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

NATA

LumCAT: 1321-E
Luminaire: 92.70.046.00
Report No: NATA0100
Test No: GC2019030605
LampCAT: CREE CXA1512
Lamp flux(lm): 1440.0
Number of Lamps: 1
Length(mm): 41
Phm Type: C

Voltage(V): 35.1000
Current(A): 0.3000
Power (W): 10.5300
PF: 0.0000
Ballast type: DC
Width(mm): 41
Height(mm): 0

Photometric Results

Lumens(lm): 1246.52
Efficiency(%): 86.56%
Lumens(lm)/Power(W): 118.49
Central intensity(cd): 5135.766
Maximum intensity(cd): 5135.766
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=22.5
[C90/270]Total=22.5
Field angle(10%Imax): [C0/180]Total=54.9
[C90/270]Total=54.9
Maximum s/h(1/2): C0_180=0.38 C90_270=0.38
Maximum s/h(1/4): C0_180=0.40 C90_270=0.40
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 86.65%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.739%

Equipment: GMS1980
Temperature(°C): 10.0
Date: 2019/3/6
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	5135.766	1.229	1.229	.085%	.099%
1.0	5110.875	9.781	11.01	.679%	.883%
2.0	5029.102	19.247	30.257	1.337%	2.427%
3.0	4889.039	28.059	58.316	1.949%	4.678%
4.0	4705.523	35.995	94.311	2.500%	7.566%
5.0	4474.758	42.768	137.079	2.970%	10.997%
6.0	4205.883	48.211	185.29	3.348%	14.865%
7.0	3899.953	52.120	237.41	3.619%	19.046%
8.0	3595.078	54.868	292.278	3.810%	23.447%
9.0	3263.133	55.978	348.256	3.887%	27.938%
10.0	2935.406	55.897	404.153	3.882%	32.422%
11.0	2632.570	55.085	459.238	3.825%	36.842%
12.0	2345.414	53.475	512.713	3.714%	41.131%
13.0	2057.484	50.755	563.467	3.525%	45.203%
14.0	1812.516	48.085	611.552	3.339%	49.061%
15.0	1598.484	45.369	656.921	3.151%	52.700%
16.0	1396.181	42.202	699.123	2.931%	56.086%
17.0	1228.922	39.401	738.524	2.736%	59.247%
18.0	1085.477	36.784	775.308	2.554%	62.198%
19.0	983.588	35.116	810.424	2.439%	65.015%
20.0	885.874	33.226	843.65	2.307%	67.680%
21.0	805.683	31.662	875.312	2.199%	70.220%
22.0	741.424	30.457	905.77	2.115%	72.664%
23.0	684.619	29.334	935.104	2.037%	75.017%
24.0	638.191	28.465	963.569	1.977%	77.301%
25.0	597.136	27.674	991.244	1.922%	79.521%
26.0	564.757	27.149	1018.393	1.885%	81.699%
27.0	530.234	26.398	1044.79	1.833%	83.816%
28.0	492.898	25.376	1070.166	1.762%	85.852%
29.0	450.935	23.974	1094.14	1.665%	87.775%
30.0	403.467	22.122	1116.262	1.536%	89.550%
31.0	348.370	19.676	1135.938	1.366%	91.129%
32.0	297.633	17.296	1153.234	1.201%	92.516%
33.0	240.391	14.358	1167.591	.997%	93.668%
34.0	190.962	11.710	1179.301	.813%	94.607%
35.0	139.261	8.759	1188.061	.608%	95.310%
36.0	95.077	6.128	1194.189	.426%	95.802%
37.0	62.374	4.116	1198.306	.286%	96.132%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	37.835	2.554	1200.86	.177%	96.337%
39.0	23.273	1.606	1202.466	.112%	96.466%
40.0	16.495	1.163	1203.629	.081%	96.559%
41.0	14.112	1.015	1204.644	.071%	96.640%
42.0	12.628	0.927	1205.571	.064%	96.715%
43.0	11.482	0.859	1206.429	.060%	96.784%
44.0	10.378	0.791	1207.22	.055%	96.847%
45.0	9.766	0.757	1207.977	.053%	96.908%
46.0	9.387	0.740	1208.718	.051%	96.967%
47.0	9.148	0.734	1209.451	.051%	97.026%
48.0	8.923	0.727	1210.179	.050%	97.084%
49.0	8.768	0.726	1210.904	.050%	97.143%
50.0	8.677	0.729	1211.633	.051%	97.201%
51.0	8.592	0.732	1212.365	.051%	97.260%
52.0	8.592	0.742	1213.108	.052%	97.319%
53.0	8.599	0.753	1213.861	.052%	97.380%
54.0	8.620	0.765	1214.626	.053%	97.441%
55.0	8.698	0.781	1215.407	.054%	97.504%
56.0	8.719	0.793	1216.2	.055%	97.567%
57.0	8.796	0.809	1217.009	.056%	97.632%
58.0	8.824	0.821	1217.829	.057%	97.698%
59.0	8.803	0.827	1218.657	.057%	97.765%
60.0	8.782	0.834	1219.491	.058%	97.831%
61.0	8.641	0.829	1220.32	.058%	97.898%
62.0	8.522	0.825	1221.145	.057%	97.964%
63.0	8.318	0.813	1221.957	.056%	98.029%
64.0	8.072	0.796	1222.753	.055%	98.093%
65.0	7.826	0.778	1223.531	.054%	98.156%
66.0	7.566	0.758	1224.289	.053%	98.216%
67.0	7.509	0.758	1225.047	.053%	98.277%
68.0	7.678	0.781	1225.827	.054%	98.340%
69.0	7.952	0.814	1226.642	.057%	98.405%
70.0	8.325	0.858	1227.499	.060%	98.474%
71.0	8.796	0.912	1228.411	.063%	98.547%
72.0	9.359	0.976	1229.387	.068%	98.625%
73.0	9.921	1.040	1230.428	.072%	98.709%
74.0	10.505	1.107	1231.535	.077%	98.798%
75.0	11.067	1.172	1232.707	.081%	98.892%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	11.573	1.231	1233.939	.086%	98.991%
77.0	11.974	1.279	1235.218	.089%	99.093%
78.0	12.319	1.321	1236.54	.092%	99.199%
79.0	12.410	1.336	1237.876	.093%	99.306%
80.0	12.206	1.318	1239.194	.092%	99.412%
81.0	11.630	1.260	1240.453	.087%	99.513%
82.0	10.357	1.125	1241.578	.078%	99.603%
83.0	8.409	0.915	1242.493	.064%	99.677%
84.0	7.151	0.780	1243.273	.054%	99.739%
85.0	6.497	0.710	1243.983	.049%	99.796%
86.0	5.955	0.651	1244.635	.045%	99.849%
87.0	4.985	0.546	1245.181	.038%	99.892%
88.0	4.929	0.540	1245.721	.038%	99.936%
89.0	4.880	0.535	1246.256	.037%	99.979%
90.0	4.852	0.266	1246.522	.018%	100.000%

Zonal flux distribution table

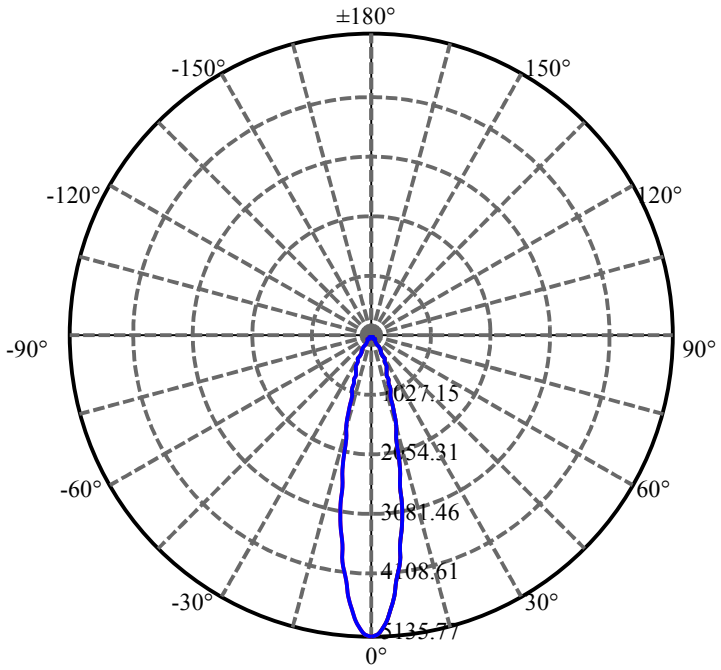
ZONAL LUMEN SUMMARY

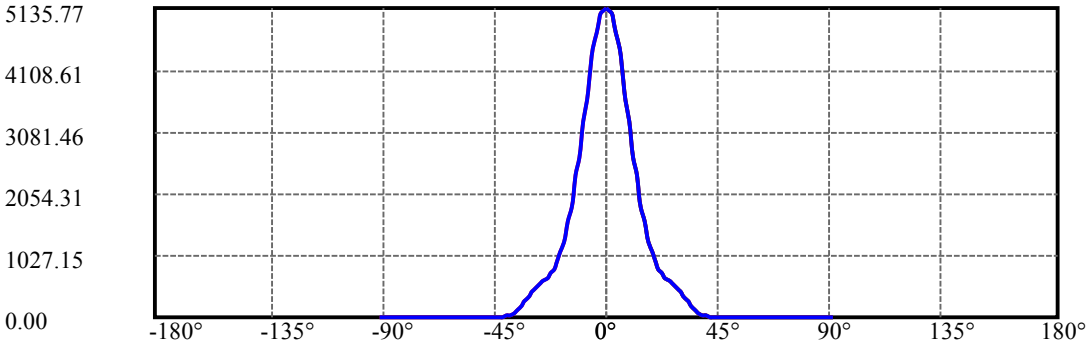
Zone	Lumens	%Lamp	%Fixt
0-30	1116.26	77.52%	89.55%
0-40	1203.63	83.59%	96.56%
0-60	1219.49	84.69%	97.83%
0-90	1246.26	86.55%	99.98%
0-120	1246.26	86.55%	99.98%
0-180	1246.52	86.56%	100.00%
60-90	27.60	1.92%	2.21%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-25.22	997.22	69.25%	80.00%

ZONAL LUMEN SUMMARY

0-10	404.15
10-20	439.50
20-30	272.61
30-40	87.37
40-50	8.00
50-60	7.86
60-70	8.01
70-80	11.69
80-90	7.06
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):

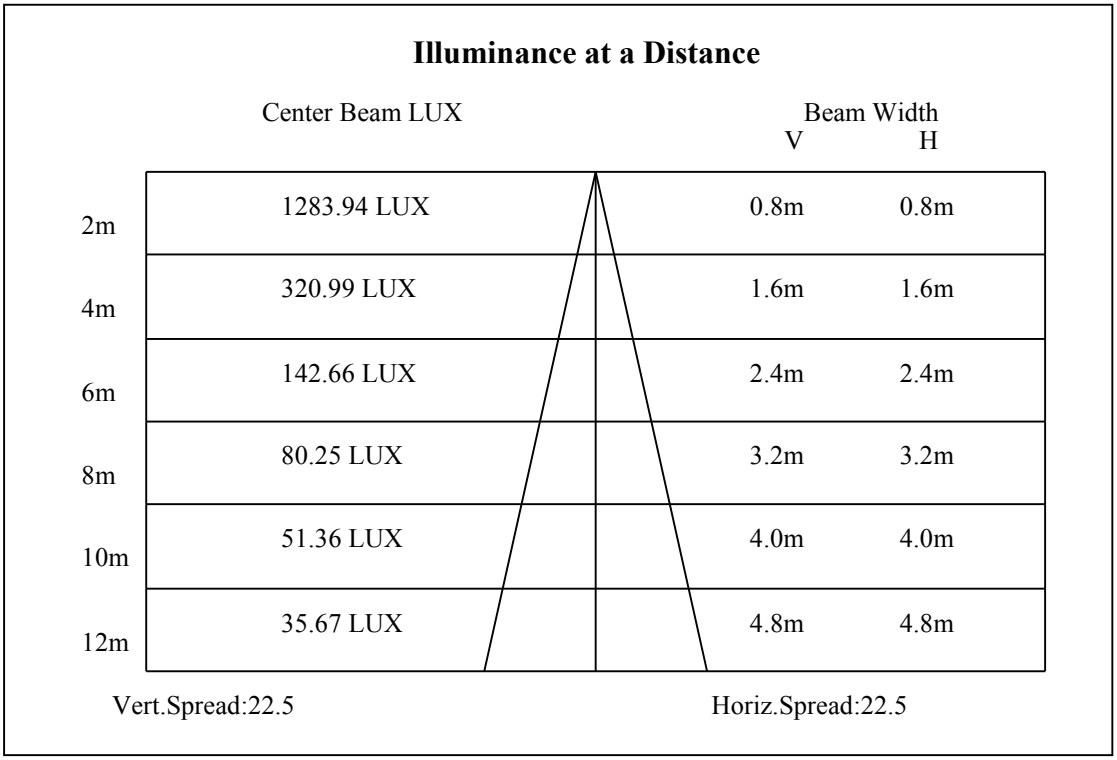
C0/C180:

C90/C270:

Field angle(10%Imax):C0/180Left:27.4 Right:27.4
:C90/270Left:27.4 Right:27.4

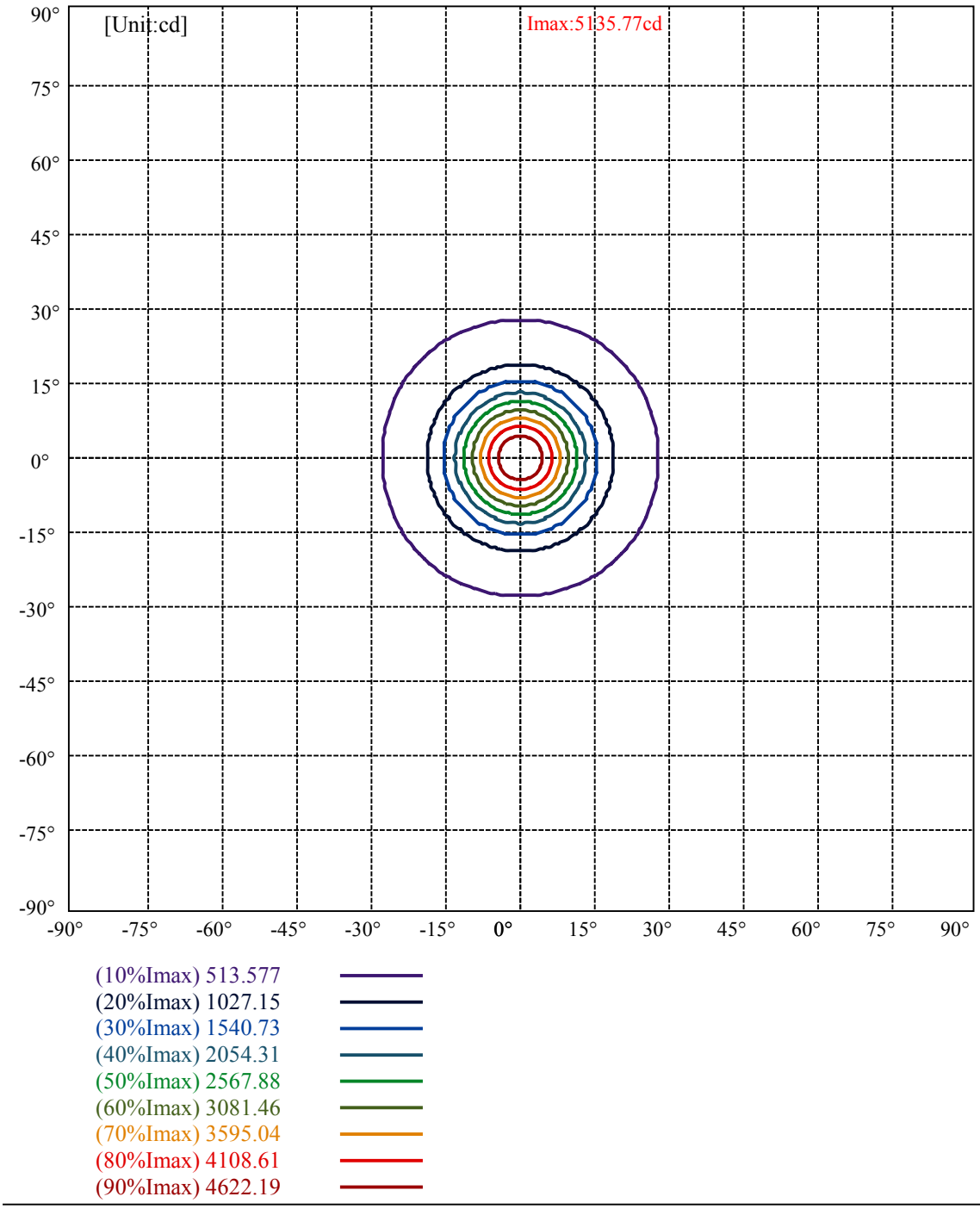
Beam Angle(50%Imax):C0/180Left:11.2 Right:11.2
:C90/270Left:11.2 Right:11.2

Lux distance Curve



Equipment: GMS1980 Date: 2019/3/6 Operator: NT07
Temperature(°C): 10.0 Humidity(%): 65.0% Distance(m): 7.50

ISO-Intensity(V-H)

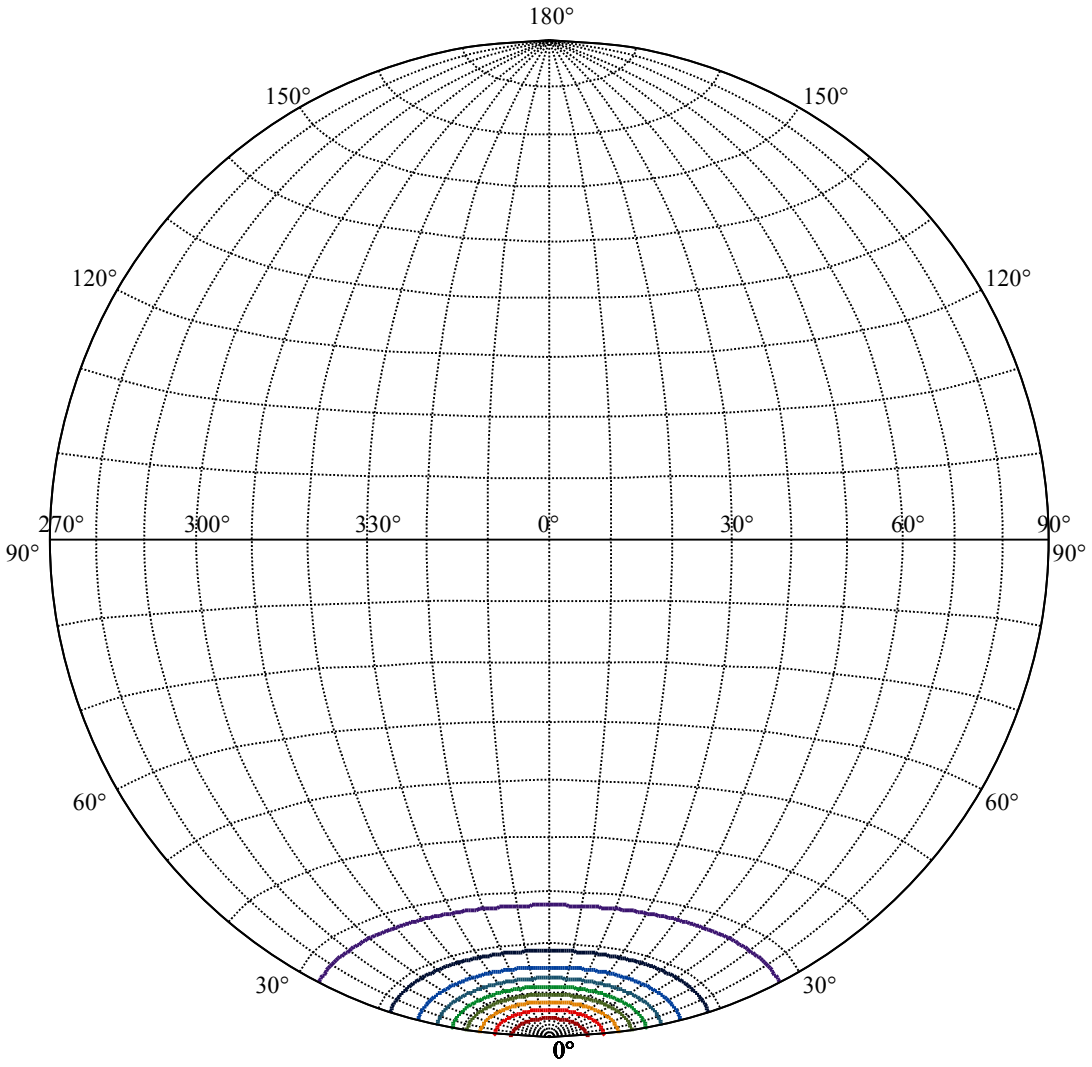


Equipment: GMS1980
Temperature(°C): 10.0

Date: 2019/3/6
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web



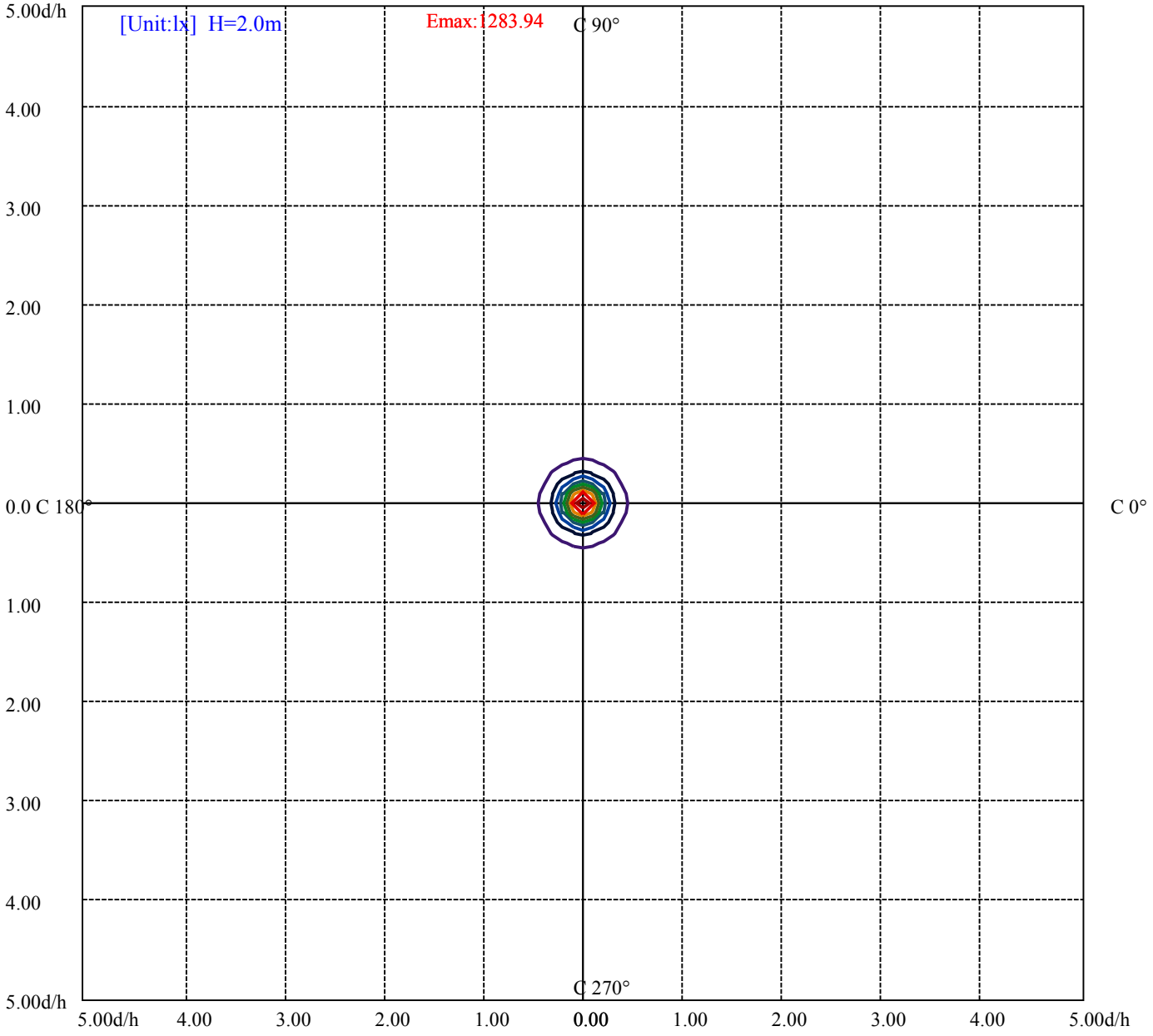
House [Unit:cd] Road

Imax:5135.77

(10%Imax) 513.577
(20%Imax) 1027.15
(30%Imax) 1540.73
(40%Imax) 2054.31
(50%Imax) 2567.88
(60%Imax) 3081.46
(70%Imax) 3595.04
(80%Imax) 4108.61
(90%Imax) 4622.19

Equipment: GMS1980 Date: 2019/3/6 Operator: NT07
Temperature(°C): 10.0 Humidity(%): 65.0% Distance(m): 7.50

ISO illuminance diagram

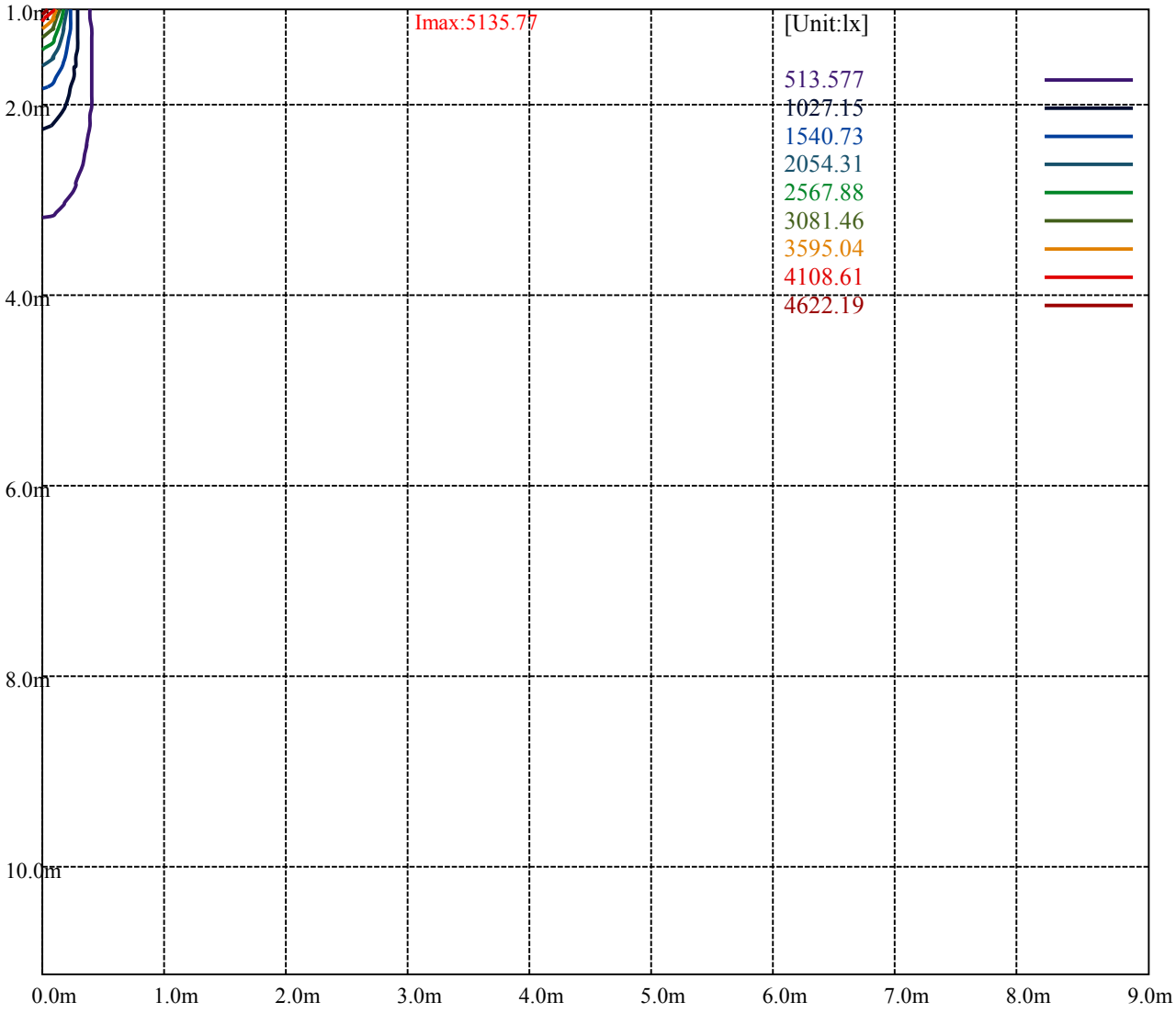


Equipment: GMS1980
Temperature(°C): 10.0

Date: 2019/3/6
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 10.0

Date: 2019/3/6
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Luminance Limitting Curve(no luminous side)

Luminance Table

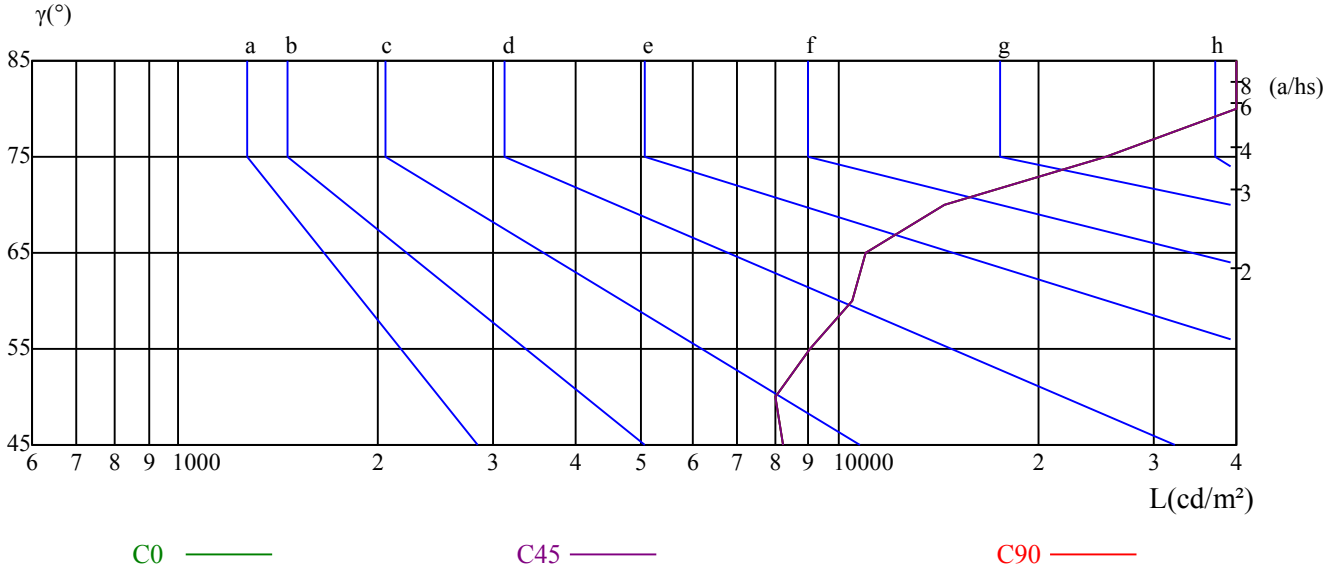
γ	45	50	55	60	65	70	75	80	85
C0	8216	8030	9021	10449	11016	14480	25437	41816	44345
C45	8216	8030	9021	10449	11016	14480	25437	41816	44345
C90	8216	8030	9021	10449	11016	14480	25437	41816	44345

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
11016	11016	11016	25437	25437	25437	44345	44345	44345

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

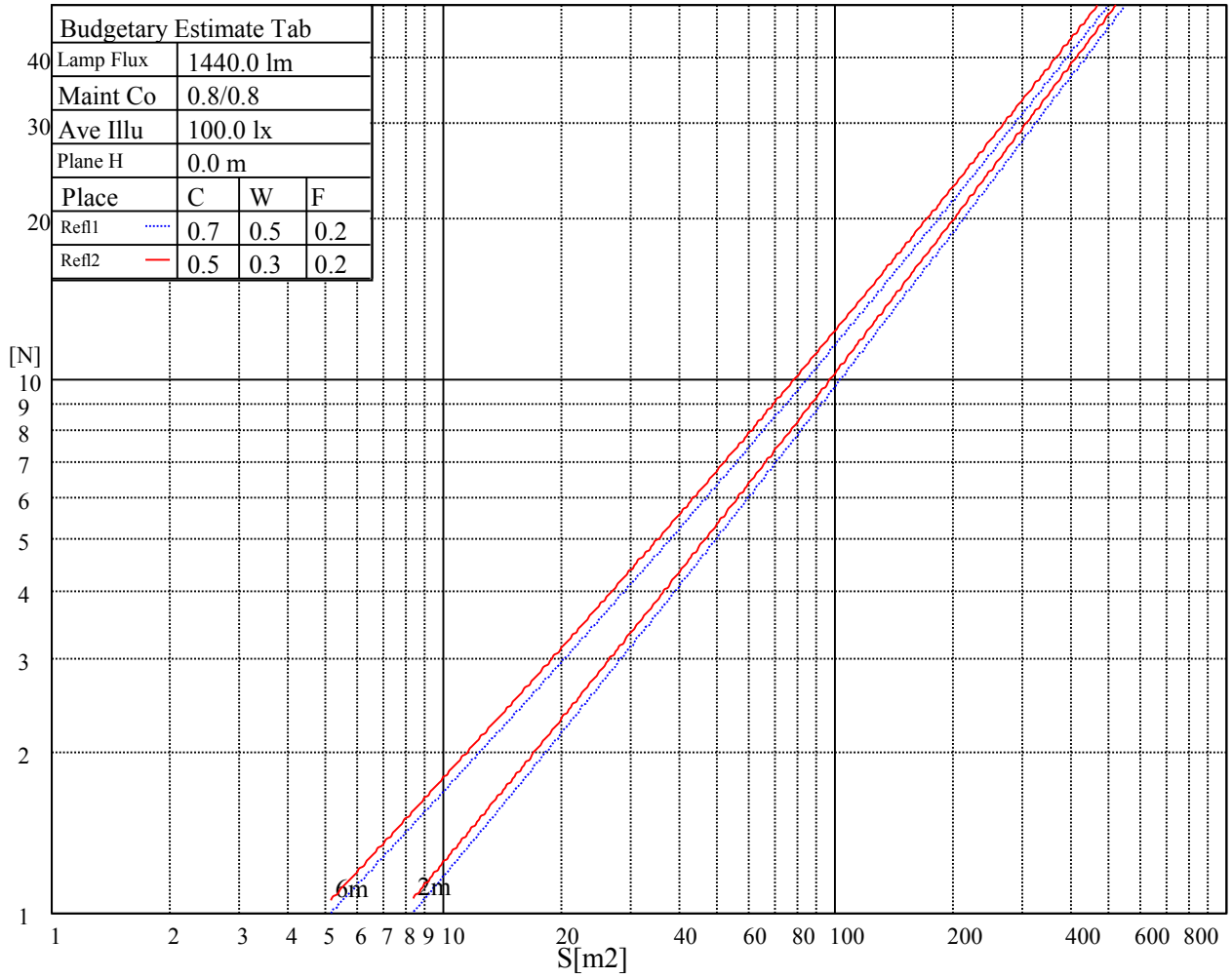


Equipment: GMS1980
Temperature(°C): 10.0

Date: 2019/3/6
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Budgetary Estimate Table

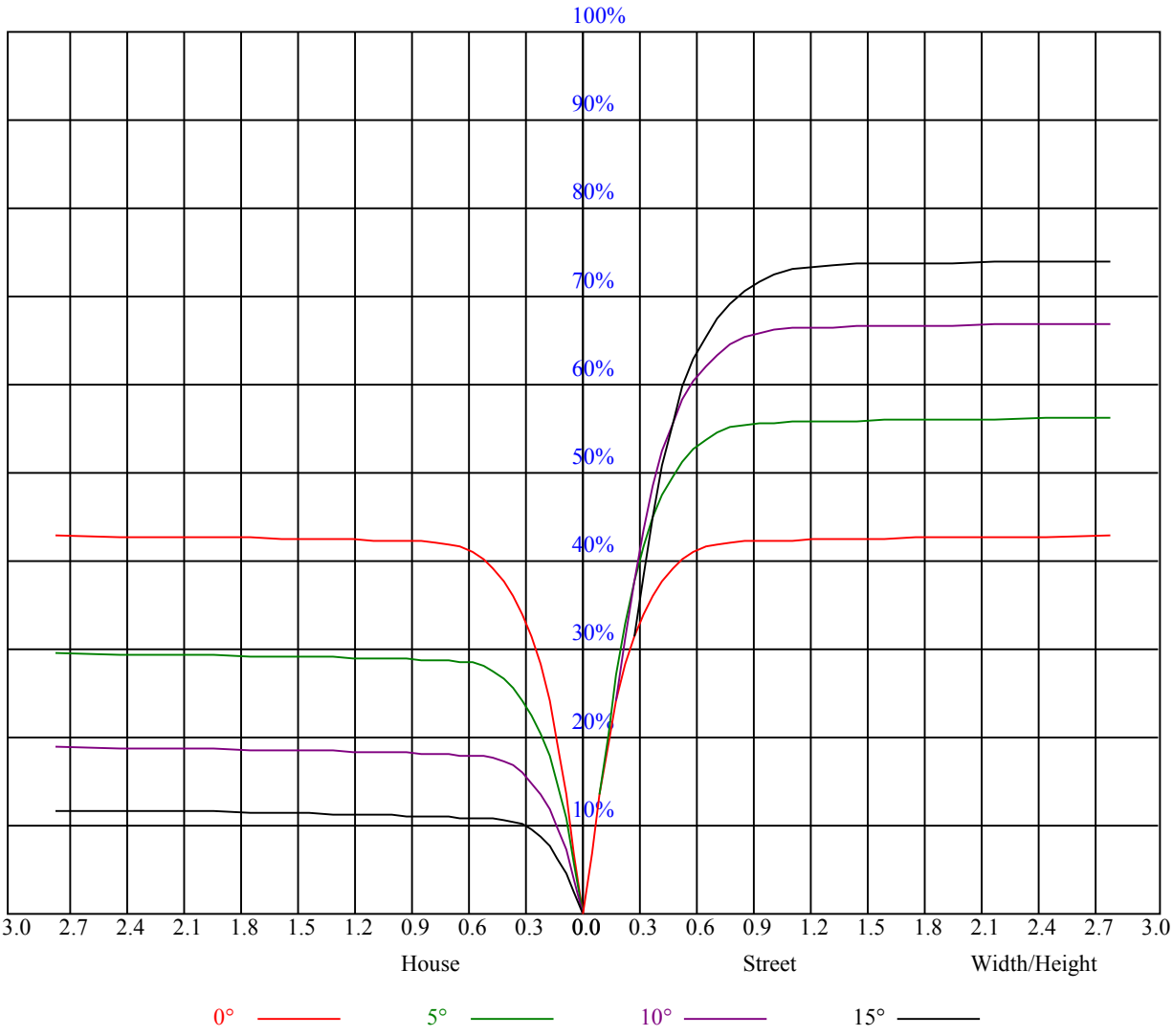


Equipment: GMS1980 Date: 2019/3/6 Operator: NT07
Temperature(°C): 10.0 Humidity(%): 65.0% Distance(m): 7.50

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	0.96	0.96	0.96	0.92	0.92	0.92	0.88	0.88	0.88	0.87
1	0.97	0.95	0.93	0.95	0.93	0.92	0.91	0.90	0.89	0.88	0.87	0.86	0.85	0.85	0.84	0.82
2	0.92	0.89	0.86	0.90	0.87	0.85	0.87	0.85	0.83	0.85	0.83	0.82	0.83	0.81	0.80	0.79
3	0.87	0.84	0.81	0.86	0.83	0.80	0.84	0.81	0.79	0.82	0.80	0.78	0.80	0.78	0.77	0.75
4	0.83	0.79	0.76	0.82	0.79	0.76	0.81	0.78	0.75	0.79	0.76	0.74	0.77	0.75	0.74	0.72
5	0.80	0.76	0.73	0.79	0.75	0.73	0.78	0.74	0.72	0.76	0.74	0.71	0.75	0.73	0.71	0.70
6	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	0.70	0.68	0.67
7	0.74	0.70	0.67	0.73	0.70	0.67	0.72	0.69	0.67	0.71	0.68	0.66	0.71	0.68	0.66	0.65
8	0.71	0.67	0.65	0.71	0.67	0.64	0.70	0.67	0.64	0.69	0.66	0.64	0.68	0.66	0.64	0.63
9	0.69	0.65	0.62	0.69	0.65	0.62	0.68	0.64	0.62	0.67	0.64	0.62	0.66	0.64	0.62	0.61
10	0.67	0.63	0.60	0.66	0.63	0.60	0.66	0.62	0.60	0.65	0.62	0.60	0.65	0.62	0.60	0.59

Coefficient Utilization Curve



Equipment: GMS1980	Date: 2019/3/6	Operator: NT07
Temperature(°C): 10.0	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	5123.81	5146.88	5104.13	5025.38	4852.13	4644.56	4421.25	4131.56	3848.06
45.0	5120.44	5177.25	5184.56	5135.06	5036.63	4848.19	4647.94	4404.94	4095.00
90.0	5165.44	5194.69	5178.38	5086.69	4961.25	4790.81	4518.56	4254.19	3962.25
135.0	5133.38	5154.75	5112.56	5024.25	4867.31	4654.69	4424.06	4122.00	3832.88
180.0	5123.81	5061.38	4943.81	4735.13	4520.81	4269.94	3952.69	3614.06	3301.31
225.0	5120.44	5014.13	4840.31	4620.94	4379.63	4068.00	3777.19	3433.50	3087.56
270.0	5165.44	5077.13	4926.38	4749.19	4498.88	4239.00	3922.88	3586.50	3279.38
315.0	5133.38	5060.81	4942.69	4735.69	4527.56	4282.88	3982.50	3652.88	3354.19
360.0	5123.81	5146.88	5104.13	5025.38	4852.13	4644.56	4421.25	4131.56	3848.06

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	3522.94	3184.88	2891.25	2606.06	2269.69	2027.25	1797.75	1544.63	1373.06
45.0	3762.56	3450.38	3097.69	2792.81	2464.88	2162.25	1916.44	1672.31	1452.94
90.0	3610.69	3252.94	2943.56	2605.50	2291.63	2034.00	1768.50	1558.69	1353.94
135.0	3492.56	3146.63	2836.13	2547.56	2199.38	1956.94	1733.63	1491.75	1328.06
180.0	2961.00	2627.44	2356.31	2071.13	1841.06	1610.44	1411.31	1258.31	1110.54
225.0	2790.00	2471.63	2169.00	1920.94	1698.19	1456.88	1294.88	1115.33	1013.91
270.0	2943.56	2618.44	2346.19	2088.56	1797.75	1589.63	1407.38	1231.88	1085.63
315.0	3021.75	2730.94	2420.44	2130.75	1897.31	1662.75	1458.00	1296.56	1113.30
360.0	3522.94	3184.88	2891.25	2606.06	2269.69	2027.25	1797.75	1544.63	1373.06

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1226.81	1089.00	971.44	889.31	810.56	743.63	693.56	645.19	608.63
45.0	1282.50	1144.69	999.00	909.00	825.75	744.75	690.75	644.63	603.56
90.0	1106.55	1042.93	933.13	828.11	758.48	698.18	634.39	592.59	558.68
135.0	1184.06	1050.19	942.75	861.19	785.25	718.31	667.13	622.69	586.13
180.0	990.39	902.81	829.13	751.39	697.95	652.56	614.93	573.81	546.41
225.0	907.99	831.54	760.11	698.91	649.41	605.76	573.98	542.70	513.23
270.0	978.19	878.63	799.88	741.38	684.00	640.69	597.94	564.75	538.31
315.0	1007.33	928.91	851.57	766.18	720.00	673.09	632.87	590.74	563.12
360.0	1226.81	1089.00	971.44	889.31	810.56	743.63	693.56	645.19	608.63

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	572.06	540.00	505.69	462.38	399.94	346.50	294.75	226.18	177.36
45.0	567.00	541.69	513.00	474.75	423.00	367.31	314.44	289.13	210.83
90.0	522.39	496.13	466.59	419.12	380.25	326.03	264.66	223.03	171.00
135.0	553.50	522.00	486.56	441.56	381.38	328.50	288.00	219.77	161.61
180.0	516.04	468.00	421.76	370.07	310.56	250.99	200.81	147.94	104.85
225.0	476.33	432.51	374.23	323.16	273.32	210.77	163.13	118.29	80.66
270.0	506.81	455.63	408.94	360.56	295.31	288.56	193.11	147.60	96.69
315.0	527.74	487.24	430.71	376.14	323.21	262.41	204.24	155.76	111.09
360.0	572.06	540.00	505.69	462.38	399.94	346.50	294.75	226.18	177.36

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	129.99	84.04	47.64	28.18	17.38	15.41	13.39	11.98	10.13
45.0	153.90	111.21	72.11	40.39	23.34	17.33	15.30	13.78	12.60
90.0	118.18	85.11	53.72	26.38	18.00	15.98	14.46	12.94	11.14
135.0	122.29	78.69	42.41	24.58	16.71	14.57	12.54	11.36	8.94
180.0	64.18	35.38	21.32	16.48	13.78	11.93	10.69	9.23	8.89
225.0	44.78	27.45	18.90	15.75	13.39	12.21	11.08	10.58	10.18
270.0	62.66	38.64	22.89	17.72	15.13	13.16	12.21	11.64	11.08
315.0	64.63	38.48	23.68	16.71	14.23	12.32	11.36	10.35	10.07
360.0	129.99	84.04	47.64	28.18	17.38	15.41	13.39	11.98	10.13

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	9.73	9.34	9.06	8.78	8.49	8.33	8.16	7.99	7.88
45.0	10.86	10.29	9.84	9.45	9.06	8.94	8.72	8.72	8.78
90.0	9.96	9.51	9.28	9.00	8.83	8.72	8.61	8.61	8.61
135.0	8.55	8.21	7.93	7.71	7.59	7.43	7.31	7.26	7.14
180.0	8.55	8.33	8.16	7.99	7.88	7.76	7.65	7.65	7.59
225.0	9.96	9.68	9.56	9.45	9.51	9.56	9.68	9.90	10.01
270.0	10.74	10.35	10.18	10.07	10.01	10.07	10.13	10.29	10.52
315.0	9.79	9.39	9.17	8.94	8.78	8.61	8.49	8.33	8.27
360.0	9.73	9.34	9.06	8.78	8.49	8.33	8.16	7.99	7.88

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	7.71	7.65	7.48	7.37	7.37	7.26	7.20	7.14	7.14
45.0	8.83	8.94	9.00	9.17	9.23	9.23	9.23	9.11	8.94
90.0	8.72	8.83	8.89	9.17	9.23	9.34	9.39	9.11	8.94
135.0	7.14	7.14	7.20	7.20	7.26	7.37	7.54	7.59	7.71
180.0	7.54	7.54	7.54	7.59	7.59	7.59	7.65	7.65	7.65
225.0	10.24	10.41	10.52	10.58	10.52	10.35	10.07	9.62	9.23
270.0	10.63	10.97	11.08	11.25	11.31	11.14	10.97	10.63	10.24
315.0	8.16	8.10	8.04	8.04	8.10	8.16	8.21	8.27	8.33
360.0	7.71	7.65	7.48	7.37	7.37	7.26	7.20	7.14	7.14

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	7.09	7.03	7.03	6.98	6.92	6.86	6.81	6.75	6.69
45.0	8.72	8.33	8.04	7.54	7.14	6.86	6.58	6.47	6.36
90.0	8.61	8.10	7.59	7.03	6.69	6.36	6.08	5.96	5.85
135.0	7.82	7.82	7.65	7.43	7.20	6.81	6.53	6.24	6.02
180.0	7.59	7.54	7.37	7.20	7.03	6.86	6.69	6.53	6.58
225.0	8.66	8.33	7.93	7.59	7.76	8.55	9.68	10.91	12.21
270.0	9.73	9.17	8.83	8.72	9.39	10.74	11.93	13.22	14.96
315.0	8.33	8.27	8.16	8.04	7.93	8.38	9.34	10.52	11.70
360.0	7.09	7.03	7.03	6.98	6.92	6.86	6.81	6.75	6.69

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	6.69	7.14	7.99	8.83	9.56	10.35	11.08	11.42	11.87
45.0	6.30	6.30	6.24	6.19	6.13	6.13	6.08	6.13	6.24
90.0	5.85	5.79	5.74	5.68	5.68	5.63	5.63	5.57	5.51
135.0	5.91	5.79	5.79	5.74	5.74	5.68	5.68	5.74	5.91
180.0	7.09	7.76	8.38	9.17	9.90	10.35	10.97	11.14	10.97
225.0	13.61	14.63	15.69	16.76	17.61	18.28	19.01	18.84	17.89
270.0	16.31	17.44	18.62	19.69	20.53	21.26	21.54	21.66	21.21
315.0	13.11	14.51	15.58	16.48	17.44	18.11	18.56	18.79	18.06
360.0	6.69	7.14	7.99	8.83	9.56	10.35	11.08	11.42	11.87

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	11.98	11.87	10.86	8.83	6.69	6.53	5.01	4.95	4.89
45.0	6.41	6.47	6.41	6.24	5.91	5.18	5.06	5.06	5.01
90.0	5.46	5.46	5.40	5.34	5.06	4.95	4.95	4.89	4.84
135.0	6.02	6.02	5.74	5.63	5.23	4.89	4.89	4.89	4.84
180.0	10.29	8.66	6.69	6.53	5.12	4.95	4.89	4.89	4.84
225.0	15.98	12.77	9.11	8.16	8.44	5.12	5.01	4.95	4.95
270.0	19.91	17.33	12.83	9.34	8.72	9.06	5.12	4.89	4.84
315.0	16.99	14.29	10.24	7.14	6.81	6.98	4.95	4.89	4.84
360.0	11.98	11.87	10.86	8.83	6.69	6.53	5.01	4.95	4.89

Intensity data(cd)

C/γ(°)	90.0
0.0	4.89
45.0	4.95
90.0	4.84
135.0	4.84
180.0	4.78
225.0	4.89
270.0	4.84
315.0	4.78
360.0	4.89