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

Nata

LumCAT: 1-0926-M
Luminaire: 92.70.124.00

Report No: NATA0100	Voltage(V): 33.3400
Test No: GC2019092112	Current(A): 0.2470
LampCAT: BRIDGELUX V10B LES10	Power (W): 8.2300
Lamp flux(lm): 1244.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 0	Width(mm): 0
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 922.16
Efficiency(%): 74.13%
Lumens(lm)/Power(W): 112.05
Central intensity(cd): 7587.984
Maximum intensity(cd): 7587.984
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=16.2
[C90/270]Total=16.2
Field angle(10%Imax): [C0/180]Total=37.3
[C90/270]Total=37.3
Maximum s/h(1/2): C0_180=0.28 C90_270=0.28
Maximum s/h(1/4): C0_180=0.32 C90_270=0.32
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 74.13%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.559%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	7587.984	0.000	0	.000%	.000%
1.0	7473.867	7.207	7.207	.579%	.782%
2.0	7125.680	20.955	28.161	1.684%	3.054%
3.0	6609.867	32.851	61.012	2.641%	6.616%
4.0	6083.719	42.489	103.502	3.416%	11.224%
5.0	5528.813	49.957	153.458	4.016%	16.641%
6.0	4988.250	55.270	208.728	4.443%	22.635%
7.0	4372.242	58.100	266.829	4.670%	28.935%
8.0	3833.016	58.723	325.552	4.721%	35.303%
9.0	3330.070	58.053	383.605	4.667%	41.598%
10.0	2897.508	56.357	439.962	4.530%	47.710%
11.0	2538.281	54.315	494.277	4.366%	53.600%
12.0	2220.258	52.018	546.295	4.181%	59.241%
13.0	1906.805	48.978	595.273	3.937%	64.552%
14.0	1644.188	45.452	640.725	3.654%	69.481%
15.0	1419.328	42.057	682.782	3.381%	74.041%
16.0	1181.257	38.106	720.888	3.063%	78.174%
17.0	1031.091	34.452	755.34	2.769%	81.910%
18.0	861.884	31.211	786.551	2.509%	85.294%
19.0	707.323	27.301	813.852	2.195%	88.255%
20.0	558.809	23.174	837.026	1.863%	90.768%
21.0	421.910	18.832	855.858	1.514%	92.810%
22.0	300.009	14.507	870.365	1.166%	94.383%
23.0	226.139	11.040	881.405	.887%	95.580%
24.0	112.212	7.398	888.803	.595%	96.382%
25.0	50.505	3.700	892.503	.297%	96.784%
26.0	22.563	1.725	894.227	.139%	96.971%
27.0	13.873	0.891	895.119	.072%	97.067%
28.0	11.363	0.639	895.758	.051%	97.136%
29.0	10.034	0.560	896.317	.045%	97.197%
30.0	9.120	0.517	896.835	.042%	97.253%
31.0	8.304	0.485	897.319	.039%	97.306%
32.0	7.685	0.458	897.778	.037%	97.356%
33.0	7.207	0.439	898.216	.035%	97.403%
34.0	6.771	0.423	898.639	.034%	97.449%
35.0	6.441	0.410	899.05	.033%	97.493%
36.0	6.159	0.401	899.451	.032%	97.537%
37.0	5.913	0.394	899.845	.032%	97.580%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	5.709	0.388	900.232	.031%	97.622%
39.0	5.534	0.384	900.616	.031%	97.663%
40.0	5.393	0.381	900.997	.031%	97.705%
41.0	5.273	0.380	901.377	.031%	97.746%
42.0	5.175	0.380	901.757	.031%	97.787%
43.0	5.077	0.380	902.136	.031%	97.828%
44.0	5.013	0.381	902.517	.031%	97.870%
45.0	4.922	0.382	902.899	.031%	97.911%
46.0	4.859	0.382	903.282	.031%	97.952%
47.0	4.802	0.384	903.666	.031%	97.994%
48.0	4.760	0.387	904.052	.031%	98.036%
49.0	4.704	0.389	904.441	.031%	98.078%
50.0	4.669	0.391	904.832	.031%	98.120%
51.0	4.634	0.394	905.225	.032%	98.163%
52.0	4.605	0.396	905.622	.032%	98.206%
53.0	4.549	0.398	906.02	.032%	98.249%
54.0	4.535	0.400	906.421	.032%	98.293%
55.0	4.514	0.404	906.824	.032%	98.337%
56.0	4.493	0.407	907.231	.033%	98.381%
57.0	4.437	0.408	907.64	.033%	98.425%
58.0	4.430	0.410	908.05	.033%	98.469%
59.0	4.409	0.413	908.463	.033%	98.514%
60.0	4.402	0.416	908.879	.033%	98.559%
61.0	4.373	0.419	909.298	.034%	98.605%
62.0	4.366	0.421	909.719	.034%	98.650%
63.0	4.338	0.423	910.142	.034%	98.696%
64.0	4.317	0.425	910.567	.034%	98.742%
65.0	4.324	0.428	910.995	.034%	98.789%
66.0	4.303	0.430	911.425	.035%	98.835%
67.0	4.289	0.432	911.857	.035%	98.882%
68.0	4.275	0.434	912.291	.035%	98.929%
69.0	4.275	0.436	912.727	.035%	98.977%
70.0	4.268	0.439	913.166	.035%	99.024%
71.0	4.226	0.439	913.605	.035%	99.072%
72.0	4.233	0.440	914.045	.035%	99.120%
73.0	4.226	0.442	914.487	.036%	99.168%
74.0	4.226	0.444	914.932	.036%	99.216%
75.0	4.212	0.446	915.377	.036%	99.264%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	4.205	0.447	915.824	.036%	99.313%
77.0	4.205	0.448	916.272	.036%	99.361%
78.0	4.191	0.449	916.722	.036%	99.410%
79.0	4.191	0.450	917.172	.036%	99.459%
80.0	4.177	0.451	917.623	.036%	99.508%
81.0	4.184	0.452	918.075	.036%	99.557%
82.0	4.184	0.454	918.529	.036%	99.606%
83.0	4.191	0.455	918.984	.037%	99.655%
84.0	4.184	0.456	919.441	.037%	99.705%
85.0	4.163	0.456	919.896	.037%	99.754%
86.0	4.141	0.454	920.35	.036%	99.803%
87.0	4.141	0.453	920.803	.036%	99.852%
88.0	4.134	0.453	921.257	.036%	99.902%
89.0	4.141	0.454	921.71	.036%	99.951%
90.0	4.134	0.454	922.164	.036%	100.000%

Zonal flux distribution table

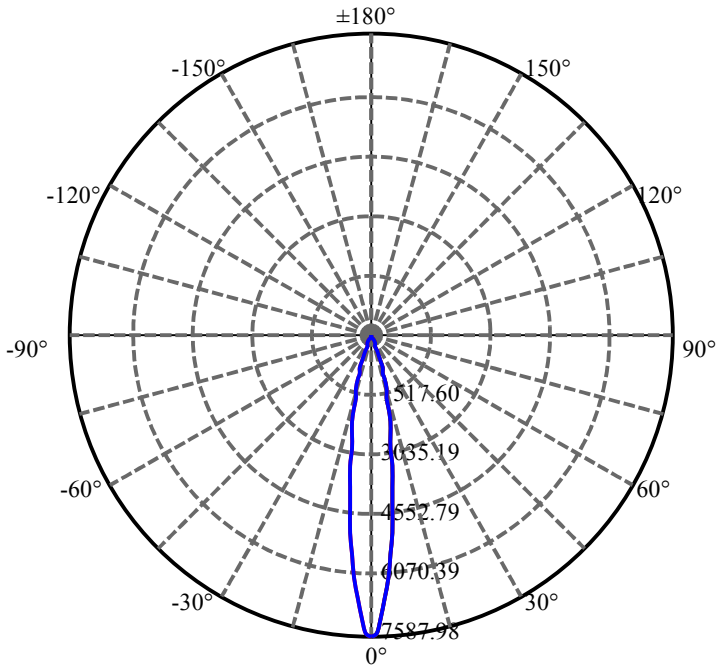
ZONAL LUMEN SUMMARY

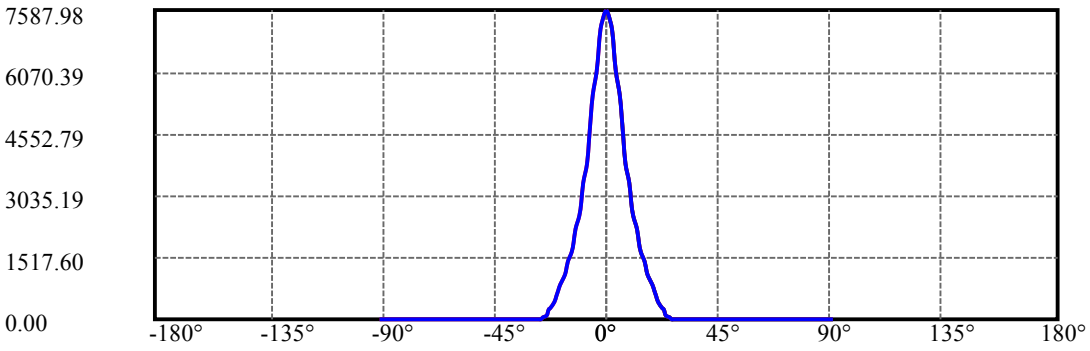
Zone	Lumens	%Lamp	%Fixt
0-30	896.83	72.09%	97.25%
0-40	901.00	72.43%	97.70%
0-60	908.88	73.06%	98.56%
0-90	921.71	74.09%	99.95%
0-120	921.71	74.09%	99.95%
0-180	922.16	74.13%	100.00%
60-90	13.25	1.06%	1.44%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-16.49	737.73	59.30%	80.00%

ZONAL LUMEN SUMMARY

0-10	439.96
10-20	397.06
20-30	59.81
30-40	4.16
40-50	3.83
50-60	4.05
60-70	4.29
70-80	4.46
80-90	4.09
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):

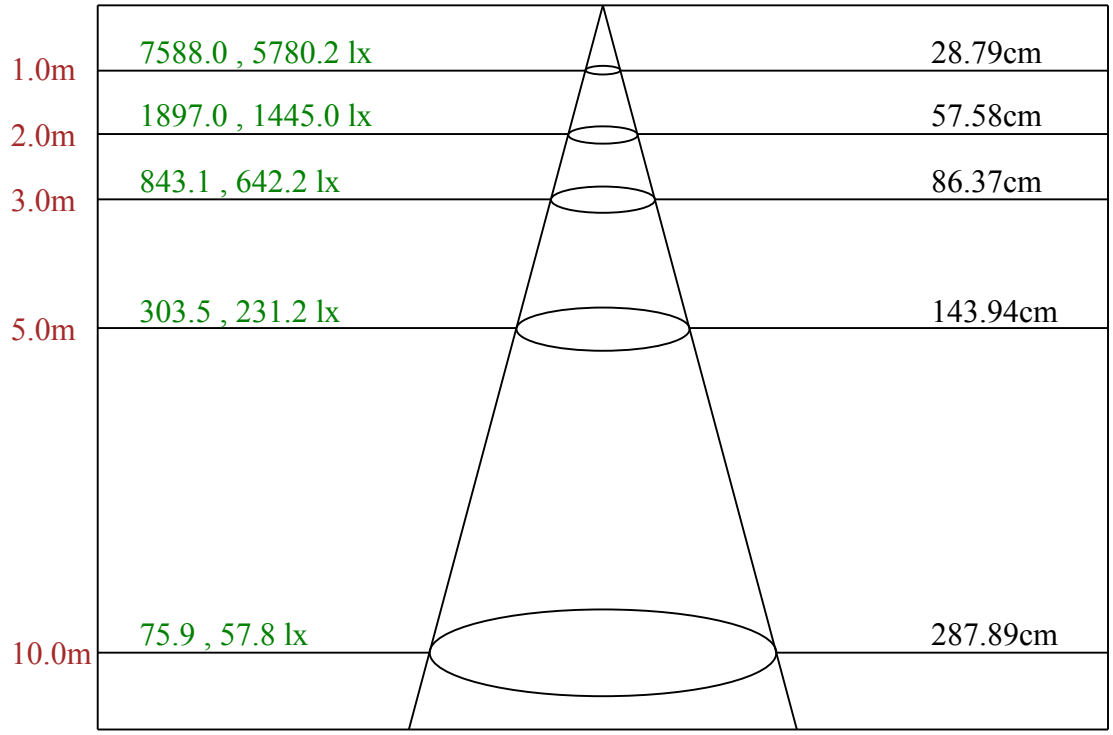
C0/C180:

C90/C270:

Field angle(10%Imax):C0/180Left:18.7 Right:18.7
:C90/270Left:18.7 Right:18.7

Beam Angle(50%Imax):C0/180Left:8.1 Right:8.1
:C90/270Left:8.1 Right:8.1

Lux distance Curve



Max , Ave

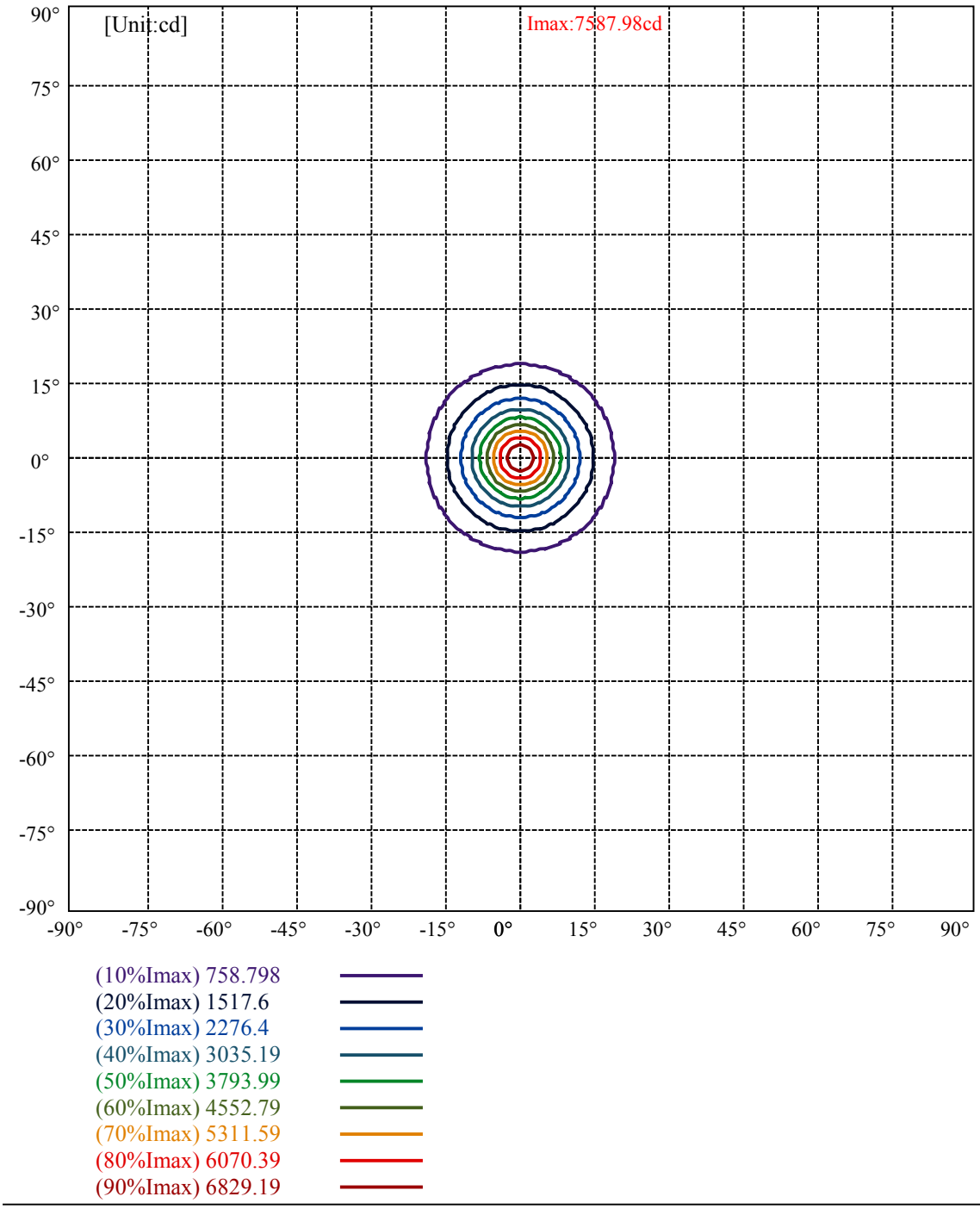
Beam angle of C0 plane 16.38

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/9/21
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO-Intensity(V-H)



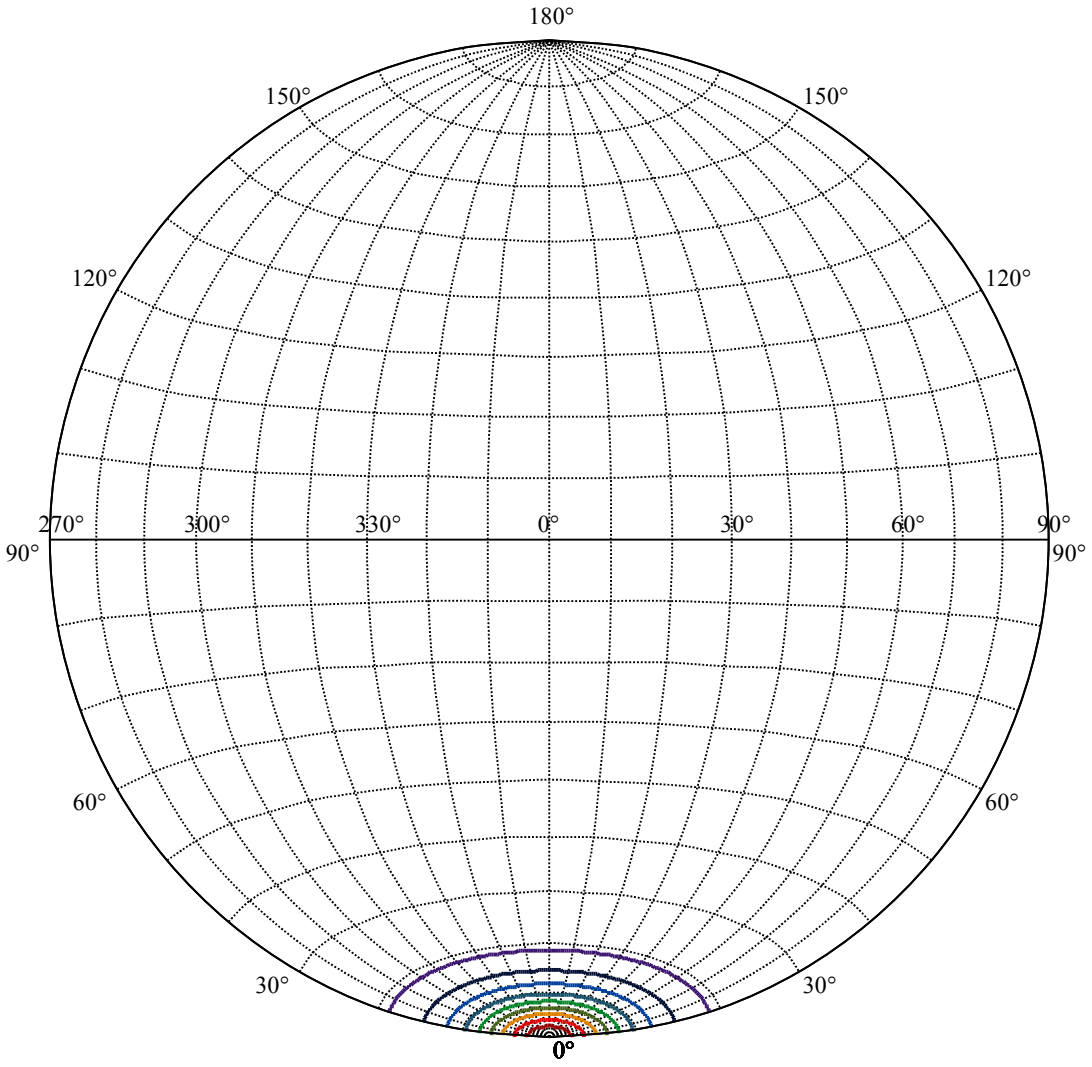
(10%Imax) 758.798
(20%Imax) 1517.6
(30%Imax) 2276.4
(40%Imax) 3035.19
(50%Imax) 3793.99
(60%Imax) 4552.79
(70%Imax) 5311.59
(80%Imax) 6070.39
(90%Imax) 6829.19

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/9/21
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web



House [Unit:cd] Road

Imax:7587.98

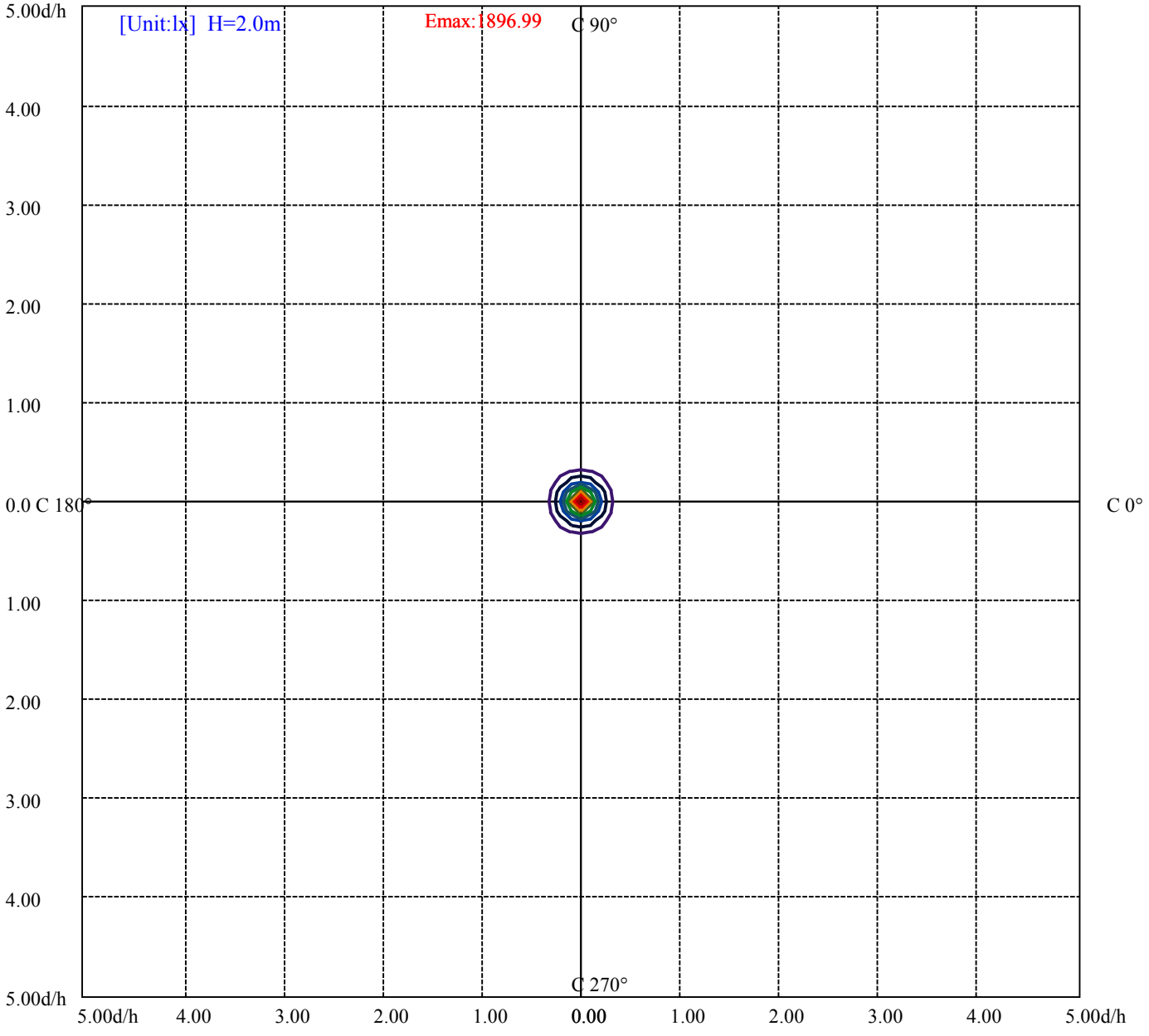
(10%Imax) 758.798
(20%Imax) 1517.6
(30%Imax) 2276.4
(40%Imax) 3035.19
(50%Imax) 3793.99
(60%Imax) 4552.79
(70%Imax) 5311.59
(80%Imax) 6070.39
(90%Imax) 6829.19

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/9/21
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

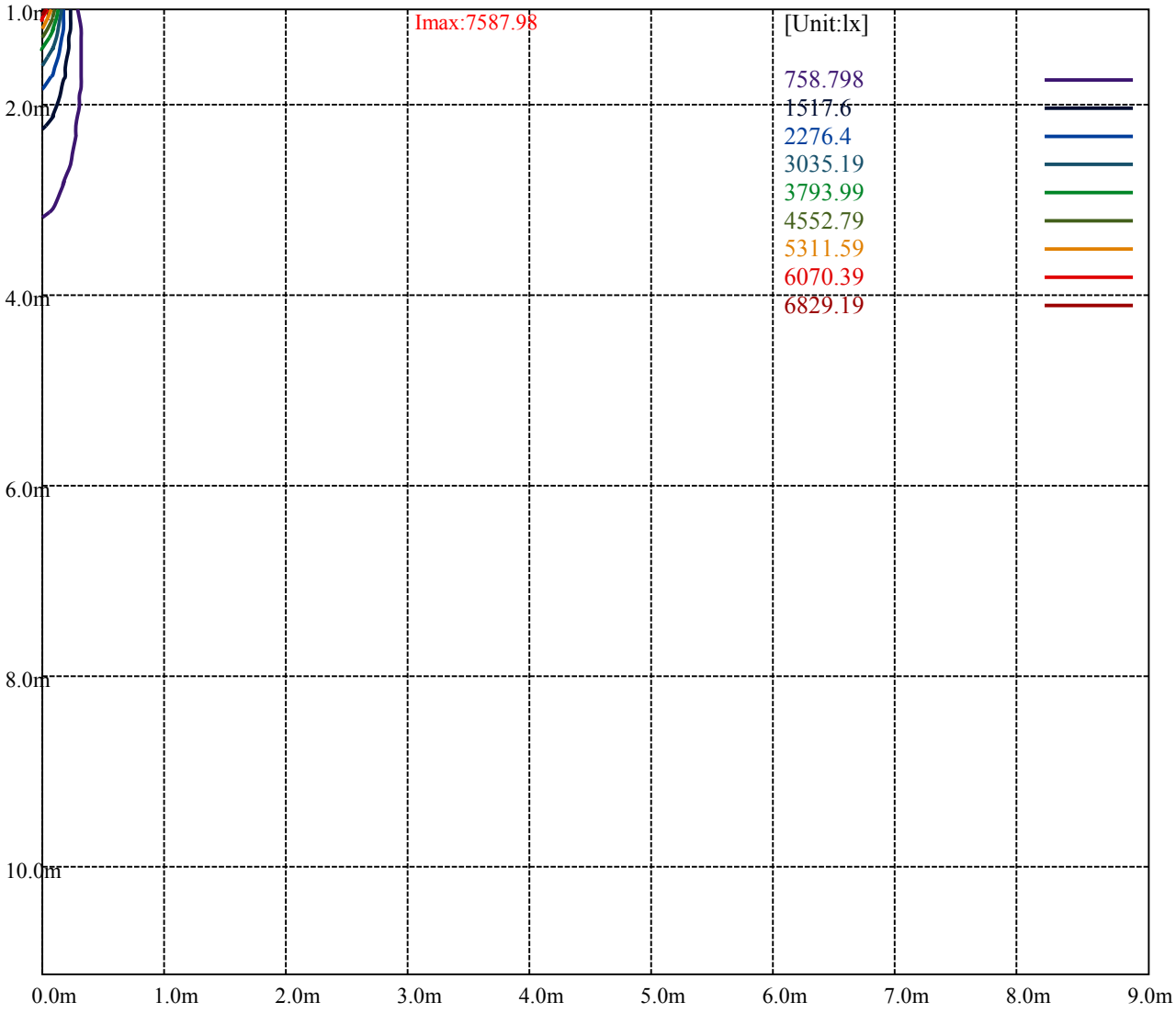
ISO illuminance diagram



(10%Emax) 189.6992
(20%Emax) 379.3975
(30%Emax) 569.0975
(40%Emax) 758.7975
(50%Emax) 948.495
(60%Emax) 1138.195
(70%Emax) 1327.895
(80%Emax) 1517.593
(90%Emax) 1707.292

Equipment: GMS1980
Temperature(°C): 25.0
Date: 2019/9/21
Humidity(%): 65.0%
Operator: NT07
Distance(m): 7.50

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/9/21
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Luminance Limitting Curve(no luminous side)

Luminance Table

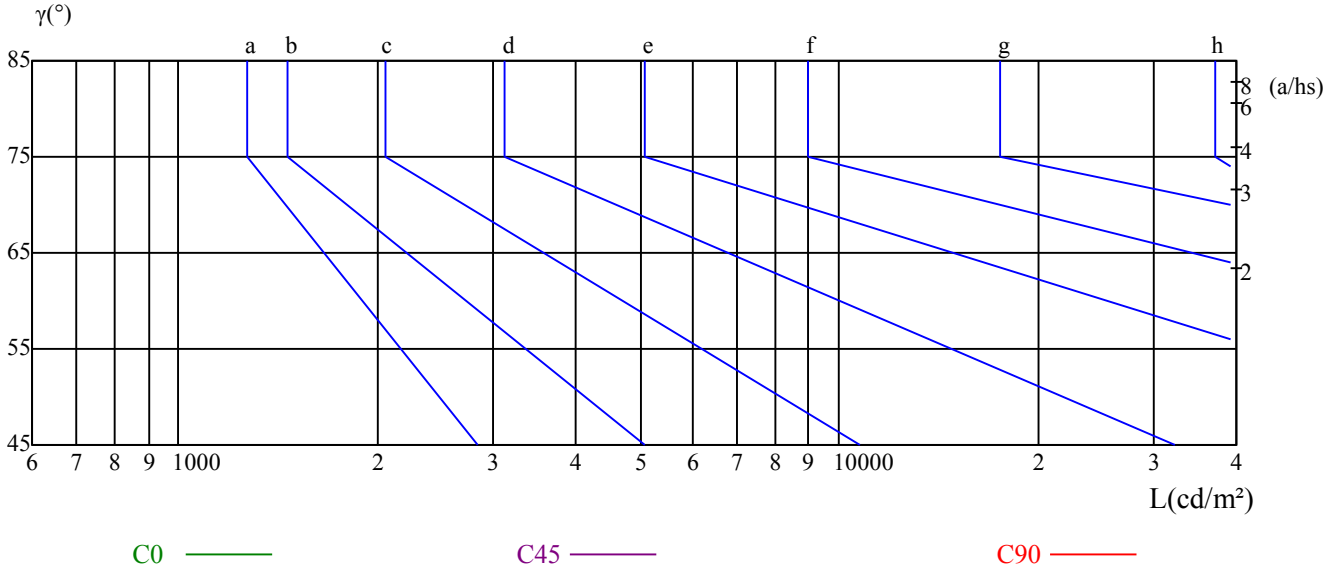
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

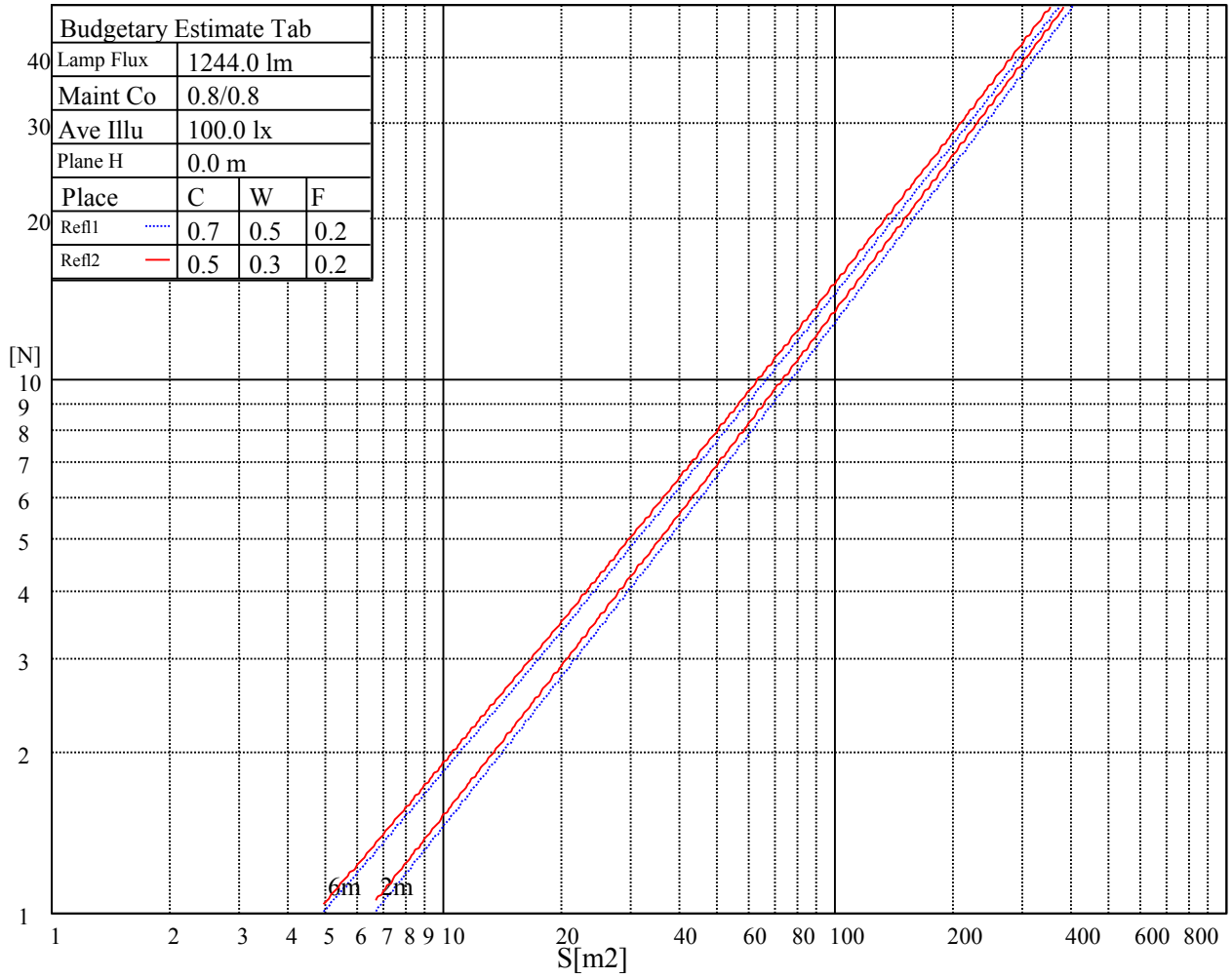
Glare Table

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

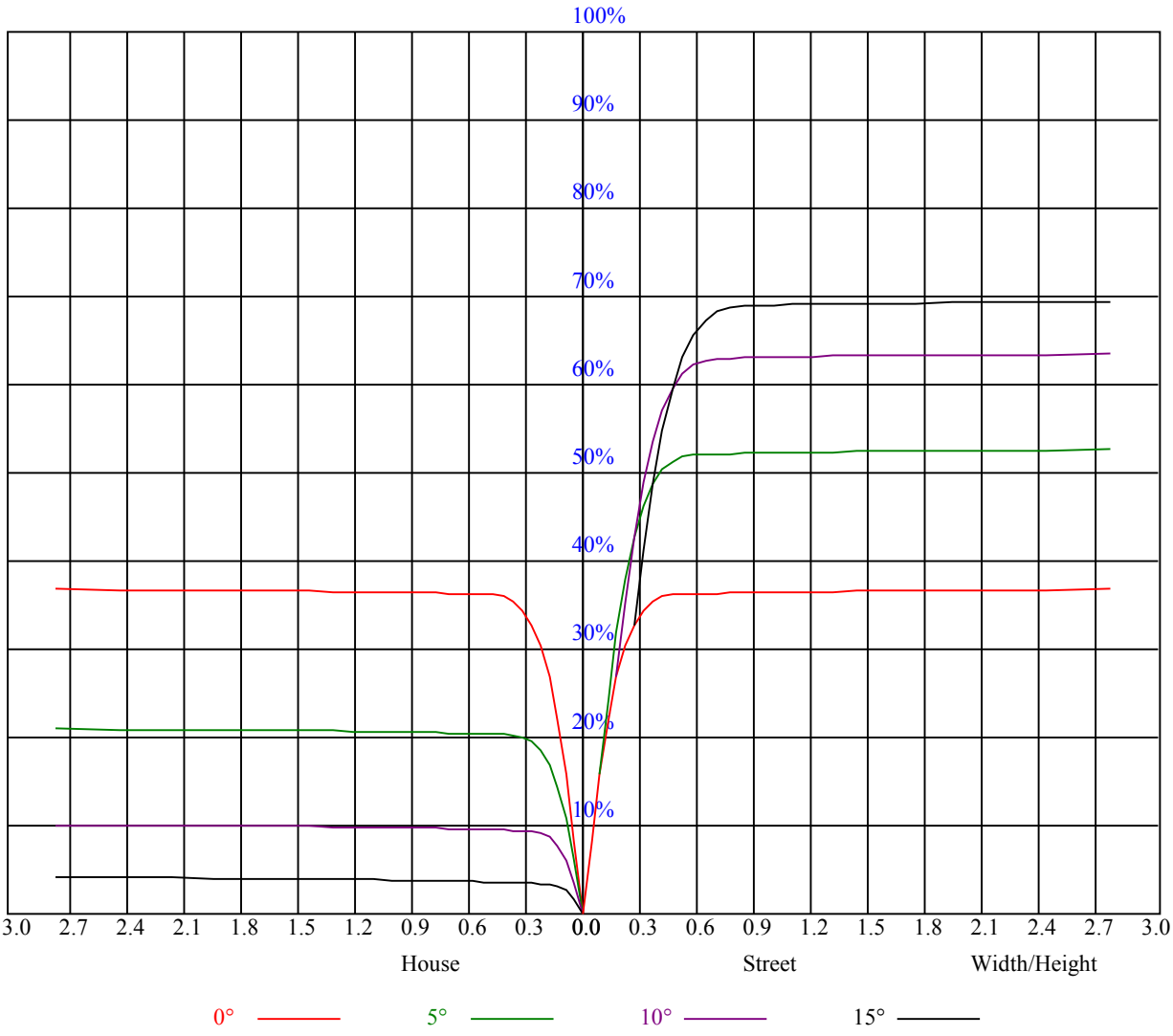


Equipment: GMS1980 Date: 2019/9/21 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

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	0.88	0.88	0.88	0.86	0.86	0.86	0.82	0.82	0.82	0.79	0.79	0.79	0.76	0.76	0.76	0.74
1	0.84	0.82	0.81	0.82	0.81	0.80	0.79	0.78	0.77	0.77	0.76	0.75	0.74	0.74	0.73	0.72
2	0.80	0.78	0.76	0.79	0.77	0.76	0.77	0.75	0.74	0.75	0.73	0.72	0.73	0.72	0.71	0.70
3	0.77	0.75	0.73	0.76	0.74	0.72	0.75	0.73	0.71	0.73	0.71	0.70	0.71	0.70	0.69	0.68
4	0.75	0.72	0.70	0.74	0.72	0.70	0.73	0.71	0.69	0.71	0.70	0.68	0.70	0.69	0.68	0.67
5	0.73	0.70	0.68	0.72	0.70	0.68	0.71	0.69	0.67	0.70	0.68	0.67	0.69	0.67	0.66	0.65
6	0.71	0.68	0.66	0.70	0.68	0.66	0.69	0.67	0.65	0.68	0.66	0.65	0.68	0.66	0.65	0.64
7	0.69	0.66	0.64	0.69	0.66	0.64	0.68	0.66	0.64	0.67	0.65	0.64	0.66	0.65	0.63	0.63
8	0.67	0.65	0.63	0.67	0.65	0.63	0.66	0.64	0.63	0.66	0.64	0.62	0.65	0.63	0.62	0.61
9	0.66	0.63	0.62	0.66	0.63	0.61	0.65	0.63	0.61	0.65	0.63	0.61	0.64	0.62	0.61	0.60
10	0.65	0.62	0.60	0.64	0.62	0.60	0.64	0.62	0.60	0.63	0.61	0.60	0.63	0.61	0.60	0.59

Coefficient Utilization Curve



Equipment: GMS1980	Date: 2019/9/21	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	7587.00	7551.56	7243.31	6793.31	6223.50	5653.13	5126.63	4505.06	3967.31
45.0	7579.69	7584.75	7319.81	6913.13	6365.25	5812.88	5315.06	4699.69	4158.00
90.0	7598.81	7441.88	7104.38	6579.56	6032.81	5530.50	5006.81	4327.31	3805.88
135.0	7586.44	7553.81	7220.25	6777.00	6276.38	5655.94	5147.44	4605.75	4005.00
180.0	7587.00	7393.50	7018.88	6413.06	5909.63	5397.19	4802.63	4185.00	3672.00
225.0	7579.69	7352.44	6954.19	6338.81	5819.63	5303.81	4770.56	4091.63	3598.31
270.0	7598.81	7515.56	7183.13	6652.69	6134.06	5558.06	4960.13	4412.25	3884.63
315.0	7586.44	7397.44	6961.50	6411.38	5908.50	5319.00	4776.75	4151.25	3573.00
360.0	7587.00	7551.56	7243.31	6793.31	6223.50	5653.13	5126.63	4505.06	3967.31

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	3431.25	3026.25	2626.31	2302.31	1944.00	1691.44	1468.69	1215.56	1037.81
45.0	3600.00	3123.56	2751.75	2462.06	2050.31	1788.19	1577.81	1303.31	1118.81
90.0	3341.81	2867.06	2529.56	2227.50	1917.00	1645.88	1434.94	1104.08	1037.76
135.0	3470.06	3065.06	2667.94	2350.69	2023.31	1736.44	1508.63	1297.69	1095.19
180.0	3179.81	2760.75	2436.75	2107.69	1841.63	1587.38	1366.31	1116.56	1010.36
225.0	3174.19	2712.38	2386.69	2093.63	1800.56	1552.50	1355.63	1105.26	982.35
270.0	3300.75	2903.63	2561.06	2169.56	1893.94	1650.38	1409.06	1193.63	1020.94
315.0	3142.69	2721.38	2346.19	2048.63	1783.69	1501.31	1233.56	1113.98	945.51
360.0	3431.25	3026.25	2626.31	2302.31	1944.00	1691.44	1468.69	1215.56	1037.81

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	874.13	730.69	563.06	438.19	320.63	294.19	115.31	58.67	24.08
45.0	966.94	771.19	613.13	500.63	352.13	292.50	141.19	68.79	30.77
90.0	859.67	700.99	563.91	422.27	293.96	198.23	120.15	50.06	21.09
135.0	924.75	775.13	599.63	471.94	348.19	289.69	128.87	65.53	27.45
180.0	821.42	680.40	543.60	383.34	270.68	177.13	94.50	41.18	19.91
225.0	819.06	661.67	528.08	389.14	264.60	170.33	96.02	36.17	18.62
270.0	864.56	709.88	560.25	419.63	306.00	231.69	124.43	52.31	21.77
315.0	764.55	628.65	498.83	350.16	243.90	155.36	77.23	31.33	16.82
360.0	874.13	730.69	563.06	438.19	320.63	294.19	115.31	58.67	24.08

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	14.46	11.76	10.35	9.45	8.61	7.99	7.48	7.03	6.64
45.0	15.24	11.98	10.52	9.62	8.66	8.04	7.54	7.03	6.69
90.0	13.78	11.25	10.07	9.23	8.33	7.76	7.26	6.75	6.47
135.0	14.79	12.21	10.58	9.56	8.72	7.99	7.48	7.03	6.64
180.0	13.61	11.42	9.96	8.89	8.16	7.48	6.98	6.64	6.30
225.0	13.28	11.14	9.73	8.83	7.99	7.37	6.92	6.53	6.24
270.0	14.01	10.91	9.73	8.89	8.04	7.48	7.09	6.58	6.30
315.0	11.81	10.24	9.34	8.49	7.93	7.37	6.92	6.58	6.24
360.0	14.46	11.76	10.35	9.45	8.61	7.99	7.48	7.03	6.64

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	6.36	6.08	5.79	5.63	5.51	5.40	5.29	5.18	5.06
45.0	6.41	6.13	5.91	5.74	5.57	5.40	5.34	5.23	5.12
90.0	6.19	5.91	5.74	5.57	5.40	5.29	5.23	5.12	5.06
135.0	6.36	6.08	5.85	5.68	5.51	5.34	5.23	5.12	5.06
180.0	6.02	5.85	5.63	5.40	5.29	5.18	5.06	5.01	4.95
225.0	5.96	5.68	5.57	5.40	5.23	5.18	5.06	4.95	4.95
270.0	6.02	5.79	5.63	5.46	5.34	5.23	5.12	5.01	4.95
315.0	5.96	5.79	5.57	5.40	5.29	5.18	5.06	5.01	4.95
360.0	6.36	6.08	5.79	5.63	5.51	5.40	5.29	5.18	5.06

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	4.95	4.89	4.84	4.78	4.73	4.67	4.67	4.61	4.56
45.0	5.06	4.95	4.95	4.89	4.78	4.73	4.73	4.67	4.61
90.0	5.01	4.89	4.84	4.78	4.73	4.73	4.67	4.67	4.61
135.0	4.95	4.89	4.84	4.78	4.73	4.73	4.67	4.61	4.56
180.0	4.84	4.78	4.73	4.67	4.67	4.61	4.56	4.56	4.50
225.0	4.84	4.78	4.73	4.73	4.67	4.61	4.61	4.56	4.50
270.0	4.89	4.84	4.78	4.73	4.67	4.67	4.61	4.61	4.56
315.0	4.84	4.84	4.73	4.73	4.67	4.61	4.56	4.56	4.50
360.0	4.95	4.89	4.84	4.78	4.73	4.67	4.67	4.61	4.56

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	4.56	4.50	4.50	4.44	4.44	4.39	4.39	4.39	4.33
45.0	4.61	4.61	4.56	4.50	4.50	4.50	4.44	4.44	4.44
90.0	4.56	4.56	4.50	4.44	4.44	4.44	4.44	4.39	4.39
135.0	4.56	4.50	4.50	4.44	4.44	4.44	4.39	4.39	4.39
180.0	4.44	4.44	4.44	4.39	4.39	4.39	4.39	4.33	4.33
225.0	4.50	4.50	4.50	4.44	4.39	4.39	4.39	4.33	4.33
270.0	4.56	4.50	4.50	4.44	4.44	4.39	4.44	4.39	4.39
315.0	4.50	4.50	4.44	4.39	4.39	4.33	4.33	4.33	4.33
360.0	4.56	4.50	4.50	4.44	4.44	4.39	4.39	4.39	4.33

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	4.33	4.33	4.33	4.28	4.28	4.28	4.28	4.22	4.22
45.0	4.39	4.33	4.39	4.33	4.39	4.33	4.33	4.33	4.28
90.0	4.39	4.33	4.33	4.33	4.33	4.28	4.28	4.28	4.22
135.0	4.33	4.33	4.33	4.28	4.28	4.28	4.28	4.28	4.22
180.0	4.28	4.28	4.28	4.28	4.22	4.22	4.22	4.22	4.16
225.0	4.33	4.33	4.33	4.33	4.28	4.28	4.28	4.28	4.22
270.0	4.39	4.33	4.33	4.33	4.33	4.33	4.33	4.33	4.28
315.0	4.28	4.28	4.28	4.28	4.22	4.22	4.22	4.22	4.22
360.0	4.33	4.33	4.33	4.28	4.28	4.28	4.28	4.22	4.22

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	4.22	4.22	4.22	4.16	4.16	4.16	4.16	4.16	4.16
45.0	4.28	4.28	4.28	4.28	4.22	4.22	4.22	4.22	4.22
90.0	4.28	4.28	4.28	4.22	4.22	4.22	4.22	4.22	4.22
135.0	4.22	4.22	4.22	4.22	4.22	4.22	4.16	4.16	4.16
180.0	4.16	4.16	4.16	4.16	4.16	4.16	4.16	4.16	4.11
225.0	4.22	4.22	4.22	4.22	4.22	4.22	4.16	4.16	4.16
270.0	4.28	4.28	4.28	4.28	4.28	4.28	4.28	4.28	4.28
315.0	4.22	4.16	4.16	4.16	4.16	4.16	4.16	4.16	4.11
360.0	4.22	4.22	4.22	4.16	4.16	4.16	4.16	4.16	4.16

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	4.16	4.16	4.11	4.11	4.11	4.11	4.11	4.11	4.11
45.0	4.22	4.22	4.22	4.22	4.16	4.16	4.16	4.16	4.22
90.0	4.22	4.22	4.22	4.22	4.22	4.16	4.16	4.16	4.16
135.0	4.16	4.16	4.16	4.16	4.11	4.11	4.16	4.11	4.11
180.0	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11
225.0	4.16	4.16	4.22	4.16	4.16	4.16	4.16	4.16	4.16
270.0	4.28	4.28	4.33	4.33	4.28	4.16	4.16	4.16	4.16
315.0	4.16	4.16	4.16	4.16	4.16	4.16	4.11	4.11	4.11
360.0	4.16	4.16	4.11	4.11	4.11	4.11	4.11	4.11	4.11

Intensity data(cd)

C/γ(°)	90.0
0.0	4.11
45.0	4.16
90.0	4.16
135.0	4.11
180.0	4.11
225.0	4.16
270.0	4.16
315.0	4.11
360.0	4.11