



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

LumCAT: 2-1093-E	
Luminaire: 92.76.263.00	
Report No: NT2016121901	Voltage(V): 33.0000
Test No: GC2016121901	Current(A): 0.5500
LampCAT: VERO 13	Power (W): 18.1500
Lamp flux(lm): 1614.1	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 68	Width(mm): 68
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 1422.31
Efficiency(%): 88.12%
Lumens(lm)/Power(W): 78.36
Central intensity(cd): 2016.991
Maximum intensity(cd): 2016.991
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=46.6
 [C90/270]Total=46.6
Field angle(10%Imax): [C0/180]Total=80.6
 [C90/270]Total=80.6
Maximum s/h(1/2): C0_180=0.72 C90_270=0.72
Maximum s/h(1/4): C0_180=0.78 C90_270=0.78
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 88.78%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.988%

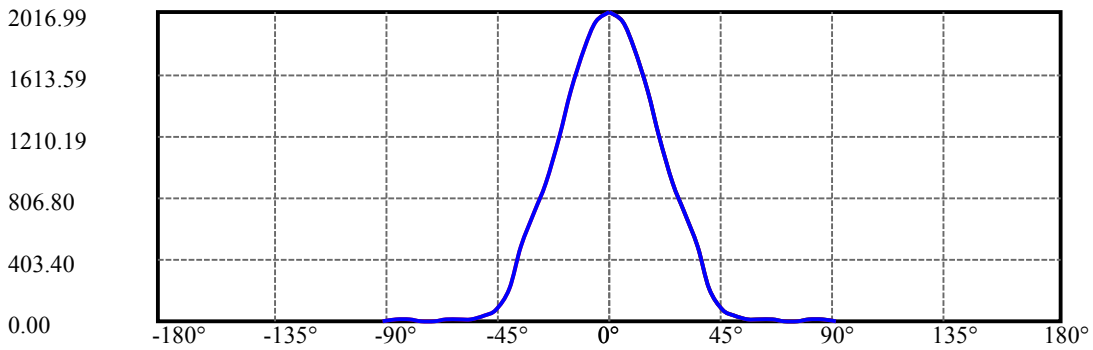
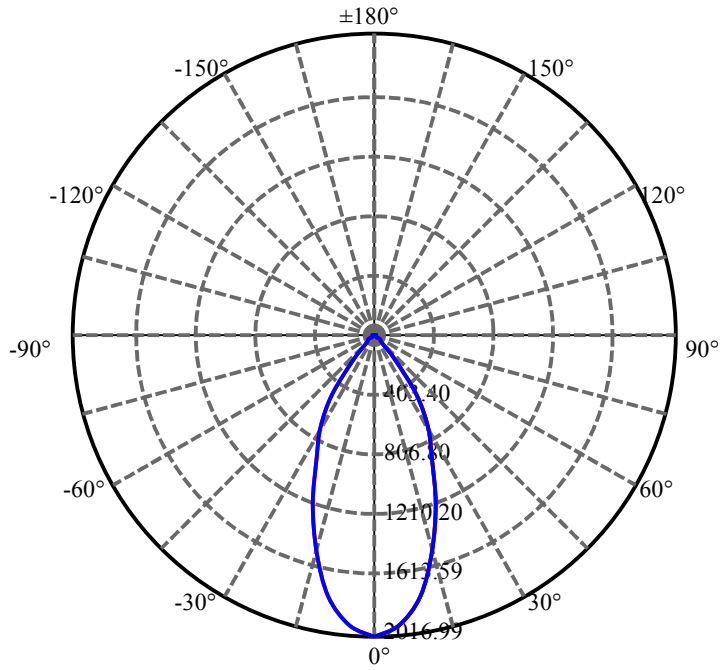
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2016.991	12.062	12.062	.747%	.848%
5.0	1951.405	93.225	105.287	5.776%	7.403%
10.0	1773.023	168.762	274.049	10.456%	19.268%
15.0	1509.096	214.093	488.142	13.264%	34.320%
20.0	1206.960	226.274	714.416	14.019%	50.229%
25.0	907.219	210.160	924.575	13.020%	65.005%
30.0	711.501	195.000	1119.576	12.081%	78.715%
35.0	489.142	153.786	1273.361	9.528%	89.527%
40.0	210.254	74.080	1347.441	4.590%	94.736%
45.0	73.968	28.669	1376.11	1.776%	96.752%
50.0	43.708	18.353	1394.463	1.137%	98.042%
55.0	13.475	6.050	1400.514	.375%	98.467%
60.0	7.735	3.672	1404.186	.228%	98.725%
65.0	6.455	3.207	1407.393	.199%	98.951%
70.0	6.173	3.180	1410.572	.197%	99.174%
75.0	6.036	3.196	1413.768	.198%	99.399%
80.0	6.345	3.425	1417.193	.212%	99.640%
85.0	6.448	3.521	1420.714	.218%	99.888%
90.0	5.836	1.599	1422.314	.099%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1119.58	69.36%	78.72%
0-40	1347.44	83.48%	94.74%
0-60	1404.19	87.00%	98.73%
0-90	1420.71	88.02%	99.89%
0-120	1420.71	88.02%	99.89%
0-180	1422.31	88.12%	100.00%
60-90	20.20	1.25%	1.42%
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%
0-30.59	1137.85	70.50%	80.00%

ZONAL LUMEN SUMMARY

0-10	274.05
10-20	440.37
20-30	405.16
30-40	227.87
40-50	47.02
50-60	9.72
60-70	6.39
70-80	6.62
80-90	3.52
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: —————

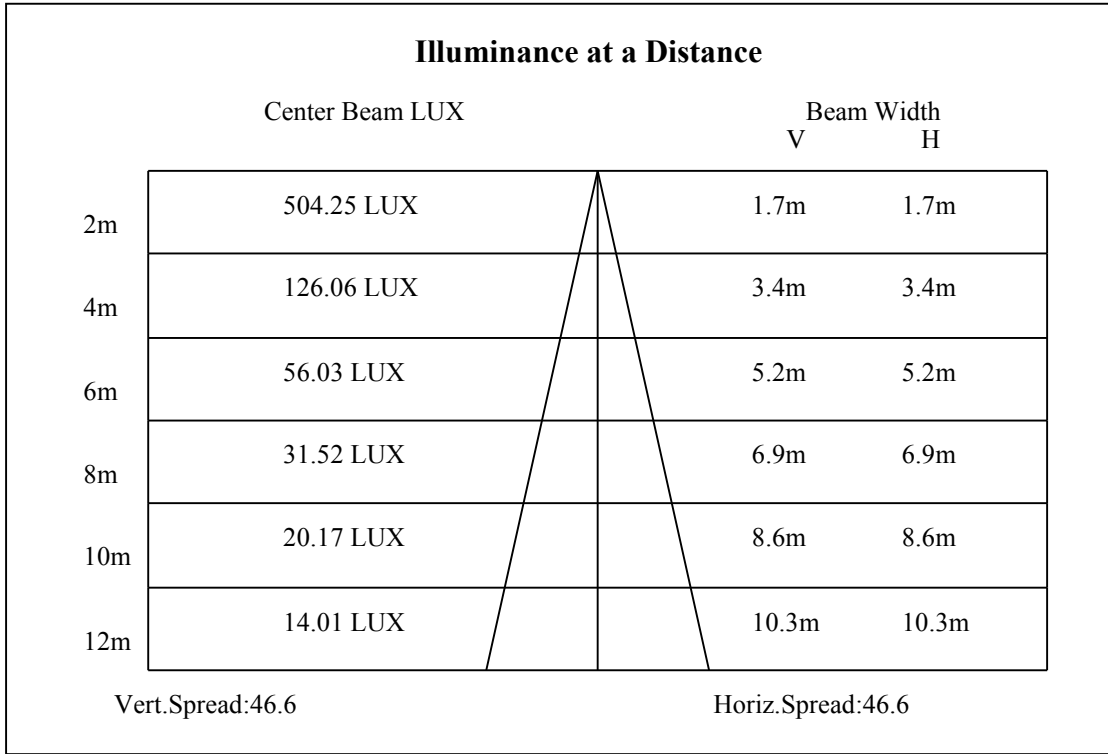
C90/C270: —————

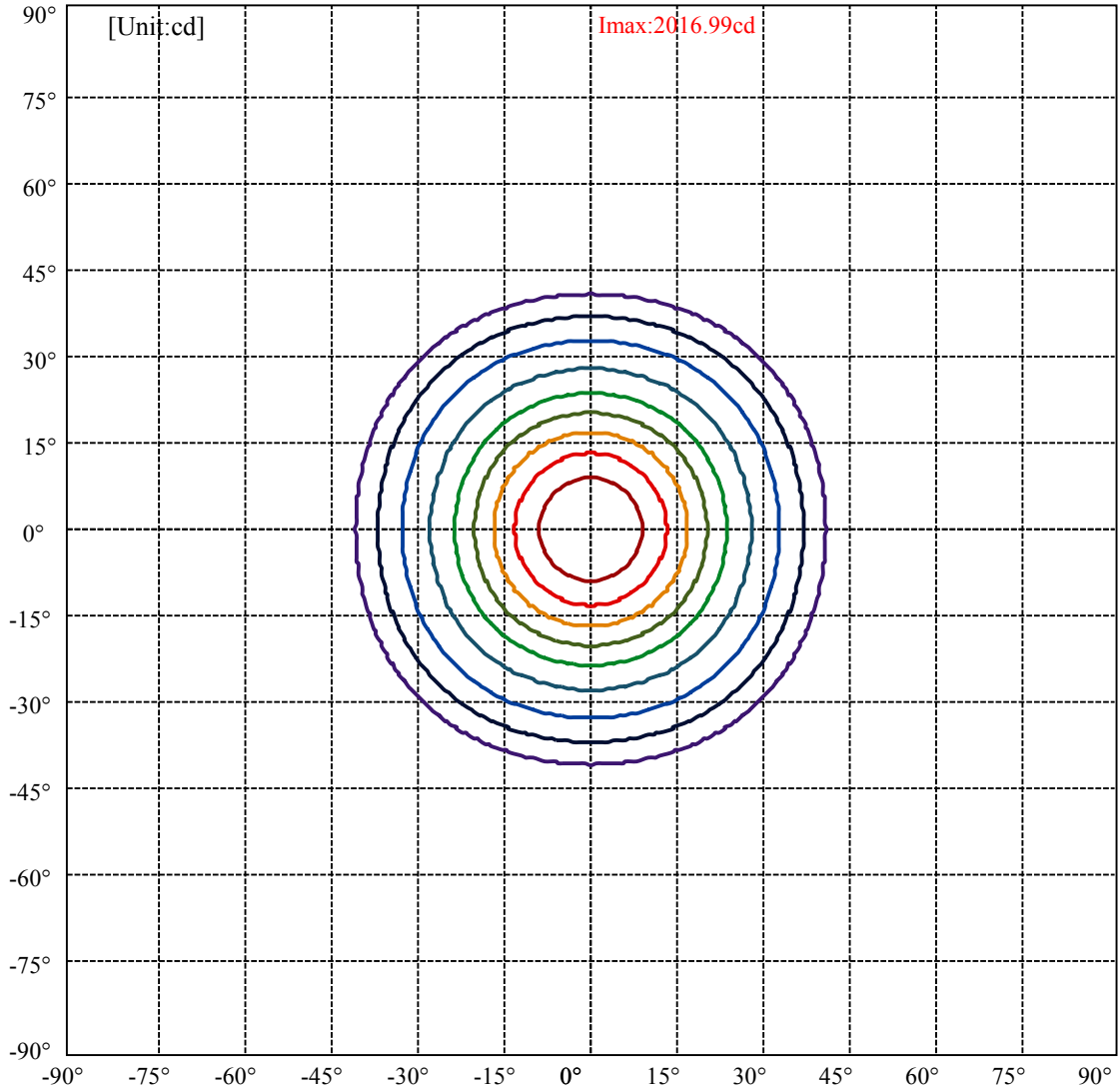
Field angle(10%Imax):C0/180Left:40.3 Right:40.3

:C90/270Left:40.3 Right:40.3

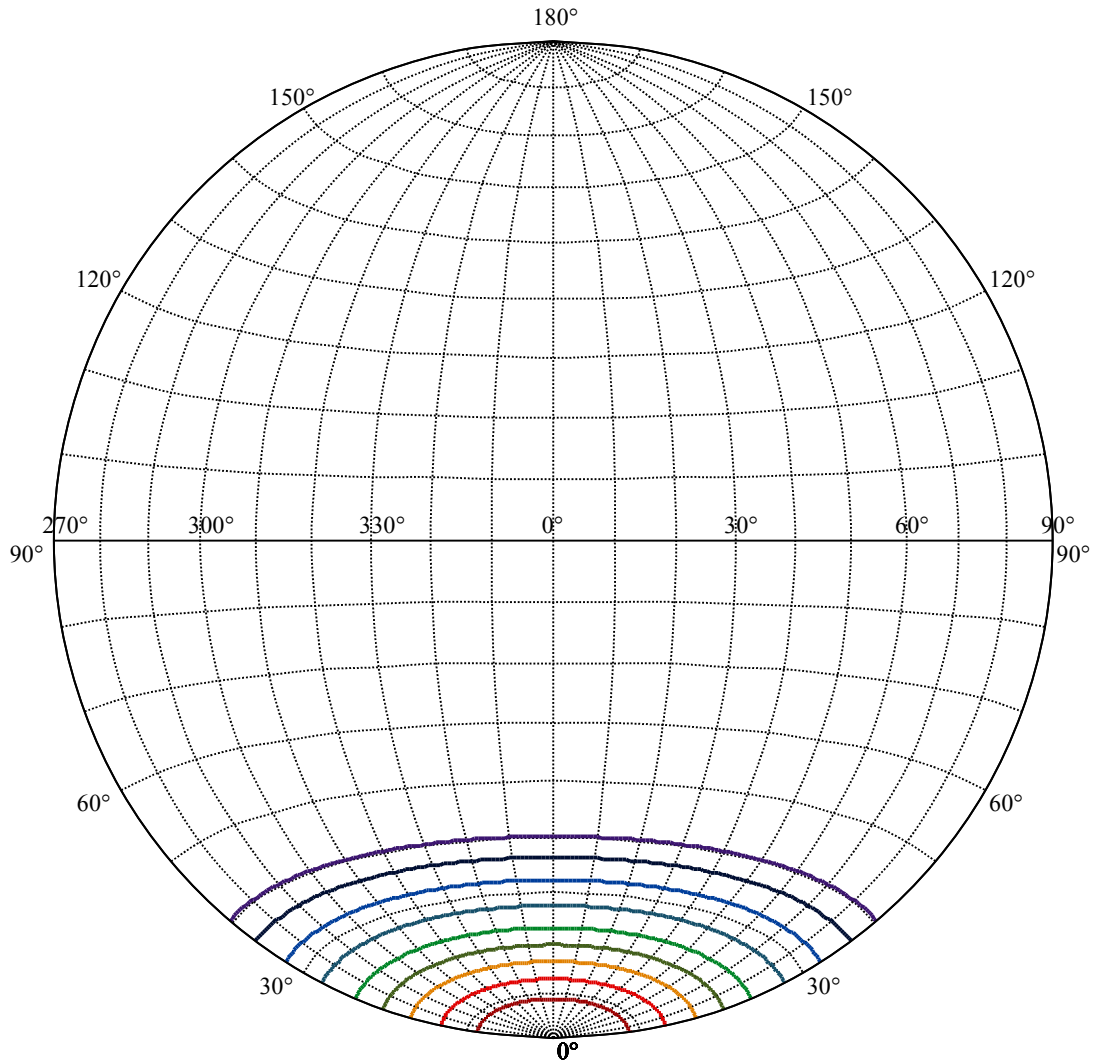
Beam Angle(50%Imax):C0/180Left:23.3 Right:23.3

:C90/270Left:23.3 Right:23.3





(10%Imax) 201.699	—
(20%Imax) 403.398	—
(30%Imax) 605.097	—
(40%Imax) 806.796	—
(50%Imax) 1008.5	—
(60%Imax) 1210.19	—
(70%Imax) 1411.89	—
(80%Imax) 1613.59	—
(90%Imax) 1815.29	—



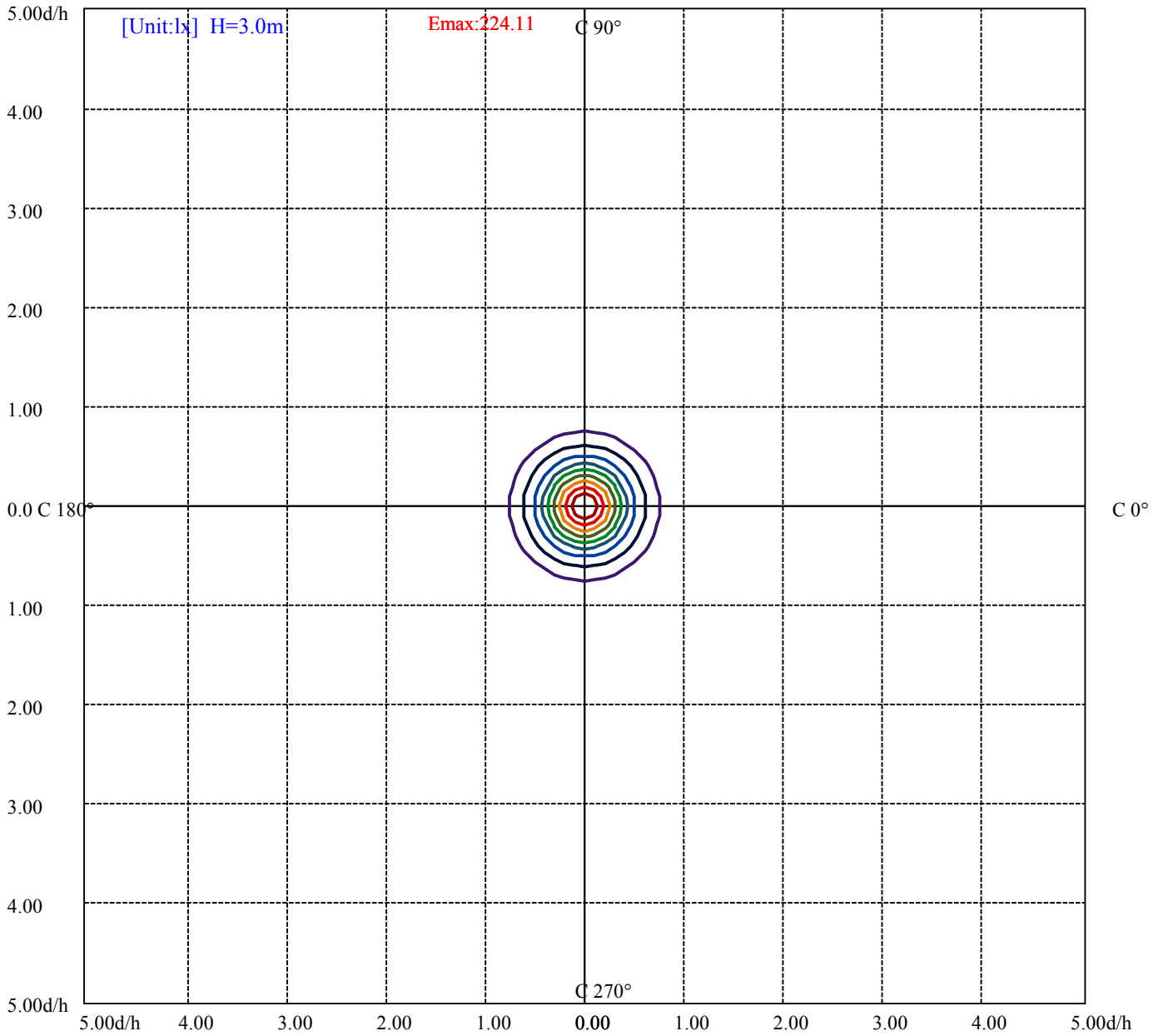
House

[Unit:cd]

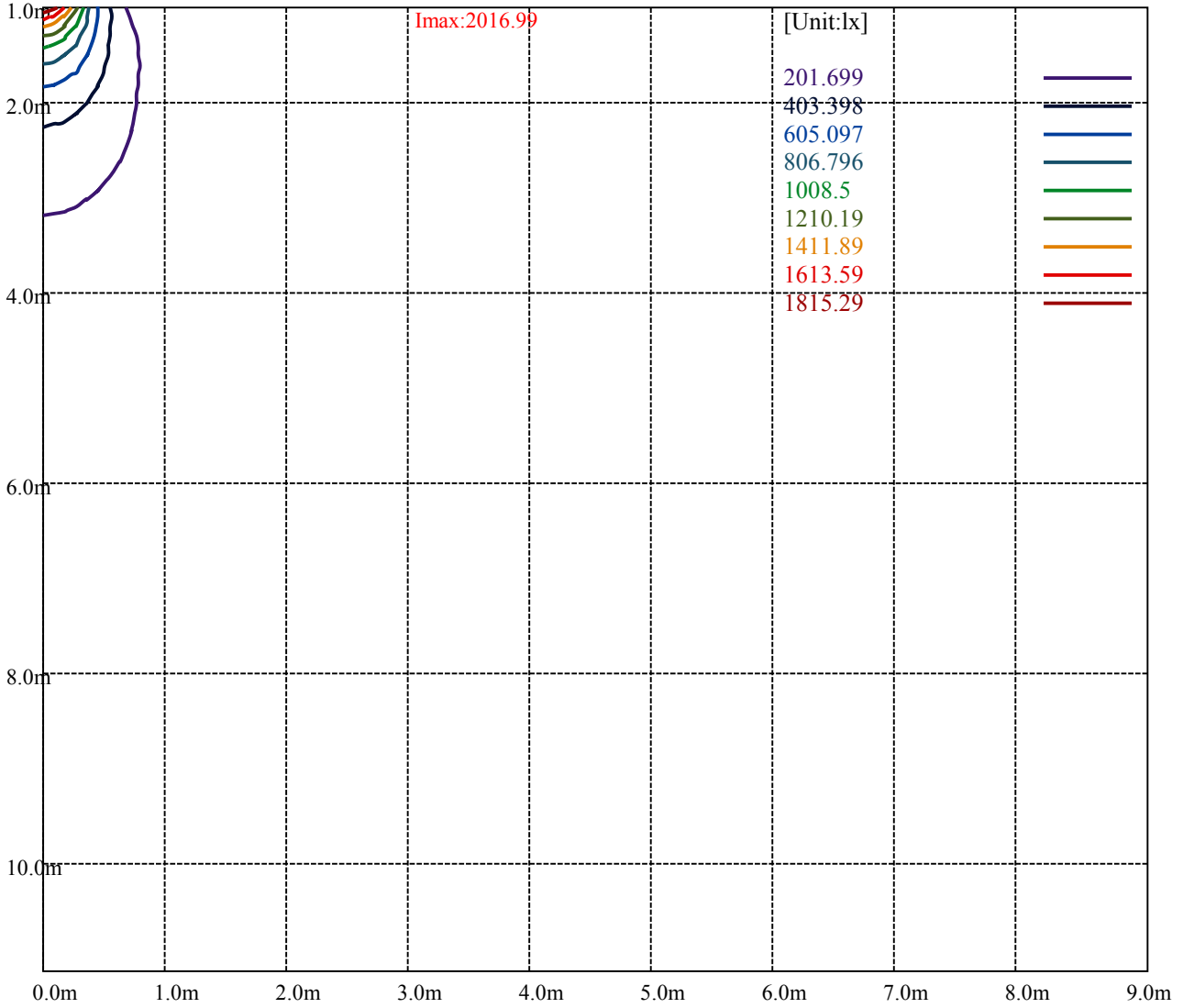
Road

I_{max}:2016.99

(10%I _{max}) 201.699	—
(20%I _{max}) 403.398	—
(30%I _{max}) 605.097	—
(40%I _{max}) 806.796	—
(50%I _{max}) 1008.5	—
(60%I _{max}) 1210.19	—
(70%I _{max}) 1411.89	—
(80%I _{max}) 1613.59	—
(90%I _{max}) 1815.29	—



- (10%Emax) 22.411
- (20%Emax) 44.822
- (30%Emax) 67.233
- (40%Emax) 89.644
- (50%Emax) 112.0544
- (60%Emax) 134.4655
- (70%Emax) 156.8767
- (80%Emax) 179.2878
- (90%Emax) 201.6989



Luminance Table

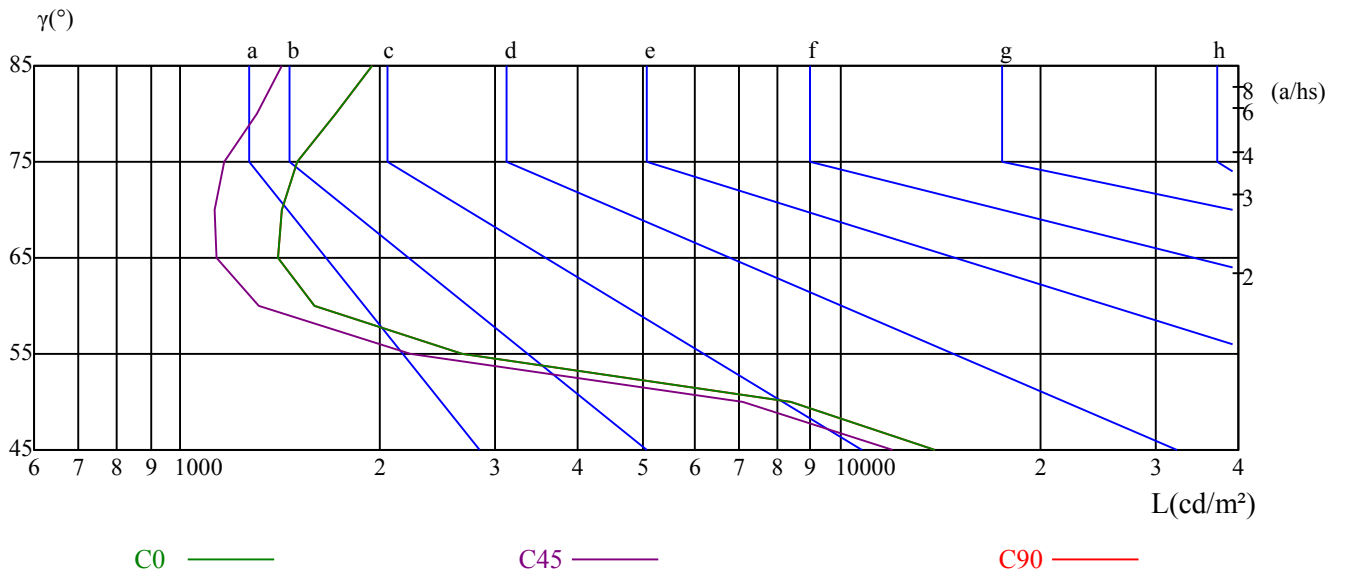
γ	45	50	55	60	65	70	75	80	85
C0	13859	8386	2670	1597	1402	1426	1501	1723	1945
C45	11943	7119	2231	1313	1132	1129	1163	1302	1426
C90	13859	8386	2670	1597	1402	1426	1501	1723	1945

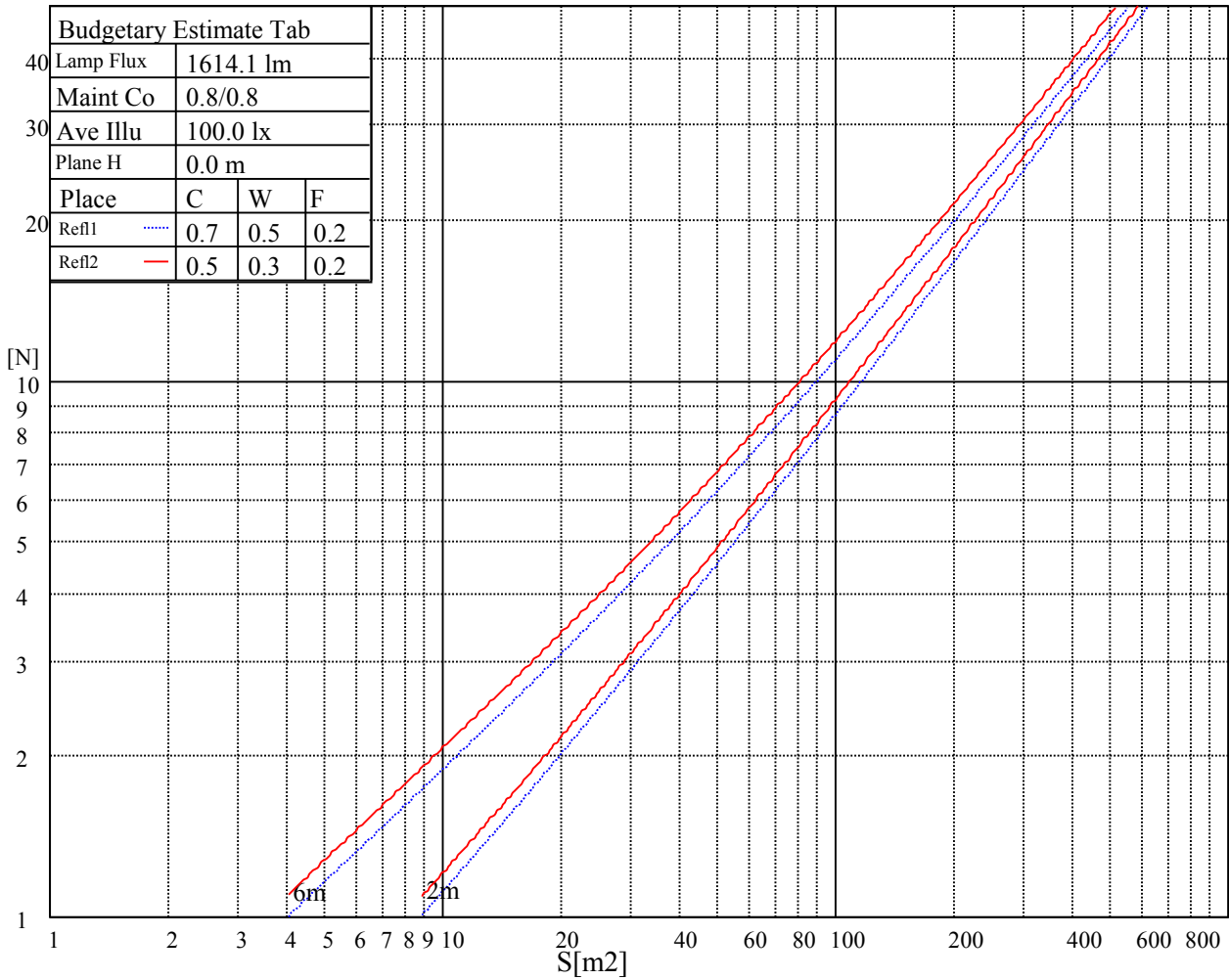
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
3303	3303	3303	5043	5043	5043	16001	16001	16001

Glare Table

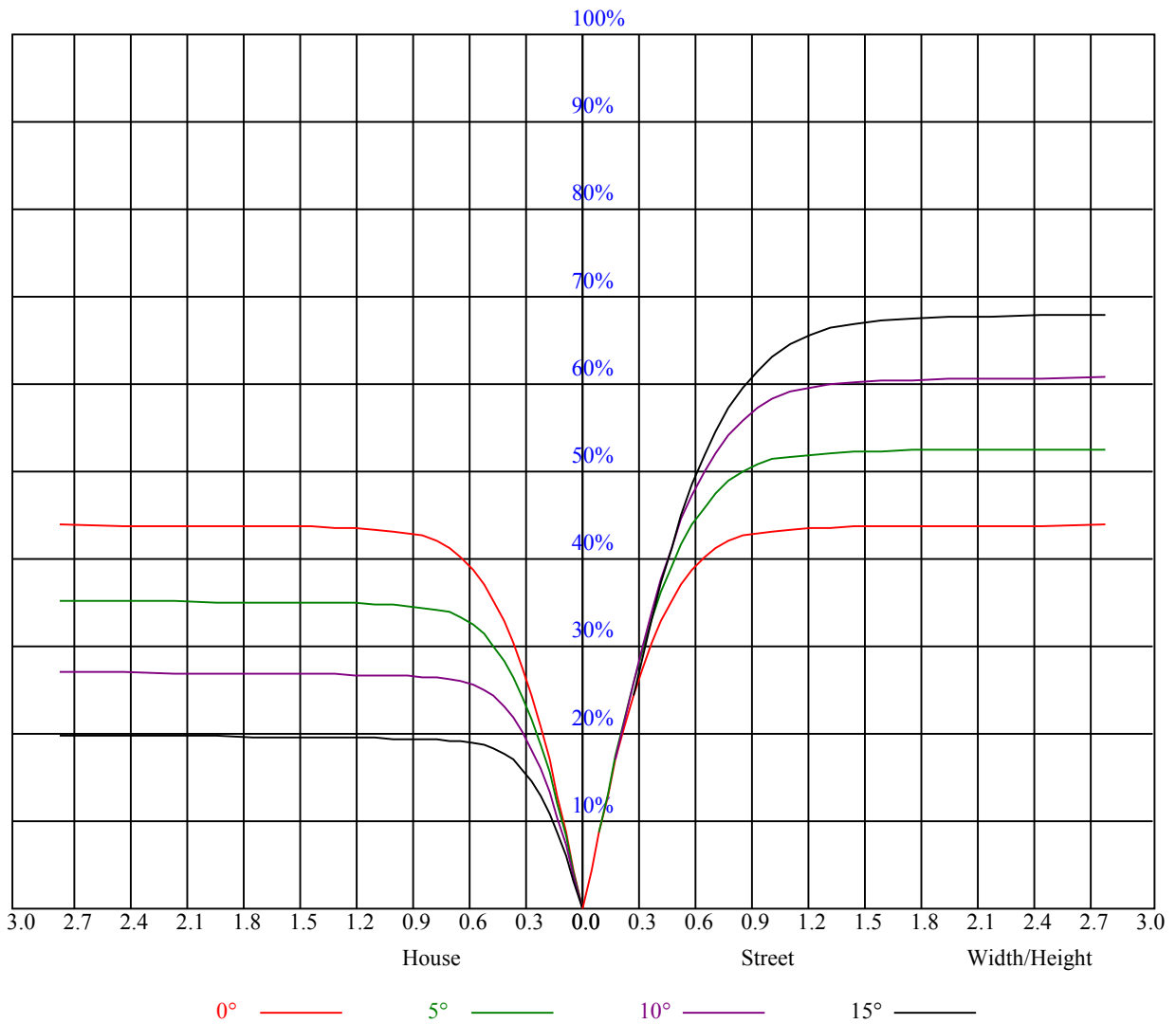
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.06	1.06	1.06	1.03	1.03	1.03	0.99	0.99	0.99	0.94	0.94	0.94	0.91	0.91	0.91	0.89
1	0.98	0.95	0.93	0.96	0.94	0.92	0.92	0.91	0.89	0.89	0.88	0.86	0.86	0.85	0.84	0.82
2	0.92	0.88	0.85	0.90	0.87	0.84	0.87	0.84	0.82	0.84	0.82	0.80	0.82	0.80	0.79	0.77
3	0.86	0.82	0.78	0.85	0.81	0.78	0.82	0.79	0.76	0.80	0.78	0.75	0.78	0.76	0.74	0.73
4	0.81	0.76	0.73	0.80	0.76	0.72	0.78	0.75	0.72	0.76	0.73	0.71	0.75	0.72	0.70	0.69
5	0.77	0.72	0.68	0.76	0.71	0.68	0.74	0.70	0.67	0.73	0.69	0.67	0.71	0.68	0.66	0.65
6	0.73	0.68	0.64	0.72	0.67	0.64	0.71	0.67	0.63	0.69	0.66	0.63	0.68	0.65	0.63	0.61
7	0.69	0.64	0.61	0.68	0.64	0.60	0.67	0.63	0.60	0.66	0.63	0.60	0.65	0.62	0.59	0.58
8	0.66	0.61	0.57	0.65	0.60	0.57	0.64	0.60	0.57	0.63	0.60	0.57	0.62	0.59	0.57	0.55
9	0.63	0.58	0.54	0.62	0.58	0.54	0.61	0.57	0.54	0.61	0.57	0.54	0.60	0.56	0.54	0.53
10	0.60	0.55	0.52	0.59	0.55	0.52	0.59	0.55	0.52	0.58	0.54	0.52	0.57	0.54	0.51	0.50



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	2009.01	1984.78	1844.39	1601.04	1338.97	994.32	753.17	589.10	287.94
45.0	2015.06	1971.57	1806.95	1561.95	1287.77	958.53	743.26	551.11	283.54
90.0	2022.77	1938.54	1734.83	1461.75	1090.89	862.18	683.08	438.80	123.71
135.0	2021.12	1944.59	1755.20	1474.96	1213.99	883.66	698.67	472.93	282.99
180.0	2009.01	1912.66	1694.09	1411.10	1088.80	824.97	664.42	403.84	111.21
225.0	2015.06	1931.38	1737.03	1455.69	1096.06	860.59	688.59	422.45	132.85
270.0	2022.77	1965.51	1817.41	1560.85	1275.66	957.43	737.76	528.54	282.44
315.0	2021.12	1962.21	1794.29	1545.43	1263.54	916.08	723.06	506.35	177.34
360.0	2009.01	1984.78	1844.39	1601.04	1338.97	994.32	753.17	589.10	287.94

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	79.12	49.28	16.24	7.82	6.61	6.22	6.00	6.11	6.44
45.0	81.98	48.45	15.53	7.76	6.55	6.22	6.06	6.55	7.38
90.0	72.67	42.34	12.66	7.43	6.39	6.17	6.11	7.16	6.44
135.0	72.89	46.03	16.35	7.76	6.50	6.22	6.06	6.00	6.00
180.0	67.50	37.49	11.18	7.54	6.39	6.17	6.06	7.05	6.39
225.0	69.48	38.98	10.85	7.60	6.33	6.11	6.00	6.00	6.28
270.0	76.42	45.59	13.43	8.15	6.44	6.17	6.00	5.95	6.33
315.0	71.68	41.51	11.56	7.82	6.44	6.11	6.00	5.95	6.33
360.0	79.12	49.28	16.24	7.82	6.61	6.22	6.00	6.11	6.44

C/γ(°)	90.0
0.0	5.84
45.0	5.84
90.0	5.84
135.0	5.84
180.0	5.84
225.0	5.84
270.0	5.84
315.0	5.84
360.0	5.84