NATA LIGHTING CO.,LTD.
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Address:380JinOu Road,GaoXin Zone,Jiang Men City,Guangdong,China

LumCAT: 1656-S
Luminaire: 92.70.124.00
Report No: NATA0100
Test No: GC2019062815
LampCAT: TRIDONIC SLE 9MM G7
Lamp flux(lm): 1073.0
Number of Lamps: 1
Length(mm): 47
Phm Type: C

Voltage(V): 34.8500
Current(A): 0.2490
Power (W): 8.6780
PF: 0.0000
Ballast type: DC
Width(mm): 47
Height(mm): 0

Photometric Results

Lumens(lm): 962.19
Efficiency(%): 89.67%
Lumens(lm)/Power(W): 110.88
Central intensity(cd): 6623.297
Maximum intensity(cd): 6623.297
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=14.9
[C90/270]Total=14.9
Field angle(10%Imax): [C0/180]Total=34.2
[C90/270]Total=34.2
Maximum s/h(1/2): C0_180=0.26 C90_270=0.26
Maximum s/h(1/4): C0_180=0.27 C90_270=0.27
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 89.67%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.529%

Equipment: GMS1980
Temperature(°C): 25.0
Date: 2019/6/28
Humidity(%): 65.0%
Operator: NT07
Distance(m): 7.50

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	6623.297	0.000	0	.000%	.000%
1.0	6561.914	6.309	6.309	.588%	.656%
2.0	6352.594	18.536	24.845	1.728%	2.582%
3.0	5972.133	29.477	54.322	2.747%	5.646%
4.0	5467.500	38.292	92.614	3.569%	9.625%
5.0	4803.750	44.186	136.8	4.118%	14.218%
6.0	4173.258	47.177	183.977	4.397%	19.121%
7.0	3562.031	48.013	231.99	4.475%	24.111%
8.0	3013.594	47.060	279.05	4.386%	29.002%
9.0	2514.164	44.799	323.85	4.175%	33.658%
10.0	2095.875	41.719	365.569	3.888%	37.993%
11.0	1750.430	38.432	404.001	3.582%	41.988%
12.0	1454.217	35.031	439.033	3.265%	45.628%
13.0	1195.179	31.442	470.474	2.930%	48.896%
14.0	1030.212	28.485	498.959	2.655%	51.857%
15.0	880.017	26.224	525.183	2.444%	54.582%
16.0	758.538	24.009	549.193	2.238%	57.077%
17.0	669.495	22.238	571.431	2.073%	59.389%
18.0	598.057	20.899	592.33	1.948%	61.561%
19.0	546.216	19.908	612.238	1.855%	63.630%
20.0	501.652	19.179	631.417	1.787%	65.623%
21.0	467.775	18.615	650.032	1.735%	67.558%
22.0	442.448	18.291	668.324	1.705%	69.459%
23.0	421.495	18.128	686.451	1.689%	71.343%
24.0	403.720	18.042	704.494	1.681%	73.218%
25.0	390.691	18.063	722.557	1.683%	75.095%
26.0	380.475	18.203	740.76	1.697%	76.987%
27.0	370.758	18.379	759.139	1.713%	78.897%
28.0	361.905	18.549	777.689	1.729%	80.825%
29.0	354.544	18.744	796.433	1.747%	82.773%
30.0	344.468	18.873	815.306	1.759%	84.734%
31.0	328.950	18.740	834.047	1.747%	86.682%
32.0	303.413	18.116	852.163	1.688%	88.565%
33.0	278.494	17.143	869.306	1.598%	90.347%
34.0	240.265	15.699	885.005	1.463%	91.978%
35.0	195.110	13.521	898.527	1.260%	93.383%
36.0	154.688	11.138	909.664	1.038%	94.541%
37.0	118.223	8.901	918.565	.830%	95.466%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	80.951	6.648	925.213	.620%	96.157%
39.0	50.541	4.488	929.701	.418%	96.623%
40.0	30.305	2.820	932.521	.263%	96.916%
41.0	20.665	1.815	934.336	.169%	97.105%
42.0	16.305	1.343	935.679	.125%	97.245%
43.0	13.542	1.106	936.785	.103%	97.360%
44.0	11.116	0.931	937.715	.087%	97.456%
45.0	9.457	0.791	938.506	.074%	97.539%
46.0	8.768	0.713	939.219	.066%	97.613%
47.0	8.430	0.684	939.903	.064%	97.684%
48.0	8.121	0.669	940.572	.062%	97.753%
49.0	7.819	0.655	941.227	.061%	97.821%
50.0	7.552	0.641	941.867	.060%	97.888%
51.0	7.334	0.630	942.497	.059%	97.953%
52.0	7.179	0.623	943.12	.058%	98.018%
53.0	7.017	0.618	943.737	.058%	98.082%
54.0	6.919	0.614	944.352	.057%	98.146%
55.0	6.834	0.614	944.966	.057%	98.210%
56.0	6.757	0.614	945.58	.057%	98.274%
57.0	6.715	0.616	946.196	.057%	98.338%
58.0	6.638	0.617	946.813	.058%	98.402%
59.0	6.539	0.616	947.429	.057%	98.466%
60.0	6.377	0.610	948.039	.057%	98.529%
61.0	6.209	0.601	948.64	.056%	98.592%
62.0	5.963	0.586	949.226	.055%	98.653%
63.0	5.702	0.567	949.794	.053%	98.712%
64.0	5.456	0.548	950.341	.051%	98.769%
65.0	5.189	0.527	950.868	.049%	98.823%
66.0	4.978	0.507	951.375	.047%	98.876%
67.0	4.788	0.491	951.867	.046%	98.927%
68.0	4.669	0.479	952.346	.045%	98.977%
69.0	4.570	0.471	952.817	.044%	99.026%
70.0	4.514	0.467	953.283	.043%	99.074%
71.0	4.451	0.463	953.747	.043%	99.122%
72.0	4.409	0.461	954.207	.043%	99.170%
73.0	4.395	0.460	954.668	.043%	99.218%
74.0	4.359	0.460	955.128	.043%	99.266%
75.0	4.324	0.459	955.587	.043%	99.314%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	4.296	0.458	956.044	.043%	99.361%
77.0	4.268	0.457	956.501	.043%	99.409%
78.0	4.240	0.455	956.956	.042%	99.456%
79.0	4.184	0.453	957.409	.042%	99.503%
80.0	4.141	0.449	957.858	.042%	99.550%
81.0	4.106	0.446	958.304	.042%	99.596%
82.0	4.078	0.444	958.748	.041%	99.642%
83.0	4.043	0.441	959.189	.041%	99.688%
84.0	4.029	0.440	959.629	.041%	99.734%
85.0	3.980	0.437	960.066	.041%	99.779%
86.0	3.952	0.434	960.5	.040%	99.824%
87.0	3.902	0.430	960.929	.040%	99.869%
88.0	3.846	0.424	961.354	.040%	99.913%
89.0	3.811	0.420	961.774	.039%	99.957%
90.0	3.790	0.417	962.19	.039%	100.000%

Zonal flux distribution table

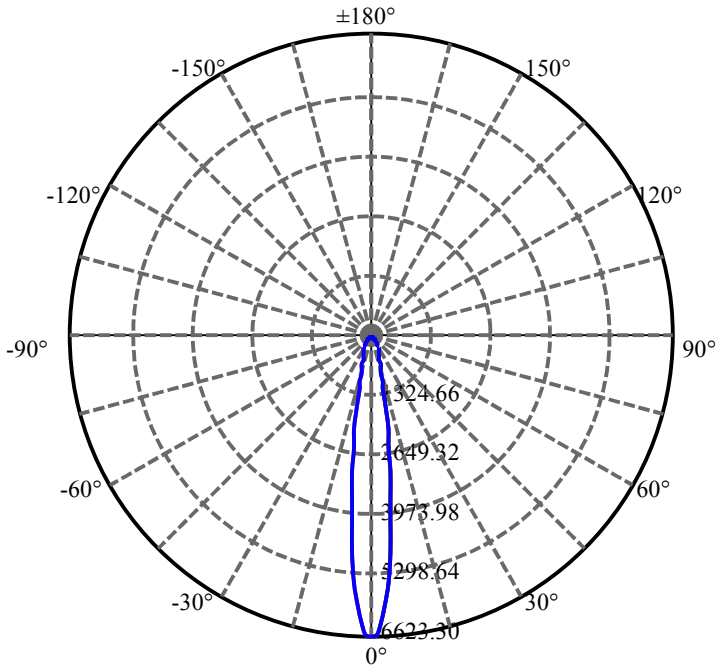
ZONAL LUMEN SUMMARY

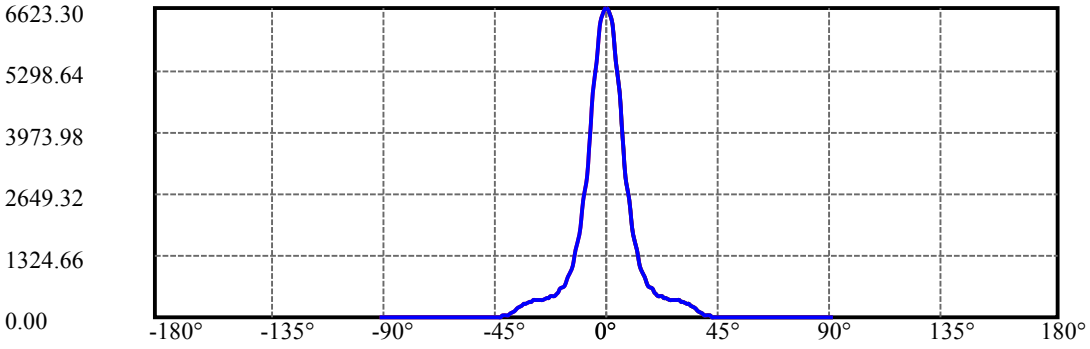
Zone	Lumens	%Lamp	%Fixt
0-30	815.31	75.98%	84.73%
0-40	932.52	86.91%	96.92%
0-60	948.04	88.35%	98.53%
0-90	961.77	89.63%	99.96%
0-120	961.77	89.63%	99.96%
0-180	962.19	89.67%	100.00%
60-90	14.34	1.34%	1.49%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-27.57	769.75	71.74%	80.00%

ZONAL LUMEN SUMMARY

0-10	365.57
10-20	265.85
20-30	183.89
30-40	117.21
40-50	9.35
50-60	6.17
60-70	5.24
70-80	4.57
80-90	3.92
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:17.1 Right:17.1
:C90/270Left:17.1 Right:17.1

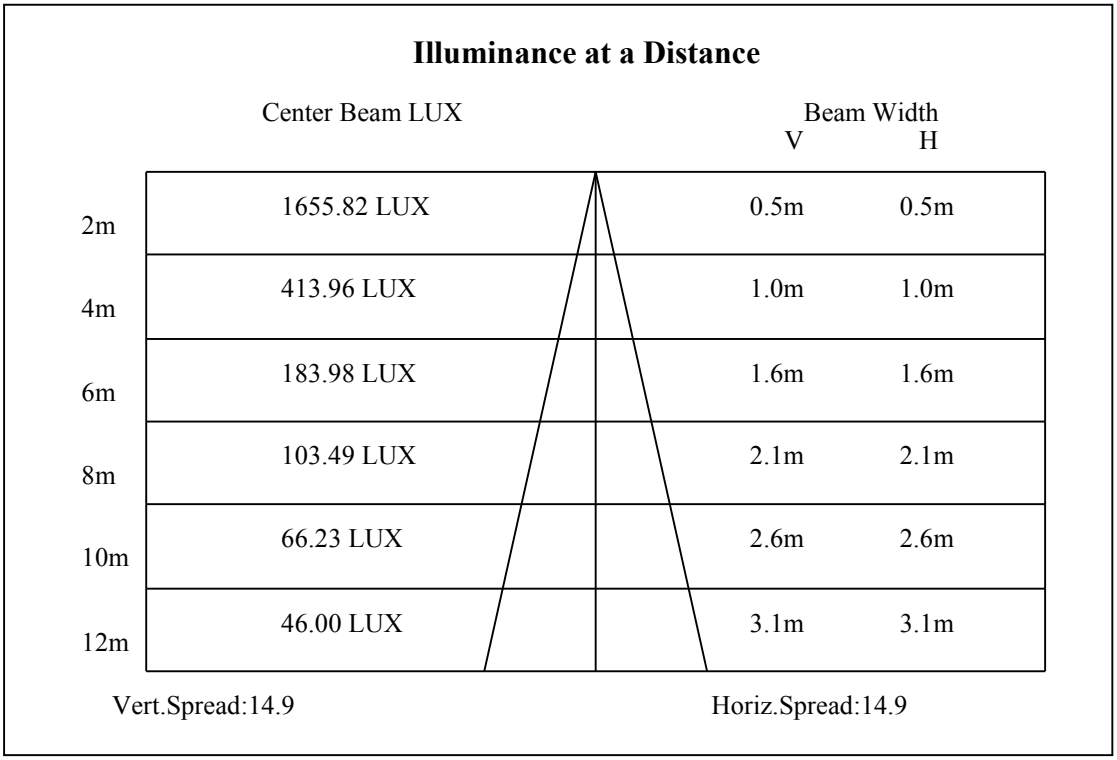
Beam Angle(50%Imax):C0/180Left:7.5 Right:7.5
:C90/270Left:7.5 Right:7.5

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/6/28
Humidity(%): 65.0%

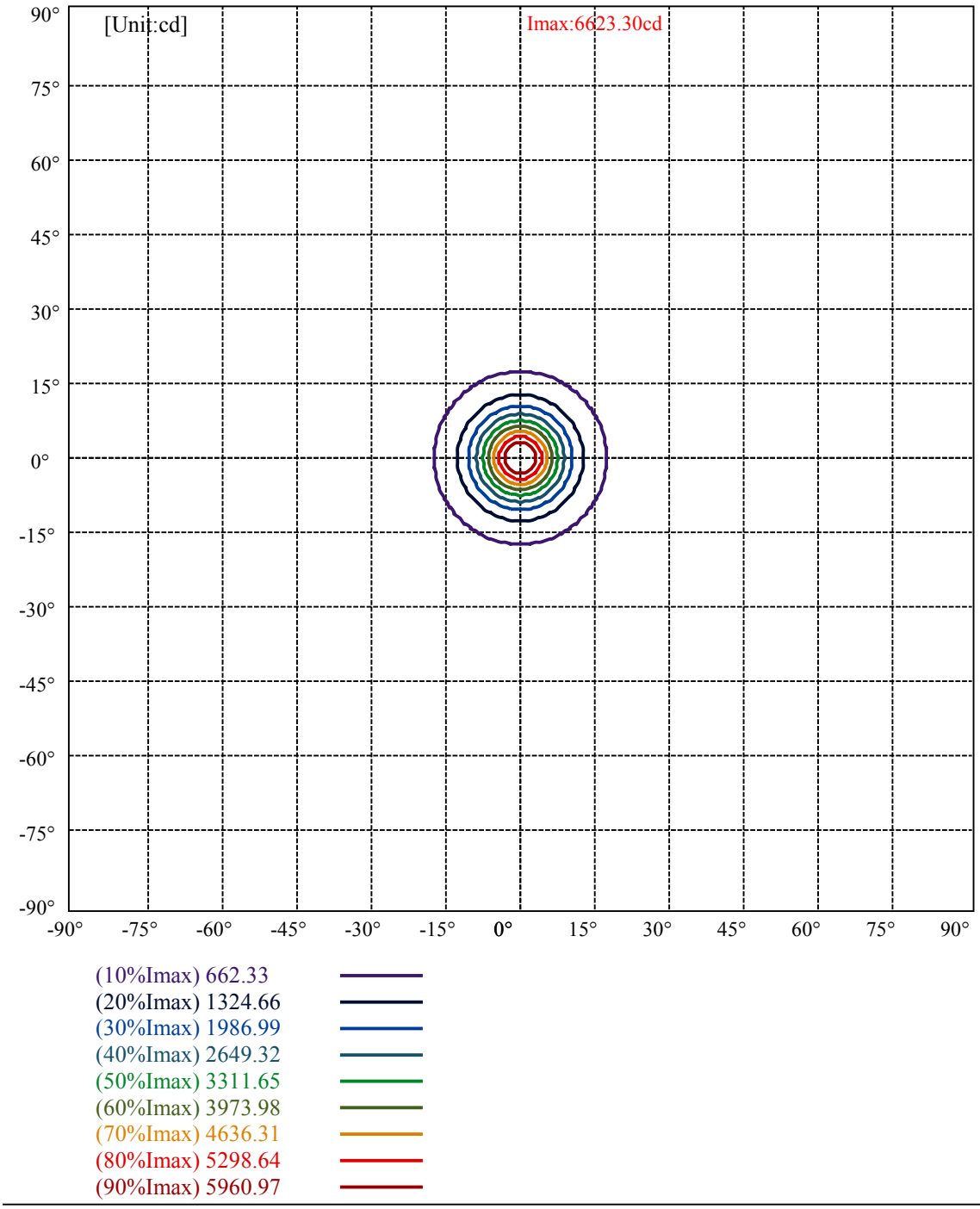
Operator: NT07
Distance(m): 7.50

Lux distance Curve



Equipment: GMS1980 Date: 2019/6/28 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

ISO-Intensity(V-H)

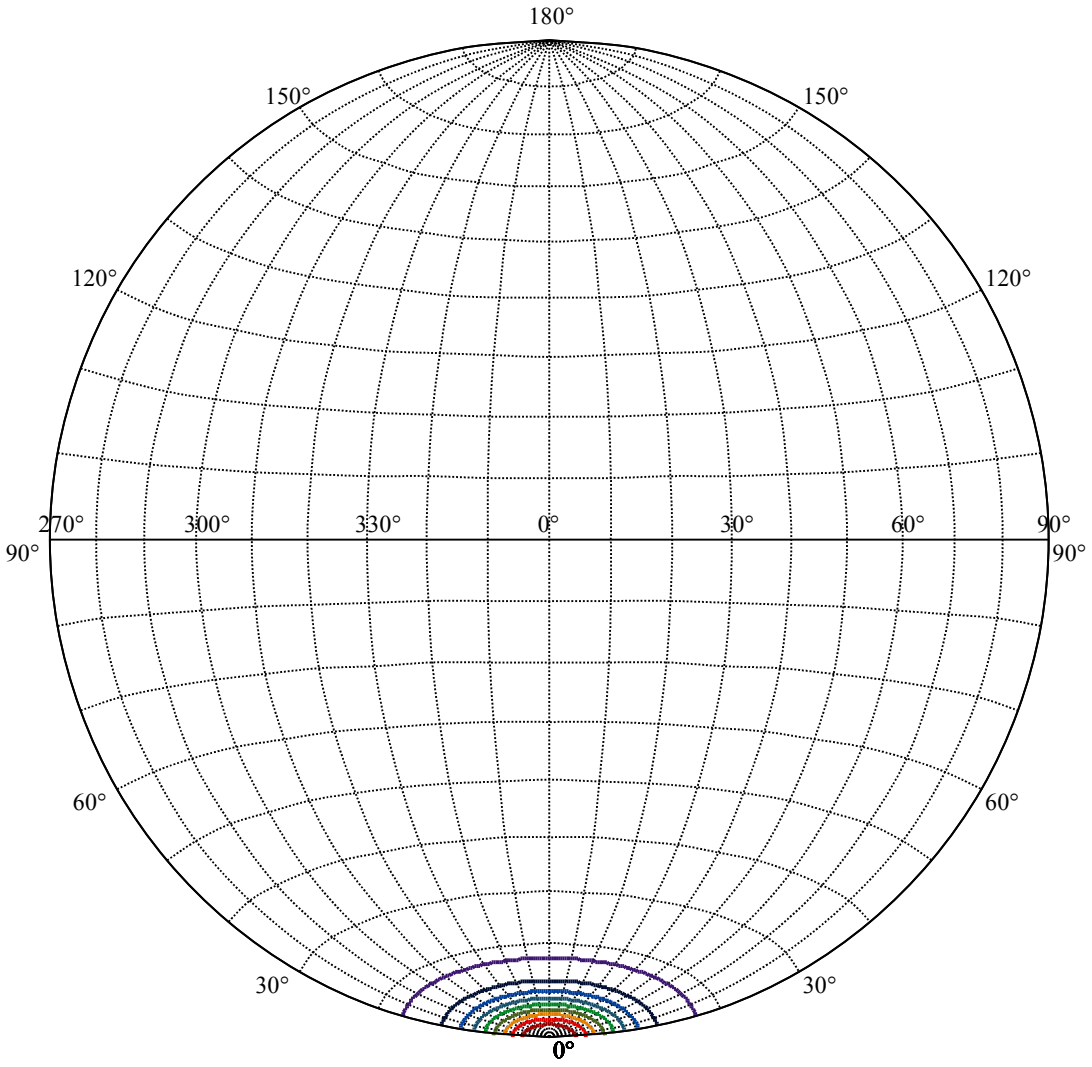


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/6/28
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web



House [Unit:cd] Road

Imax:6623.30

(10%Imax) 662.33
(20%Imax) 1324.66
(30%Imax) 1986.99
(40%Imax) 2649.32
(50%Imax) 3311.65
(60%Imax) 3973.98
(70%Imax) 4636.31
(80%Imax) 5298.64
(90%Imax) 5960.97

Equipment: GMS1980 Date: 2019/6/28 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

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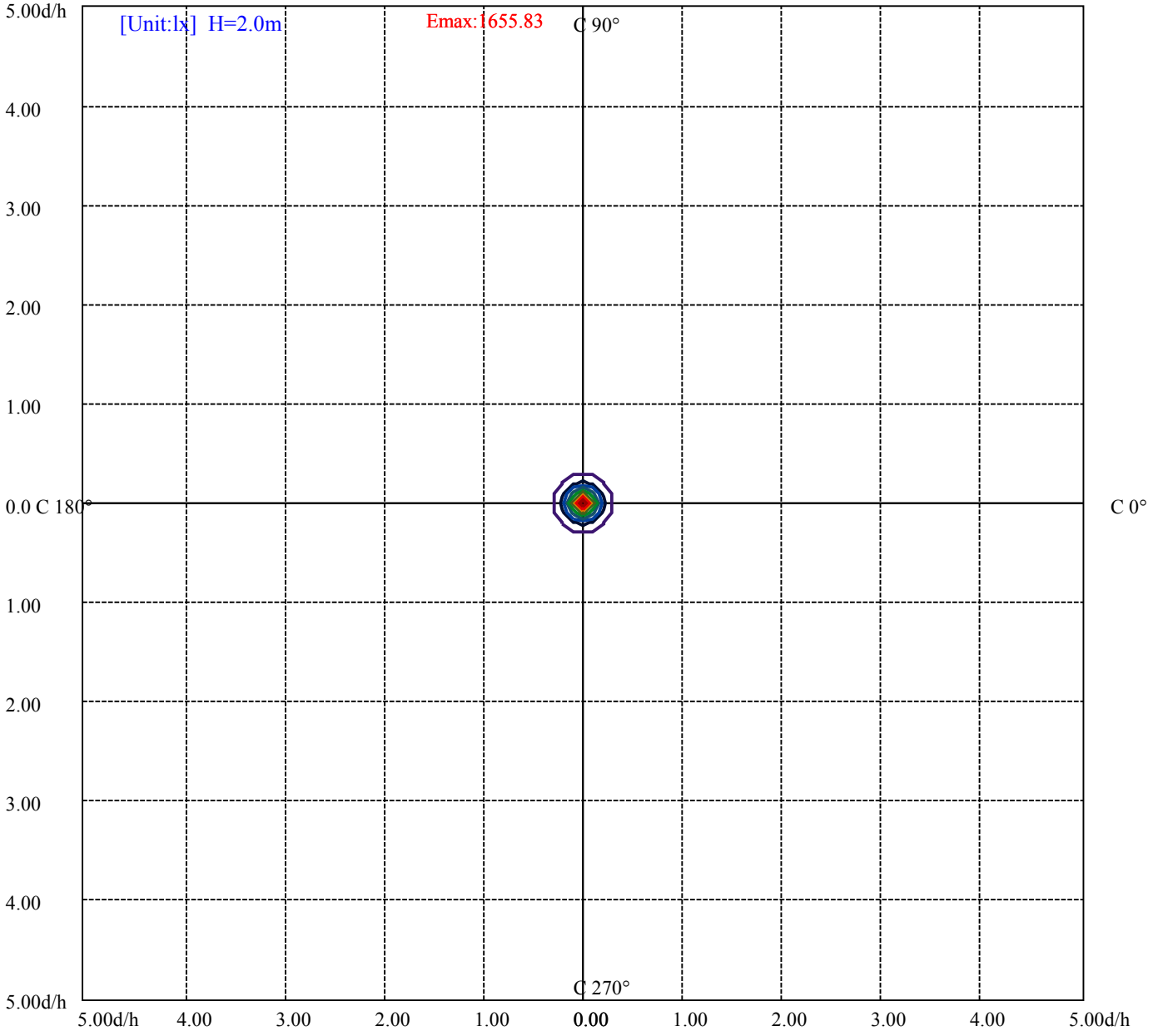
ISO illuminance diagram

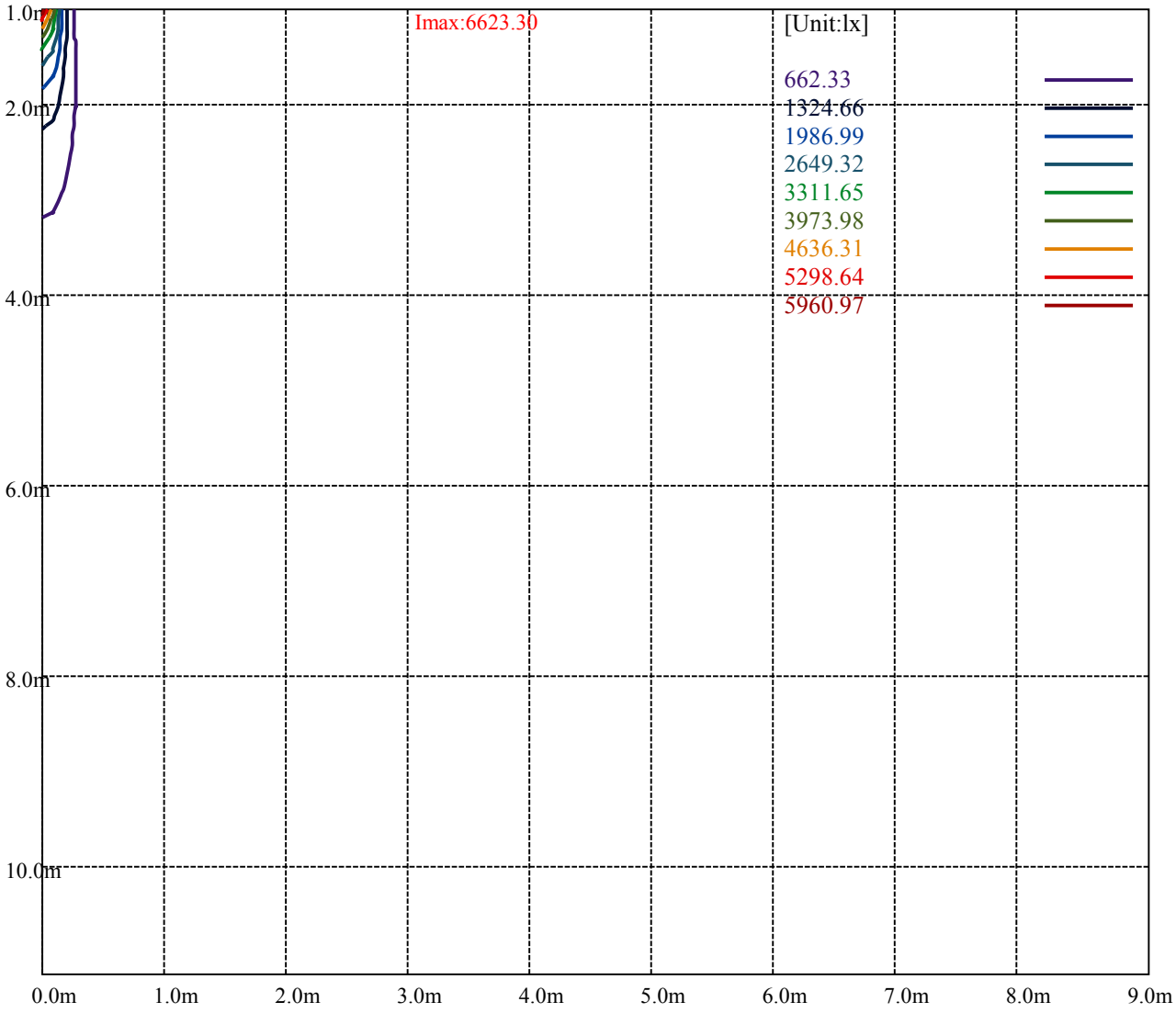


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/6/28
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/6/28
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

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Luminance Limitting Curve(no luminous side)

Luminance Table

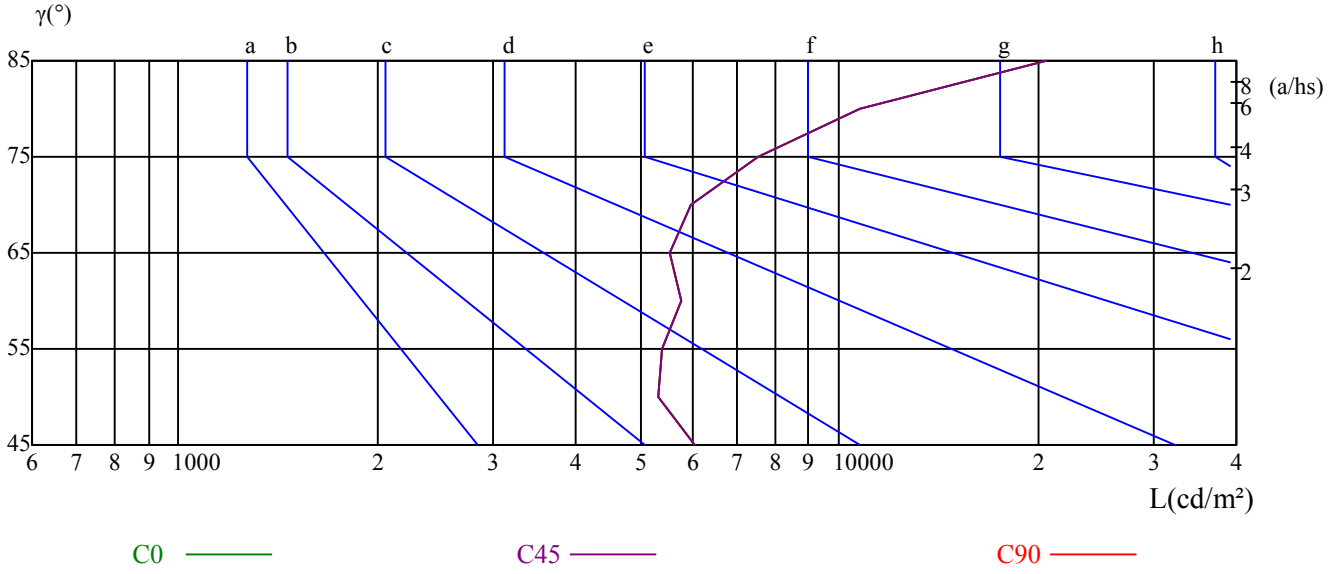
γ	45	50	55	60	65	70	75	80	85
C0	6054	5318	5394	5774	5558	5975	7563	10796	20671
C45	6054	5318	5394	5774	5558	5975	7563	10796	20671
C90	6054	5318	5394	5774	5558	5975	7563	10796	20671

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
5558	5558	5558	7563	7563	7563	20671	20671	20671

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

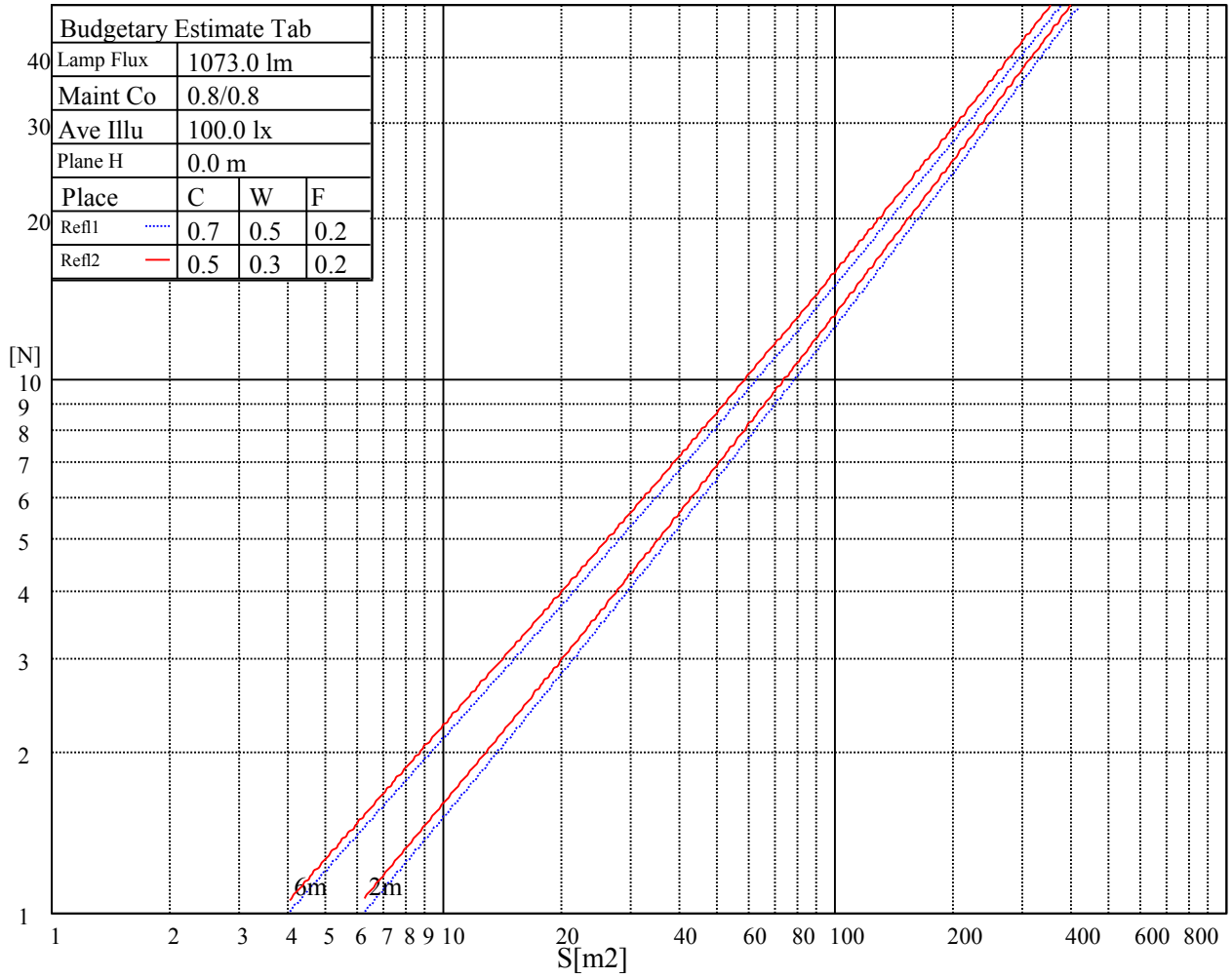


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/6/28
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Budgetary Estimate Table

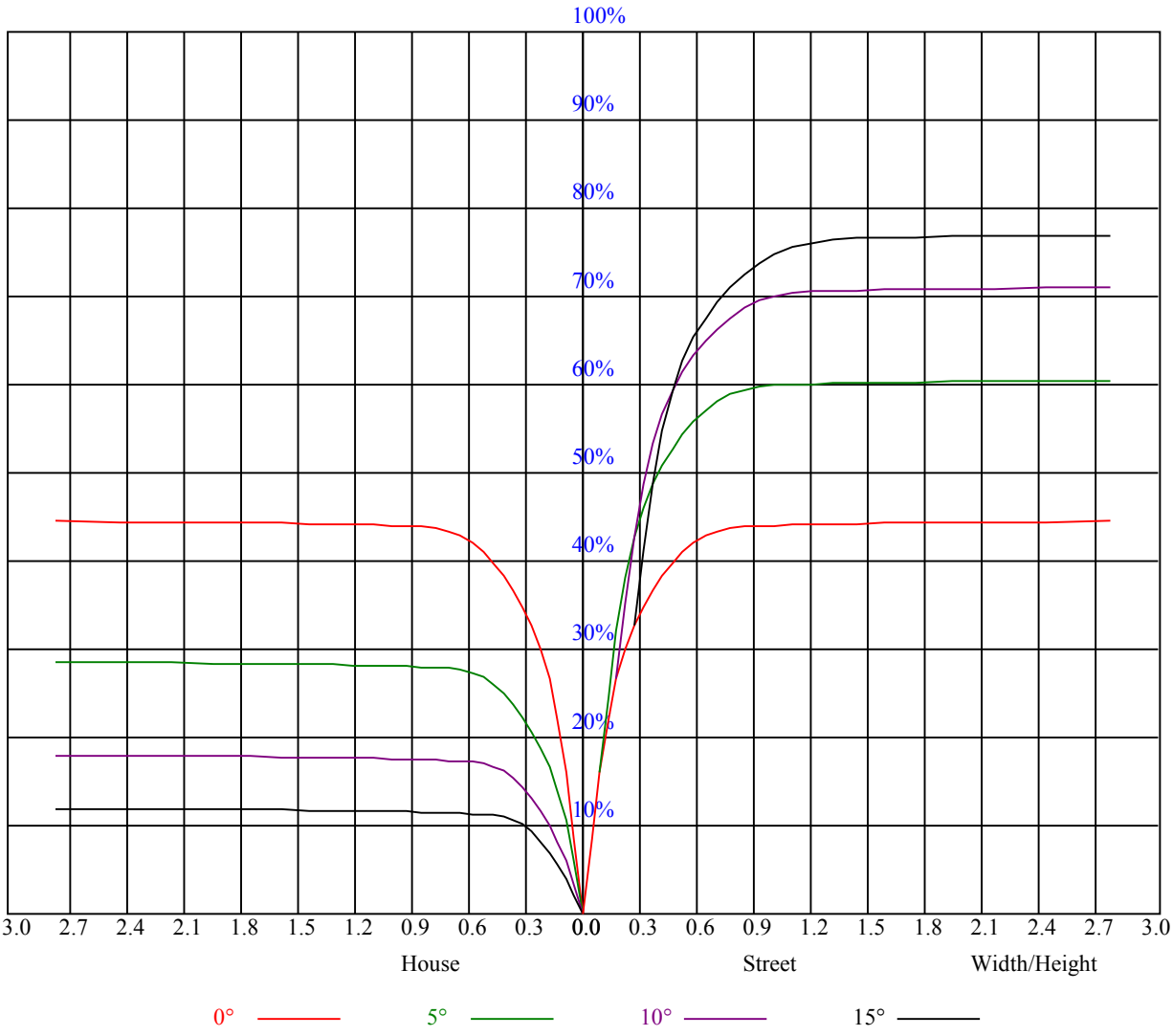


Equipment: GMS1980 Date: 2019/6/28 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

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	1.04	1.04	1.04	1.00	1.00	1.00	0.95	0.95	0.95	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	0.86
2	0.95	0.92	0.90	0.94	0.91	0.89	0.91	0.89	0.87	0.88	0.87	0.85	0.86	0.84	0.83	0.82
3	0.91	0.87	0.84	0.89	0.86	0.84	0.87	0.84	0.82	0.85	0.83	0.81	0.83	0.81	0.80	0.79
4	0.87	0.83	0.80	0.86	0.82	0.79	0.84	0.81	0.78	0.82	0.80	0.77	0.81	0.78	0.77	0.75
5	0.83	0.79	0.76	0.82	0.78	0.76	0.81	0.77	0.75	0.79	0.77	0.74	0.78	0.76	0.74	0.73
6	0.80	0.76	0.73	0.79	0.75	0.72	0.78	0.75	0.72	0.77	0.74	0.72	0.76	0.73	0.71	0.70
7	0.77	0.73	0.70	0.76	0.72	0.70	0.75	0.72	0.69	0.74	0.71	0.69	0.73	0.71	0.69	0.68
8	0.74	0.70	0.67	0.74	0.70	0.67	0.73	0.69	0.67	0.72	0.69	0.67	0.71	0.69	0.66	0.66
9	0.72	0.68	0.65	0.71	0.68	0.65	0.71	0.67	0.65	0.70	0.67	0.65	0.69	0.67	0.64	0.64
10	0.70	0.66	0.63	0.69	0.66	0.63	0.69	0.65	0.63	0.68	0.65	0.63	0.67	0.65	0.63	0.62

Coefficient Utilization Curve



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/6/28
Humidity(%): 65.0%

Operator: NT07
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	6602.06	6644.25	6494.06	6241.50	5766.19	5102.44	4475.25	3804.19	3282.75
45.0	6640.31	6578.44	6294.38	5893.31	5376.94	4607.44	4015.13	3456.56	2883.38
90.0	6592.50	6394.50	6063.19	5430.94	4815.56	4215.94	3587.63	3006.00	2533.50
135.0	6658.31	6510.38	6224.63	5812.88	5171.63	4486.50	3891.38	3279.38	2792.81
180.0	6602.06	6477.75	6214.50	5676.75	5099.06	4489.88	3765.94	3231.56	2751.75
225.0	6640.31	6586.31	6391.69	6073.88	5622.75	4868.44	4332.38	3683.25	3035.81
270.0	6592.50	6664.50	6632.44	6425.44	6105.38	5477.06	4848.75	4237.88	3585.38
315.0	6658.31	6639.19	6505.88	6222.38	5782.50	5182.31	4469.63	3797.44	3243.38
360.0	6602.06	6644.25	6494.06	6241.50	5766.19	5102.44	4475.25	3804.19	3282.75

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	2751.19	2282.63	1934.44	1641.94	1343.25	1143.56	982.13	826.31	731.25
45.0	2395.13	2017.69	1668.38	1401.75	1169.44	981.00	839.81	721.69	635.06
90.0	2080.13	1713.94	1450.13	1103.18	1015.76	851.57	717.98	634.16	561.83
135.0	2325.38	1920.38	1621.69	1368.00	1123.31	963.00	830.81	709.88	636.75
180.0	2230.88	1893.94	1618.88	1322.44	1116.11	978.24	851.96	739.01	666.06
225.0	2624.06	2164.50	1738.69	1494.56	1115.49	1032.02	887.63	773.66	682.59
270.0	3006.56	2534.63	2090.81	1756.69	1445.63	1202.06	1027.13	865.13	744.75
315.0	2700.00	2239.31	1880.44	1545.19	1232.44	1090.24	902.70	798.47	697.67
360.0	2751.19	2282.63	1934.44	1641.94	1343.25	1143.56	982.13	826.31	731.25

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	656.44	591.19	540.56	502.88	471.38	448.31	426.38	409.50	397.69
45.0	578.25	531.00	486.00	458.44	434.81	415.69	401.06	391.50	383.63
90.0	495.96	459.51	427.44	395.33	374.96	362.08	350.04	339.92	335.48
135.0	576.00	524.81	486.00	462.94	440.44	422.44	406.13	393.19	384.19
180.0	598.56	545.96	507.21	472.89	446.01	426.21	410.68	394.20	383.01
225.0	601.14	546.08	506.93	469.58	447.30	427.39	410.74	397.41	390.32
270.0	662.06	600.75	528.75	492.19	463.50	430.31	404.44	394.88	376.31
315.0	616.05	570.43	530.33	487.97	461.19	439.54	420.30	404.94	393.19
360.0	656.44	591.19	540.56	502.88	471.38	448.31	426.38	409.50	397.69

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	385.88	375.75	367.31	358.88	347.06	324.56	294.75	286.88	213.53
45.0	374.06	366.19	357.19	347.06	327.94	294.75	285.75	223.76	176.01
90.0	331.65	326.36	321.69	302.96	279.17	245.81	210.43	174.26	138.71
135.0	374.06	365.06	357.75	348.19	322.31	290.81	287.44	212.40	170.38
180.0	373.44	363.83	355.05	346.44	325.52	295.59	264.32	222.86	185.01
225.0	383.29	375.86	368.27	358.31	350.55	330.08	295.88	260.78	225.11
270.0	361.69	350.44	345.38	338.06	331.31	320.06	298.13	285.19	232.26
315.0	381.99	371.76	363.71	355.84	347.74	325.63	291.26	255.99	219.88
360.0	385.88	375.75	367.31	358.88	347.06	324.56	294.75	286.88	213.53

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	175.16	132.53	90.51	60.92	32.74	19.29	15.13	12.49	9.96
45.0	140.18	104.68	63.00	37.86	22.73	17.27	14.63	12.21	9.96
90.0	97.14	70.76	45.79	25.43	19.41	17.21	14.51	12.26	10.97
135.0	133.65	104.12	60.98	34.03	22.05	16.65	14.01	11.70	9.23
180.0	144.62	103.16	72.79	41.91	22.61	16.59	14.34	10.91	8.66
225.0	177.69	138.54	103.56	62.61	37.18	24.47	18.96	16.14	13.44
270.0	197.10	156.99	112.16	82.35	53.16	32.85	22.50	19.46	16.20
315.0	171.96	135.00	98.83	59.23	32.57	20.98	16.37	13.16	10.52
360.0	175.16	132.53	90.51	60.92	32.74	19.29	15.13	12.49	9.96

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	7.59	6.69	6.41	6.13	5.85	5.68	5.51	5.40	5.29
45.0	8.94	8.72	8.49	8.16	7.88	7.65	7.48	7.31	7.09
90.0	10.46	10.24	9.90	9.45	9.17	8.89	8.61	8.49	8.33
135.0	8.33	8.04	7.71	7.43	7.20	6.92	6.75	6.53	6.30
180.0	7.37	6.98	6.64	6.36	6.13	5.91	5.74	5.63	5.51
225.0	11.14	10.29	9.96	9.62	9.23	8.89	8.55	8.44	8.33
270.0	13.39	11.81	11.31	11.08	10.69	10.35	10.07	9.84	9.68
315.0	8.44	7.37	7.03	6.75	6.41	6.13	5.96	5.79	5.63
360.0	7.59	6.69	6.41	6.13	5.85	5.68	5.51	5.40	5.29

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	5.23	5.18	5.12	5.06	5.01	4.95	4.89	4.89	4.84
45.0	6.98	6.81	6.69	6.64	6.64	6.58	6.47	6.30	6.13
90.0	8.16	8.10	7.99	7.99	7.71	7.48	7.09	6.69	6.24
135.0	6.19	6.08	5.96	5.91	5.85	5.74	5.63	5.51	5.40
180.0	5.40	5.34	5.23	5.18	5.06	5.01	5.01	4.95	4.89
225.0	8.33	8.33	8.44	8.49	8.55	8.44	8.21	7.88	7.48
270.0	9.56	9.45	9.34	9.23	9.06	8.94	8.55	8.27	7.54
315.0	5.51	5.40	5.29	5.23	5.23	5.18	5.18	5.18	5.18
360.0	5.23	5.18	5.12	5.06	5.01	4.95	4.89	4.89	4.84

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	4.78	4.73	4.67	4.61	4.56	4.50	4.44	4.44	4.39
45.0	5.85	5.51	5.23	5.01	4.73	4.61	4.56	4.50	4.44
90.0	5.68	5.34	5.01	4.84	4.73	4.67	4.56	4.56	4.50
135.0	5.23	5.18	4.95	4.78	4.61	4.50	4.44	4.39	4.33
180.0	4.84	4.84	4.84	4.78	4.73	4.61	4.50	4.44	4.39
225.0	6.98	6.47	5.85	5.34	5.01	4.78	4.61	4.50	4.44
270.0	7.09	6.41	5.91	5.51	5.18	5.06	4.89	4.84	4.73
315.0	5.18	5.18	5.06	4.95	4.78	4.61	4.56	4.44	4.39
360.0	4.78	4.73	4.67	4.61	4.56	4.50	4.44	4.44	4.39

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	4.33	4.33	4.33	4.28	4.28	4.22	4.16	4.11	4.11
45.0	4.44	4.44	4.39	4.39	4.39	4.33	4.28	4.22	4.22
90.0	4.44	4.50	4.44	4.44	4.44	4.33	4.33	4.28	4.16
135.0	4.33	4.28	4.22	4.16	4.11	4.11	4.11	4.05	4.05
180.0	4.33	4.28	4.22	4.22	4.11	4.11	4.11	4.05	4.05
225.0	4.39	4.33	4.33	4.28	4.22	4.22	4.16	4.11	4.05
270.0	4.67	4.67	4.67	4.61	4.61	4.61	4.61	4.56	4.44
315.0	4.33	4.33	4.28	4.22	4.22	4.22	4.16	4.11	4.05
360.0	4.33	4.33	4.33	4.28	4.28	4.22	4.16	4.11	4.11

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	4.05	4.05	4.05	4.05	3.99	3.99	3.99	3.94	3.88
45.0	4.11	4.05	3.99	3.99	3.94	3.99	3.94	3.83	3.83
90.0	4.16	4.11	4.05	4.05	3.94	3.88	3.77	3.77	3.71
135.0	3.99	3.99	3.99	3.99	3.94	3.94	3.88	3.83	3.77
180.0	4.05	3.99	3.99	3.99	3.94	3.94	3.88	3.83	3.83
225.0	4.05	4.05	3.99	3.99	3.94	3.94	3.88	3.83	3.83
270.0	4.39	4.33	4.28	4.16	4.16	3.99	3.94	3.88	3.83
315.0	4.05	4.05	3.99	3.99	3.99	3.94	3.94	3.88	3.83
360.0	4.05	4.05	4.05	4.05	3.99	3.99	3.99	3.94	3.88

Intensity data(cd)

C/γ(°)	90.0
0.0	3.83
45.0	3.77
90.0	3.71
135.0	3.77
180.0	3.77
225.0	3.83
270.0	3.83
315.0	3.83
360.0	3.83