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Nata

LumCAT: 2-1572-A
Luminaire: 92.70.064.00+92.70.147.00
Report No: NT2017092508
Test No: GC2017092508
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): 1242.28
Efficiency(%): 81.84%
Lumens(lm)/Power(W): 116.65
Central intensity(cd): 2658.674
Maximum intensity(cd): 2658.674
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=37.2
 [C90/270]Total=37.2
Field angle(10%Imax): [C0/180]Total=65.2
 [C90/270]Total=65.2
Beam angle of C0 plane : 37.17
Aveage BeamAngle(IEC 61341):37.17
Maximum s/h(1/2): C0_180=0.61 C90_270=0.61
Maximum s/h(1/4): C0_180=0.60 C90_270=0.60
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 82.81%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 96.636%

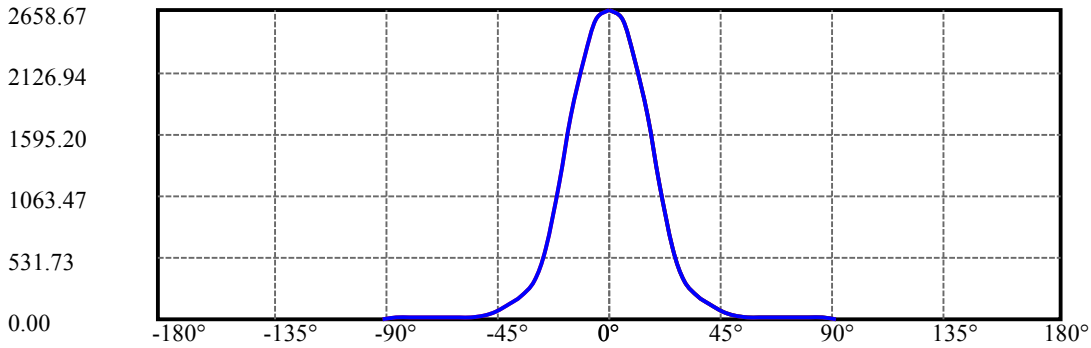
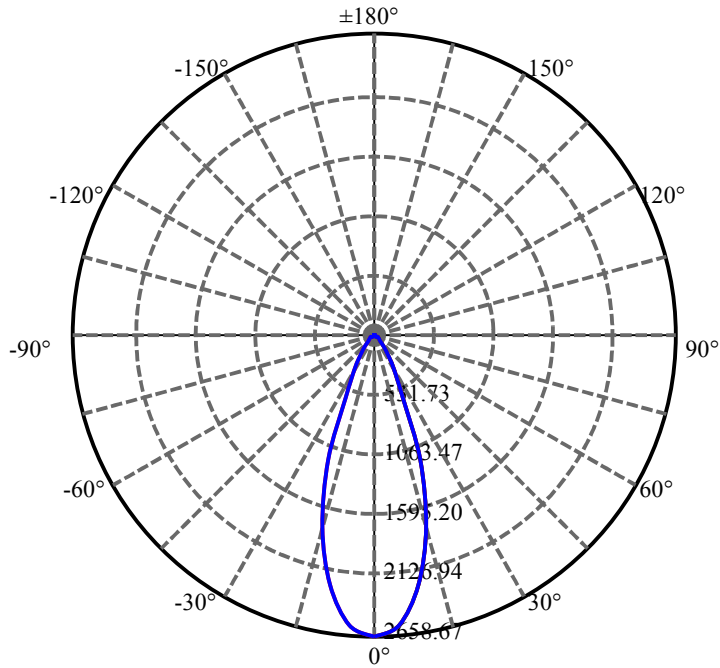
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2658.674	15.899	15.899	1.047%	1.280%
5.0	2572.510	122.897	138.797	8.096%	11.173%
10.0	2242.310	213.430	352.227	14.060%	28.353%
15.0	1745.907	247.689	599.916	16.317%	48.292%
20.0	1164.656	218.343	818.258	14.384%	65.868%
25.0	613.645	142.153	960.411	9.364%	77.310%
30.0	332.782	91.205	1051.616	6.008%	84.652%
35.0	203.433	63.959	1115.575	4.213%	89.801%
40.0	125.921	44.366	1159.942	2.923%	93.372%
45.0	70.059	27.154	1187.096	1.789%	95.558%
50.0	39.207	16.463	1203.559	1.085%	96.883%
55.0	15.381	6.906	1210.465	.455%	97.439%
60.0	8.947	4.247	1214.712	.280%	97.781%
65.0	8.947	4.445	1219.157	.293%	98.139%
70.0	9.277	4.778	1223.935	.315%	98.523%
75.0	10.137	5.367	1229.303	.354%	98.955%
80.0	11.004	5.940	1235.243	.391%	99.434%
85.0	10.254	5.599	1240.842	.369%	99.884%
90.0	5.244	1.437	1242.28	.095%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1051.62	69.28%	84.65%
0-40	1159.94	76.41%	93.37%
0-60	1214.71	80.02%	97.78%
0-90	1240.84	81.74%	99.88%
0-120	1240.84	81.74%	99.88%
0-180	1242.28	81.84%	100.00%
60-90	30.38	2.00%	2.45%
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%
0-26.83	993.82	65.47%	80.00%

ZONAL LUMEN SUMMARY

0-10	352.23
10-20	466.03
20-30	233.36
30-40	108.33
40-50	43.62
50-60	11.15
60-70	9.22
70-80	11.31
80-90	5.60
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



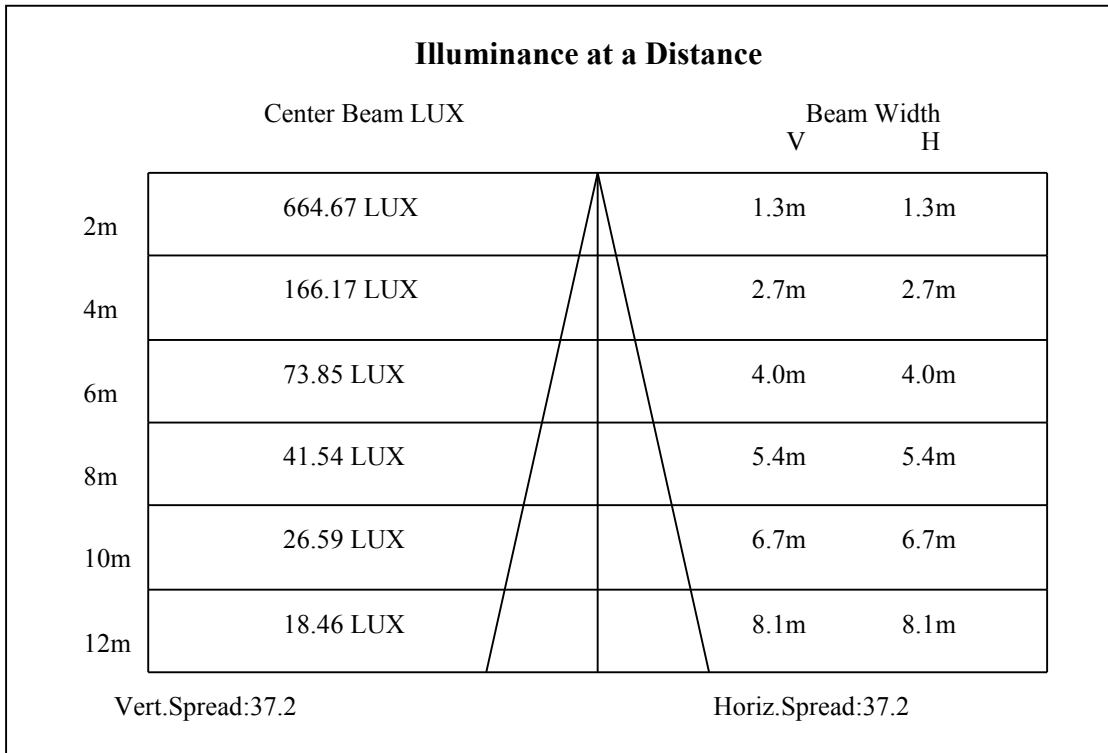
C0(Max): —————

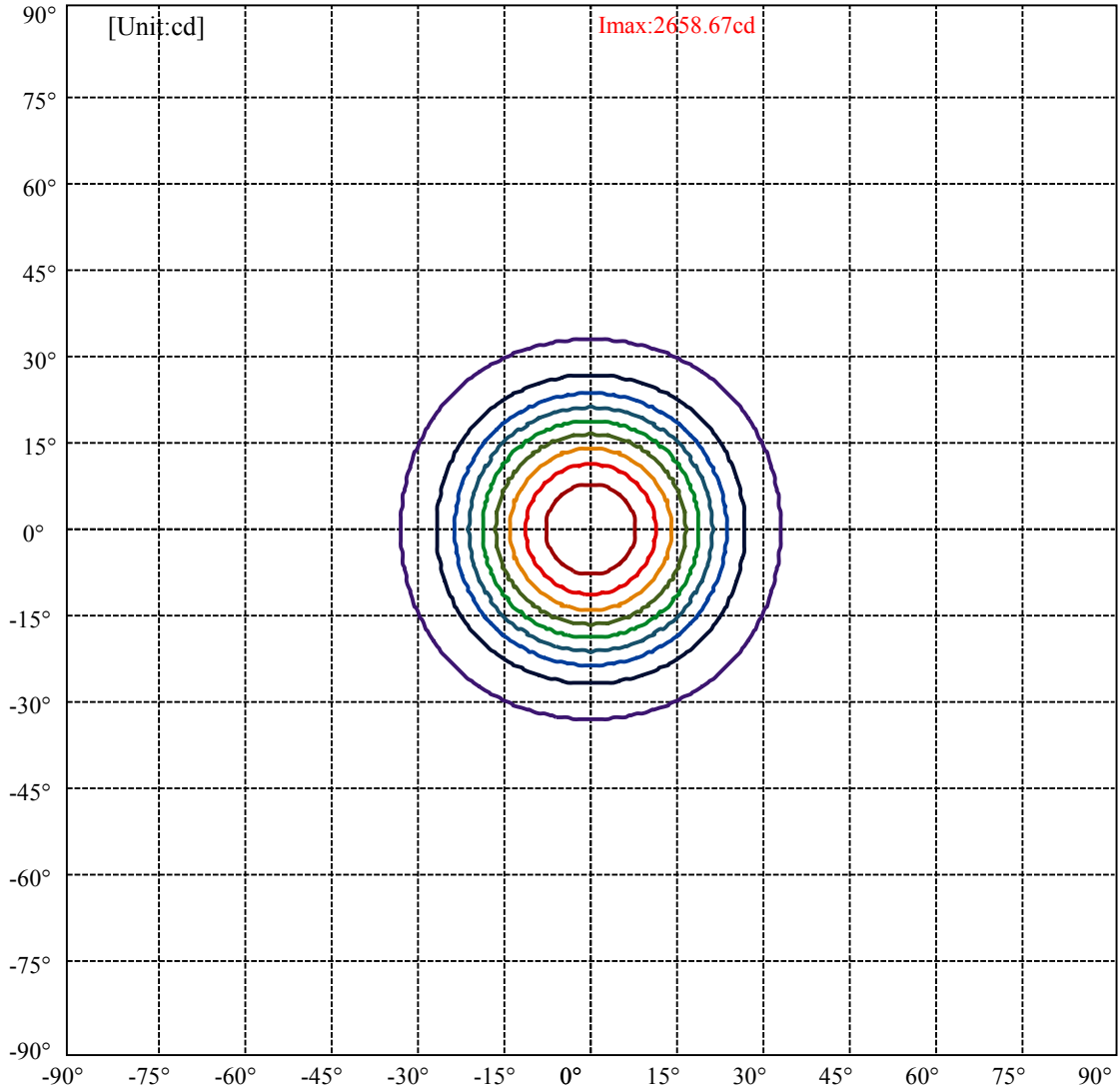
C0/C180: —————

C90/C270: —————

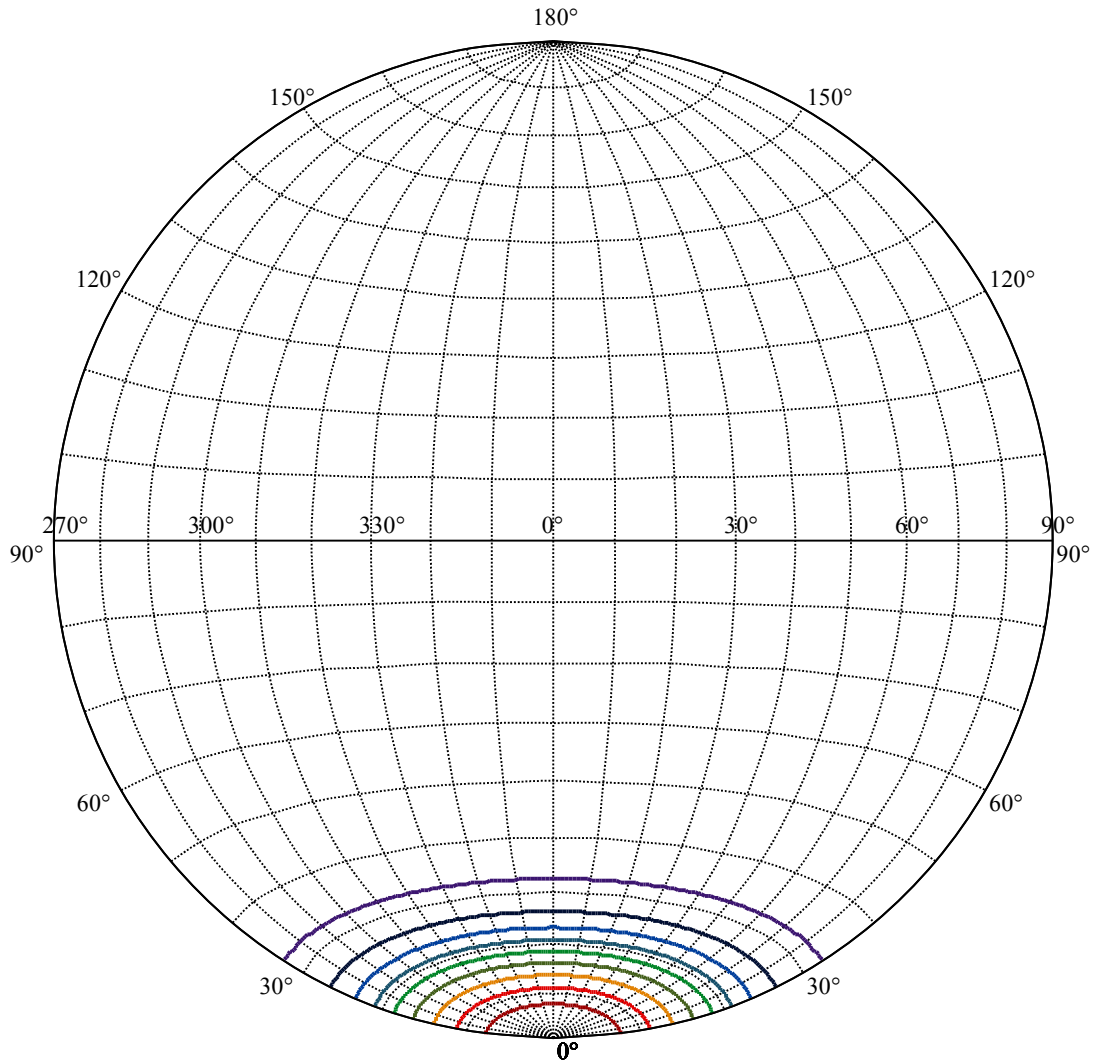
Field angle(10%Imax):C0/180Left:32.6 Right:32.6
:C90/270Left:32.6 Right:32.6

Beam Angle(50%Imax):C0/180Left:18.6 Right:18.6
:C90/270Left:18.6 Right:18.6





(10%Imax) 265.867	—
(20%Imax) 531.735	—
(30%Imax) 797.602	—
(40%Imax) 1063.47	—
(50%Imax) 1329.34	—
(60%Imax) 1595.2	—
(70%Imax) 1861.07	—
(80%Imax) 2126.94	—
(90%Imax) 2392.81	—



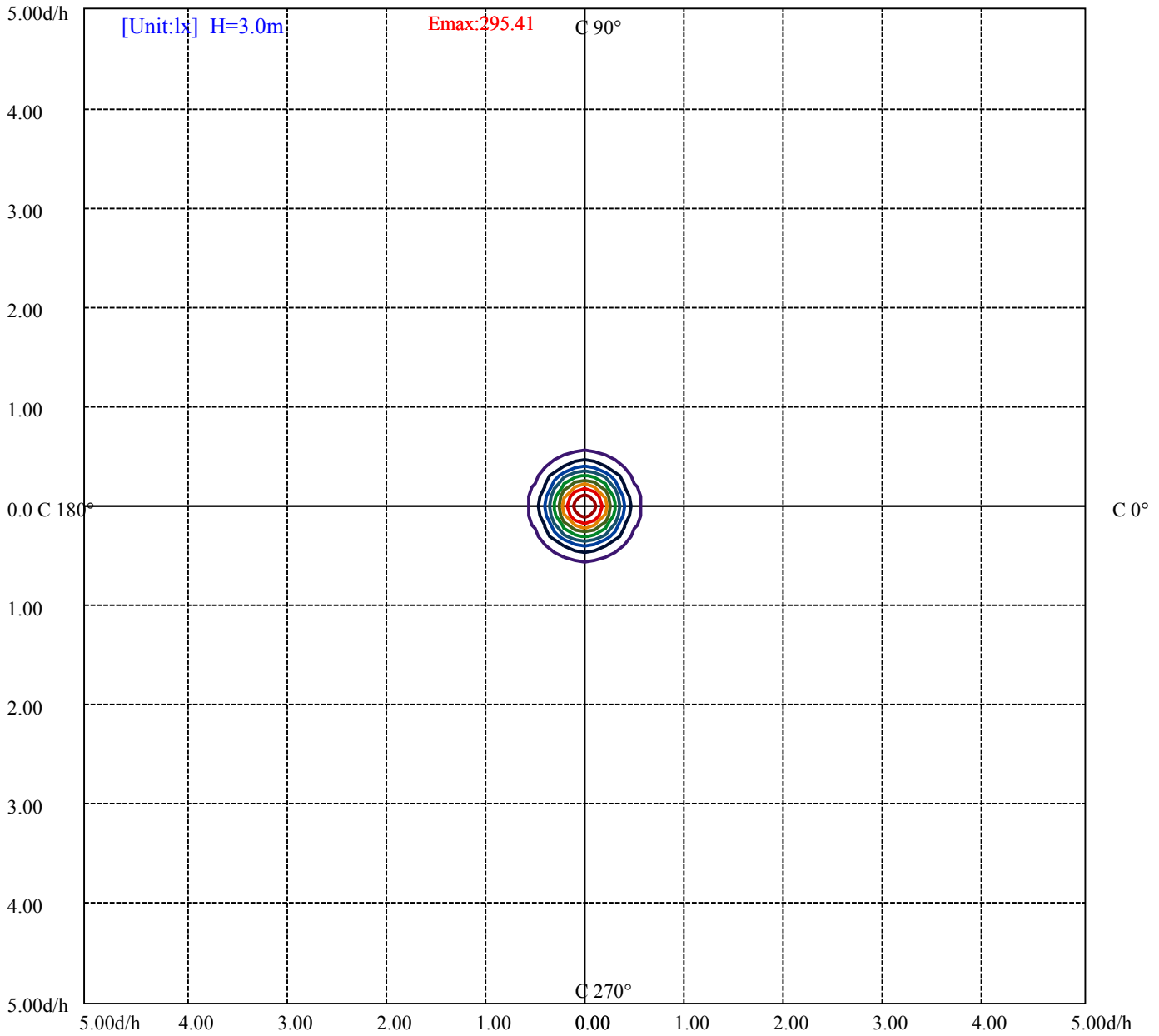
House

[Unit:cd]

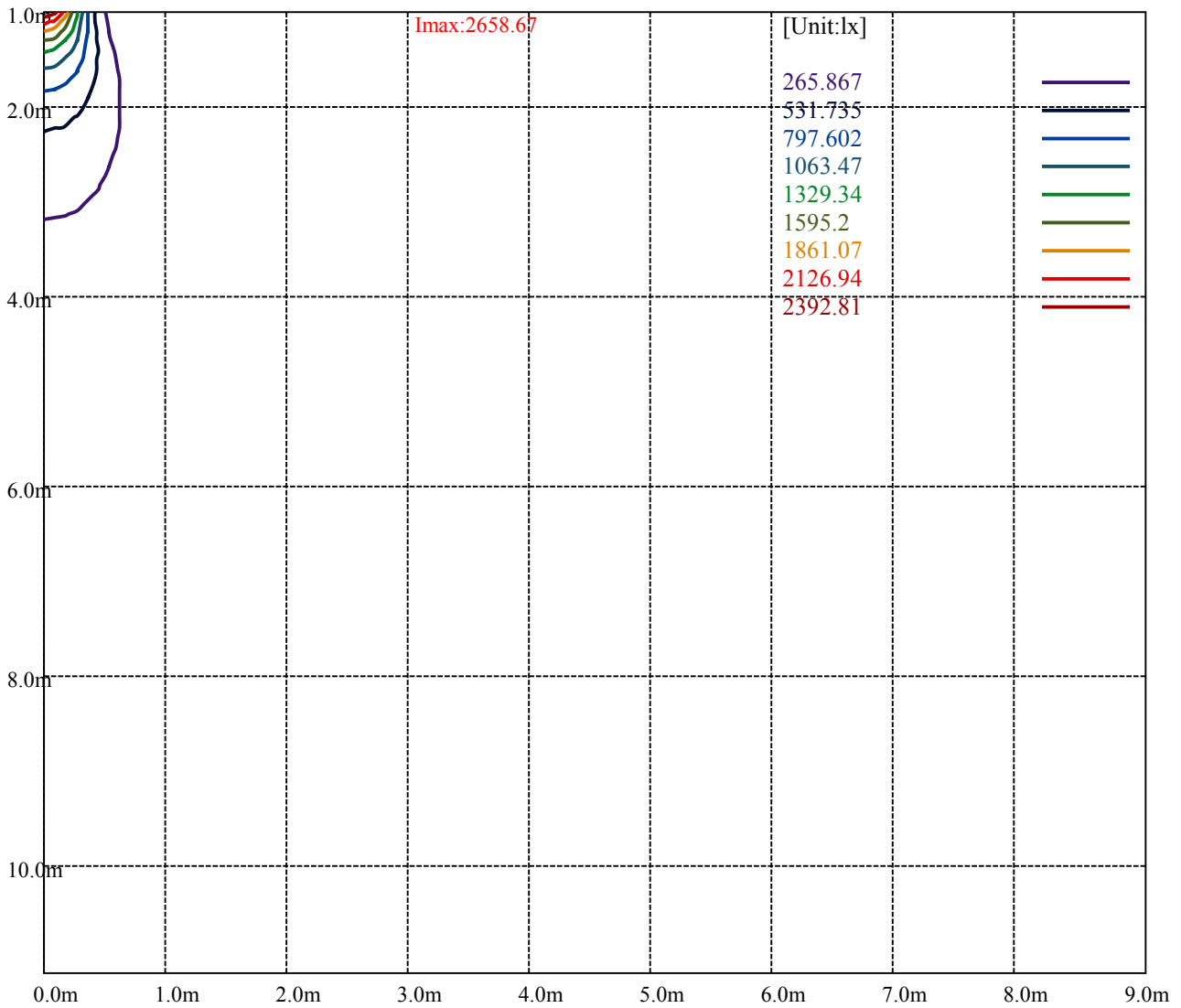
Road

Imax:2658.67

(10%Imax)	265.867	—
(20%Imax)	531.735	—
(30%Imax)	797.602	—
(40%Imax)	1063.47	—
(50%Imax)	1329.34	—
(60%Imax)	1595.2	—
(70%Imax)	1861.07	—
(80%Imax)	2126.94	—
(90%Imax)	2392.81	—



- (10%Emax) 29.54078
- (20%Emax) 59.08156
- (30%Emax) 88.62234
- (40%Emax) 118.1633
- (50%Emax) 147.7044
- (60%Emax) 177.2444
- (70%Emax) 206.7856
- (80%Emax) 236.3267
- (90%Emax) 265.8667



Luminance Table

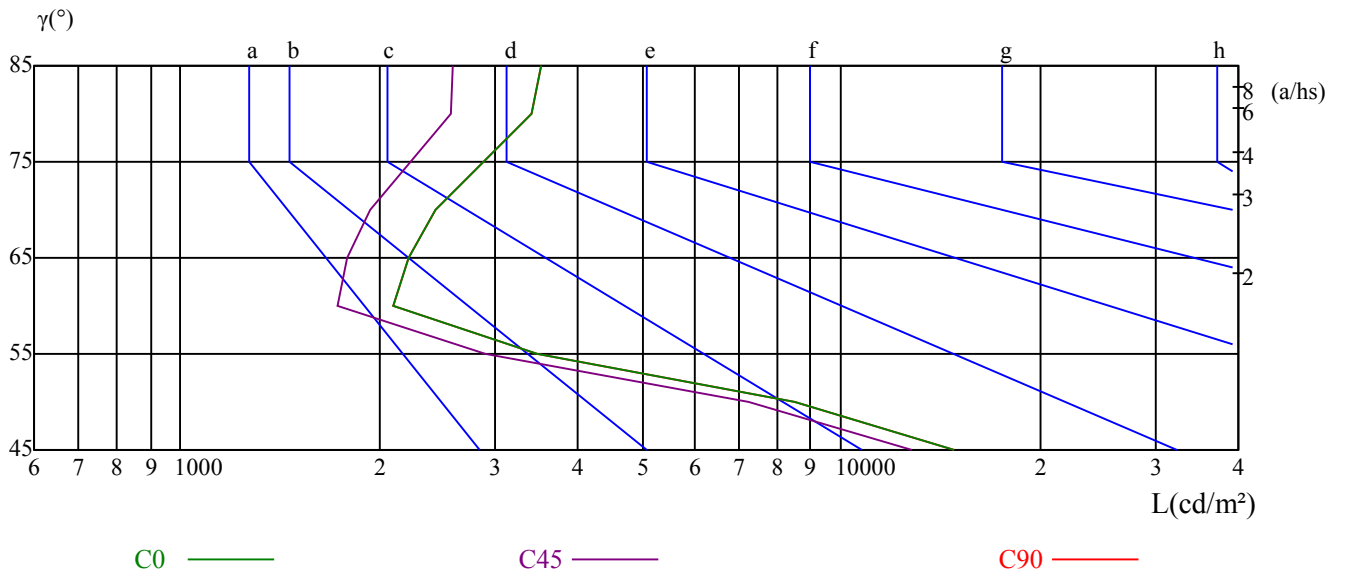
γ	45	50	55	60	65	70	75	80	85
C0	14886	8535	3459	2098	2208	2437	2869	3404	3527
C45	12840	7252	2894	1726	1785	1932	2224	2573	2587
C90	14886	8535	3459	2098	2208	2437	2869	3404	3527

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
5168	5168	5168	9562	9562	9562	28724	28724	28724

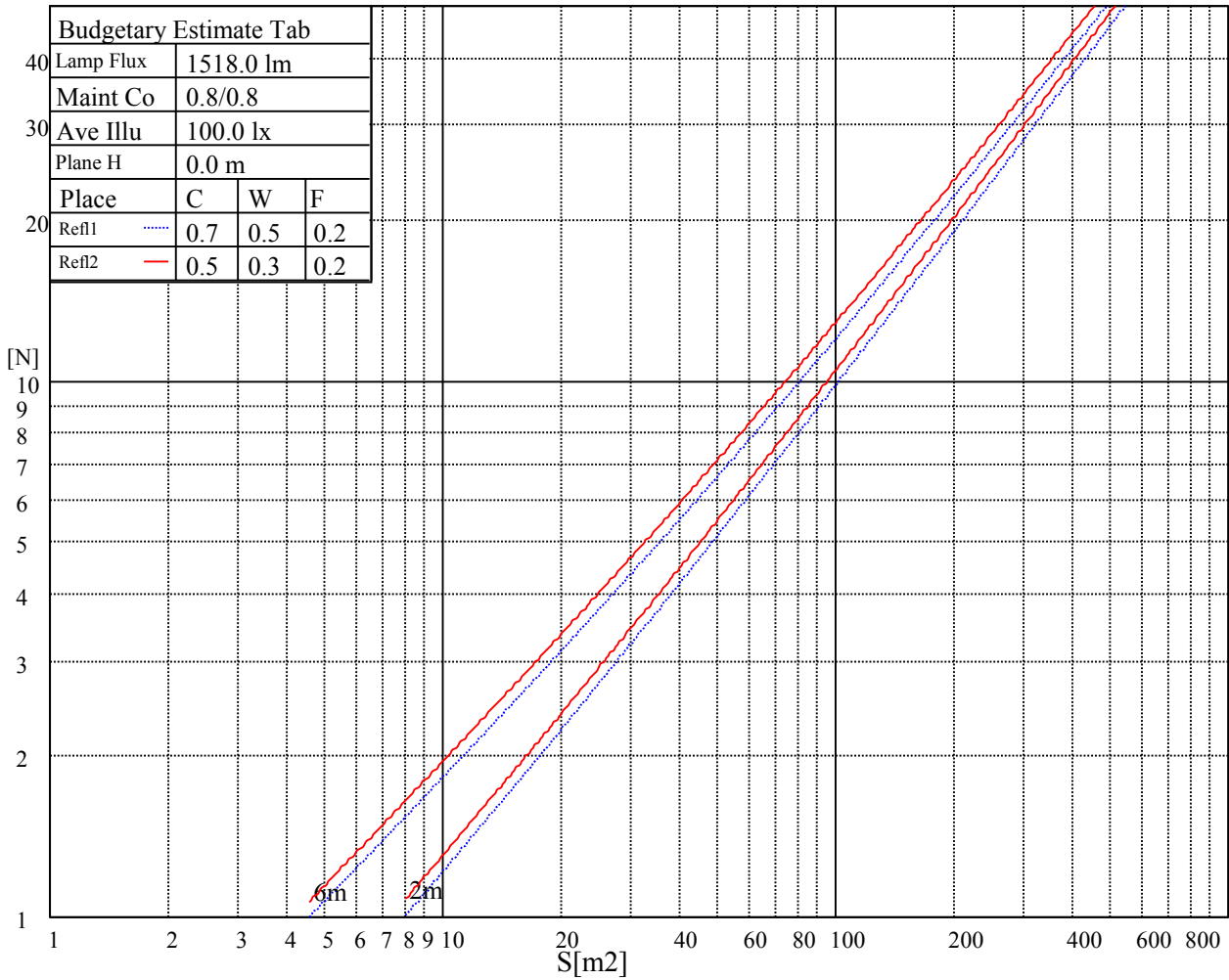
Glare Table

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

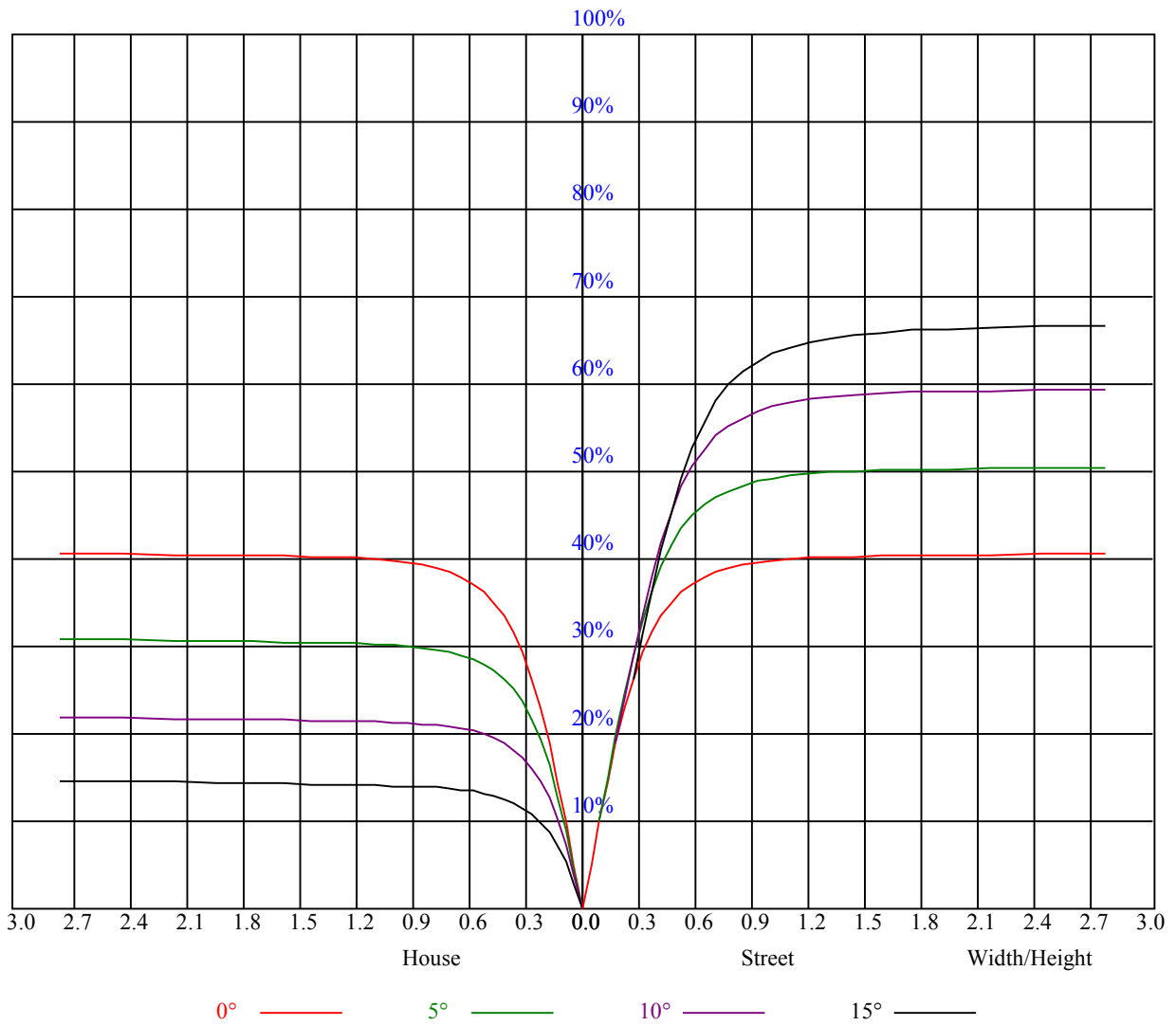
Luminance Limiting Curve



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	6.25	7.24	6.61	7.56	7.87	6.24	7.24	6.61	7.55	7.86
	3H	7.85	8.73	8.23	9.06	9.43	7.90	8.78	8.28	9.11	9.48
	4H	9.04	9.86	9.45	10.21	10.60	9.13	9.94	9.53	10.30	10.69
	6H	10.42	11.17	10.84	11.55	11.94	10.67	11.41	11.08	11.79	12.19
	8H	11.13	11.83	11.57	12.23	12.64	11.41	12.11	11.84	12.50	12.91
	12H	12.22	12.89	12.66	13.28	13.71	12.45	13.12	12.89	13.51	13.94
4H	2H	6.49	7.31	6.90	7.66	8.05	6.48	7.30	6.89	7.65	8.04
	3H	8.52	9.19	8.93	9.59	10.00	8.56	9.23	8.98	9.64	10.04
	4H	9.97	10.57	10.41	10.99	11.44	10.05	10.65	10.49	11.07	11.52
	6H	11.30	11.81	11.77	12.26	12.74	11.50	12.02	11.97	12.47	12.94
	8H	12.18	12.66	12.66	13.11	13.59	12.43	12.91	12.90	13.36	13.83
	12H	13.31	13.73	13.80	14.21	14.69	13.51	13.93	14.00	14.42	14.89
8H	4H	10.51	10.99	10.98	11.44	11.91	10.58	11.06	11.05	11.51	11.98
	6H	12.16	12.55	12.67	13.05	13.54	12.35	12.74	12.86	13.24	13.72
	8H	13.19	13.53	13.72	14.05	14.55	13.40	13.74	13.93	14.27	14.76
	12H	14.38	14.68	14.91	15.18	15.76	14.56	14.86	15.08	15.35	15.93
12H	4H	10.65	11.06	11.14	11.55	12.03	10.70	11.12	11.19	11.61	12.08
	6H	12.70	12.75	12.94	13.22	13.77	12.86	12.91	13.10	13.38	13.93
	8H	13.51	13.81	14.03	14.31	14.89	13.70	14.00	14.23	14.50	15.08
Variation with the observer position at spacings:											
S = 1.0H	3.0/-4.1					3.0/-4.1					
S = 1.5H	4.6/-3.3					4.6/-3.3					
S = 2.0H	5.7/-2.6					5.7/-2.6					
Standard tables:	BK3					BK3					
Uncorrected UGR	-1.8					-1.8					



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	0.96	0.96	0.96	0.92	0.92	0.92	0.88	0.88	0.88	0.84	0.84	0.84	0.83
1	0.91	0.89	0.87	0.89	0.87	0.85	0.86	0.84	0.83	0.83	0.81	0.80	0.80	0.79	0.78	0.76
2	0.86	0.82	0.80	0.84	0.81	0.79	0.82	0.79	0.77	0.79	0.77	0.75	0.77	0.75	0.74	0.73
3	0.81	0.77	0.74	0.80	0.77	0.74	0.78	0.75	0.73	0.76	0.73	0.71	0.74	0.72	0.70	0.69
4	0.77	0.73	0.70	0.76	0.72	0.70	0.74	0.71	0.69	0.73	0.70	0.68	0.71	0.69	0.67	0.66
5	0.74	0.69	0.66	0.73	0.69	0.66	0.71	0.68	0.65	0.70	0.67	0.65	0.69	0.66	0.64	0.63
6	0.70	0.66	0.63	0.70	0.66	0.63	0.69	0.65	0.62	0.67	0.64	0.62	0.66	0.64	0.62	0.61
7	0.67	0.63	0.60	0.67	0.63	0.60	0.66	0.62	0.60	0.65	0.62	0.60	0.64	0.61	0.59	0.58
8	0.65	0.61	0.58	0.64	0.60	0.58	0.64	0.60	0.57	0.63	0.60	0.57	0.62	0.59	0.57	0.56
9	0.62	0.58	0.56	0.62	0.58	0.56	0.61	0.58	0.55	0.61	0.57	0.55	0.60	0.57	0.55	0.54
10	0.60	0.56	0.54	0.60	0.56	0.54	0.59	0.56	0.53	0.59	0.56	0.53	0.58	0.55	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	2648.21	2592.61	2294.20	1818.51	1255.29	653.52	349.61	208.22	130.59
45.0	2666.38	2614.63	2364.67	1866.41	1271.25	687.10	356.21	211.20	135.99
90.0	2664.18	2566.18	2245.75	1720.51	1072.99	624.72	334.52	215.11	131.03
135.0	2655.92	2572.79	2263.92	1811.36	1239.87	675.54	369.98	222.04	136.65
180.0	2648.21	2529.29	2164.82	1651.14	1076.02	560.36	312.22	190.55	115.23
225.0	2666.38	2563.43	2174.18	1689.68	1094.91	538.51	308.87	187.47	112.59
270.0	2664.18	2591.50	2267.22	1785.48	1214.54	625.44	334.19	208.66	128.72
315.0	2655.92	2549.66	2163.72	1624.16	1092.37	543.96	296.64	184.22	116.55
360.0	2648.21	2592.61	2294.20	1818.51	1255.29	653.52	349.61	208.22	130.59
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	76.25	42.89	18.61	8.81	8.75	8.97	9.52	10.85	10.46
45.0	73.11	40.41	17.73	9.36	9.36	9.63	10.52	11.07	10.63
90.0	71.19	40.08	14.42	8.53	8.64	9.30	10.02	9.91	10.35
135.0	76.31	41.51	17.95	9.08	8.97	9.19	10.57	12.44	10.74
180.0	62.87	35.35	12.00	8.97	9.08	9.47	10.52	11.34	9.97
225.0	62.98	34.96	12.83	9.30	9.25	9.47	10.41	11.78	10.41
270.0	72.78	42.28	16.96	8.70	8.59	8.75	9.36	10.02	10.30
315.0	64.97	36.17	12.55	8.81	8.92	9.41	10.19	10.63	9.19
360.0	76.25	42.89	18.61	8.81	8.75	8.97	9.52	10.85	10.46
C/ γ (°)	90.0								
0.0	5.23								
45.0	5.29								
90.0	5.23								
135.0	5.23								
180.0	5.23								
225.0	5.29								
270.0	5.23								
315.0	5.23								
360.0	5.23								