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Nata

LumCAT: LN01D03515DA-N
Luminaire: 97.70.267.00
Report No: 200623-B014
Test No: 200623-C014
LampCAT: LUMINUS CXM-3-AC40
Lamp flux(lm): 332.9
Number of Lamps: 1
Length(mm): 0
Phm Type: C

Voltage(V): 36.1300
Current(A): 0.1000
Power (W): 3.6130
PF: 0.0000
Ballast type: DC
Width(mm): 0
Height(mm): 0

Photometric Results

Lumens(lm): 289.20
Efficiency(%): 86.88%
Lumens(lm)/Power(W): 80.04
Central intensity(cd): 3248.438
Maximum intensity(cd): 3248.438
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=14.7
[C90/270]Total=14.7
Field angle(10%Imax): [C0/180]Total=26.9
[C90/270]Total=26.9
Maximum s/h(1/2): C0_180=0.25 C90_270=0.25
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(%): 86.88%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.004%

Nata LM01D03515DA

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	3248.438	0.000	0	.000%	.000%
1.0	3210.258	3.090	3.09	.928%	1.069%
2.0	3066.398	9.009	12.099	2.706%	4.184%
3.0	2861.227	14.177	26.276	4.259%	9.086%
4.0	2626.805	18.370	44.646	5.519%	15.438%
5.0	2332.617	21.335	65.982	6.409%	22.815%
6.0	2014.734	22.846	88.828	6.863%	30.715%
7.0	1732.078	23.256	112.084	6.986%	38.756%
8.0	1413.872	22.515	134.599	6.764%	46.542%
9.0	1132.341	20.636	155.235	6.199%	53.677%
10.0	906.799	18.453	173.689	5.544%	60.058%
11.0	686.995	15.925	189.614	4.784%	65.565%
12.0	511.488	13.101	202.715	3.936%	70.095%
13.0	367.109	10.427	213.142	3.132%	73.700%
14.0	270.970	8.167	221.309	2.454%	76.524%
15.0	195.476	6.404	227.713	1.924%	78.738%
16.0	144.127	4.976	232.689	1.495%	80.459%
17.0	108.176	3.929	236.618	1.180%	81.818%
18.0	87.033	3.219	239.836	.967%	82.930%
19.0	72.759	2.780	242.616	.835%	83.892%
20.0	61.179	2.451	245.068	.736%	84.739%
21.0	52.334	2.180	247.247	.655%	85.493%
22.0	46.350	1.983	249.231	.596%	86.179%
23.0	41.259	1.838	251.069	.552%	86.814%
24.0	36.731	1.705	252.774	.512%	87.404%
25.0	33.553	1.598	254.372	.480%	87.957%
26.0	30.797	1.519	255.891	.456%	88.482%
27.0	28.209	1.444	257.335	.434%	88.981%
28.0	25.945	1.371	258.706	.412%	89.455%
29.0	23.899	1.304	260.01	.392%	89.906%
30.0	21.909	1.237	261.247	.372%	90.334%
31.0	19.990	1.166	262.413	.350%	90.737%
32.0	18.155	1.093	263.505	.328%	91.115%
33.0	16.573	1.023	264.529	.307%	91.469%
34.0	15.244	0.963	265.491	.289%	91.801%
35.0	13.964	0.907	266.399	.272%	92.115%
36.0	12.980	0.858	267.256	.258%	92.412%
37.0	12.220	0.822	268.078	.247%	92.696%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	11.496	0.792	268.87	.238%	92.970%
39.0	10.793	0.761	269.631	.229%	93.233%
40.0	10.245	0.734	270.364	.220%	93.486%
41.0	9.675	0.709	271.074	.213%	93.732%
42.0	9.120	0.683	271.757	.205%	93.968%
43.0	8.571	0.655	272.412	.197%	94.194%
44.0	8.023	0.626	273.038	.188%	94.411%
45.0	7.538	0.598	273.636	.180%	94.618%
46.0	7.073	0.571	274.208	.172%	94.815%
47.0	6.694	0.548	274.755	.164%	95.005%
48.0	6.356	0.528	275.283	.158%	95.187%
49.0	6.075	0.510	275.793	.153%	95.364%
50.0	5.780	0.494	276.287	.148%	95.534%
51.0	5.541	0.479	276.766	.144%	95.700%
52.0	5.330	0.466	277.233	.140%	95.861%
53.0	5.098	0.454	277.686	.136%	96.018%
54.0	4.887	0.440	278.126	.132%	96.170%
55.0	4.718	0.429	278.555	.129%	96.319%
56.0	4.535	0.418	278.973	.126%	96.463%
57.0	4.345	0.406	279.379	.122%	96.604%
58.0	4.198	0.395	279.774	.119%	96.740%
59.0	4.057	0.386	280.16	.116%	96.874%
60.0	3.895	0.376	280.536	.113%	97.004%
61.0	3.762	0.365	280.901	.110%	97.130%
62.0	3.642	0.357	281.258	.107%	97.253%
63.0	3.523	0.348	281.607	.105%	97.374%
64.0	3.403	0.340	281.947	.102%	97.491%
65.0	3.305	0.332	282.279	.100%	97.606%
66.0	3.199	0.325	282.603	.097%	97.718%
67.0	3.115	0.317	282.92	.095%	97.828%
68.0	3.009	0.310	283.231	.093%	97.935%
69.0	2.953	0.304	283.535	.091%	98.041%
70.0	2.967	0.304	283.839	.091%	98.146%
71.0	3.080	0.313	284.151	.094%	98.254%
72.0	3.277	0.331	284.482	.099%	98.368%
73.0	3.424	0.350	284.832	.105%	98.489%
74.0	3.551	0.367	285.199	.110%	98.616%
75.0	3.635	0.380	285.579	.114%	98.747%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	3.621	0.385	285.964	.116%	98.880%
77.0	3.516	0.380	286.344	.114%	99.012%
78.0	3.248	0.362	286.707	.109%	99.137%
79.0	2.890	0.330	287.036	.099%	99.251%
80.0	2.545	0.293	287.329	.088%	99.353%
81.0	2.250	0.259	287.589	.078%	99.442%
82.0	2.039	0.233	287.821	.070%	99.523%
83.0	1.884	0.213	288.035	.064%	99.596%
84.0	1.786	0.200	288.235	.060%	99.666%
85.0	1.688	0.190	288.424	.057%	99.731%
86.0	1.589	0.179	288.603	.054%	99.793%
87.0	1.448	0.166	288.769	.050%	99.850%
88.0	1.322	0.152	288.921	.046%	99.903%
89.0	1.280	0.143	289.064	.043%	99.952%
90.0	1.238	0.138	289.202	.041%	100.000%

Zonal flux distribution table

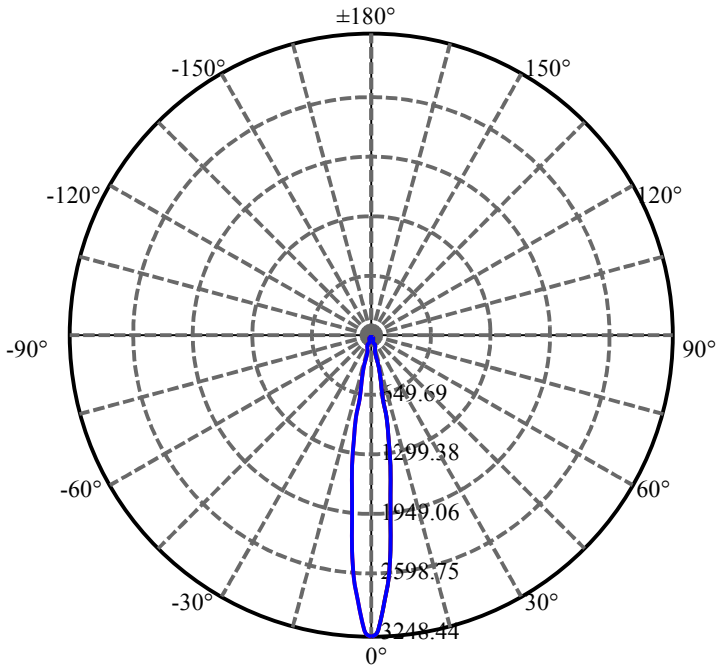
ZONAL LUMEN SUMMARY

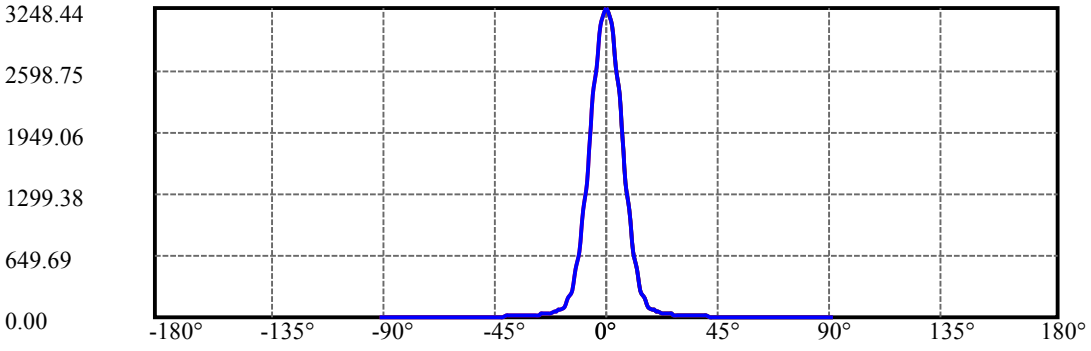
Zone	Lumens	%Lamp	%Fixt
0-30	261.25	78.48%	90.33%
0-40	270.36	81.22%	93.49%
0-60	280.54	84.28%	97.00%
0-90	289.06	86.84%	99.95%
0-120	289.06	86.84%	99.95%
0-180	289.20	86.88%	100.00%
60-90	8.90	2.67%	3.08%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-15.73	231.36	69.50%	80.00%

ZONAL LUMEN SUMMARY

0-10	173.69
10-20	71.38
20-30	16.18
30-40	9.12
40-50	5.92
50-60	4.25
60-70	3.30
70-80	3.49
80-90	1.73
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):

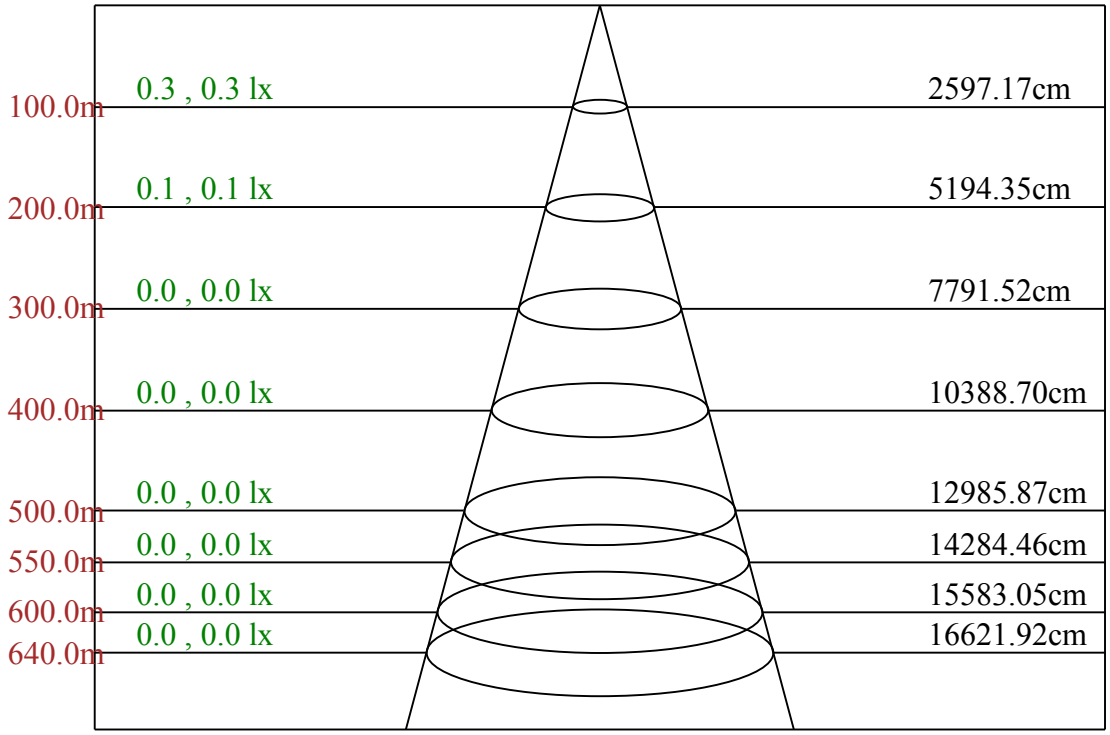
C0/C180:

C90/C270:

Field angle(10%Imax):C0/180Left:13.4 Right:13.4
:C90/270Left:13.4 Right:13.4

Beam Angle(50%Imax):C0/180Left:7.3 Right:7.3
:C90/270Left:7.3 Right:7.3

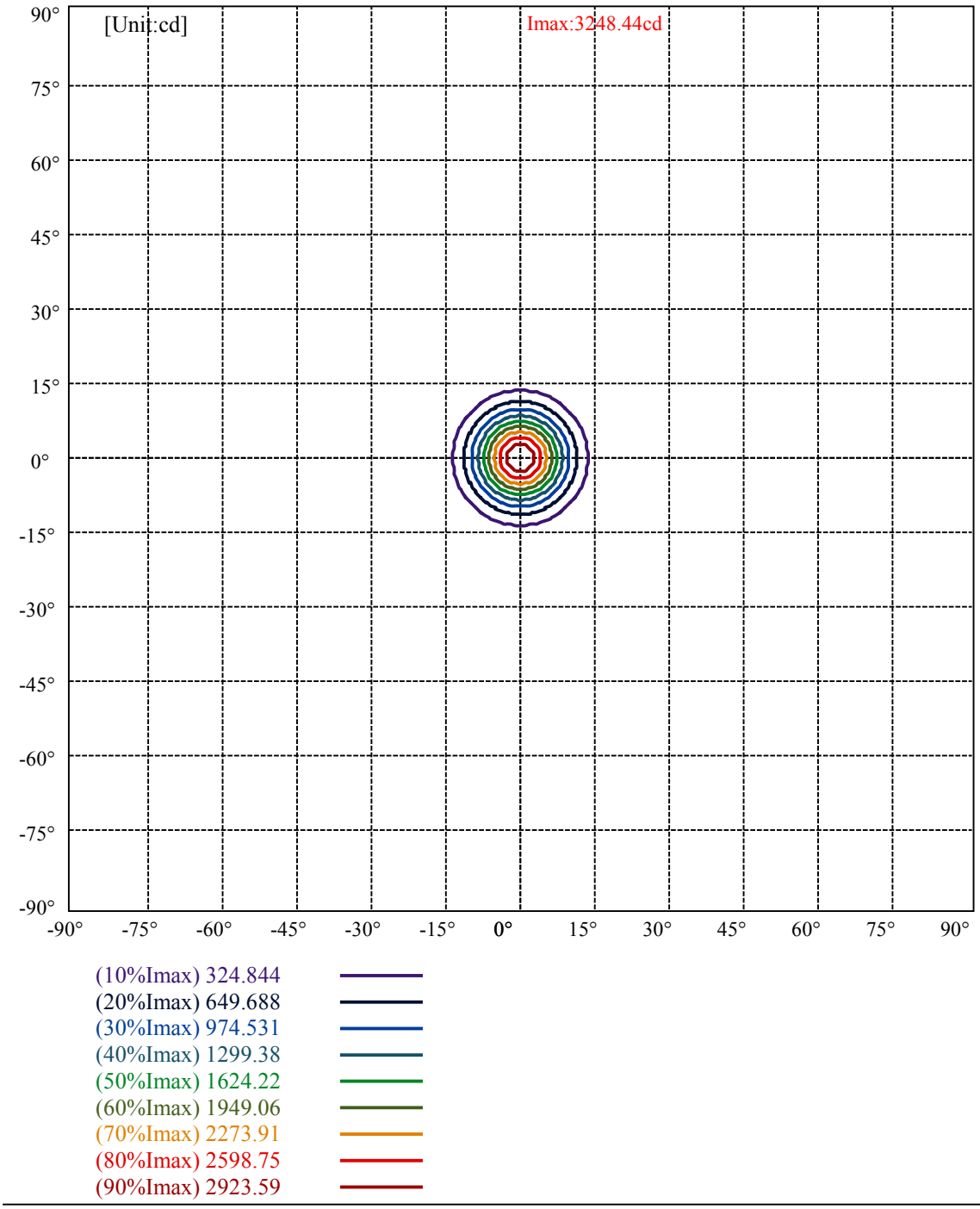
Lux distance Curve



Max , Ave

Beam angle of C0 plane 14.80

ISO-Intensity(V-H)

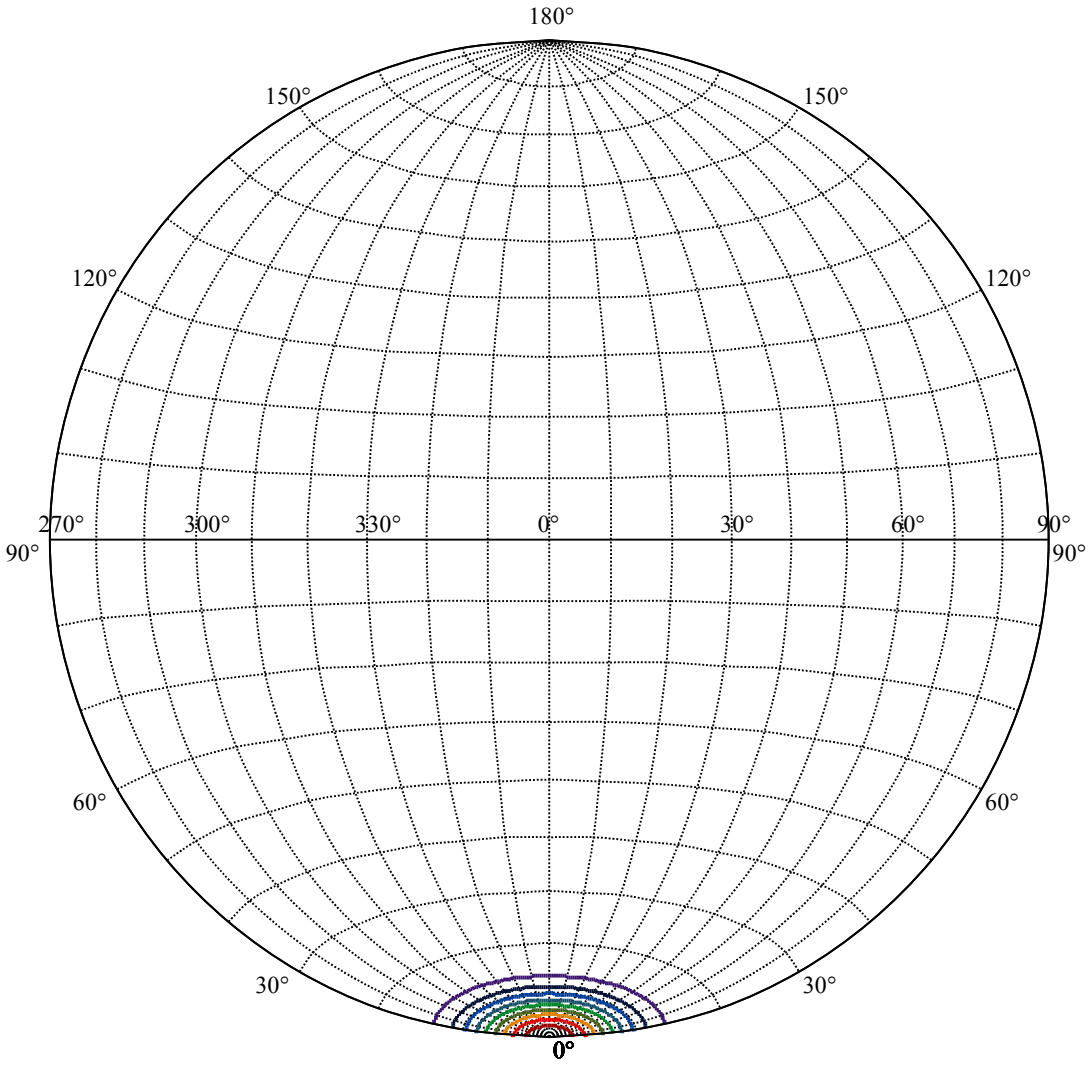


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2020/6/23
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web



House [Unit:cd] Road

Imax:3248.44

(10%Imax) 324.844
(20%Imax) 649.688
(30%Imax) 974.531
(40%Imax) 1299.38
(50%Imax) 1624.22
(60%Imax) 1949.06
(70%Imax) 2273.91
(80%Imax) 2598.75
(90%Imax) 2923.59

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2020/6/23
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

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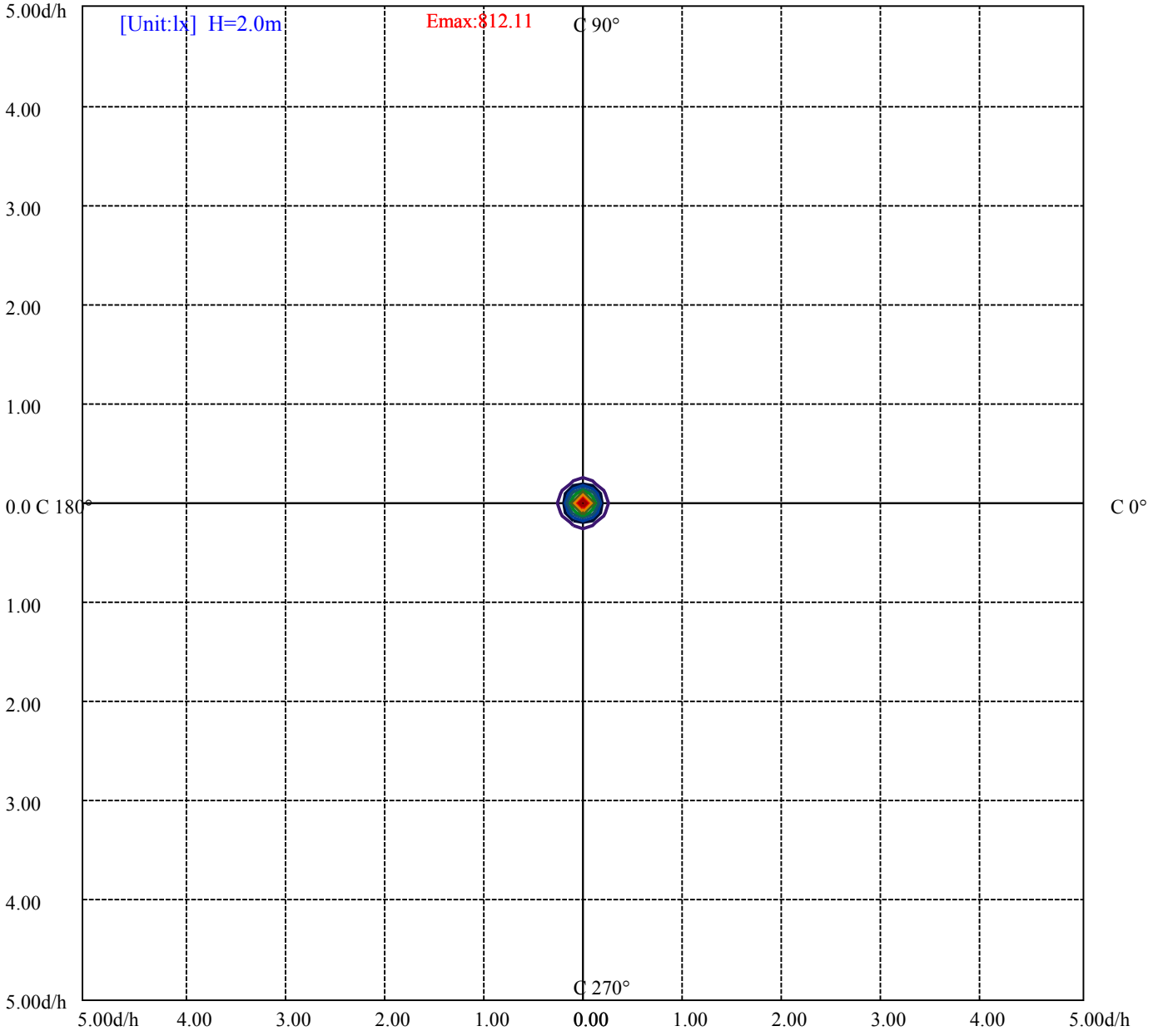
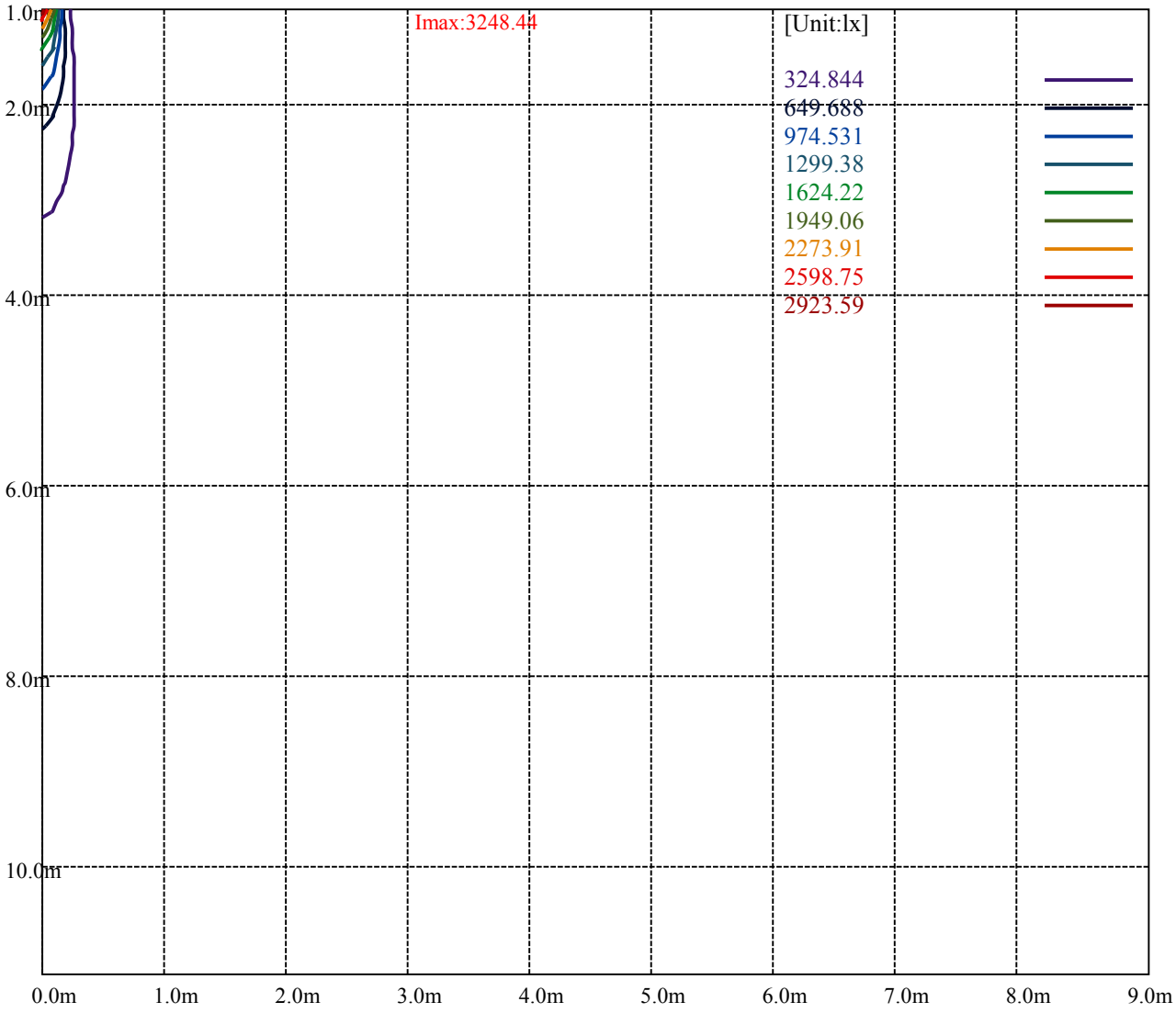
ISO illuminance diagram



Equipment: GMS1980 Date: 2020/6/23 Operator: NT07

Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2020/6/23
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

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Luminance Limitting Curve(no luminous side)

Luminance Table

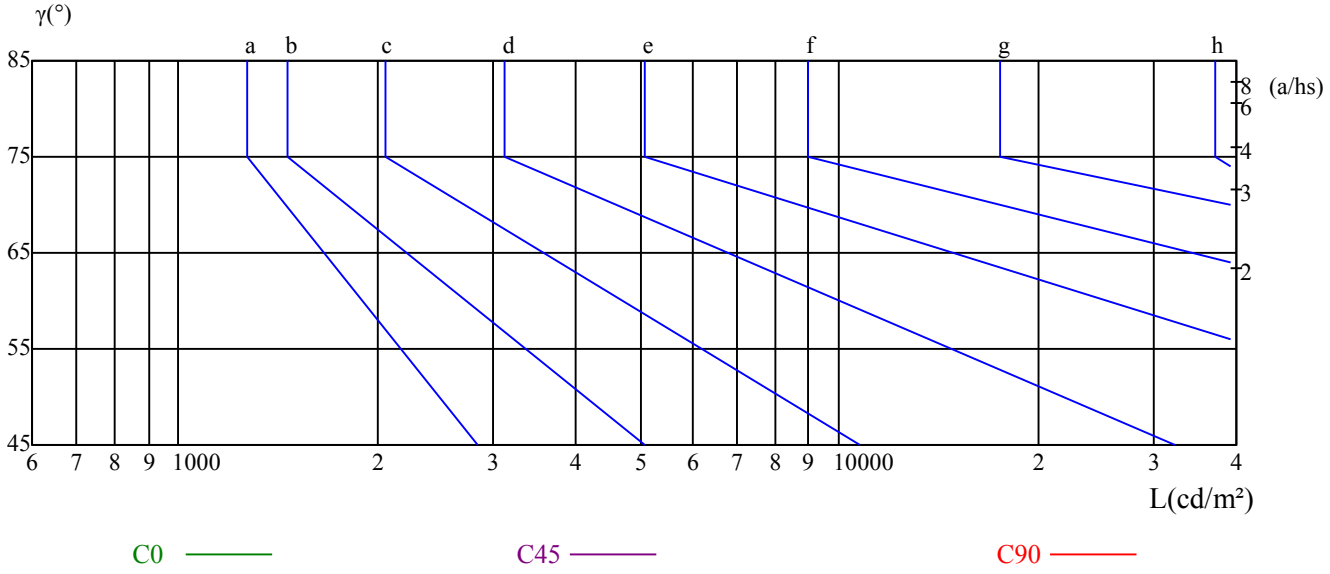
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

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

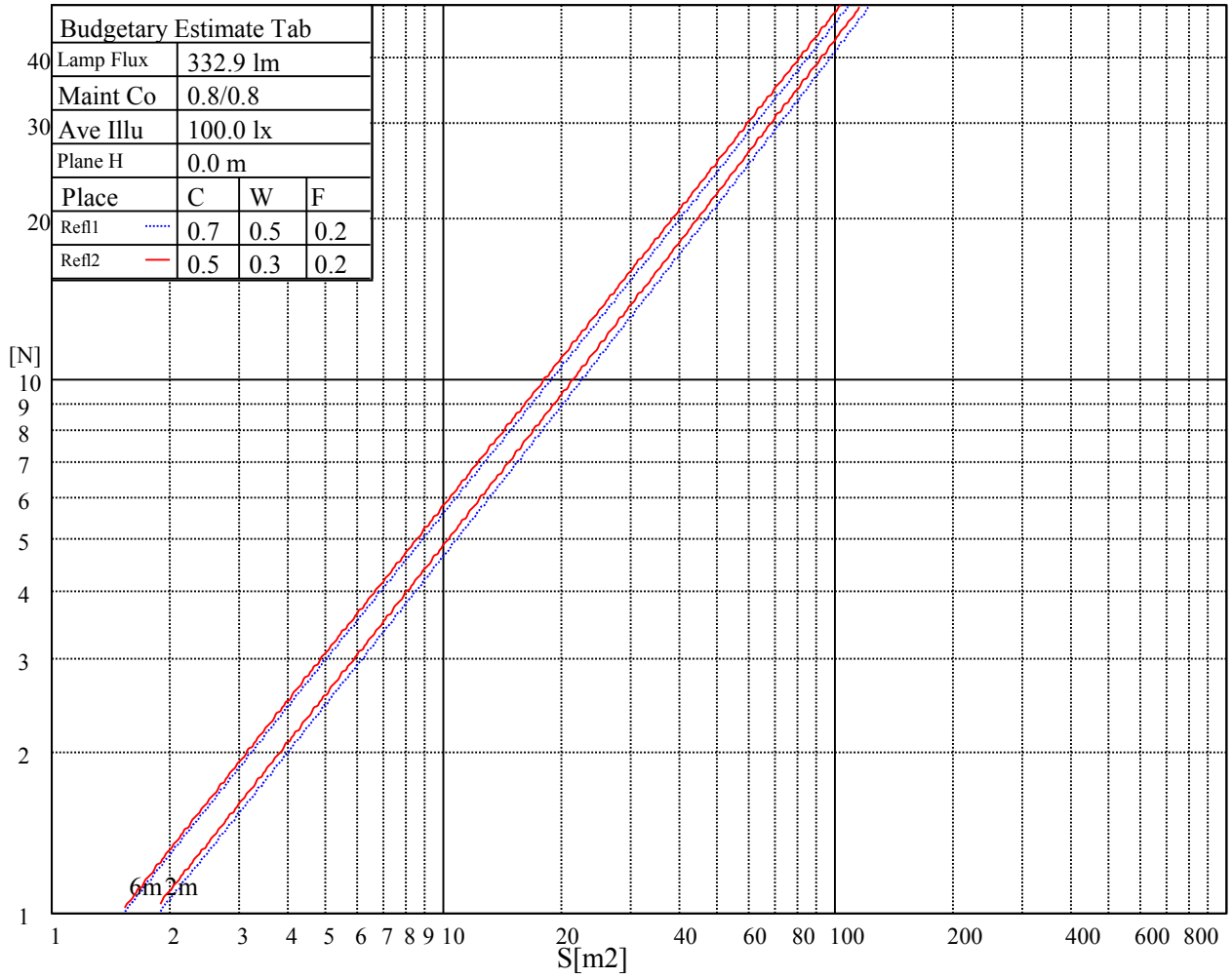


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2020/6/23
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Budgetary Estimate Table

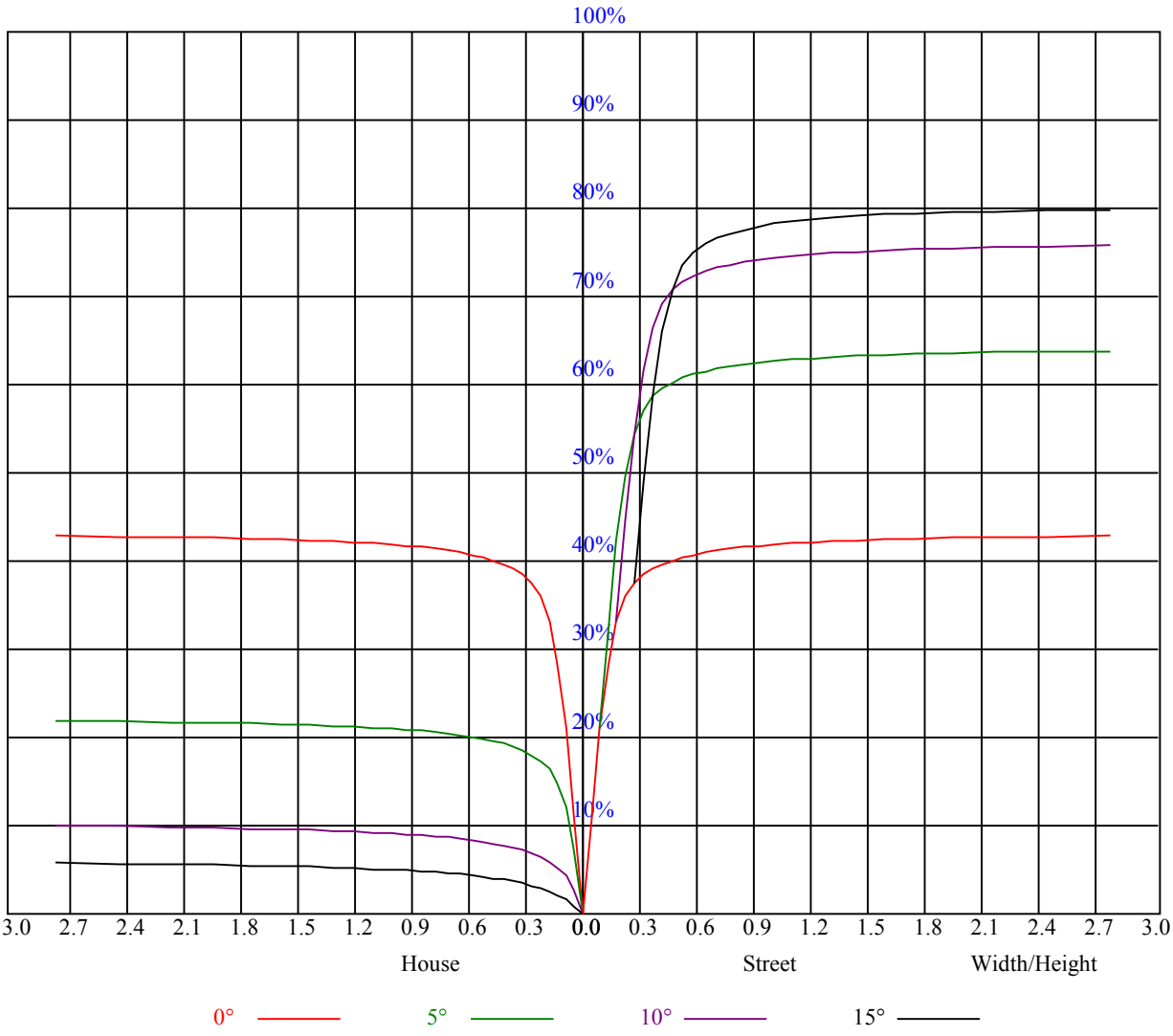


Equipment: GMS1980 Date: 2020/6/23 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

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	1.03	1.03	1.03	1.01	1.01	1.01	0.97	0.97	0.97	0.92	0.92	0.92	0.89	0.89	0.89	0.87
1	0.98	0.96	0.95	0.96	0.95	0.93	0.93	0.91	0.90	0.89	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	0.89	0.88	0.86	0.87	0.85	0.84	0.85	0.83	0.82	0.81
3	0.90	0.87	0.85	0.89	0.86	0.84	0.87	0.85	0.83	0.85	0.83	0.81	0.83	0.81	0.80	0.79
4	0.87	0.84	0.81	0.86	0.83	0.81	0.85	0.82	0.80	0.83	0.81	0.79	0.81	0.80	0.78	0.77
5	0.85	0.81	0.79	0.84	0.81	0.79	0.83	0.80	0.78	0.81	0.79	0.77	0.80	0.78	0.77	0.76
6	0.82	0.79	0.77	0.82	0.79	0.77	0.81	0.78	0.76	0.80	0.77	0.76	0.79	0.77	0.75	0.74
7	0.81	0.77	0.75	0.80	0.77	0.75	0.79	0.77	0.75	0.78	0.76	0.74	0.78	0.75	0.74	0.73
8	0.79	0.76	0.74	0.79	0.76	0.73	0.78	0.75	0.73	0.77	0.75	0.73	0.76	0.74	0.73	0.72
9	0.77	0.74	0.72	0.77	0.74	0.72	0.76	0.74	0.72	0.76	0.73	0.72	0.75	0.73	0.72	0.71
10	0.76	0.73	0.71	0.76	0.73	0.71	0.75	0.73	0.71	0.75	0.72	0.71	0.74	0.72	0.71	0.70

Coefficient Utilization Curve



Equipment: GMS1980	Date: 2020/6/23	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	3255.75	3207.94	3013.88	2794.50	2577.38	2199.94	1918.13	1671.19	1338.19
45.0	3259.13	3151.13	2944.69	2683.69	2427.75	2185.88	1792.13	1510.31	1278.56
90.0	3227.63	3114.56	2904.75	2640.94	2381.06	2068.31	1747.13	1472.63	1121.85
135.0	3251.25	3234.94	3102.75	2923.88	2692.13	2401.31	2088.56	1802.81	1492.88
180.0	3255.75	3234.38	3122.44	2922.75	2695.50	2399.63	2081.25	1788.75	1470.94
225.0	3259.13	3285.00	3210.75	3062.81	2829.94	2578.50	2273.63	1951.88	1667.25
270.0	3227.63	3264.75	3204.00	3070.69	2866.50	2585.25	2288.81	2009.25	1692.00
315.0	3251.25	3189.38	3027.94	2790.56	2544.19	2242.13	1928.25	1649.81	1249.31
360.0	3255.75	3207.94	3013.88	2794.50	2577.38	2199.94	1918.13	1671.19	1338.19

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	1061.44	840.94	624.38	468.00	347.06	286.31	176.12	132.53	101.81
45.0	974.81	734.06	576.00	399.94	286.88	239.01	160.31	128.19	100.69
90.0	945.51	711.00	517.50	382.39	270.06	194.51	150.08	118.91	92.03
135.0	1202.06	964.13	723.94	544.50	381.38	285.75	189.17	142.37	104.12
180.0	1108.07	933.30	719.94	520.26	379.46	262.52	182.31	135.56	102.43
225.0	1286.44	1092.49	831.54	633.60	453.09	320.12	234.51	173.87	124.43
270.0	1384.88	1133.44	873.56	673.88	487.13	344.25	294.75	185.23	137.53
315.0	1095.53	845.04	629.10	469.35	331.82	235.29	176.57	136.35	102.38
360.0	1061.44	840.94	624.38	468.00	347.06	286.31	176.12	132.53	101.81

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	82.74	68.68	56.48	49.39	43.82	38.81	34.88	32.06	29.31
45.0	81.11	68.68	59.06	48.88	42.98	38.59	33.98	30.99	28.69
90.0	77.01	65.81	56.48	49.05	43.88	39.21	35.44	32.57	29.76
135.0	84.38	70.65	57.77	50.06	44.66	39.66	35.72	32.46	29.87
180.0	81.17	68.29	58.95	49.95	44.49	39.99	35.94	32.74	30.32
225.0	99.96	83.36	70.76	60.75	53.55	46.86	41.63	38.03	34.48
270.0	106.71	87.53	72.51	61.43	53.72	48.26	41.68	37.97	35.10
315.0	83.19	69.08	57.43	49.16	43.71	38.70	34.59	31.61	28.86
360.0	82.74	68.68	56.48	49.39	43.82	38.81	34.88	32.06	29.31

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	26.72	24.69	22.73	20.98	19.18	17.55	16.20	15.02	13.78
45.0	26.21	23.96	21.66	19.52	17.61	16.14	14.74	13.56	12.54
90.0	27.45	25.09	22.73	20.76	18.96	17.04	15.41	14.18	12.99
135.0	27.28	25.31	23.40	21.66	19.74	18.00	16.54	15.19	13.84
180.0	27.96	25.76	24.02	21.99	20.19	18.28	16.65	15.36	14.29
225.0	31.89	29.25	26.89	24.69	22.44	19.97	18.34	16.71	14.96
270.0	31.56	29.03	27.11	24.69	22.44	20.81	18.62	17.10	15.69
315.0	26.61	24.47	22.67	20.98	19.35	17.44	16.09	14.85	13.61
360.0	26.72	24.69	22.73	20.98	19.18	17.55	16.20	15.02	13.78

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	12.99	12.26	11.48	10.91	10.35	9.79	9.17	8.72	8.16
45.0	11.76	11.03	10.46	9.84	9.34	8.78	8.33	7.71	7.20
90.0	12.15	11.48	10.58	10.01	9.51	8.78	8.33	7.82	7.14
135.0	12.99	12.26	11.64	10.91	10.41	9.84	9.23	8.78	8.21
180.0	13.22	12.49	11.87	11.14	10.52	10.01	9.51	8.89	8.44
225.0	13.84	12.94	12.04	11.31	10.74	10.13	9.56	8.94	8.33
270.0	14.12	13.22	12.43	11.48	10.86	10.35	9.68	9.11	8.55
315.0	12.77	12.09	11.48	10.74	10.24	9.73	9.17	8.61	8.16
360.0	12.99	12.26	11.48	10.91	10.35	9.79	9.17	8.72	8.16

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	7.65	7.26	6.86	6.53	6.24	5.96	5.74	5.51	5.23
45.0	6.81	6.41	6.08	5.79	5.57	5.29	5.06	4.89	4.73
90.0	6.86	6.41	6.08	5.79	5.57	5.23	5.06	4.89	4.67
135.0	7.71	7.20	6.86	6.53	6.24	5.96	5.74	5.51	5.23
180.0	7.82	7.37	7.03	6.64	6.36	6.08	5.79	5.57	5.34
225.0	7.82	7.31	6.86	6.53	6.19	5.85	5.63	5.40	5.18
270.0	8.04	7.48	7.03	6.64	6.24	5.96	5.68	5.46	5.23
315.0	7.59	7.14	6.75	6.41	6.19	5.91	5.63	5.40	5.18
360.0	7.65	7.26	6.86	6.53	6.24	5.96	5.74	5.51	5.23

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	5.06	4.89	4.67	4.50	4.33	4.16	4.05	3.88	3.71
45.0	4.50	4.39	4.22	4.05	3.94	3.83	3.66	3.54	3.43
90.0	4.50	4.33	4.16	3.99	3.88	3.77	3.60	3.49	3.38
135.0	5.01	4.84	4.67	4.44	4.28	4.16	3.94	3.83	3.71
180.0	5.12	4.95	4.78	4.56	4.39	4.22	4.11	3.94	3.83
225.0	4.95	4.78	4.56	4.39	4.28	4.11	3.94	3.83	3.71
270.0	5.01	4.78	4.61	4.44	4.28	4.16	3.94	3.83	3.71
315.0	4.95	4.78	4.61	4.39	4.22	4.05	3.94	3.77	3.66
360.0	5.06	4.89	4.67	4.50	4.33	4.16	4.05	3.88	3.71

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	3.54	3.49	3.38	3.26	3.15	3.04	2.98	2.87	2.76
45.0	3.38	3.21	3.15	3.04	2.98	2.87	2.81	2.70	2.64
90.0	3.32	3.21	3.09	3.04	2.98	2.87	2.98	3.66	4.50
135.0	3.54	3.43	3.32	3.21	3.09	3.04	2.93	2.87	2.76
180.0	3.66	3.54	3.43	3.32	3.21	3.09	2.98	2.93	2.87
225.0	3.60	3.49	3.38	3.26	3.21	3.09	2.98	2.93	2.81
270.0	3.60	3.49	3.38	3.26	3.21	3.09	3.04	2.98	3.54
315.0	3.54	3.38	3.32	3.21	3.09	2.98	2.93	2.81	2.76
360.0	3.54	3.49	3.38	3.26	3.15	3.04	2.98	2.87	2.76

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	2.70	2.59	2.53	2.48	2.42	2.36	2.25	2.19	2.14
45.0	2.64	2.70	2.76	2.81	2.87	2.76	2.42	2.14	2.08
90.0	5.40	5.85	5.96	5.91	5.68	5.12	4.22	3.15	2.42
135.0	2.64	2.59	2.53	2.42	2.36	2.31	2.19	2.14	2.08
180.0	2.81	2.81	2.81	2.81	2.76	2.59	2.42	2.31	2.14
225.0	2.81	2.70	2.81	2.98	3.04	3.21	3.26	2.87	2.36
270.0	4.56	5.57	6.47	7.26	7.48	7.48	7.03	6.19	5.12
315.0	2.64	2.59	2.53	2.42	2.36	2.31	2.19	2.14	2.03
360.0	2.70	2.59	2.53	2.48	2.42	2.36	2.25	2.19	2.14

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	2.03	1.91	1.86	1.74	1.69	1.63	1.46	1.35	1.35
45.0	2.03	1.91	1.86	1.74	1.63	1.41	1.24	1.18	1.18
90.0	2.08	2.08	1.97	1.80	1.63	1.46	1.29	1.18	1.18
135.0	1.97	1.91	1.80	1.69	1.63	1.52	1.41	1.35	1.29
180.0	2.08	1.97	1.91	1.86	1.74	1.69	1.58	1.46	1.35
225.0	2.14	2.03	1.91	1.86	1.74	1.69	1.58	1.41	1.29
270.0	3.71	2.64	2.03	1.91	1.86	1.80	1.63	1.35	1.29
315.0	1.97	1.86	1.74	1.69	1.58	1.52	1.41	1.29	1.29
360.0	2.03	1.91	1.86	1.74	1.69	1.63	1.46	1.35	1.35

Intensity data(cd)

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