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Nata

LumCAT: 4-2221-A	
Luminaire: BJB47.319.2030	
Report No: NT2017092007	Voltage(V): 34.1000
Test No: GC2017092007	Current(A): 0.8000
LampCAT: LUMILEDS 1216	Power (W): 27.2800
Lamp flux(lm): 4061.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 100	Width(mm): 100
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 3630.08
Efficiency(%): 89.39%
Lumens(lm)/Power(W): 133.07
Central intensity(cd): 7678.440
Maximum intensity(cd): 7678.440
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=39.2
 [C90/270]Total=39.2
Field angle(10%Imax): [C0/180]Total=68.0
 [C90/270]Total=68.0
Maximum s/h(1/2): C0_180=0.65 C90_270=0.65
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(%): 90.43%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.603%

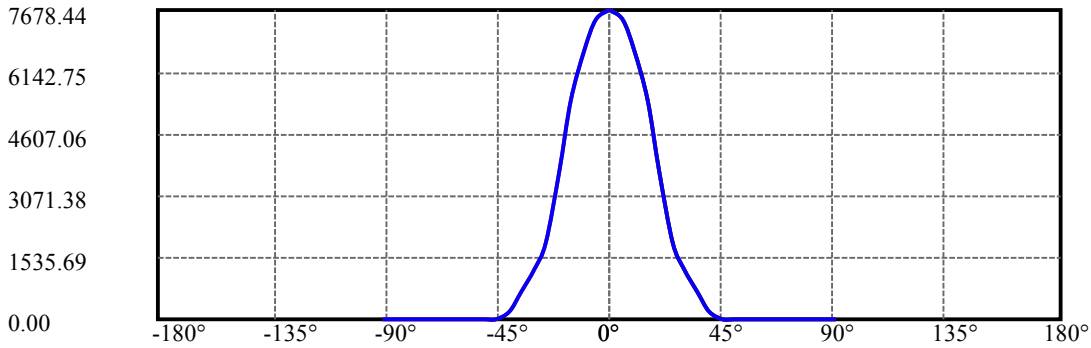
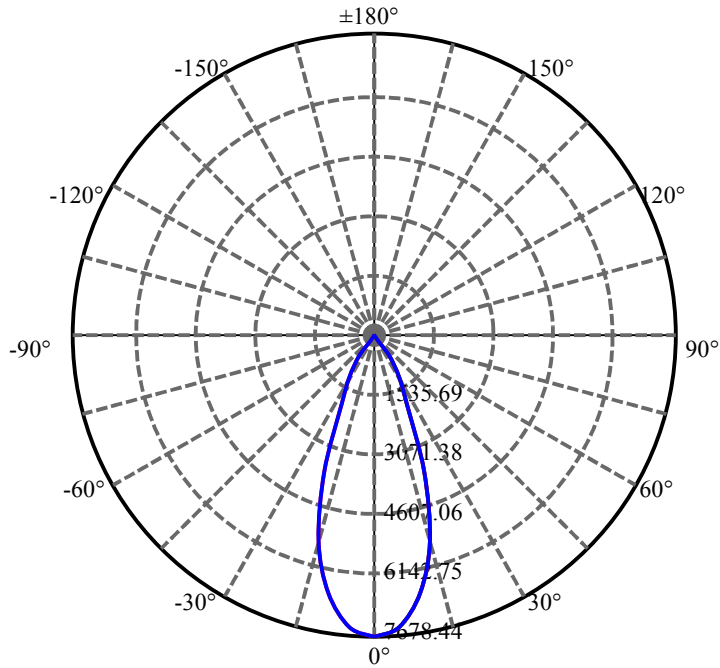
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	7678.441	45.919	45.919	1.131%	1.265%
5.0	7446.034	355.722	401.64	8.759%	11.064%
10.0	6657.420	633.674	1035.314	15.604%	28.520%
15.0	5442.325	772.094	1807.408	19.012%	49.790%
20.0	3690.706	691.911	2499.319	17.038%	68.850%
25.0	1927.662	446.548	2945.868	10.996%	81.152%
30.0	1225.748	335.939	3281.807	8.272%	90.406%
35.0	654.627	205.814	3487.621	5.068%	96.076%
40.0	184.370	64.960	3552.581	1.600%	97.865%
45.0	22.718	8.805	3561.386	.217%	98.108%
50.0	18.052	7.580	3568.966	.187%	98.316%
55.0	17.109	7.682	3576.648	.189%	98.528%
60.0	16.544	7.854	3584.502	.193%	98.744%
65.0	16.138	8.017	3592.519	.197%	98.965%
70.0	15.884	8.181	3600.701	.201%	99.191%
75.0	15.739	8.333	3609.034	.205%	99.420%
80.0	15.574	8.407	3617.441	.207%	99.652%
85.0	15.498	8.463	3625.904	.208%	99.885%
90.0	15.244	4.178	3630.082	.103%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	3281.81	80.81%	90.41%
0-40	3552.58	87.48%	97.87%
0-60	3584.50	88.27%	98.74%
0-90	3625.90	89.29%	99.88%
0-120	3625.90	89.29%	99.88%
0-180	3630.08	89.39%	100.00%
60-90	49.26	1.21%	1.36%
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%
0-24.53	2904.07	71.51%	80.00%

ZONAL LUMEN SUMMARY

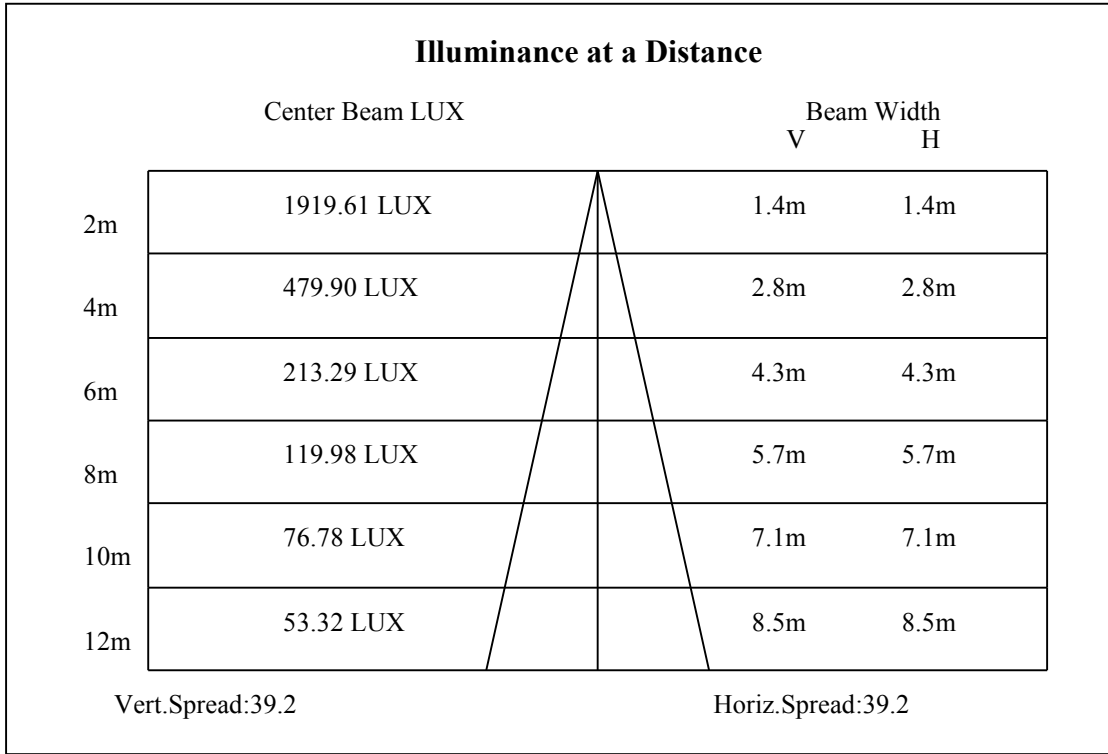
0-10	1035.31
10-20	1464.01
20-30	782.49
30-40	270.77
40-50	16.39
50-60	15.54
60-70	16.20
70-80	16.74
80-90	8.46
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

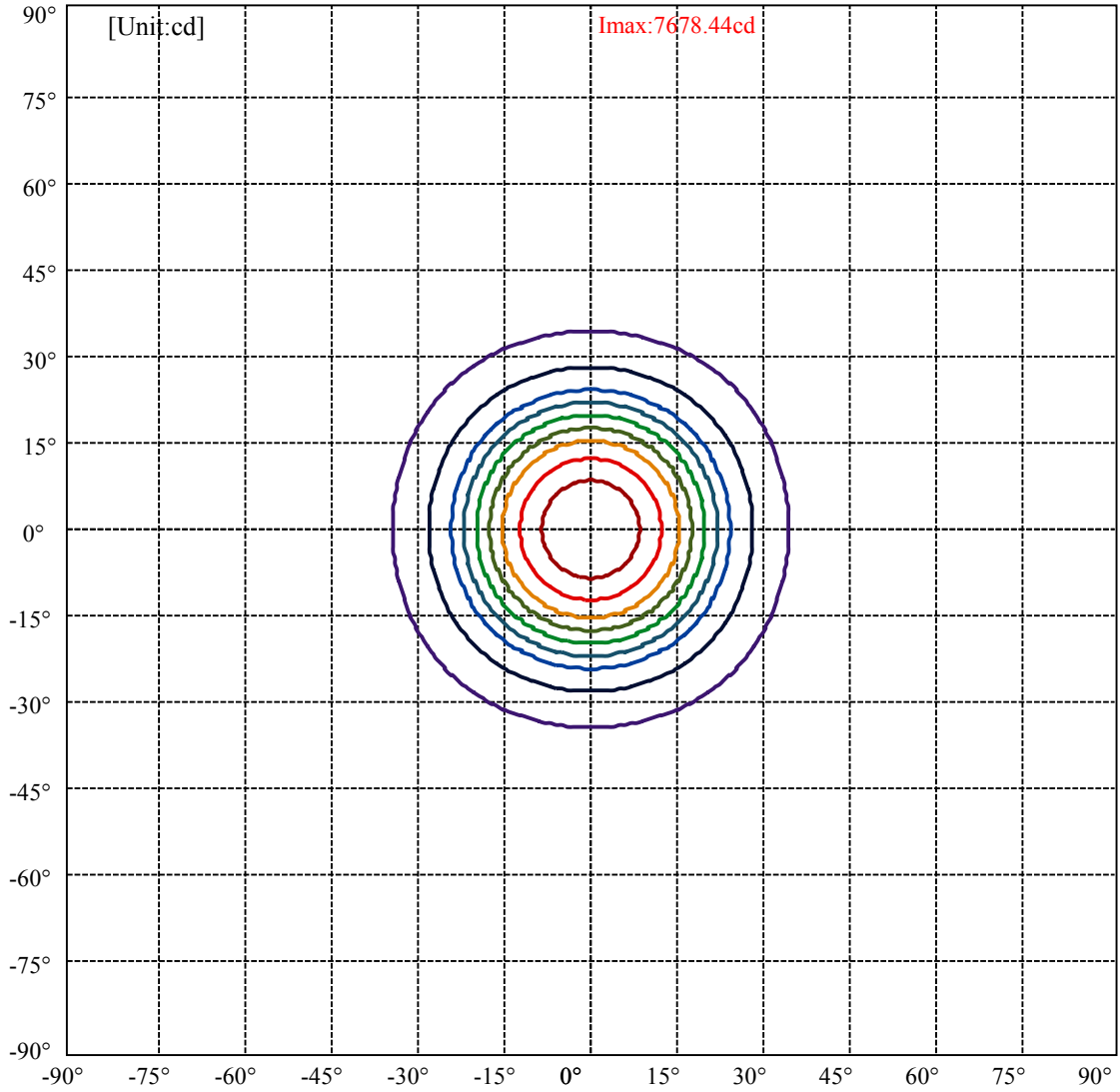


C0(Max): —————
C0/C180: —————
C90/C270: —————

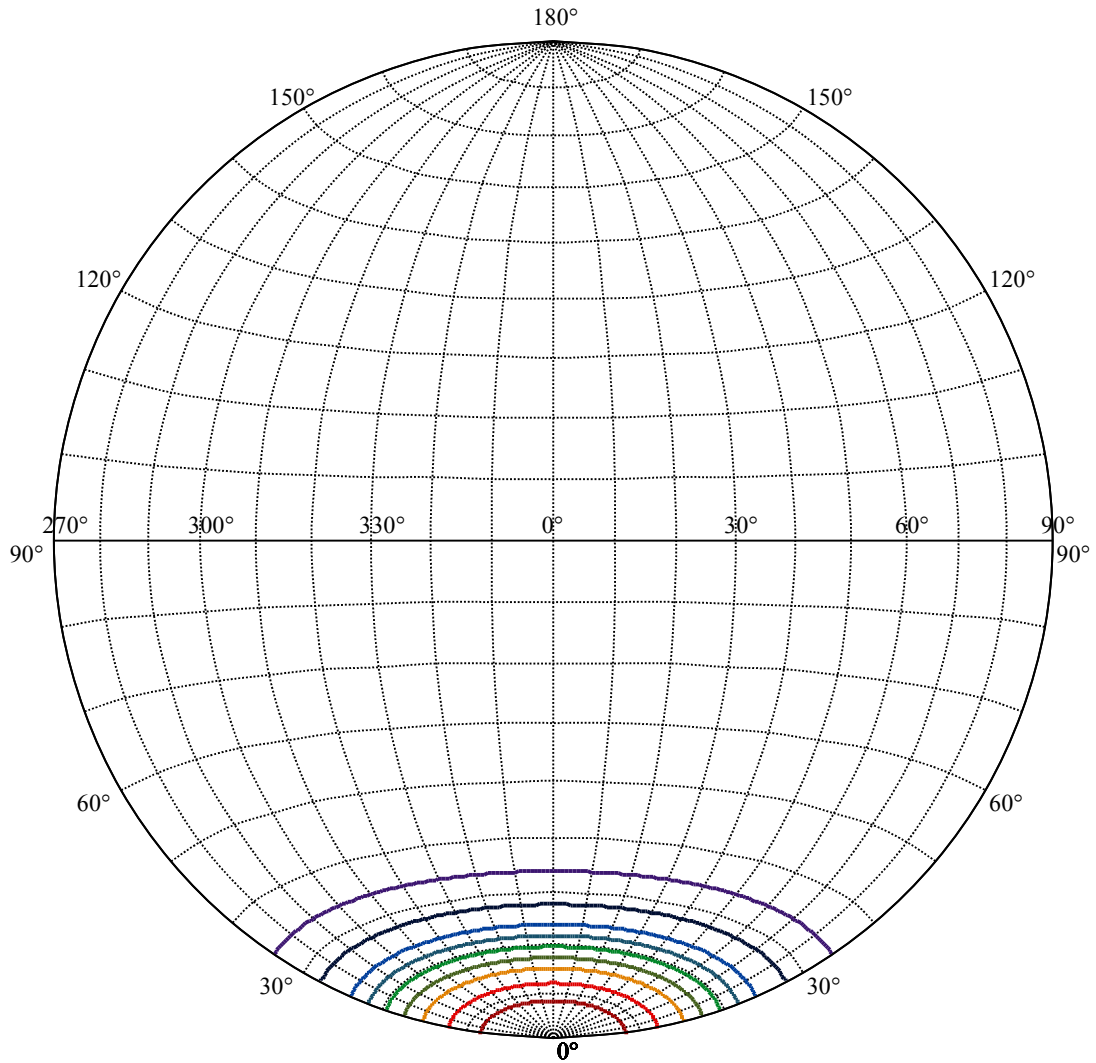
Field angle(10%Imax):C0/180Left:34.0 Right:34.0
:C90/270Left:34.0 Right:34.0

Beam Angle(50%Imax):C0/180Left:19.6 Right:19.6
:C90/270Left:19.6 Right:19.6





(10%Imax) 767.844	—
(20%Imax) 1535.69	—
(30%Imax) 2303.53	—
(40%Imax) 3071.38	—
(50%Imax) 3839.22	—
(60%Imax) 4607.06	—
(70%Imax) 5374.91	—
(80%Imax) 6142.75	—
(90%Imax) 6910.6	—



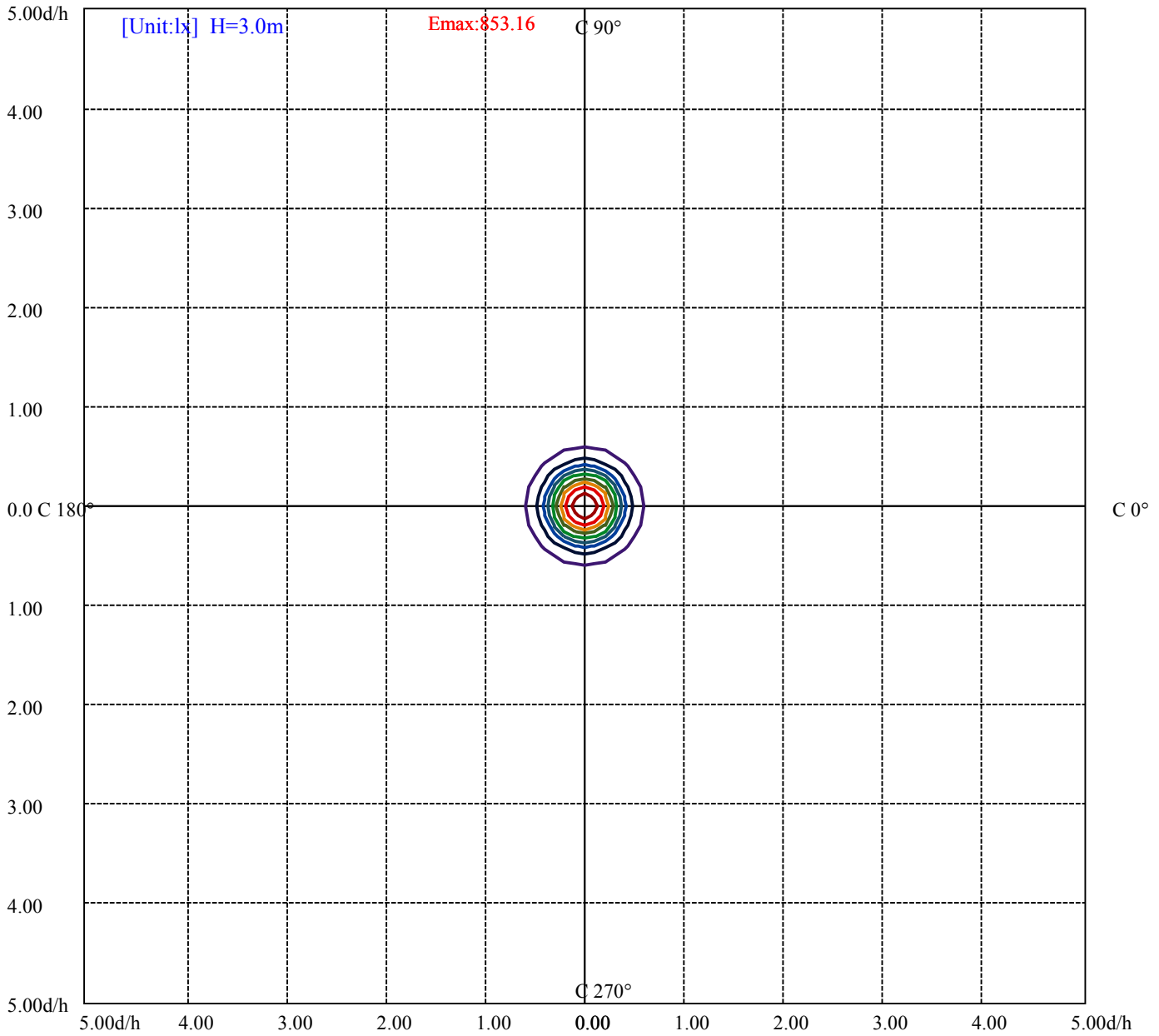
House

[Unit:cd]

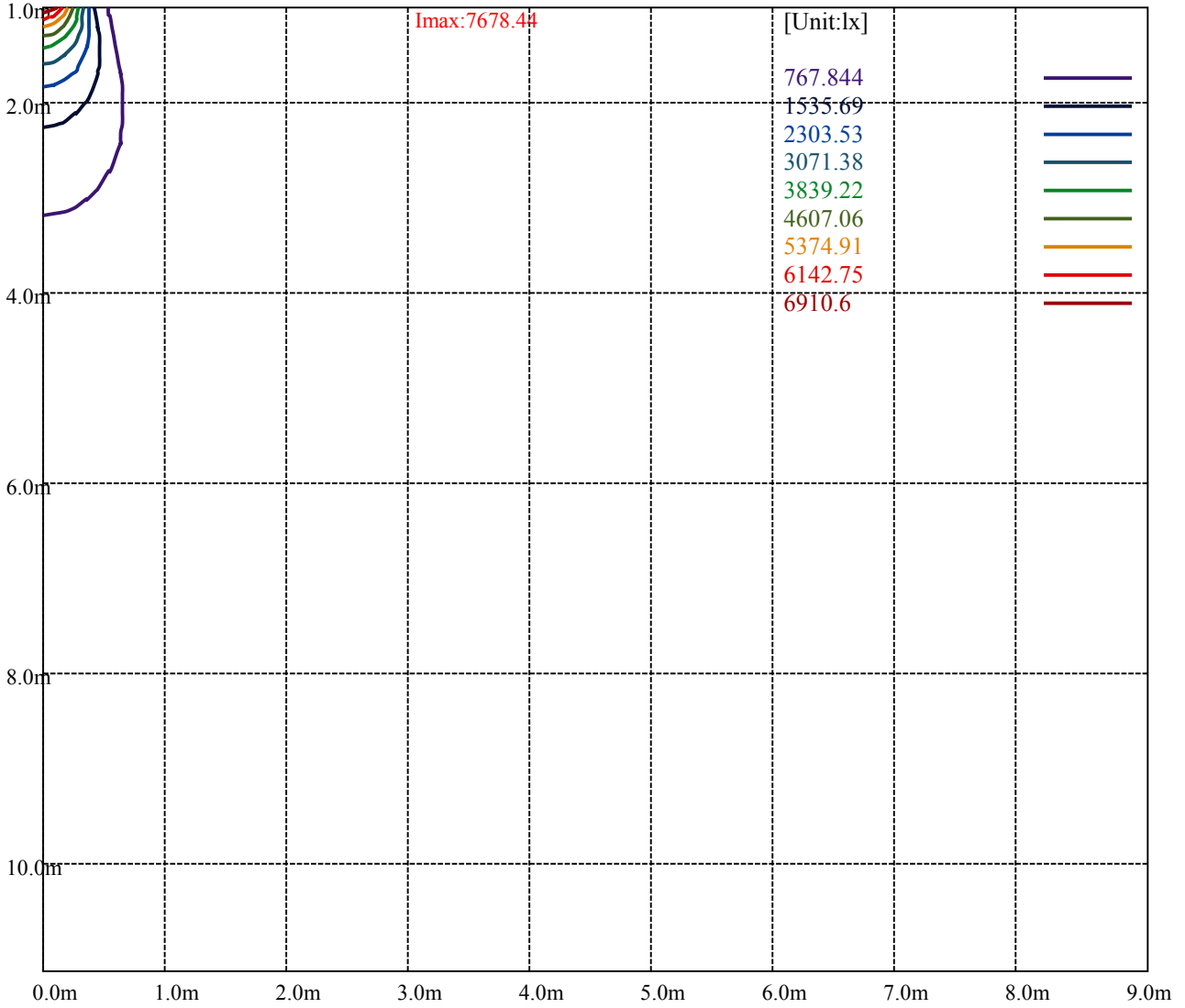
Road

Imax:7678.44

(10%Imax) 767.844	—
(20%Imax) 1535.69	—
(30%Imax) 2303.53	—
(40%Imax) 3071.38	—
(50%Imax) 3839.22	—
(60%Imax) 4607.06	—
(70%Imax) 5374.91	—
(80%Imax) 6142.75	—
(90%Imax) 6910.6	—



(10%E _{max}) 85.31589	—
(20%E _{max}) 170.6322	—
(30%E _{max}) 255.9478	—
(40%E _{max}) 341.2633	—
(50%E _{max}) 426.58	—
(60%E _{max}) 511.8956	—
(70%E _{max}) 597.2111	—
(80%E _{max}) 682.5278	—
(90%E _{max}) 767.8433	—



Luminance Table

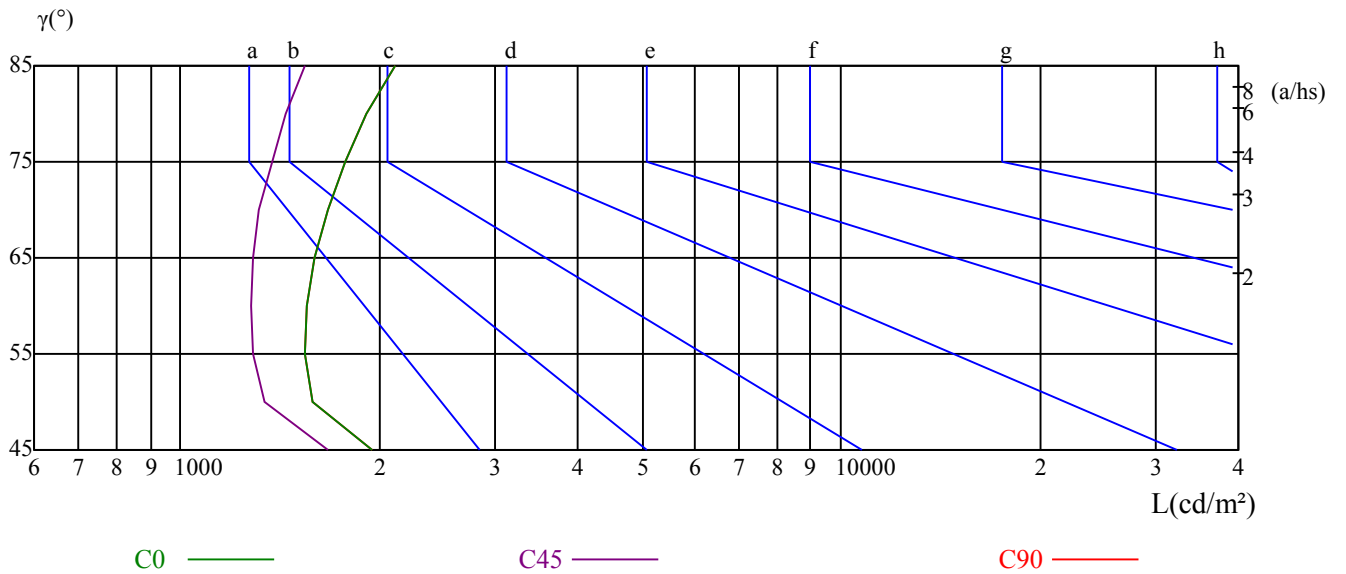
γ	45	50	55	60	65	70	75	80	85
C0	1947	1582	1547	1557	1595	1667	1775	1914	2110
C45	1674	1340	1290	1276	1285	1317	1373	1443	1545
C90	1947	1582	1547	1557	1595	1667	1775	1914	2110

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
3819	3819	3819	6081	6081	6081	17782	17782	17782

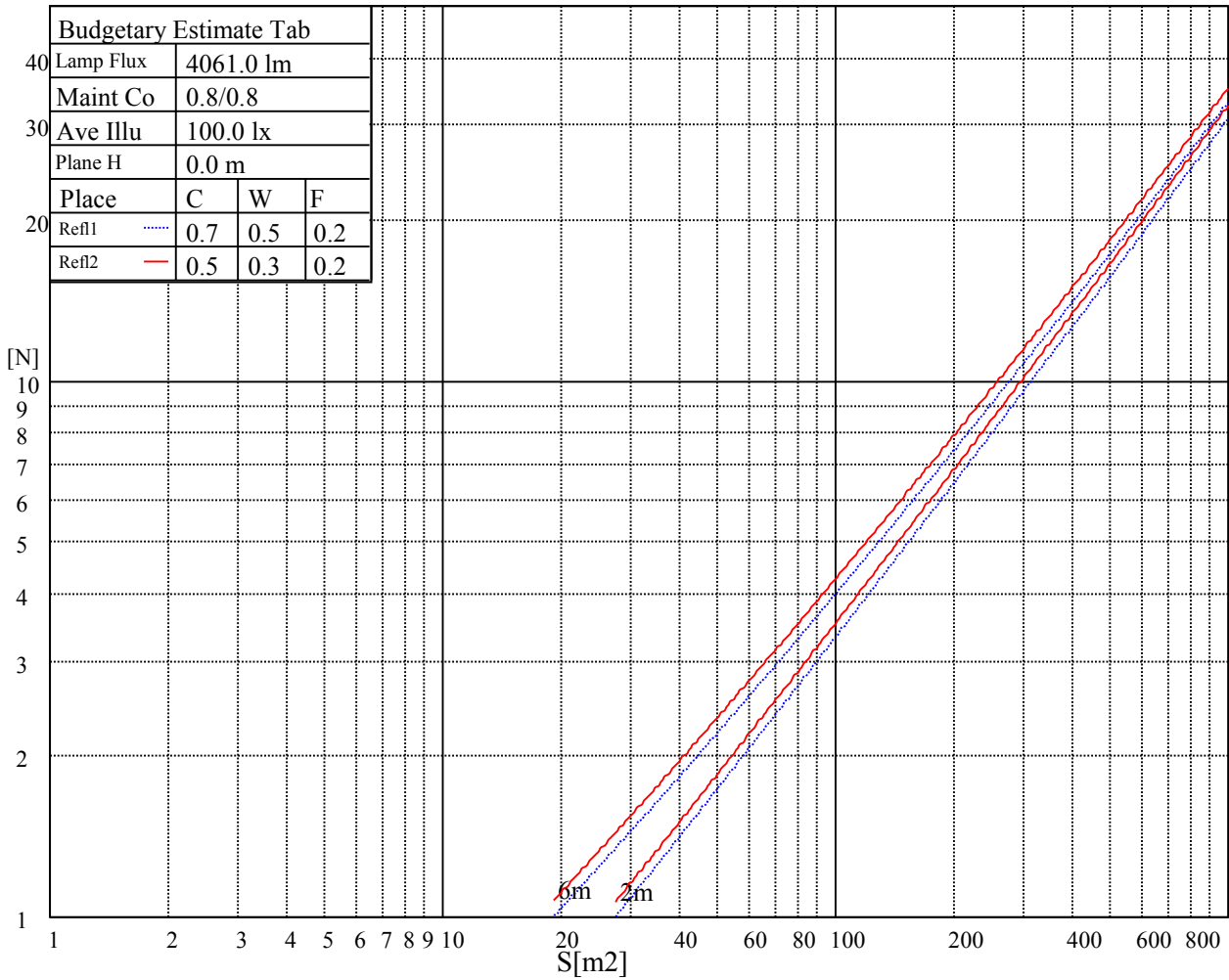
Glare Table

Glare	Quality	Service Values Illuminance(lx)							
		a	b	c	d	e	f	g	h
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

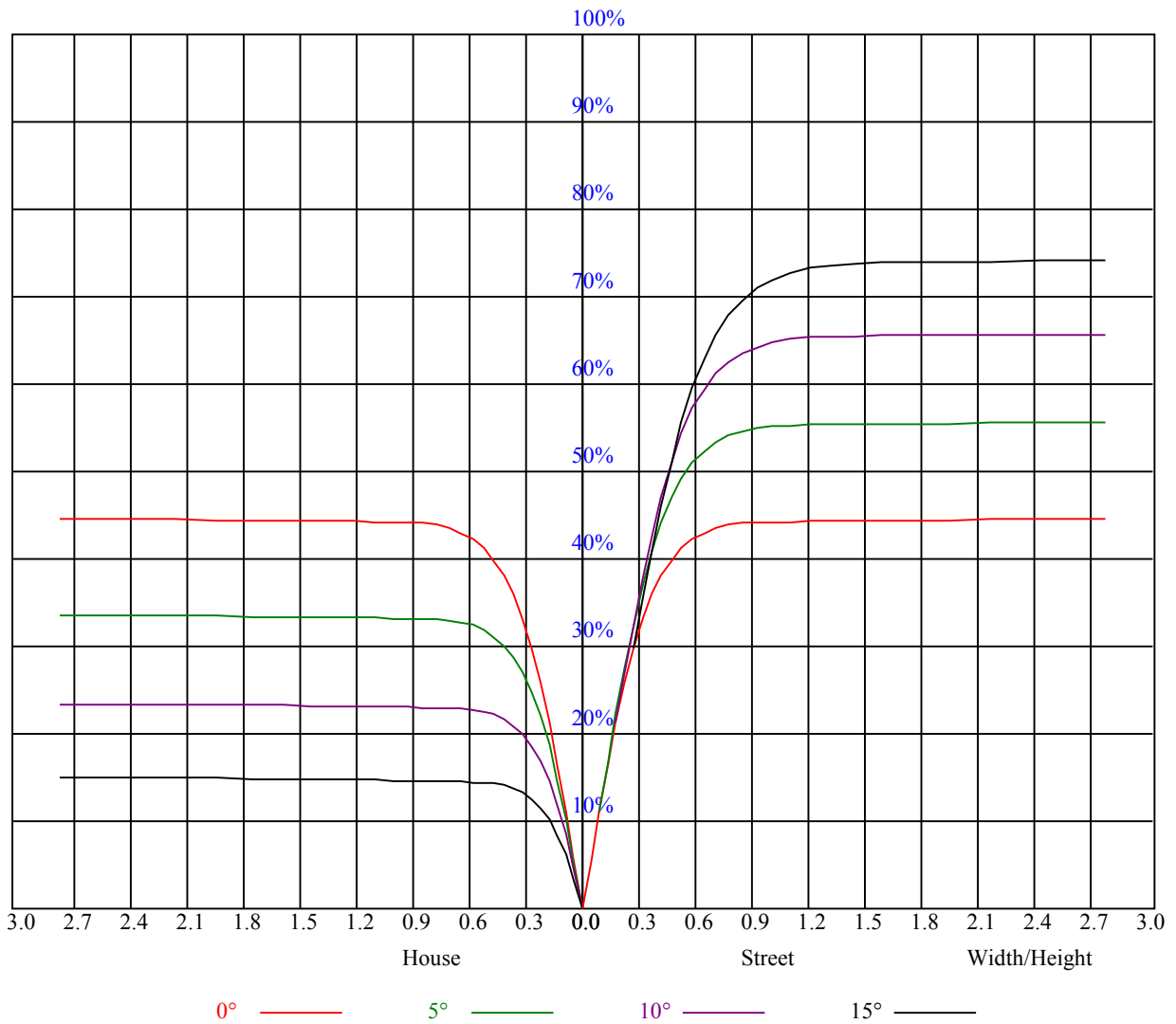
Luminance Limiting Curve



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	-1.88	-0.96	-1.51	-0.65	-0.34	-1.85	-0.94	-1.49	-0.63	-0.31
	3H	0.41	1.22	0.79	1.55	1.92	0.45	1.25	0.83	1.59	1.96
	4H	1.69	2.43	2.10	2.79	3.18	1.70	2.44	2.11	2.80	3.19
	6H	3.02	3.70	3.44	4.08	4.47	3.01	3.70	3.43	4.07	4.47
	8H	3.68	4.32	4.12	4.71	5.12	3.67	4.31	4.11	4.70	5.11
	12H	4.70	5.31	5.13	5.69	6.12	4.68	5.29	5.12	5.67	6.11
4H	2H	-1.38	-0.63	-0.97	-0.28	0.11	-1.36	-0.62	-0.95	-0.26	0.13
	3H	1.21	1.82	1.63	2.23	2.64	1.23	1.84	1.65	2.25	2.66
	4H	2.65	3.20	3.09	3.63	4.08	2.65	3.20	3.09	3.63	4.08
	6H	4.07	4.54	4.55	4.99	5.47	4.07	4.54	4.54	4.99	5.46
	8H	4.85	5.28	5.33	5.73	6.21	4.84	5.27	5.32	5.72	6.20
	12H	5.86	6.23	6.35	6.72	7.20	5.84	6.22	6.34	6.71	7.19
8H	4H	3.09	3.53	3.57	3.98	4.46	3.09	3.53	3.57	3.98	4.46
	6H	4.75	5.09	5.26	5.60	6.09	4.75	5.09	5.26	5.59	6.08
	8H	5.68	5.98	6.21	6.51	7.00	5.67	5.97	6.21	6.50	7.00
	12H	6.82	7.08	7.34	7.58	8.16	6.81	7.07	7.33	7.57	8.15
12H	4H	3.18	3.56	3.68	4.05	4.53	3.18	3.56	3.68	4.05	4.53
	6H	5.12	5.23	5.46	5.70	6.25	5.12	5.22	5.46	5.70	6.25
	8H	5.95	6.21	6.47	6.71	7.29	5.94	6.20	6.46	6.70	7.28
Variation with the observer position at spacings:											
S = 1.0H		5.5/-7.4					5.5/-7.4				
S = 1.5H		7.8/-5.8					7.8/-5.8				
S = 2.0H		9.4/-4.6					9.4/-4.6				
Standard tables:		BK2					BK2				
Uncorrected UGR		-3.8					-3.8				



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	1.08	1.08	1.08	1.05	1.05	1.05	1.00	1.00	1.00	0.96	0.96	0.96	0.92	0.92	0.92	0.90
1	1.00	0.98	0.95	0.98	0.96	0.94	0.94	0.93	0.91	0.91	0.90	0.88	0.88	0.87	0.86	0.84
2	0.94	0.91	0.88	0.93	0.90	0.87	0.90	0.88	0.85	0.87	0.85	0.84	0.85	0.83	0.82	0.80
3	0.90	0.86	0.83	0.89	0.85	0.82	0.86	0.83	0.81	0.84	0.82	0.80	0.82	0.80	0.78	0.77
4	0.86	0.81	0.78	0.85	0.81	0.78	0.83	0.80	0.77	0.81	0.78	0.76	0.79	0.77	0.75	0.74
5	0.82	0.78	0.74	0.81	0.77	0.74	0.80	0.76	0.73	0.78	0.75	0.73	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	0.68	0.65	0.72	0.68	0.65	0.71	0.68	0.65	0.71	0.67	0.65	0.70	0.67	0.65	0.64
9	0.70	0.66	0.63	0.70	0.66	0.63	0.69	0.65	0.63	0.68	0.65	0.63	0.68	0.65	0.62	0.61
10	0.68	0.64	0.61	0.67	0.63	0.61	0.67	0.63	0.61	0.66	0.63	0.60	0.66	0.63	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	7679.82	7434.82	6719.08	5579.97	4050.50	2137.29	1397.88	793.36	291.25
45.0	7679.27	7451.88	6733.40	5635.02	3910.11	2017.27	1408.89	745.46	299.51
90.0	7671.56	7401.78	6600.16	5282.11	3370.55	1759.60	1066.83	578.97	61.88
135.0	7683.12	7542.73	6760.93	5522.71	3765.31	1933.58	1308.69	658.47	292.35
180.0	7679.82	7473.91	6561.07	5178.60	3377.16	1743.09	1064.96	560.09	58.08
225.0	7679.27	7429.31	6554.46	5261.74	3390.92	1799.79	1094.08	521.99	72.12
270.0	7671.56	7492.07	6795.06	5654.29	3965.16	2120.77	1376.96	731.15	299.51
315.0	7683.12	7341.77	6535.19	5424.16	3695.94	1909.91	1087.69	647.52	100.26
360.0	7679.82	7434.82	6719.08	5579.97	4050.50	2137.29	1397.88	793.36	291.25

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	23.62	18.44	17.34	16.68	16.24	15.91	15.75	15.64	15.47
45.0	23.18	18.28	17.29	16.63	16.19	15.86	15.58	15.42	15.31
90.0	21.69	17.73	16.90	16.46	16.02	15.75	15.64	15.53	15.42
135.0	23.29	17.89	17.07	16.57	16.13	15.86	15.75	15.64	15.53
180.0	21.86	17.89	17.07	16.52	16.13	15.86	15.64	15.47	15.42
225.0	22.19	18.06	17.07	16.46	16.02	15.75	15.53	15.42	15.42
270.0	23.95	18.17	17.12	16.57	16.19	16.13	16.13	15.69	15.69
315.0	21.97	17.95	17.01	16.46	16.19	15.97	15.91	15.80	15.75
360.0	23.62	18.44	17.34	16.68	16.24	15.91	15.75	15.64	15.47

C/γ(°)	90.0
0.0	15.31
45.0	15.20
90.0	15.20
135.0	15.31
180.0	15.25
225.0	15.20
270.0	15.20
315.0	15.31
360.0	15.31