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

Nata

LumCAT: 1-1219-L
Luminaire: 92.70.124.00
Report No: 220519-B016
Test No: 220519-C016
LampCAT: CITIZEN CLU028
Lamp flux(lm): 1195.8
Number of Lamps: 1
Length(mm): 43
Phm Type: C

Voltage(V): 35.4900
Current(A): 0.2800
Power (W): 9.9370
PF: 0.0000
Ballast type: DC
Width(mm): 43
Height(mm): 0

Photometric Results

Lumens(lm): 1063.29
Efficiency(%): 88.92%
Lumens(lm)/Power(W): 107.00
Central intensity(cd): 3828.219
Maximum intensity(cd): 3828.219
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=24.3
[C90/270]Total=24.3
Field angle(10%Imax): [C0/180]Total=58.1
[C90/270]Total=58.1
Maximum s/h(1/2): C0_180=0.41 C90_270=0.41
Maximum s/h(1/4): C0_180=0.46 C90_270=0.46
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 88.92%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.635%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	3828.219	0.000	0	.000%	.000%
1.0	3808.127	3.654	3.654	.306%	.344%
2.0	3746.731	10.843	14.497	.907%	1.363%
3.0	3639.400	17.665	32.162	1.477%	3.025%
4.0	3505.479	23.916	56.079	2.000%	5.274%
5.0	3330.552	29.408	85.487	2.459%	8.040%
6.0	3135.758	33.982	119.469	2.842%	11.236%
7.0	2924.382	37.615	157.084	3.146%	14.773%
8.0	2721.521	40.407	197.491	3.379%	18.574%
9.0	2506.335	42.369	239.86	3.543%	22.558%
10.0	2299.665	43.493	283.352	3.637%	26.649%
11.0	2116.746	44.129	327.481	3.690%	30.799%
12.0	1938.459	44.329	371.811	3.707%	34.968%
13.0	1766.594	43.970	415.78	3.677%	39.103%
14.0	1607.801	43.192	458.972	3.612%	43.165%
15.0	1458.217	42.092	501.064	3.520%	47.124%
16.0	1329.144	40.843	541.907	3.415%	50.965%
17.0	1207.950	39.509	581.416	3.304%	54.681%
18.0	1106.280	38.157	619.573	3.191%	58.269%
19.0	1009.353	36.808	656.38	3.078%	61.731%
20.0	921.196	35.334	691.715	2.955%	65.054%
21.0	844.816	33.911	725.626	2.836%	68.243%
22.0	773.524	32.521	758.147	2.720%	71.302%
23.0	705.495	31.034	789.181	2.595%	74.220%
24.0	643.748	29.499	818.68	2.467%	76.995%
25.0	581.134	27.851	846.531	2.329%	79.614%
26.0	530.621	26.243	872.774	2.195%	82.082%
27.0	480.600	24.740	897.514	2.069%	84.409%
28.0	433.903	23.153	920.667	1.936%	86.586%
29.0	385.219	21.431	942.098	1.792%	88.602%
30.0	338.358	19.536	961.634	1.634%	90.439%
31.0	287.710	17.423	979.057	1.457%	92.078%
32.0	237.249	15.039	994.096	1.258%	93.492%
33.0	196.893	12.790	1006.886	1.070%	94.695%
34.0	146.581	10.395	1017.281	.869%	95.673%
35.0	106.644	7.864	1025.145	.658%	96.412%
36.0	69.941	5.622	1030.768	.470%	96.941%
37.0	44.464	3.731	1034.499	.312%	97.292%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	26.463	2.367	1036.866	.198%	97.515%
39.0	16.918	1.481	1038.347	.124%	97.654%
40.0	12.167	1.014	1039.361	.085%	97.749%
41.0	9.673	0.778	1040.139	.065%	97.822%
42.0	7.581	0.627	1040.766	.052%	97.881%
43.0	6.461	0.520	1041.286	.043%	97.930%
44.0	5.841	0.464	1041.75	.039%	97.974%
45.0	5.647	0.441	1042.192	.037%	98.015%
46.0	5.512	0.436	1042.628	.036%	98.056%
47.0	5.408	0.434	1043.063	.036%	98.097%
48.0	5.311	0.433	1043.496	.036%	98.138%
49.0	5.236	0.433	1043.929	.036%	98.179%
50.0	5.161	0.433	1044.362	.036%	98.220%
51.0	5.101	0.434	1044.797	.036%	98.260%
52.0	5.042	0.435	1045.232	.036%	98.301%
53.0	4.989	0.436	1045.668	.036%	98.342%
54.0	4.952	0.438	1046.106	.037%	98.384%
55.0	4.922	0.441	1046.547	.037%	98.425%
56.0	4.877	0.443	1046.99	.037%	98.467%
57.0	4.833	0.444	1047.434	.037%	98.508%
58.0	4.810	0.446	1047.88	.037%	98.550%
59.0	4.795	0.449	1048.329	.038%	98.593%
60.0	4.765	0.452	1048.781	.038%	98.635%
61.0	4.743	0.454	1049.234	.038%	98.678%
62.0	4.735	0.457	1049.691	.038%	98.721%
63.0	4.720	0.460	1050.151	.038%	98.764%
64.0	4.691	0.462	1050.613	.039%	98.807%
65.0	4.691	0.464	1051.077	.039%	98.851%
66.0	4.676	0.467	1051.544	.039%	98.895%
67.0	4.653	0.469	1052.013	.039%	98.939%
68.0	4.661	0.472	1052.485	.039%	98.983%
69.0	4.638	0.474	1052.96	.040%	99.028%
70.0	4.631	0.476	1053.436	.040%	99.073%
71.0	4.638	0.479	1053.915	.040%	99.118%
72.0	4.623	0.482	1054.396	.040%	99.163%
73.0	4.623	0.484	1054.88	.040%	99.209%
74.0	4.623	0.486	1055.366	.041%	99.254%
75.0	4.601	0.487	1055.853	.041%	99.300%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	4.601	0.488	1056.342	.041%	99.346%
77.0	4.586	0.490	1056.832	.041%	99.392%
78.0	4.601	0.492	1057.323	.041%	99.438%
79.0	4.601	0.494	1057.818	.041%	99.485%
80.0	4.601	0.496	1058.314	.041%	99.532%
81.0	4.586	0.497	1058.811	.042%	99.578%
82.0	4.571	0.497	1059.307	.042%	99.625%
83.0	4.579	0.497	1059.805	.042%	99.672%
84.0	4.571	0.498	1060.303	.042%	99.719%
85.0	4.564	0.499	1060.802	.042%	99.766%
86.0	4.556	0.499	1061.3	.042%	99.813%
87.0	4.564	0.499	1061.799	.042%	99.859%
88.0	4.541	0.499	1062.298	.042%	99.906%
89.0	4.541	0.498	1062.796	.042%	99.953%
90.0	4.541	0.498	1063.294	.042%	100.000%

Zonal flux distribution table

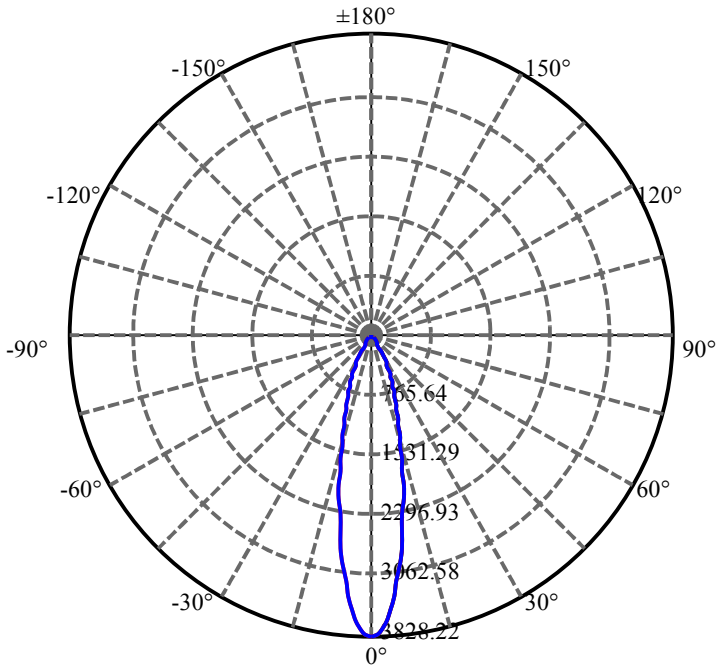
ZONAL LUMEN SUMMARY

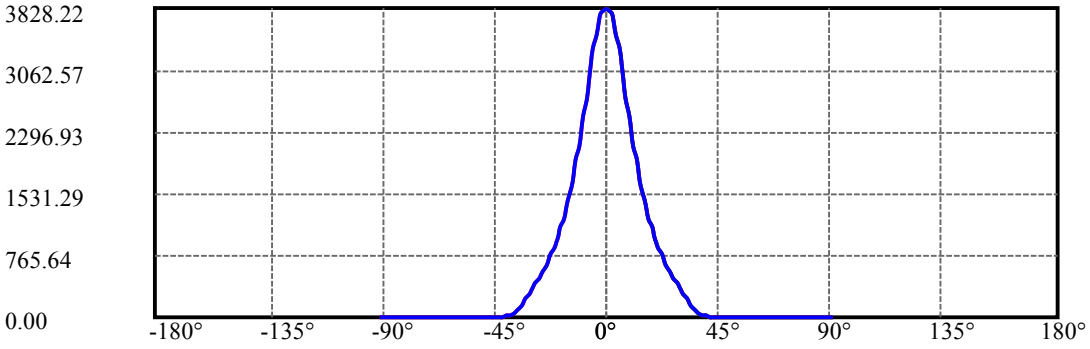
Zone	Lumens	%Lamp	%Fixt
0-30	961.63	80.42%	90.44%
0-40	1039.36	86.92%	97.75%
0-60	1048.78	87.70%	98.64%
0-90	1062.80	88.88%	99.95%
0-120	1062.80	88.88%	99.95%
0-180	1063.29	88.92%	100.00%
60-90	14.47	1.21%	1.36%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-25.16	850.64	71.13%	80.00%

ZONAL LUMEN SUMMARY

0-10	283.35
10-20	408.36
20-30	269.92
30-40	77.73
40-50	5.00
50-60	4.42
60-70	4.66
70-80	4.88
80-90	4.48
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):

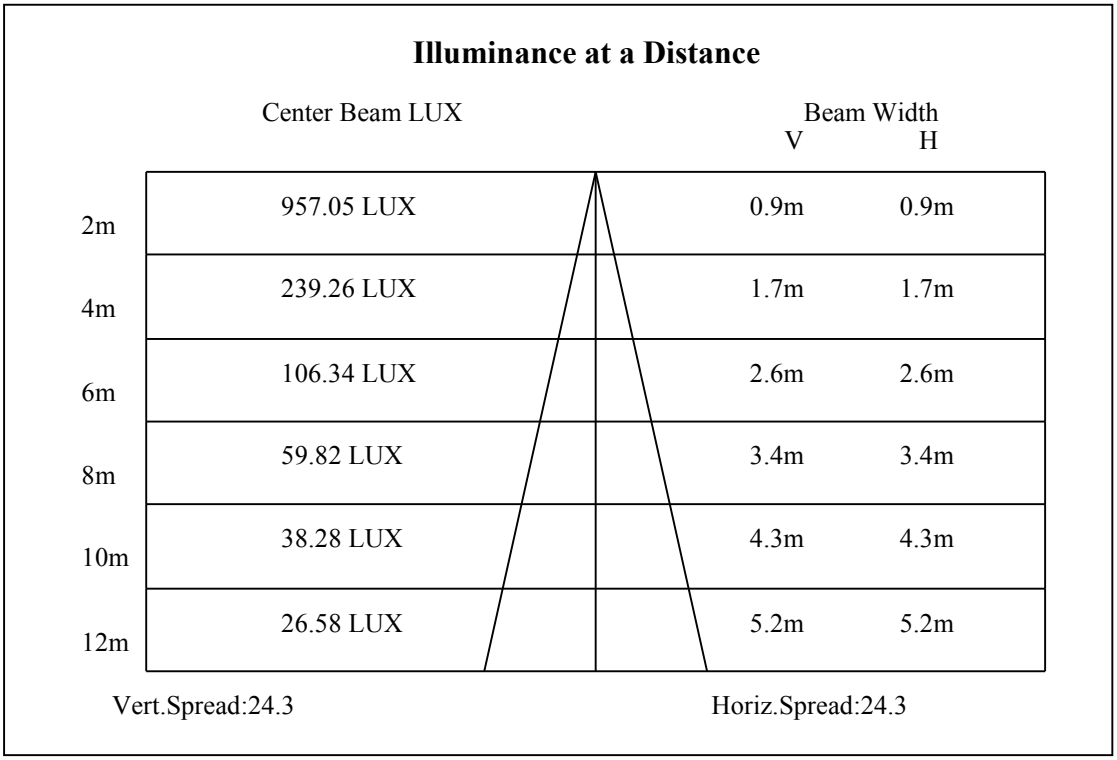
C0/C180:

C90/C270:

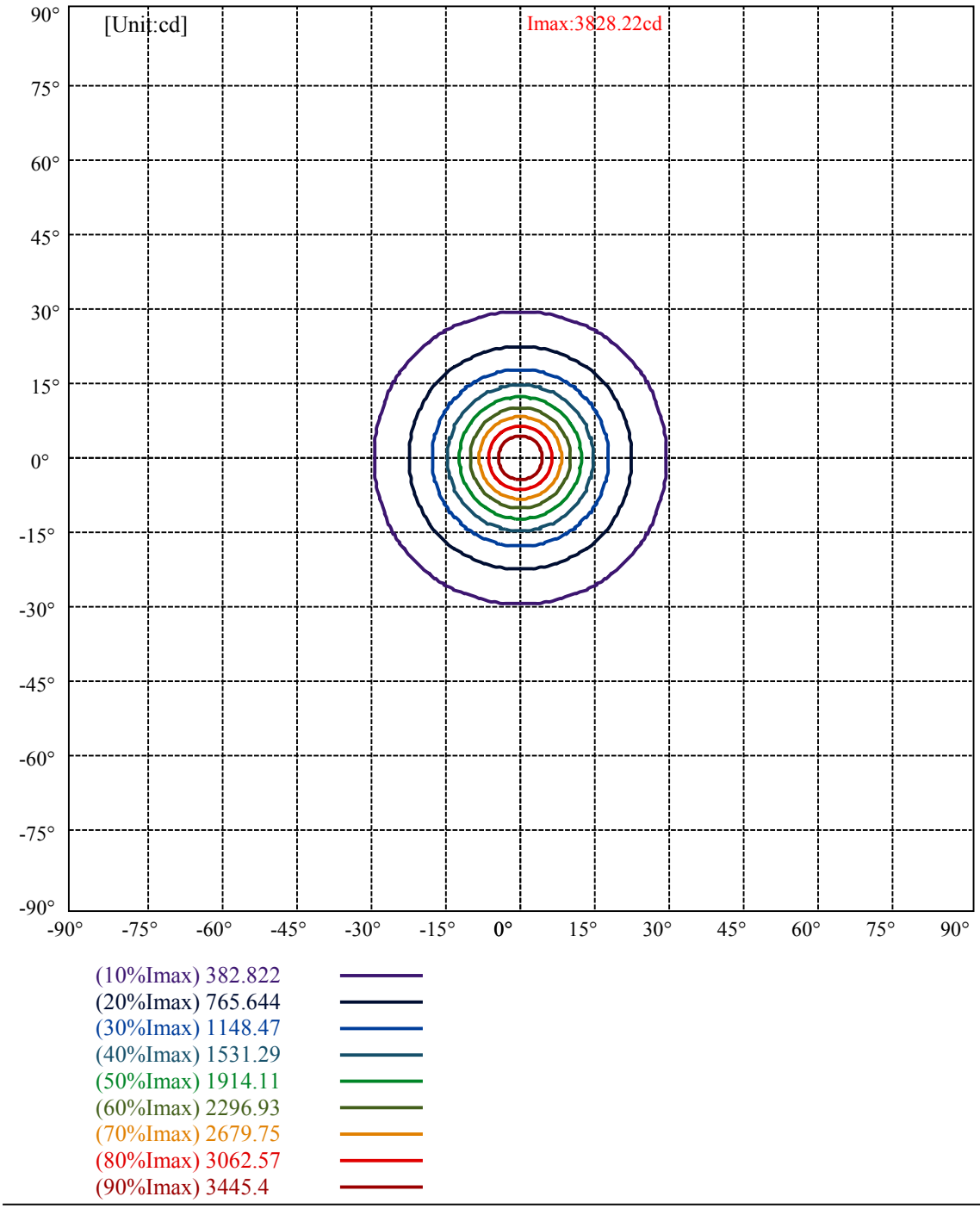
Field angle(10%Imax):C0/180Left:29.1 Right:29.1
:C90/270Left:29.1 Right:29.1

Beam Angle(50%Imax):C0/180Left:12.1 Right:12.1
:C90/270Left:12.1 Right:12.1

Lux distance Curve



ISO-Intensity(V-H)

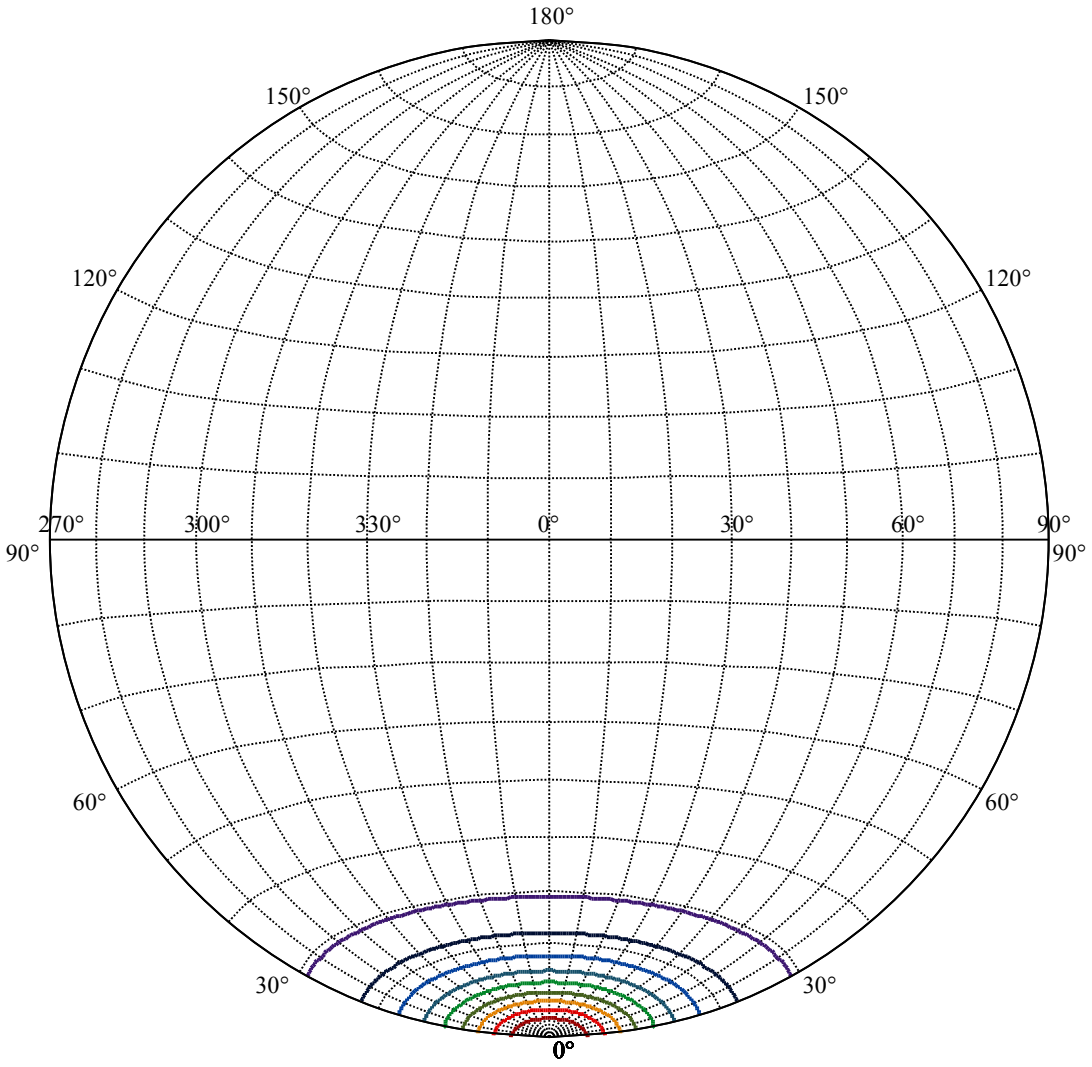


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2022/5/19
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.73

ISO candela diagram on circular web



House [Unit:cd] Road

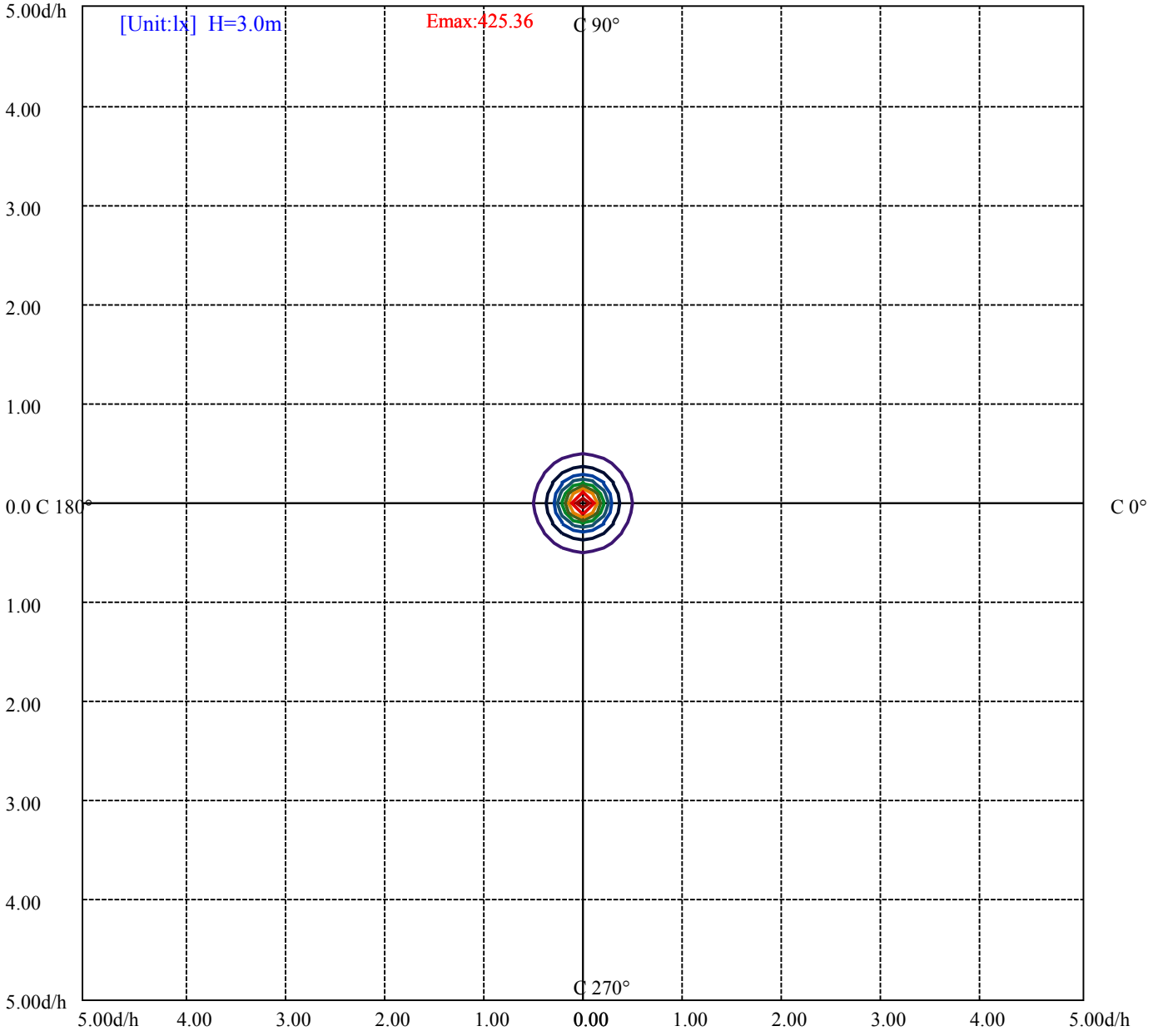
Imax:3828.22

(10%Imax) 382.822
(20%Imax) 765.644
(30%Imax) 1148.47
(40%Imax) 1531.29
(50%Imax) 1914.11
(60%Imax) 2296.93
(70%Imax) 2679.75
(80%Imax) 3062.57
(90%Imax) 3445.4

Equipment: GMS1980 Date: 2022/5/19 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.73

Nata 1-1219-L

ISO illuminance diagram

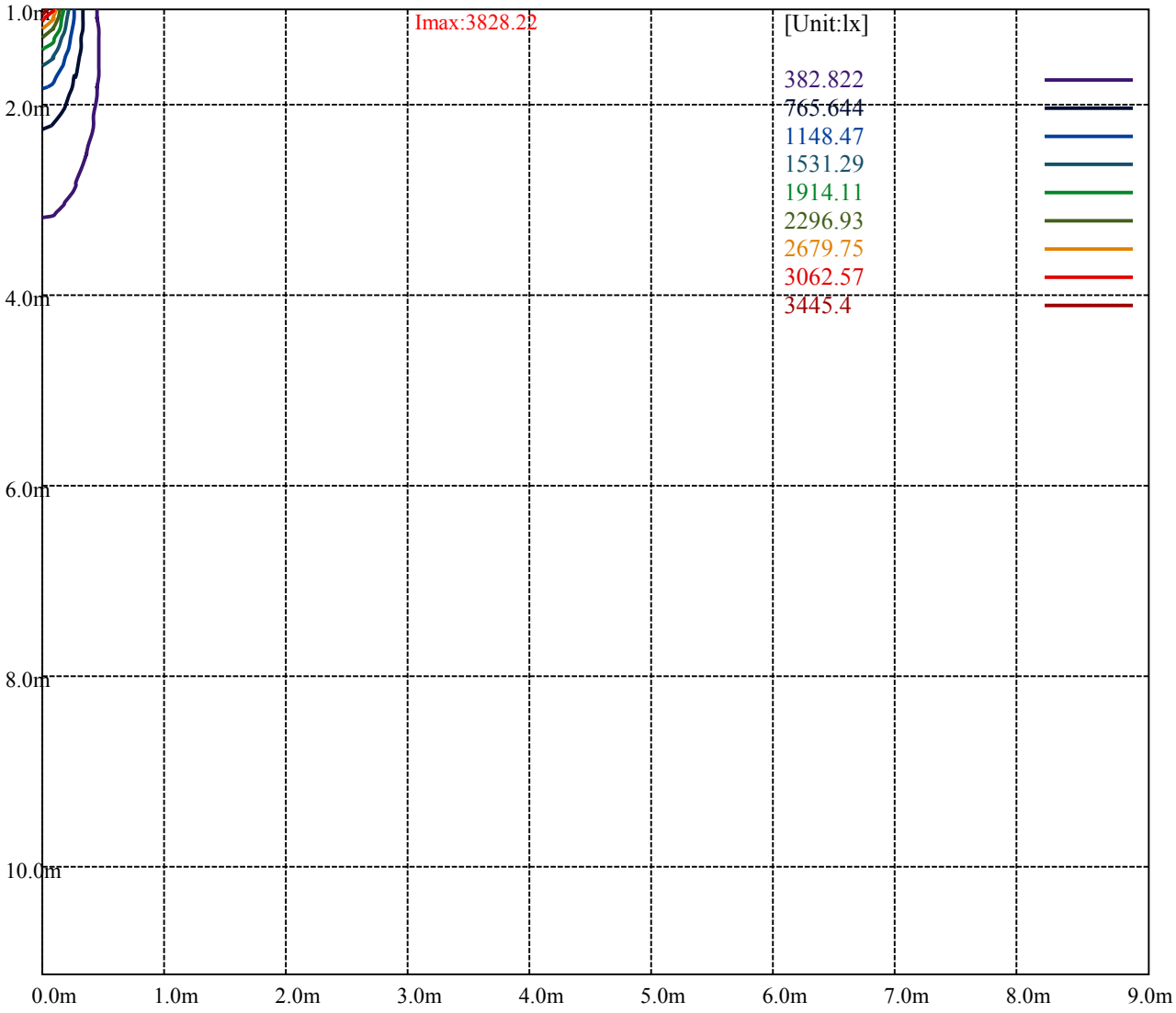


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2022/5/19
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.73

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2022/5/19
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.73

Luminance Limitting Curve(no luminous side)

Luminance Table

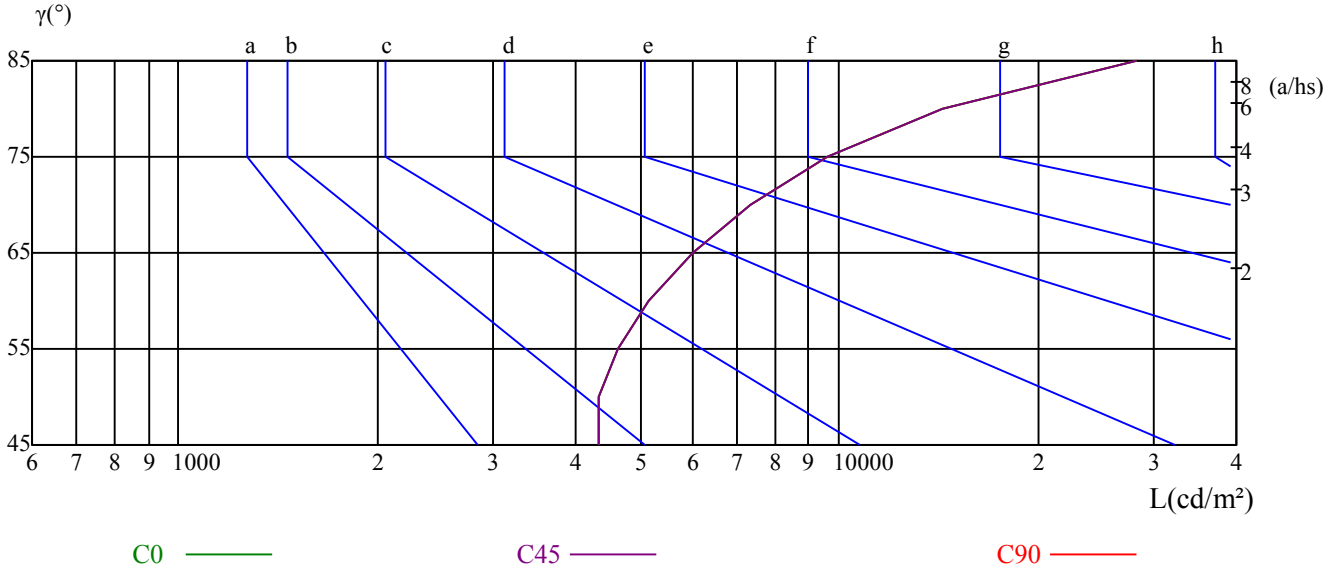
γ	45	50	55	60	65	70	75	80	85
C0	4319	4343	4641	5154	6003	7323	9614	14330	28319
C45	4319	4343	4641	5154	6003	7323	9614	14330	28319
C90	4319	4343	4641	5154	6003	7323	9614	14330	28319

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
6003	6003	6003	9614	9614	9614	28319	28319	28319

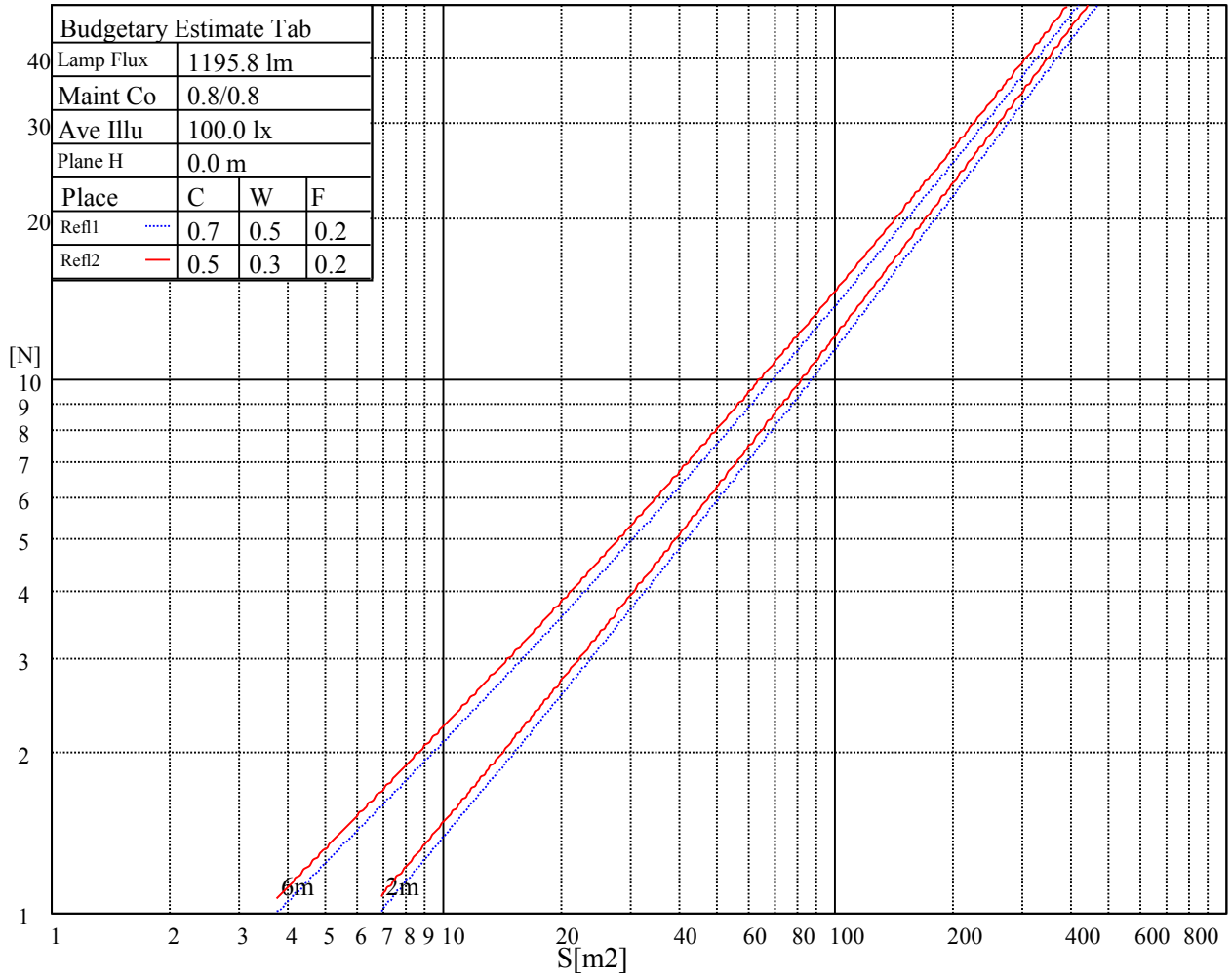
Glare Table

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

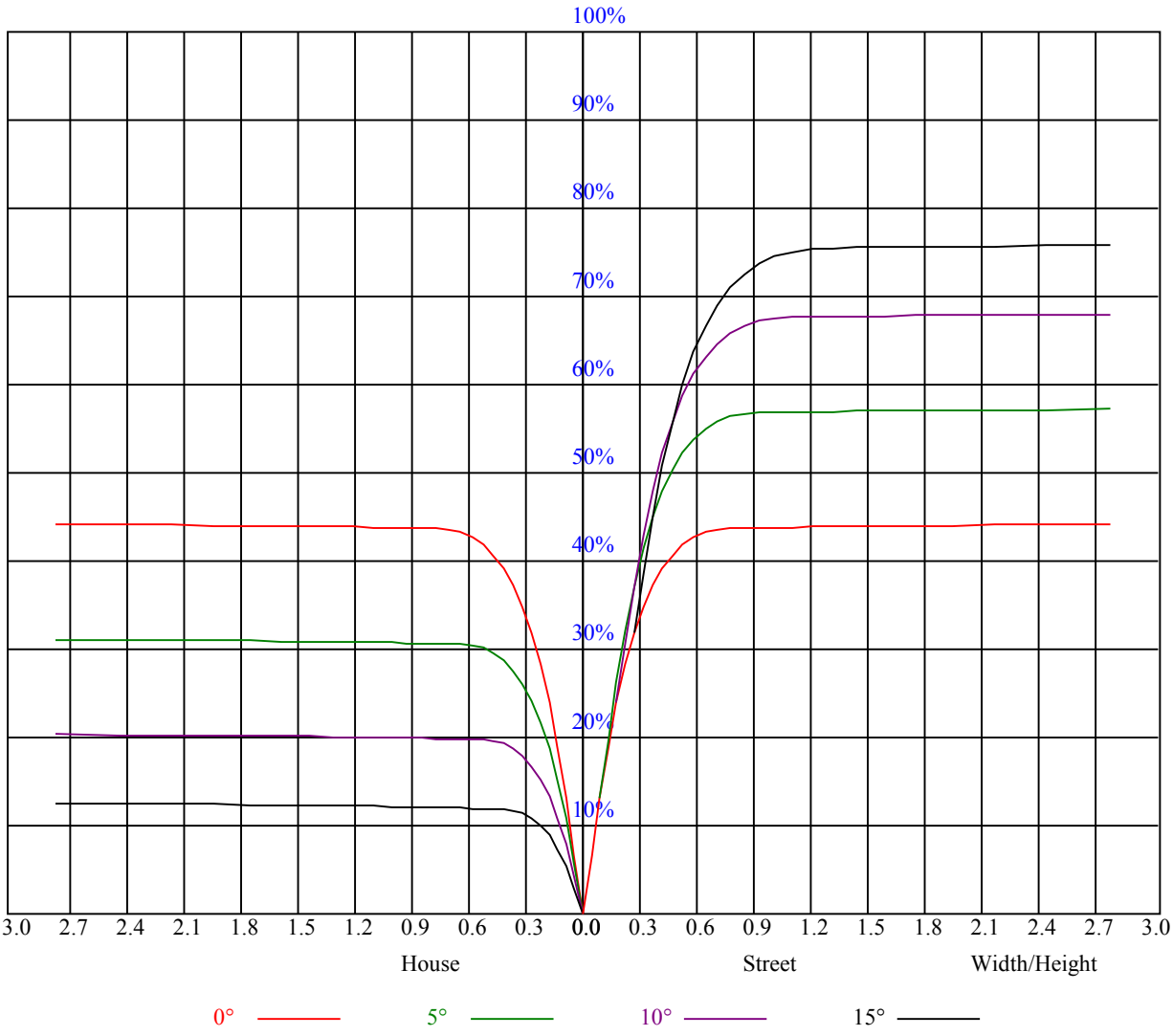


Equipment: GMS1980 Date: 2022/5/19 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.73

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	1.06	1.06	1.06	1.03	1.03	1.03	0.99	0.99	0.99	0.95	0.95	0.95	0.91	0.91	0.91	0.89
1	0.99	0.98	0.96	0.98	0.96	0.94	0.94	0.93	0.91	0.91	0.90	0.89	0.88	0.87	0.86	0.85
2	0.94	0.91	0.89	0.93	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	0.89	0.86	0.83	0.88	0.85	0.82	0.86	0.83	0.81	0.84	0.82	0.80	0.82	0.80	0.78	0.77
4	0.85	0.81	0.78	0.84	0.81	0.78	0.82	0.79	0.77	0.81	0.78	0.76	0.79	0.77	0.75	0.74
5	0.81	0.77	0.74	0.81	0.77	0.74	0.79	0.76	0.73	0.78	0.75	0.73	0.77	0.74	0.72	0.71
6	0.78	0.74	0.71	0.77	0.73	0.71	0.76	0.73	0.70	0.75	0.72	0.70	0.74	0.71	0.69	0.68
7	0.75	0.71	0.68	0.74	0.70	0.68	0.73	0.70	0.67	0.72	0.69	0.67	0.72	0.69	0.67	0.66
8	0.72	0.68	0.65	0.72	0.68	0.65	0.71	0.67	0.65	0.70	0.67	0.64	0.69	0.66	0.64	0.63
9	0.69	0.65	0.63	0.69	0.65	0.62	0.68	0.65	0.62	0.68	0.64	0.62	0.67	0.64	0.62	0.61
10	0.67	0.63	0.60	0.67	0.63	0.60	0.66	0.63	0.60	0.65	0.62	0.60	0.65	0.62	0.60	0.59

Coefficient Utilization Curve



Equipment: GMS1980	Date: 2022/5/19	Operator: NT07
Temperature(°C): 25.0	Humidity(%): 65.0%	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	3811.04	3843.90	3839.72	3798.49	3710.06	3573.22	3419.06	3222.47	3033.65
45.0	3840.32	3809.25	3720.81	3610.27	3468.66	3255.94	3062.93	2866.35	2645.26
90.0	3821.80	3765.03	3668.83	3503.31	3340.78	3155.55	2932.07	2703.22	2501.85
135.0	3839.72	3792.52	3696.91	3572.63	3398.74	3196.18	2996.61	2767.16	2566.98
180.0	3811.04	3730.97	3621.03	3437.58	3264.30	3068.91	2837.07	2605.82	2406.85
225.0	3840.32	3834.34	3788.33	3695.72	3575.61	3402.93	3223.07	3006.77	2782.10
270.0	3821.80	3844.50	3822.99	3768.62	3662.85	3509.89	3346.16	3140.01	2946.42
315.0	3839.72	3844.50	3815.22	3728.58	3622.82	3481.80	3269.08	3083.25	2889.05
360.0	3811.04	3843.90	3839.72	3798.49	3710.06	3573.22	3419.06	3222.47	3033.65

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	2812.57	2593.87	2403.26	2199.50	2006.50	1845.17	1711.92	1517.13	1389.25
45.0	2427.16	2239.54	2038.77	1872.06	1696.98	1536.84	1408.38	1276.32	1155.62
90.0	2287.94	2085.97	1918.67	1742.99	1597.20	1445.42	1308.59	1179.28	1090.19
135.0	2349.48	2140.95	1968.26	1805.14	1617.51	1481.27	1356.99	1217.17	1113.79
180.0	2219.22	2002.92	1841.58	1690.41	1532.66	1389.25	1175.52	1150.00	1053.56
225.0	2584.31	2370.40	2166.04	1993.95	1831.43	1642.61	1505.18	1378.50	1190.82
270.0	2724.13	2508.43	2324.39	2148.71	1939.58	1783.62	1636.63	1466.93	1343.25
315.0	2645.86	2455.25	2273.00	2054.90	1910.90	1738.21	1562.54	1447.81	1327.11
360.0	2812.57	2593.87	2403.26	2199.50	2006.50	1845.17	1711.92	1517.13	1389.25

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1286.48	1155.62	1051.05	976.96	881.36	804.87	749.90	674.61	612.47
45.0	1058.82	971.58	868.81	803.08	739.74	663.26	604.10	547.93	498.94
90.0	977.20	897.55	825.55	745.36	686.20	628.30	554.27	508.38	468.76
135.0	1021.77	929.16	840.72	779.18	709.27	651.31	584.38	526.42	488.18
180.0	956.82	871.79	803.62	734.24	669.95	611.51	554.81	499.71	461.59
225.0	1128.85	1037.67	955.51	872.87	798.00	728.57	669.83	602.19	547.22
270.0	1231.51	1119.17	1019.38	939.32	866.42	784.56	723.01	656.68	595.74
315.0	1188.78	1092.28	1004.92	907.53	837.26	771.59	709.69	633.14	572.07
360.0	1286.48	1155.62	1051.05	976.96	881.36	804.87	749.90	674.61	612.47

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	555.10	498.34	457.71	412.89	354.33	308.92	303.54	204.41	160.02
45.0	452.33	408.11	354.93	307.73	272.29	204.35	164.98	119.92	83.89
90.0	417.31	376.44	324.70	268.95	229.93	178.96	127.03	95.84	63.76
135.0	442.17	391.38	344.18	302.95	238.18	192.88	152.07	102.18	67.70
180.0	418.99	366.52	316.27	271.52	220.55	169.28	127.81	87.84	56.11
225.0	499.83	459.98	409.67	358.82	312.93	260.76	213.14	171.61	127.63
270.0	535.39	492.36	444.56	399.15	341.79	303.54	250.90	205.13	150.52
315.0	523.67	478.08	429.74	384.87	331.69	279.29	235.67	185.71	143.53
360.0	555.10	498.34	457.71	412.89	354.33	308.92	303.54	204.41	160.02

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	119.80	80.55	46.73	26.35	16.13	13.27	9.80	7.29	6.27
45.0	48.34	27.31	15.83	13.15	9.98	7.59	6.04	5.74	5.62
90.0	30.59	20.26	15.00	11.59	8.48	6.69	5.80	5.68	5.50
135.0	41.29	23.12	15.95	13.15	9.44	7.35	6.04	5.86	5.68
180.0	30.23	18.22	14.40	10.82	8.07	6.69	5.86	5.62	5.50
225.0	79.89	49.54	28.38	16.67	13.56	10.52	7.83	6.45	5.86
270.0	110.96	76.48	39.91	23.36	16.61	12.97	9.80	7.77	6.21
315.0	98.41	60.23	35.49	20.26	15.06	12.31	9.50	7.29	6.09
360.0	119.80	80.55	46.73	26.35	16.13	13.27	9.80	7.29	6.27

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	5.86	5.74	5.62	5.50	5.38	5.32	5.20	5.14	5.08
45.0	5.50	5.38	5.32	5.20	5.14	5.08	5.08	5.02	4.96
90.0	5.44	5.32	5.26	5.20	5.14	5.08	4.96	4.96	4.90
135.0	5.62	5.44	5.38	5.26	5.20	5.14	5.08	5.02	5.02
180.0	5.44	5.32	5.26	5.20	5.14	5.02	5.02	4.96	4.90
225.0	5.68	5.56	5.38	5.26	5.20	5.14	5.08	5.02	4.96
270.0	5.80	5.68	5.50	5.44	5.32	5.26	5.20	5.08	5.02
315.0	5.86	5.68	5.56	5.44	5.38	5.26	5.20	5.14	5.08
360.0	5.86	5.74	5.62	5.50	5.38	5.32	5.20	5.14	5.08

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	5.02	5.02	4.96	4.90	4.84	4.84	4.84	4.78	4.78
45.0	4.90	4.90	4.84	4.78	4.78	4.78	4.72	4.72	4.72
90.0	4.90	4.84	4.78	4.78	4.72	4.72	4.72	4.72	4.66
135.0	4.96	4.90	4.90	4.84	4.84	4.78	4.78	4.72	4.78
180.0	4.90	4.84	4.84	4.78	4.78	4.78	4.72	4.72	4.66
225.0	4.96	4.90	4.84	4.84	4.78	4.78	4.72	4.72	4.72
270.0	4.96	4.96	4.90	4.84	4.84	4.84	4.78	4.72	4.72
315.0	5.02	5.02	4.96	4.90	4.90	4.84	4.84	4.84	4.84
360.0	5.02	5.02	4.96	4.90	4.84	4.84	4.84	4.78	4.78

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	4.78	4.72	4.72	4.72	4.66	4.66	4.66	4.66	4.72
45.0	4.72	4.66	4.66	4.66	4.60	4.66	4.66	4.60	4.60
90.0	4.66	4.66	4.66	4.60	4.66	4.60	4.60	4.60	4.60
135.0	4.72	4.72	4.72	4.72	4.66	4.66	4.66	4.66	4.66
180.0	4.66	4.66	4.66	4.60	4.60	4.66	4.60	4.60	4.60
225.0	4.72	4.66	4.66	4.66	4.66	4.66	4.60	4.60	4.60
270.0	4.72	4.72	4.72	4.72	4.66	4.66	4.66	4.60	4.60
315.0	4.78	4.72	4.72	4.72	4.72	4.72	4.66	4.72	4.72
360.0	4.78	4.72	4.72	4.72	4.66	4.66	4.66	4.66	4.72

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	4.66	4.66	4.66	4.66	4.60	4.60	4.60	4.60	4.60
45.0	4.60	4.60	4.66	4.60	4.60	4.54	4.60	4.60	4.60
90.0	4.60	4.60	4.54	4.54	4.54	4.54	4.54	4.54	4.54
135.0	4.66	4.66	4.66	4.60	4.66	4.60	4.60	4.60	4.60
180.0	4.60	4.60	4.60	4.54	4.54	4.60	4.60	4.60	4.60
225.0	4.60	4.60	4.60	4.60	4.60	4.54	4.60	4.60	4.60
270.0	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
315.0	4.66	4.66	4.66	4.66	4.66	4.66	4.66	4.66	4.66
360.0	4.66	4.66	4.66	4.66	4.60	4.60	4.60	4.60	4.60

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	4.60	4.60	4.60	4.54	4.60	4.54	4.60	4.60	4.54
45.0	4.54	4.54	4.54	4.54	4.54	4.60	4.54	4.54	4.54
90.0	4.54	4.54	4.54	4.54	4.54	4.54	4.54	4.54	4.54
135.0	4.60	4.60	4.60	4.54	4.54	4.54	4.54	4.54	4.54
180.0	4.54	4.54	4.54	4.60	4.54	4.54	4.54	4.54	4.54
225.0	4.60	4.54	4.60	4.54	4.54	4.60	4.60	4.54	4.54
270.0	4.60	4.54	4.54	4.60	4.54	4.54	4.54	4.54	4.54
315.0	4.66	4.66	4.66	4.66	4.66	4.54	4.60	4.48	4.54
360.0	4.60	4.60	4.60	4.54	4.60	4.54	4.60	4.60	4.54

Intensity data(cd)

C/γ(°)	90.0
0.0	4.54
45.0	4.54
90.0	4.54
135.0	4.54
180.0	4.54
225.0	4.54
270.0	4.54
315.0	4.54
360.0	4.54