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Nata

LumCAT: 1-0810-S
Luminaire: 92.70.208.00
Report No: NATA0100
Test No: GC20191021012
LampCAT: LUMILEDS LUXEON 5050
Lamp flux(lm): 442.0
Number of Lamps: 1
Length(mm): 0
Phm Type: C

Voltage(V): 25.5200
Current(A): 0.1980
Power (W): 5.0500
PF: 0.0000
Ballast type: DC
Width(mm): 0
Height(mm): 0

Photometric Results

Lumens(lm): 423.31
Efficiency(%): 95.77%
Lumens(lm)/Power(W): 83.82
Central intensity(cd): 892.491
Maximum intensity(cd): 892.491
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=34.7
[C90/270]Total=34.7
Field angle(10%Imax): [C0/180]Total=77.7
[C90/270]Total=77.7
Maximum s/h(1/2): C0_180=0.57 C90_270=0.57
Maximum s/h(1/4): C0_180=0.58 C90_270=0.58
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 95.77%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.724%

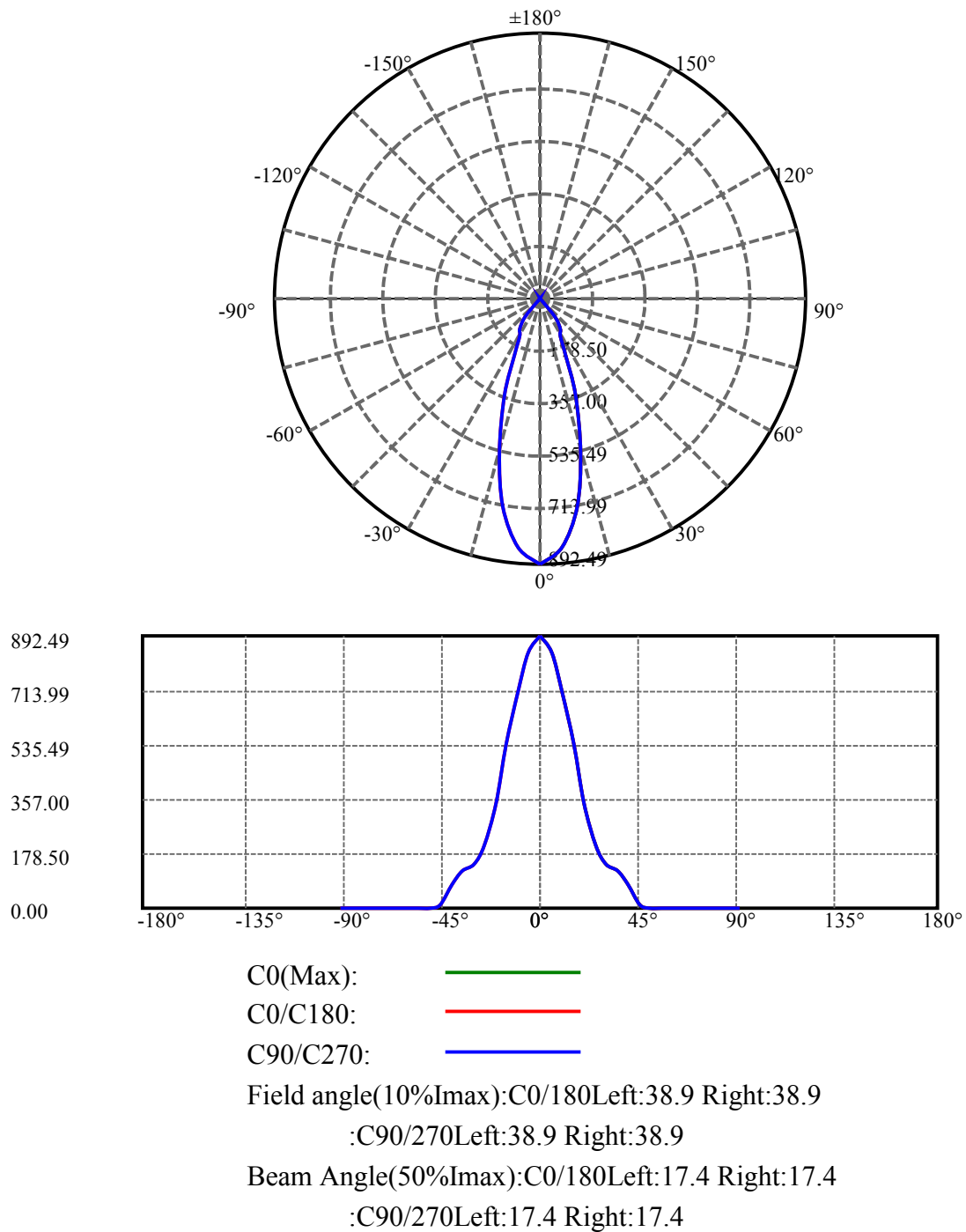
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	892.491	0.000	0	.000%	.000%
5.0	839.405	20.704	20.704	4.684%	4.891%
10.0	708.855	55.386	76.09	12.531%	17.975%
15.0	537.574	73.937	150.028	16.728%	35.441%
20.0	345.206	72.754	222.781	16.460%	52.628%
25.0	204.300	57.633	280.414	13.039%	66.243%
30.0	141.645	43.780	324.194	9.905%	76.585%
35.0	123.427	39.034	363.228	8.831%	85.806%
40.0	79.320	33.827	397.054	7.653%	93.797%
45.0	10.652	16.659	413.713	3.769%	97.732%
50.0	1.969	2.550	416.264	.577%	98.335%
55.0	1.821	0.824	417.088	.186%	98.529%
60.0	1.751	0.826	417.913	.187%	98.724%
65.0	1.730	0.846	418.759	.191%	98.924%
70.0	1.702	0.869	419.628	.197%	99.129%
75.0	1.723	0.895	420.523	.202%	99.341%
80.0	1.716	0.920	421.443	.208%	99.558%
85.0	1.716	0.932	422.375	.211%	99.779%
90.0	1.709	0.938	423.313	.212%	100.000%

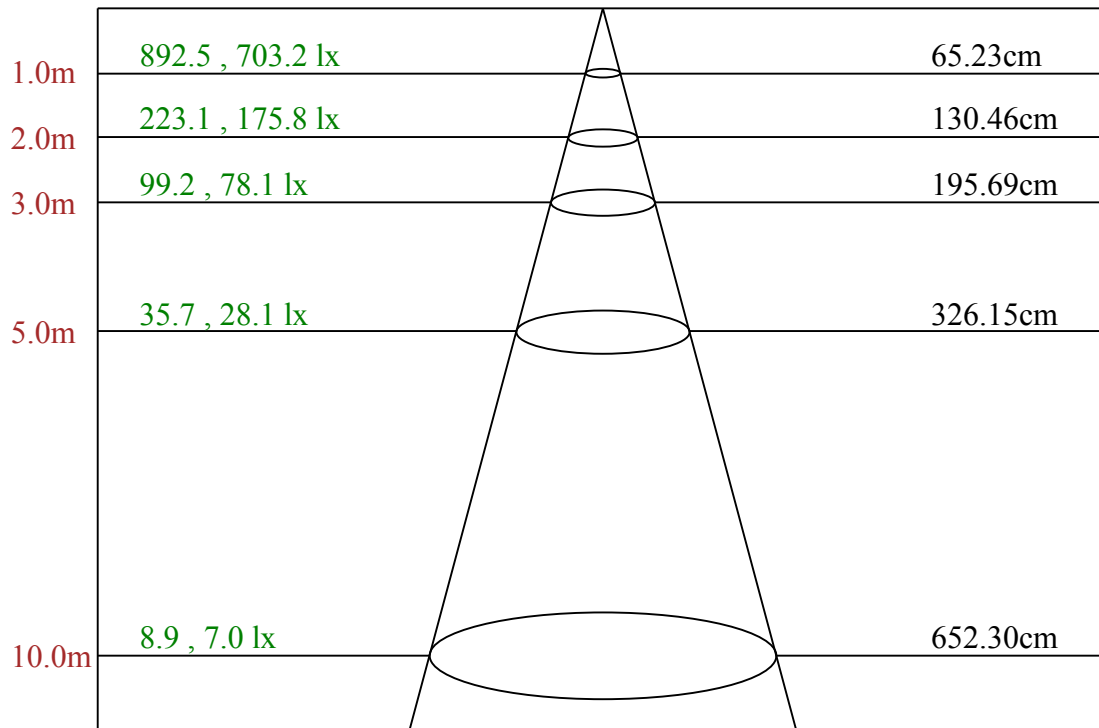
ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	324.19	73.35%	76.58%
0-40	397.05	89.83%	93.80%
0-60	417.91	94.55%	98.72%
0-90	422.38	95.56%	99.78%
0-120	422.38	95.56%	99.78%
0-180	423.31	95.77%	100.00%
60-90	5.29	1.20%	1.25%
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%
0-31.85	338.65	76.62%	80.00%

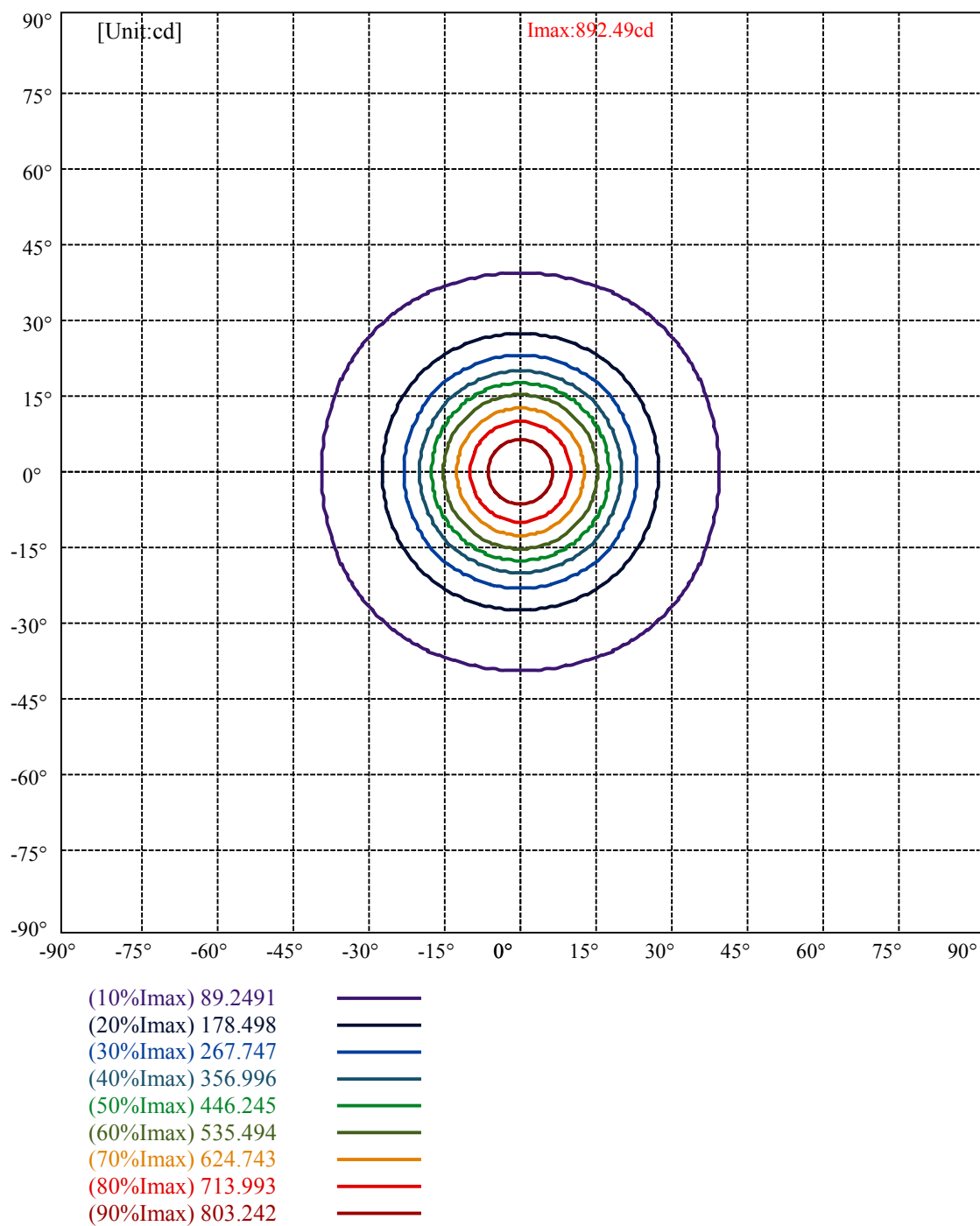
ZONAL LUMEN SUMMARY

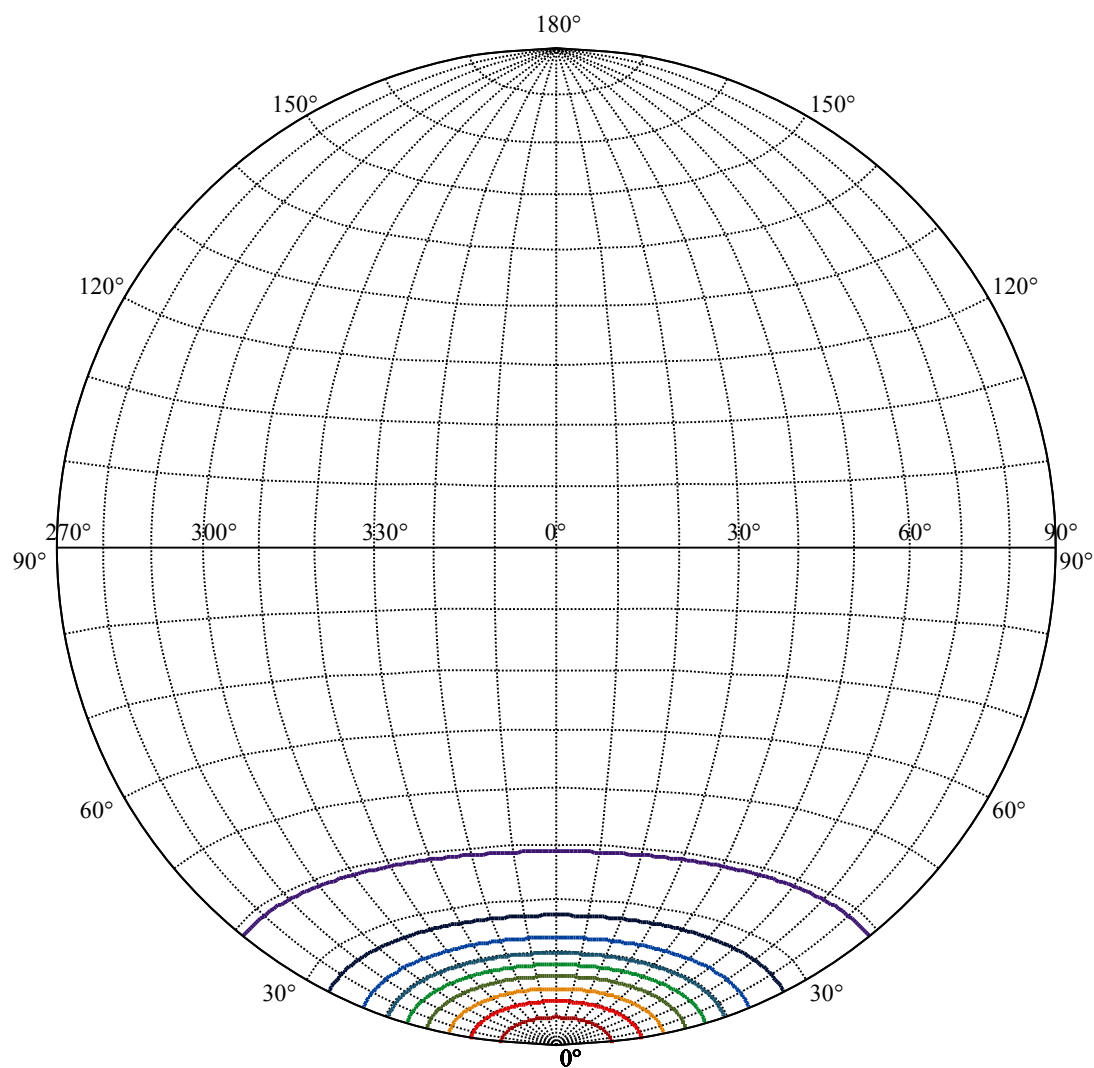
0-10	76.09
10-20	146.69
20-30	101.41
30-40	72.86
40-50	19.21
50-60	1.65
60-70	1.71
70-80	1.82
80-90	0.93
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00





Max , Ave Beam angle of C0 plane 36.13





House

[Unit:cd]

Road

Imax:892.49

(10%Imax) 89.2491

(20%Imax) 178.498

(30%Imax) 267.747

(40%Imax) 356.996

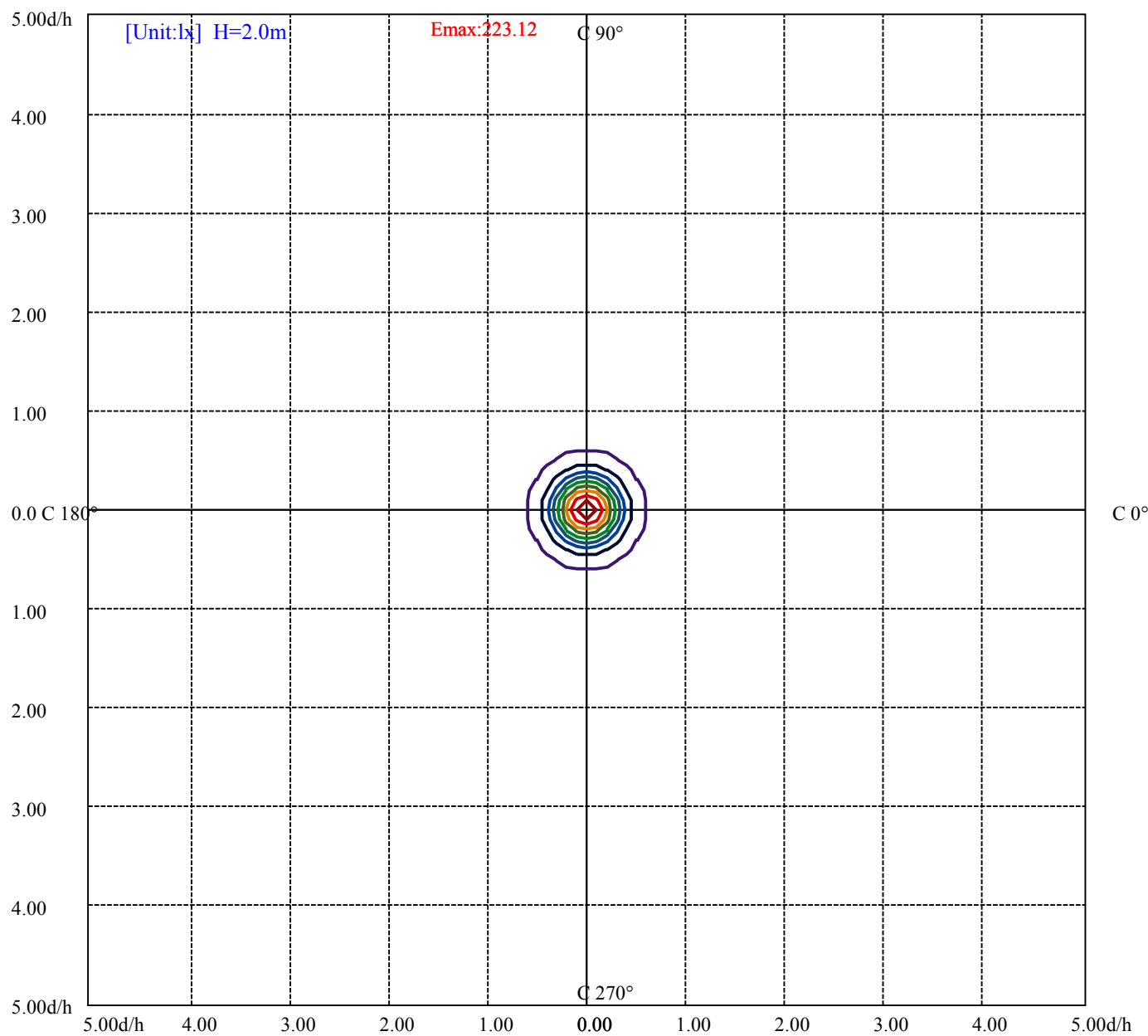
(50%Imax) 446.245

(60%Imax) 535.494

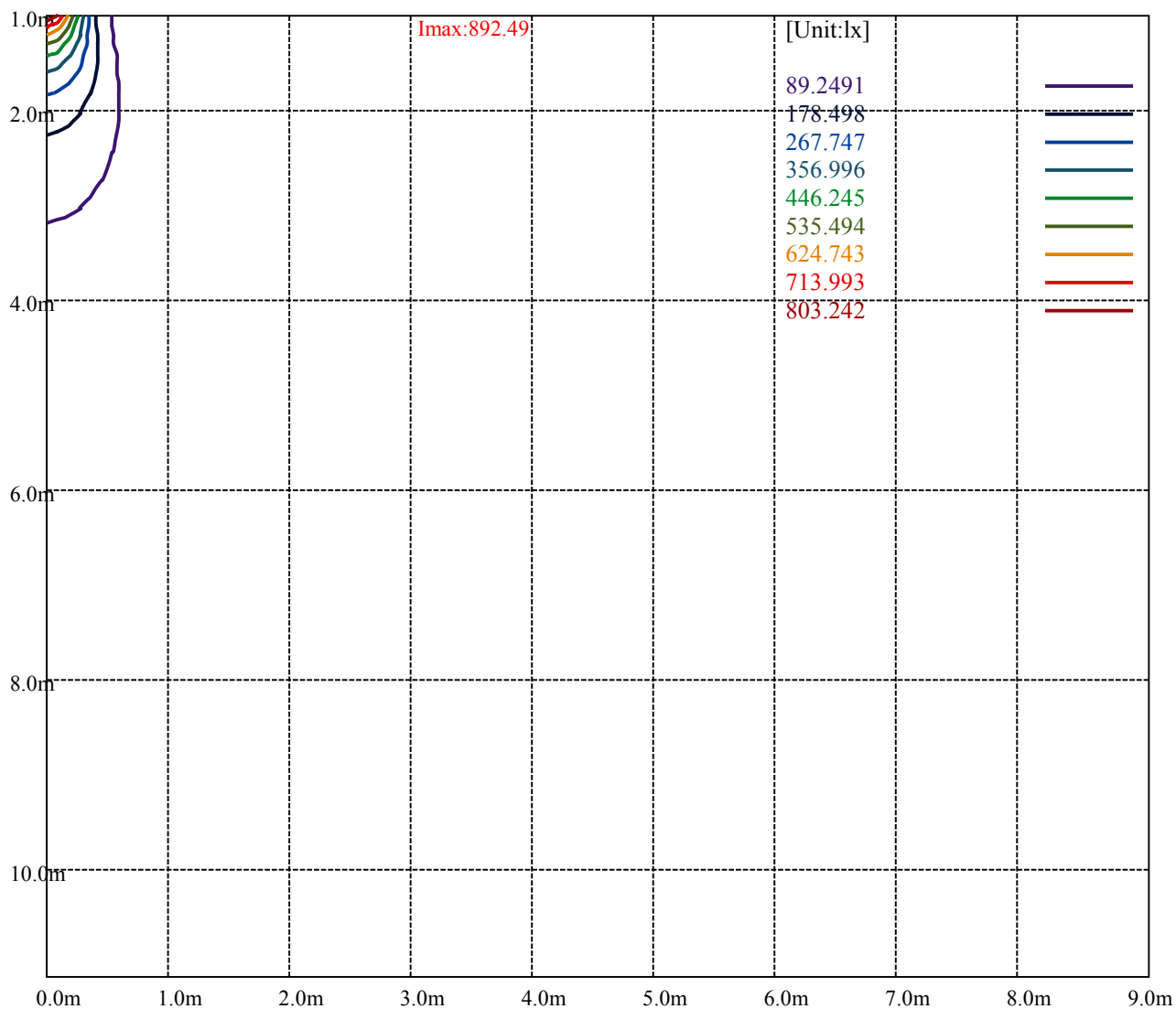
(70%Imax) 624.743

(80%Imax) 713.993

(90%Imax) 803.242



(10%E _{max}) 22.31223	—
(20%E _{max}) 44.6245	—
(30%E _{max}) 66.93675	—
(40%E _{max}) 89.249	—
(50%E _{max}) 111.5612	—
(60%E _{max}) 133.8732	—
(70%E _{max}) 156.1855	—
(80%E _{max}) 178.4978	—
(90%E _{max}) 200.81	—



Luminance Table

γ	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

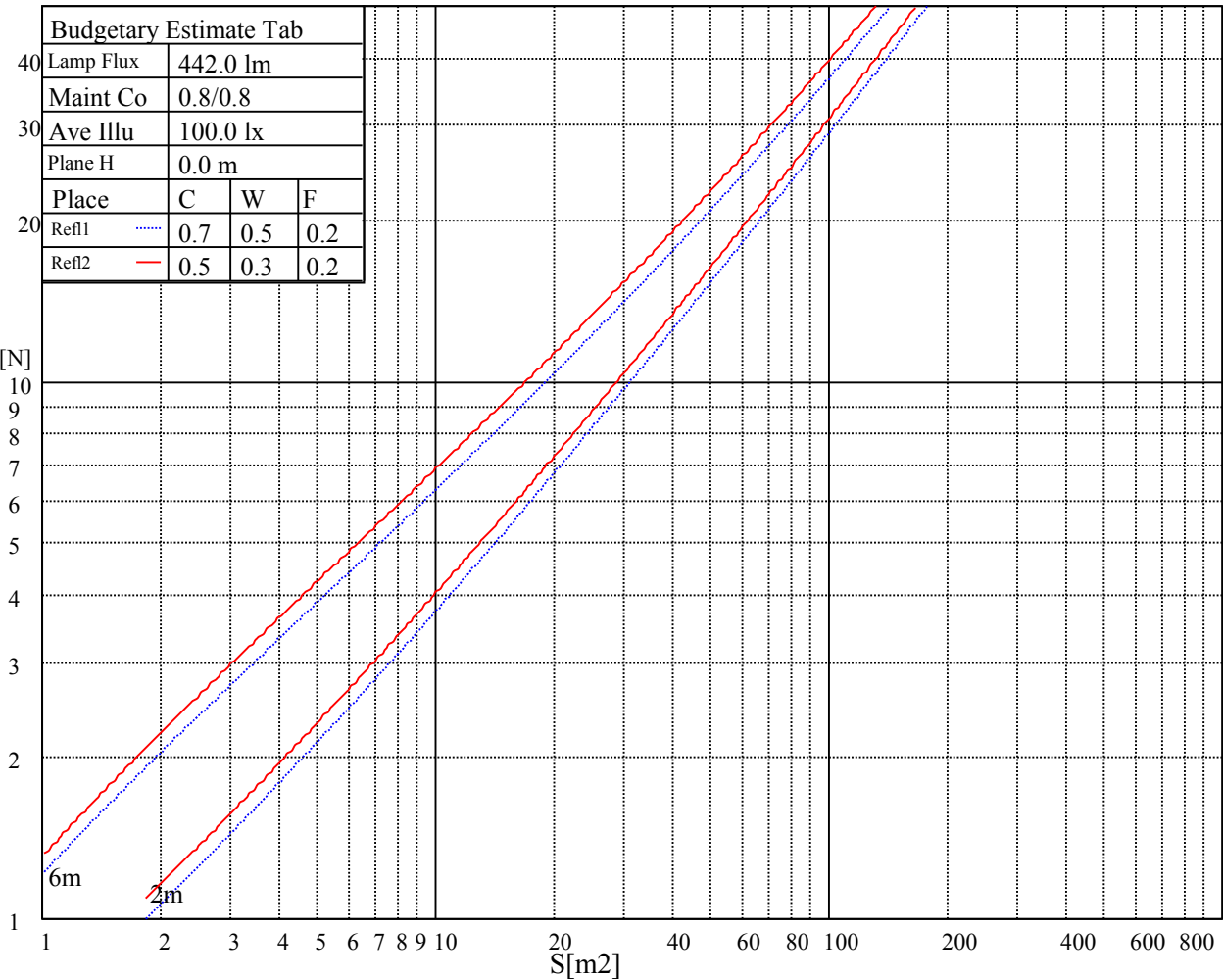
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

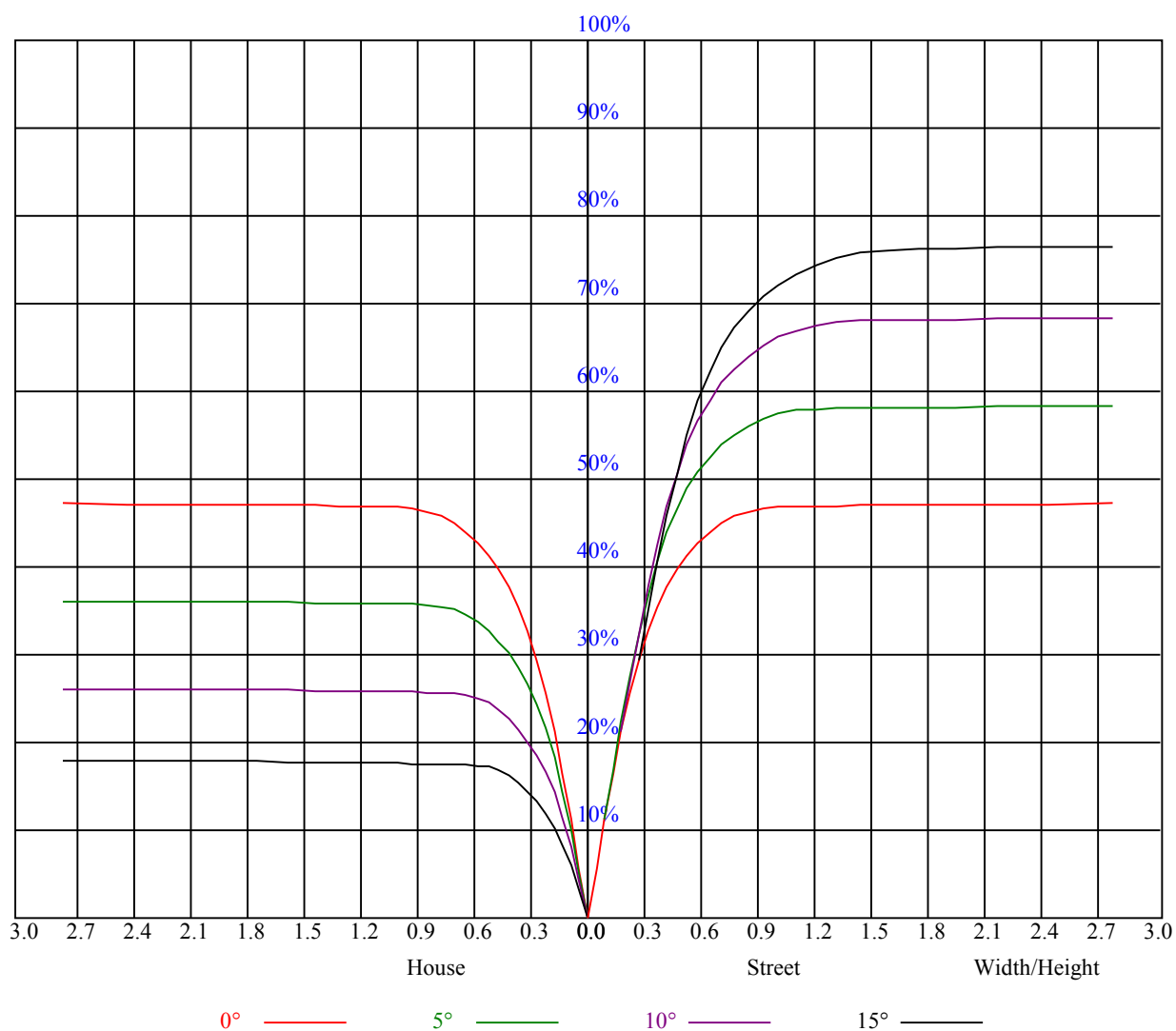
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

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	1.14	1.14	1.14	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	0.98	0.98	0.98	0.96
1	1.06	1.04	1.02	1.04	1.02	1.00	1.00	0.99	0.97	0.97	0.96	0.94	0.94	0.93	0.92	0.90
2	1.00	0.96	0.93	0.98	0.95	0.92	0.95	0.92	0.90	0.92	0.90	0.88	0.90	0.88	0.86	0.85
3	0.94	0.89	0.86	0.92	0.88	0.85	0.90	0.87	0.84	0.88	0.85	0.82	0.86	0.83	0.81	0.80
4	0.88	0.83	0.80	0.87	0.83	0.79	0.85	0.81	0.78	0.83	0.80	0.77	0.82	0.79	0.77	0.75
5	0.84	0.78	0.75	0.83	0.78	0.74	0.81	0.77	0.74	0.79	0.76	0.73	0.78	0.75	0.72	0.71
6	0.79	0.74	0.70	0.78	0.73	0.70	0.77	0.73	0.69	0.76	0.72	0.69	0.74	0.71	0.69	0.67
7	0.75	0.70	0.66	0.75	0.70	0.66	0.73	0.69	0.66	0.72	0.68	0.65	0.71	0.68	0.65	0.64
8	0.72	0.66	0.63	0.71	0.66	0.63	0.70	0.66	0.62	0.69	0.65	0.62	0.68	0.65	0.62	0.61
9	0.68	0.63	0.60	0.68	0.63	0.60	0.67	0.62	0.59	0.66	0.62	0.59	0.65	0.62	0.59	0.58
10	0.65	0.60	0.57	0.65	0.60	0.57	0.64	0.60	0.57	0.63	0.59	0.56	0.63	0.59	0.56	0.55



Intensity data(cd)

Appendix Page: 14 Total:14

C/ γ (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	890.38	866.87	728.21	550.18	329.96	191.36	134.83	122.68	81.62
45.0	888.86	885.09	770.68	602.89	379.01	205.93	141.08	123.81	96.81
90.0	901.13	868.28	755.55	570.71	360.06	217.29	143.83	123.92	92.81
135.0	889.59	860.29	764.38	598.16	397.46	231.86	153.56	126.68	101.14
180.0	890.38	812.98	690.36	520.37	331.14	192.54	144.17	125.55	78.92
225.0	888.86	802.58	650.25	475.43	323.44	200.98	139.67	121.95	64.86
270.0	901.13	811.24	654.08	501.92	337.33	211.56	143.61	123.81	64.58
315.0	889.59	807.92	657.34	480.94	303.24	182.87	132.41	119.03	53.83
360.0	890.38	866.87	728.21	550.18	329.96	191.36	134.83	122.68	81.62
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	11.76	2.03	1.86	1.74	1.69	1.69	1.69	1.69	1.69
45.0	17.10	2.03	1.86	1.74	1.74	1.74	1.74	1.74	1.74
90.0	11.59	1.97	1.80	1.80	1.74	1.69	1.74	1.74	1.74
135.0	26.55	2.03	1.86	1.80	1.74	1.69	1.74	1.69	1.69
180.0	9.62	1.97	1.80	1.74	1.74	1.69	1.69	1.69	1.69
225.0	3.04	1.91	1.80	1.74	1.74	1.69	1.74	1.74	1.69
270.0	3.32	1.97	1.80	1.74	1.69	1.74	1.74	1.74	1.74
315.0	2.25	1.86	1.80	1.69	1.74	1.69	1.69	1.69	1.74
360.0	11.76	2.03	1.86	1.74	1.69	1.69	1.69	1.69	1.69
C/ γ (°)	90.0								
0.0	1.69								
45.0	1.74								
90.0	1.74								
135.0	1.69								
180.0	1.69								
225.0	1.69								
270.0	1.74								
315.0	1.69								
360.0	1.69								