



NATA LIGHTING CO.,LTD.
www.nata.cn
Email:info@nata.cn
Tel:+86-750-3770000 Fax:+86-750-3771111
Address:380 JinOu Road,GaoXin Zone,Jiang Men City,Guangdong,China

Nata

Client:

LumCAT: 1547-E

Luminaire: 92.70.064.00

Report No: nata-0100

Test No:

LampCAT: CITIZEN CUL700

Lamp flux(lm): 314.0

Number of Lamps: 1

Length(mm): 21

Phm Type: C

Voltage(V): 9.4000

Current(A): 0.3000

Power (W): 2.8200

PF: 0.0000

Ballast type:

Width(mm): 21

Height(mm): 0

Photometric Results

Lumens(lm): 283.55, Efficiency(%): 90.30% , Luminous Efficacy(lm/W): 100.55

Central intensity(cd): 291.310, Maximum intensity(cd): 291.310

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=59.2

[C90/270]Total=59.2

Field angle(10%Imax): [C0/180]Total=94.4

[C90/270]Total=94.4

Maximum s/h(1/2): C0_180=0.84 C90_270=0.84

Maximum s/h(1/4): C0_180=0.94 C90_270=0.94

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 90.77%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 98.108%

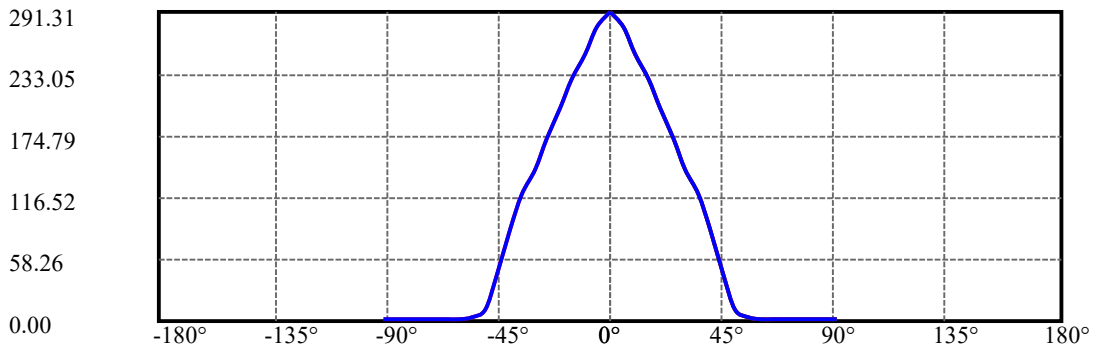
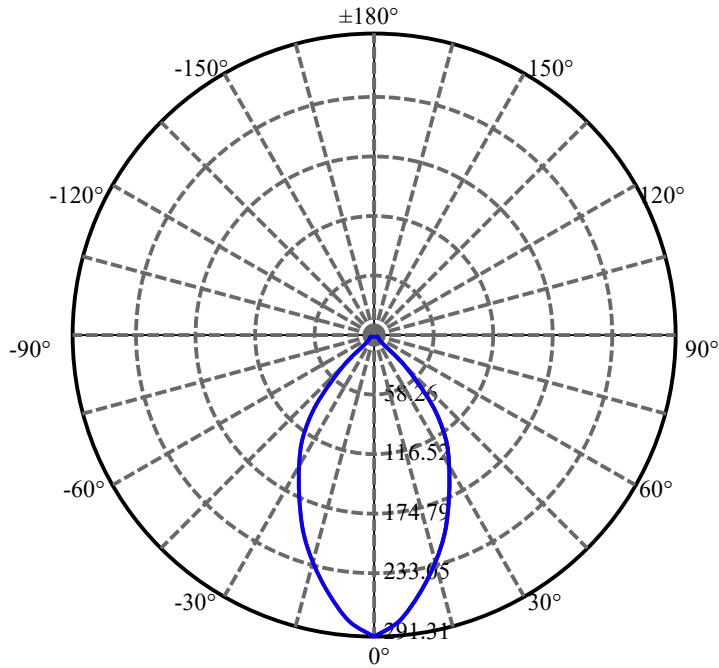
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	291.310	1.742	1.742	.555%	.614%
5.0	276.710	13.219	14.961	4.210%	5.277%
10.0	252.272	24.012	38.973	7.647%	13.745%
15.0	227.362	32.256	71.229	10.272%	25.121%
20.0	201.269	37.733	108.962	12.017%	38.428%
25.0	171.188	39.656	148.618	12.629%	52.414%
30.0	143.215	39.251	187.869	12.500%	66.256%
35.0	119.245	37.491	225.359	11.940%	79.478%
40.0	86.483	30.471	255.83	9.704%	90.225%
45.0	43.147	16.723	272.554	5.326%	96.123%
50.0	10.647	4.470	277.024	1.424%	97.699%
55.0	3.630	1.630	278.654	.519%	98.274%
60.0	2.051	0.974	279.628	.310%	98.617%
65.0	1.380	0.685	280.313	.218%	98.859%
70.0	1.284	0.661	280.974	.211%	99.092%
75.0	1.242	0.658	281.632	.209%	99.324%
80.0	1.445	0.780	282.412	.248%	99.599%
85.0	1.604	0.876	283.288	.279%	99.908%
90.0	0.950	0.260	283.548	.083%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	187.87	59.83%	66.26%
0-40	255.83	81.47%	90.22%
0-60	279.63	89.05%	98.62%
0-90	283.29	90.22%	99.91%
0-120	283.29	90.22%	99.91%
0-180	283.55	90.30%	100.00%
60-90	4.63	1.48%	1.63%
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%
0-35.24	226.84	72.24%	80.00%

ZONAL LUMEN SUMMARY

0-10	38.97
10-20	69.99
20-30	78.91
30-40	67.96
40-50	21.19
50-60	2.60
60-70	1.35
70-80	1.44
80-90	0.88
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



C0(Max): ———

C0/C180: ———

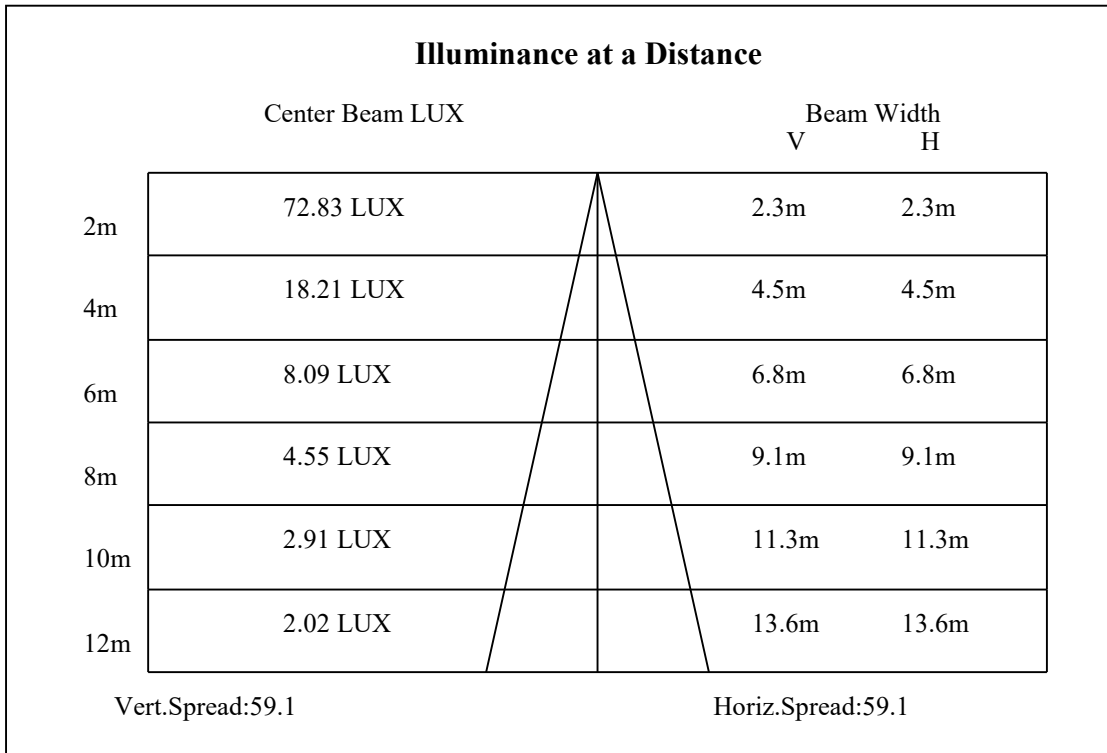
C90/C270: ———

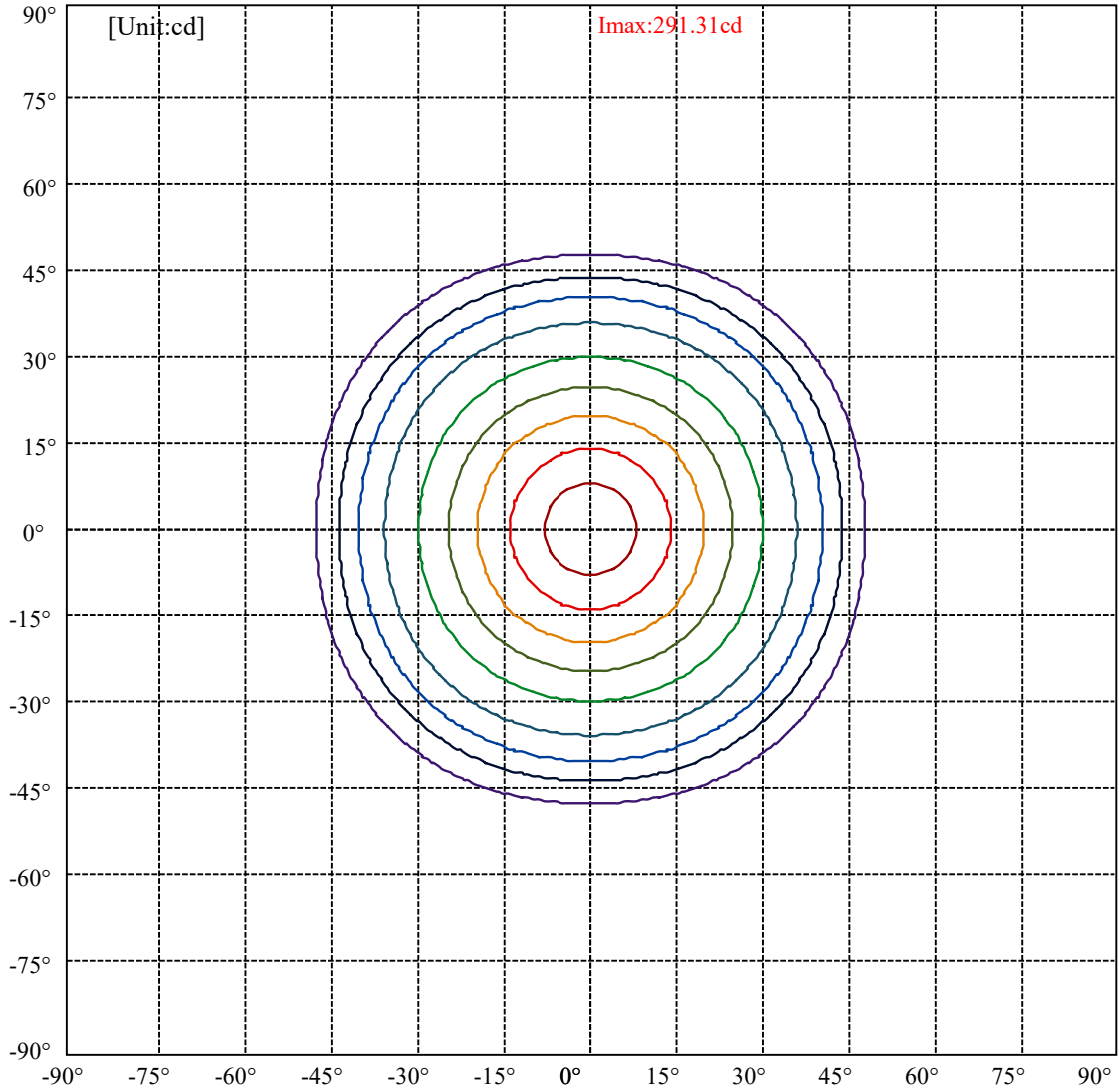
Field angle(10%Imax):C0/180Left:47.2 Right:47.2

:C90/270Left:47.2 Right:47.2

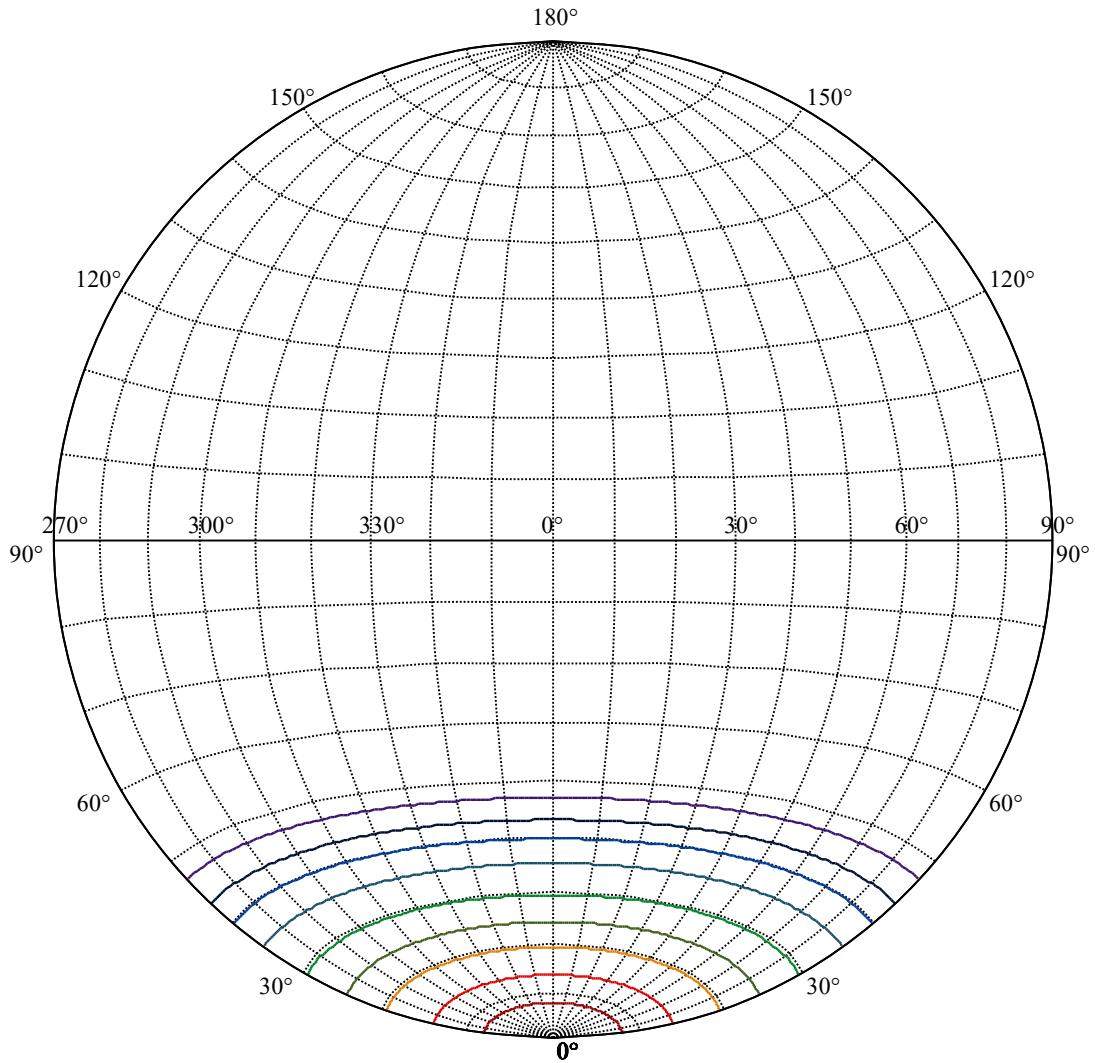
Beam Angle(50%Imax):C0/180Left:29.6 Right:29.6

:C90/270Left:29.6 Right:29.6





(10%Imax) 29.131	—
(20%Imax) 58.2621	—
(30%Imax) 87.3931	—
(40%Imax) 116.524	—
(50%Imax) 145.655	—
(60%Imax) 174.786	—
(70%Imax) 203.917	—
(80%Imax) 233.048	—
(90%Imax) 262.179	—



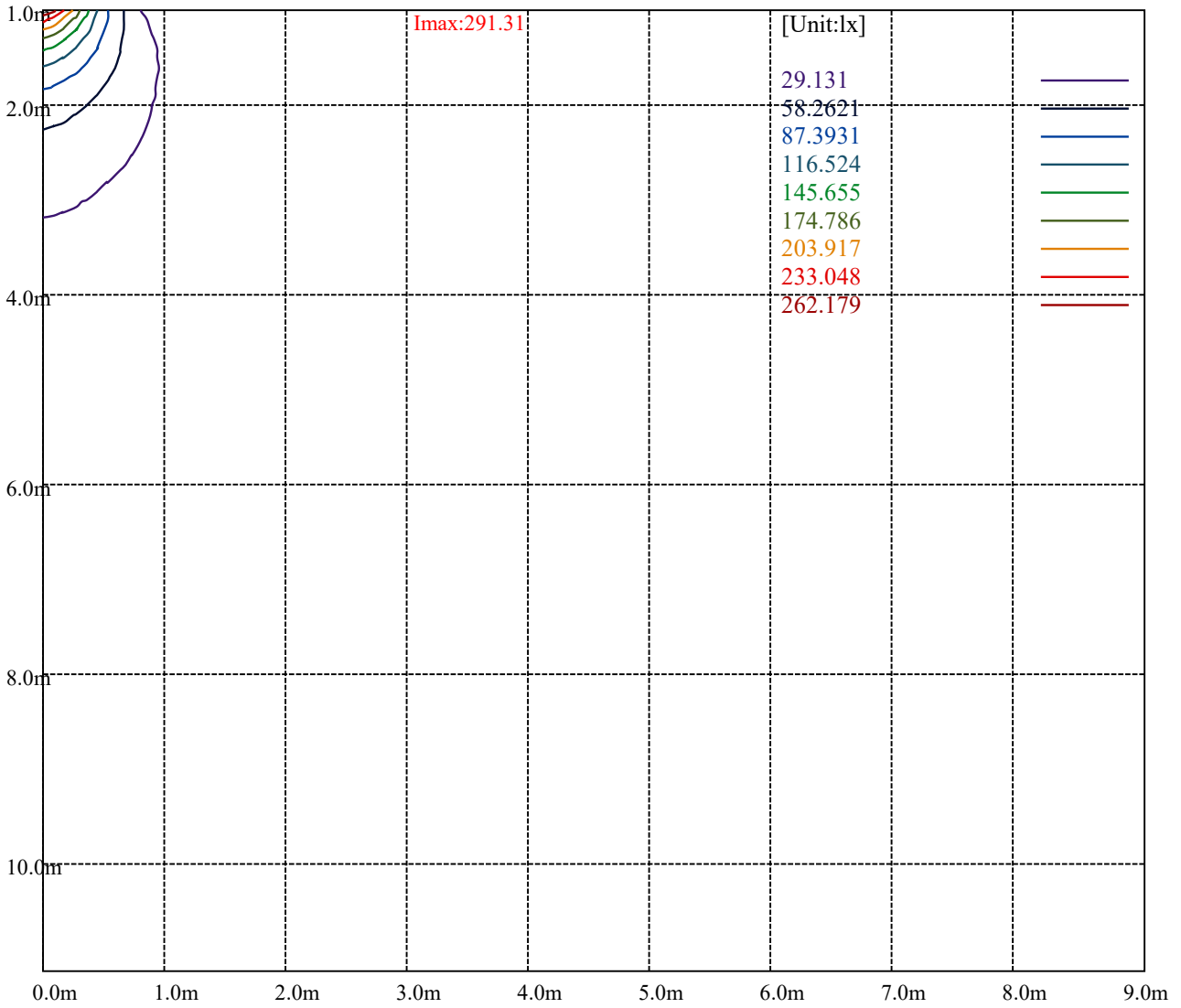
House

[Unit:cd]

Road

Imax:291.31

(10%Imax) 29.131	—
(20%Imax) 58.2621	—
(30%Imax) 87.3931	—
(40%Imax) 116.524	—
(50%Imax) 145.655	—
(60%Imax) 174.786	—
(70%Imax) 203.917	—
(80%Imax) 233.048	—
(90%Imax) 262.179	—



Luminance Table

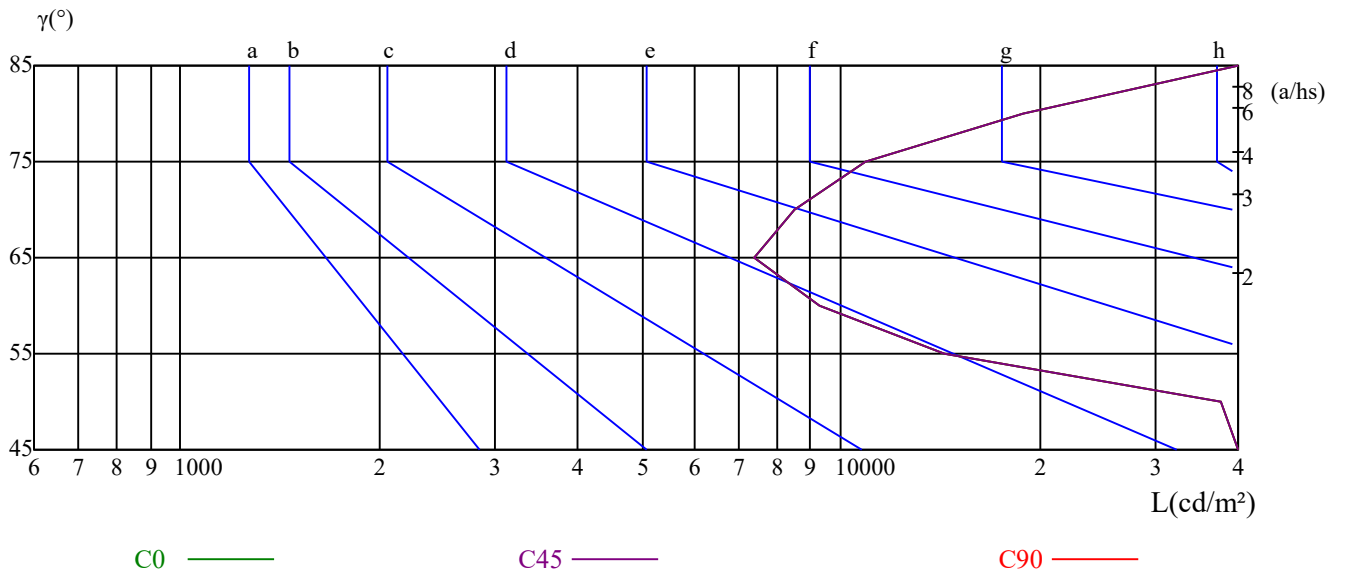
γ	45	50	55	60	65	70	75	80	85
C0	138365	37558	14352	9301	7404	8510	10883	18872	41720
C45	138365	37558	14352	9301	7404	8510	10883	18872	41720
C90	138365	37558	14352	9301	7404	8510	10883	18872	41720

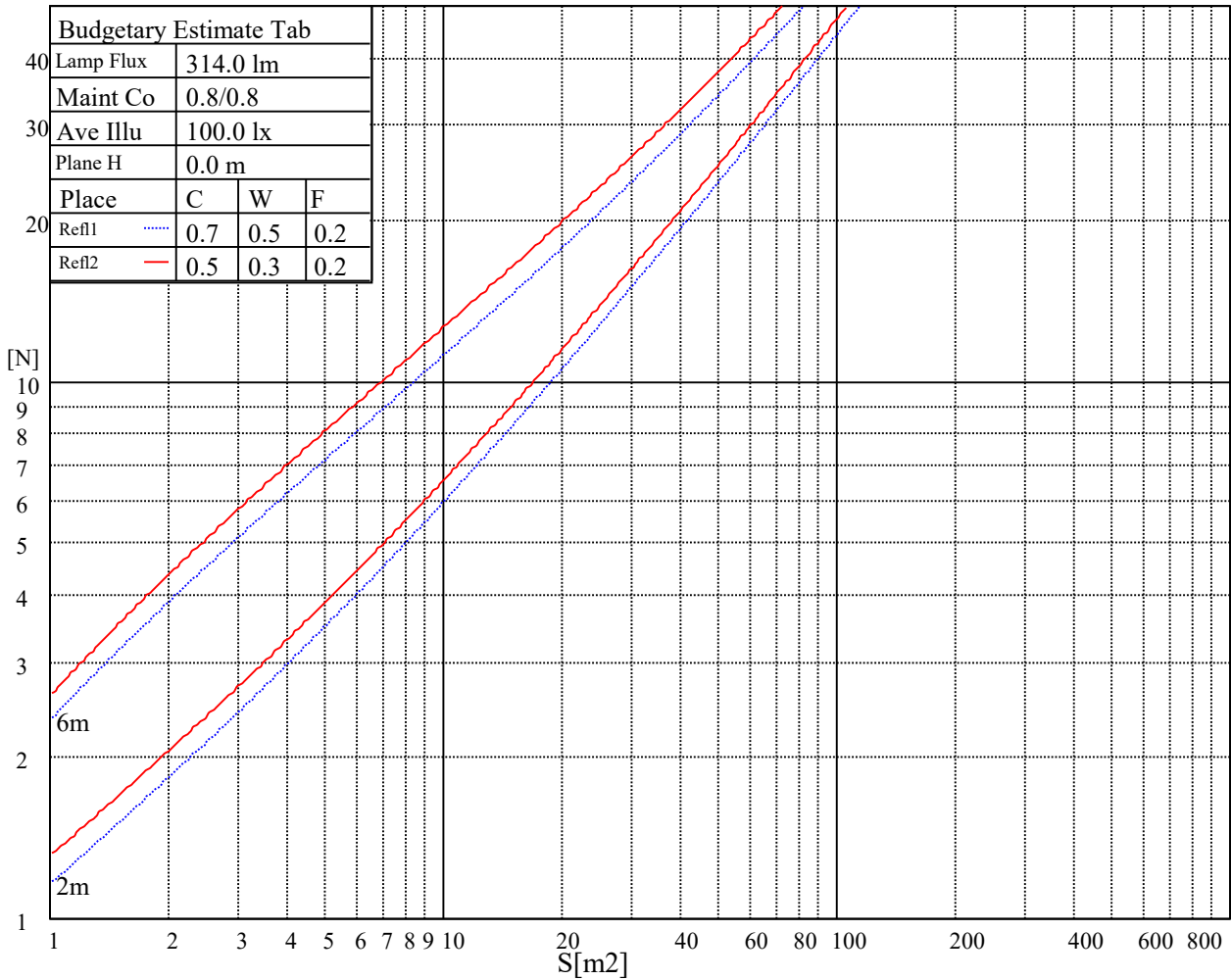
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
7404	7404	7404	10883	10883	10883	41720	41720	41720

Glare Table

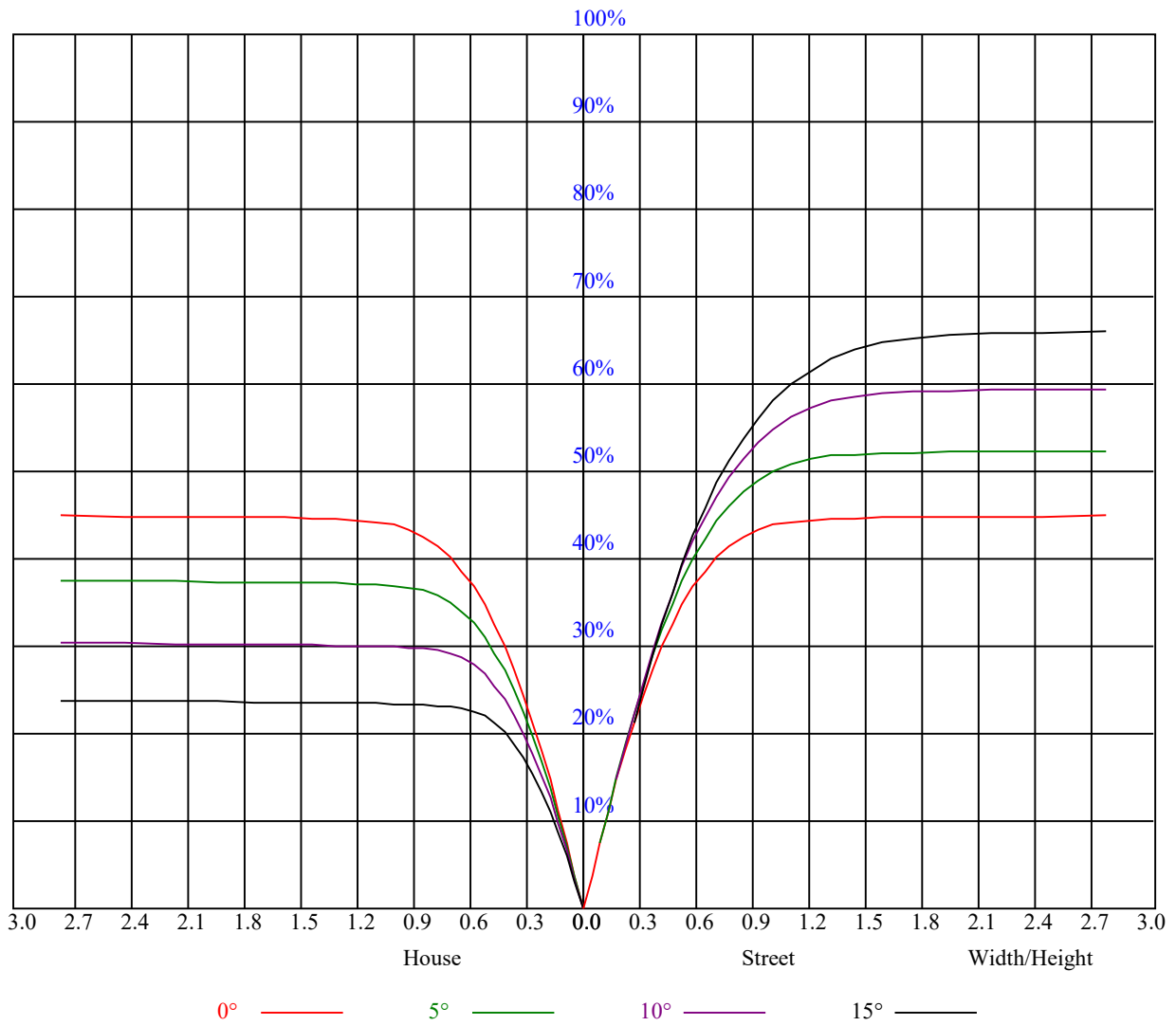
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

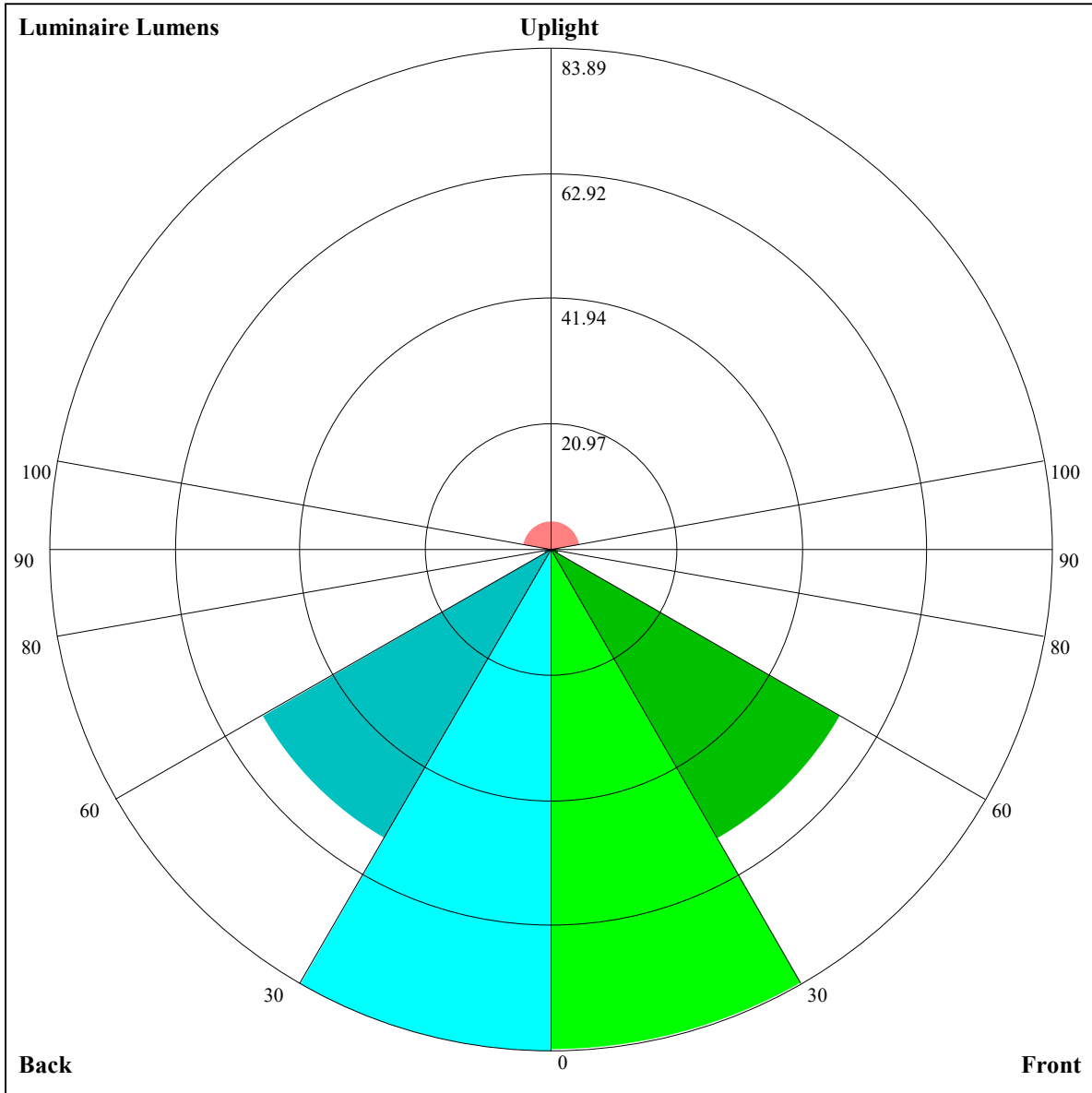
Luminance Limiting Curve





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	COEFFICIENTS OF UTILIZATION RHOFC=20 CU															
0	1.08	1.08	1.08	1.06	1.06	1.06	1.01	1.01	1.01	0.97	0.97	0.97	0.93	0.93	0.93	0.91
1	1.00	0.97	0.95	0.98	0.95	0.93	0.94	0.92	0.90	0.90	0.89	0.88	0.87	0.86	0.85	0.83
2	0.92	0.89	0.85	0.91	0.87	0.84	0.88	0.85	0.82	0.85	0.83	0.81	0.83	0.81	0.79	0.77
3	0.86	0.81	0.78	0.85	0.80	0.77	0.82	0.79	0.76	0.80	0.77	0.74	0.78	0.75	0.73	0.72
4	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	0.68	0.67
5	0.75	0.70	0.66	0.74	0.69	0.65	0.73	0.68	0.65	0.71	0.67	0.64	0.70	0.66	0.64	0.62
6	0.70	0.65	0.61	0.70	0.64	0.61	0.68	0.64	0.60	0.67	0.63	0.60	0.66	0.62	0.59	0.58
7	0.66	0.61	0.57	0.66	0.60	0.57	0.64	0.60	0.56	0.63	0.59	0.56	0.62	0.58	0.56	0.54
8	0.62	0.57	0.53	0.62	0.57	0.53	0.61	0.56	0.53	0.60	0.56	0.52	0.59	0.55	0.52	0.51
9	0.59	0.53	0.50	0.58	0.53	0.50	0.58	0.53	0.49	0.57	0.52	0.49	0.56	0.52	0.49	0.48
10	0.56	0.50	0.47	0.55	0.50	0.47	0.55	0.50	0.47	0.54	0.50	0.46	0.53	0.49	0.46	0.45





Luminaire Lumens:

FL=83.81,FM=55.85,FH=1.41,FVH=0.67

BL=83.89,BM=55.87,BH=1.48,BVH=0.87

UL=1.04,UH=4.93

BUG Rating:B0-U1-G0

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	290.26	277.59	251.94	228.98	206.24	176.46	146.34	121.84	91.34
22.5	291.52	277.70	253.26	230.69	204.15	173.76	147.28	120.68	90.57
45.0	291.96	277.92	251.94	225.84	200.57	170.01	141.27	119.03	86.99
67.5	291.52	283.49	259.59	231.68	206.08	176.68	147.61	123.66	96.35
90.0	294.28	280.07	254.69	227.55	201.01	170.84	145.84	122.39	90.29
112.5	290.64	282.60	258.10	232.89	207.56	178.38	151.02	126.46	97.67
135.0	291.08	278.09	253.87	227.49	201.95	172.55	143.75	120.13	89.69
157.5	289.21	280.18	256.89	231.07	206.46	175.74	147.33	124.98	93.32
180.0	290.26	275.06	250.45	226.28	199.30	168.42	140.39	118.04	82.58
202.5	291.52	275.72	249.35	223.53	195.29	167.87	141.05	116.39	82.58
225.0	291.96	275.94	252.49	226.89	202.00	171.94	143.81	120.63	86.71
247.5	291.52	272.69	247.15	223.53	195.67	164.29	137.26	113.36	75.70
270.0	294.28	274.95	251.99	226.28	200.41	170.45	141.27	116.06	80.44
292.5	290.64	270.16	246.87	221.33	193.80	163.63	136.15	109.95	75.43
315.0	291.08	273.69	250.84	229.81	201.18	170.51	141.72	118.54	84.13
337.5	289.21	271.48	246.93	223.97	198.64	167.48	139.35	115.78	79.94
360.0	290.26	277.59	251.94	228.98	206.24	176.46	146.34	121.84	91.34
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	48.34	12.61	4.68	1.60	1.38	1.27	1.21	1.27	1.71
22.5	47.57	14.70	4.46	2.48	1.32	1.27	1.27	1.16	1.10
45.0	43.77	9.63	4.35	2.09	1.32	1.27	1.21	1.10	1.05
67.5	53.02	16.19	3.96	3.25	1.38	1.27	1.27	1.16	1.49
90.0	48.17	12.50	3.41	2.70	1.38	1.27	1.21	1.27	2.26
112.5	57.92	17.56	3.30	2.86	1.38	1.27	1.27	1.16	1.71
135.0	45.15	10.79	3.19	2.26	1.38	1.27	1.21	1.10	1.05
157.5	49.28	13.32	3.30	2.86	1.43	1.32	1.32	1.16	1.71
180.0	38.65	8.26	3.14	1.98	1.43	1.32	1.27	2.09	3.36
202.5	37.49	6.88	3.03	1.54	1.38	1.32	1.27	2.31	2.53
225.0	41.29	11.23	3.08	1.54	1.38	1.32	1.27	1.98	1.98
247.5	31.66	5.34	2.92	1.49	1.38	1.27	1.27	1.71	1.21
270.0	39.20	7.38	3.14	1.60	1.43	1.32	1.27	1.65	1.38
292.5	31.77	5.73	3.52	1.49	1.38	1.32	1.21	1.71	0.99
315.0	40.47	10.24	4.46	1.54	1.38	1.27	1.21	1.16	1.10
337.5	36.61	7.98	4.13	1.54	1.38	1.21	1.16	1.16	1.05
360.0	48.34	12.61	4.68	1.60	1.38	1.27	1.21	1.27	1.71
C/γ(°)	90.0								
0.0	0.94								
22.5	0.94								
45.0	0.94								
67.5	0.99								
90.0	0.94								
112.5	0.99								
135.0	0.94								
157.5	0.99								
180.0	0.94								
202.5	0.94								
225.0	0.94								
247.5	0.94								
270.0	0.94								
292.5	0.99								
315.0	0.94								
337.5	0.94								
360.0	0.94								