



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

Nata

LumCAT: 3-2035-M	
Luminaire: 92.70.131.00	
Report No: NT2017051108	Voltage(V): 220.1000
Test No: GC2017051108	Current(A): 0.1300
LampCAT: BMTC MA-1919 20W	Power (W): 26.9000
Lamp flux(lm): 2561.0	PF: 0.9410
Number of Lamps: 1	Ballast type: DC
Length(mm): 78	Width(mm): 78
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 2322.60
Efficiency(%): 90.69%
Lumens(lm)/Power(W): 86.34
Central intensity(cd): 4090.415
Maximum intensity(cd): 4090.415
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=42.3
 [C90/270]Total=42.3
Field angle(10%Imax): [C0/180]Total=73.7
 [C90/270]Total=73.7
Maximum s/h(1/2): C0_180=0.68 C90_270=0.68
Maximum s/h(1/4): C0_180=0.70 C90_270=0.70
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 90.69%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.722%

Equipment: gms1980
Temperature(°C): 25.0

Date: 2017/5/18
Humidity(%): 60.0%

Operator: NT07
Distance(m): 7.42

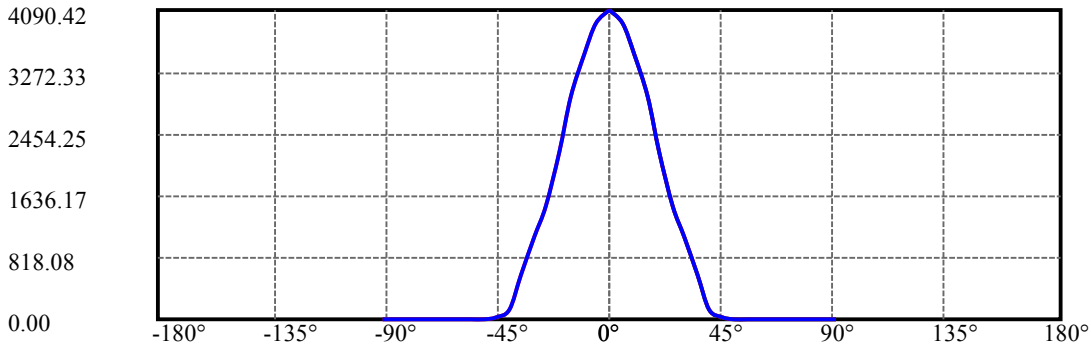
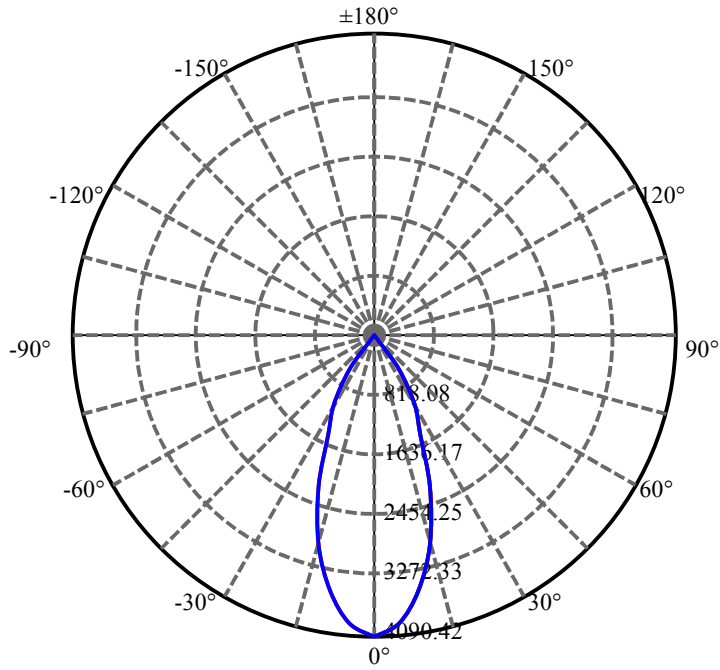
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4090.415	0.000	0	.000%	.000%
5.0	3911.275	95.658	95.658	3.735%	4.119%
10.0	3511.910	265.551	361.209	10.369%	15.552%
15.0	2952.468	383.463	744.671	14.973%	32.062%
20.0	2203.977	424.963	1169.635	16.594%	50.359%
25.0	1508.683	389.389	1559.024	15.205%	67.124%
30.0	1087.550	328.555	1887.58	12.829%	81.270%
35.0	574.135	244.695	2132.274	9.555%	91.806%
40.0	131.605	117.747	2250.022	4.598%	96.875%
45.0	17.859	27.675	2277.696	1.081%	98.067%
50.0	11.314	5.895	2283.591	.230%	98.321%
55.0	10.206	4.679	2288.27	.183%	98.522%
60.0	9.883	4.643	2292.914	.181%	98.722%
65.0	9.628	4.743	2297.657	.185%	98.926%
70.0	9.483	4.839	2302.496	.189%	99.135%
75.0	9.380	4.931	2307.427	.193%	99.347%
80.0	9.366	5.016	2312.443	.196%	99.563%
85.0	9.298	5.071	2317.514	.198%	99.781%
90.0	9.263	5.082	2322.596	.198%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1887.58	73.70%	81.27%
0-40	2250.02	87.86%	96.88%
0-60	2292.91	89.53%	98.72%
0-90	2317.51	90.49%	99.78%
0-120	2317.51	90.49%	99.78%
0-180	2322.60	90.69%	100.00%
60-90	29.24	1.14%	1.26%
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%
0-29.55	1858.08	72.55%	80.00%

ZONAL LUMEN SUMMARY

0-10	361.21
10-20	808.43
20-30	717.94
30-40	362.44
40-50	33.57
50-60	9.32
60-70	9.58
70-80	9.95
80-90	5.07
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



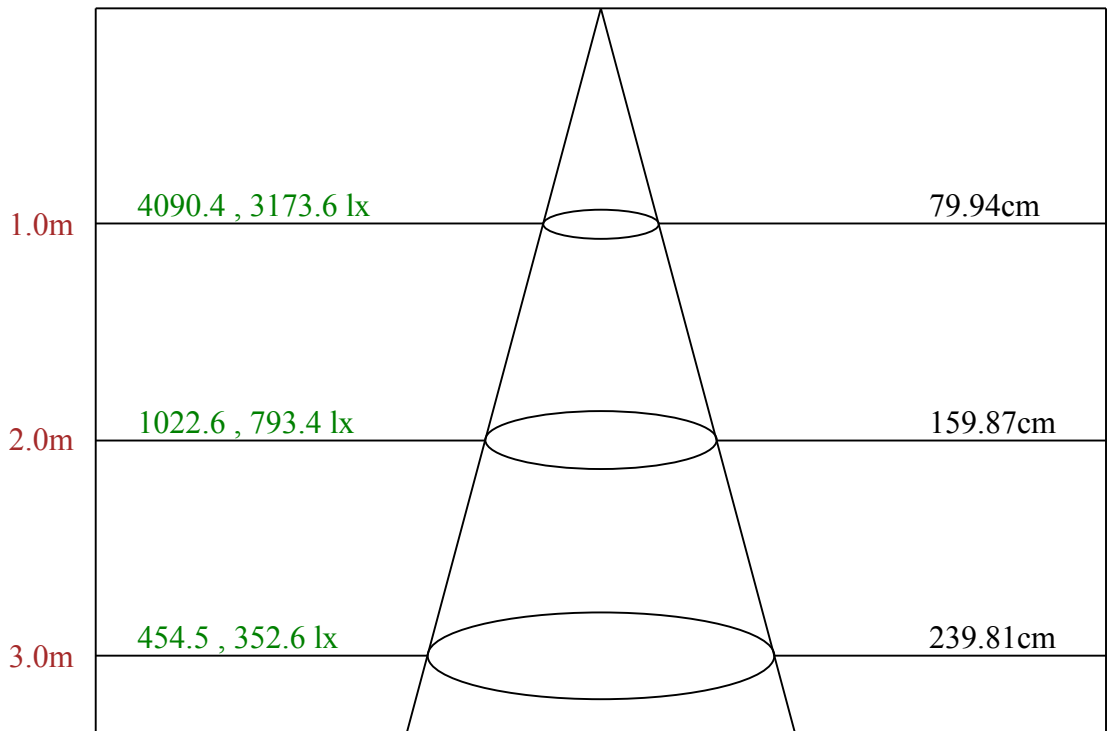
C0(Max): —————

C0/C180: —————

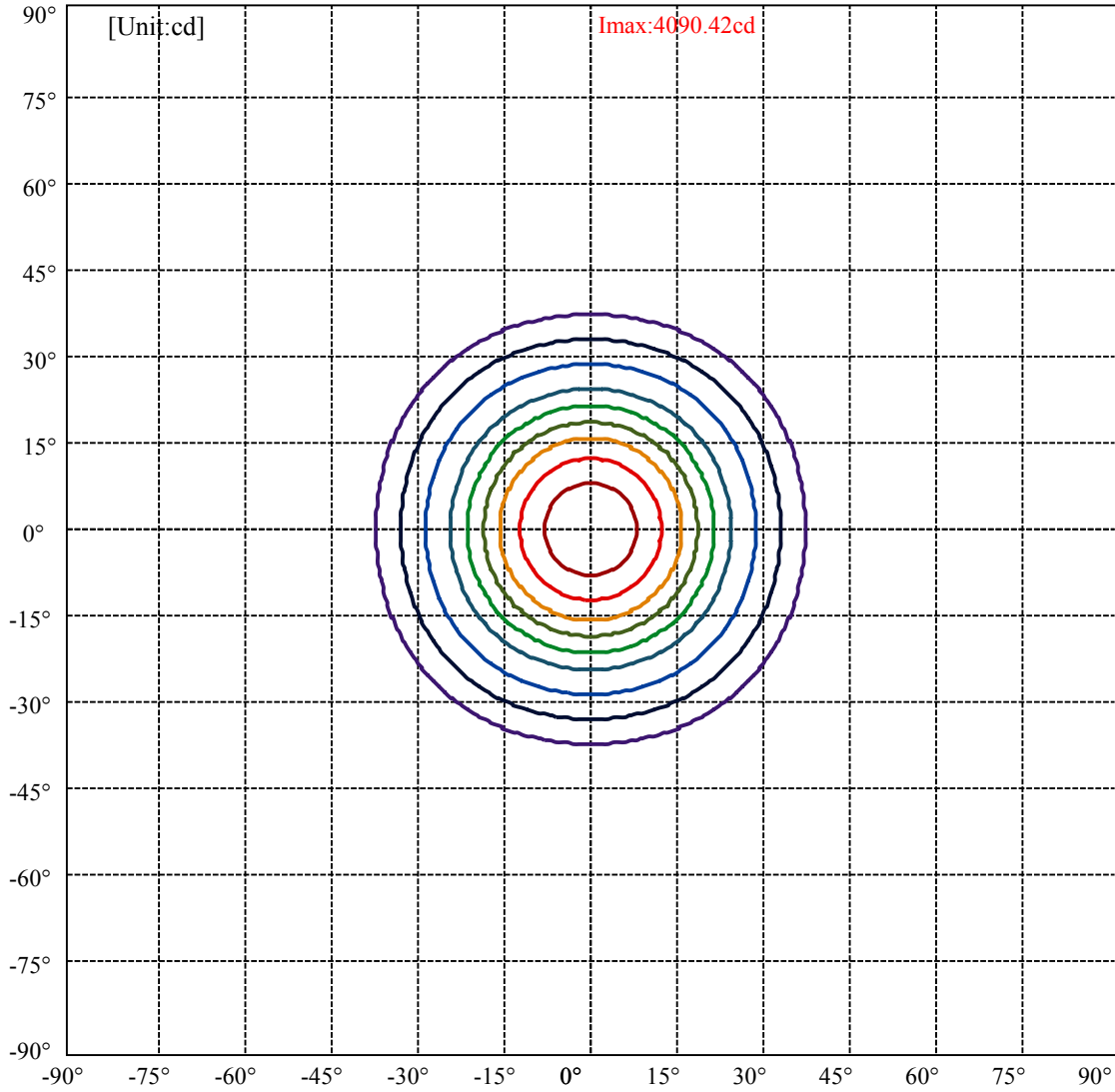
C90/C270: —————

Field angle(10%Imax):C0/180Left:36.9 Right:36.9
:C90/270Left:36.9 Right:36.9

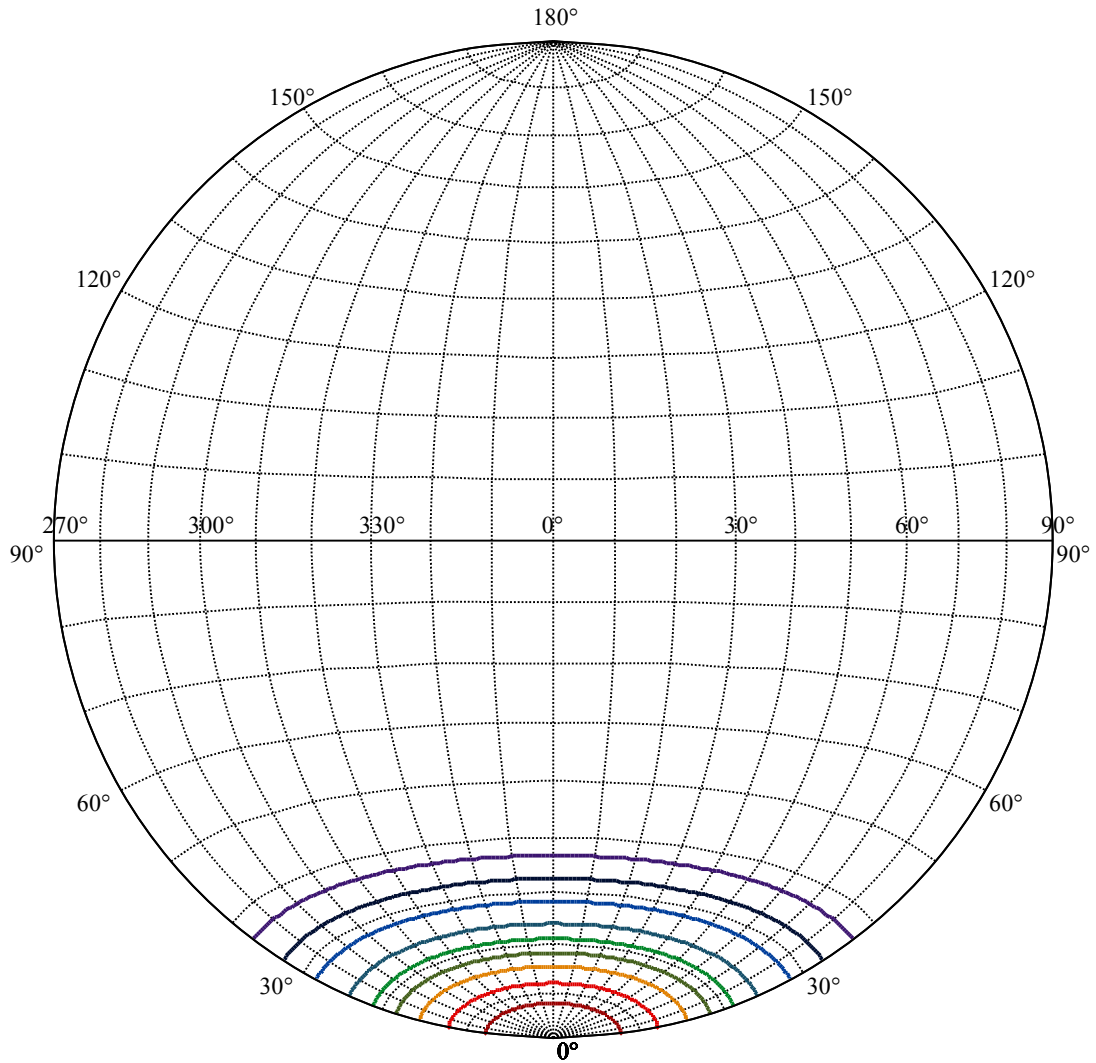
Beam Angle(50%Imax):C0/180Left:21.1 Right:21.1
:C90/270Left:21.1 Right:21.1



Max , Ave Beam angle of C0 plane 43.57



(10%Imax) 409.042	—
(20%Imax) 818.083	—
(30%Imax) 1227.12	—
(40%Imax) 1636.17	—
(50%Imax) 2045.21	—
(60%Imax) 2454.25	—
(70%Imax) 2863.29	—
(80%Imax) 3272.33	—
(90%Imax) 3681.37	—



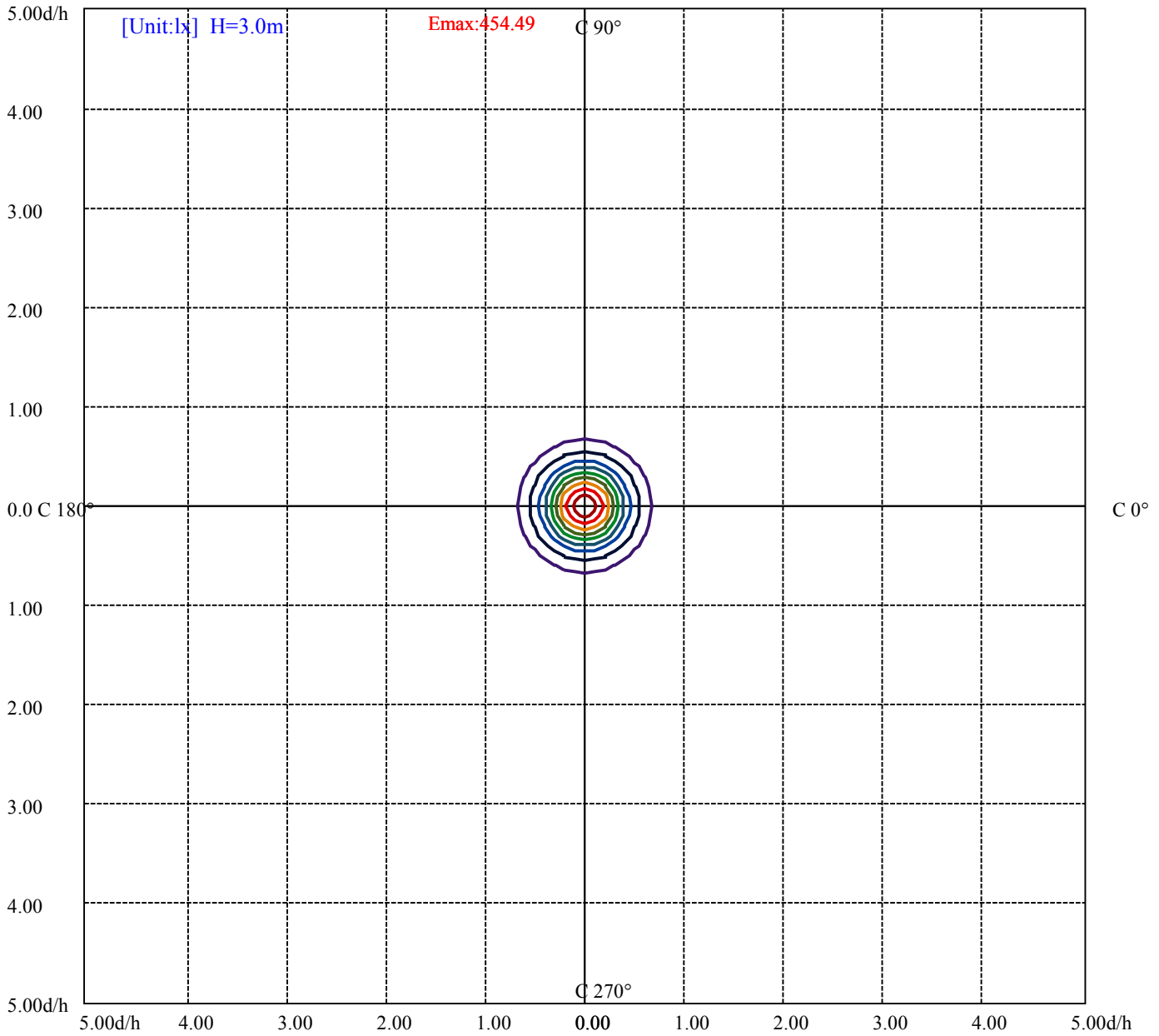
House

[Unit:cd]

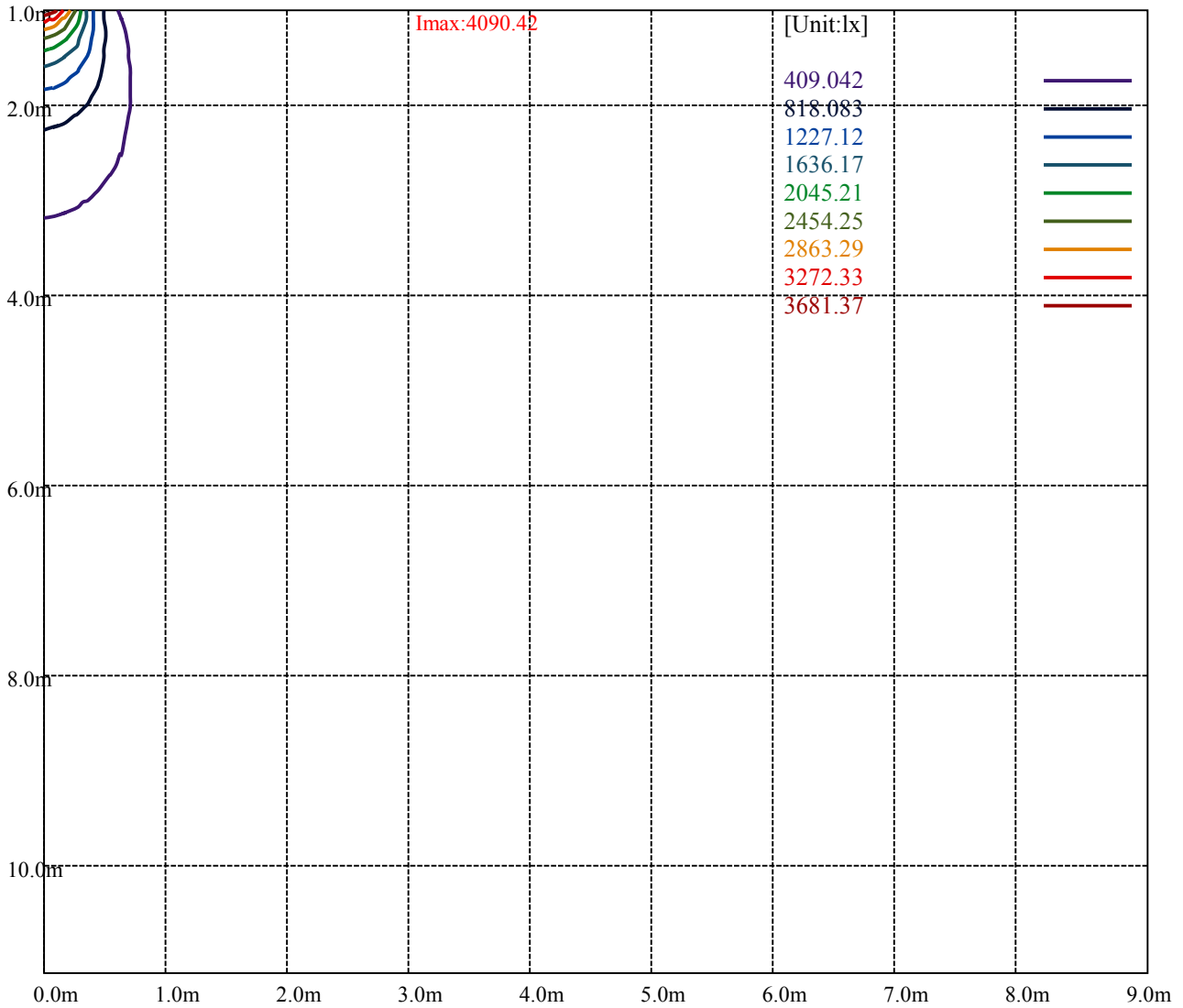
Road

Imax:4090.42

(10%Imax)	409.042	—
(20%Imax)	818.083	—
(30%Imax)	1227.12	—
(40%Imax)	1636.17	—
(50%Imax)	2045.21	—
(60%Imax)	2454.25	—
(70%Imax)	2863.29	—
(80%Imax)	3272.33	—
(90%Imax)	3681.37	—



- (10%Emax) 45.449
- (20%Emax) 90.89799
- (30%Emax) 136.3467
- (40%Emax) 181.7956
- (50%Emax) 227.2444
- (60%Emax) 272.6945
- (70%Emax) 318.1433
- (80%Emax) 363.5922
- (90%Emax) 409.0411



Luminance Table

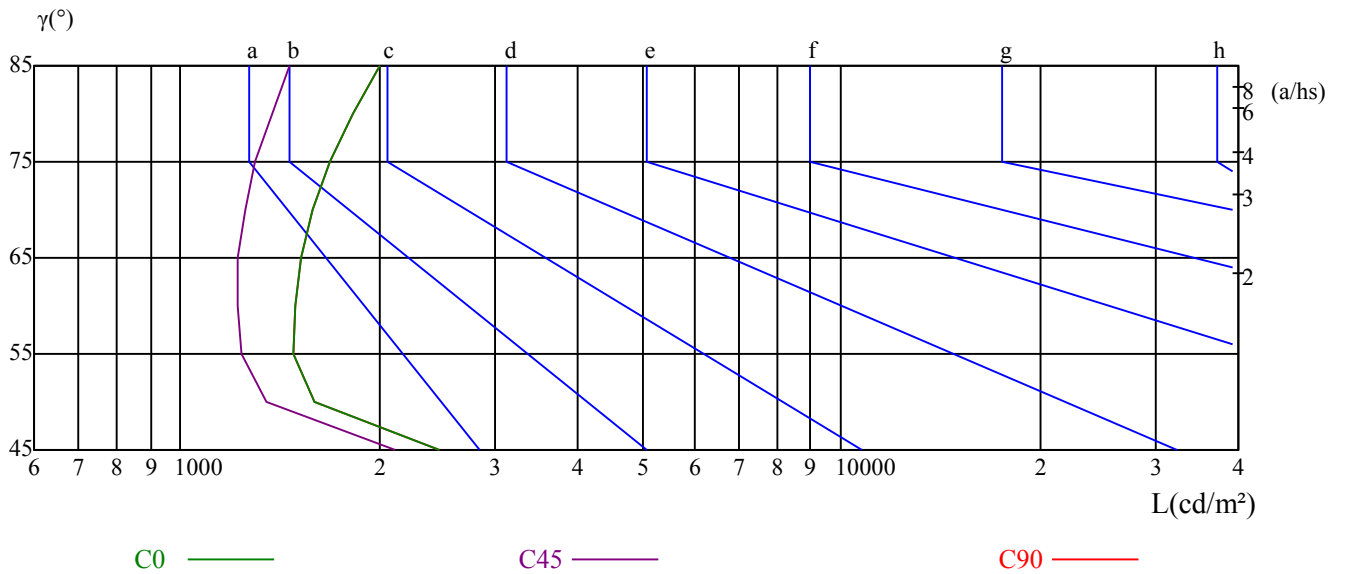
γ	45	50	55	60	65	70	75	80	85
C0	2472	1599	1484	1492	1524	1590	1685	1827	2000
C45	2117	1349	1233	1219	1223	1252	1299	1375	1463
C90	2472	1599	1484	1492	1524	1590	1685	1827	2000

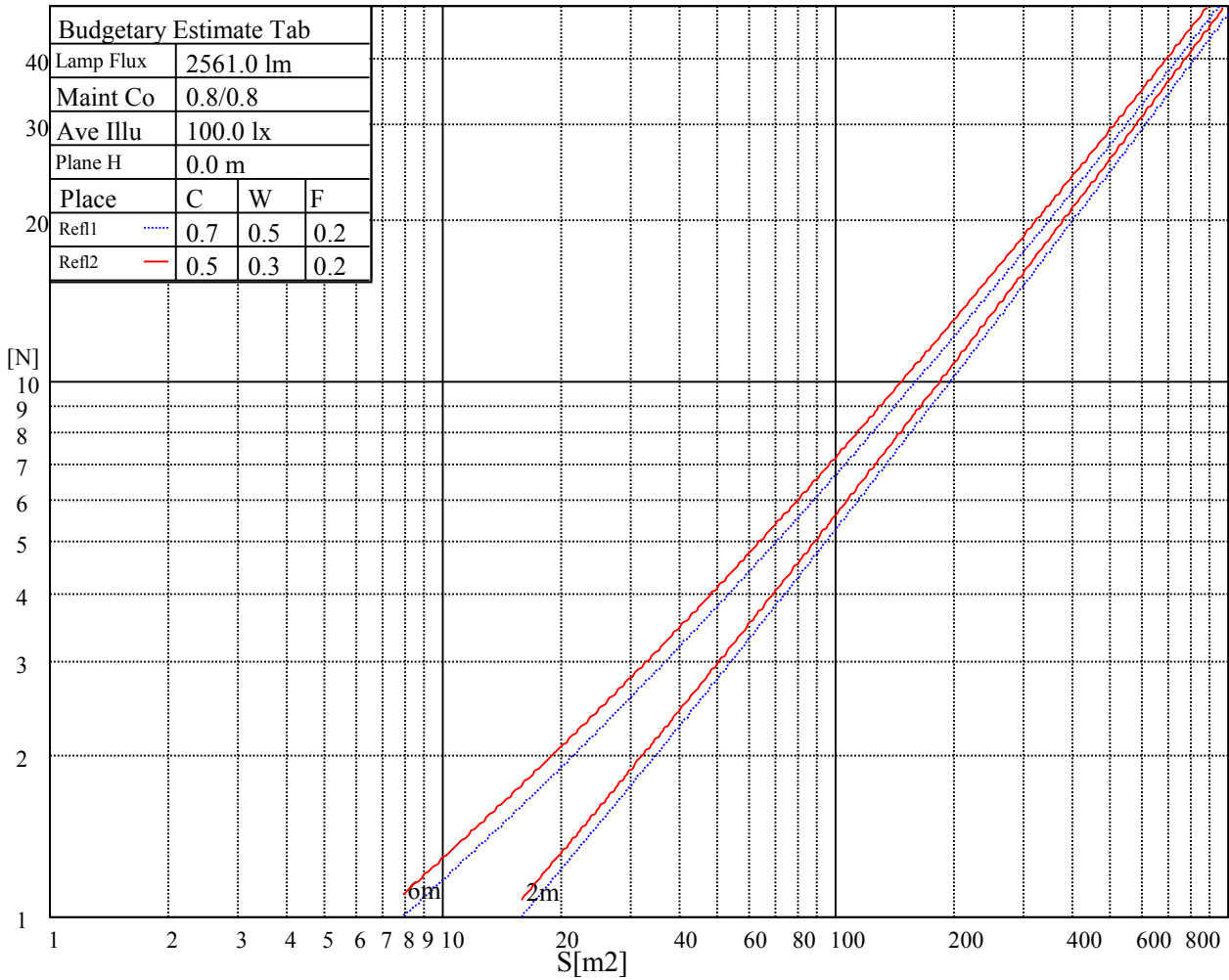
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
3745	3745	3745	5957	5957	5957	17534	17534	17534

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	1.05	1.05	1.05	1.01	1.01	1.01	0.96	0.96	0.96	0.93	0.93	0.93	0.91
1	1.01	0.99	0.97	0.99	0.97	0.95	0.95	0.94	0.92	0.92	0.91	0.89	0.89	0.88	0.87	0.85
2	0.94	0.91	0.88	0.93	0.90	0.87	0.90	0.88	0.85	0.87	0.85	0.84	0.85	0.83	0.82	0.80
3	0.89	0.85	0.81	0.88	0.84	0.81	0.85	0.82	0.79	0.83	0.80	0.78	0.81	0.79	0.77	0.76
4	0.84	0.79	0.76	0.83	0.79	0.75	0.81	0.77	0.74	0.79	0.76	0.74	0.78	0.75	0.73	0.71
5	0.79	0.74	0.71	0.78	0.74	0.71	0.77	0.73	0.70	0.75	0.72	0.69	0.74	0.71	0.69	0.68
6	0.75	0.70	0.67	0.74	0.70	0.66	0.73	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.65	0.64
7	0.71	0.66	0.63	0.71	0.66	0.63	0.70	0.65	0.62	0.69	0.65	0.62	0.68	0.64	0.62	0.61
8	0.68	0.63	0.60	0.67	0.63	0.59	0.66	0.62	0.59	0.66	0.62	0.59	0.65	0.61	0.59	0.58
9	0.65	0.60	0.57	0.64	0.60	0.56	0.63	0.59	0.56	0.63	0.59	0.56	0.62	0.58	0.56	0.55
10	0.62	0.57	0.54	0.61	0.57	0.54	0.61	0.56	0.54	0.60	0.56	0.53	0.59	0.56	0.53	0.52

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	4102.80	3835.78	3443.23	2830.45	2012.31	1447.98	1071.95	418.43	39.59
45.0	4086.84	4074.72	3741.08	3284.11	2641.61	1756.85	1270.70	846.77	304.46
90.0	4106.66	4015.81	3664.00	3143.17	2492.95	1645.64	1094.91	814.83	222.04
135.0	4065.36	4052.15	3706.95	3278.06	2597.01	1731.52	1305.39	878.15	282.99
180.0	4102.80	3988.29	3606.19	3059.48	2344.85	1571.86	1093.09	687.71	120.13
225.0	4086.84	3756.50	3286.87	2663.08	1831.18	1299.88	958.42	296.64	27.31
270.0	4106.66	3835.23	3366.70	2765.48	1939.09	1320.25	982.21	388.15	28.68
315.0	4065.36	3731.72	3280.26	2595.91	1772.82	1295.48	923.74	262.40	27.64
360.0	4102.80	3835.78	3443.23	2830.45	2012.31	1447.98	1071.95	418.43	39.59
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	13.32	10.57	9.97	9.69	9.47	9.36	9.30	9.36	9.30
45.0	22.90	11.73	10.52	10.13	9.80	9.69	9.47	9.41	9.36
90.0	21.09	11.56	10.41	10.08	9.74	9.58	9.41	9.36	9.30
135.0	27.31	13.16	10.63	10.19	9.91	9.63	9.47	9.30	9.36
180.0	21.86	12.28	10.41	10.02	9.74	9.52	9.36	9.30	9.25
225.0	12.17	10.35	9.91	9.63	9.41	9.36	9.30	9.36	9.30
270.0	12.22	10.52	9.97	9.69	9.52	9.41	9.41	9.41	9.30
315.0	12.00	10.35	9.86	9.63	9.41	9.30	9.30	9.41	9.19
360.0	13.32	10.57	9.97	9.69	9.47	9.36	9.30	9.36	9.30
C/γ(°)	90.0								
0.0	9.25								
45.0	9.25								
90.0	9.30								
135.0	9.25								
180.0	9.25								
225.0	9.30								
270.0	9.30								
315.0	9.19								
360.0	9.25								