



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: 2-2160-A  
Luminaire: 92.70.153.00  
Report No: NATA0100 Voltage(V): 34.0800  
Test No: GC2019111408 Current(A): 0.3220  
LampCAT: PHILIPS SLM92757 TWL112024 Power (W): 10.9700  
Lamp flux(lm): 1022.0 PF: 1.0000  
Number of Lamps: 1 Ballast type: DC  
Length(mm): 0 Width(mm): 0  
Phm Type: C Height(mm): 0

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## Photometric Results

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Lumens(lm): 852.93  
Efficiency(%): 83.46%  
Lumens(lm)/Power(W): 77.75  
Central intensity(cd): 1505.250  
Maximum intensity(cd): 1505.250  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=39.6  
                                  [C90/270]Total=39.6  
Field angle(10%Imax): [C0/180]Total=76.2  
                                  [C90/270]Total=76.2  
Maximum s/h(1/2): C0\_180=0.64 C90\_270=0.64  
Maximum s/h(1/4): C0\_180=0.65 C90\_270=0.65  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 83.46%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 97.924%

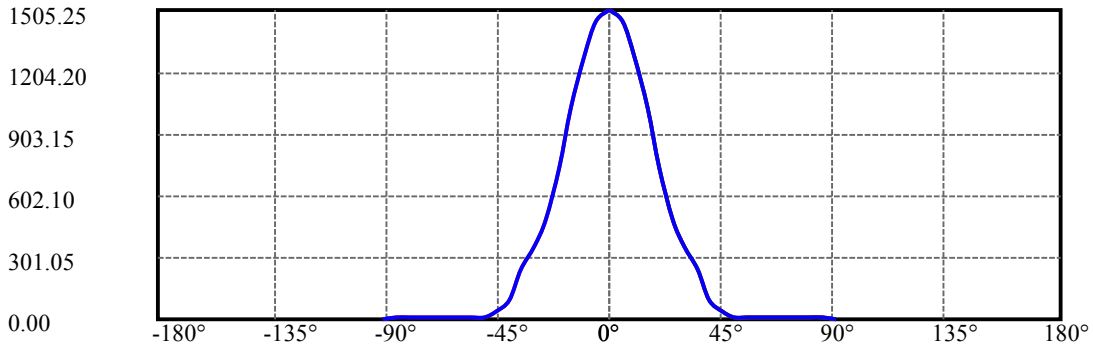
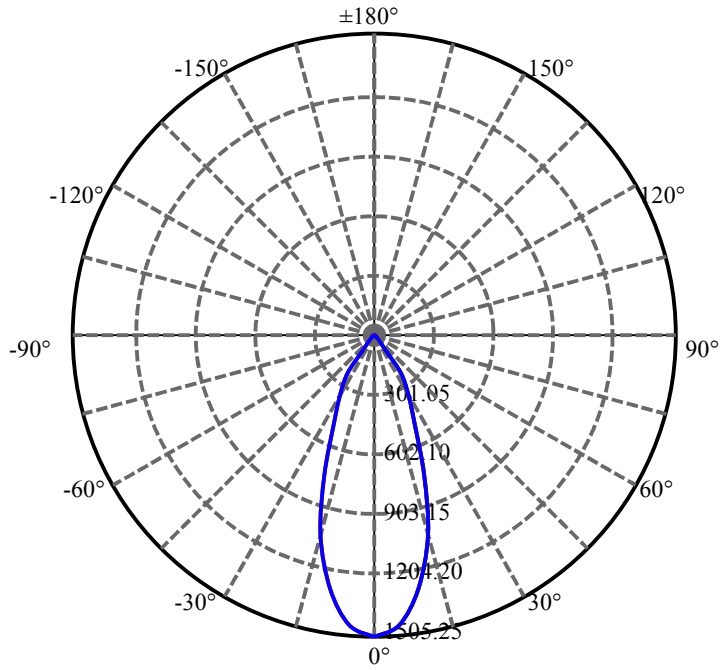
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1505.250	0.000	0	.000%	.000%
5.0	1448.578	35.312	35.312	3.455%	4.140%
10.0	1283.836	97.747	133.059	9.564%	15.600%
15.0	1029.530	137.227	270.287	13.427%	31.689%
20.0	740.285	145.858	416.144	14.272%	48.790%
25.0	484.516	128.459	544.603	12.569%	63.851%
30.0	354.642	106.196	650.799	10.391%	76.301%
35.0	239.323	87.465	738.265	8.558%	86.556%
40.0	96.328	56.001	794.266	5.480%	93.122%
45.0	33.335	24.008	818.274	2.349%	95.937%
50.0	13.141	9.391	827.665	.919%	97.038%
55.0	7.144	4.411	832.076	.432%	97.555%
60.0	6.490	3.151	835.227	.308%	97.924%
65.0	6.258	3.099	838.326	.303%	98.288%
70.0	6.068	3.121	841.447	.305%	98.653%
75.0	5.829	3.110	844.557	.304%	99.018%
80.0	5.590	3.055	847.612	.299%	99.376%
85.0	5.133	2.914	850.526	.285%	99.718%
90.0	3.656	2.407	852.932	.235%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	650.80	63.68%	76.30%
0-40	794.27	77.72%	93.12%
0-60	835.23	81.72%	97.92%
0-90	850.53	83.22%	99.72%
0-120	850.53	83.22%	99.72%
0-180	852.93	83.46%	100.00%
60-90	18.45	1.81%	2.16%
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%
0-31.80	682.35	66.77%	80.00%

ZONAL LUMEN SUMMARY

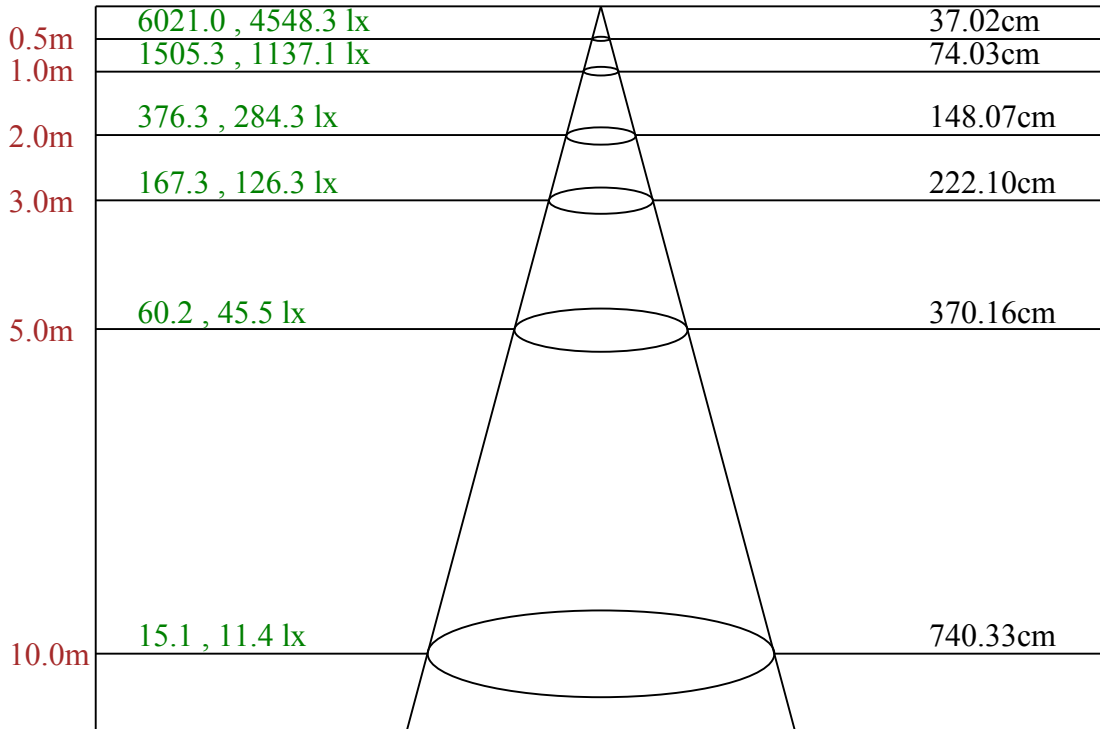
0-10	133.06
10-20	283.08
20-30	234.66
30-40	143.47
40-50	33.40
50-60	7.56
60-70	6.22
70-80	6.16
80-90	2.91
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00



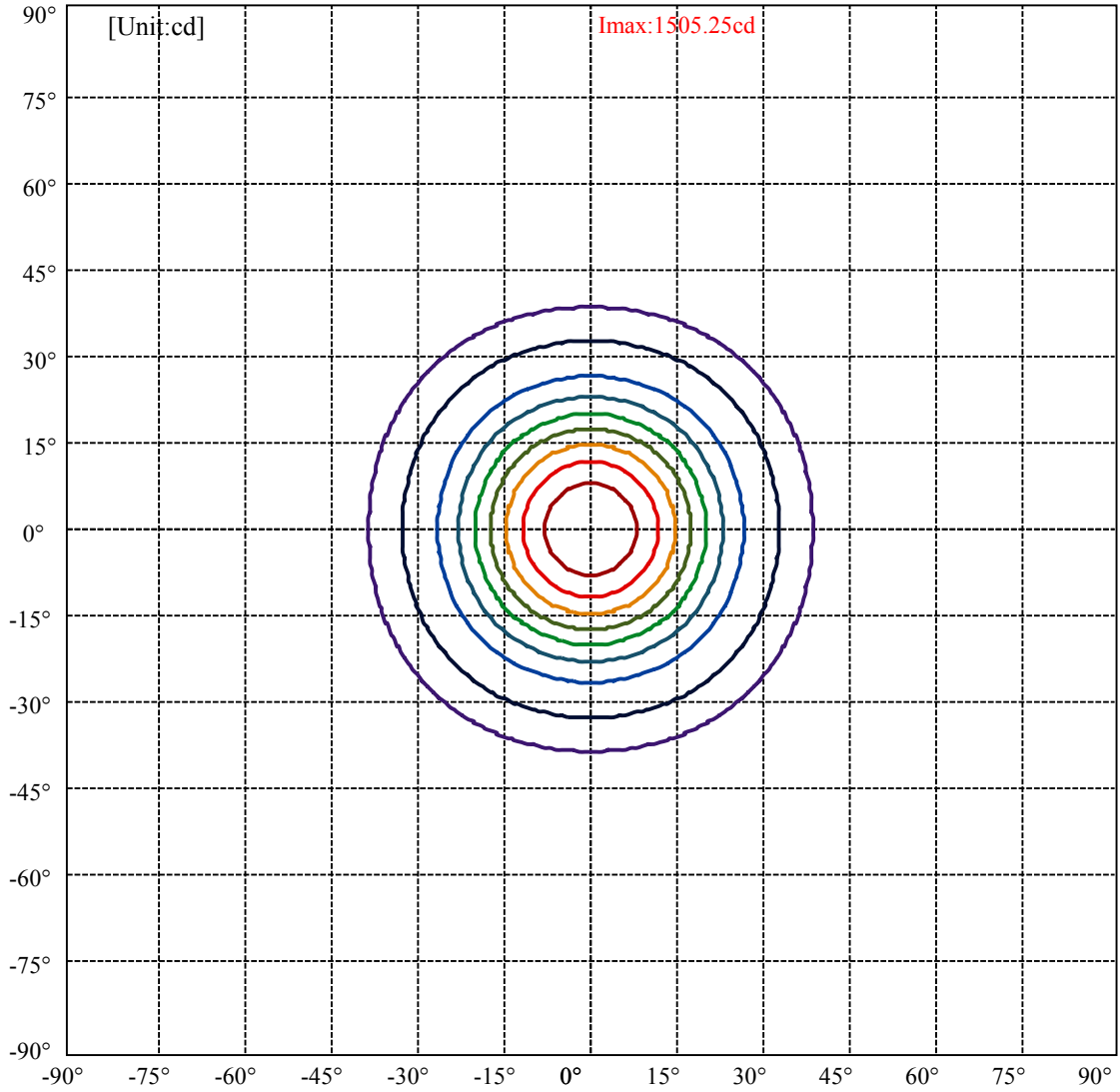
C0(Max): —————  
C0/C180: —————  
C90/C270: —————

Field angle(10%I<sub>max</sub>):C0/180Left:38.1 Right:38.1  
:C90/270Left:38.1 Right:38.1

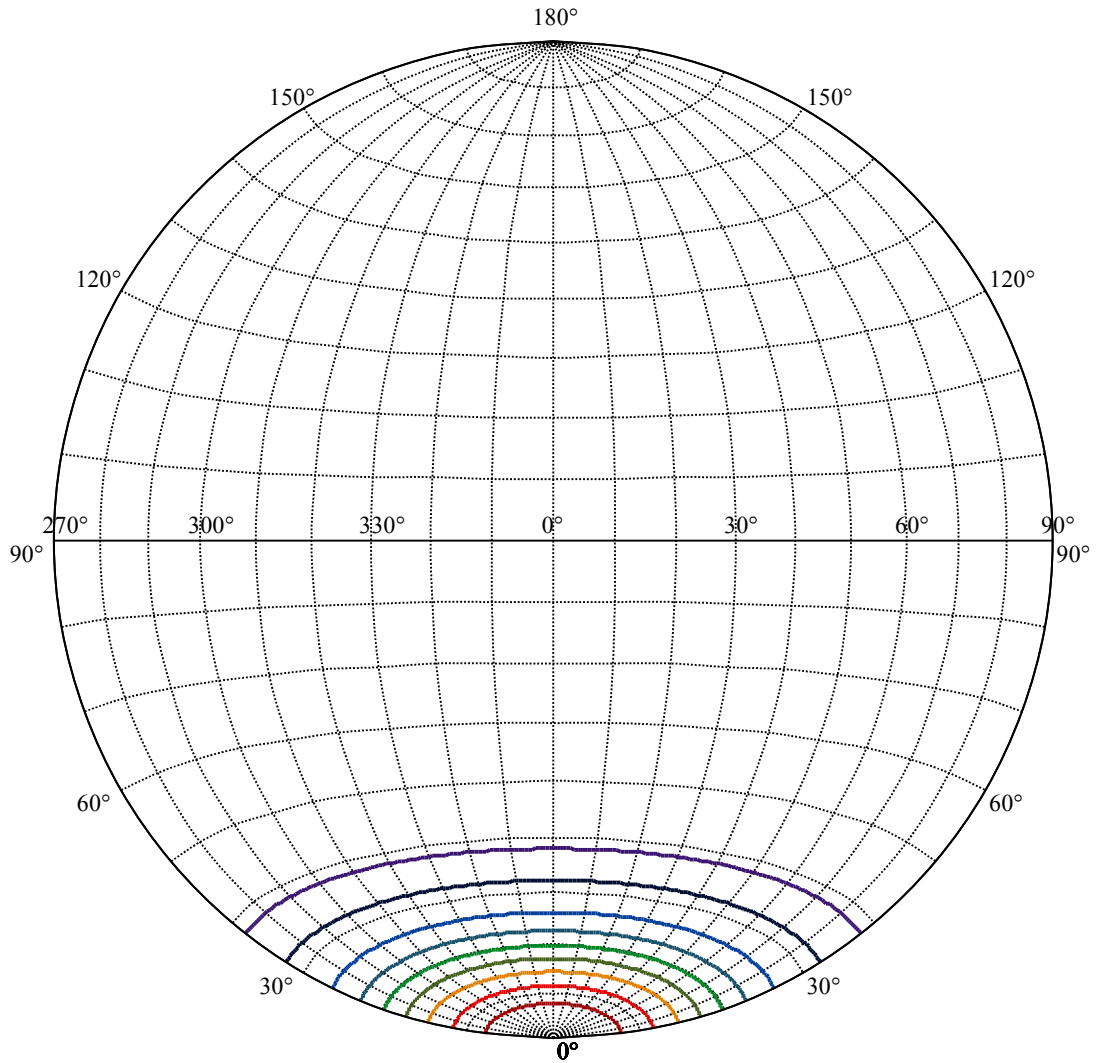
Beam Angle(50%I<sub>max</sub>):C0/180Left:19.8 Right:19.8  
:C90/270Left:19.8 Right:19.8



Max , Ave      Beam angle of C0 plane 40.63



(10%Imax) 150.525	—
(20%Imax) 301.05	—
(30%Imax) 451.575	—
(40%Imax) 602.1	—
(50%Imax) 752.625	—
(60%Imax) 903.15	—
(70%Imax) 1053.67	—
(80%Imax) 1204.2	—
(90%Imax) 1354.72	—



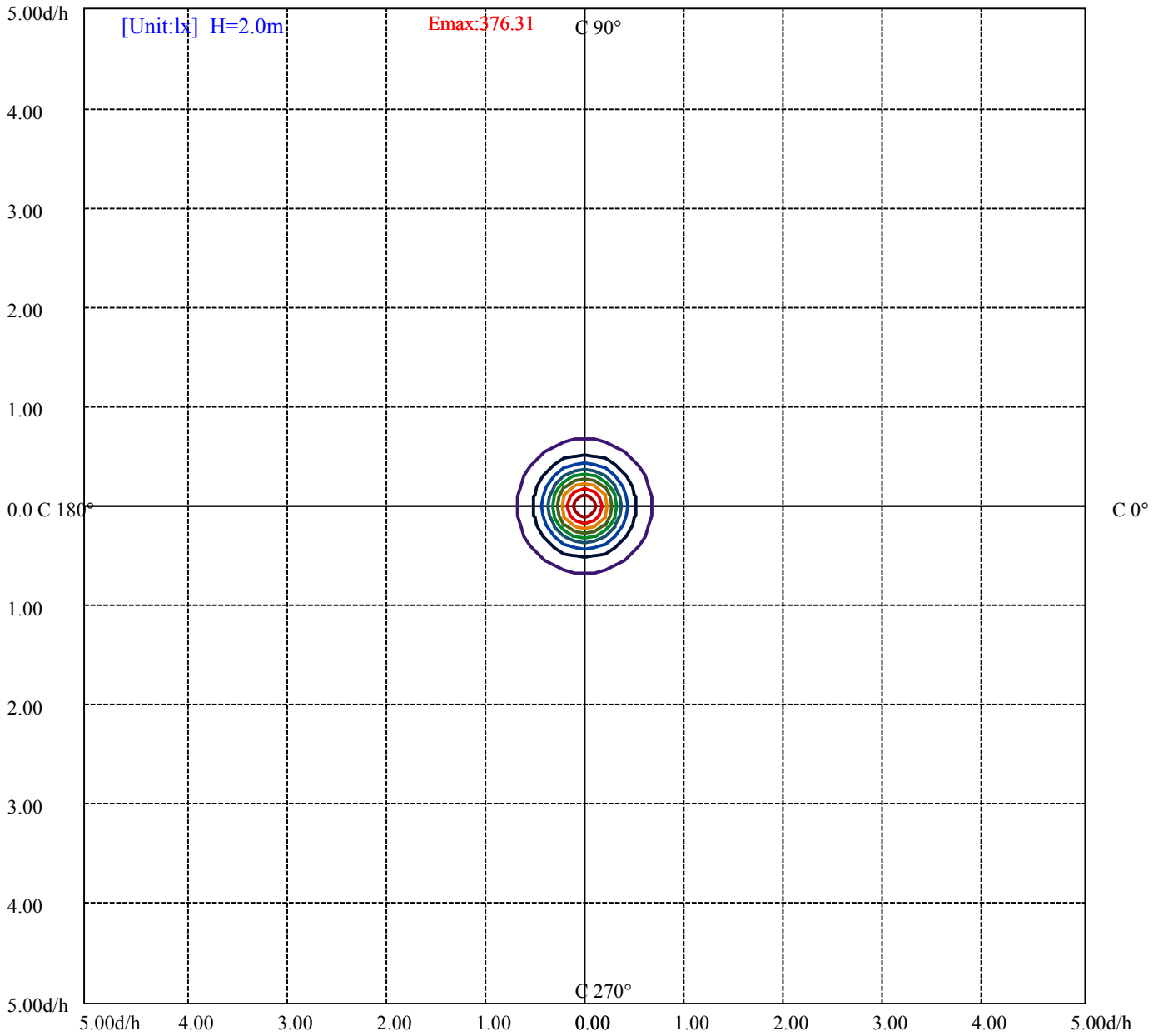
House

[Unit:cd]

Road

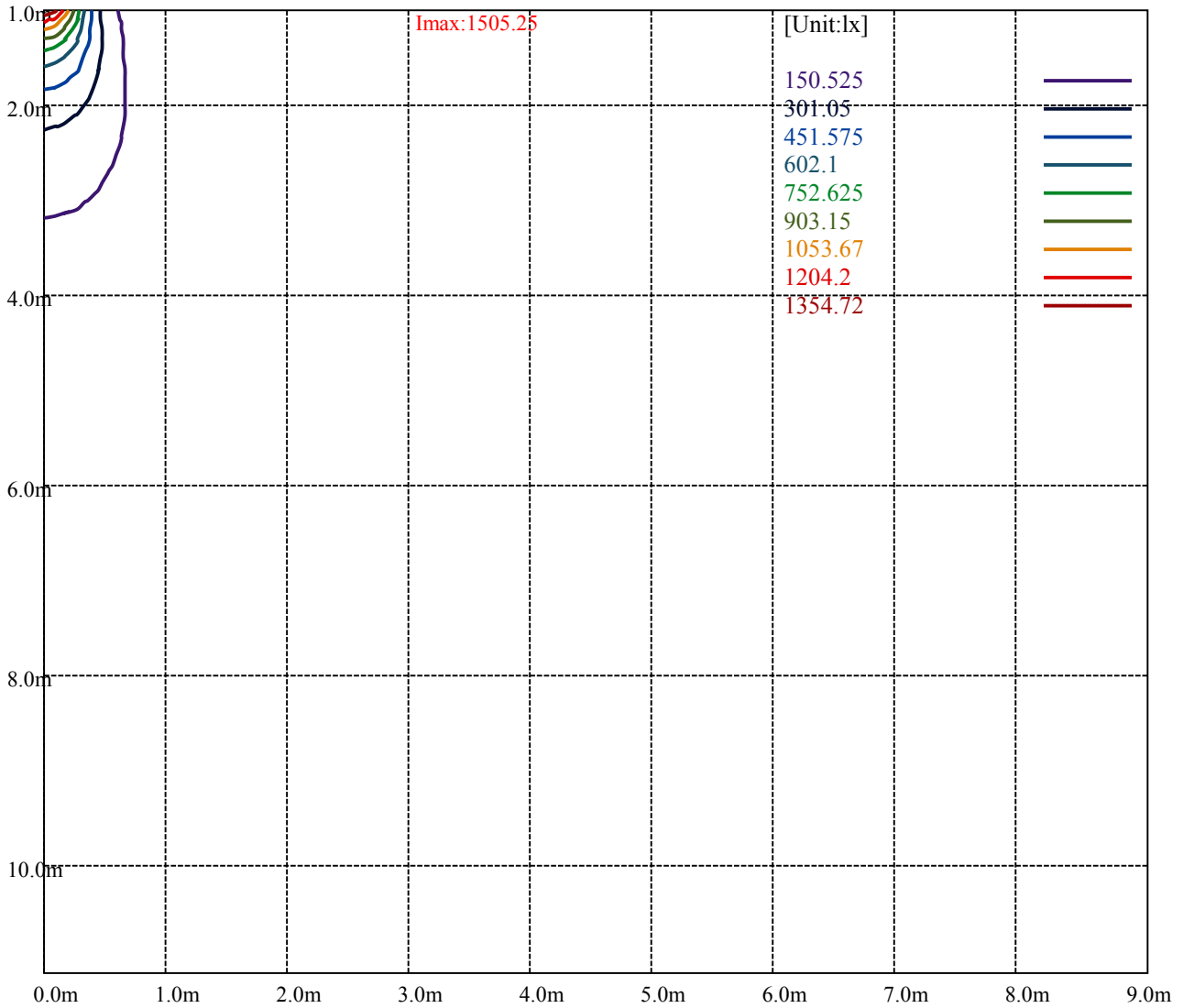
I<sub>max</sub>:1505.25

(10%I <sub>max</sub> )	150.525	—
(20%I <sub>max</sub> )	301.05	—
(30%I <sub>max</sub> )	451.575	—
(40%I <sub>max</sub> )	602.1	—
(50%I <sub>max</sub> )	752.625	—
(60%I <sub>max</sub> )	903.15	—
(70%I <sub>max</sub> )	1053.67	—
(80%I <sub>max</sub> )	1204.2	—
(90%I <sub>max</sub> )	1354.72	—



- (10%Emax) 37.63125
- (20%Emax) 75.2625
- (30%Emax) 112.8935
- (40%Emax) 150.5247
- (50%Emax) 188.156
- (60%Emax) 225.7872
- (70%Emax) 263.4175
- (80%Emax) 301.05
- (90%Emax) 338.68





Luminance Table

$\gamma$	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

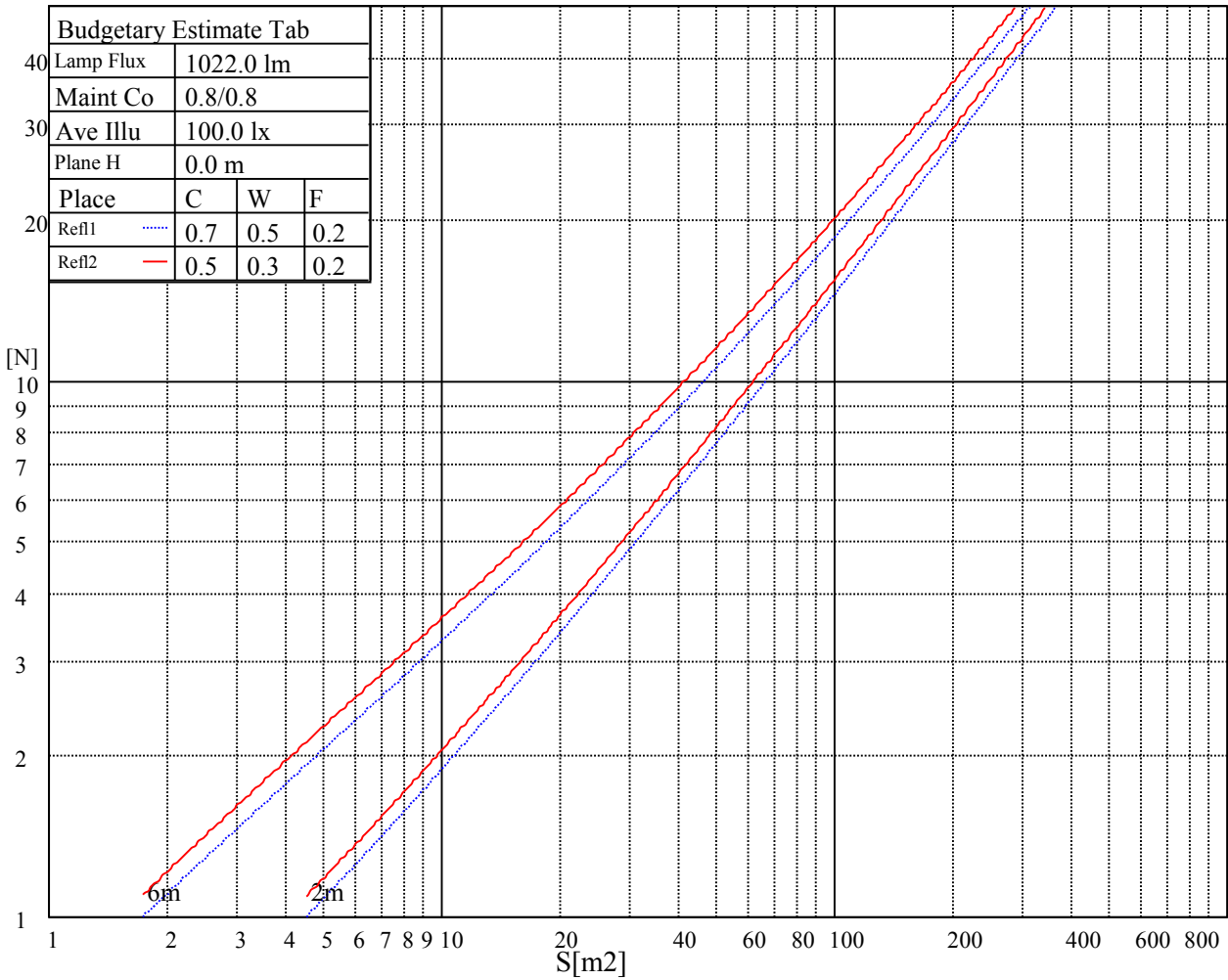
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

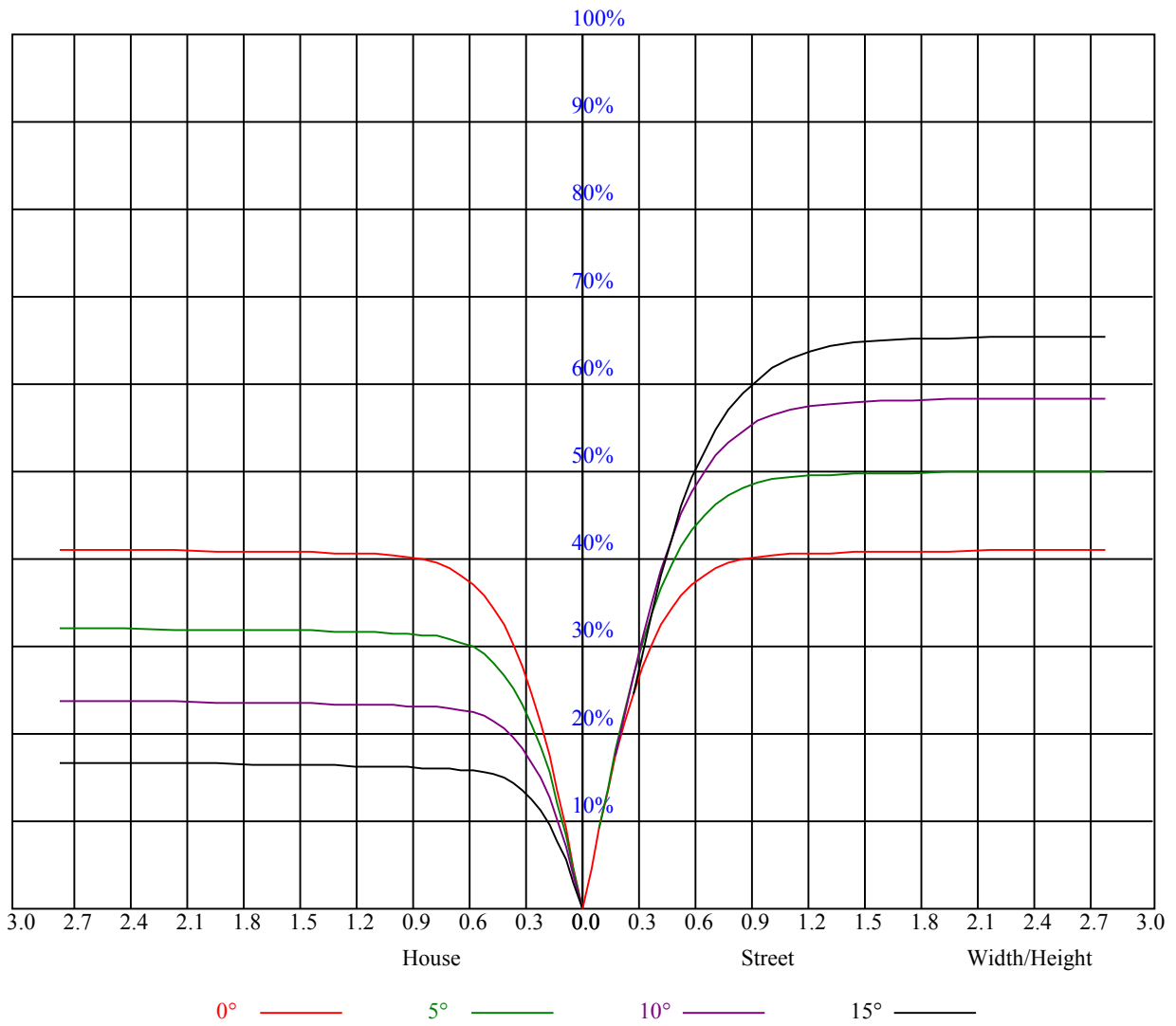
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	0.99	0.99	0.99	0.97	0.97	0.97	0.93	0.93	0.93	0.89	0.89	0.89	0.85	0.85	0.85	0.83
1	0.92	0.90	0.88	0.91	0.89	0.87	0.87	0.86	0.84	0.84	0.83	0.82	0.81	0.80	0.79	0.78
2	0.86	0.83	0.80	0.85	0.82	0.79	0.82	0.80	0.78	0.80	0.78	0.76	0.77	0.76	0.74	0.73
3	0.81	0.77	0.74	0.80	0.76	0.73	0.78	0.75	0.72	0.76	0.73	0.71	0.74	0.72	0.70	0.69
4	0.76	0.72	0.68	0.75	0.71	0.68	0.73	0.70	0.67	0.72	0.69	0.66	0.70	0.68	0.66	0.64
5	0.72	0.67	0.64	0.71	0.67	0.64	0.70	0.66	0.63	0.68	0.65	0.62	0.67	0.64	0.62	0.61
6	0.68	0.63	0.60	0.67	0.63	0.60	0.66	0.62	0.59	0.65	0.61	0.59	0.64	0.61	0.58	0.57
7	0.64	0.60	0.56	0.64	0.59	0.56	0.63	0.59	0.56	0.62	0.58	0.56	0.61	0.58	0.55	0.54
8	0.61	0.56	0.53	0.61	0.56	0.53	0.60	0.56	0.53	0.59	0.55	0.53	0.58	0.55	0.52	0.51
9	0.58	0.54	0.50	0.58	0.53	0.50	0.57	0.53	0.50	0.56	0.53	0.50	0.56	0.52	0.50	0.49
10	0.55	0.51	0.48	0.55	0.51	0.48	0.54	0.50	0.48	0.54	0.50	0.48	0.53	0.50	0.47	0.46



Intensity data(cd)

C/ $\gamma$ (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	1502.44	1448.44	1278.00	1035.00	745.31	484.88	362.81	252.51	93.43
45.0	1508.06	1445.63	1276.88	1031.63	726.75	470.81	349.88	213.86	92.93
90.0	1505.25	1422.00	1235.81	981.11	688.89	448.43	334.74	199.63	78.92
135.0	1505.25	1464.75	1301.06	1062.56	774.56	499.50	359.44	290.81	104.79
180.0	1502.44	1442.25	1285.31	1023.36	732.66	486.34	352.13	222.86	99.28
225.0	1508.06	1454.63	1305.56	1045.29	753.53	499.16	363.49	235.46	100.13
270.0	1505.25	1474.88	1327.50	1081.13	786.94	522.56	375.75	289.13	115.48
315.0	1505.25	1436.06	1260.56	976.16	713.64	464.46	338.91	210.32	85.67
360.0	1502.44	1448.44	1278.00	1035.00	745.31	484.88	362.81	252.51	93.43
C/ $\gamma$ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	33.30	13.11	7.14	6.53	6.30	6.19	5.96	5.79	5.23
45.0	31.78	12.60	7.09	6.53	6.30	6.13	5.96	5.68	5.18
90.0	27.96	11.93	7.03	6.53	6.30	6.02	5.79	5.46	4.95
135.0	35.89	15.08	7.54	6.64	6.41	6.19	5.91	5.63	5.18
180.0	33.86	12.88	7.03	6.47	6.24	6.08	5.85	5.63	5.18
225.0	35.61	13.16	6.98	6.41	6.19	5.96	5.74	5.57	5.18
270.0	38.59	14.40	7.37	6.41	6.13	5.96	5.68	5.46	5.06
315.0	29.70	11.98	6.98	6.41	6.19	6.02	5.74	5.51	5.12
360.0	33.30	13.11	7.14	6.53	6.30	6.19	5.96	5.79	5.23
C/ $\gamma$ (°)	90.0								
0.0	3.66								
45.0	3.66								
90.0	3.66								
135.0	3.66								
180.0	3.66								
225.0	3.66								
270.0	3.66								
315.0	3.66								
360.0	3.66								