
Nata

Client:

LumCAT: 1657-S

Luminaire: 92.70.124.00

Report No: nata-0100

Test No:

LampCAT: CREE CMT1420

Lamp flux(lm): 1956.5

Number of Lamps: 1

Length(mm): 47

Phm Type: C

Voltage(V): 35.1000

Current(A): 0.3900

Power (W): 13.6890

PF: 0.0000

Ballast type: DC

Width(mm): 47

Height(mm): 0

Photometric Results

Lumens(lm): 1757.31, Efficiency(%): 89.82% , Luminous Efficacy(lm/W): 128.37

Central intensity(cd): 6584.608, Maximum intensity(cd): 6584.608

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=24.4

[C90/270]Total=24.4

Field angle(10%Imax): [C0/180]Total=56.4

[C90/270]Total=56.4

Maximum s/h(1/2): C0_180=0.41 C90_270=0.41

Maximum s/h(1/4): C0_180=0.42 C90_270=0.42

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 91.75%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 96.615%

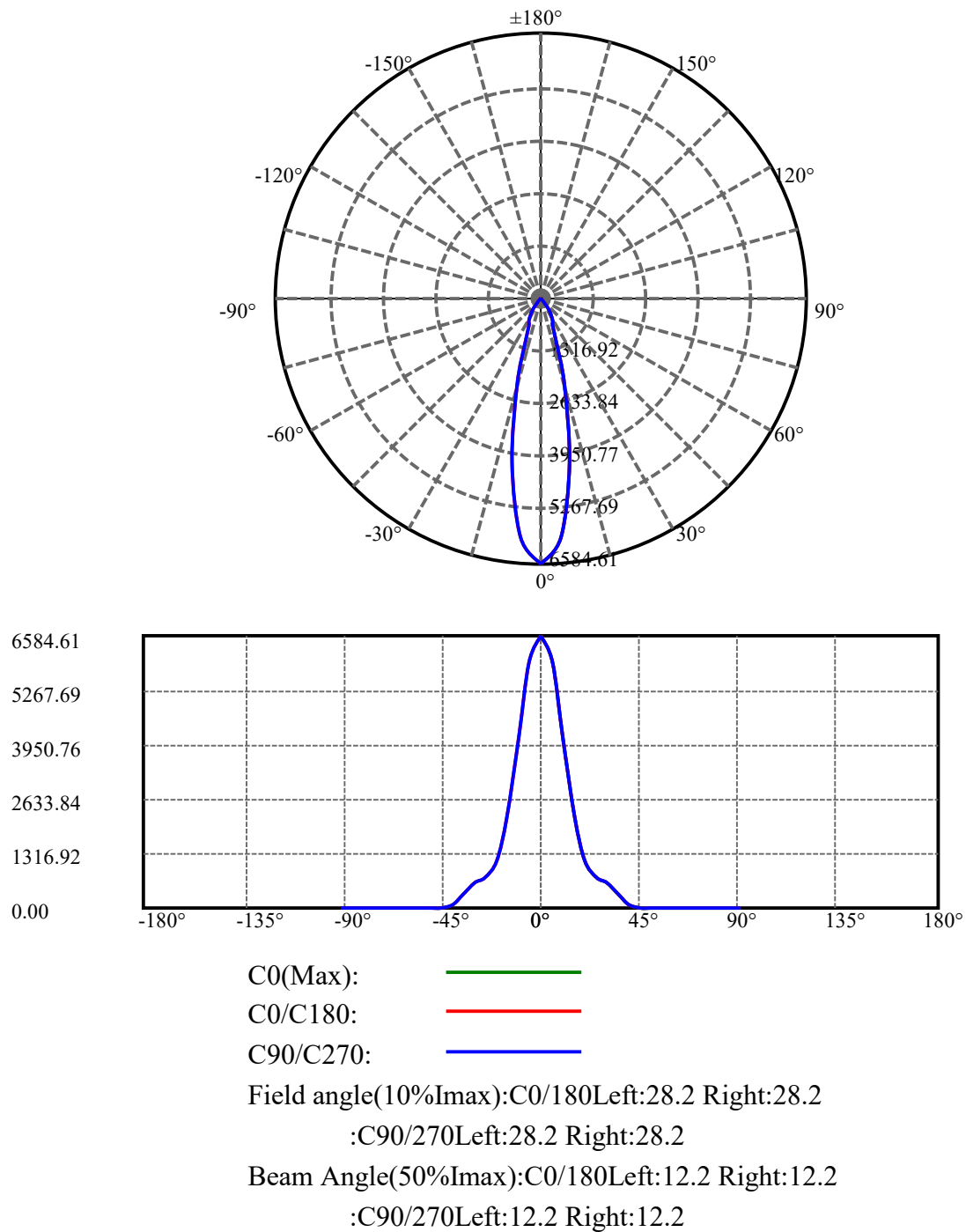
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	6584.608	39.377	39.377	2.013%	2.241%
5.0	5916.842	282.667	322.044	14.448%	18.326%
10.0	4114.365	391.618	713.662	20.016%	40.611%
15.0	2212.786	313.924	1027.587	16.045%	58.475%
20.0	1126.894	211.263	1238.85	10.798%	70.497%
25.0	736.104	170.521	1409.371	8.716%	80.200%
30.0	616.384	168.932	1578.302	8.634%	89.814%
35.0	335.183	105.381	1683.683	5.386%	95.810%
40.0	76.460	26.939	1710.623	1.377%	97.343%
45.0	18.100	7.015	1717.638	.359%	97.742%
50.0	14.638	6.147	1723.785	.314%	98.092%
55.0	12.305	5.525	1729.31	.282%	98.407%
60.0	10.426	4.949	1734.259	.253%	98.688%
65.0	9.132	4.537	1738.796	.232%	98.946%
70.0	8.355	4.303	1743.099	.220%	99.191%
75.0	7.880	4.172	1747.272	.213%	99.429%
80.0	7.598	4.101	1751.373	.210%	99.662%
85.0	7.350	4.013	1755.386	.205%	99.891%
90.0	7.020	1.924	1757.31	.098%	100.000%

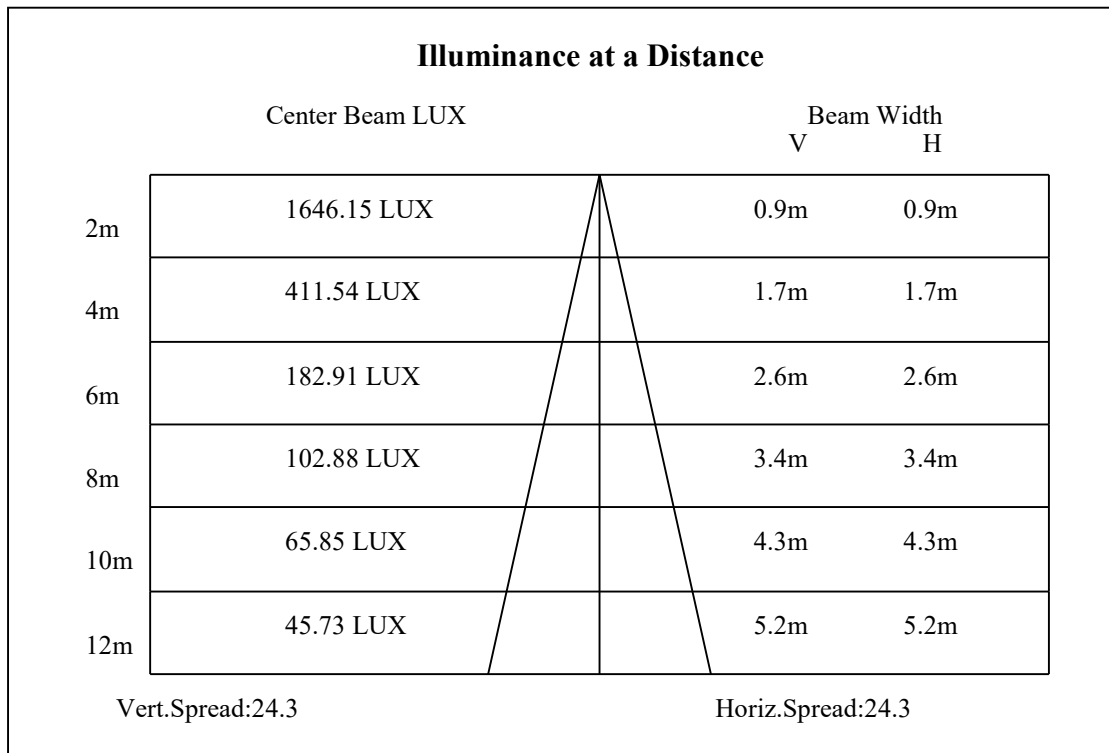
ZONAL LUMEN SUMMARY

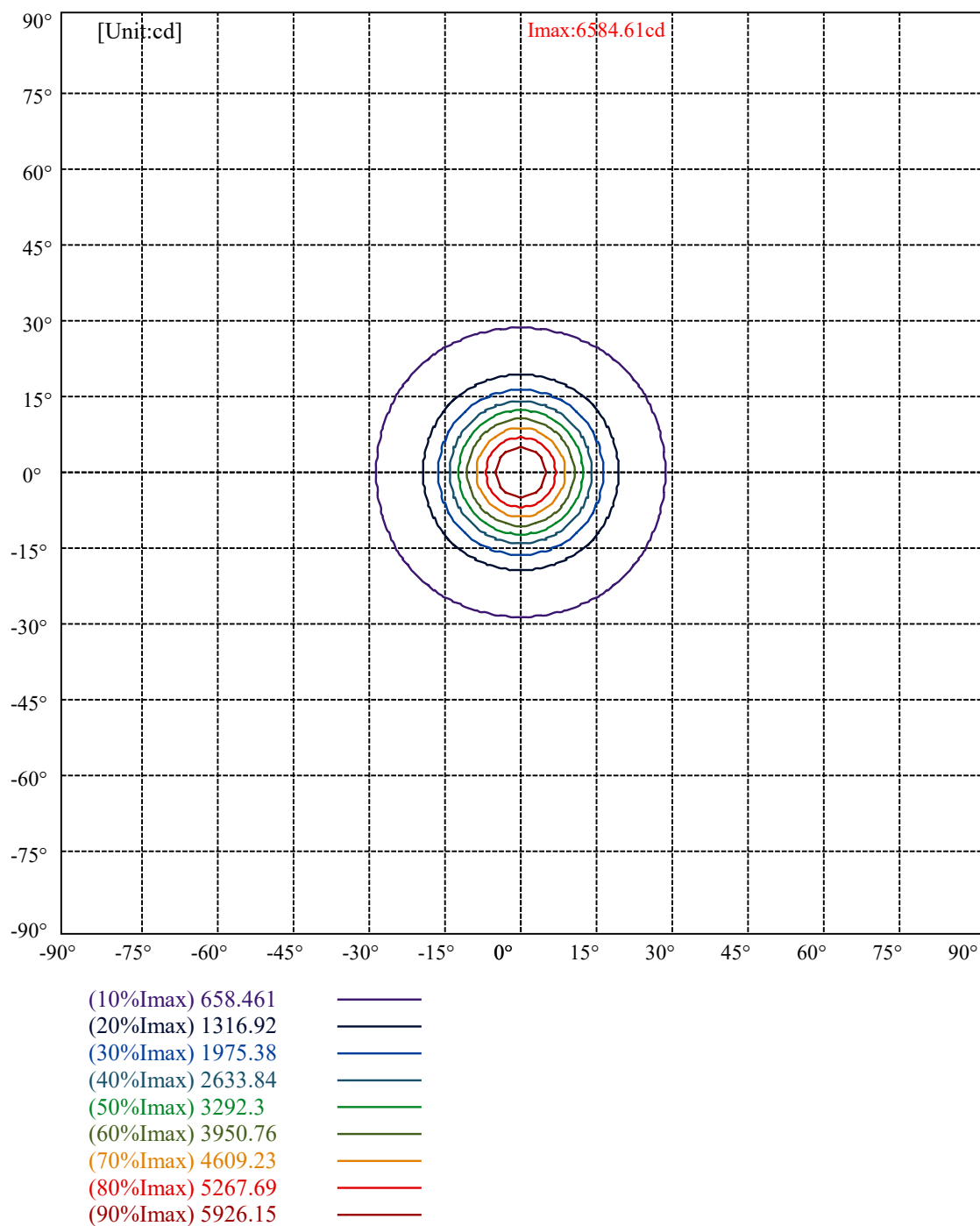
Zone	Lumens	%Lamp	%Fixt
0-30	1578.30	80.67%	89.81%
0-40	1710.62	87.43%	97.34%
0-60	1734.26	88.64%	98.69%
0-90	1755.39	89.72%	99.89%
0-120	1755.39	89.72%	99.89%
0-180	1757.31	89.82%	100.00%
60-90	26.08	1.33%	1.48%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-24.90	1405.85	71.86%	80.00%

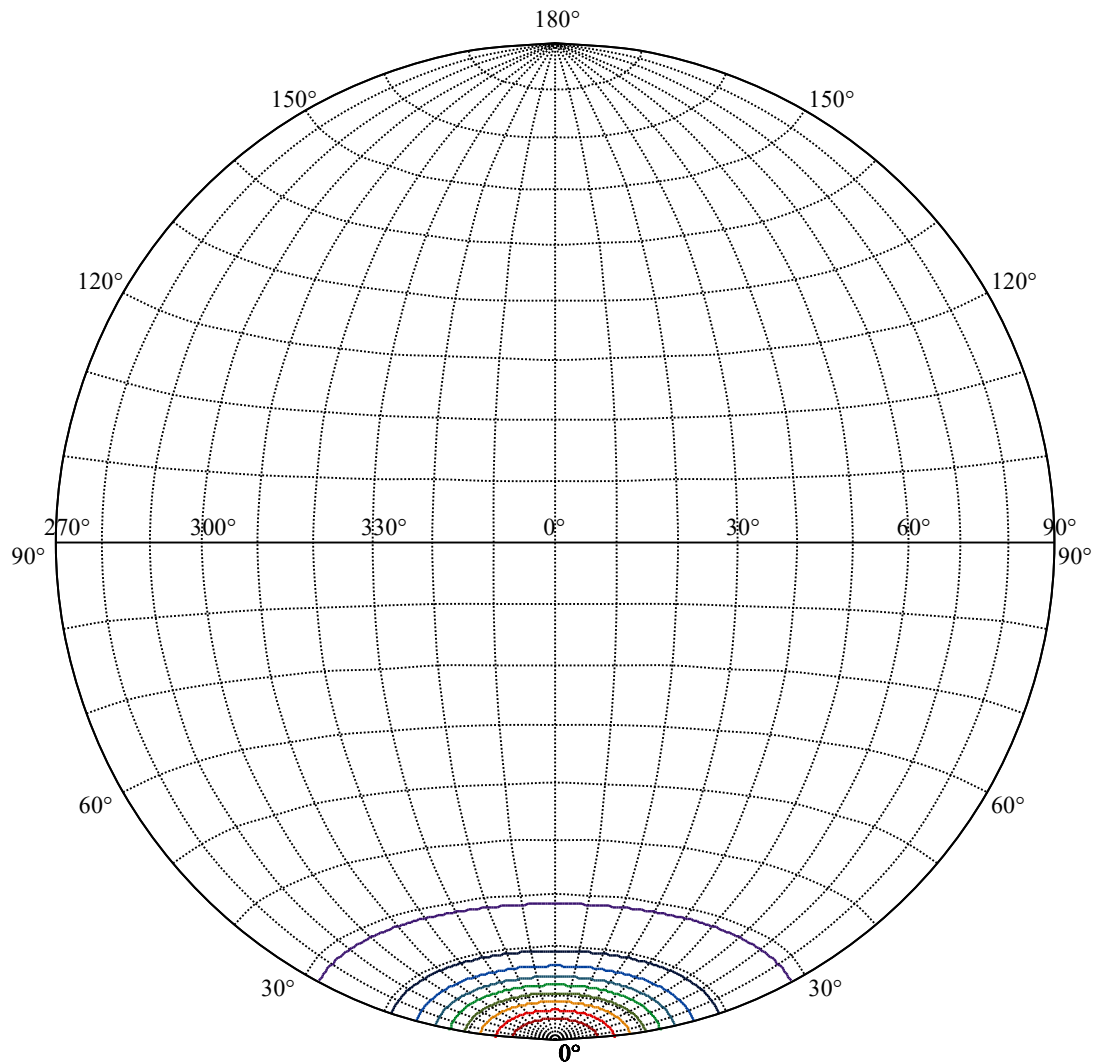
ZONAL LUMEN SUMMARY

0-10	713.66
10-20	525.19
20-30	339.45
30-40	132.32
40-50	13.16
50-60	10.47
60-70	8.84
70-80	8.27
80-90	4.01
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









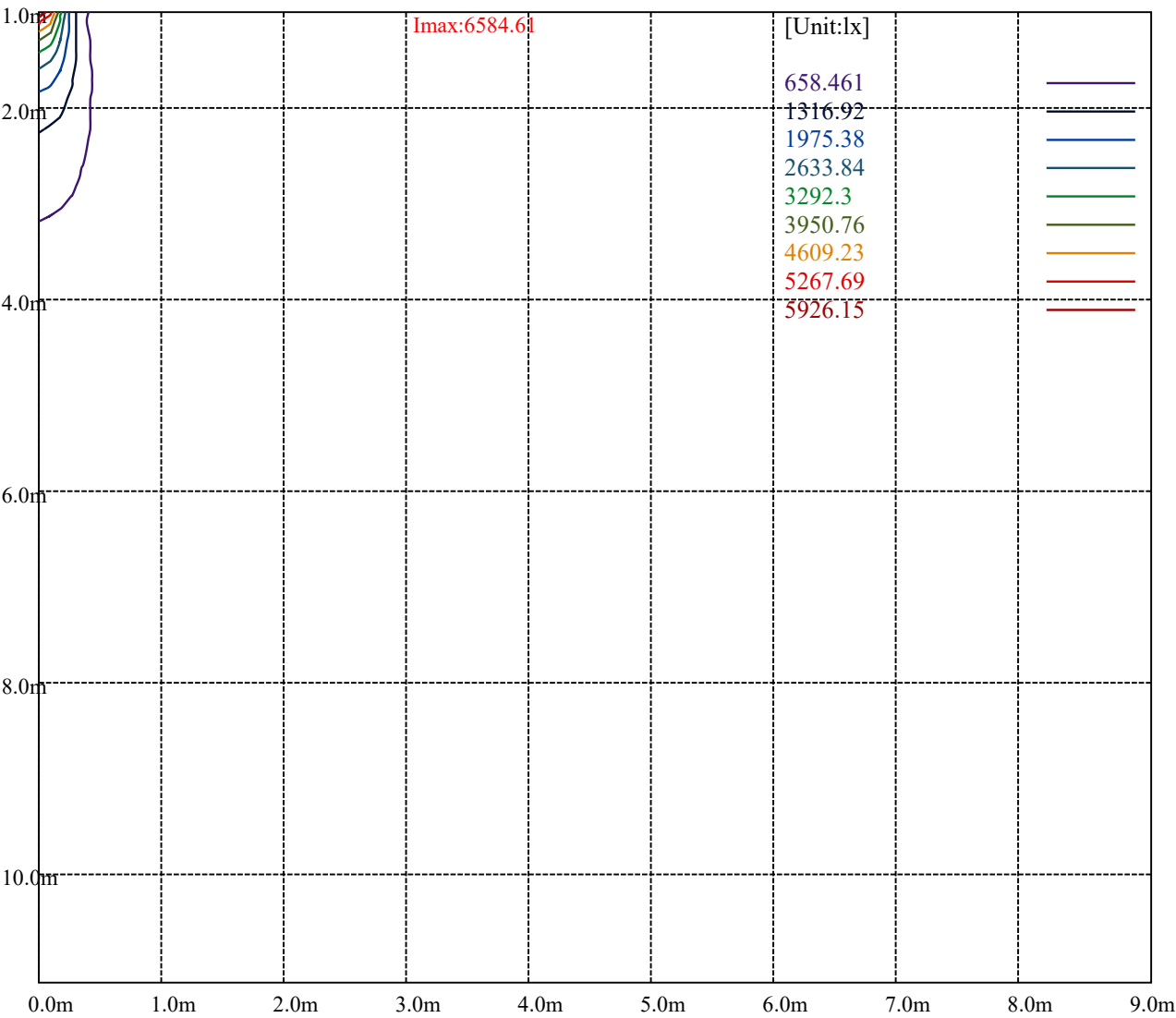
House

[Unit:cd]

Road

Imax:6584.61

(10%Imax)	658.461	—
(20%Imax)	1316.92	—
(30%Imax)	1975.38	—
(40%Imax)	2633.84	—
(50%Imax)	3292.3	—
(60%Imax)	3950.76	—
(70%Imax)	4609.23	—
(80%Imax)	5267.69	—
(90%Imax)	5926.15	—



Luminance Table

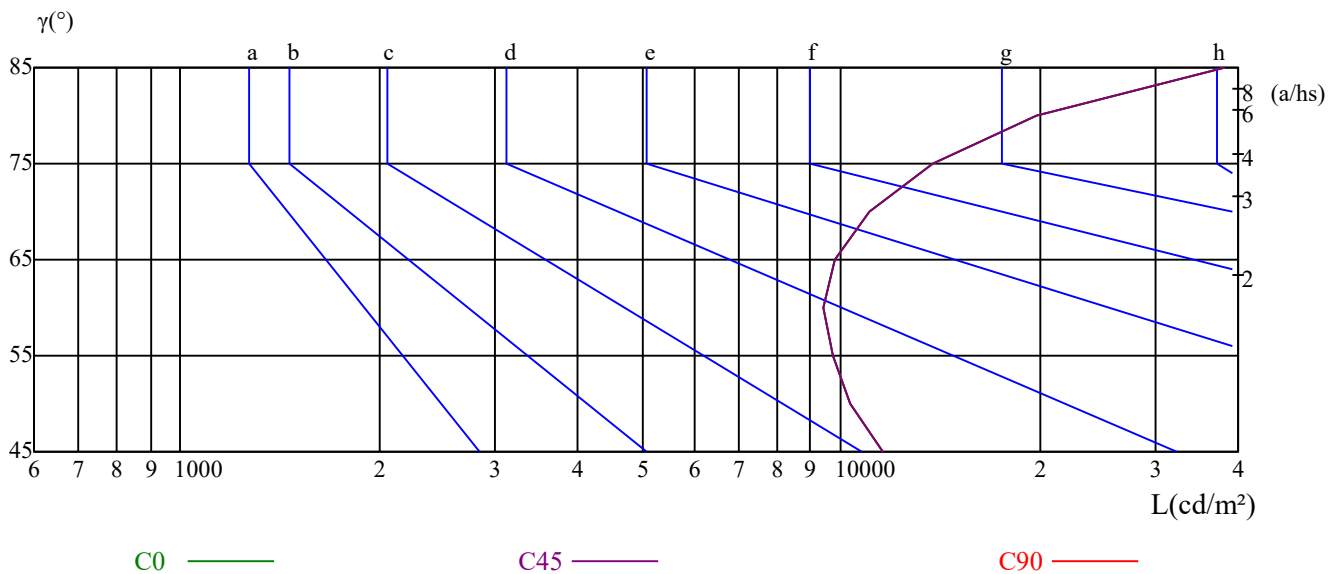
γ	45	50	55	60	65	70	75	80	85
C0	11588	10309	9712	9440	9782	11058	13783	19807	38177
C45	11588	10309	9712	9440	9782	11058	13783	19807	38177
C90	11588	10309	9712	9440	9782	11058	13783	19807	38177

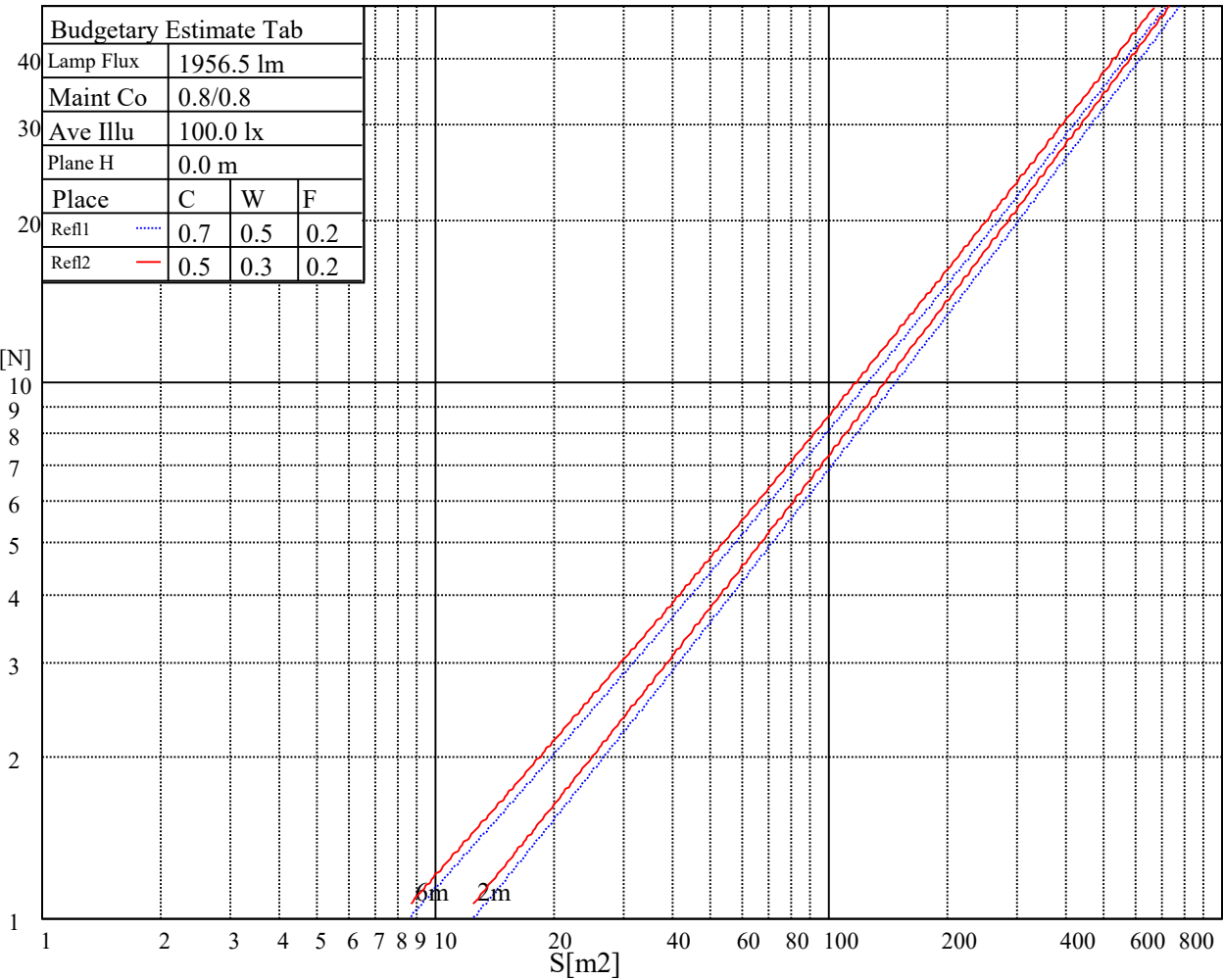
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
9782	9782	9782	13783	13783	13783	38177	38177	38177

Glare Table

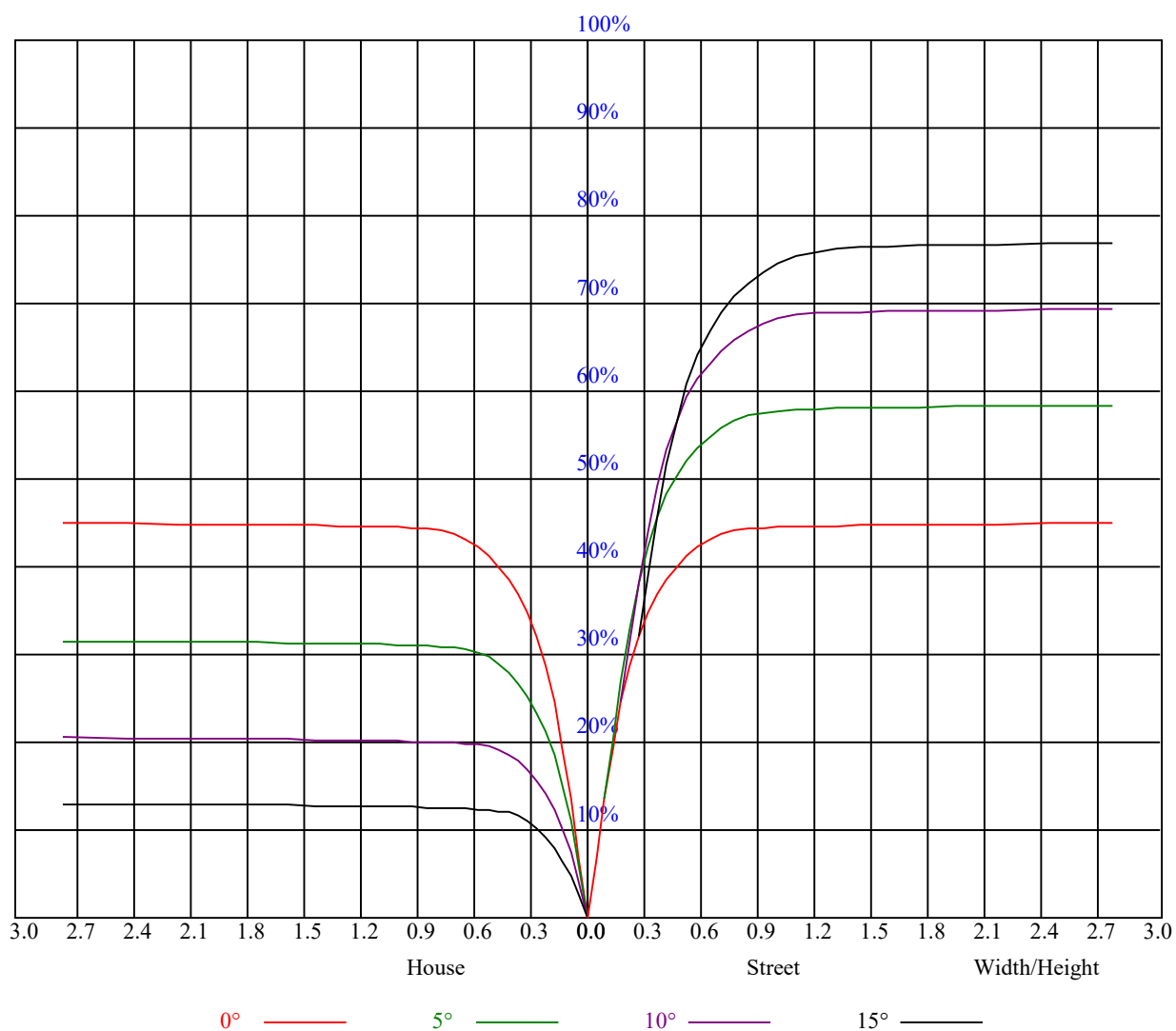
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

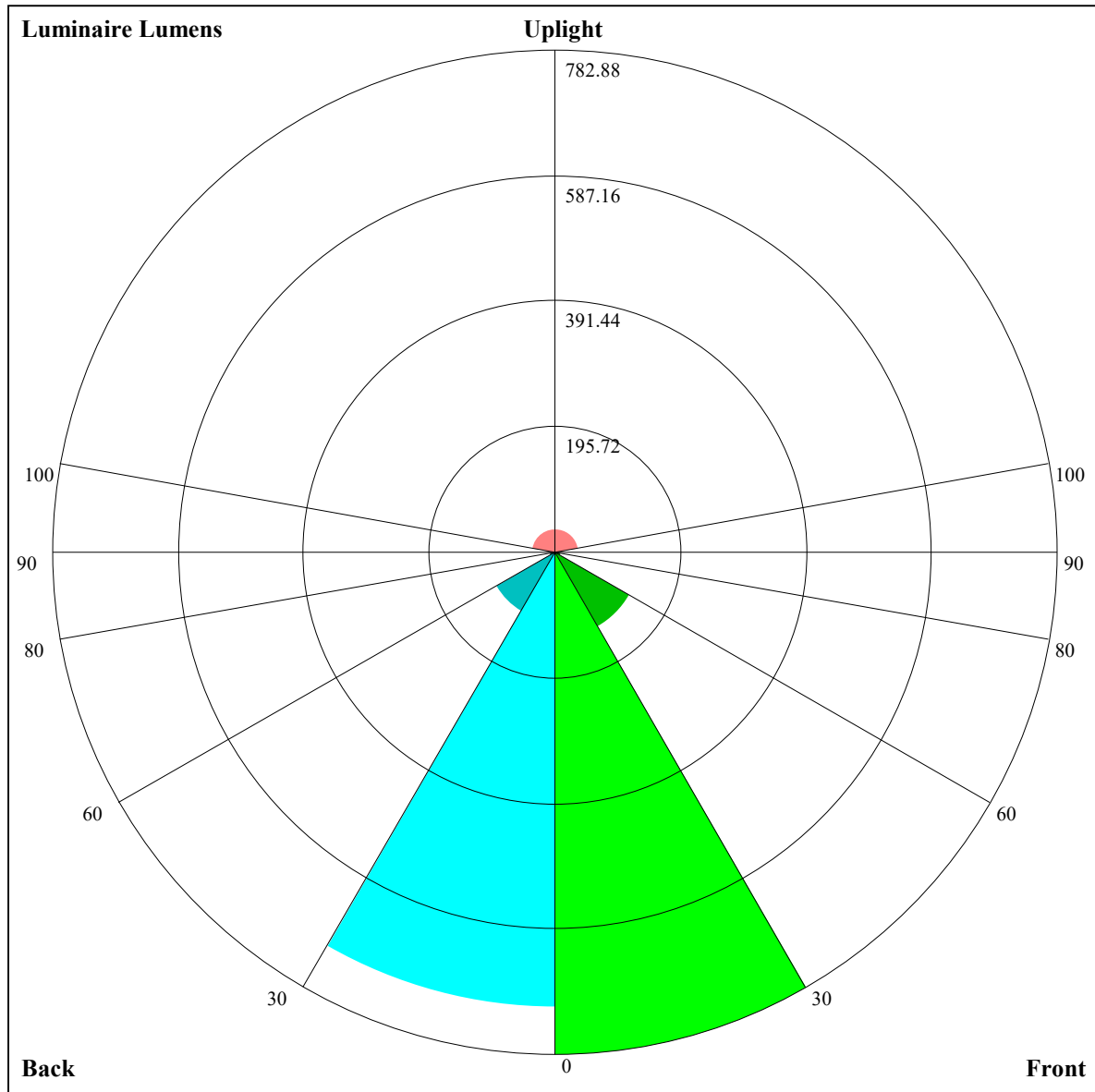
Luminance Limiting Curve





RHOC	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	1.09	1.09	1.09	1.07	1.07	1.07	1.02	1.02	1.02	0.98	0.98	0.98	0.94	0.94	0.94	0.92
1	1.00	0.98	0.96	0.98	0.96	0.94	0.95	0.93	0.91	0.91	0.90	0.88	0.88	0.87	0.86	0.84
2	0.95	0.92	0.89	0.94	0.91	0.88	0.91	0.88	0.86	0.88	0.86	0.84	0.86	0.84	0.82	0.81
3	0.91	0.87	0.84	0.90	0.86	0.83	0.87	0.84	0.82	0.85	0.83	0.80	0.83	0.81	0.79	0.78
4	0.87	0.83	0.79	0.86	0.82	0.79	0.84	0.81	0.78	0.82	0.79	0.77	0.81	0.78	0.76	0.75
5	0.83	0.79	0.76	0.83	0.79	0.76	0.81	0.78	0.75	0.80	0.77	0.74	0.78	0.76	0.74	0.72
6	0.80	0.76	0.73	0.80	0.76	0.73	0.78	0.75	0.72	0.77	0.74	0.72	0.76	0.73	0.71	0.70
7	0.78	0.73	0.70	0.77	0.73	0.70	0.76	0.72	0.70	0.75	0.72	0.69	0.74	0.71	0.69	0.68
8	0.75	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
9	0.73	0.69	0.66	0.72	0.68	0.66	0.72	0.68	0.65	0.71	0.68	0.65	0.70	0.67	0.65	0.64
10	0.71	0.67	0.64	0.70	0.66	0.64	0.70	0.66	0.64	0.69	0.66	0.64	0.68	0.65	0.63	0.62





Luminaire Lumens:

FL=782.88,FM=134.49,FH=8.69,FVH=4.01

BL=710.83,BM=106.13,BH=8.95,BVH=3.99

UL=7.66,UH=36.45

BUG Rating:B2-U2-G0

Nata 1657-S

Intensity data(cd)										Appendix Page: 15 Total:15	
C/ γ (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0		
0.0	6543.45	6348.00	4718.33	2822.19	1379.16	828.05	681.05	477.34	191.38		
45.0	6566.58	6284.14	4677.59	2684.55	1360.99	834.10	693.71	463.02	123.33		
90.0	6615.03	5886.63	4145.20	2160.41	1065.18	697.67	608.32	330.61	61.77		
135.0	6613.37	5957.10	4193.65	2205.01	1152.33	732.80	634.25	335.29	62.38		
180.0	6543.45	5461.04	3519.21	1793.19	977.20	696.30	551.39	207.78	25.99		
225.0	6566.58	5594.28	3596.83	1828.97	973.56	702.30	560.69	218.96	27.75		
270.0	6615.03	5910.30	4117.67	2132.33	1071.95	708.58	607.82	320.98	59.63		
315.0	6613.37	5893.24	3946.44	2075.63	1034.79	689.03	593.84	327.48	59.46		
360.0	6543.45	6348.00	4718.33	2822.19	1379.16	828.05	681.05	477.34	191.38		
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	18.50	11.78	9.97	9.08	8.48	8.15	7.82	7.54	7.32		
45.0	18.66	11.78	10.08	9.19	8.53	8.09	7.82	7.54	7.38		
90.0	21.36	17.12	13.05	10.63	9.14	8.31	7.93	7.65	7.32		
135.0	21.36	19.21	15.42	11.95	9.86	8.70	8.09	7.76	7.43		
180.0	11.29	10.63	10.79	10.30	9.25	8.48	7.76	7.49	7.27		
225.0	11.95	11.29	11.07	10.19	9.08	8.31	7.76	7.49	7.32		
270.0	21.47	18.66	15.03	11.62	9.69	8.53	8.04	7.76	7.49		
315.0	20.21	16.63	13.05	10.46	9.03	8.26	7.82	7.54	7.27		
360.0	18.50	11.78	9.97	9.08	8.48	8.15	7.82	7.54	7.32		
C/ γ (°)	90.0										
0.0	7.32										
45.0	7.27										
90.0	6.99										
135.0	6.88										
180.0	6.94										
225.0	6.94										
270.0	6.88										
315.0	6.94										
360.0	7.32										