
NATA

Client:

LumCAT: 3-1703-N

Luminaire: 92.70.065.00+92.70.061.00

Report No: nata-0100

Voltage(V): 36.3000

Test No: GC2018111405

Current(A): 0.5500

LampCAT: OSRAM SOLERIQ S15

Power (W): 20.3280

Lamp flux(lm): 2661.0

PF: 0.0000

Number of Lamps: 1

Ballast type: DC

Length(mm): 86

Width(mm): 86

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 2109.51, Efficiency(%): 79.28% , Luminous Efficacy(lm/W): 103.77

Central intensity(cd): 4664.531, Maximum intensity(cd): 4664.531

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=34.8

[C90/270]Total=34.8

Field angle(10%Imax): [C0/180]Total=65.0

[C90/270]Total=65.0

Maximum s/h(1/2): C0_180=0.57 C90_270=0.57

Maximum s/h(1/4): C0_180=0.59 C90_270=0.59

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 80.25%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 96.626%

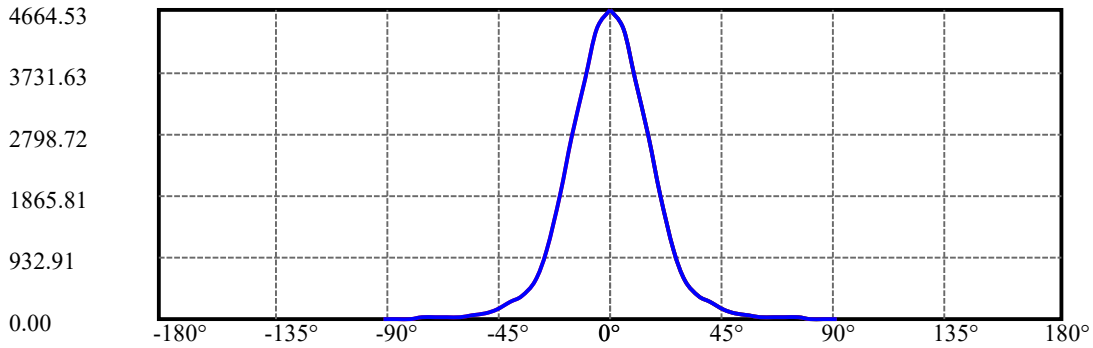
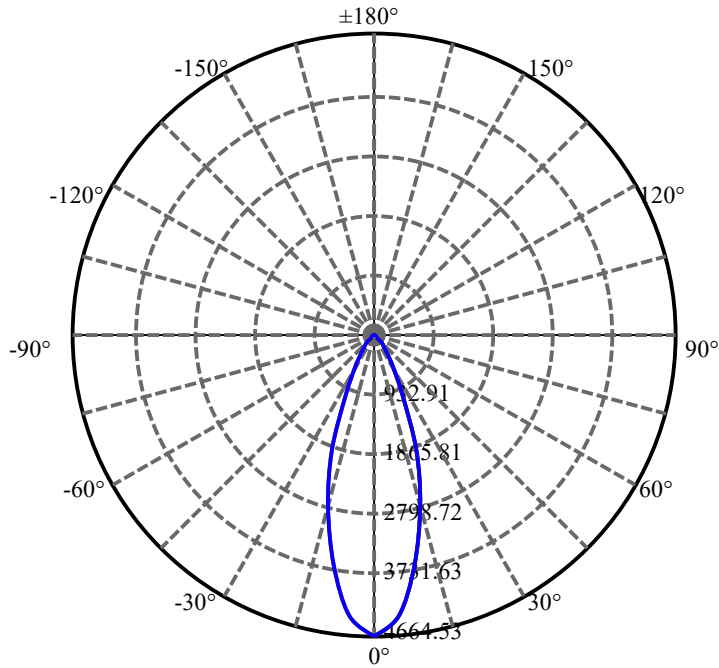
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4664.531	27.895	27.895	1.048%	1.322%
5.0	4360.500	208.316	236.21	7.828%	11.197%
10.0	3623.836	344.928	581.138	12.962%	27.548%
15.0	2751.961	390.416	971.554	14.672%	46.056%
20.0	1890.492	354.418	1325.973	13.319%	62.857%
25.0	1036.870	240.194	1566.167	9.026%	74.243%
30.0	573.293	157.122	1723.288	5.905%	81.691%
35.0	361.582	113.681	1836.969	4.272%	87.080%
40.0	247.634	87.250	1924.219	3.279%	91.216%
45.0	153.963	59.675	1983.894	2.243%	94.045%
50.0	93.966	39.456	2023.35	1.483%	95.915%
55.0	54.056	24.272	2047.622	.912%	97.066%
60.0	33.138	15.731	2063.353	.591%	97.812%
65.0	24.068	11.957	2075.309	.449%	98.379%
70.0	20.011	10.307	2085.616	.387%	98.867%
75.0	16.488	8.730	2094.346	.328%	99.281%
80.0	13.310	7.185	2101.531	.270%	99.622%
85.0	10.308	5.629	2107.16	.212%	99.888%
90.0	8.592	2.355	2109.515	.088%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1723.29	64.76%	81.69%
0-40	1924.22	72.31%	91.22%
0-60	2063.35	77.54%	97.81%
0-90	2107.16	79.19%	99.89%
0-120	2107.16	79.19%	99.89%
0-180	2109.51	79.28%	100.00%
60-90	59.54	2.24%	2.82%
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%
0-28.86	1687.61	63.42%	80.00%

ZONAL LUMEN SUMMARY

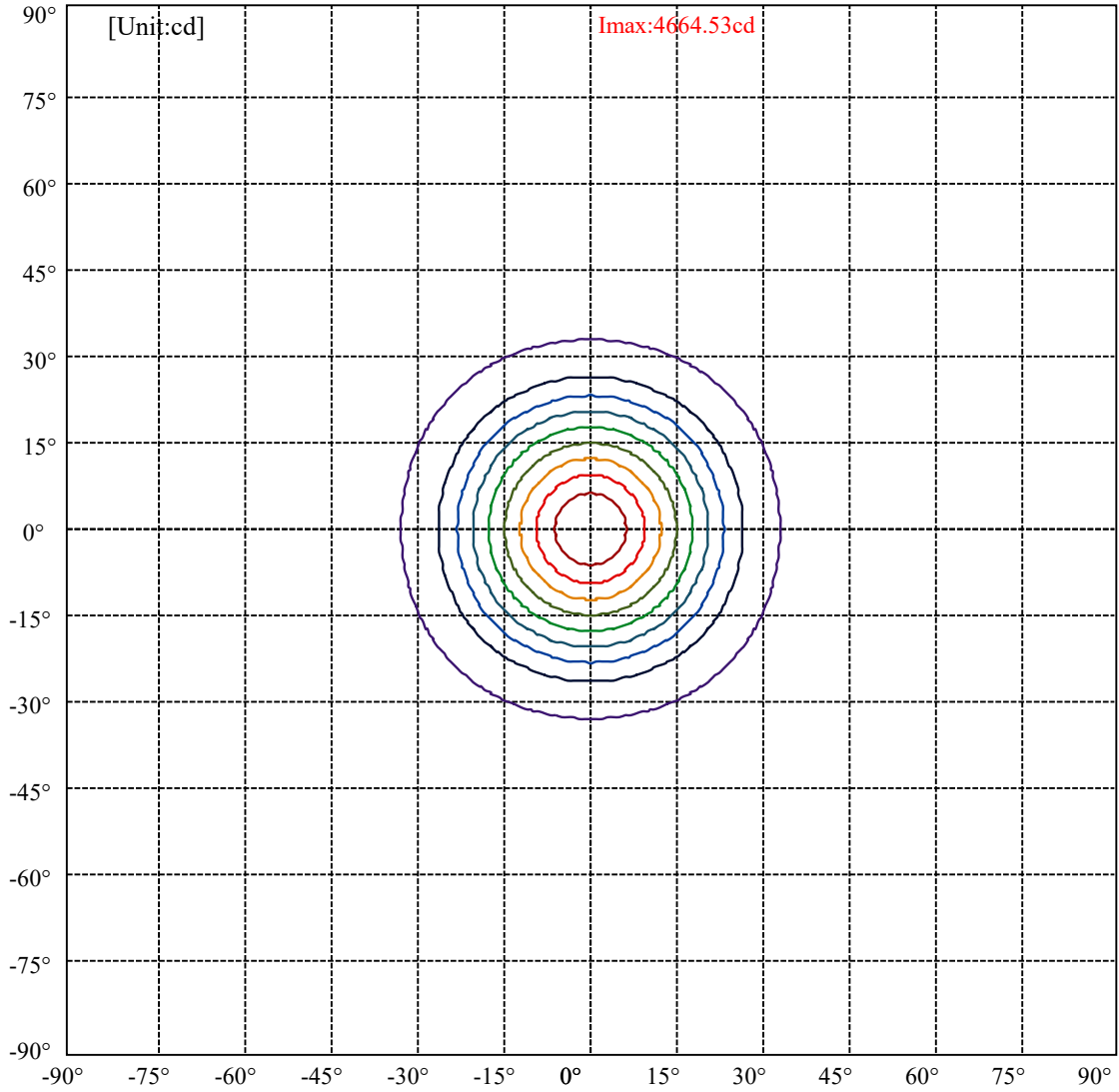
0-10	581.14
10-20	744.83
20-30	397.32
30-40	200.93
40-50	99.13
50-60	40.00
60-70	22.26
70-80	15.91
80-90	5.63
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00



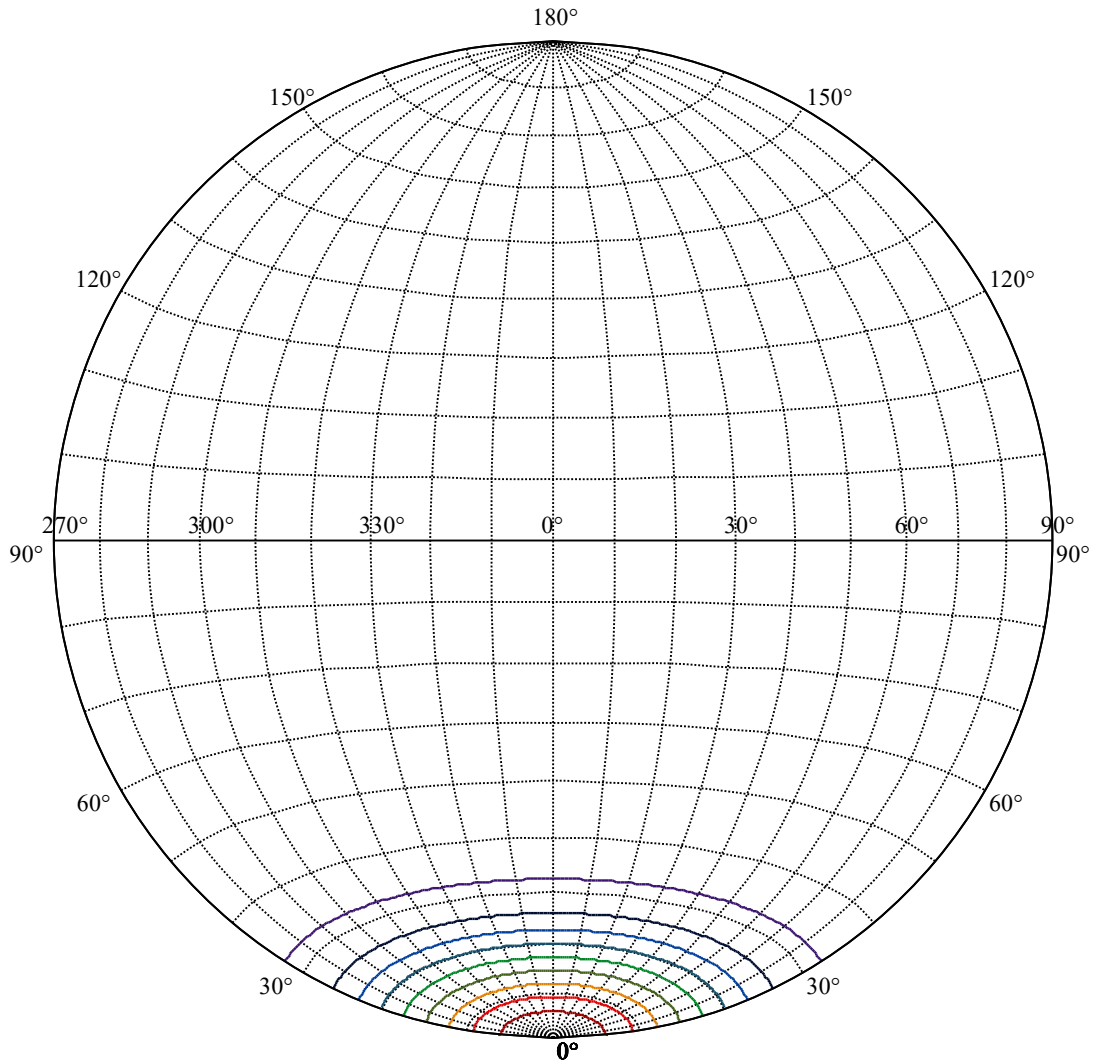
C0(Max): —————
C0/C180: —————
C90/C270: —————

Field angle(10%Imax):C0/180Left:32.5 Right:32.5
:C90/270Left:32.5 Right:32.5

Beam Angle(50%Imax):C0/180Left:17.4 Right:17.4
:C90/270Left:17.4 Right:17.4



(10%Imax) 466.453	—
(20%Imax) 932.906	—
(30%Imax) 1399.36	—
(40%Imax) 1865.81	—
(50%Imax) 2332.27	—
(60%Imax) 2798.72	—
(70%Imax) 3265.17	—
(80%Imax) 3731.63	—
(90%Imax) 4198.08	—



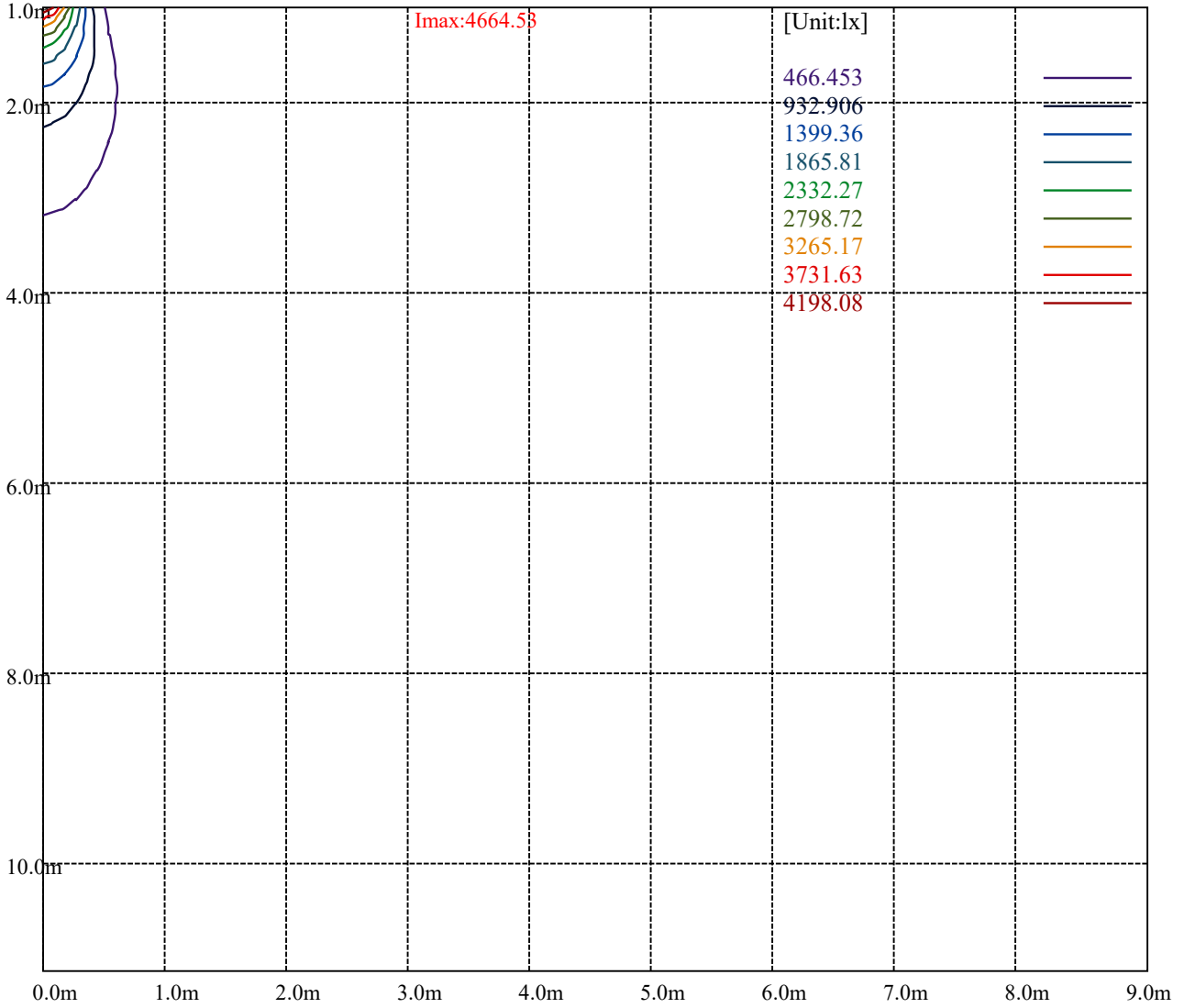
House

[Unit:cd]

Road

I_{max}:4664.53

(10%I _{max}) 466.453	—
(20%I _{max}) 932.906	—
(30%I _{max}) 1399.36	—
(40%I _{max}) 1865.81	—
(50%I _{max}) 2332.27	—
(60%I _{max}) 2798.72	—
(70%I _{max}) 3265.17	—
(80%I _{max}) 3731.63	—
(90%I _{max}) 4198.08	—



Luminance Table

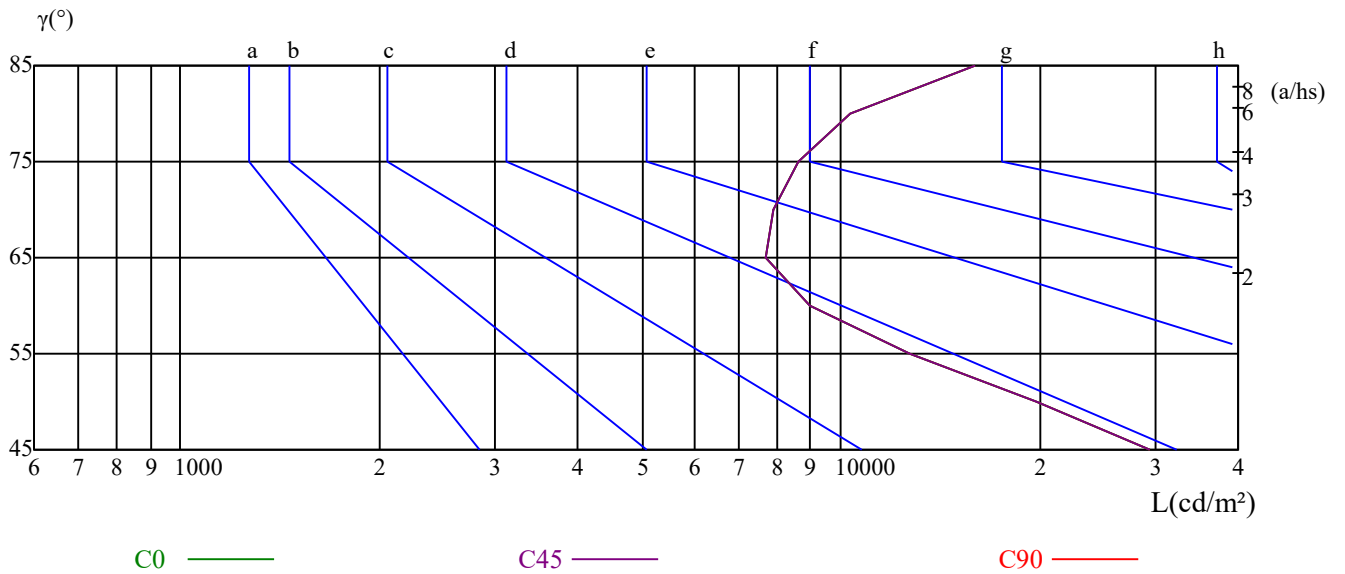
γ	45	50	55	60	65	70	75	80	85
C0	29440	19765	12743	8961	7700	7911	8614	10364	15991
C45	29440	19765	12743	8961	7700	7911	8614	10364	15991
C90	29440	19765	12743	8961	7700	7911	8614	10364	15991

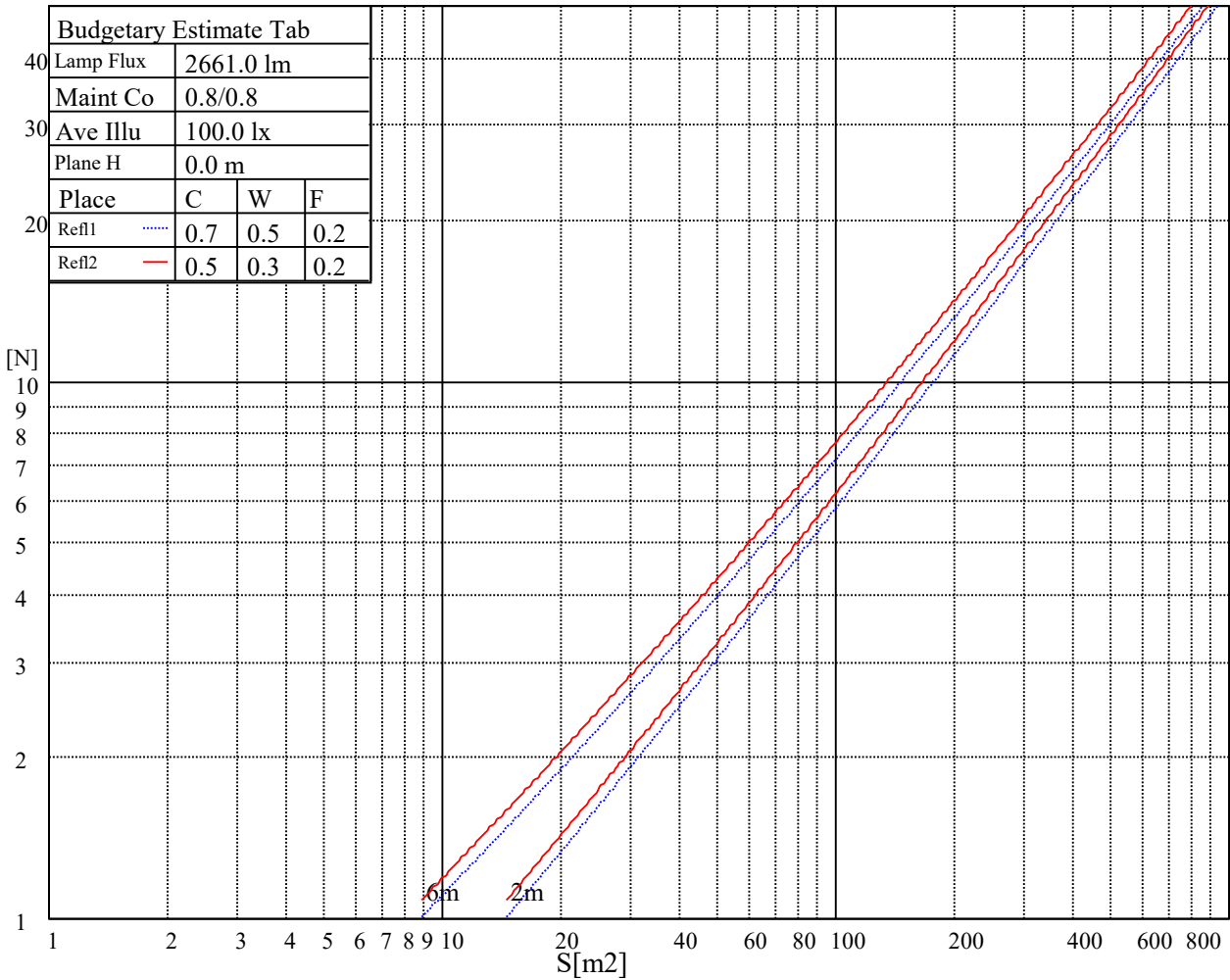
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
7700	7700	7700	8614	8614	8614	15991	15991	15991

Glare Table

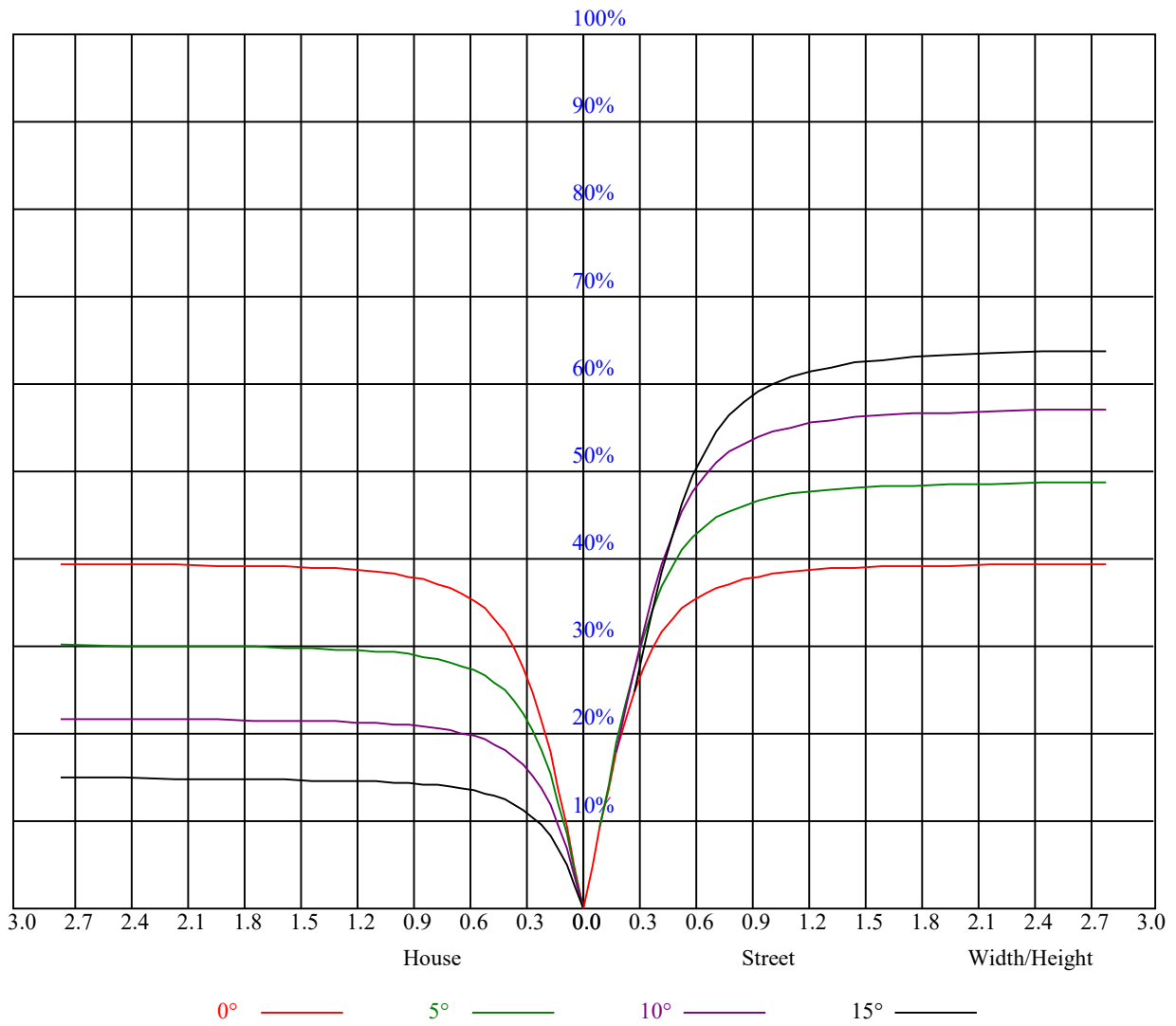
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

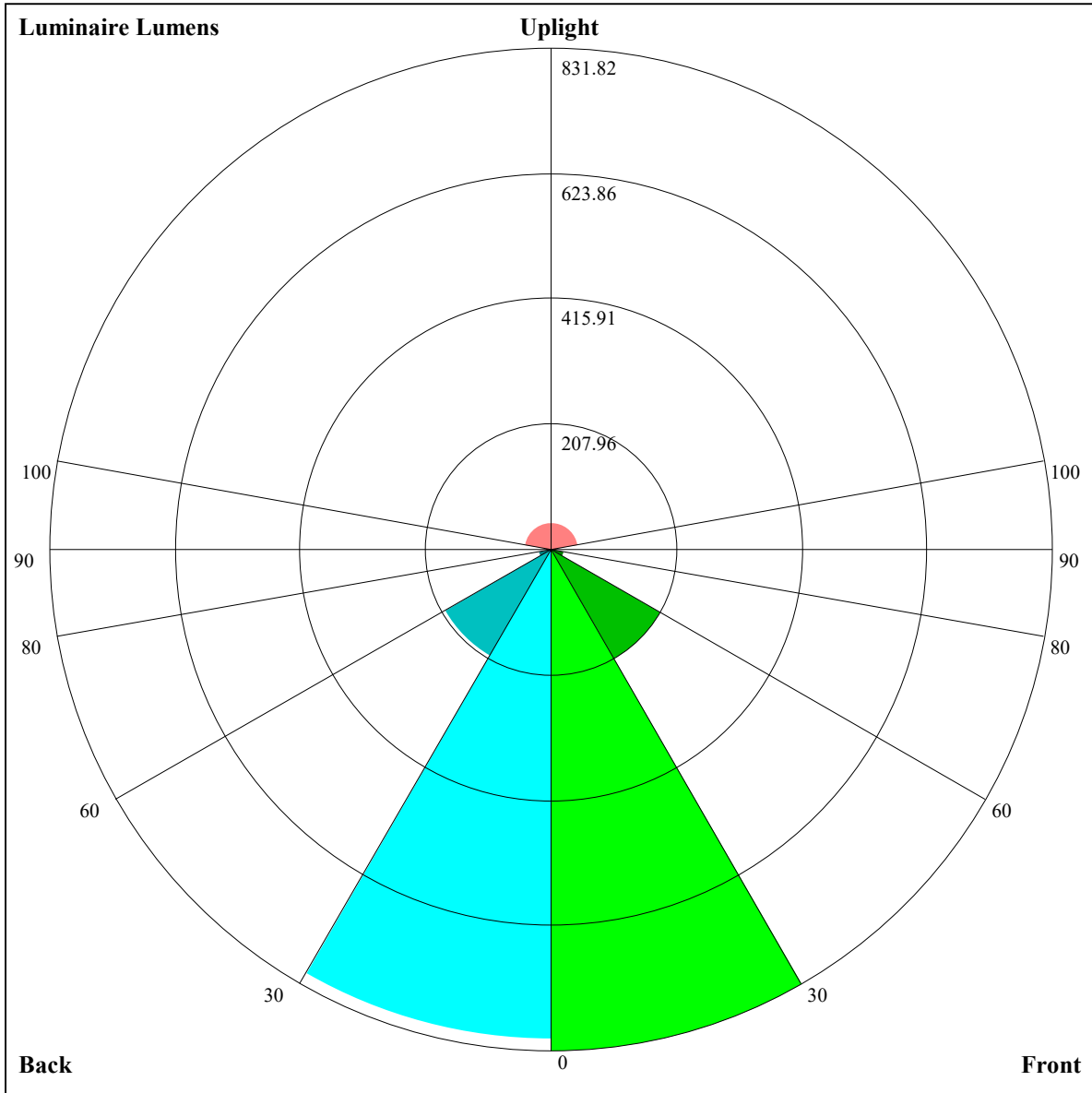
Luminance Limiting Curve





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	0.96	0.96	0.96	0.93	0.93	0.93	0.89	0.89	0.89	0.85	0.85	0.85	0.82	0.82	0.82	0.80
1	0.88	0.86	0.84	0.86	0.84	0.83	0.83	0.81	0.80	0.80	0.79	0.78	0.77	0.76	0.75	0.74
2	0.83	0.79	0.77	0.81	0.78	0.76	0.79	0.76	0.74	0.76	0.74	0.73	0.74	0.73	0.71	0.70
3	0.78	0.74	0.71	0.77	0.73	0.71	0.75	0.72	0.70	0.73	0.71	0.68	0.71	0.69	0.67	0.66
4	0.74	0.70	0.67	0.73	0.69	0.66	0.71	0.68	0.66	0.70	0.67	0.65	0.68	0.66	0.64	0.63
5	0.70	0.66	0.63	0.70	0.66	0.63	0.68	0.65	0.62	0.67	0.64	0.62	0.66	0.63	0.61	0.60
6	0.67	0.63	0.60	0.67	0.63	0.60	0.65	0.62	0.59	0.64	0.61	0.59	0.63	0.61	0.58	0.57
7	0.64	0.60	0.57	0.64	0.60	0.57	0.63	0.59	0.57	0.62	0.59	0.56	0.61	0.58	0.56	0.55
8	0.62	0.57	0.55	0.61	0.57	0.55	0.60	0.57	0.54	0.60	0.56	0.54	0.59	0.56	0.54	0.53
9	0.59	0.55	0.52	0.59	0.55	0.52	0.58	0.55	0.52	0.58	0.54	0.52	0.57	0.54	0.52	0.51
10	0.57	0.53	0.50	0.57	0.53	0.50	0.56	0.53	0.50	0.56	0.52	0.50	0.55	0.52	0.50	0.49





Luminaire Lumens:

FL=831.82,FM=211.58,FH=21.47,FVH=5.84

BL=813.55,BM=203.69,BH=21.05,BVH=5.76

UL=9.37,UH=44.61

BUG Rating:B2-U2-G0

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	4659.75	4488.19	3787.31	2950.88	2122.31	1225.13	648.00	405.00	286.88
45.0	4677.19	4249.13	3479.63	2607.19	1774.13	933.19	529.31	342.56	227.87
90.0	4641.19	4045.50	3322.69	2489.06	1572.75	839.08	488.64	315.00	218.64
135.0	4680.00	4394.81	3612.38	2709.00	1856.25	988.87	544.50	341.44	232.88
180.0	4659.75	4281.75	3507.75	2565.00	1675.69	874.97	494.38	322.59	222.41
225.0	4677.19	4502.25	3776.06	2869.88	2016.56	1083.32	600.02	381.66	257.40
270.0	4641.19	4515.19	3853.69	2988.56	2134.69	1266.75	677.25	410.63	286.88
315.0	4680.00	4407.19	3651.19	2836.13	1971.56	1083.66	604.24	373.78	248.12
360.0	4659.75	4488.19	3787.31	2950.88	2122.31	1225.13	648.00	405.00	286.88
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	170.89	106.26	61.26	37.80	25.43	21.04	17.27	14.18	10.86
45.0	138.83	85.44	48.88	30.32	23.74	19.52	16.03	12.83	9.79
90.0	131.68	78.13	45.68	28.80	22.61	18.62	15.47	12.49	9.62
135.0	145.52	87.07	51.08	31.67	23.68	19.86	16.20	12.99	10.01
180.0	137.36	84.09	47.81	30.09	22.89	19.24	15.64	12.49	9.73
225.0	167.79	103.39	58.84	35.16	24.41	20.59	16.93	13.73	10.80
270.0	182.25	110.64	63.11	37.52	25.37	20.87	17.66	14.12	11.03
315.0	157.39	96.69	55.80	33.75	24.41	20.36	16.71	13.67	10.63
360.0	170.89	106.26	61.26	37.80	25.43	21.04	17.27	14.18	10.86
C/γ(°)	90.0								
0.0	8.55								
45.0	8.55								
90.0	8.55								
135.0	8.55								
180.0	8.49								
225.0	8.72								
270.0	8.72								
315.0	8.61								
360.0	8.55								