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Nata

LumCAT: 4-1664-E	
Luminaire: 92.76.227.00	
Report No: NATA0100	Voltage(V): 37.7000
Test No: 201703004	Current(A): 1.0500
LampCAT: BRIDGELUX Vero29	Power (W): 39.5850
Lamp flux(lm): 4722.0	PF: 0.0000
Number of Lamps: 1	Ballast type:
Length(mm): 100	Width(mm): 100
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 4240.58
Efficiency(%): 89.80%
Lumens(lm)/Power(W): 109.13
Central intensity(cd): 13911.380
Maximum intensity(cd): 13911.380
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=24.9
 [C90/270]Total=24.9
Field angle(10%Imax): [C0/180]Total=61.9
 [C90/270]Total=61.9
Maximum s/h(1/2): C0_180=0.42 C90_270=0.42
Maximum s/h(1/4): C0_180=0.43 C90_270=0.43
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 91.48%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 96.012%

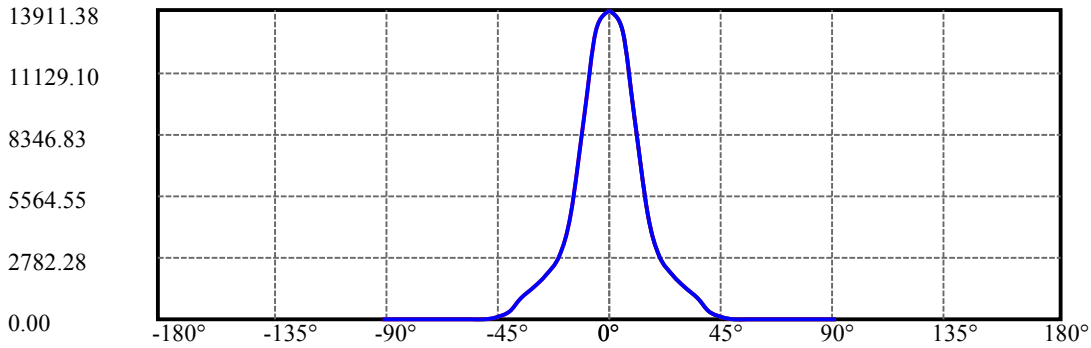
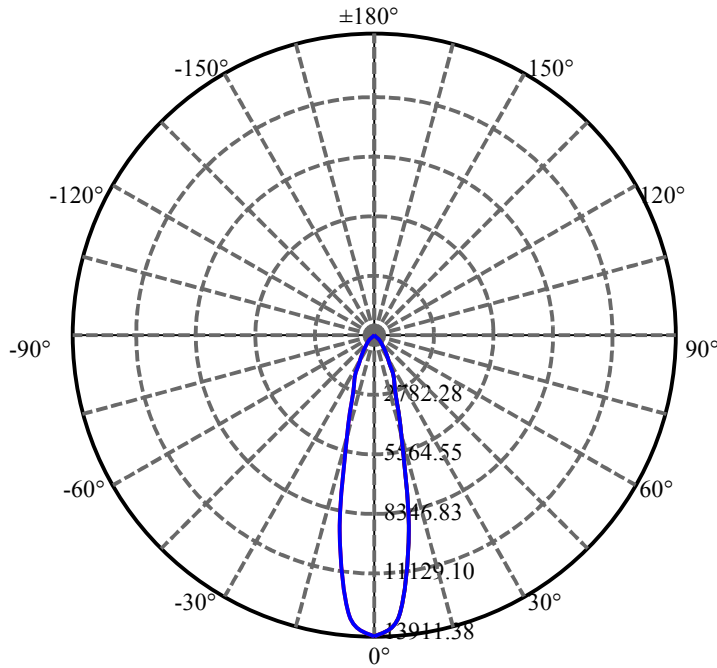
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	13911.376	83.193	83.193	1.762%	1.962%
5.0	12984.433	620.309	703.502	13.137%	16.590%
10.0	9139.431	869.919	1573.421	18.423%	37.104%
15.0	4709.731	668.162	2241.583	14.150%	52.860%
20.0	2867.200	537.525	2779.109	11.383%	65.536%
25.0	2009.008	465.392	3244.501	9.856%	76.511%
30.0	1496.158	410.050	3654.551	8.684%	86.180%
35.0	931.114	292.741	3947.292	6.200%	93.084%
40.0	387.845	136.652	4083.944	2.894%	96.306%
45.0	87.340	33.852	4117.796	.717%	97.105%
50.0	21.534	9.042	4126.838	.191%	97.318%
55.0	20.839	9.357	4136.195	.198%	97.538%
60.0	23.702	11.251	4147.446	.238%	97.804%
65.0	29.847	14.828	4162.274	.314%	98.153%
70.0	34.706	17.876	4180.15	.379%	98.575%
75.0	35.869	18.991	4199.142	.402%	99.023%
80.0	32.167	17.364	4216.506	.368%	99.432%
85.0	35.209	19.226	4235.731	.407%	99.886%
90.0	17.694	4.849	4240.581	.103%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	3654.55	77.39%	86.18%
0-40	4083.94	86.49%	96.31%
0-60	4147.45	87.83%	97.80%
0-90	4235.73	89.70%	99.89%
0-120	4235.73	89.70%	99.89%
0-180	4240.58	89.80%	100.00%
60-90	99.54	2.11%	2.35%
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%
0-26.80	3392.46	71.84%	80.00%

ZONAL LUMEN SUMMARY

0-10	1573.42
10-20	1205.69
20-30	875.44
30-40	429.39
40-50	42.89
50-60	20.61
60-70	32.70
70-80	36.36
80-90	19.23
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: —————

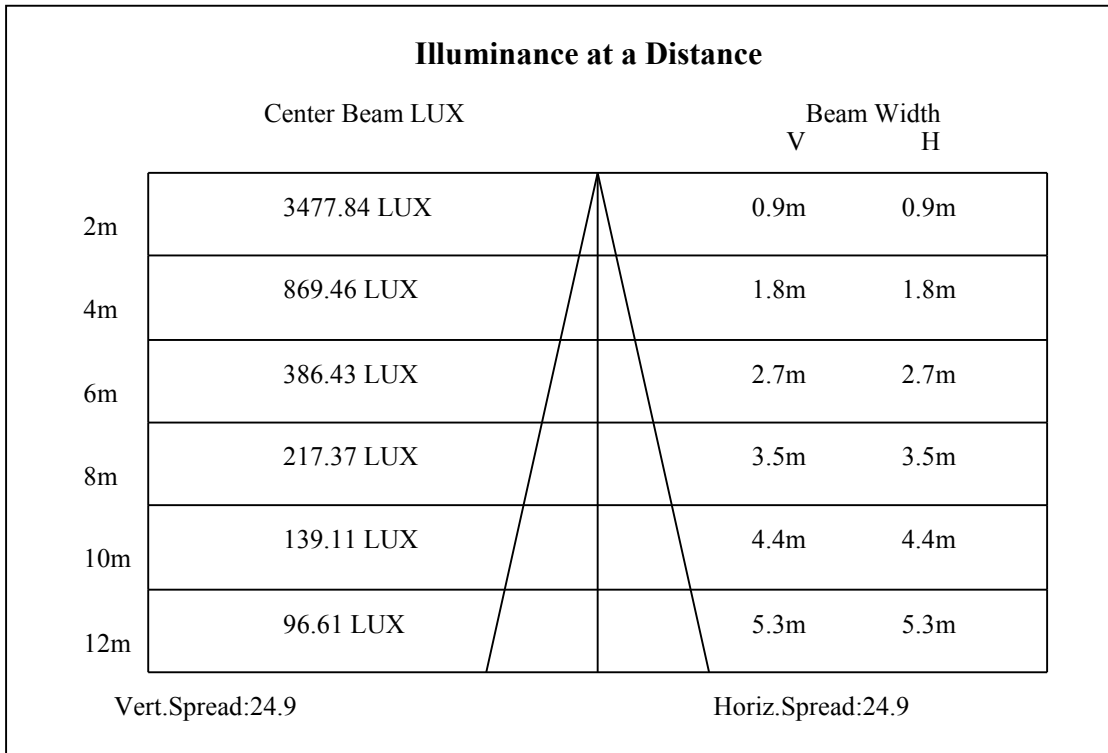
C90/C270: —————

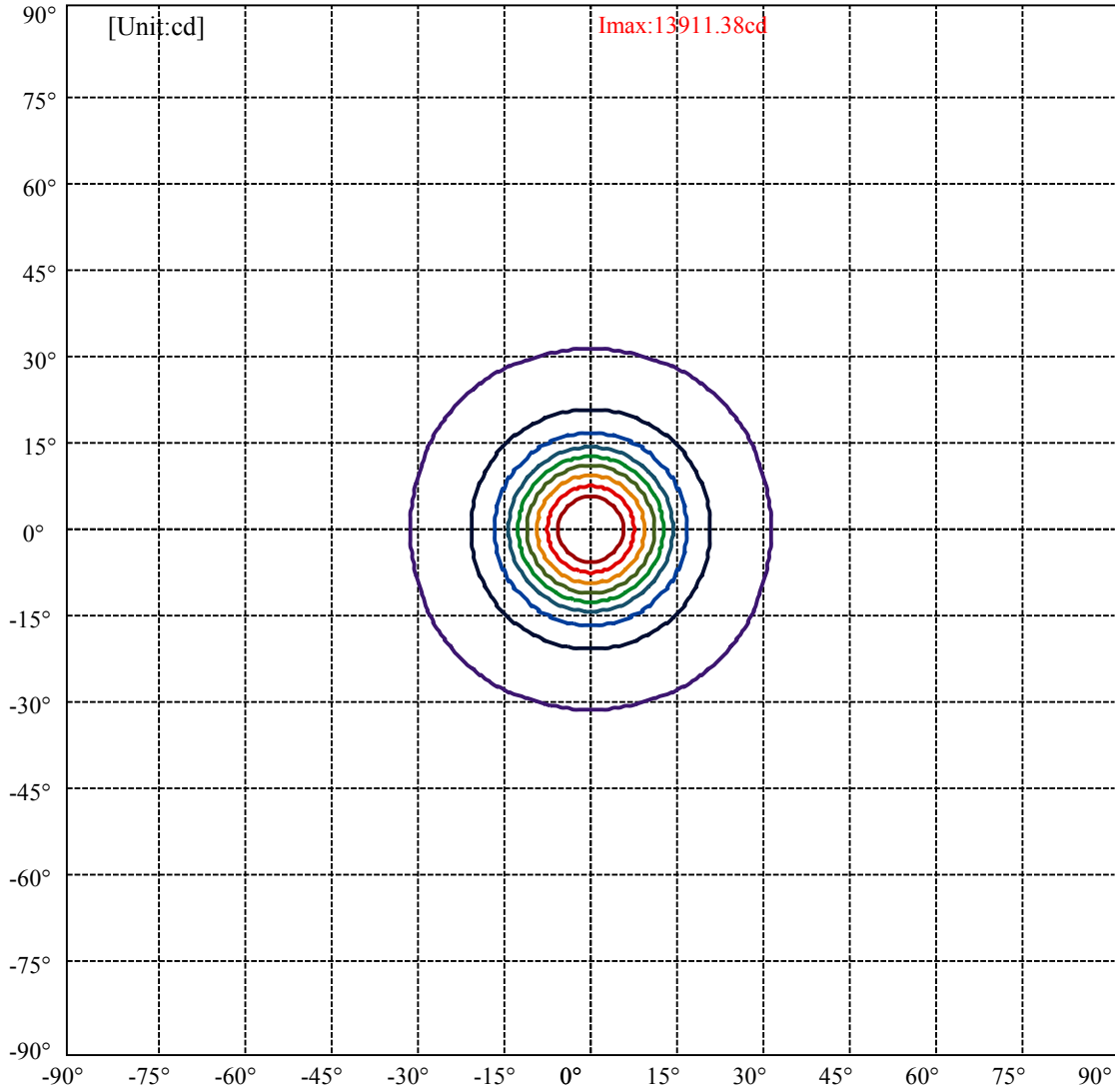
Field angle(10%Imax):C0/180Left:30.9 Right:30.9

:C90/270Left:30.9 Right:30.9

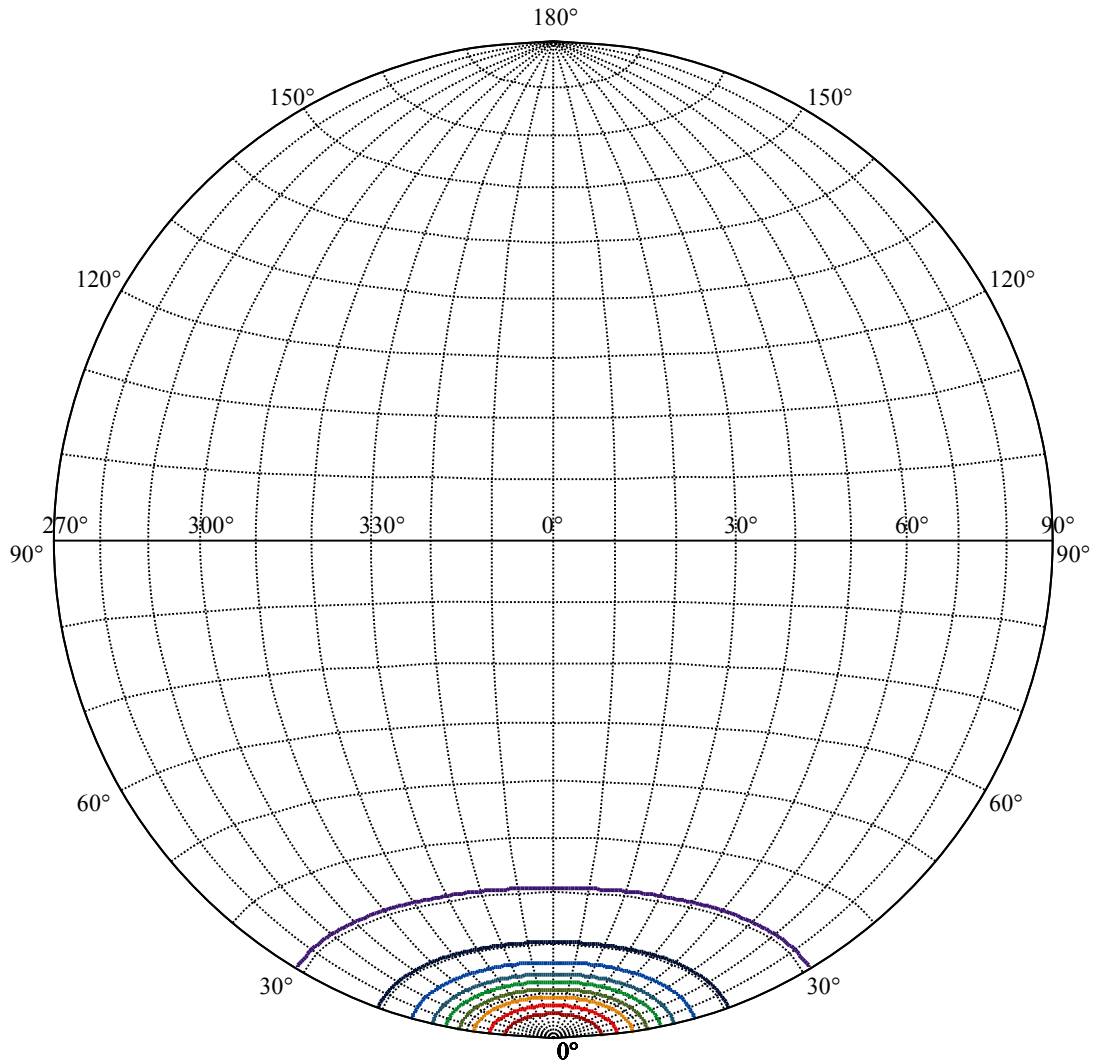
Beam Angle(50%Imax):C0/180Left:12.5 Right:12.5

:C90/270Left:12.5 Right:12.5





(10%Imax) 1391.14	—
(20%Imax) 2782.28	—
(30%Imax) 4173.41	—
(40%Imax) 5564.55	—
(50%Imax) 6955.69	—
(60%Imax) 8346.83	—
(70%Imax) 9737.96	—
(80%Imax) 11129.1	—
(90%Imax) 12520.2	—



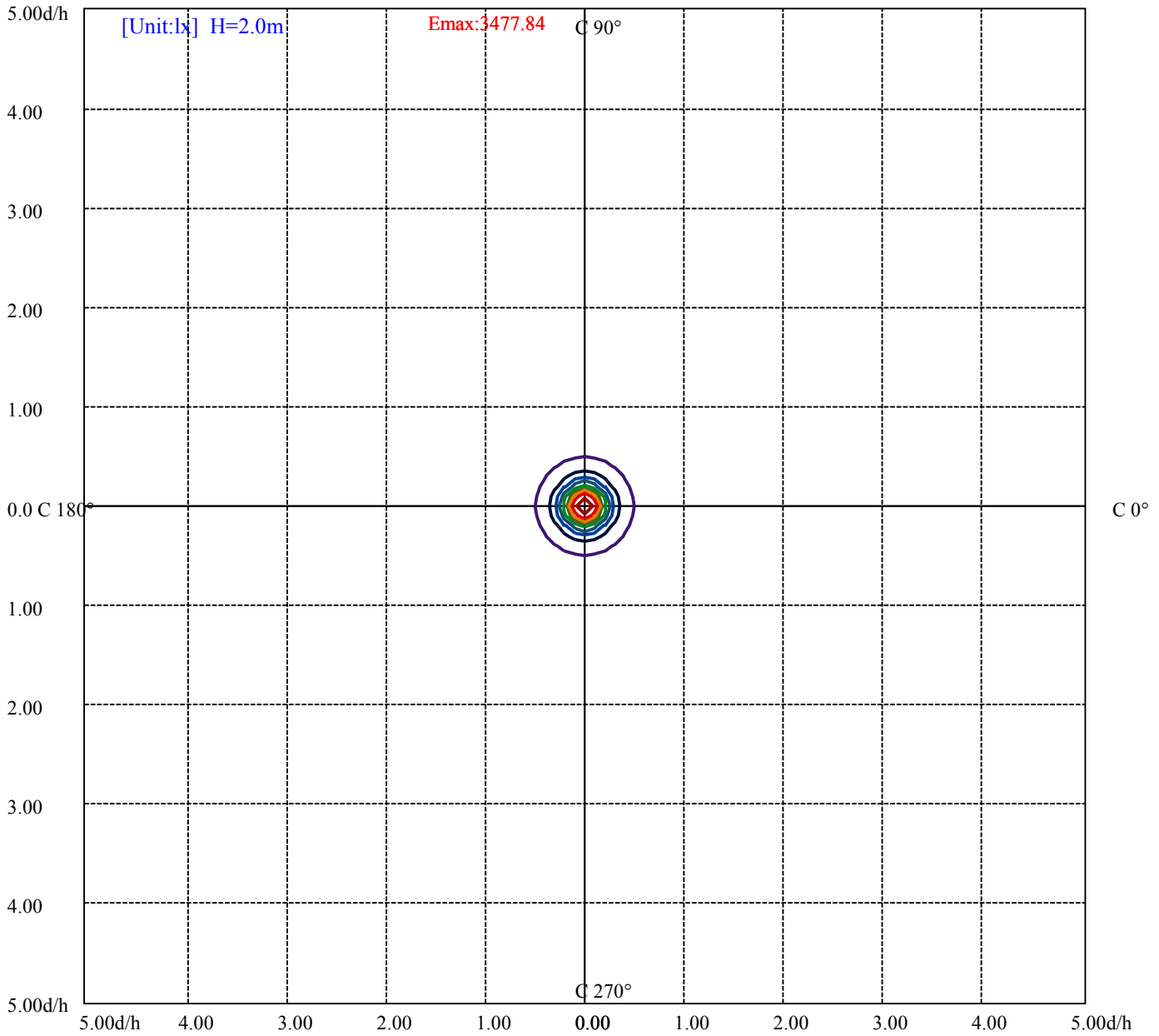
House

[Unit:cd]

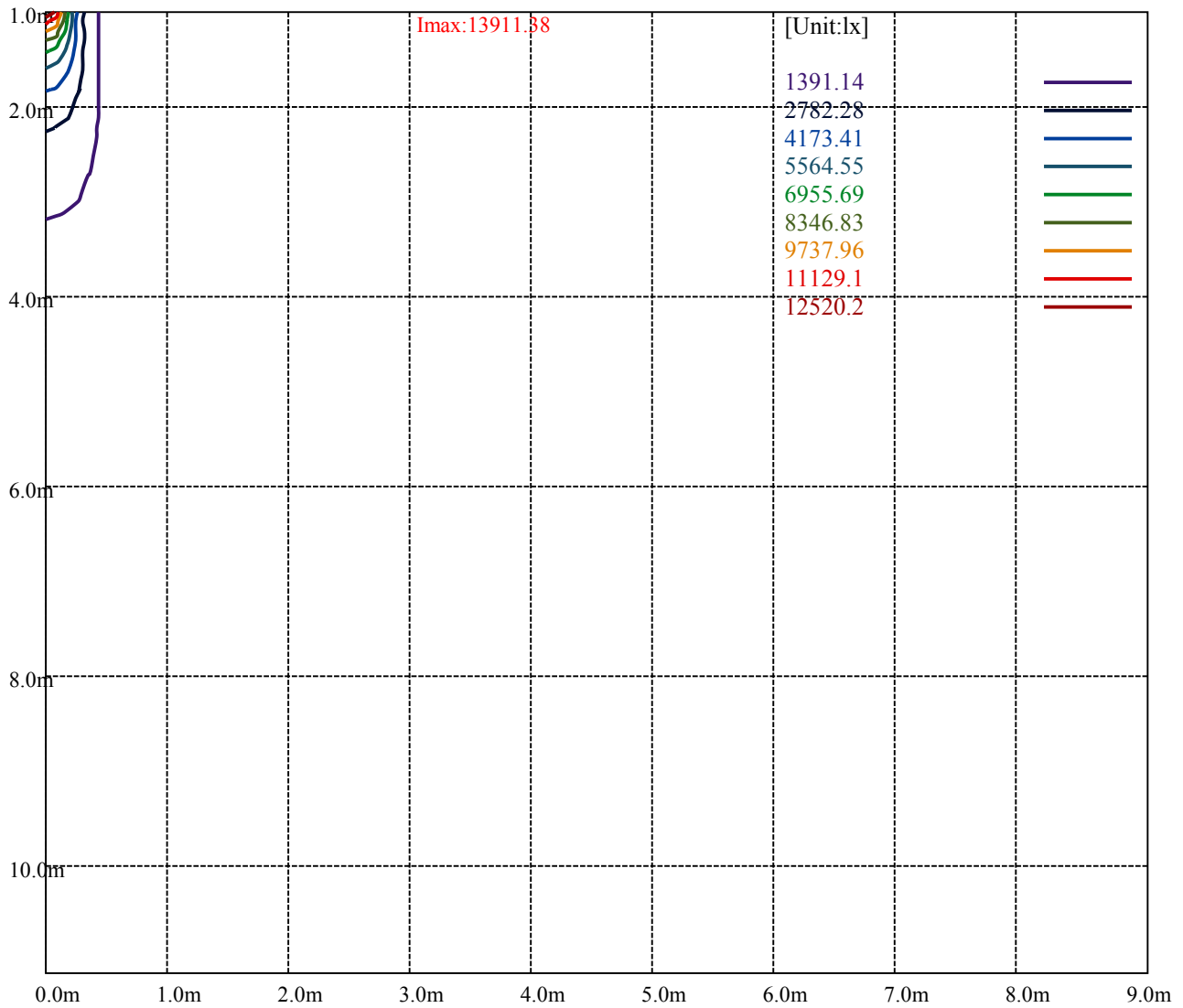
Road

Imax:13911.38

(10%Imax) 1391.14	—
(20%Imax) 2782.28	—
(30%Imax) 4173.41	—
(40%Imax) 5564.55	—
(50%Imax) 6955.69	—
(60%Imax) 8346.83	—
(70%Imax) 9737.96	—
(80%Imax) 11129.1	—
(90%Imax) 12520.2	—



- (10%Emax) 347.7825
- (20%Emax) 695.5675
- (30%Emax) 1043.35
- (40%Emax) 1391.135
- (50%Emax) 1738.917
- (60%Emax) 2086.702
- (70%Emax) 2434.485
- (80%Emax) 2782.275
- (90%Emax) 3130.05



Luminance Table

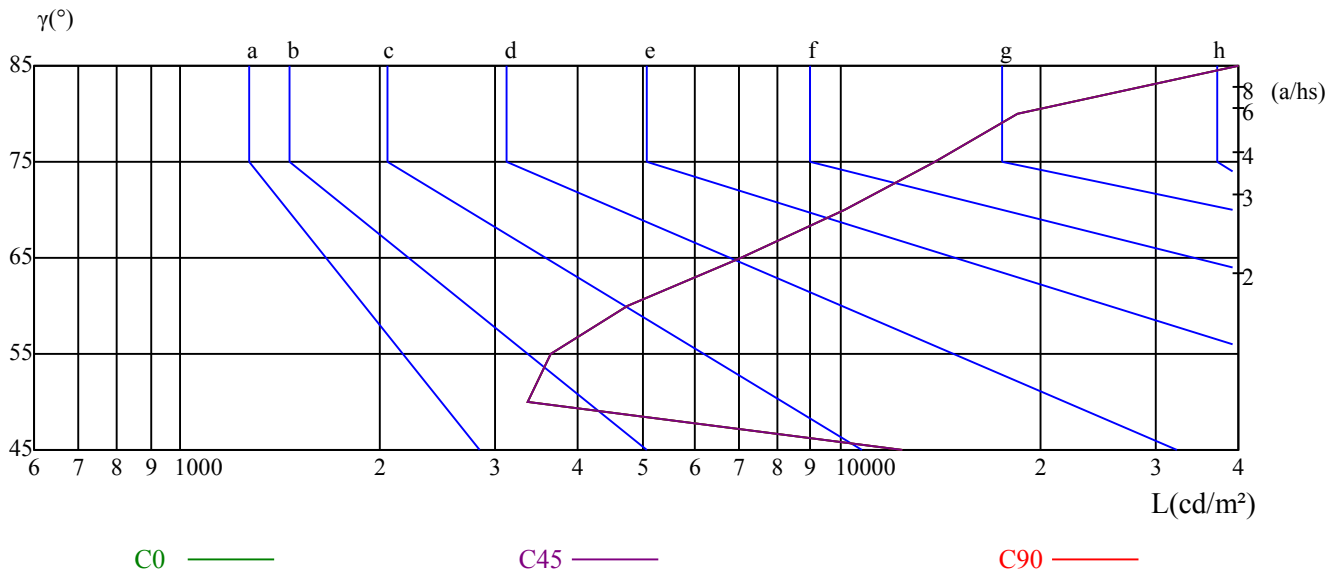
γ	45	50	55	60	65	70	75	80	85
C0	12352	3350	3633	4740	7063	10147	13859	18524	40397
C45	12352	3350	3633	4740	7063	10147	13859	18524	40397
C90	12352	3350	3633	4740	7063	10147	13859	18524	40397

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
7063	7063	7063	13859	13859	13859	40397	40397	40397

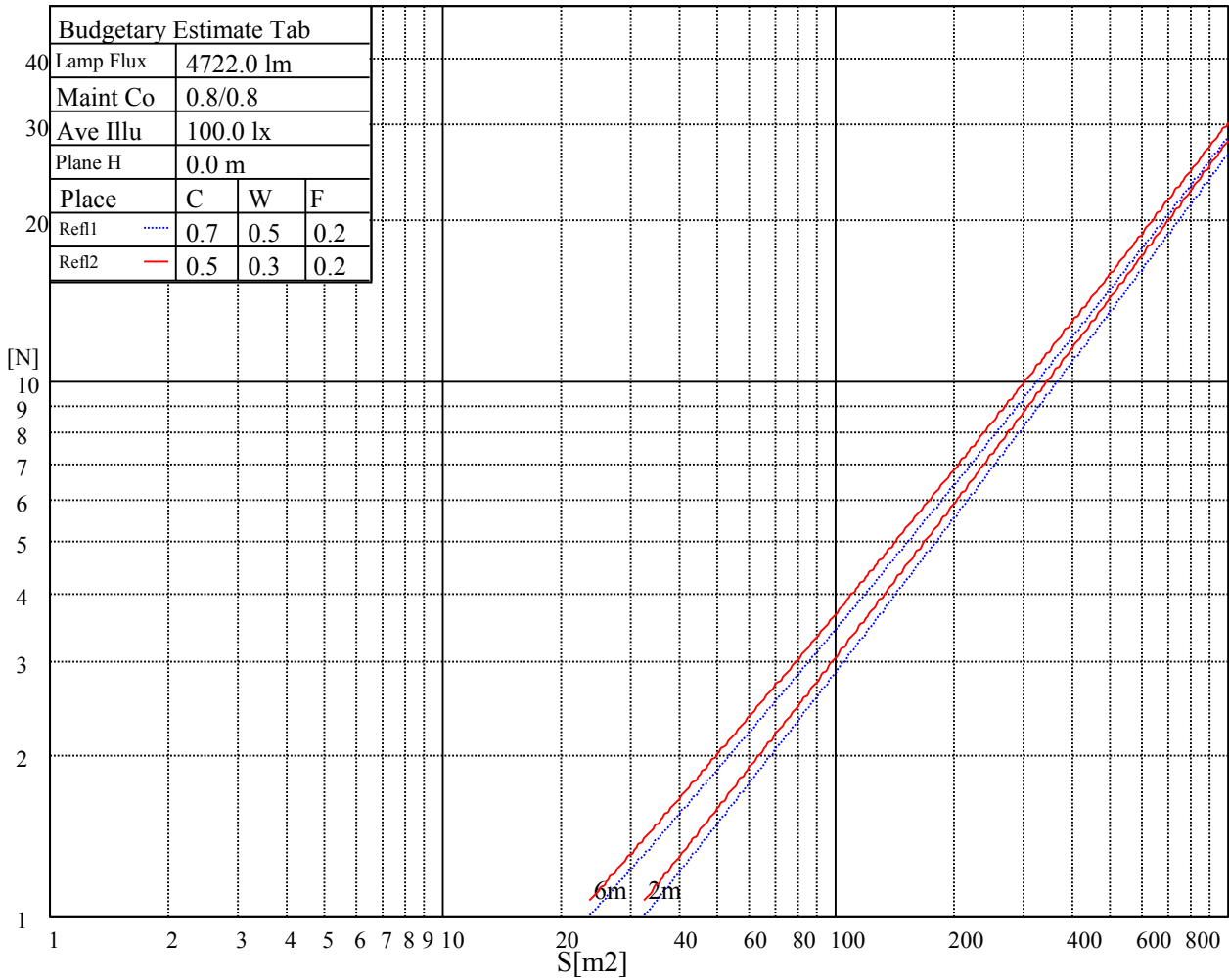
Glare Table

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

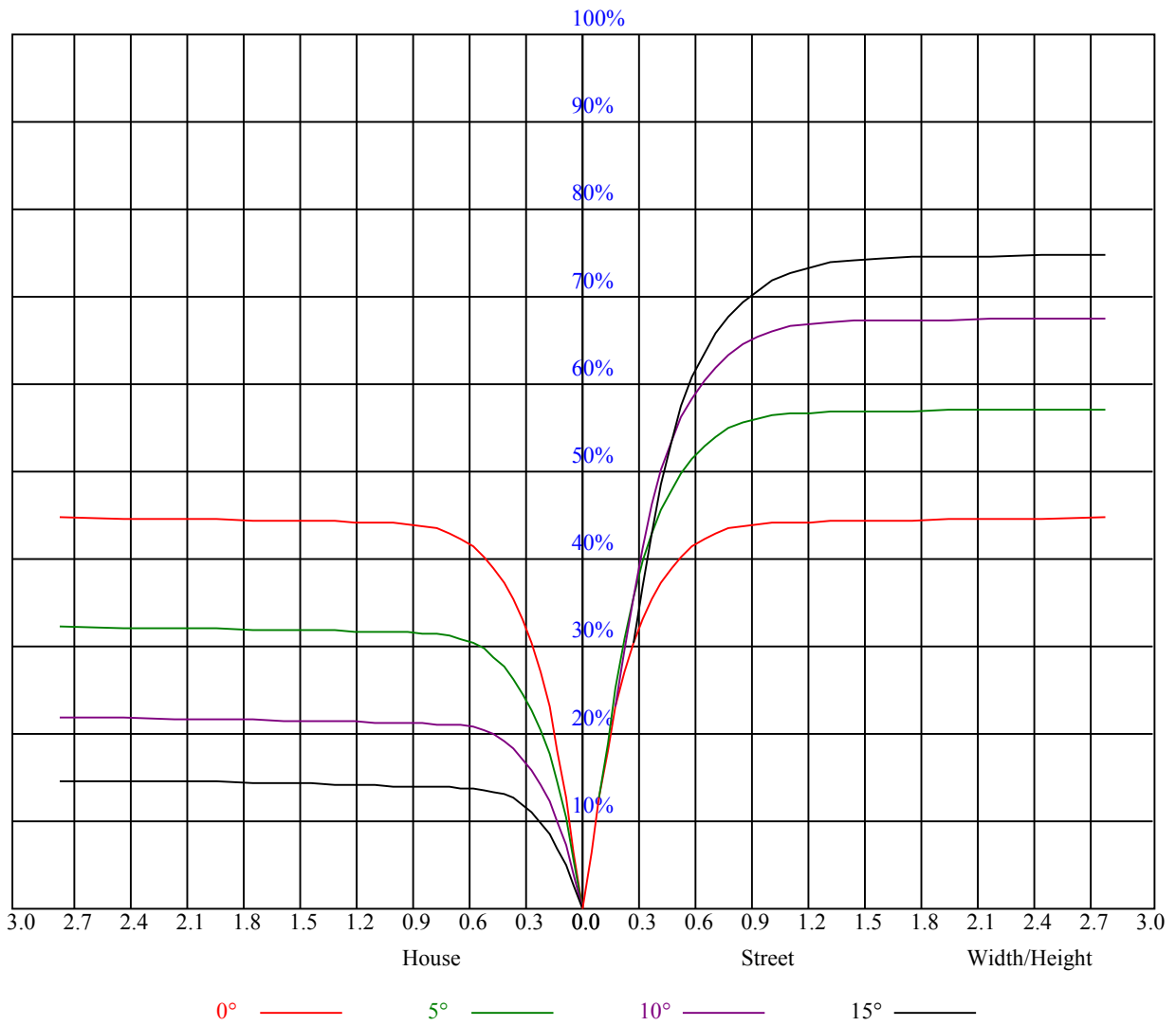
Luminance Limiting Curve



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	0.78	1.73	1.15	2.05	2.36	1.37	2.32	1.73	2.63	2.95
	3H	6.31	7.15	6.69	7.48	7.85	7.24	8.08	7.62	8.41	8.78
	4H	8.95	9.73	9.36	10.08	10.47	9.50	10.28	9.91	10.64	11.03
	6H	11.10	11.81	11.52	12.19	12.58	11.49	12.20	11.91	12.58	12.98
	8H	12.34	13.01	12.78	13.40	13.81	12.53	13.20	12.97	13.60	14.01
	12H	14.56	15.20	14.99	15.58	16.01	14.26	14.90	14.70	15.29	15.72
4H	2H	2.45	3.23	2.86	3.59	3.98	2.79	3.57	3.20	3.93	4.32
	3H	7.81	8.45	8.23	8.86	9.27	8.47	9.12	8.89	9.53	9.93
	4H	10.47	11.04	10.90	11.47	11.92	10.85	11.43	11.29	11.85	12.30
	6H	12.43	12.93	12.91	13.38	13.86	12.73	13.22	13.20	13.67	14.15
	8H	13.84	14.30	14.32	14.75	15.23	13.94	14.40	14.42	14.86	15.33
8H	12H	15.98	16.38	16.47	16.87	17.34	15.64	16.04	16.14	16.53	17.01
	4H	11.30	11.77	11.78	12.22	12.69	11.59	12.05	12.07	12.50	12.98
	6H	13.58	13.94	14.09	14.45	14.93	13.79	14.15	14.30	14.66	15.14
	8H	15.15	15.48	15.69	16.00	16.50	15.19	15.51	15.72	16.04	16.53
12H	12H	17.33	17.61	17.85	18.11	18.69	17.00	17.28	17.52	17.78	18.36
	4H	11.53	11.92	12.02	12.41	12.89	11.79	12.18	12.28	12.67	13.15
	6H	14.19	14.26	14.47	14.73	15.28	14.37	14.44	14.65	14.92	15.47
8H	15.64	15.93	16.17	16.42	17.00	15.66	15.94	16.18	16.44	17.02	
Variation with the observer position at spacings:											
S = 1.0H	4.2/-4.5					4.2/-4.5					
S = 1.5H	5.5/-3.1					5.5/-3.1					
S = 2.0H	6.3/-2.4					6.3/-2.4					
Standard tables:	BKBF					BKBF					
Uncorrected UGR	5.9					5.9					



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	1.09	1.09	1.09	1.06	1.06	1.06	1.02	1.02	1.02	0.97	0.97	0.97	0.93	0.93	0.93	0.91
1	1.00	0.97	0.95	0.98	0.96	0.94	0.94	0.92	0.91	0.91	0.89	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	0.87	0.85	0.83	0.85	0.83	0.81	0.80
3	0.90	0.86	0.82	0.89	0.85	0.82	0.86	0.83	0.80	0.84	0.81	0.79	0.82	0.80	0.78	0.77
4	0.86	0.81	0.78	0.85	0.81	0.77	0.83	0.79	0.76	0.81	0.78	0.76	0.79	0.77	0.75	0.73
5	0.82	0.77	0.74	0.81	0.77	0.74	0.80	0.76	0.73	0.78	0.75	0.72	0.77	0.74	0.72	0.71
6	0.79	0.74	0.71	0.78	0.74	0.71	0.77	0.73	0.70	0.76	0.72	0.70	0.74	0.72	0.69	0.68
7	0.76	0.71	0.68	0.75	0.71	0.68	0.74	0.70	0.68	0.73	0.70	0.67	0.72	0.69	0.67	0.66
8	0.73	0.69	0.66	0.73	0.68	0.65	0.72	0.68	0.65	0.71	0.67	0.65	0.70	0.67	0.65	0.64
9	0.71	0.66	0.63	0.70	0.66	0.63	0.69	0.66	0.63	0.69	0.65	0.63	0.68	0.65	0.63	0.62
10	0.68	0.64	0.61	0.68	0.64	0.61	0.67	0.64	0.61	0.67	0.63	0.61	0.66	0.63	0.61	0.60



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	13907.25	13995.34	11237.01	5731.37	3358.44	2223.18	1753.55	1164.44	563.23
45.0	13945.79	13945.79	11385.66	5995.64	3540.13	2242.45	1822.37	1240.42	651.32
90.0	13896.24	13560.39	9035.86	4642.36	2886.61	2042.04	1574.06	922.64	390.18
135.0	13896.24	13279.60	8985.20	4503.61	2780.35	2005.15	1555.34	906.78	376.04
180.0	13907.25	10916.03	7165.59	3708.05	2379.54	1841.09	1077.73	721.40	210.32
225.0	13945.79	10842.81	6836.90	3700.89	2363.02	1781.63	1069.47	644.16	171.39
270.0	13896.24	13527.36	9089.81	4641.25	2846.42	1951.20	1540.48	914.49	363.37
315.0	13896.24	13808.15	9379.41	4754.67	2783.10	1985.33	1576.26	934.58	376.92
360.0	13907.25	13995.34	11237.01	5731.37	3358.44	2223.18	1753.55	1164.44	563.23

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	115.62	23.23	21.97	21.31	23.95	28.30	28.02	26.04	27.97
45.0	283.54	22.13	20.54	20.04	20.65	24.45	29.12	30.12	33.86
90.0	57.15	21.14	20.59	22.30	29.40	34.91	38.32	32.43	42.23
135.0	52.25	20.92	20.54	25.16	35.02	41.13	43.60	36.89	41.51
180.0	26.48	21.25	21.47	31.99	47.07	51.37	46.41	39.03	37.22
225.0	23.95	20.59	20.48	27.58	33.53	39.70	40.47	39.37	30.12
270.0	68.88	21.36	20.37	21.09	27.20	32.21	35.18	29.73	36.34
315.0	70.86	21.64	20.76	20.15	21.97	25.60	25.82	23.73	32.43
360.0	115.62	23.23	21.97	21.31	23.95	28.30	28.02	26.04	27.97

C/γ(°)	90.0
0.0	17.89
45.0	17.67
90.0	17.56
135.0	17.67
180.0	17.84
225.0	17.67
270.0	17.62
315.0	17.62
360.0	17.89