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Nata

LumCAT: 1-0853-A
Luminaire: TE 2313678-6
Report No: Voltage(V): 34.5400
Test No: GC20190701308 Current(A): 0.2970
LampCAT: CITIZEN CLU028 Power (W): 10.2600
Lamp flux(lm): 1515.8 PF: 0.0000
Number of Lamps: 1 Ballast type: DC
Length(mm): 34 Width(mm): 34
Phm Type: C Height(mm): 0

Photometric Results

Lumens(lm): 1345.67
Efficiency(%): 88.78%
Lumens(lm)/Power(W): 131.16
Central intensity(cd): 2766.516
Maximum intensity(cd): 2766.516
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=36.8
 [C90/270]Total=36.8
Field angle(10%Imax): [C0/180]Total=70.2
 [C90/270]Total=70.2
Maximum s/h(1/2): C0_180=0.60 C90_270=0.60
Maximum s/h(1/4): C0_180=0.62 C90_270=0.62
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 88.78%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.706%

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/7/13
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

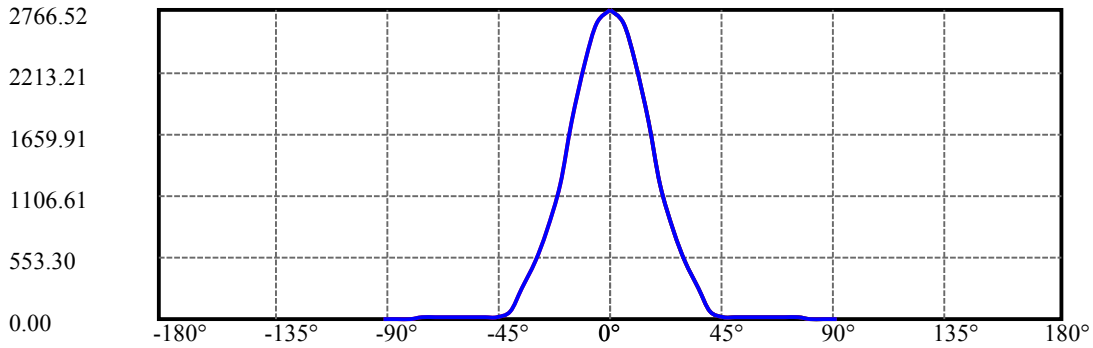
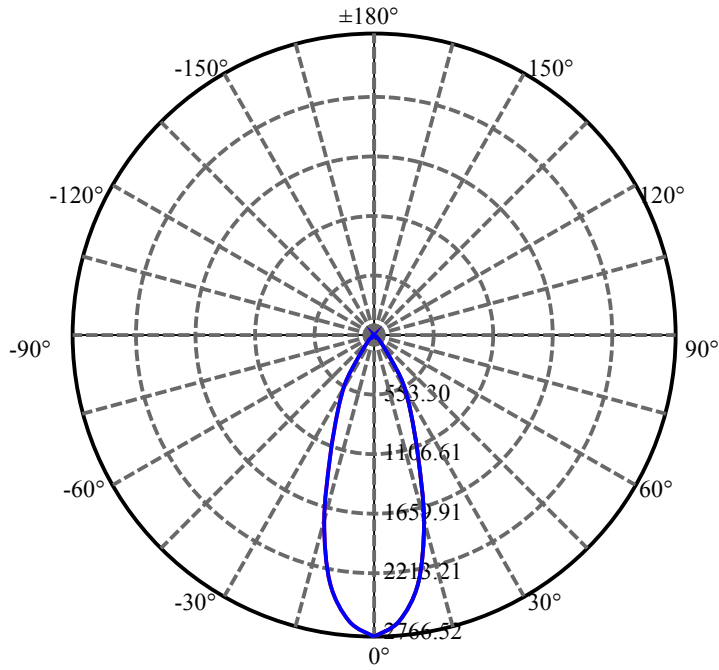
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2766.516	0.000	0	.000%	.000%
5.0	2643.398	64.674	64.674	4.267%	4.806%
10.0	2301.609	176.898	241.572	11.670%	17.952%
15.0	1776.586	241.916	483.488	15.960%	35.929%
20.0	1196.248	245.003	728.492	16.163%	54.136%
25.0	785.960	207.897	936.389	13.715%	69.585%
30.0	515.974	164.761	1101.149	10.869%	81.829%
35.0	280.617	117.304	1218.453	7.739%	90.546%
40.0	74.552	59.257	1277.71	3.909%	94.950%
45.0	23.252	18.109	1295.82	1.195%	96.295%
50.0	15.645	7.860	1303.679	.519%	96.879%
55.0	11.060	5.806	1309.486	.383%	97.311%
60.0	11.946	5.318	1314.804	.351%	97.706%
65.0	13.310	6.140	1320.944	.405%	98.162%
70.0	12.677	6.580	1327.524	.434%	98.651%
75.0	10.498	6.058	1333.581	.400%	99.102%
80.0	7.601	4.843	1338.424	.319%	99.461%
85.0	6.659	3.875	1342.299	.256%	99.749%
90.0	5.660	3.373	1345.672	.223%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1101.15	72.64%	81.83%
0-40	1277.71	84.29%	94.95%
0-60	1314.80	86.74%	97.71%
0-90	1342.30	88.55%	99.75%
0-120	1342.30	88.55%	99.75%
0-180	1345.67	88.78%	100.00%
60-90	32.81	2.16%	2.44%
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%
0-29.25	1076.54	71.02%	80.00%

ZONAL LUMEN SUMMARY

0-10	241.57
10-20	486.92
20-30	372.66
30-40	176.56
40-50	25.97
50-60	11.12
60-70	12.72
70-80	10.90
80-90	3.87
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



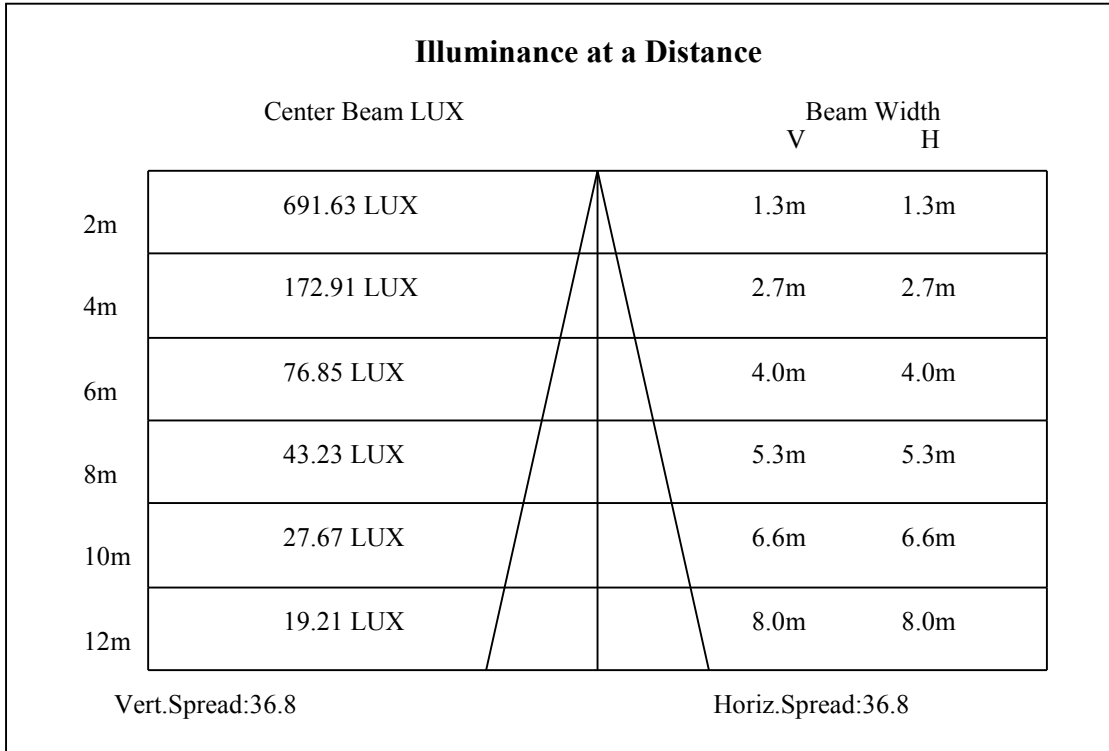
C0(Max): —————

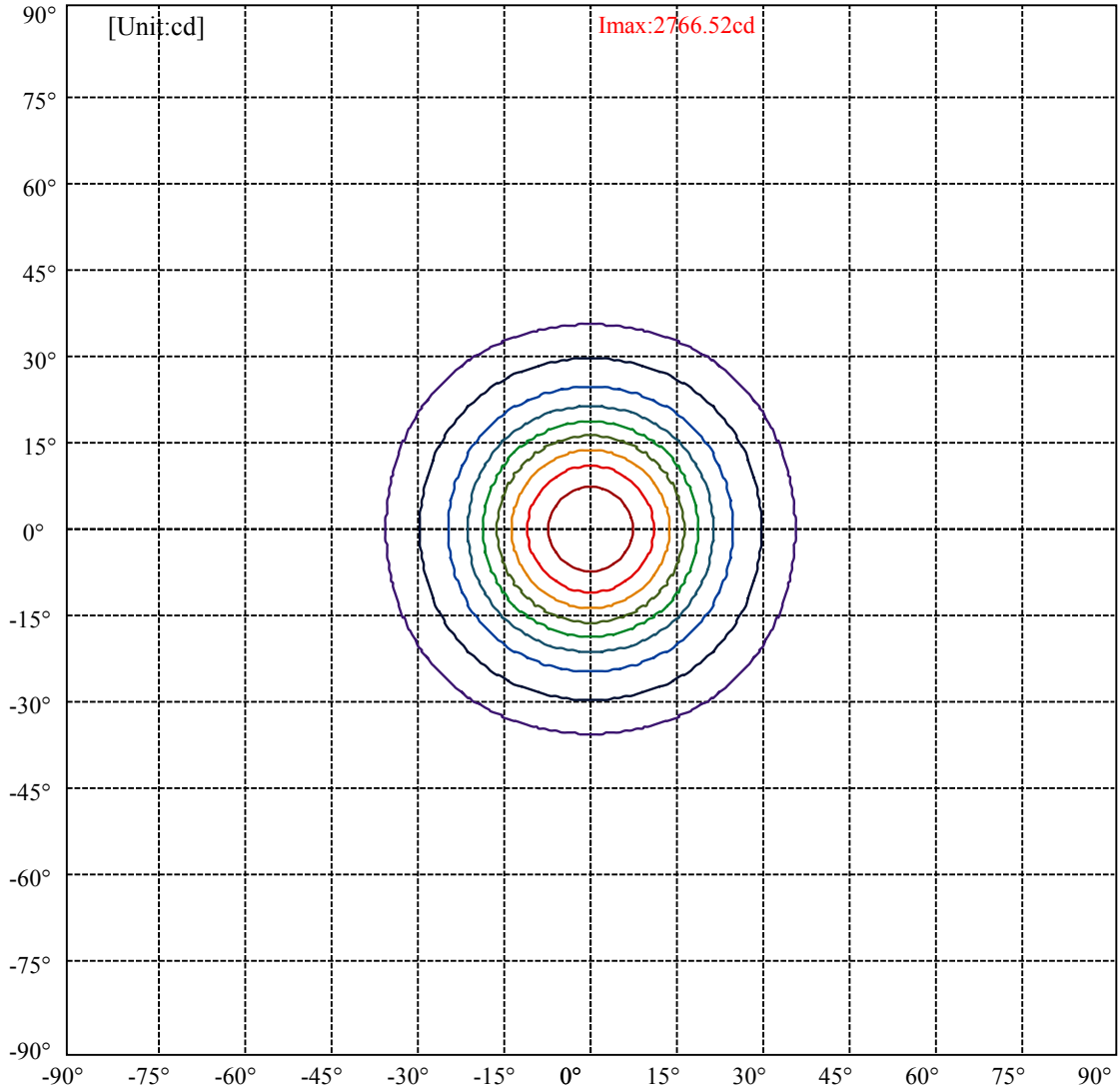
C0/C180: —————

C90/C270: —————

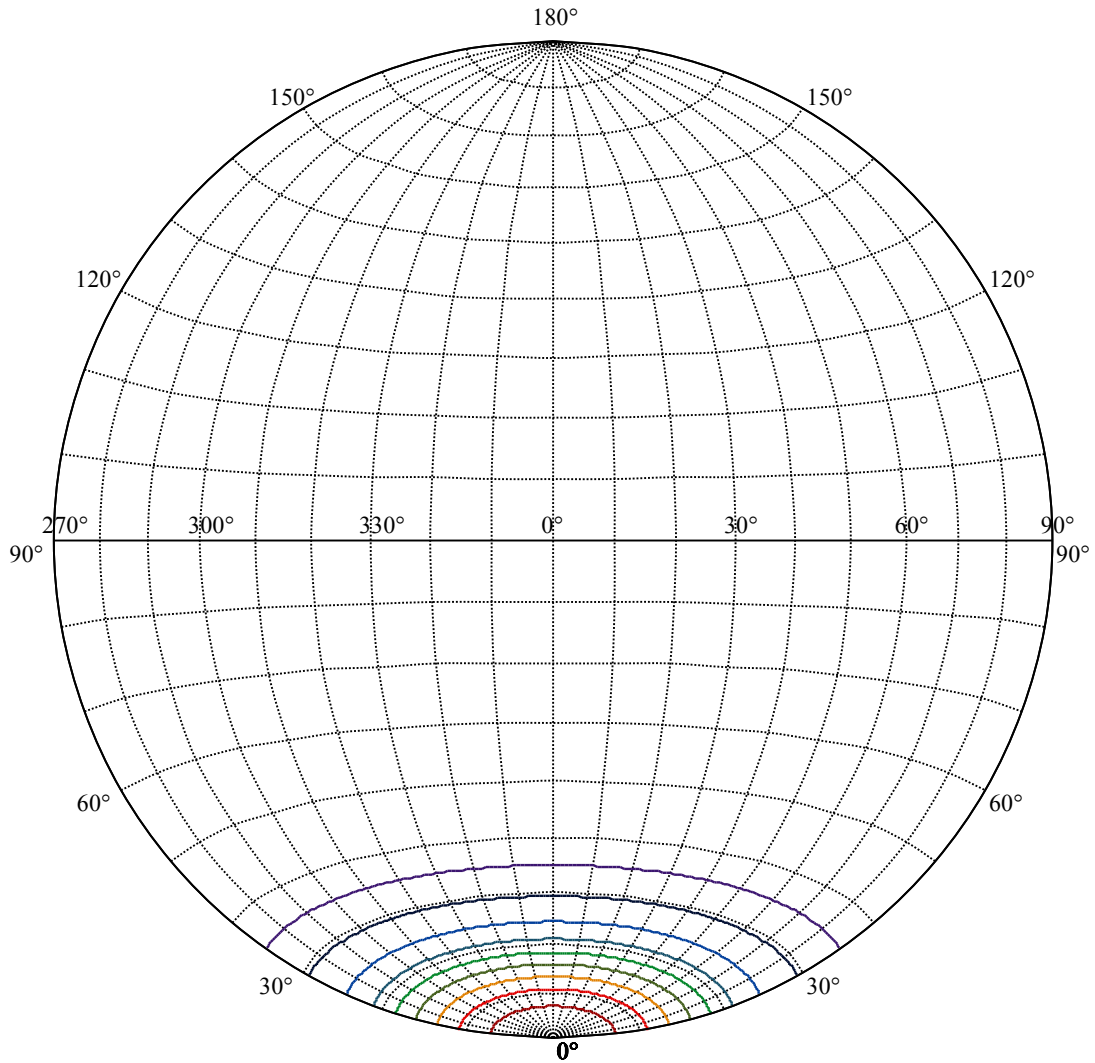
Field angle(10%Imax):C0/180Left:35.1 Right:35.1
:C90/270Left:35.1 Right:35.1

Beam Angle(50%Imax):C0/180Left:18.4 Right:18.4
:C90/270Left:18.4 Right:18.4





(10%I _{max}) 276.652	—
(20%I _{max}) 553.303	—
(30%I _{max}) 829.955	—
(40%I _{max}) 1106.61	—
(50%I _{max}) 1383.26	—
(60%I _{max}) 1659.91	—
(70%I _{max}) 1936.56	—
(80%I _{max}) 2213.21	—
(90%I _{max}) 2489.86	—



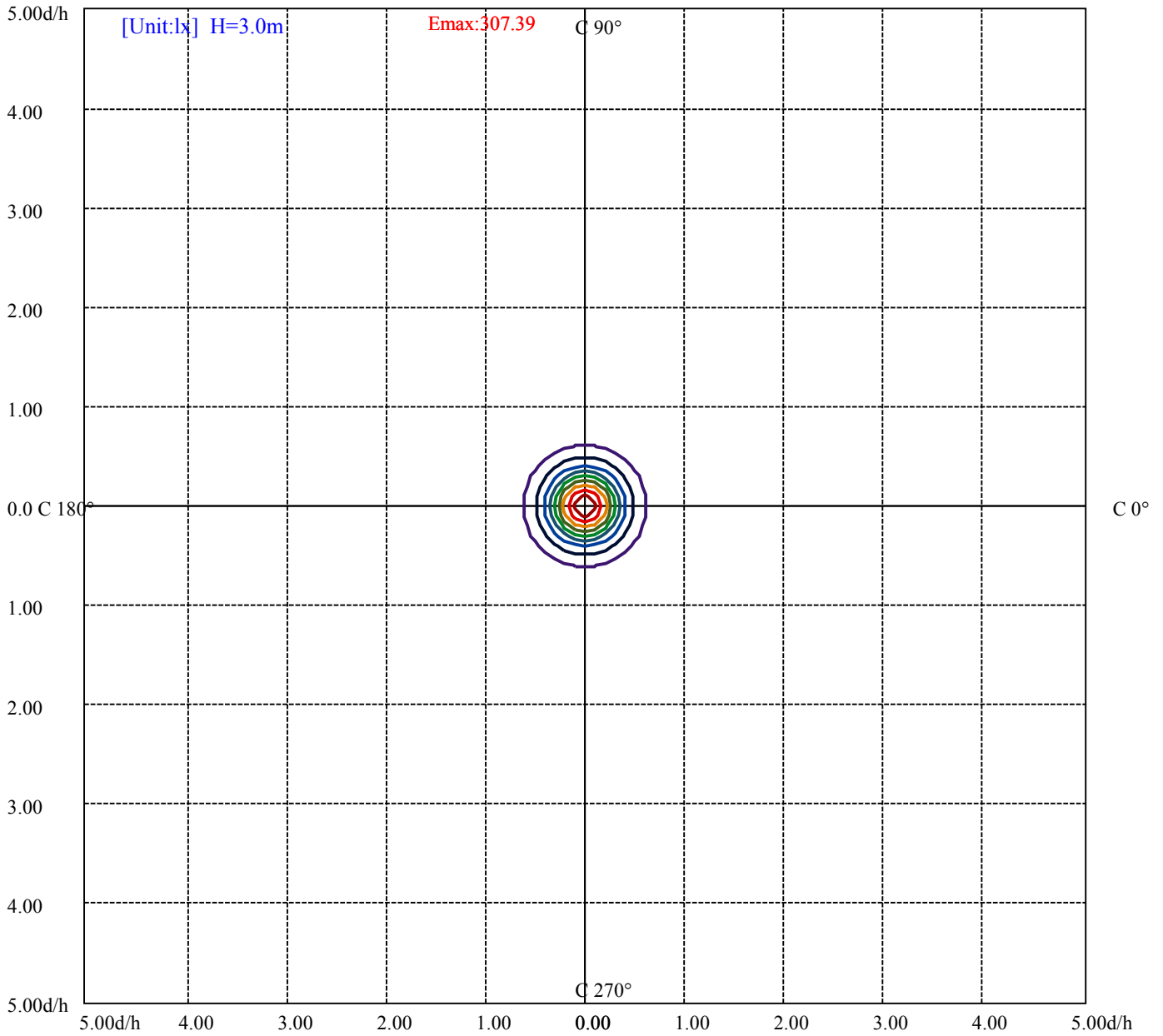
House

[Unit:cd]

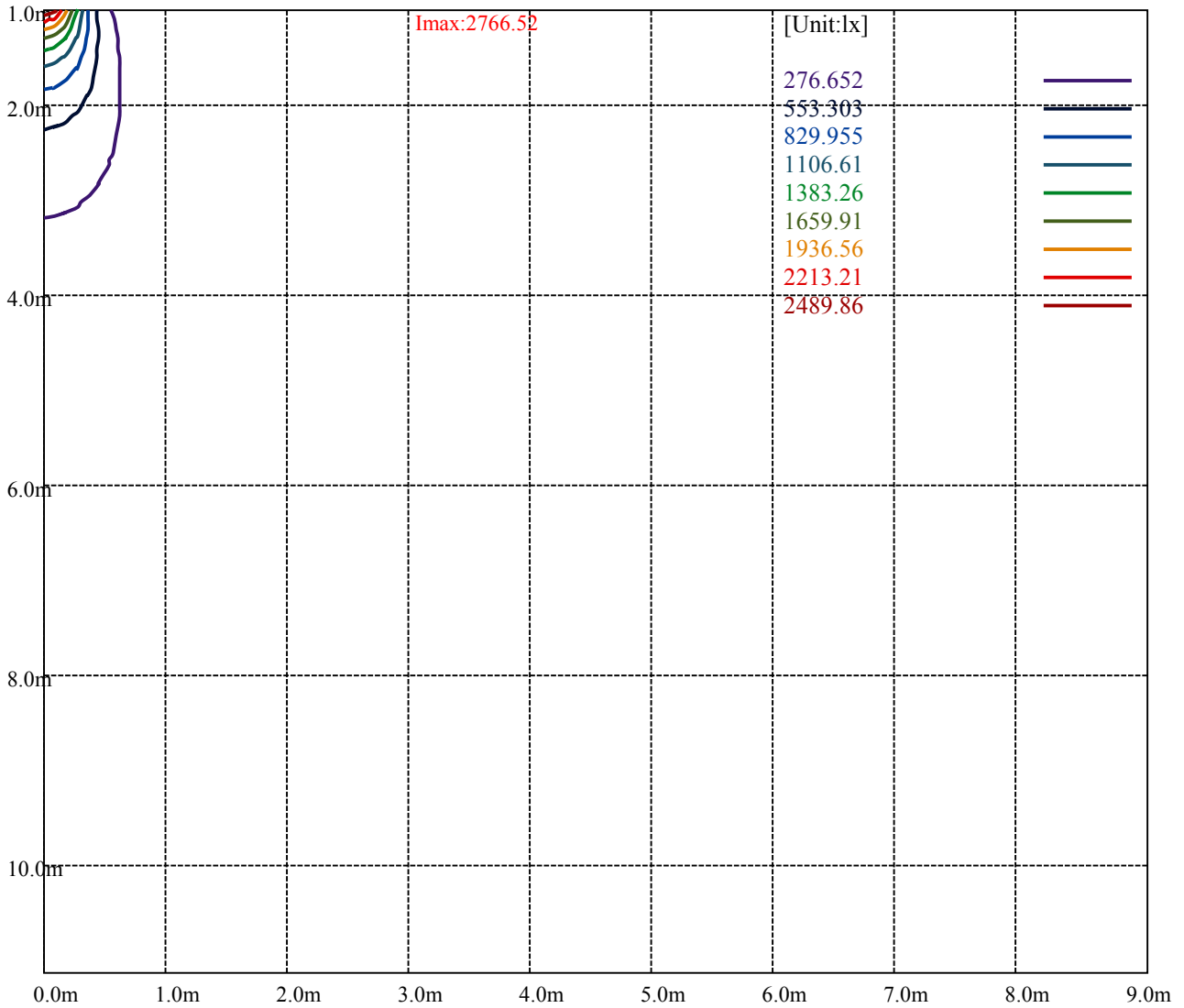
Road

Imax:2766.52

(10%Imax) 276.652	—
(20%Imax) 553.303	—
(30%Imax) 829.955	—
(40%Imax) 1106.61	—
(50%Imax) 1383.26	—
(60%Imax) 1659.91	—
(70%Imax) 1936.56	—
(80%Imax) 2213.21	—
(90%Imax) 2489.86	—



- (10%E_{max}) 30.739
- (20%E_{max}) 61.478
- (30%E_{max}) 92.21711
- (40%E_{max}) 122.9556
- (50%E_{max}) 153.6956
- (60%E_{max}) 184.4344
- (70%E_{max}) 215.1733
- (80%E_{max}) 245.9122
- (90%E_{max}) 276.6511



Luminance Table

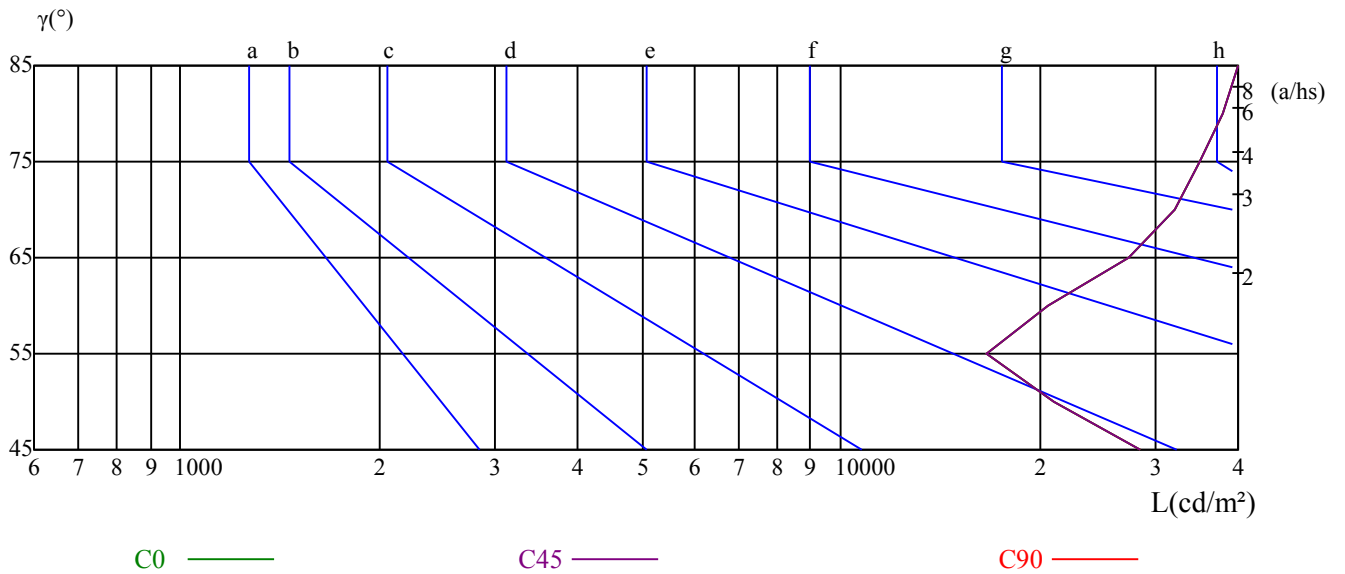
γ	45	50	55	60	65	70	75	80	85
C0	28446	21054	16681	20668	27244	32064	35086	37864	66089
C45	28446	21054	16681	20668	27244	32064	35086	37864	66089
C90	28446	21054	16681	20668	27244	32064	35086	37864	66089

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
27244	27244	27244	35086	35086	35086	66089	66089	66089

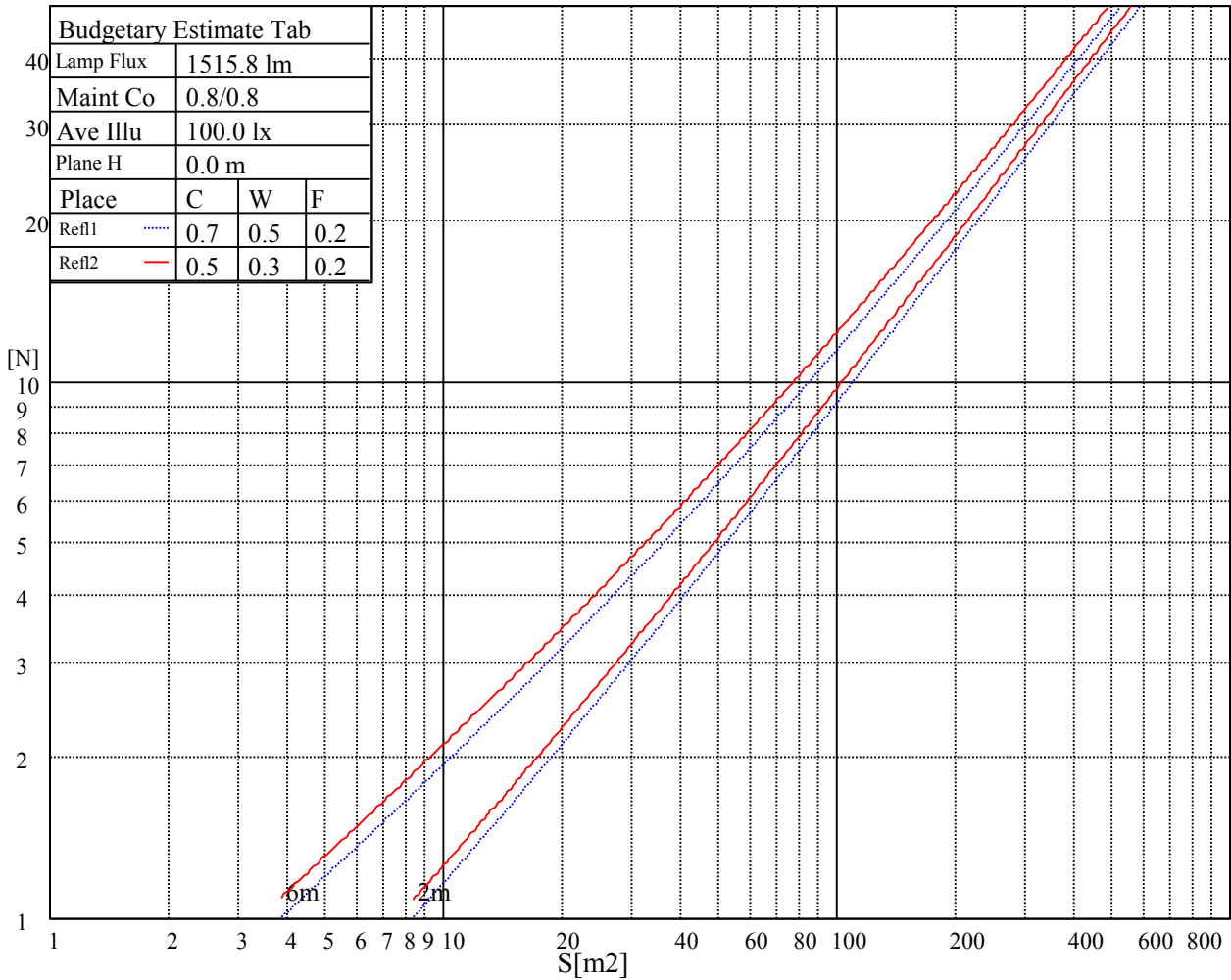
Glare Table

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

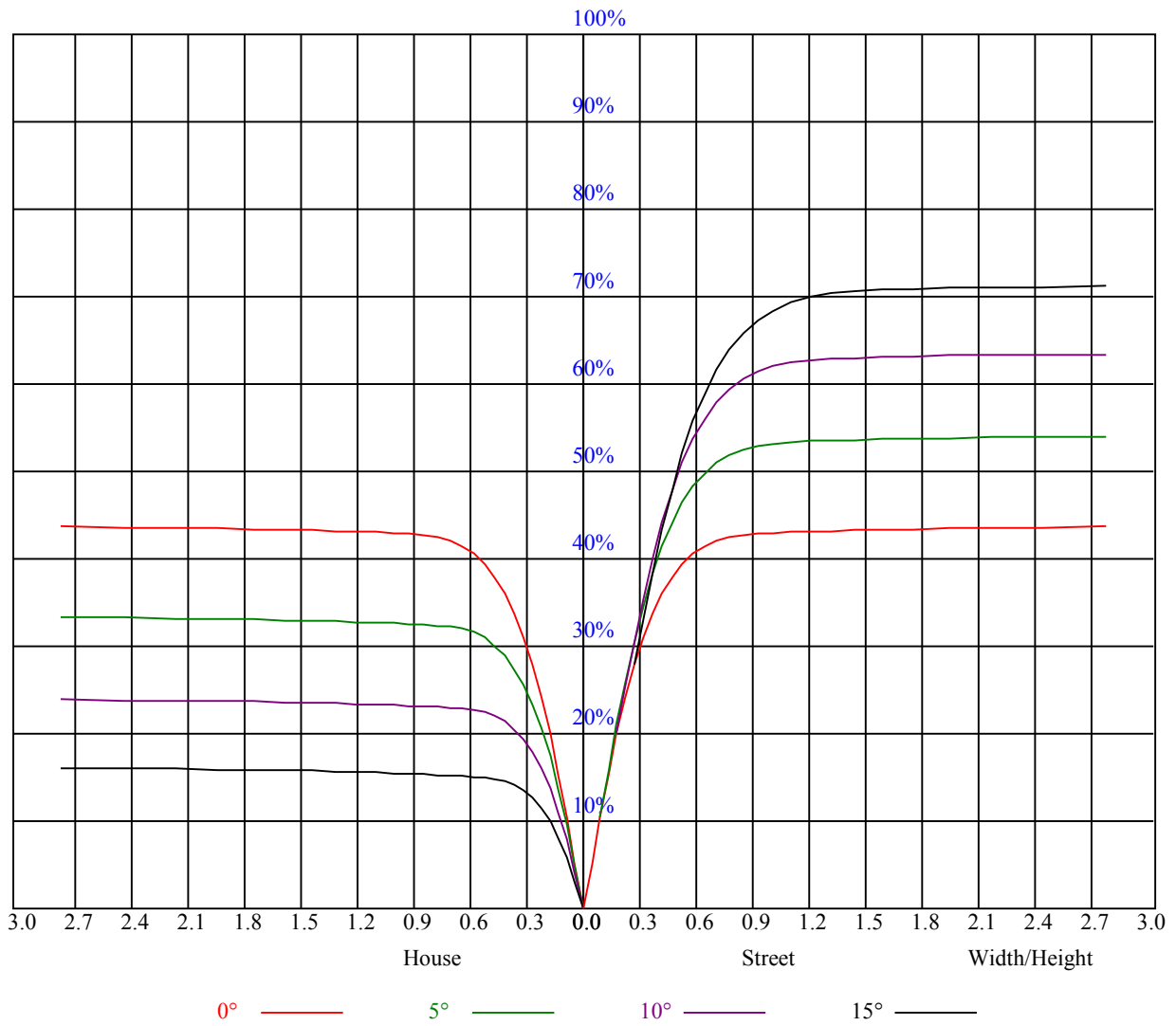
Luminance Limiting Curve



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	12.53	13.48	12.90	13.79	14.10	11.30	12.25	11.67	12.56	12.88
	3H	16.75	17.59	17.13	17.92	18.29	15.04	15.88	15.42	16.21	16.58
	4H	18.21	18.98	18.62	19.34	19.73	16.55	17.32	16.96	17.68	18.07
	6H	19.24	19.95	19.66	20.33	20.73	17.88	18.59	18.30	18.97	19.36
	8H	19.73	20.40	20.17	20.79	21.20	18.58	19.25	19.02	19.64	20.05
	12H	20.65	21.28	21.08	21.67	22.10	19.81	20.45	20.25	20.83	21.26
4H	2H	13.66	14.44	14.07	14.79	15.18	12.91	13.68	13.31	14.03	14.43
	3H	17.80	18.44	18.22	18.85	19.26	16.54	17.18	16.96	17.59	18.00
	4H	19.35	19.92	19.79	20.35	20.80	18.09	18.66	18.53	19.08	19.53
	6H	20.42	20.91	20.89	21.36	21.84	19.38	19.87	19.85	20.32	20.79
	8H	21.01	21.46	21.48	21.91	22.39	20.14	20.60	20.62	21.05	21.52
	12H	21.93	22.32	22.42	22.81	23.28	21.29	21.69	21.79	22.17	22.65
8H	4H	19.78	20.23	20.25	20.68	21.16	18.76	19.22	19.24	19.67	20.15
	6H	21.07	21.43	21.58	21.93	22.42	20.27	20.63	20.78	21.13	21.62
	8H	21.82	22.14	22.36	22.67	23.16	21.19	21.51	21.72	22.03	22.53
	12H	23.08	23.35	23.60	23.85	24.43	22.57	22.85	23.10	23.35	23.93
12H	4H	19.83	20.22	20.32	20.71	21.19	18.87	19.26	19.36	19.75	20.23
	6H	21.45	21.54	21.75	22.01	22.56	20.71	20.80	21.01	21.27	21.82
	8H	22.09	22.37	22.62	22.87	23.45	21.52	21.79	22.04	22.29	22.87
Variation with the observer position at spacings:											
S = 1.0H	4.4/-3.5				4.4/-3.5						
S = 1.5H	6.1/-2.7				6.1/-2.7						
S = 2.0H	7.3/-2.3				7.3/-2.3						
Standard tables:	BK4				BK4						
Uncorrected UGR	6.3				6.3						



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	1.06	1.06	1.06	1.03	1.03	1.03	0.99	0.99	0.99	0.94	0.94	0.94	0.91	0.91	0.91	0.89
1	0.99	0.96	0.95	0.97	0.95	0.93	0.93	0.92	0.90	0.90	0.89	0.87	0.87	0.86	0.85	0.83
2	0.92	0.89	0.86	0.91	0.88	0.85	0.88	0.86	0.83	0.85	0.83	0.82	0.83	0.81	0.80	0.79
3	0.87	0.83	0.80	0.86	0.82	0.79	0.83	0.80	0.78	0.81	0.79	0.77	0.79	0.77	0.75	0.74
4	0.82	0.78	0.74	0.81	0.77	0.74	0.79	0.76	0.73	0.78	0.75	0.72	0.76	0.73	0.71	0.70
5	0.78	0.73	0.70	0.77	0.73	0.69	0.76	0.72	0.69	0.74	0.71	0.68	0.73	0.70	0.68	0.66
6	0.74	0.69	0.66	0.73	0.69	0.66	0.72	0.68	0.65	0.71	0.67	0.65	0.70	0.67	0.64	0.63
7	0.70	0.66	0.62	0.70	0.65	0.62	0.69	0.65	0.62	0.68	0.64	0.61	0.67	0.64	0.61	0.60
8	0.67	0.62	0.59	0.67	0.62	0.59	0.66	0.62	0.59	0.65	0.61	0.59	0.64	0.61	0.58	0.57
9	0.64	0.59	0.56	0.64	0.59	0.56	0.63	0.59	0.56	0.62	0.59	0.56	0.61	0.58	0.56	0.55
10	0.61	0.57	0.54	0.61	0.57	0.54	0.60	0.56	0.54	0.60	0.56	0.53	0.59	0.56	0.53	0.52



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	2775.94	2646.00	2309.06	1806.75	1273.50	819.00	521.44	293.06	58.50
45.0	2777.06	2553.19	2205.00	1683.56	1158.75	746.44	452.81	285.75	44.49
90.0	2745.56	2481.75	2098.69	1571.63	1053.28	680.68	399.88	169.20	39.77
135.0	2767.50	2606.63	2275.88	1766.25	1206.00	775.69	495.56	288.00	73.52
180.0	2775.94	2664.56	2276.44	1759.50	1105.48	787.95	547.93	275.29	75.99
225.0	2777.06	2764.69	2417.63	1883.25	1243.69	851.18	613.29	340.88	114.53
270.0	2745.56	2766.94	2496.38	1965.94	1417.50	861.75	583.31	343.13	134.49
315.0	2767.50	2663.44	2333.81	1775.81	1111.78	765.00	513.56	249.64	55.13
360.0	2775.94	2646.00	2309.06	1806.75	1273.50	819.00	521.44	293.06	58.50
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	22.05	15.53	11.08	11.48	13.50	13.22	10.80	7.88	7.09
45.0	24.36	18.11	14.63	20.25	24.86	23.85	17.55	8.78	6.58
90.0	23.12	16.26	14.57	20.42	24.41	22.39	16.59	8.38	7.03
135.0	24.02	16.03	11.08	10.46	12.99	12.71	11.08	8.33	7.14
180.0	20.59	12.49	9.06	8.21	7.76	7.48	7.20	6.81	6.41
225.0	23.91	16.31	8.83	7.82	7.31	7.03	6.69	6.53	6.13
270.0	27.28	17.89	9.84	8.44	7.71	7.20	6.75	6.86	6.30
315.0	20.70	12.54	9.39	8.49	7.93	7.54	7.31	7.26	6.58
360.0	22.05	15.53	11.08	11.48	13.50	13.22	10.80	7.88	7.09
C/ γ (°)	90.0								
0.0	5.91								
45.0	5.51								
90.0	5.51								
135.0	5.68								
180.0	5.79								
225.0	5.63								
270.0	5.57								
315.0	5.68								
360.0	5.91								