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Nata

LumCAT: 1497-A
Luminaire: 92.70.064.00
Report No: 200403-B009
Test No: 200403-C009
LampCAT: LUMINUS CXM-9-AC40
Lamp flux(lm): 1149.0
Number of Lamps: 1
Length(mm): 0
Phm Type: C

Voltage(V): 33.9500
Current(A): 0.3000
Power (W): 10.1850
PF: 0.0000
Ballast type: DC
Width(mm): 0
Height(mm): 0

Photometric Results

Lumens(lm): 988.59
Efficiency(%): 86.04%
Lumens(lm)/Power(W): 97.06
Central intensity(cd): 1169.859
Maximum intensity(cd): 1169.859
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=54.7
[C90/270]Total=54.7
Field angle(10%Imax): [C0/180]Total=85.4
[C90/270]Total=85.4
Maximum s/h(1/2): C0_180=0.84 C90_270=0.84
Maximum s/h(1/4): C0_180=0.85 C90_270=0.85
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 86.04%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.326%

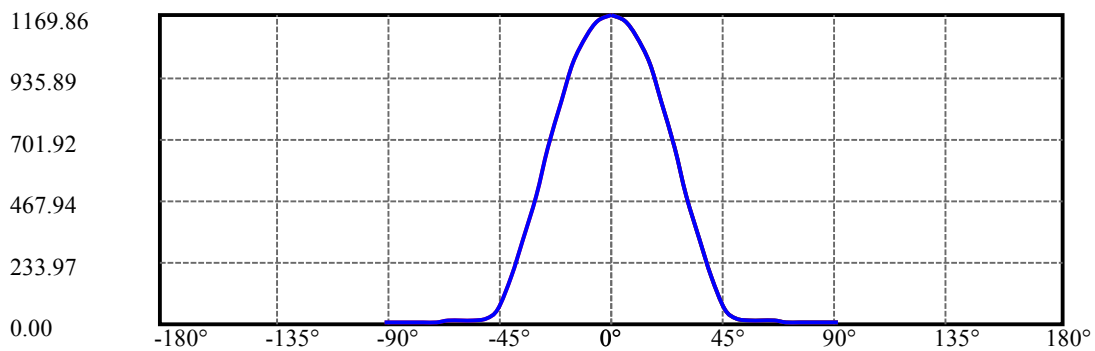
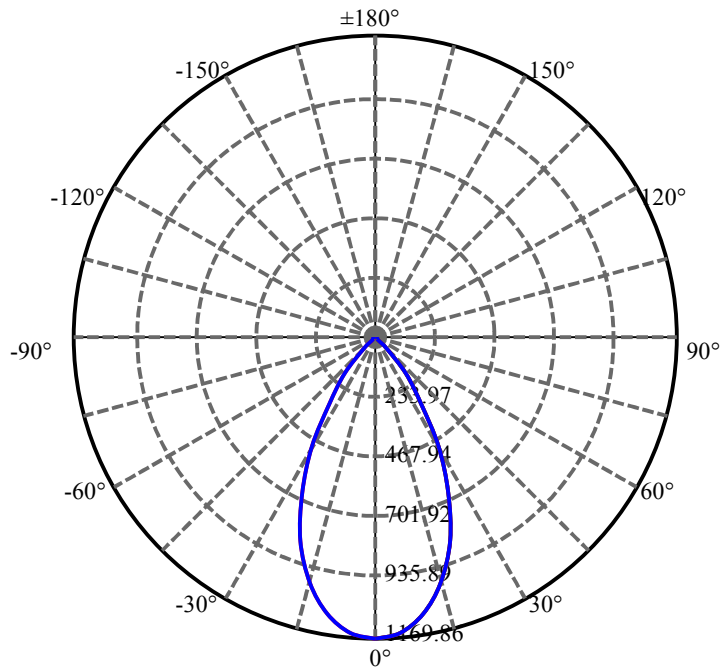
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1169.859	0.000	0	.000%	.000%
5.0	1148.189	27.712	27.712	2.412%	2.803%
10.0	1091.327	80.115	107.826	6.973%	10.907%
15.0	988.847	123.395	231.221	10.739%	23.389%
20.0	842.604	150.937	382.158	13.136%	38.657%
25.0	669.171	158.557	540.715	13.800%	54.695%
30.0	488.841	146.547	687.263	12.754%	69.519%
35.0	317.025	118.669	805.932	10.328%	81.523%
40.0	181.259	83.135	889.067	7.235%	89.932%
45.0	61.179	44.889	933.956	3.907%	94.473%
50.0	18.640	16.129	950.085	1.404%	96.105%
55.0	12.108	6.686	956.77	.582%	96.781%
60.0	11.208	5.389	962.16	.469%	97.326%
65.0	10.920	5.379	967.539	.468%	97.870%
70.0	10.821	5.505	973.044	.479%	98.427%
75.0	8.866	5.146	978.19	.448%	98.948%
80.0	7.151	4.286	982.475	.373%	99.381%
85.0	5.660	3.481	985.956	.303%	99.733%
90.0	3.973	2.638	988.594	.230%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	687.26	59.81%	69.52%
0-40	889.07	77.38%	89.93%
0-60	962.16	83.74%	97.33%
0-90	985.96	85.81%	99.73%
0-120	985.96	85.81%	99.73%
0-180	988.59	86.04%	100.00%
60-90	29.19	2.54%	2.95%
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%
0-34.37	790.88	68.83%	80.00%

ZONAL LUMEN SUMMARY

0-10	107.83
10-20	274.33
20-30	305.10
30-40	201.80
40-50	61.02
50-60	12.07
60-70	10.88
70-80	9.43
80-90	3.48
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



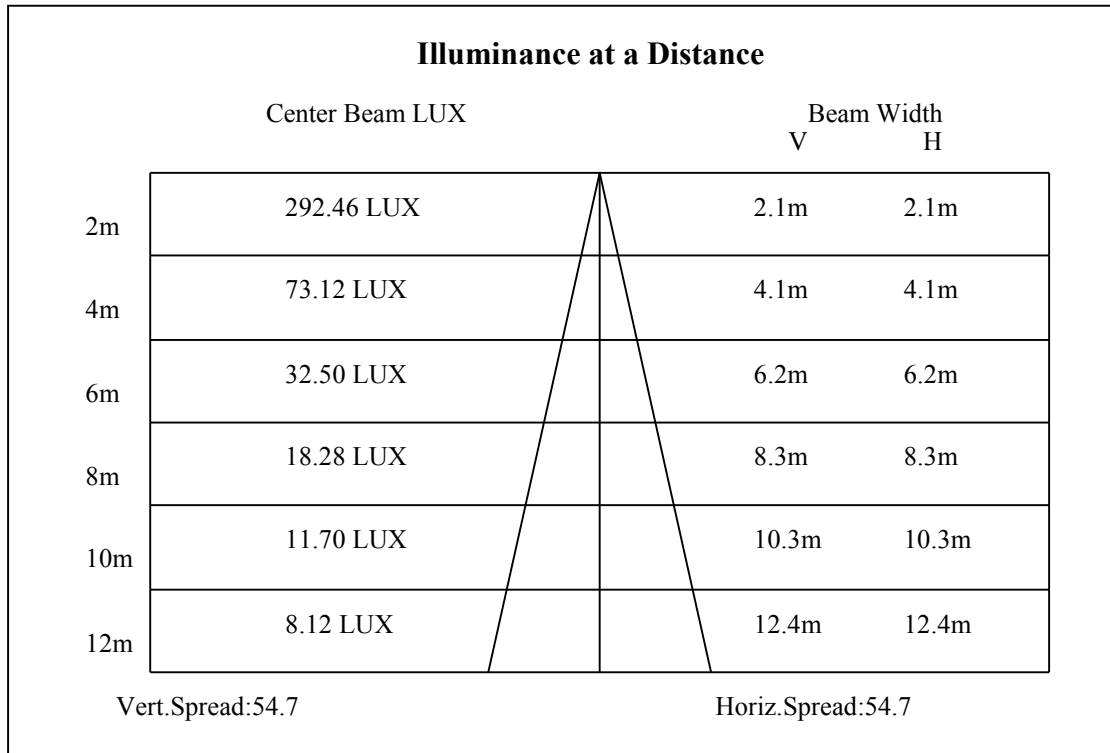
C0(Max): —————

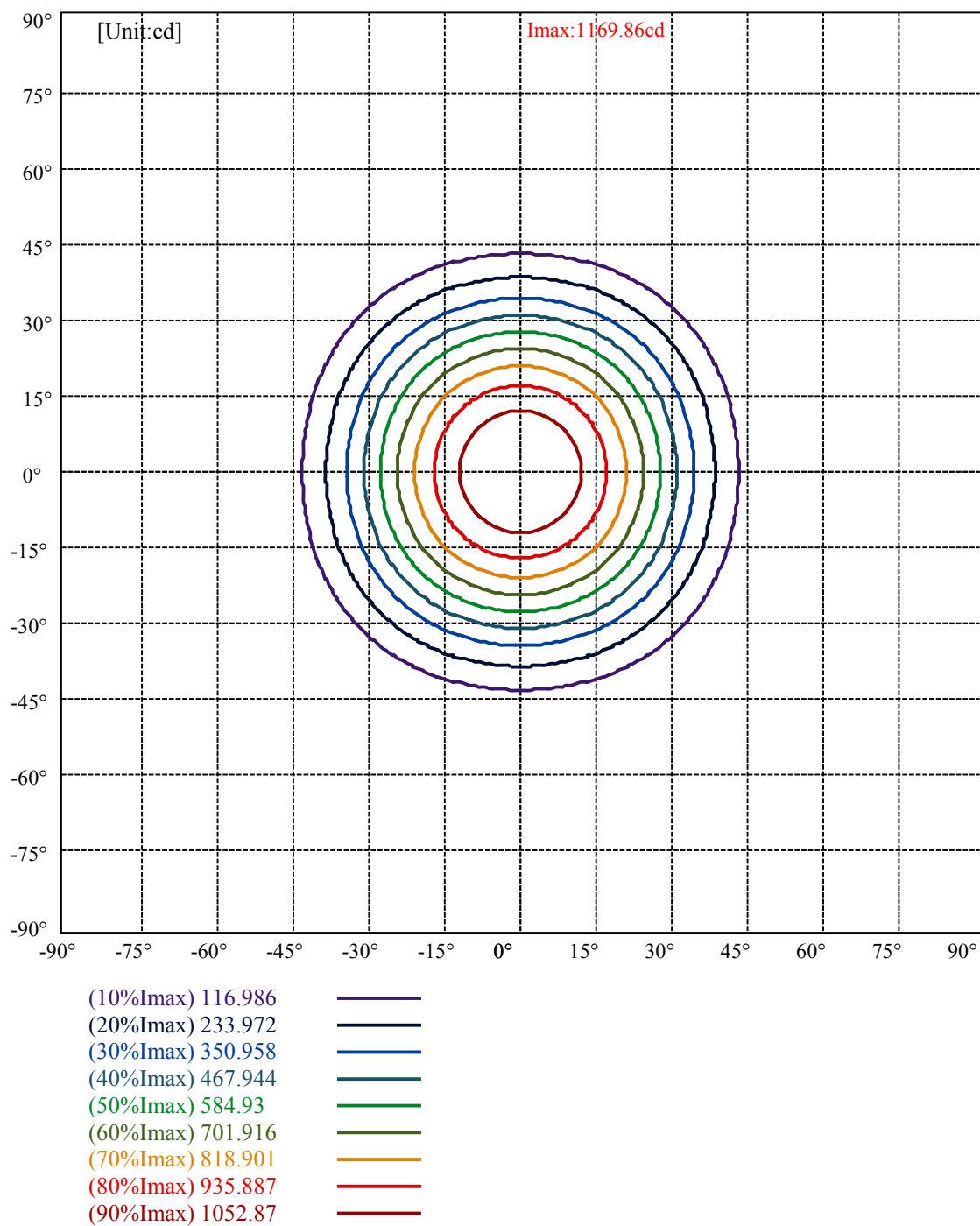
C0/C180: —————

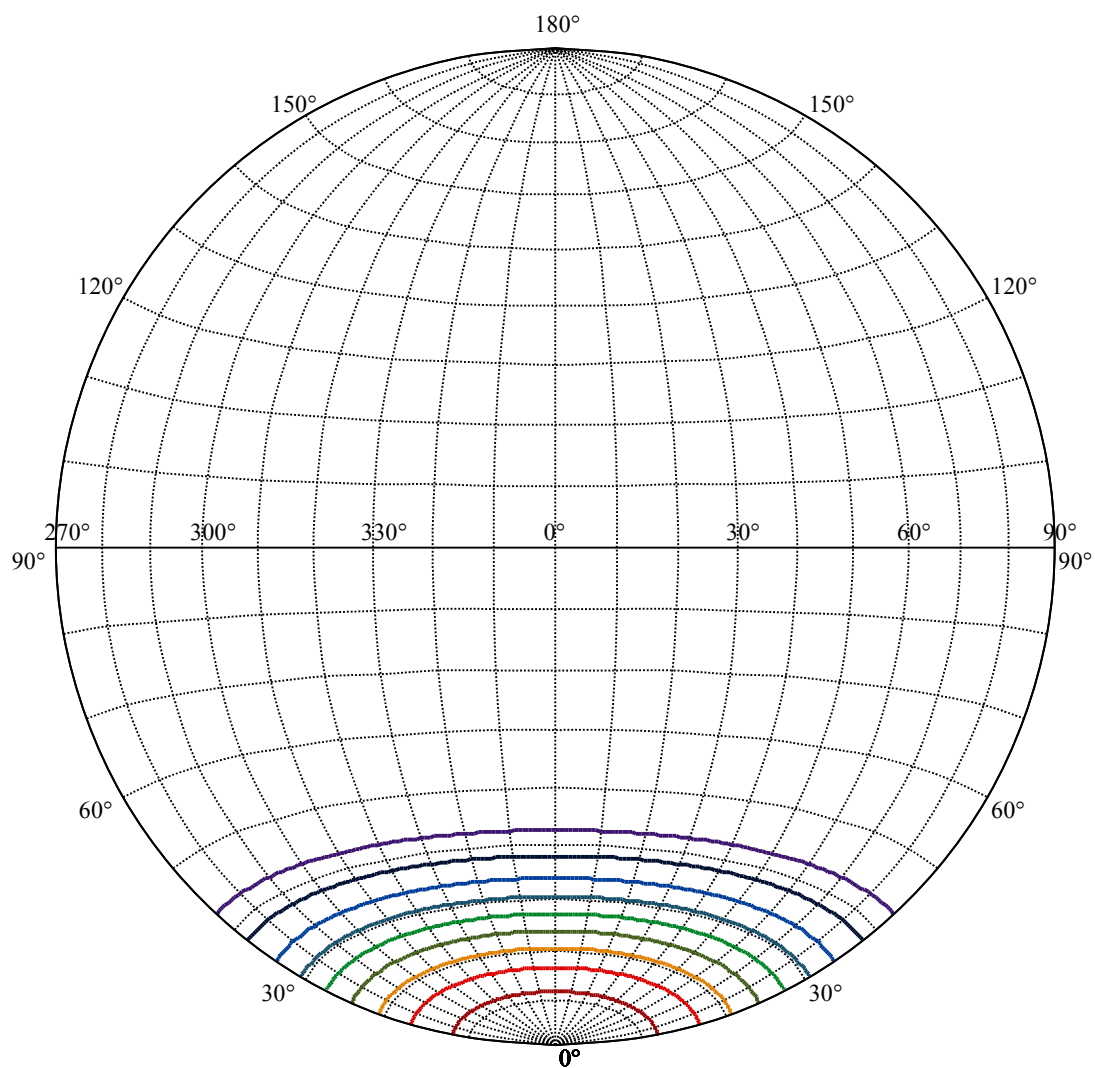
C90/C270: —————

Field angle(10%Imax):C0/180Left:42.7 Right:42.7
:C90/270Left:42.7 Right:42.7

Beam Angle(50%Imax):C0/180Left:27.3 Right:27.3
:C90/270Left:27.3 Right:27.3





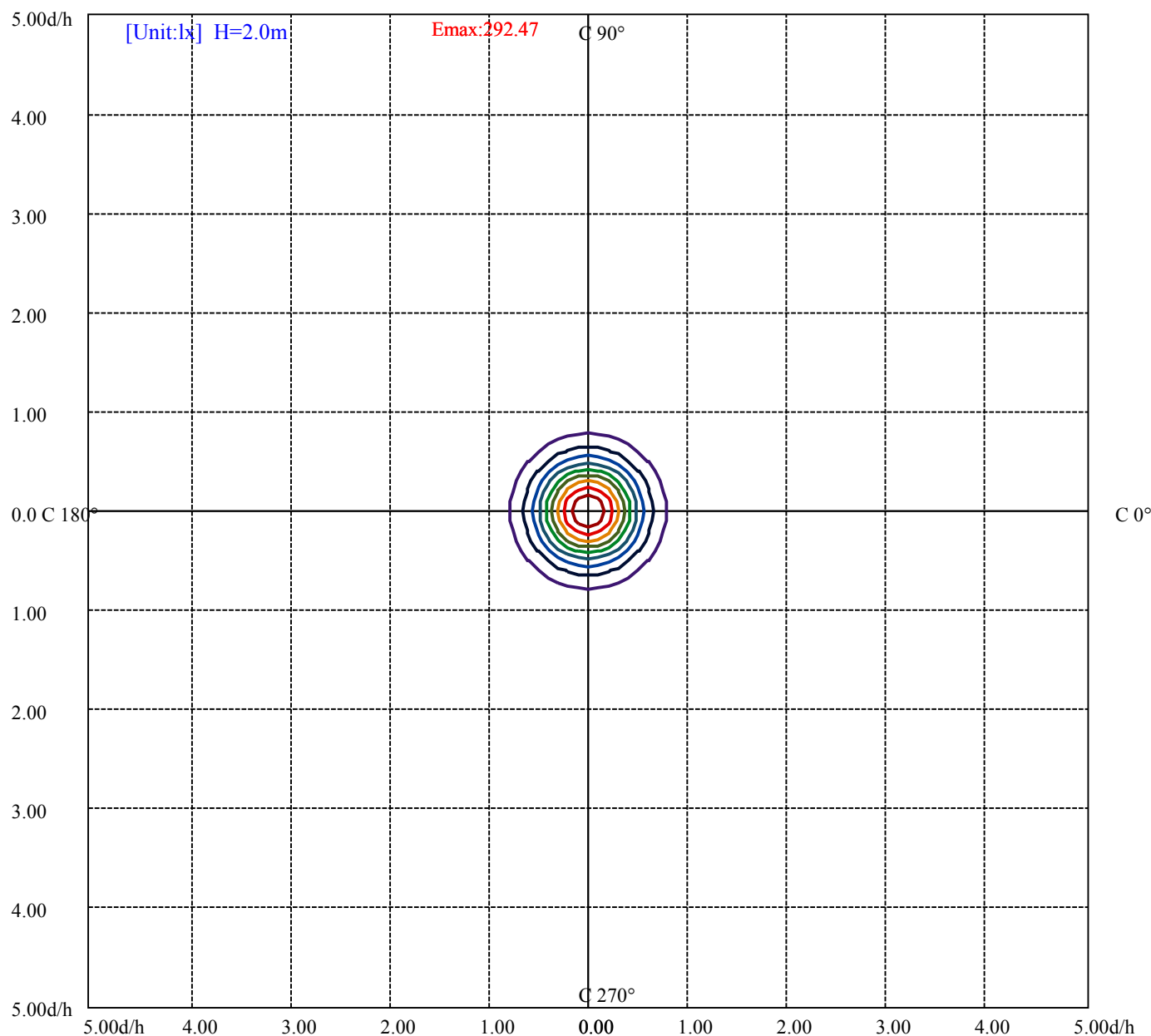


House

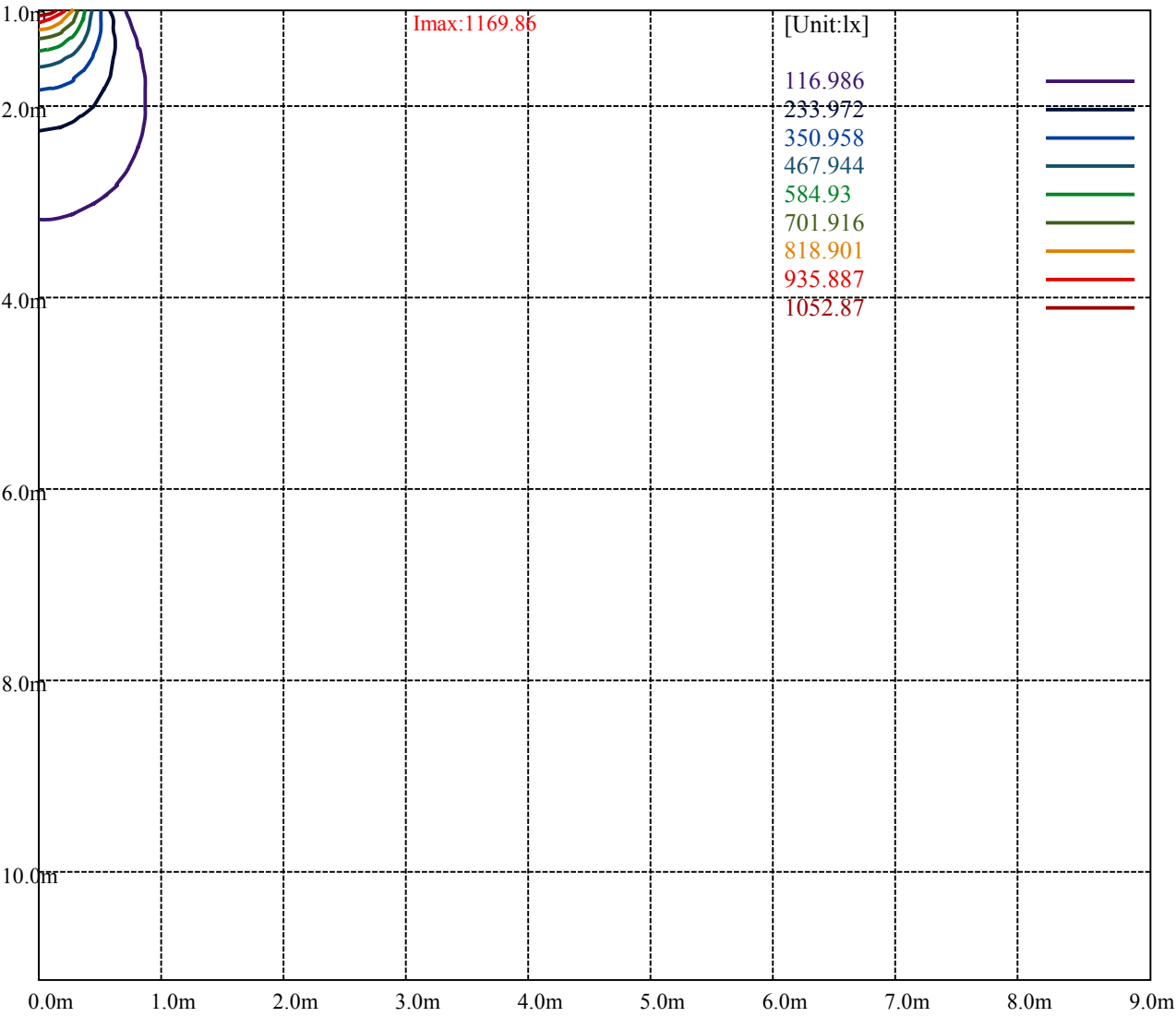
[Unit:cd]

Road

Imax:1169.86	
(10%Imax) 116.986	
(20%Imax) 233.972	
(30%Imax) 350.958	
(40%Imax) 467.944	
(50%Imax) 584.93	
(60%Imax) 701.916	
(70%Imax) 818.901	
(80%Imax) 935.887	
(90%Imax) 1052.87	



(10%Emax)	29.2465	
(20%Emax)	58.493	
(30%Emax)	87.7395	
(40%Emax)	116.9857	
(50%Emax)	146.2323	
(60%Emax)	175.4787	
(70%Emax)	204.7253	
(80%Emax)	233.9718	
(90%Emax)	263.2175	



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

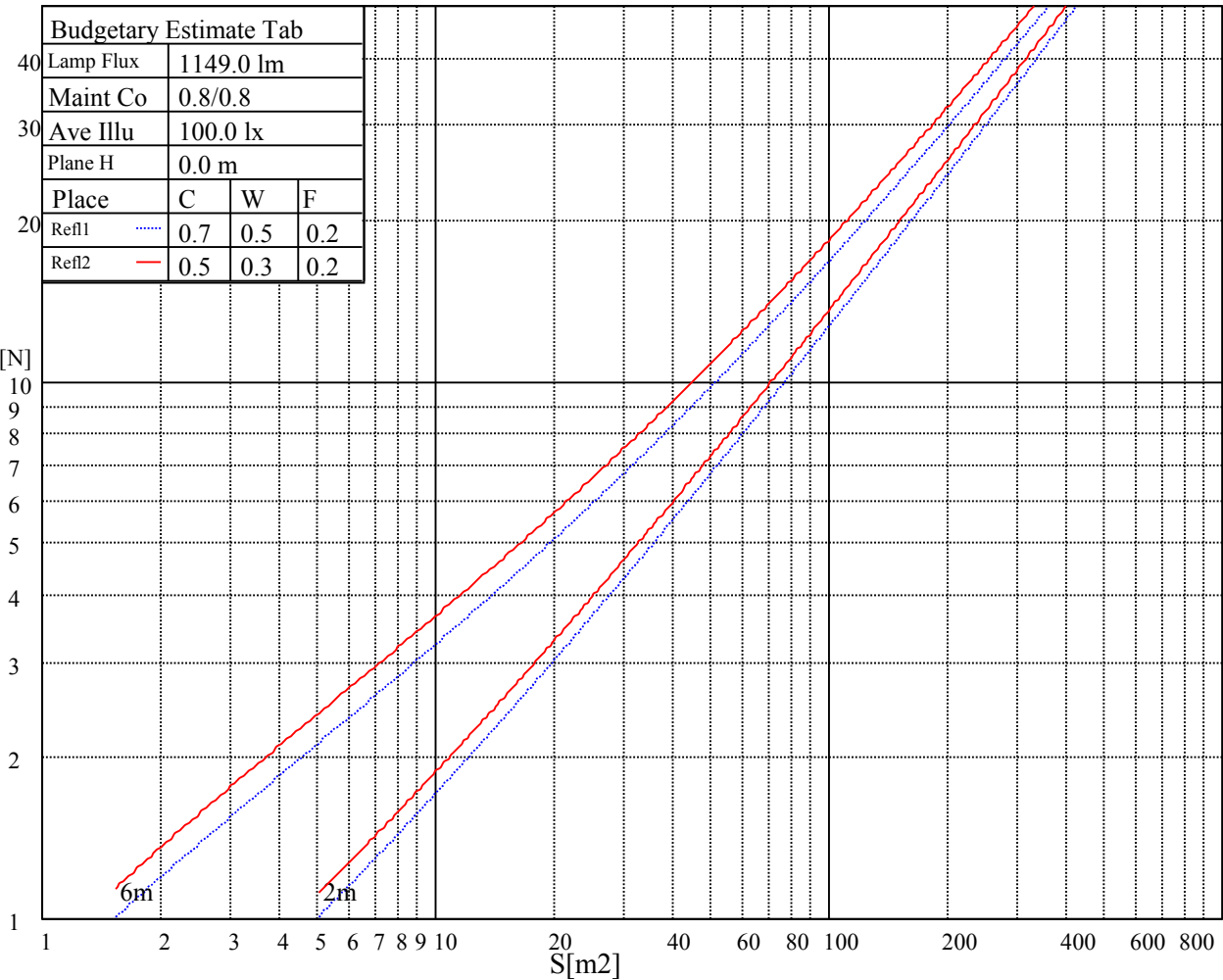
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

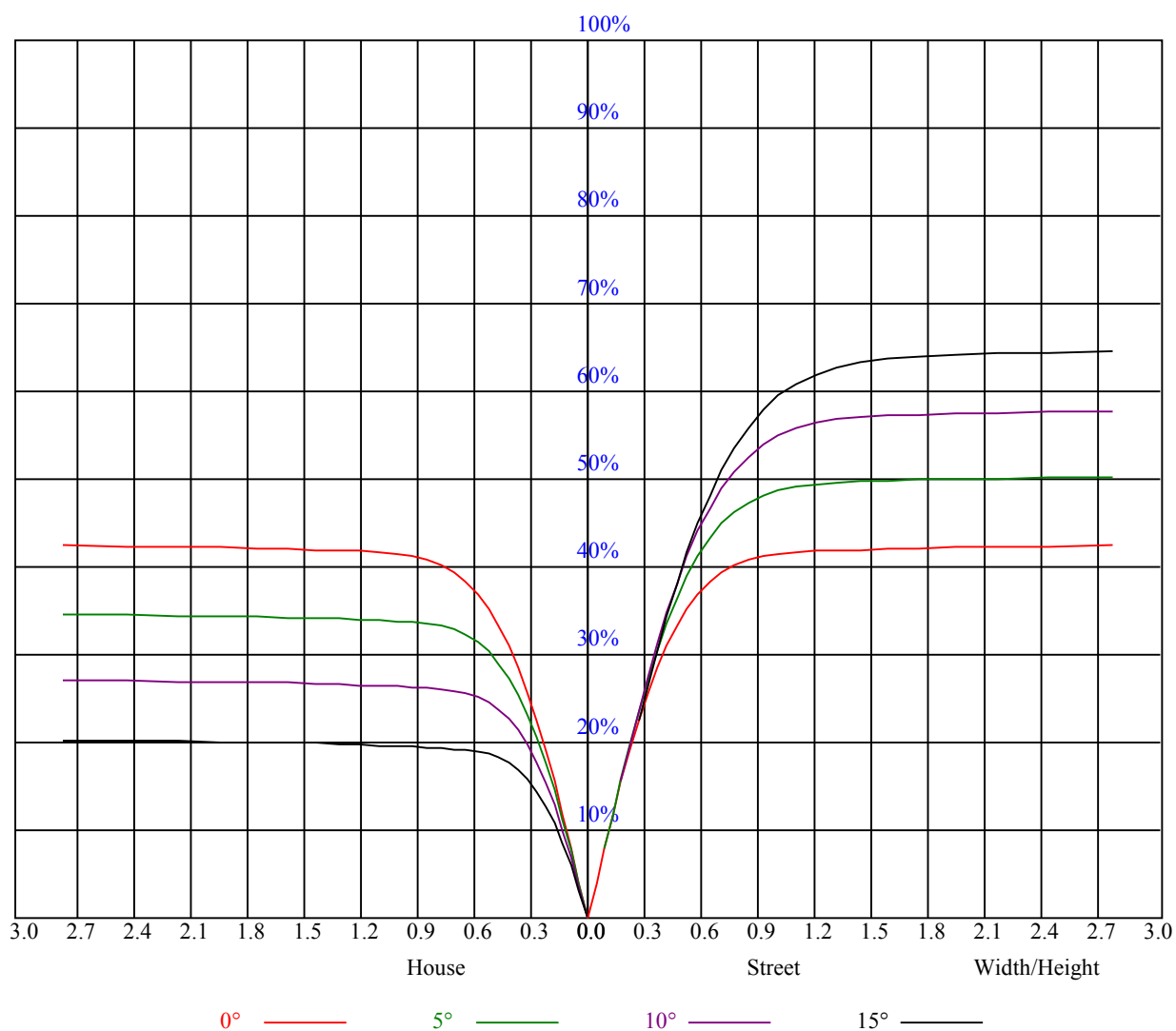
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

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	1.02	1.02	1.02	1.00	1.00	1.00	0.96	0.96	0.96	0.92	0.92	0.92	0.88	0.88	0.88	0.86
1	0.95	0.92	0.90	0.93	0.91	0.89	0.89	0.88	0.86	0.86	0.85	0.84	0.83	0.82	0.81	0.80
2	0.88	0.84	0.81	0.86	0.83	0.80	0.84	0.81	0.78	0.81	0.79	0.77	0.79	0.77	0.75	0.74
3	0.82	0.77	0.74	0.81	0.76	0.73	0.78	0.75	0.72	0.76	0.73	0.71	0.74	0.72	0.70	0.68
4	0.76	0.71	0.68	0.75	0.71	0.67	0.73	0.70	0.66	0.72	0.68	0.66	0.70	0.67	0.65	0.64
5	0.71	0.66	0.62	0.71	0.66	0.62	0.69	0.65	0.62	0.68	0.64	0.61	0.66	0.63	0.61	0.59
6	0.67	0.62	0.58	0.66	0.61	0.58	0.65	0.61	0.57	0.64	0.60	0.57	0.63	0.59	0.57	0.55
7	0.63	0.58	0.54	0.62	0.57	0.54	0.61	0.57	0.54	0.60	0.56	0.53	0.59	0.56	0.53	0.52
8	0.59	0.54	0.51	0.59	0.54	0.50	0.58	0.53	0.50	0.57	0.53	0.50	0.56	0.53	0.50	0.49
9	0.56	0.51	0.47	0.56	0.51	0.47	0.55	0.50	0.47	0.54	0.50	0.47	0.53	0.50	0.47	0.46
10	0.53	0.48	0.45	0.53	0.48	0.45	0.52	0.48	0.44	0.51	0.47	0.44	0.51	0.47	0.44	0.43



Nata 1497-A

Intensity data(cd)										Appendix Page: 14 Total:14
C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0	
0.0	1170.00	1161.00	1113.75	1026.00	873.00	698.63	510.19	331.31	188.61	
45.0	1171.13	1150.31	1090.13	986.06	844.31	668.25	480.94	302.63	171.79	
90.0	1167.75	1121.91	1058.23	932.79	781.43	593.38	409.22	258.86	138.09	
135.0	1170.56	1150.31	1094.63	983.81	831.38	654.75	483.75	315.00	177.02	
180.0	1170.00	1120.67	1070.72	965.70	818.21	653.18	482.79	308.64	169.88	
225.0	1171.13	1158.19	1091.36	988.59	845.89	676.63	510.36	336.43	195.13	
270.0	1167.75	1163.81	1112.63	1024.31	886.50	713.81	527.63	357.75	215.61	
315.0	1170.56	1159.31	1099.18	1003.50	860.12	694.74	505.86	325.58	193.95	
360.0	1170.00	1161.00	1113.75	1026.00	873.00	698.63	510.19	331.31	188.61	
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0	
0.0	62.66	14.79	10.18	9.28	9.17	9.39	7.54	7.09	5.63	
45.0	51.30	17.21	14.01	13.11	13.39	14.29	11.76	9.06	6.41	
90.0	44.33	18.51	16.93	17.16	16.82	15.75	12.32	8.83	6.53	
135.0	60.13	16.14	11.03	10.07	9.96	10.24	9.23	8.72	6.47	
180.0	58.11	15.30	9.28	8.21	7.48	6.92	6.58	6.24	5.68	
225.0	66.32	21.88	9.34	7.82	7.14	6.98	5.63	5.18	4.95	
270.0	82.18	29.64	15.08	13.78	13.44	12.66	10.35	6.53	4.67	
315.0	64.41	15.64	11.03	10.24	9.96	10.35	7.54	5.57	4.95	
360.0	62.66	14.79	10.18	9.28	9.17	9.39	7.54	7.09	5.63	
C/γ(°)	90.0									
0.0	3.99									
45.0	3.94									
90.0	3.88									
135.0	3.94									
180.0	4.11									
225.0	4.05									
270.0	3.88									
315.0	3.99									
360.0	3.99									