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Nata

LumCAT: 1-0915-S	
Luminaire: 92.70.192.00	
Report No: 220422-B001	Voltage(V): 34.4500
Test No: 220422-C001	Current(A): 0.2800
LampCAT: CITIZEN CLU028	Power (W): 9.6460
Lamp flux(lm): 1241.1	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 43	Width(mm): 43
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 977.52
Efficiency(%): 78.76%
Lumens(lm)/Power(W): 101.34
Central intensity(cd): 1296.638
Maximum intensity(cd): 1296.638
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=54.2
 [C90/270]Total=54.2
Field angle(10%Imax): [C0/180]Total=74.7
 [C90/270]Total=74.7
Maximum s/h(1/2): C0_180=0.88 C90_270=0.88
Maximum s/h(1/4): C0_180=0.81 C90_270=0.81
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 78.76%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.401%

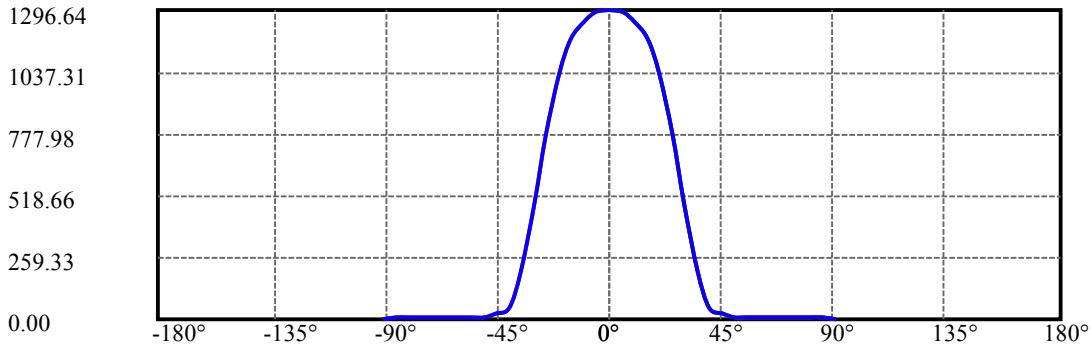
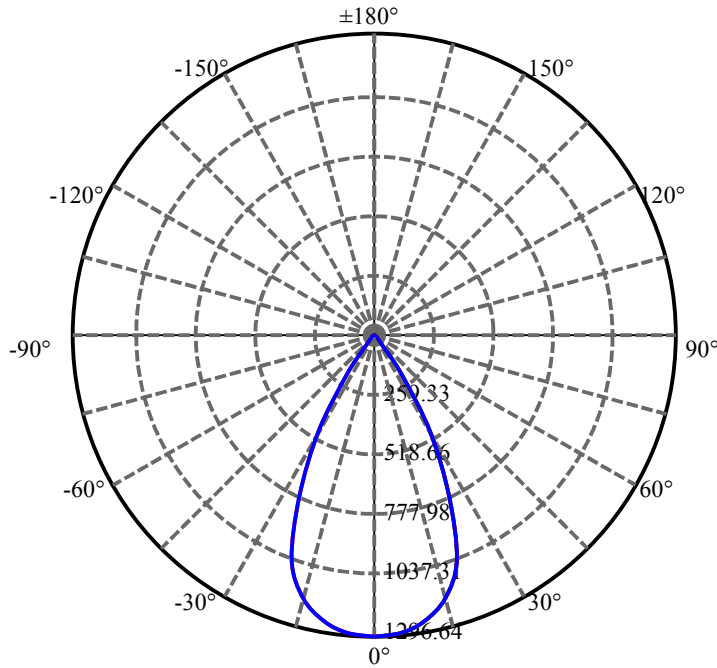
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1296.638	0.000	0	.000%	.000%
5.0	1287.376	30.891	30.891	2.489%	3.160%
10.0	1246.468	90.644	121.535	7.303%	12.433%
15.0	1172.247	143.477	265.011	11.560%	27.110%
20.0	1027.825	181.317	446.328	14.609%	45.659%
25.0	769.423	188.498	634.826	15.188%	64.942%
30.0	480.481	158.176	793.003	12.745%	81.124%
35.0	200.478	100.276	893.279	8.080%	91.382%
40.0	50.192	41.823	935.101	3.370%	95.660%
45.0	20.353	13.062	948.163	1.052%	96.996%
50.0	11.009	6.337	954.501	.511%	97.645%
55.0	7.768	4.083	958.583	.329%	98.062%
60.0	6.535	3.306	961.89	.266%	98.401%
65.0	5.774	2.992	964.882	.241%	98.707%
70.0	5.288	2.801	967.683	.226%	98.993%
75.0	4.900	2.663	970.346	.215%	99.266%
80.0	4.601	2.542	972.888	.205%	99.526%
85.0	4.235	2.401	975.289	.193%	99.771%
90.0	3.929	2.235	977.524	.180%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	793.00	63.90%	81.12%
0-40	935.10	75.34%	95.66%
0-60	961.89	77.50%	98.40%
0-90	975.29	78.58%	99.77%
0-120	975.29	78.58%	99.77%
0-180	977.52	78.76%	100.00%
60-90	16.71	1.35%	1.71%
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%
0-29.65	782.02	63.01%	80.00%

ZONAL LUMEN SUMMARY

0-10	121.53
10-20	324.79
20-30	346.67
30-40	142.10
40-50	19.40
50-60	7.39
60-70	5.79
70-80	5.21
80-90	2.40
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



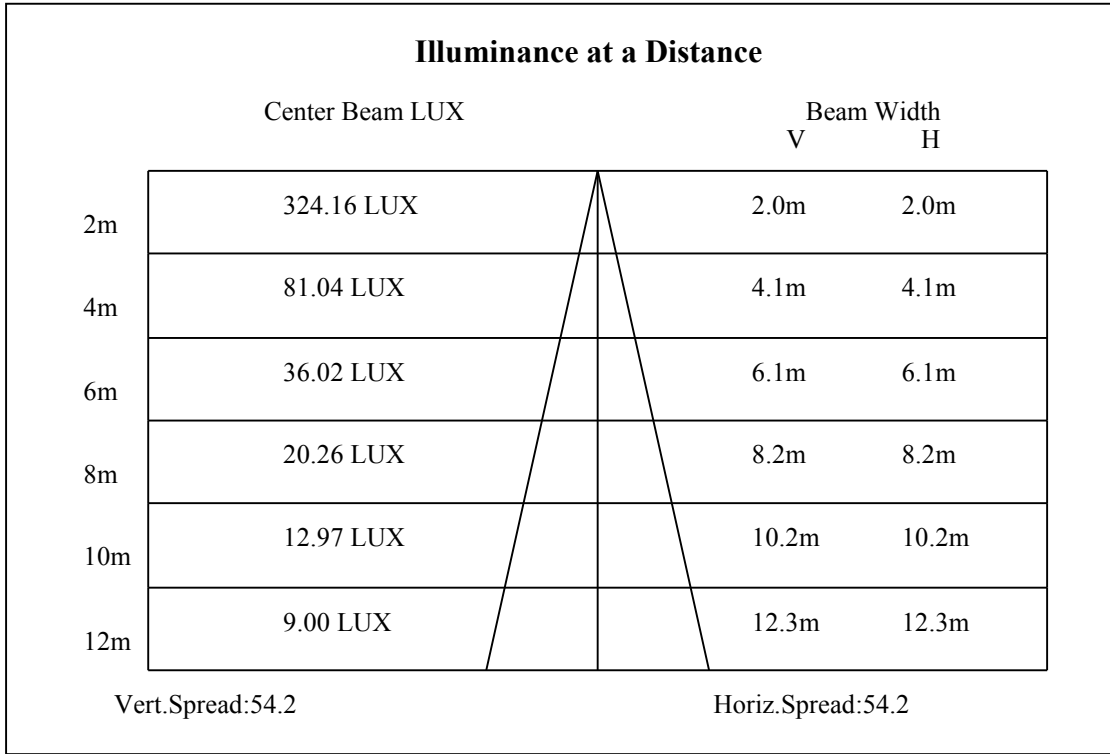
C0(Max): ———

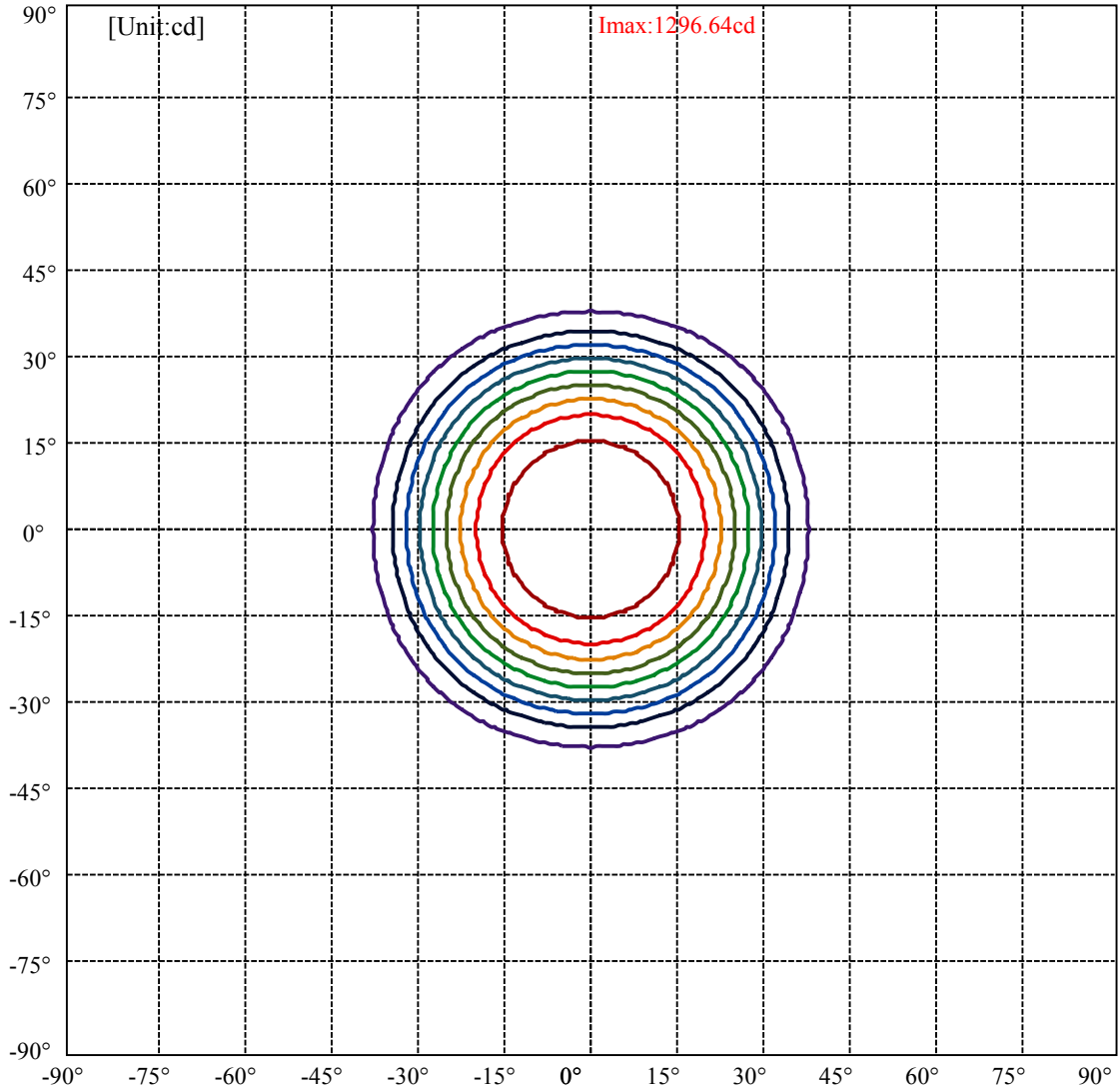
C0/C180: ———

C90/C270: ———

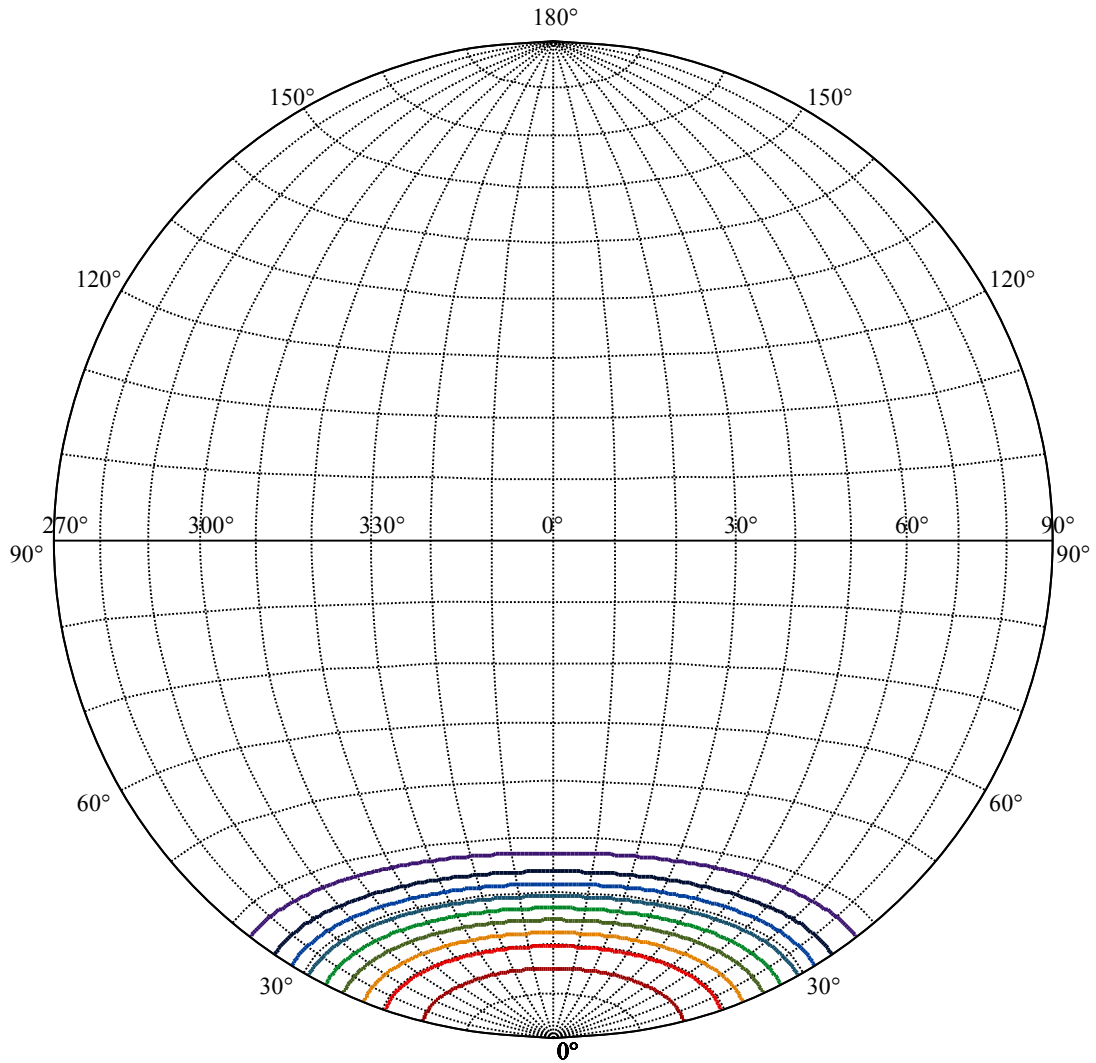
Field angle(10%Imax):C0/180Left:37.4 Right:37.4
:C90/270Left:37.4 Right:37.4

Beam Angle(50%Imax):C0/180Left:27.1 Right:27.1
:C90/270Left:27.1 Right:27.1





(10%Imax) 129.664	—
(20%Imax) 259.328	—
(30%Imax) 388.991	—
(40%Imax) 518.655	—
(50%Imax) 648.319	—
(60%Imax) 777.983	—
(70%Imax) 907.647	—
(80%Imax) 1037.31	—
(90%Imax) 1166.97	—



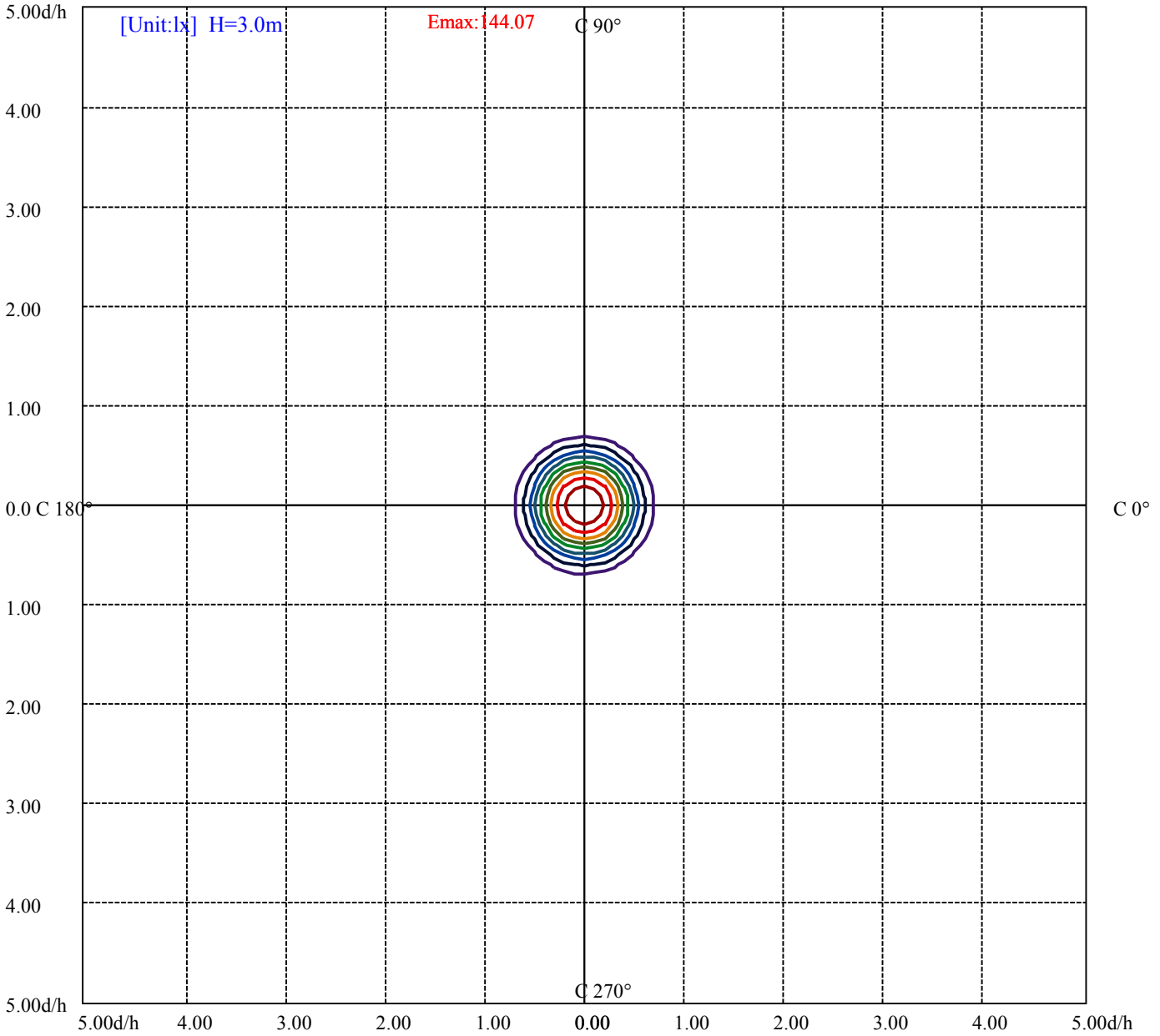
House

[Unit:cd]

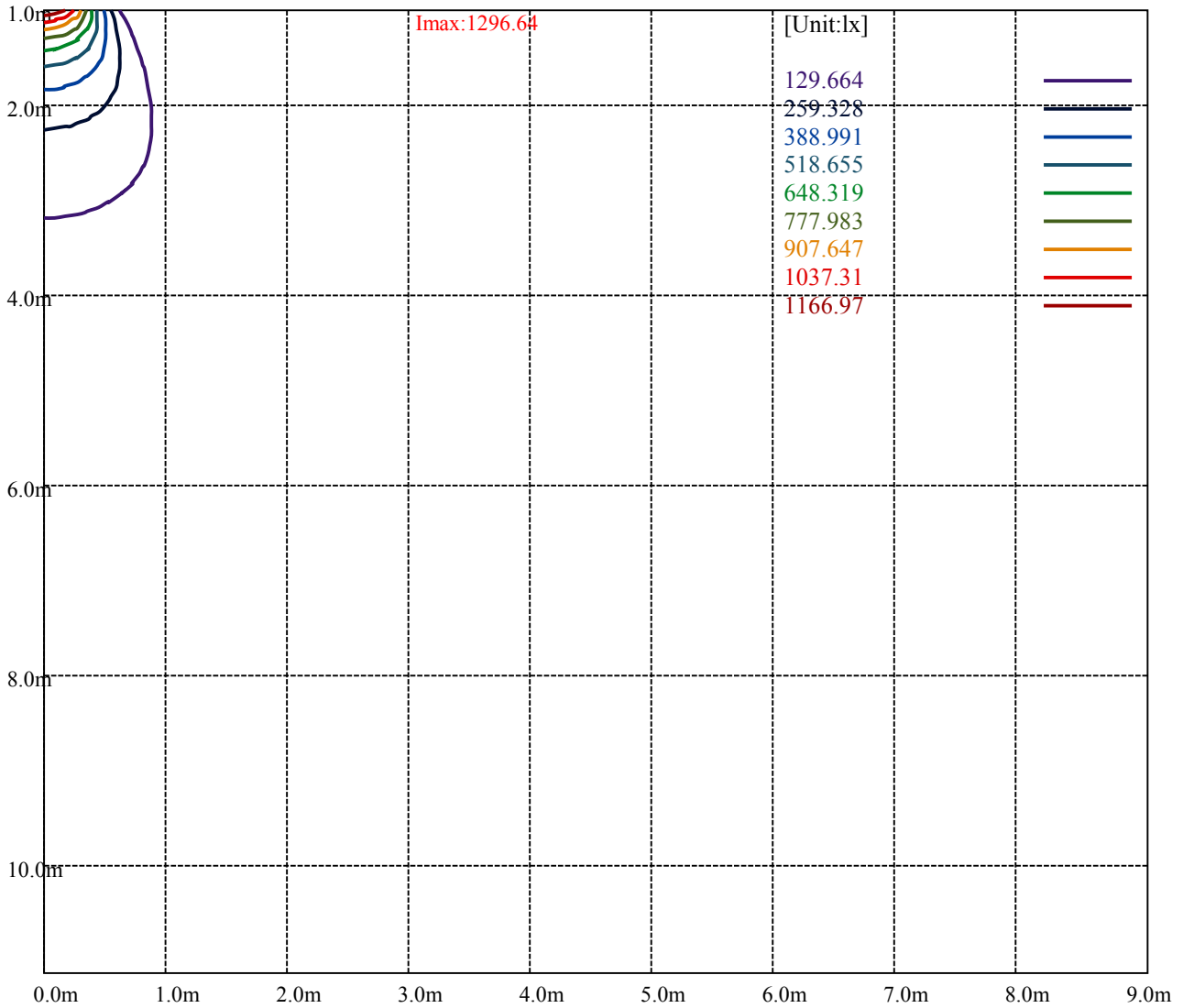
Road

Imax:1296.64

(10%Imax)	129.664	—
(20%Imax)	259.328	—
(30%Imax)	388.991	—
(40%Imax)	518.655	—
(50%Imax)	648.319	—
(60%Imax)	777.983	—
(70%Imax)	907.647	—
(80%Imax)	1037.31	—
(90%Imax)	1166.97	—



- (10%Emax) 14.40711
- (20%Emax) 28.81422
- (30%Emax) 43.22122
- (40%Emax) 57.62834
- (50%Emax) 72.03544
- (60%Emax) 86.44255
- (70%Emax) 100.8496
- (80%Emax) 115.2567
- (90%Emax) 129.6633



Luminance Table

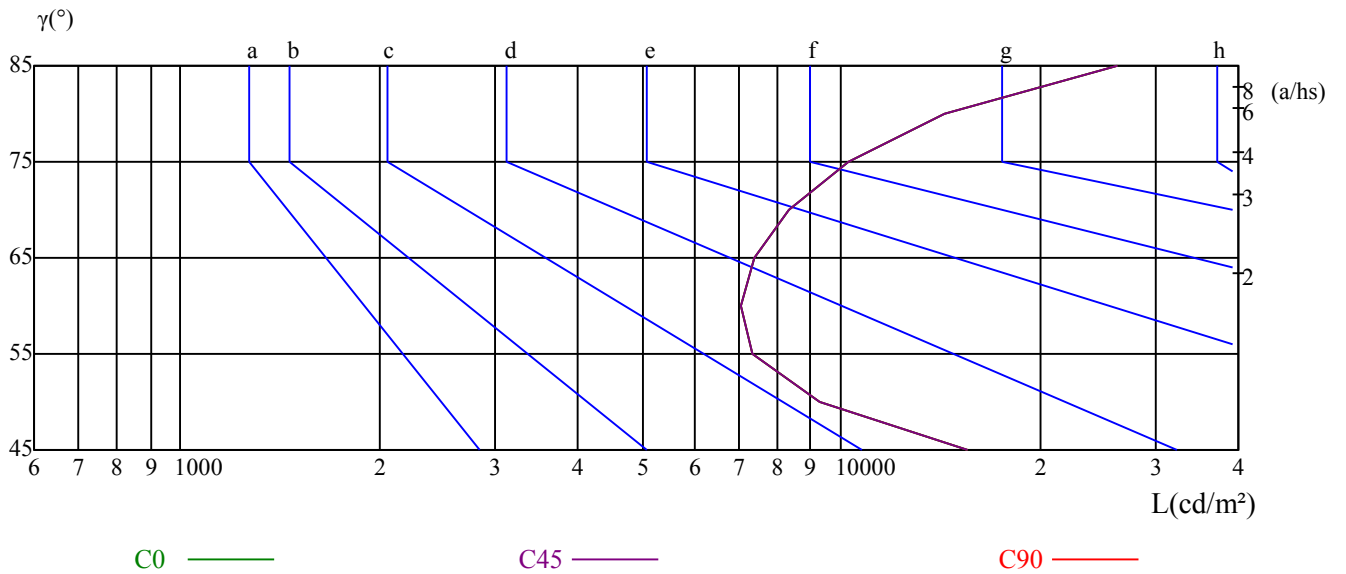
γ	45	50	55	60	65	70	75	80	85
C0	15567	9263	7324	7069	7389	8362	10239	14330	26280
C45	15567	9263	7324	7069	7389	8362	10239	14330	26280
C90	15567	9263	7324	7069	7389	8362	10239	14330	26280

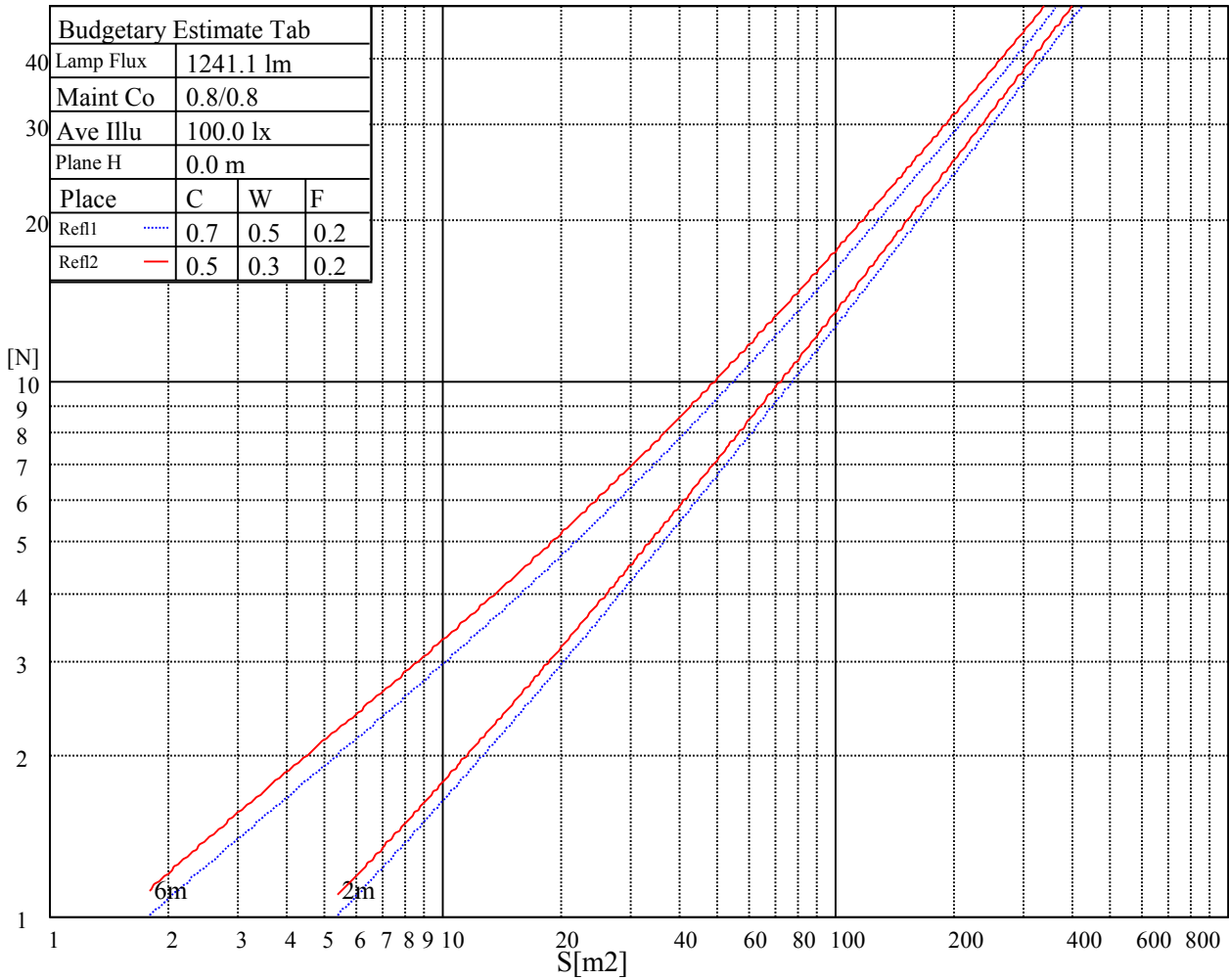
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
7389	7389	7389	10239	10239	10239	26280	26280	26280

Glare Table

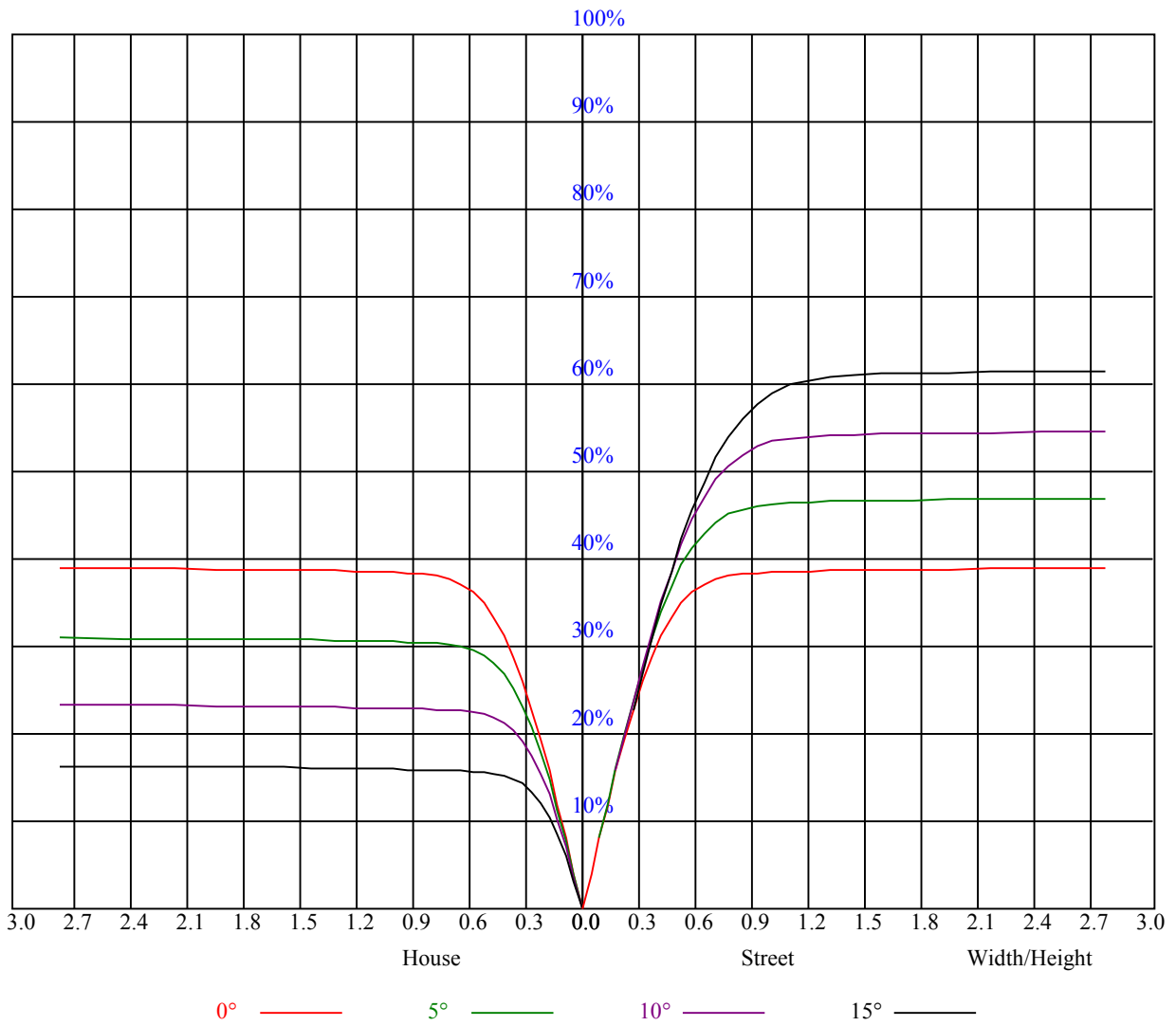
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	0.94	0.94	0.94	0.92	0.92	0.92	0.88	0.88	0.88	0.84	0.84	0.84	0.80	0.80	0.80	0.79
1	0.87	0.85	0.84	0.86	0.84	0.82	0.82	0.81	0.80	0.80	0.78	0.77	0.77	0.76	0.75	0.74
2	0.82	0.79	0.76	0.80	0.78	0.75	0.78	0.75	0.74	0.75	0.74	0.72	0.73	0.72	0.70	0.69
3	0.77	0.73	0.70	0.75	0.72	0.69	0.73	0.71	0.68	0.72	0.69	0.67	0.70	0.68	0.66	0.65
4	0.72	0.68	0.65	0.71	0.67	0.64	0.69	0.66	0.64	0.68	0.65	0.63	0.66	0.64	0.62	0.61
5	0.68	0.64	0.60	0.67	0.63	0.60	0.66	0.62	0.60	0.65	0.61	0.59	0.63	0.61	0.59	0.57
6	0.64	0.60	0.57	0.64	0.59	0.56	0.62	0.59	0.56	0.61	0.58	0.56	0.60	0.57	0.55	0.54
7	0.61	0.56	0.53	0.60	0.56	0.53	0.59	0.55	0.53	0.58	0.55	0.52	0.57	0.54	0.52	0.51
8	0.58	0.53	0.50	0.57	0.53	0.50	0.56	0.53	0.50	0.56	0.52	0.50	0.55	0.52	0.49	0.48
9	0.55	0.50	0.47	0.54	0.50	0.47	0.54	0.50	0.47	0.53	0.49	0.47	0.52	0.49	0.47	0.46
10	0.52	0.48	0.45	0.52	0.48	0.45	0.51	0.47	0.45	0.51	0.47	0.45	0.50	0.47	0.44	0.44



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	1289.47	1294.85	1277.52	1214.78	1097.66	844.31	556.30	301.75	63.16
45.0	1303.81	1297.83	1277.52	1219.56	1071.37	802.48	526.42	304.74	56.11
90.0	1299.03	1282.89	1253.62	1173.31	1022.67	755.46	480.41	171.37	48.52
135.0	1294.25	1281.70	1240.47	1155.62	1019.98	767.23	491.17	234.65	56.23
180.0	1289.47	1267.96	1188.66	1129.15	984.07	716.86	409.13	129.48	38.30
225.0	1303.81	1294.25	1242.86	1170.80	1026.08	762.81	457.23	144.12	43.44
270.0	1299.03	1295.44	1250.63	1168.77	1016.40	788.74	486.99	173.88	53.84
315.0	1294.25	1284.09	1240.47	1146.00	984.37	717.51	436.20	143.83	41.95
360.0	1289.47	1294.85	1277.52	1214.78	1097.66	844.31	556.30	301.75	63.16
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	23.96	12.25	8.13	6.69	5.92	5.32	4.90	4.54	4.30
45.0	24.02	11.89	8.07	6.75	5.98	5.44	5.02	4.72	4.24
90.0	20.32	10.93	7.47	6.33	5.62	5.20	4.84	4.66	4.18
135.0	21.33	11.23	7.89	6.45	5.74	5.26	4.90	4.60	4.18
180.0	17.15	10.16	7.71	6.57	5.74	5.26	4.84	4.54	4.12
225.0	18.88	10.93	8.07	6.81	5.98	5.50	5.08	4.72	4.42
270.0	19.84	10.88	7.59	6.45	5.68	5.20	4.84	4.54	4.24
315.0	17.33	9.80	7.23	6.21	5.56	5.14	4.78	4.48	4.18
360.0	23.96	12.25	8.13	6.69	5.92	5.32	4.90	4.54	4.30
C/γ(°)	90.0								
0.0	3.94								
45.0	3.94								
90.0	3.94								
135.0	3.88								
180.0	3.88								
225.0	4.00								
270.0	3.94								
315.0	3.88								
360.0	3.94								