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NATA

Client:

LumCAT: 1567-E

Luminaire: 92.70.064.00

Report No: nt0100

Test No: GC20191225121

LampCAT: LUMINUS CXM-9-AC40

Lamp flux(lm): 1100.0

Number of Lamps: 1

Length(mm): 0

Phm Type: C

Voltage(V): 33.4900

Current(A): 0.2970

Power (W): 9.9400

PF: 1.0000

Ballast type: DC

Width(mm): 0

Height(mm): 0

Photometric Results

Lumens(lm): 888.34, Efficiency(%): 80.76% , Luminous Efficacy(lm/W): 89.37

Central intensity(cd): 521.227, Maximum intensity(cd): 532.118

Angle of maximum intensity: C=0.0 γ =10.0

Beam Angle(50%Imax): [C0/180]Total=83.4

[C90/270]Total=83.4

Field angle(10%Imax): [C0/180]Total=109.0

[C90/270]Total=109.0

Maximum s/h(1/2): C0_180=1.25 C90_270=1.25

Maximum s/h(1/4): C0_180=1.20 C90_270=1.20

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 80.76%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 97.088%

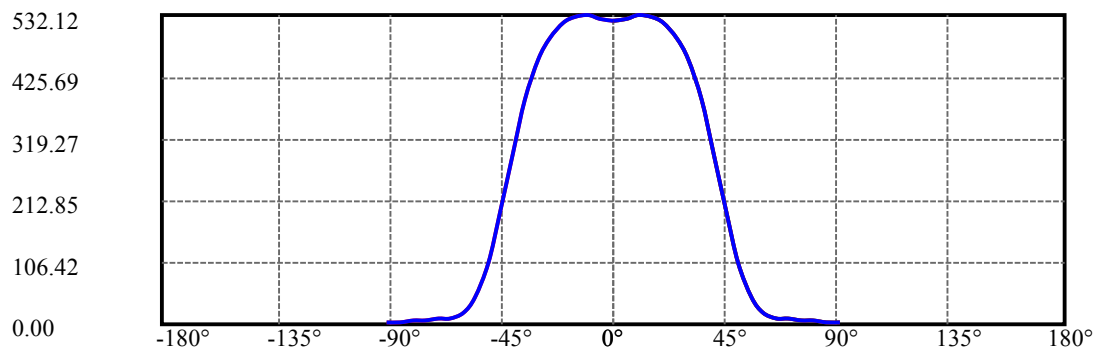
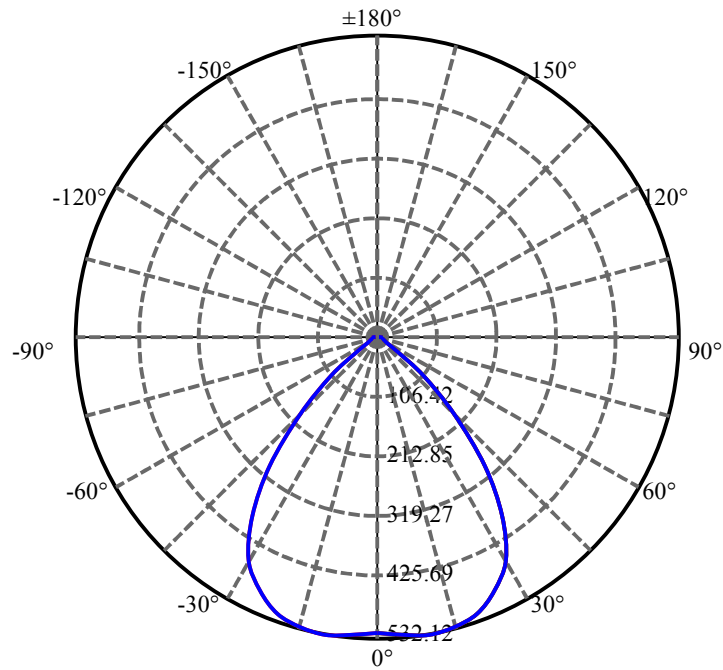
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	521.227	0.000	0	.000%	.000%
5.0	525.973	12.519	12.519	1.138%	1.409%
10.0	532.118	37.851	50.37	3.441%	5.670%
15.0	530.142	63.013	113.383	5.728%	12.763%
20.0	518.625	86.433	199.816	7.858%	22.493%
25.0	493.116	106.113	305.929	9.647%	34.438%
30.0	455.716	120.075	426.004	10.916%	47.955%
35.0	385.643	123.896	549.9	11.263%	61.902%
40.0	296.023	113.731	663.631	10.339%	74.705%
45.0	191.306	90.233	753.864	8.203%	84.862%
50.0	105.328	59.939	813.803	5.449%	91.609%
55.0	46.385	32.988	846.791	2.999%	95.323%
60.0	21.459	15.682	862.473	1.426%	97.088%
65.0	11.566	8.029	870.502	.730%	97.992%
70.0	8.705	5.133	875.634	.467%	98.570%
75.0	7.109	4.133	879.768	.376%	99.035%
80.0	5.934	3.490	883.258	.317%	99.428%
85.0	4.732	2.898	886.156	.263%	99.754%
90.0	3.248	2.185	888.341	.199%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	426.00	38.73%	47.96%
0-40	663.63	60.33%	74.70%
0-60	862.47	78.41%	97.09%
0-90	886.16	80.56%	99.75%
0-120	886.16	80.56%	99.75%
0-180	888.34	80.76%	100.00%
60-90	39.37	3.58%	4.43%
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%
0-42.61	710.67	64.61%	80.00%

ZONAL LUMEN SUMMARY

0-10	50.37
10-20	149.45
20-30	226.19
30-40	237.63
40-50	150.17
50-60	48.67
60-70	13.16
70-80	7.62
80-90	2.90
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

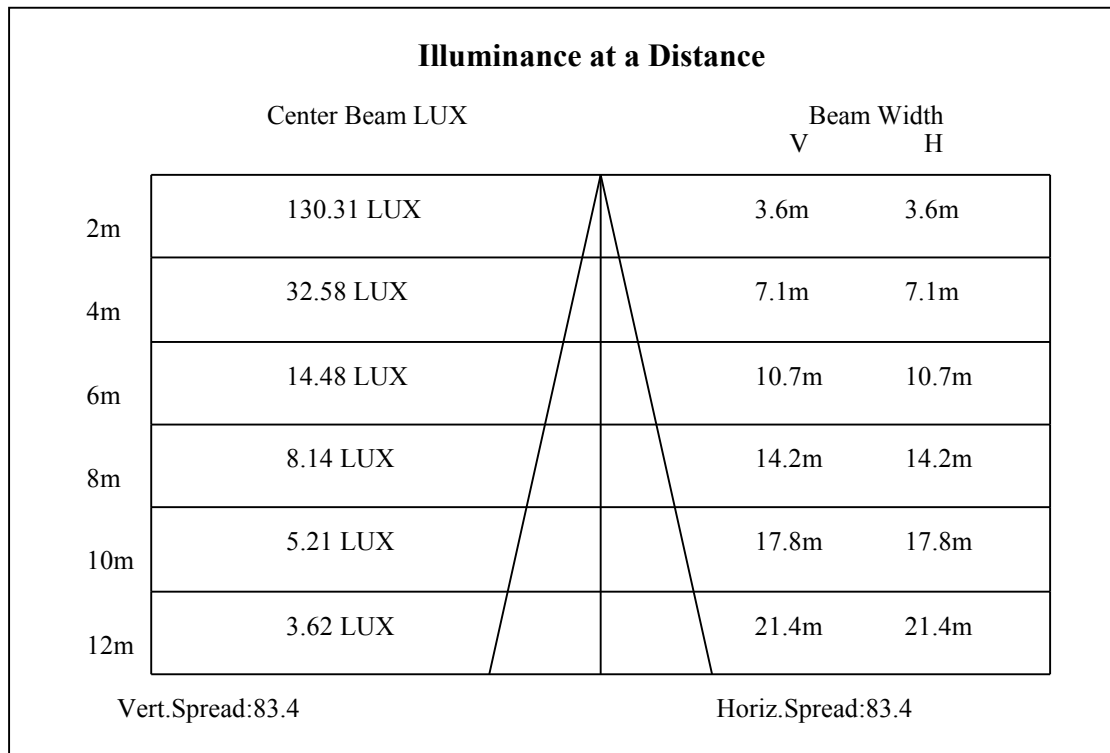
C0(Max): —————C0/C180: —————C90/C270: —————

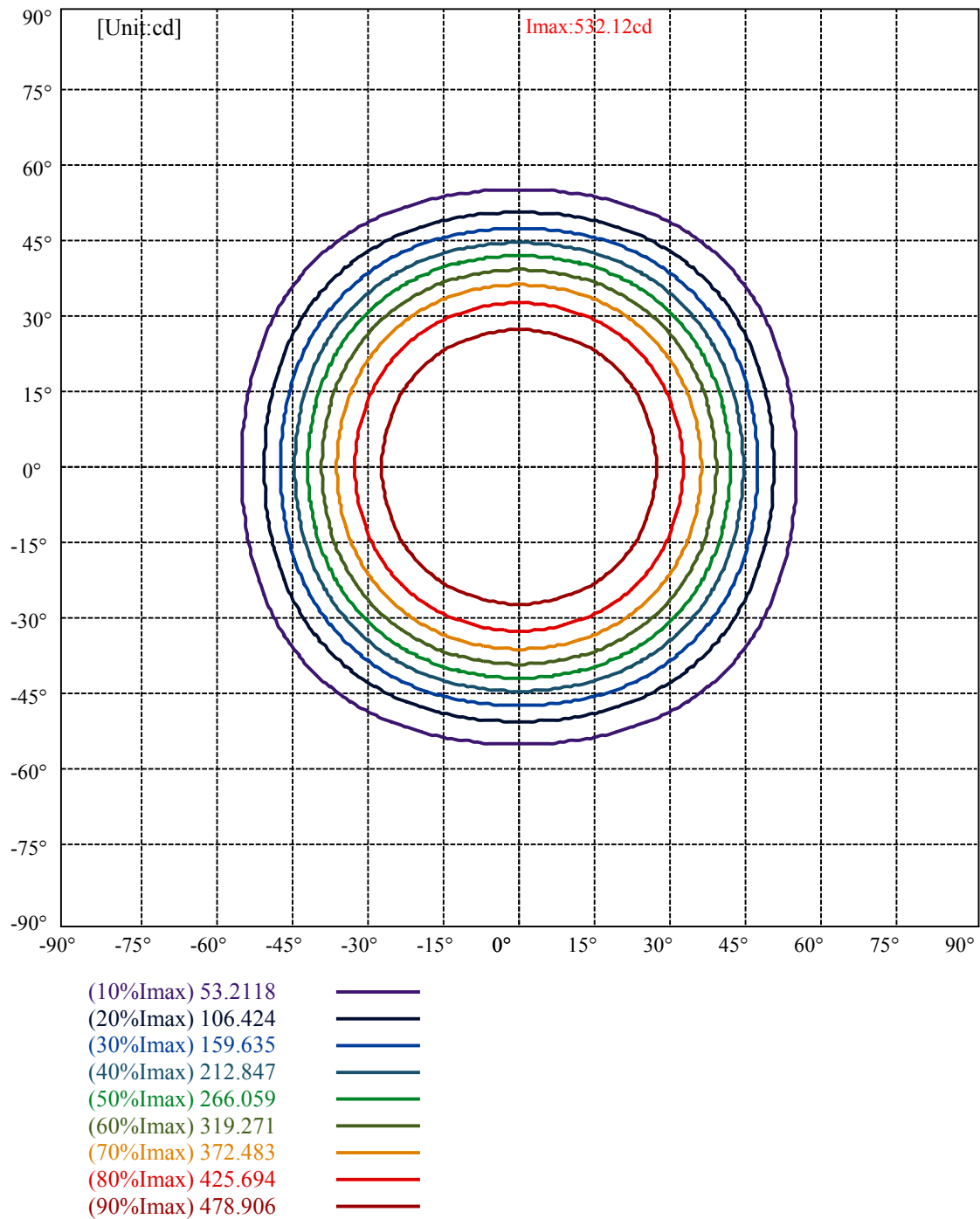
Field angle(10%Imax):C0/180Left:54.5 Right:54.5

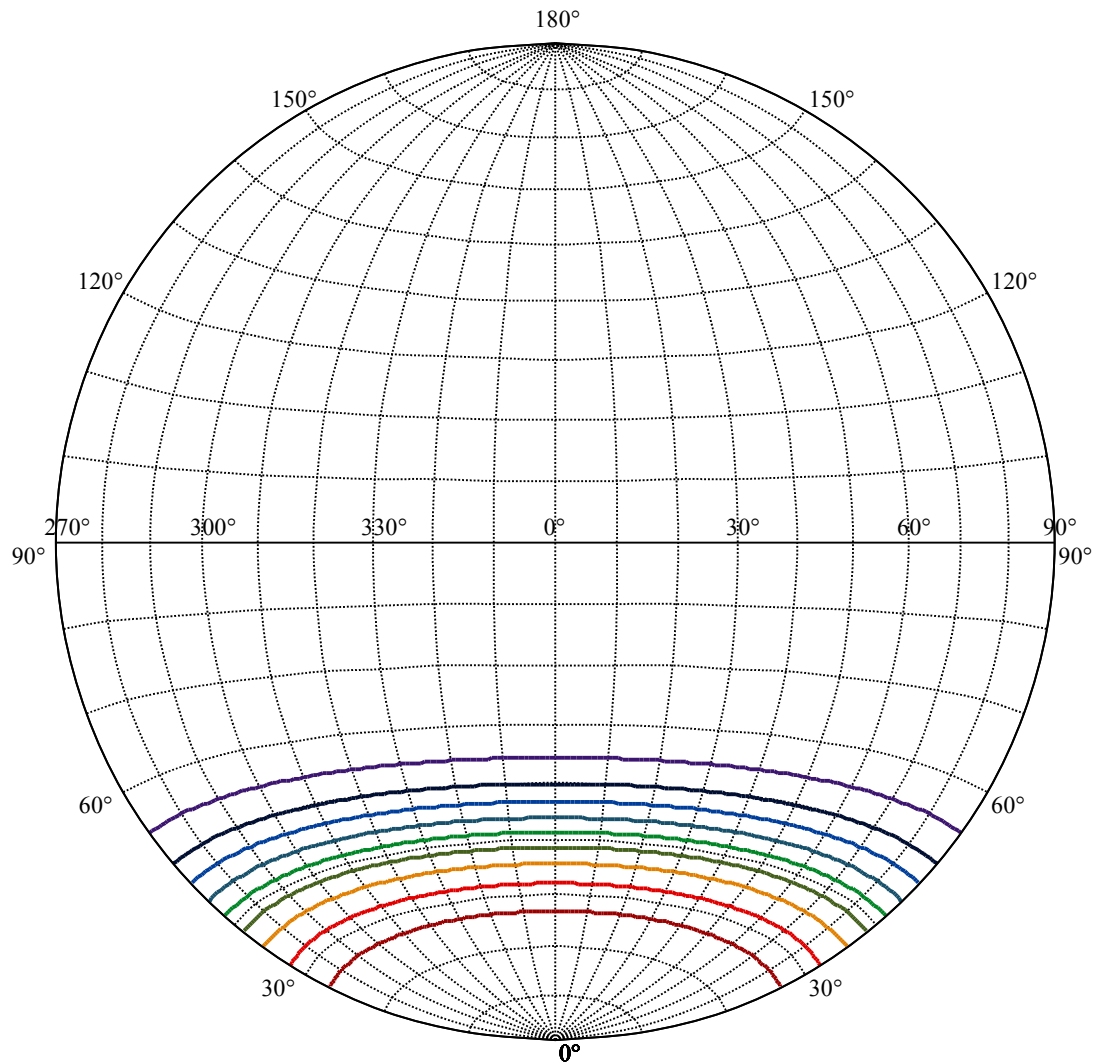
:C90/270Left:54.5 Right:54.5

Beam Angle(50%Imax):C0/180Left:41.7 Right:41.7

:C90/270Left:41.7 Right:41.7







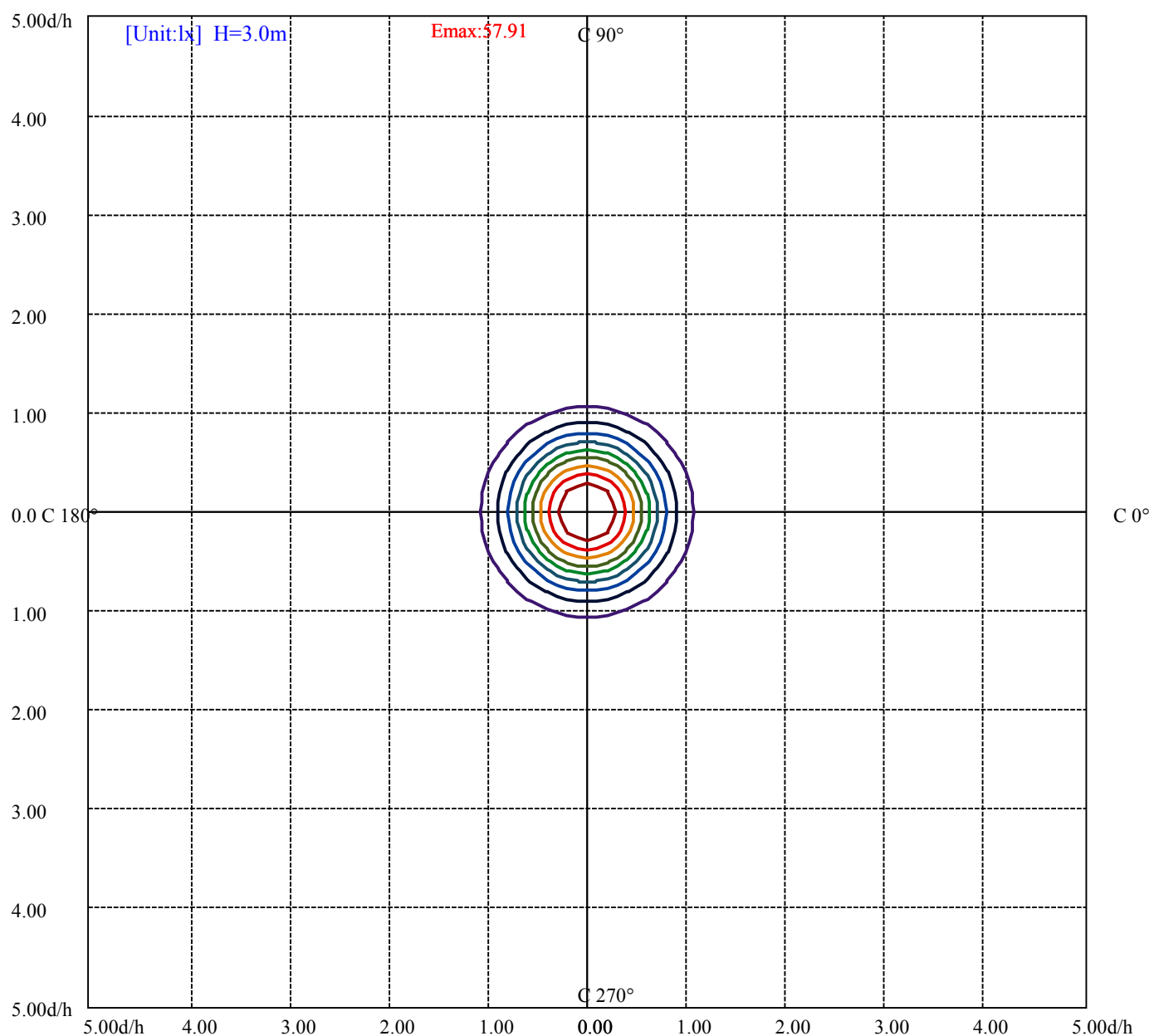
House

[Unit:cd]

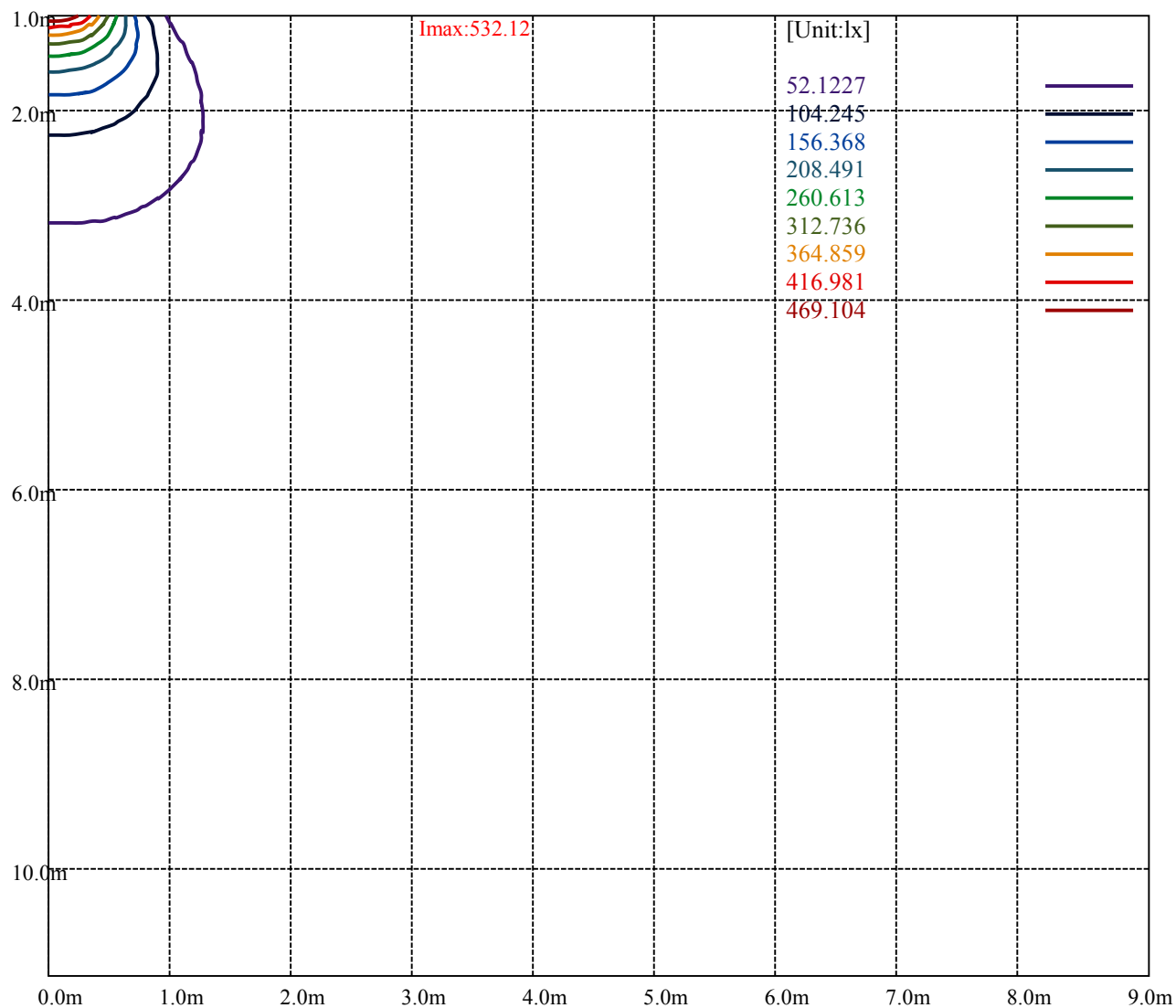
Road

Imax:532.12
(10%Imax) 53.2118
(20%Imax) 106.424
(30%Imax) 159.635
(40%Imax) 212.847
(50%Imax) 266.059
(60%Imax) 319.271
(70%Imax) 372.483
(80%Imax) 425.694
(90%Imax) 478.906





(10%Emax) 5.791411	—
(20%Emax) 11.58278	—
(30%Emax) 17.37422	—
(40%Emax) 23.16567	—
(50%Emax) 28.957	—
(60%Emax) 34.74844	—
(70%Emax) 40.53989	—
(80%Emax) 46.33122	—
(90%Emax) 52.12267	—



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

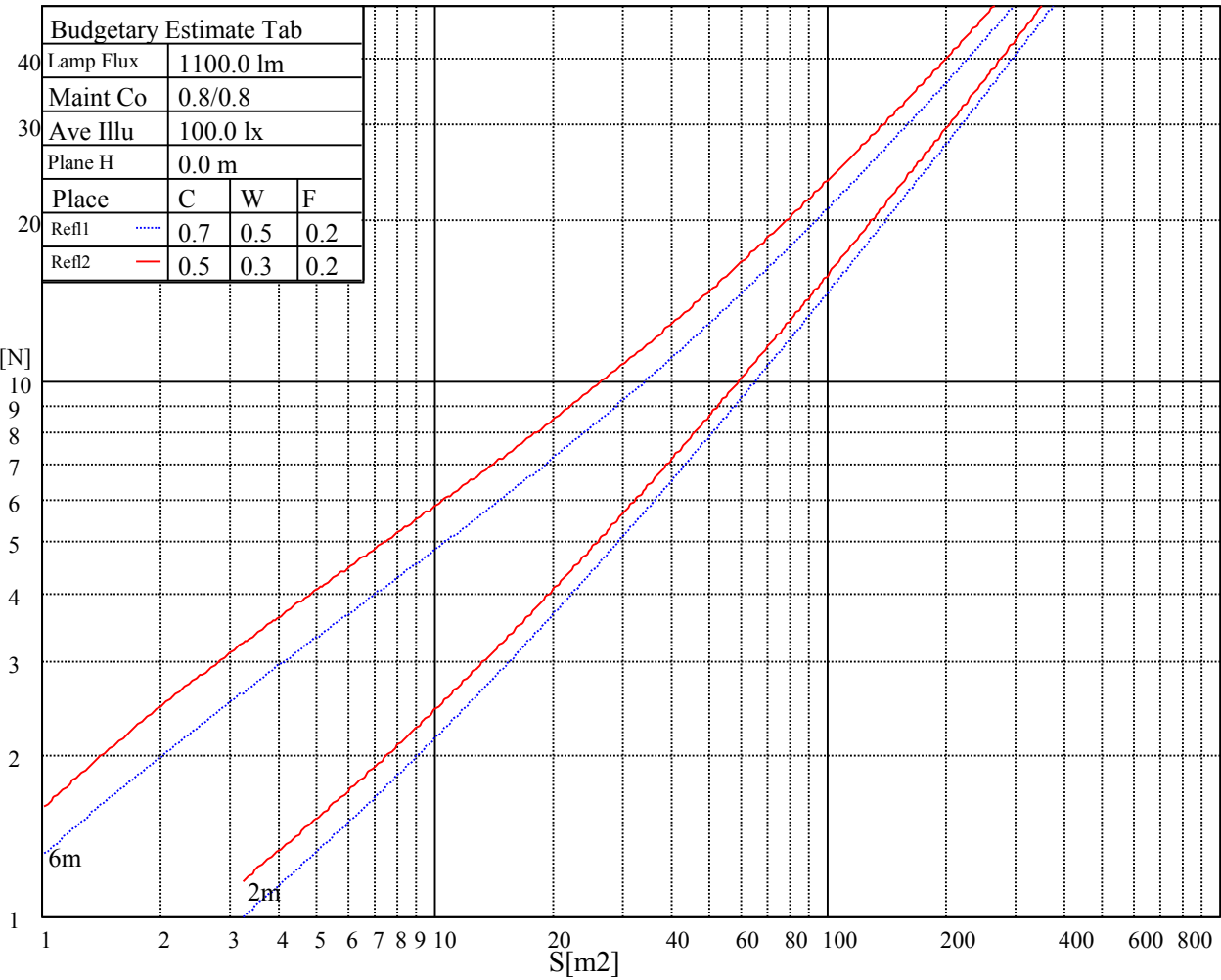
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

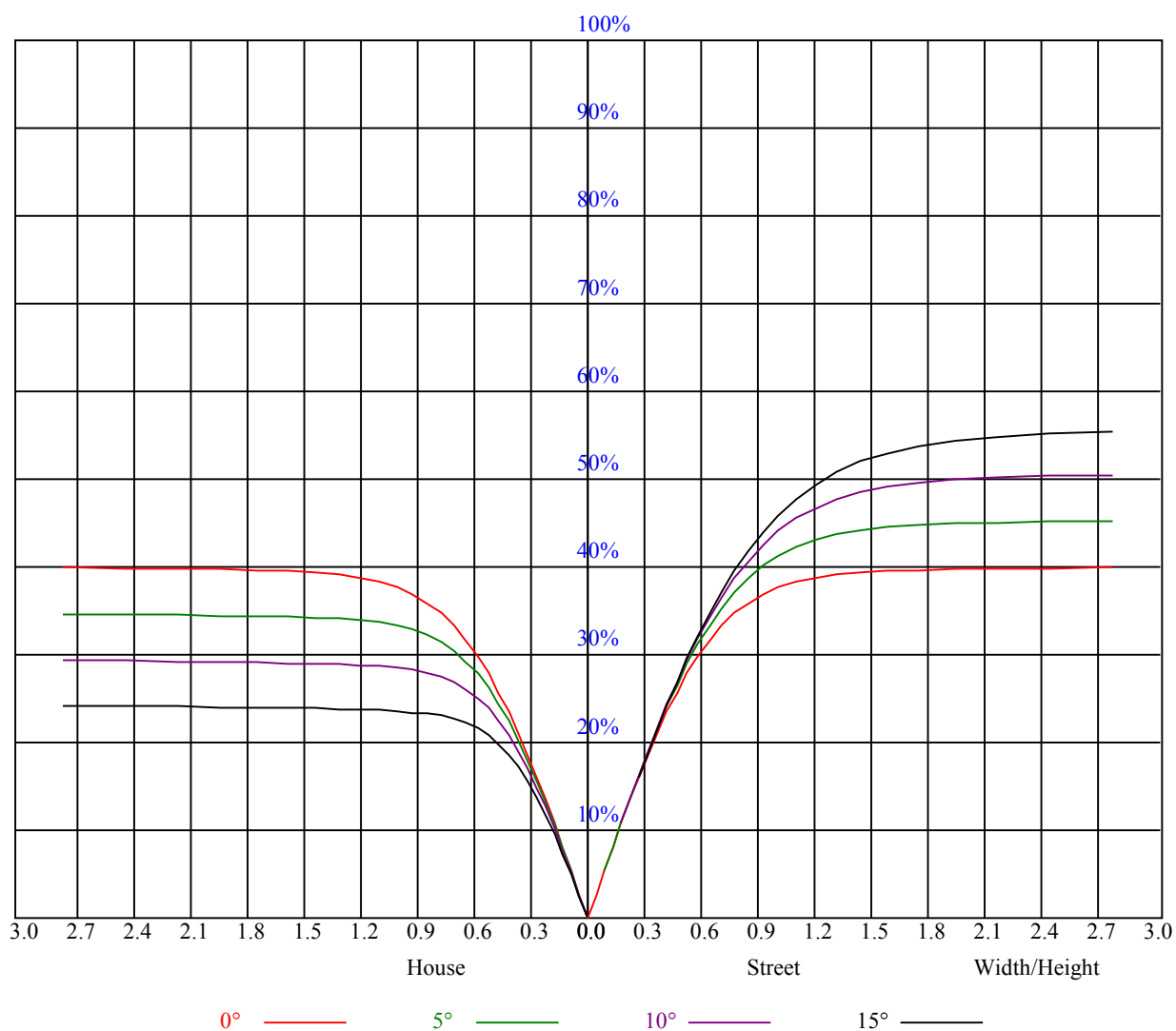
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

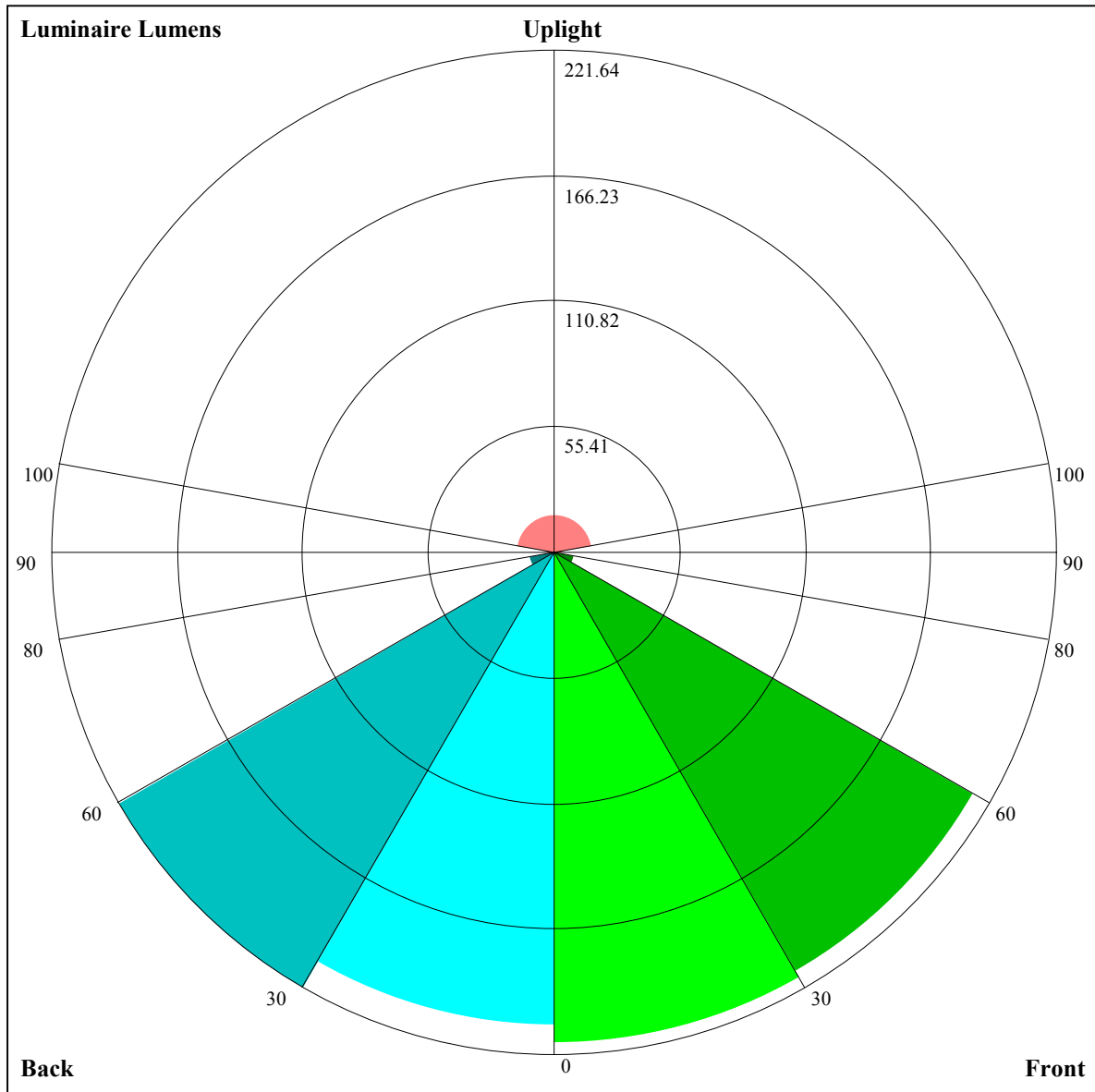
Luminance Limiting Curve





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	0.96	0.96	0.96	0.94	0.94	0.94	0.90	0.90	0.90	0.86	0.86	0.86	0.82	0.82	0.82	0.81
1	0.88	0.85	0.83	0.86	0.84	0.82	0.83	0.81	0.79	0.80	0.78	0.77	0.77	0.76	0.75	0.73
2	0.80	0.76	0.73	0.79	0.75	0.72	0.76	0.73	0.70	0.73	0.71	0.69	0.71	0.69	0.67	0.66
3	0.73	0.68	0.64	0.72	0.67	0.64	0.70	0.66	0.63	0.68	0.64	0.62	0.66	0.63	0.61	0.59
4	0.67	0.61	0.57	0.66	0.61	0.57	0.64	0.60	0.56	0.62	0.59	0.56	0.61	0.58	0.55	0.54
5	0.61	0.56	0.52	0.61	0.55	0.51	0.59	0.54	0.51	0.58	0.53	0.50	0.56	0.53	0.50	0.48
6	0.56	0.51	0.47	0.56	0.50	0.46	0.54	0.50	0.46	0.53	0.49	0.46	0.52	0.48	0.45	0.44
7	0.52	0.46	0.42	0.52	0.46	0.42	0.50	0.45	0.42	0.49	0.45	0.42	0.48	0.44	0.41	0.40
8	0.48	0.43	0.39	0.48	0.42	0.38	0.47	0.42	0.38	0.46	0.41	0.38	0.45	0.41	0.38	0.37
9	0.45	0.39	0.35	0.44	0.39	0.35	0.44	0.39	0.35	0.43	0.38	0.35	0.42	0.38	0.35	0.34
10	0.42	0.36	0.33	0.41	0.36	0.33	0.41	0.36	0.32	0.40	0.35	0.32	0.39	0.35	0.32	0.31





Luminaire Lumens:

FL=216.48,FM=213.39,FH=8.9,FVH=2.21

BL=209.03,BM=221.64,BH=11.63,BVH=2.79

UL=3.54,UH=16.87

BUG Rating:B1-U2-G0

NATA 1567-E

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	516.88	533.64	551.53	556.48	548.61	520.26	486.34	413.49	310.50		
45.0	526.78	538.99	545.51	543.26	523.91	497.08	438.58	348.75	261.56		
90.0	521.66	524.64	526.28	523.24	509.40	480.15	430.09	349.71	256.33		
135.0	519.58	513.06	516.32	510.92	503.16	480.38	448.99	378.28	296.33		
180.0	516.88	510.47	511.31	505.24	495.00	469.86	434.98	369.11	282.32		
225.0	526.78	522.73	523.29	519.75	508.56	485.49	458.38	404.61	319.28		
270.0	521.66	529.26	536.01	536.63	526.95	502.26	472.78	412.82	331.88		
315.0	519.58	534.99	546.69	545.63	533.42	509.46	475.59	408.38	309.99		
360.0	516.88	533.64	551.53	556.48	548.61	520.26	486.34	413.49	310.50		
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	198.96	98.72	37.52	16.93	9.68	7.26	5.68	4.73	4.16		
45.0	150.02	70.31	29.87	16.26	9.84	7.48	5.96	4.89	3.38		
90.0	149.68	79.76	35.83	15.69	9.90	7.99	6.64	5.68	3.66		
135.0	188.16	105.64	53.66	25.54	13.61	10.80	9.06	7.20	5.46		
180.0	183.26	106.99	52.82	25.65	13.84	11.08	9.45	7.88	6.53		
225.0	229.67	138.71	62.78	30.77	14.51	9.96	8.10	7.03	6.02		
270.0	232.88	138.15	62.16	25.93	12.09	8.21	6.53	5.57	4.78		
315.0	197.83	104.34	36.45	14.91	9.06	6.86	5.46	4.50	3.88		
360.0	198.96	98.72	37.52	16.93	9.68	7.26	5.68	4.73	4.16		
C/ γ (°)	90.0										
0.0	3.21										
45.0	3.15										
90.0	3.09										
135.0	3.15										
180.0	3.26										
225.0	3.49										
270.0	3.32										
315.0	3.32										
360.0	3.21										