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Nata

LumCAT: 2-1571-A
Luminaire: 92.70.064.00+92.70.147.00
Report No: NT2017092611
Test No: GC2017092611
LampCAT: SEOUL SAWx10
Lamp flux(lm): 1461.0
Number of Lamps: 1
Length(mm): 65
Phm Type: C

Voltage(V): 34.5000
Current(A): 0.3000
Power (W): 10.3500
PF: 0.0000
Ballast type: DC
Width(mm): 65
Height(mm): 0

Photometric Results

Lumens(lm): 1217.75
Efficiency(%): 83.35%
Lumens(lm)/Power(W): 117.66
Central intensity(cd): 4317.248
Maximum intensity(cd): 4317.248
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=25.0
 [C90/270]Total=25.0
Field angle(10%Imax): [C0/180]Total=52.3
 [C90/270]Total=52.3
Beam angle of C0 plane : 25.01
Aveage BeamAngle(IEC 61341):25.01
Maximum s/h(1/2): C0_180=0.42 C90_270=0.42
Maximum s/h(1/4): C0_180=0.45 C90_270=0.45
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 85.04%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 95.982%

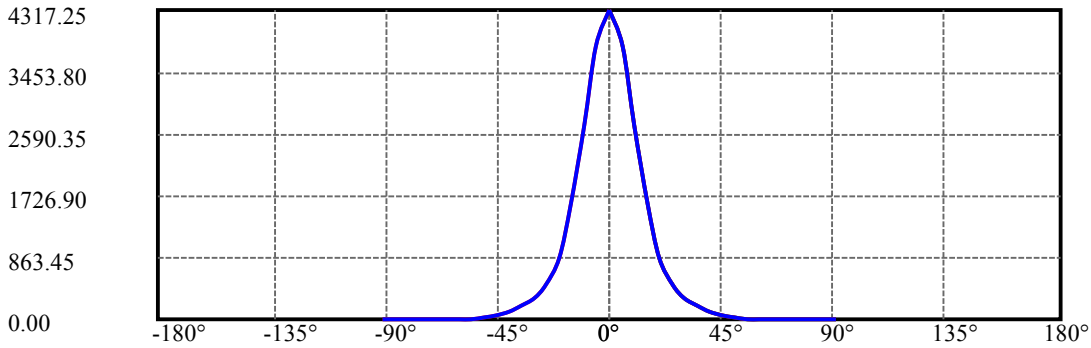
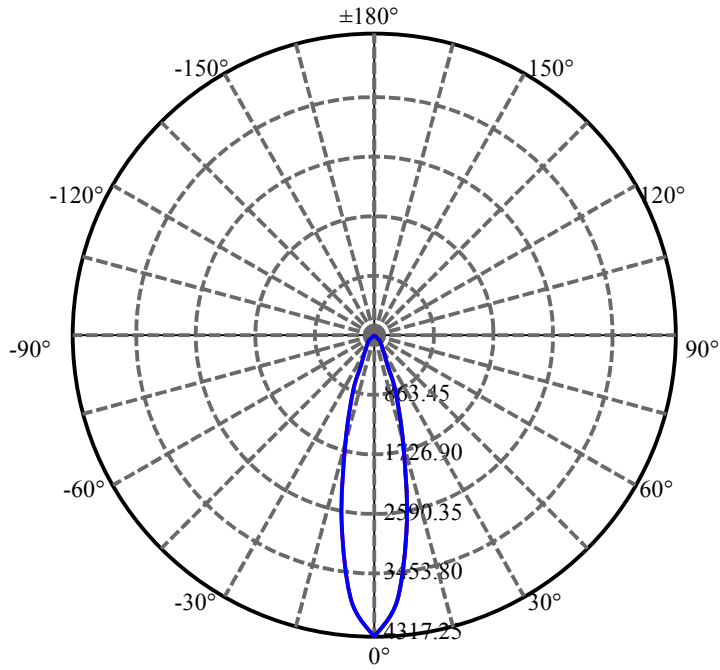
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4317.248	25.818	25.818	1.767%	2.120%
5.0	3803.503	181.706	207.524	12.437%	17.042%
10.0	2713.386	258.268	465.792	17.678%	38.250%
15.0	1605.720	227.801	693.593	15.592%	56.957%
20.0	860.793	161.376	854.97	11.046%	70.209%
25.0	472.212	109.389	964.359	7.487%	79.192%
30.0	299.197	82.001	1046.359	5.613%	85.926%
35.0	187.481	58.944	1105.303	4.034%	90.766%
40.0	113.981	40.159	1145.463	2.749%	94.064%
45.0	61.119	23.689	1169.152	1.621%	96.009%
50.0	31.616	13.276	1182.427	.909%	97.099%
55.0	13.379	6.007	1188.435	.411%	97.593%
60.0	8.541	4.054	1192.489	.277%	97.926%
65.0	8.403	4.174	1196.663	.286%	98.268%
70.0	8.431	4.342	1201.006	.297%	98.625%
75.0	8.837	4.679	1205.684	.320%	99.009%
80.0	10.075	5.439	1211.123	.372%	99.456%
85.0	9.642	5.265	1216.388	.360%	99.888%
90.0	4.969	1.362	1217.75	.093%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1046.36	71.62%	85.93%
0-40	1145.46	78.40%	94.06%
0-60	1192.49	81.62%	97.93%
0-90	1216.39	83.26%	99.89%
0-120	1216.39	83.26%	99.89%
0-180	1217.75	83.35%	100.00%
60-90	27.95	1.91%	2.30%
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%
0-25.60	974.20	66.68%	80.00%

ZONAL LUMEN SUMMARY

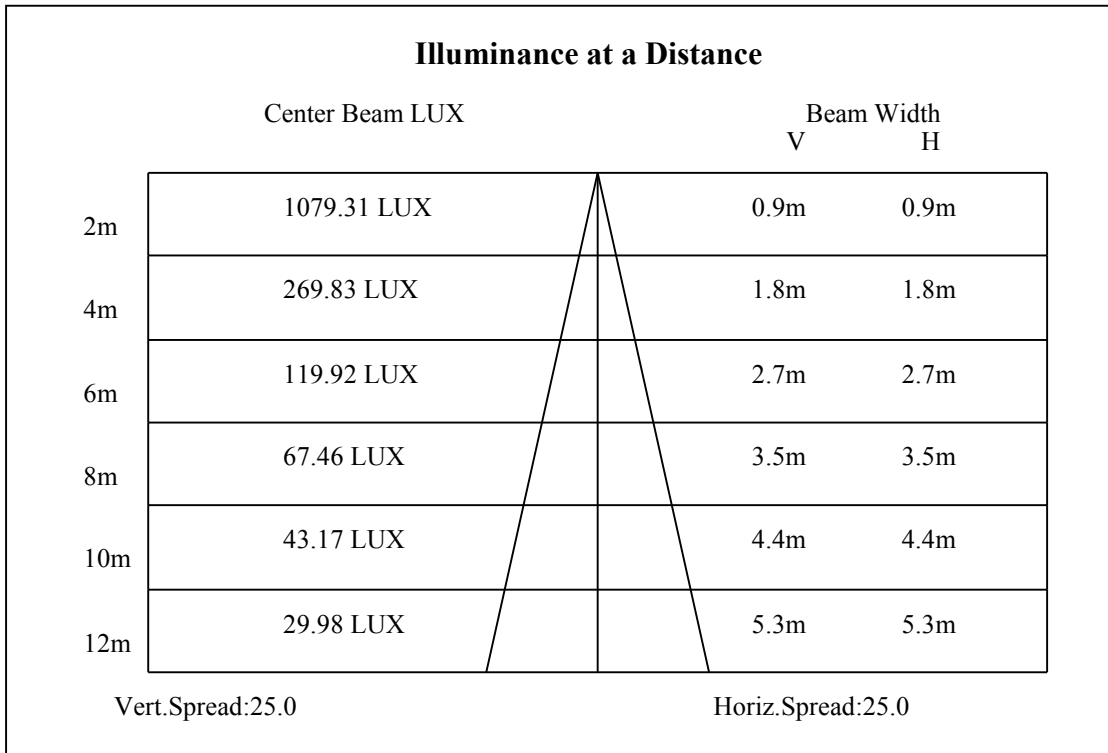
0-10	465.79
10-20	389.18
20-30	191.39
30-40	99.10
40-50	36.96
50-60	10.06
60-70	8.52
70-80	10.12
80-90	5.26
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

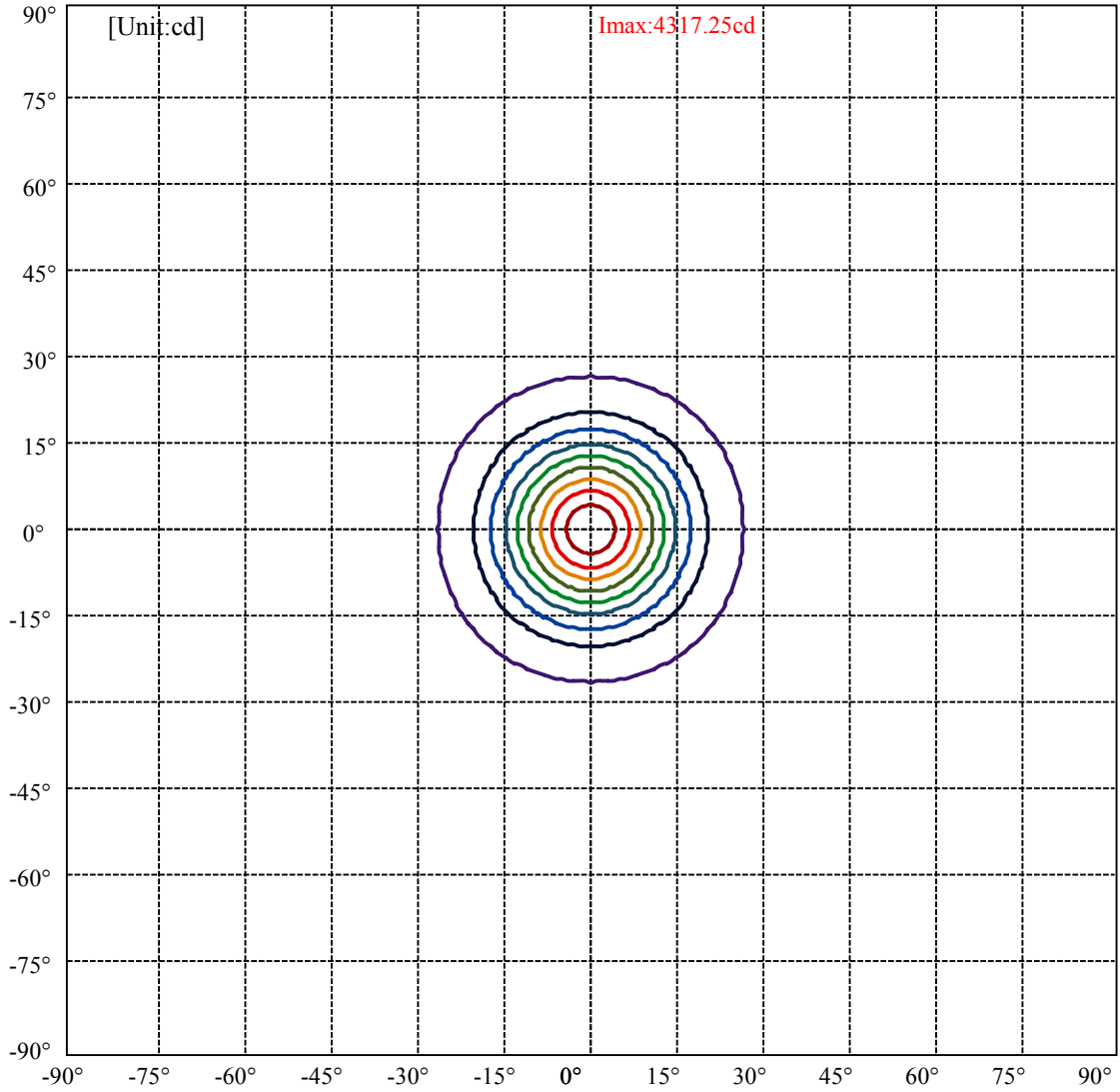


C0(Max): —————
 C0/C180: —————
 C90/C270: —————

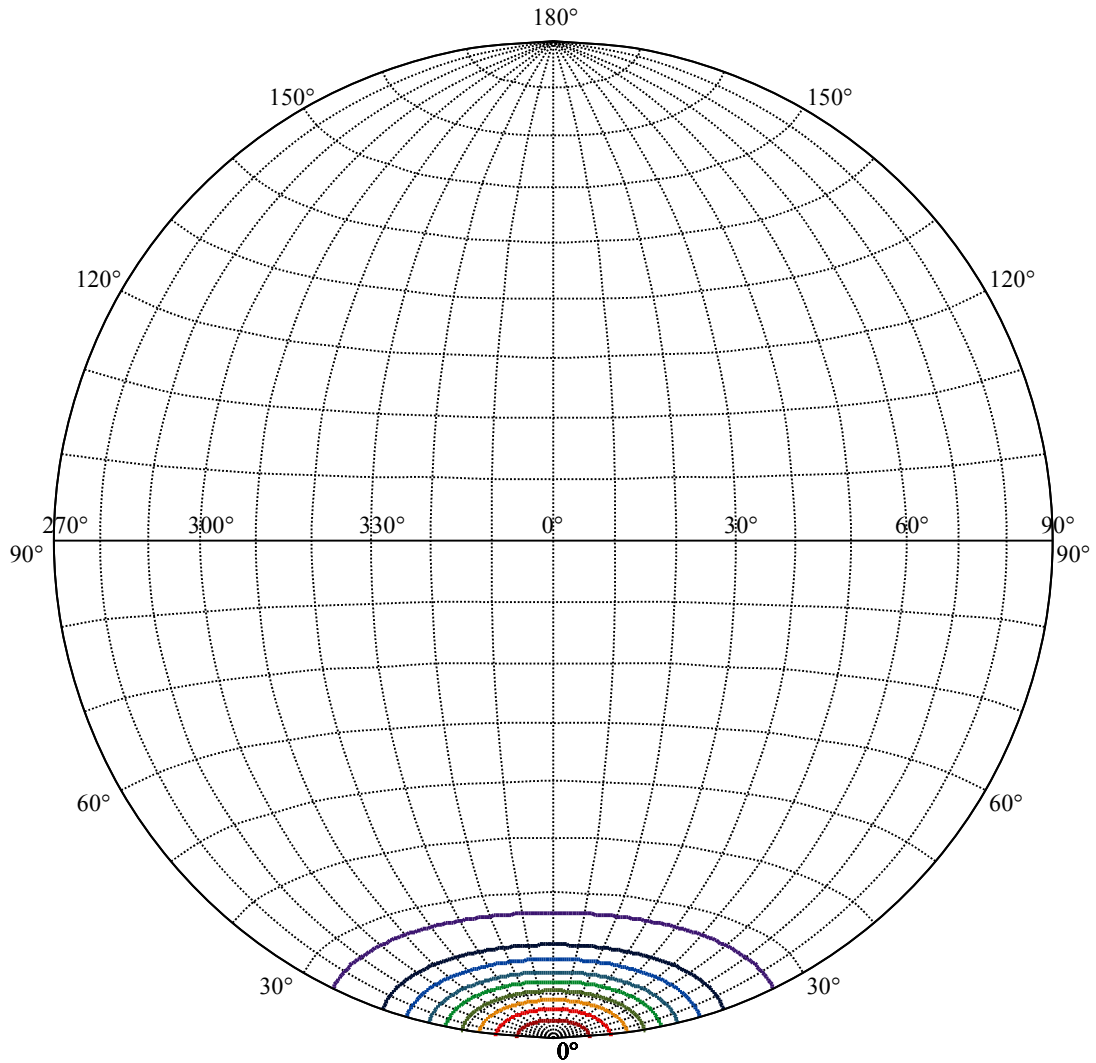
Field angle(10%Imax):C0/180Left:26.2 Right:26.2
 :C90/270Left:26.2 Right:26.2

Beam Angle(50%Imax):C0/180Left:12.5 Right:12.5
 :C90/270Left:12.5 Right:12.5





(10%Imax) 431.725	—
(20%Imax) 863.45	—
(30%Imax) 1295.17	—
(40%Imax) 1726.9	—
(50%Imax) 2158.62	—
(60%Imax) 2590.35	—
(70%Imax) 3022.07	—
(80%Imax) 3453.8	—
(90%Imax) 3885.52	—



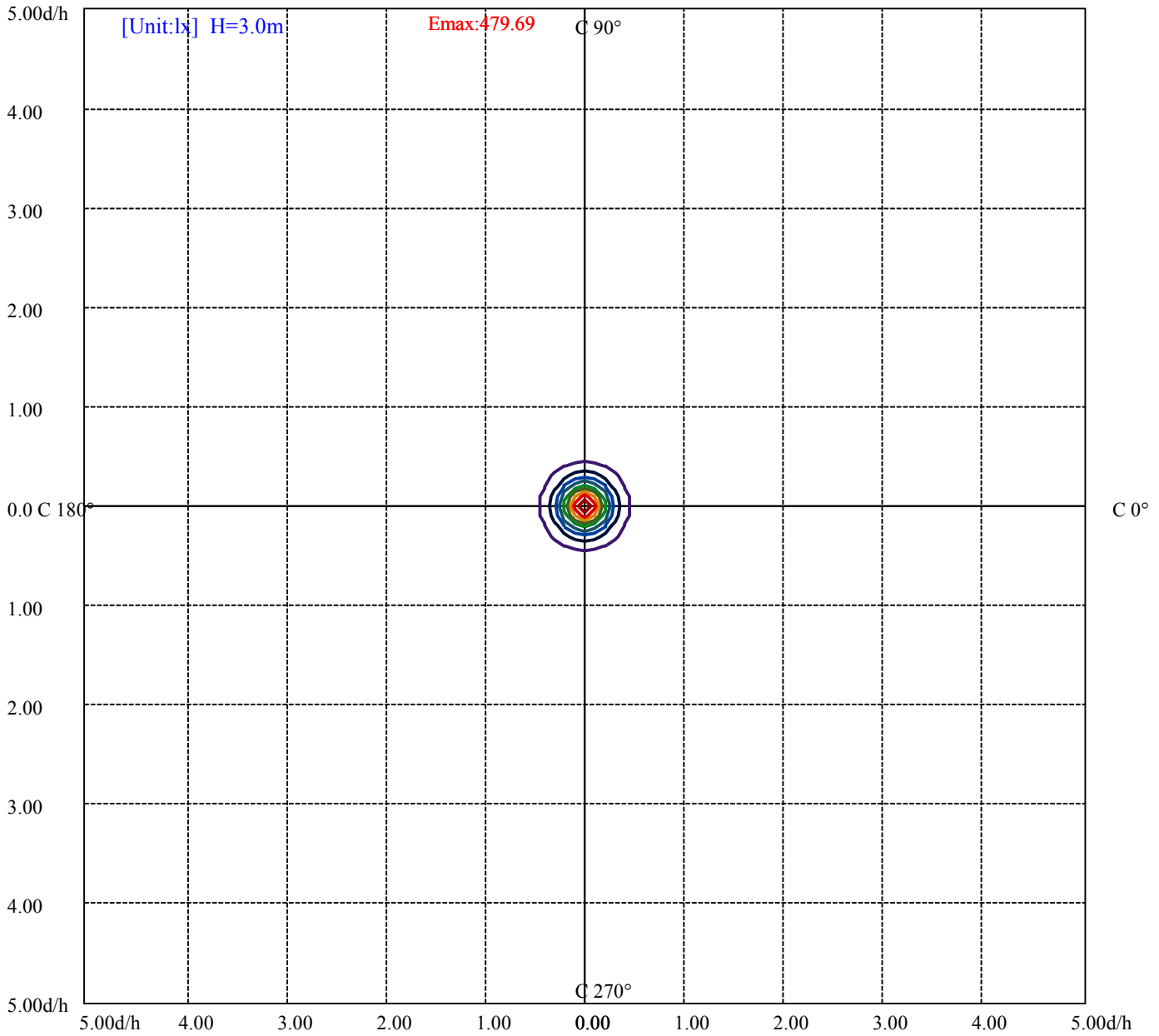
House

[Unit:cd]

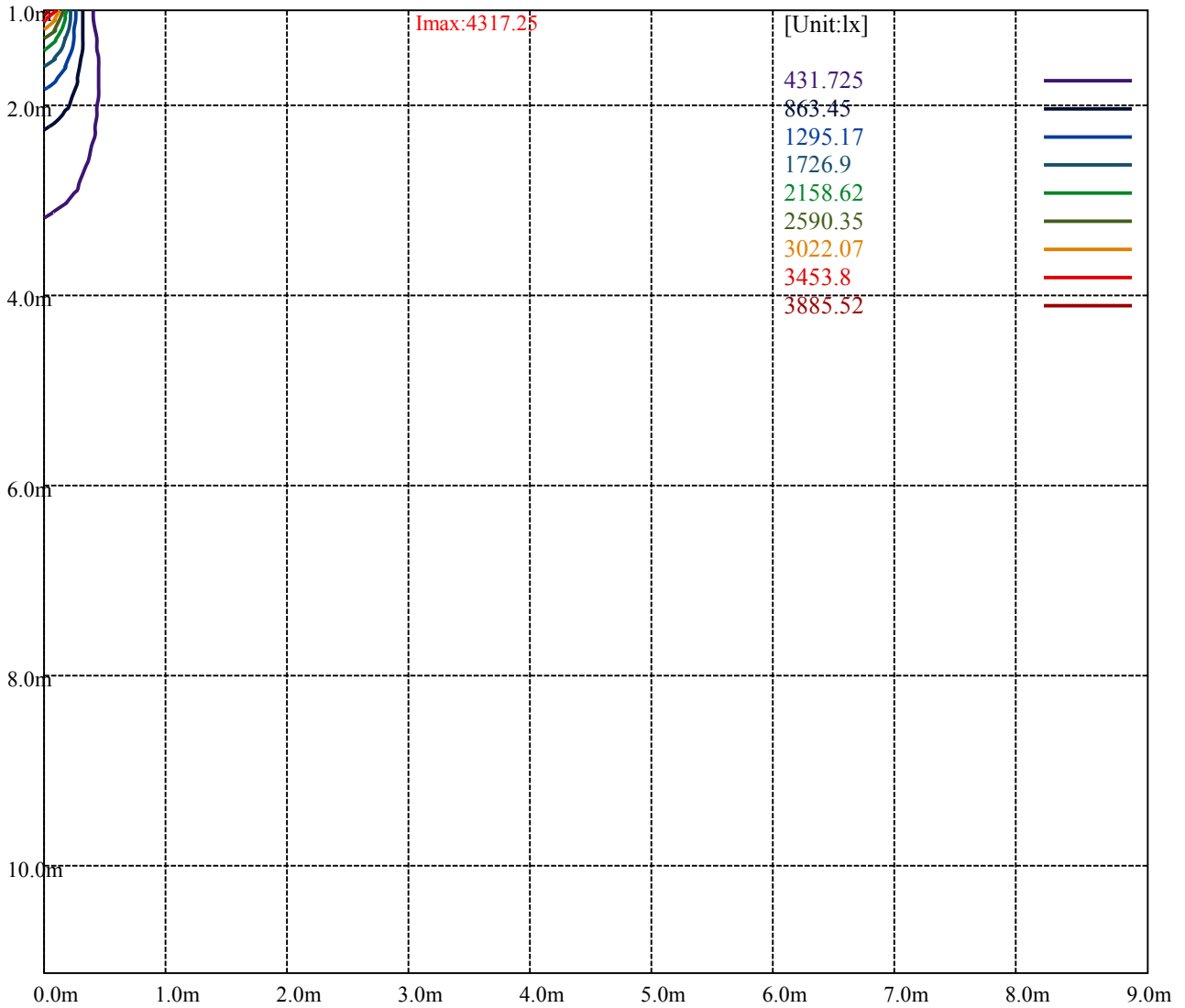
Road

Imax:4317.25

(10%Imax) 431.725	—
(20%Imax) 863.45	—
(30%Imax) 1295.17	—
(40%Imax) 1726.9	—
(50%Imax) 2158.62	—
(60%Imax) 2590.35	—
(70%Imax) 3022.07	—
(80%Imax) 3453.8	—
(90%Imax) 3885.52	—



- (10%Emax) 47.96922
- (20%Emax) 95.93845
- (30%Emax) 143.9078
- (40%Emax) 191.8767
- (50%Emax) 239.8467
- (60%Emax) 287.8156
- (70%Emax) 335.7845
- (80%Emax) 383.7545
- (90%Emax) 431.7233



Luminance Table

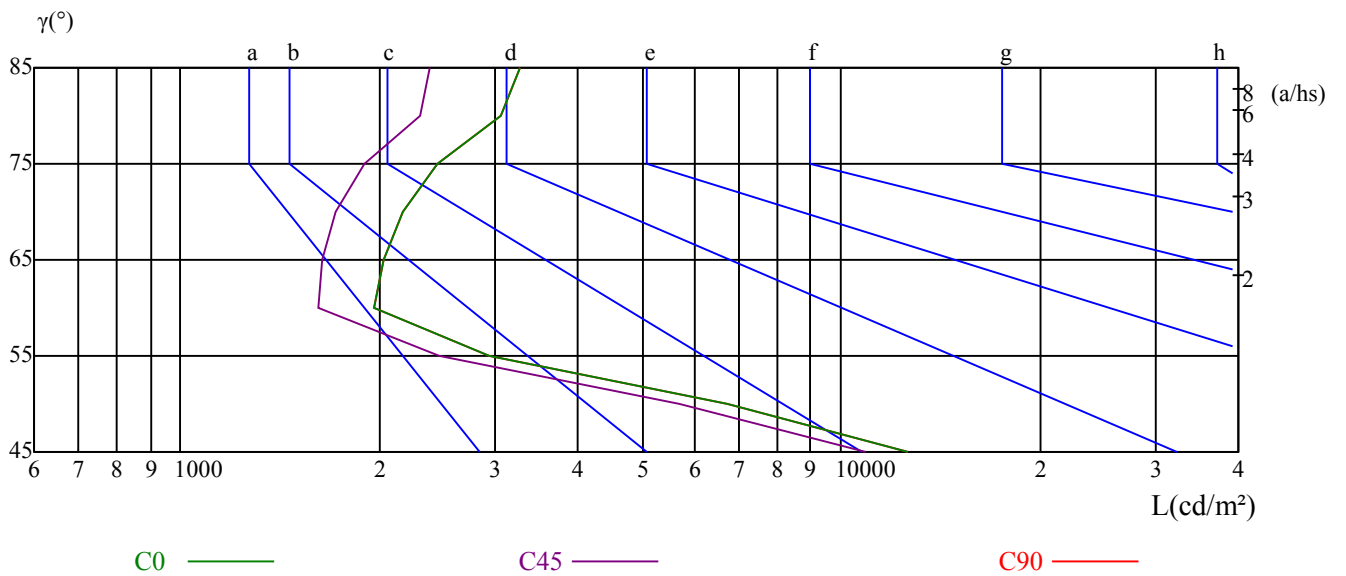
γ	45	50	55	60	65	70	75	80	85
C0	12665	6716	2938	1957	2029	2168	2451	3059	3259
C45	10939	5715	2461	1612	1642	1720	1902	2314	2392
C90	12665	6716	2938	1957	2029	2168	2451	3059	3259

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
4706	4706	4706	8081	8081	8081	26184	26184	26184

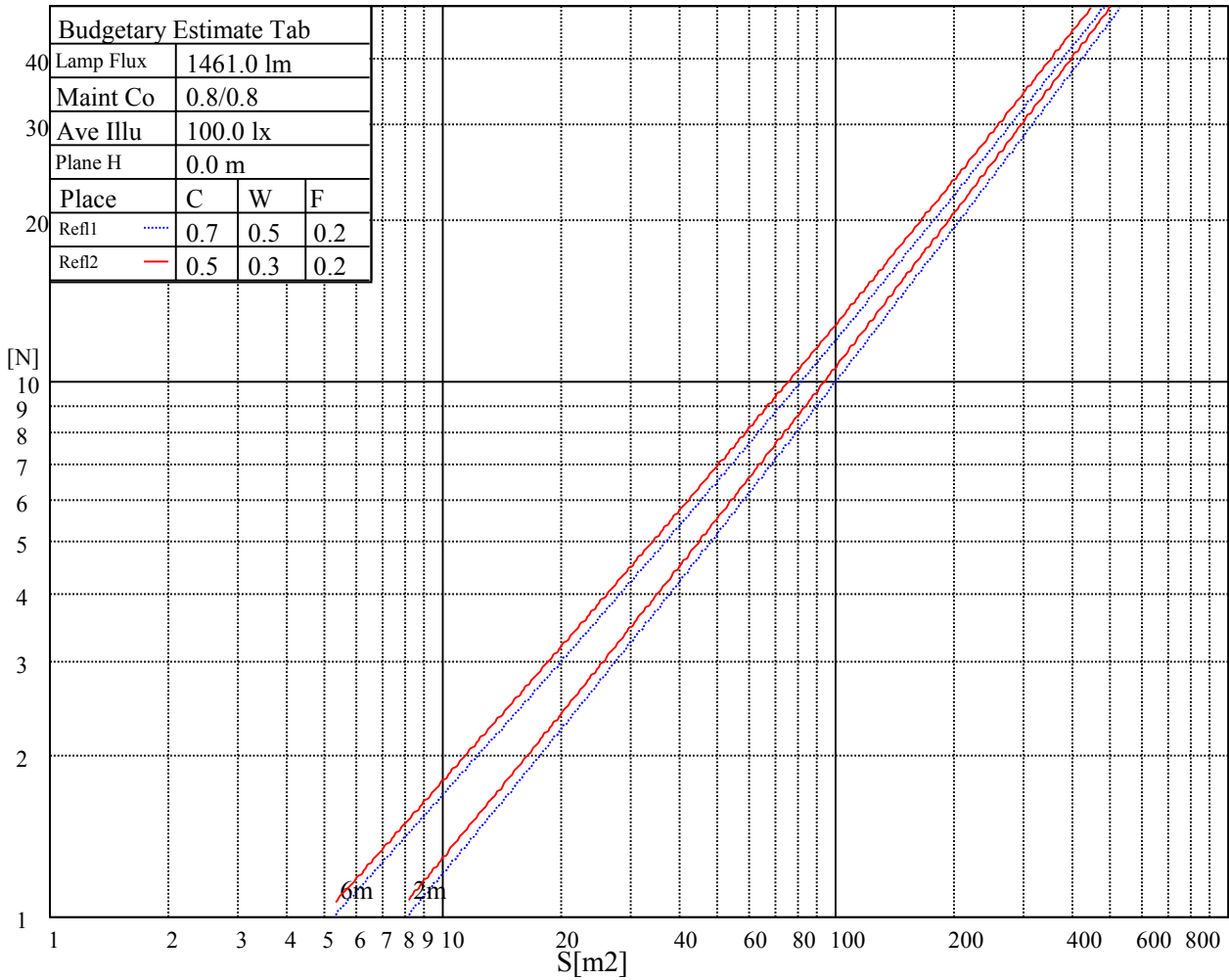
Glare Table

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

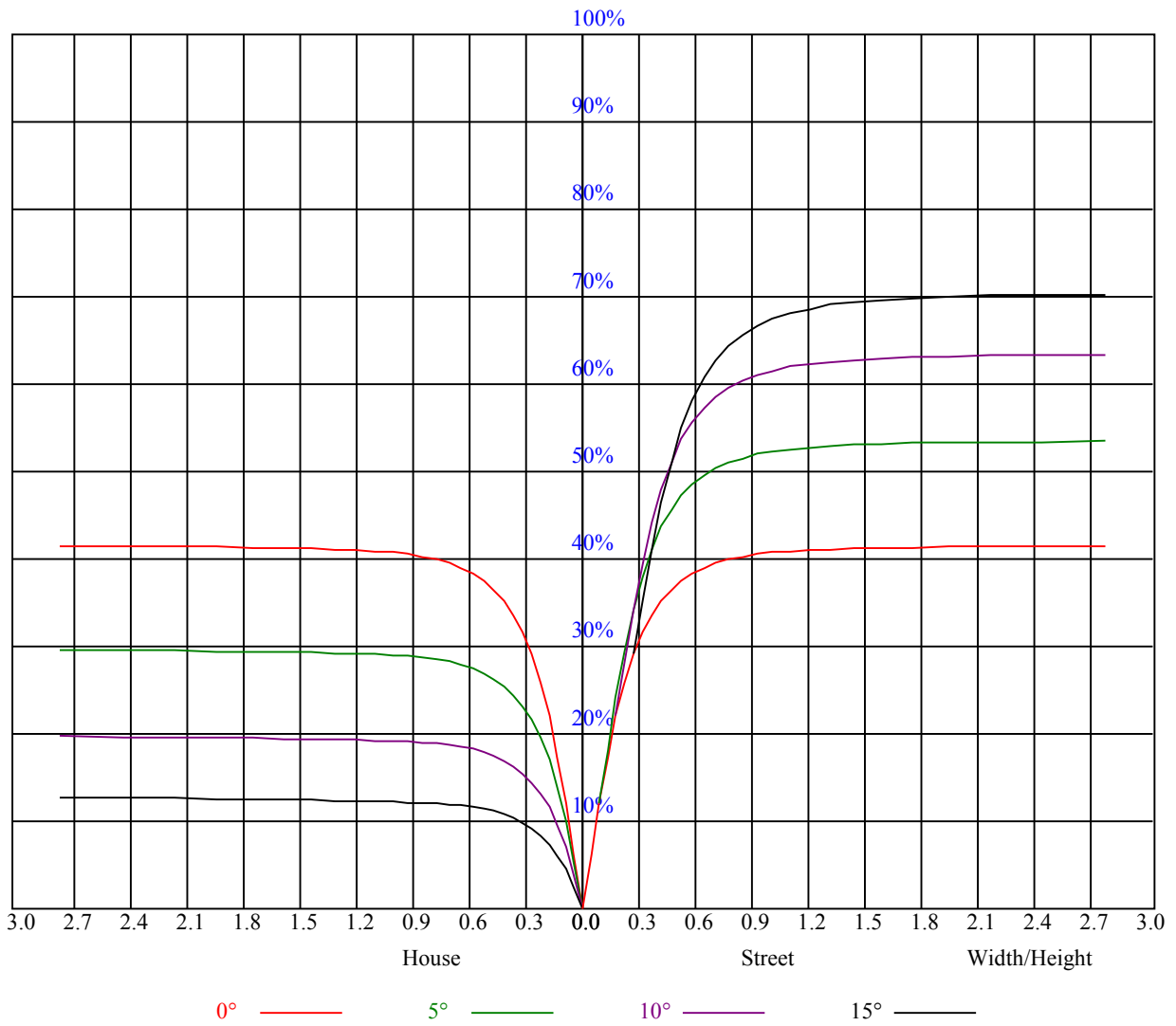
Luminance Limiting Curve



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	5.63	6.62	6.00	6.93	7.25	5.66	6.65	6.03	6.96	7.27
	3H	7.31	8.18	7.69	8.51	8.88	7.35	8.22	7.73	8.55	8.92
	4H	8.46	9.27	8.87	9.62	10.01	8.51	9.31	8.91	9.67	10.06
	6H	9.99	10.73	10.41	11.10	11.50	10.00	10.74	10.42	11.12	11.51
	8H	10.75	11.44	11.18	11.83	12.24	10.76	11.45	11.19	11.84	12.25
	12H	11.83	12.49	12.26	12.87	13.31	11.85	12.51	12.29	12.90	13.33
4H	2H	5.90	6.70	6.30	7.05	7.44	5.92	6.72	6.33	7.08	7.47
	3H	7.95	8.62	8.37	9.03	9.43	7.99	8.65	8.40	9.06	9.46
	4H	9.35	9.94	9.79	10.36	10.81	9.38	9.97	9.82	10.40	10.85
	6H	10.81	11.32	11.28	11.77	12.24	10.82	11.33	11.29	11.78	12.25
	8H	11.76	12.24	12.24	12.69	13.16	11.77	12.24	12.25	12.69	13.17
	12H	12.89	13.30	13.38	13.79	14.26	12.91	13.32	13.40	13.81	14.29
8H	4H	9.84	10.32	10.32	10.77	11.24	9.87	10.35	10.35	10.80	11.27
	6H	11.64	12.02	12.15	12.52	13.01	11.64	12.02	12.15	12.53	13.01
	8H	12.73	13.07	13.26	13.59	14.09	12.73	13.07	13.27	13.59	14.09
	12H	13.94	14.24	14.47	14.74	15.32	13.96	14.25	14.48	14.75	15.33
12H	4H	9.98	10.39	10.47	10.88	11.36	10.01	10.42	10.50	10.91	11.38
	6H	12.15	12.21	12.41	12.68	13.23	12.16	12.21	12.41	12.68	13.23
	8H	13.05	13.35	13.58	13.85	14.43	13.06	13.35	13.58	13.85	14.43
Variation with the observer position at spacings:											
S = 1.0H	3.1/-4.2					3.1/-4.2					
S = 1.5H	4.7/-3.2					4.7/-3.2					
S = 2.0H	5.8/-2.6					5.8/-2.6					
Standard tables:	BK3					BK3					
Uncorrected UGR	-2.6					-2.6					



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	1.01	1.01	1.01	0.99	0.99	0.99	0.94	0.94	0.94	0.90	0.90	0.90	0.87	0.87	0.87	0.85
1	0.93	0.90	0.88	0.91	0.89	0.87	0.88	0.86	0.84	0.84	0.83	0.82	0.81	0.80	0.79	0.78
2	0.88	0.84	0.82	0.86	0.83	0.81	0.84	0.81	0.79	0.81	0.79	0.77	0.79	0.77	0.76	0.74
3	0.83	0.80	0.76	0.82	0.79	0.76	0.80	0.77	0.75	0.78	0.76	0.74	0.76	0.74	0.72	0.71
4	0.80	0.76	0.72	0.79	0.75	0.72	0.77	0.74	0.71	0.75	0.73	0.70	0.74	0.71	0.70	0.68
5	0.76	0.72	0.69	0.76	0.72	0.69	0.74	0.71	0.68	0.73	0.70	0.68	0.72	0.69	0.67	0.66
6	0.73	0.69	0.66	0.73	0.69	0.66	0.72	0.68	0.66	0.70	0.67	0.65	0.69	0.67	0.65	0.64
7	0.71	0.67	0.64	0.70	0.66	0.63	0.69	0.66	0.63	0.68	0.65	0.63	0.67	0.65	0.63	0.62
8	0.68	0.64	0.61	0.68	0.64	0.61	0.67	0.64	0.61	0.66	0.63	0.61	0.66	0.63	0.61	0.60
9	0.66	0.62	0.59	0.66	0.62	0.59	0.65	0.62	0.59	0.64	0.61	0.59	0.64	0.61	0.59	0.58
10	0.64	0.60	0.58	0.64	0.60	0.58	0.63	0.60	0.57	0.63	0.59	0.57	0.62	0.59	0.57	0.56



Intensity data(cd)

C/\u03b3(\u00b0)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	4308.16	3993.24	2992.87	1857.60	1000.37	558.82	335.84	210.98	134.72
45.0	4319.17	3912.86	2764.93	1706.20	894.12	479.54	304.46	195.62	123.49
90.0	4305.41	3646.94	2460.47	1269.05	755.59	423.38	270.55	166.33	100.70
135.0	4336.24	3733.37	2747.86	1583.97	824.19	445.41	290.15	173.26	101.47
180.0	4308.16	3607.30	2399.91	1308.69	716.61	401.53	266.14	166.66	96.40
225.0	4319.17	3702.54	2605.27	1512.40	804.65	441.11	280.40	183.17	111.65
270.0	4305.41	3956.90	2936.71	1924.22	1001.48	530.74	330.89	210.43	125.80
315.0	4336.24	3874.87	2799.07	1683.62	889.33	497.16	315.14	193.41	117.60
360.0	4308.16	3993.24	2992.87	1857.60	1000.37	558.82	335.84	210.98	134.72
C/\u03b3(\u00b0)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	74.93	38.43	18.11	8.81	8.64	8.70	9.08	10.46	10.30
45.0	66.07	33.42	14.48	8.53	8.20	8.09	8.42	9.47	8.92
90.0	51.37	26.59	9.97	8.20	8.09	8.15	8.70	10.24	9.47
135.0	55.06	28.79	10.63	8.04	7.98	7.93	7.98	9.69	9.97
180.0	52.03	26.26	9.80	8.31	8.15	8.20	8.59	9.36	8.70
225.0	59.41	31.38	13.43	9.41	9.41	9.63	10.96	11.56	10.68
270.0	67.77	35.79	17.84	8.75	8.59	8.59	8.81	9.80	9.25
315.0	62.32	32.26	12.77	8.26	8.15	8.15	8.15	10.02	9.86
360.0	74.93	38.43	18.11	8.81	8.64	8.70	9.08	10.46	10.30
C/\u03b3(\u00b0)	90.0								
0.0	5.01								
45.0	4.96								
90.0	4.96								
135.0	4.96								
180.0	5.01								
225.0	4.96								
270.0	4.96								
315.0	4.96								
360.0	5.01								