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

Nata

LumCAT: LN01D04524DA-N
Luminaire: 97.70.273.00
Report No: 200709-B006
Test No: 200709-C006
LampCAT: NICHIA NTCWS024B-V3
Lamp flux(lm): 737.4
Number of Lamps: 1
Length(mm): 0
Phm Type: C

Voltage(V): 35.4700
Current(A): 0.2000
Power (W): 7.0940
PF: 0.0000
Ballast type: DC
Width(mm): 0
Height(mm): 0

Photometric Results

Lumens(lm): 665.15
Efficiency(%): 90.20%
Lumens(lm)/Power(W): 93.76
Central intensity(cd): 2866.781
Maximum intensity(cd): 2866.781
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=25.9
[C90/270]Total=25.9
Field angle(10%Imax): [C0/180]Total=42.3
[C90/270]Total=42.3
Maximum s/h(1/2): C0_180=0.44 C90_270=0.44
Maximum s/h(1/4): C0_180=0.42 C90_270=0.42
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 90.20%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 96.028%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2866.781	0.000	0	.000%	.000%
1.0	2860.664	2.740	2.74	.372%	.412%
2.0	2841.539	8.184	10.925	1.110%	1.642%
3.0	2806.805	13.509	24.434	1.832%	3.673%
4.0	2758.922	18.630	43.064	2.527%	6.474%
5.0	2691.211	23.446	66.51	3.180%	9.999%
6.0	2608.805	27.853	94.363	3.777%	14.187%
7.0	2496.516	31.689	126.052	4.297%	18.951%
8.0	2371.078	34.836	160.888	4.724%	24.188%
9.0	2214.141	37.161	198.049	5.039%	29.775%
10.0	2027.531	38.386	236.435	5.206%	35.546%
11.0	1849.641	38.741	275.176	5.254%	41.370%
12.0	1658.109	38.345	313.52	5.200%	47.135%
13.0	1424.862	36.587	350.107	4.962%	52.636%
14.0	1219.915	33.853	383.96	4.591%	57.725%
15.0	1056.502	31.252	415.212	4.238%	62.424%
16.0	873.591	28.281	443.493	3.835%	66.675%
17.0	721.673	24.843	468.336	3.369%	70.410%
18.0	580.830	21.475	489.811	2.912%	73.639%
19.0	466.116	18.215	508.026	2.470%	76.377%
20.0	368.290	15.272	523.298	2.071%	78.673%
21.0	293.871	12.715	536.013	1.724%	80.585%
22.0	238.226	10.693	546.705	1.450%	82.193%
23.0	181.920	8.816	555.521	1.196%	83.518%
24.0	146.925	7.190	562.711	.975%	84.599%
25.0	118.997	6.046	568.757	.820%	85.508%
26.0	101.187	5.197	573.955	.705%	86.289%
27.0	86.815	4.600	578.554	.624%	86.981%
28.0	76.345	4.131	582.685	.560%	87.602%
29.0	68.006	3.777	586.462	.512%	88.170%
30.0	61.453	3.495	589.957	.474%	88.695%
31.0	55.259	3.248	593.205	.440%	89.183%
32.0	50.126	3.019	596.224	.409%	89.637%
33.0	45.893	2.829	599.053	.384%	90.063%
34.0	41.716	2.651	601.704	.360%	90.461%
35.0	38.426	2.489	604.193	.338%	90.835%
36.0	35.409	2.351	606.544	.319%	91.189%
37.0	32.738	2.223	608.767	.301%	91.523%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	30.347	2.106	610.872	.286%	91.840%
39.0	28.216	1.999	612.871	.271%	92.140%
40.0	26.255	1.900	614.771	.258%	92.426%
41.0	24.553	1.809	616.58	.245%	92.698%
42.0	22.915	1.725	618.305	.234%	92.957%
43.0	21.312	1.638	619.943	.222%	93.203%
44.0	19.976	1.558	621.502	.211%	93.438%
45.0	18.668	1.485	622.987	.201%	93.661%
46.0	17.438	1.412	624.399	.191%	93.873%
47.0	16.313	1.342	625.741	.182%	94.075%
48.0	15.300	1.278	627.019	.173%	94.267%
49.0	14.273	1.214	628.233	.165%	94.450%
50.0	13.359	1.152	629.385	.156%	94.623%
51.0	12.565	1.097	630.482	.149%	94.788%
52.0	11.834	1.047	631.529	.142%	94.945%
53.0	11.194	1.002	632.531	.136%	95.096%
54.0	10.652	0.963	633.494	.131%	95.240%
55.0	10.195	0.931	634.424	.126%	95.380%
56.0	9.802	0.904	635.328	.123%	95.516%
57.0	9.464	0.881	636.209	.119%	95.649%
58.0	9.148	0.861	637.07	.117%	95.778%
59.0	8.852	0.842	637.911	.114%	95.905%
60.0	8.571	0.823	638.734	.112%	96.028%
61.0	8.304	0.805	639.54	.109%	96.149%
62.0	8.072	0.789	640.329	.107%	96.268%
63.0	7.833	0.774	641.102	.105%	96.384%
64.0	7.608	0.758	641.86	.103%	96.498%
65.0	7.404	0.743	642.603	.101%	96.610%
66.0	7.242	0.731	643.333	.099%	96.720%
67.0	7.355	0.734	644.067	.100%	96.830%
68.0	7.678	0.762	644.829	.103%	96.945%
69.0	8.381	0.819	645.648	.111%	97.068%
70.0	9.323	0.909	646.558	.123%	97.204%
71.0	10.209	1.010	647.567	.137%	97.356%
72.0	11.109	1.109	648.676	.150%	97.523%
73.0	12.045	1.211	649.886	.164%	97.705%
74.0	12.670	1.299	651.186	.176%	97.900%
75.0	13.198	1.367	652.552	.185%	98.106%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	13.563	1.421	653.973	.193%	98.319%
77.0	13.233	1.429	655.402	.194%	98.534%
78.0	12.438	1.374	656.776	.186%	98.741%
79.0	11.552	1.289	658.065	.175%	98.935%
80.0	10.652	1.197	659.262	.162%	99.115%
81.0	9.619	1.096	660.358	.149%	99.279%
82.0	8.142	0.963	661.321	.131%	99.424%
83.0	6.511	0.797	662.118	.108%	99.544%
84.0	5.119	0.634	662.751	.086%	99.639%
85.0	4.177	0.507	663.259	.069%	99.715%
86.0	3.832	0.438	663.697	.059%	99.781%
87.0	3.516	0.402	664.099	.055%	99.842%
88.0	3.248	0.371	664.469	.050%	99.897%
89.0	3.094	0.348	664.817	.047%	99.950%
90.0	3.016	0.335	665.152	.045%	100.000%

Zonal flux distribution table

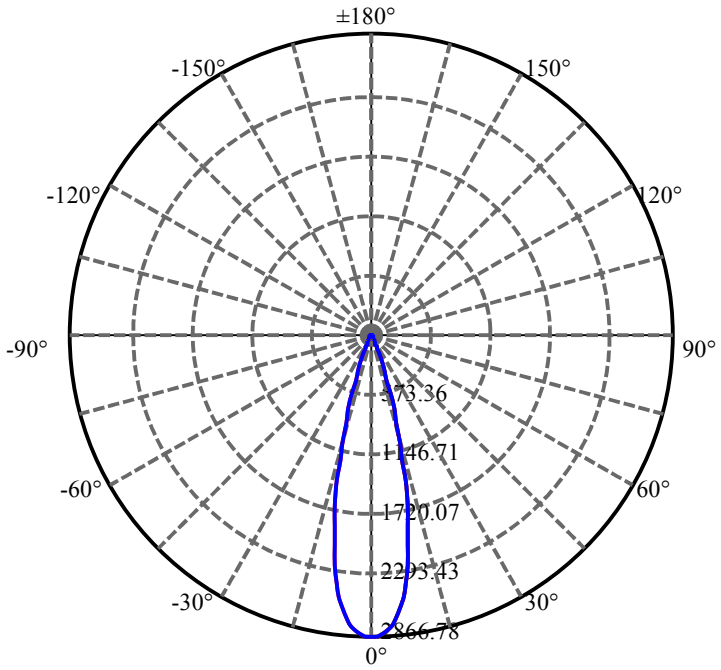
ZONAL LUMEN SUMMARY

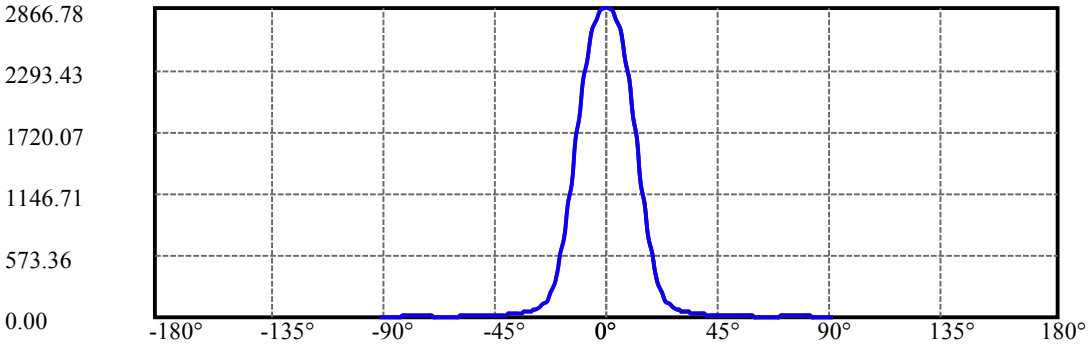
Zone	Lumens	%Lamp	%Fixt
0-30	589.96	80.01%	88.70%
0-40	614.77	83.37%	92.43%
0-60	638.73	86.62%	96.03%
0-90	664.82	90.16%	99.95%
0-120	664.82	90.16%	99.95%
0-180	665.15	90.20%	100.00%
60-90	26.91	3.65%	4.05%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-20.69	532.12	72.16%	80.00%

ZONAL LUMEN SUMMARY

0-10	236.43
10-20	286.86
20-30	66.66
30-40	24.81
40-50	14.61
50-60	9.35
60-70	7.82
70-80	12.70
80-90	5.55
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):

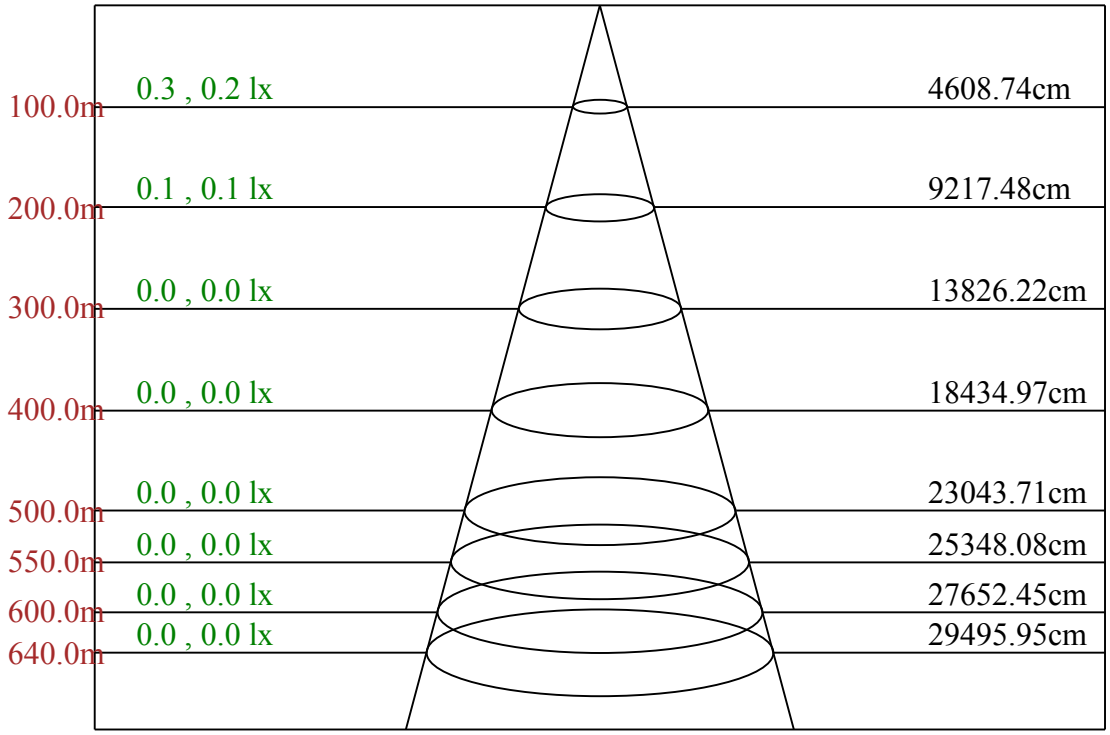
C0/C180:

C90/C270:

Field angle(10%Imax):C0/180Left:21.1 Right:21.1
:C90/270Left:21.1 Right:21.1

Beam Angle(50%Imax):C0/180Left:13.0 Right:13.0
:C90/270Left:13.0 Right:13.0

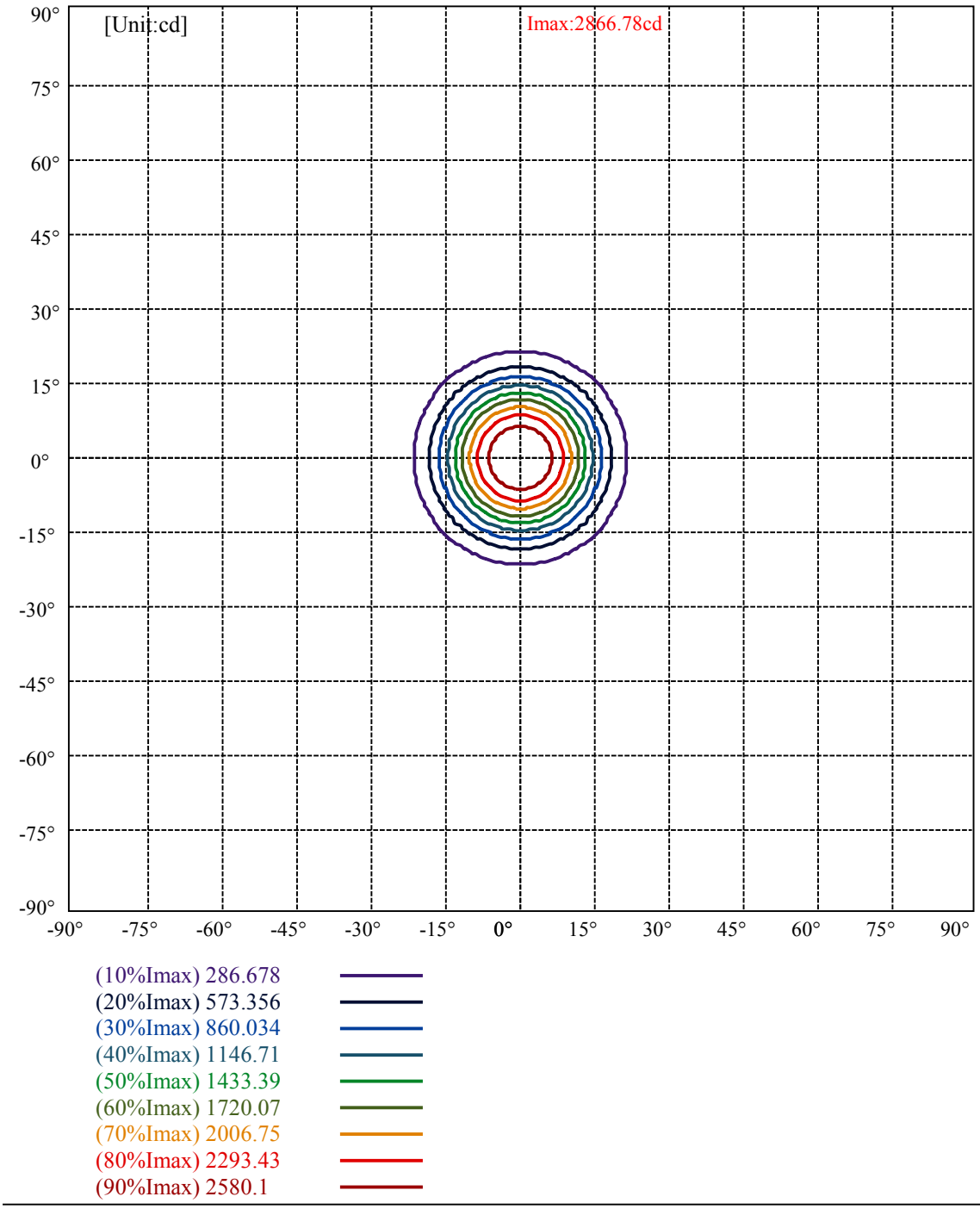
Lux distance Curve



Max , Ave

Beam angle of C0 plane 25.95

ISO-Intensity(V-H)



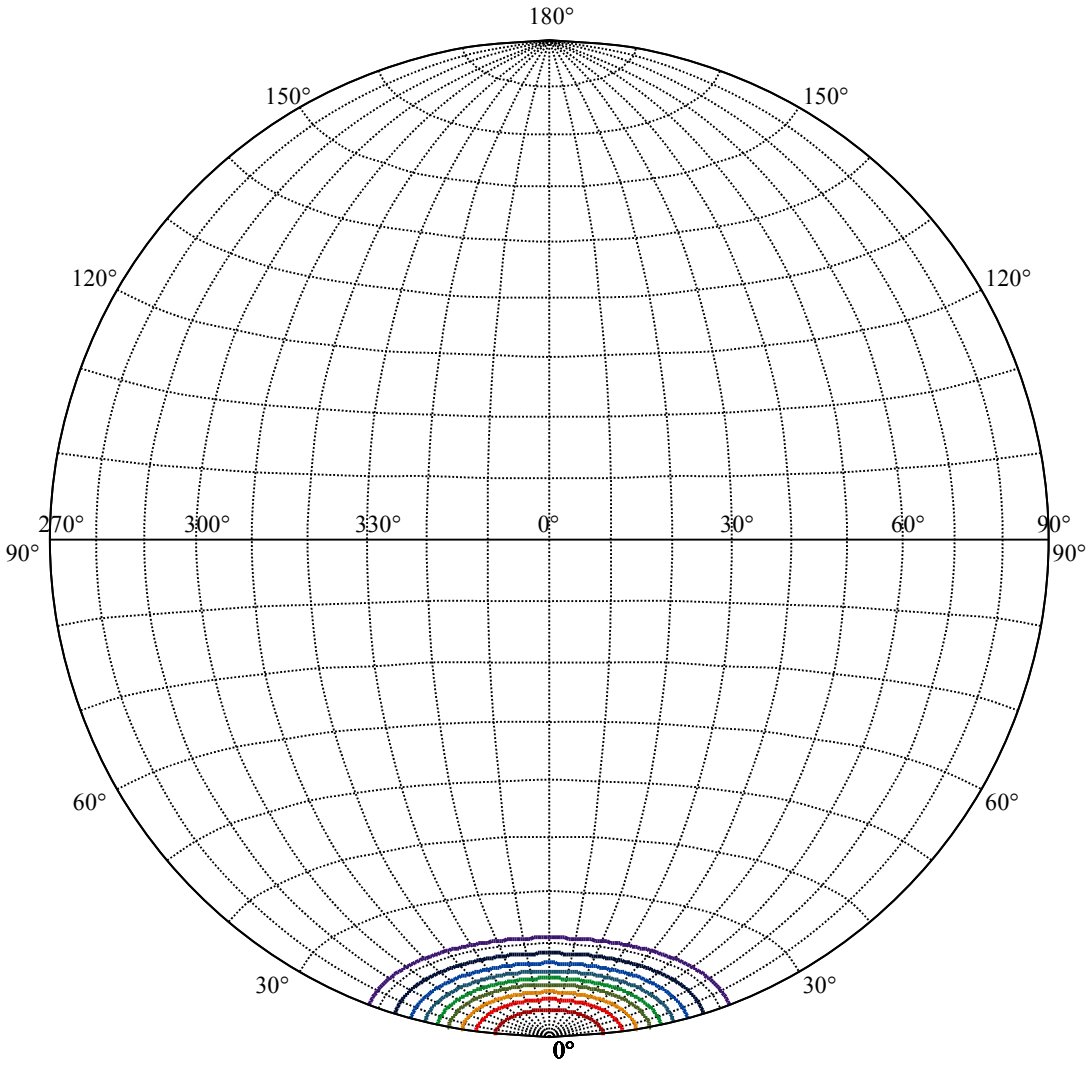
(10%Imax) 286.678
(20%Imax) 573.356
(30%Imax) 860.034
(40%Imax) 1146.71
(50%Imax) 1433.39
(60%Imax) 1720.07
(70%Imax) 2006.75
(80%Imax) 2293.43
(90%Imax) 2580.1

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



House [Unit:cd] Road

Imax:2866.78

(10%Imax) 286.678
(20%Imax) 573.356
(30%Imax) 860.034
(40%Imax) 1146.71
(50%Imax) 1433.39
(60%Imax) 1720.07
(70%Imax) 2006.75
(80%Imax) 2293.43
(90%Imax) 2580.1

Equipment: GMS1980
Temperature(°C): 25.0

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

Operator: NT07
Distance(m): 7.50

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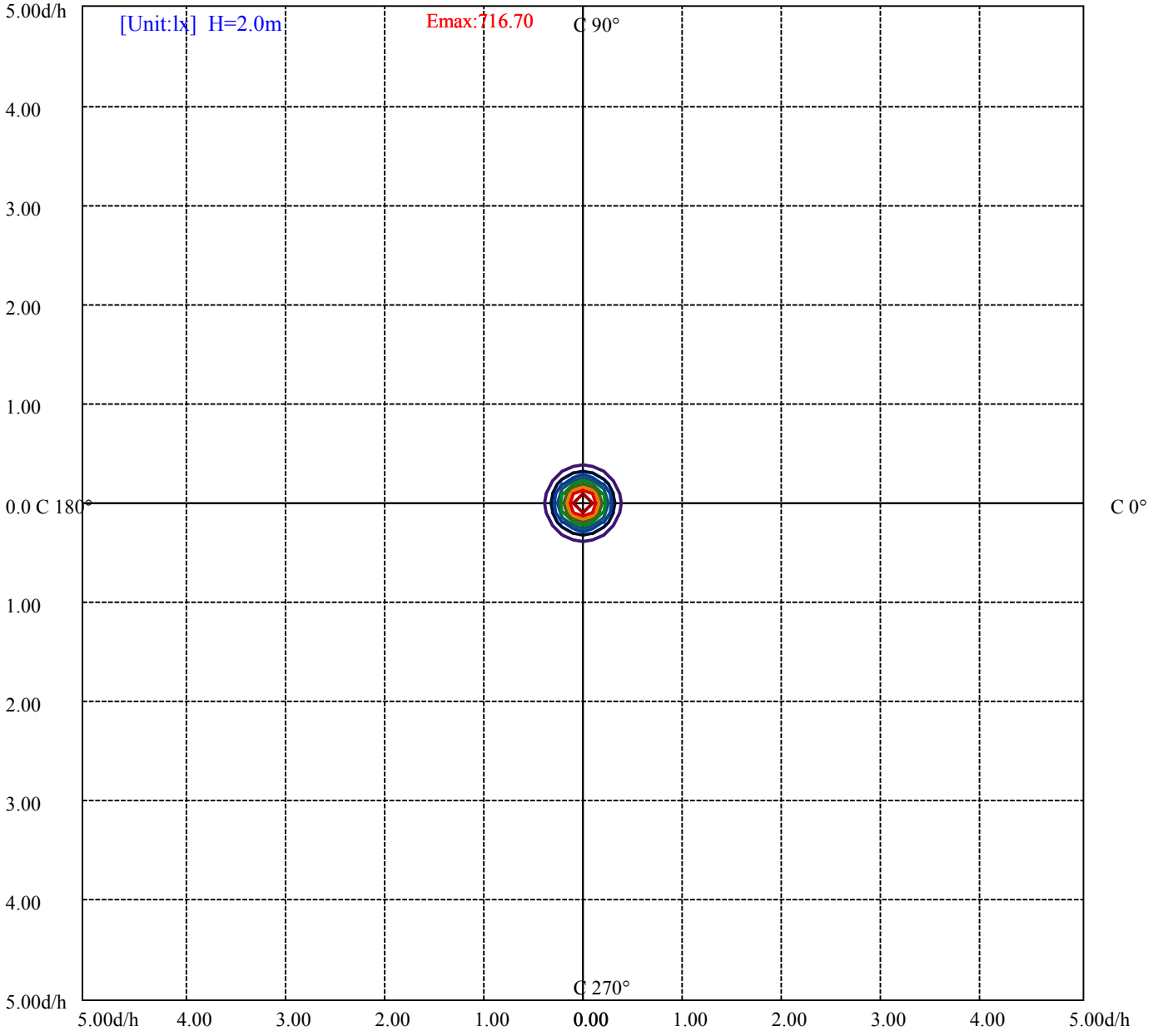
ISO illuminance diagram



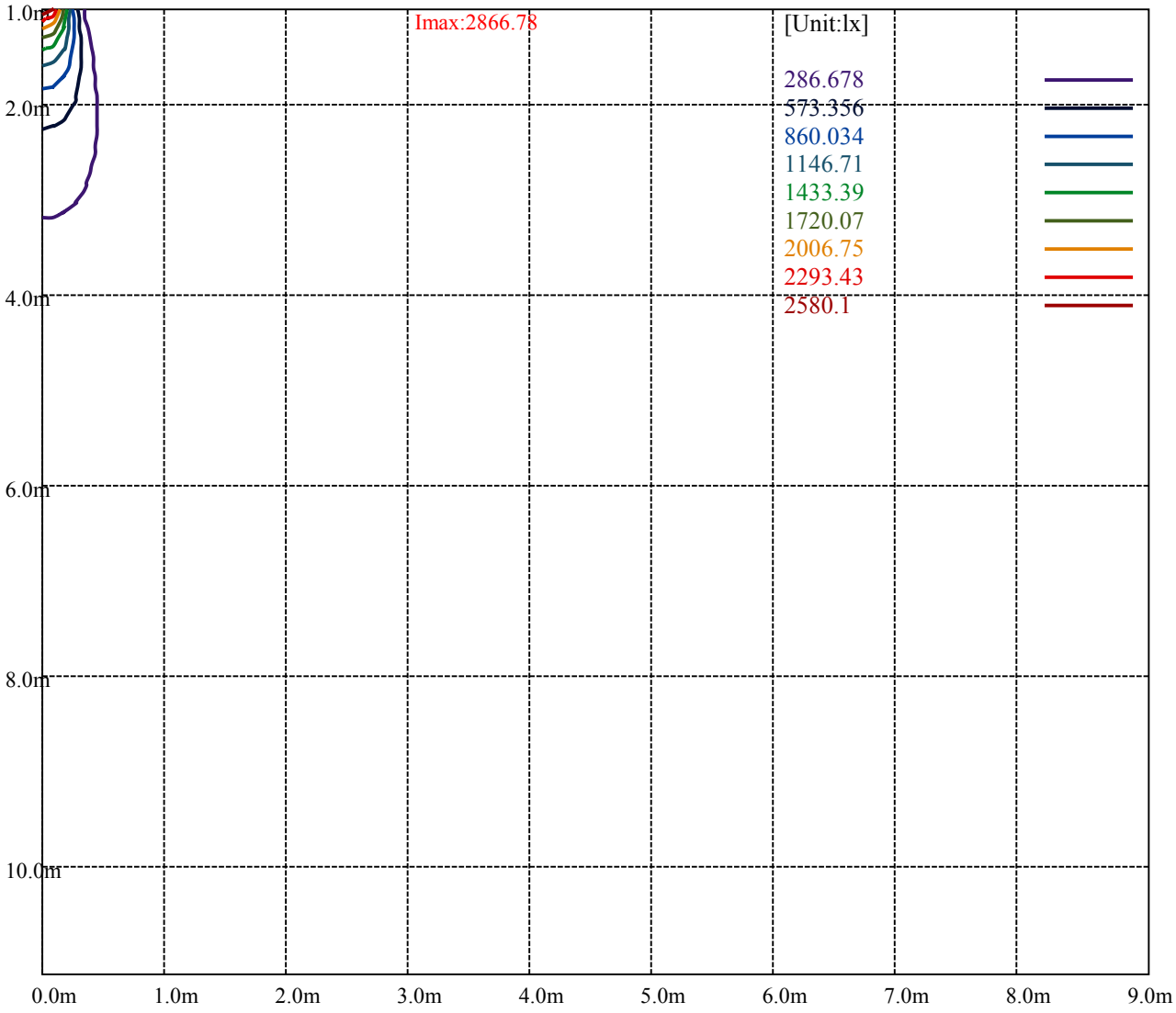
(10%Emax) 71.6695
(20%Emax) 143.339
(30%Emax) 215.0085
(40%Emax) 286.6775
(50%Emax) 358.3475
(60%Emax) 430.0175
(70%Emax) 501.6875
(80%Emax) 573.355
(90%Emax) 645.025

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

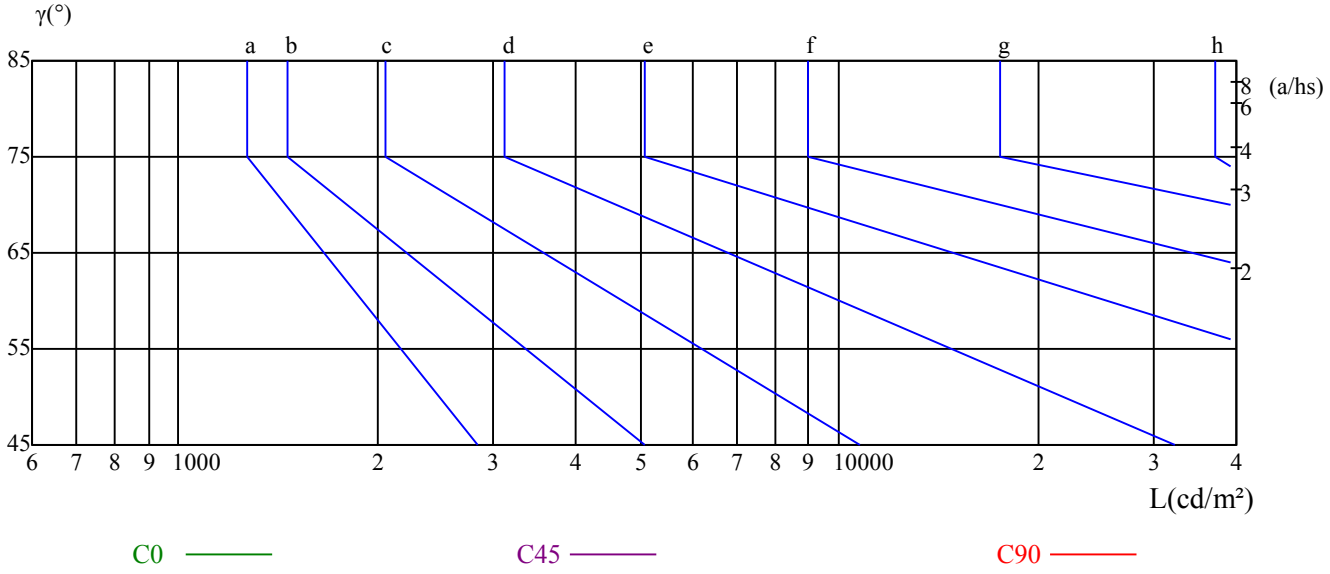
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

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

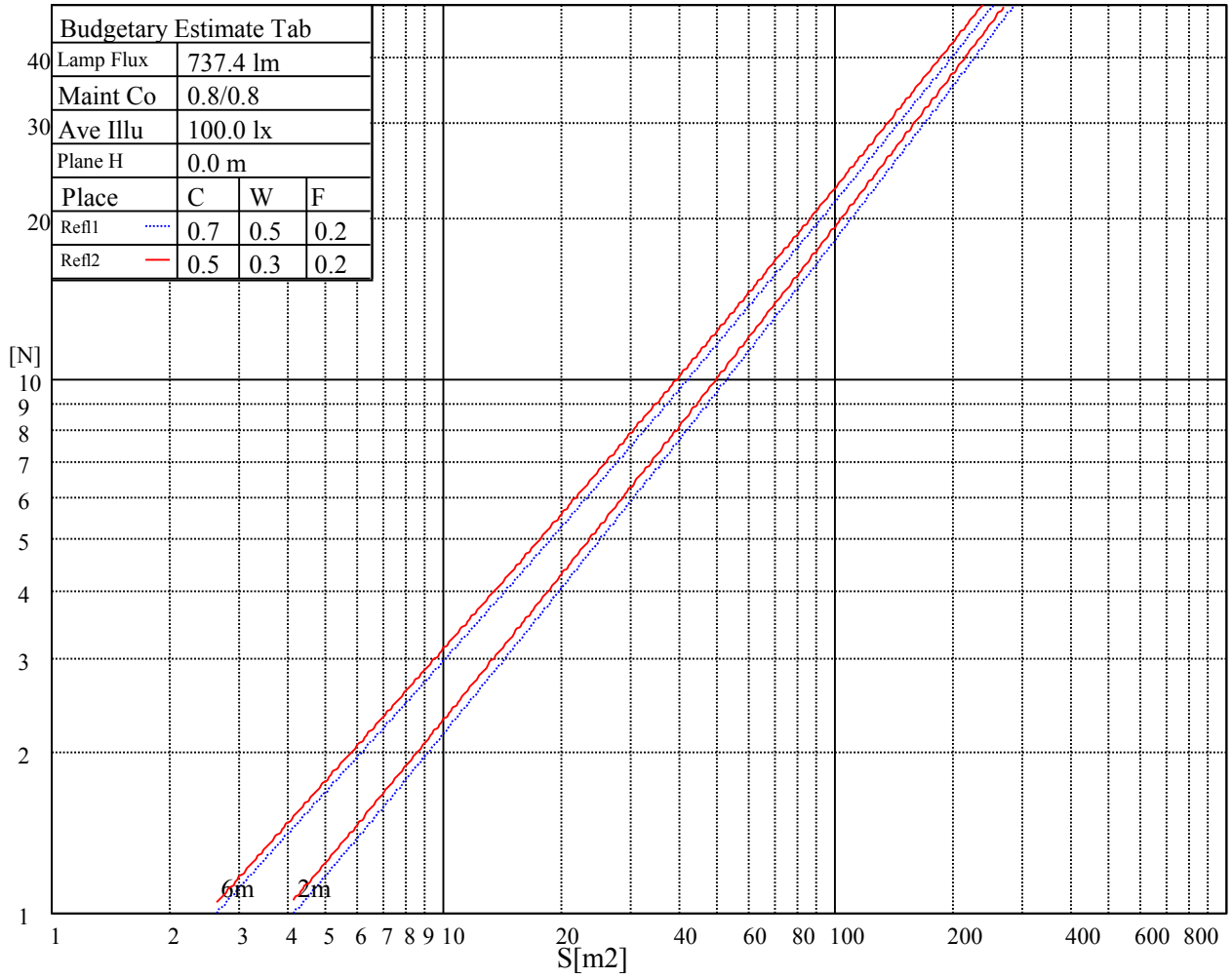
Glare Table

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

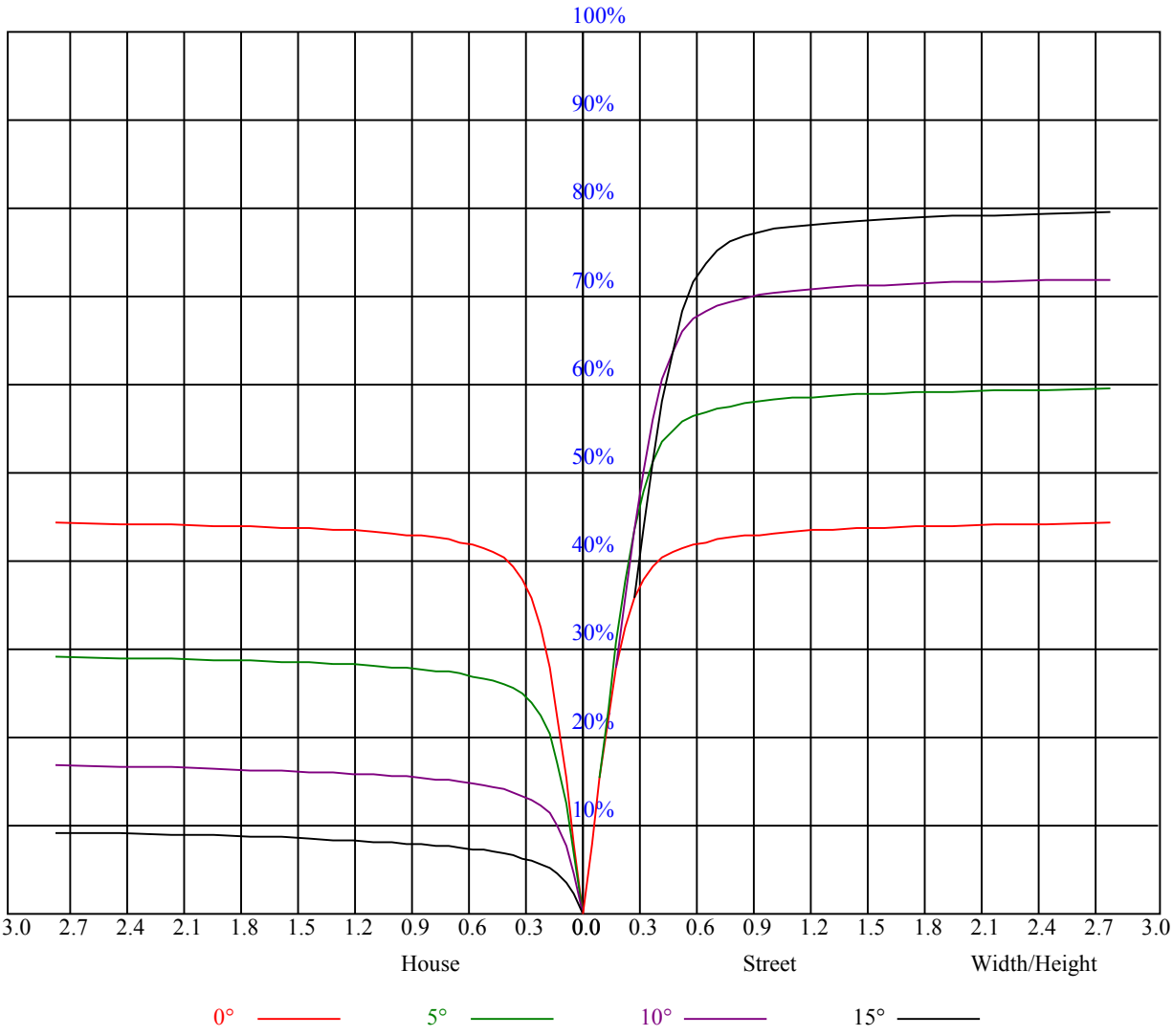


Equipment: GMS1980 Date: 2020/7/9 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

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	1.07	1.07	1.07	1.05	1.05	1.05	1.00	1.00	1.00	0.96	0.96	0.96	0.92	0.92	0.92	0.90
1	1.01	0.99	0.97	0.99	0.97	0.95	0.95	0.94	0.92	0.92	0.91	0.90	0.89	0.88	0.87	0.85
2	0.95	0.92	0.90	0.94	0.91	0.89	0.91	0.89	0.87	0.88	0.86	0.85	0.86	0.84	0.83	0.82
3	0.91	0.87	0.84	0.90	0.86	0.83	0.87	0.84	0.82	0.85	0.83	0.81	0.83	0.81	0.80	0.78
4	0.87	0.83	0.80	0.86	0.82	0.79	0.84	0.81	0.79	0.82	0.80	0.78	0.81	0.79	0.77	0.76
5	0.84	0.80	0.77	0.83	0.79	0.76	0.81	0.78	0.76	0.80	0.77	0.75	0.79	0.76	0.74	0.73
6	0.81	0.77	0.74	0.80	0.76	0.73	0.79	0.75	0.73	0.78	0.75	0.72	0.77	0.74	0.72	0.71
7	0.78	0.74	0.71	0.77	0.74	0.71	0.76	0.73	0.71	0.76	0.73	0.70	0.75	0.72	0.70	0.69
8	0.76	0.72	0.69	0.75	0.71	0.69	0.74	0.71	0.69	0.74	0.70	0.68	0.73	0.70	0.68	0.67
9	0.73	0.70	0.67	0.73	0.69	0.67	0.72	0.69	0.67	0.72	0.69	0.66	0.71	0.68	0.66	0.65
10	0.71	0.68	0.65	0.71	0.67	0.65	0.70	0.67	0.65	0.70	0.67	0.65	0.69	0.67	0.65	0.64

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	2850.75	2844.56	2824.31	2786.63	2737.69	2659.50	2567.25	2460.94	2319.19
45.0	2874.38	2867.63	2841.75	2814.19	2763.00	2691.56	2610.00	2494.69	2372.06
90.0	2870.44	2854.69	2832.19	2787.75	2728.69	2662.31	2577.94	2450.25	2324.25
135.0	2871.56	2865.38	2849.06	2810.81	2774.25	2712.38	2630.81	2545.31	2435.06
180.0	2850.75	2847.38	2830.50	2799.00	2756.25	2694.94	2622.94	2519.44	2397.38
225.0	2874.38	2869.88	2856.94	2822.63	2784.38	2723.63	2656.69	2545.31	2430.00
270.0	2870.44	2872.69	2860.31	2838.38	2796.19	2729.81	2647.69	2550.38	2433.94
315.0	2871.56	2863.13	2837.25	2795.06	2730.94	2655.56	2557.13	2405.81	2256.75
360.0	2850.75	2844.56	2824.31	2786.63	2737.69	2659.50	2567.25	2460.94	2319.19

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	2147.63	1980.56	1796.06	1589.06	1374.75	1190.81	994.50	812.25	671.63
45.0	2212.31	2025.56	1842.75	1679.06	1414.13	1227.94	1073.25	850.50	705.94
90.0	2179.13	1974.38	1802.25	1621.13	1416.94	1102.05	1039.22	858.66	712.91
135.0	2272.50	2125.13	1956.94	1753.88	1541.81	1356.75	1155.94	967.50	812.25
180.0	2264.06	2090.81	1901.81	1724.06	1540.13	1309.50	1109.14	964.18	791.94
225.0	2289.94	2091.38	1911.94	1721.25	1502.44	1221.75	1107.51	915.98	763.48
270.0	2259.00	2098.13	1920.94	1707.75	1493.44	1301.06	1091.25	895.50	741.94
315.0	2088.56	1834.31	1664.44	1468.69	1115.27	1049.46	881.21	724.16	573.30
360.0	2147.63	1980.56	1796.06	1589.06	1374.75	1190.81	994.50	812.25	671.63

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	535.50	434.81	333.00	290.81	214.26	169.93	136.35	114.47	97.71
45.0	592.88	456.75	361.13	298.13	222.86	175.22	142.71	115.48	98.16
90.0	569.08	450.62	363.77	284.74	216.39	179.27	145.91	113.34	98.55
135.0	651.38	529.31	415.13	324.00	289.69	205.37	156.94	129.88	108.68
180.0	637.20	518.79	408.54	319.89	257.40	202.73	165.88	134.10	110.98
225.0	614.36	488.93	396.62	310.95	242.38	194.51	157.95	124.59	105.92
270.0	596.25	487.69	386.44	303.19	286.31	188.16	152.83	123.69	104.96
315.0	450.00	362.03	281.70	219.26	176.51	140.18	116.83	96.41	84.54
360.0	535.50	434.81	333.00	290.81	214.26	169.93	136.35	114.47	97.71

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	82.18	73.07	65.76	59.01	53.33	48.83	44.33	40.50	37.46
45.0	84.49	74.08	66.49	60.08	53.49	48.71	44.72	40.11	37.07
90.0	85.95	75.32	66.71	60.41	54.34	49.05	44.94	41.01	37.91
135.0	90.34	79.93	71.49	63.62	57.38	52.76	47.98	43.65	40.39
180.0	95.46	83.59	72.00	64.69	58.67	52.31	47.76	43.82	39.99
225.0	91.41	78.58	70.59	63.73	57.09	51.53	47.03	42.53	39.04
270.0	89.33	78.19	70.37	64.41	56.64	51.69	47.87	42.69	39.38
315.0	75.38	68.01	60.64	55.69	51.13	46.13	42.53	39.43	36.17
360.0	82.18	73.07	65.76	59.01	53.33	48.83	44.33	40.50	37.46

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	34.43	31.95	29.59	27.39	25.65	24.08	22.28	20.93	19.69
45.0	34.37	31.67	29.36	27.56	25.54	23.91	22.22	20.64	19.41
90.0	34.88	32.23	30.15	28.01	25.99	24.41	22.89	21.21	19.91
135.0	37.07	34.43	31.78	29.48	27.51	25.71	23.74	22.22	20.93
180.0	36.56	33.92	31.22	28.86	26.89	24.86	23.23	21.66	20.14
225.0	35.72	32.91	30.60	28.24	26.21	24.58	23.01	21.21	19.86
270.0	36.90	33.69	31.22	29.42	27.17	25.48	23.96	22.11	20.81
315.0	33.36	31.11	28.86	26.78	25.09	23.40	21.99	20.53	19.07
360.0	34.43	31.95	29.59	27.39	25.65	24.08	22.28	20.93	19.69

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	18.23	17.16	16.09	15.02	14.01	13.11	12.21	11.53	10.91
45.0	18.00	16.76	15.75	14.79	13.67	12.88	12.15	11.42	10.74
90.0	18.73	17.44	16.31	15.36	14.34	13.39	12.66	11.87	11.31
135.0	19.35	18.17	17.16	16.03	14.96	14.18	13.16	12.49	11.70
180.0	18.90	17.78	16.54	15.53	14.63	13.61	12.83	12.09	11.25
225.0	18.62	17.27	16.03	15.08	14.06	13.05	12.32	11.53	11.03
270.0	19.58	18.11	17.04	15.98	14.74	13.89	13.11	12.26	11.70
315.0	17.94	16.82	15.58	14.63	13.78	12.77	12.09	11.48	10.91
360.0	18.23	17.16	16.09	15.02	14.01	13.11	12.21	11.53	10.91

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	10.41	9.96	9.56	9.23	8.94	8.66	8.33	8.10	7.88
45.0	10.29	9.90	9.45	9.11	8.78	8.49	8.21	7.99	7.82
90.0	10.69	10.18	9.84	9.45	9.11	8.83	8.49	8.16	7.99
135.0	11.14	10.63	10.18	9.84	9.51	9.28	8.94	8.72	8.44
180.0	10.69	10.24	9.84	9.51	9.23	8.83	8.66	8.38	8.10
225.0	10.46	10.01	9.68	9.34	9.06	8.78	8.55	8.27	8.04
270.0	11.14	10.63	10.18	9.84	9.51	9.17	8.83	8.55	8.27
315.0	10.41	10.01	9.68	9.39	9.06	8.78	8.55	8.27	8.04
360.0	10.41	9.96	9.56	9.23	8.94	8.66	8.33	8.10	7.88

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	7.59	7.37	7.20	7.03	6.81	6.69	6.53	6.36	6.19
45.0	7.59	7.43	7.26	7.31	8.66	10.69	14.29	18.11	22.84
90.0	7.71	7.54	7.31	7.09	6.92	6.69	6.53	6.36	6.19
135.0	8.21	7.93	7.71	7.48	7.20	7.03	6.86	6.64	6.47
180.0	7.88	7.65	7.43	7.26	7.09	6.92	6.75	6.58	6.41
225.0	7.88	7.65	7.48	7.37	8.16	9.68	12.83	17.61	21.09
270.0	8.04	7.76	7.54	7.31	7.09	6.98	6.75	6.58	6.36
315.0	7.76	7.54	7.31	7.09	6.92	6.75	6.53	6.36	6.13
360.0	7.59	7.37	7.20	7.03	6.81	6.69	6.53	6.36	6.19

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	6.02	5.85	5.68	5.57	5.40	5.29	5.12	5.01	4.84
45.0	26.55	30.49	33.41	35.49	36.39	34.59	31.56	28.46	25.59
90.0	6.02	5.85	5.68	5.51	5.34	5.12	4.95	4.84	4.61
135.0	6.30	6.13	5.91	5.74	5.57	5.46	5.29	5.12	4.95
180.0	6.19	6.08	5.91	5.74	5.63	5.46	5.34	5.18	4.95
225.0	25.65	30.15	33.30	36.34	39.32	39.38	37.01	33.86	30.71
270.0	6.19	5.96	5.79	5.63	5.46	5.34	5.18	5.01	4.84
315.0	5.96	5.85	5.68	5.57	5.40	5.23	5.06	4.95	4.73
360.0	6.02	5.85	5.68	5.57	5.40	5.29	5.12	5.01	4.84

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	4.67	4.44	4.22	3.99	3.77	3.54	3.32	3.09	2.98
45.0	21.04	14.23	8.16	5.01	4.44	4.05	3.26	3.09	2.98
90.0	4.44	4.28	4.11	3.88	3.71	3.54	3.26	3.15	2.98
135.0	4.84	4.67	4.44	4.28	4.16	3.94	3.77	3.49	3.32
180.0	4.78	4.67	4.44	4.22	3.99	3.77	3.60	3.32	3.15
225.0	27.96	23.96	18.23	11.42	5.63	4.44	4.05	3.38	3.15
270.0	4.61	4.44	4.22	4.05	3.83	3.66	3.43	3.21	3.04
315.0	4.61	4.44	4.28	4.11	3.88	3.71	3.43	3.26	3.15
360.0	4.67	4.44	4.22	3.99	3.77	3.54	3.32	3.09	2.98

Intensity data(cd)

C/γ(°)	90.0
0.0	2.93
45.0	2.93
90.0	2.93
135.0	3.15
180.0	2.98
225.0	3.04
270.0	2.98
315.0	3.21
360.0	2.93