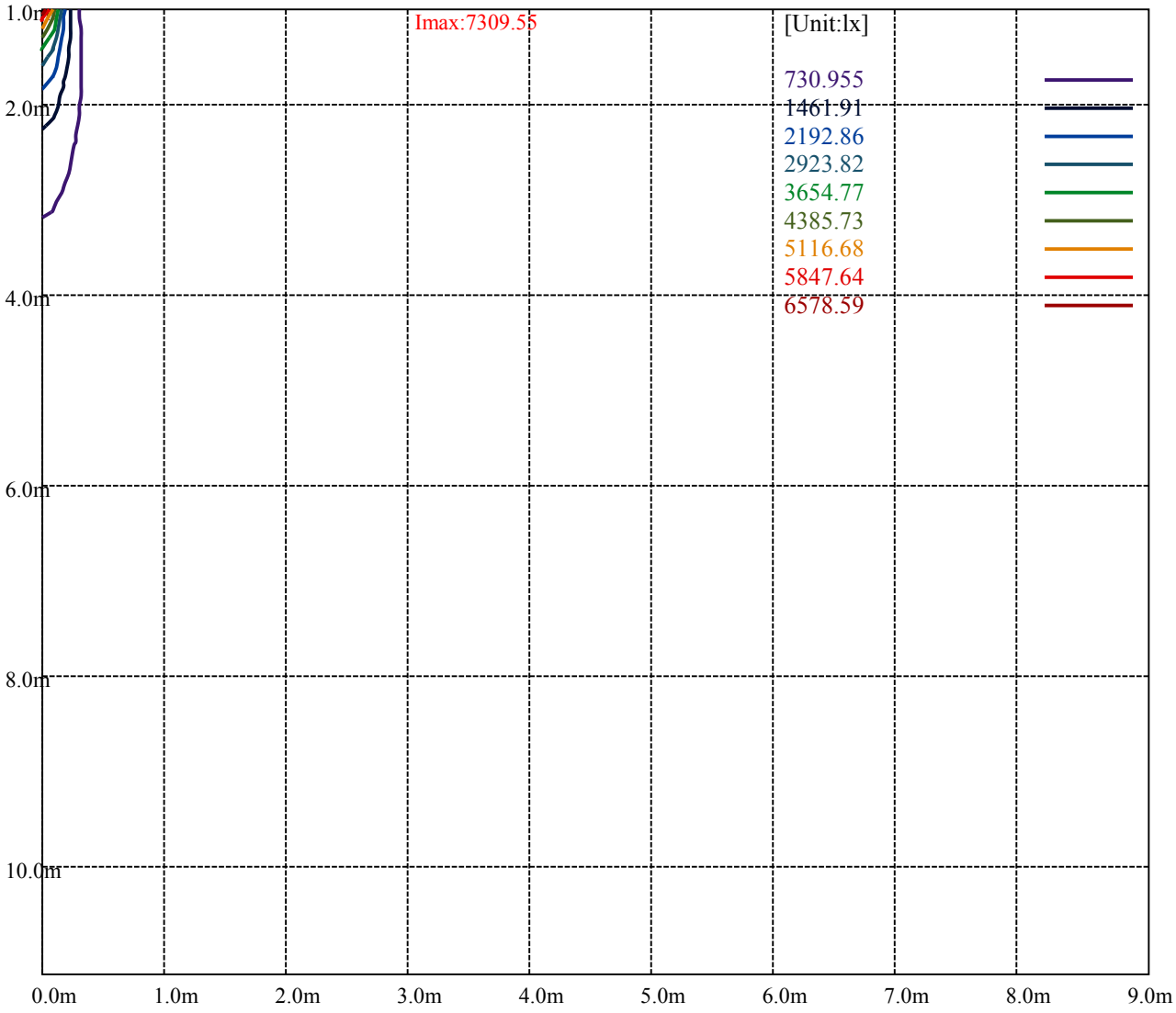


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/9/11
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/9/11
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Luminance Limitting Curve(no luminous side)

Luminance Table

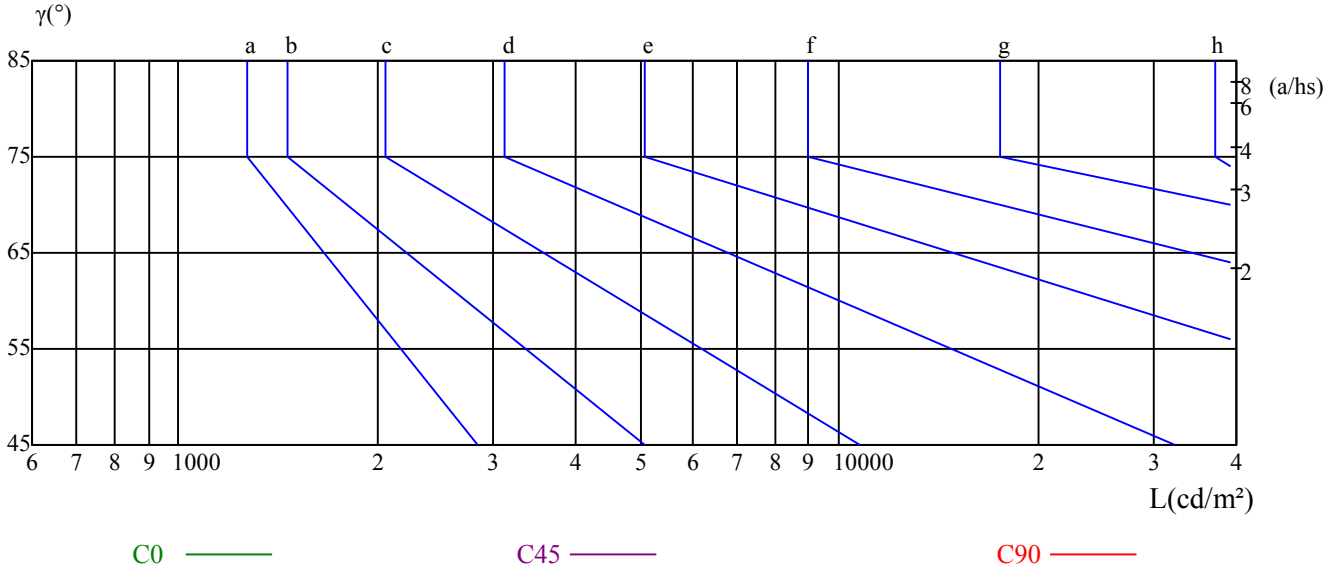
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

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

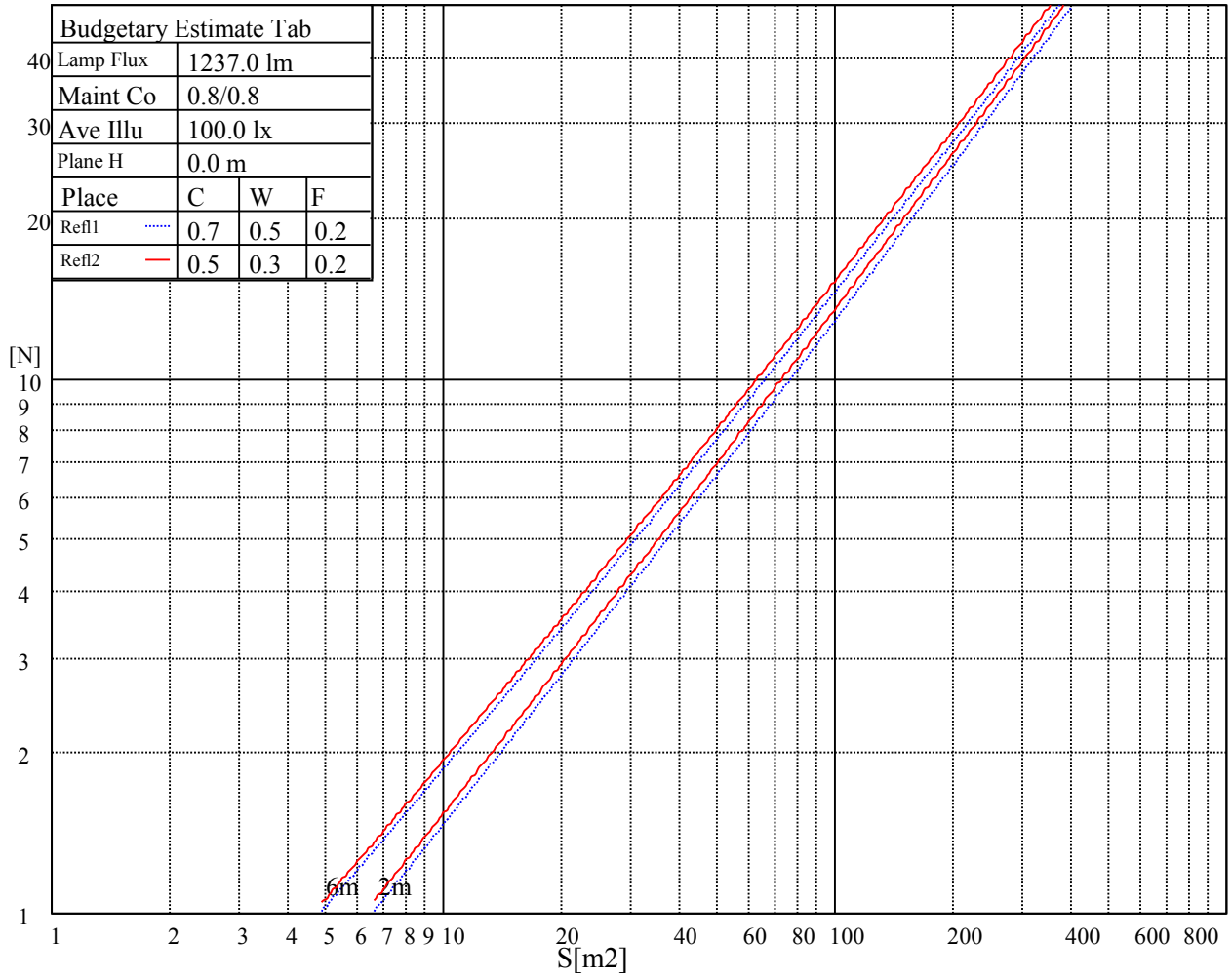
Glare Table

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

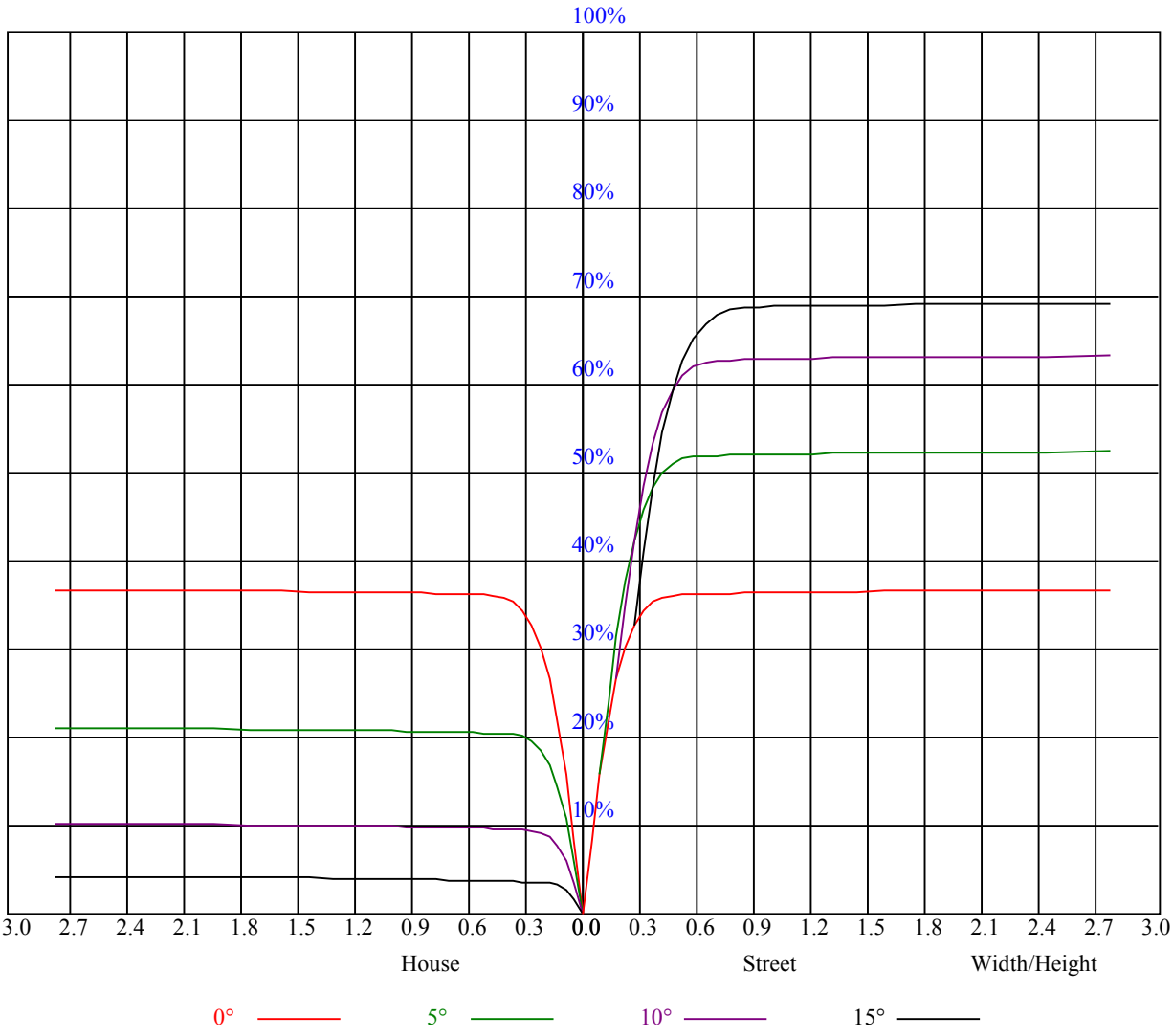


Equipment: GMS1980 Date: 2019/9/11 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

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	0.88	0.88	0.88	0.86	0.86	0.86	0.82	0.82	0.82	0.79	0.79	0.79	0.76	0.76	0.76	0.74
1	0.84	0.82	0.81	0.82	0.81	0.80	0.79	0.78	0.77	0.76	0.76	0.75	0.74	0.73	0.73	0.72
2	0.80	0.78	0.76	0.79	0.77	0.75	0.77	0.75	0.74	0.75	0.73	0.72	0.73	0.72	0.71	0.70
3	0.77	0.75	0.73	0.76	0.74	0.72	0.74	0.73	0.71	0.73	0.71	0.70	0.71	0.70	0.69	0.68
4	0.75	0.72	0.70	0.74	0.72	0.70	0.73	0.70	0.69	0.71	0.69	0.68	0.70	0.69	0.67	0.67
5	0.73	0.70	0.68	0.72	0.69	0.67	0.71	0.69	0.67	0.70	0.68	0.66	0.69	0.67	0.66	0.65
6	0.71	0.68	0.66	0.70	0.67	0.66	0.69	0.67	0.65	0.68	0.66	0.65	0.67	0.66	0.64	0.64
7	0.69	0.66	0.64	0.68	0.66	0.64	0.68	0.65	0.64	0.67	0.65	0.63	0.66	0.64	0.63	0.62
8	0.67	0.65	0.63	0.67	0.64	0.63	0.66	0.64	0.62	0.66	0.64	0.62	0.65	0.63	0.62	0.61
9	0.66	0.63	0.61	0.65	0.63	0.61	0.65	0.63	0.61	0.64	0.62	0.61	0.64	0.62	0.61	0.60
10	0.64	0.62	0.60	0.64	0.62	0.60	0.64	0.61	0.60	0.63	0.61	0.60	0.63	0.61	0.60	0.59

Coefficient Utilization Curve



Equipment: GMS1980	Date: 2019/9/11	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	7251.75	7452.56	7438.50	7155.00	6735.38	6118.31	5600.81	5077.69	4529.25
45.0	7247.81	7530.19	7616.81	7416.00	7025.06	6475.50	5910.19	5367.94	4806.00
90.0	7403.63	7466.06	7317.56	6934.50	6428.81	5940.00	5435.44	4754.25	4199.63
135.0	7335.00	7267.50	7014.94	6512.06	6059.81	5575.50	4947.19	4398.75	3876.19
180.0	7251.75	6865.88	6341.63	5776.31	5198.63	4669.88	4141.13	3570.75	3087.56
225.0	7247.81	6726.38	6205.50	5637.94	5031.00	4475.81	3952.69	3364.31	2966.06
270.0	7403.63	7128.56	6651.00	6086.25	5569.31	4959.56	4355.44	3846.38	3380.63
315.0	7335.00	7123.50	6775.88	6339.94	5793.75	5277.38	4703.06	4043.81	3605.63
360.0	7251.75	7452.56	7438.50	7155.00	6735.38	6118.31	5600.81	5077.69	4529.25

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	3870.56	3383.44	2978.44	2576.81	2223.00	1939.50	1664.44	1422.56	1257.19
45.0	4116.38	3602.25	3152.81	2721.94	2345.06	2048.06	1752.75	1500.75	1301.06
90.0	3681.56	3130.88	2758.50	2426.63	2090.25	1796.06	1564.31	1330.88	1121.40
135.0	3304.69	2922.75	2572.88	2223.56	1912.50	1669.50	1431.00	1241.44	1046.25
180.0	2721.94	2364.19	2039.06	1785.38	1565.44	1317.94	1115.38	970.82	802.41
225.0	2620.69	2242.13	1965.38	1716.75	1480.50	1118.36	1097.94	916.54	780.75
270.0	2894.63	2565.00	2262.38	1950.19	1680.75	1472.63	1266.75	1075.50	918.56
315.0	3169.13	2698.88	2376.56	2084.06	1760.06	1539.00	1345.50	1105.76	966.09
360.0	3870.56	3383.44	2978.44	2576.81	2223.00	1939.50	1664.44	1422.56	1257.19

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1044.56	889.31	754.31	587.81	464.06	346.50	291.94	131.40	68.91
45.0	1119.94	932.63	768.38	622.69	491.06	371.81	288.56	153.45	87.08
90.0	955.18	788.34	653.18	504.90	374.06	268.76	179.55	92.08	45.11
135.0	867.94	730.13	579.94	431.44	329.06	288.00	119.42	64.29	31.05
180.0	649.29	516.88	379.91	260.04	169.54	90.84	44.49	19.74	13.50
225.0	631.52	486.73	365.68	247.22	149.96	82.07	38.76	17.83	13.73
270.0	768.94	635.63	490.50	357.19	290.81	161.94	77.63	35.49	17.89
315.0	824.12	695.08	548.10	409.44	298.41	188.89	102.32	49.61	21.38
360.0	1044.56	889.31	754.31	587.81	464.06	346.50	291.94	131.40	68.91

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	26.21	14.79	11.48	10.07	9.06	8.38	7.76	7.20	6.86
45.0	41.18	17.27	12.43	10.69	9.39	8.66	8.04	7.43	7.09
90.0	21.15	13.33	11.14	9.96	9.00	8.27	7.71	7.20	6.81
135.0	15.36	11.98	10.69	9.56	8.72	8.04	7.48	7.03	6.64
180.0	11.64	10.35	9.23	8.55	7.93	7.31	6.92	6.58	6.24
225.0	11.93	10.24	9.34	8.55	7.76	7.31	6.92	6.47	6.24
270.0	12.66	11.14	9.84	8.94	8.04	7.48	7.03	6.64	6.30
315.0	13.78	10.97	9.68	8.78	8.10	7.43	6.98	6.58	6.19
360.0	26.21	14.79	11.48	10.07	9.06	8.38	7.76	7.20	6.86

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	6.47	6.13	5.91	5.68	5.51	5.34	5.18	5.06	4.95
45.0	6.69	6.36	6.13	5.91	5.74	5.57	5.40	5.29	5.18
90.0	6.47	6.19	5.96	5.68	5.51	5.40	5.29	5.12	5.01
135.0	6.30	6.08	5.85	5.63	5.51	5.34	5.23	5.12	5.06
180.0	5.96	5.79	5.57	5.46	5.29	5.18	5.06	5.01	4.89
225.0	5.96	5.74	5.57	5.40	5.29	5.18	5.12	5.01	4.89
270.0	6.02	5.79	5.57	5.40	5.23	5.18	5.06	4.95	4.89
315.0	5.96	5.74	5.51	5.34	5.23	5.06	4.95	4.84	4.78
360.0	6.47	6.13	5.91	5.68	5.51	5.34	5.18	5.06	4.95

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	4.89	4.84	4.78	4.73	4.61	4.56	4.56	4.50	4.50
45.0	5.06	5.01	4.95	4.89	4.78	4.78	4.73	4.67	4.61
90.0	4.95	4.89	4.78	4.73	4.67	4.61	4.61	4.56	4.50
135.0	4.95	4.89	4.84	4.73	4.67	4.61	4.56	4.56	4.50
180.0	4.84	4.78	4.67	4.67	4.61	4.56	4.56	4.50	4.44
225.0	4.84	4.78	4.73	4.67	4.61	4.61	4.56	4.50	4.50
270.0	4.78	4.73	4.67	4.67	4.61	4.56	4.56	4.44	4.50
315.0	4.73	4.67	4.61	4.56	4.56	4.50	4.44	4.39	4.39
360.0	4.89	4.84	4.78	4.73	4.61	4.56	4.56	4.50	4.50

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	4.44	4.39	4.39	4.33	4.33	4.33	4.28	4.22	4.22
45.0	4.56	4.56	4.50	4.50	4.44	4.44	4.44	4.39	4.39
90.0	4.50	4.44	4.39	4.39	4.39	4.33	4.28	4.28	4.22
135.0	4.50	4.44	4.44	4.39	4.33	4.33	4.33	4.28	4.22
180.0	4.44	4.39	4.33	4.33	4.33	4.28	4.28	4.22	4.22
225.0	4.44	4.44	4.44	4.39	4.39	4.39	4.33	4.33	4.28
270.0	4.44	4.44	4.39	4.39	4.33	4.33	4.28	4.28	4.28
315.0	4.33	4.33	4.33	4.28	4.22	4.22	4.22	4.22	4.16
360.0	4.44	4.39	4.39	4.33	4.33	4.33	4.28	4.22	4.22

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	4.22	4.22	4.22	4.16	4.16	4.16	4.11	4.16	4.11
45.0	4.39	4.33	4.33	4.33	4.28	4.28	4.28	4.28	4.22
90.0	4.22	4.22	4.22	4.22	4.22	4.22	4.16	4.16	4.16
135.0	4.22	4.22	4.22	4.22	4.16	4.16	4.16	4.16	4.16
180.0	4.22	4.16	4.22	4.16	4.16	4.16	4.11	4.11	4.11
225.0	4.28	4.28	4.28	4.28	4.22	4.22	4.22	4.22	4.16
270.0	4.28	4.22	4.22	4.22	4.22	4.22	4.22	4.22	4.16
315.0	4.16	4.16	4.16	4.11	4.11	4.11	4.11	4.05	4.05
360.0	4.22	4.22	4.22	4.16	4.16	4.16	4.11	4.16	4.11

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	4.11	4.11	4.11	4.11	4.11	4.11	4.05	4.05	4.05
45.0	4.28	4.22	4.22	4.22	4.22	4.16	4.16	4.16	4.16
90.0	4.16	4.16	4.11	4.11	4.11	4.11	4.11	4.11	4.11
135.0	4.11	4.11	4.11	4.11	4.05	4.11	4.05	4.05	4.05
180.0	4.11	4.11	4.11	4.11	4.05	4.05	4.05	4.05	4.05
225.0	4.16	4.22	4.16	4.16	4.16	4.22	4.22	4.16	4.16
270.0	4.16	4.16	4.16	4.16	4.16	4.16	4.16	4.16	4.16
315.0	4.05	4.05	4.05	4.05	4.05	4.05	4.05	4.05	3.99
360.0	4.11	4.11	4.11	4.11	4.11	4.11	4.05	4.05	4.05

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	4.05	4.05	4.05	4.05	4.05	4.05	4.05	3.99	4.05
45.0	4.16	4.16	4.16	4.16	4.16	4.16	4.16	4.11	4.11
90.0	4.11	4.11	4.05	4.05	4.05	4.05	4.05	4.05	4.05
135.0	4.05	4.05	4.05	4.05	4.05	3.99	3.99	3.99	3.99
180.0	4.05	4.05	3.99	4.05	3.99	3.99	3.99	3.99	3.99
225.0	4.16	4.16	4.16	4.16	4.11	4.11	4.11	4.11	4.11
270.0	4.16	4.22	4.22	4.28	4.28	4.05	4.05	4.05	4.05
315.0	3.99	3.99	3.99	3.99	3.99	3.99	3.99	3.99	3.99
360.0	4.05	4.05	4.05	4.05	4.05	4.05	4.05	3.99	4.05

Intensity data(cd)

C/γ(°)	90.0
0.0	4.05
45.0	4.11
90.0	4.05
135.0	3.99
180.0	3.99
225.0	4.11
270.0	4.05
315.0	3.99
360.0	4.05