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Nata

LumCAT: 4-2220-A	
Luminaire: BJB 47.319.2011	
Report No: NT20170406122	Voltage(V): 217.5000
Test No: GC20170406122	Current(A): 0.1030
LampCAT: LUXEON CoB 1205	Power (W): 20.4000
Lamp flux(lm): 2428.0	PF: 0.9050
Number of Lamps: 1	Ballast type: DC
Length(feet)(ft.):0.328	Width(feet)(ft.):0.328
Phm Type: C	Height(feet)(ft.):0

Photometric Results

Lumens(lm): 2218.87
Efficiency(%): 91.39%
Lumens(lm)/Power(W): 110.78
Central intensity(cd): 7220.510
Maximum intensity(cd): 7220.510
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=27.8
 [C90/270]Total=27.8
Field angle(10%Imax): [C0/180]Total=61.1
 [C90/270]Total=61.1
Maximum s/h(1/2): C0_180=0.48 C90_270=0.48
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(%): 93.08%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.012%

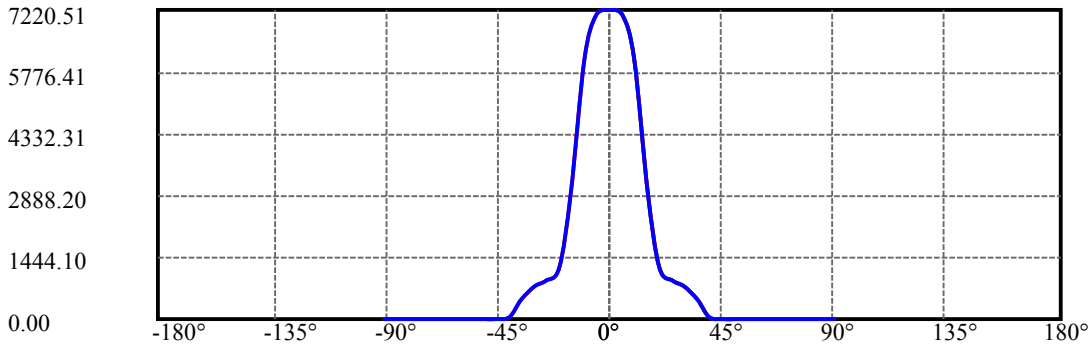
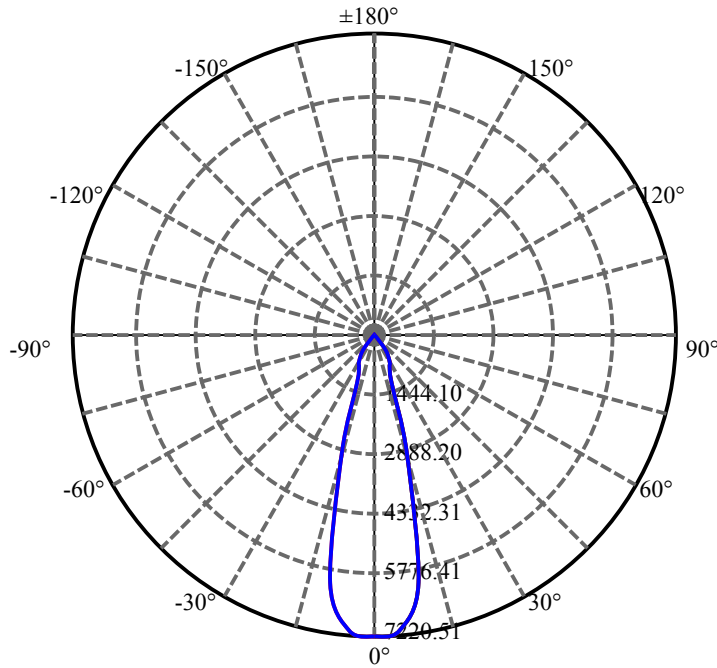
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	7220.509	43.180	43.18	1.778%	1.946%
5.0	7105.923	339.474	382.654	13.982%	17.245%
10.0	6036.246	574.548	957.202	23.663%	43.139%
15.0	2941.388	417.290	1374.492	17.187%	61.945%
20.0	1216.258	228.017	1602.509	9.391%	72.222%
25.0	884.454	204.886	1807.395	8.438%	81.455%
30.0	757.012	207.473	2014.868	8.545%	90.806%
35.0	444.429	139.728	2154.596	5.755%	97.103%
40.0	56.288	19.832	2174.428	.817%	97.997%
45.0	11.885	4.607	2179.035	.190%	98.205%
50.0	10.543	4.427	2183.462	.182%	98.404%
55.0	9.862	4.428	2187.89	.182%	98.604%
60.0	9.532	4.525	2192.415	.186%	98.808%
65.0	9.346	4.643	2197.058	.191%	99.017%
70.0	9.208	4.743	2201.801	.195%	99.231%
75.0	9.098	4.817	2206.618	.198%	99.448%
80.0	9.043	4.882	2211.499	.201%	99.668%
85.0	8.995	4.912	2216.411	.202%	99.889%
90.0	8.988	2.463	2218.874	.101%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	2014.87	82.98%	90.81%
0-40	2174.43	89.56%	98.00%
0-60	2192.42	90.30%	98.81%
0-90	2216.41	91.29%	99.89%
0-120	2216.41	91.29%	99.89%
0-180	2218.87	91.39%	100.00%
60-90	28.52	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%
0-24.21	1775.10	73.11%	80.00%

ZONAL LUMEN SUMMARY

0-10	957.20
10-20	645.31
20-30	412.36
30-40	159.56
40-50	9.03
50-60	8.95
60-70	9.39
70-80	9.70
80-90	4.91
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: —————

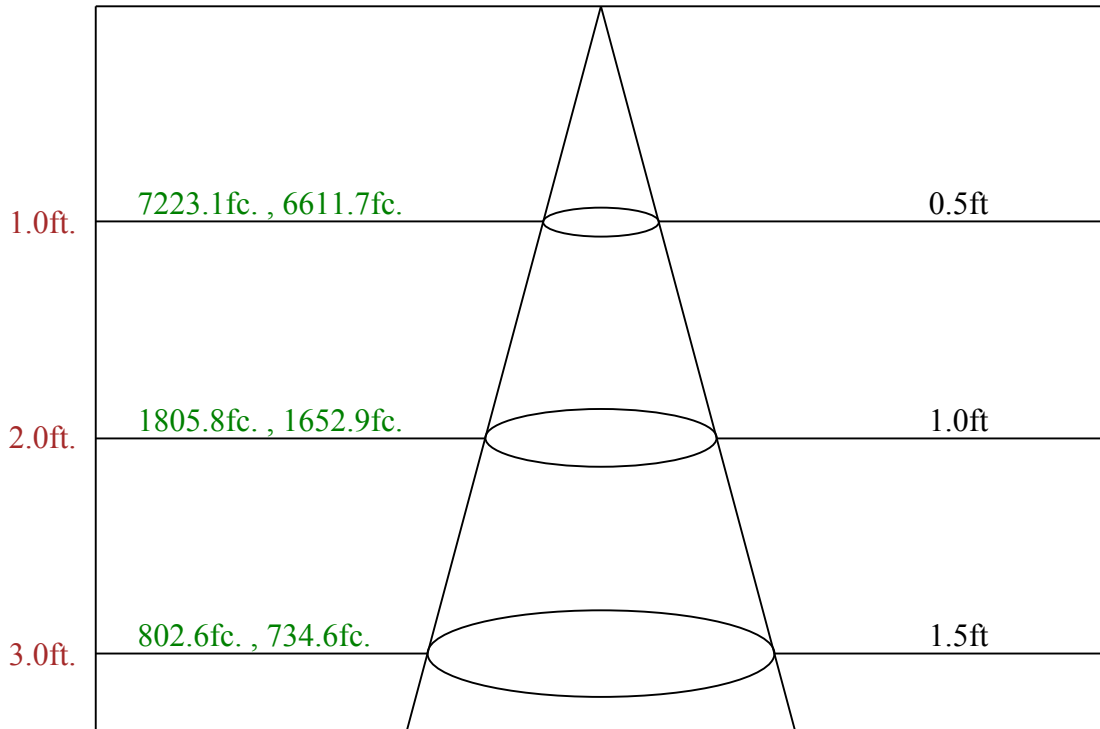
C90/C270: —————

Field angle(10%Imax):C0/180Left:30.6 Right:30.6

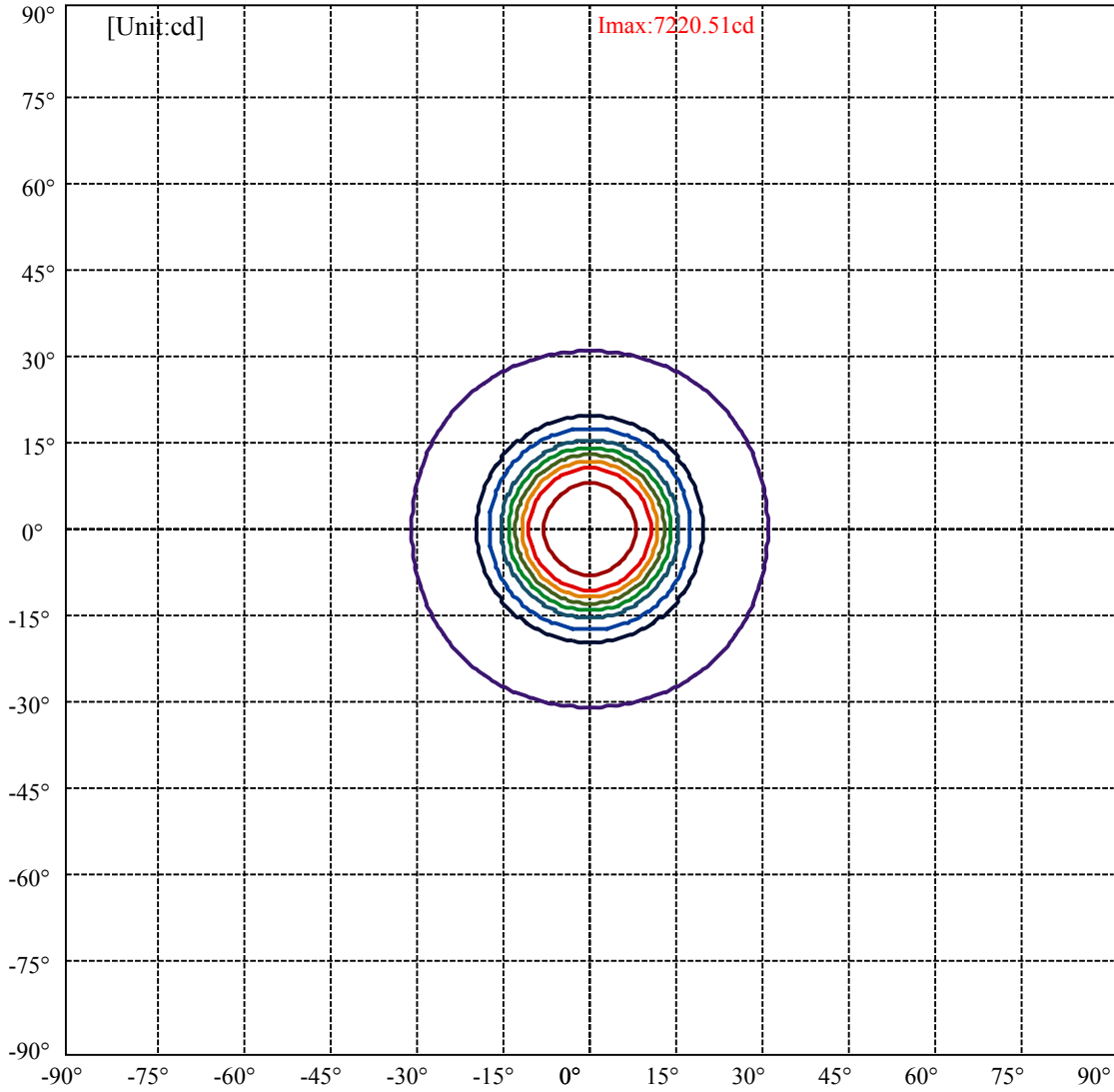
:C90/270Left:30.6 Right:30.6

Beam Angle(50%Imax):C0/180Left:13.9 Right:13.9

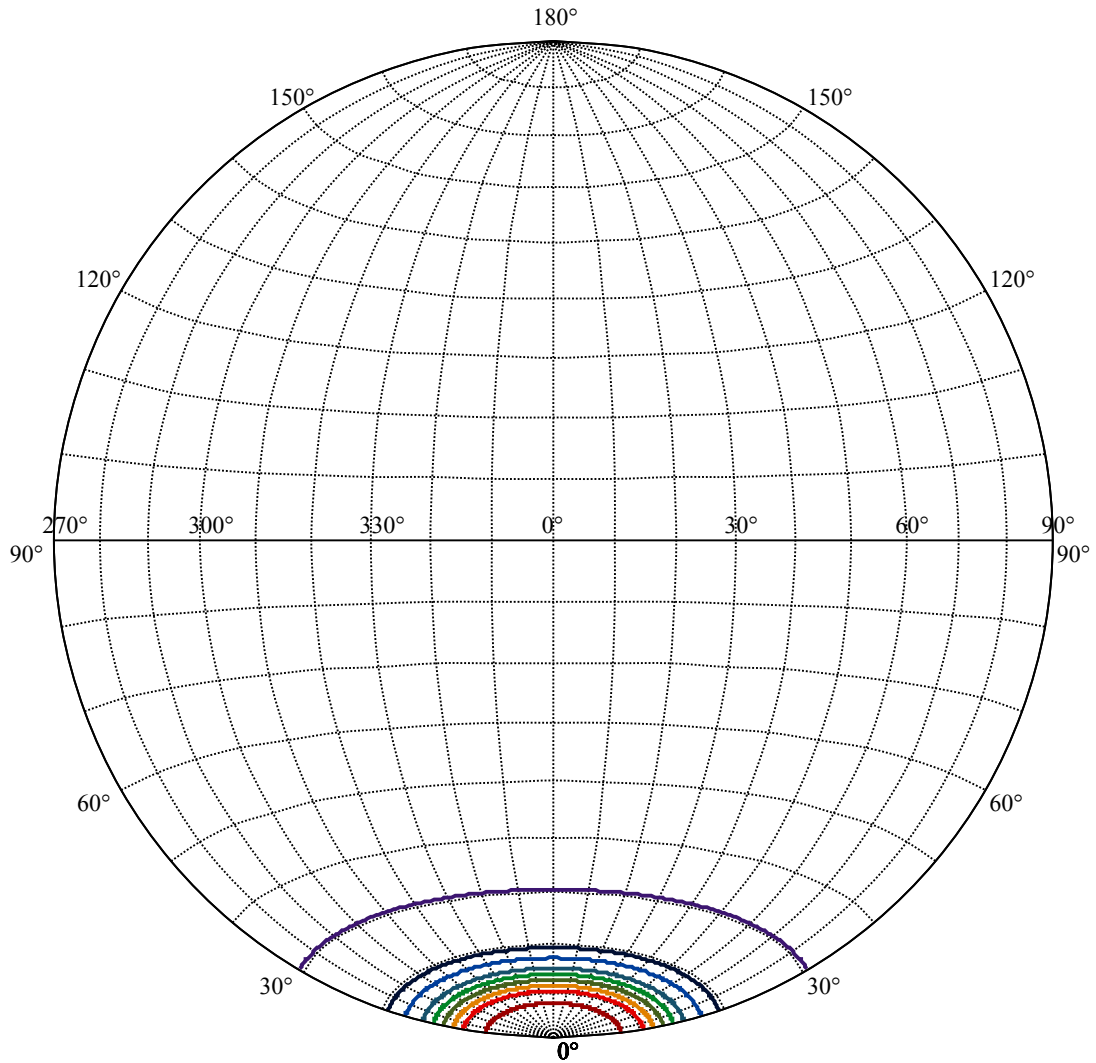
:C90/270Left:13.9 Right:13.9



Max , Ave Beam angle of C0 plane 28.02



(10%Imax) 722.051	—
(20%Imax) 1444.1	—
(30%Imax) 2166.15	—
(40%Imax) 2888.2	—
(50%Imax) 3610.25	—
(60%Imax) 4332.31	—
(70%Imax) 5054.36	—
(80%Imax) 5776.41	—
(90%Imax) 6498.46	—



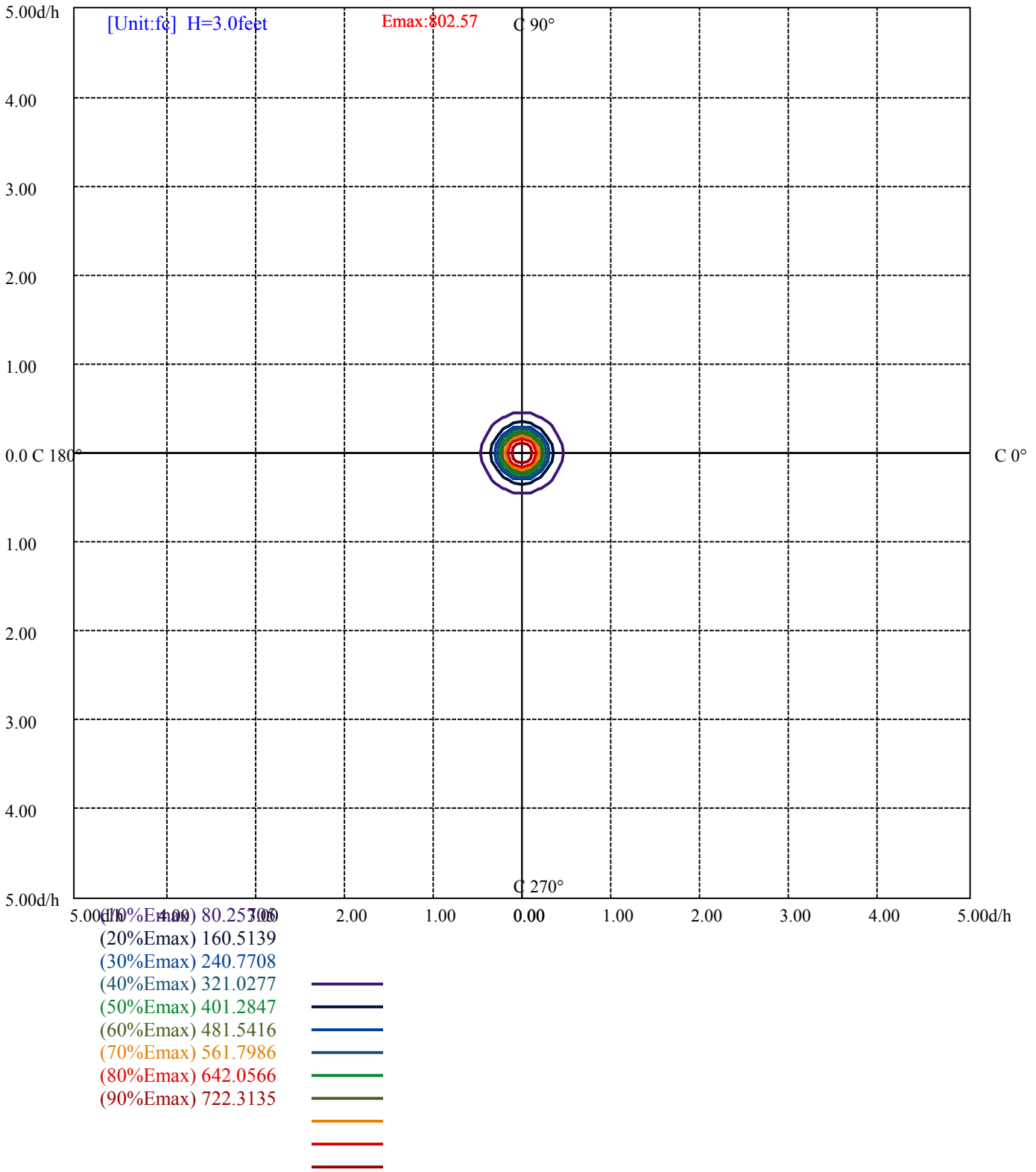
House

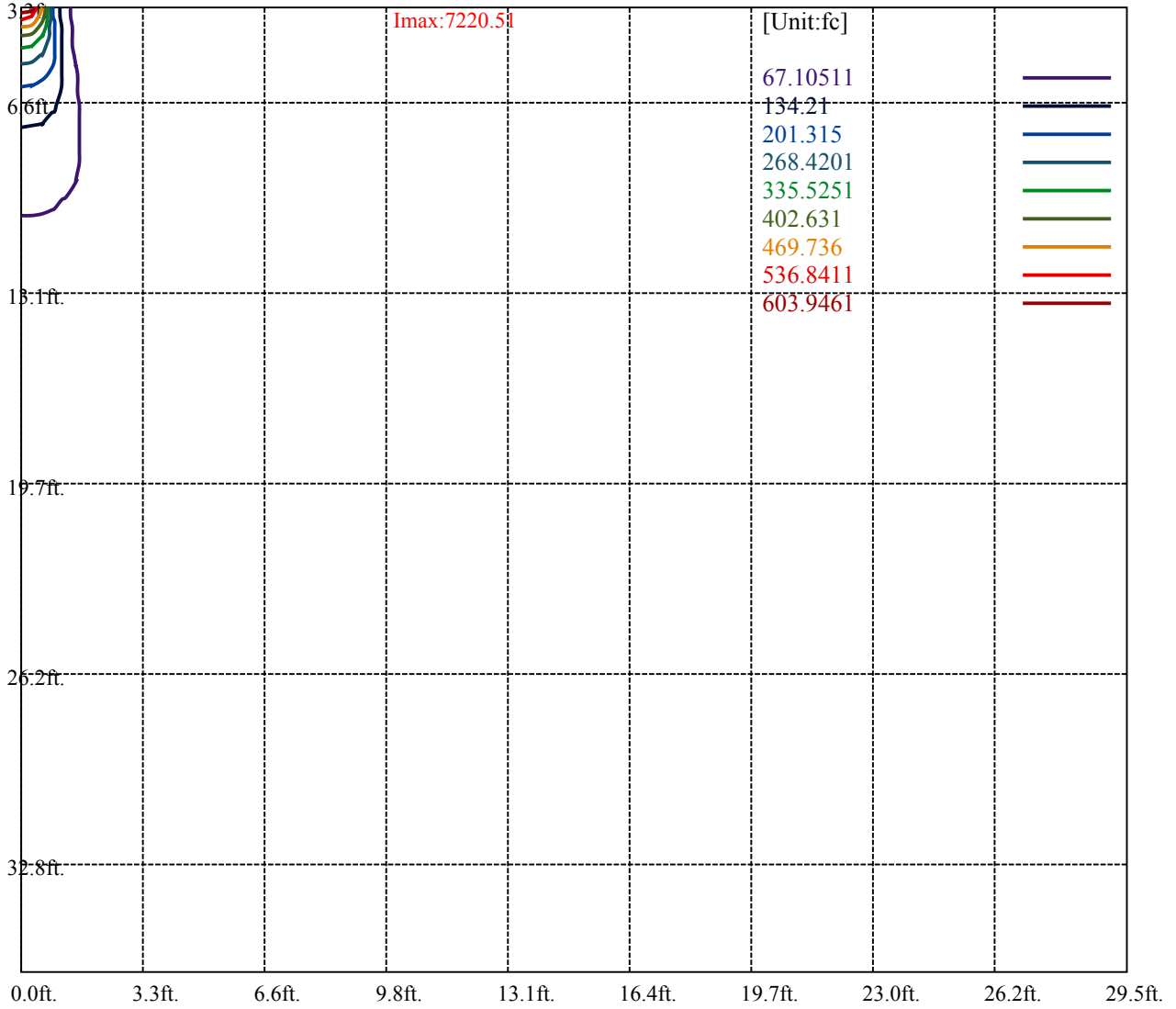
[Unit:cd]

Road

Imax:7220.51

(10%Imax)	722.051	—
(20%Imax)	1444.1	—
(30%Imax)	2166.15	—
(40%Imax)	2888.2	—
(50%Imax)	3610.25	—
(60%Imax)	4332.31	—
(70%Imax)	5054.36	—
(80%Imax)	5776.41	—
(90%Imax)	6498.46	—





Luminance Table

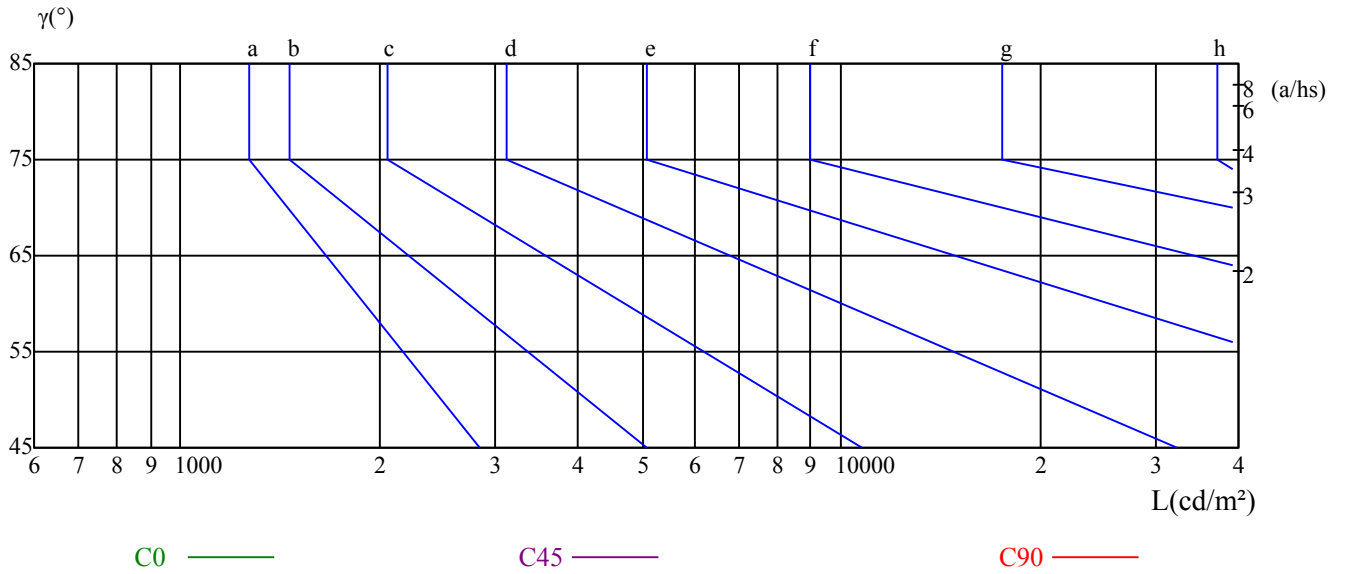
γ	45	50	55	60	65	70	75	80	85
C0	191	159	142	131	125	120	117	115	114
C45	140	116	103	95	90	86	83	82	81
C90	191	159	142	131	125	120	117	115	114

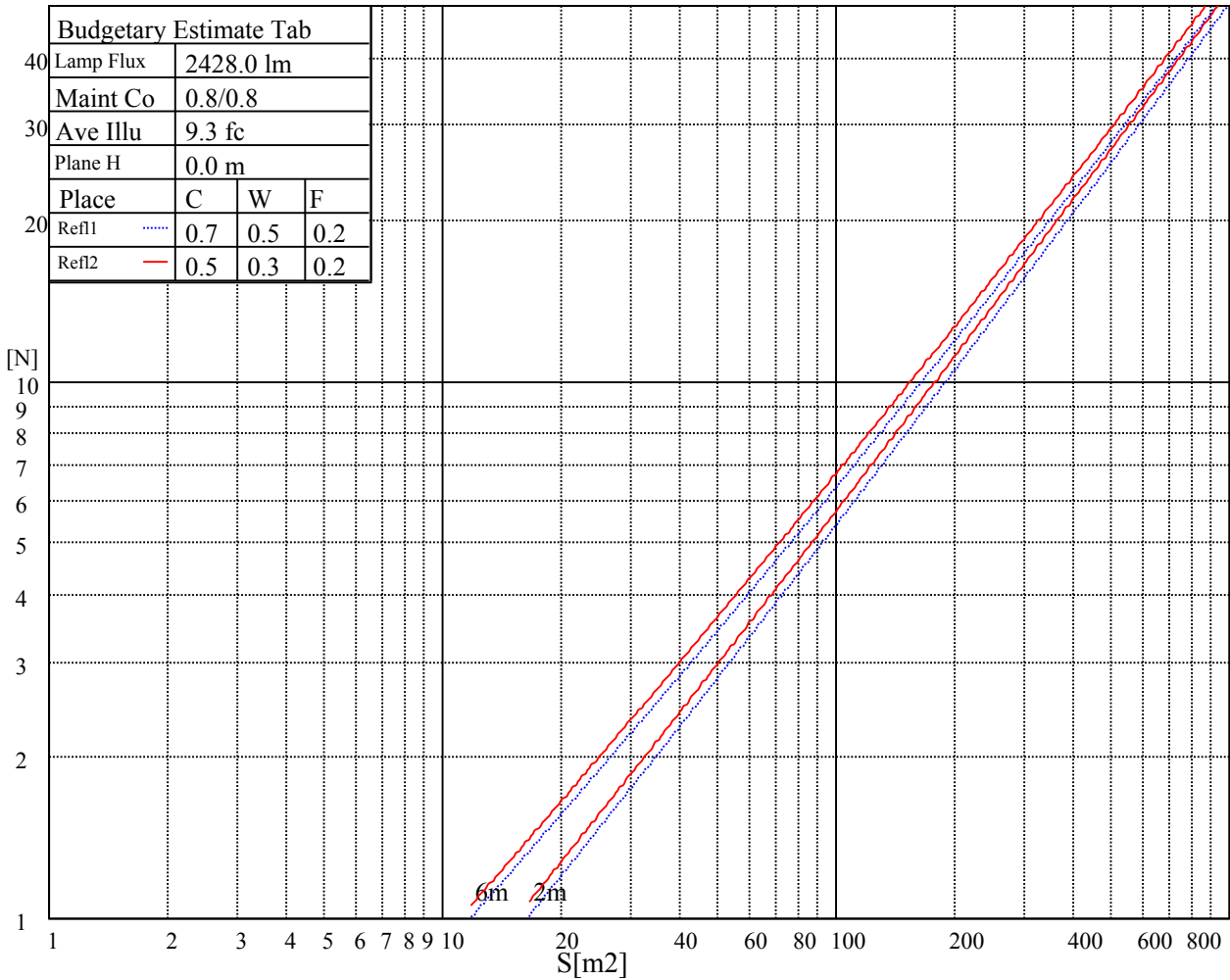
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
2211	2211	2211	3515	3515	3515	10320	10320	10320

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 RHOF=20 CU															
0	1.11	1.11	1.11	1.08	1.08	1.08	1.03	1.03	1.03	0.99	0.99	0.99	0.95	0.95	0.95	0.93
1	1.02	1.00	0.98	1.00	0.98	0.96	0.97	0.95	0.93	0.93	0.92	0.90	0.90	0.89	0.88	0.86
2	0.97	0.94	0.91	0.96	0.93	0.90	0.93	0.90	0.88	0.90	0.88	0.86	0.88	0.86	0.84	0.83
3	0.93	0.89	0.86	0.92	0.88	0.85	0.89	0.86	0.84	0.87	0.85	0.83	0.85	0.83	0.81	0.80
4	0.89	0.85	0.82	0.88	0.84	0.81	0.86	0.83	0.80	0.84	0.82	0.79	0.83	0.81	0.79	0.77
5	0.86	0.81	0.78	0.85	0.81	0.78	0.83	0.80	0.77	0.82	0.79	0.77	0.81	0.78	0.76	0.75
6	0.83	0.78	0.75	0.82	0.78	0.75	0.81	0.77	0.75	0.80	0.77	0.74	0.79	0.76	0.74	0.73
7	0.80	0.76	0.73	0.79	0.75	0.73	0.78	0.75	0.72	0.77	0.74	0.72	0.76	0.74	0.72	0.71
8	0.78	0.73	0.71	0.77	0.73	0.70	0.76	0.73	0.70	0.75	0.72	0.70	0.75	0.72	0.70	0.69
9	0.75	0.71	0.68	0.75	0.71	0.68	0.74	0.71	0.68	0.73	0.70	0.68	0.73	0.70	0.68	0.67
10	0.73	0.69	0.67	0.73	0.69	0.67	0.72	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.66	0.65

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	7223.95	7169.44	6387.09	3409.09	1357.14	921.64	777.40	572.59	38.76
45.0	7208.53	7158.98	6499.96	3683.27	1499.74	938.16	786.21	640.86	278.03
90.0	7219.55	7122.10	6047.95	2899.82	1092.32	877.93	747.17	391.18	21.97
135.0	7230.01	7150.73	6345.25	3172.35	1258.59	875.40	750.42	433.84	22.63
180.0	7223.95	7032.90	5497.93	2399.91	1085.16	835.10	735.77	347.08	20.98
225.0	7208.53	6939.86	5162.64	1907.70	1076.02	834.27	737.76	308.10	19.93
270.0	7219.55	7134.21	6219.72	3149.78	1285.57	906.78	766.94	462.47	24.00
315.0	7230.01	7139.16	6129.43	2909.18	1075.53	886.35	754.44	399.32	24.00
360.0	7223.95	7169.44	6387.09	3409.09	1357.14	921.64	777.40	572.59	38.76
C/\u03b3(\u00b0)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	12.72	10.90	10.13	9.69	9.47	9.30	9.19	9.14	9.08
45.0	12.61	10.74	9.97	9.58	9.36	9.25	9.08	9.03	8.97
90.0	11.23	10.24	9.69	9.41	9.25	9.14	9.03	8.97	8.92
135.0	11.45	10.41	9.80	9.52	9.36	9.19	9.14	9.08	9.03
180.0	11.51	10.41	9.80	9.52	9.36	9.19	9.08	9.03	9.03
225.0	11.56	10.41	9.74	9.41	9.25	9.14	9.03	8.97	8.92
270.0	12.17	10.74	9.91	9.58	9.36	9.25	9.14	9.08	9.03
315.0	11.84	10.52	9.86	9.52	9.36	9.19	9.08	9.03	8.97
360.0	12.72	10.90	10.13	9.69	9.47	9.30	9.19	9.14	9.08
C/\u03b3(\u00b0)	90.0								
0.0	9.03								
45.0	8.97								
90.0	8.97								
135.0	9.03								
180.0	9.03								
225.0	8.92								
270.0	8.97								
315.0	8.97								
360.0	9.03								