
Nata

LumCAT: 1545-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): 288.09
Efficiency(%): 87.04%
Lumens(lm)/Power(W): 98.87
Central intensity(cd): 658.378
Maximum intensity(cd): 658.378
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=26.8
[C90/270]Total=26.8
Field angle(10%Imax): [C0/180]Total=79.4
[C90/270]Total=79.4
Maximum s/h(1/2): C0_180=0.45 C90_270=0.45
Maximum s/h(1/4): C0_180=0.49 C90_270=0.49
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 87.04%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.373%

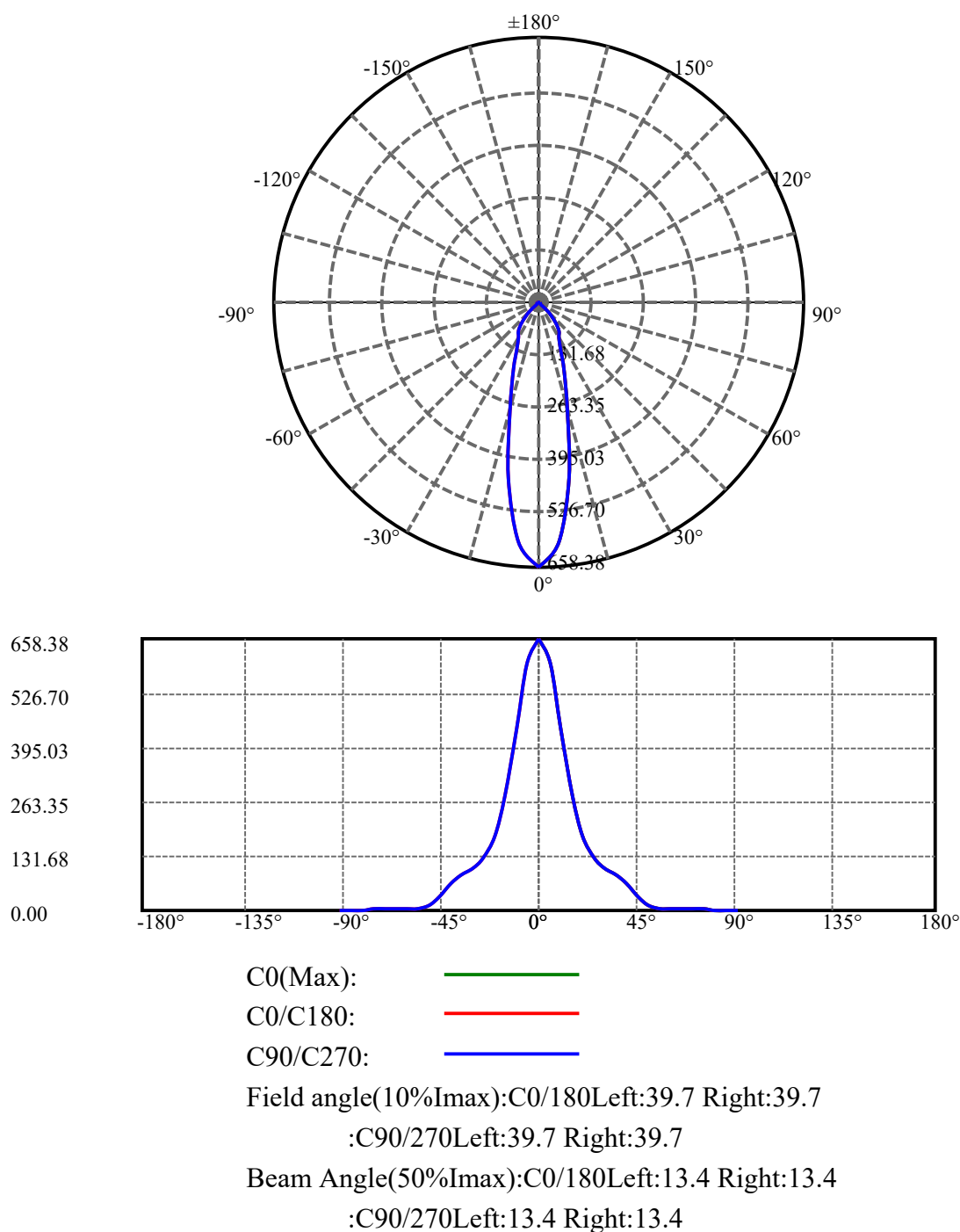
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	658.378	0.000	0	.000%	.000%
5.0	599.027	15.032	15.032	4.541%	5.218%
10.0	440.995	37.205	52.237	11.240%	18.132%
15.0	277.099	42.597	94.834	12.869%	32.918%
20.0	178.527	37.550	132.384	11.344%	45.952%
25.0	127.504	32.097	164.481	9.697%	57.093%
30.0	103.878	29.282	193.762	8.846%	67.257%
35.0	87.478	28.178	221.941	8.513%	77.038%
40.0	64.492	25.355	247.296	7.660%	85.839%
45.0	33.151	18.079	265.375	5.462%	92.114%
50.0	11.982	9.120	274.495	2.755%	95.280%
55.0	5.733	3.852	278.346	1.164%	96.617%
60.0	3.696	2.179	280.526	.658%	97.373%
65.0	3.056	1.641	282.167	.496%	97.943%
70.0	3.021	1.539	283.706	.465%	98.477%
75.0	2.581	1.464	285.17	.442%	98.985%
80.0	1.948	1.212	286.381	.366%	99.406%
85.0	1.604	0.965	287.346	.292%	99.741%
90.0	1.122	0.746	288.093	.225%	100.000%

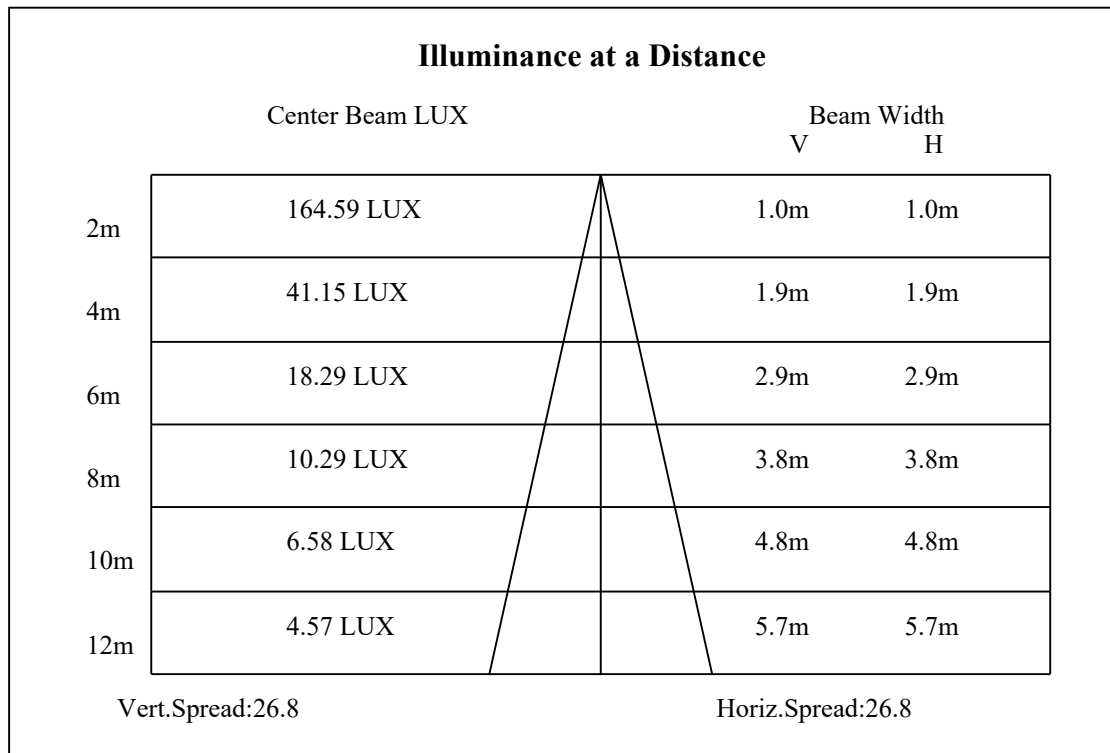
ZONAL LUMEN SUMMARY

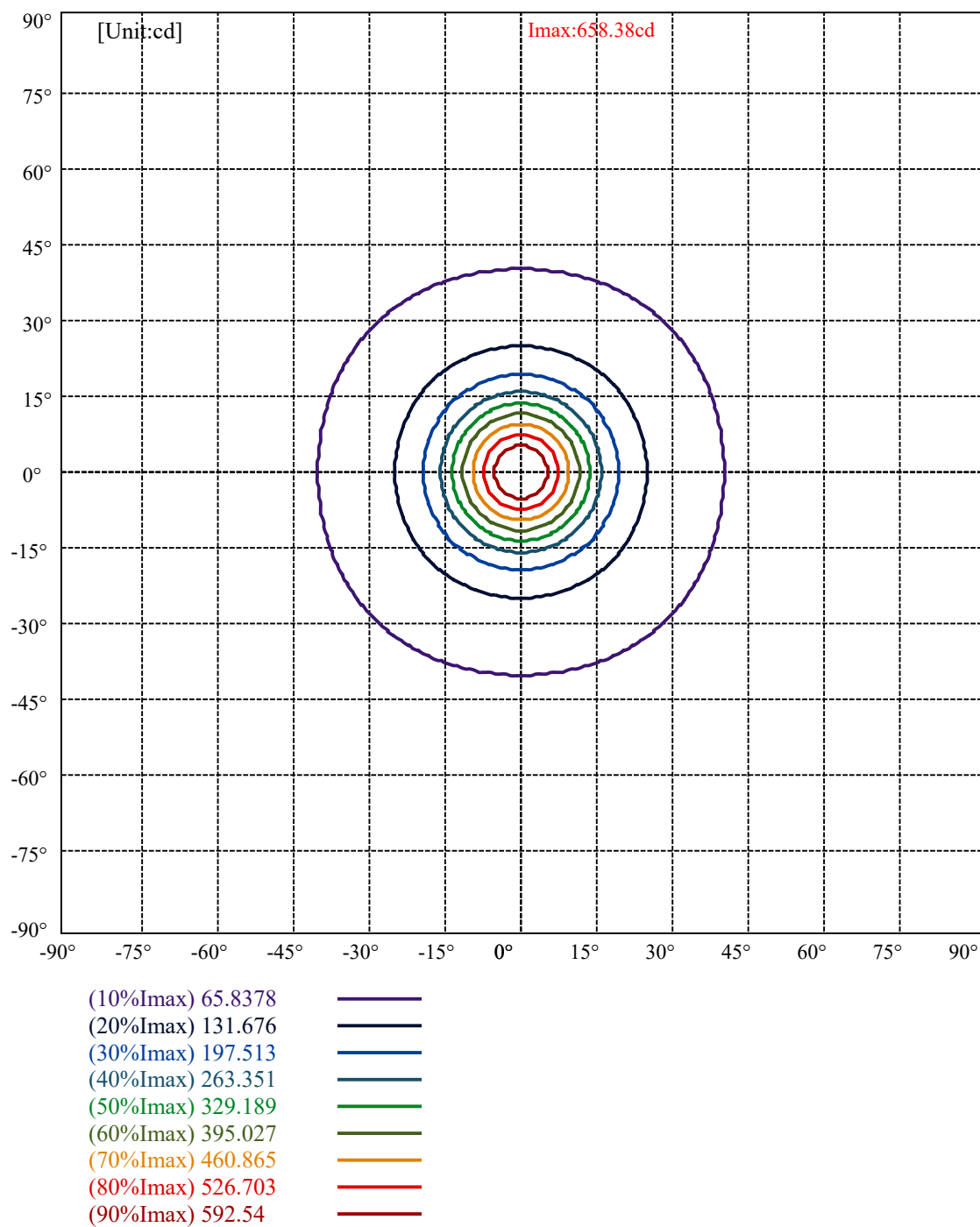
Zone	Lumens	%Lamp	%Fixt
0-30	193.76	58.54%	67.26%
0-40	247.30	74.71%	85.84%
0-60	280.53	84.75%	97.37%
0-90	287.35	86.81%	99.74%
0-120	287.35	86.81%	99.74%
0-180	288.09	87.04%	100.00%
60-90	9.00	2.72%	3.12%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-36.68	230.47	69.63%	80.00%

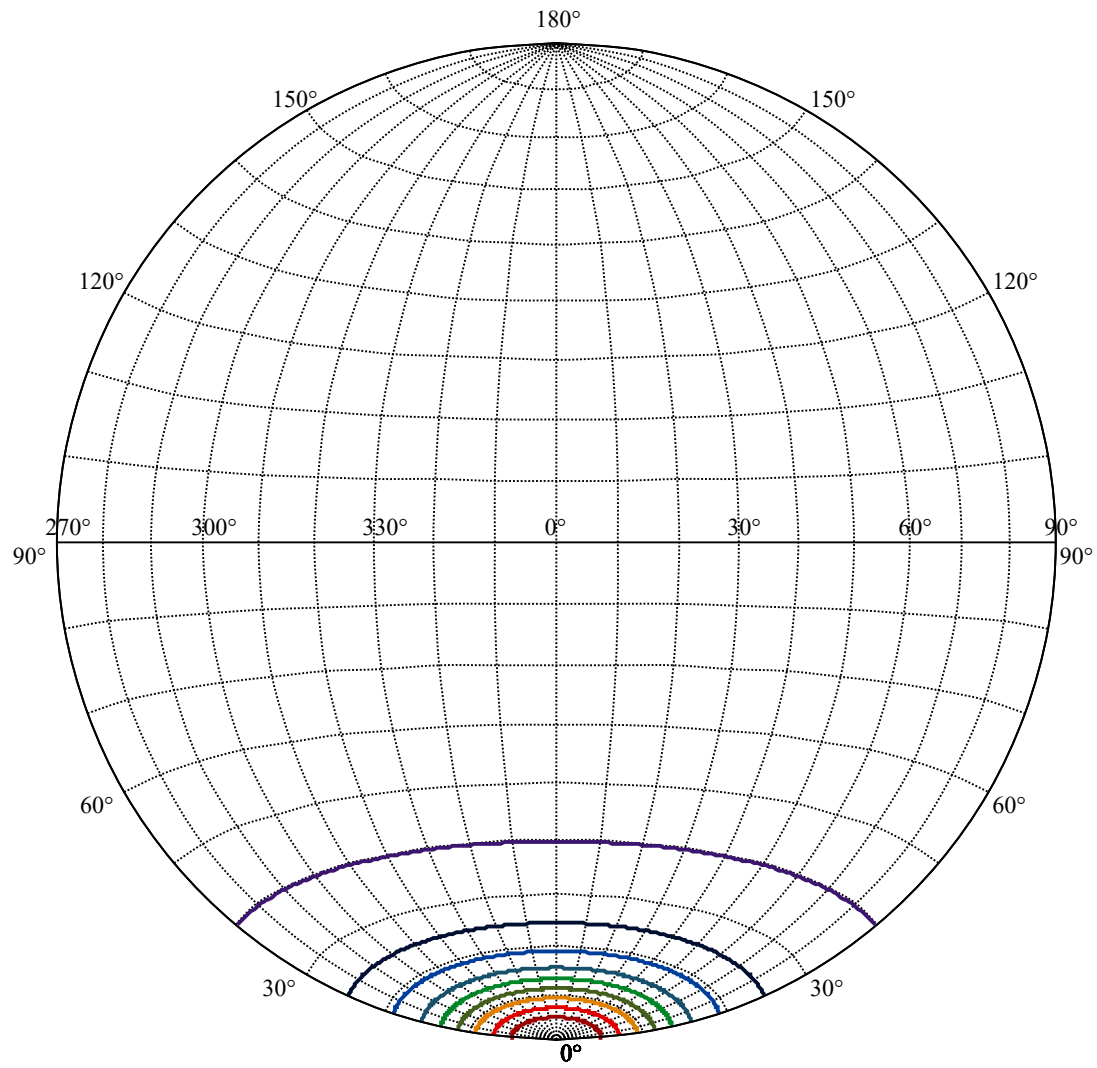
ZONAL LUMEN SUMMARY

0-10	52.24
10-20	80.15
20-30	61.38
30-40	53.53
40-50	27.20
50-60	6.03
60-70	3.18
70-80	2.68
80-90	0.96
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







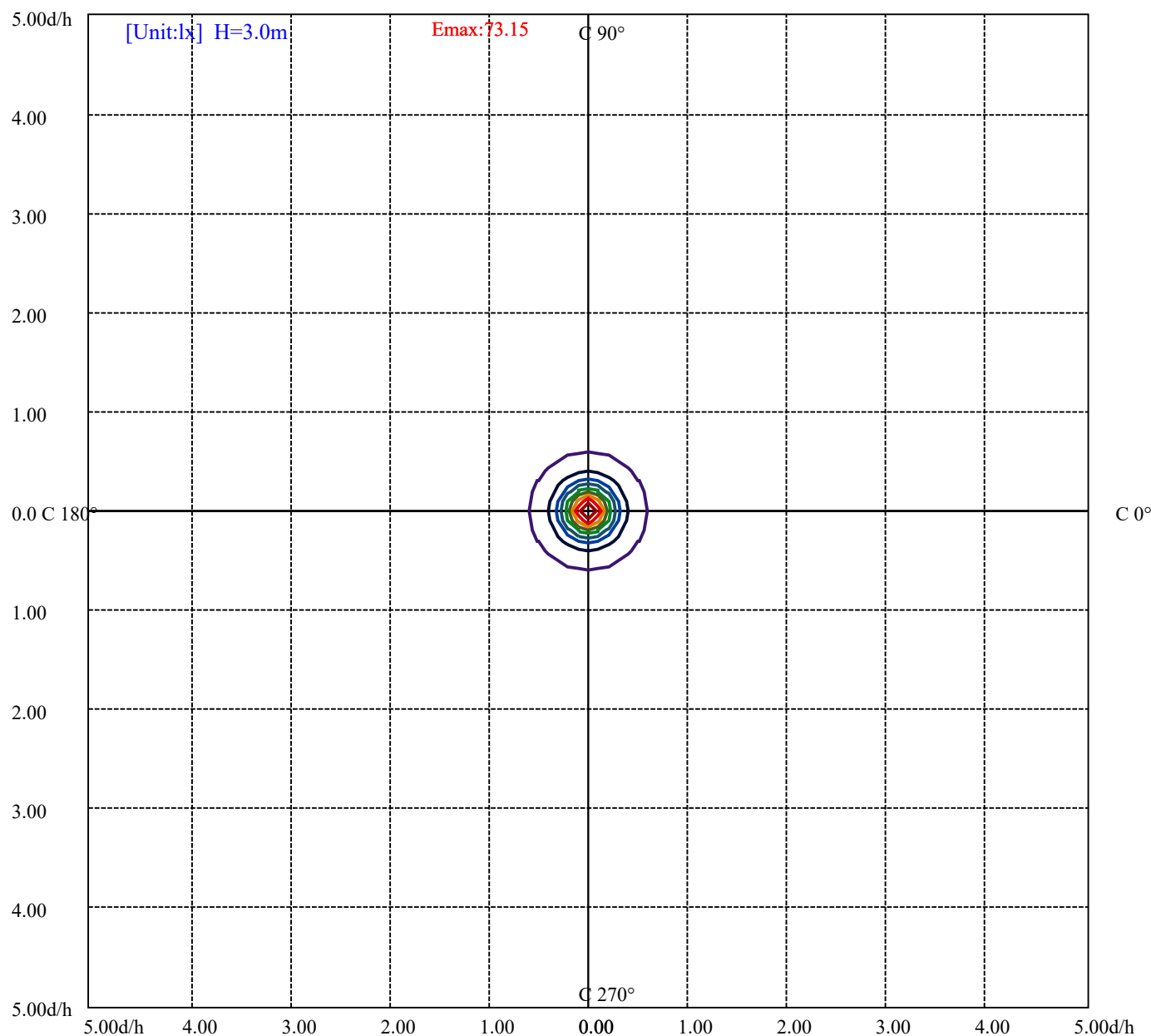


House

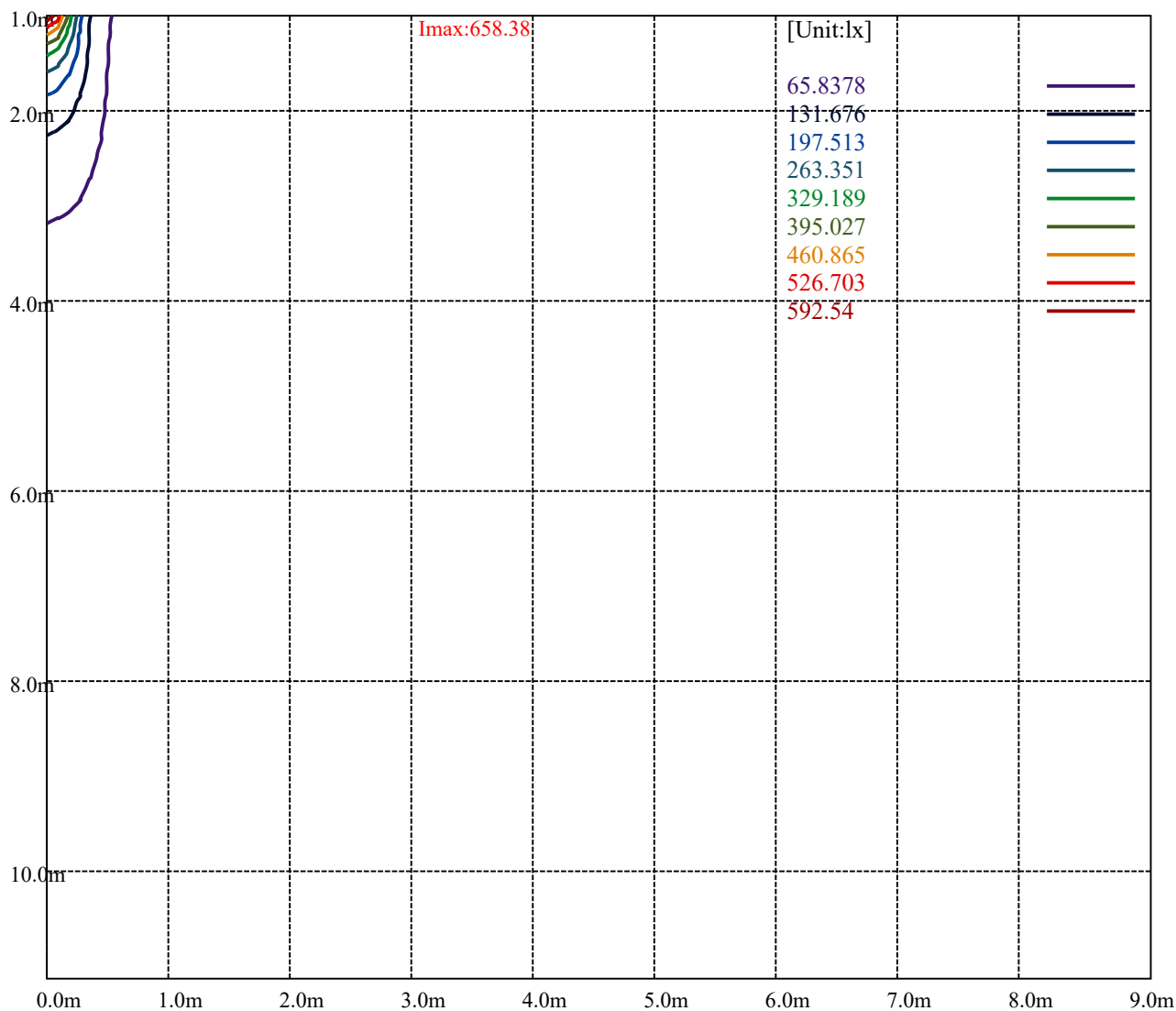
[Unit:cd]

Road

Imax:658.38	
(10%Imax) 65.8378	
(20%Imax) 131.676	
(30%Imax) 197.513	
(40%Imax) 263.351	
(50%Imax) 329.189	
(60%Imax) 395.027	
(70%Imax) 460.865	
(80%Imax) 526.703	
(90%Imax) 592.54	



(10%E _{max}) 7.315289	—
(20%E _{max}) 14.63056	—
(30%E _{max}) 21.94589	—
(40%E _{max}) 29.26122	—
(50%E _{max}) 36.57644	—
(60%E _{max}) 43.89178	—
(70%E _{max}) 51.207	—
(80%E _{max}) 58.52233	—
(90%E _{max}) 65.83767	—



Luminance Table

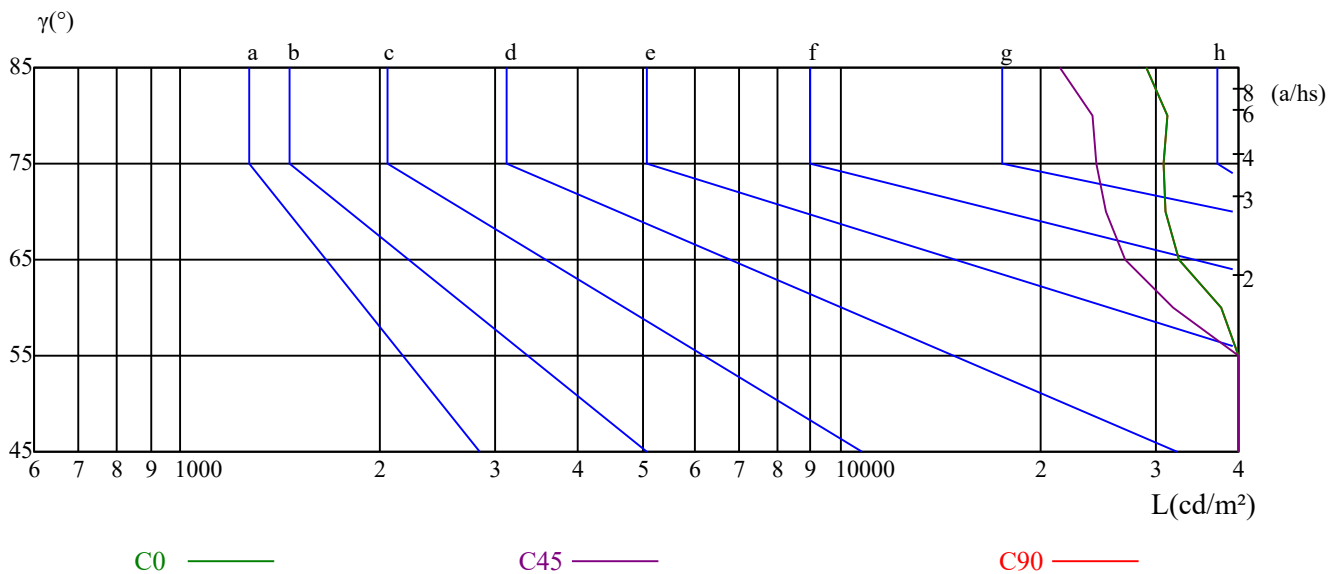
γ	45	50	55	60	65	70	75	80	85
C0	358575	188151	75175	37742	32456	30965	30766	31309	28966
C45	317480	164246	64637	31918	26947	25174	24406	24113	21499
C90	358575	188151	75175	37742	32456	30965	30766	31309	28966

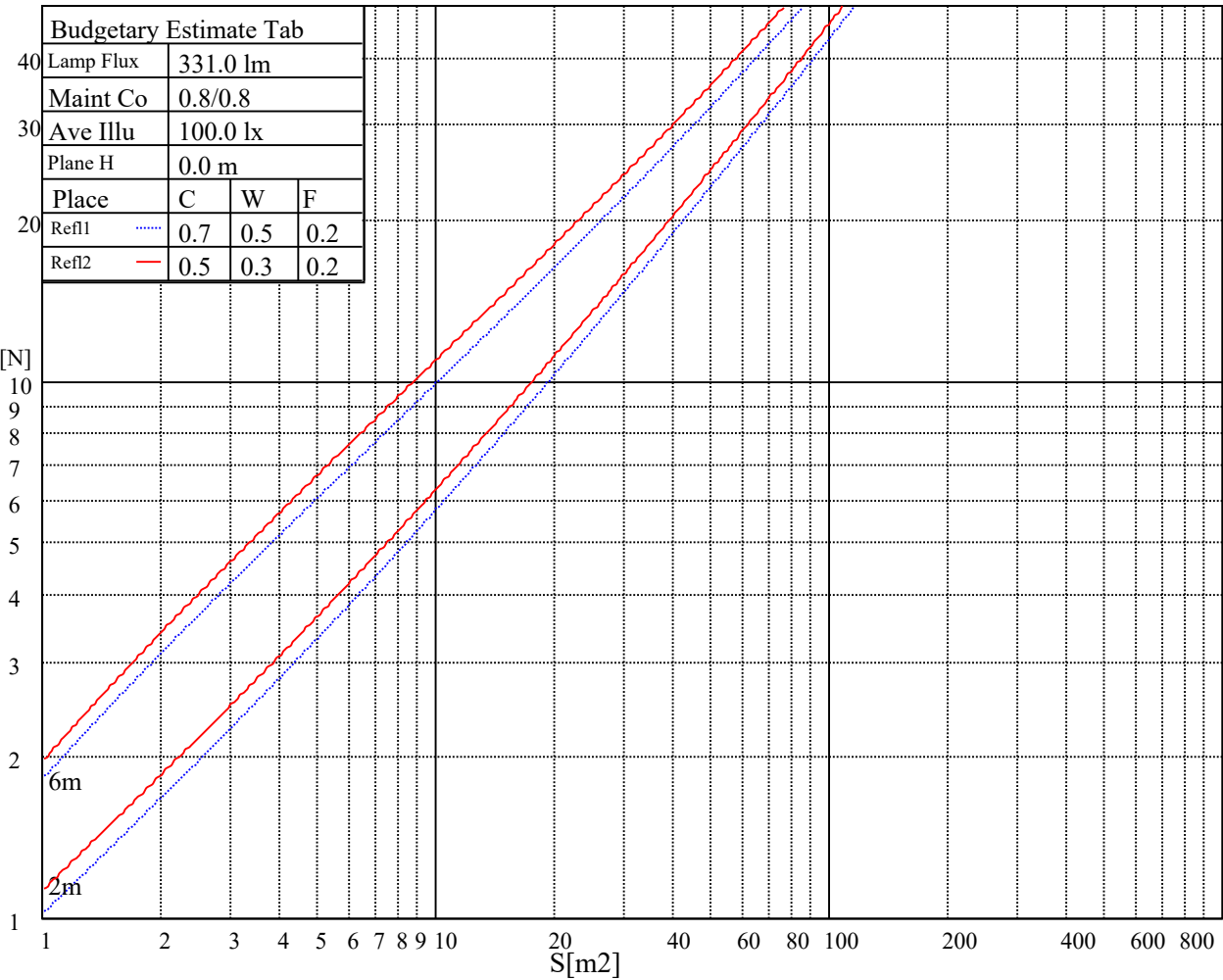
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
64094	64094	64094	82957	82957	82957	179461	179461	179461

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





RHOC	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	1.04	1.04	1.04	1.01	1.01	1.01	0.97	0.97	0.97	0.93	0.93	0.93	0.89	0.89	0.89	0.87
1	0.96	0.94	0.92	0.94	0.92	0.90	0.91	0.89	0.87	0.87	0.86	0.85	0.84	0.83	0.82	0.81
2	0.89	0.86	0.83	0.88	0.84	0.82	0.85	0.82	0.80	0.82	0.80	0.78	0.80	0.78	0.76	0.75
3	0.83	0.79	0.75	0.82	0.78	0.75	0.80	0.76	0.73	0.78	0.75	0.72	0.76	0.73	0.71	0.70
4	0.78	0.73	0.69	0.77	0.72	0.69	0.75	0.71	0.68	0.73	0.70	0.67	0.72	0.69	0.67	0.65
5	0.73	0.68	0.64	0.72	0.68	0.64	0.71	0.67	0.63	0.69	0.66	0.63	0.68	0.65	0.62	0.61
6	0.69	0.64	0.60	0.68	0.63	0.60	0.67	0.63	0.59	0.66	0.62	0.59	0.65	0.61	0.59	0.57
7	0.65	0.60	0.56	0.65	0.60	0.56	0.63	0.59	0.56	0.62	0.59	0.56	0.61	0.58	0.55	0.54
8	0.62	0.57	0.53	0.61	0.56	0.53	0.60	0.56	0.53	0.59	0.55	0.53	0.59	0.55	0.52	0.51
9	0.59	0.54	0.50	0.58	0.53	0.50	0.57	0.53	0.50	0.57	0.53	0.50	0.56	0.52	0.50	0.49
10	0.56	0.51	0.48	0.55	0.51	0.48	0.55	0.50	0.48	0.54	0.50	0.47	0.53	0.50	0.47	0.46

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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	660.51	531.02	349.11	210.81	149.59	113.36	98.83	83.47	50.76
45.0	666.07	542.47	355.72	227.71	151.35	115.62	102.46	85.61	53.96
90.0	655.83	550.40	369.15	228.87	150.96	113.31	97.73	86.44	63.92
135.0	651.10	631.39	493.75	323.02	195.78	135.00	107.42	89.96	68.32
180.0	660.51	671.41	544.62	354.12	212.57	144.63	111.43	92.66	76.75
225.0	666.07	675.32	548.75	348.78	218.13	146.51	107.86	92.77	81.87
270.0	655.83	645.87	499.36	305.84	193.19	135.00	107.69	92.77	72.73
315.0	651.10	544.34	367.50	217.64	156.64	116.61	97.61	76.14	47.62
360.0	660.51	531.02	349.11	210.81	149.59	113.36	98.83	83.47	50.76
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	17.12	5.01	4.18	3.03	3.52	3.74	3.30	2.09	1.71
45.0	19.71	5.18	5.01	3.08	4.24	5.67	4.46	2.42	1.82
90.0	29.84	7.65	6.28	3.19	2.92	2.92	2.48	2.04	1.71
135.0	38.54	16.30	8.20	5.07	3.41	2.86	2.42	2.04	1.60
180.0	48.56	21.69	6.94	4.46	2.70	2.26	1.98	1.76	1.54
225.0	52.85	19.10	5.62	4.29	2.42	2.04	1.87	1.65	1.49
270.0	40.19	13.71	5.29	3.30	2.48	2.20	1.98	1.76	1.49
315.0	18.39	7.21	4.35	3.14	2.75	2.48	2.15	1.82	1.49
360.0	17.12	5.01	4.18	3.03	3.52	3.74	3.30	2.09	1.71
C/ γ (°)	90.0								
0.0	1.10								
45.0	1.10								
90.0	1.10								
135.0	1.10								
180.0	1.16								
225.0	1.16								
270.0	1.16								
315.0	1.10								
360.0	1.10								