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

Nata

LumCAT: 1-1246-L
Luminaire: 92.70.123.00
Report No: 220915-B017
Test No: 220915-C017
LampCAT: CITIZEN CLU701
Lamp flux(lm): 616.3
Number of Lamps: 1
Length(mm): 43
Phm Type: C

Voltage(V): 28.9600
Current(A): 0.1860
Power (W): 5.3860
PF: 0.0000
Ballast type: DC
Width(mm): 43
Height(mm): 0

Photometric Results

Lumens(lm): 512.45
Efficiency(%): 83.15%
Lumens(lm)/Power(W): 95.15
Central intensity(cd): 2692.764
Maximum intensity(cd): 2692.764
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=49.6
[C90/270]Total=49.6
Maximum s/h(1/2): C0_180=0.29 C90_270=0.29
Maximum s/h(1/4): C0_180=0.34 C90_270=0.34
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 83.15%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.018%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2692.764	0.000	0	.000%	.000%
1.0	2673.121	2.567	2.567	.417%	.501%
2.0	2610.156	7.583	10.151	1.230%	1.981%
3.0	2490.874	12.200	22.351	1.980%	4.361%
4.0	2326.554	16.125	38.476	2.616%	7.508%
5.0	2119.137	19.125	57.601	3.103%	11.240%
6.0	1885.279	21.044	78.645	3.415%	15.347%
7.0	1619.080	21.751	100.397	3.529%	19.591%
8.0	1409.295	21.673	122.07	3.517%	23.821%
9.0	1214.926	21.268	143.338	3.451%	27.971%
10.0	1053.638	20.530	163.868	3.331%	31.977%
11.0	948.928	20.010	183.878	3.247%	35.882%
12.0	850.941	19.675	203.553	3.192%	39.721%
13.0	766.114	19.190	222.743	3.114%	43.466%
14.0	698.041	18.741	241.484	3.041%	47.123%
15.0	640.447	18.375	259.86	2.982%	50.709%
16.0	586.318	17.976	277.835	2.917%	54.217%
17.0	541.682	17.566	295.401	2.850%	57.644%
18.0	496.270	17.114	312.515	2.777%	60.984%
19.0	457.625	16.596	329.111	2.693%	64.223%
20.0	420.519	16.072	345.183	2.608%	67.359%
21.0	385.190	15.471	360.654	2.510%	70.378%
22.0	354.058	14.856	375.51	2.410%	73.277%
23.0	327.162	14.294	389.804	2.319%	76.066%
24.0	295.964	13.624	403.427	2.211%	78.725%
25.0	261.987	12.687	416.114	2.059%	81.200%
26.0	232.738	11.678	427.792	1.895%	83.479%
27.0	196.684	10.506	438.298	1.705%	85.529%
28.0	162.341	9.090	447.388	1.475%	87.303%
29.0	130.575	7.664	455.051	1.243%	88.799%
30.0	102.835	6.302	461.353	1.023%	90.028%
31.0	76.753	4.998	466.351	.811%	91.004%
32.0	58.842	3.885	470.235	.630%	91.762%
33.0	46.943	3.116	473.352	.506%	92.370%
34.0	38.974	2.600	475.952	.422%	92.877%
35.0	34.799	2.291	478.243	.372%	93.324%
36.0	31.706	2.118	480.361	.344%	93.737%
37.0	29.144	1.985	482.345	.322%	94.125%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	26.717	1.865	484.21	.303%	94.489%
39.0	24.222	1.739	485.949	.282%	94.828%
40.0	21.817	1.606	487.554	.261%	95.141%
41.0	19.584	1.474	489.028	.239%	95.429%
42.0	17.373	1.343	490.371	.218%	95.691%
43.0	15.252	1.209	491.58	.196%	95.927%
44.0	13.571	1.088	492.668	.177%	96.139%
45.0	11.943	0.981	493.648	.159%	96.330%
46.0	10.554	0.880	494.528	.143%	96.502%
47.0	9.359	0.792	495.32	.129%	96.657%
48.0	8.425	0.719	496.039	.117%	96.797%
49.0	7.648	0.660	496.699	.107%	96.926%
50.0	7.081	0.614	497.313	.100%	97.046%
51.0	6.648	0.581	497.894	.094%	97.159%
52.0	6.282	0.555	498.449	.090%	97.267%
53.0	5.960	0.533	498.981	.086%	97.371%
54.0	5.684	0.513	499.494	.083%	97.471%
55.0	5.438	0.496	499.991	.081%	97.568%
56.0	5.221	0.482	500.472	.078%	97.662%
57.0	5.049	0.470	500.942	.076%	97.754%
58.0	4.885	0.459	501.401	.075%	97.843%
59.0	4.758	0.451	501.852	.073%	97.931%
60.0	4.638	0.444	502.296	.072%	98.018%
61.0	4.511	0.437	502.733	.071%	98.103%
62.0	4.407	0.430	503.162	.070%	98.187%
63.0	4.317	0.424	503.587	.069%	98.270%
64.0	4.220	0.419	504.006	.068%	98.352%
65.0	4.123	0.413	504.419	.067%	98.432%
66.0	4.018	0.406	504.825	.066%	98.511%
67.0	3.944	0.400	505.225	.065%	98.589%
68.0	3.824	0.393	505.619	.064%	98.666%
69.0	3.727	0.385	506.004	.063%	98.741%
70.0	3.608	0.377	506.381	.061%	98.815%
71.0	3.481	0.366	506.747	.059%	98.886%
72.0	3.361	0.356	507.103	.058%	98.956%
73.0	3.279	0.347	507.45	.056%	99.024%
74.0	3.189	0.340	507.79	.055%	99.090%
75.0	3.107	0.333	508.123	.054%	99.155%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	3.040	0.326	508.449	.053%	99.219%
77.0	2.980	0.321	508.77	.052%	99.281%
78.0	2.905	0.315	509.085	.051%	99.343%
79.0	2.838	0.309	509.394	.050%	99.403%
80.0	2.779	0.303	509.696	.049%	99.462%
81.0	2.726	0.298	509.994	.048%	99.520%
82.0	2.681	0.293	510.287	.048%	99.577%
83.0	2.614	0.288	510.575	.047%	99.633%
84.0	2.584	0.283	510.858	.046%	99.689%
85.0	2.517	0.278	511.137	.045%	99.743%
86.0	2.457	0.272	511.409	.044%	99.796%
87.0	2.413	0.267	511.675	.043%	99.848%
88.0	2.375	0.262	511.938	.043%	99.899%
89.0	2.345	0.259	512.196	.042%	99.950%
90.0	2.345	0.257	512.453	.042%	100.000%

Zonal flux distribution table

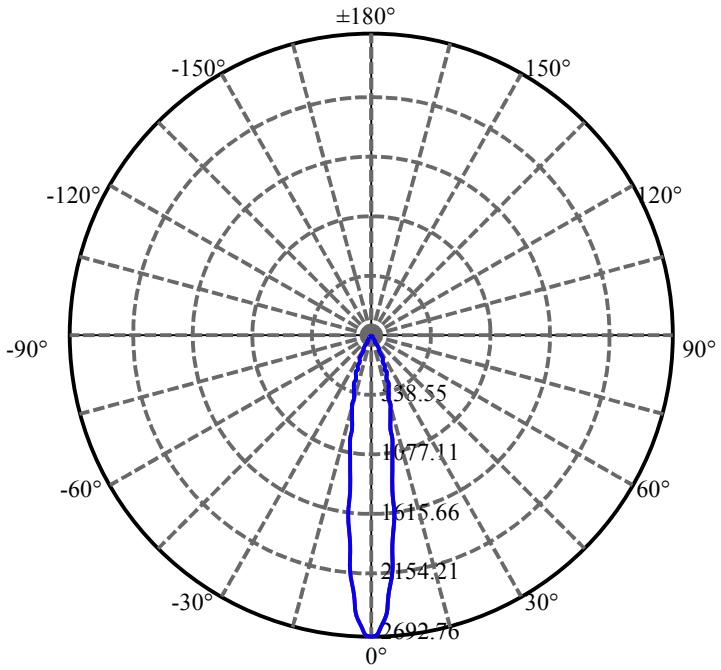
ZONAL LUMEN SUMMARY

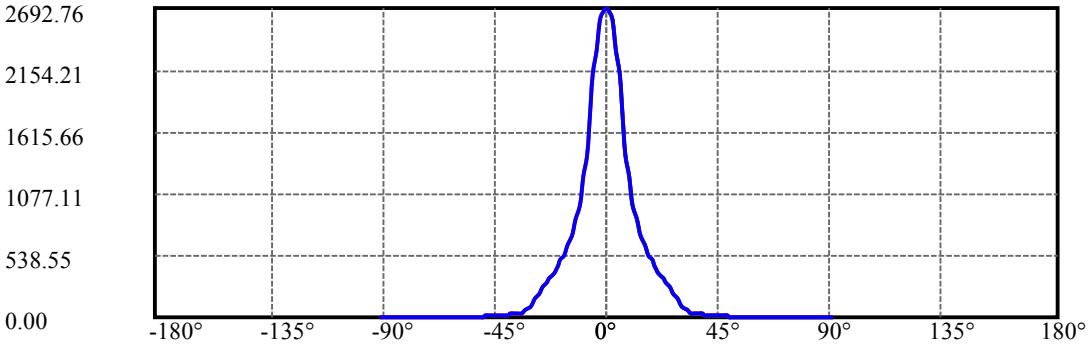
Zone	Lumens	%Lamp	%Fixt
0-30	461.35	74.86%	90.03%
0-40	487.55	79.11%	95.14%
0-60	502.30	81.50%	98.02%
0-90	512.20	83.11%	99.95%
0-120	512.20	83.11%	99.95%
0-180	512.45	83.15%	100.00%
60-90	10.34	1.68%	2.02%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-24.52	409.96	66.52%	80.00%

ZONAL LUMEN SUMMARY

0-10	163.87
10-20	181.32
20-30	116.17
30-40	26.20
40-50	9.76
50-60	4.98
60-70	4.08
70-80	3.32
80-90	2.50
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):

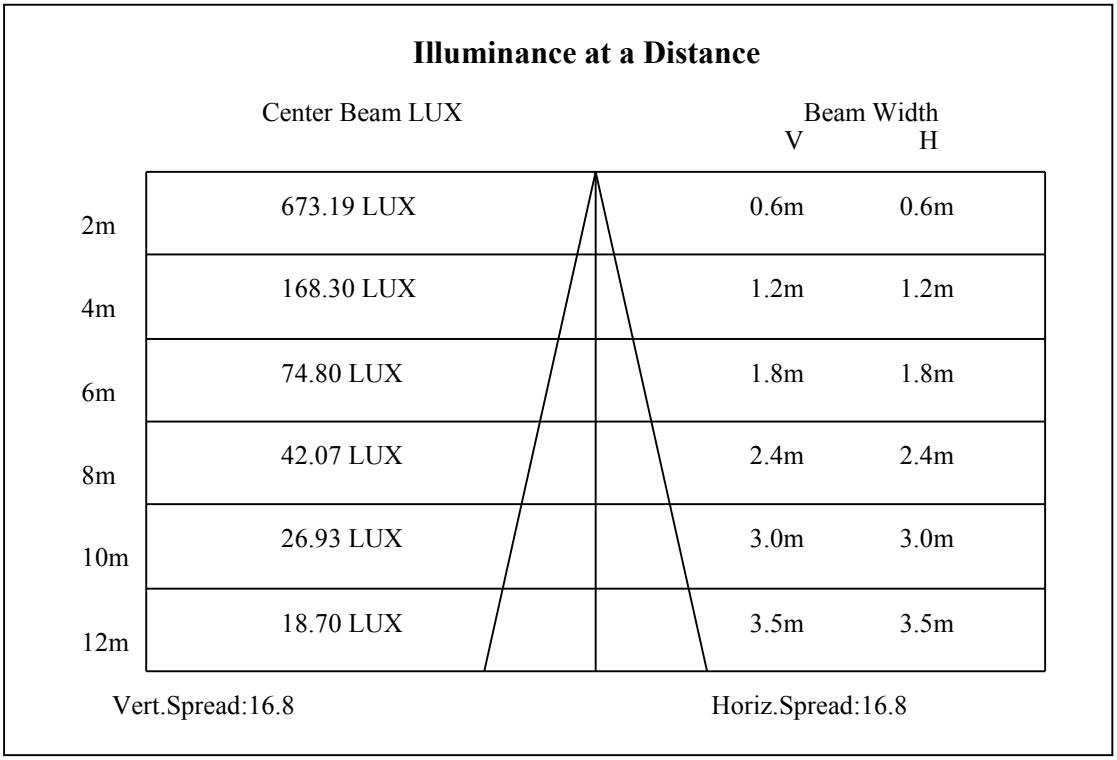
C0/C180:

C90/C270:

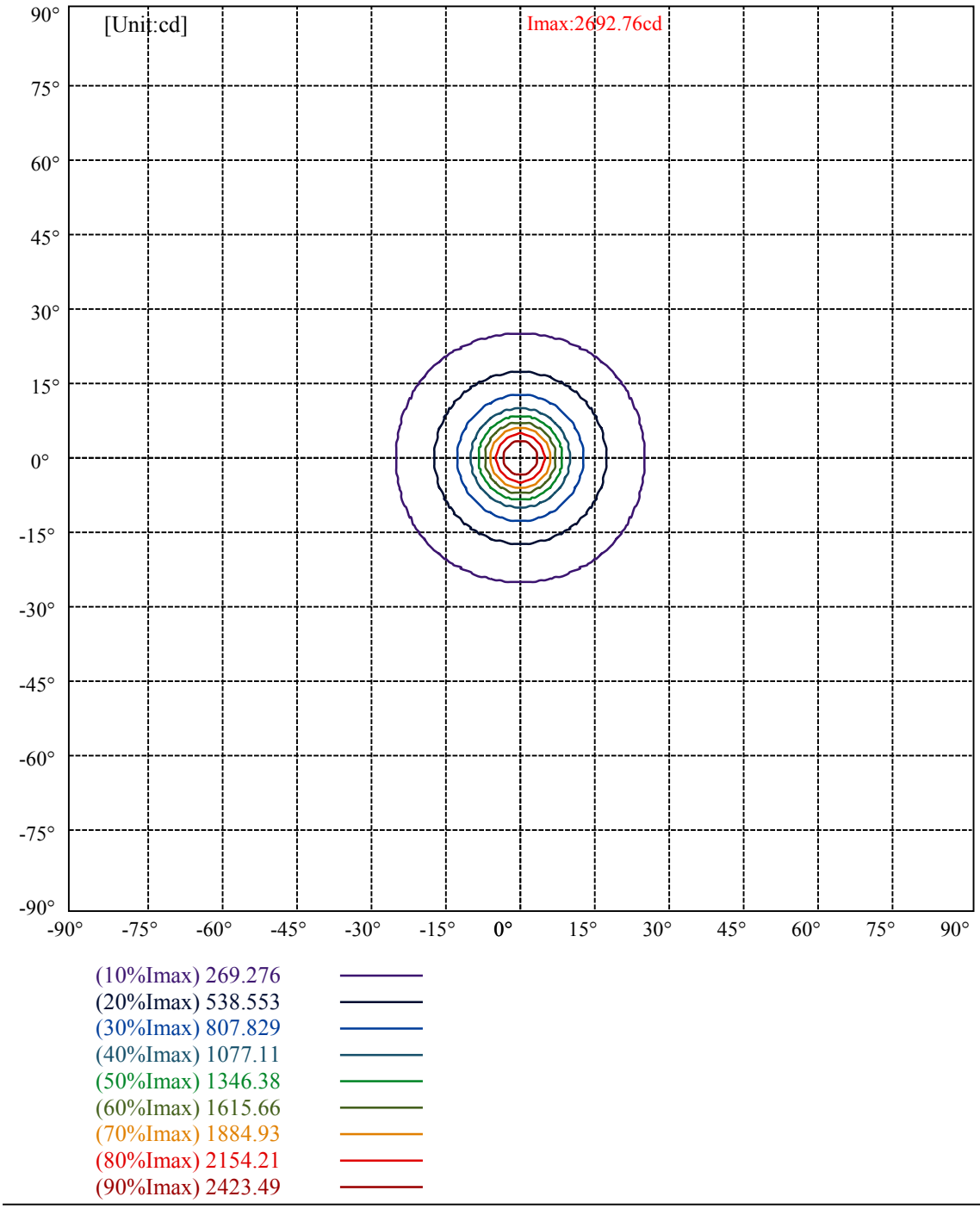
Field angle(10%Imax):C0/180Left:24.8 Right:24.8
:C90/270Left:24.8 Right:24.8

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

Lux distance Curve



ISO-Intensity(V-H)



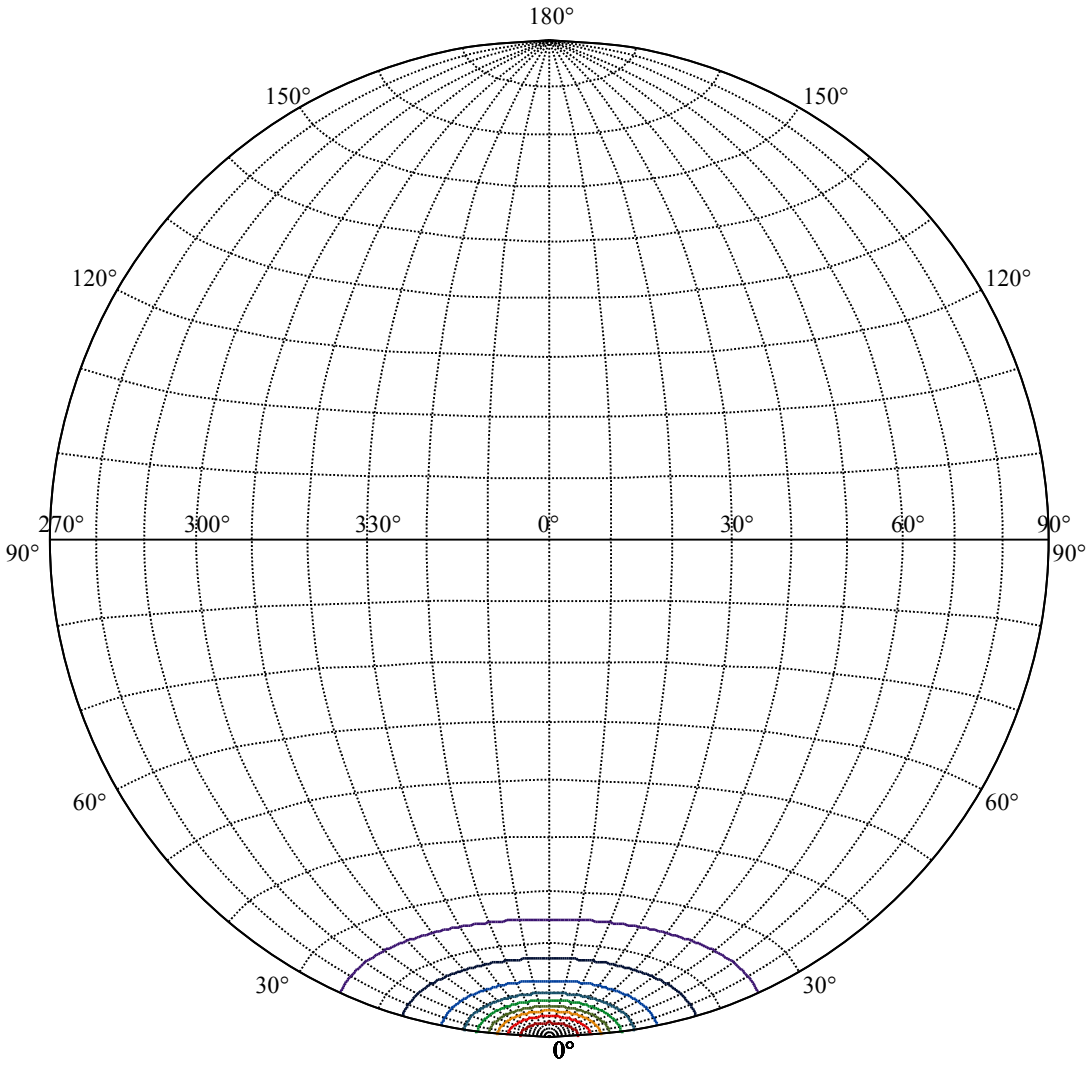
(10%Imax) 269.276
(20%Imax) 538.553
(30%Imax) 807.829
(40%Imax) 1077.11
(50%Imax) 1346.38
(60%Imax) 1615.66
(70%Imax) 1884.93
(80%Imax) 2154.21
(90%Imax) 2423.49

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2022/9/15
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.73

ISO candela diagram on circular web



House [Unit:cd] Road

Imax:2692.76

(10%Imax) 269.276
(20%Imax) 538.553
(30%Imax) 807.829
(40%Imax) 1077.11
(50%Imax) 1346.38
(60%Imax) 1615.66
(70%Imax) 1884.93
(80%Imax) 2154.21
(90%Imax) 2423.49

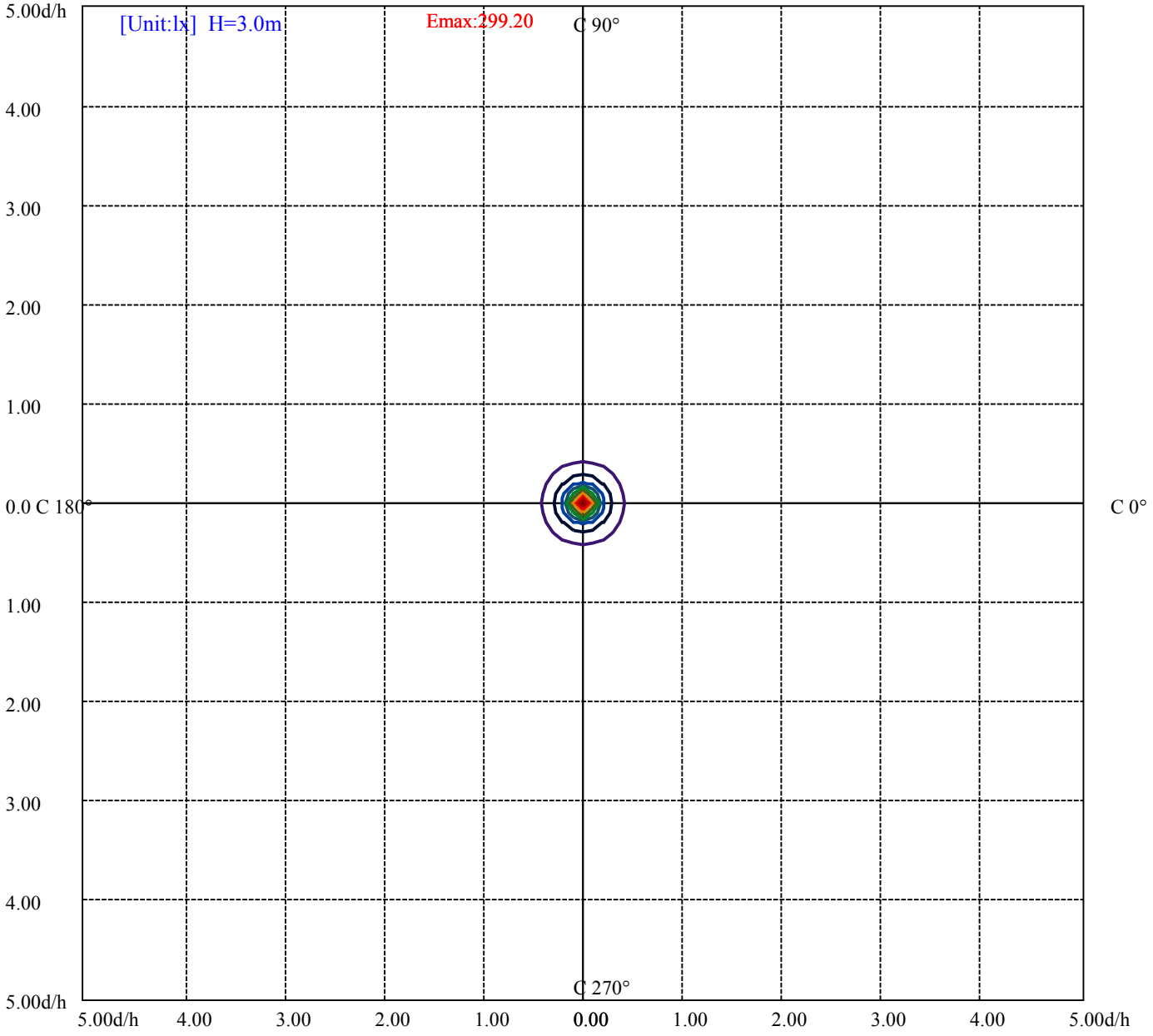
Equipment: GMS1980
Temperature(°C): 25.0

Date: 2022/9/15
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.73

Nata 1-1246-L

ISO illuminance diagram



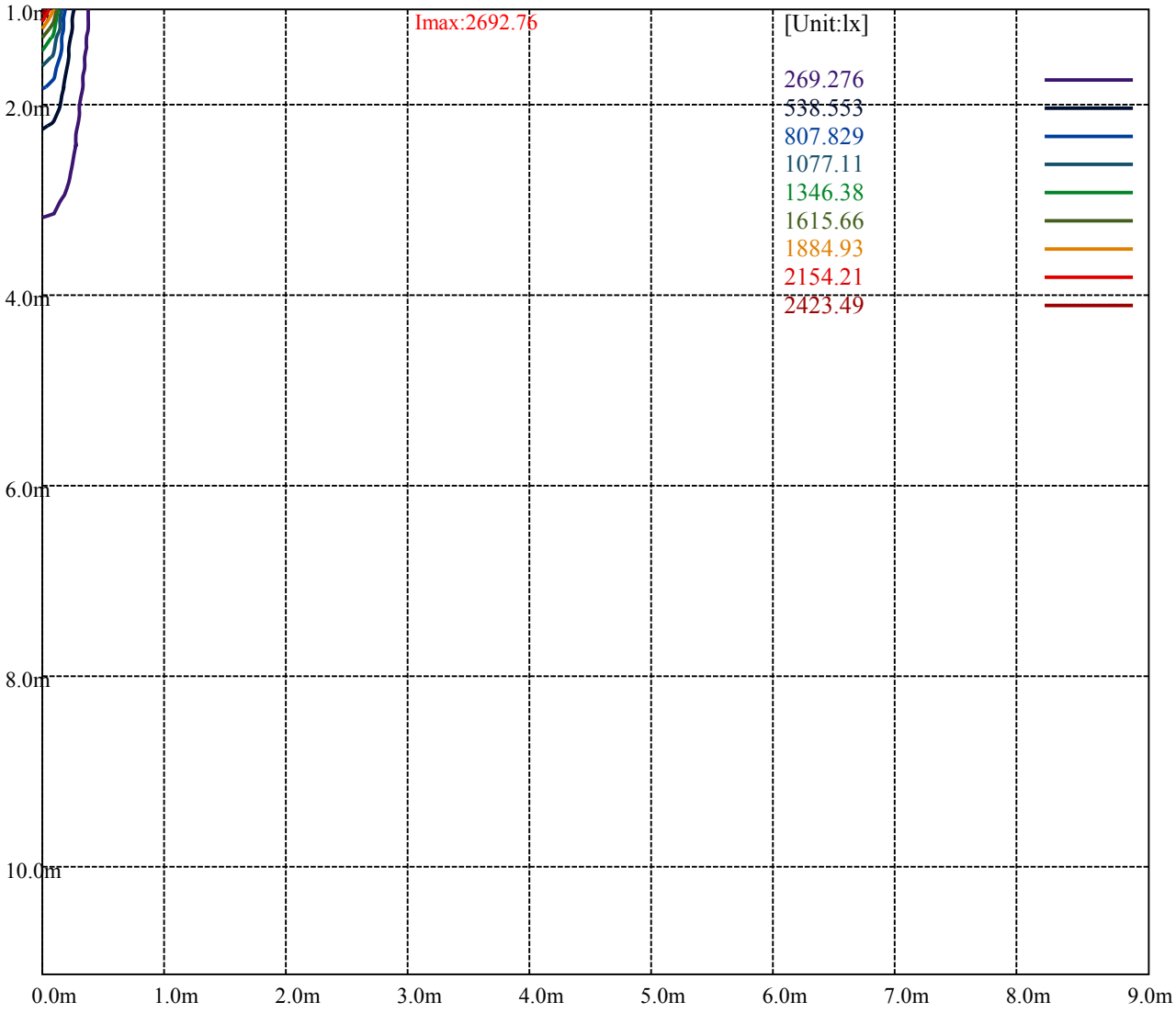
(10%Emax) 29.91956
(20%Emax) 59.83911
(30%Emax) 89.75867
(40%Emax) 119.6778
(50%Emax) 149.5978
(60%Emax) 179.5178
(70%Emax) 209.4367
(80%Emax) 239.3567
(90%Emax) 269.2767

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2022/9/15
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.73

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2022/9/15
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.73

Luminance Limitting Curve(no luminous side)

Luminance Table

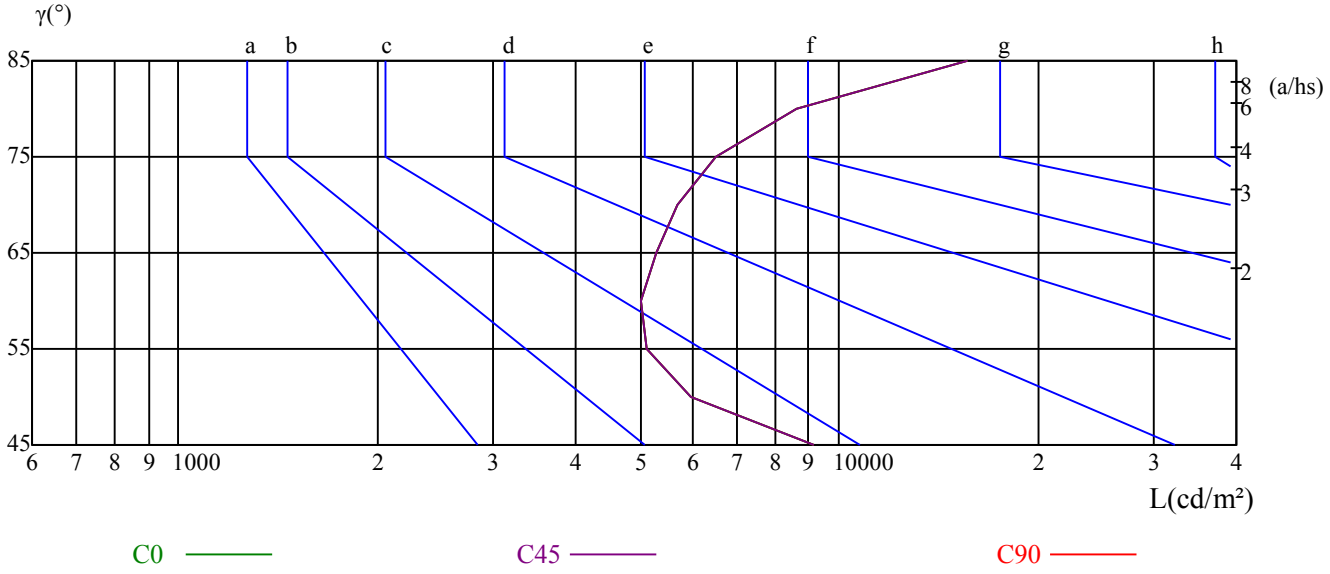
γ	45	50	55	60	65	70	75	80	85
C0	9135	5958	5127	5017	5276	5705	6493	8654	15619
C45	9135	5958	5127	5017	5276	5705	6493	8654	15619
C90	9135	5958	5127	5017	5276	5705	6493	8654	15619

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
5276	5276	5276	6493	6493	6493	15619	15619	15619

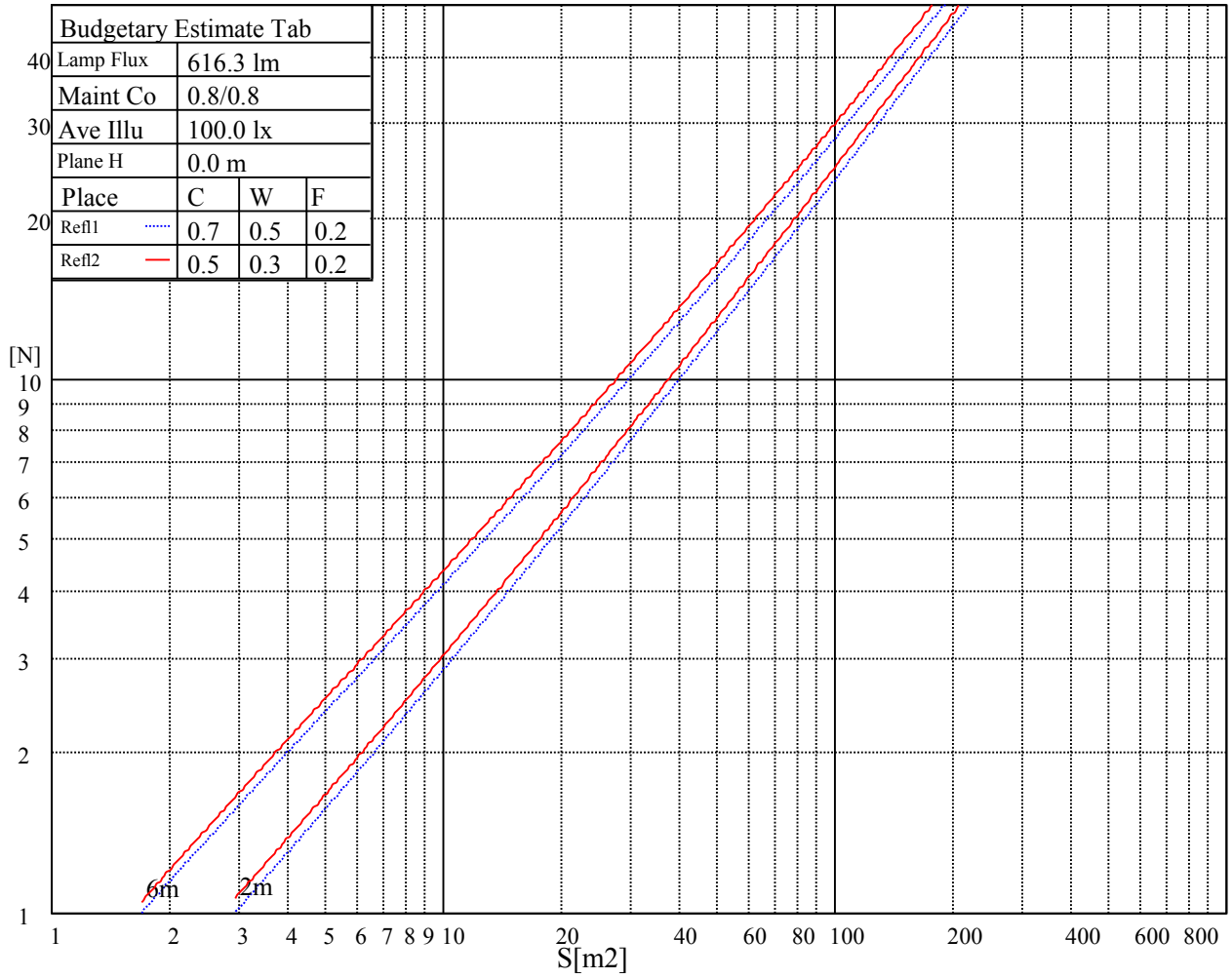
Glare Table

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

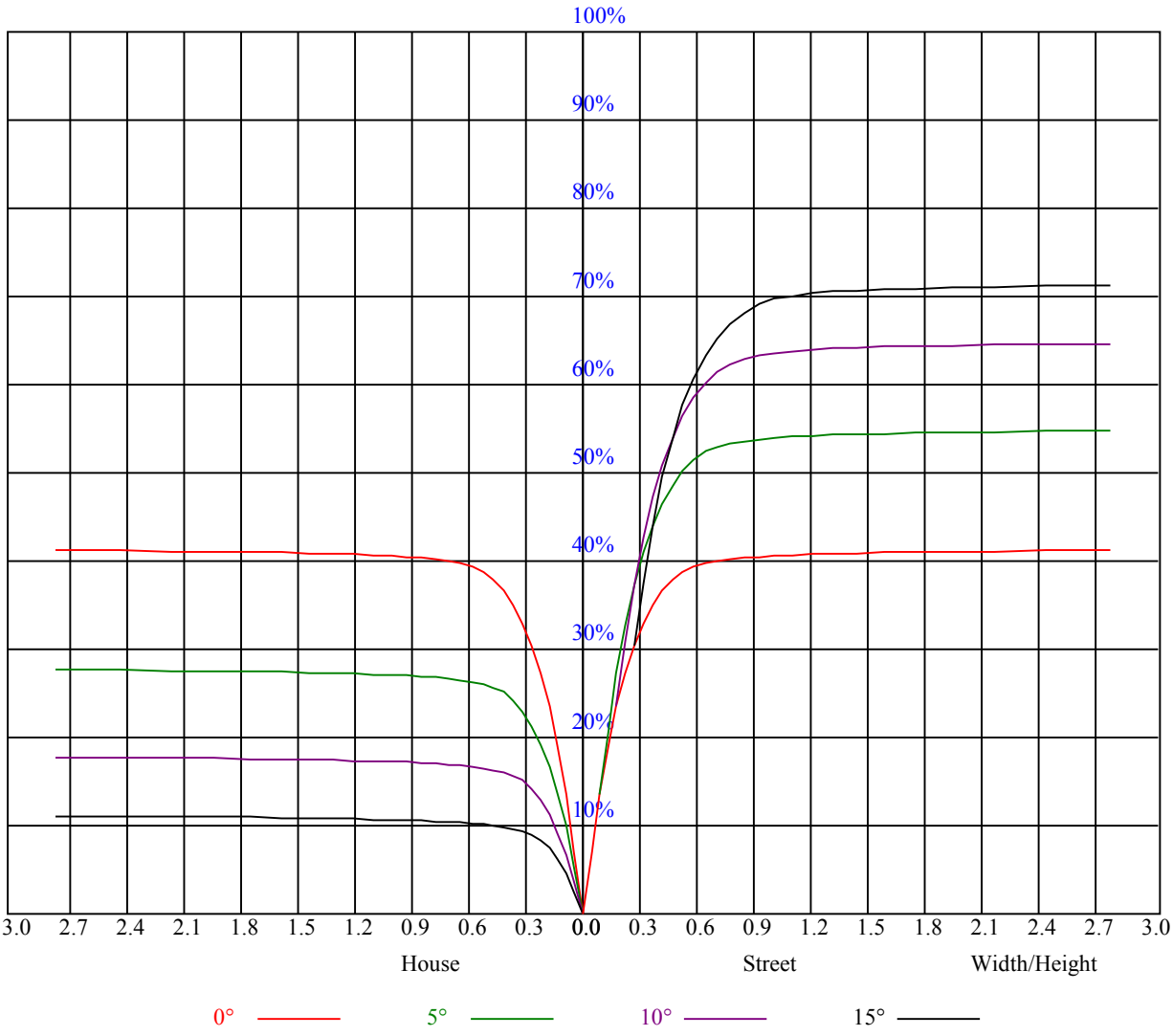


Equipment: GMS1980 Date: 2022/9/15 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.73

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	0.99	0.99	0.99	0.97	0.97	0.97	0.92	0.92	0.92	0.88	0.88	0.88	0.85	0.85	0.85	0.83
1	0.93	0.91	0.90	0.91	0.90	0.88	0.88	0.87	0.85	0.85	0.84	0.83	0.82	0.81	0.81	0.79
2	0.88	0.85	0.83	0.87	0.84	0.82	0.84	0.82	0.80	0.82	0.80	0.78	0.79	0.78	0.77	0.76
3	0.84	0.80	0.78	0.83	0.80	0.77	0.81	0.78	0.76	0.79	0.76	0.75	0.77	0.75	0.74	0.72
4	0.80	0.76	0.73	0.79	0.76	0.73	0.77	0.74	0.72	0.76	0.73	0.71	0.74	0.72	0.71	0.69
5	0.77	0.73	0.70	0.76	0.72	0.70	0.74	0.71	0.69	0.73	0.71	0.68	0.72	0.70	0.68	0.67
6	0.74	0.70	0.67	0.73	0.69	0.67	0.72	0.69	0.66	0.71	0.68	0.66	0.70	0.67	0.65	0.64
7	0.71	0.67	0.64	0.70	0.67	0.64	0.69	0.66	0.64	0.68	0.66	0.63	0.68	0.65	0.63	0.62
8	0.68	0.64	0.62	0.68	0.64	0.62	0.67	0.64	0.61	0.66	0.63	0.61	0.66	0.63	0.61	0.60
9	0.66	0.62	0.60	0.66	0.62	0.60	0.65	0.62	0.59	0.64	0.61	0.59	0.64	0.61	0.59	0.58
10	0.64	0.60	0.58	0.64	0.60	0.58	0.63	0.60	0.58	0.62	0.60	0.57	0.62	0.59	0.57	0.56

Coefficient Utilization Curve



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2022/9/15
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	2707.40	2709.20	2672.15	2580.73	2445.69	2235.36	1980.21	1740.60	1510.55
45.0	2687.09	2612.99	2476.16	2307.06	2067.45	1798.56	1557.76	1345.64	1150.84
90.0	2667.97	2596.86	2477.36	2267.03	2052.51	1817.09	1553.58	1189.68	1149.47
135.0	2708.60	2680.52	2602.84	2503.05	2302.88	2071.63	1869.07	1584.65	1376.71
180.0	2707.40	2672.15	2595.67	2456.44	2259.85	2042.95	1803.34	1520.71	1181.67
225.0	2687.09	2712.78	2706.21	2644.07	2546.67	2406.25	2188.75	1942.57	1713.71
270.0	2667.97	2702.03	2696.65	2650.04	2549.06	2383.54	2189.35	1941.97	1717.90
315.0	2708.60	2698.44	2654.22	2518.58	2388.32	2197.71	1940.18	1686.82	1473.51
360.0	2707.40	2709.20	2672.15	2580.73	2445.69	2235.36	1980.21	1740.60	1510.55

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	1264.37	1107.82	980.55	868.21	779.18	715.24	652.50	599.32	554.51
45.0	994.29	875.38	792.92	726.60	660.27	605.30	562.27	510.89	471.45
90.0	982.16	880.58	799.08	715.30	665.23	606.55	550.38	515.01	477.13
135.0	1200.44	1026.55	917.21	828.77	737.35	675.81	625.61	568.85	528.22
180.0	1143.91	981.68	879.74	798.30	722.47	659.49	608.58	559.59	518.77
225.0	1471.71	1183.17	1110.81	974.81	879.26	787.42	715.72	658.54	605.95
270.0	1480.08	1278.71	1133.51	1011.62	890.32	812.64	742.73	670.43	616.65
315.0	1182.45	1095.21	977.62	883.92	794.83	721.87	665.77	607.93	560.78
360.0	1264.37	1107.82	980.55	868.21	779.18	715.24	652.50	599.32	554.51

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	507.30	469.06	427.83	391.98	362.10	331.63	302.95	285.68	242.60
45.0	434.40	401.54	365.09	337.01	311.91	302.95	247.02	216.25	180.99
90.0	429.38	401.06	370.83	337.19	309.52	281.08	245.46	211.11	181.83
135.0	489.97	452.33	414.69	383.02	350.75	317.89	304.14	249.47	218.46
180.0	477.01	438.17	405.72	372.02	341.19	314.90	287.53	250.07	218.76
225.0	550.26	509.27	471.93	427.65	396.40	367.42	337.96	309.16	282.75
270.0	569.45	522.24	478.02	440.98	402.73	372.26	340.59	308.92	301.75
315.0	512.38	467.33	430.04	391.68	357.86	329.18	302.05	265.24	234.77
360.0	507.30	469.06	427.83	391.98	362.10	331.63	302.95	285.68	242.60

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	211.64	171.91	141.38	113.23	80.97	61.13	48.40	39.26	35.97
45.0	148.49	118.31	86.88	64.95	49.77	40.63	36.63	33.76	30.89
90.0	148.49	120.22	90.53	65.43	50.31	40.63	36.51	33.94	31.55
135.0	183.62	150.40	121.42	94.71	66.92	51.57	42.25	37.05	34.36
180.0	187.09	147.41	117.47	90.41	62.44	48.10	39.32	33.82	31.67
225.0	248.75	216.31	178.42	142.93	113.53	84.31	61.25	47.98	39.80
270.0	241.22	204.77	172.98	142.33	108.57	84.25	63.88	47.20	39.50
315.0	204.18	169.40	135.52	108.69	81.50	60.11	47.32	38.78	34.66
360.0	211.64	171.91	141.38	113.23	80.97	61.13	48.40	39.26	35.97

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	33.46	30.71	28.14	25.87	23.36	21.33	19.24	16.85	15.18
45.0	28.74	26.53	23.90	21.69	19.54	17.09	15.12	13.44	11.77
90.0	28.68	26.35	24.14	21.33	19.24	16.91	15.12	13.09	11.59
135.0	31.97	29.28	26.77	24.50	21.93	19.66	17.15	15.24	13.62
180.0	29.16	26.35	24.38	21.81	19.18	17.39	15.48	13.15	11.89
225.0	34.48	31.97	29.64	26.77	24.50	22.23	19.36	17.15	15.36
270.0	35.37	32.80	29.88	27.49	25.04	22.41	19.90	17.81	15.60
315.0	31.79	29.16	26.89	24.32	21.75	19.66	17.63	15.30	13.56
360.0	33.46	30.71	28.14	25.87	23.36	21.33	19.24	16.85	15.18

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	13.38	11.77	10.52	9.50	8.48	7.83	7.35	6.93	6.51
45.0	10.34	9.26	8.37	7.71	7.11	6.69	6.39	6.04	5.74
90.0	10.34	9.14	8.25	7.47	6.99	6.57	6.21	5.92	5.62
135.0	11.95	10.52	9.56	8.72	7.95	7.47	6.99	6.63	6.27
180.0	10.52	9.20	8.13	7.47	6.81	6.33	5.98	5.68	5.44
225.0	13.27	11.89	10.28	8.90	8.13	7.35	6.75	6.39	6.09
270.0	13.74	12.19	10.64	9.44	8.37	7.59	7.05	6.63	6.21
315.0	12.01	10.46	9.14	8.19	7.35	6.81	6.45	6.04	5.80
360.0	13.38	11.77	10.52	9.50	8.48	7.83	7.35	6.93	6.51

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	6.21	5.92	5.68	5.44	5.26	5.08	4.96	4.84	4.66
45.0	5.50	5.26	5.08	4.90	4.78	4.66	4.54	4.42	4.30
90.0	5.38	5.14	4.96	4.84	4.66	4.60	4.42	4.30	4.24
135.0	6.04	5.74	5.50	5.32	5.14	5.02	4.90	4.72	4.66
180.0	5.20	4.96	4.84	4.72	4.54	4.42	4.36	4.24	4.12
225.0	5.74	5.50	5.26	5.08	4.90	4.78	4.66	4.54	4.42
270.0	5.92	5.74	5.38	5.20	5.08	4.90	4.72	4.66	4.54
315.0	5.50	5.26	5.08	4.90	4.72	4.60	4.54	4.36	4.30
360.0	6.21	5.92	5.68	5.44	5.26	5.08	4.96	4.84	4.66

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	4.54	4.48	4.36	4.24	4.12	4.00	3.88	3.76	3.64
45.0	4.24	4.12	4.00	3.88	3.76	3.64	3.59	3.47	3.29
90.0	4.12	4.06	3.94	3.82	3.76	3.64	3.53	3.41	3.29
135.0	4.54	4.36	4.24	4.18	4.06	3.94	3.82	3.70	3.53
180.0	4.12	4.00	3.94	3.82	3.82	3.64	3.59	3.47	3.35
225.0	4.30	4.24	4.18	4.06	4.00	3.94	3.82	3.70	3.64
270.0	4.42	4.36	4.24	4.18	4.12	3.94	3.88	3.82	3.64
315.0	4.24	4.12	4.06	3.94	3.88	3.82	3.70	3.53	3.47
360.0	4.54	4.48	4.36	4.24	4.12	4.00	3.88	3.76	3.64

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	3.53	3.41	3.29	3.23	3.17	3.11	2.99	2.93	2.87
45.0	3.23	3.17	3.11	2.99	2.93	2.87	2.81	2.75	2.75
90.0	3.17	3.17	3.05	2.99	2.93	2.81	2.81	2.75	2.69
135.0	3.41	3.35	3.23	3.17	3.11	3.05	2.93	2.87	2.81
180.0	3.23	3.17	3.05	2.99	2.93	2.93	2.81	2.75	2.69
225.0	3.47	3.35	3.29	3.17	3.11	3.05	2.99	2.93	2.81
270.0	3.53	3.41	3.35	3.23	3.17	3.05	2.99	2.93	2.87
315.0	3.35	3.23	3.17	3.11	2.99	2.99	2.93	2.81	2.75
360.0	3.53	3.41	3.29	3.23	3.17	3.11	2.99	2.93	2.87

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	2.81	2.75	2.69	2.63	2.57	2.51	2.45	2.39	2.39
45.0	2.69	2.63	2.57	2.57	2.45	2.39	2.39	2.33	2.33
90.0	2.69	2.63	2.57	2.57	2.45	2.39	2.33	2.33	2.33
135.0	2.75	2.75	2.69	2.63	2.57	2.45	2.39	2.39	2.33
180.0	2.63	2.57	2.51	2.51	2.45	2.39	2.39	2.33	2.27
225.0	2.75	2.69	2.63	2.57	2.57	2.51	2.45	2.39	2.39
270.0	2.81	2.75	2.69	2.63	2.57	2.57	2.51	2.45	2.39
315.0	2.69	2.69	2.57	2.57	2.51	2.45	2.39	2.39	2.33
360.0	2.81	2.75	2.69	2.63	2.57	2.51	2.45	2.39	2.39

Intensity data(cd)

C/γ(°)	90.0
0.0	2.33
45.0	2.33
90.0	2.33
135.0	2.33
180.0	2.33
225.0	2.39
270.0	2.39
315.0	2.33
360.0	2.33