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Nata

LumCAT: 1731-A	
Luminaire: 92.76.330.00	
Report No: NATA0100	Voltage(V): 34.7000
Test No: GC2017101701	Current(A): 0.4000
LampCAT: BXR V-DR-1830-H-1000-B-13	Power (W): 13.8800
Lamp flux(lm): 1191.5	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 39	Width(mm): 39
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 1078.99
Efficiency(%): 90.56%
Lumens(lm)/Power(W): 80.03
Central intensity(cd): 5496.831
Maximum intensity(cd): 5496.831
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=17.6
 [C90/270]Total=17.6
Field angle(10%Imax): [C0/180]Total=36.7
 [C90/270]Total=36.7
Maximum s/h(1/2): C0_180=0.30 C90_270=0.30
Maximum s/h(1/4): C0_180=0.31 C90_270=0.31
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 93.23%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 95.968%

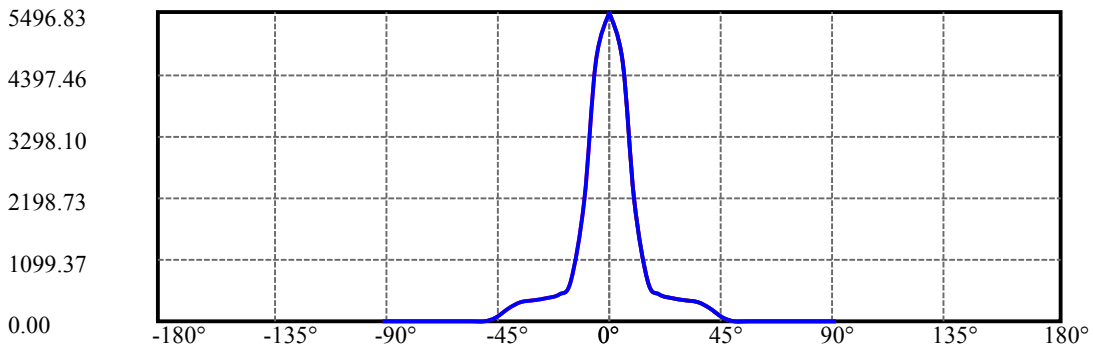
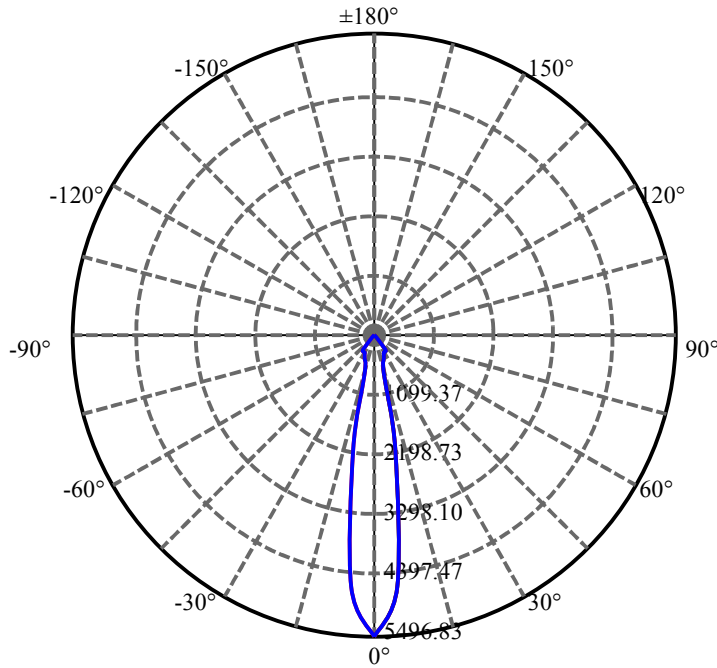
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	5496.831	32.872	32.872	2.759%	3.047%
5.0	4621.297	220.775	253.647	18.529%	23.508%
10.0	2148.927	204.541	458.188	17.167%	42.464%
15.0	729.924	103.553	561.741	8.691%	52.062%
20.0	461.008	86.427	648.168	7.254%	60.072%
25.0	396.207	91.782	739.951	7.703%	68.578%
30.0	371.569	101.835	841.786	8.547%	78.016%
35.0	345.369	108.583	950.37	9.113%	88.079%
40.0	244.237	86.053	1036.423	7.222%	96.055%
45.0	57.231	22.182	1058.605	1.862%	98.111%
50.0	7.701	3.234	1061.839	.271%	98.410%
55.0	4.700	2.111	1063.95	.177%	98.606%
60.0	4.425	2.101	1066.05	.176%	98.801%
65.0	4.301	2.137	1068.187	.179%	98.999%
70.0	4.267	2.198	1070.385	.184%	99.202%
75.0	4.281	2.266	1072.651	.190%	99.412%
80.0	4.700	2.537	1075.189	.213%	99.647%
85.0	4.886	2.668	1077.857	.224%	99.895%
90.0	4.143	1.135	1078.992	.095%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	841.79	70.65%	78.02%
0-40	1036.42	86.98%	96.05%
0-60	1066.05	89.47%	98.80%
0-90	1077.86	90.46%	99.89%
0-120	1077.86	90.46%	99.89%
0-180	1078.99	90.56%	100.00%
60-90	13.91	1.17%	1.29%
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%
0-30.99	863.19	72.45%	80.00%

ZONAL LUMEN SUMMARY

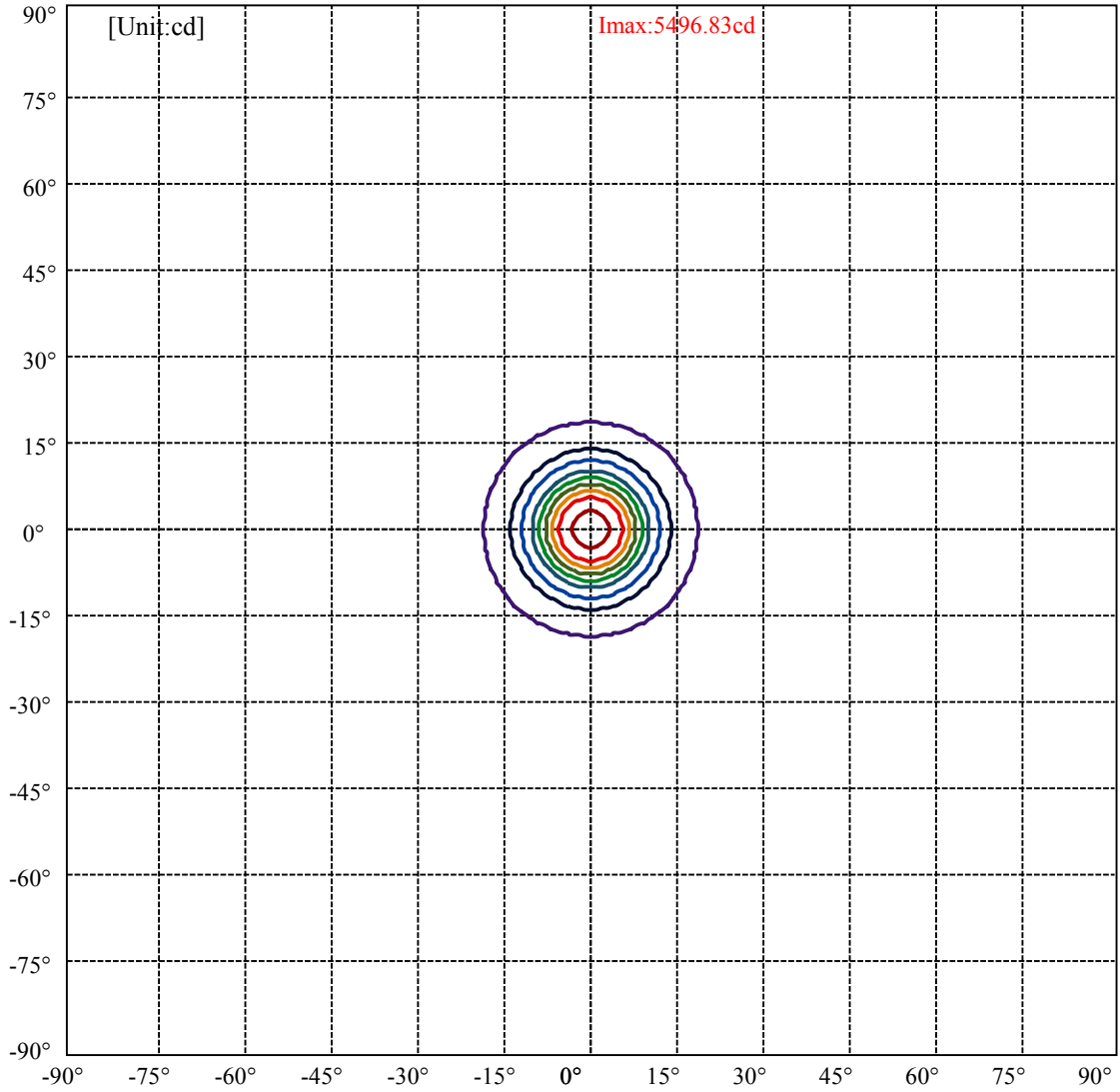
0-10	458.19
10-20	189.98
20-30	193.62
30-40	194.64
40-50	25.42
50-60	4.21
60-70	4.33
70-80	4.80
80-90	2.67
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00



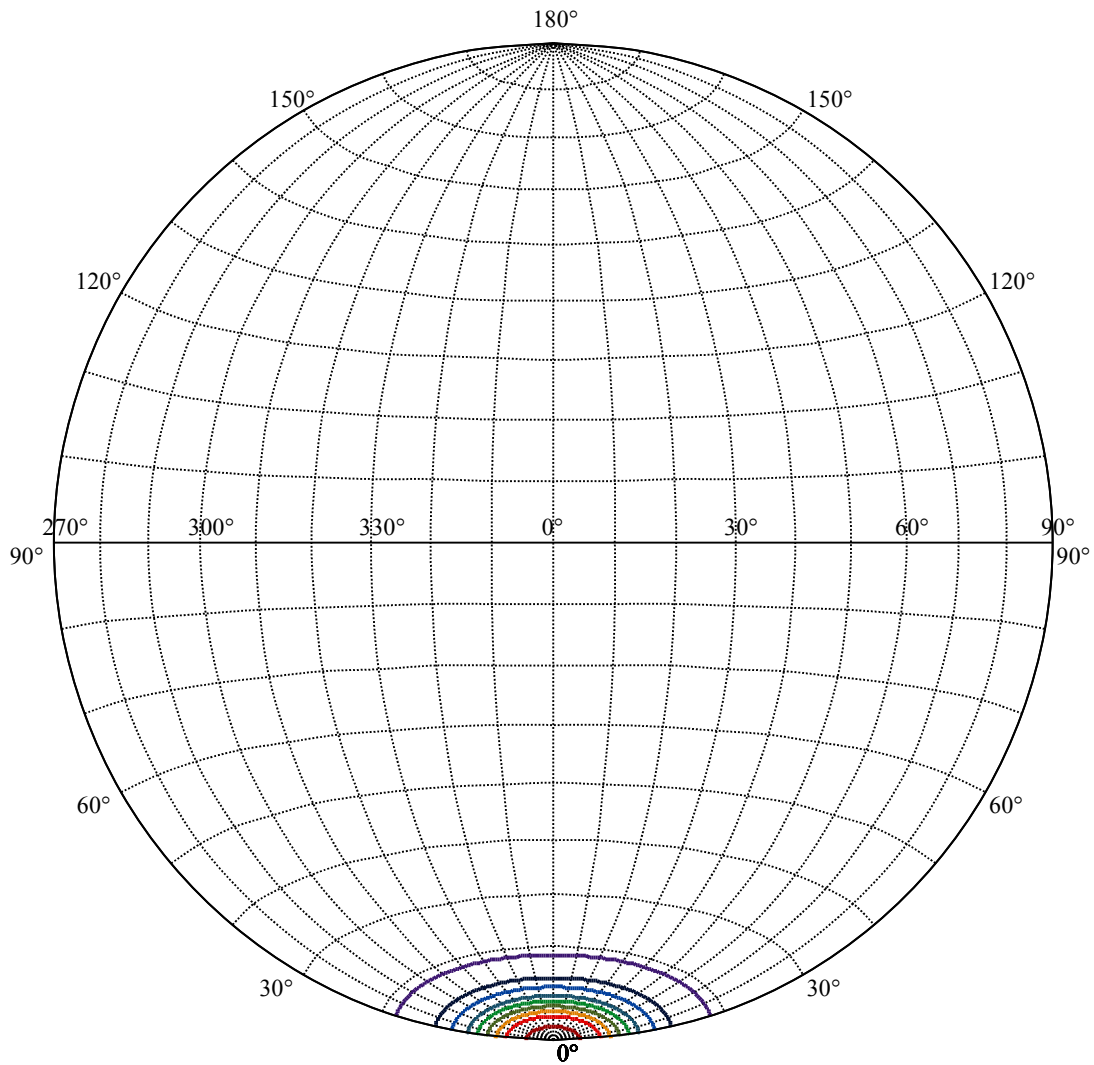
C0(Max): —————
C0/C180: —————
C90/C270: —————

Field angle(10%Imax):C0/180Left:18.4 Right:18.4
:C90/270Left:18.4 Right:18.4

Beam Angle(50%Imax):C0/180Left:8.8 Right:8.8
:C90/270Left:8.8 Right:8.8



(10%Imax) 549.683	—
(20%Imax) 1099.37	—
(30%Imax) 1649.05	—
(40%Imax) 2198.73	—
(50%Imax) 2748.42	—
(60%Imax) 3298.1	—
(70%Imax) 3847.78	—
(80%Imax) 4397.46	—
(90%Imax) 4947.15	—



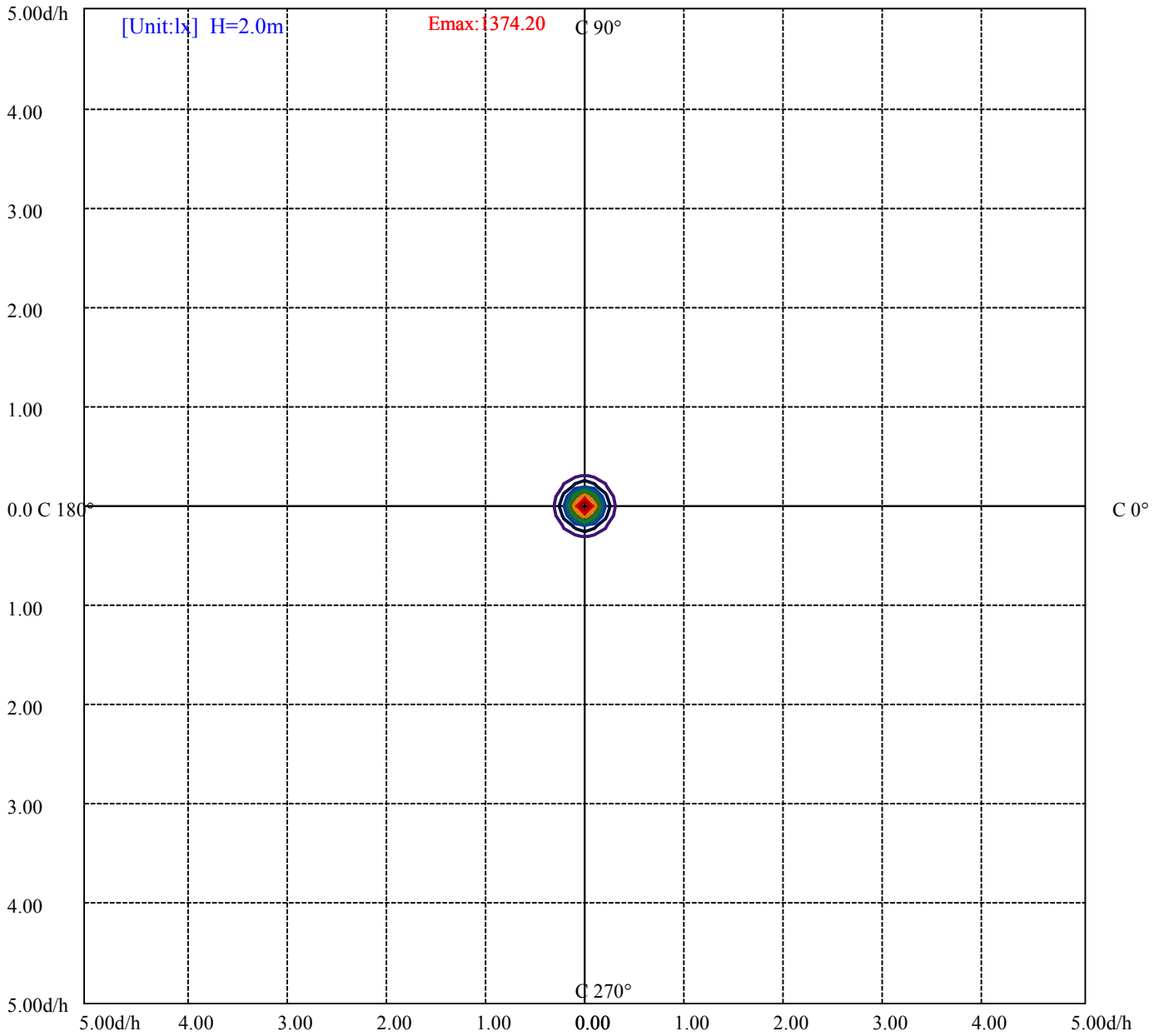
House

[Unit:cd]

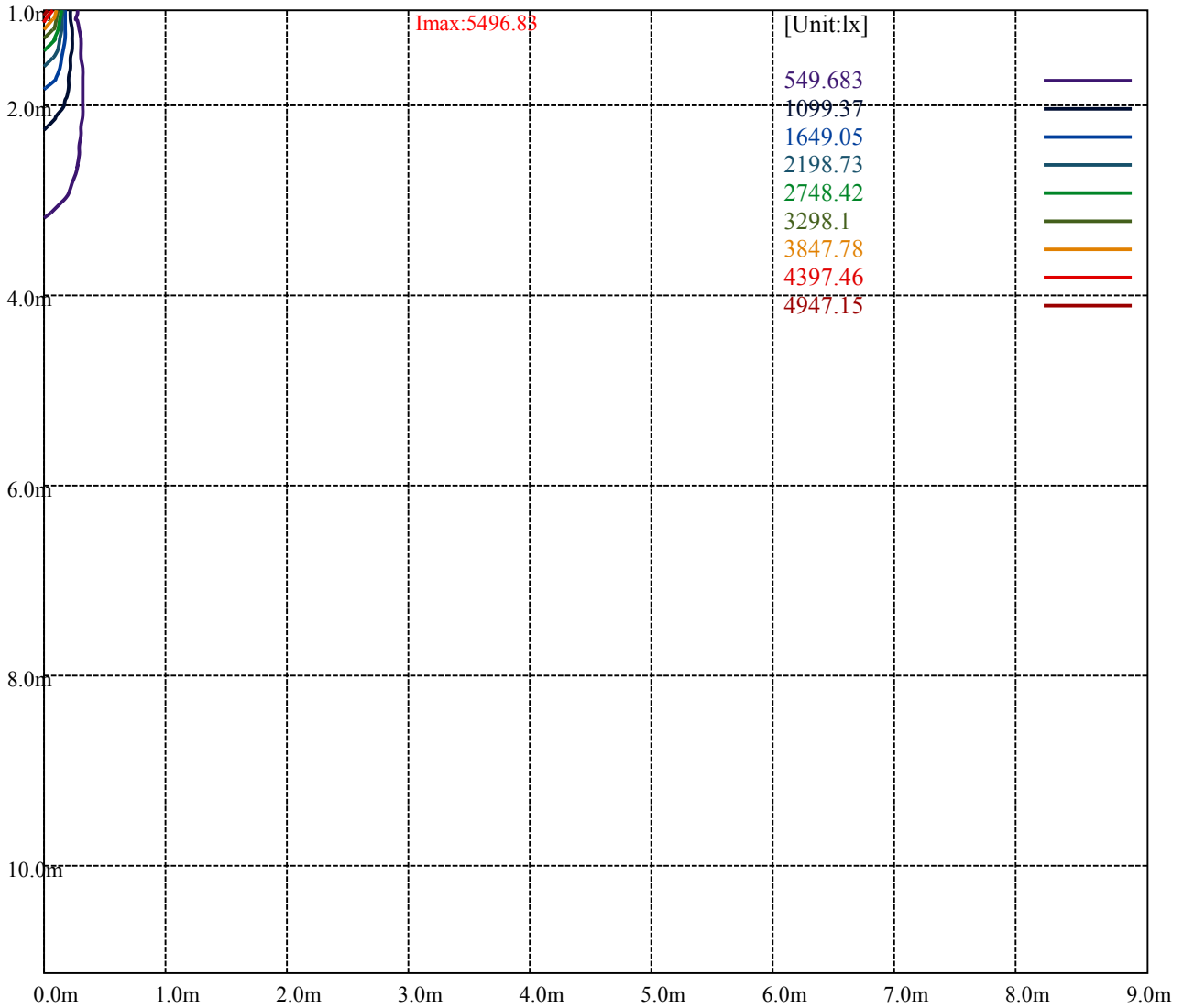
Road

Imax:5496.83

(10%Imax) 549.683	—
(20%Imax) 1099.37	—
(30%Imax) 1649.05	—
(40%Imax) 2198.73	—
(50%Imax) 2748.42	—
(60%Imax) 3298.1	—
(70%Imax) 3847.78	—
(80%Imax) 4397.46	—
(90%Imax) 4947.15	—



- (10%Emax) 137.42
- (20%Emax) 274.84
- (30%Emax) 412.26
- (40%Emax) 549.68
- (50%Emax) 687.1
- (60%Emax) 824.52
- (70%Emax) 961.94
- (80%Emax) 1099.36
- (90%Emax) 1236.78



Luminance Table

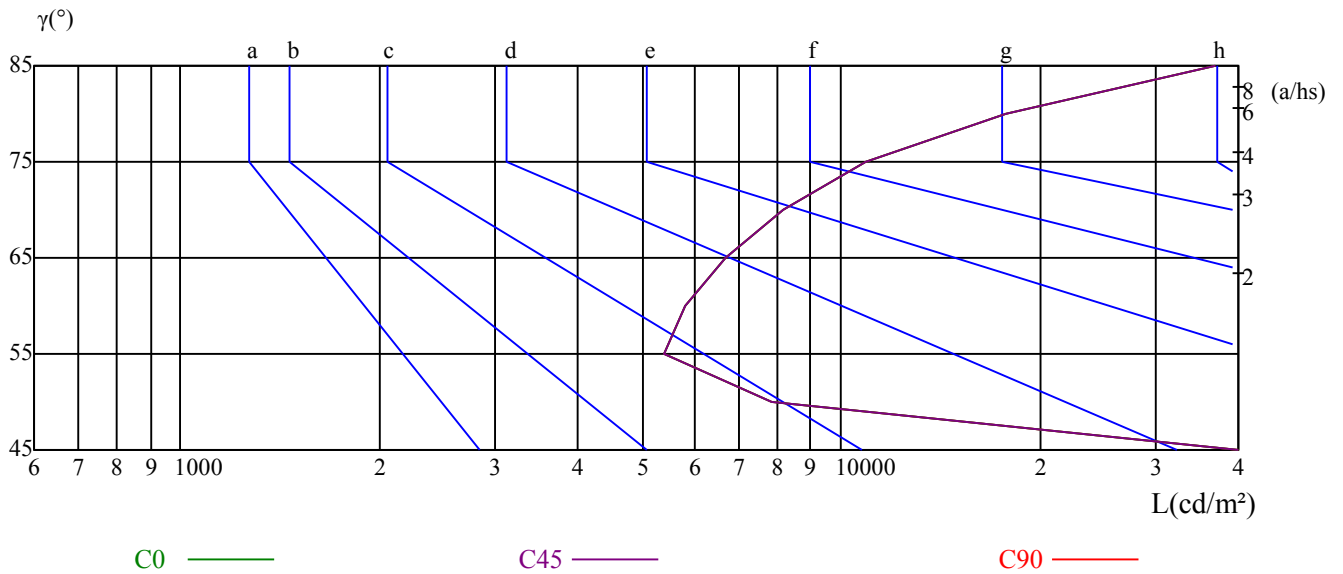
γ	45	50	55	60	65	70	75	80	85
C0	53213	7877	5388	5819	6691	8202	10874	17797	36860
C45	53213	7877	5388	5819	6691	8202	10874	17797	36860
C90	53213	7877	5388	5819	6691	8202	10874	17797	36860

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
6691	6691	6691	10874	10874	10874	36860	36860	36860

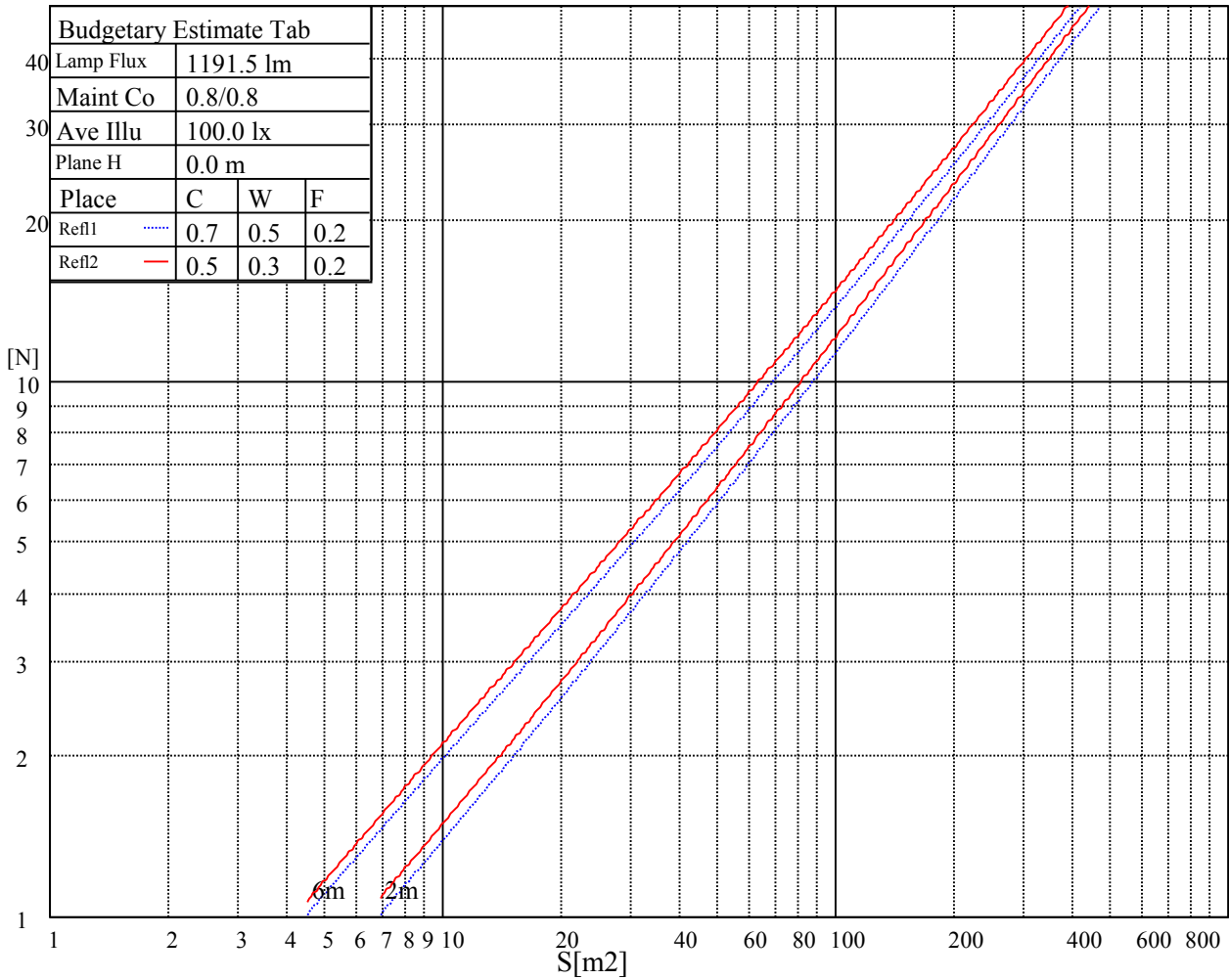
Glare Table

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

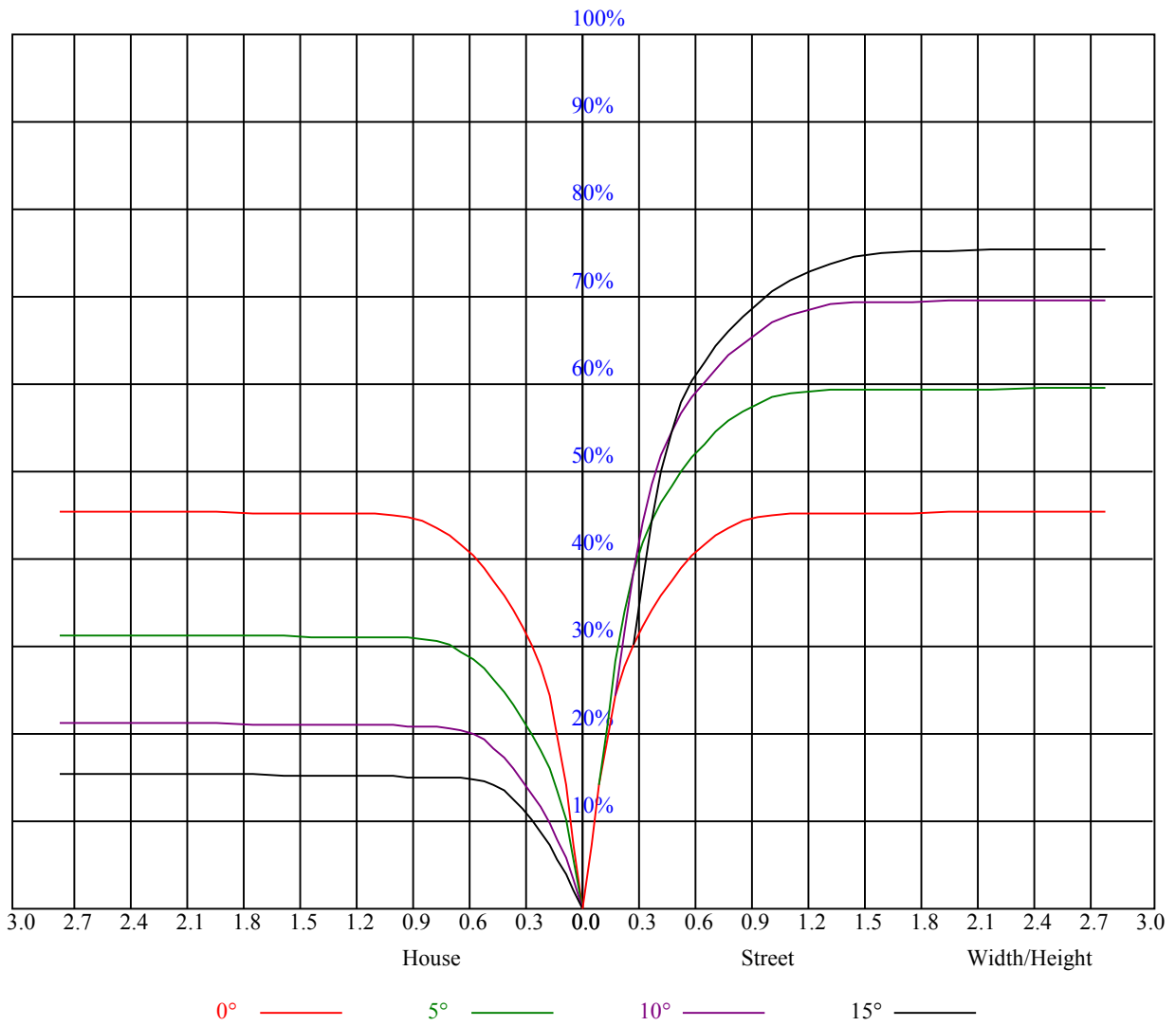
Luminance Limiting Curve



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	6.09	7.05	6.46	7.36	7.68	6.01	6.97	6.38	7.28	7.60
	3H	9.30	10.14	9.68	10.48	10.85	9.21	10.06	9.59	10.39	10.76
	4H	11.12	11.90	11.53	12.25	12.64	11.02	11.80	11.43	12.16	12.55
	6H	13.66	14.37	14.08	14.75	15.15	13.08	13.80	13.50	14.17	14.57
	8H	15.13	15.80	15.56	16.19	16.60	14.22	14.89	14.66	15.28	15.69
	12H	17.36	18.00	17.80	18.39	18.82	16.04	16.68	16.48	17.07	17.50
4H	2H	6.99	7.77	7.39	8.12	8.51	6.93	7.71	7.34	8.07	8.46
	3H	10.48	11.12	10.90	11.53	11.94	10.41	11.05	10.82	11.45	11.86
	4H	12.48	13.05	12.92	13.47	13.92	12.39	12.96	12.83	13.38	13.83
	6H	15.03	15.52	15.50	15.97	16.44	14.60	15.09	15.07	15.54	16.01
	8H	16.64	17.10	17.12	17.55	18.02	15.85	16.30	16.33	16.76	17.23
	12H	18.78	19.17	19.27	19.66	20.14	17.57	17.96	18.06	18.45	18.93
8H	4H	13.28	13.73	13.75	14.18	14.66	13.20	13.66	13.68	14.11	14.58
	6H	16.13	16.49	16.64	16.99	17.48	15.72	16.08	16.23	16.58	17.07
	8H	17.89	18.21	18.42	18.73	19.23	17.16	17.48	17.69	18.00	18.50
	12H	20.08	20.36	20.60	20.86	21.44	18.99	19.27	19.51	19.77	20.35
12H	4H	13.52	13.91	14.01	14.40	14.88	13.49	13.89	13.99	14.37	14.85
	6H	16.71	16.79	17.00	17.26	17.81	16.36	16.44	16.66	16.92	17.47
	8H	18.34	18.62	18.87	19.12	19.70	17.70	17.98	18.22	18.47	19.05
Variation with the observer position at spacings:											
S = 1.0H	3.7/-10.5					3.7/-10.5					
S = 1.5H	5.6/-8.2					5.6/-8.2					
S = 2.0H	7.2/-6.5					7.2/-6.5					
Standard tables:	BK1					BK1					
Uncorrected UGR	5.0					5.0					



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	1.11	1.11	1.11	1.08	1.08	1.08	1.04	1.04	1.04	0.99	0.99	0.99	0.95	0.95	0.95	0.93
1	1.01	0.98	0.95	0.99	0.96	0.94	0.95	0.93	0.91	0.91	0.90	0.88	0.88	0.87	0.85	0.84
2	0.95	0.91	0.88	0.93	0.90	0.87	0.90	0.87	0.85	0.88	0.85	0.83	0.85	0.83	0.81	0.80
3	0.90	0.86	0.82	0.89	0.85	0.81	0.86	0.83	0.80	0.84	0.81	0.79	0.82	0.80	0.78	0.76
4	0.86	0.81	0.77	0.85	0.80	0.77	0.83	0.79	0.76	0.81	0.78	0.75	0.79	0.76	0.74	0.73
5	0.82	0.77	0.73	0.81	0.76	0.73	0.79	0.75	0.72	0.78	0.74	0.72	0.76	0.73	0.71	0.70
6	0.78	0.73	0.70	0.78	0.73	0.70	0.76	0.72	0.69	0.75	0.71	0.69	0.74	0.71	0.68	0.67
7	0.75	0.70	0.67	0.75	0.70	0.67	0.74	0.69	0.66	0.72	0.69	0.66	0.71	0.68	0.66	0.65
8	0.72	0.68	0.64	0.72	0.67	0.64	0.71	0.67	0.64	0.70	0.66	0.64	0.69	0.66	0.64	0.62
9	0.70	0.65	0.62	0.69	0.65	0.62	0.69	0.65	0.62	0.68	0.64	0.62	0.67	0.64	0.61	0.60
10	0.68	0.63	0.60	0.67	0.63	0.60	0.67	0.63	0.60	0.66	0.62	0.60	0.65	0.62	0.60	0.59



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	5483.62	4936.91	3111.79	953.03	494.41	401.36	376.04	352.91	295.65
45.0	5498.48	4570.78	2398.26	719.04	455.32	392.00	366.13	340.80	285.74
90.0	5495.18	4231.08	1058.90	559.04	419.64	382.64	360.34	335.13	188.35
135.0	5510.04	4544.36	1996.35	656.82	444.31	393.65	372.73	346.30	233.99
180.0	5483.62	4169.97	1079.00	584.92	432.91	390.24	366.57	331.94	159.99
225.0	5498.48	4686.40	2053.05	662.71	448.60	398.88	378.02	352.75	231.68
270.0	5495.18	5018.39	2998.37	925.50	514.78	411.27	380.44	357.87	291.80
315.0	5510.04	4812.48	2495.71	778.33	478.11	399.60	372.29	345.26	266.69
360.0	5483.62	4936.91	3111.79	953.03	494.41	401.36	376.04	352.91	295.65

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	123.27	10.68	4.84	4.51	4.29	4.24	4.24	4.18	4.29
45.0	51.26	6.17	4.68	4.40	4.35	4.29	4.24	4.46	5.34
90.0	17.67	8.20	4.57	4.40	4.29	4.24	4.24	4.40	4.46
135.0	31.49	6.61	4.57	4.40	4.29	4.29	4.29	5.07	4.57
180.0	13.87	5.73	4.46	4.35	4.24	4.18	4.24	4.24	4.18
225.0	47.29	7.71	4.62	4.35	4.29	4.24	4.18	4.18	4.18
270.0	89.41	7.49	5.07	4.51	4.35	4.35	4.40	6.17	6.94
315.0	83.58	9.03	4.79	4.46	4.29	4.29	4.40	4.90	5.12
360.0	123.27	10.68	4.84	4.51	4.29	4.24	4.24	4.18	4.29

C/γ(°)	90.0
0.0	4.13
45.0	4.18
90.0	4.13
135.0	4.13
180.0	4.13
225.0	4.13
270.0	4.13
315.0	4.18
360.0	4.13