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NATA

LumCAT: LM01D06938BJ
Luminaire: 92.70.045.00
Report No: NATA0100
Test No: GC2018122101
LampCAT: LUMILEDS LUXEON 1205
Lamp flux(lm): 2231.5
Number of Lamps: 1
Length(mm): 69
Phm Type: C

Voltage(V): 35.6000
Current(A): 0.5000
Power (W): 17.8000
PF: 0.0000
Ballast type: DC
Width(mm): 69
Height(mm): 0

Photometric Results

Lumens(lm): 2004.09
Efficiency(%): 89.81%
Lumens(lm)/Power(W): 113.67
Central intensity(cd): 3543.609
Maximum intensity(cd): 3543.609
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=40.6
 [C90/270]Total=40.6
Field angle(10%Imax): [C0/180]Total=68.7
 [C90/270]Total=68.7
Maximum s/h(1/2): C0_180=0.67 C90_270=0.67
Maximum s/h(1/4): C0_180=0.64 C90_270=0.64
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 90.67%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 93.688%

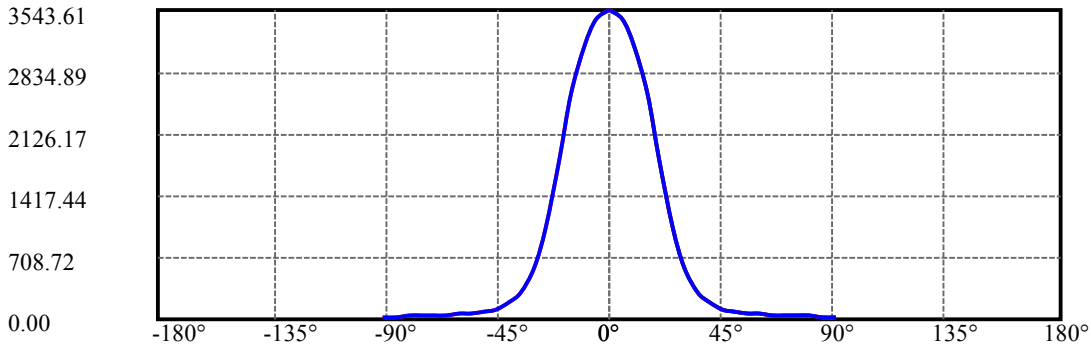
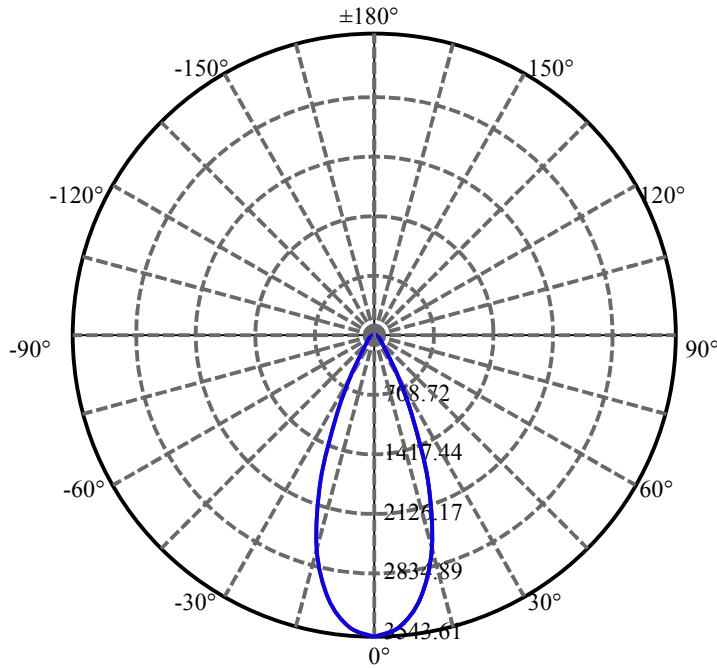
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	3543.609	21.191	21.191	.950%	1.057%
5.0	3432.727	163.993	185.184	7.349%	9.240%
10.0	3134.531	298.354	483.539	13.370%	24.128%
15.0	2582.156	366.326	849.865	16.416%	42.406%
20.0	1819.477	341.105	1190.969	15.286%	59.427%
25.0	1065.516	246.830	1437.799	11.061%	71.743%
30.0	588.909	161.402	1599.201	7.233%	79.797%
35.0	318.825	100.238	1699.439	4.492%	84.798%
40.0	188.135	66.287	1765.726	2.971%	88.106%
45.0	115.207	44.653	1810.379	2.001%	90.334%
50.0	78.237	32.851	1843.23	1.472%	91.973%
55.0	58.345	26.198	1869.428	1.174%	93.281%
60.0	55.259	26.231	1895.659	1.176%	94.589%
65.0	46.610	23.155	1918.814	1.038%	95.745%
70.0	36.309	18.702	1937.517	.838%	96.678%
75.0	38.419	20.341	1957.858	.912%	97.693%
80.0	43.924	23.711	1981.569	1.063%	98.876%
85.0	26.191	14.302	1995.87	.641%	99.590%
90.0	29.995	8.221	2004.091	.368%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1599.20	71.67%	79.80%
0-40	1765.73	79.13%	88.11%
0-60	1895.66	84.95%	94.59%
0-90	1995.87	89.44%	99.59%
0-120	1995.87	89.44%	99.59%
0-180	2004.09	89.81%	100.00%
60-90	126.44	5.67%	6.31%
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%
0-30.20	1603.27	71.85%	80.00%

ZONAL LUMEN SUMMARY

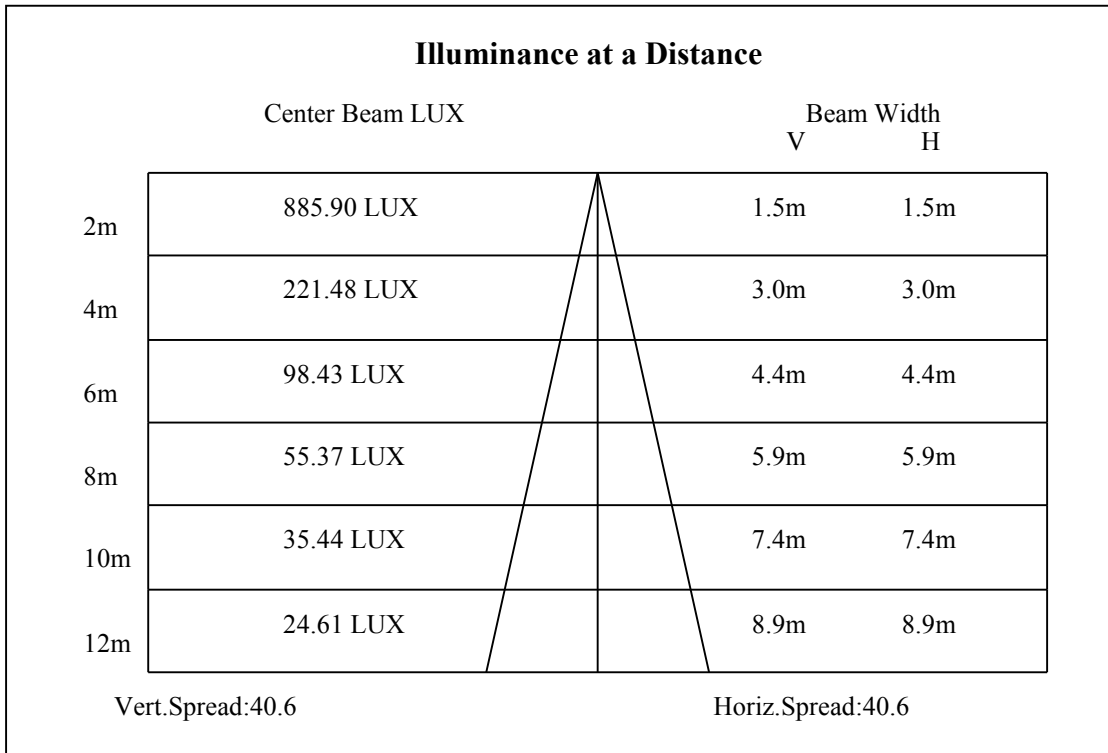
0-10	483.54
10-20	707.43
20-30	408.23
30-40	166.52
40-50	77.50
50-60	52.43
60-70	41.86
70-80	44.05
80-90	14.30
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

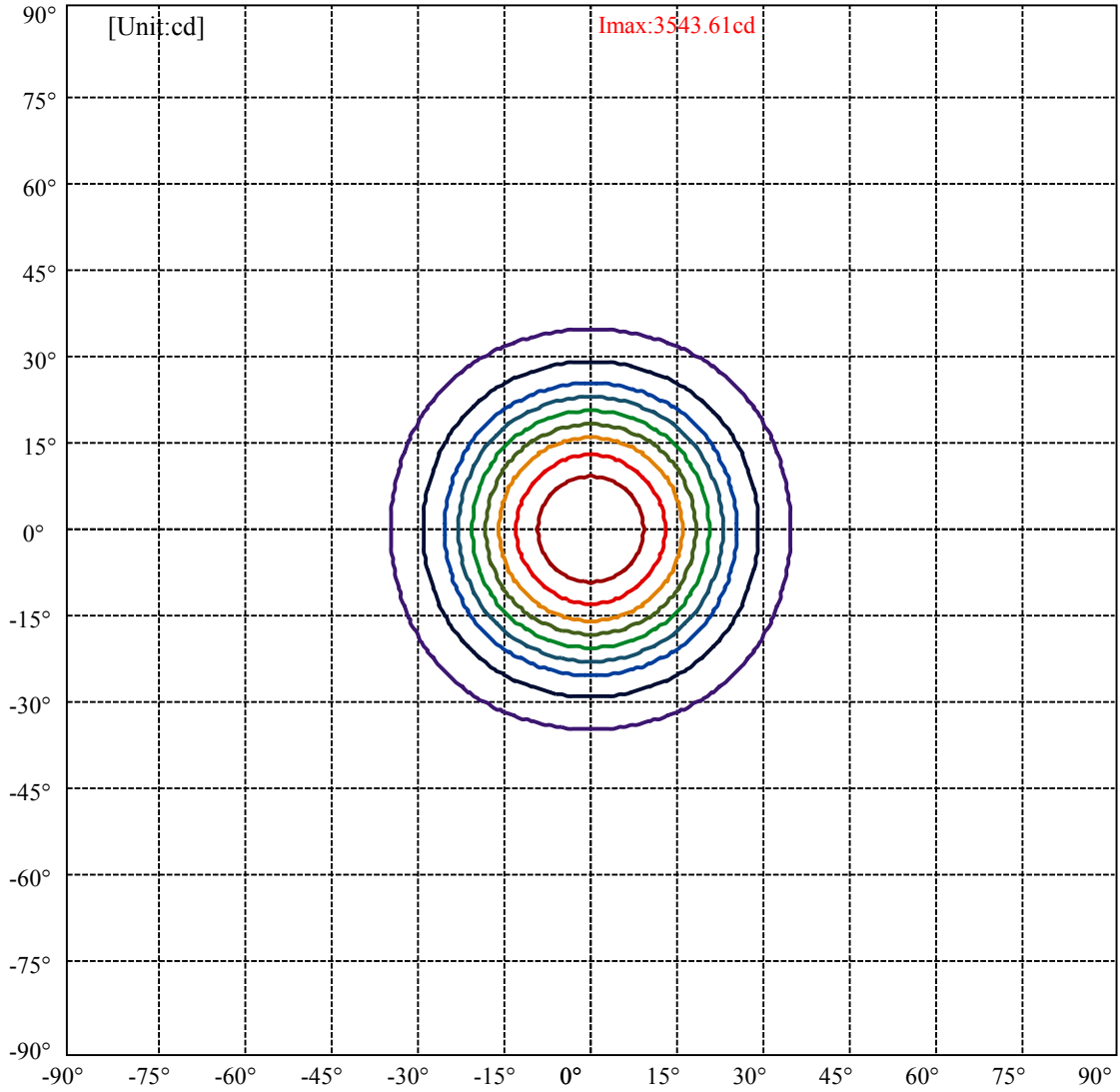


C0(Max): —————
C0/C180: —————
C90/C270: —————

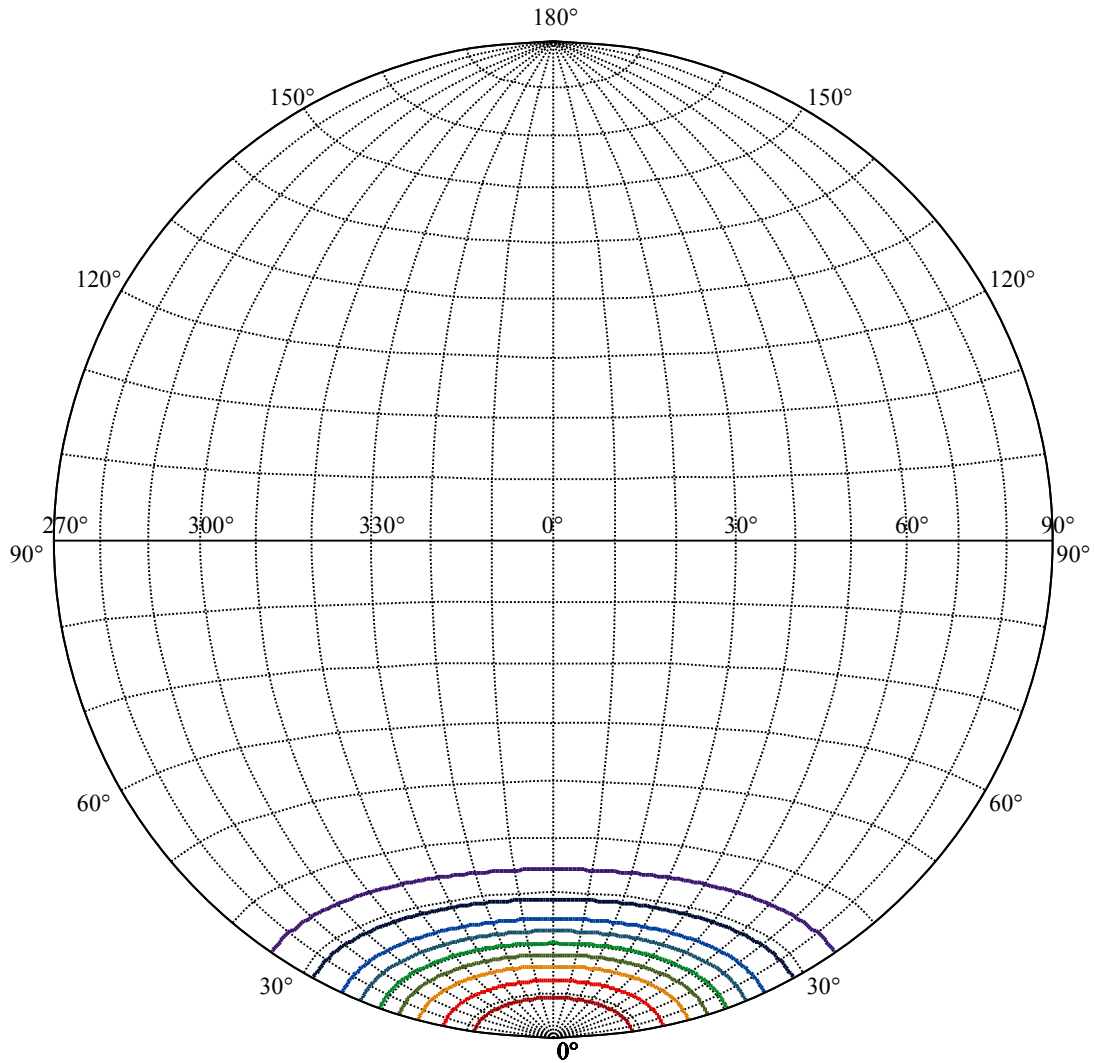
Field angle(10%Imax):C0/180Left:34.3 Right:34.3
:C90/270Left:34.3 Right:34.3

Beam Angle(50%Imax):C0/180Left:20.3 Right:20.3
:C90/270Left:20.3 Right:20.3





(10%Imax) 354.361	—
(20%Imax) 708.722	—
(30%Imax) 1063.08	—
(40%Imax) 1417.44	—
(50%Imax) 1771.8	—
(60%Imax) 2126.17	—
(70%Imax) 2480.53	—
(80%Imax) 2834.89	—
(90%Imax) 3189.25	—



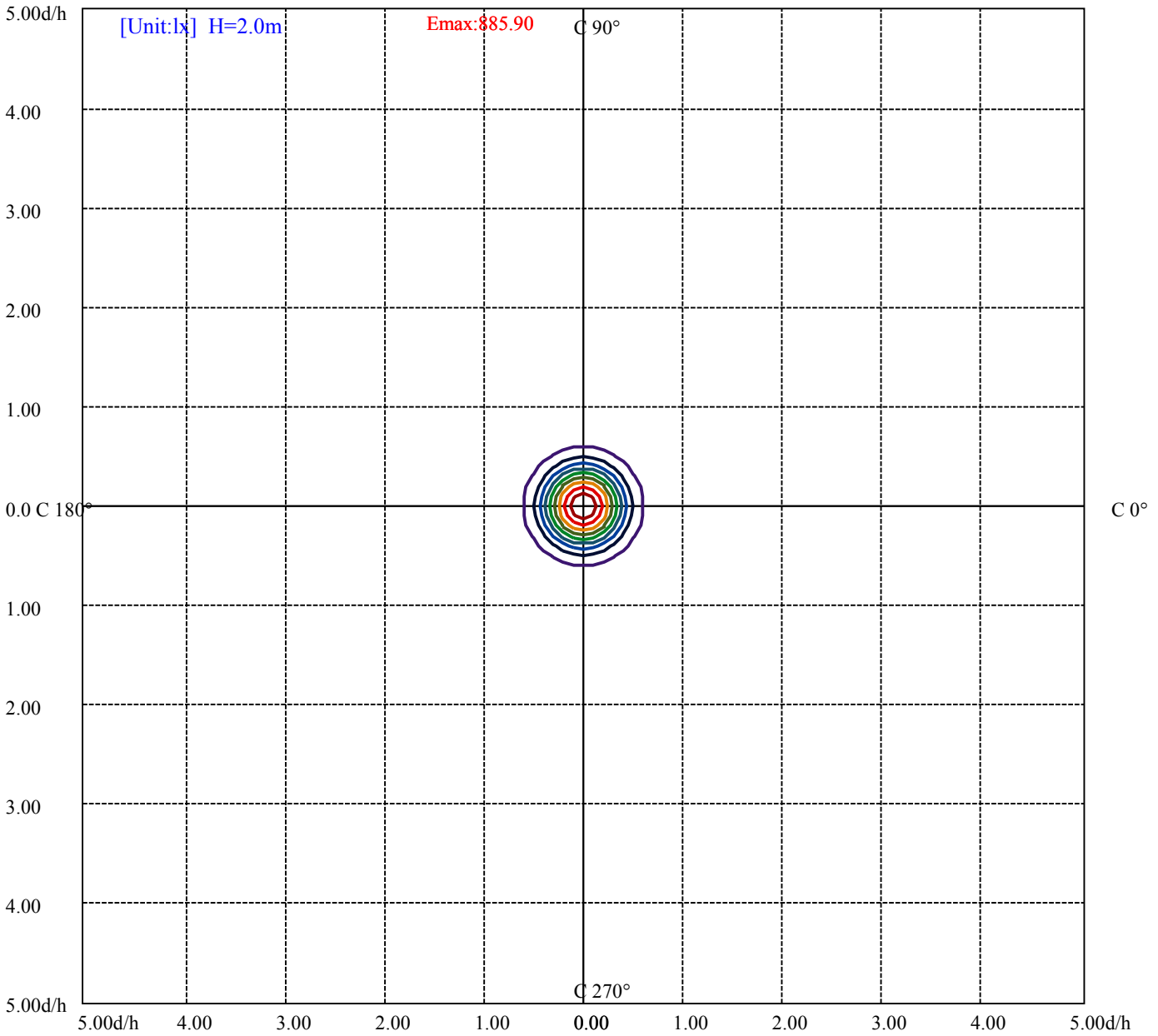
House

[Unit:cd]

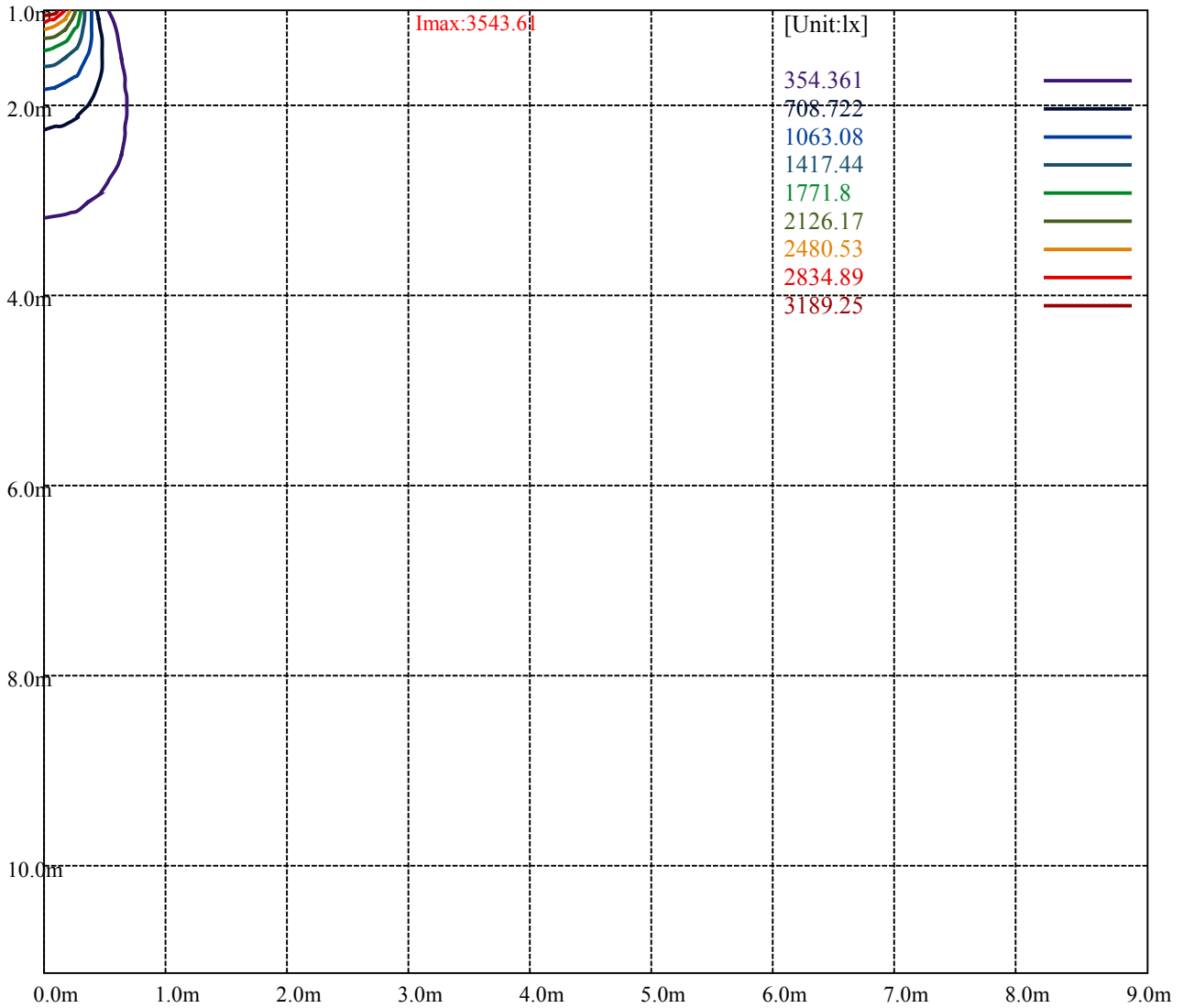
Road

Imax:3543.61

(10%Imax) 354.361	—
(20%Imax) 708.722	—
(30%Imax) 1063.08	—
(40%Imax) 1417.44	—
(50%Imax) 1771.8	—
(60%Imax) 2126.17	—
(70%Imax) 2480.53	—
(80%Imax) 2834.89	—
(90%Imax) 3189.25	—



- (10%Emax) 88.59025
- (20%Emax) 177.1803
- (30%Emax) 265.77
- (40%Emax) 354.36
- (50%Emax) 442.95
- (60%Emax) 531.54
- (70%Emax) 620.13
- (80%Emax) 708.72
- (90%Emax) 797.3125



Luminance Table

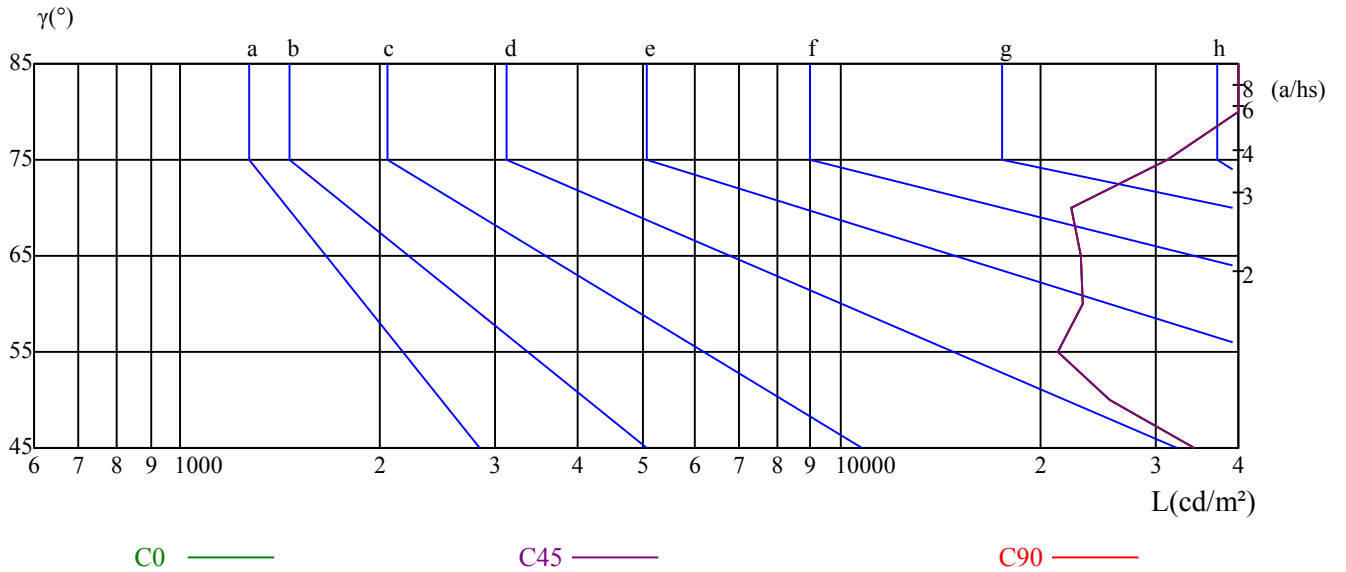
γ	45	50	55	60	65	70	75	80	85
C0	34221	25565	21366	23213	23165	22298	31178	53129	63120
C45	34221	25565	21366	23213	23165	22298	31178	53129	63120
C90	34221	25565	21366	23213	23165	22298	31178	53129	63120

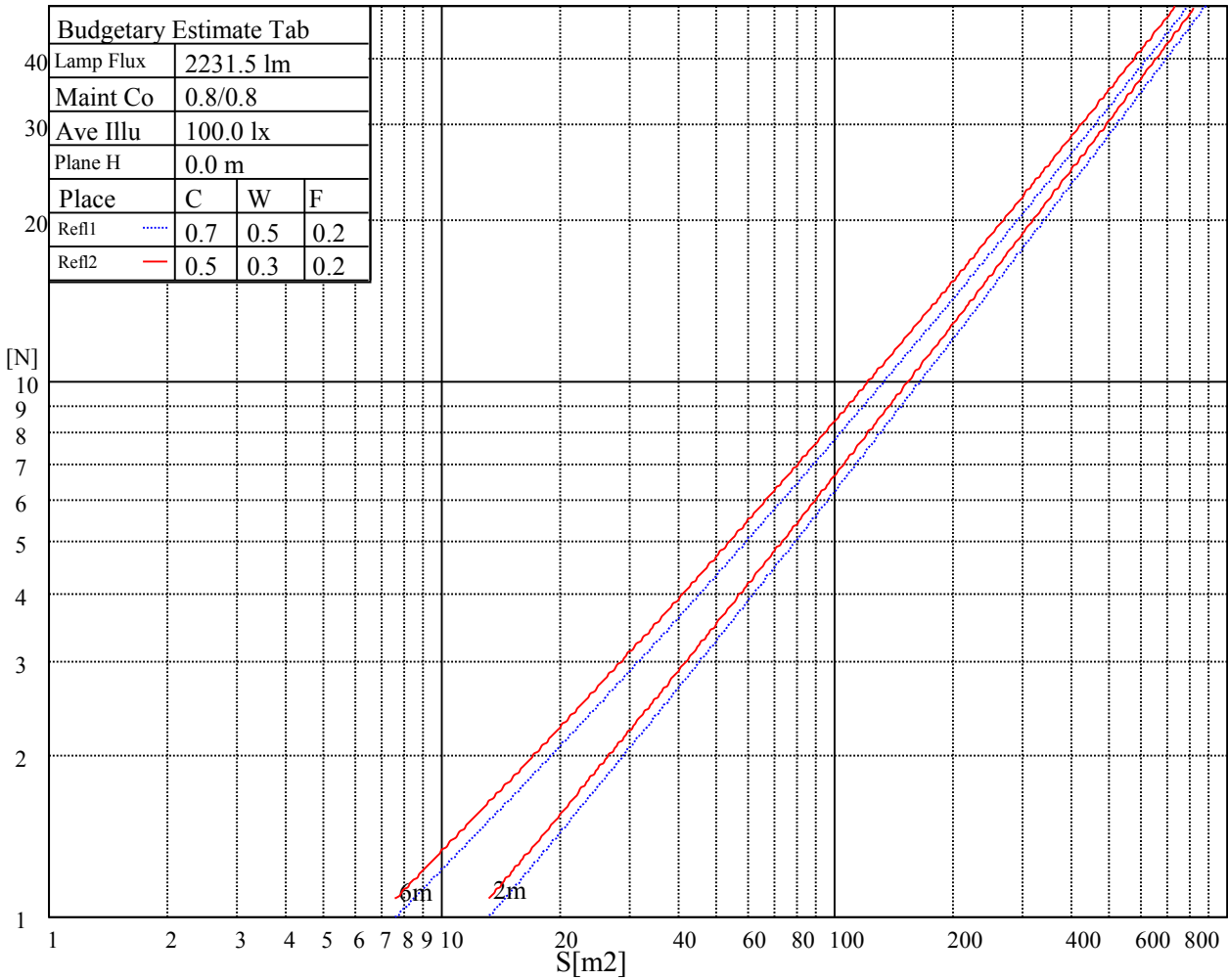
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
23165	23165	23165	31178	31178	31178	63120	63120	63120

Glare Table

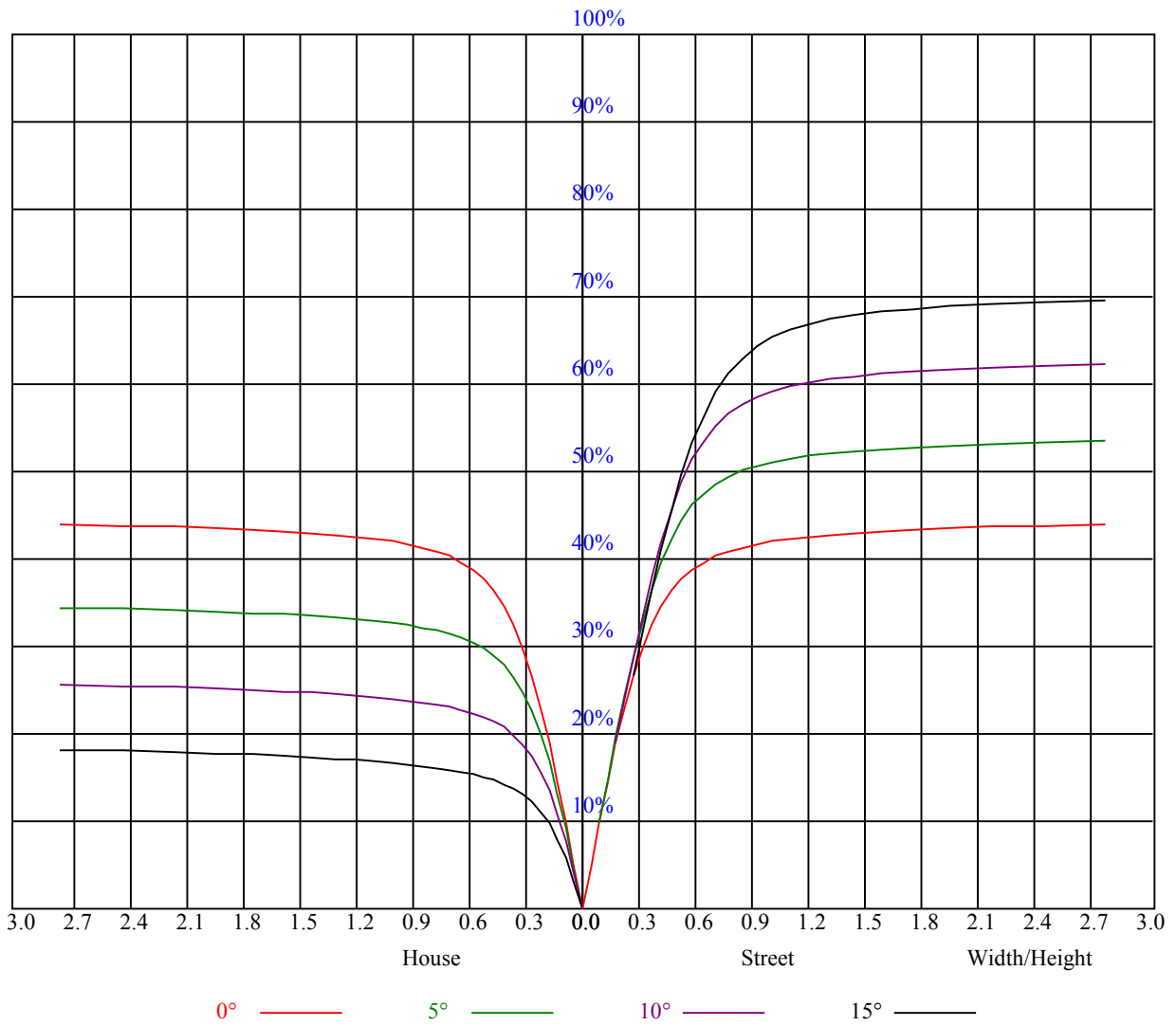
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve





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	1.01	1.01	1.01	0.96	0.96	0.96	0.93	0.93	0.93	0.91
1	0.99	0.96	0.94	0.97	0.94	0.92	0.93	0.91	0.89	0.90	0.88	0.87	0.87	0.85	0.84	0.82
2	0.92	0.88	0.85	0.91	0.87	0.84	0.88	0.85	0.82	0.85	0.83	0.80	0.82	0.80	0.79	0.77
3	0.87	0.82	0.78	0.85	0.81	0.78	0.83	0.79	0.77	0.81	0.78	0.75	0.79	0.76	0.74	0.73
4	0.82	0.77	0.73	0.81	0.76	0.73	0.79	0.75	0.72	0.77	0.74	0.71	0.75	0.73	0.70	0.69
5	0.78	0.73	0.69	0.77	0.72	0.69	0.75	0.71	0.68	0.74	0.70	0.67	0.72	0.69	0.67	0.66
6	0.74	0.69	0.65	0.73	0.68	0.65	0.72	0.68	0.65	0.71	0.67	0.64	0.70	0.66	0.64	0.62
7	0.71	0.66	0.62	0.70	0.65	0.62	0.69	0.65	0.62	0.68	0.64	0.61	0.67	0.64	0.61	0.60
8	0.68	0.63	0.59	0.67	0.62	0.59	0.66	0.62	0.59	0.65	0.61	0.59	0.64	0.61	0.58	0.57
9	0.65	0.60	0.57	0.64	0.60	0.57	0.64	0.59	0.57	0.63	0.59	0.56	0.62	0.59	0.56	0.55
10	0.62	0.58	0.55	0.62	0.58	0.55	0.61	0.57	0.54	0.61	0.57	0.54	0.60	0.57	0.54	0.53



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	3556.13	3464.44	3176.44	2633.06	1926.00	1128.38	612.56	327.94	191.76
45.0	3530.25	3487.50	3244.50	2789.44	2076.75	1245.94	679.50	361.13	200.70
90.0	3547.13	3455.44	3170.25	2627.44	1814.63	1114.03	612.17	321.58	199.74
135.0	3540.94	3462.19	3232.69	2736.00	1985.63	1216.13	676.69	367.31	219.15
180.0	3556.13	3437.44	3112.88	2558.25	1762.88	993.54	555.02	301.22	177.36
225.0	3530.25	3375.00	2999.81	2342.81	1577.25	862.65	461.08	257.74	152.94
270.0	3547.13	3402.00	3089.81	2534.63	1753.88	995.63	578.25	313.31	182.70
315.0	3540.94	3377.81	3049.88	2435.63	1658.81	967.84	536.01	300.38	180.73
360.0	3556.13	3464.44	3176.44	2633.06	1926.00	1128.38	612.56	327.94	191.76
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	114.36	77.12	58.44	52.88	49.11	38.25	35.61	36.96	25.54
45.0	119.08	80.94	58.67	50.91	45.11	40.73	37.01	30.26	25.14
90.0	117.79	79.59	59.06	53.44	44.44	34.26	34.88	50.12	26.27
135.0	133.59	87.47	62.10	53.78	58.16	35.78	35.78	55.29	26.33
180.0	112.22	80.10	59.74	54.34	48.49	37.52	32.91	32.06	25.03
225.0	97.48	69.47	55.01	49.84	41.06	37.01	31.73	27.34	25.37
270.0	115.48	77.01	57.71	60.98	45.11	33.75	44.66	55.74	28.91
315.0	111.66	74.19	56.03	65.93	41.40	33.19	54.79	63.62	26.94
360.0	114.36	77.12	58.44	52.88	49.11	38.25	35.61	36.96	25.54
C/ γ (°)	90.0								
0.0	30.66								
45.0	29.42								
90.0	29.03								
135.0	29.36								
180.0	28.52								
225.0	28.74								
270.0	32.46								
315.0	31.78								
360.0	30.66								