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Nata

LumCAT: 2-1571-A
Luminaire: 92.70.064.00+92.70.147.00
Report No: NT2017092509
Test No: GC2017092509
LampCAT: CITIZEN CLU028
Lamp flux(lm): 1518.0
Number of Lamps: 1
Length(mm): 64
Phm Type: C

Voltage(V): 35.5000
Current(A): 0.3000
Power (W): 10.6500
PF: 0.0000
Ballast type: DC
Width(mm): 64
Height(mm): 0

Photometric Results

Lumens(lm): 1246.07
Efficiency(%): 82.09%
Lumens(lm)/Power(W): 117.00
Central intensity(cd): 4084.359
Maximum intensity(cd): 4084.359
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=26.3
 [C90/270]Total=26.3
Field angle(10%Imax): [C0/180]Total=54.7
 [C90/270]Total=54.7
Beam angle of C0 plane : 26.29
Aveage BeamAngle(IEC 61341):26.29
Maximum s/h(1/2): C0_180=0.44 C90_270=0.44
Maximum s/h(1/4): C0_180=0.47 C90_270=0.47
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 83.62%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 95.899%

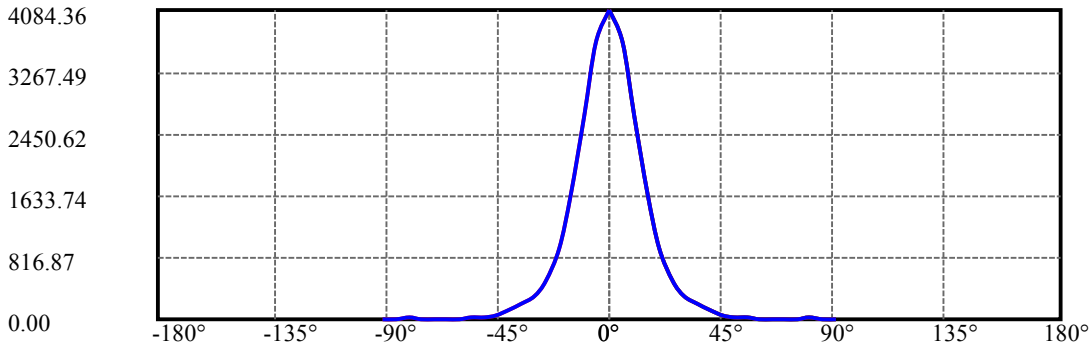
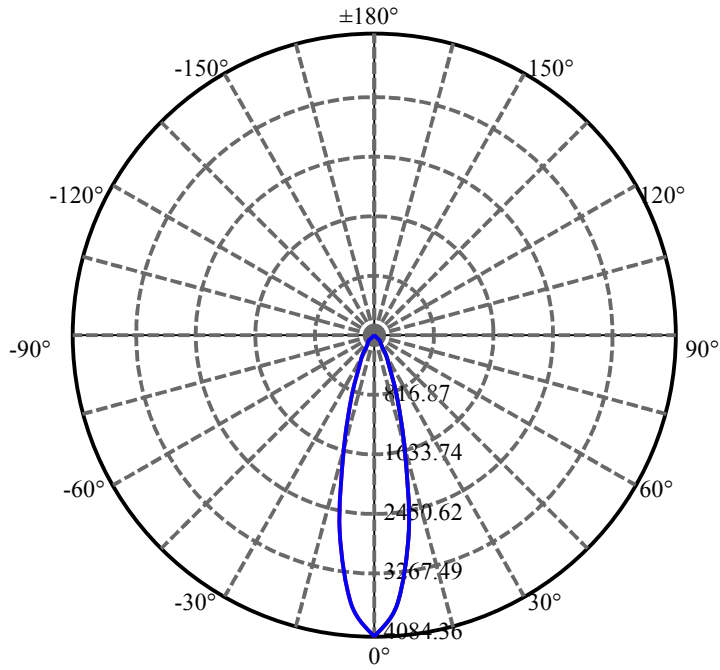
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4084.359	24.425	24.425	1.609%	1.960%
5.0	3663.866	175.035	199.46	11.531%	16.007%
10.0	2697.007	256.709	456.17	16.911%	36.609%
15.0	1655.236	234.826	690.995	15.469%	55.454%
20.0	926.585	173.711	864.706	11.443%	69.394%
25.0	496.801	115.085	979.792	7.581%	78.630%
30.0	310.319	85.049	1064.84	5.603%	85.456%
35.0	197.357	62.049	1126.889	4.088%	90.435%
40.0	116.871	41.178	1168.067	2.713%	93.740%
45.0	61.353	23.780	1191.847	1.567%	95.648%
50.0	32.593	13.686	1205.533	.902%	96.747%
55.0	15.698	7.049	1212.581	.464%	97.312%
60.0	9.855	4.678	1217.259	.308%	97.688%
65.0	9.305	4.622	1221.882	.305%	98.059%
70.0	9.525	4.906	1226.788	.323%	98.452%
75.0	10.626	5.626	1232.414	.371%	98.904%
80.0	12.766	6.891	1239.305	.454%	99.457%
85.0	9.731	5.314	1244.619	.350%	99.883%
90.0	5.306	1.454	1246.073	.096%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1064.84	70.15%	85.46%
0-40	1168.07	76.95%	93.74%
0-60	1217.26	80.19%	97.69%
0-90	1244.62	81.99%	99.88%
0-120	1244.62	81.99%	99.88%
0-180	1246.07	82.09%	100.00%
60-90	32.04	2.11%	2.57%
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%
0-26.00	996.86	65.67%	80.00%

ZONAL LUMEN SUMMARY

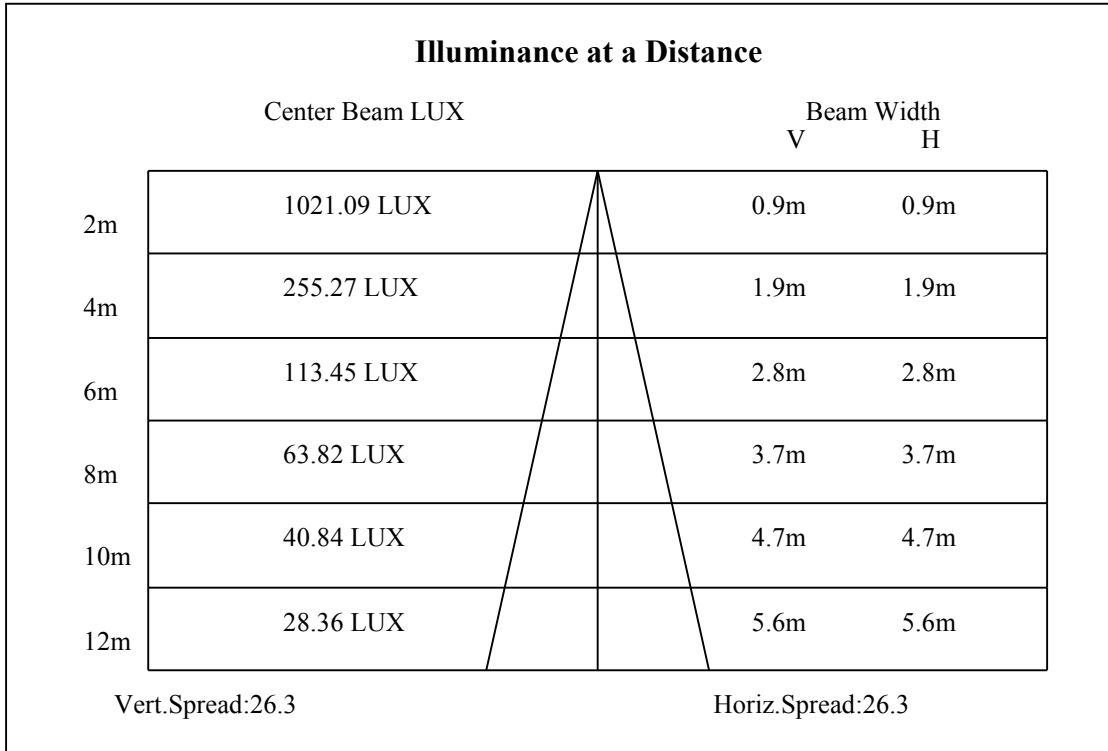
0-10	456.17
10-20	408.54
20-30	200.13
30-40	103.23
40-50	37.47
50-60	11.73
60-70	9.53
70-80	12.52
80-90	5.31
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

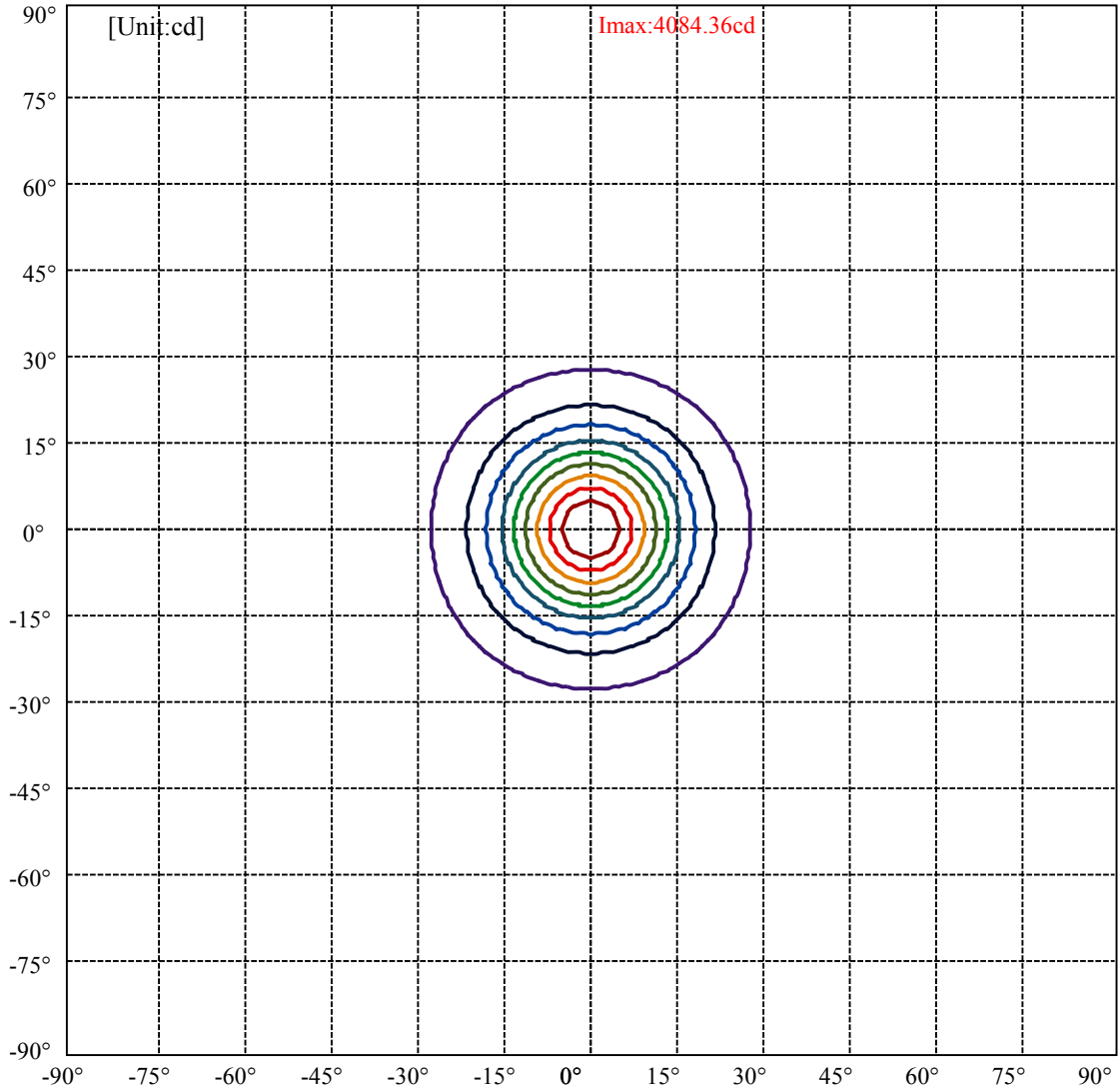


C0(Max): ———
C0/C180: ———
C90/C270: ———

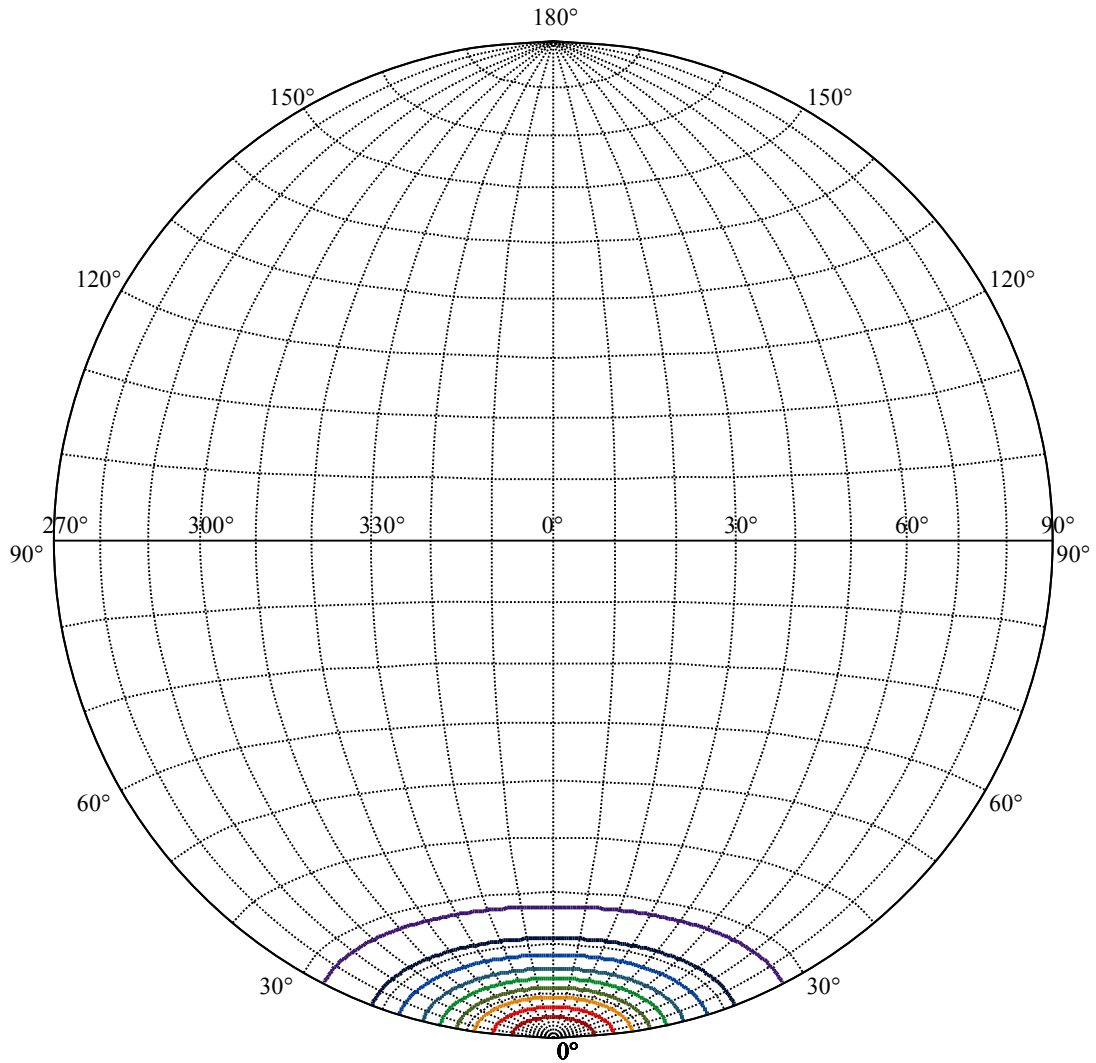
Field angle(10%Imax):C0/180Left:27.4 Right:27.4
:C90/270Left:27.4 Right:27.4

Beam Angle(50%Imax):C0/180Left:13.1 Right:13.1
:C90/270Left:13.1 Right:13.1





(10%Imax) 408.436	—
(20%Imax) 816.872	—
(30%Imax) 1225.31	—
(40%Imax) 1633.74	—
(50%Imax) 2042.18	—
(60%Imax) 2450.62	—
(70%Imax) 2859.05	—
(80%Imax) 3267.49	—
(90%Imax) 3675.92	—



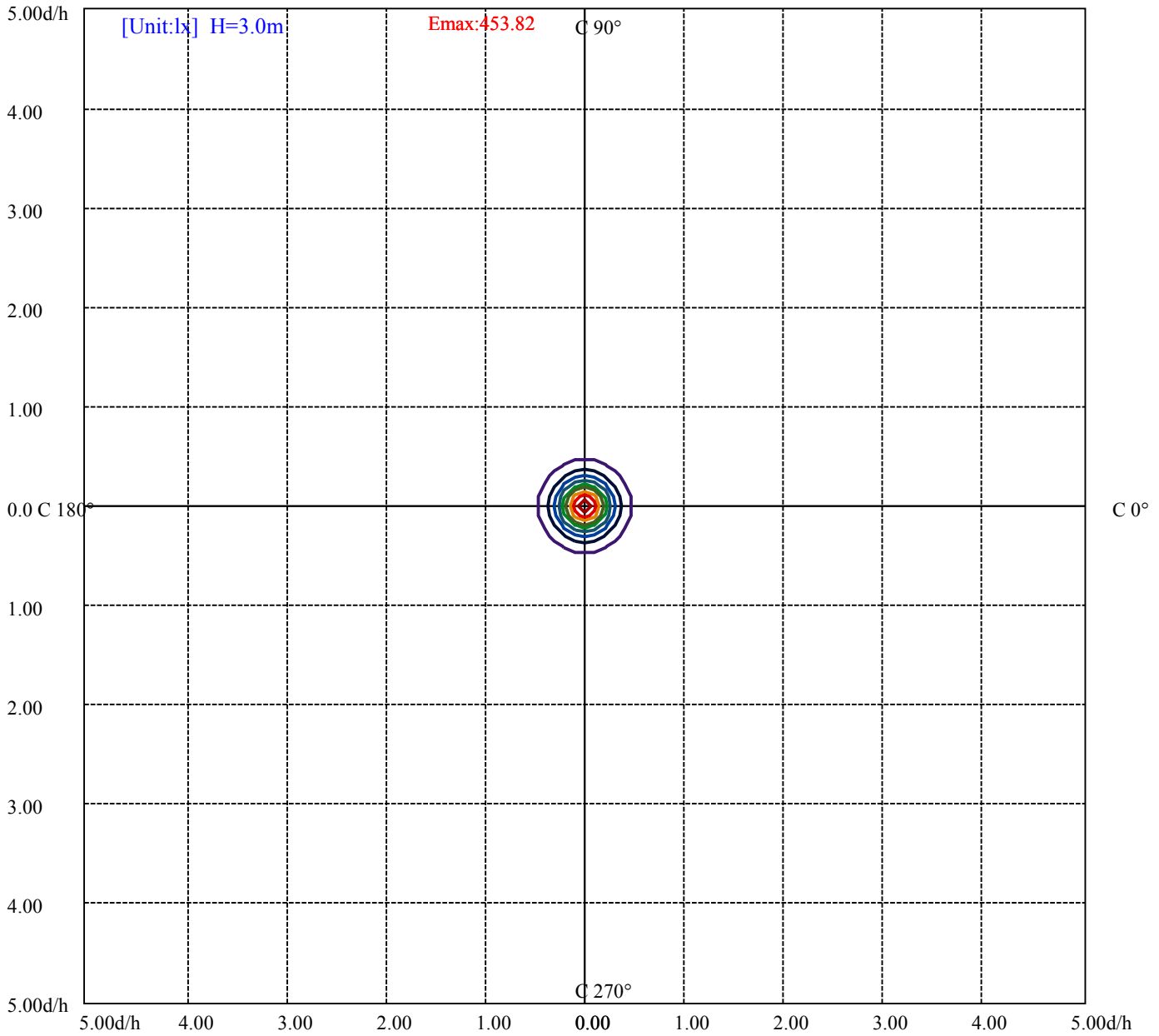
House

[Unit:cd]

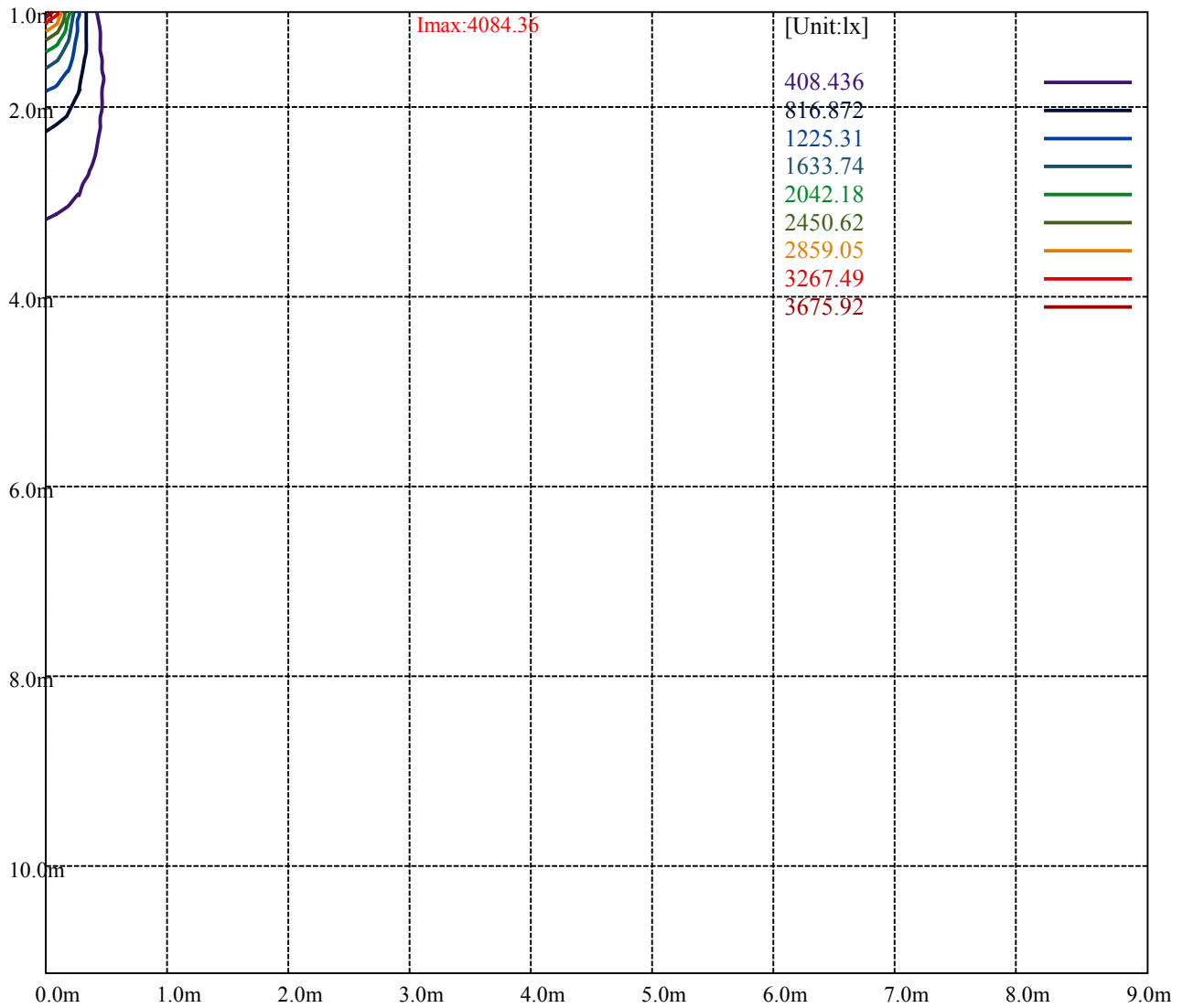
Road

Imax:4084.36

(10%Imax) 408.436	—
(20%Imax) 816.872	—
(30%Imax) 1225.31	—
(40%Imax) 1633.74	—
(50%Imax) 2042.18	—
(60%Imax) 2450.62	—
(70%Imax) 2859.05	—
(80%Imax) 3267.49	—
(90%Imax) 3675.92	—



(10%Emax) 45.38167	—
(20%Emax) 90.76322	—
(30%Emax) 136.1445	—
(40%Emax) 181.5267	—
(50%Emax) 226.9078	—
(60%Emax) 272.29	—
(70%Emax) 317.6711	—
(80%Emax) 363.0533	—
(90%Emax) 408.4344	—



Luminance Table

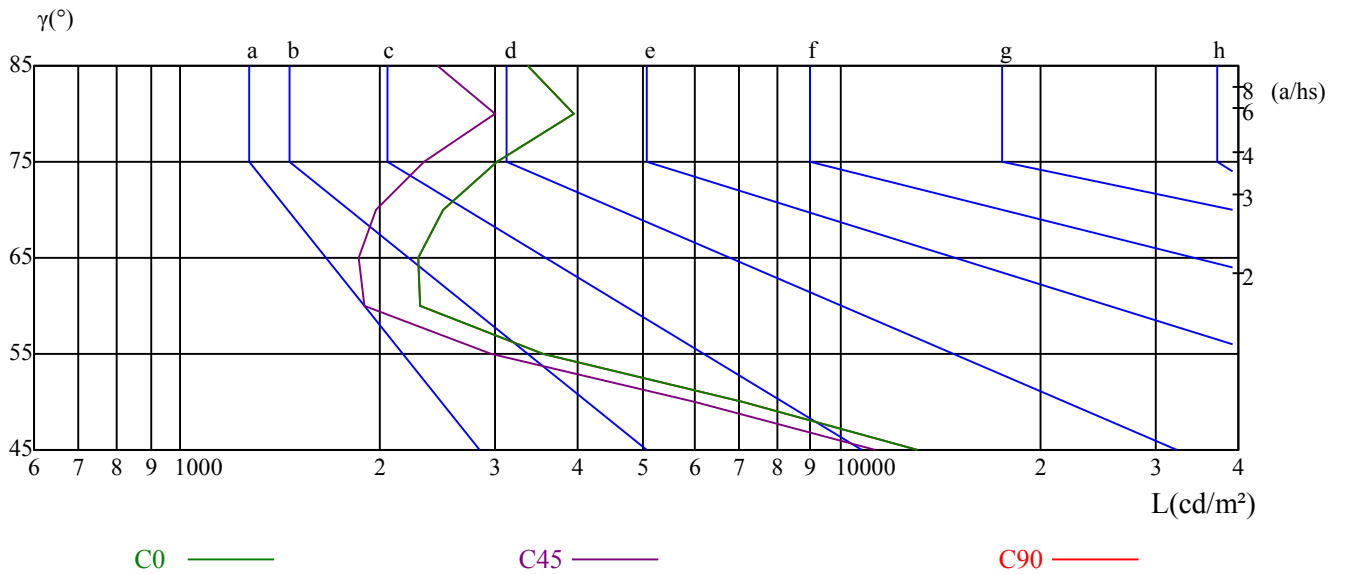
γ	45	50	55	60	65	70	75	80	85
C0	13036	7095	3530	2311	2297	2502	3008	3949	3347
C45	11245	6029	2954	1901	1856	1983	2332	2985	2455
C90	13036	7095	3530	2311	2297	2502	3008	3949	3347

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
5375	5375	5375	10023	10023	10023	27259	27259	27259

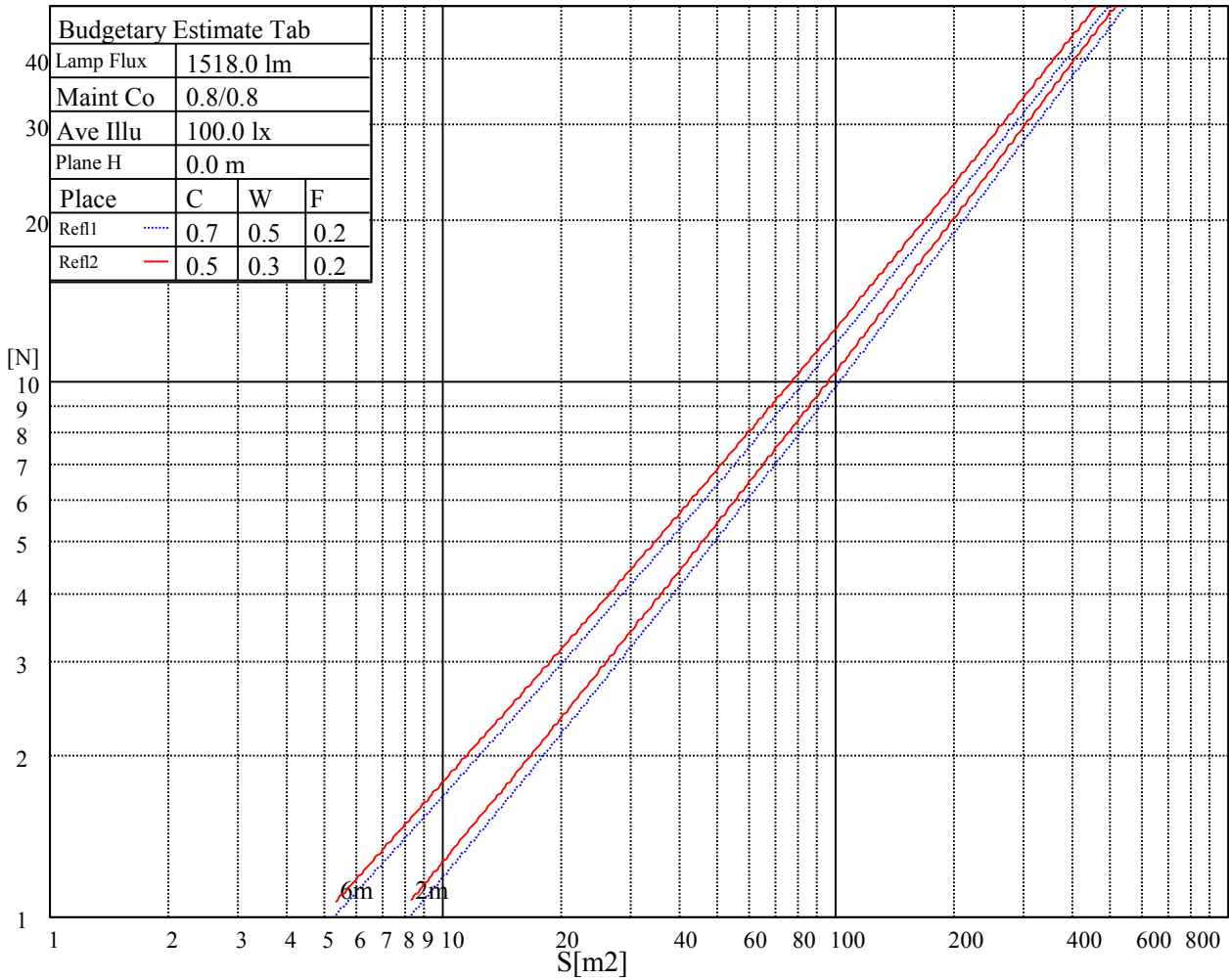
Glare Table

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

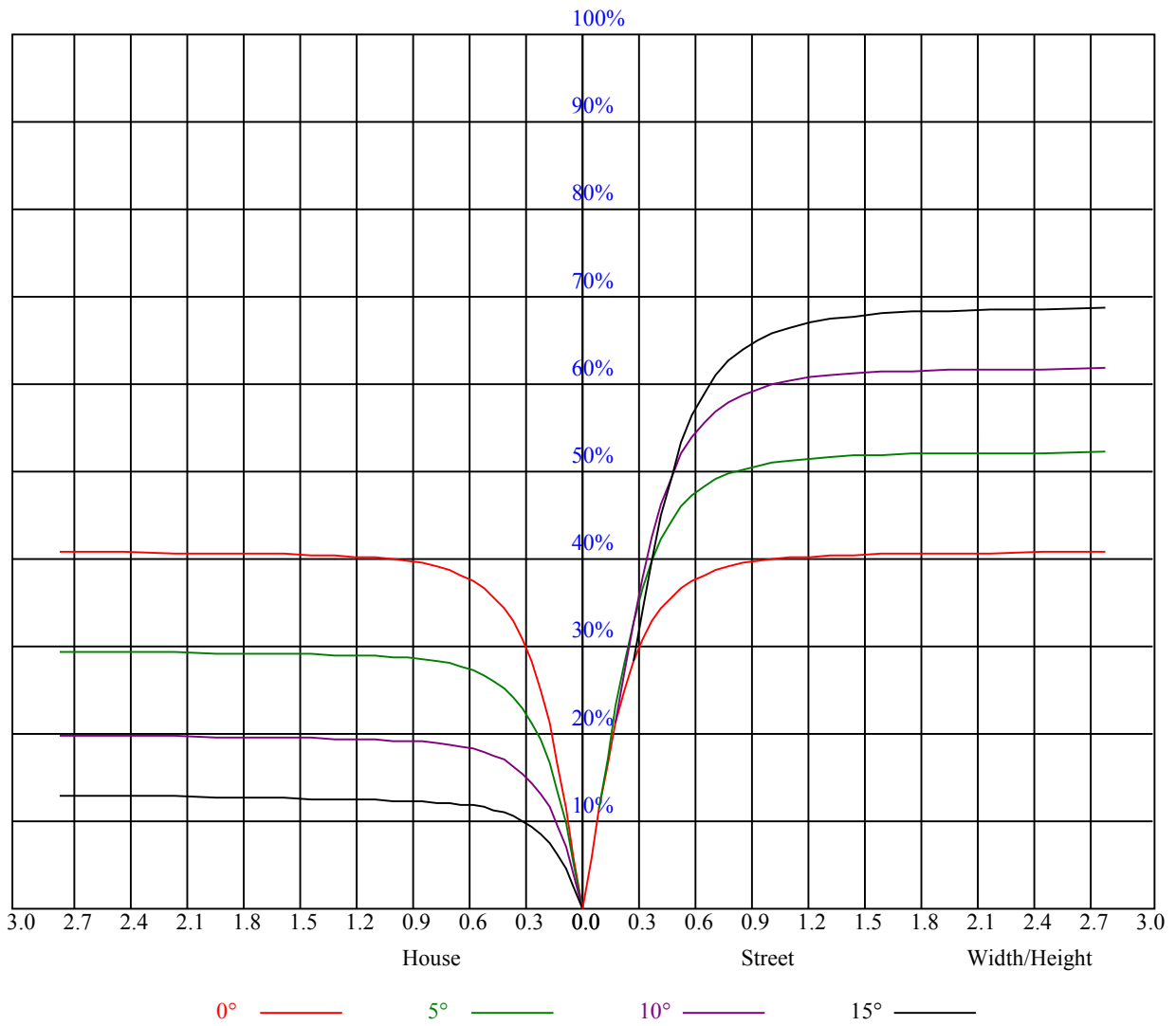
Luminance Limiting Curve



Illumination assessment according UGR											
Rf of Ceiling	70	70	50	50	30	70	70	50	50	30	
Rf of Wall	50	30	50	30	30	50	30	50	30	30	
Rf of Floor	20	20	20	20	20	20	20	20	20	20	
Room dimensions		Viewed crosswise					Viewed endwise				
X	Y										
2H	2H	6.55	7.54	6.91	7.85	8.16	6.70	7.69	7.07	8.00	8.32
	3H	8.10	8.97	8.48	9.31	9.67	8.27	9.14	8.65	9.48	9.84
	4H	9.31	10.12	9.71	10.47	10.86	9.48	10.29	9.89	10.64	11.03
	6H	10.89	11.64	11.31	12.01	12.41	11.19	11.93	11.61	12.31	12.71
	8H	11.61	12.30	12.04	12.70	13.11	11.89	12.58	12.32	12.98	13.39
	12H	12.54	13.21	12.98	13.59	14.02	12.67	13.34	13.10	13.72	14.15
4H	2H	6.77	7.58	7.18	7.94	8.33	6.91	7.72	7.31	8.07	8.46
	3H	8.75	9.42	9.17	9.83	10.23	8.89	9.55	9.30	9.96	10.37
	4H	10.24	10.83	10.67	11.26	11.70	10.38	10.98	10.82	11.40	11.85
	6H	11.74	12.25	12.21	12.70	13.18	11.99	12.50	12.46	12.95	13.43
	8H	12.64	13.12	13.12	13.57	14.05	12.87	13.35	13.35	13.80	14.27
	12H	13.61	14.02	14.10	14.51	14.99	13.69	14.10	14.18	14.59	15.07
8H	4H	10.83	11.31	11.31	11.76	12.23	10.95	11.42	11.42	11.87	12.35
	6H	12.70	13.08	13.21	13.58	14.07	12.91	13.29	13.42	13.79	14.28
	8H	13.71	14.05	14.24	14.57	15.07	13.89	14.23	14.42	14.75	15.25
	12H	14.73	15.03	15.25	15.53	16.11	14.78	15.07	15.30	15.57	16.15
12H	4H	11.00	11.42	11.49	11.91	12.38	11.10	11.52	11.60	12.01	12.48
	6H	13.25	13.30	13.49	13.77	14.32	13.43	13.48	13.68	13.96	14.50
	8H	14.05	14.34	14.57	14.84	15.42	14.21	14.50	14.73	15.00	15.58
Variation with the observer position at spacings:											
S = 1.0H	3.0/-3.7					3.0/-3.7					
S = 1.5H	4.3/-2.7					4.3/-2.7					
S = 2.0H	5.3/-2.1					5.3/-2.1					
Standard tables:	BK3					BK3					
Uncorrected UGR	-2.0					-2.0					



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	1.00	1.00	1.00	0.97	0.97	0.97	0.93	0.93	0.93	0.89	0.89	0.89	0.85	0.85	0.85	0.84
1	0.91	0.89	0.87	0.90	0.87	0.85	0.86	0.84	0.83	0.83	0.82	0.80	0.80	0.79	0.78	0.76
2	0.86	0.83	0.80	0.85	0.82	0.79	0.82	0.80	0.78	0.80	0.78	0.76	0.77	0.76	0.74	0.73
3	0.82	0.78	0.75	0.81	0.77	0.74	0.79	0.76	0.73	0.77	0.74	0.72	0.75	0.73	0.71	0.70
4	0.78	0.74	0.71	0.77	0.73	0.71	0.76	0.72	0.70	0.74	0.71	0.69	0.72	0.70	0.68	0.67
5	0.75	0.71	0.68	0.74	0.70	0.67	0.73	0.69	0.67	0.71	0.68	0.66	0.70	0.68	0.66	0.65
6	0.72	0.68	0.65	0.71	0.67	0.64	0.70	0.67	0.64	0.69	0.66	0.64	0.68	0.65	0.63	0.62
7	0.69	0.65	0.62	0.69	0.65	0.62	0.68	0.64	0.62	0.67	0.64	0.61	0.66	0.63	0.61	0.60
8	0.67	0.63	0.60	0.66	0.63	0.60	0.66	0.62	0.60	0.65	0.62	0.59	0.64	0.61	0.59	0.58
9	0.65	0.61	0.58	0.64	0.60	0.58	0.64	0.60	0.58	0.63	0.60	0.58	0.62	0.59	0.57	0.56
10	0.63	0.59	0.56	0.62	0.59	0.56	0.62	0.58	0.56	0.61	0.58	0.56	0.61	0.58	0.56	0.55



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	4095.10	3683.27	2776.49	1721.06	936.51	497.71	303.36	189.01	116.11
45.0	4087.39	3541.23	2553.52	1530.02	843.46	459.72	289.05	176.79	102.02
90.0	4050.50	3367.80	2339.35	1090.94	769.30	440.34	282.11	177.23	99.16
135.0	4098.95	3626.01	2671.34	1624.16	885.31	486.70	313.27	196.55	116.39
180.0	4095.10	3632.07	2528.74	1609.85	861.96	469.47	304.79	191.27	113.20
225.0	4098.40	3806.60	2871.74	1823.47	1038.58	535.59	333.53	210.26	124.76
270.0	4050.50	3939.29	3084.81	2170.32	1176.56	601.22	360.62	250.78	145.02
315.0	4098.95	3714.66	2750.07	1672.06	901.00	483.67	295.82	186.97	118.32
360.0	4095.10	3683.27	2776.49	1721.06	936.51	497.71	303.36	189.01	116.11
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	62.65	33.58	18.00	10.46	9.69	9.74	10.74	13.76	11.29
45.0	50.82	28.19	12.11	9.63	9.25	9.58	10.74	18.39	11.18
90.0	47.79	23.78	10.24	9.25	9.03	9.47	11.12	11.07	8.53
135.0	60.07	30.89	12.99	9.80	9.52	9.97	11.62	12.61	8.81
180.0	59.41	31.99	15.20	9.80	9.14	9.30	10.35	11.67	5.62
225.0	66.12	36.01	18.39	9.69	8.81	8.92	9.74	11.12	10.79
270.0	79.72	42.83	22.19	9.86	9.03	8.97	9.25	12.00	10.63
315.0	64.25	33.47	16.46	10.35	9.97	10.24	11.45	11.51	11.01
360.0	62.65	33.58	18.00	10.46	9.69	9.74	10.74	13.76	11.29
C/γ(°)	90.0								
0.0	5.23								
45.0	5.23								
90.0	5.29								
135.0	5.29								
180.0	5.23								
225.0	5.29								
270.0	5.45								
315.0	5.45								
360.0	5.23								