NATA LIGHTING CO.,LTD
www.nata.cn
Email:info@nata.cn
Tel:+86 0750-377 0000(10 lines) Fax:+86 0750-377 1111
Address:380JinOu Road,Gaoxin Zone,Jiang Men City,Guangdong,China

Nata

LumCAT: 2-1122-A4
Luminaire: TE 2213407-1+92.76.365.00

Report No: NT2015050810	Voltage(V): 48.2000
Test No: GC2015050810	Current(A): 0.7100
LampCAT: SOLERIQ S19	Power (W): 34.2200
Lamp flux(lm): 3679.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 70	Width(mm): 70
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 3348.79
Efficiency(%): 91.02%
Lumens(lm)/Power(W): 97.86
Central intensity(cd): 6766.642
Maximum intensity(cd): 6766.642
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=37.4
[C90/270]Total=37.4
Field angle(10%Imax): [C0/180]Total=71.3
[C90/270]Total=71.3
Maximum s/h(1/2): C0_180=0.62 C90_270=0.62
Maximum s/h(1/4): C0_180=0.61 C90_270=0.61
Up flux rate of lamp(%): 1.94%
Down flux rate of lamp(%): 89.08%
Up flux rate of LUM(%): 2.13%
Down flux rate of LUM(%): 97.87%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 96.349%

Equipment: GMS1980	Date: 2015-5-8	Operator: NT07
Temperature(°C): 23.0	Humidity(%): 68.0%	Distance(m): 7.48

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	6766.641	0.000	0	.000%	.000%
5.0	6474.301	158.292	158.292	4.303%	4.727%
10.0	5749.953	437.300	595.592	11.886%	17.785%
15.0	4509.392	608.577	1204.169	16.542%	35.958%
20.0	2992.857	618.291	1822.46	16.806%	54.421%
25.0	1815.241	504.281	2326.741	13.707%	69.480%
30.0	1215.355	383.524	2710.265	10.425%	80.933%
35.0	741.007	288.088	2998.353	7.831%	89.535%
40.0	235.020	162.843	3161.196	4.426%	94.398%
45.0	22.030	47.595	3208.791	1.294%	95.819%
50.0	12.862	7.050	3215.841	.192%	96.030%
55.0	11.729	5.347	3221.188	.145%	96.190%
60.0	11.386	5.343	3226.531	.145%	96.349%
65.0	12.673	5.849	3232.379	.159%	96.524%
70.0	17.149	7.551	3239.93	.205%	96.749%
75.0	23.548	10.638	3250.568	.289%	97.067%
80.0	21.072	11.939	3262.507	.325%	97.423%
85.0	11.526	8.858	3271.365	.241%	97.688%
90.0	10.246	5.961	3277.326	.162%	97.866%
95.0	10.008	5.546	3282.872	.151%	98.032%
100.0	10.001	5.437	3288.309	.148%	98.194%
105.0	9.763	5.288	3293.597	.144%	98.352%
110.0	9.665	5.078	3298.675	.138%	98.504%
115.0	9.582	4.873	3303.549	.132%	98.649%
120.0	9.540	4.648	3308.197	.126%	98.788%
125.0	9.540	4.410	3312.607	.120%	98.920%
130.0	9.665	4.176	3316.783	.114%	99.044%
135.0	9.826	3.939	3320.722	.107%	99.162%
140.0	10.071	3.684	3324.406	.100%	99.272%
145.0	11.113	3.534	3327.94	.096%	99.377%
150.0	13.687	3.652	3331.592	.099%	99.486%
155.0	17.184	3.907	3335.499	.106%	99.603%
160.0	20.807	3.984	3339.484	.108%	99.722%
165.0	23.884	3.683	3343.167	.100%	99.832%
170.0	26.458	2.986	3346.153	.081%	99.921%
175.0	28.192	1.955	3348.108	.053%	99.980%
180.0	28.786	0.681	3348.789	.019%	100.000%

Zonal flux distribution table

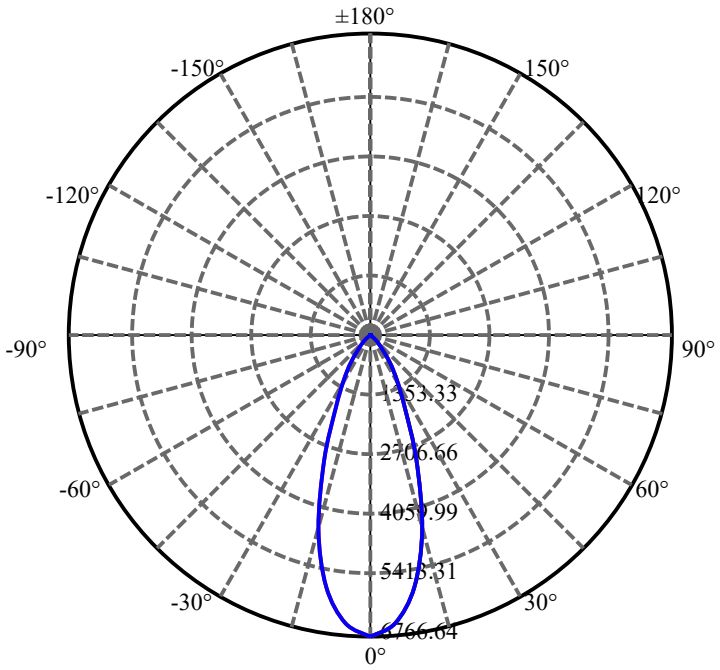
ZONAL LUMEN SUMMARY

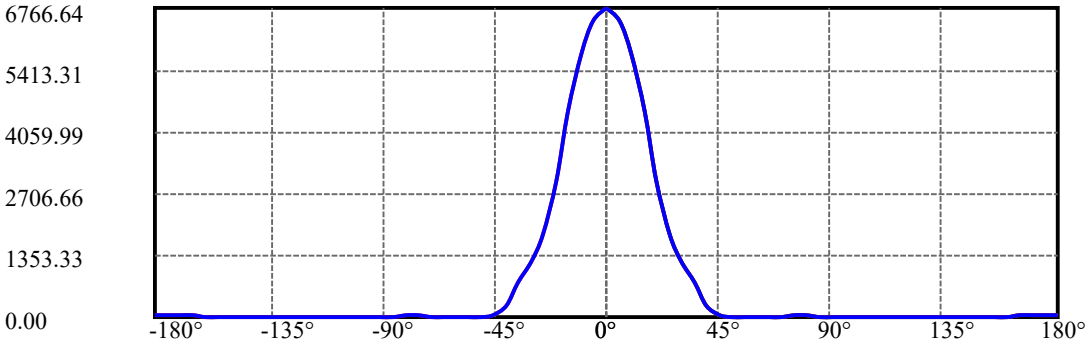
Zone	Lumens	%Lamp	%Fixt
0-30	2710.27	73.67%	80.93%
0-40	3161.20	85.93%	94.40%
0-60	3226.53	87.70%	96.35%
0-90	3277.33	89.08%	97.87%
0-120	3308.20	89.92%	98.79%
0-180	3348.79	91.02%	100.00%
60-90	56.14	1.53%	1.68%
90-120	36.83	1.00%	1.10%
90-130	45.42	1.23%	1.36%
90-150	60.23	1.64%	1.80%
90-180	76.74	2.09%	2.29%
0-29.59	2679.03	72.82%	80.00%

ZONAL LUMEN SUMMARY

0-10	595.59
10-20	1226.87
20-30	887.81
30-40	450.93
40-50	54.65
50-60	10.69
60-70	13.40
70-80	22.58
80-90	14.82
90-100	10.98
100-110	10.37
110-120	9.52
120-130	8.59
130-140	7.62
140-150	7.19
150-160	7.89
160-170	6.67
170-180	1.95

Light Distribution Curve [Unit:cd]





C0(Max):

C0/C180:

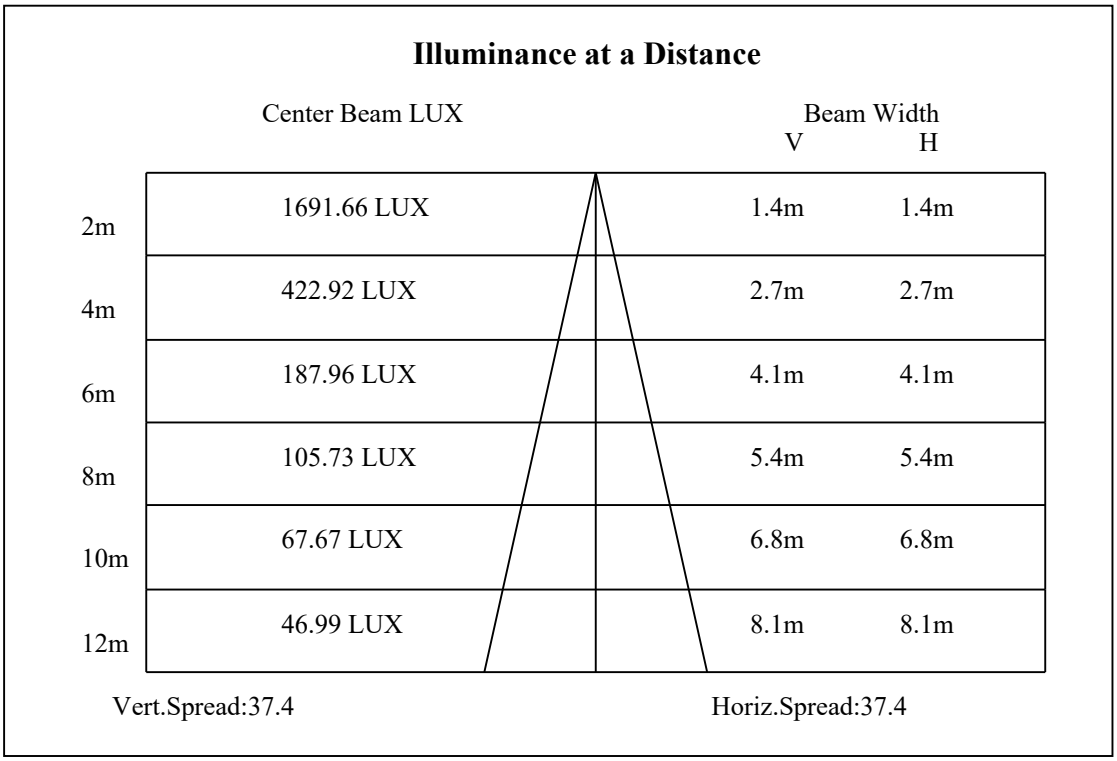
C90/C270:

Field angle(10%Imax):C0/180Left:35.6 Right:35.6
:C90/270Left:35.6 Right:35.6

Beam Angle(50%Imax):C0/180Left:18.7 Right:18.7
:C90/270Left:18.7 Right:18.7

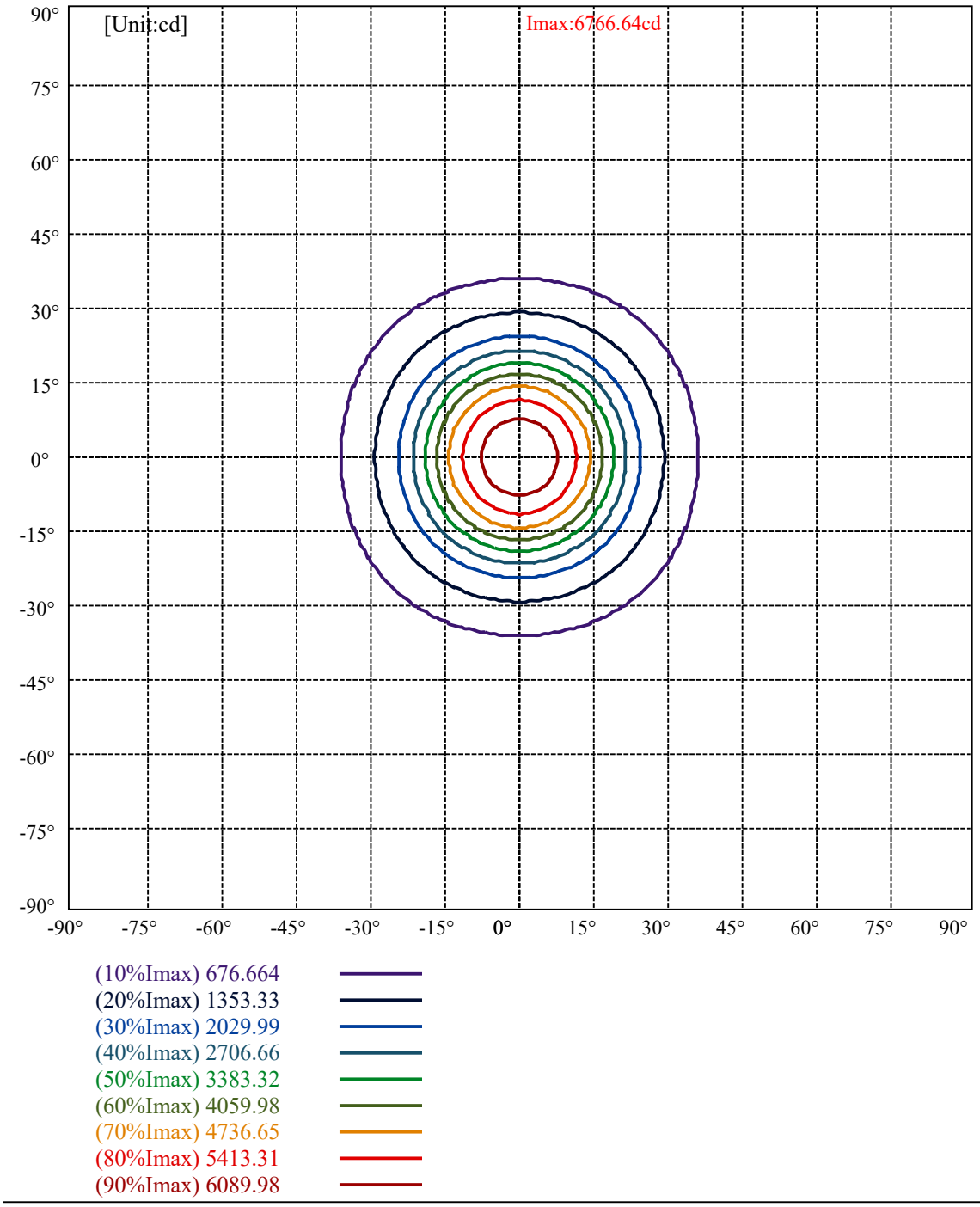
Equipment: GMS1980 Date: 2015-5-8 Operator: NT07
Temperature(°C): 23.0 Humidity(%): 68.0% Distance(m): 7.48

Lux distance Curve



Equipment: GMS1980 Date: 2015-5-8 Operator: NT07
Temperature(°C): 23.0 Humidity(%): 68.0% Distance(m): 7.48

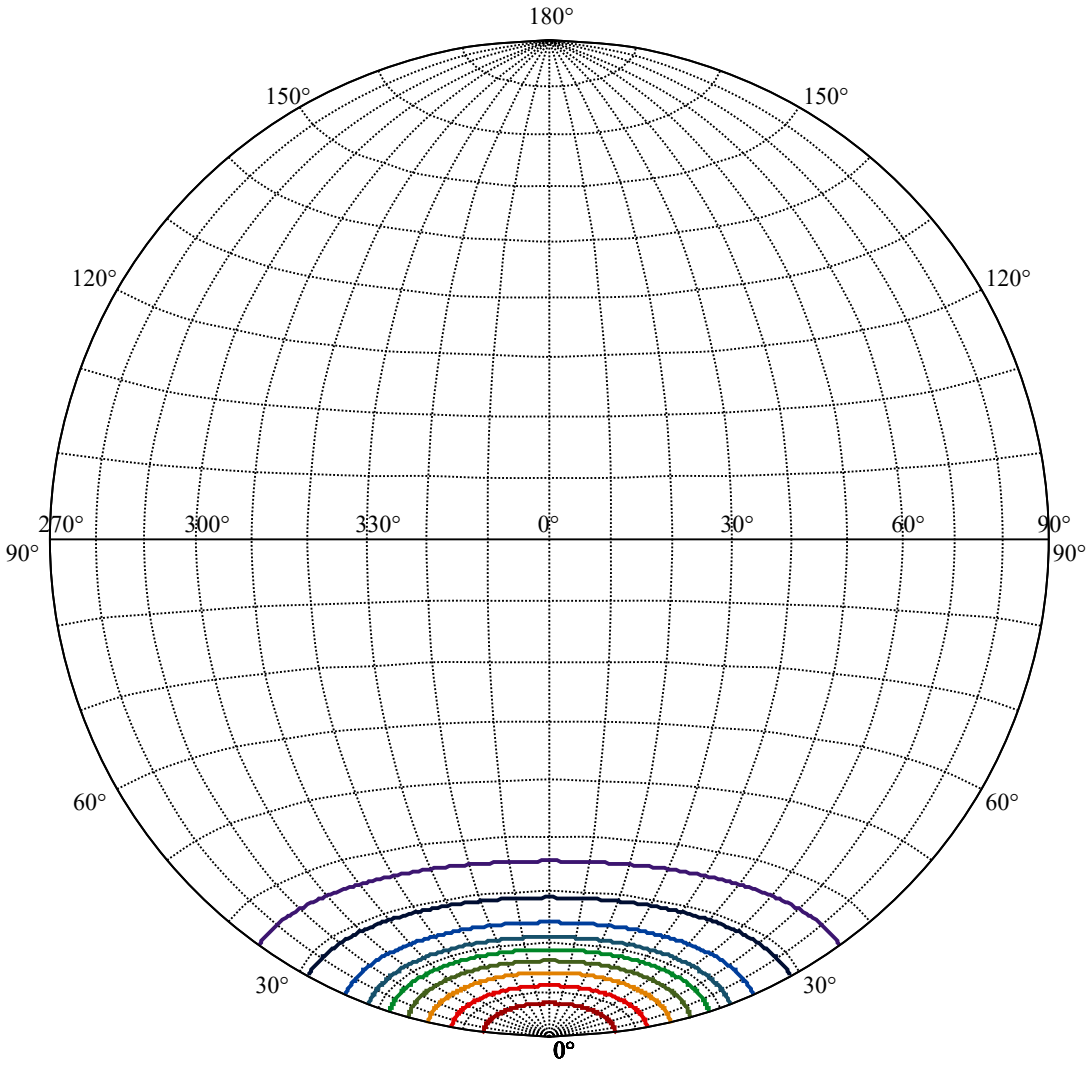
ISO-Intensity(V-H)



Equipment: GMS1980 Date: 2015-5-8 Operator: NT07

Temperature(°C): 23.0 Humidity(%): 68.0% Distance(m): 7.48

ISO candela diagram on circular web



House [Unit:cd] Road

Imax:6766.64

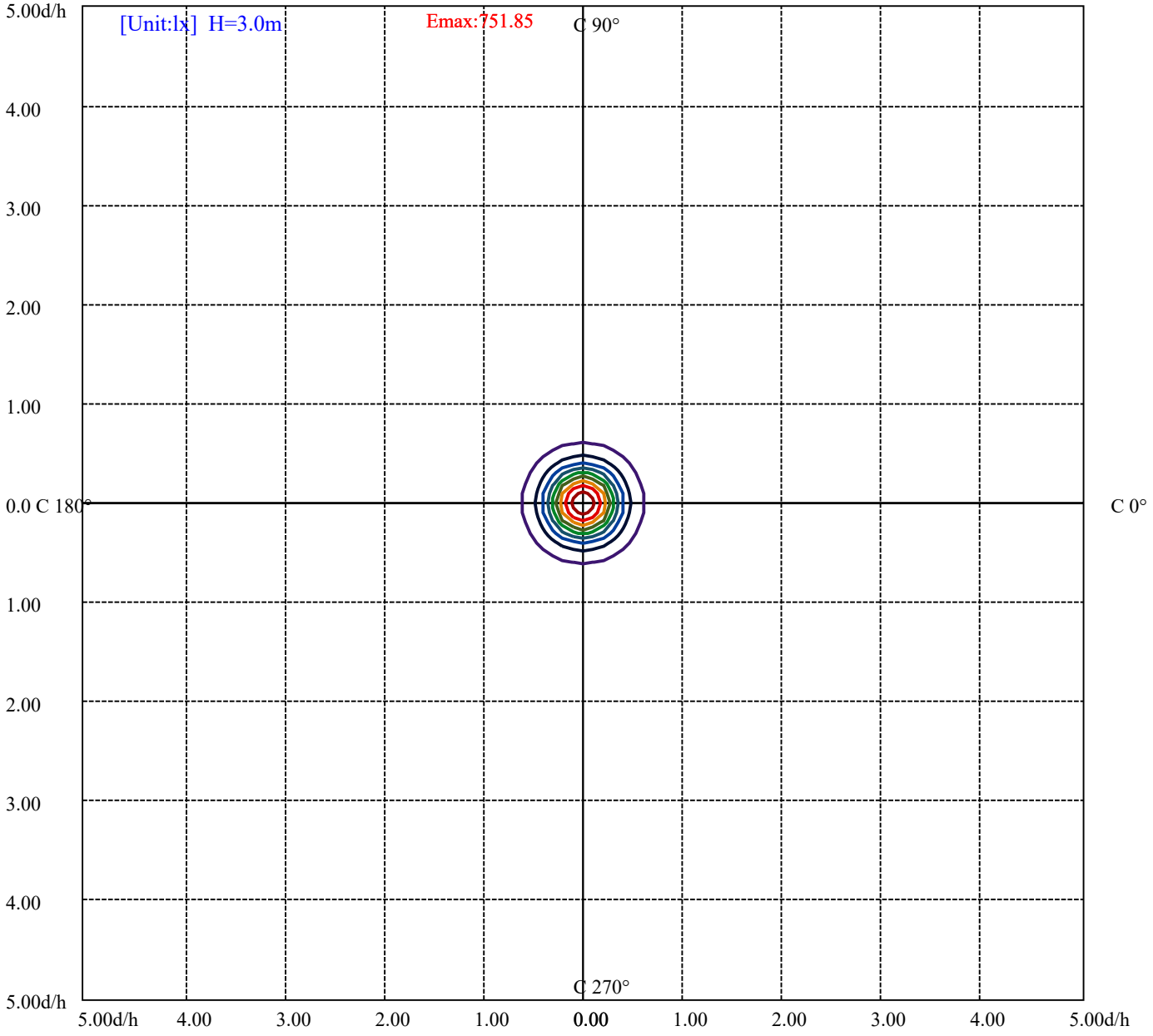
(10%Imax) 676.664
(20%Imax) 1353.33
(30%Imax) 2029.99
(40%Imax) 2706.66
(50%Imax) 3383.32
(60%Imax) 4059.98
(70%Imax) 4736.65
(80%Imax) 5413.31
(90%Imax) 6089.98

Equipment: GMS1980
Temperature(°C): 23.0

Date: 2015-5-8
Humidity(%): 68.0%

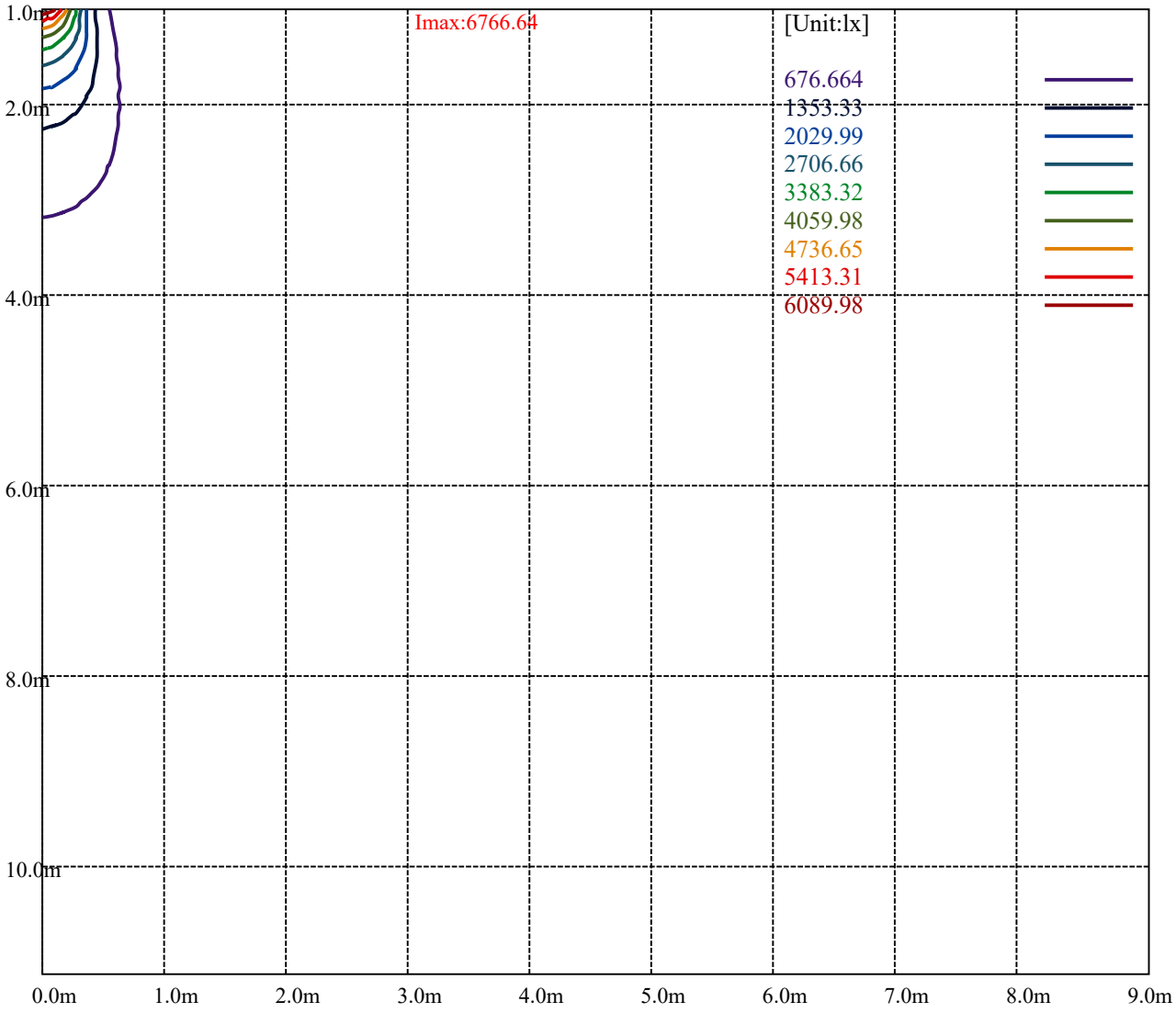
Operator: NT07
Distance(m): 7.48

ISO illuminance diagram



Equipment: GMS1980 Date: 2015-5-8 Operator: NT07
Temperature(°C): 23.0 Humidity(%): 68.0% Distance(m): 7.48

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 23.0

Date: 2015-5-8
Humidity(%): 68.0%

Operator: NT07
Distance(m): 7.48

Luminance Limitting Curve(no luminous side)

Luminance Table

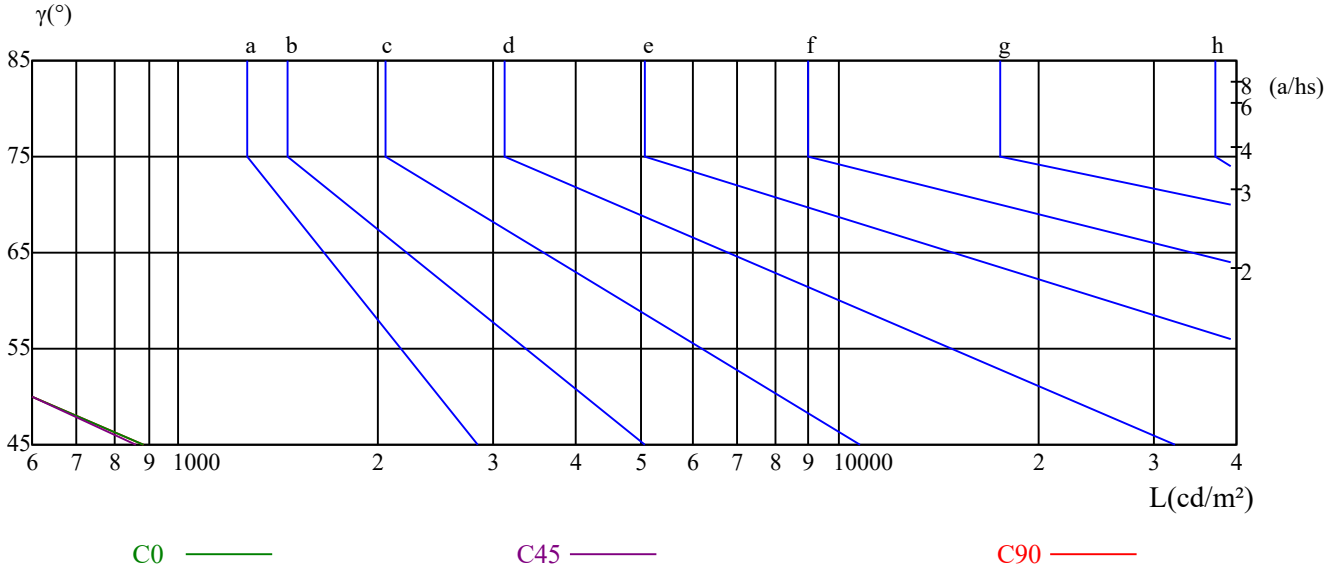
γ	45	50	55	60	65	70	75	80	85
C0	888	562	564	614	785	1259	2142	2543	2090
C45	860	542	540	584	739	1169	1950	2245	1739
C90	888	562	564	614	785	1259	2142	2543	2090

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
926	926	926	2808	2808	2808	4082	4082	4082

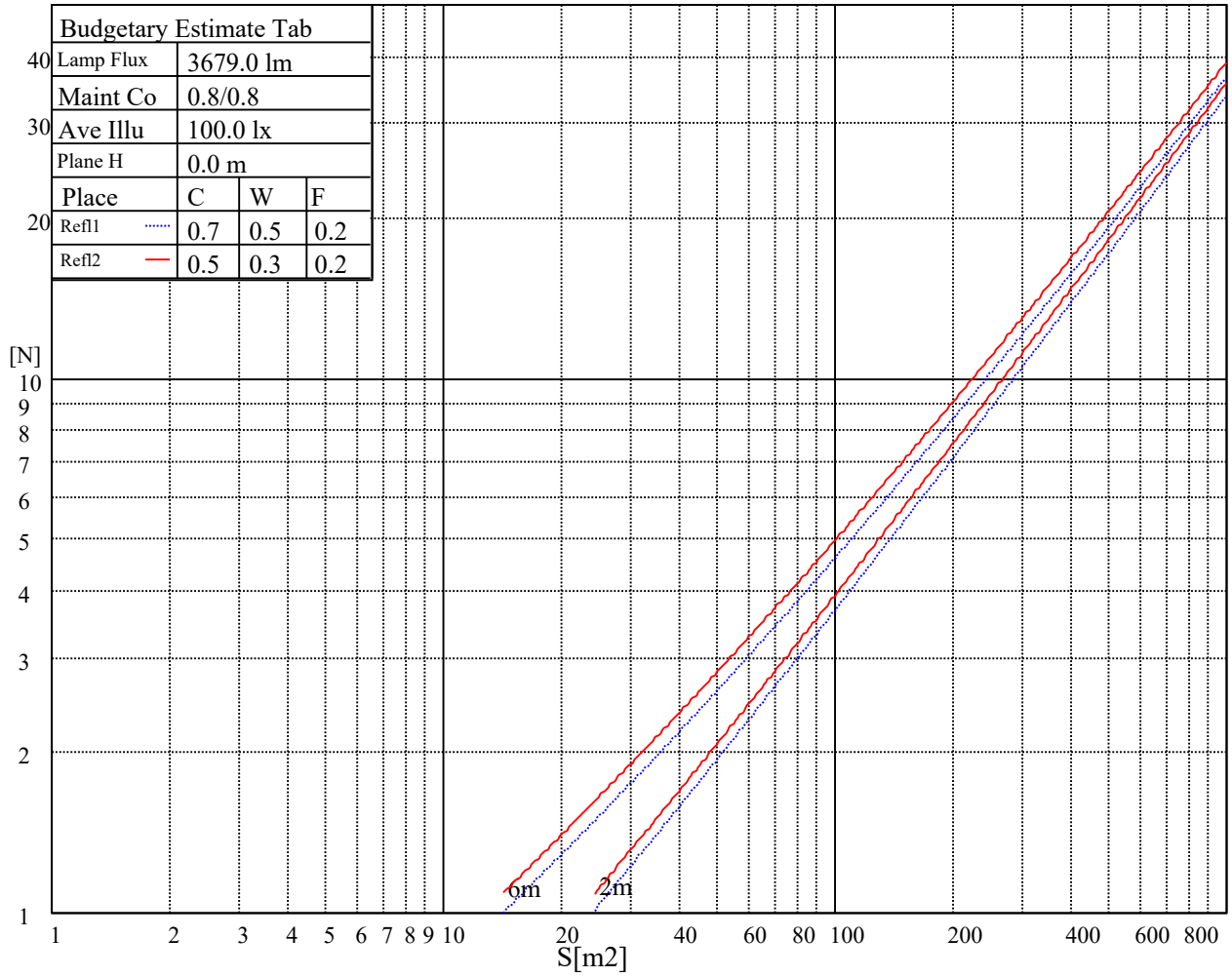
Glare Table

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: 2015-5-8 Operator: NT07
Temperature(°C): 23.0 Humidity(%): 68.0% Distance(m): 7.48

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	1.08	1.08	1.08	1.05	1.05	1.05	1.00	1.00	1.00	0.95	0.95	0.95	0.91	0.91	0.91	0.89
1	1.01	0.99	0.97	0.99	0.97	0.95	0.95	0.93	0.92	0.91	0.90	0.89	0.87	0.87	0.86	0.84
2	0.94	0.91	0.88	0.93	0.90	0.87	0.90	0.87	0.85	0.87	0.85	0.83	0.84	0.82	0.81	0.79
3	0.89	0.85	0.82	0.88	0.84	0.81	0.85	0.82	0.79	0.83	0.80	0.78	0.80	0.78	0.76	0.75
4	0.84	0.80	0.76	0.83	0.79	0.76	0.81	0.77	0.74	0.79	0.76	0.73	0.77	0.74	0.72	0.71
5	0.80	0.75	0.71	0.79	0.74	0.71	0.77	0.73	0.70	0.75	0.72	0.69	0.74	0.71	0.69	0.67
6	0.76	0.71	0.67	0.75	0.70	0.67	0.73	0.69	0.67	0.72	0.69	0.66	0.71	0.68	0.65	0.64
7	0.72	0.67	0.64	0.71	0.67	0.64	0.70	0.66	0.63	0.69	0.65	0.63	0.68	0.65	0.62	0.61
8	0.69	0.64	0.61	0.68	0.64	0.60	0.67	0.63	0.60	0.66	0.62	0.60	0.65	0.62	0.59	0.58
9	0.66	0.61	0.58	0.65	0.61	0.58	0.64	0.60	0.57	0.63	0.60	0.57	0.62	0.59	0.57	0.56
10	0.63	0.58	0.55	0.62	0.58	0.55	0.62	0.58	0.55	0.61	0.57	0.55	0.60	0.57	0.54	0.53

Intensity data(cd)

C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	6809.72	6532.21	5830.03	4557.16	3070.00	1784.82	1267.28	821.91	293.74
45.0	6717.41	6794.62	6344.78	5393.06	3980.87	2574.28	1529.12	1061.94	530.97
90.0	6780.63	6682.16	6040.41	5075.82	3514.80	2133.95	1371.34	919.43	353.05
135.0	6758.81	6637.40	6056.07	4916.92	3406.82	1981.20	1345.61	907.52	369.83
180.0	6809.72	6427.58	5671.69	4394.90	2761.71	1646.06	1089.86	718.40	161.42
225.0	6717.41	6135.52	5061.83	3640.69	2147.94	1379.18	921.28	401.61	23.33
270.0	6780.63	6277.63	5532.38	4025.07	2547.42	1516.26	1103.34	541.04	70.44
315.0	6758.81	6307.29	5462.44	4071.51	2513.29	1506.18	1095.01	556.20	77.38
360.0	6809.72	6532.21	5830.03	4557.16	3070.00	1784.82	1267.28	821.91	293.74

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	18.69	13.76	11.64	11.02	11.08	11.64	15.67	18.69	10.69
45.0	57.24	13.99	12.09	11.53	11.08	11.64	14.38	18.18	15.50
90.0	20.14	13.37	11.97	11.41	11.25	12.92	17.68	21.37	11.47
135.0	20.53	13.60	12.03	11.58	11.69	16.51	28.03	30.21	11.19
180.0	16.51	12.37	11.86	11.64	12.59	20.87	30.83	28.48	11.41
225.0	13.76	11.92	11.58	11.64	19.86	31.22	38.77	13.99	10.97
270.0	14.32	11.92	11.36	11.30	12.48	17.34	23.89	19.53	10.63
315.0	15.05	11.97	11.30	10.97	11.36	15.05	19.14	18.13	10.35
360.0	18.69	13.76	11.64	11.02	11.08	11.64	15.67	18.69	10.69

C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	10.18	9.90	10.02	9.85	9.85	9.74	9.62	9.62	9.74
45.0	10.29	9.96	9.96	9.96	9.85	9.74	9.62	9.57	9.57
90.0	10.18	9.85	9.90	9.79	9.57	9.51	9.46	9.40	9.46
135.0	10.46	10.07	10.07	9.85	9.51	9.46	9.40	9.40	9.46
180.0	10.52	10.13	10.07	9.62	9.57	9.46	9.46	9.46	9.57
225.0	10.35	10.29	10.07	9.74	9.74	9.68	9.68	9.74	10.02
270.0	10.07	10.02	10.07	9.62	9.62	9.57	9.57	9.62	9.79
315.0	9.90	9.85	9.85	9.68	9.62	9.51	9.51	9.51	9.74
360.0	10.18	9.90	10.02	9.85	9.85	9.74	9.62	9.62	9.74

C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	9.96	10.18	11.13	13.60	17.34	20.98	24.11	26.80	28.65
45.0	9.68	9.68	9.85	10.97	13.15	16.73	19.86	22.72	25.18
90.0	9.57	9.57	10.07	11.92	15.33	18.97	22.27	25.12	27.47
135.0	9.51	9.57	10.29	12.42	15.78	19.81	23.16	26.18	28.87
180.0	9.62	9.79	10.85	13.54	17.01	20.70	23.83	26.58	28.42
225.0	10.29	10.91	12.64	16.06	19.69	22.77	25.07	26.69	27.19
270.0	10.02	10.52	12.14	15.61	19.69	23.28	26.30	28.42	29.37
315.0	9.96	10.35	11.92	15.39	19.47	23.22	26.46	29.15	30.38
360.0	9.96	10.18	11.13	13.60	17.34	20.98	24.11	26.80	28.65

C/γ(°)	180.0
0.0	29.15
45.0	26.63
90.0	28.98
135.0	30.38
180.0	29.15
225.0	26.63
270.0	28.98
315.0	30.38
360.0	29.15