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NATA

LumCAT: 2-1212-M

Luminaire:

Report No: NATA0100

Voltage(V): 28.9000

Test No: GC2018102619

Current(A): 0.4000

LampCAT: XICATO XTM LES 9MM

Power (W): 11.5600

Lamp flux(lm): 630.0

PF: 0.0000

Number of Lamps: 1

Ballast type: DC

Length(mm): 65

Width(mm): 65

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 533.37

Efficiency(%): 84.66%

Lumens(lm)/Power(W): 46.64

Central intensity(cd): 1053.928

Maximum intensity(cd): 1053.928

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=37.9

[C90/270]Total=37.9

Field angle(10%Imax): [C0/180]Total=72.9

[C90/270]Total=72.9

Maximum s/h(1/2): C0_180=0.61 C90_270=0.61

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(%): 85.58%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 97.740%

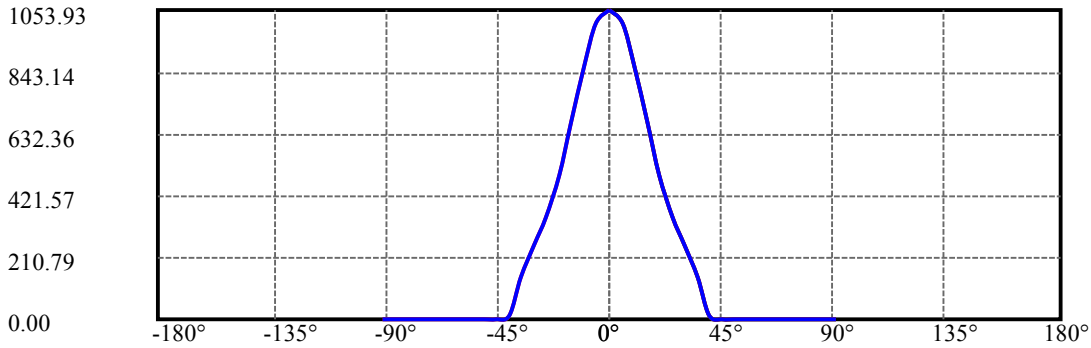
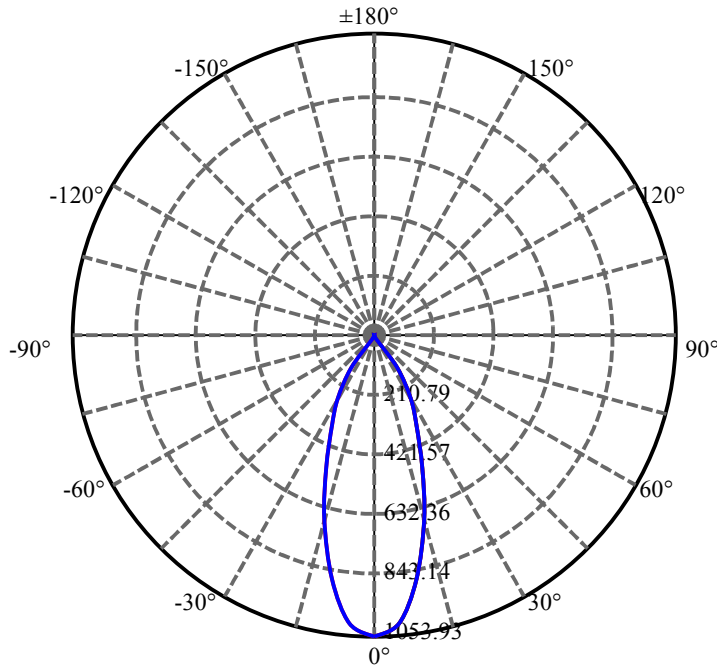
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1053.928	6.303	6.303	1.000%	1.182%
5.0	1008.422	48.176	54.478	7.647%	10.214%
10.0	863.065	82.149	136.628	13.040%	25.616%
15.0	667.097	94.640	231.267	15.022%	43.360%
20.0	490.620	91.978	323.246	14.600%	60.605%
25.0	345.368	80.005	403.251	12.699%	75.605%
30.0	252.570	69.221	472.473	10.988%	88.583%
35.0	143.311	45.057	517.53	7.152%	97.030%
40.0	14.562	5.131	522.66	.814%	97.992%
45.0	2.918	1.131	523.791	.180%	98.204%
50.0	2.552	1.072	524.863	.170%	98.405%
55.0	2.341	1.051	525.914	.167%	98.602%
60.0	2.243	1.065	526.979	.169%	98.802%
65.0	2.222	1.104	528.083	.175%	99.009%
70.0	2.208	1.137	529.22	.181%	99.222%
75.0	2.201	1.165	530.385	.185%	99.441%
80.0	2.194	1.184	531.569	.188%	99.663%
85.0	2.194	1.198	532.767	.190%	99.887%
90.0	2.194	0.601	533.368	.095%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	472.47	75.00%	88.58%
0-40	522.66	82.96%	97.99%
0-60	526.98	83.65%	98.80%
0-90	532.77	84.57%	99.89%
0-120	532.77	84.57%	99.89%
0-180	533.37	84.66%	100.00%
60-90	6.85	1.09%	1.28%
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%
0-26.69	426.69	67.73%	80.00%

ZONAL LUMEN SUMMARY

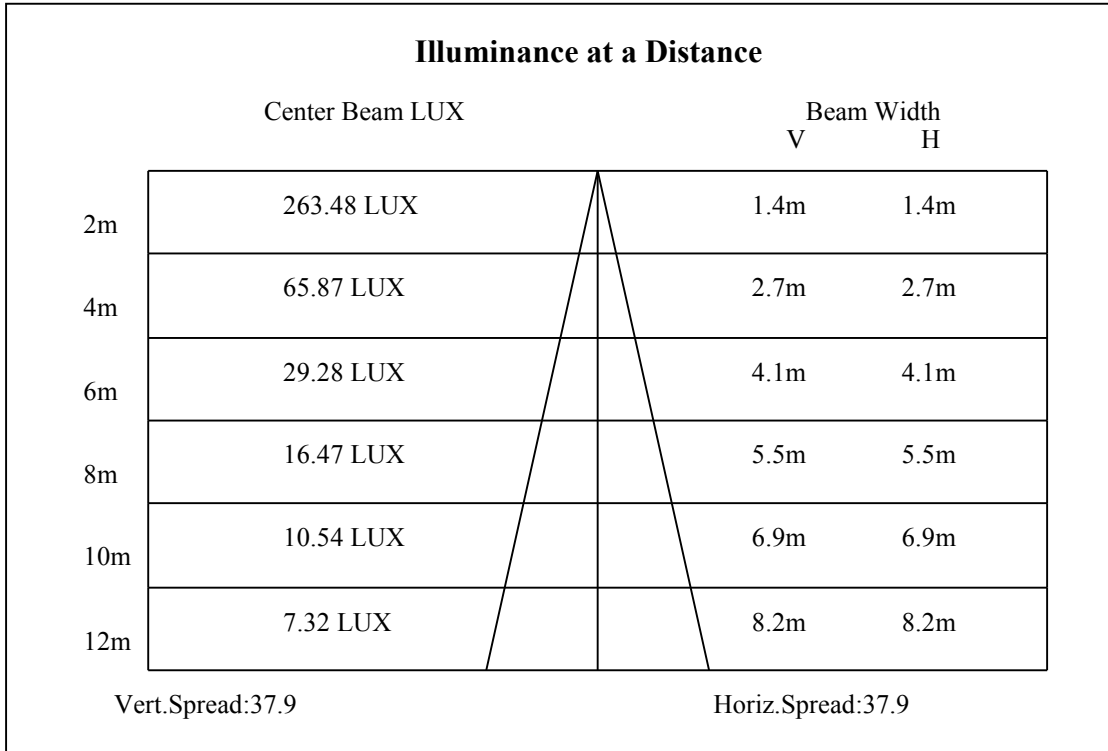
0-10	136.63
10-20	186.62
20-30	149.23
30-40	50.19
40-50	2.20
50-60	2.12
60-70	2.24
70-80	2.35
80-90	1.20
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

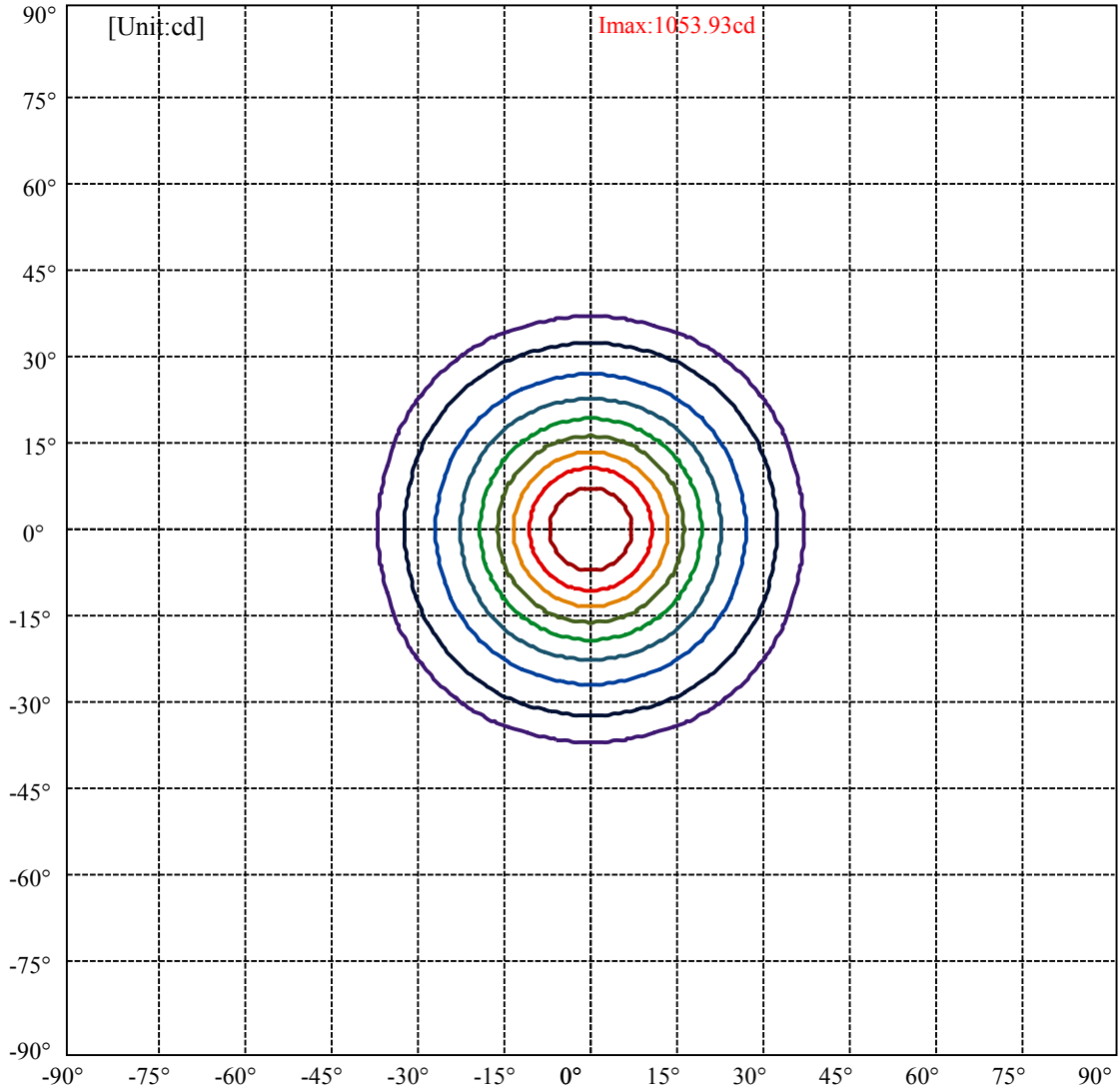


C0(Max): ———
C0/C180: ———
C90/C270: ———

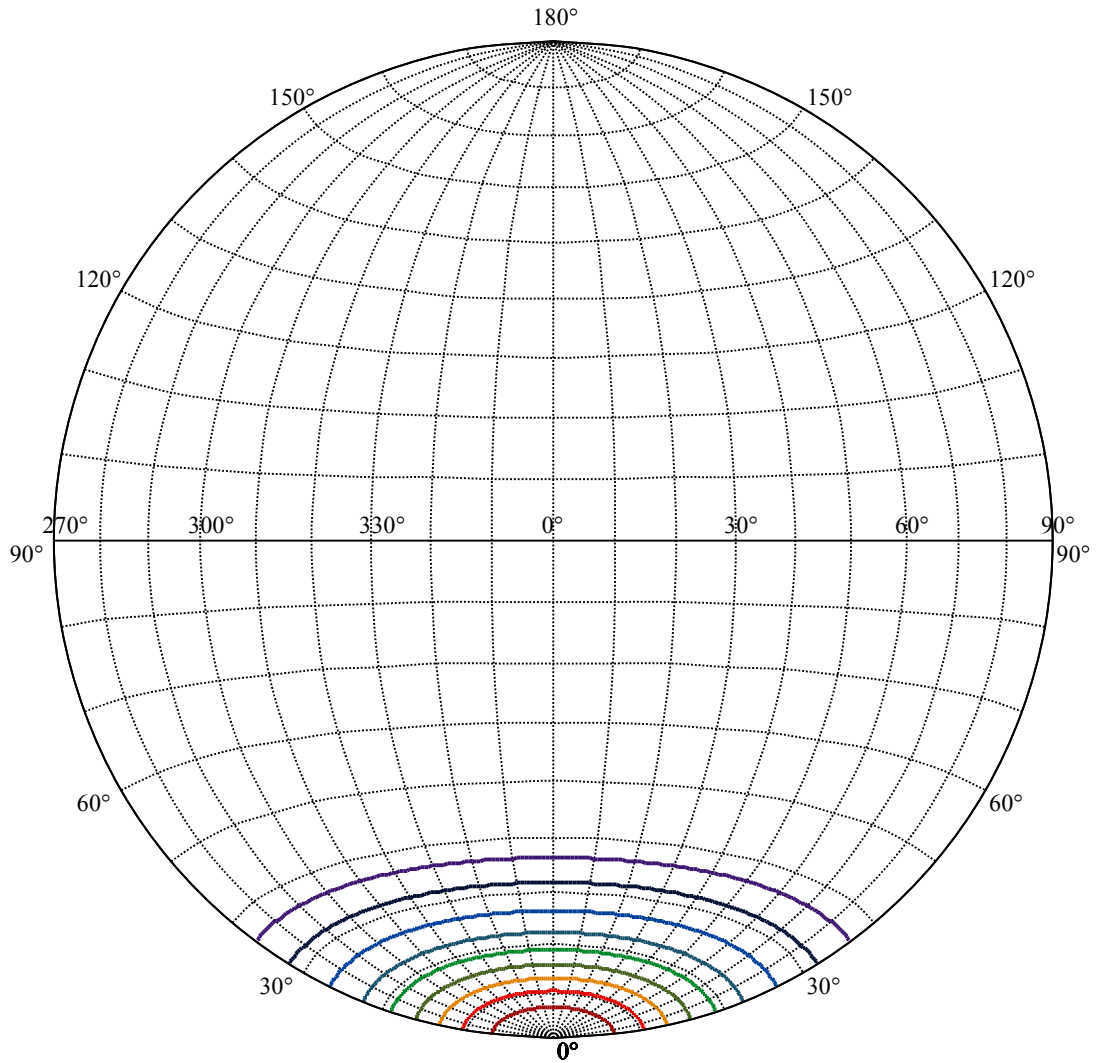
Field angle(10%Imax):C0/180Left:36.5 Right:36.5
:C90/270Left:36.5 Right:36.5

Beam Angle(50%Imax):C0/180Left:19.0 Right:19.0
:C90/270Left:19.0 Right:19.0





(10%Imax) 105.393	—
(20%Imax) 210.786	—
(30%Imax) 316.178	—
(40%Imax) 421.571	—
(50%Imax) 526.964	—
(60%Imax) 632.357	—
(70%Imax) 737.75	—
(80%Imax) 843.142	—
(90%Imax) 948.535	—



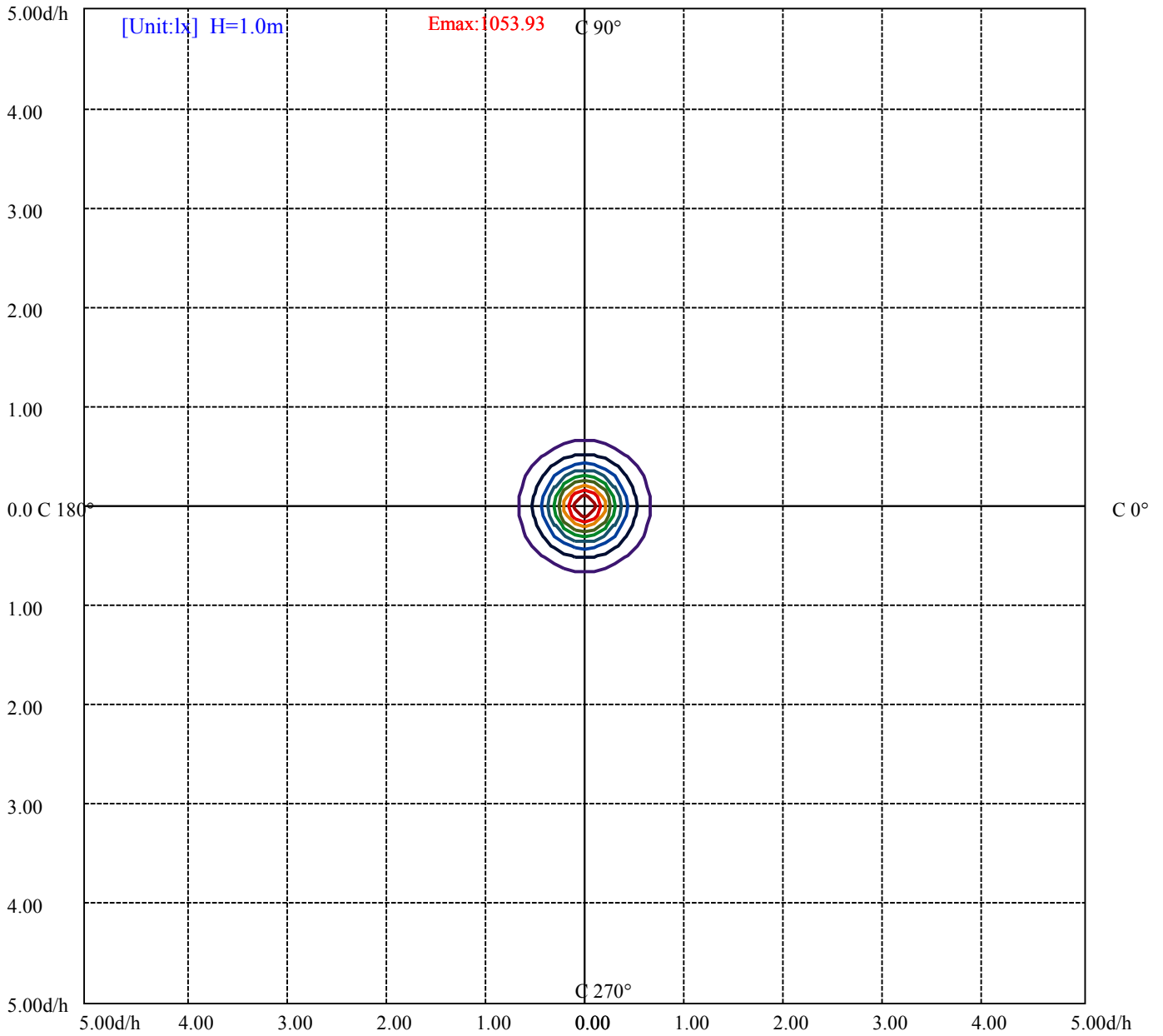
House

[Unit:cd]

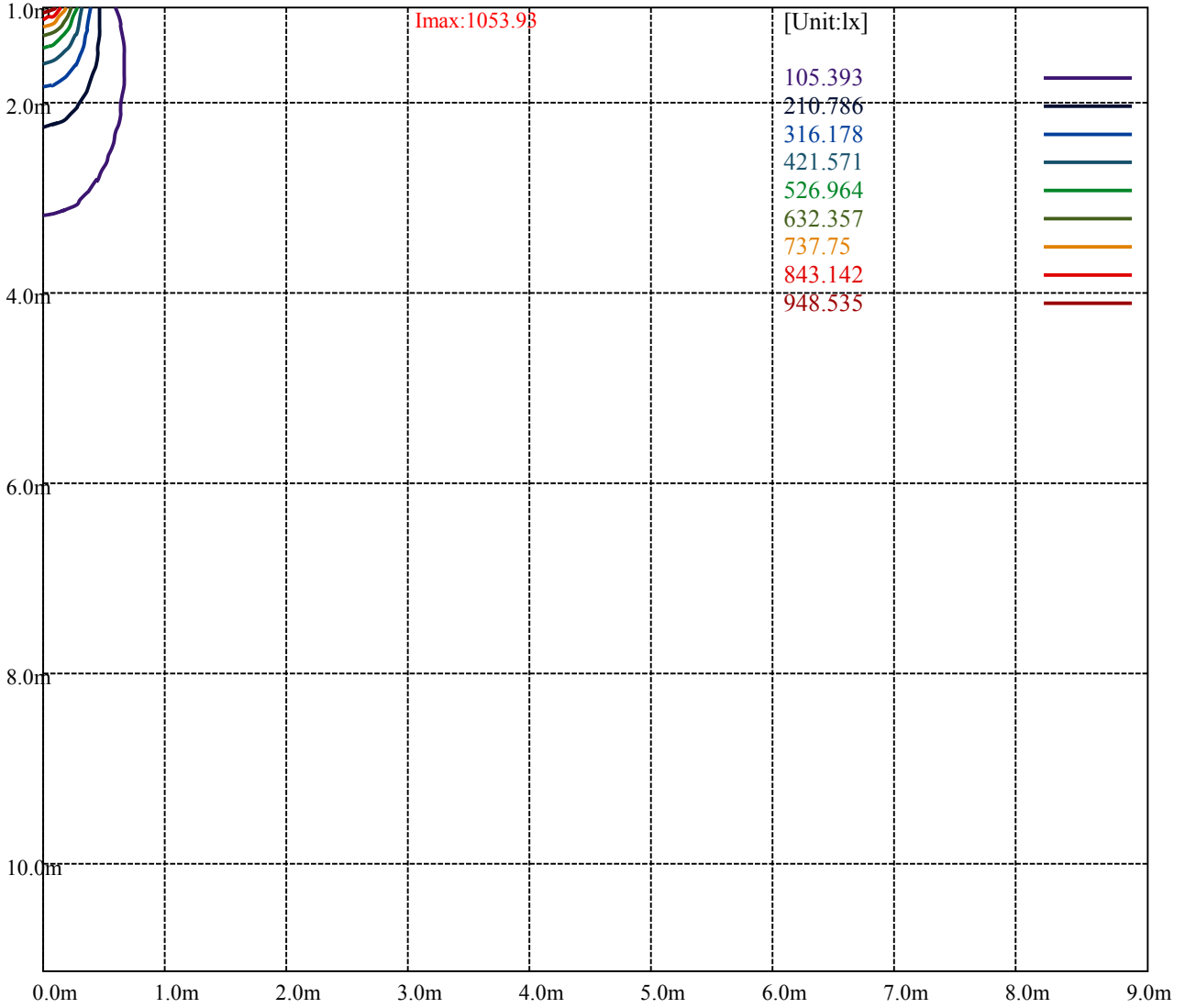
Road

Imax:1053.93

(10%Imax)	105.393	—
(20%Imax)	210.786	—
(30%Imax)	316.178	—
(40%Imax)	421.571	—
(50%Imax)	526.964	—
(60%Imax)	632.357	—
(70%Imax)	737.75	—
(80%Imax)	843.142	—
(90%Imax)	948.535	—



(10%Emax) 105.393	—
(20%Emax) 210.785	—
(30%Emax) 316.178	—
(40%Emax) 421.571	—
(50%Emax) 526.963	—
(60%Emax) 632.356	—
(70%Emax) 737.749	—
(80%Emax) 843.141	—
(90%Emax) 948.534	—



Luminance Table

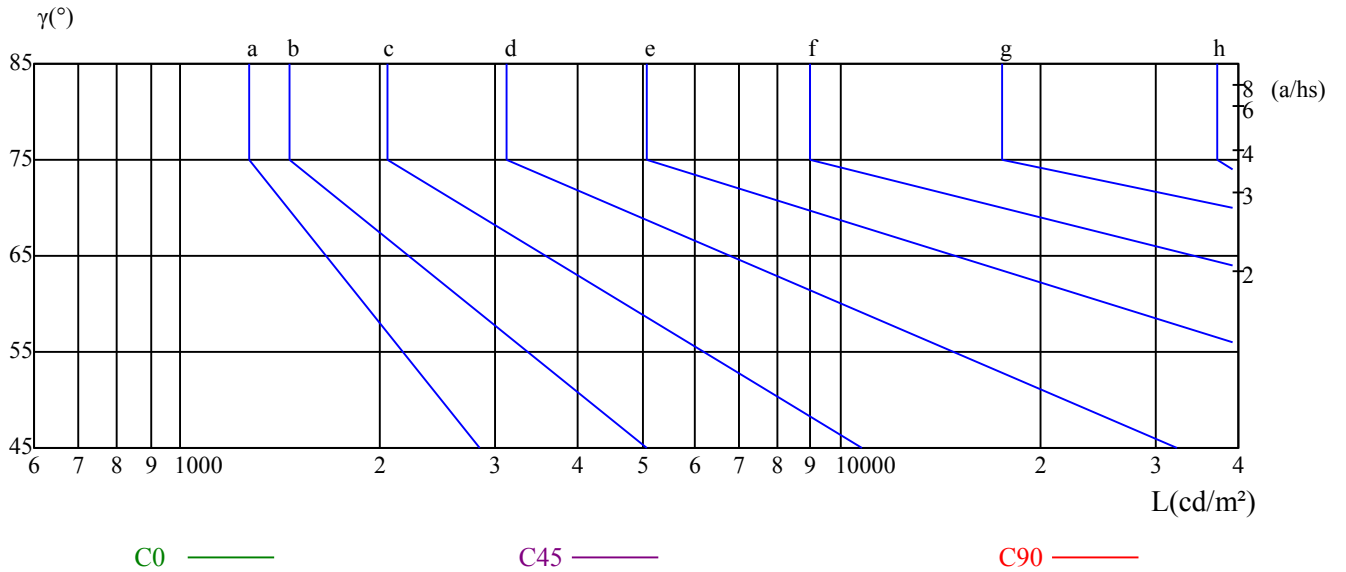
γ	45	50	55	60	65	70	75	80	85
C0	588	526	497	495	514	542	580	629	696
C45	505	444	414	405	414	428	448	474	509
C90	588	526	497	495	514	542	580	629	696

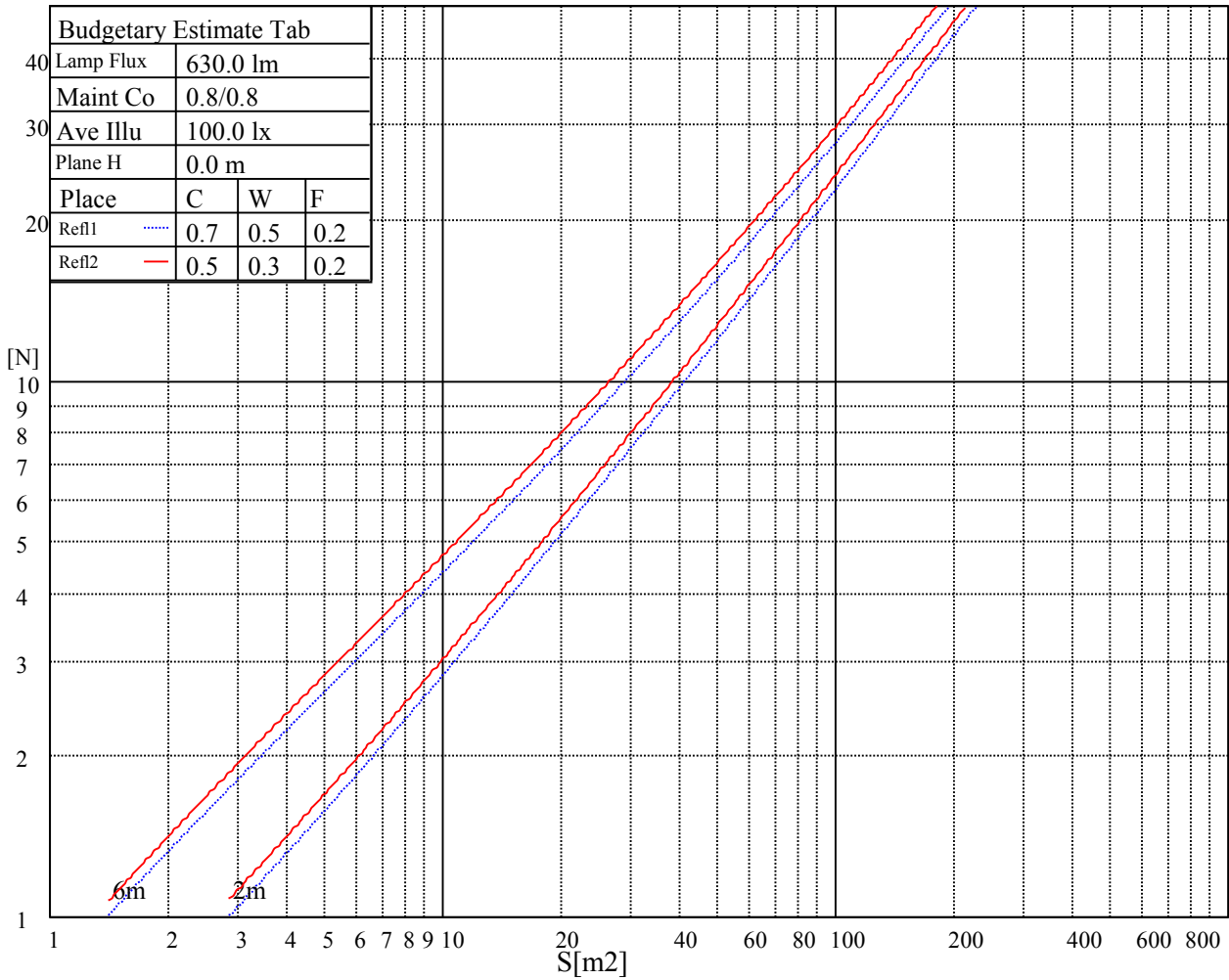
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
1244	1244	1244	2013	2013	2013	5958	5958	5958

Glare Table

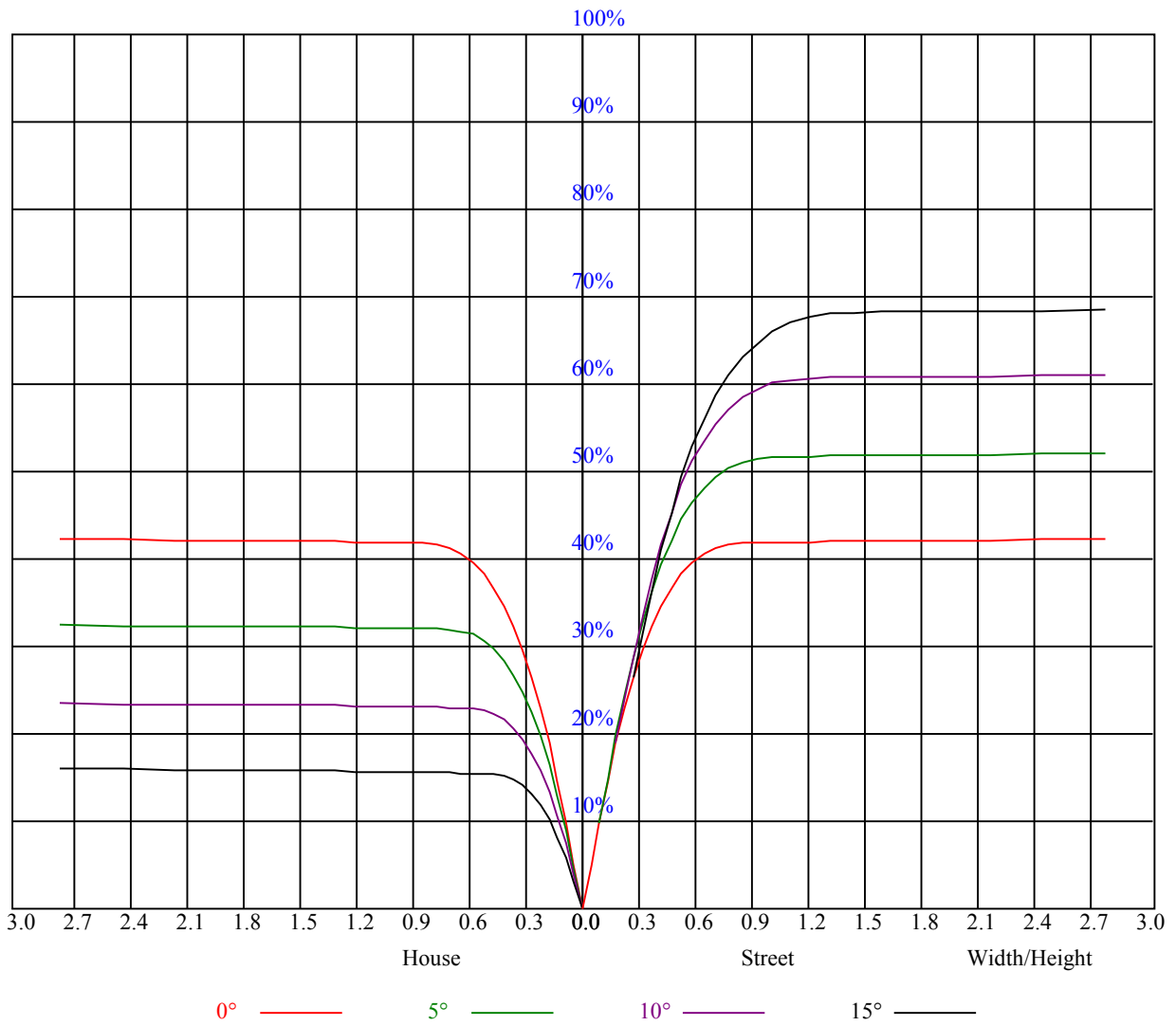
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.02	1.02	1.02	1.00	1.00	1.00	0.95	0.95	0.95	0.91	0.91	0.91	0.87	0.87	0.87	0.86
1	0.94	0.92	0.90	0.93	0.91	0.89	0.89	0.87	0.86	0.86	0.85	0.83	0.83	0.82	0.81	0.79
2	0.89	0.86	0.83	0.88	0.85	0.82	0.85	0.82	0.80	0.82	0.80	0.79	0.80	0.78	0.77	0.76
3	0.84	0.81	0.77	0.83	0.80	0.77	0.81	0.78	0.76	0.79	0.77	0.74	0.77	0.75	0.73	0.72
4	0.80	0.76	0.73	0.79	0.75	0.72	0.77	0.74	0.72	0.76	0.73	0.71	0.74	0.72	0.70	0.69
5	0.76	0.72	0.69	0.76	0.72	0.69	0.74	0.71	0.68	0.73	0.70	0.67	0.72	0.69	0.67	0.66
6	0.73	0.69	0.66	0.72	0.68	0.65	0.71	0.68	0.65	0.70	0.67	0.64	0.69	0.66	0.64	0.63
7	0.70	0.66	0.63	0.69	0.65	0.62	0.68	0.65	0.62	0.67	0.64	0.62	0.67	0.64	0.61	0.60
8	0.67	0.63	0.60	0.67	0.63	0.60	0.66	0.62	0.59	0.65	0.62	0.59	0.64	0.61	0.59	0.58
9	0.64	0.60	0.57	0.64	0.60	0.57	0.63	0.60	0.57	0.63	0.59	0.57	0.62	0.59	0.57	0.56
10	0.62	0.58	0.55	0.62	0.58	0.55	0.61	0.57	0.55	0.60	0.57	0.55	0.60	0.57	0.55	0.54



NATA 2-1212-M

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	1049.23	1026.34	879.19	675.06	511.03	362.14	268.93	161.49	23.12
45.0	1054.24	1020.26	882.39	667.35	492.19	347.23	258.92	145.80	12.66
90.0	1056.26	1008.17	846.23	651.21	475.31	324.45	242.83	126.28	8.55
135.0	1055.98	1009.86	879.58	686.48	501.36	354.77	256.28	156.21	22.56
180.0	1049.23	980.66	831.83	649.74	470.14	325.29	234.34	127.58	10.41
225.0	1054.24	998.44	862.03	670.50	489.54	344.87	248.23	139.33	12.15
270.0	1056.26	1016.44	888.92	691.31	510.36	370.18	261.11	159.41	16.65
315.0	1055.98	1007.21	834.36	645.13	475.03	334.01	249.92	130.39	10.41
360.0	1049.23	1026.34	879.19	675.06	511.03	362.14	268.93	161.49	23.12
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	2.98	2.59	2.36	2.25	2.19	2.19	2.19	2.19	2.19
45.0	2.87	2.53	2.36	2.25	2.25	2.25	2.25	2.19	2.19
90.0	2.87	2.53	2.31	2.25	2.19	2.25	2.19	2.19	2.19
135.0	2.98	2.59	2.36	2.25	2.25	2.19	2.19	2.19	2.19
180.0	2.87	2.53	2.31	2.19	2.25	2.19	2.19	2.19	2.19
225.0	2.93	2.53	2.36	2.25	2.25	2.19	2.19	2.19	2.19
270.0	2.98	2.59	2.36	2.25	2.19	2.19	2.19	2.19	2.19
315.0	2.87	2.53	2.31	2.25	2.19	2.19	2.19	2.19	2.19
360.0	2.98	2.59	2.36	2.25	2.19	2.19	2.19	2.19	2.19
C/ γ (°)	90.0								
0.0	2.19								
45.0	2.19								
90.0	2.19								
135.0	2.19								
180.0	2.19								
225.0	2.19								
270.0	2.19								
315.0	2.19								
360.0	2.19								