



NATA LIGHTING CO.,LTD.
www.nata.cn
Email:info@nata.cn
Tel:+86-750-3770000 Fax:+86-750-3771111
Address:380 JinOu Road,GaoXin Zone,Jiang Men City,Guangdong,China

Nata

Client:

LumCAT: 2-1121-A4

Luminaire: TE2213407-1 +92.76 365.00

Report No: nata-0100

Test No: 2017050604

LampCAT: V18B

Lamp flux(lm): 2960.0

Number of Lamps: 1

Length(mm): 70

Phm Type: C

Voltage(V): 34.2000

Current(A): 0.6000

Power (W): 20.5200

PF: 0.0000

Ballast type: CC600mA

Width(mm): 70

Height(mm): 0

Photometric Results

Lumens(lm): 2736.70, Efficiency(%): 92.46% , Luminous Efficacy(lm/W): 133.37

Central intensity(cd): 7012.534, Maximum intensity(cd): 7012.534

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=32.0

[C90/270]Total=32.0

Field angle(10%Imax): [C0/180]Total=69.2

[C90/270]Total=69.2

Maximum s/h(1/2): C0_180=0.54 C90_270=0.54

Maximum s/h(1/4): C0_180=0.49 C90_270=0.49

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 92.51%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 98.672%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	7012.534	1.678	1.678	.057%	.061%
1.0	7008.817	13.414	15.092	.453%	.551%
2.0	6989.685	26.750	41.842	.904%	1.529%
3.0	6963.946	39.968	81.809	1.350%	2.989%
4.0	6913.983	52.889	134.698	1.787%	4.922%
5.0	6827.819	65.257	199.956	2.205%	7.306%
6.0	6722.662	77.060	277.015	2.603%	10.122%
7.0	6596.445	88.157	365.172	2.978%	13.344%
8.0	6418.888	97.964	463.136	3.310%	16.923%
9.0	6218.207	106.672	569.808	3.604%	20.821%
10.0	5975.409	113.786	683.594	3.844%	24.979%
11.0	5650.576	118.234	801.828	3.994%	29.299%
12.0	5326.982	121.454	923.282	4.103%	33.737%
13.0	4924.520	121.480	1044.762	4.104%	38.176%
14.0	4403.549	116.823	1161.586	3.947%	42.445%
15.0	3959.381	112.376	1273.962	3.797%	46.551%
16.0	3488.924	105.458	1379.42	3.563%	50.404%
17.0	2930.652	93.962	1473.382	3.174%	53.838%
18.0	2516.903	85.290	1558.673	2.881%	56.954%
19.0	2162.065	77.190	1635.863	2.608%	59.775%
20.0	1830.212	68.644	1704.507	2.319%	62.283%
21.0	1598.425	62.816	1767.324	2.122%	64.579%
22.0	1443.441	59.296	1826.62	2.003%	66.745%
23.0	1326.033	56.818	1883.438	1.920%	68.821%
24.0	1242.072	55.400	1938.838	1.872%	70.846%
25.0	1184.098	54.877	1993.715	1.854%	72.851%
26.0	1146.260	55.103	2048.818	1.862%	74.864%
27.0	1113.874	55.454	2104.272	1.873%	76.891%
28.0	1081.019	55.654	2159.926	1.880%	78.924%
29.0	1050.710	55.861	2215.786	1.887%	80.966%
30.0	1016.314	55.725	2271.511	1.883%	83.002%
31.0	969.034	54.731	2326.242	1.849%	85.002%
32.0	901.466	52.385	2378.627	1.770%	86.916%
33.0	830.760	49.618	2428.245	1.676%	88.729%
34.0	760.081	46.609	2474.854	1.575%	90.432%
35.0	661.420	41.603	2516.457	1.405%	91.952%
36.0	574.362	37.022	2553.479	1.251%	93.305%
37.0	495.067	32.672	2586.151	1.104%	94.499%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	408.092	27.552	2613.703	.931%	95.506%
39.0	314.579	21.710	2635.412	.733%	96.299%
40.0	253.053	17.837	2653.25	.603%	96.951%
41.0	178.052	12.810	2666.059	.433%	97.419%
42.0	112.783	8.276	2674.335	.280%	97.721%
43.0	70.665	5.285	2679.62	.179%	97.914%
44.0	44.885	3.419	2683.039	.116%	98.039%
45.0	28.382	2.201	2685.24	.074%	98.120%
46.0	20.577	1.623	2686.863	.055%	98.179%
47.0	17.315	1.389	2688.252	.047%	98.230%
48.0	14.370	1.171	2689.423	.040%	98.272%
49.0	12.911	1.069	2690.492	.036%	98.311%
50.0	12.223	1.027	2691.518	.035%	98.349%
51.0	12.044	1.026	2692.545	.035%	98.386%
52.0	11.920	1.030	2693.575	.035%	98.424%
53.0	11.699	1.025	2694.599	.035%	98.462%
54.0	11.589	1.028	2695.628	.035%	98.499%
55.0	11.521	1.035	2696.662	.035%	98.537%
56.0	11.424	1.039	2697.701	.035%	98.575%
57.0	11.342	1.043	2698.744	.035%	98.613%
58.0	11.273	1.048	2699.792	.035%	98.651%
59.0	11.218	1.054	2700.847	.036%	98.690%
60.0	11.149	1.059	2701.906	.036%	98.729%
61.0	11.108	1.065	2702.971	.036%	98.767%
62.0	11.066	1.071	2704.043	.036%	98.807%
63.0	11.053	1.080	2705.122	.036%	98.846%
64.0	11.232	1.107	2706.229	.037%	98.887%
65.0	11.424	1.135	2707.365	.038%	98.928%
66.0	11.589	1.161	2708.526	.039%	98.970%
67.0	11.644	1.175	2709.701	.040%	99.013%
68.0	11.713	1.191	2710.892	.040%	99.057%
69.0	11.713	1.199	2712.091	.041%	99.101%
70.0	11.755	1.211	2713.303	.041%	99.145%
71.0	11.755	1.219	2714.522	.041%	99.190%
72.0	11.851	1.236	2715.757	.042%	99.235%
73.0	11.782	1.236	2716.993	.042%	99.280%
74.0	11.768	1.241	2718.234	.042%	99.325%
75.0	11.713	1.241	2719.474	.042%	99.370%

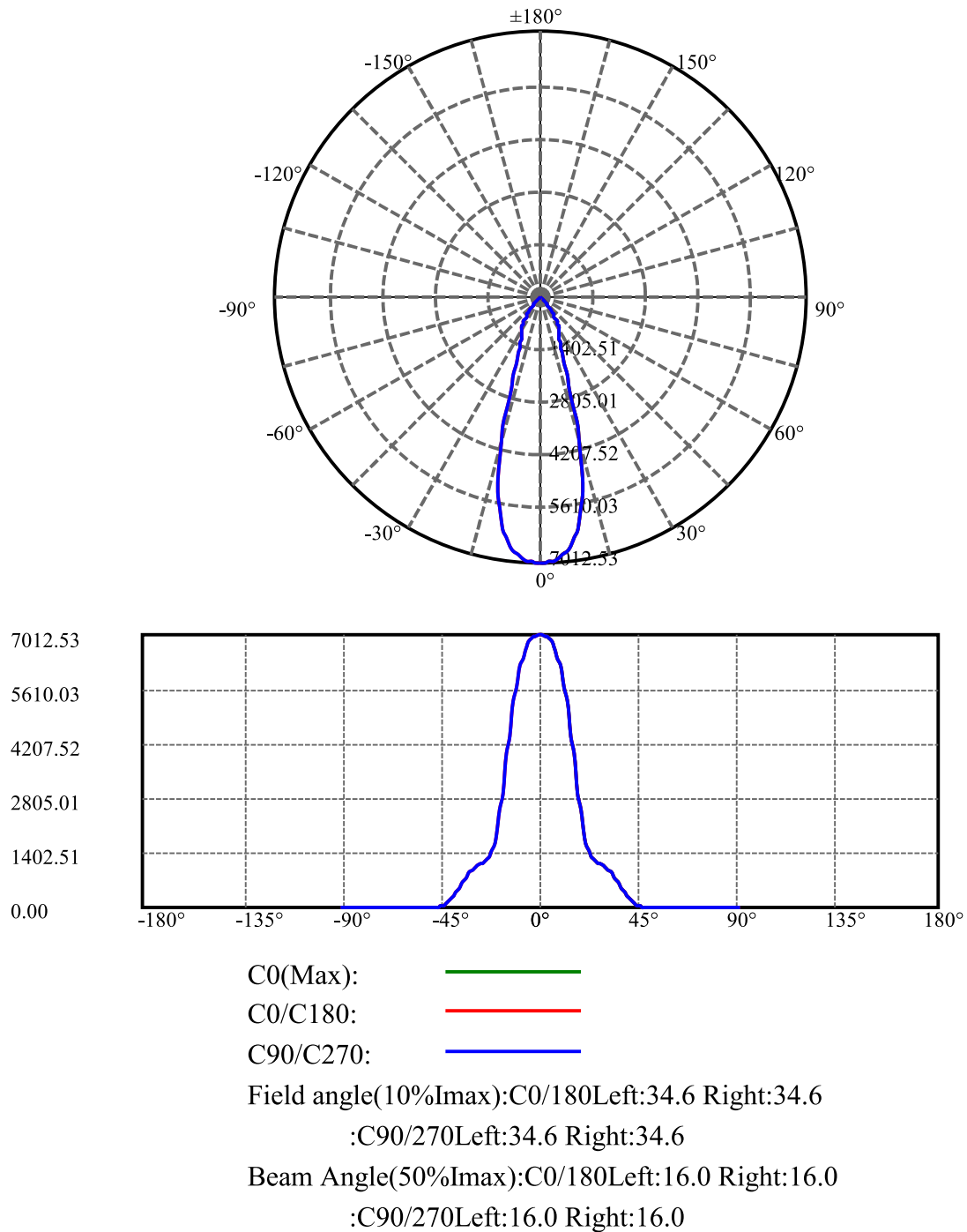
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	11.699	1.245	2720.719	.042%	99.416%
77.0	11.589	1.238	2721.958	.042%	99.461%
78.0	11.548	1.239	2723.196	.042%	99.506%
79.0	11.438	1.231	2724.427	.042%	99.551%
80.0	11.287	1.219	2725.646	.041%	99.596%
81.0	11.176	1.211	2726.857	.041%	99.640%
82.0	10.956	1.190	2728.047	.040%	99.684%
83.0	10.777	1.173	2729.22	.040%	99.727%
84.0	10.722	1.169	2730.389	.040%	99.769%
85.0	10.612	1.159	2731.548	.039%	99.812%
86.0	10.530	1.152	2732.7	.039%	99.854%
87.0	10.474	1.147	2733.847	.039%	99.896%
88.0	10.419	1.142	2734.989	.039%	99.937%
89.0	10.419	1.142	2736.132	.039%	99.979%
90.0	10.406	0.571	2736.702	.019%	100.000%

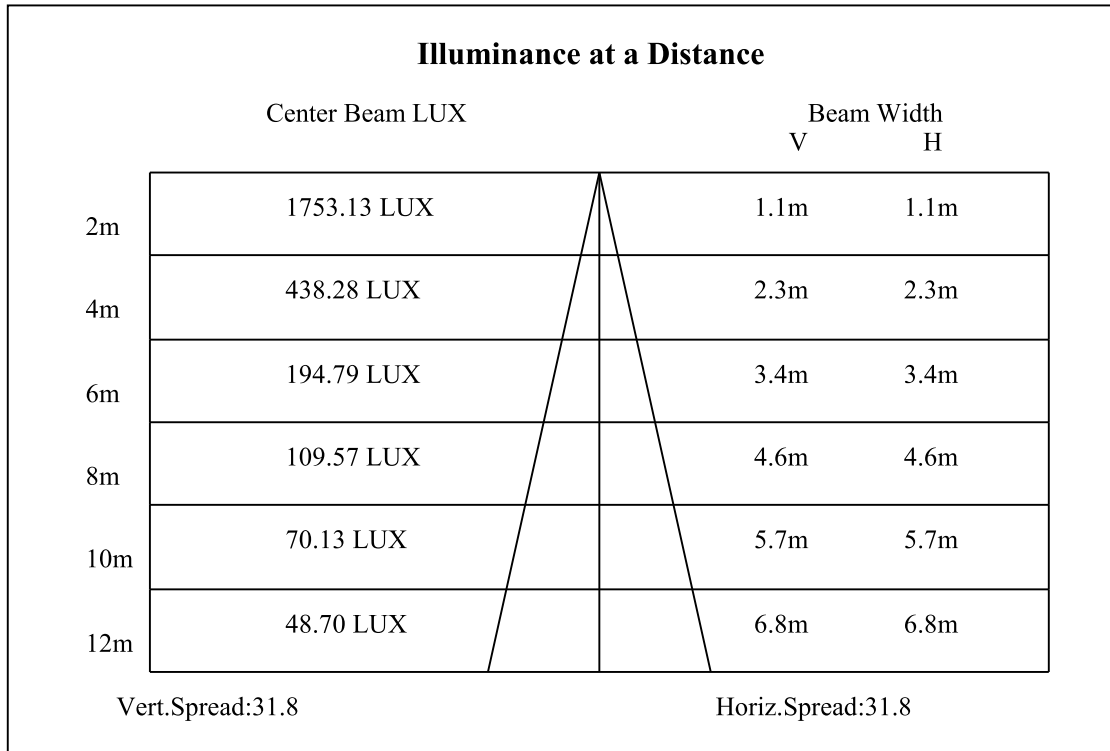
ZONAL LUMEN SUMMARY

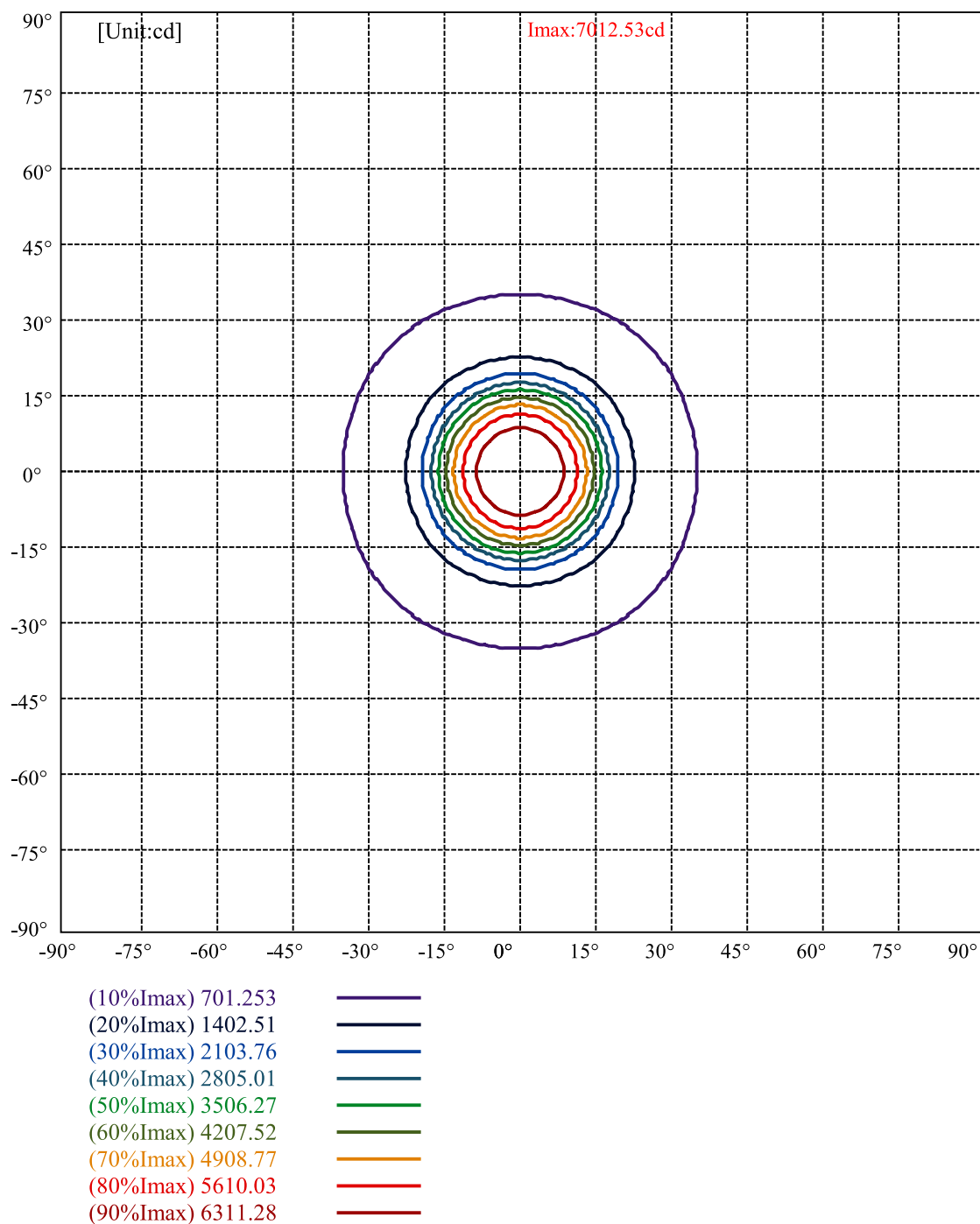
Zone	Lumens	%Lamp	%Fixt
0-30	2271.51	76.74%	83.00%
0-40	2653.25	89.64%	96.95%
0-60	2701.91	91.28%	98.73%
0-90	2736.13	92.44%	99.98%
0-120	2736.13	92.44%	99.98%
0-180	2736.70	92.46%	100.00%
60-90	35.28	1.19%	1.29%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-28.53	2189.36	73.96%	80.00%

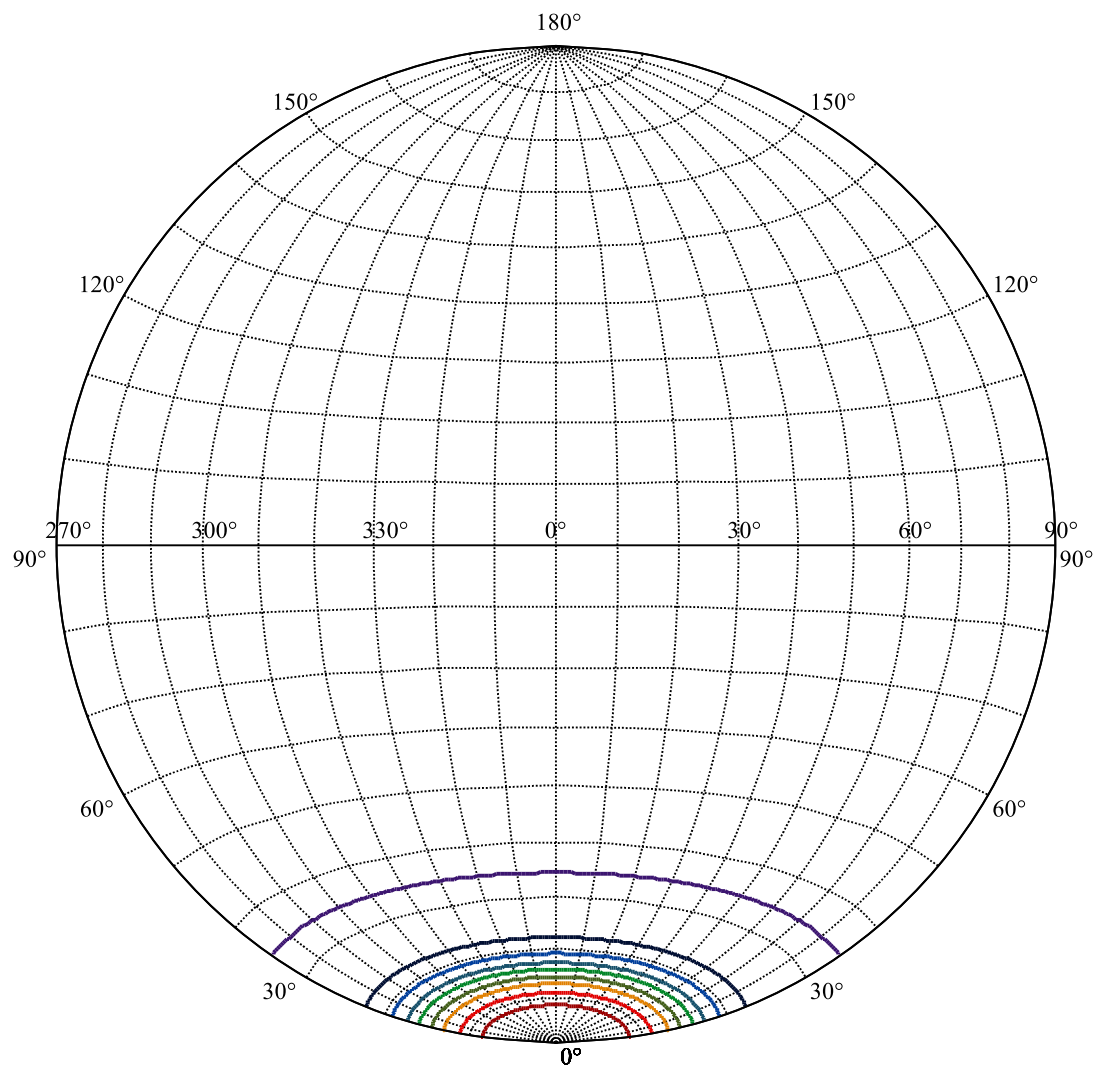
ZONAL LUMEN SUMMARY

0-10	683.59
10-20	1020.91
20-30	567.00
30-40	381.74
40-50	38.27
50-60	10.39
60-70	11.40
70-80	12.34
80-90	10.49
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







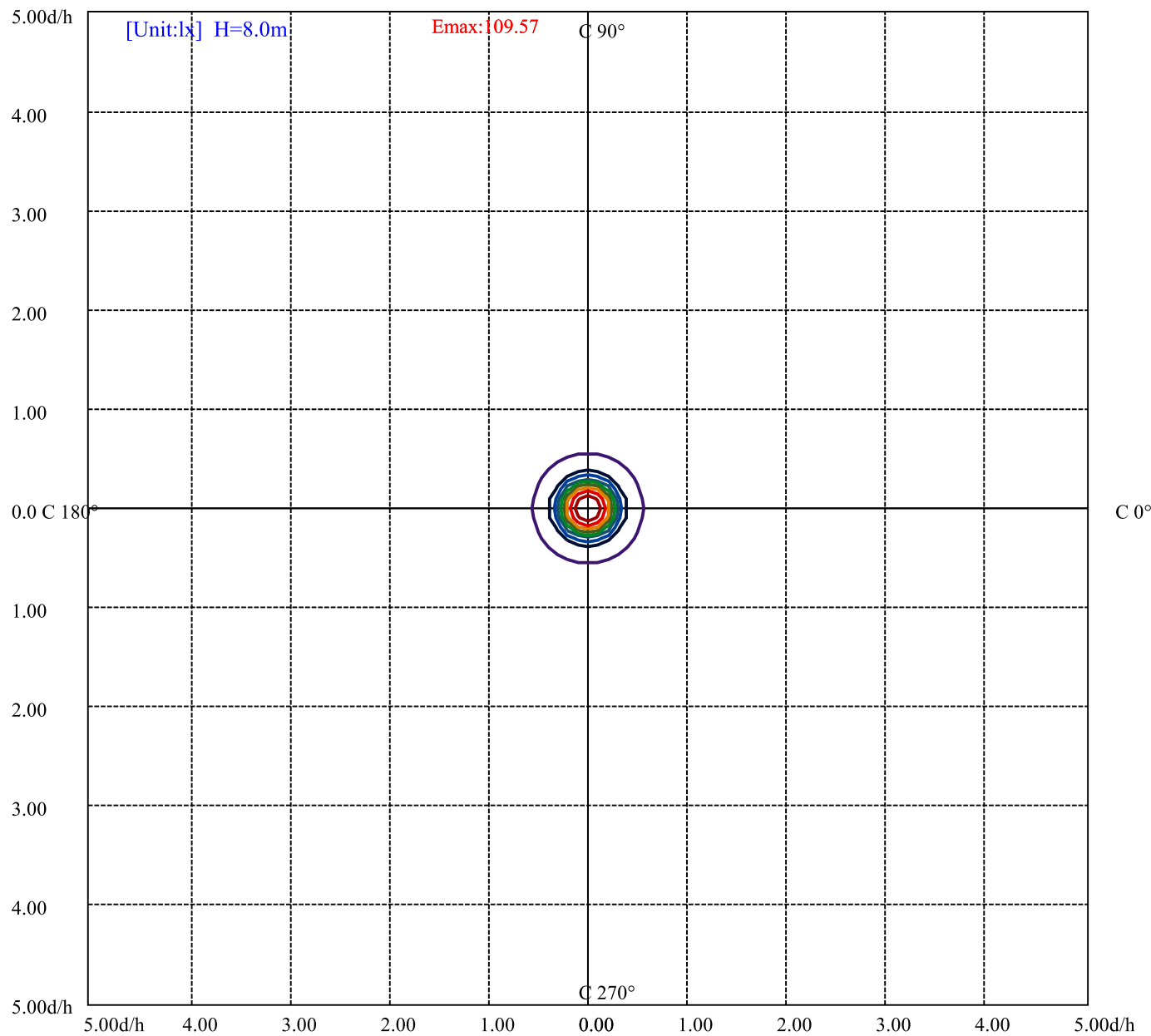


House

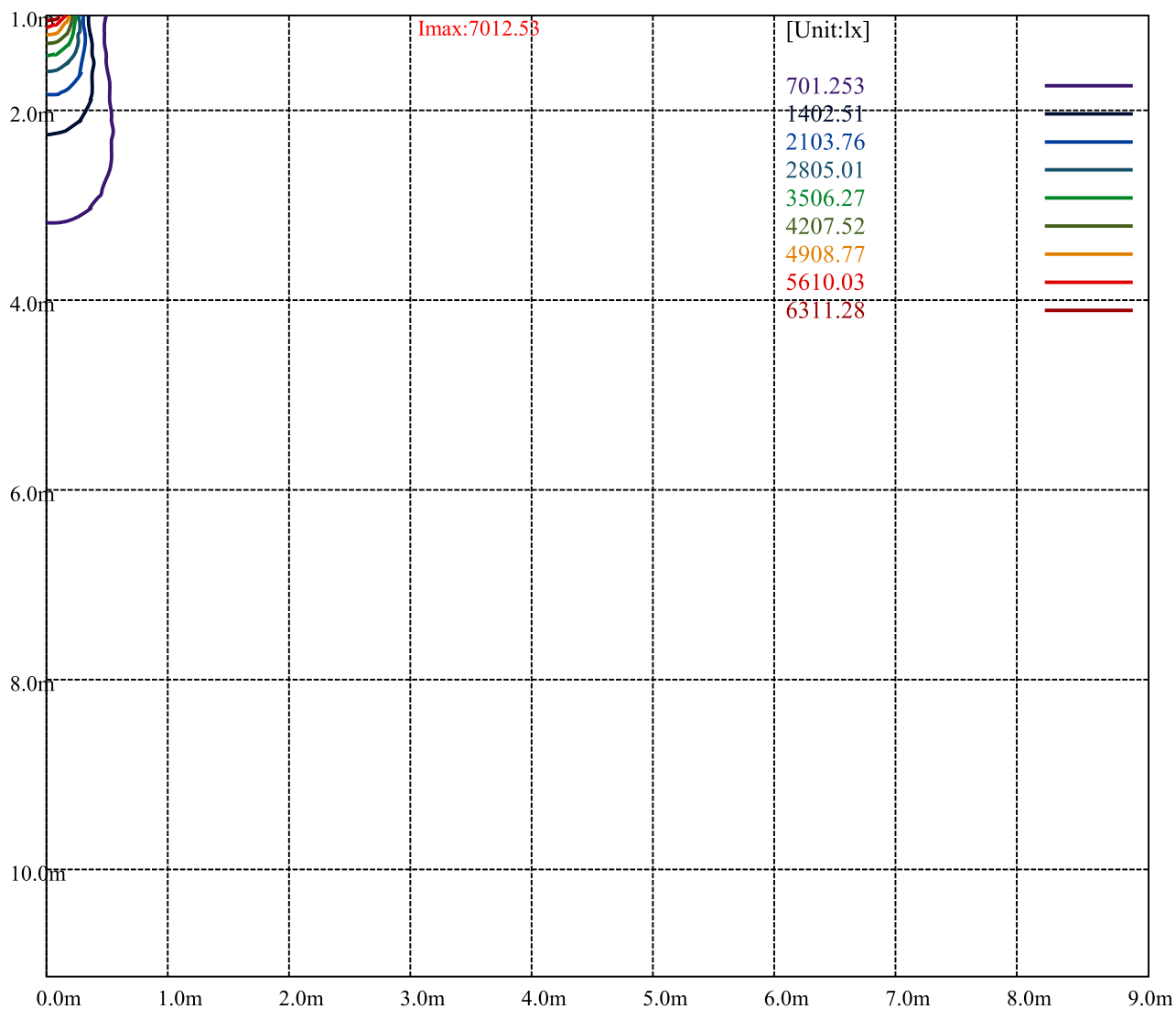
[Unit:cd]

Road

Imax:7012.53	
(10%Imax) 701.253	
(20%Imax) 1402.51	
(30%Imax) 2103.76	
(40%Imax) 2805.01	
(50%Imax) 3506.27	
(60%Imax) 4207.52	
(70%Imax) 4908.77	
(80%Imax) 5610.03	
(90%Imax) 6311.28	



(10%Emax)	10.95708	
(20%Emax)	21.91422	
(30%Emax)	32.87125	
(40%Emax)	43.82828	
(50%Emax)	54.78547	
(60%Emax)	65.7425	
(70%Emax)	76.69953	
(80%Emax)	87.65672	
(90%Emax)	98.61375	



Luminance Table

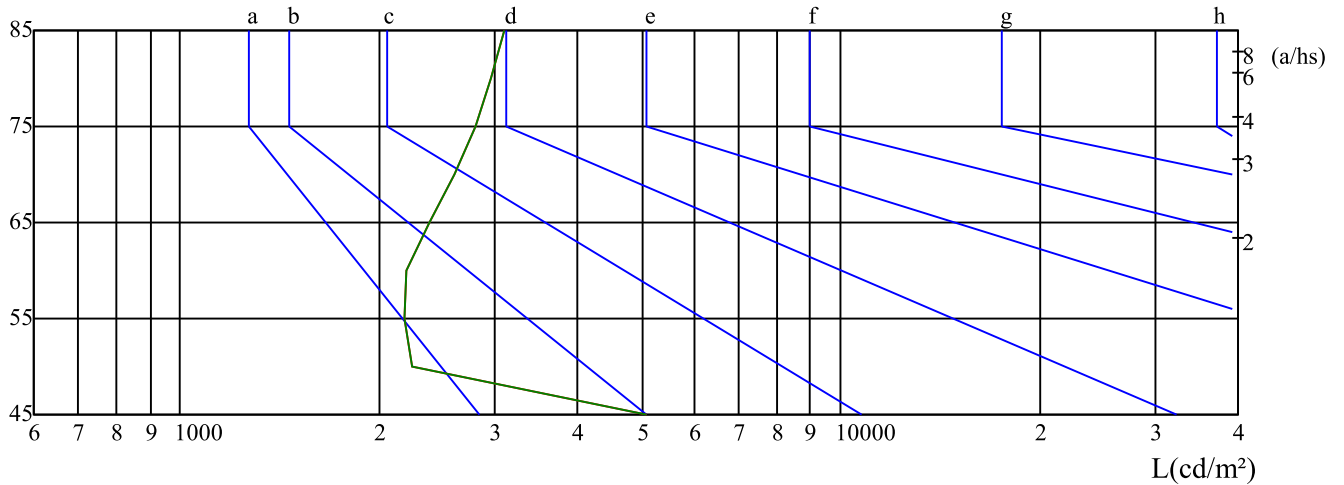
γ	45	50	55	60	65	70	75	80	85
C0	5074	2240	2184	2205	2381	2610	2805	2958	3098
C45	0	0	0	0	0	0	0	0	0
C90	5074	2240	2184	2205	2381	2610	2805	2958	3098

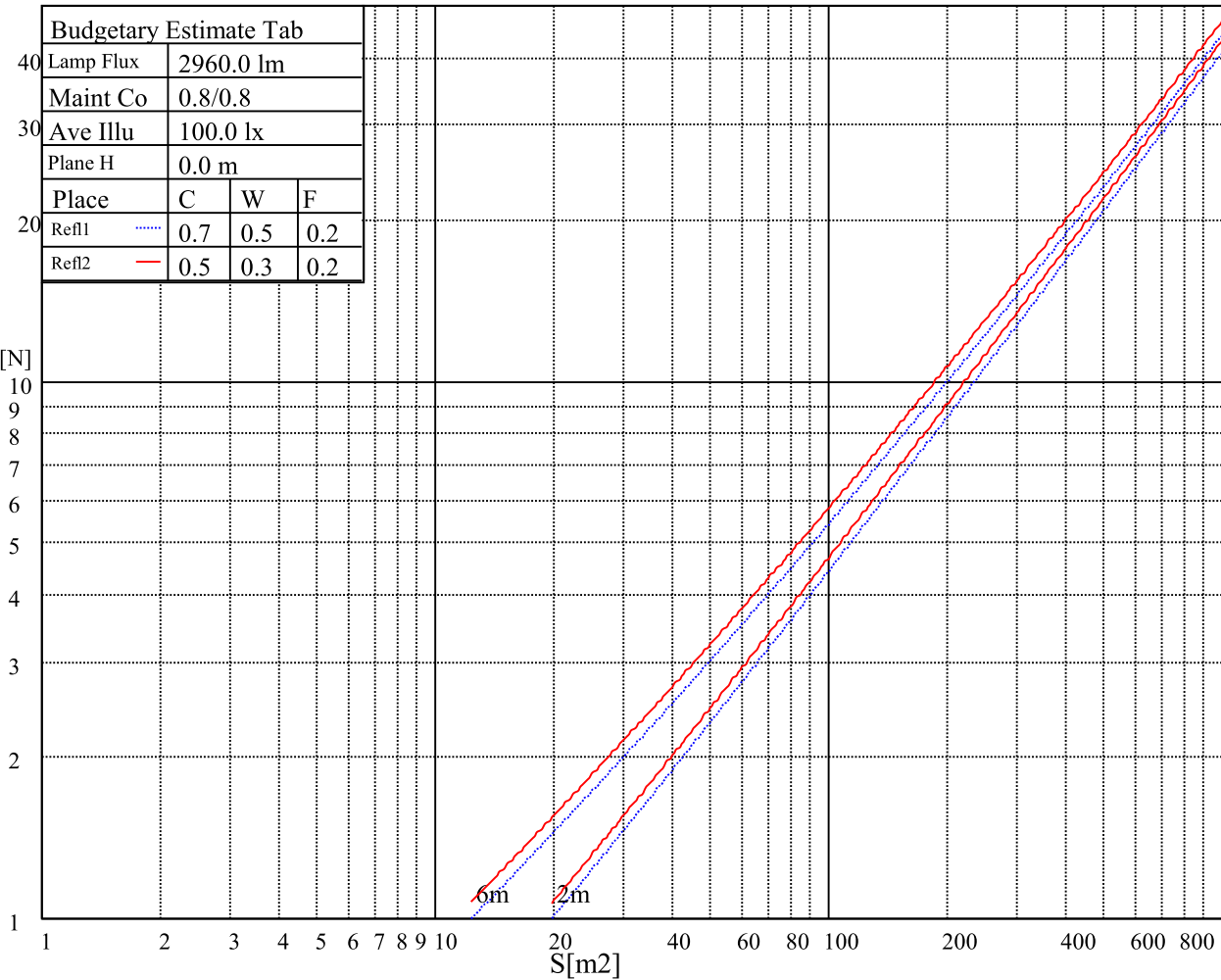
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
5517	5517	0	9236	9236	0	24849	24849	0

Glare Table

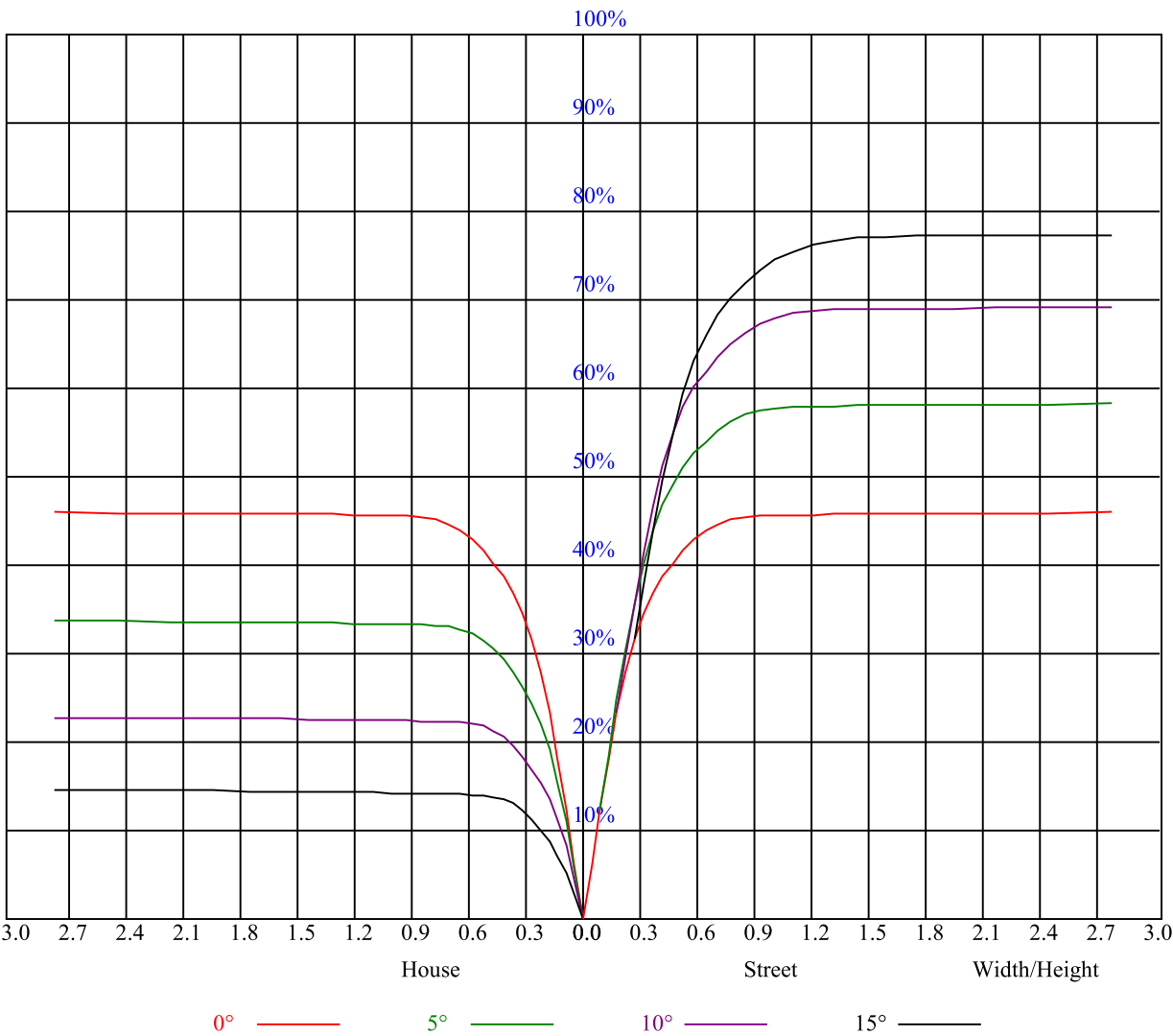
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

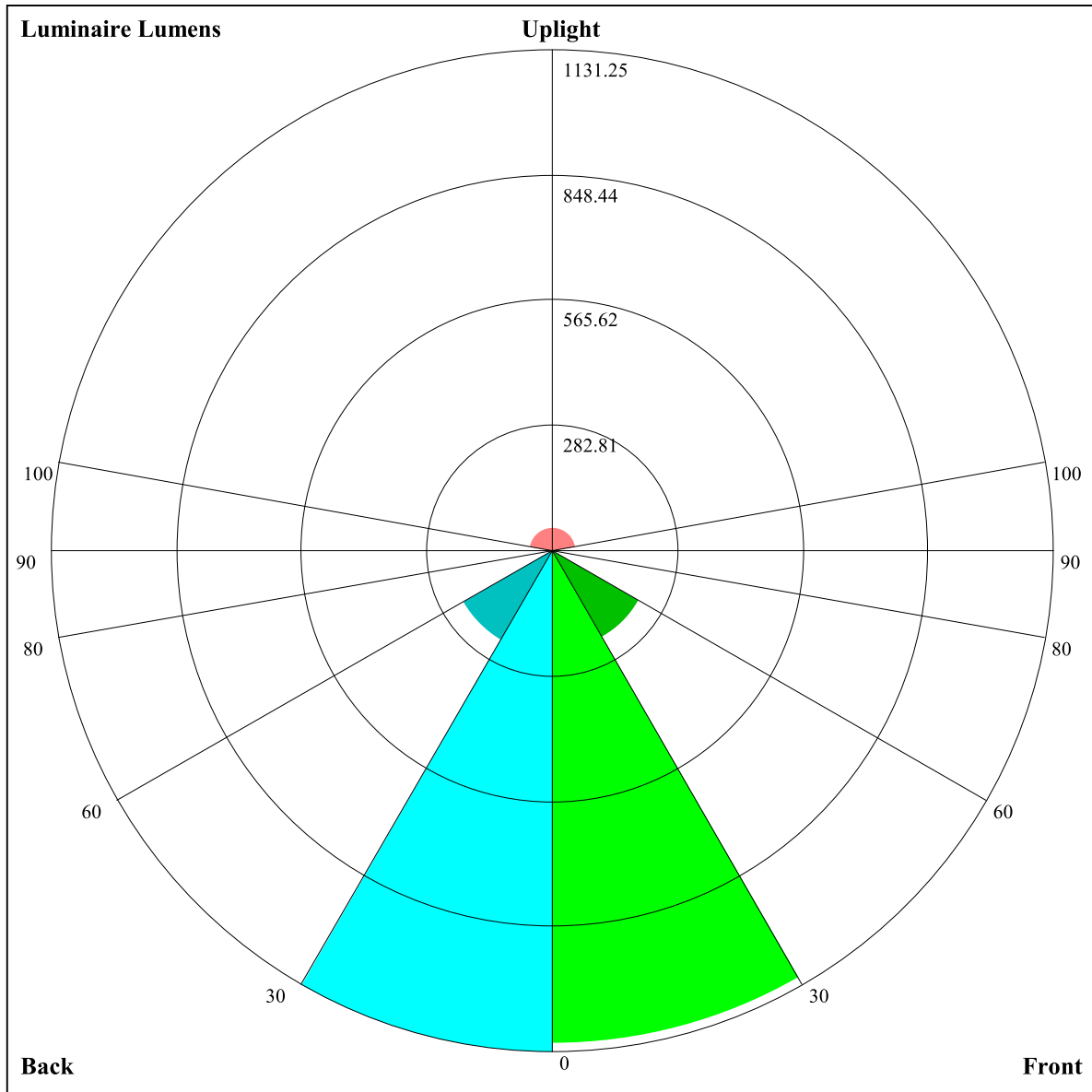
Luminance Limiting Curve

 $\gamma(^{\circ})$ 



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	1.10	1.10	1.10	1.08	1.08	1.08	1.03	1.03	1.03	0.98	0.98	0.98	0.94	0.94	0.94	0.93
1	1.03	1.01	0.99	1.01	0.99	0.98	0.98	0.96	0.95	0.94	0.93	0.92	0.91	0.90	0.89	0.88
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	0.85	0.83
3	0.92	0.88	0.85	0.91	0.87	0.84	0.89	0.86	0.83	0.86	0.84	0.82	0.84	0.82	0.81	0.79
4	0.88	0.83	0.80	0.87	0.83	0.79	0.85	0.81	0.79	0.83	0.80	0.78	0.81	0.79	0.77	0.76
5	0.83	0.79	0.76	0.83	0.78	0.75	0.81	0.77	0.75	0.80	0.76	0.74	0.78	0.75	0.73	0.72
6	0.80	0.75	0.72	0.79	0.75	0.72	0.78	0.74	0.71	0.76	0.73	0.71	0.75	0.72	0.70	0.69
7	0.76	0.72	0.68	0.76	0.71	0.68	0.75	0.71	0.68	0.74	0.70	0.68	0.73	0.70	0.67	0.66
8	0.73	0.69	0.65	0.73	0.68	0.65	0.72	0.68	0.65	0.71	0.67	0.65	0.70	0.67	0.65	0.63
9	0.70	0.66	0.63	0.70	0.66	0.63	0.69	0.65	0.62	0.68	0.65	0.62	0.68	0.64	0.62	0.61
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





Luminaire Lumens:

FL=1115.22,FM=227.77,FH=11.93,FVH=5.84

BL=1131.25,BM=233.36,BH=11.99,BVH=5.86

UL=11.35,UH=54.03

BUG Rating:B3-U2-G0

Intensity data(cd)										Appendix Page: 17 Total:18	
C/γ(°)	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0		
0.0	7008.68	7015.29	7000.97	6971.24	6900.22	6797.81	6679.99	6547.31	6376.63		
90.0	7016.39	7004.83	6994.92	7010.88	7002.07	6964.08	6899.67	6818.18	6699.26		
180.0	7008.68	7004.28	6996.57	6978.40	6939.31	6870.49	6769.18	6646.41	6498.86		
270.0	7016.39	7010.88	6966.29	6895.26	6814.33	6678.89	6541.80	6373.88	6100.80		
360.0	7008.68	7015.29	7000.97	6971.24	6900.22	6797.81	6679.99	6547.31	6376.63		
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0		
0.0	6150.90	5921.32	5611.35	5265.59	4822.94	4318.62	3836.88	3342.47	2766.03		
90.0	6556.67	6405.26	6167.97	5910.30	5573.36	5175.30	4766.23	4319.73	3726.77		
180.0	6294.05	6044.64	5751.74	5440.67	5078.40	4559.22	4098.40	3615.55	3074.35		
270.0	5871.21	5530.42	5071.25	4691.36	4223.38	3561.05	3136.01	2677.94	2155.46		
360.0	6150.90	5921.32	5611.35	5265.59	4822.94	4318.62	3836.88	3342.47	2766.03		
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0		
0.0	2367.98	2038.74	1710.60	1519.56	1385.22	1282.81	1213.99	1168.85	1128.66		
90.0	3236.22	2764.38	2267.22	1941.84	1687.48	1488.17	1355.49	1271.25	1212.34		
180.0	2570.58	2192.90	1887.88	1605.44	1449.08	1341.17	1250.33	1199.13	1160.59		
270.0	1892.84	1652.24	1455.14	1326.86	1251.98	1191.97	1148.48	1097.16	1083.45		
360.0	2367.98	2038.74	1710.60	1519.56	1385.22	1282.81	1213.99	1168.85	1128.66		
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0		
0.0	1098.93	1066.99	1040.02	1010.28	956.33	884.76	812.08	747.12	636.45		
90.0	1170.50	1133.06	1104.98	1078.55	1052.68	1008.08	953.03	886.41	796.12		
180.0	1129.21	1094.03	1069.86	1040.24	994.43	926.60	848.25	774.86	686.28		
270.0	1056.86	1030.00	987.99	936.18	872.70	786.43	709.68	631.94	526.83		
360.0	1098.93	1066.99	1040.02	1010.28	956.33	884.76	812.08	747.12	636.45		
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0		
0.0	555.52	471.28	363.92	285.74	243.07	145.35	87.37	48.34	25.88		
90.0	716.83	635.90	555.52	450.91	372.18	290.70	198.64	137.75	90.13		
180.0	582.44	510.26	428.17	320.98	256.07	186.86	119.14	67.72	39.59		
270.0	442.65	362.82	284.75	200.68	140.89	89.30	45.97	28.85	23.95		
360.0	555.52	471.28	363.92	285.74	243.07	145.35	87.37	48.34	25.88		
C/γ(°)	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	53.0		
0.0	21.47	17.62	14.31	12.61	12.28	12.06	11.95	11.84	11.67		
90.0	44.87	27.09	22.79	18.28	14.48	12.33	12.11	11.95	11.78		
180.0	28.30	23.51	19.60	14.31	12.83	12.61	12.39	12.22	11.78		
270.0	18.88	14.09	12.55	12.28	12.06	11.89	11.73	11.67	11.56		
360.0	21.47	17.62	14.31	12.61	12.28	12.06	11.95	11.84	11.67		
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0		
0.0	11.56	11.51	11.45	11.40	11.29	11.23	11.18	11.12	11.07		
90.0	11.67	11.62	11.51	11.40	11.34	11.29	11.18	11.12	11.07		
180.0	11.62	11.56	11.45	11.40	11.34	11.29	11.18	11.12	11.12		
270.0	11.51	11.40	11.29	11.18	11.12	11.07	11.07	11.07	11.01		
360.0	11.56	11.51	11.45	11.40	11.29	11.23	11.18	11.12	11.07		
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0		
0.0	11.01	11.01	11.01	11.07	11.12	11.12	11.12	11.18	11.18		
90.0	11.07	11.01	11.01	10.96	11.01	11.07	11.07	11.07	11.01		
180.0	11.07	11.01	10.96	11.07	11.12	11.18	11.23	11.29	11.34		
270.0	11.07	11.89	12.72	13.27	13.32	13.49	13.43	13.49	13.49		
360.0	11.01	11.01	11.01	11.07	11.12	11.12	11.12	11.18	11.18		

Intensity data(cd)										Appendix Page: 18 Total:18	
C/ γ (°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0		
0.0	11.23	11.23	11.18	11.07	11.01	10.96	10.90	10.79	10.79		
90.0	11.07	11.07	10.96	10.96	10.90	10.90	10.90	10.96	10.90		
180.0	11.45	11.45	11.45	11.51	11.45	11.45	11.34	11.12	10.96		
270.0	13.65	13.38	13.49	13.32	13.43	13.05	13.05	12.88	12.50		
360.0	11.23	11.23	11.18	11.07	11.01	10.96	10.90	10.79	10.79		
C/ γ (°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0		
0.0	10.68	10.68	10.57	10.57	10.57	10.41	10.35	10.41	10.41		
90.0	10.90	10.85	10.79	10.79	10.74	10.68	10.63	10.52	10.46		
180.0	10.90	10.85	10.79	10.74	10.63	10.57	10.46	10.35	10.35		
270.0	12.22	11.45	10.96	10.79	10.52	10.46	10.46	10.41	10.46		
360.0	10.68	10.68	10.57	10.57	10.57	10.41	10.35	10.41	10.41		
C/ γ (°)	90.0										
0.0	10.35										
90.0	10.41										
180.0	10.41										
270.0	10.46										
360.0	10.35										