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

LumCAT: 2-1678-M
Luminaire: 92.70.124.00
Report No: NATA0100
Test No: GC2019062812
LampCAT: TRIDONIC SLE 9MM G7
Lamp flux(lm): 1073.0
Number of Lamps: 1
Length(mm): 70
Phm Type: C

Voltage(V): 34.8500
Current(A): 0.2490
Power (W): 8.6780
PF: 0.0000
Ballast type: DC
Width(mm): 70
Height(mm): 0

Photometric Results

Lumens(lm): 964.62
Efficiency(%): 89.90%
Lumens(lm)/Power(W): 111.16
Central intensity(cd): 13253.910
Maximum intensity(cd): 13253.910
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=10.0
[C90/270]Total=10.0
Field angle(10%Imax): [C0/180]Total=18.8
[C90/270]Total=18.8
Maximum s/h(1/2): C0_180=0.17 C90_270=0.17
Maximum s/h(1/4): C0_180=0.17 C90_270=0.17
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 89.90%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.799%

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	13253.906	0.000	0	.000%	.000%
1.0	13001.484	12.563	12.563	1.171%	1.302%
2.0	11769.750	35.554	48.117	3.314%	4.988%
3.0	10697.555	53.734	101.851	5.008%	10.559%
4.0	8923.148	65.677	167.528	6.121%	17.367%
5.0	6661.406	67.044	234.572	6.248%	24.318%
6.0	4854.727	60.520	295.092	5.640%	30.592%
7.0	3316.641	50.720	345.812	4.727%	35.850%
8.0	2438.578	41.189	387.001	3.839%	40.119%
9.0	1444.317	31.469	418.469	2.933%	43.382%
10.0	1130.491	23.301	441.771	2.172%	45.797%
11.0	874.090	20.030	461.8	1.867%	47.874%
12.0	716.154	17.384	479.184	1.620%	49.676%
13.0	616.732	15.818	495.002	1.474%	51.316%
14.0	550.983	14.947	509.949	1.393%	52.865%
15.0	509.801	14.563	524.512	1.357%	54.375%
16.0	480.593	14.512	539.024	1.352%	55.879%
17.0	460.216	14.651	553.675	1.365%	57.398%
18.0	443.995	14.908	568.583	1.389%	58.944%
19.0	432.577	15.251	583.834	1.421%	60.525%
20.0	421.298	15.628	599.462	1.457%	62.145%
21.0	411.659	15.994	615.456	1.491%	63.803%
22.0	404.248	16.396	631.852	1.528%	65.503%
23.0	397.090	16.814	648.667	1.567%	67.246%
24.0	389.637	17.201	665.867	1.603%	69.029%
25.0	382.697	17.561	683.428	1.637%	70.849%
26.0	376.615	17.924	701.352	1.670%	72.708%
27.0	370.406	18.276	719.628	1.703%	74.602%
28.0	364.584	18.608	738.237	1.734%	76.531%
29.0	358.235	18.911	757.148	1.762%	78.492%
30.0	351.563	19.164	776.312	1.786%	80.478%
31.0	345.558	19.400	795.712	1.808%	82.490%
32.0	340.207	19.646	815.358	1.831%	84.526%
33.0	334.378	19.874	835.232	1.852%	86.587%
34.0	327.818	20.040	855.272	1.868%	88.664%
35.0	312.159	19.875	875.147	1.852%	90.725%
36.0	272.018	18.600	893.747	1.733%	92.653%
37.0	231.863	16.434	910.181	1.532%	94.356%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	165.523	13.264	923.445	1.236%	95.731%
39.0	107.677	9.325	932.77	.869%	96.698%
40.0	63.577	5.973	938.743	.557%	97.317%
41.0	30.811	3.361	942.104	.313%	97.666%
42.0	17.599	1.759	943.863	.164%	97.848%
43.0	13.978	1.170	945.033	.109%	97.969%
44.0	10.448	0.922	945.955	.086%	98.065%
45.0	7.988	0.709	946.663	.066%	98.138%
46.0	6.068	0.550	947.213	.051%	98.195%
47.0	5.583	0.463	947.676	.043%	98.243%
48.0	5.379	0.443	948.119	.041%	98.289%
49.0	5.238	0.436	948.555	.041%	98.335%
50.0	5.077	0.430	948.985	.040%	98.379%
51.0	4.943	0.424	949.409	.040%	98.423%
52.0	4.823	0.419	949.828	.039%	98.467%
53.0	4.711	0.415	950.243	.039%	98.510%
54.0	4.598	0.410	950.653	.038%	98.552%
55.0	4.500	0.406	951.06	.038%	98.594%
56.0	4.402	0.402	951.462	.037%	98.636%
57.0	4.324	0.399	951.861	.037%	98.677%
58.0	4.233	0.396	952.256	.037%	98.718%
59.0	4.163	0.392	952.649	.037%	98.759%
60.0	4.085	0.390	953.039	.036%	98.799%
61.0	4.022	0.387	953.425	.036%	98.839%
62.0	3.973	0.385	953.811	.036%	98.879%
63.0	3.923	0.384	954.195	.036%	98.919%
64.0	3.888	0.383	954.578	.036%	98.959%
65.0	3.860	0.383	954.962	.036%	98.999%
66.0	3.825	0.383	955.345	.036%	99.038%
67.0	3.790	0.383	955.728	.036%	99.078%
68.0	3.783	0.384	956.111	.036%	99.118%
69.0	3.741	0.384	956.495	.036%	99.158%
70.0	3.727	0.384	956.879	.036%	99.197%
71.0	3.705	0.384	957.263	.036%	99.237%
72.0	3.691	0.385	957.647	.036%	99.277%
73.0	3.684	0.386	958.033	.036%	99.317%
74.0	3.663	0.386	958.419	.036%	99.357%
75.0	3.642	0.386	958.805	.036%	99.397%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	3.635	0.386	959.192	.036%	99.437%
77.0	3.628	0.387	959.579	.036%	99.477%
78.0	3.607	0.387	959.966	.036%	99.518%
79.0	3.593	0.387	960.353	.036%	99.558%
80.0	3.593	0.387	960.741	.036%	99.598%
81.0	3.586	0.388	961.129	.036%	99.638%
82.0	3.579	0.389	961.517	.036%	99.678%
83.0	3.579	0.389	961.906	.036%	99.719%
84.0	3.565	0.389	962.296	.036%	99.759%
85.0	3.565	0.389	962.685	.036%	99.799%
86.0	3.551	0.389	963.074	.036%	99.840%
87.0	3.537	0.388	963.462	.036%	99.880%
88.0	3.516	0.386	963.848	.036%	99.920%
89.0	3.523	0.386	964.234	.036%	99.960%
90.0	3.530	0.387	964.62	.036%	100.000%

Zonal flux distribution table

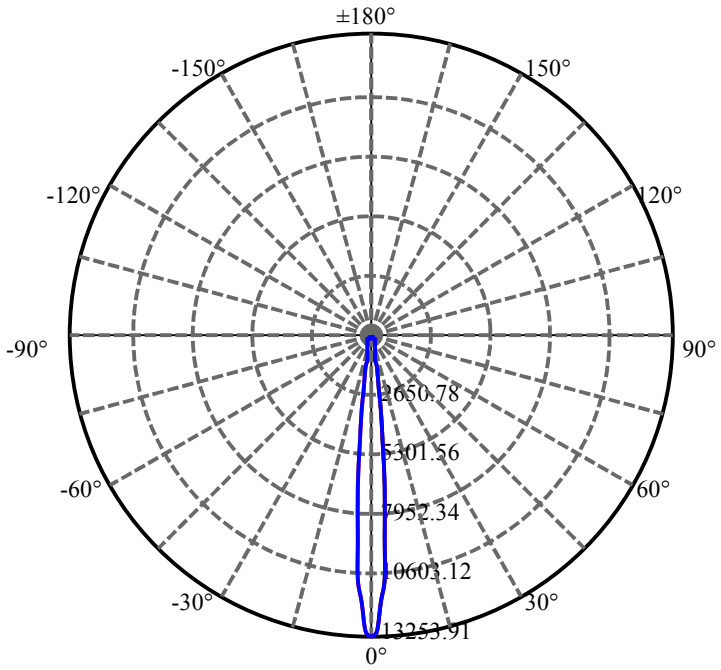
ZONAL LUMEN SUMMARY

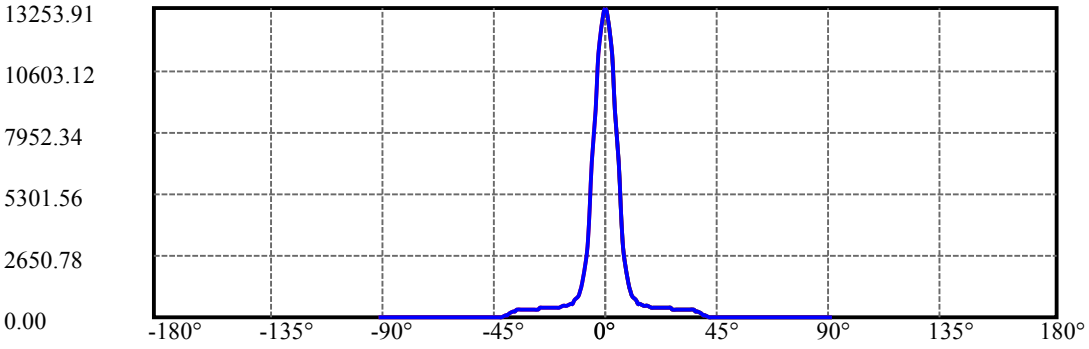
Zone	Lumens	%Lamp	%Fixt
0-30	776.31	72.35%	80.48%
0-40	938.74	87.49%	97.32%
0-60	953.04	88.82%	98.80%
0-90	964.23	89.86%	99.96%
0-120	964.23	89.86%	99.96%
0-180	964.62	89.90%	100.00%
60-90	11.58	1.08%	1.20%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-29.76	771.70	71.92%	80.00%

ZONAL LUMEN SUMMARY

0-10	441.77
10-20	157.69
20-30	176.85
30-40	162.43
40-50	10.24
50-60	4.05
60-70	3.84
70-80	3.86
80-90	3.49
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):

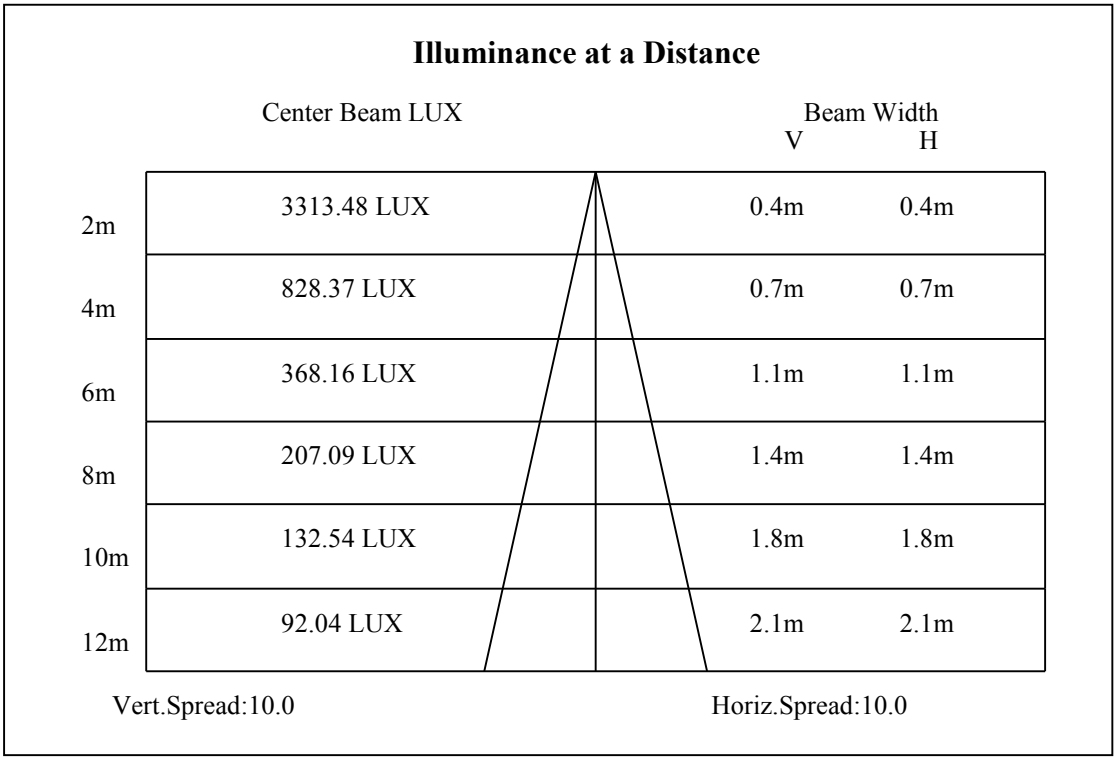
C0/C180:

C90/C270:

Field angle(10%Imax):C0/180Left:9.4 Right:9.4
:C90/270Left:9.4 Right:9.4

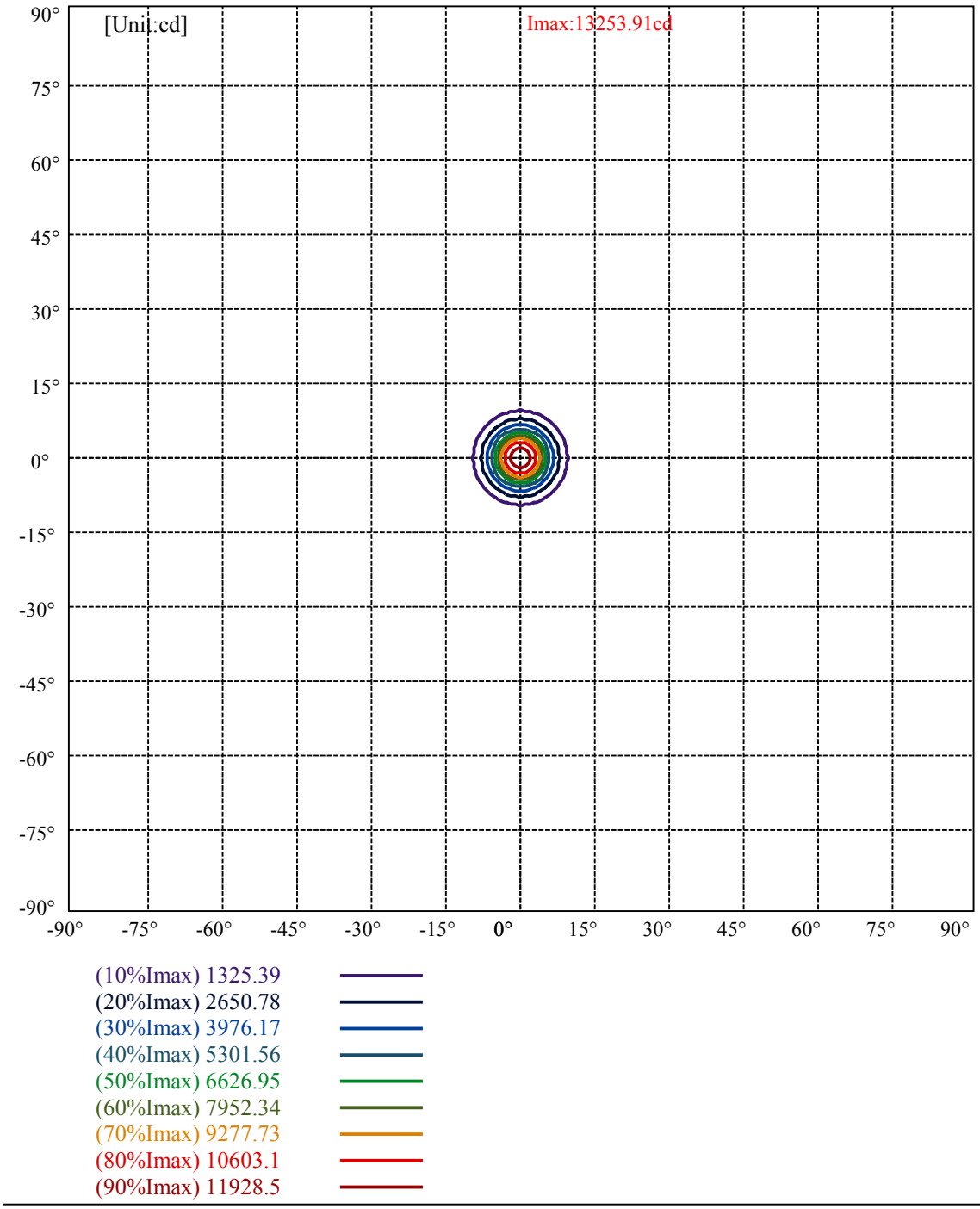
Beam Angle(50%Imax):C0/180Left:5.0 Right:5.0
:C90/270Left:5.0 Right:5.0

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)

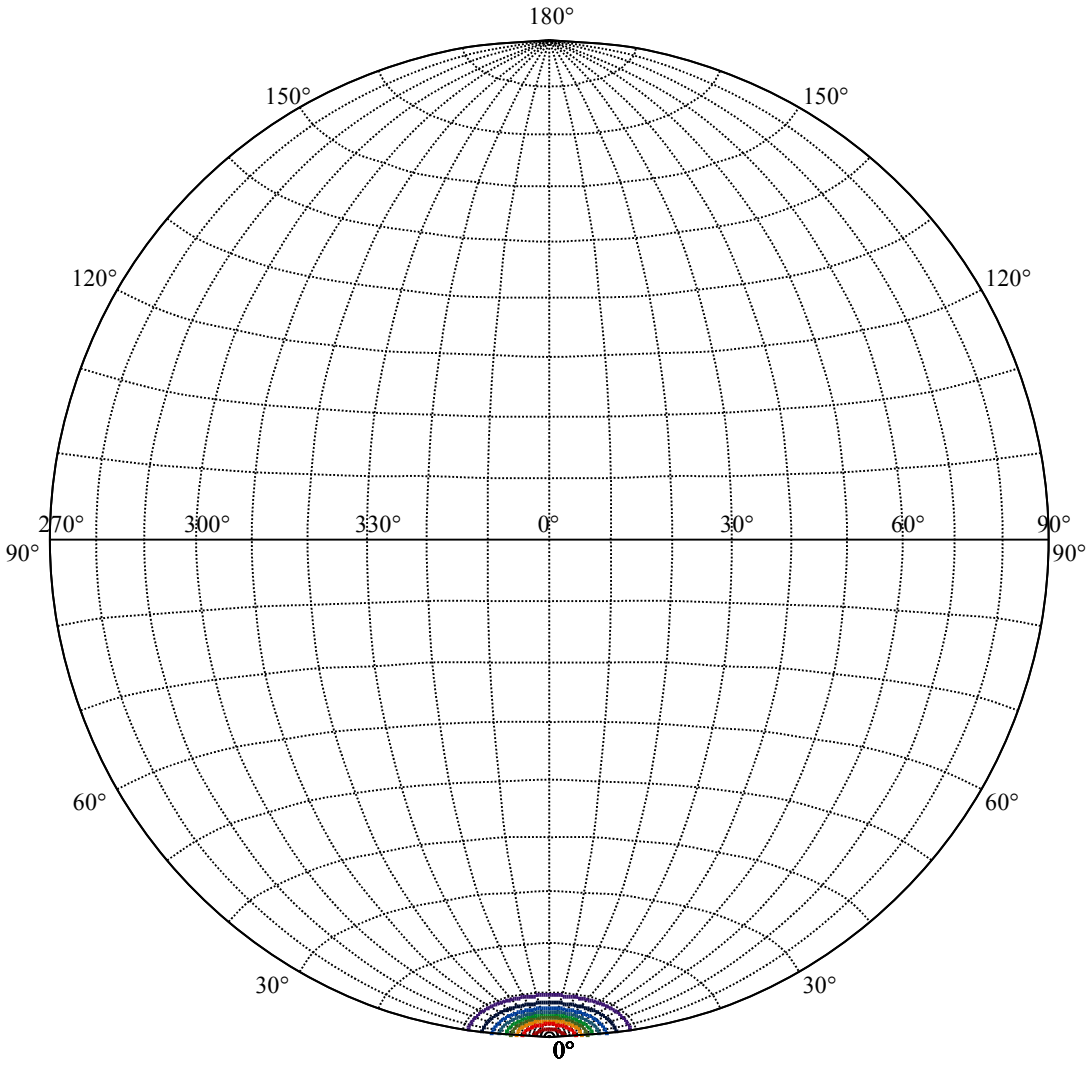


Equipment: GMS1980
Temperature(°C): 25.0

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

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web



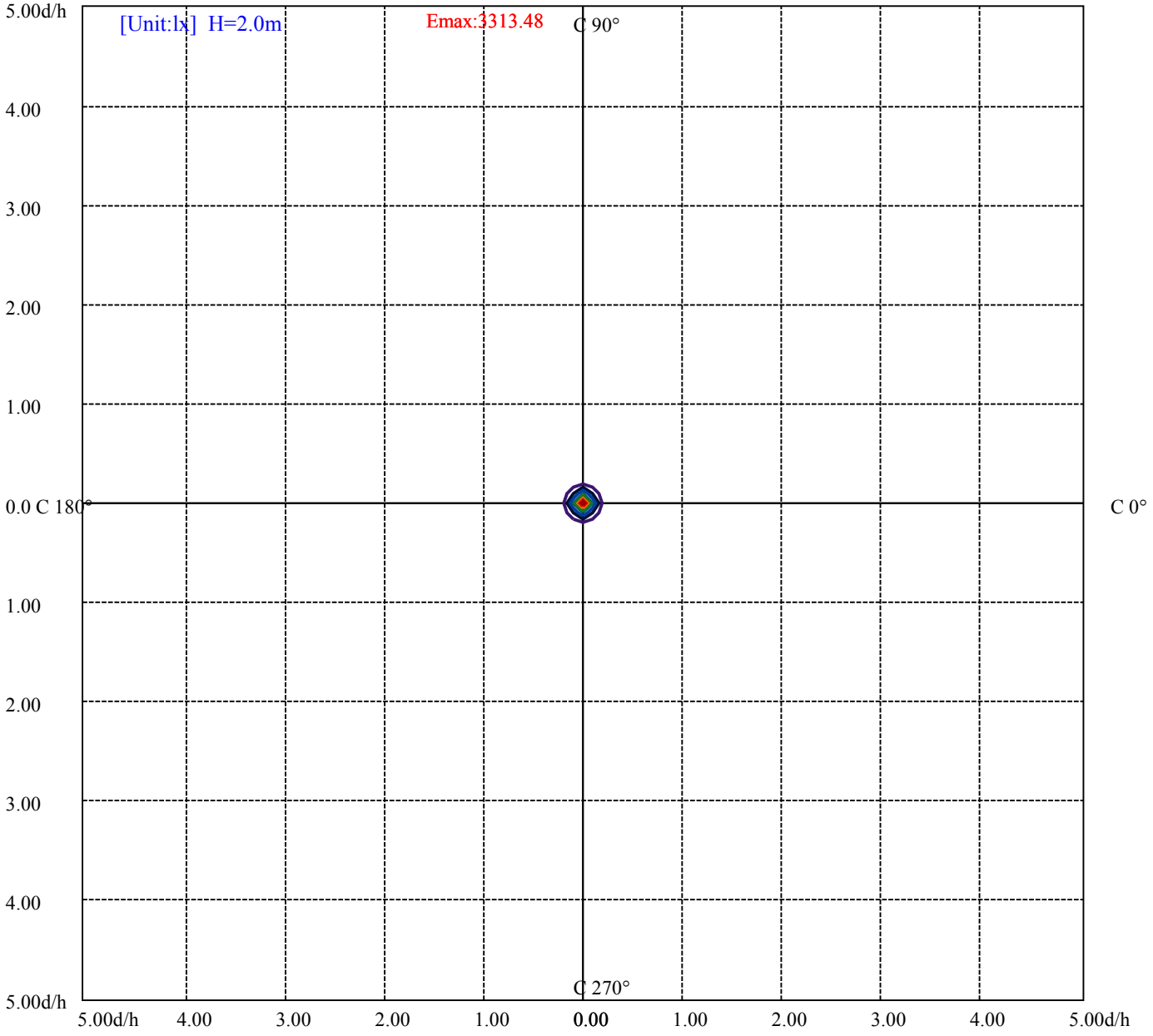
House [Unit:cd] Road

Imax:13253.91

(10%Imax) 1325.39
(20%Imax) 2650.78
(30%Imax) 3976.17
(40%Imax) 5301.56
(50%Imax) 6626.95
(60%Imax) 7952.34
(70%Imax) 9277.73
(80%Imax) 10603.1
(90%Imax) 11928.5

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

ISO illuminance diagram

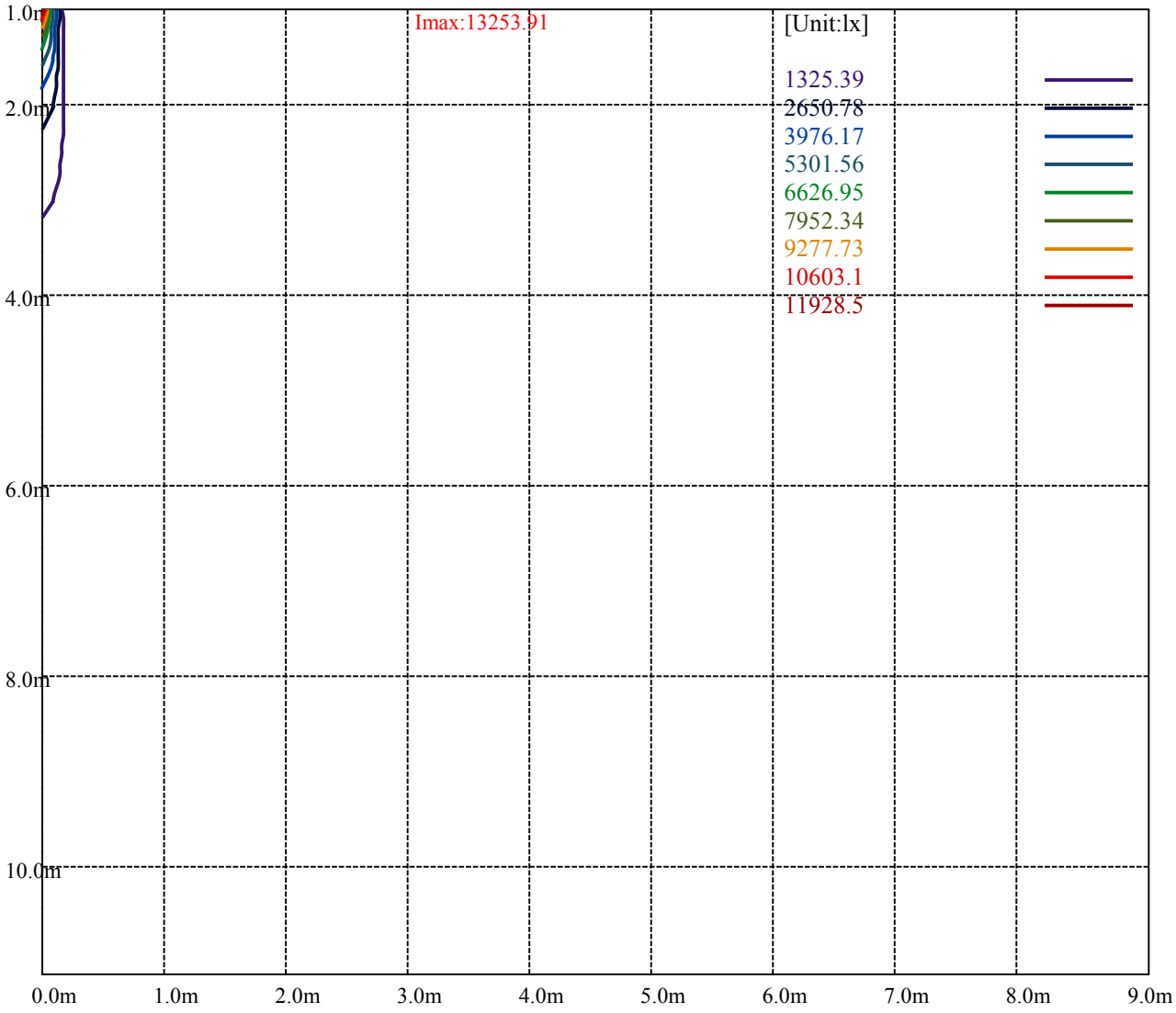


Equipment: GMS1980
Temperature(°C): 25.0

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

2-1678-M

Luminance Limitting Curve(no luminous side)

Luminance Table

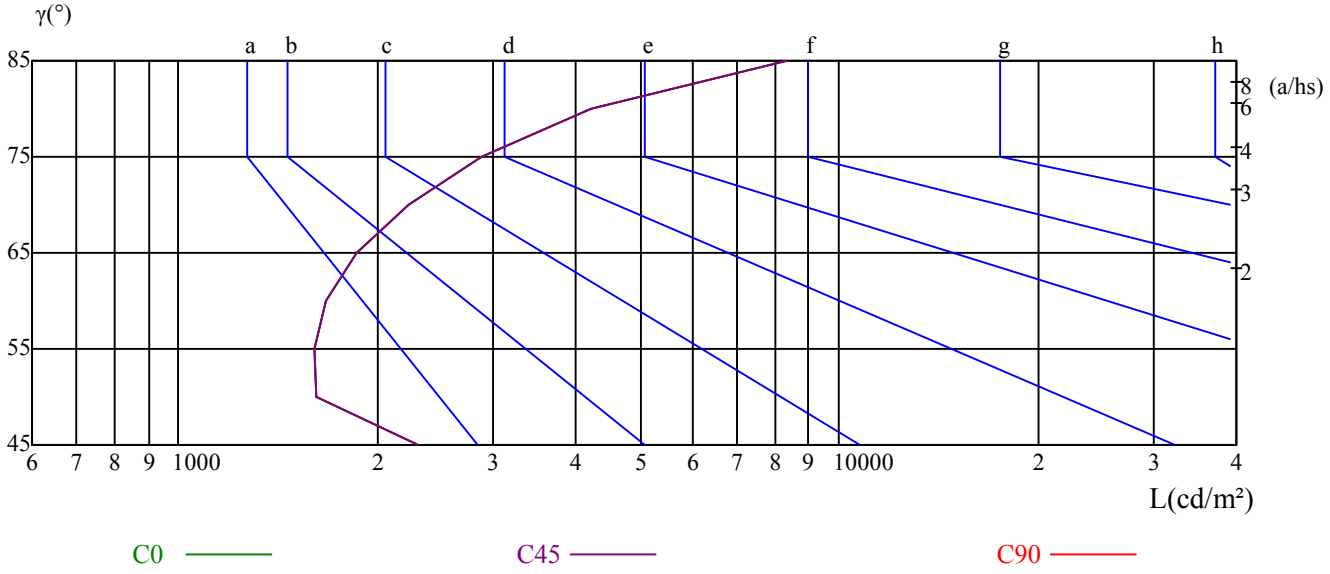
γ	45	50	55	60	65	70	75	80	85
C0	2305	1612	1601	1667	1864	2224	2872	4223	8347
C45	2305	1612	1601	1667	1864	2224	2872	4223	8347
C90	2305	1612	1601	1667	1864	2224	2872	4223	8347

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
1864	1864	1864	2872	2872	2872	8347	8347	8347

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

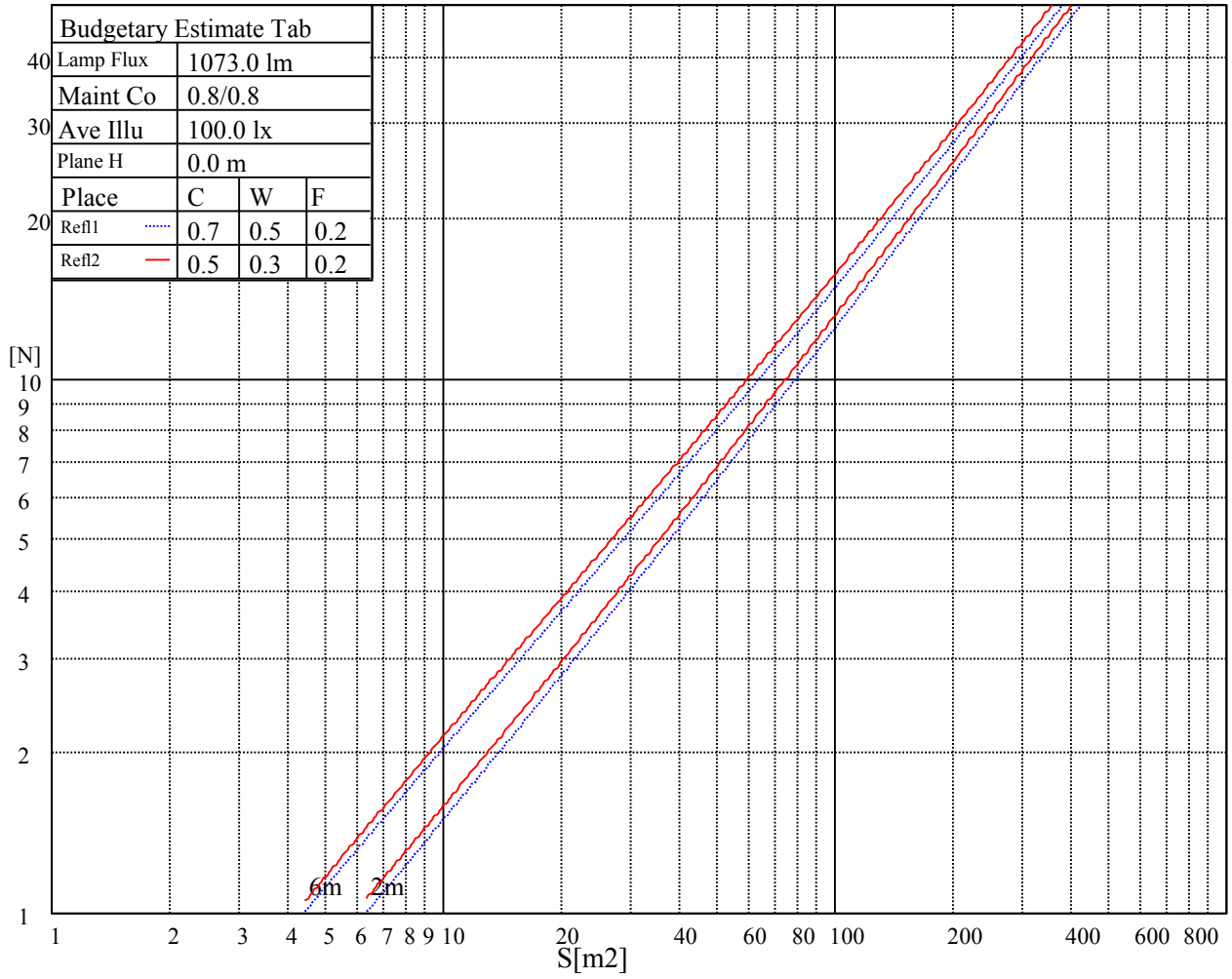


Equipment: GMS1980
Temperature(°C): 25.0

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

Operator: NT07
Distance(m): 7.50

Budgetary Estimate Table

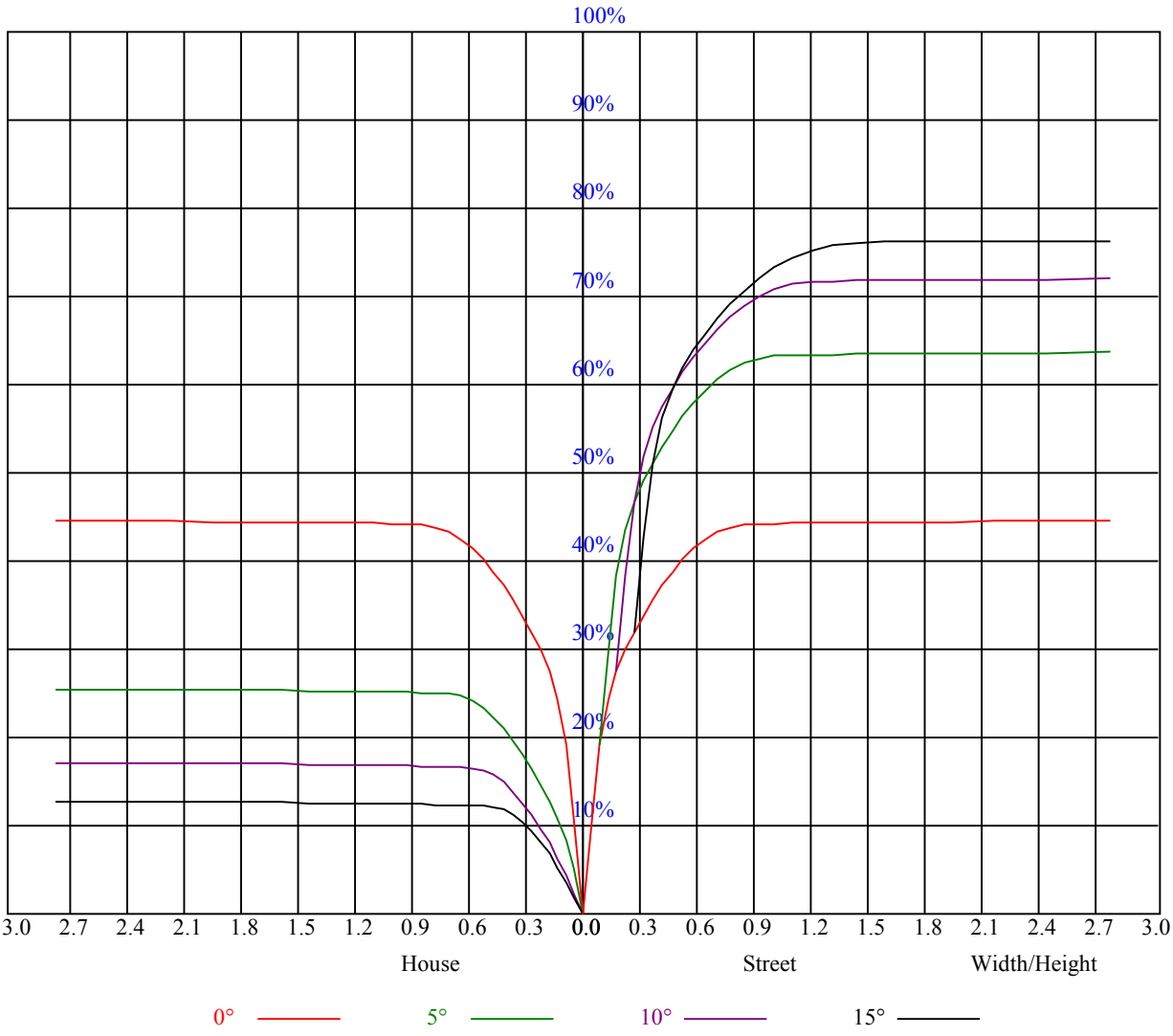


Equipment: GMS1980 Date: 2019/6/28 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

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	1.05	1.05	1.05	1.00	1.00	1.00	0.96	0.96	0.96	0.92	0.92	0.92	0.90
1	1.01	0.99	0.97	0.99	0.97	0.96	0.95	0.94	0.93	0.92	0.91	0.90	0.89	0.88	0.88	0.86
2	0.96	0.93	0.90	0.94	0.91	0.89	0.91	0.89	0.87	0.89	0.87	0.85	0.86	0.85	0.84	0.82
3	0.91	0.88	0.85	0.90	0.87	0.84	0.88	0.85	0.83	0.86	0.83	0.81	0.84	0.82	0.80	0.79
4	0.87	0.83	0.80	0.86	0.83	0.80	0.84	0.81	0.79	0.83	0.80	0.78	0.81	0.79	0.77	0.76
5	0.84	0.80	0.77	0.83	0.79	0.76	0.81	0.78	0.76	0.80	0.77	0.75	0.79	0.76	0.74	0.73
6	0.80	0.76	0.73	0.80	0.76	0.73	0.79	0.75	0.73	0.77	0.74	0.72	0.76	0.74	0.72	0.71
7	0.78	0.74	0.71	0.77	0.73	0.70	0.76	0.73	0.70	0.75	0.72	0.70	0.74	0.72	0.69	0.68
8	0.75	0.71	0.68	0.75	0.71	0.68	0.74	0.70	0.68	0.73	0.70	0.68	0.72	0.69	0.67	0.66
9	0.73	0.69	0.66	0.72	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.66	0.70	0.67	0.65	0.65
10	0.71	0.67	0.64	0.70	0.67	0.64	0.70	0.66	0.64	0.69	0.66	0.64	0.68	0.66	0.64	0.63

Coefficient Utilization Curve



Equipment: GMS1980	Date: 2019/6/28	Operator: NT07
Temperature(°C): 25.0	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	13213.13	13263.75	12746.25	11615.63	10006.88	7790.63	5625.00	4010.63	2919.38
45.0	13258.13	13201.88	12442.50	11250.00	9545.63	7155.00	5326.88	3740.63	2964.38
90.0	13258.13	12847.50	11166.19	10161.56	8312.06	6193.69	4488.19	2973.94	1983.94
135.0	13286.25	13089.38	12099.38	10794.38	9084.38	6716.25	4972.50	3453.75	2857.50
180.0	13213.13	12555.00	11155.50	9755.44	7856.44	5752.13	4084.88	2648.81	1762.31
225.0	13258.13	12836.25	11115.56	10129.50	8245.13	6037.31	4334.06	2841.75	1869.19
270.0	13258.13	13185.00	12375.00	11216.25	9495.00	7031.25	5180.63	3633.75	3009.38
315.0	13286.25	13033.13	11057.63	10657.69	8839.69	6615.00	4825.69	3229.88	2142.56
360.0	13213.13	13263.75	12746.25	11615.63	10006.88	7790.63	5625.00	4010.63	2919.38

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	1825.31	1338.19	1022.06	795.94	659.25	583.31	529.88	493.88	470.25
45.0	1710.56	1271.25	948.38	769.50	644.06	567.00	519.75	484.31	460.69
90.0	1121.57	1052.66	802.74	691.65	604.80	529.26	497.93	471.60	450.73
135.0	1573.31	1182.94	952.31	740.81	626.63	569.81	513.00	479.25	462.38
180.0	1120.16	955.46	758.14	649.46	581.29	522.56	492.81	470.98	452.64
225.0	1088.49	989.72	775.97	662.91	590.74	532.86	499.73	476.83	459.79
270.0	1594.13	1168.88	906.19	728.44	622.13	563.63	518.63	487.13	468.00
315.0	1521.00	1084.84	826.93	690.53	604.97	539.44	506.70	480.77	457.26
360.0	1825.31	1338.19	1022.06	795.94	659.25	583.31	529.88	493.88	470.25

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	451.69	439.31	427.50	416.81	409.50	401.63	393.75	386.44	381.38
45.0	444.94	432.00	419.63	412.31	405.00	398.25	389.25	382.50	376.31
90.0	435.21	424.35	414.39	404.27	396.56	389.36	381.60	374.57	367.43
135.0	443.81	432.00	420.19	410.06	401.63	393.75	386.44	379.13	373.50
180.0	437.23	426.99	416.48	406.13	398.59	391.44	384.30	377.49	370.46
225.0	444.54	433.69	422.61	412.37	406.41	399.60	393.53	386.27	380.08
270.0	451.13	439.31	427.50	417.38	408.38	402.19	394.88	388.69	384.19
315.0	443.42	432.96	422.10	413.94	407.93	400.50	393.36	386.49	379.58
360.0	451.69	439.31	427.50	416.81	409.50	401.63	393.75	386.44	381.38

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	375.19	370.13	365.06	357.19	351.00	345.38	340.88	335.25	327.94
45.0	369.56	363.94	357.75	351.00	344.81	339.19	333.00	325.69	318.38
90.0	362.87	357.75	351.06	344.87	339.47	333.28	328.33	322.26	306.73
135.0	366.19	360.56	355.50	348.75	340.88	336.38	331.31	325.13	313.31
180.0	365.06	358.54	350.94	345.54	340.43	334.52	327.04	319.73	286.65
225.0	373.50	367.37	360.11	353.53	348.30	343.69	336.32	329.06	304.93
270.0	376.31	370.69	366.19	357.19	351.00	347.06	341.44	334.69	326.25
315.0	374.57	367.71	359.27	354.43	348.58	342.17	336.71	330.75	313.09
360.0	375.19	370.13	365.06	357.19	351.00	345.38	340.88	335.25	327.94

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	297.00	287.44	195.19	136.52	87.24	46.97	19.52	15.86	11.98
45.0	285.19	257.96	181.52	125.89	77.96	39.49	18.06	14.40	10.46
90.0	261.23	215.78	161.04	97.09	55.01	27.34	16.65	12.60	9.23
135.0	285.75	221.79	167.68	112.89	66.99	31.28	17.94	14.63	11.19
180.0	240.86	191.03	128.08	80.16	42.86	18.28	15.81	11.87	8.55
225.0	251.04	202.22	151.03	87.92	46.29	22.61	16.88	13.33	10.41
270.0	286.88	260.49	178.65	116.66	72.17	35.61	18.62	15.75	12.26
315.0	268.20	218.19	160.99	104.29	60.08	24.92	17.33	13.39	9.51
360.0	297.00	287.44	195.19	136.52	87.24	46.97	19.52	15.86	11.98

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	8.21	6.92	5.74	5.51	5.29	5.18	5.01	4.89	4.78
45.0	7.43	6.19	5.63	5.40	5.29	5.12	4.95	4.84	4.73
90.0	7.31	5.85	5.63	5.40	5.29	5.12	5.01	4.89	4.78
135.0	8.49	5.91	5.57	5.40	5.23	5.06	4.95	4.84	4.73
180.0	7.26	5.63	5.40	5.23	5.12	4.95	4.84	4.73	4.61
225.0	8.49	5.68	5.46	5.29	5.18	5.01	4.84	4.78	4.61
270.0	9.23	6.41	5.68	5.46	5.29	5.18	5.01	4.84	4.78
315.0	7.48	5.96	5.57	5.34	5.23	5.01	4.95	4.78	4.67
360.0	8.21	6.92	5.74	5.51	5.29	5.18	5.01	4.89	4.78

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	4.67	4.56	4.44	4.39	4.22	4.22	4.11	4.05	3.99
45.0	4.61	4.50	4.44	4.33	4.28	4.16	4.11	4.05	4.05
90.0	4.67	4.56	4.44	4.39	4.28	4.22	4.11	4.05	4.05
135.0	4.61	4.56	4.44	4.33	4.28	4.16	4.11	4.05	3.99
180.0	4.50	4.39	4.33	4.28	4.16	4.11	4.05	3.99	3.88
225.0	4.50	4.39	4.28	4.22	4.16	4.11	4.05	3.94	3.88
270.0	4.67	4.56	4.44	4.39	4.28	4.22	4.11	4.05	3.99
315.0	4.56	4.50	4.39	4.28	4.22	4.11	4.05	3.99	3.94
360.0	4.67	4.56	4.44	4.39	4.22	4.22	4.11	4.05	3.99

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	3.94	3.88	3.88	3.83	3.77	3.77	3.71	3.71	3.71
45.0	3.99	3.94	3.88	3.88	3.83	3.83	3.77	3.77	3.71
90.0	3.94	3.94	3.94	3.88	3.83	3.83	3.83	3.77	3.77
135.0	3.99	3.94	3.88	3.88	3.83	3.83	3.77	3.77	3.77
180.0	3.88	3.83	3.83	3.77	3.77	3.77	3.71	3.71	3.66
225.0	3.83	3.83	3.77	3.77	3.77	3.71	3.71	3.66	3.66
270.0	3.94	3.88	3.88	3.83	3.77	3.77	3.71	3.71	3.71
315.0	3.88	3.88	3.83	3.77	3.77	3.77	3.71	3.71	3.66
360.0	3.94	3.88	3.88	3.83	3.77	3.77	3.71	3.71	3.71

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	3.71	3.66	3.66	3.66	3.60	3.60	3.60	3.60	3.54
45.0	3.71	3.71	3.71	3.66	3.66	3.66	3.60	3.60	3.66
90.0	3.77	3.71	3.71	3.71	3.71	3.71	3.66	3.66	3.66
135.0	3.71	3.71	3.66	3.66	3.66	3.60	3.66	3.60	3.60
180.0	3.66	3.66	3.60	3.60	3.60	3.60	3.54	3.54	3.54
225.0	3.60	3.66	3.60	3.60	3.60	3.60	3.60	3.54	3.54
270.0	3.71	3.71	3.71	3.66	3.66	3.66	3.66	3.66	3.60
315.0	3.66	3.66	3.66	3.60	3.60	3.60	3.54	3.54	3.60
360.0	3.71	3.66	3.66	3.66	3.60	3.60	3.60	3.60	3.54

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	3.54	3.54	3.60	3.54	3.54	3.54	3.49	3.54	3.54
45.0	3.60	3.60	3.60	3.60	3.54	3.54	3.54	3.54	3.54
90.0	3.66	3.66	3.66	3.66	3.60	3.54	3.54	3.49	3.49
135.0	3.60	3.60	3.54	3.54	3.54	3.54	3.54	3.54	3.54
180.0	3.54	3.54	3.54	3.49	3.54	3.54	3.54	3.49	3.49
225.0	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.49	3.54
270.0	3.66	3.60	3.60	3.60	3.66	3.60	3.54	3.54	3.49
315.0	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.49	3.54
360.0	3.54	3.54	3.60	3.54	3.54	3.54	3.49	3.54	3.54

Intensity data(cd)

C/γ(°)	90.0
0.0	3.54
45.0	3.54
90.0	3.54
135.0	3.54
180.0	3.49
225.0	3.54
270.0	3.54
315.0	3.49
360.0	3.54