NATA LIGHTNG CO.,LTD.
www.nata.cn
Email:info@nata.con
Tel:+86-750-3770000 Fax:+86-750-3771111
Address:380JinOu Road,GaoXin Zone,Jiang Men City,Guangdong,Ching

Nata

LumCAT: 1-0920-M
Luminaire: 99.02.73.179+92.76.853.00

Report No: 220609-B012	Voltage(V): 37.2300
Test No: 220609-C012	Current(A): 0.3610
LampCAT: Bridgelux C10-(30C2000C)	Power (W): 13.4400
Lamp flux(lm): 1182.2	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 43	Width(mm): 43
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 848.73
Efficiency(%): 71.79%
Lumens(lm)/Power(W): 63.15
Central intensity(cd): 3328.087
Maximum intensity(cd): 3328.087
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=30.0
[C90/270]Total=30.0
Field angle(10%Imax): [C0/180]Total=46.3
[C90/270]Total=46.3
Maximum s/h(1/2): C0_180=0.50 C90_270=0.50
Maximum s/h(1/4): C0_180=0.48 C90_270=0.48
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 71.79%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.522%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	3328.087	0.000	0	.000%	.000%
1.0	3320.767	3.181	3.181	.269%	.375%
2.0	3291.638	9.491	12.672	.803%	1.493%
3.0	3246.076	15.636	28.308	1.323%	3.335%
4.0	3187.220	21.534	49.842	1.822%	5.873%
5.0	3102.669	27.059	76.901	2.289%	9.061%
6.0	3001.538	32.079	108.98	2.714%	12.840%
7.0	2897.194	36.613	145.594	3.097%	17.154%
8.0	2772.385	40.576	186.17	3.432%	21.935%
9.0	2635.402	43.827	229.997	3.707%	27.099%
10.0	2495.430	46.432	276.429	3.928%	32.570%
11.0	2340.222	48.318	324.747	4.087%	38.263%
12.0	2187.703	49.497	374.244	4.187%	44.095%
13.0	2017.781	49.908	424.153	4.222%	49.975%
14.0	1840.389	49.384	473.537	4.177%	55.794%
15.0	1668.002	48.165	521.702	4.074%	61.469%
16.0	1464.700	45.903	567.604	3.883%	66.877%
17.0	1301.239	43.073	610.678	3.644%	71.952%
18.0	1118.081	39.889	650.567	3.374%	76.652%
19.0	962.537	36.199	686.765	3.062%	80.917%
20.0	776.437	31.828	718.593	2.692%	84.667%
21.0	608.763	26.599	745.192	2.250%	87.801%
22.0	472.892	21.736	766.928	1.839%	90.362%
23.0	351.519	17.298	784.227	1.463%	92.400%
24.0	228.495	12.681	796.908	1.073%	93.894%
25.0	171.692	9.099	806.007	.770%	94.966%
26.0	103.141	6.487	812.495	.549%	95.731%
27.0	69.082	4.213	816.708	.356%	96.227%
28.0	45.435	2.899	819.608	.245%	96.569%
29.0	29.077	1.949	821.557	.165%	96.799%
30.0	18.314	1.280	822.837	.108%	96.949%
31.0	14.064	0.901	823.738	.076%	97.055%
32.0	11.510	0.733	824.47	.062%	97.142%
33.0	9.874	0.630	825.1	.053%	97.216%
34.0	8.836	0.566	825.666	.048%	97.283%
35.0	7.932	0.521	826.187	.044%	97.344%
36.0	7.365	0.487	826.674	.041%	97.401%
37.0	6.924	0.466	827.14	.039%	97.456%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	6.565	0.450	827.591	.038%	97.509%
39.0	6.207	0.436	828.026	.037%	97.561%
40.0	5.960	0.424	828.451	.036%	97.611%
41.0	5.721	0.416	828.867	.035%	97.660%
42.0	5.512	0.408	829.275	.035%	97.708%
43.0	5.325	0.401	829.676	.034%	97.755%
44.0	5.191	0.397	830.073	.034%	97.802%
45.0	5.019	0.392	830.466	.033%	97.848%
46.0	4.907	0.388	830.854	.033%	97.894%
47.0	4.795	0.386	831.24	.033%	97.939%
48.0	4.683	0.383	831.623	.032%	97.985%
49.0	4.608	0.382	832.005	.032%	98.030%
50.0	4.519	0.381	832.385	.032%	98.074%
51.0	4.422	0.378	832.763	.032%	98.119%
52.0	4.369	0.377	833.141	.032%	98.163%
53.0	4.317	0.378	833.518	.032%	98.208%
54.0	4.265	0.378	833.897	.032%	98.252%
55.0	4.220	0.379	834.275	.032%	98.297%
56.0	4.183	0.380	834.655	.032%	98.342%
57.0	4.145	0.381	835.036	.032%	98.387%
58.0	4.101	0.381	835.417	.032%	98.432%
59.0	4.086	0.383	835.8	.032%	98.477%
60.0	4.056	0.385	836.185	.033%	98.522%
61.0	4.026	0.386	836.57	.033%	98.567%
62.0	4.018	0.388	836.958	.033%	98.613%
63.0	3.989	0.389	837.347	.033%	98.659%
64.0	3.966	0.390	837.738	.033%	98.705%
65.0	3.966	0.393	838.13	.033%	98.751%
66.0	3.959	0.395	838.526	.033%	98.798%
67.0	3.951	0.398	838.923	.034%	98.845%
68.0	3.936	0.400	839.323	.034%	98.892%
69.0	3.929	0.401	839.724	.034%	98.939%
70.0	3.936	0.404	840.128	.034%	98.987%
71.0	3.936	0.407	840.535	.034%	99.035%
72.0	3.936	0.409	840.944	.035%	99.083%
73.0	4.018	0.416	841.36	.035%	99.132%
74.0	4.101	0.427	841.787	.036%	99.182%
75.0	4.220	0.440	842.227	.037%	99.234%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	4.317	0.453	842.68	.038%	99.287%
77.0	4.369	0.463	843.143	.039%	99.342%
78.0	4.325	0.465	843.608	.039%	99.397%
79.0	4.183	0.457	844.065	.039%	99.451%
80.0	4.063	0.445	844.51	.038%	99.503%
81.0	4.026	0.437	844.947	.037%	99.555%
82.0	4.071	0.439	845.387	.037%	99.606%
83.0	4.101	0.444	845.831	.038%	99.659%
84.0	4.115	0.448	846.278	.038%	99.711%
85.0	3.832	0.434	846.712	.037%	99.762%
86.0	3.757	0.415	847.127	.035%	99.811%
87.0	3.667	0.406	847.533	.034%	99.859%
88.0	3.630	0.400	847.933	.034%	99.906%
89.0	3.630	0.398	848.331	.034%	99.953%
90.0	3.623	0.398	848.729	.034%	100.000%

Zonal flux distribution table

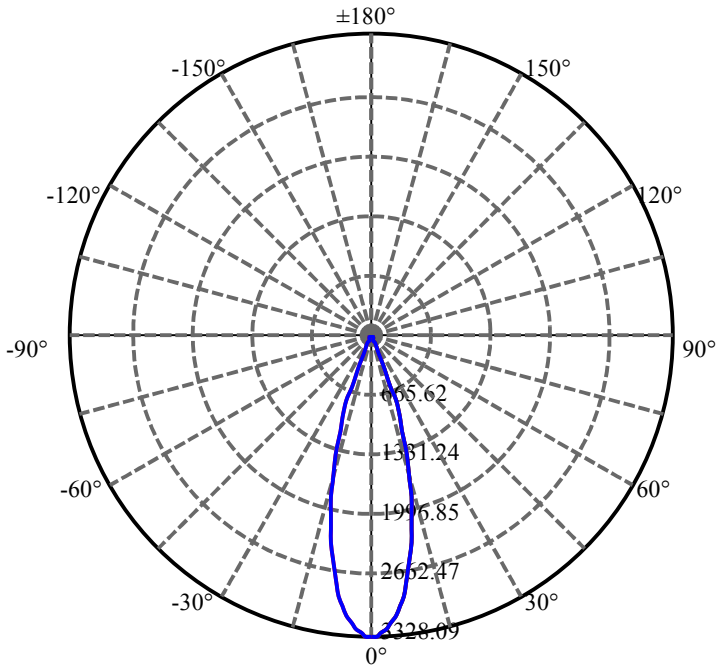
ZONAL LUMEN SUMMARY

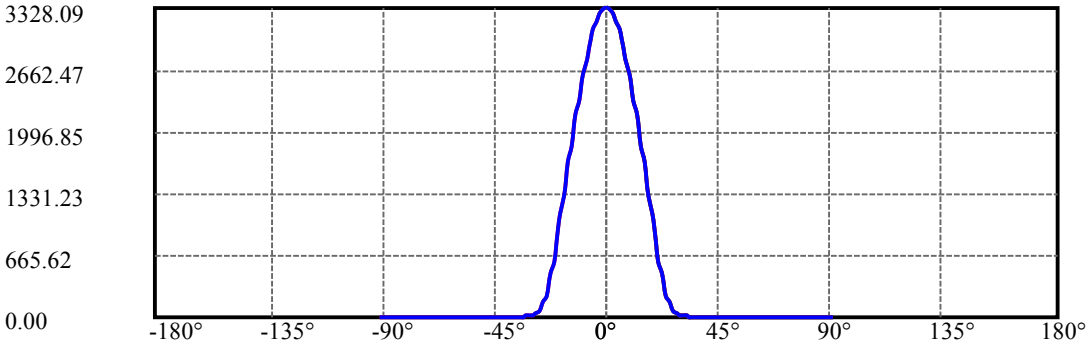
Zone	Lumens	%Lamp	%Fixt
0-30	822.84	69.60%	96.95%
0-40	828.45	70.08%	97.61%
0-60	836.18	70.73%	98.52%
0-90	848.33	71.76%	99.95%
0-120	848.33	71.76%	99.95%
0-180	848.73	71.79%	100.00%
60-90	12.53	1.06%	1.48%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-18.79	678.98	57.43%	80.00%

ZONAL LUMEN SUMMARY

0-10	276.43
10-20	442.16
20-30	104.24
30-40	5.61
40-50	3.93
50-60	3.80
60-70	3.94
70-80	4.38
80-90	3.82
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):

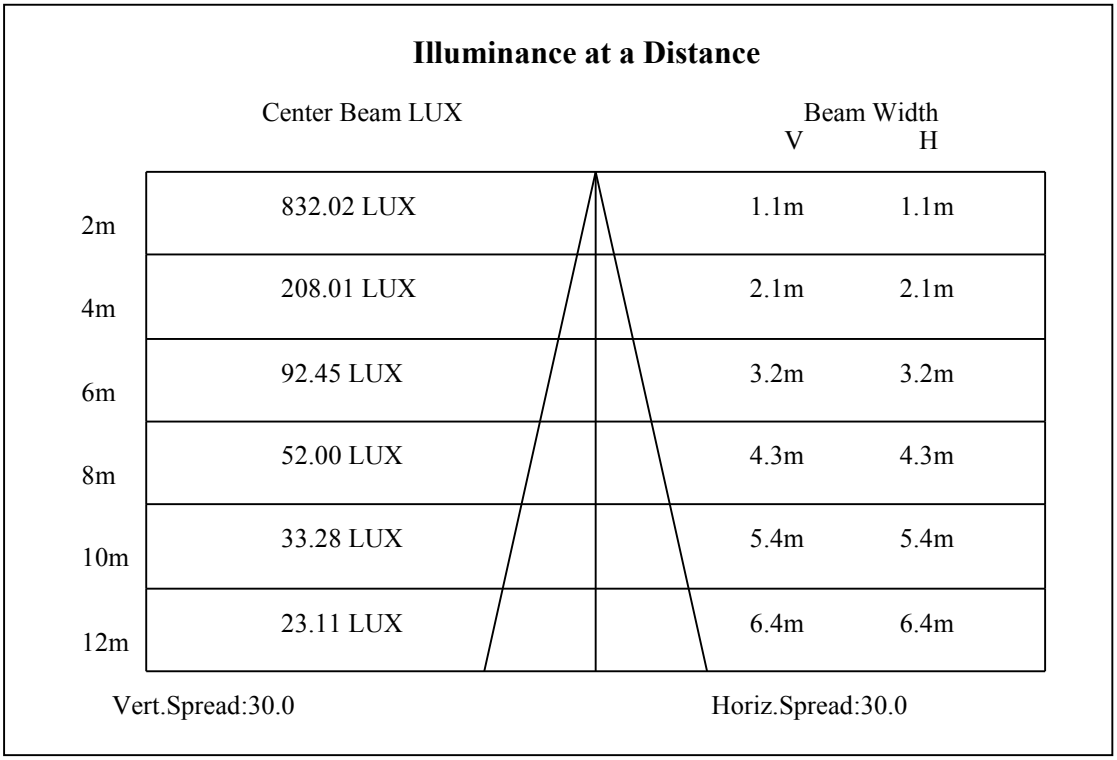
C0/C180:

C90/C270:

Field angle(10%Imax):C0/180Left:23.2 Right:23.2
:C90/270Left:23.2 Right:23.2

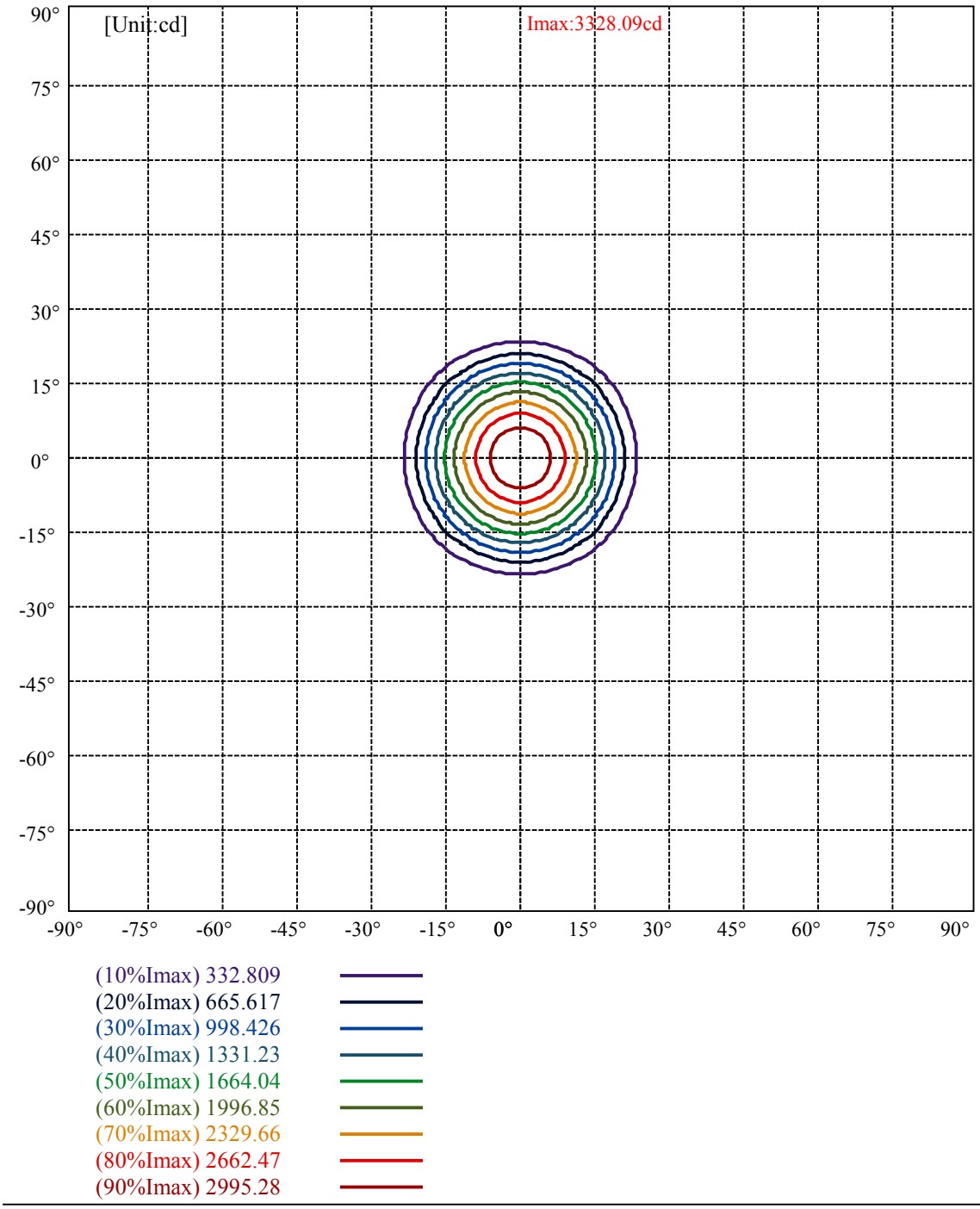
Beam Angle(50%Imax):C0/180Left:15.0 Right:15.0
:C90/270Left:15.0 Right:15.0

Lux distance Curve



Equipment: GMS1980 Date: 2022/6/09 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.73

ISO-Intensity(V-H)

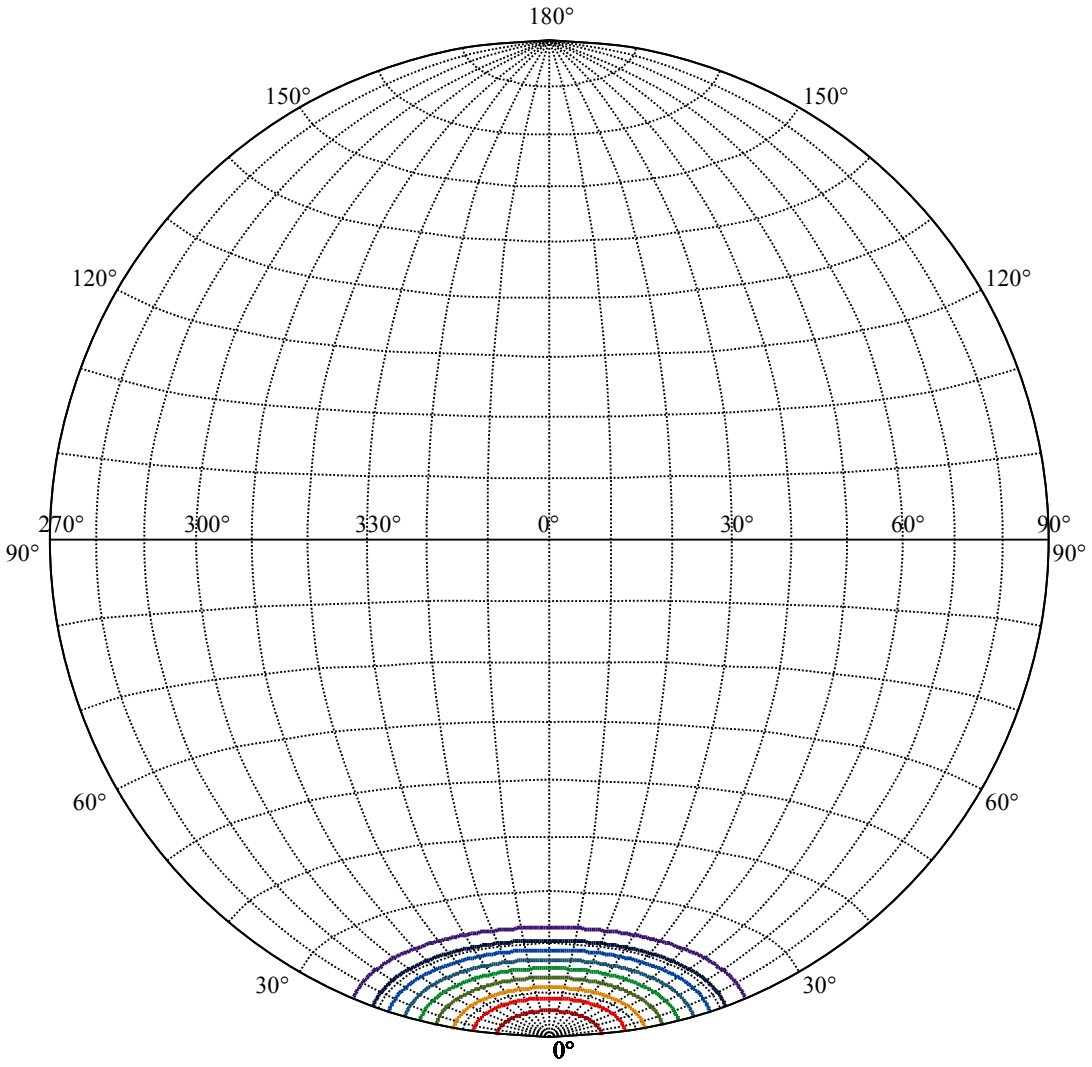


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2022/6/09
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.73

ISO candela diagram on circular web



House [Unit:cd] Road

Imax:3328.09

(10%Imax) 332.809
(20%Imax) 665.617
(30%Imax) 998.426
(40%Imax) 1331.23
(50%Imax) 1664.04
(60%Imax) 1996.85
(70%Imax) 2329.66
(80%Imax) 2662.47
(90%Imax) 2995.28

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2022/6/09
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.73

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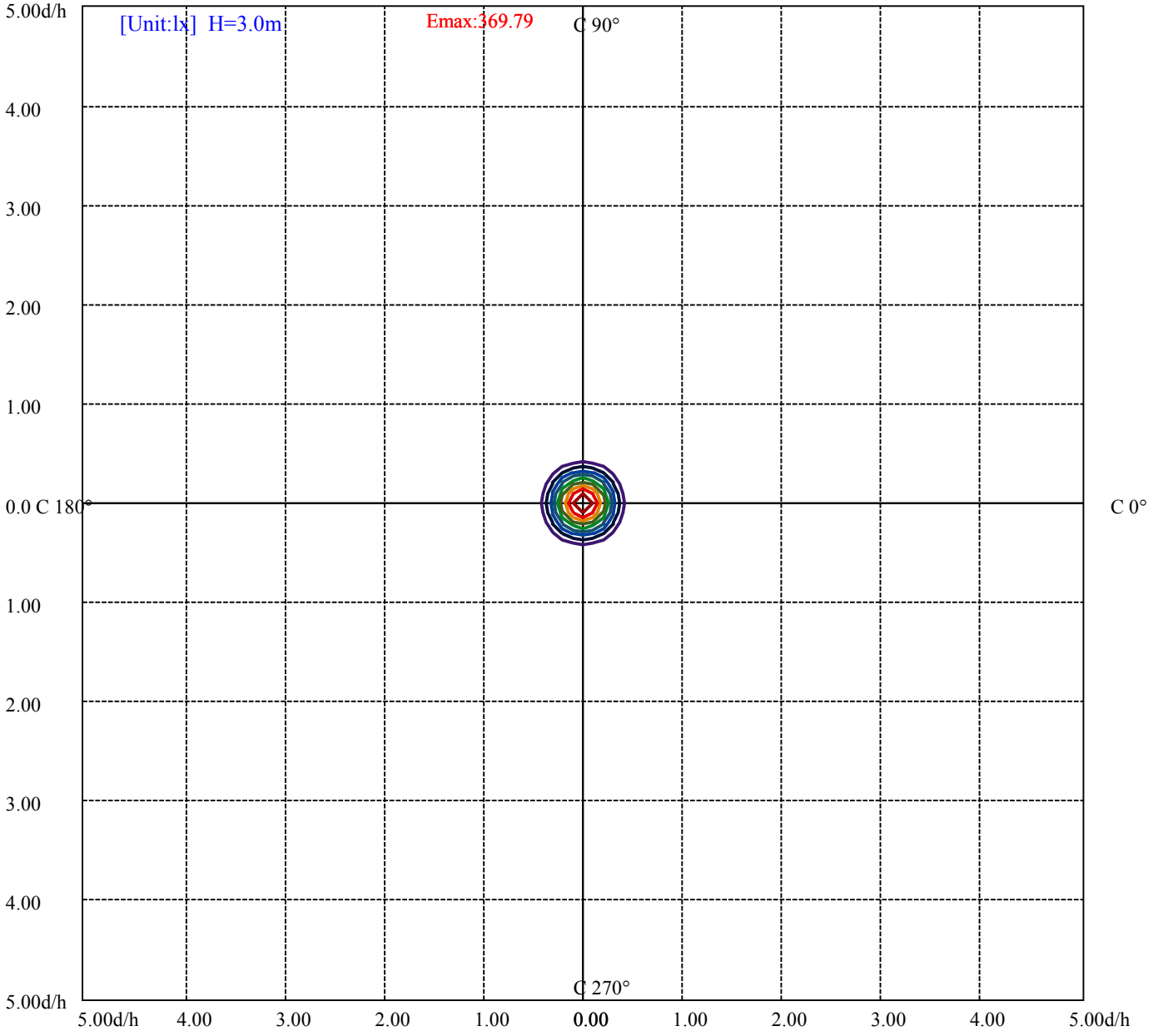
ISO illuminance diagram



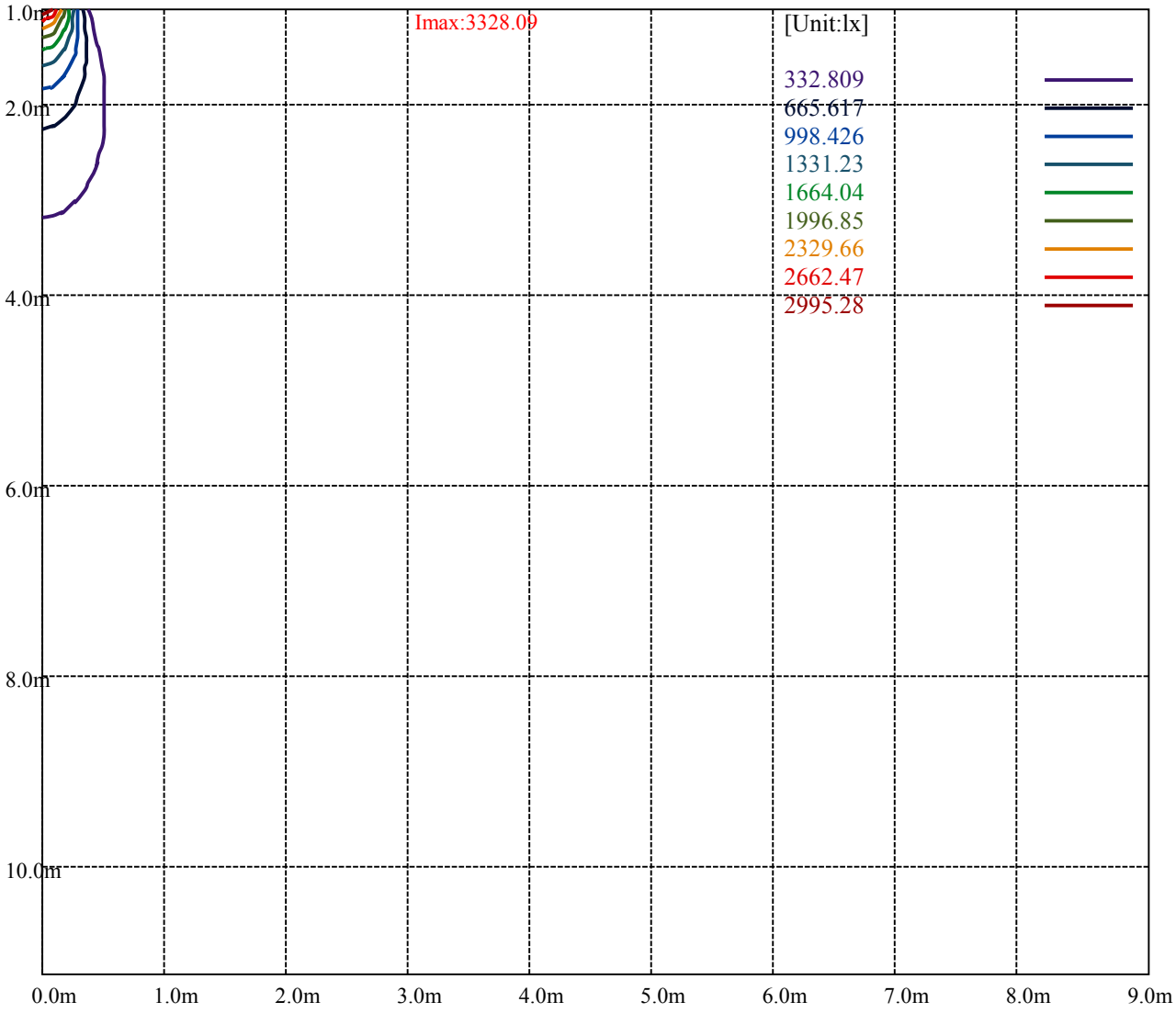
(10%Emax) 36.97878
(20%Emax) 73.95744
(30%Emax) 110.9362
(40%Emax) 147.9144
(50%Emax) 184.8933
(60%Emax) 221.8722
(70%Emax) 258.8511
(80%Emax) 295.83
(90%Emax) 332.8089

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2022/6/09
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.73

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2022/6/09
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.73

Luminance Limitting Curve(no luminous side)

Luminance Table

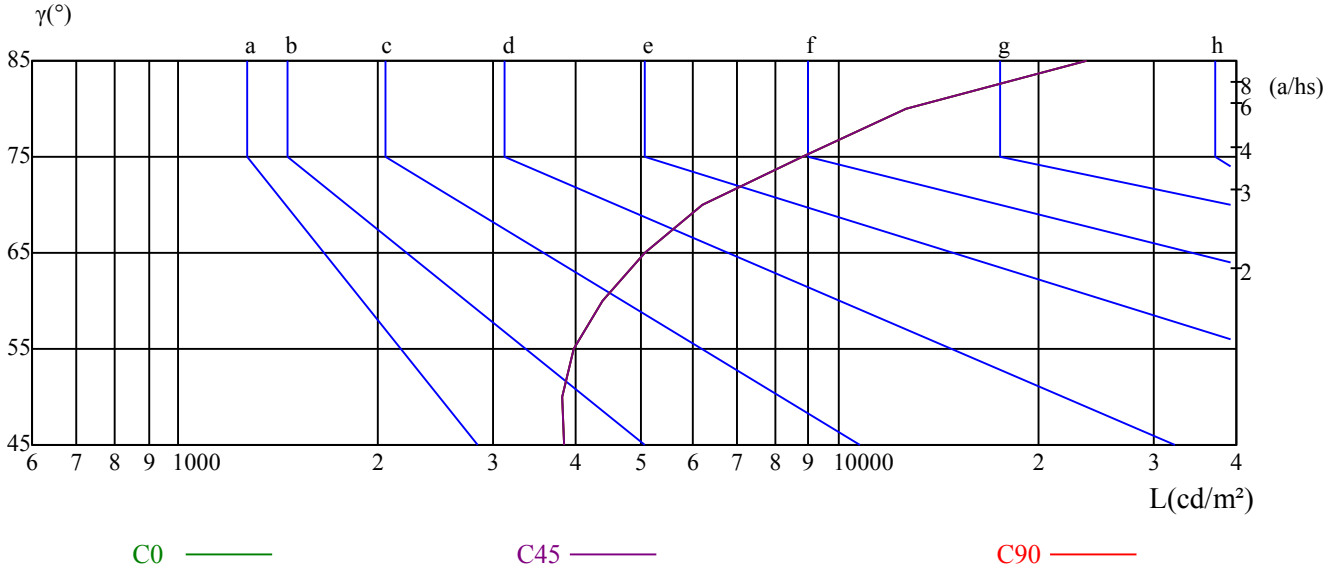
γ	45	50	55	60	65	70	75	80	85
C0	3839	3802	3979	4387	5075	6224	8818	12655	23777
C45	3839	3802	3979	4387	5075	6224	8818	12655	23777
C90	3839	3802	3979	4387	5075	6224	8818	12655	23777

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
5075	5075	5075	8818	8818	8818	23777	23777	23777

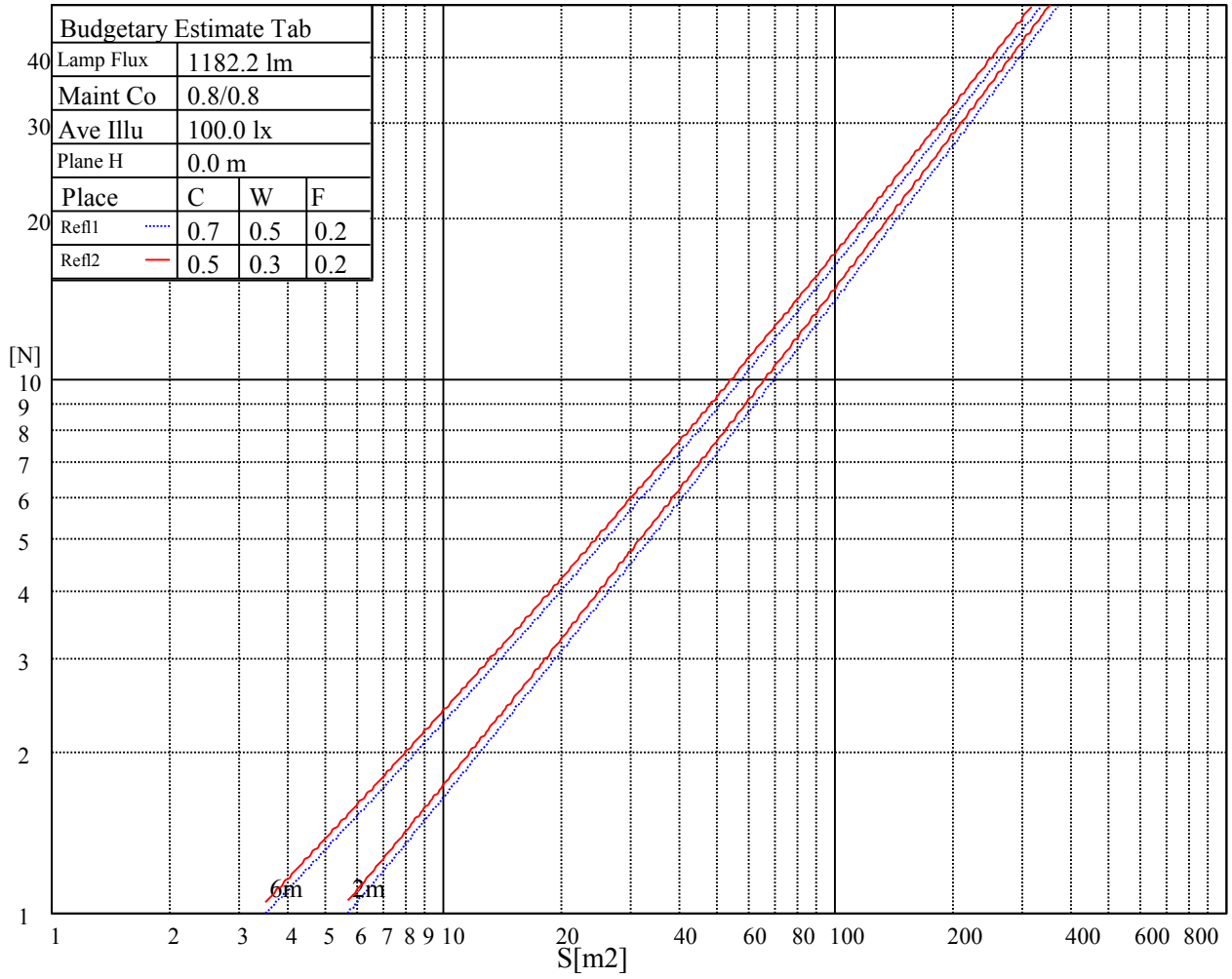
Glare Table

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

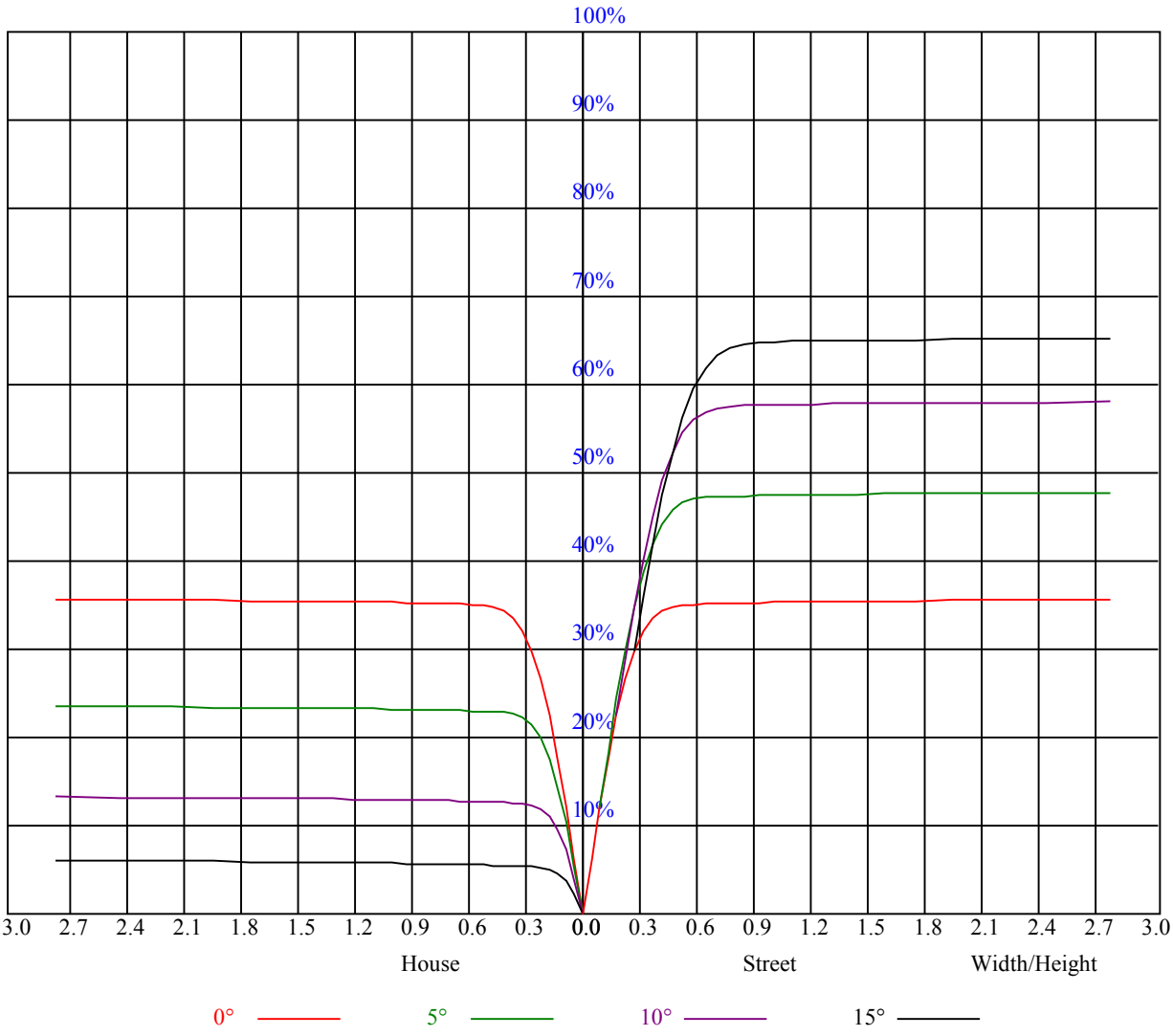


Equipment: GMS1980 Date: 2022/6/09 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.73

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	0.85	0.85	0.85	0.83	0.83	0.83	0.80	0.80	0.80	0.76	0.76	0.76	0.73	0.73	0.73	0.72
1	0.81	0.79	0.78	0.79	0.78	0.77	0.76	0.75	0.74	0.74	0.73	0.72	0.71	0.71	0.70	0.69
2	0.77	0.75	0.73	0.76	0.74	0.72	0.74	0.72	0.71	0.71	0.70	0.69	0.70	0.69	0.68	0.67
3	0.74	0.71	0.69	0.73	0.70	0.68	0.71	0.69	0.67	0.69	0.68	0.66	0.68	0.67	0.65	0.64
4	0.71	0.68	0.66	0.70	0.67	0.65	0.69	0.66	0.65	0.67	0.66	0.64	0.66	0.65	0.63	0.62
5	0.68	0.65	0.63	0.68	0.65	0.63	0.67	0.64	0.62	0.66	0.63	0.62	0.65	0.63	0.61	0.61
6	0.66	0.63	0.61	0.66	0.63	0.61	0.65	0.62	0.60	0.64	0.62	0.60	0.63	0.61	0.60	0.59
7	0.64	0.61	0.59	0.64	0.61	0.59	0.63	0.60	0.59	0.62	0.60	0.58	0.61	0.59	0.58	0.57
8	0.62	0.59	0.57	0.62	0.59	0.57	0.61	0.59	0.57	0.60	0.58	0.57	0.60	0.58	0.56	0.56
9	0.60	0.57	0.55	0.60	0.57	0.55	0.59	0.57	0.55	0.59	0.57	0.55	0.58	0.56	0.55	0.54
10	0.59	0.56	0.54	0.58	0.56	0.54	0.58	0.55	0.54	0.57	0.55	0.54	0.57	0.55	0.54	0.53

Coefficient Utilization Curve



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2022/6/09
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.73

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	3328.24	3333.61	3327.64	3302.54	3265.50	3193.79	3111.93	3039.03	2915.94
45.0	3331.82	3313.90	3273.86	3215.30	3149.58	3055.76	2945.22	2838.26	2735.49
90.0	3323.46	3299.56	3245.18	3182.44	3107.15	3008.56	2890.25	2772.53	2630.32
135.0	3328.83	3316.88	3275.06	3221.28	3157.94	3066.52	2954.78	2840.65	2706.81
180.0	3328.24	3299.56	3249.96	3177.66	3103.57	3002.58	2883.67	2764.17	2617.77
225.0	3331.82	3336.00	3321.66	3287.01	3226.66	3157.94	3075.48	2954.78	2847.23
270.0	3323.46	3333.61	3325.85	3301.95	3258.33	3189.01	3099.38	3010.95	2891.44
315.0	3328.83	3333.02	3313.90	3280.43	3229.05	3147.19	3051.58	2957.17	2834.08
360.0	3328.24	3333.61	3327.64	3302.54	3265.50	3193.79	3111.93	3039.03	2915.94

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	2792.25	2685.89	2519.78	2381.15	2233.56	2043.55	1880.42	1713.12	1497.41
45.0	2555.03	2412.22	2285.55	2096.13	1921.06	1781.83	1570.31	1388.66	1249.43
90.0	2491.70	2332.16	2169.63	2017.86	1840.99	1654.56	1487.25	1180.78	1116.66
135.0	2555.03	2418.80	2255.07	2102.70	1928.82	1745.98	1568.51	1405.99	1205.22
180.0	2476.76	2314.83	2145.73	1990.37	1809.32	1622.29	1454.39	1185.50	1102.92
225.0	2728.91	2584.91	2427.76	2278.98	2104.50	1923.45	1757.33	1563.14	1389.25
270.0	2765.36	2639.88	2495.28	2356.65	2192.33	2018.45	1856.52	1684.43	1465.74
315.0	2718.16	2574.75	2422.98	2277.78	2111.67	1933.01	1769.28	1596.00	1383.28
360.0	2792.25	2685.89	2519.78	2381.15	2233.56	2043.55	1880.42	1713.12	1497.41

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1332.49	1168.77	966.80	807.26	652.50	491.77	349.55	305.93	149.26
45.0	1043.29	880.76	720.02	518.06	390.19	312.51	161.33	104.69	70.93
90.0	954.31	790.17	597.59	456.87	333.42	205.07	128.53	82.82	53.84
135.0	1036.12	875.98	665.65	513.28	381.22	304.14	163.78	103.31	68.60
180.0	917.98	757.73	600.82	425.62	309.88	213.86	126.08	88.20	65.49
225.0	1184.66	1042.87	860.14	685.31	542.91	394.31	282.63	187.09	122.25
270.0	1299.03	1129.93	930.95	771.41	622.63	488.18	338.80	311.31	163.42
315.0	1176.77	1054.10	869.52	692.30	550.38	402.32	277.25	190.19	131.34
360.0	1332.49	1168.77	966.80	807.26	652.50	491.77	349.55	305.93	149.26

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	101.58	70.51	43.92	25.93	18.11	14.04	11.77	10.16	8.78
45.0	45.47	27.19	18.88	14.40	11.89	10.22	8.90	8.07	7.41
90.0	36.69	21.69	15.18	12.79	10.93	9.14	8.37	7.77	7.05
135.0	47.20	26.29	17.33	13.62	11.35	9.98	8.78	8.07	7.35
180.0	39.20	20.97	15.66	12.55	10.82	9.38	8.43	7.83	7.29
225.0	87.18	61.61	32.98	20.26	15.66	12.37	10.64	9.44	8.48
270.0	104.93	74.69	52.10	25.69	17.51	14.34	11.47	9.98	8.90
315.0	90.41	60.53	36.57	21.27	16.25	12.61	10.64	9.38	8.19
360.0	101.58	70.51	43.92	25.93	18.11	14.04	11.77	10.16	8.78

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	8.01	7.41	6.93	6.45	6.21	5.92	5.62	5.44	5.26
45.0	6.93	6.57	6.21	5.98	5.74	5.50	5.32	5.14	5.02
90.0	6.75	6.39	6.09	5.80	5.56	5.38	5.26	5.08	4.96
135.0	6.99	6.63	6.33	6.04	5.86	5.62	5.38	5.26	5.14
180.0	6.93	6.57	6.39	6.04	5.80	5.68	5.50	5.38	5.26
225.0	7.77	7.29	6.87	6.45	6.21	5.92	5.74	5.50	5.38
270.0	7.95	7.41	6.99	6.57	6.27	5.98	5.74	5.50	5.32
315.0	7.59	7.11	6.69	6.33	6.04	5.80	5.56	5.32	5.20
360.0	8.01	7.41	6.93	6.45	6.21	5.92	5.62	5.44	5.26

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	5.08	4.96	4.84	4.72	4.60	4.48	4.42	4.36	4.24
45.0	4.84	4.78	4.66	4.60	4.48	4.36	4.30	4.24	4.18
90.0	4.78	4.66	4.60	4.54	4.42	4.36	4.24	4.18	4.18
135.0	5.02	4.90	4.78	4.66	4.66	4.54	4.42	4.42	4.36
180.0	5.08	4.96	4.90	4.78	4.78	4.72	4.60	4.54	4.54
225.0	5.20	5.08	4.90	4.78	4.72	4.66	4.54	4.48	4.42
270.0	5.14	5.02	4.90	4.72	4.66	4.60	4.48	4.42	4.36
315.0	5.02	4.90	4.78	4.66	4.54	4.42	4.36	4.30	4.24
360.0	5.08	4.96	4.84	4.72	4.60	4.48	4.42	4.36	4.24

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	4.24	4.18	4.12	4.06	4.06	4.00	3.94	3.94	3.94
45.0	4.18	4.12	4.06	4.06	4.00	4.00	4.00	3.94	3.94
90.0	4.12	4.06	4.00	4.00	3.94	3.94	3.94	3.88	3.88
135.0	4.30	4.24	4.24	4.18	4.12	4.12	4.06	4.06	4.00
180.0	4.48	4.48	4.42	4.42	4.42	4.42	4.42	4.36	4.42
225.0	4.36	4.30	4.30	4.24	4.18	4.18	4.12	4.12	4.06
270.0	4.24	4.18	4.18	4.12	4.06	4.06	4.00	3.94	3.94
315.0	4.18	4.18	4.12	4.06	4.00	3.94	3.94	3.94	3.94
360.0	4.24	4.18	4.12	4.06	4.06	4.00	3.94	3.94	3.94

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	3.88	3.88	3.82	3.82	3.82	3.76	3.76	3.76	3.76
45.0	3.88	3.88	3.88	3.88	3.88	3.88	3.88	3.88	3.88
90.0	3.82	3.82	3.82	3.82	3.82	3.76	3.76	3.76	3.76
135.0	4.00	4.00	4.00	4.00	3.94	4.00	3.94	3.94	3.94
180.0	4.42	4.36	4.42	4.42	4.42	4.42	4.42	4.48	4.48
225.0	4.06	4.06	4.06	4.00	4.00	4.00	4.00	4.00	4.00
270.0	3.94	3.88	3.88	3.88	3.88	3.82	3.82	3.82	3.82
315.0	3.88	3.82	3.82	3.82	3.82	3.82	3.82	3.82	3.82
360.0	3.88	3.88	3.82	3.82	3.82	3.76	3.76	3.76	3.76

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	3.76	3.76	3.70	3.70	3.70	3.76	3.76	3.76	3.76
45.0	3.88	3.88	3.88	3.88	3.88	3.94	3.94	3.94	4.00
90.0	3.76	3.76	3.76	3.76	3.76	3.76	3.76	3.76	3.76
135.0	3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94	4.00
180.0	4.54	5.20	5.92	6.87	7.71	7.95	7.59	6.57	5.50
225.0	4.00	3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94
270.0	3.82	3.82	3.82	3.82	3.82	3.88	3.82	3.76	3.76
315.0	3.76	3.82	3.82	3.82	3.76	3.76	3.82	3.76	3.76
360.0	3.76	3.76	3.70	3.70	3.70	3.76	3.76	3.76	3.76

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	3.76	3.76	3.76	3.76	3.82	3.88	3.82	3.64	3.64
45.0	4.06	4.12	4.18	4.30	3.88	3.64	3.64	3.64	3.59
90.0	3.76	3.82	3.88	3.94	3.59	3.59	3.59	3.64	3.64
135.0	4.06	4.12	4.18	4.30	4.12	3.64	3.59	3.64	3.64
180.0	5.08	5.26	5.26	5.08	3.64	3.59	3.59	3.64	3.64
225.0	3.94	3.94	4.00	4.00	4.06	4.06	3.70	3.64	3.64
270.0	3.82	3.76	3.76	3.76	3.76	3.82	3.76	3.59	3.64
315.0	3.70	3.76	3.76	3.76	3.76	3.82	3.64	3.59	3.59
360.0	3.76	3.76	3.76	3.76	3.82	3.88	3.82	3.64	3.64

Intensity data(cd)

C/γ(°)	90.0
0.0	3.64
45.0	3.59
90.0	3.64
135.0	3.59
180.0	3.59
225.0	3.64
270.0	3.64
315.0	3.64
360.0	3.64