



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

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## Nata

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LumCAT: 12-0080-M5	
Luminaire: ML07126080EM	
Report No: 220524-B005	Voltage(V): 12.5400
Test No: 220524-C005	Current(A): 1.1150
LampCAT: LUMILEDS 5050	Power (W): 13.9820
Lamp flux(lm): 1682.8	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 43	Width(mm): 43
Phm Type: C	Height(mm): 0

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## Photometric Results

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Lumens(lm): 1284.72  
Efficiency(%): 76.34%  
Lumens(lm)/Power(W): 91.88  
Central intensity(cd): 807.919  
Maximum intensity(cd): 817.360  
Angle of maximum intensity: C=67.5  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=77.9  
                                  [C90/270]Total=83.0  
Field angle(10%Imax): [C0/180]Total=100.3  
                                  [C90/270]Total=102.7  
Maximum s/h(1/2): C0\_180=1.09 C90\_270=1.13  
Maximum s/h(1/4): C0\_180=1.08 C90\_270=1.11  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 76.34%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 97.998%

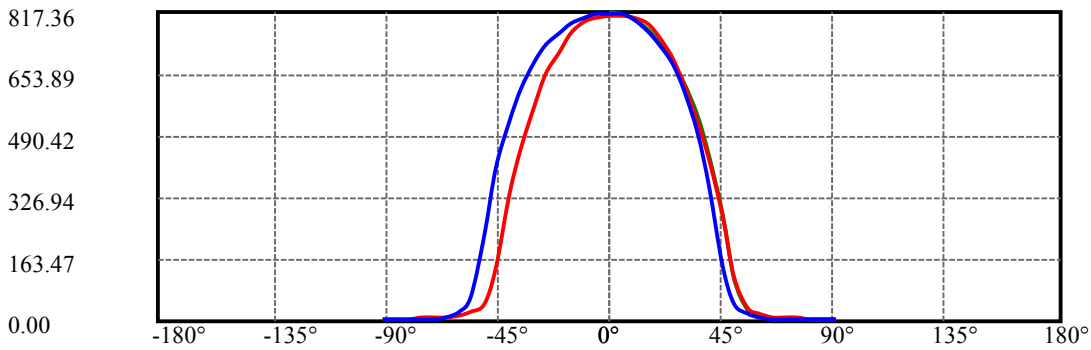
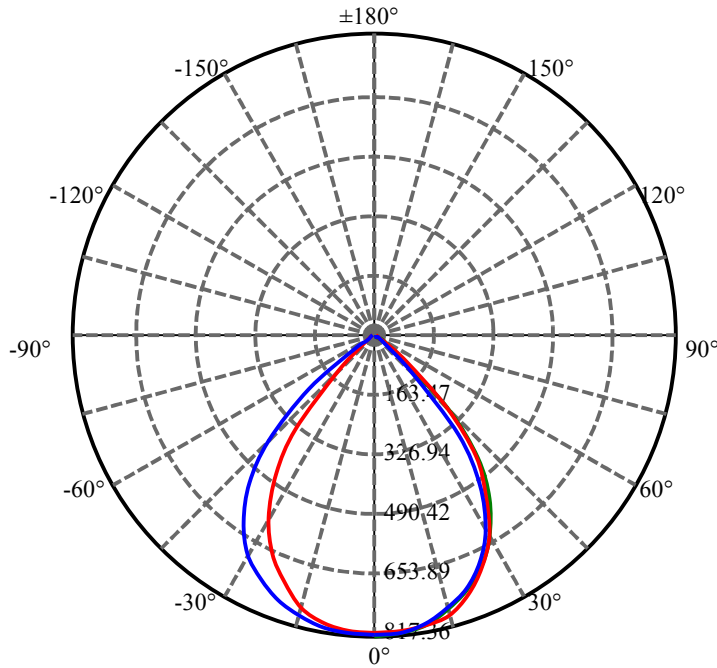
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	811.825	0.000	0	.000%	.000%
5.0	808.539	19.371	19.371	1.151%	1.508%
10.0	797.571	57.456	76.827	3.414%	5.980%
15.0	776.818	93.392	170.218	5.550%	13.249%
20.0	742.852	125.242	295.46	7.442%	22.998%
25.0	694.243	150.725	446.185	8.957%	34.730%
30.0	631.517	167.776	613.961	9.970%	47.790%
35.0	547.426	173.608	787.569	10.316%	61.303%
40.0	446.328	165.800	953.369	9.852%	74.208%
45.0	307.096	139.503	1092.872	8.290%	85.067%
50.0	167.058	95.810	1188.682	5.693%	92.525%
55.0	63.585	50.149	1238.831	2.980%	96.428%
60.0	23.655	20.165	1258.996	1.198%	97.998%
65.0	10.479	8.298	1267.294	.493%	98.644%
70.0	7.854	4.642	1271.936	.276%	99.005%
75.0	6.670	3.796	1275.732	.226%	99.301%
80.0	5.863	3.354	1279.086	.199%	99.562%
85.0	5.109	2.981	1282.067	.177%	99.794%
90.0	4.575	2.651	1284.719	.158%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	613.96	36.48%	47.79%
0-40	953.37	56.65%	74.21%
0-60	1259.00	74.81%	98.00%
0-90	1282.07	76.18%	99.79%
0-120	1282.07	76.18%	99.79%
0-180	1284.72	76.34%	100.00%
60-90	43.24	2.57%	3.37%
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%
0-42.67	1027.78	61.07%	80.00%

ZONAL LUMEN SUMMARY

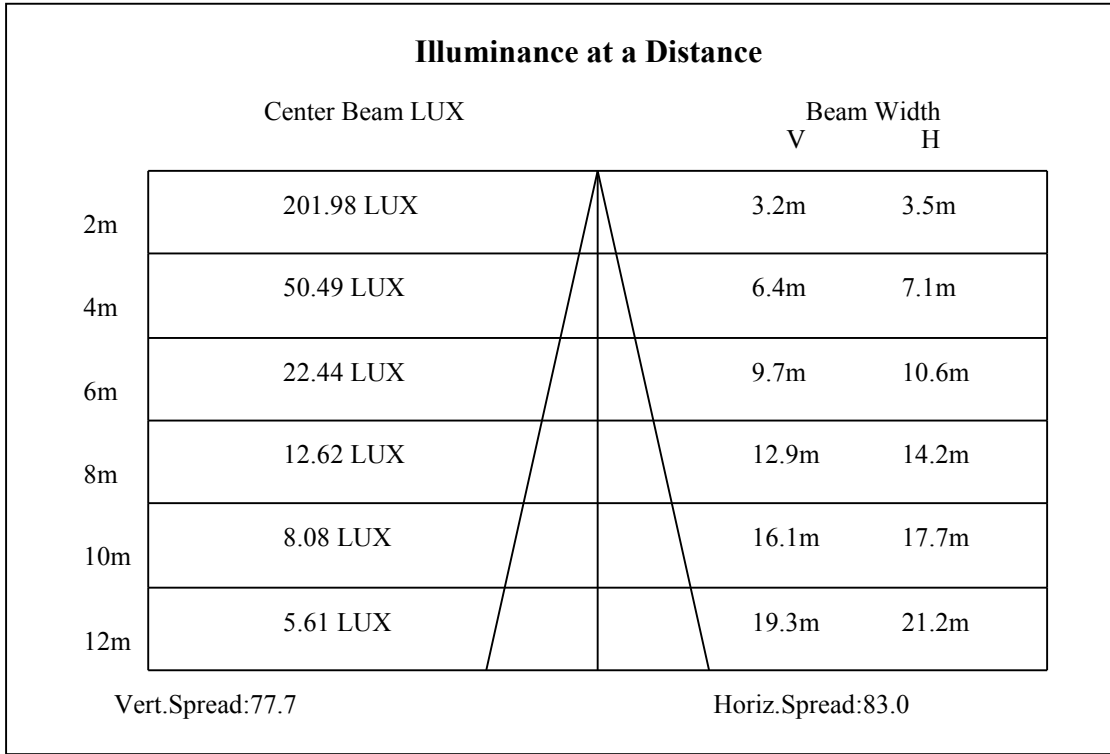
0-10	76.83
10-20	218.63
20-30	318.50
30-40	339.41
40-50	235.31
50-60	70.31
60-70	12.94
70-80	7.15
80-90	2.98
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

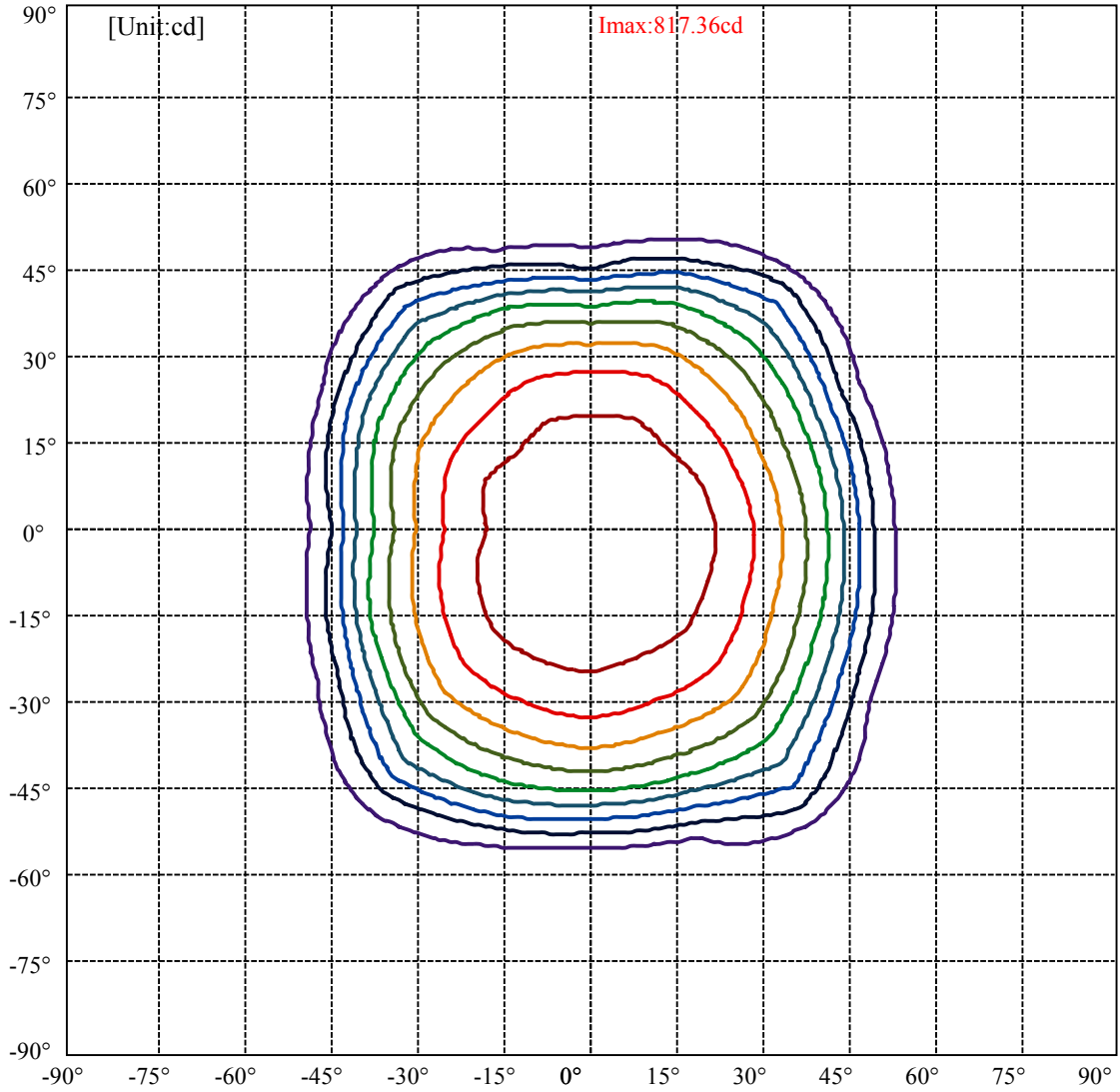


C67.5(Max): —  
C0/C180: —  
C90/C270: —

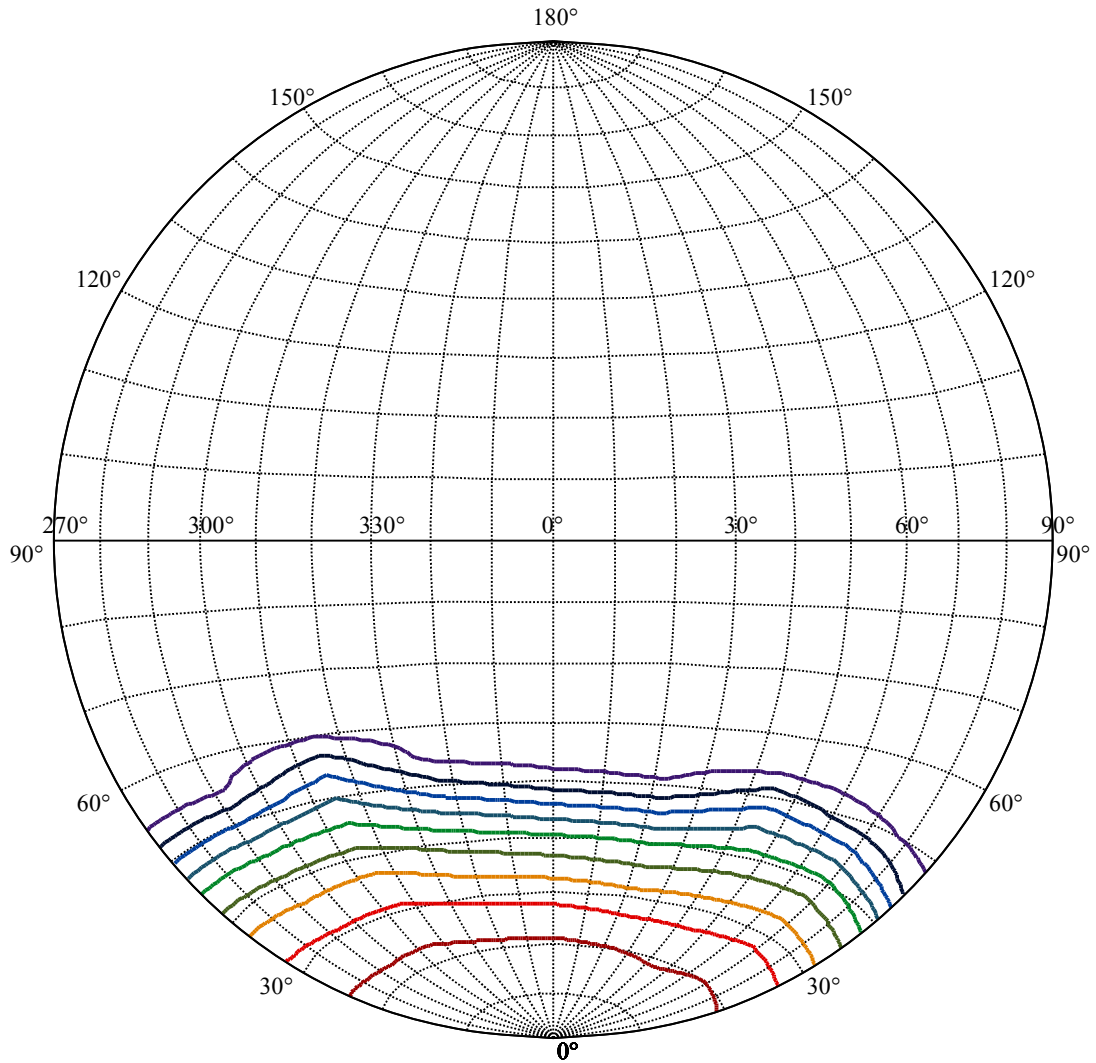
Field angle(10%Imax):C0/180Left:48.1 Right:52.2  
:C90/270Left:54.5 Right:48.2

Beam Angle(50%Imax):C0/180Left:37.2 Right:40.7  
:C90/270Left:44.9 Right:38.2





(10%I <sub>max</sub> ) 81.5611	—
(20%I <sub>max</sub> ) 163.122	—
(30%I <sub>max</sub> ) 244.683	—
(40%I <sub>max</sub> ) 326.245	—
(50%I <sub>max</sub> ) 407.806	—
(60%I <sub>max</sub> ) 489.367	—
(70%I <sub>max</sub> ) 570.928	—
(80%I <sub>max</sub> ) 652.489	—
(90%I <sub>max</sub> ) 734.05	—



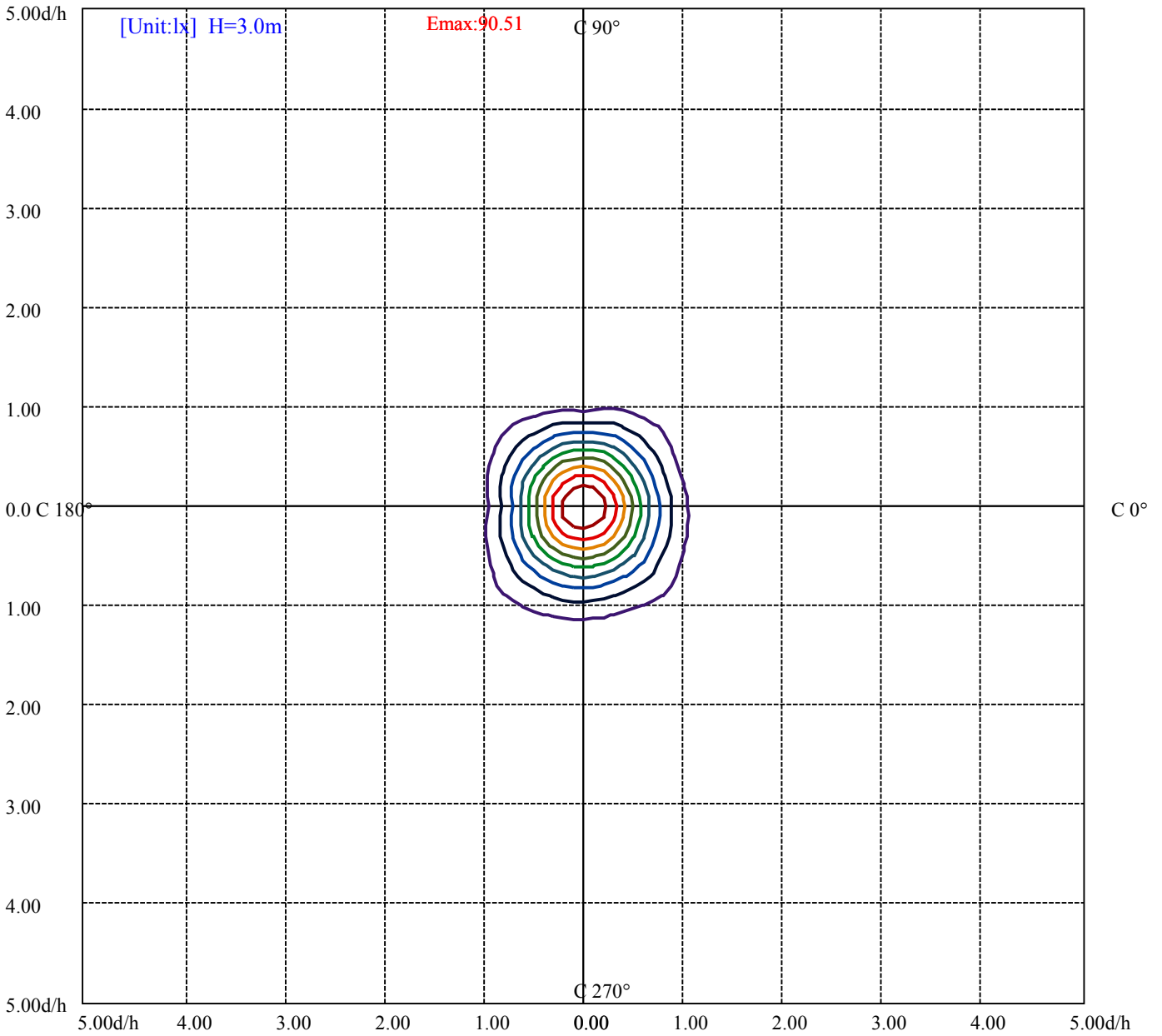
House

[Unit:cd]

Road

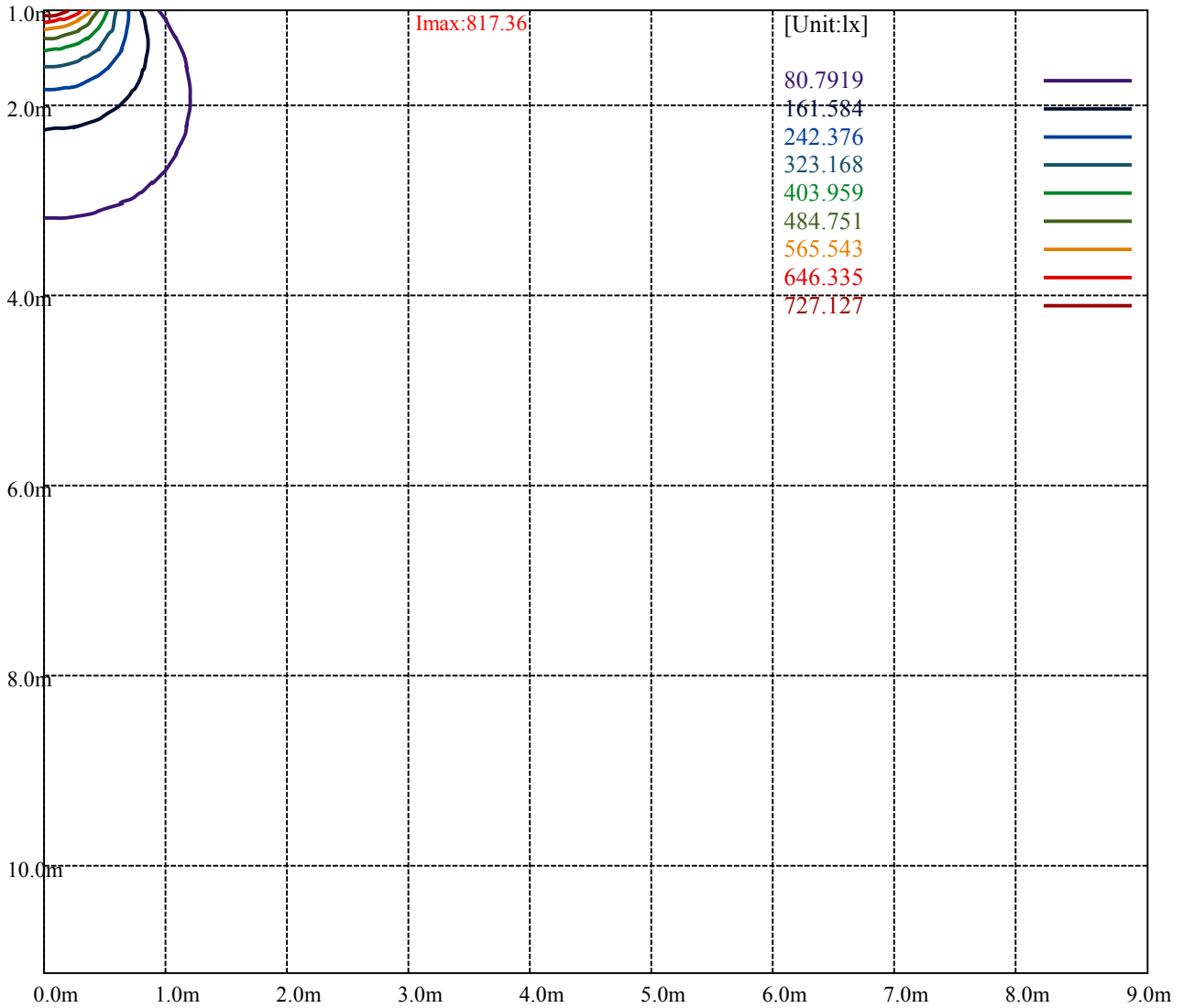
Imax:817.36

(10%Imax)	81.73	—
(20%Imax)	163.46	—
(30%Imax)	245.19	—
(40%Imax)	326.92	—
(50%Imax)	408.65	—
(60%Imax)	490.38	—
(70%Imax)	572.11	—
(80%Imax)	653.84	—
(90%Imax)	735.57	—



(10%Emax) 9.050578	—
(20%Emax) 18.10111	—
(30%Emax) 27.15178	—
(40%Emax) 36.20234	—
(50%Emax) 45.25289	—
(60%Emax) 54.30344	—
(70%Emax) 63.354	—
(80%Emax) 72.40456	—
(90%Emax) 81.45522	—





Luminance Table

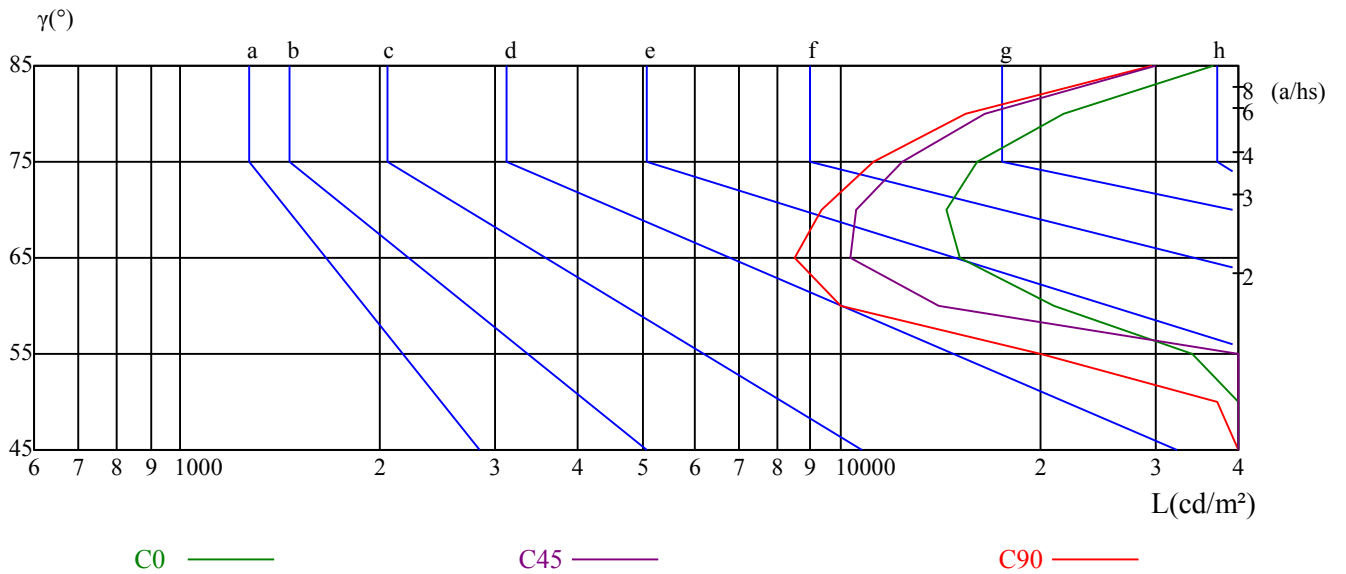
$\gamma$	45	50	55	60	65	70	75	80	85
C0	212927	98238	34030	21070	15140	14456	16107	21774	36708
C45	251225	178226	49299	14090	10323	10583	12361	16563	30034
C90	114256	37103	20114	10018	8488	9354	11237	15446	29663

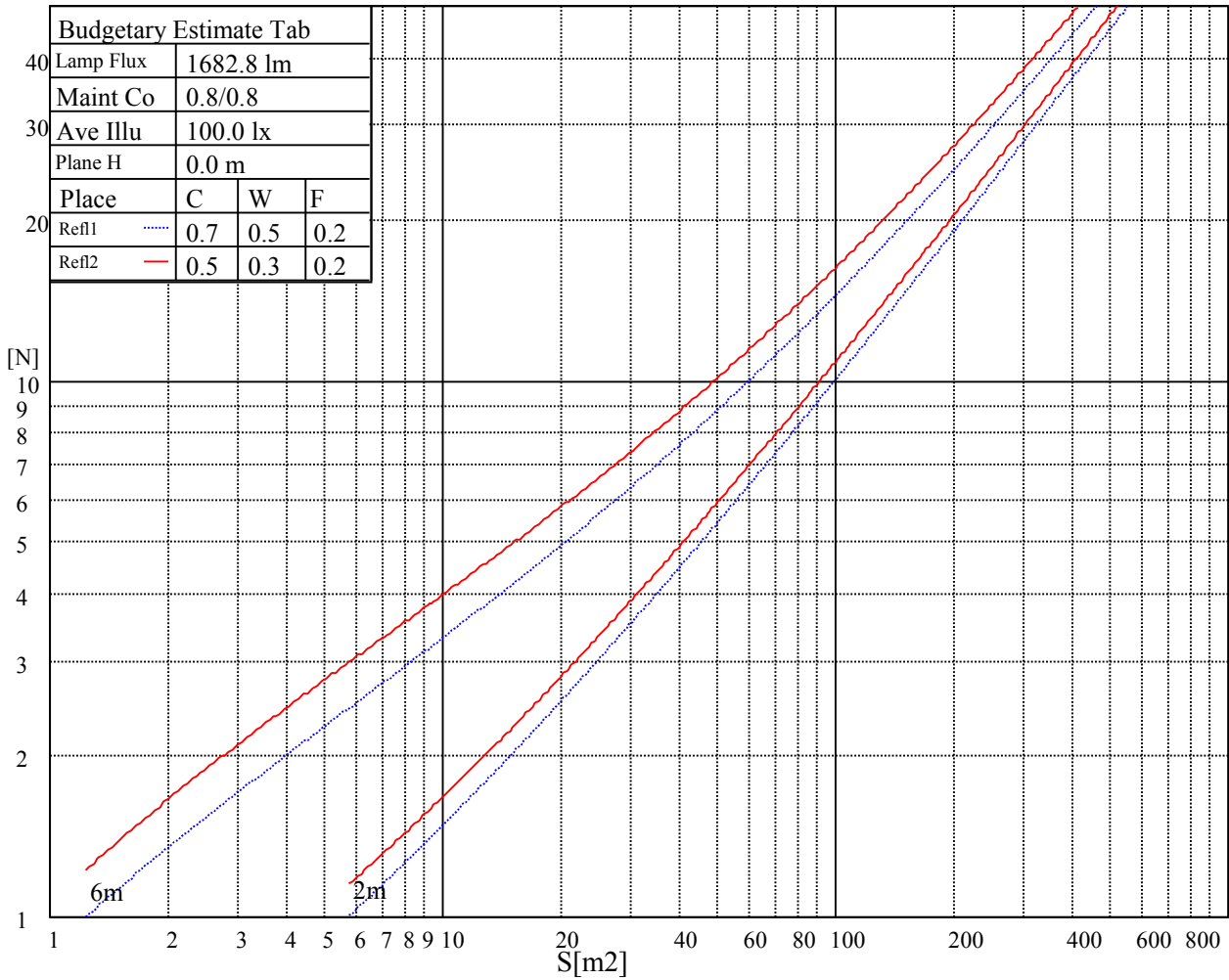
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
14452	11049	13554	16169	11987	13266	33556	30590	31424

Glare Table

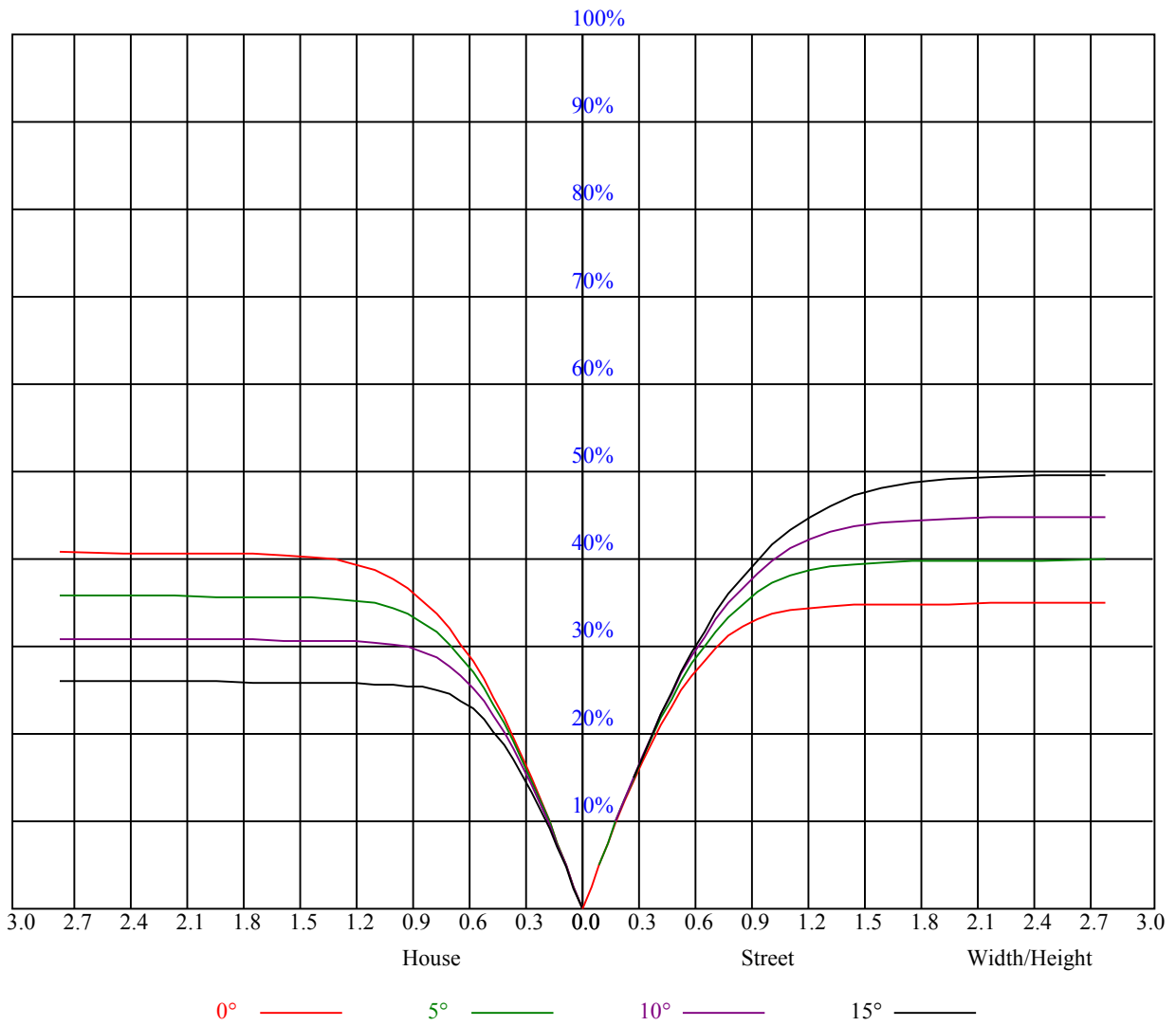
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	0.91	0.91	0.91	0.89	0.89	0.89	0.85	0.85	0.85	0.81	0.81	0.81	0.78	0.78	0.78	0.76
1	0.83	0.81	0.79	0.82	0.79	0.78	0.78	0.77	0.75	0.75	0.74	0.73	0.73	0.72	0.71	0.69
2	0.76	0.72	0.69	0.75	0.71	0.68	0.72	0.69	0.67	0.70	0.67	0.65	0.68	0.66	0.64	0.63
3	0.69	0.65	0.61	0.68	0.64	0.61	0.66	0.63	0.60	0.64	0.61	0.59	0.62	0.60	0.58	0.56
4	0.63	0.58	0.55	0.63	0.58	0.54	0.61	0.57	0.54	0.59	0.56	0.53	0.58	0.55	0.52	0.51
5	0.58	0.53	0.49	0.57	0.52	0.49	0.56	0.52	0.48	0.55	0.51	0.48	0.53	0.50	0.47	0.46
6	0.54	0.48	0.44	0.53	0.48	0.44	0.52	0.47	0.44	0.51	0.47	0.43	0.49	0.46	0.43	0.42
7	0.49	0.44	0.40	0.49	0.44	0.40	0.48	0.43	0.40	0.47	0.43	0.40	0.46	0.42	0.39	0.38
8	0.46	0.40	0.37	0.45	0.40	0.37	0.44	0.40	0.36	0.44	0.39	0.36	0.43	0.39	0.36	0.35
9	0.43	0.37	0.34	0.42	0.37	0.34	0.41	0.37	0.33	0.41	0.36	0.33	0.40	0.36	0.33	0.32
10	0.40	0.34	0.31	0.39	0.34	0.31	0.39	0.34	0.31	0.38	0.34	0.31	0.37	0.33	0.31	0.29



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	807.92	807.08	800.39	784.38	750.62	694.93	623.22	529.35	425.68
22.5	812.04	809.65	800.21	776.25	737.89	675.75	602.25	504.14	405.78
45.0	814.55	808.22	792.50	767.05	722.65	671.68	611.69	527.26	435.60
67.5	817.36	811.86	796.98	772.25	737.17	687.70	628.96	541.66	436.32
90.0	814.67	811.27	795.25	767.05	729.16	679.15	606.79	498.46	354.04
112.5	810.25	804.93	789.69	766.33	733.71	685.72	619.82	531.74	416.48
135.0	802.66	794.77	779.12	755.99	718.35	666.48	604.28	530.55	438.29
157.5	815.15	810.79	798.12	772.96	733.77	676.16	606.91	523.67	409.90
180.0	807.92	804.33	790.59	762.69	711.78	653.64	569.92	459.32	332.58
202.5	812.04	809.53	802.72	786.77	746.55	693.97	625.49	537.48	432.07
225.0	814.55	814.91	808.93	793.10	765.08	724.09	670.13	600.52	516.80
247.5	817.36	813.89	802.90	788.02	763.04	727.49	675.69	602.37	516.74
270.0	814.67	810.91	803.62	786.47	762.93	729.82	684.17	616.77	526.00
292.5	810.25	806.72	797.46	778.58	757.01	720.74	668.81	596.69	512.50
315.0	802.66	804.75	798.72	785.09	762.98	721.04	669.53	607.39	523.08
337.5	815.15	813.00	803.92	786.11	752.95	699.53	636.61	551.46	459.38
360.0	807.92	807.08	800.39	784.38	750.62	694.93	623.22	529.35	425.68
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	278.39	116.76	36.09	19.48	11.83	9.14	7.71	6.99	5.92
22.5	253.59	94.17	32.86	17.63	11.65	9.32	7.83	6.51	5.14
45.0	328.46	211.82	52.28	13.03	8.07	6.69	5.92	5.32	4.84
67.5	285.02	111.32	31.49	15.66	7.59	6.27	5.68	5.20	4.84
90.0	149.38	44.10	21.33	9.26	6.63	5.92	5.38	4.96	4.78
112.5	232.80	78.52	28.68	12.49	7.23	6.15	5.44	5.02	4.72
135.0	327.74	196.95	43.08	11.29	6.87	6.09	5.56	5.08	4.72
157.5	266.20	93.10	30.12	16.91	10.16	8.19	6.75	5.62	4.72
180.0	141.67	43.26	23.36	13.80	10.76	9.08	7.77	6.45	4.90
202.5	267.69	113.35	36.63	20.08	12.61	10.34	8.66	7.23	5.68
225.0	408.23	309.64	164.02	43.14	13.03	8.60	6.99	6.15	5.32
247.5	415.04	277.25	98.89	29.58	11.83	7.41	6.27	5.68	5.20
270.0	404.59	228.79	64.89	26.89	10.64	7.17	6.09	5.56	5.08
292.5	397.30	241.40	79.77	27.90	11.17	7.47	6.27	5.50	5.08
315.0	424.31	325.83	221.44	77.56	14.40	8.72	6.93	6.09	5.38
337.5	333.12	186.67	52.40	23.78	13.21	9.08	7.47	6.45	5.44
360.0	278.39	116.76	36.09	19.48	11.83	9.14	7.71	6.99	5.92
C/γ(°)	90.0								
0.0	4.54								
22.5	4.36								
45.0	4.48								
67.5	4.60								
90.0	4.60								
112.5	4.54								
135.0	4.48								
157.5	4.30								
180.0	4.12								
202.5	4.54								
225.0	4.78								
247.5	4.84								
270.0	4.78								
292.5	4.72								
315.0	4.84								
337.5	4.66								
360.0	4.54								