
Nata

LumCAT: 1567-E	
Luminaire: 92.70.064.00	
Report No: NT2017091902	Voltage(V): 9.4000
Test No: GC2017091902	Current(A): 0.3100
LampCAT: CITIZEN CLU700	Power (W): 2.9140
Lamp flux(lm): 331.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 21	Width(mm): 21
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 275.78
Efficiency(%): 83.32%
Lumens(lm)/Power(W): 94.64
Central intensity(cd): 173.896
Maximum intensity(cd): 180.619
Angle of maximum intensity: C=0.0 γ =10.0
Beam Angle(50%Imax): [C0/180]Total=80.6
[C90/270]Total=80.6
Field angle(10%Imax): [C0/180]Total=101.3
[C90/270]Total=101.3
Maximum s/h(1/2): C0_180=1.22 C90_270=1.22
Maximum s/h(1/4): C0_180=1.18 C90_270=1.18
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 83.32%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 96.902%

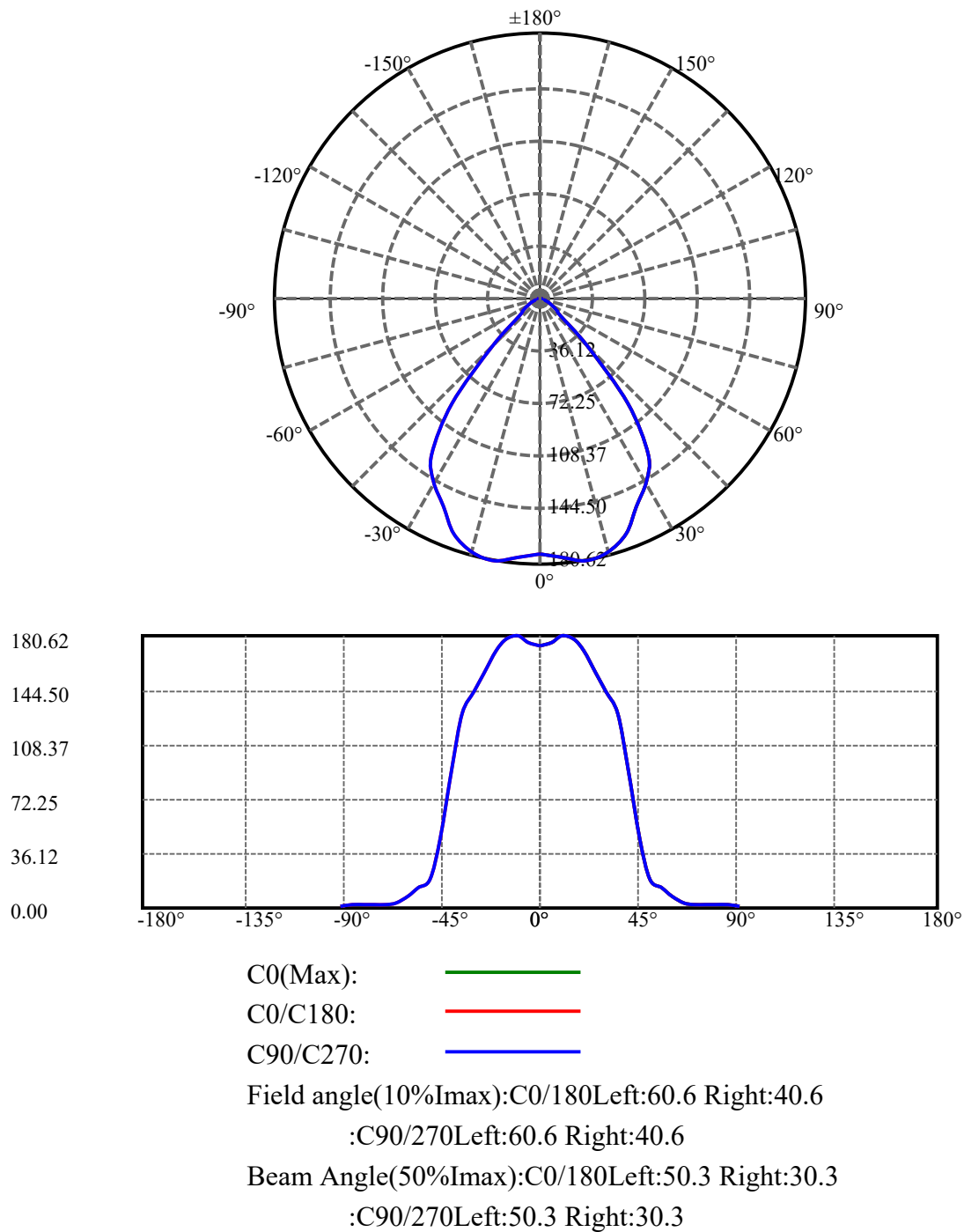
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	173.896	0.000	0	.000%	.000%
5.0	176.304	4.187	4.187	1.265%	1.518%
10.0	180.619	12.768	16.955	3.857%	6.148%
15.0	178.204	21.285	38.24	6.431%	13.866%
20.0	170.062	28.702	66.942	8.671%	24.273%
25.0	155.927	34.190	101.132	10.329%	36.671%
30.0	143.952	37.950	139.082	11.465%	50.432%
35.0	129.121	40.212	179.294	12.149%	65.012%
40.0	93.334	37.115	216.409	11.213%	78.470%
45.0	46.110	25.819	242.228	7.800%	87.833%
50.0	18.726	13.101	255.329	3.958%	92.583%
55.0	13.448	6.996	262.325	2.113%	95.120%
60.0	7.818	4.915	267.24	1.485%	96.902%
65.0	3.544	2.762	270.002	.834%	97.904%
70.0	2.546	1.542	271.545	.466%	98.463%
75.0	2.271	1.259	272.804	.380%	98.919%
80.0	2.058	1.158	273.962	.350%	99.339%
85.0	1.755	1.036	274.998	.313%	99.715%
90.0	1.115	0.786	275.784	.237%	100.000%

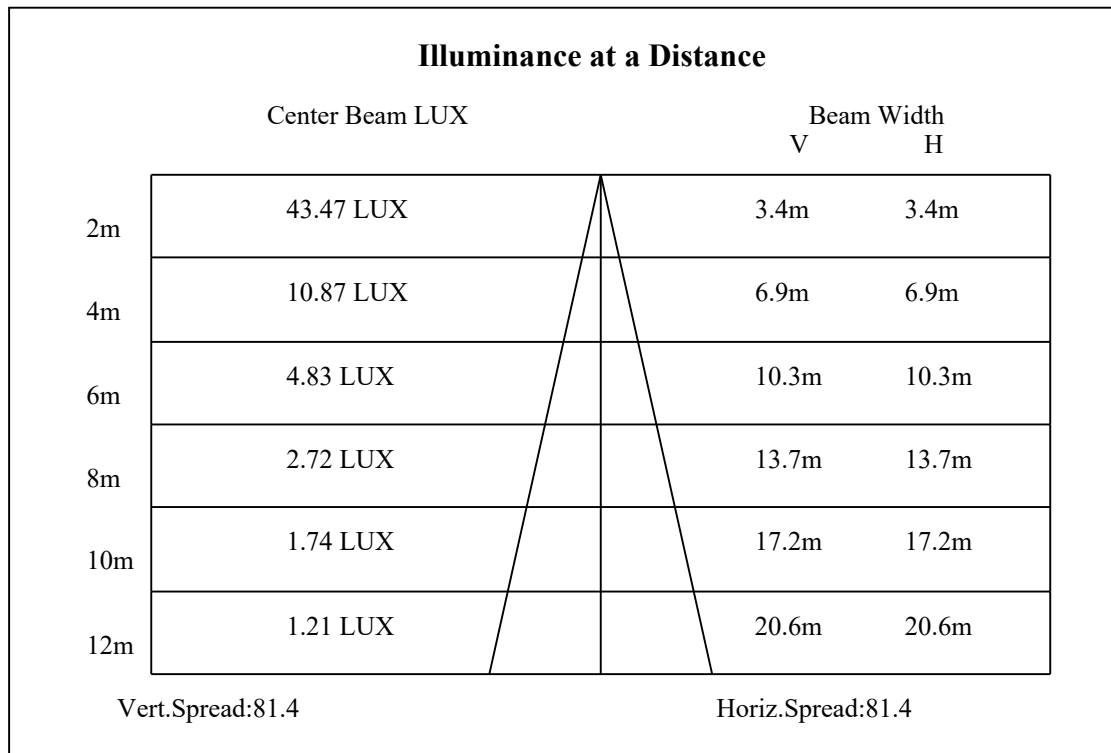
ZONAL LUMEN SUMMARY

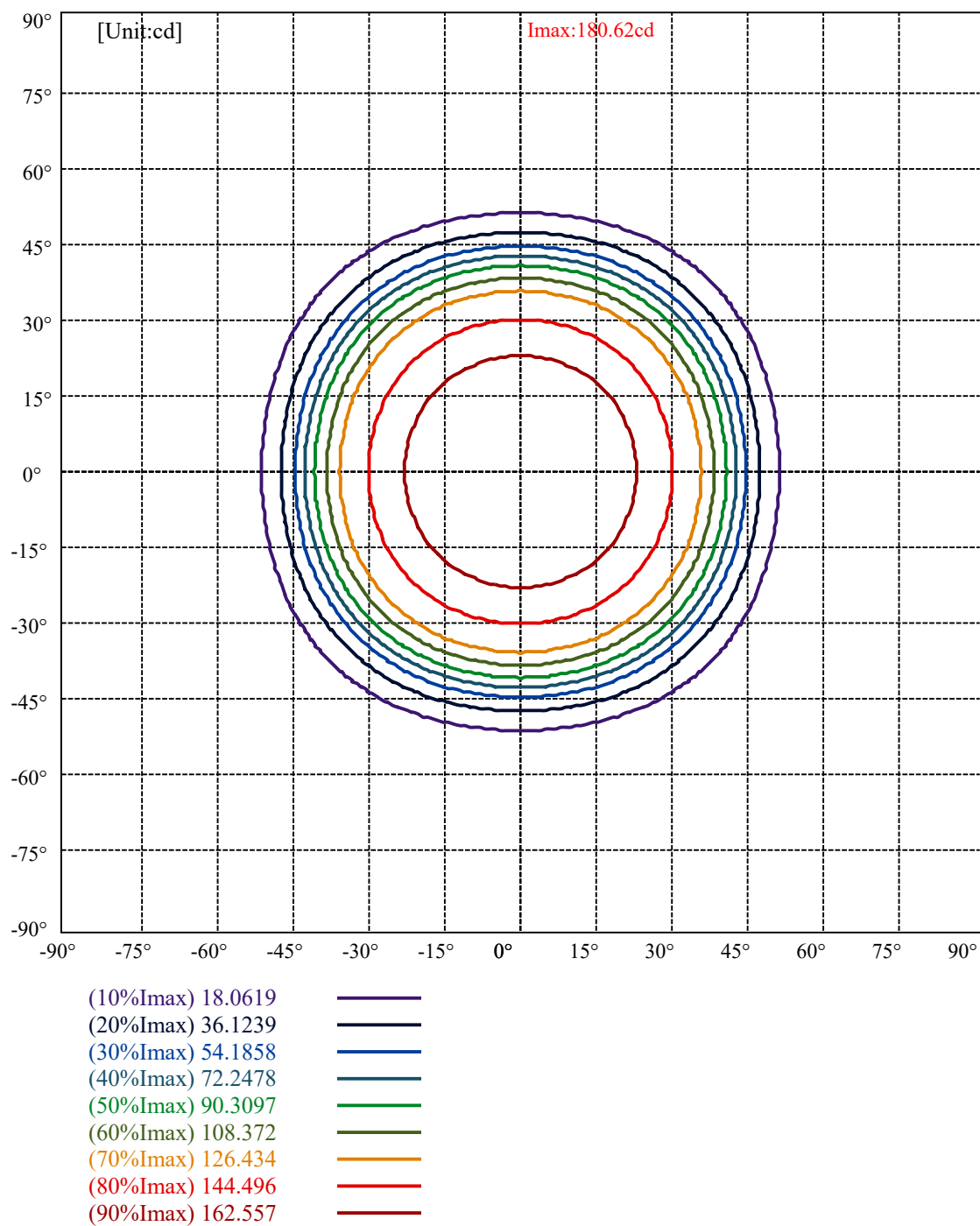
Zone	Lumens	%Lamp	%Fixt
0-30	139.08	42.02%	50.43%
0-40	216.41	65.38%	78.47%
0-60	267.24	80.74%	96.90%
0-90	275.00	83.08%	99.72%
0-120	275.00	83.08%	99.72%
0-180	275.78	83.32%	100.00%
60-90	12.67	3.83%	4.60%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-40.82	220.63	66.65%	80.00%

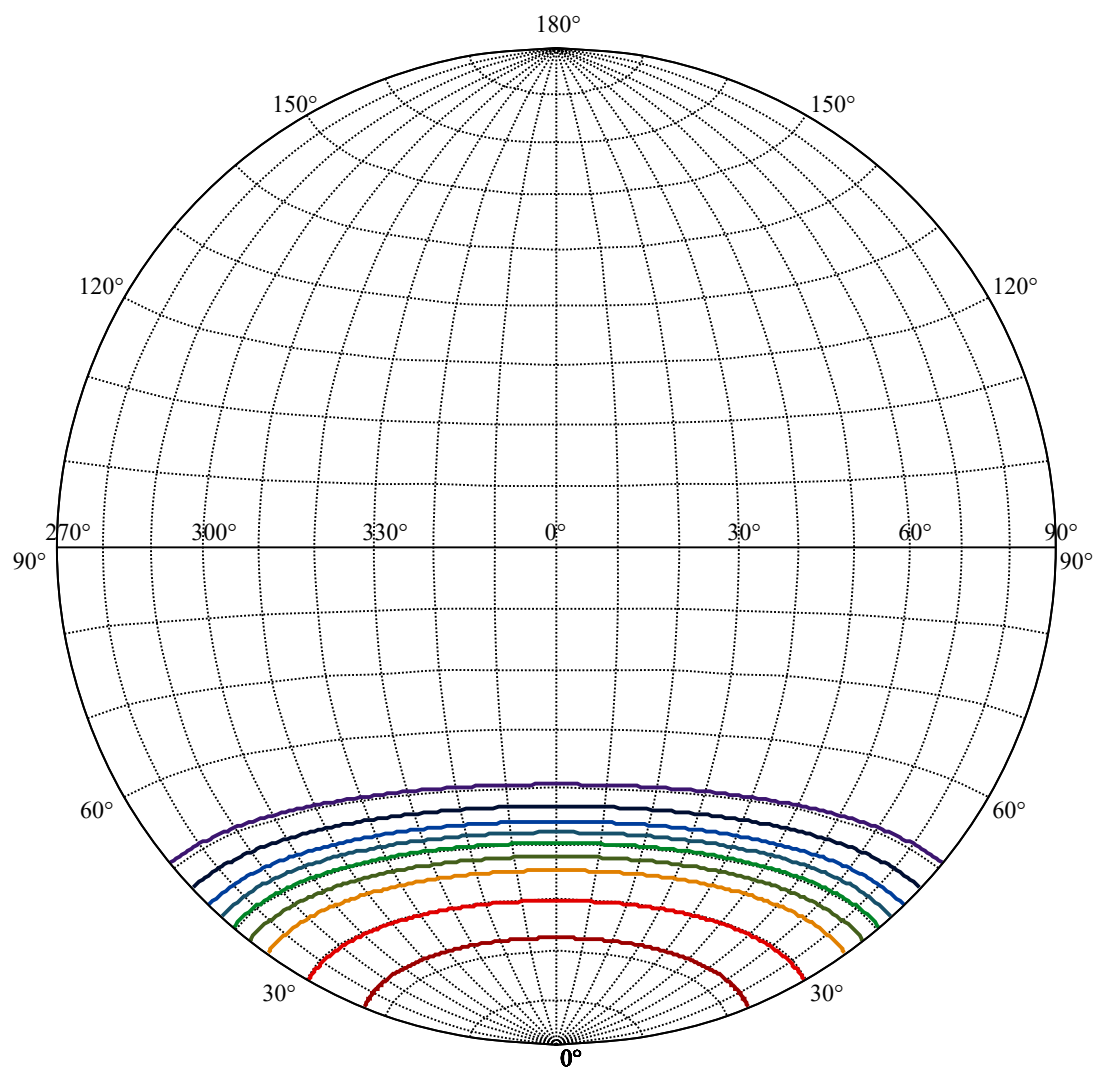
ZONAL LUMEN SUMMARY

0-10	16.95
10-20	49.99
20-30	72.14
30-40	77.33
40-50	38.92
50-60	11.91
60-70	4.30
70-80	2.42
80-90	1.04
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

Imax:180.62

(10%Imax) 18.0619

(20%Imax) 36.1239

(30%Imax) 54.1858

(40%Imax) 72.2478

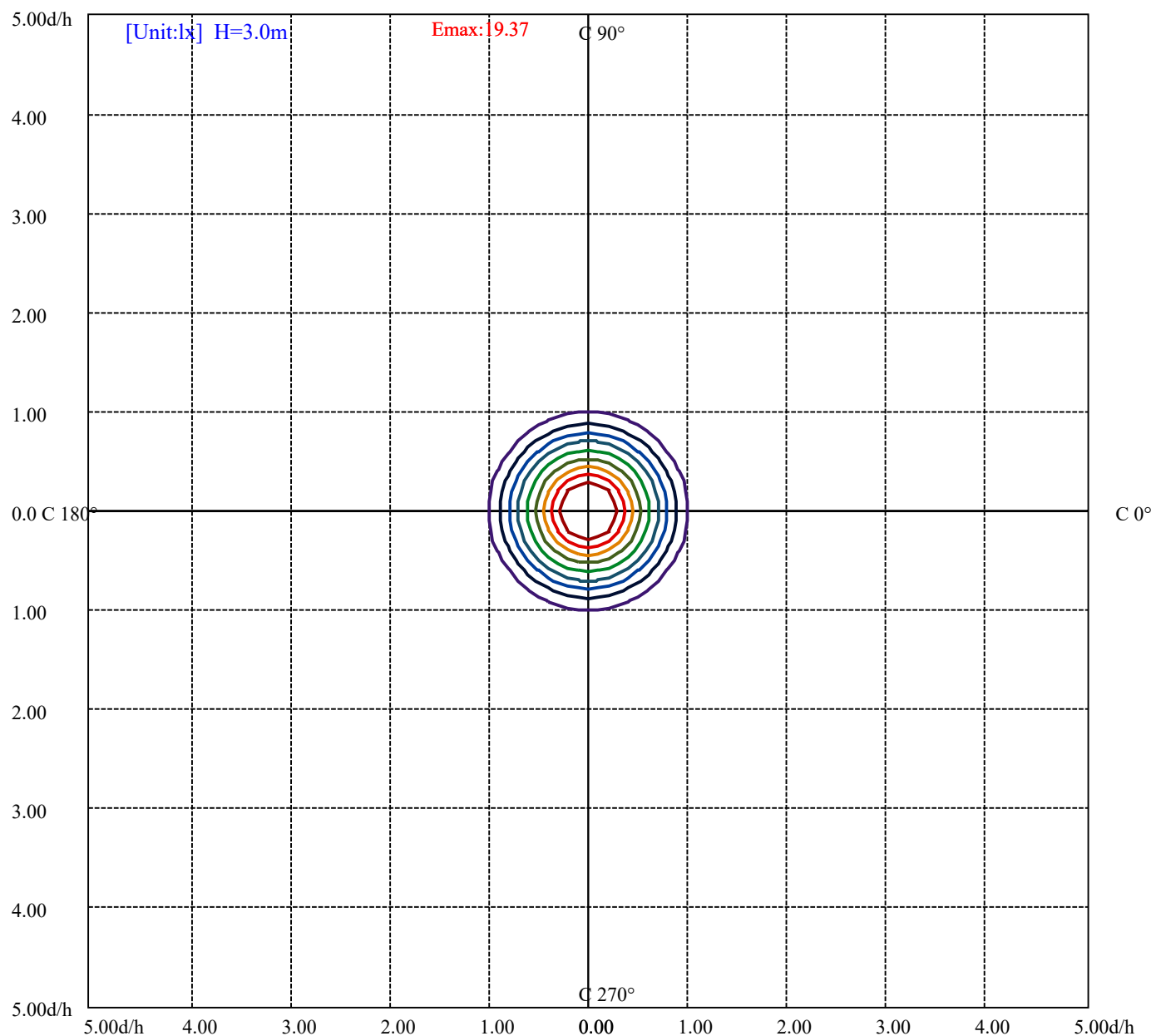
(50%Imax) 90.3097

(60%Imax) 108.372

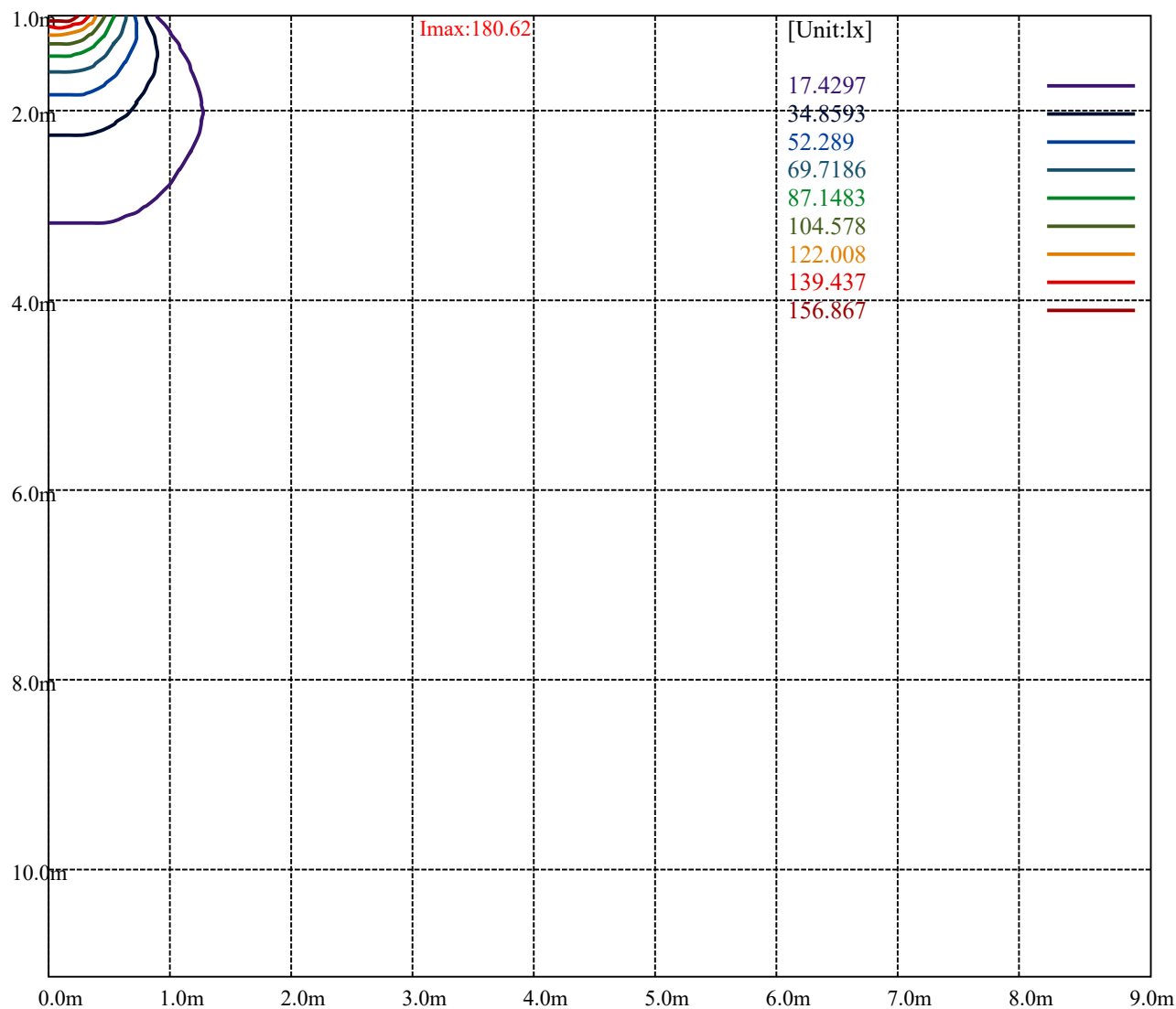
(70%Imax) 126.434

(80%Imax) 144.496

(90%Imax) 162.557



(10%Emax) 1.936633	—
(20%Emax) 3.873255	—
(30%Emax) 5.809889	—
(40%Emax) 7.746511	—
(50%Emax) 9.683145	—
(60%Emax) 11.61978	—
(70%Emax) 13.55645	—
(80%Emax) 15.493	—
(90%Emax) 17.42967	—



Luminance Table

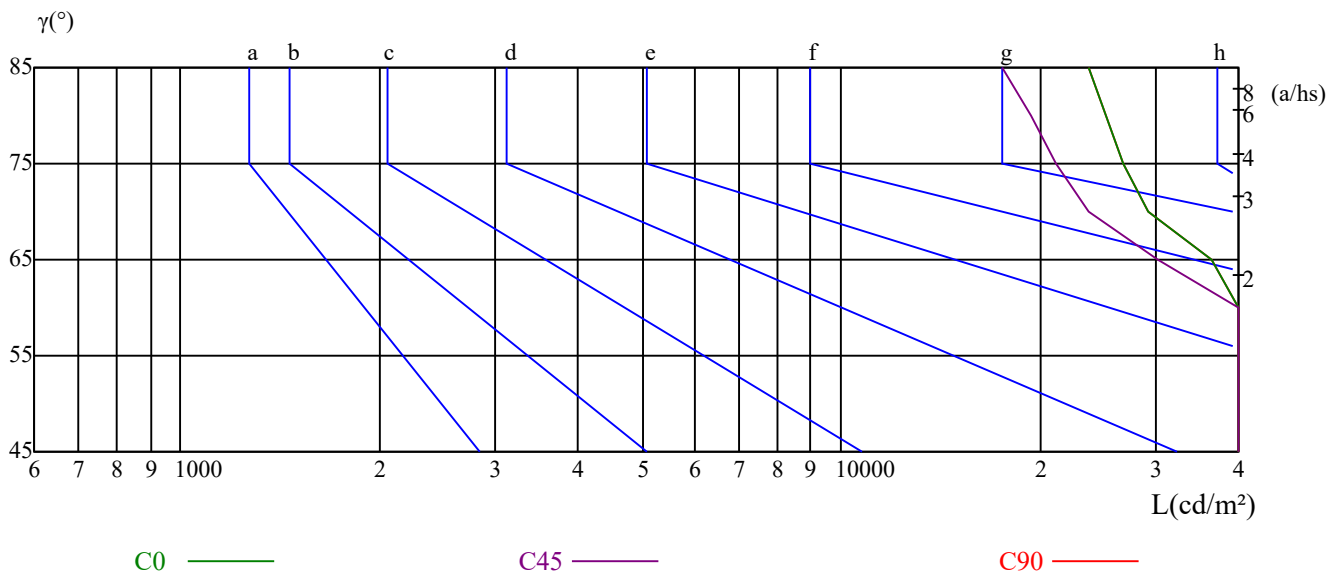
γ	45	50	55	60	65	70	75	80	85
C0	514685	294573	156905	67528	36307	29264	26711	25244	23673
C45	455699	257147	134908	57108	30144	23792	21190	19442	17570
C90	514685	294573	156905	67528	36307	29264	26711	25244	23673

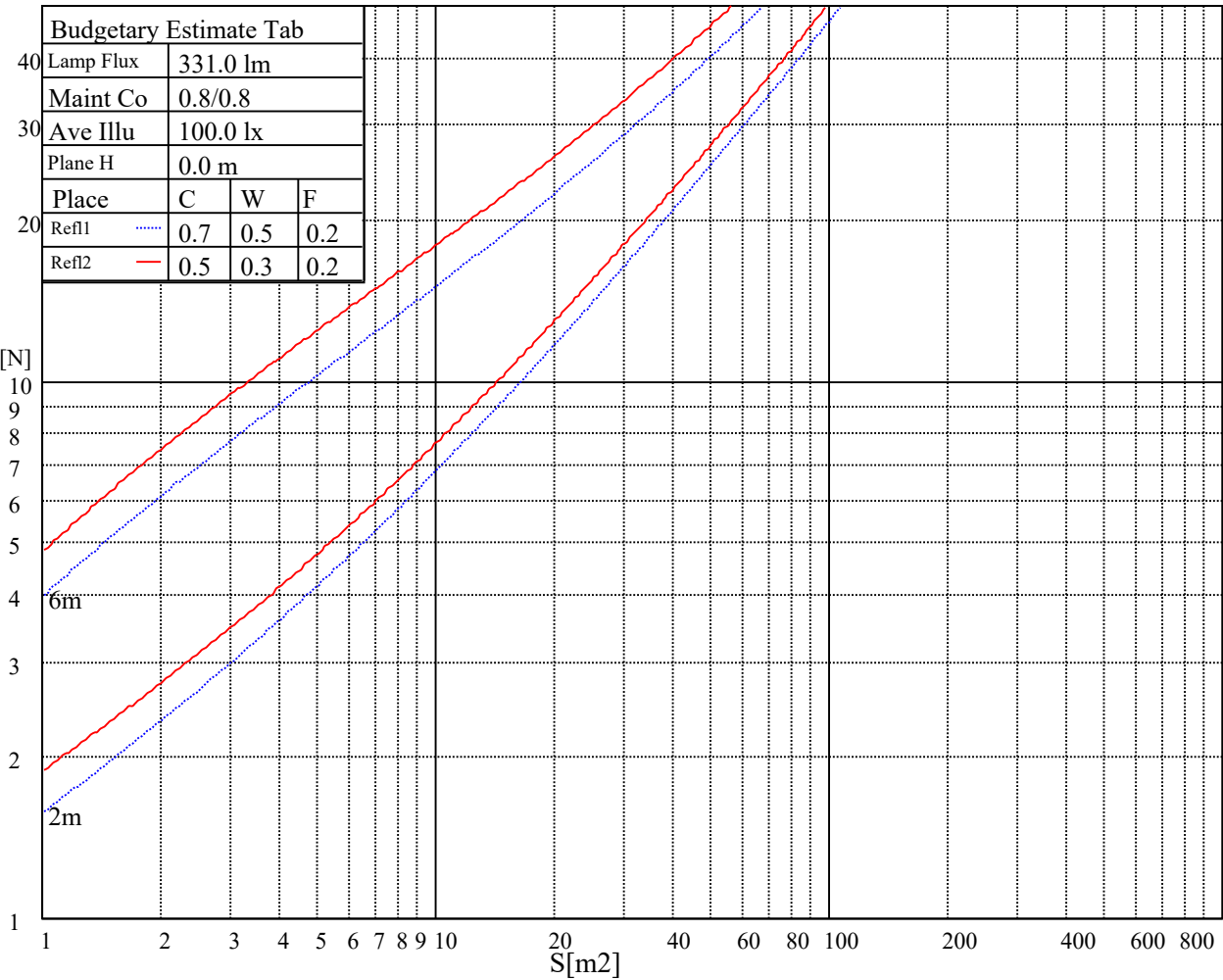
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
71698	71698	71698	72024	72024	72024	146668	146668	146668

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	0.91	0.88	0.86	0.89	0.87	0.85	0.86	0.84	0.82	0.82	0.81	0.80	0.79	0.78	0.77	0.76
2	0.83	0.79	0.76	0.81	0.78	0.75	0.79	0.76	0.73	0.76	0.74	0.71	0.74	0.72	0.70	0.68
3	0.76	0.71	0.67	0.75	0.70	0.67	0.72	0.69	0.65	0.70	0.67	0.64	0.68	0.66	0.63	0.62
4	0.70	0.64	0.60	0.69	0.64	0.60	0.67	0.62	0.59	0.65	0.61	0.58	0.63	0.60	0.58	0.56
5	0.64	0.58	0.54	0.63	0.58	0.54	0.62	0.57	0.53	0.60	0.56	0.53	0.59	0.55	0.52	0.51
6	0.59	0.53	0.49	0.59	0.53	0.49	0.57	0.52	0.49	0.56	0.52	0.48	0.55	0.51	0.48	0.47
7	0.55	0.49	0.45	0.54	0.49	0.45	0.53	0.48	0.44	0.52	0.48	0.44	0.51	0.47	0.44	0.43
8	0.51	0.45	0.41	0.50	0.45	0.41	0.49	0.44	0.41	0.48	0.44	0.41	0.48	0.43	0.40	0.39
9	0.47	0.42	0.38	0.47	0.41	0.38	0.46	0.41	0.38	0.45	0.41	0.37	0.44	0.40	0.37	0.36
10	0.44	0.39	0.35	0.44	0.38	0.35	0.43	0.38	0.35	0.42	0.38	0.35	0.42	0.38	0.35	0.33

Nata 1567-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	174.36	175.57	178.66	176.18	168.97	156.91	141.88	125.97	92.49		
45.0	174.91	174.25	177.12	174.86	168.97	159.06	147.77	138.19	105.93		
90.0	172.55	172.27	176.90	175.30	168.53	155.70	146.56	136.32	102.57		
135.0	173.59	174.47	179.92	181.36	174.86	158.67	145.35	133.68	101.85		
180.0	174.36	177.06	182.62	181.85	171.06	155.53	143.26	127.95	87.98		
225.0	175.24	178.88	183.56	178.55	168.09	151.52	142.27	123.82	83.03		
270.0	172.55	178.33	182.73	179.59	169.90	154.38	143.20	128.45	90.51		
315.0	173.59	179.59	183.45	177.94	170.12	155.64	141.33	118.59	82.31		
360.0	174.36	175.57	178.66	176.18	168.97	156.91	141.88	125.97	92.49		
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	50.49	21.31	12.55	10.79	4.18	2.81	2.70	2.37	1.76		
45.0	58.69	23.67	13.87	12.83	4.40	2.75	2.48	2.42	1.93		
90.0	52.96	19.71	13.98	8.48	3.52	2.48	2.15	1.82	1.65		
135.0	53.51	21.31	13.93	7.87	3.91	2.42	2.04	1.76	1.54		
180.0	40.03	16.85	13.38	6.06	3.08	2.48	2.20	1.93	1.71		
225.0	33.58	14.31	14.20	4.84	2.97	2.53	2.31	2.09	1.93		
270.0	41.40	16.19	13.82	5.78	3.25	2.53	2.31	2.20	1.87		
315.0	38.21	16.46	11.84	5.89	3.03	2.37	1.98	1.87	1.65		
360.0	50.49	21.31	12.55	10.79	4.18	2.81	2.70	2.37	1.76		
C/ γ (°)	90.0										
0.0	1.05										
45.0	1.27										
90.0	1.21										
135.0	1.10										
180.0	1.16										
225.0	1.05										
270.0	0.99										
315.0	1.10										
360.0	1.05										