
Nata

LumCAT: 1536-A	
Luminaire: 92.70.064.00	
Report No: NT2017090506	Voltage(V): 0.0000
Test No: GC2017090506	Current(A): 0.0000
LampCAT: CITIZEN CLU028	Power (W): 0.0000
Lamp flux(lm): 1463.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 25	Width(mm): 25
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 1238.67
Efficiency(%): 84.67%
Lumens(lm)/Power(W): 0.00
Central intensity(cd): 1198.165
Maximum intensity(cd): 1198.165
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=62.4
[C90/270]Total=62.4
Field angle(10%Imax): [C0/180]Total=90.2
[C90/270]Total=90.2
Maximum s/h(1/2): C0_180=0.95 C90_270=0.95
Maximum s/h(1/4): C0_180=0.94 C90_270=0.94
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 84.67%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.346%

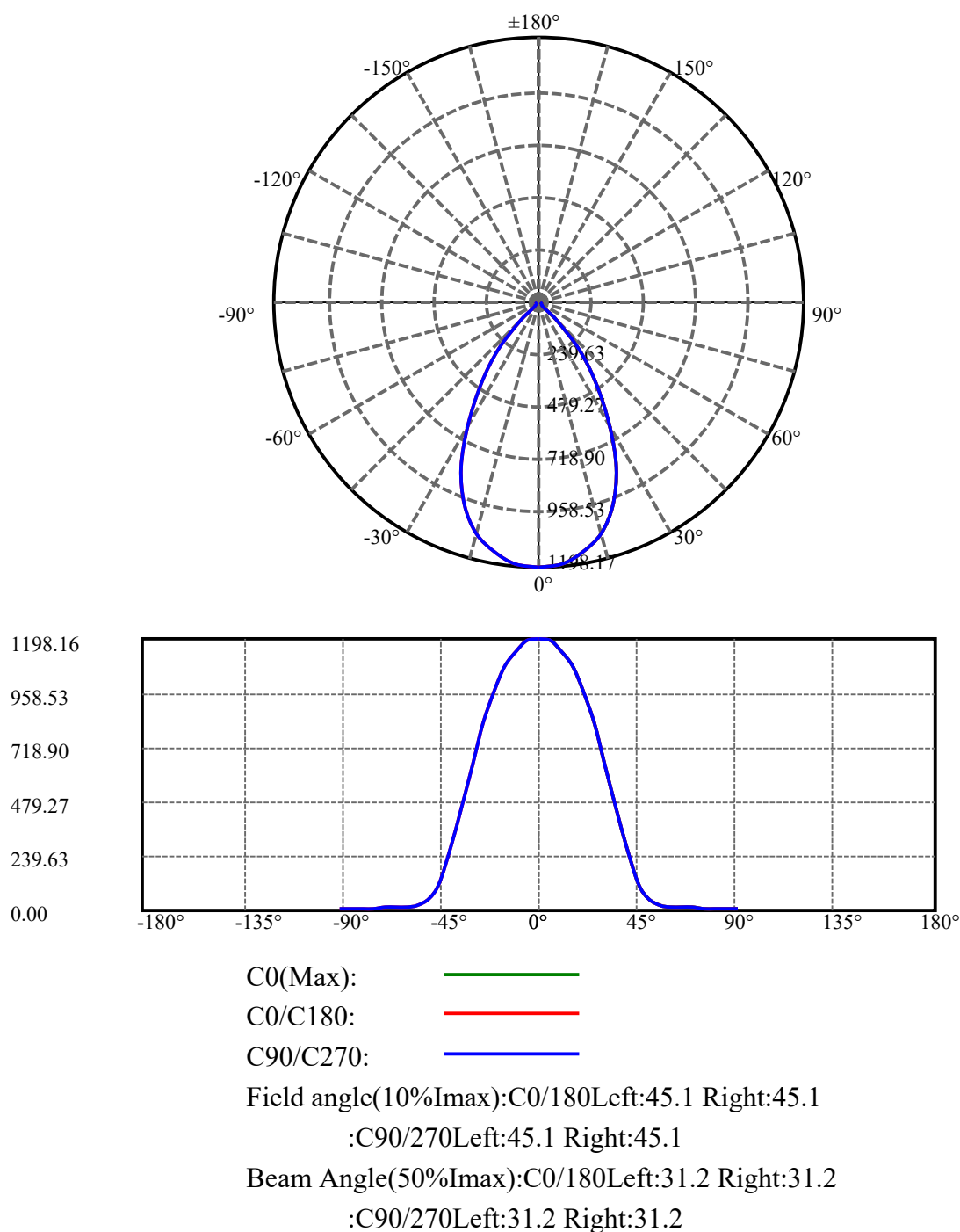
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1198.165	0.000	0	.000%	.000%
5.0	1188.186	28.528	28.528	1.950%	2.303%
10.0	1149.165	83.614	112.143	5.715%	9.053%
15.0	1079.725	132.216	244.359	9.037%	19.727%
20.0	972.358	169.120	413.479	11.560%	33.381%
25.0	822.839	188.283	601.762	12.870%	48.581%
30.0	645.337	185.799	787.561	12.700%	63.581%
35.0	449.501	161.223	948.784	11.020%	76.597%
40.0	280.031	121.717	1070.5	8.320%	86.423%
45.0	121.255	74.301	1144.802	5.079%	92.422%
50.0	53.921	35.397	1180.198	2.419%	95.279%
55.0	22.353	16.584	1196.783	1.134%	96.618%
60.0	16.648	9.015	1205.798	.616%	97.346%
65.0	13.819	7.407	1213.204	.506%	97.944%
70.0	12.284	6.610	1219.814	.452%	98.478%
75.0	10.536	5.965	1225.779	.408%	98.959%
80.0	9.002	5.228	1231.007	.357%	99.381%
85.0	7.150	4.389	1235.396	.300%	99.735%
90.0	4.817	3.277	1238.673	.224%	100.000%

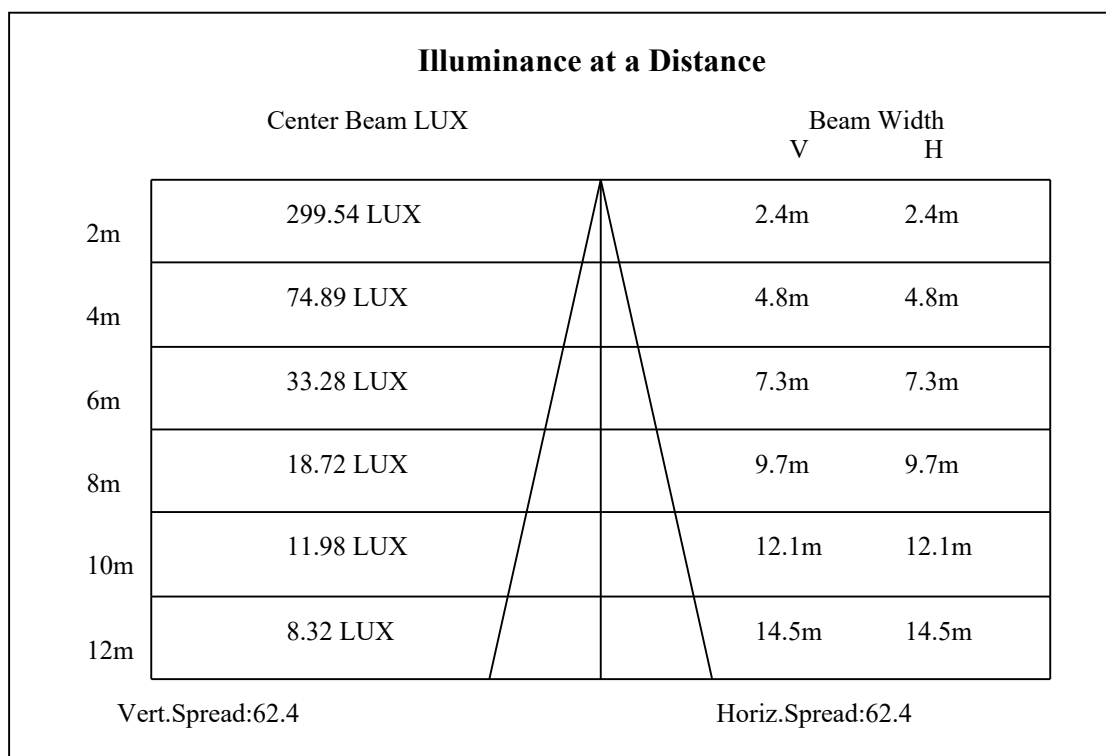
ZONAL LUMEN SUMMARY

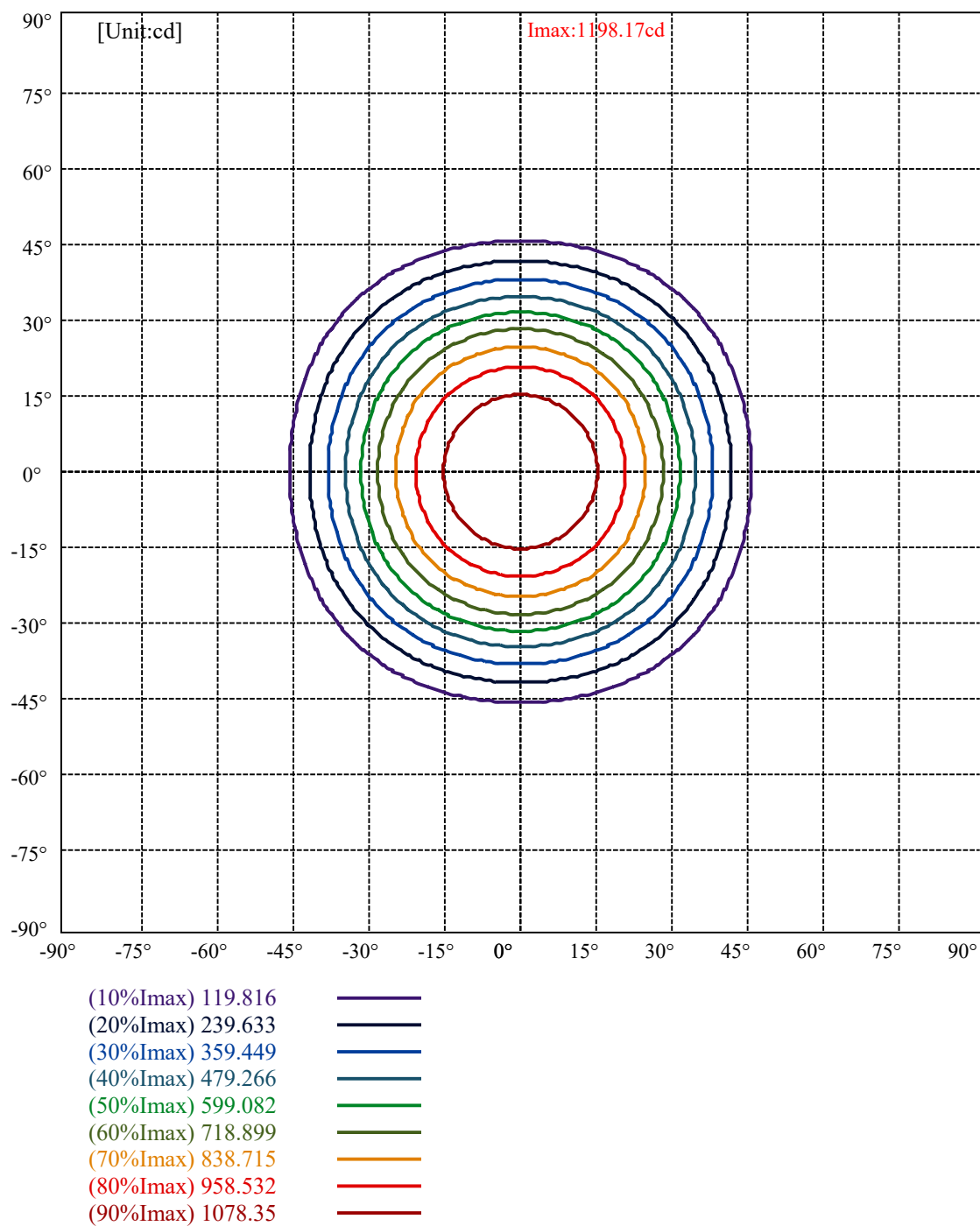
Zone	Lumens	%Lamp	%Fixt
0-30	787.56	53.83%	63.58%
0-40	1070.50	73.17%	86.42%
0-60	1205.80	82.42%	97.35%
0-90	1235.40	84.44%	99.74%
0-120	1235.40	84.44%	99.74%
0-180	1238.67	84.67%	100.00%
60-90	38.61	2.64%	3.12%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-36.73	990.94	67.73%	80.00%

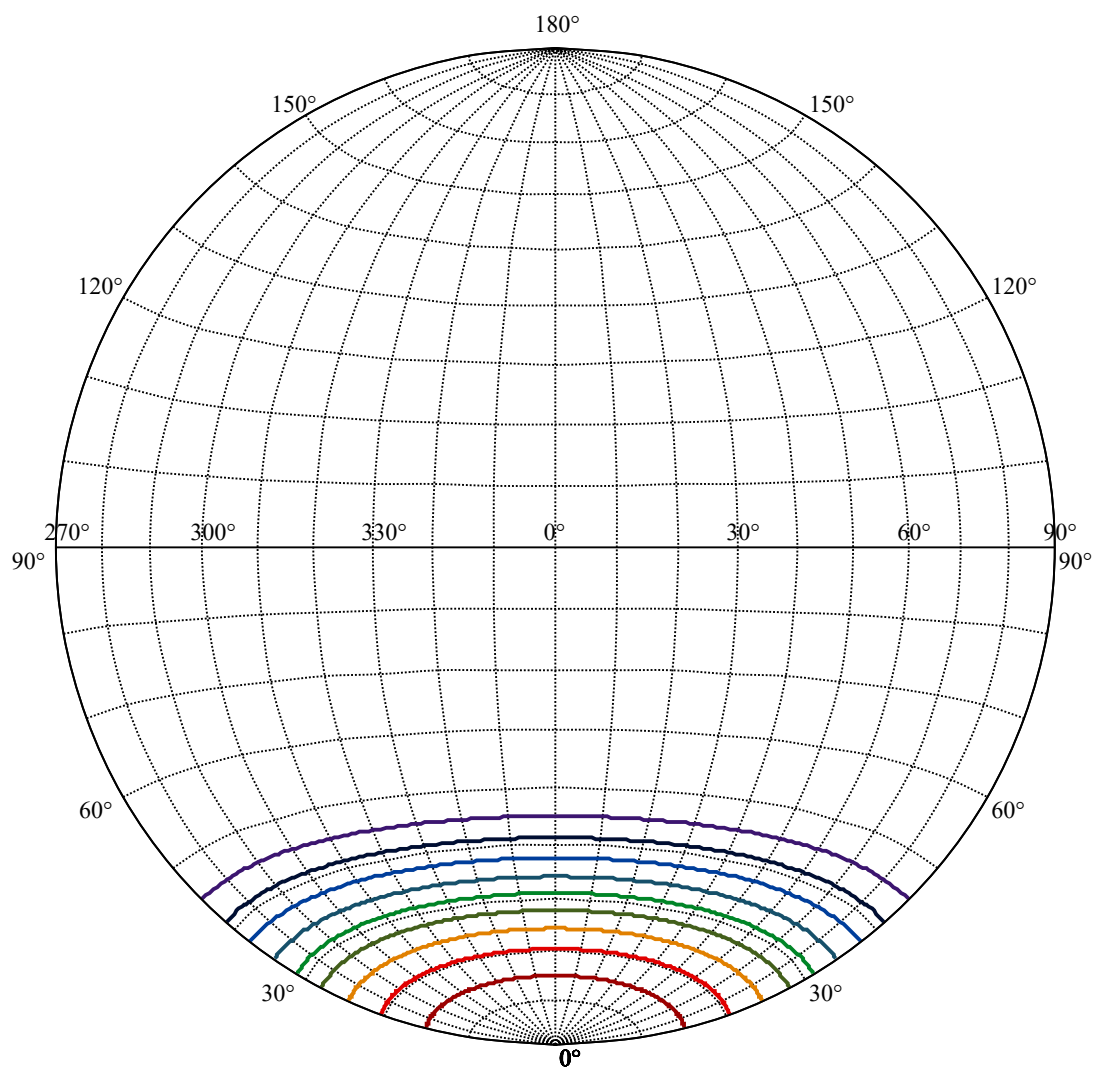
ZONAL LUMEN SUMMARY

0-10	112.14
10-20	301.34
20-30	374.08
30-40	282.94
40-50	109.70
50-60	25.60
60-70	14.02
70-80	11.19
80-90	4.39
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









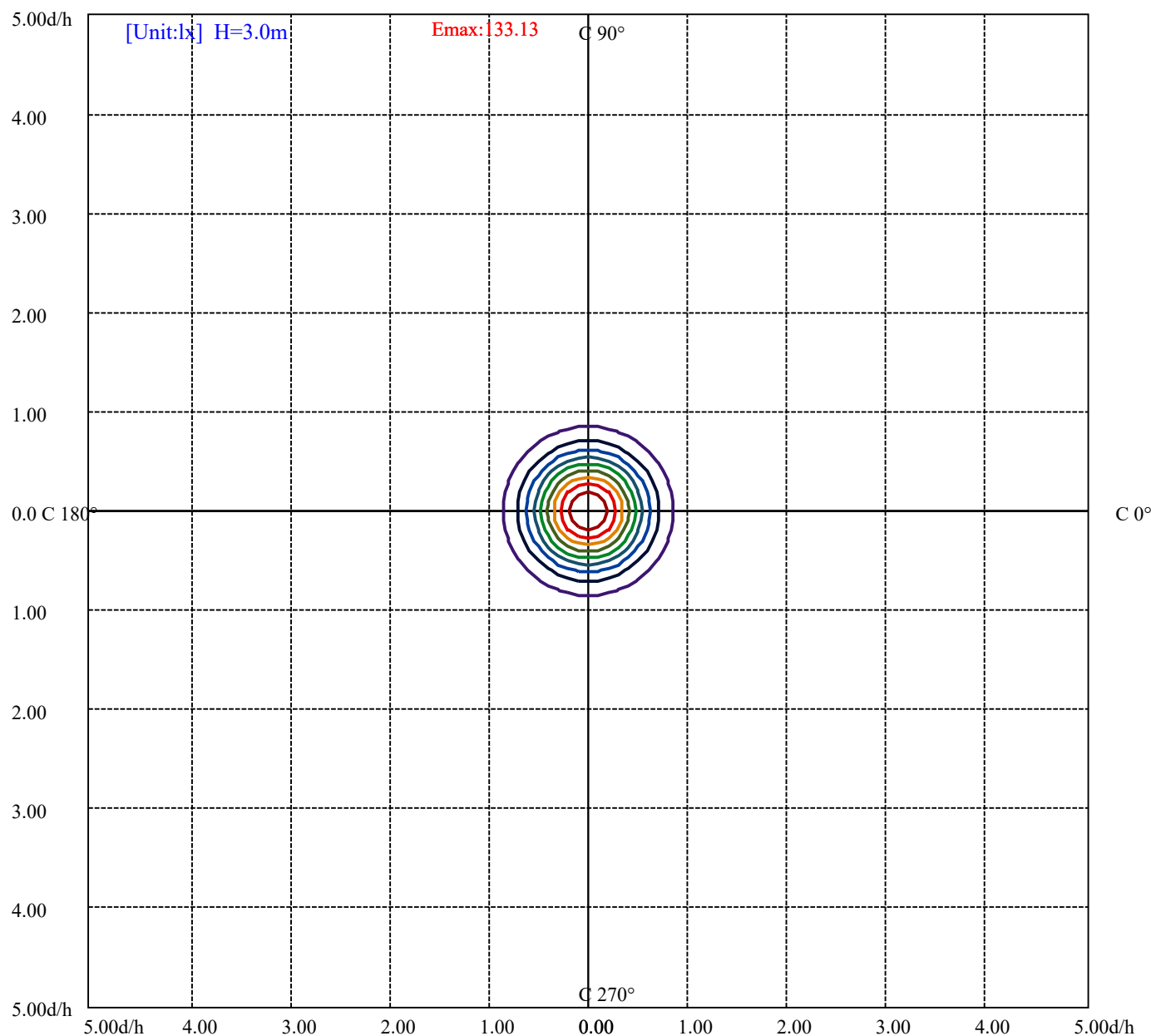
House

[Unit:cd]

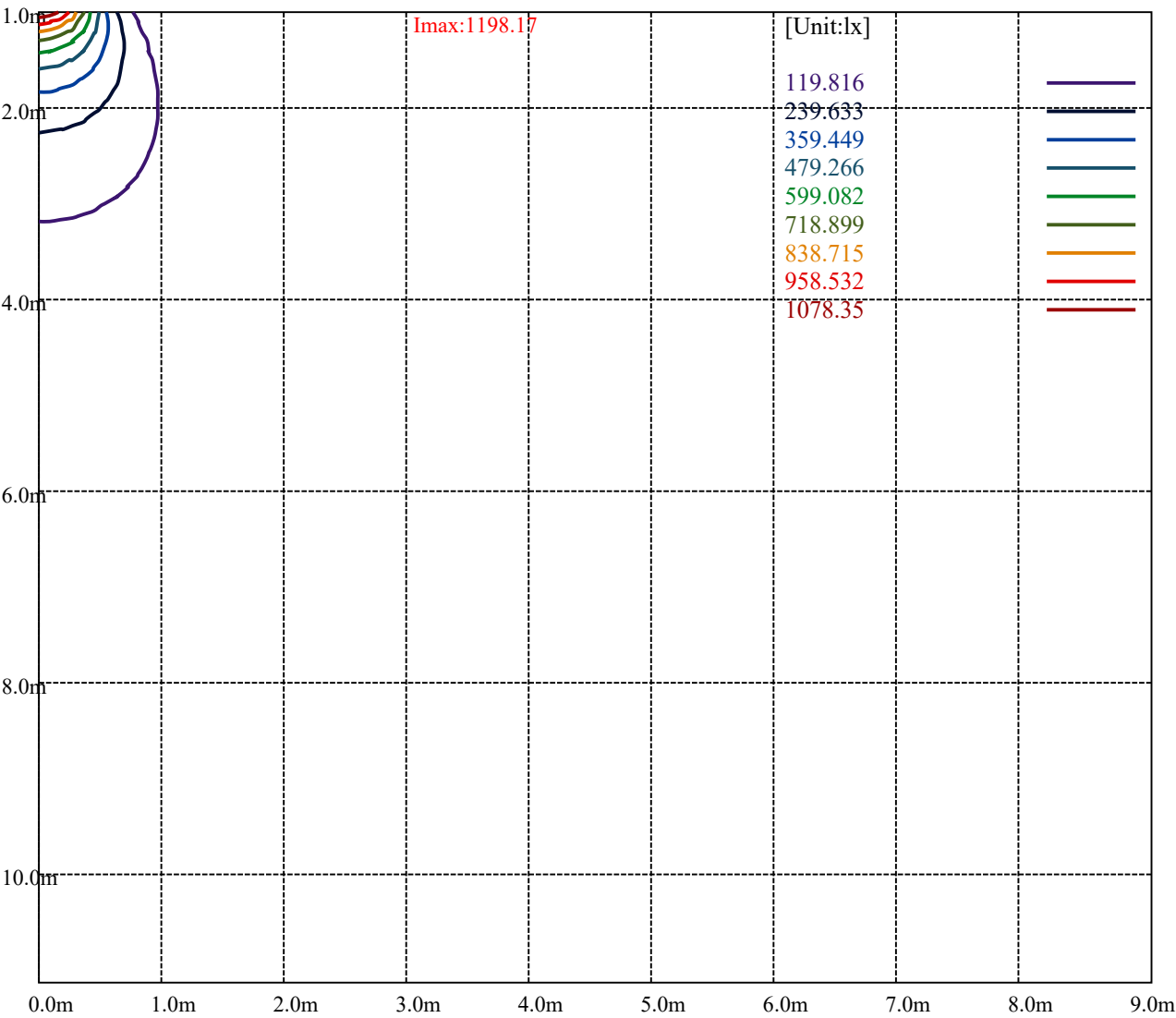
Road

I_{max}:1198.17

(10%I _{max})	119.816	—
(20%I _{max})	239.633	—
(30%I _{max})	359.449	—
(40%I _{max})	479.266	—
(50%I _{max})	599.082	—
(60%I _{max})	718.899	—
(70%I _{max})	838.715	—
(80%I _{max})	958.532	—
(90%I _{max})	1078.35	—



(10%Emax) 13.31289	—
(20%Emax) 26.62589	—
(30%Emax) 39.93878	—
(40%Emax) 53.25178	—
(50%Emax) 66.56467	—
(60%Emax) 79.87766	—
(70%Emax) 93.19056	—
(80%Emax) 106.5036	—
(90%Emax) 119.8167	—



Luminance Table

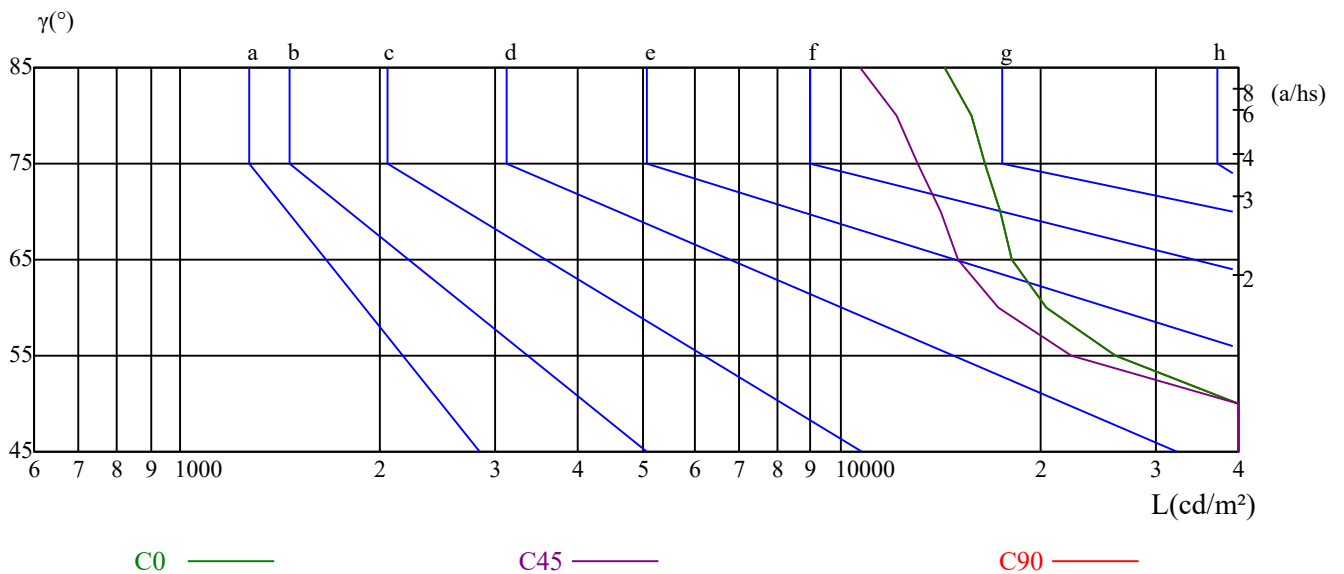
γ	45	50	55	60	65	70	75	80	85
C0	129909	59896	25984	20458	18159	17487	16499	15795	14392
C45	114782	52172	22291	17262	15042	14186	13062	12144	10670
C90	129909	59896	25984	20458	18159	17487	16499	15795	14392

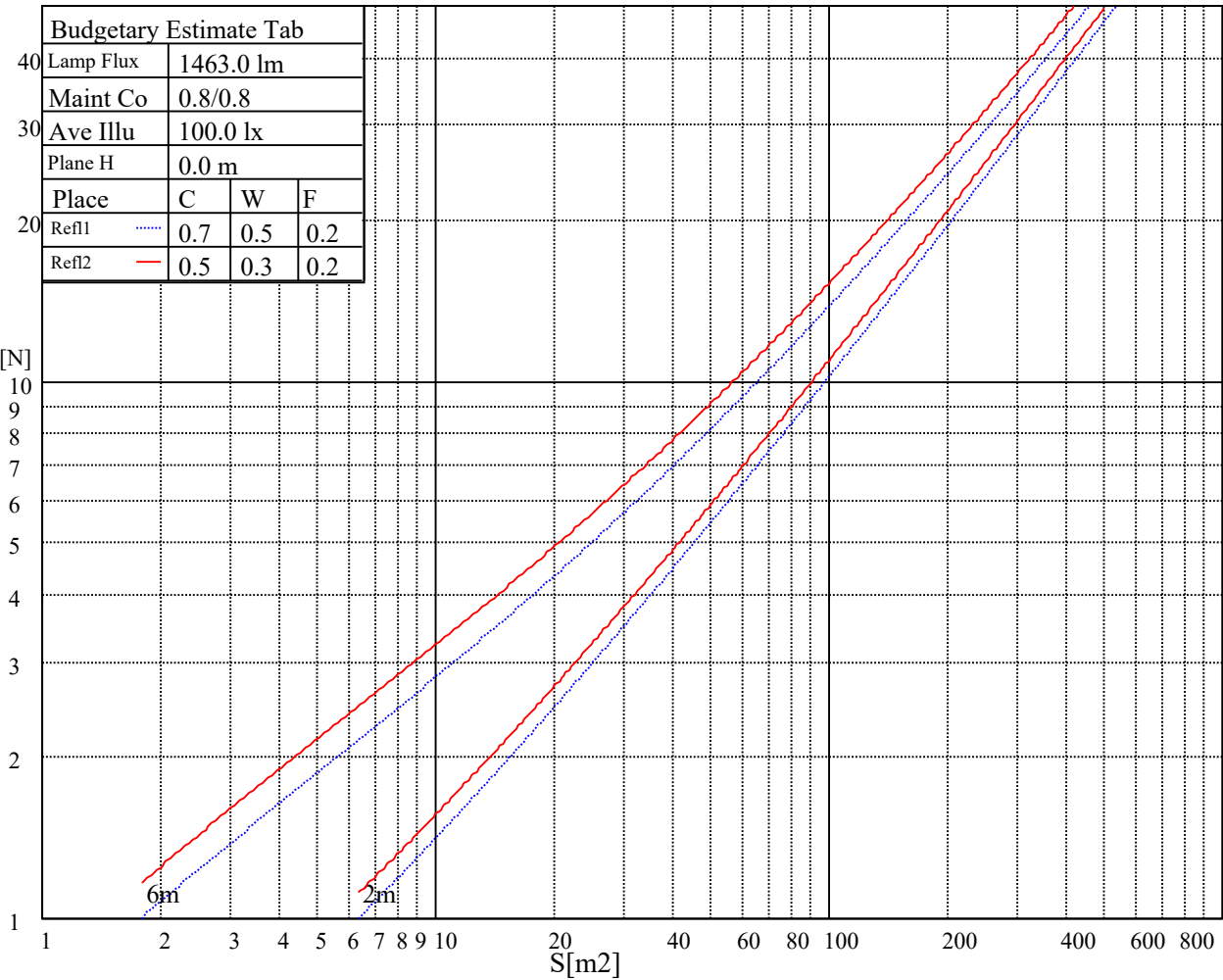
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
36332	36332	36332	45233	45233	45233	91158	91158	91158

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	1.01	1.01	1.01	0.98	0.98	0.98	0.94	0.94	0.94	0.90	0.90	0.90	0.86	0.86	0.86	0.85
1	0.93	0.91	0.88	0.91	0.89	0.87	0.88	0.86	0.84	0.84	0.83	0.82	0.82	0.80	0.79	0.78
2	0.86	0.82	0.79	0.84	0.81	0.78	0.82	0.79	0.76	0.79	0.77	0.75	0.77	0.75	0.73	0.72
3	0.79	0.75	0.71	0.78	0.74	0.71	0.76	0.72	0.69	0.74	0.71	0.68	0.72	0.69	0.67	0.66
4	0.74	0.69	0.65	0.73	0.68	0.64	0.71	0.67	0.64	0.69	0.66	0.63	0.68	0.65	0.62	0.61
5	0.69	0.63	0.59	0.68	0.63	0.59	0.66	0.62	0.59	0.65	0.61	0.58	0.63	0.60	0.58	0.56
6	0.64	0.59	0.55	0.63	0.58	0.55	0.62	0.58	0.54	0.61	0.57	0.54	0.60	0.56	0.53	0.52
7	0.60	0.55	0.51	0.59	0.54	0.51	0.58	0.54	0.50	0.57	0.53	0.50	0.56	0.53	0.50	0.48
8	0.56	0.51	0.47	0.56	0.51	0.47	0.55	0.50	0.47	0.54	0.50	0.47	0.53	0.49	0.46	0.45
9	0.53	0.48	0.44	0.52	0.47	0.44	0.52	0.47	0.44	0.51	0.47	0.44	0.50	0.46	0.43	0.42
10	0.50	0.45	0.41	0.49	0.44	0.41	0.49	0.44	0.41	0.48	0.44	0.41	0.47	0.43	0.41	0.40

Nata 1536-E

Intensity data(cd)										Appendix Page: 13 Total:13	
C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0		
0.0	1198.58	1195.27	1159.49	1097.27	995.97	851.72	673.89	480.64	294.00		
45.0	1196.93	1181.51	1139.12	1064.24	953.03	803.82	635.90	433.29	279.69		
90.0	1197.48	1174.35	1098.38	1038.86	912.01	747.06	574.24	381.71	213.89		
135.0	1199.68	1182.61	1147.38	1060.94	945.32	778.50	595.16	405.77	284.64		
180.0	1198.58	1187.02	1150.68	1067.76	949.89	784.94	594.88	407.09	238.01		
225.0	1196.93	1193.07	1161.14	1095.29	991.95	862.62	685.12	481.74	294.61		
270.0	1197.48	1198.03	1176.56	1128.11	1037.81	907.33	736.65	536.25	350.16		
315.0	1199.68	1193.62	1160.59	1085.33	992.89	846.71	666.84	469.52	285.25		
360.0	1198.58	1195.27	1159.49	1097.27	995.97	851.72	673.89	480.64	294.00		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	134.72	60.95	24.61	18.22	15.25	13.65	11.01	9.14	7.32		
45.0	108.13	49.00	20.15	15.14	11.84	10.24	9.03	7.60	6.33		
90.0	89.63	43.16	20.26	15.20	12.72	11.18	9.80	8.09	6.17		
135.0	102.68	51.42	25.05	19.49	16.90	15.09	12.55	10.41	7.60		
180.0	98.72	44.65	22.90	18.00	15.25	13.93	12.11	10.24	7.60		
225.0	137.97	55.17	18.72	14.09	11.51	10.57	9.69	8.42	7.38		
270.0	170.18	69.48	23.51	15.42	12.33	11.12	9.97	8.81	6.94		
315.0	128.01	57.53	23.62	17.62	14.76	12.50	10.13	9.30	7.87		
360.0	134.72	60.95	24.61	18.22	15.25	13.65	11.01	9.14	7.32		
C/γ(°)	90.0										
0.0	4.96										
45.0	4.79										
90.0	4.73										
135.0	4.68										
180.0	4.73										
225.0	4.79										
270.0	5.01										
315.0	4.84										
360.0	4.96										