



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

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## NATA

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LumCAT: 3-2035-M  
Luminaire: 92.70.135.00  
Report No: NATA0100  
Test No: GC2018102511  
LampCAT: LUMILEDS LUXEON 1205  
Lamp flux(lm): 2979.0  
Number of Lamps: 1  
Length(mm): 78  
Phm Type: C

Voltage(V): 35.7000  
Current(A): 0.6000  
Power (W): 21.4200  
PF: 0.0000  
Ballast type: DC  
Width(mm): 78  
Height(mm): 0

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## Photometric Results

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Lumens(lm): 2639.03  
Efficiency(%): 88.59%  
Lumens(lm)/Power(W): 124.36  
Central intensity(cd): 4542.328  
Maximum intensity(cd): 4542.328  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=43.3  
                                  [C90/270]Total=43.3  
Field angle(10%Imax): [C0/180]Total=74.1  
                                  [C90/270]Total=74.1  
Maximum s/h(1/2): C0\_180=0.69 C90\_270=0.69  
Maximum s/h(1/4): C0\_180=0.71 C90\_270=0.71  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 89.42%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 97.822%

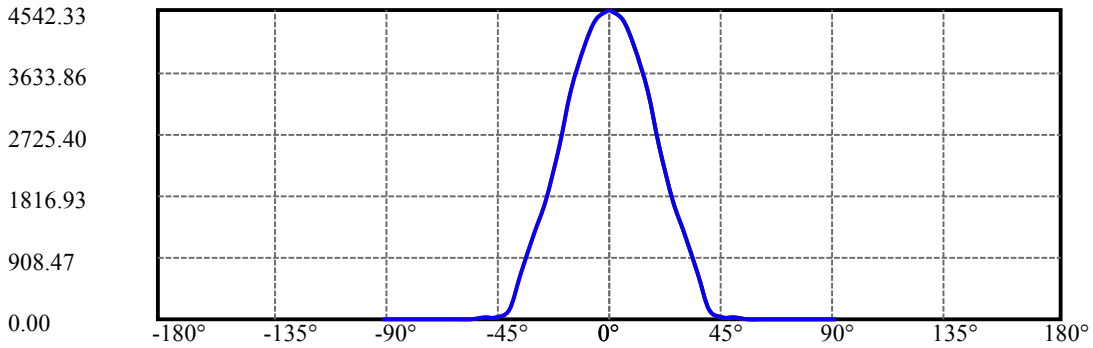
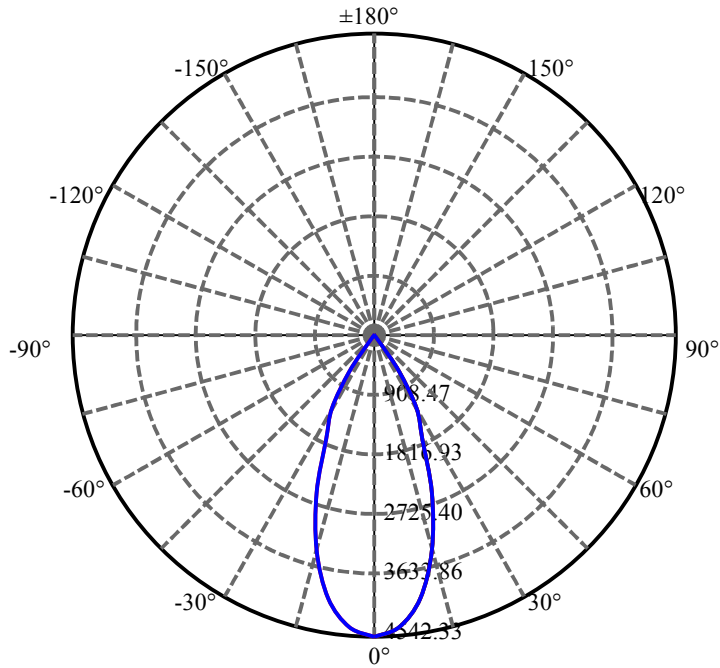
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4542.328	27.164	27.164	.912%	1.029%
5.0	4403.109	210.351	237.515	7.061%	9.000%
10.0	4018.008	382.446	619.961	12.838%	23.492%
15.0	3346.242	474.726	1094.687	15.936%	41.481%
20.0	2528.438	474.016	1568.704	15.912%	59.442%
25.0	1739.602	402.984	1971.688	13.527%	74.713%
30.0	1257.012	344.508	2316.195	11.565%	87.767%
35.0	669.045	210.347	2526.542	7.061%	95.737%
40.0	149.583	52.703	2579.245	1.769%	97.735%
45.0	19.301	7.481	2586.726	.251%	98.018%
50.0	15.384	6.460	2593.186	.217%	98.263%
55.0	13.978	6.276	2599.462	.211%	98.501%
60.0	13.092	6.215	2605.677	.209%	98.736%
65.0	12.354	6.137	2611.814	.206%	98.969%
70.0	11.820	6.088	2617.902	.204%	99.199%
75.0	11.426	6.049	2623.952	.203%	99.429%
80.0	11.187	6.039	2629.99	.203%	99.657%
85.0	11.046	6.032	2636.022	.202%	99.886%
90.0	10.983	3.010	2639.032	.101%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	2316.20	77.75%	87.77%
0-40	2579.25	86.58%	97.73%
0-60	2605.68	87.47%	98.74%
0-90	2636.02	88.49%	99.89%
0-120	2636.02	88.49%	99.89%
0-180	2639.03	88.59%	100.00%
60-90	36.56	1.23%	1.39%
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%
0-27.03	2111.23	70.87%	80.00%

ZONAL LUMEN SUMMARY

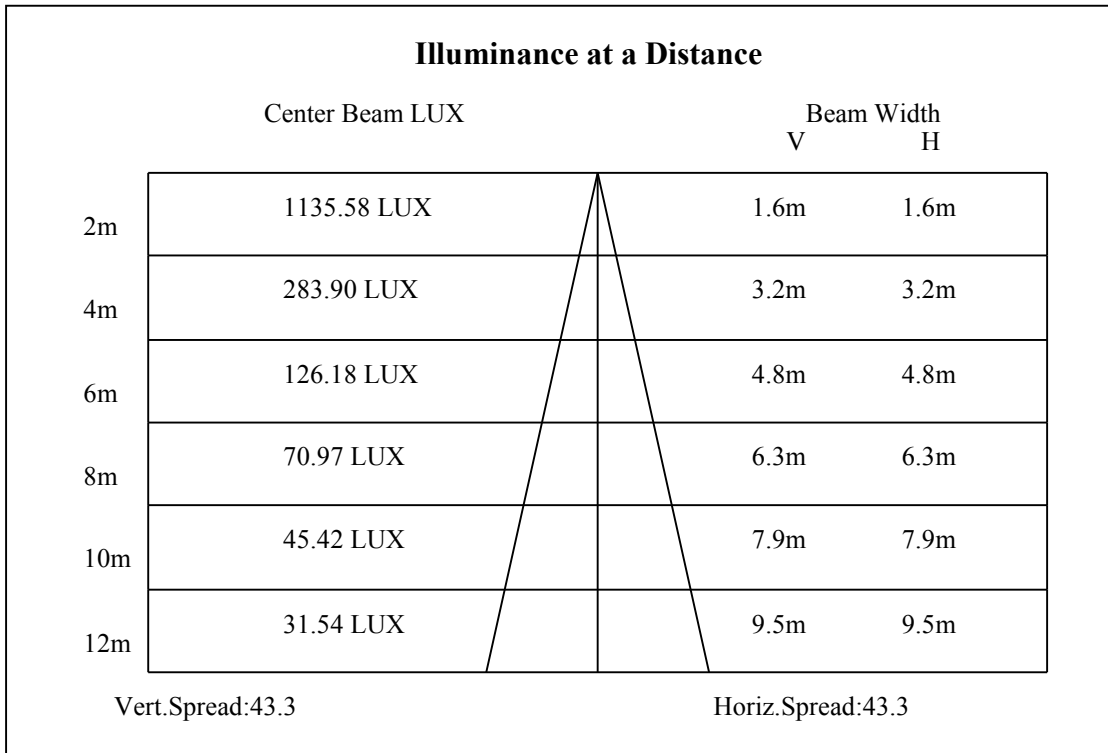
0-10	619.96
10-20	948.74
20-30	747.49
30-40	263.05
40-50	13.94
50-60	12.49
60-70	12.23
70-80	12.09
80-90	6.03
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

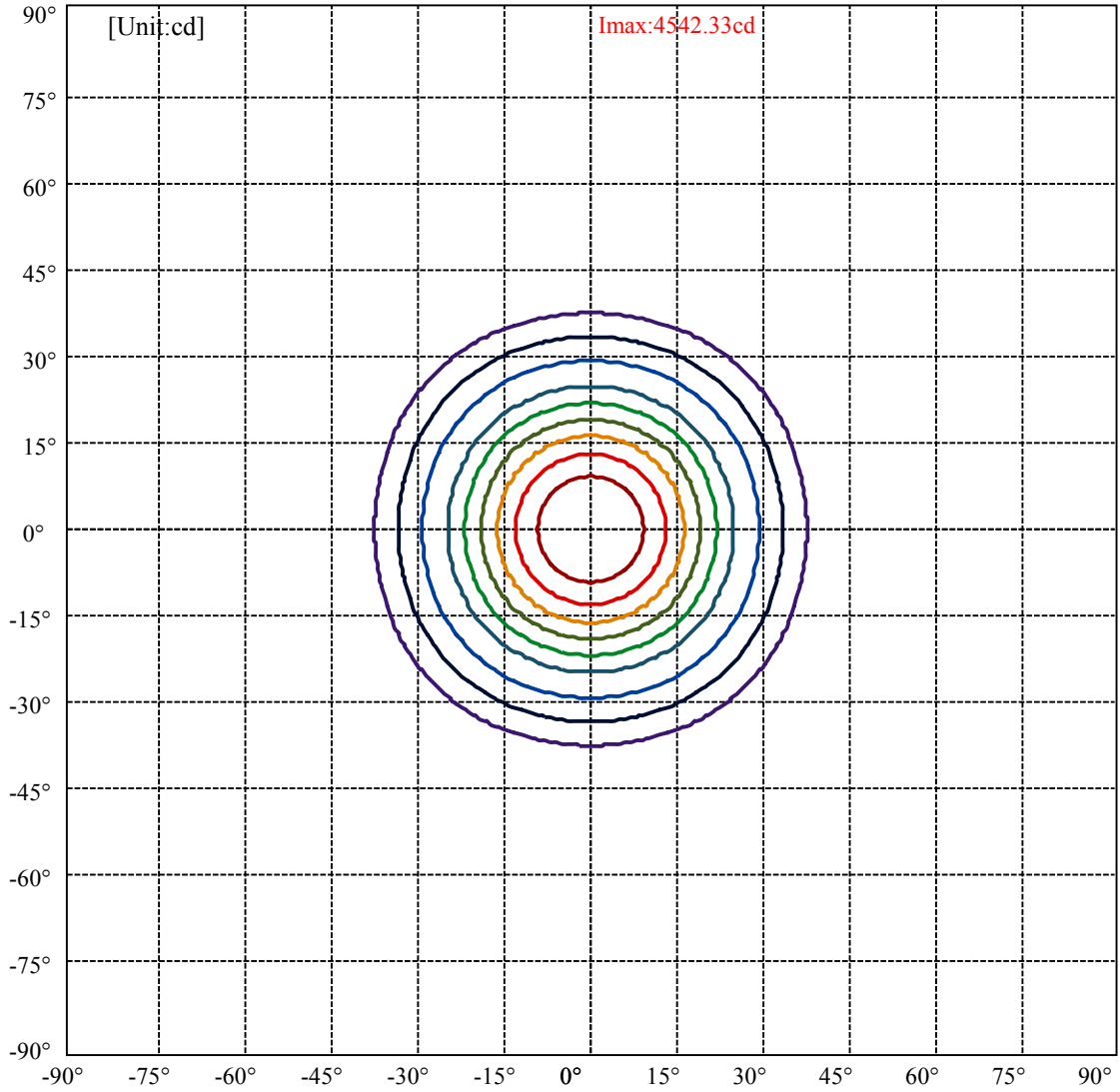


C0(Max): —————  
C0/C180: —————  
C90/C270: —————

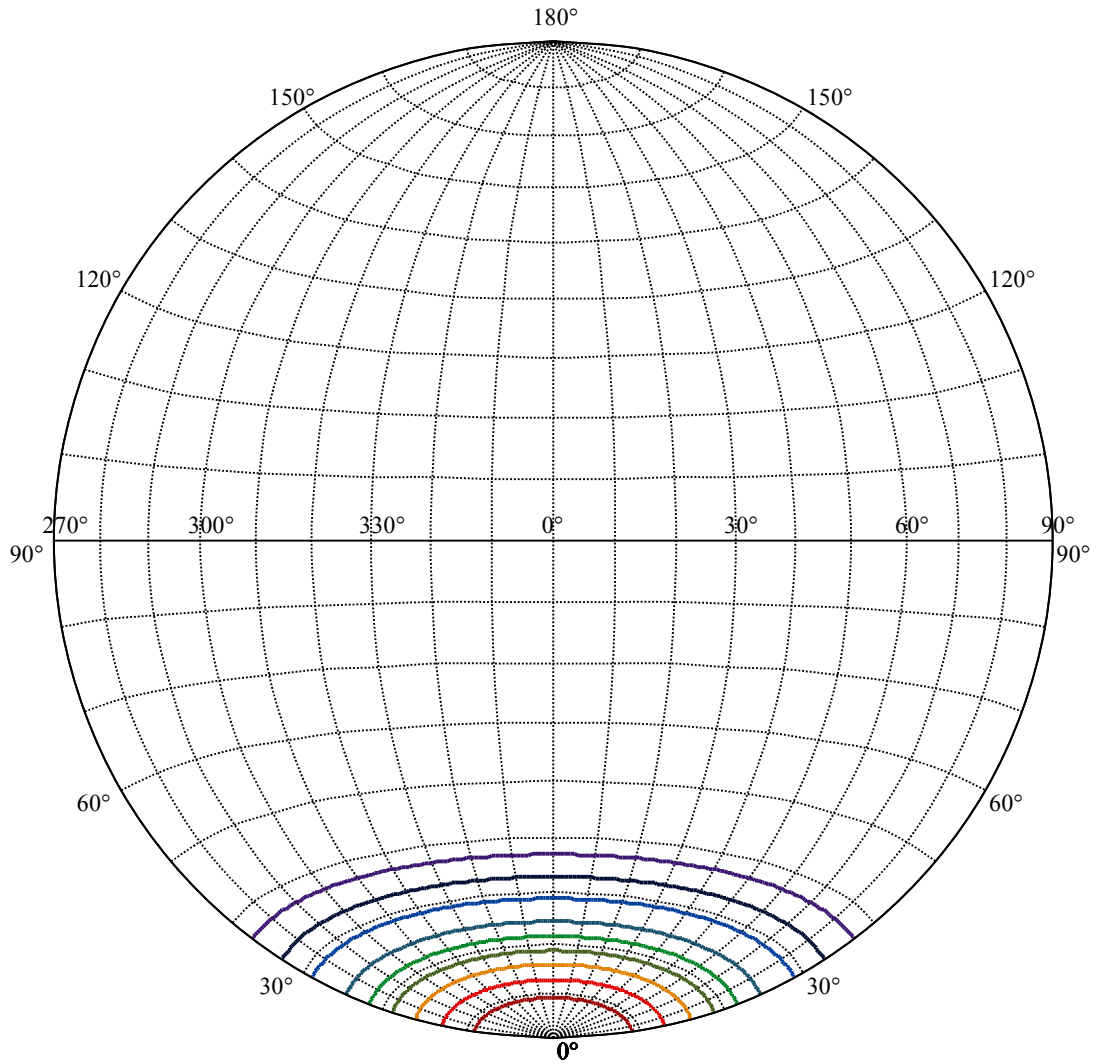
Field angle(10%Imax):C0/180Left:37.1 Right:37.1  
:C90/270Left:37.1 Right:37.1

Beam Angle(50%Imax):C0/180Left:21.6 Right:21.6  
:C90/270Left:21.6 Right:21.6





(10%Imax) 454.233	—
(20%Imax) 908.466	—
(30%Imax) 1362.7	—
(40%Imax) 1816.93	—
(50%Imax) 2271.16	—
(60%Imax) 2725.4	—
(70%Imax) 3179.63	—
(80%Imax) 3633.86	—
(90%Imax) 4088.1	—



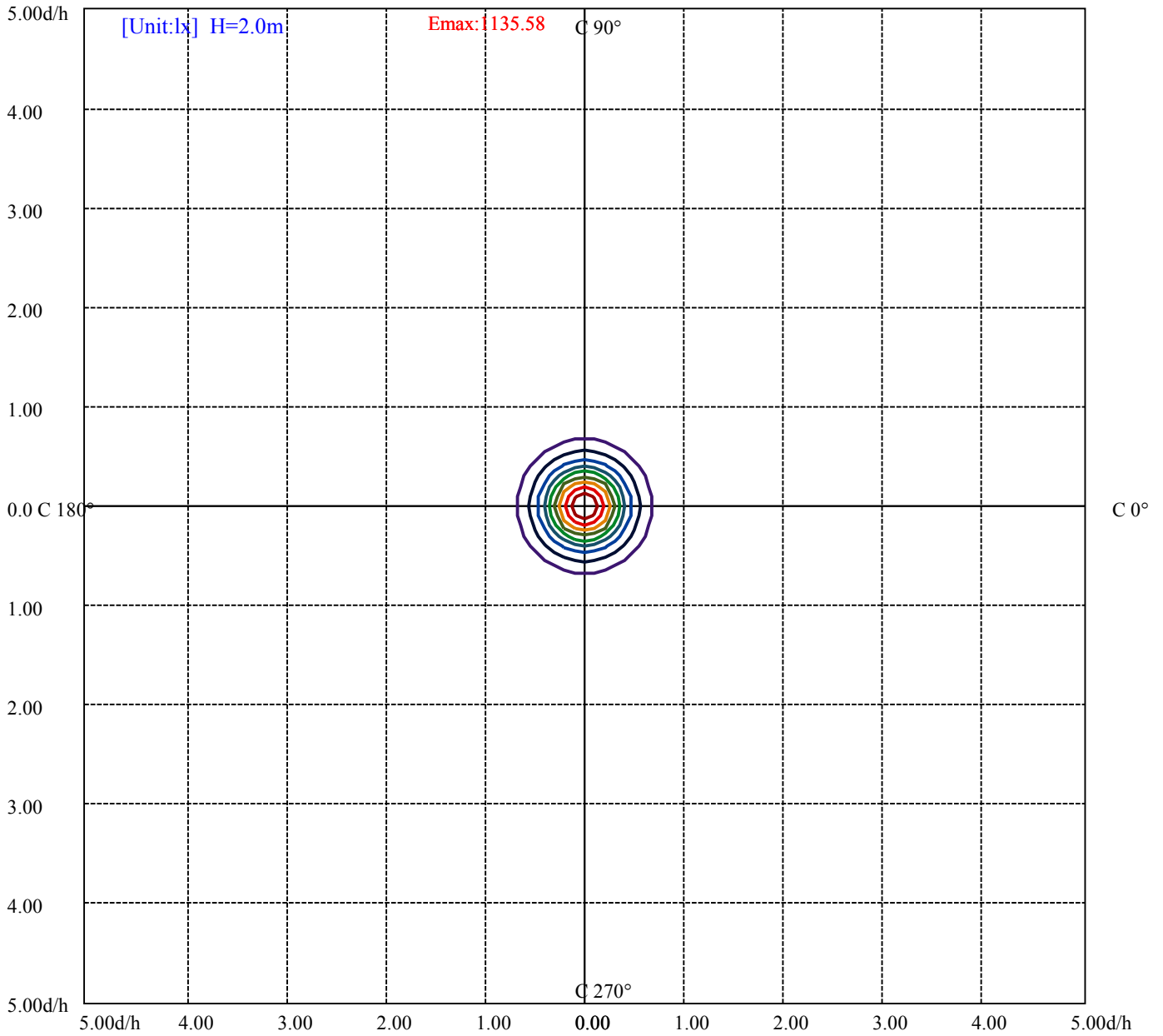
House

[Unit:cd]

Road

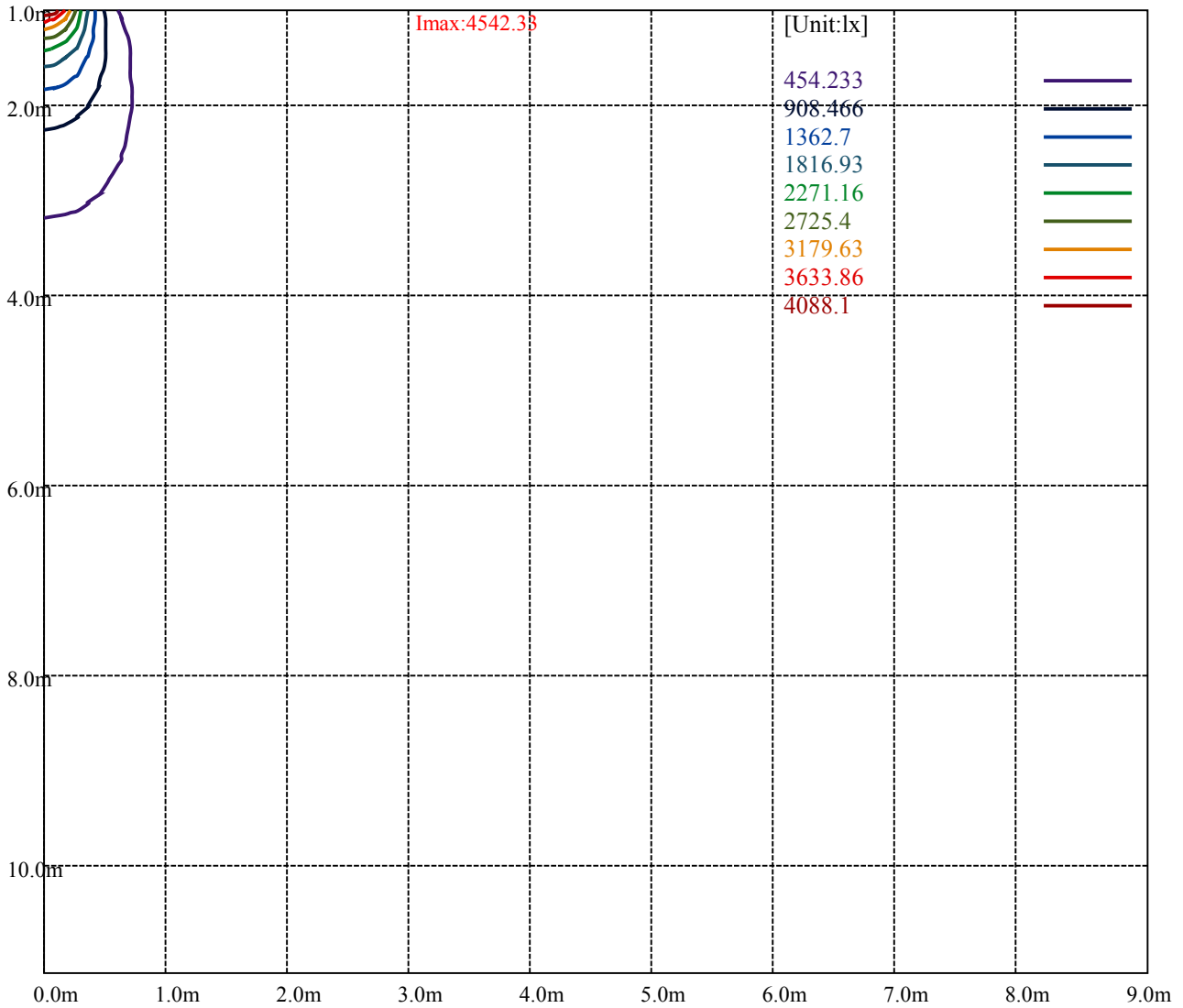
Imax:4542.33

(10%Imax)	454.233	—
(20%Imax)	908.466	—
(30%Imax)	1362.7	—
(40%Imax)	1816.93	—
(50%Imax)	2271.16	—
(60%Imax)	2725.4	—
(70%Imax)	3179.63	—
(80%Imax)	3633.86	—
(90%Imax)	4088.1	—



(10%Emax) 113.558	—
(20%Emax) 227.1163	—
(30%Emax) 340.675	—
(40%Emax) 454.2325	—
(50%Emax) 567.79	—
(60%Emax) 681.3475	—
(70%Emax) 794.9075	—
(80%Emax) 908.465	—
(90%Emax) 1022.023	—





Luminance Table

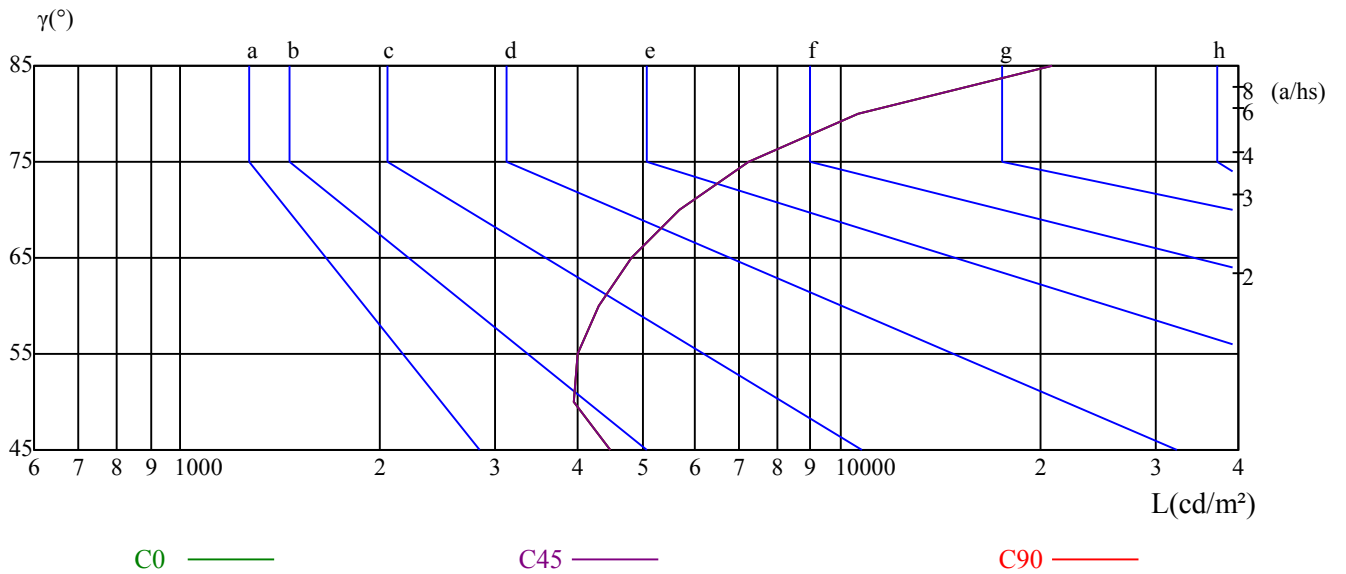
$\gamma$	45	50	55	60	65	70	75	80	85
C0	4486	3934	4006	4304	4805	5680	7256	10589	20832
C45	4486	3934	4006	4304	4805	5680	7256	10589	20832
C90	4486	3934	4006	4304	4805	5680	7256	10589	20832

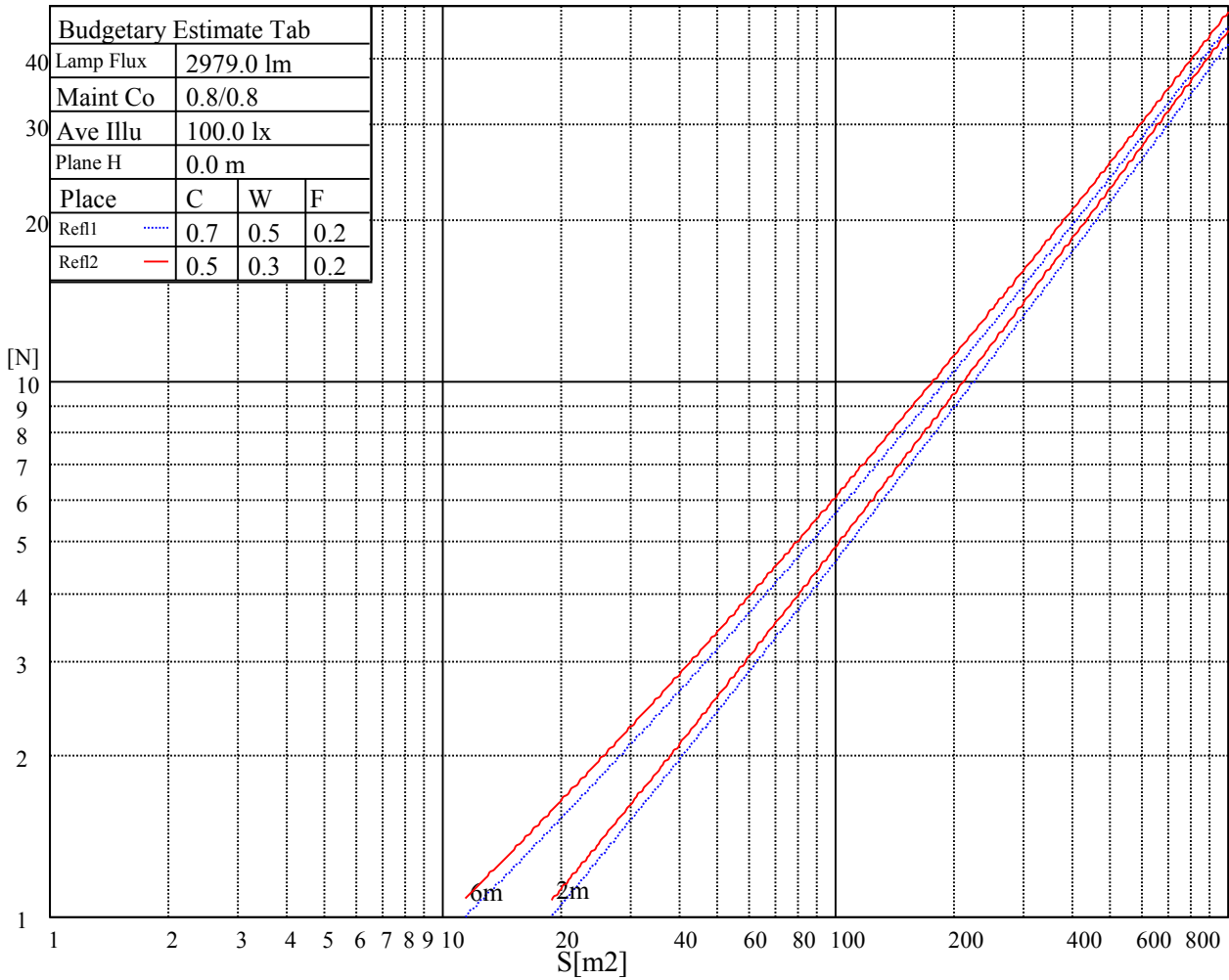
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
4805	4805	4805	7256	7256	7256	20832	20832	20832

Glare Table

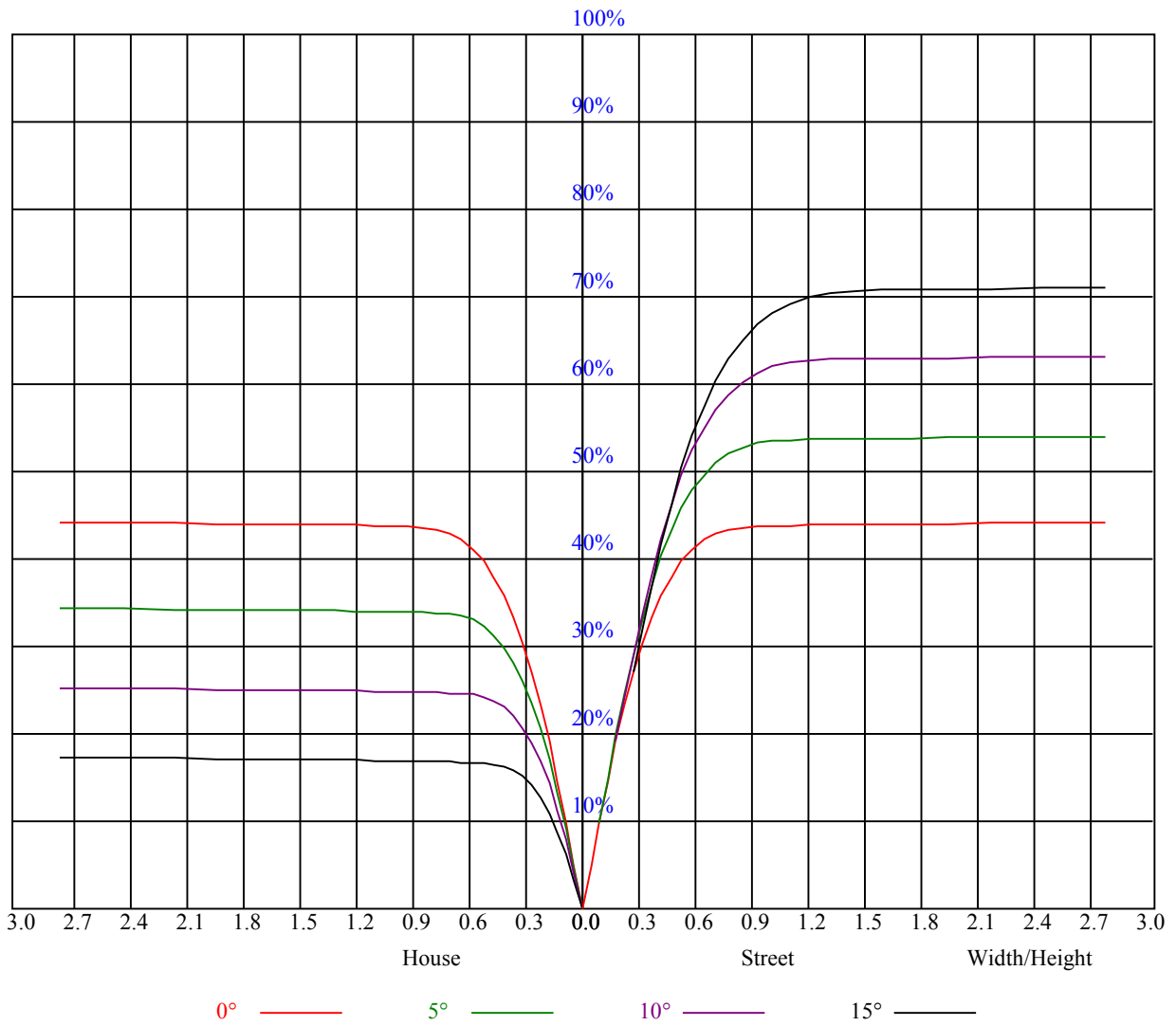
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.04	1.04	1.04	0.99	0.99	0.99	0.95	0.95	0.95	0.91	0.91	0.91	0.89
1	0.99	0.96	0.94	0.97	0.95	0.93	0.93	0.91	0.90	0.90	0.89	0.87	0.87	0.86	0.85	0.83
2	0.93	0.90	0.87	0.91	0.88	0.86	0.89	0.86	0.84	0.86	0.84	0.82	0.84	0.82	0.80	0.79
3	0.88	0.84	0.81	0.87	0.83	0.80	0.84	0.81	0.79	0.82	0.80	0.78	0.80	0.78	0.76	0.75
4	0.84	0.79	0.76	0.83	0.79	0.75	0.81	0.77	0.75	0.79	0.76	0.74	0.77	0.75	0.73	0.72
5	0.80	0.75	0.72	0.79	0.74	0.71	0.77	0.74	0.71	0.76	0.73	0.70	0.74	0.72	0.70	0.68
6	0.76	0.71	0.68	0.75	0.71	0.68	0.74	0.70	0.67	0.73	0.69	0.67	0.72	0.69	0.66	0.65
7	0.73	0.68	0.65	0.72	0.68	0.65	0.71	0.67	0.64	0.70	0.66	0.64	0.69	0.66	0.64	0.63
8	0.70	0.65	0.62	0.69	0.65	0.62	0.68	0.64	0.61	0.67	0.64	0.61	0.66	0.63	0.61	0.60
9	0.67	0.62	0.59	0.66	0.62	0.59	0.66	0.62	0.59	0.65	0.61	0.59	0.64	0.61	0.59	0.58
10	0.64	0.60	0.57	0.64	0.60	0.57	0.63	0.59	0.57	0.62	0.59	0.56	0.62	0.59	0.56	0.55



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	4532.63	4475.81	4201.88	3567.94	2838.94	1929.94	1402.88	892.69	299.25
45.0	4543.31	4449.94	4087.69	3398.63	2684.81	1770.19	1324.69	756.56	315.56
90.0	4547.81	4381.31	3891.38	3174.19	2351.81	1656.00	1100.36	563.63	52.65
135.0	4545.56	4392.56	4014.00	3295.69	2455.31	1695.38	1305.00	606.94	55.18
180.0	4532.63	4325.06	3813.75	3123.00	2232.00	1549.13	1111.05	463.73	36.17
225.0	4543.31	4372.31	3957.75	3288.38	2429.44	1662.19	1118.31	591.58	49.16
270.0	4547.81	4419.00	4109.63	3542.06	2680.31	1850.06	1359.56	789.19	297.56
315.0	4545.56	4408.88	4068.00	3380.06	2554.88	1803.94	1334.25	688.05	91.13
360.0	4532.63	4475.81	4201.88	3567.94	2838.94	1929.94	1402.88	892.69	299.25

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	22.84	15.75	14.18	13.22	12.49	11.98	11.53	11.25	11.08
45.0	20.76	15.75	14.23	13.22	12.49	11.93	11.48	11.19	11.08
90.0	18.90	15.41	14.06	13.22	12.32	11.81	11.42	11.19	11.03
135.0	19.01	15.69	14.29	13.33	12.49	11.81	11.48	11.19	11.03
180.0	16.88	14.85	13.61	12.83	12.15	11.70	11.36	11.14	11.03
225.0	16.88	14.96	13.73	12.83	12.21	11.70	11.31	11.14	11.03
270.0	19.46	15.47	14.01	13.11	12.38	11.87	11.42	11.19	11.08
315.0	19.69	15.19	13.73	12.99	12.32	11.76	11.42	11.19	11.03
360.0	22.84	15.75	14.18	13.22	12.49	11.98	11.53	11.25	11.08

C/γ(°)	90.0
0.0	11.03
45.0	10.97
90.0	10.97
135.0	10.97
180.0	11.03
225.0	10.97
270.0	10.97
315.0	10.97
360.0	11.03