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NATA

Client:

LumCAT: 1-0926-M

Luminaire: 92.70.124.00

Report No: nt0100

Test No: GC2020011601

LampCAT: LUMINUS CXM-9-AC40

Lamp flux(lm): 1442.0

Number of Lamps: 1

Length(mm): 0

Phm Type: C

Voltage(V): 34.3000

Current(A): 0.3470

Power (W): 11.9000

PF: 0.0000

Ballast type: DC

Width(mm): 0

Height(mm): 0

Photometric Results

Lumens(lm): 1020.33, Efficiency(%): 70.76% , Luminous Efficacy(lm/W): 85.74

Central intensity(cd): 6475.359, Maximum intensity(cd): 6475.359

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=19.6

[C90/270]Total=19.6

Field angle(10%Imax): [C0/180]Total=39.8

[C90/270]Total=39.8

Maximum s/h(1/2): C0_180=0.34 C90_270=0.34

Maximum s/h(1/4): C0_180=0.36 C90_270=0.36

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 70.76%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 98.635%

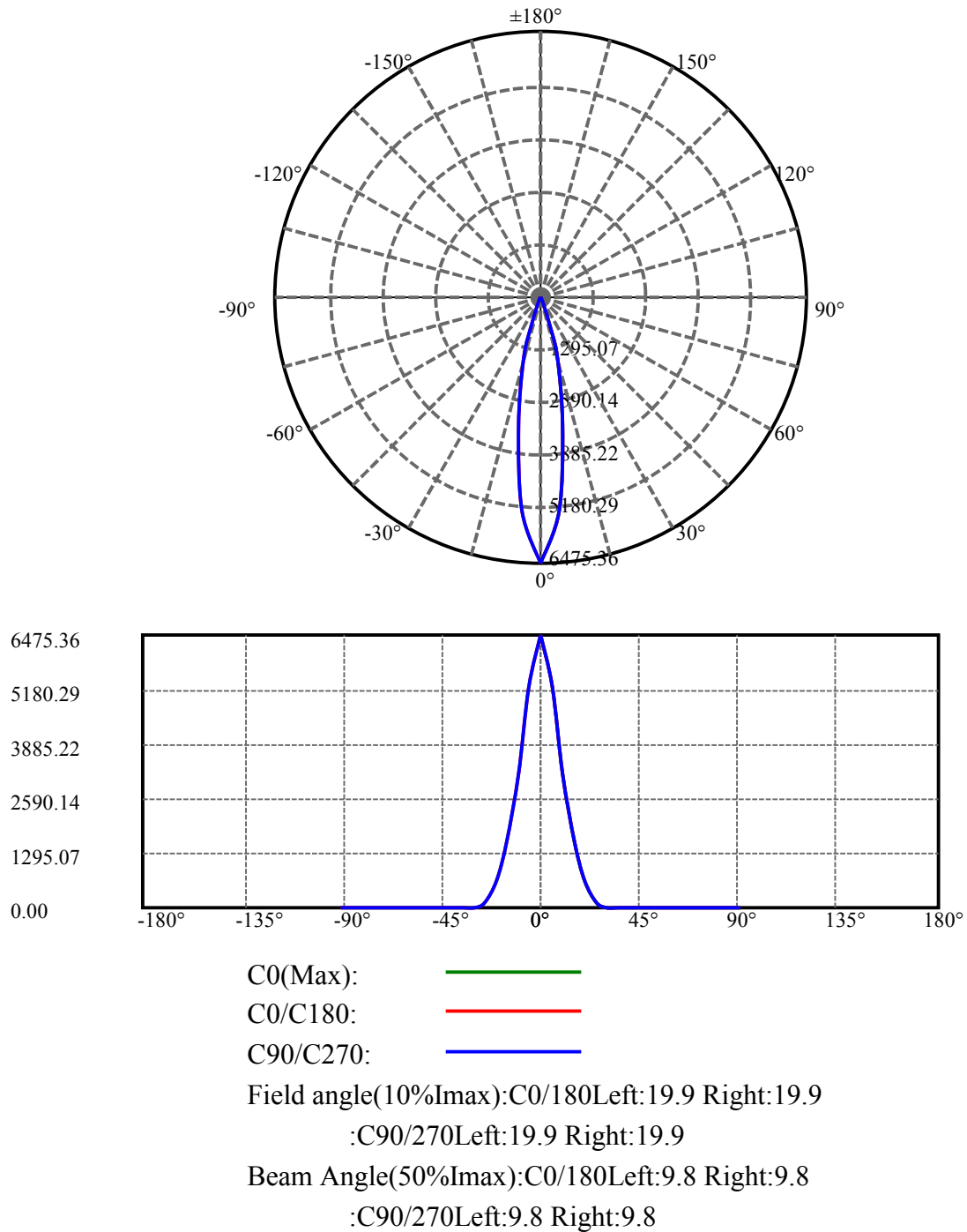
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	6475.359	0.000	0	.000%	.000%
5.0	5226.609	139.894	139.894	9.701%	13.711%
10.0	3171.094	300.412	440.306	20.833%	43.153%
15.0	1556.761	280.453	720.759	19.449%	70.640%
20.0	636.898	180.788	901.547	12.537%	88.359%
25.0	110.363	78.374	979.921	5.435%	96.040%
30.0	7.495	14.915	994.836	1.034%	97.502%
35.0	5.681	1.940	996.777	.135%	97.692%
40.0	5.063	1.793	998.569	.124%	97.868%
45.0	4.795	1.825	1000.394	.127%	98.047%
50.0	4.641	1.907	1002.301	.132%	98.233%
55.0	4.563	2.001	1004.302	.139%	98.430%
60.0	4.493	2.093	1006.396	.145%	98.635%
65.0	4.458	2.176	1008.571	.151%	98.848%
70.0	4.444	2.254	1010.825	.156%	99.069%
75.0	4.430	2.319	1013.145	.161%	99.296%
80.0	4.416	2.367	1015.512	.164%	99.528%
85.0	4.423	2.402	1017.913	.167%	99.764%
90.0	4.388	2.412	1020.325	.167%	100.000%

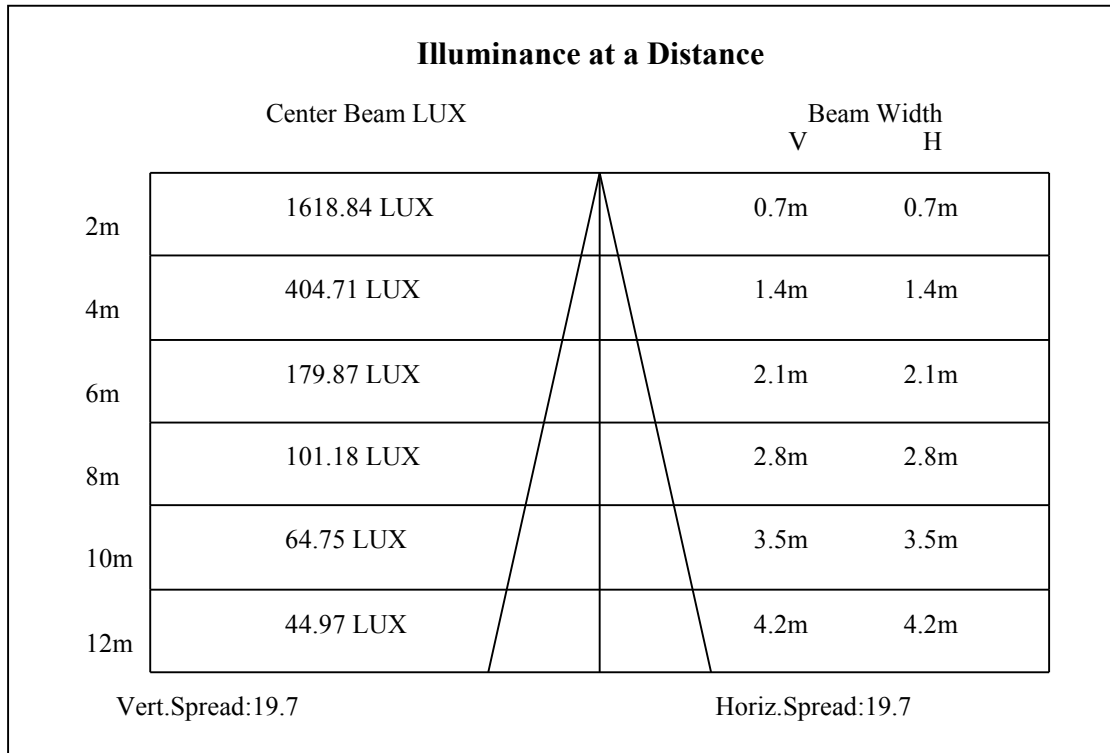
ZONAL LUMEN SUMMARY

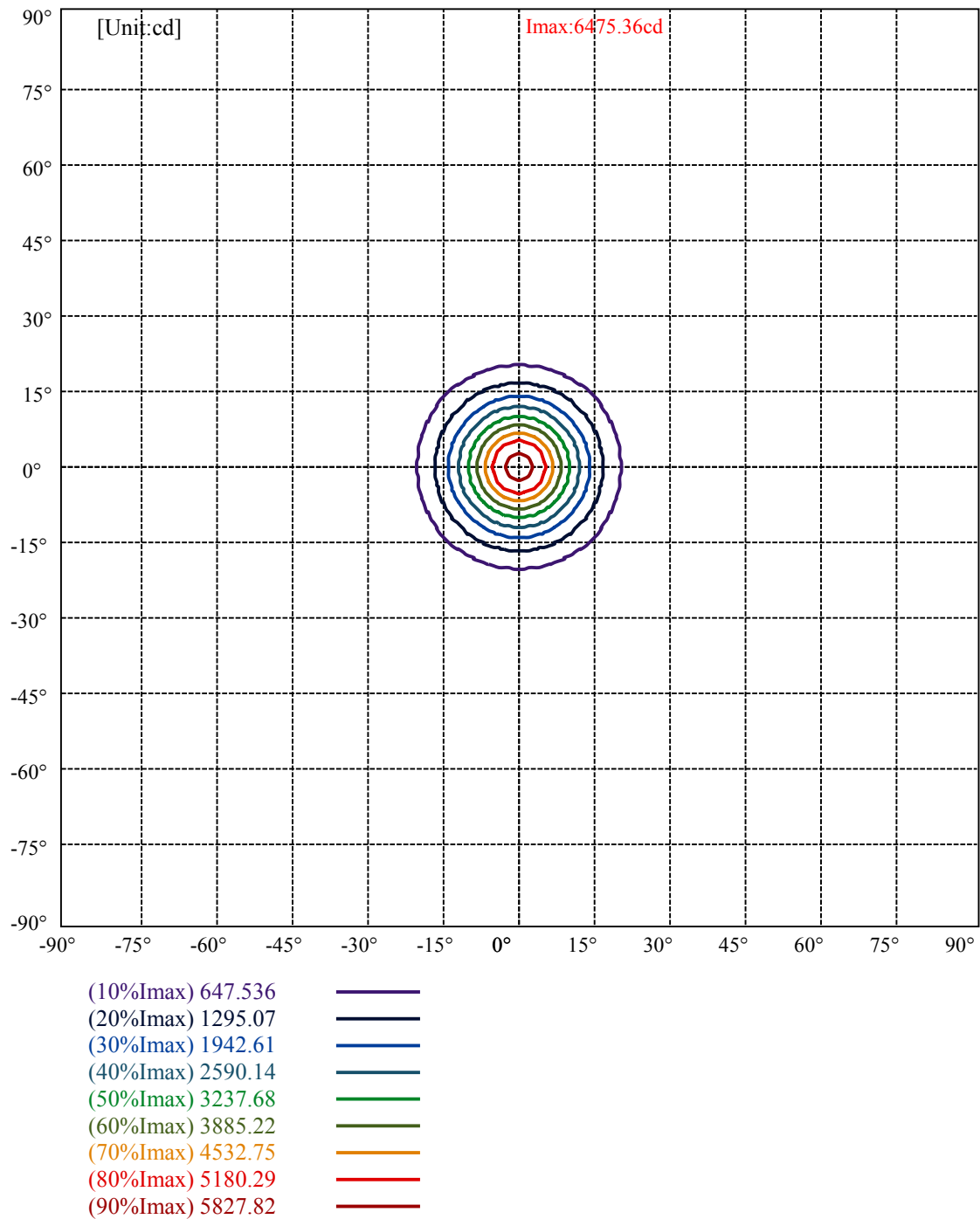
Zone	Lumens	%Lamp	%Fixt
0-30	994.84	68.99%	97.50%
0-40	998.57	69.25%	97.87%
0-60	1006.40	69.79%	98.63%
0-90	1017.91	70.59%	99.76%
0-120	1017.91	70.59%	99.76%
0-180	1020.33	70.76%	100.00%
60-90	13.61	0.94%	1.33%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-17.64	816.26	56.61%	80.00%

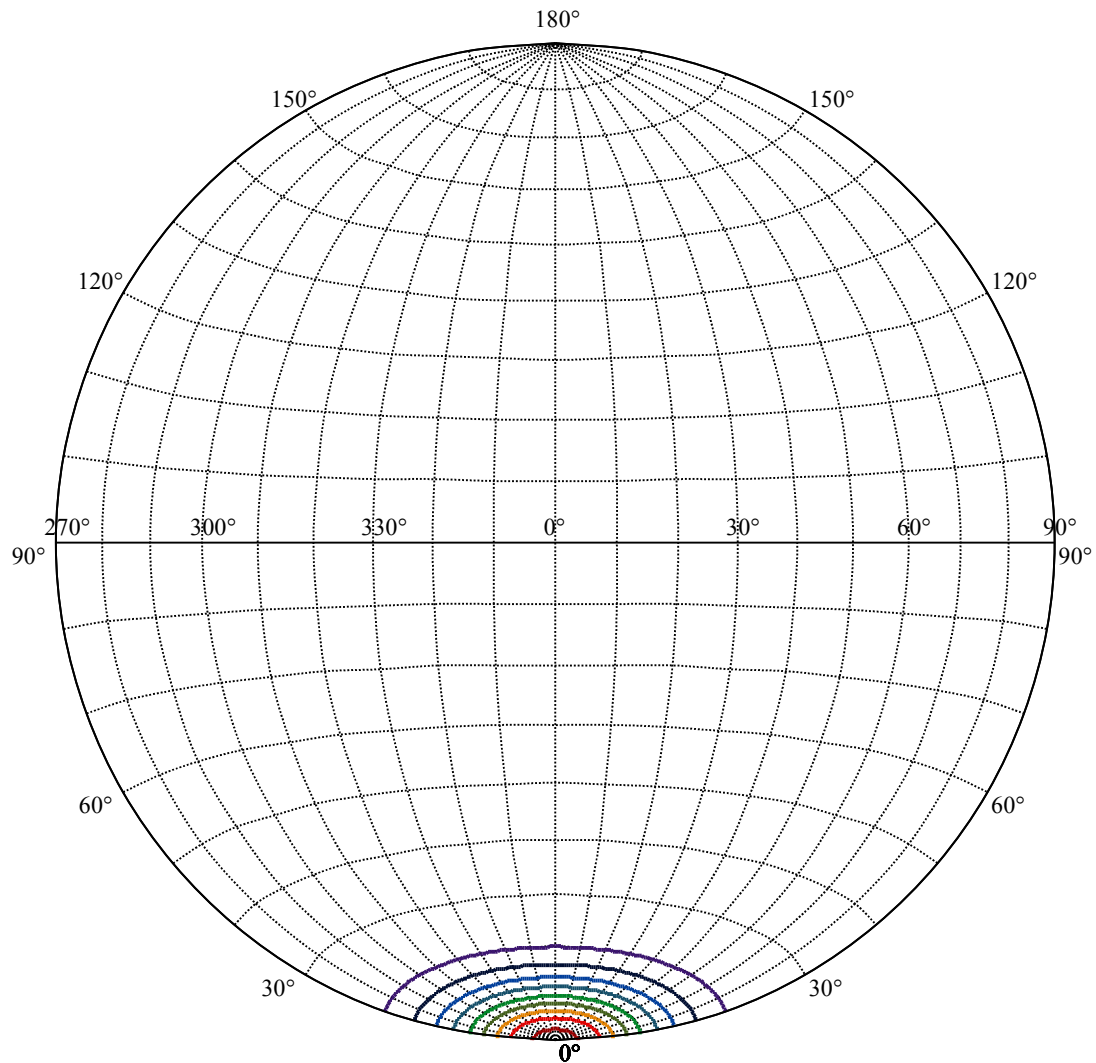
ZONAL LUMEN SUMMARY

0-10	440.31
10-20	461.24
20-30	93.29
30-40	3.73
40-50	3.73
50-60	4.09
60-70	4.43
70-80	4.69
80-90	2.40
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









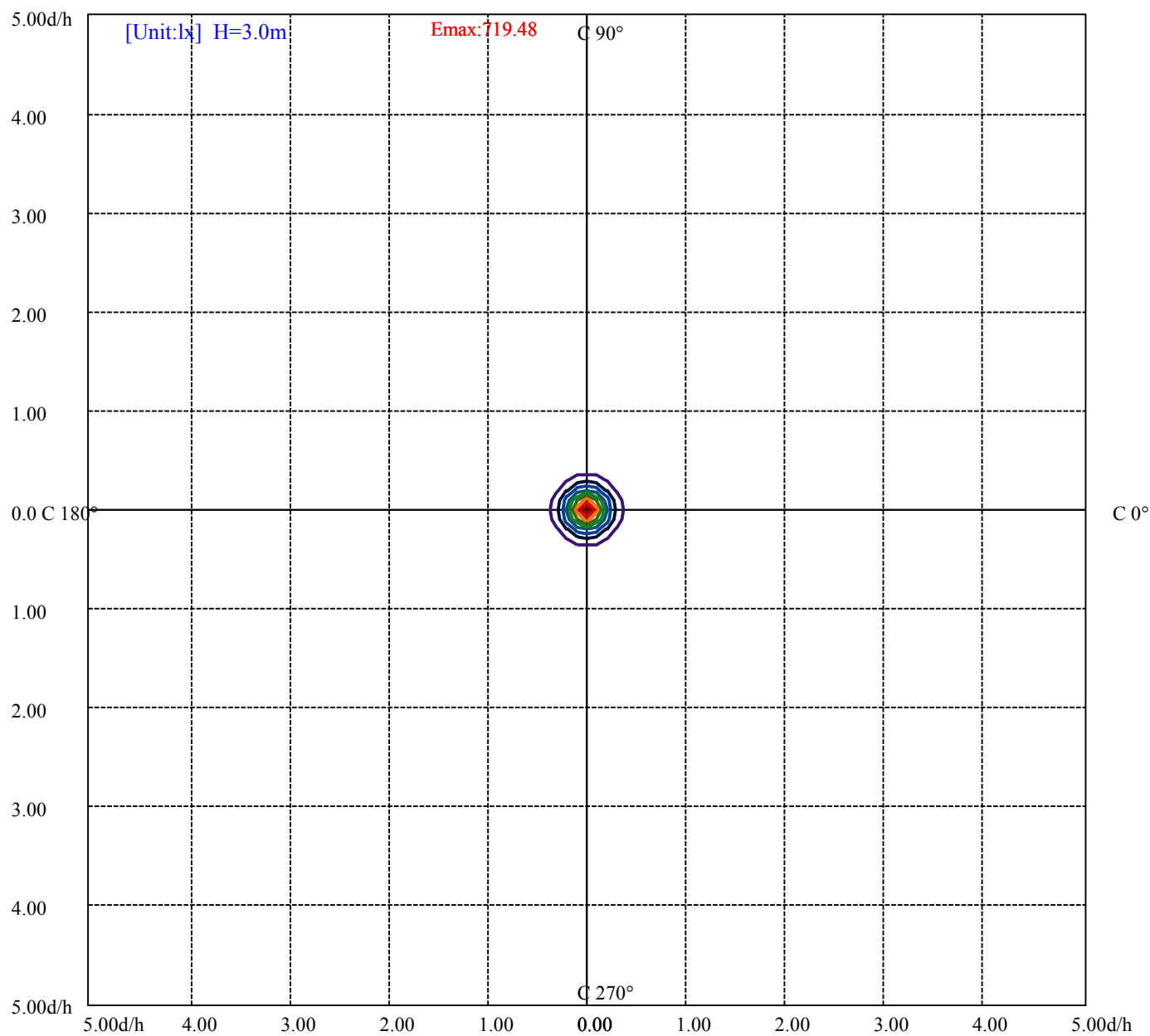
House

[Unit:cd]

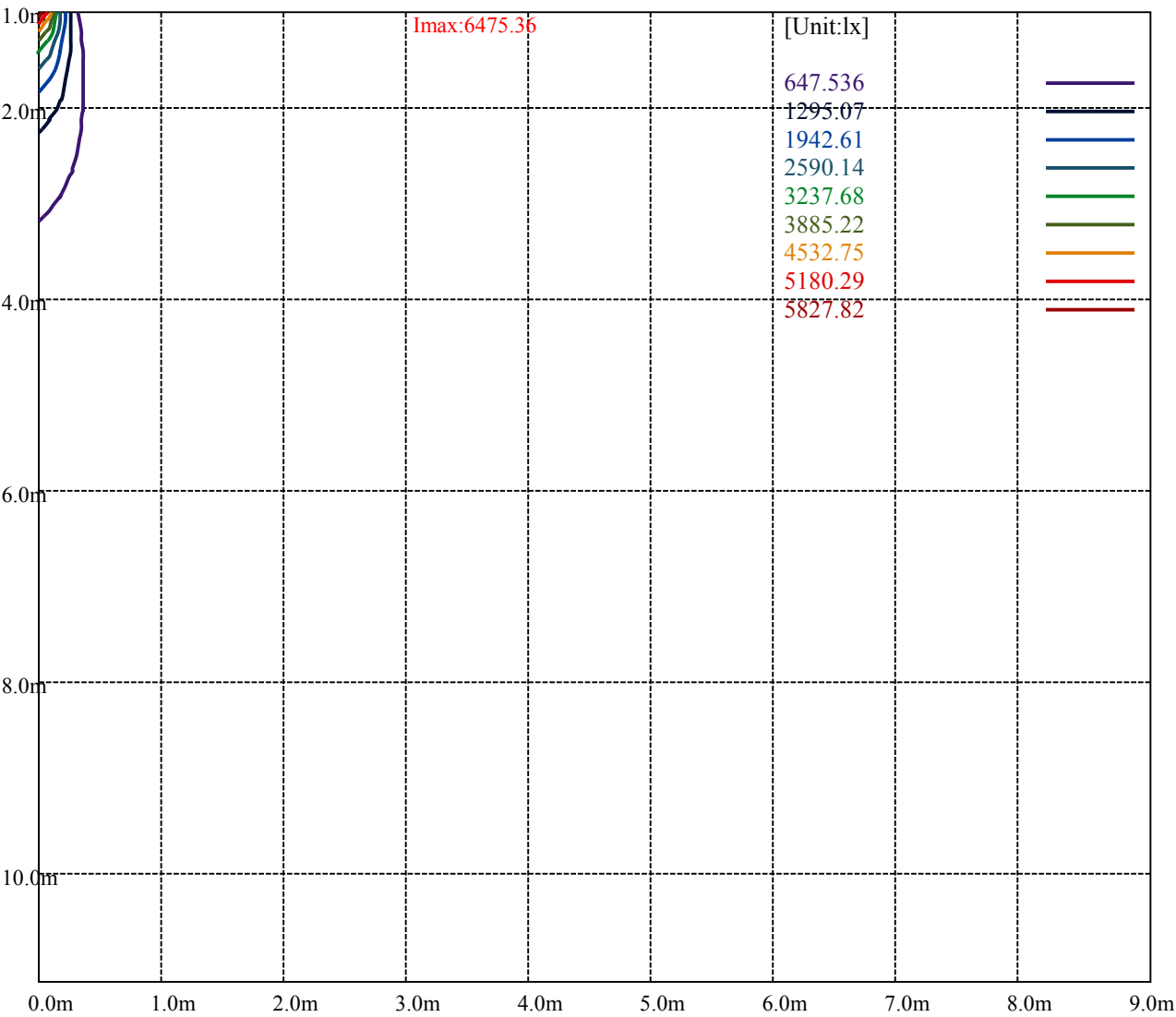
Road

Imax:6475.36

(10%Imax)	647.536	—
(20%Imax)	1295.07	—
(30%Imax)	1942.61	—
(40%Imax)	2590.14	—
(50%Imax)	3237.68	—
(60%Imax)	3885.22	—
(70%Imax)	4532.75	—
(80%Imax)	5180.29	—
(90%Imax)	5827.82	—



(10%E _{max}) 71.948	—
(20%E _{max}) 143.8956	—
(30%E _{max}) 215.8444	—
(40%E _{max}) 287.7922	—
(50%E _{max}) 359.74	—
(60%E _{max}) 431.6878	—
(70%E _{max}) 503.6367	—
(80%E _{max}) 575.5844	—
(90%E _{max}) 647.5322	—



Luminance Table

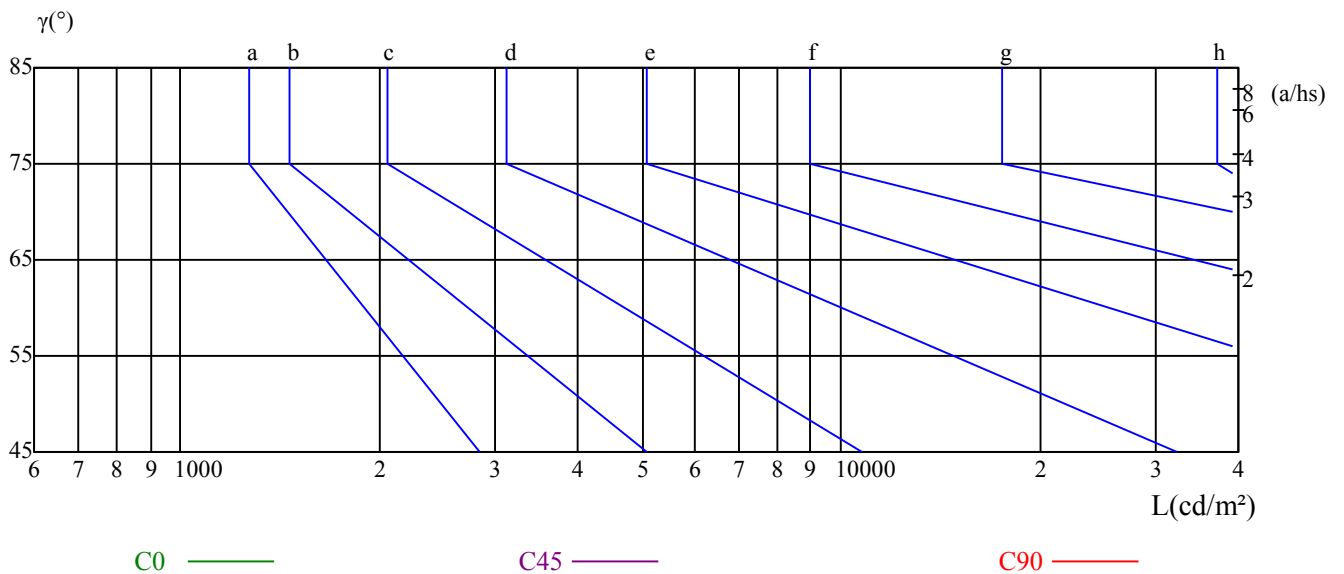
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

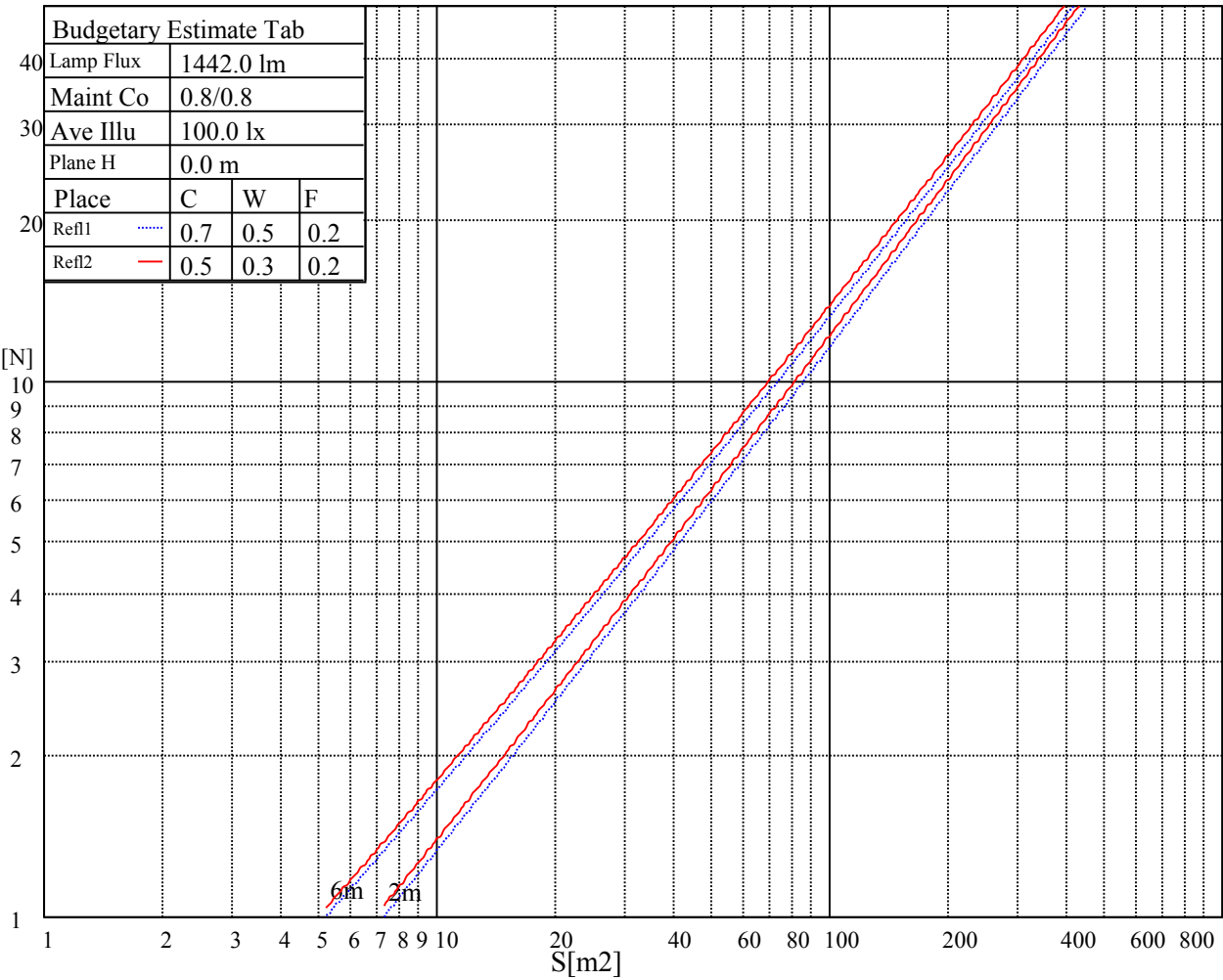
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

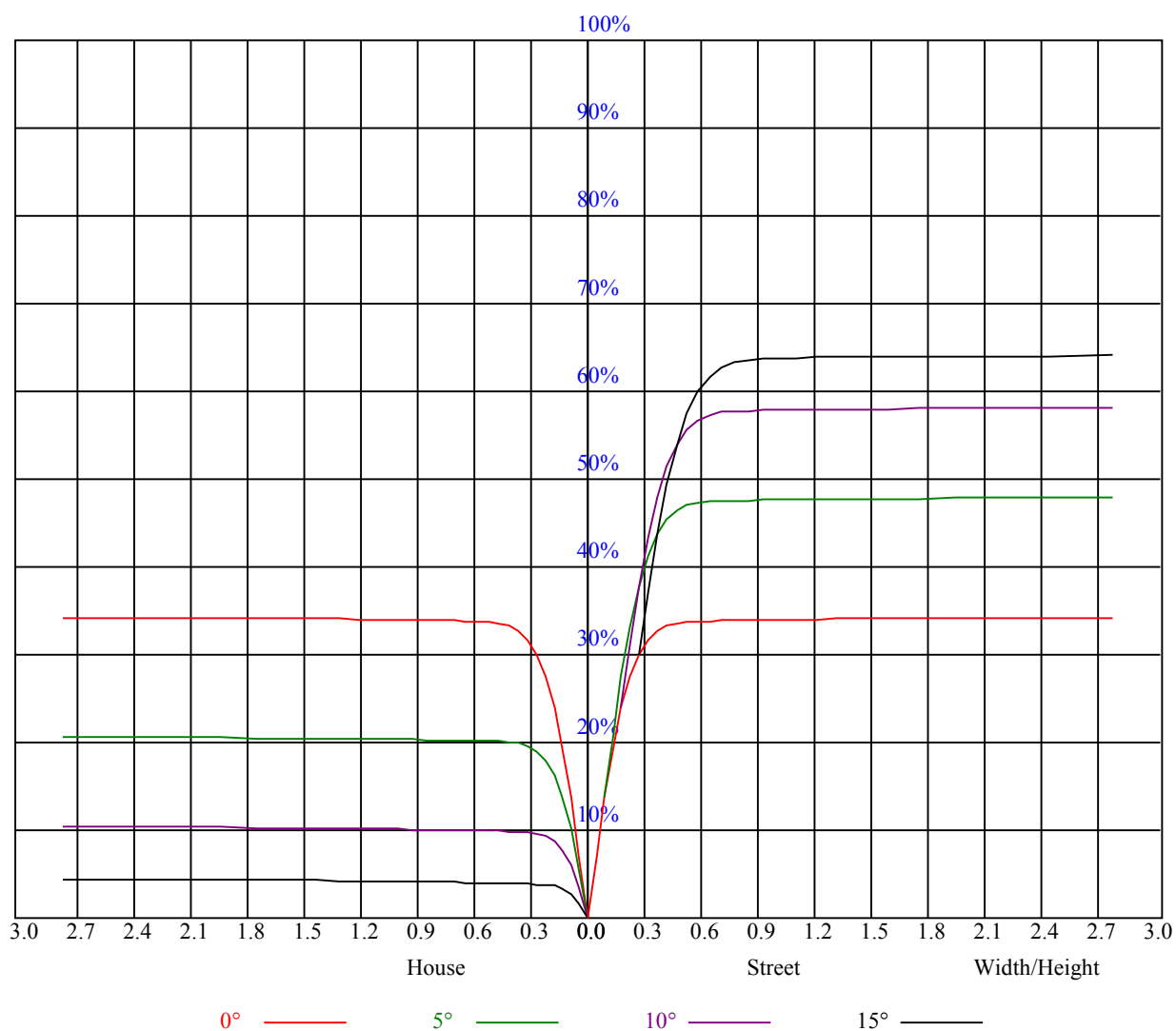
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

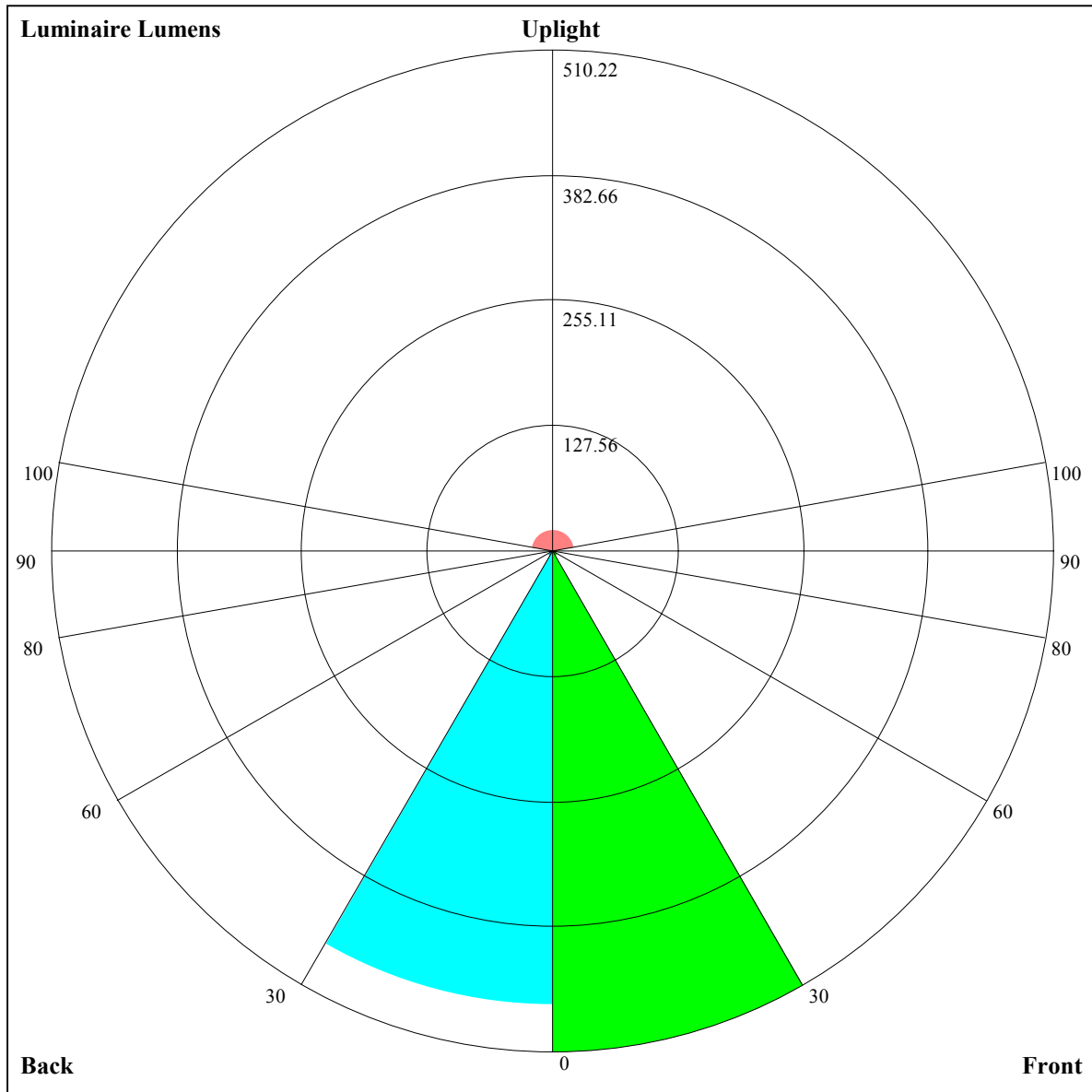
Luminance Limiting Curve





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	0.84	0.84	0.84	0.82	0.82	0.82	0.79	0.79	0.79	0.75	0.75	0.75	0.72	0.72	0.72	0.71
1	0.80	0.79	0.77	0.78	0.77	0.76	0.76	0.75	0.74	0.73	0.72	0.72	0.71	0.70	0.70	0.68
2	0.76	0.74	0.73	0.75	0.73	0.72	0.73	0.72	0.70	0.71	0.70	0.69	0.69	0.68	0.67	0.66
3	0.74	0.71	0.69	0.73	0.70	0.69	0.71	0.69	0.68	0.69	0.68	0.67	0.68	0.67	0.66	0.65
4	0.71	0.68	0.66	0.70	0.68	0.66	0.69	0.67	0.65	0.68	0.66	0.65	0.66	0.65	0.64	0.63
5	0.69	0.66	0.64	0.68	0.66	0.64	0.67	0.65	0.63	0.66	0.64	0.63	0.65	0.64	0.62	0.62
6	0.67	0.64	0.62	0.66	0.64	0.62	0.65	0.63	0.62	0.65	0.63	0.61	0.64	0.62	0.61	0.60
7	0.65	0.62	0.60	0.65	0.62	0.60	0.64	0.62	0.60	0.63	0.61	0.60	0.63	0.61	0.59	0.59
8	0.63	0.61	0.59	0.63	0.61	0.59	0.62	0.60	0.59	0.62	0.60	0.58	0.61	0.60	0.58	0.58
9	0.62	0.59	0.58	0.62	0.59	0.57	0.61	0.59	0.57	0.61	0.59	0.57	0.60	0.58	0.57	0.56
10	0.60	0.58	0.56	0.60	0.58	0.56	0.60	0.58	0.56	0.59	0.57	0.56	0.59	0.57	0.56	0.55





Luminaire Lumens:

FL=510.22,FM=5.81,FH=4.55,FVH=2.41

BL=461.57,BM=5.73,BH=4.55,BVH=2.4

UL=4.79,UH=22.78

BUG Rating:B1-U2-G0

NATA 1-0926-M

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	6404.63	5471.44	3435.75	1816.31	776.25	304.88	8.27	6.02	5.23	
45.0	6550.31	5134.50	3137.63	1563.19	571.50	40.05	7.03	5.57	4.95	
90.0	6359.63	4429.13	2369.25	1100.70	344.19	9.67	6.24	5.23	4.89	
135.0	6586.88	4832.44	2790.00	1354.50	514.69	18.39	6.64	5.46	5.01	
180.0	6404.63	4904.44	2754.00	1114.20	516.43	21.60	6.81	5.51	5.06	
225.0	6550.31	5244.19	3273.19	1638.56	658.69	77.23	7.76	5.68	5.01	
270.0	6359.63	6081.75	4098.38	2113.88	945.56	308.25	9.34	6.08	5.18	
315.0	6586.88	5715.00	3510.56	1752.75	767.87	102.83	7.88	5.91	5.18	
360.0	6404.63	5471.44	3435.75	1816.31	776.25	304.88	8.27	6.02	5.23	
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0	
0.0	4.95	4.78	4.67	4.61	4.56	4.50	4.50	4.50	4.50	
45.0	4.73	4.56	4.50	4.39	4.39	4.39	4.33	4.33	4.33	
90.0	4.67	4.56	4.50	4.44	4.39	4.39	4.39	4.39	4.39	
135.0	4.78	4.67	4.61	4.50	4.50	4.50	4.50	4.44	4.50	
180.0	4.84	4.67	4.61	4.61	4.56	4.56	4.50	4.50	4.50	
225.0	4.73	4.56	4.44	4.44	4.33	4.33	4.33	4.33	4.28	
270.0	4.84	4.61	4.56	4.44	4.44	4.39	4.39	4.39	4.39	
315.0	4.84	4.73	4.61	4.50	4.50	4.50	4.50	4.44	4.50	
360.0	4.95	4.78	4.67	4.61	4.56	4.50	4.50	4.50	4.50	
C/γ(°)	90.0									
0.0	4.50									
45.0	4.28									
90.0	4.33									
135.0	4.39									
180.0	4.50									
225.0	4.28									
270.0	4.39									
315.0	4.44									
360.0	4.50									