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NATA

Client:

LumCAT: 1407-N

Luminaire: 92.70.064.00

Report No: nt0100

Test No: GC2019122417

LampCAT: LUMINUS CXM-9-AC40

Lamp flux(lm): 1077.0

Number of Lamps: 1

Length(mm): 0

Phm Type: C

Voltage(V): 33.5600

Current(A): 0.2970

Power (W): 9.9700

PF: 0.0000

Ballast type: DC

Width(mm): 0

Height(mm): 0

Photometric Results

Lumens(lm): 885.27, Efficiency(%): 82.20% , Luminous Efficacy(lm/W): 88.79

Central intensity(cd): 932.822, Maximum intensity(cd): 932.822

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=49.8

[C90/270]Total=49.8

Field angle(10%Imax): [C0/180]Total=98.8

[C90/270]Total=98.8

Maximum s/h(1/2): C0_180=0.75 C90_270=0.75

Maximum s/h(1/4): C0_180=0.83 C90_270=0.83

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 82.20%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 93.795%

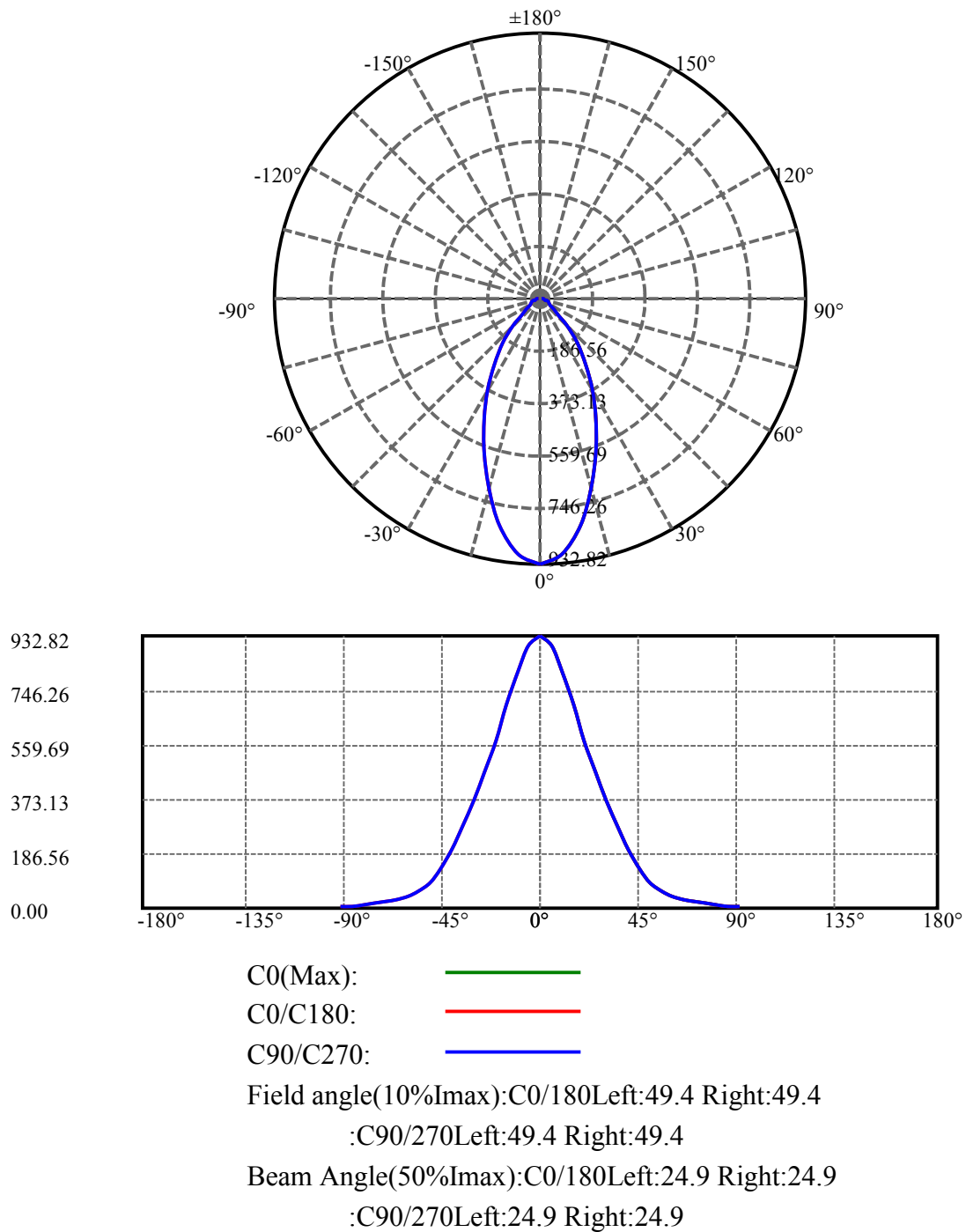
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	932.822	0.000	0	.000%	.000%
5.0	899.705	21.907	21.907	2.034%	2.475%
10.0	811.315	61.209	83.116	5.683%	9.389%
15.0	693.591	89.270	172.386	8.289%	19.473%
20.0	576.429	104.667	277.053	9.718%	31.296%
25.0	464.175	109.140	386.193	10.134%	43.624%
30.0	369.253	105.471	491.664	9.793%	55.538%
35.0	280.498	95.680	587.345	8.884%	66.346%
40.0	202.549	80.593	667.938	7.483%	75.450%
45.0	133.959	62.307	730.245	5.785%	82.488%
50.0	88.249	44.900	775.145	4.169%	87.560%
55.0	58.563	31.922	807.067	2.964%	91.166%
60.0	42.096	23.267	830.334	2.160%	93.795%
65.0	30.347	17.611	847.945	1.635%	95.784%
70.0	22.359	13.346	861.291	1.239%	97.291%
75.0	15.497	9.895	871.186	.919%	98.409%
80.0	10.230	6.884	878.07	.639%	99.187%
85.0	6.096	4.436	882.506	.412%	99.688%
90.0	3.994	2.763	885.269	.257%	100.000%

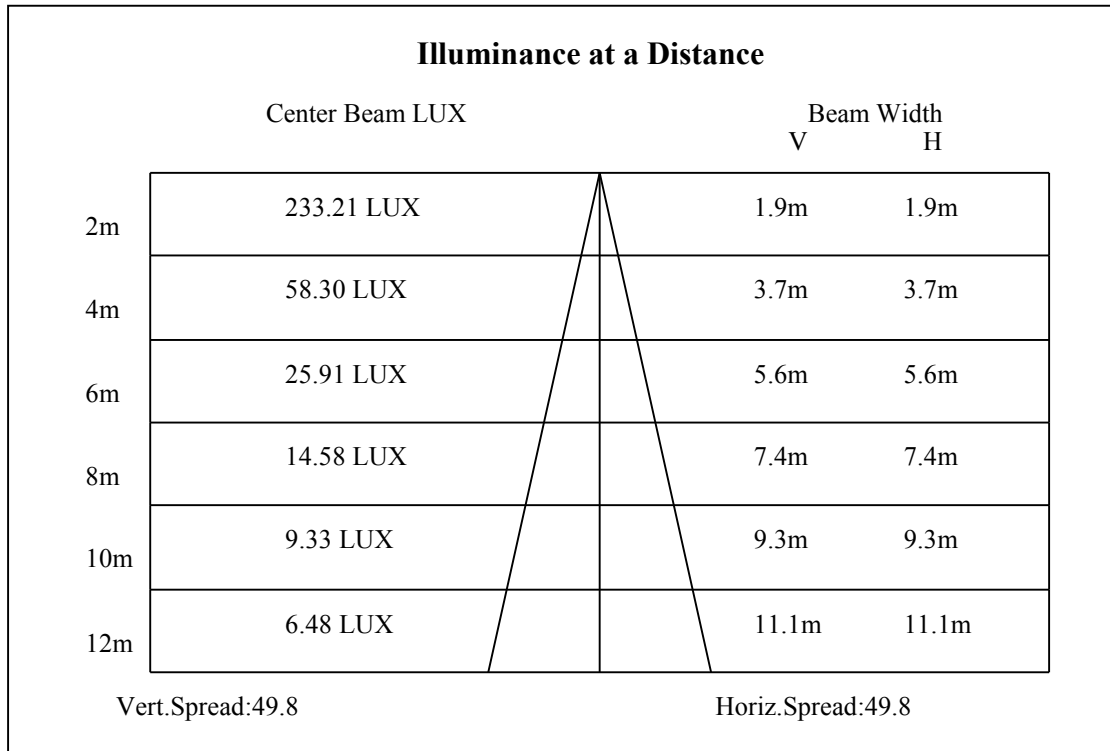
ZONAL LUMEN SUMMARY

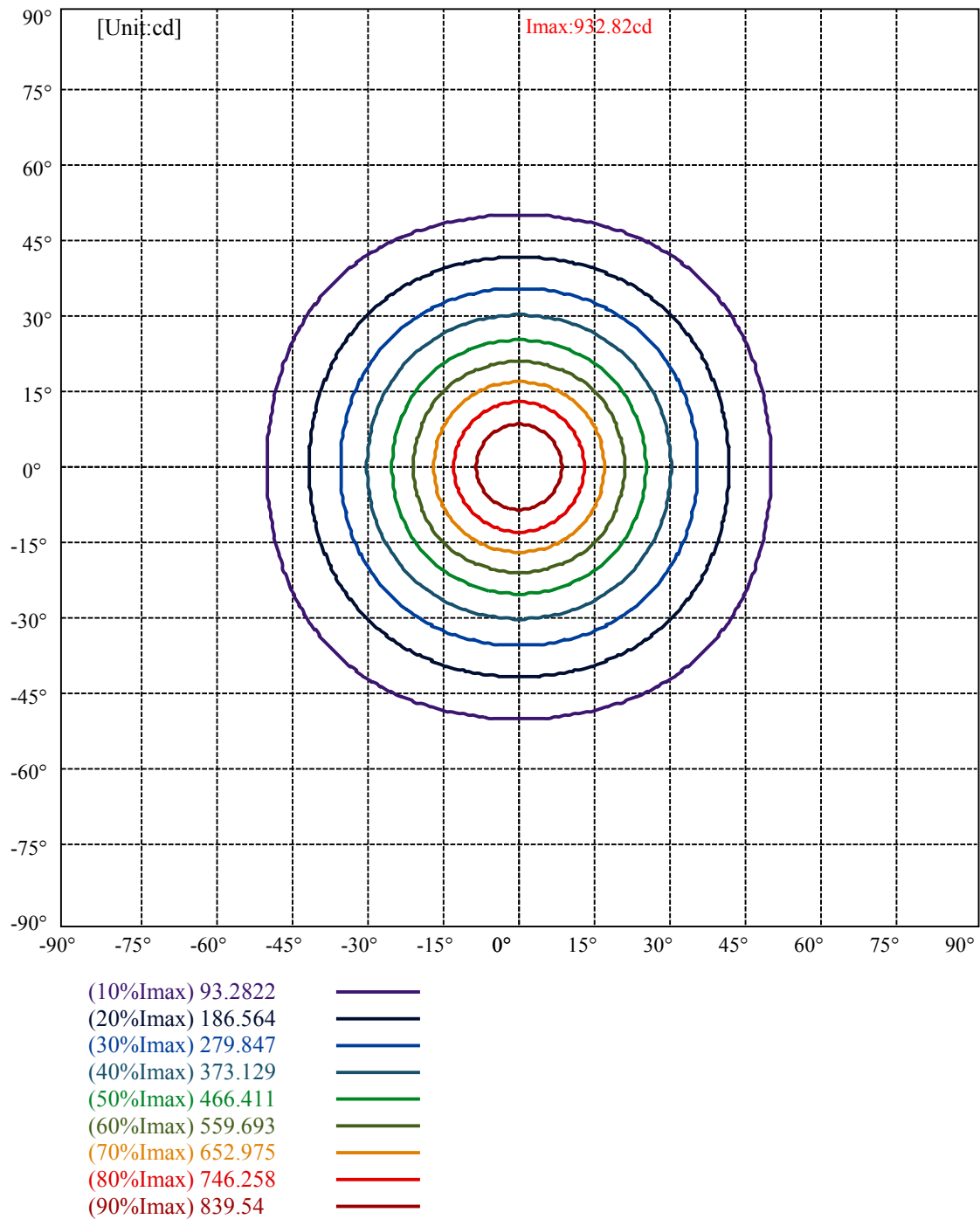
Zone	Lumens	%Lamp	%Fixt
0-30	491.66	45.65%	55.54%
0-40	667.94	62.02%	75.45%
0-60	830.33	77.10%	93.79%
0-90	882.51	81.94%	99.69%
0-120	882.51	81.94%	99.69%
0-180	885.27	82.20%	100.00%
60-90	75.44	7.00%	8.52%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-43.23	708.22	65.76%	80.00%

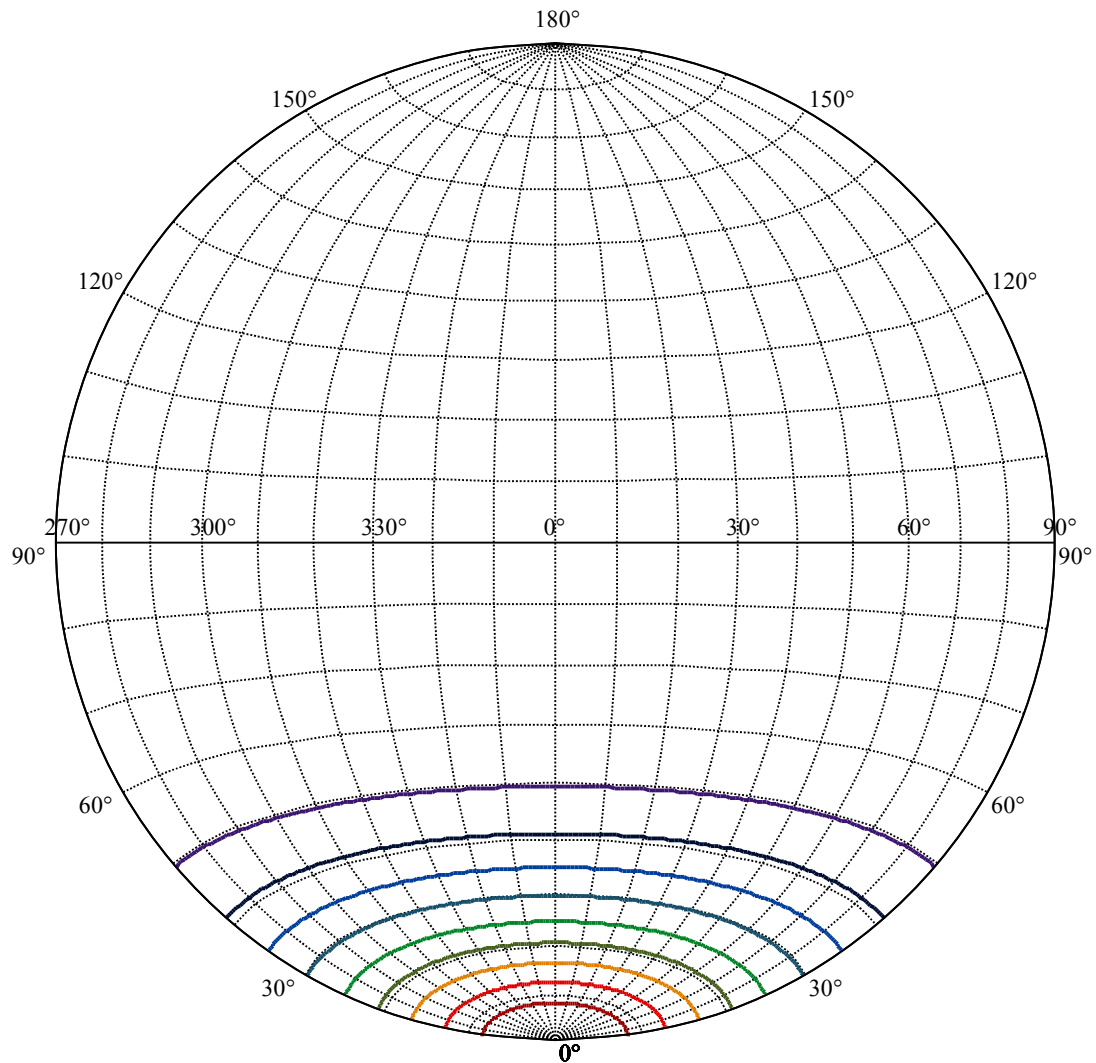
ZONAL LUMEN SUMMARY

0-10	83.12
10-20	193.94
20-30	214.61
30-40	176.27
40-50	107.21
50-60	55.19
60-70	30.96
70-80	16.78
80-90	4.44
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









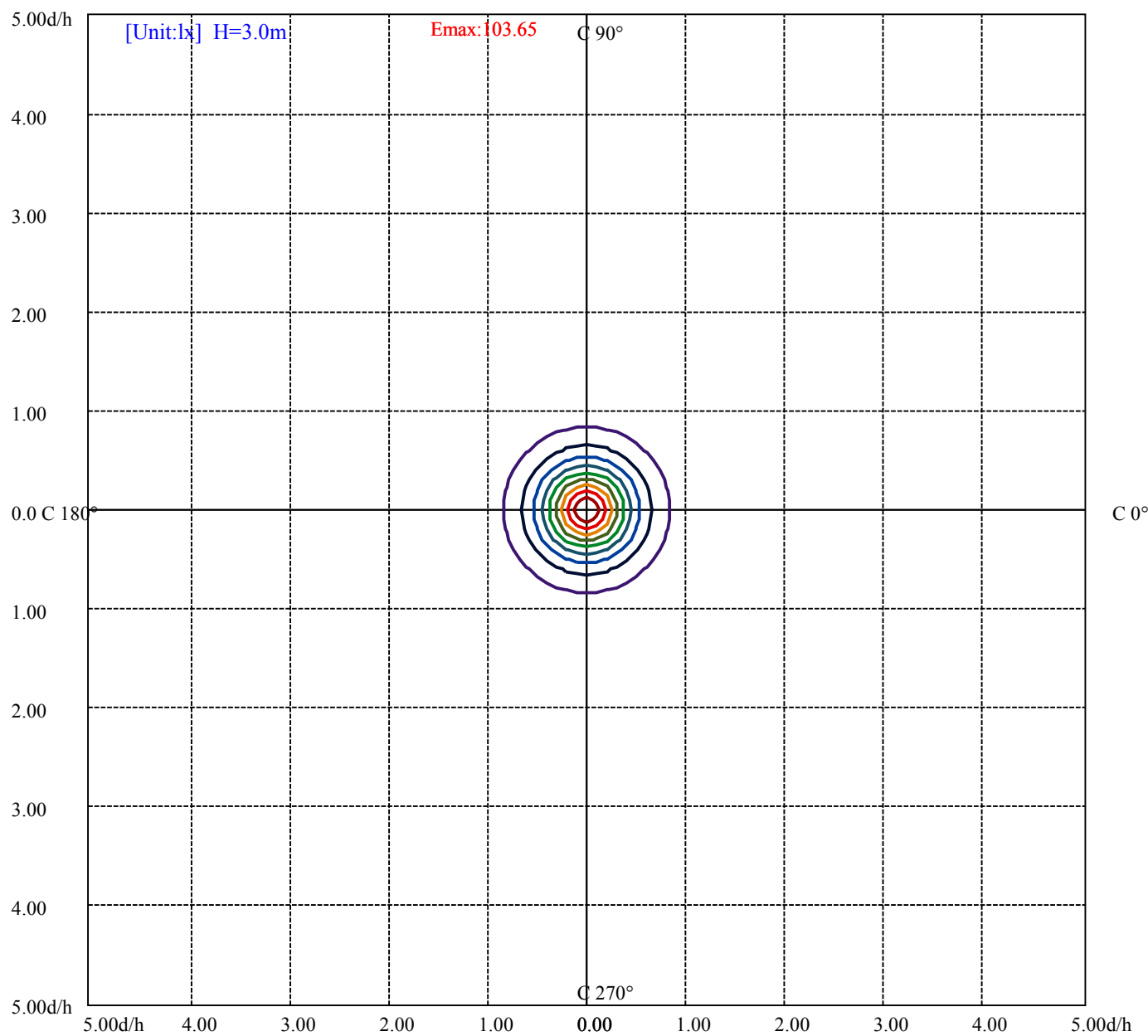
House

[Unit:cd]

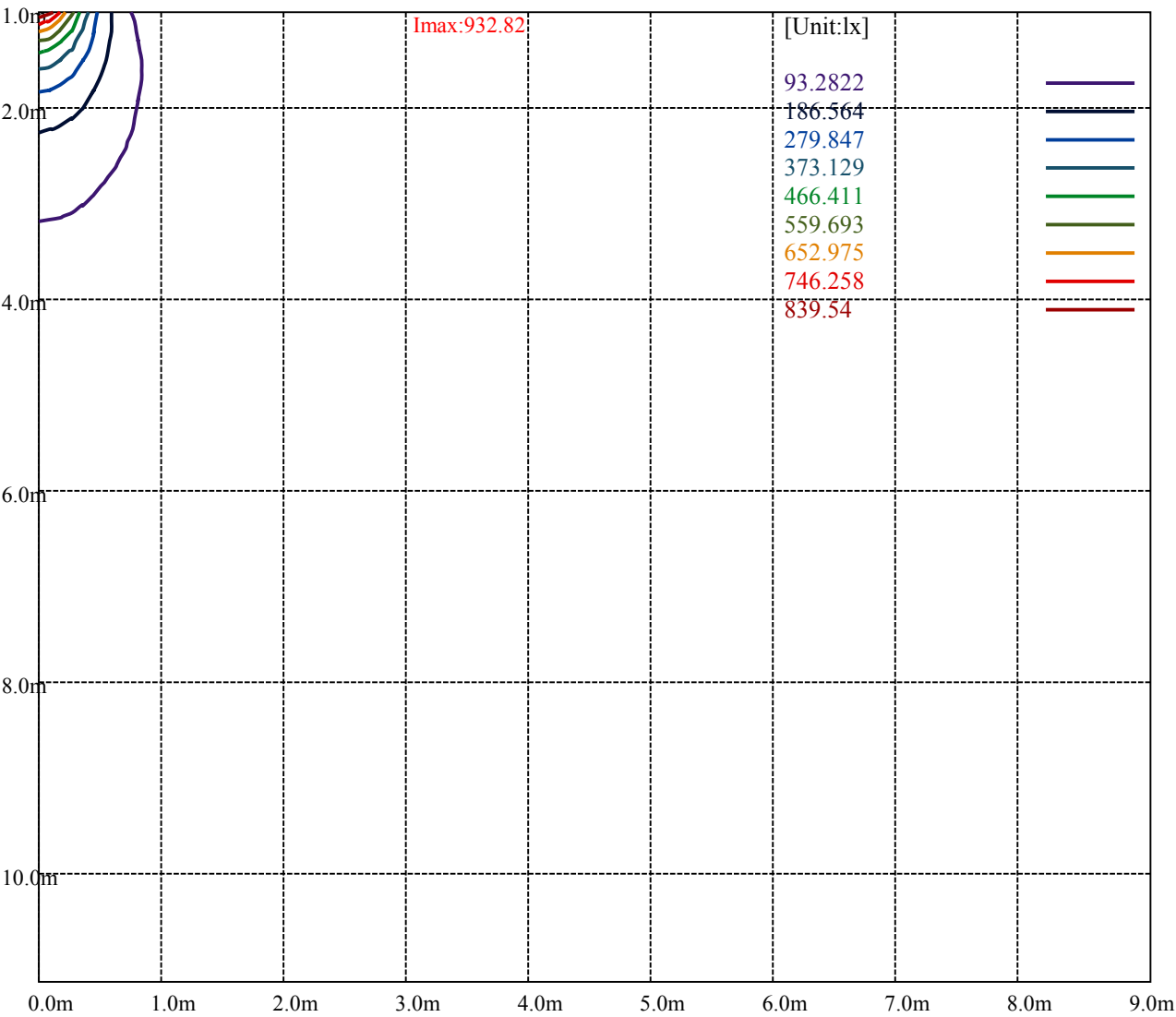
Road

Imax:932.82
(10%Imax) 93.2822
(20%Imax) 186.564
(30%Imax) 279.847
(40%Imax) 373.129
(50%Imax) 466.411
(60%Imax) 559.693
(70%Imax) 652.975
(80%Imax) 746.258
(90%Imax) 839.54





(10%E _{max}) 10.36468	—
(20%E _{max}) 20.72933	—
(30%E _{max}) 31.094	—
(40%E _{max}) 41.45866	—
(50%E _{max}) 51.82333	—
(60%E _{max}) 62.18811	—
(70%E _{max}) 72.55277	—
(80%E _{max}) 82.91745	—
(90%E _{max}) 93.28211	—



Luminance Table

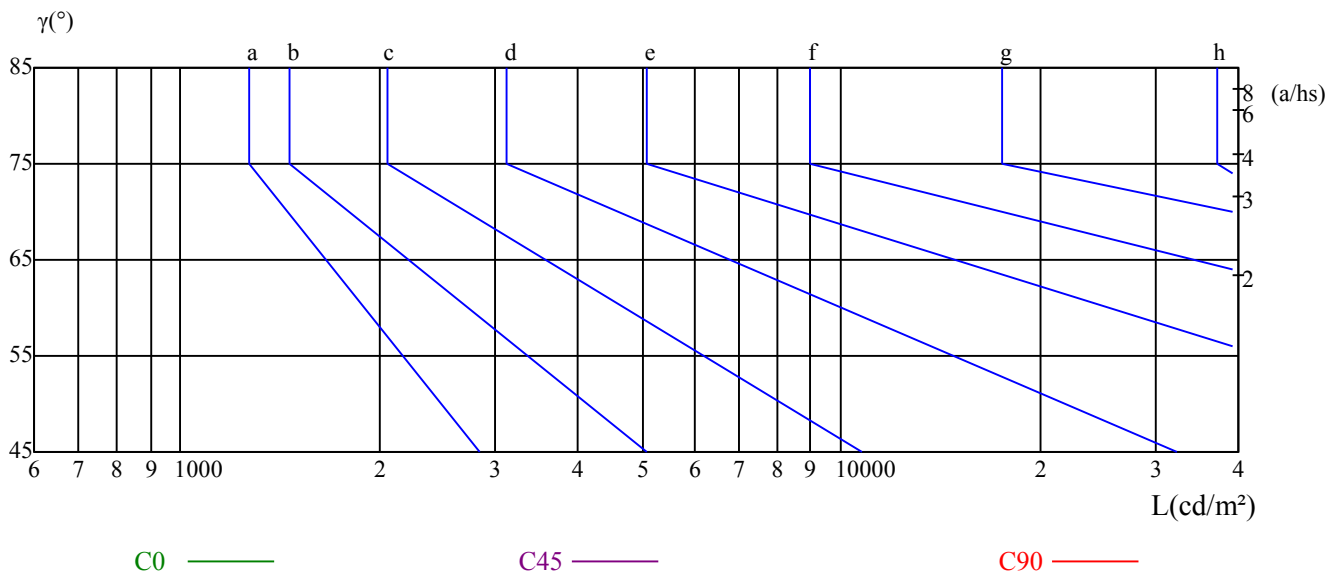
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

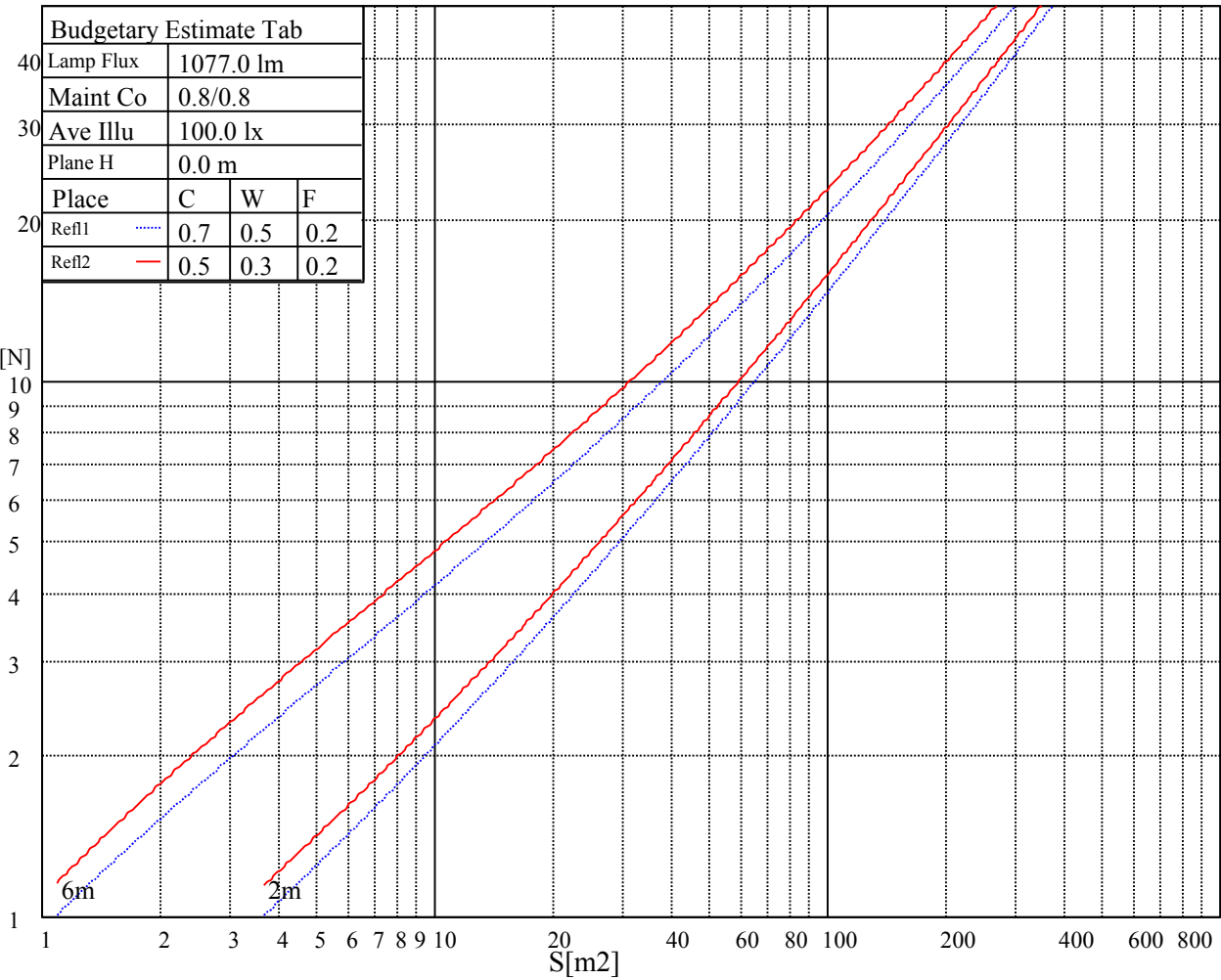
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

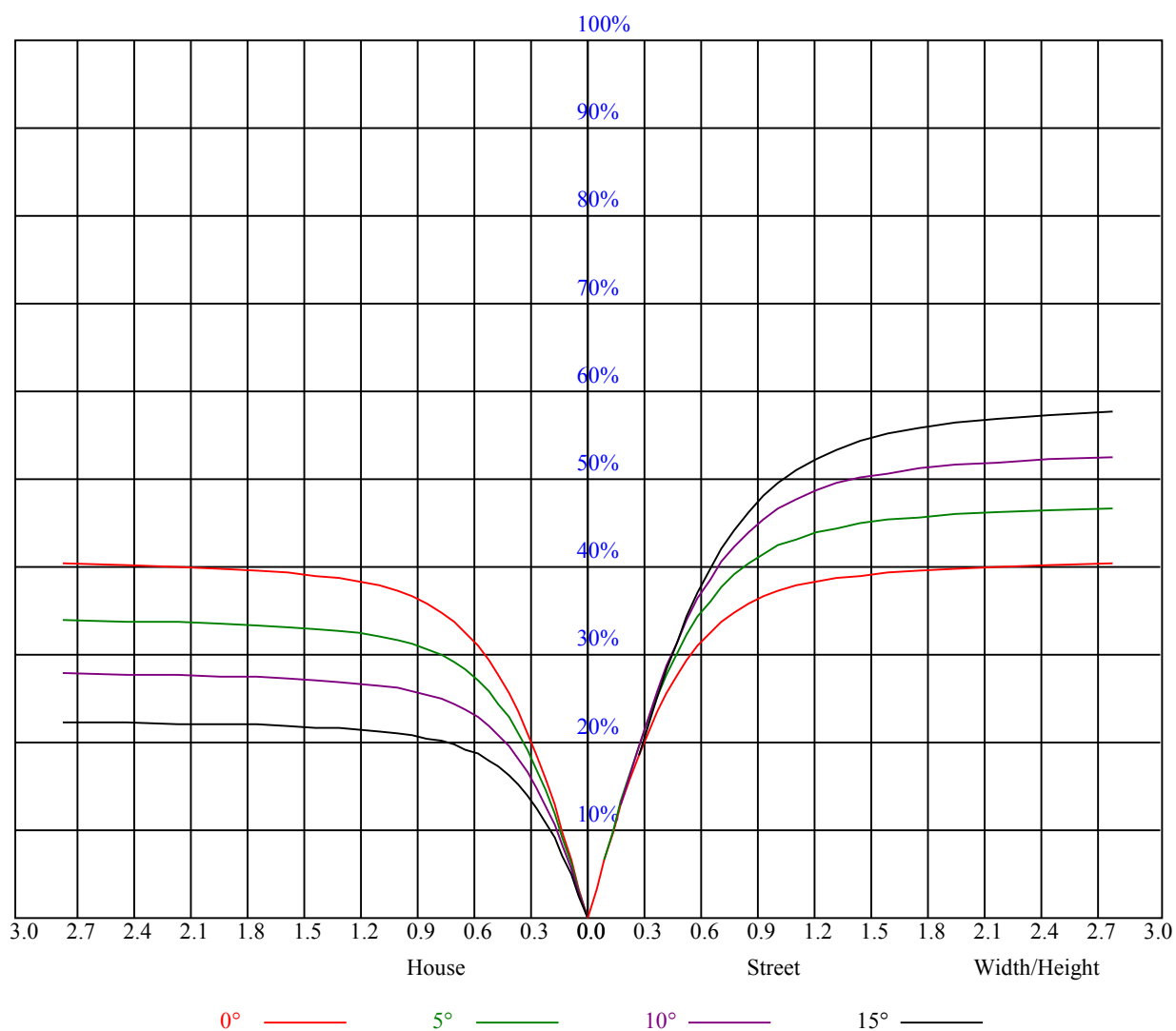
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

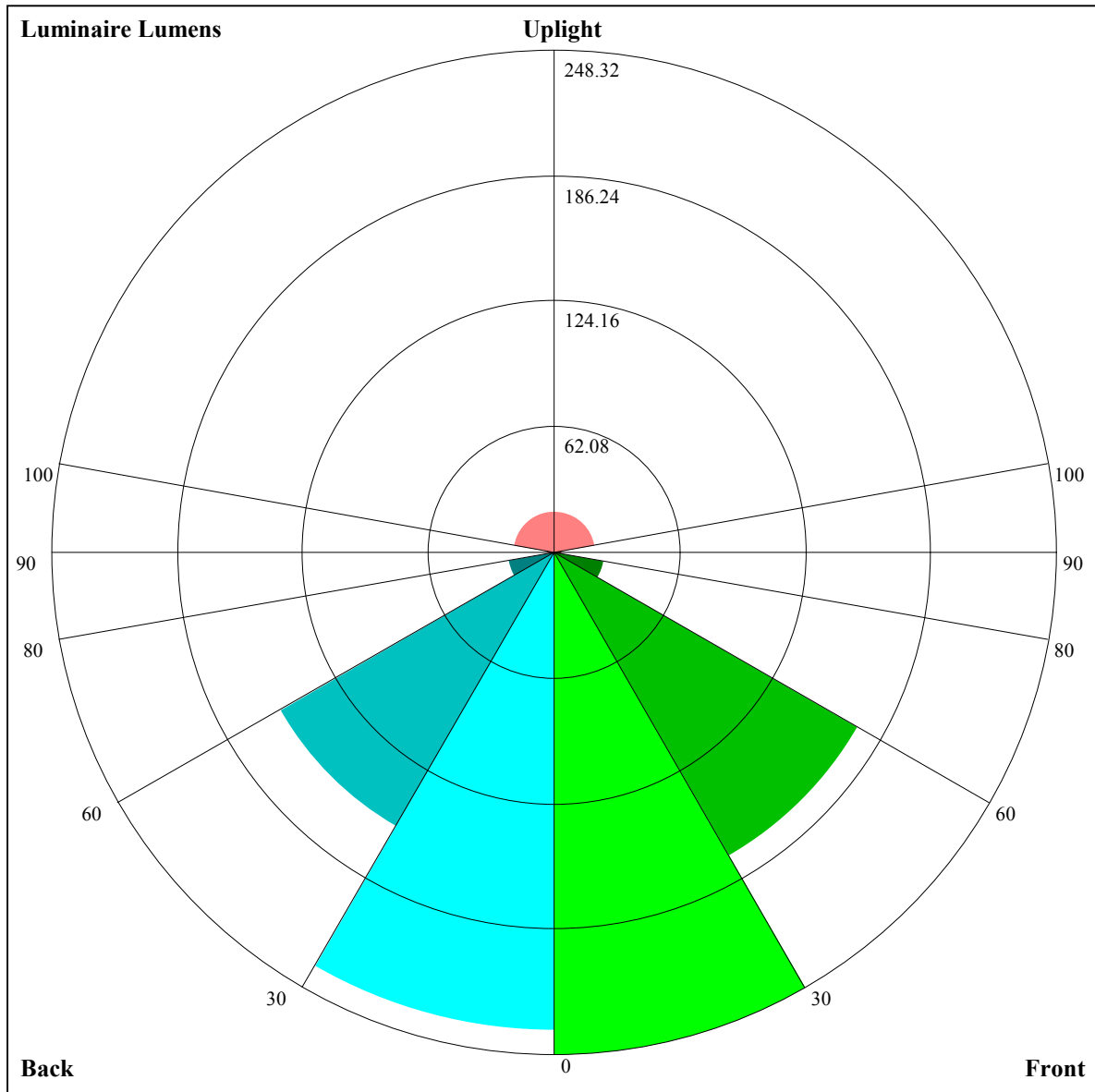
Luminance Limiting Curve





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	0.98	0.98	0.98	0.96	0.96	0.96	0.91	0.91	0.91	0.87	0.87	0.87	0.84	0.84	0.84	0.82
1	0.89	0.87	0.85	0.87	0.85	0.83	0.84	0.82	0.81	0.81	0.80	0.78	0.78	0.77	0.76	0.74
2	0.81	0.77	0.74	0.80	0.76	0.73	0.77	0.74	0.72	0.75	0.72	0.70	0.72	0.70	0.69	0.67
3	0.75	0.70	0.66	0.74	0.69	0.65	0.71	0.67	0.64	0.69	0.66	0.63	0.67	0.65	0.62	0.61
4	0.69	0.63	0.59	0.68	0.63	0.59	0.66	0.62	0.58	0.64	0.60	0.57	0.63	0.59	0.57	0.55
5	0.64	0.58	0.54	0.63	0.58	0.54	0.61	0.57	0.53	0.60	0.56	0.53	0.58	0.55	0.52	0.51
6	0.59	0.53	0.49	0.58	0.53	0.49	0.57	0.52	0.49	0.56	0.52	0.48	0.55	0.51	0.48	0.47
7	0.55	0.49	0.45	0.54	0.49	0.45	0.53	0.48	0.45	0.52	0.48	0.45	0.51	0.47	0.44	0.43
8	0.51	0.46	0.42	0.51	0.46	0.42	0.50	0.45	0.42	0.49	0.45	0.42	0.48	0.44	0.41	0.40
9	0.48	0.43	0.39	0.48	0.43	0.39	0.47	0.42	0.39	0.46	0.42	0.39	0.45	0.41	0.39	0.37
10	0.45	0.40	0.37	0.45	0.40	0.36	0.44	0.40	0.36	0.44	0.39	0.36	0.43	0.39	0.36	0.35





Luminaire Lumens:

FL=248.32,FM=173.64,FH=24.85,FVH=3.75

BL=236.15,BM=156.8,BH=22.87,BVH=3.45

UL=4.36,UH=20.74

BUG Rating:B1-U2-G0

NATA 1407-N

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	932.29	925.82	863.49	755.83	645.81	526.56	420.64	332.04	240.36		
45.0	931.22	908.83	833.23	714.38	595.69	484.26	389.42	300.26	220.95		
90.0	929.53	880.59	763.88	645.98	519.58	401.85	309.88	222.69	156.38		
135.0	938.25	891.90	796.56	674.38	565.93	455.12	361.35	269.66	194.40		
180.0	932.29	883.80	785.53	674.04	559.46	448.99	351.84	262.97	183.94		
225.0	931.22	885.04	791.49	669.21	555.53	455.06	366.81	280.07	200.87		
270.0	929.53	903.71	823.44	695.93	569.53	456.30	358.48	270.34	197.21		
315.0	938.25	917.94	832.89	718.99	599.91	485.27	395.61	305.94	226.29		
360.0	932.29	925.82	863.49	755.83	645.81	526.56	420.64	332.04	240.36		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	161.21	103.89	67.89	46.80	33.08	24.47	17.10	11.48	6.86		
45.0	148.89	95.85	60.58	43.14	30.77	22.61	15.98	10.63	5.96		
90.0	104.63	73.80	51.75	38.70	28.58	20.87	14.06	9.17	5.63		
135.0	124.82	81.90	55.41	39.60	28.52	21.32	14.74	9.79	5.57		
180.0	117.96	78.53	52.20	37.52	26.44	19.91	13.56	8.72	5.46		
225.0	132.75	85.16	56.31	40.89	29.48	21.38	14.68	9.68	5.96		
270.0	130.95	87.13	59.79	44.66	32.74	24.19	17.16	11.36	6.52		
315.0	150.47	99.73	64.58	45.45	33.19	24.13	16.71	11.03	6.81		
360.0	161.21	103.89	67.89	46.80	33.08	24.47	17.10	11.48	6.86		
C/γ(°)	90.0										
0.0	4.33										
45.0	3.88										
90.0	3.88										
135.0	3.94										
180.0	3.77										
225.0	3.88										
270.0	4.05										
315.0	4.22										
360.0	4.33										