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NATA

LumCAT: 3-1699-N
Luminaire: 92.70.045.00+92.70.089.00
Report No: NATA0100
Test No: GC2018110810
LampCAT: PHILIPS 1205 G7
Lamp flux(lm): 2969.0
Number of Lamps: 1
Length(mm): 79
Phm Type: C

Voltage(V): 35.8000
Current(A): 0.5000
Power (W): 21.4800
PF: 0.0000
Ballast type: DC
Width(mm): 79
Height(mm): 0

Photometric Results

Lumens(lm): 2363.02
Efficiency(%): 79.59%
Lumens(lm)/Power(W): 112.71
Central intensity(cd): 10088.160
Maximum intensity(cd): 10088.160
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=23.0
[C90/270]Total=23.0
Field angle(10%Imax): [C0/180]Total=45.3
[C90/270]Total=45.3
Maximum s/h(1/2): C0_180=0.39 C90_270=0.39
Maximum s/h(1/4): C0_180=0.39 C90_270=0.39
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 81.55%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 95.756%

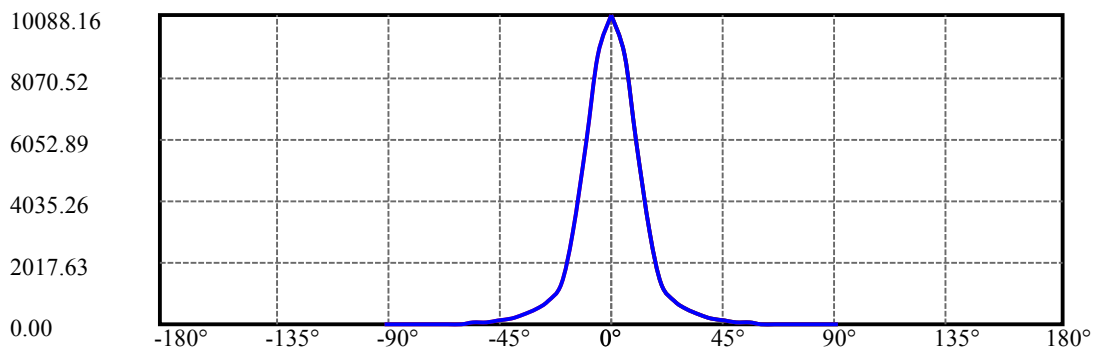
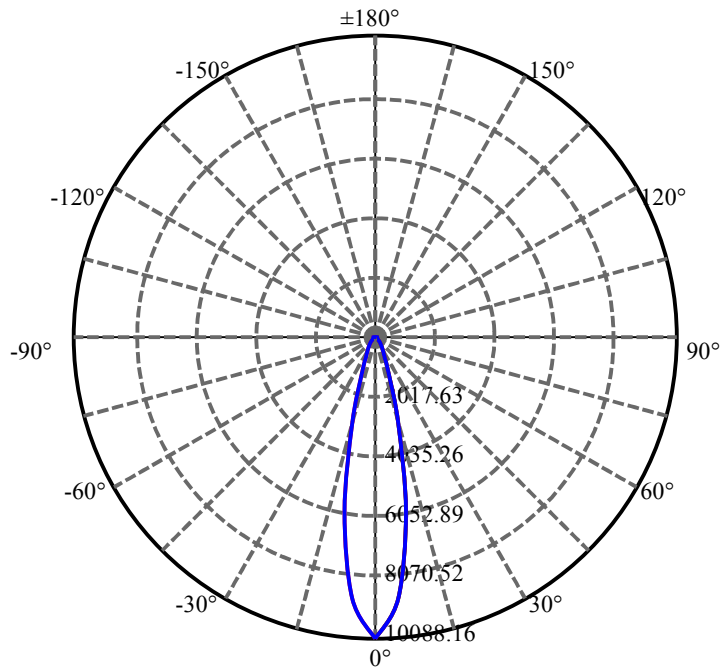
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	10088.156	60.329	60.329	2.032%	2.553%
5.0	8748.070	417.924	478.254	14.076%	20.239%
10.0	5935.078	564.919	1043.172	19.027%	44.146%
15.0	3007.336	426.646	1469.818	14.370%	62.201%
20.0	1287.288	241.333	1711.151	8.128%	72.414%
25.0	766.076	177.464	1888.615	5.977%	79.924%
30.0	507.551	139.104	2027.719	4.685%	85.811%
35.0	319.409	100.422	2128.141	3.382%	90.060%
40.0	209.496	73.813	2201.954	2.486%	93.184%
45.0	128.566	49.831	2251.785	1.678%	95.293%
50.0	80.009	33.595	2285.38	1.132%	96.714%
55.0	45.232	20.310	2305.69	.684%	97.574%
60.0	26.663	12.657	2318.347	.426%	98.110%
65.0	20.890	10.378	2328.724	.350%	98.549%
70.0	18.415	9.485	2338.209	.319%	98.950%
75.0	16.151	8.551	2346.761	.288%	99.312%
80.0	13.809	7.454	2354.215	.251%	99.627%
85.0	11.299	6.170	2360.385	.208%	99.889%
90.0	9.612	2.634	2363.019	.089%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	2027.72	68.30%	85.81%
0-40	2201.95	74.16%	93.18%
0-60	2318.35	78.09%	98.11%
0-90	2360.38	79.50%	99.89%
0-120	2360.38	79.50%	99.89%
0-180	2363.02	79.59%	100.00%
60-90	54.70	1.84%	2.31%
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%
0-25.06	1890.42	63.67%	80.00%

ZONAL LUMEN SUMMARY

0-10	1043.17
10-20	667.98
20-30	316.57
30-40	174.23
40-50	83.43
50-60	32.97
60-70	19.86
70-80	16.01
80-90	6.17
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:

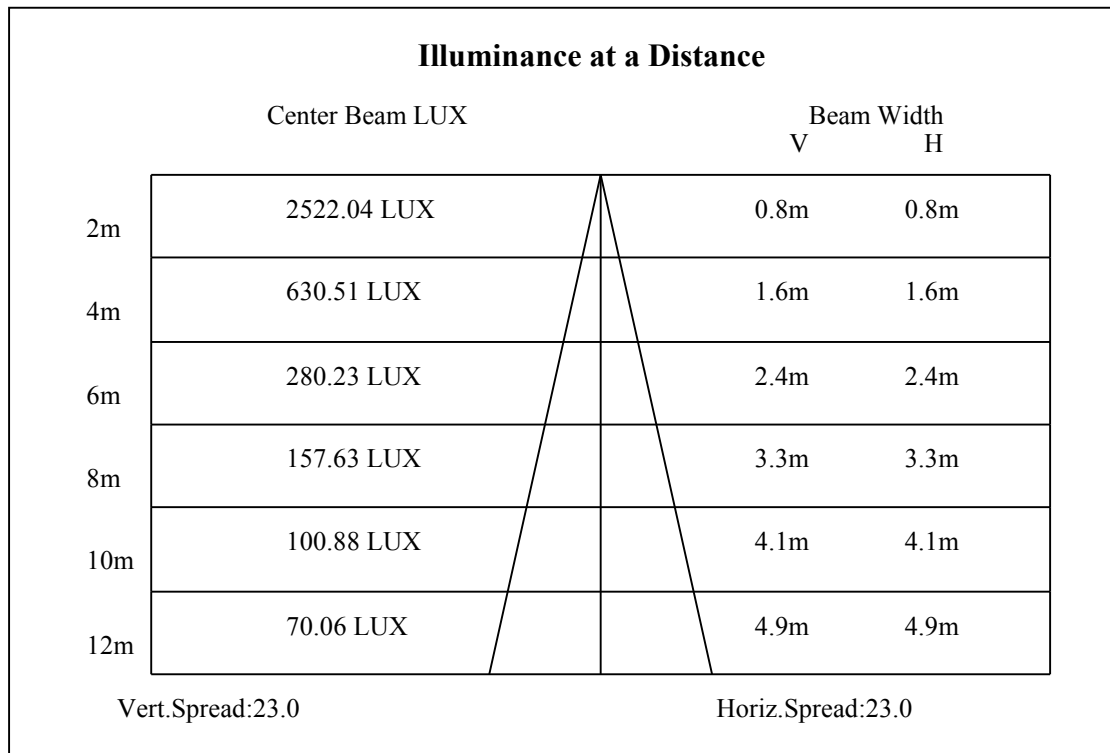
C90/C270:

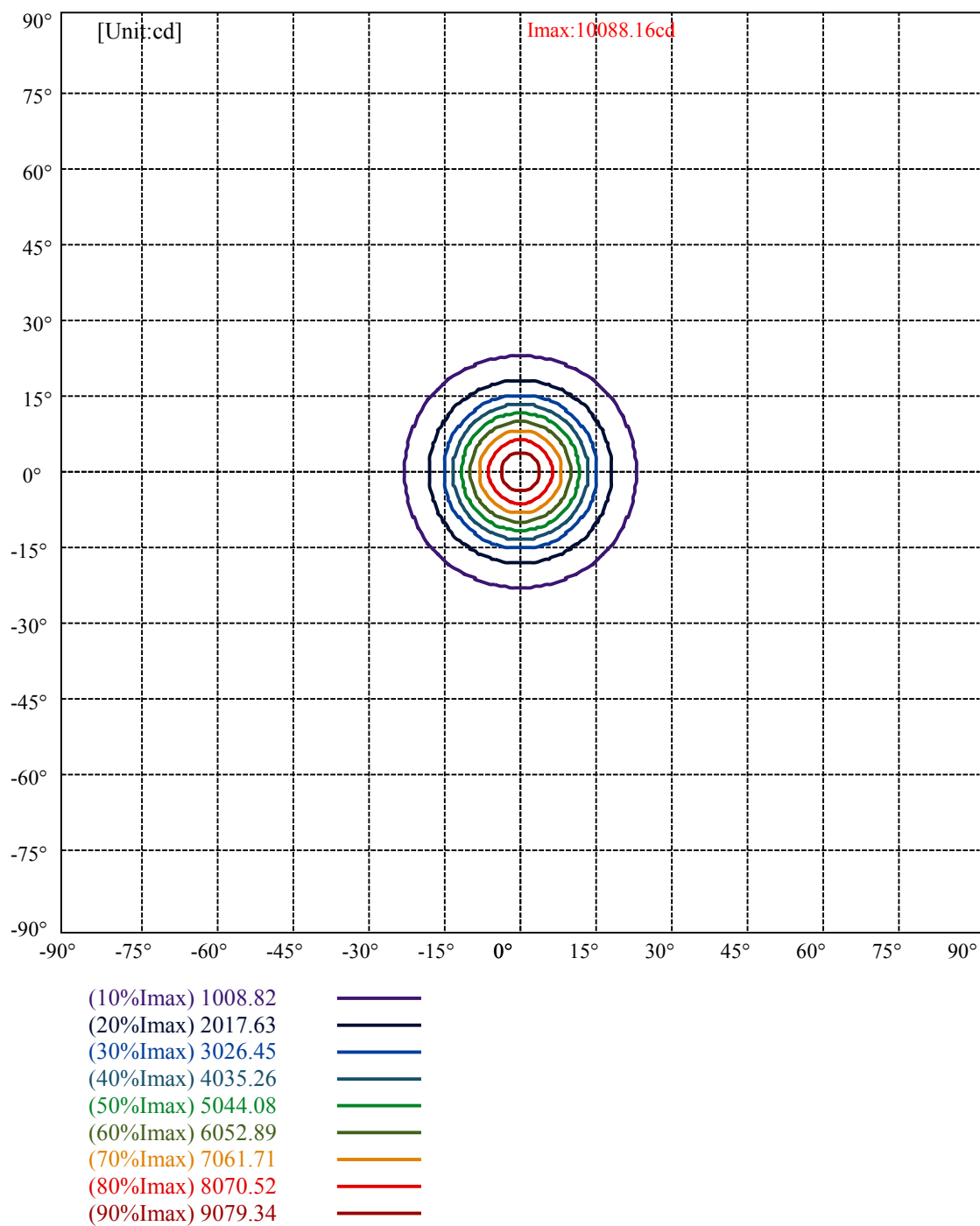
Field angle(10%Imax):C0/180Left:22.7 Right:22.7

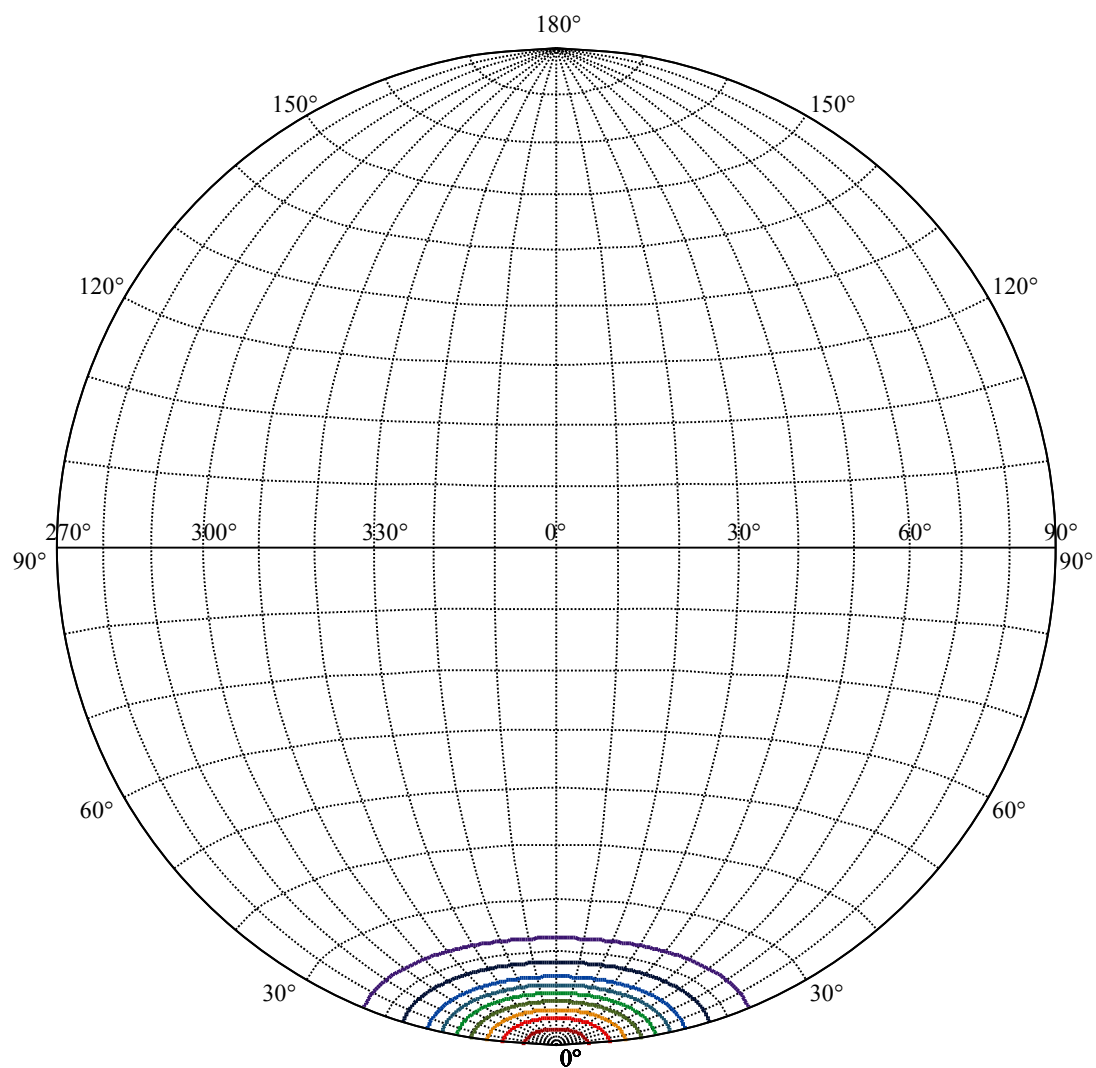
:C90/270Left:22.7 Right:22.7

Beam Angle(50%Imax):C0/180Left:11.5 Right:11.5

:C90/270Left:11.5 Right:11.5







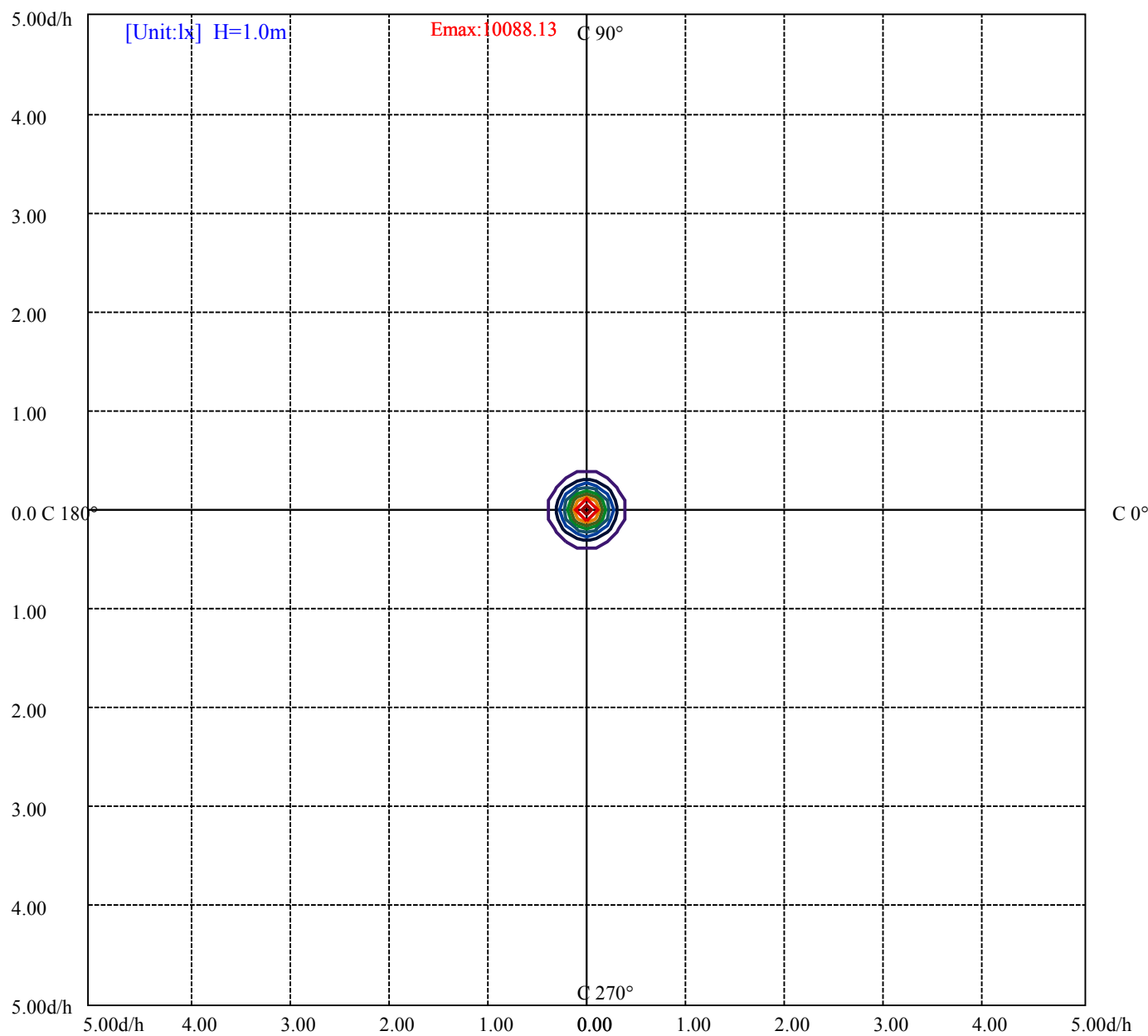
House

[Unit:cd]

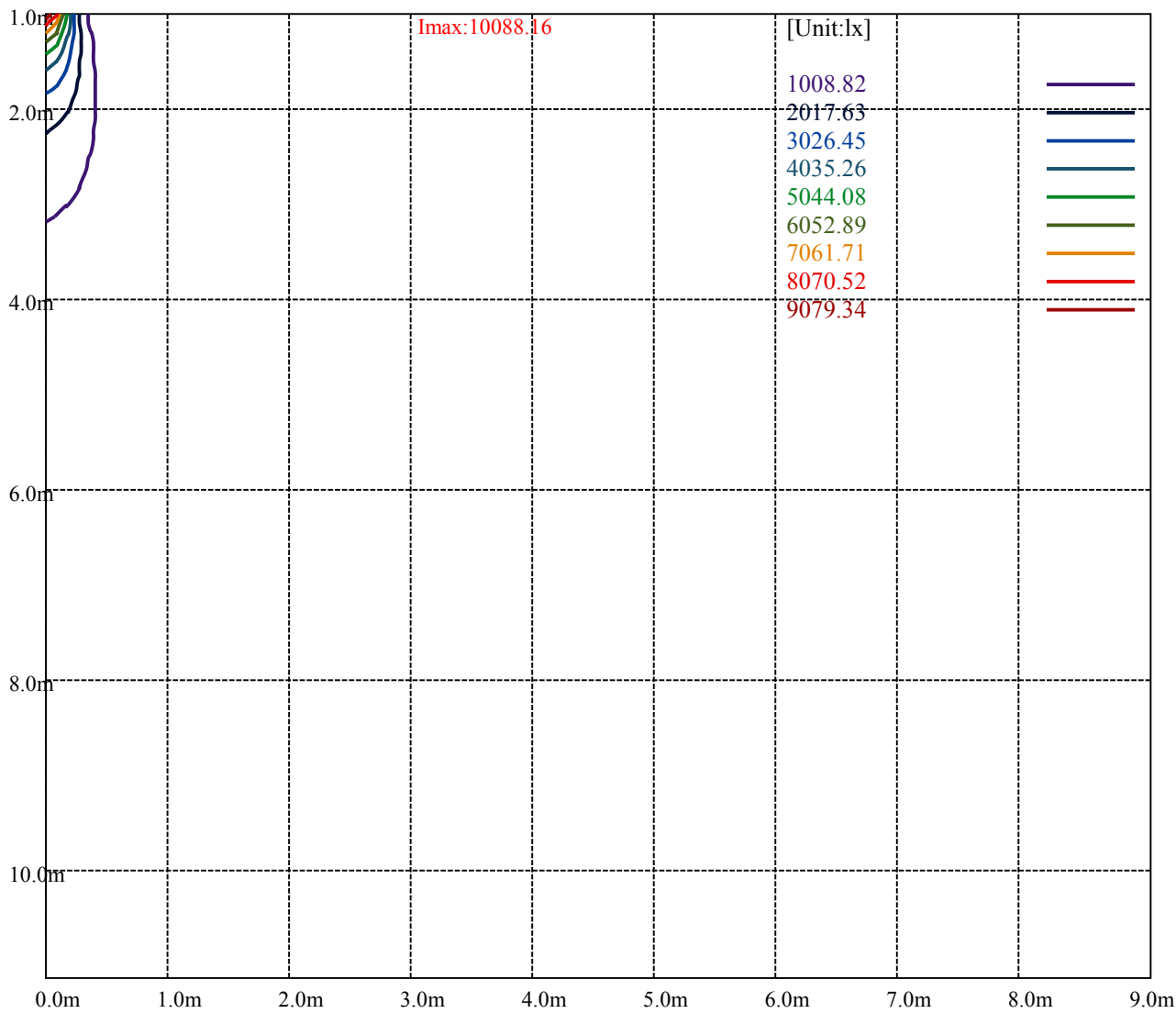
Road

Imax:10088.16

(10%Imax)	1008.82	—
(20%Imax)	2017.63	—
(30%Imax)	3026.45	—
(40%Imax)	4035.26	—
(50%Imax)	5044.08	—
(60%Imax)	6052.89	—
(70%Imax)	7061.71	—
(80%Imax)	8070.52	—
(90%Imax)	9079.34	—



(10%Emax) 1008.81	—
(20%Emax) 2017.62	—
(30%Emax) 3026.43	—
(40%Emax) 4035.25	—
(50%Emax) 5044.06	—
(60%Emax) 6052.87	—
(70%Emax) 7061.68	—
(80%Emax) 8070.49	—
(90%Emax) 9079.3	—



Luminance Table

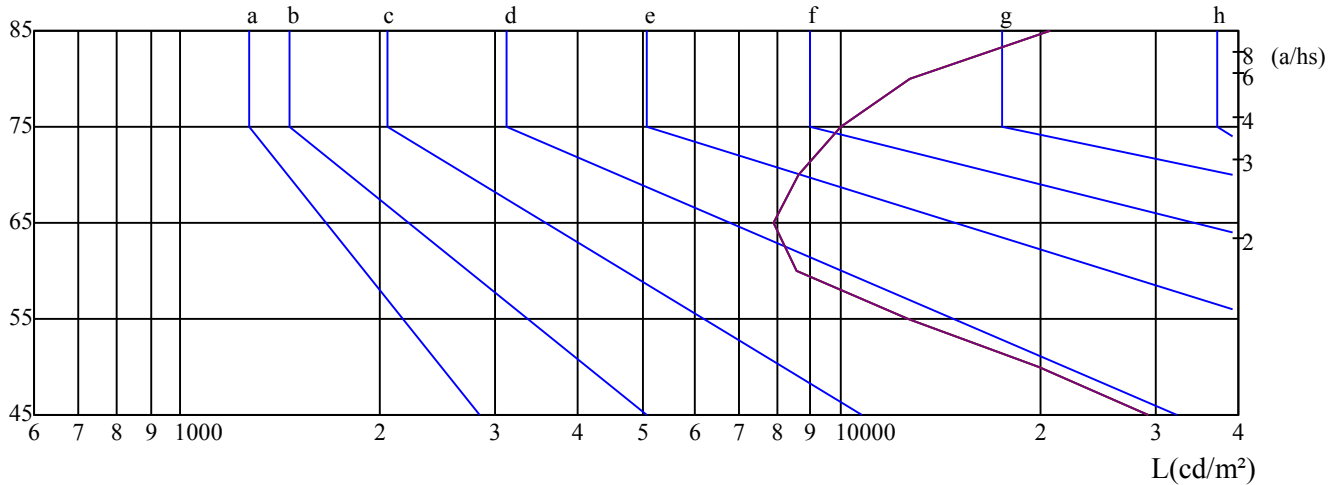
γ	45	50	55	60	65	70	75	80	85
C0	29133	19944	12636	8544	7920	8627	9999	12742	20773
C45	29133	19944	12636	8544	7920	8627	9999	12742	20773
C90	29133	19944	12636	8544	7920	8627	9999	12742	20773

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
7920	7920	7920	9999	9999	9999	20773	20773	20773

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

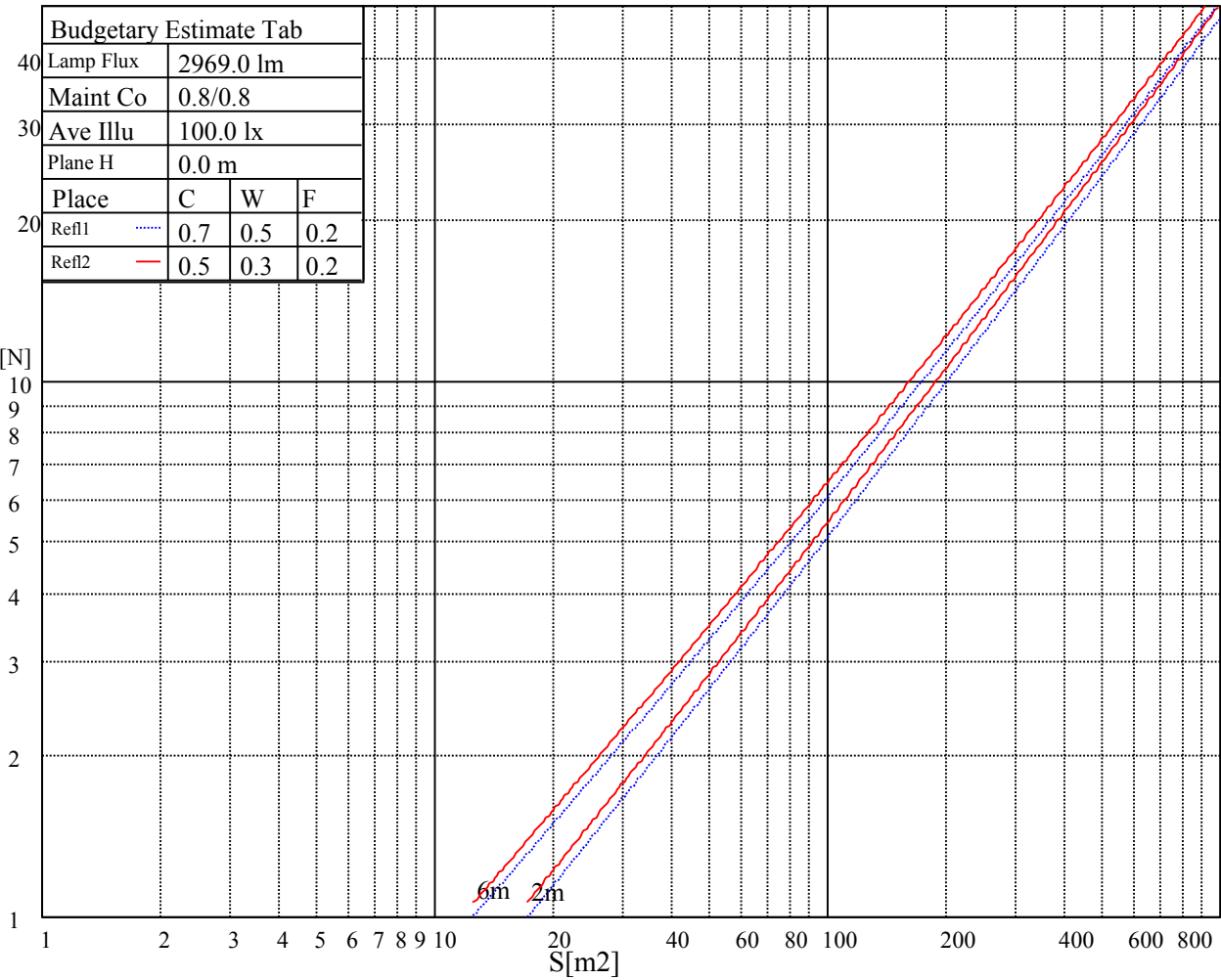
Luminance Limiting Curve

 $\gamma(^{\circ})$ 

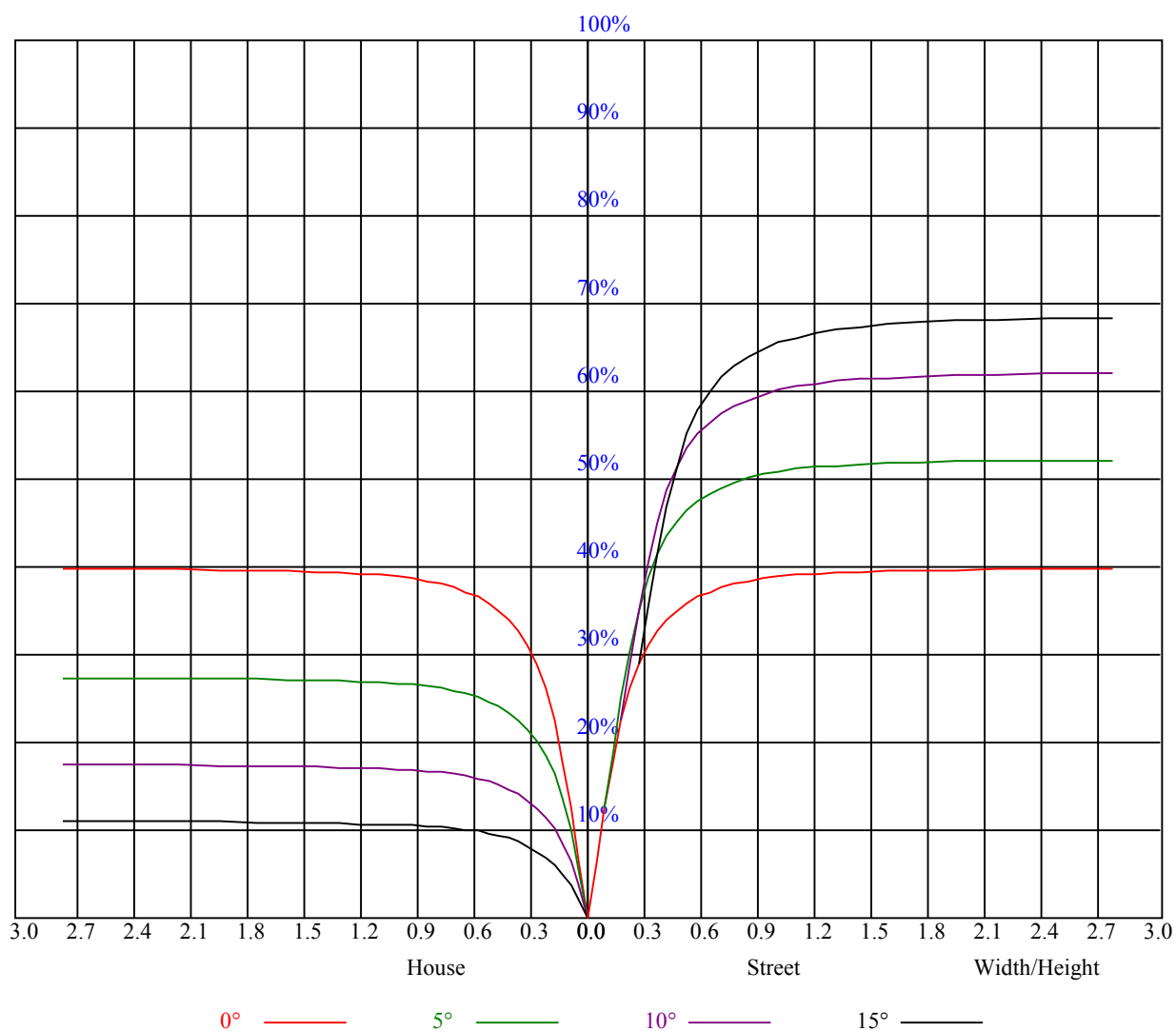
C0 ———

C45 ———

C90 ———



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	0.97	0.97	0.97	0.95	0.95	0.95	0.91	0.91	0.91	0.87	0.87	0.87	0.83	0.83	0.83	0.82
1	0.89	0.86	0.84	0.87	0.85	0.83	0.84	0.82	0.80	0.81	0.79	0.78	0.78	0.77	0.76	0.74
2	0.84	0.81	0.78	0.83	0.80	0.77	0.80	0.78	0.76	0.78	0.76	0.74	0.75	0.74	0.72	0.71
3	0.80	0.76	0.73	0.79	0.76	0.73	0.77	0.74	0.72	0.75	0.73	0.71	0.73	0.71	0.69	0.68
4	0.77	0.73	0.70	0.76	0.72	0.69	0.74	0.71	0.68	0.72	0.70	0.68	0.71	0.69	0.67	0.66
5	0.73	0.70	0.67	0.73	0.69	0.66	0.71	0.68	0.66	0.70	0.67	0.65	0.69	0.67	0.65	0.64
6	0.71	0.67	0.64	0.70	0.66	0.64	0.69	0.66	0.63	0.68	0.65	0.63	0.67	0.64	0.63	0.62
7	0.68	0.64	0.62	0.68	0.64	0.62	0.67	0.64	0.61	0.66	0.63	0.61	0.65	0.63	0.61	0.60
8	0.66	0.62	0.60	0.66	0.62	0.60	0.65	0.62	0.59	0.64	0.61	0.59	0.64	0.61	0.59	0.58
9	0.64	0.61	0.58	0.64	0.60	0.58	0.63	0.60	0.58	0.63	0.60	0.58	0.62	0.59	0.57	0.57
10	0.63	0.59	0.56	0.62	0.59	0.56	0.62	0.58	0.56	0.61	0.58	0.56	0.61	0.58	0.56	0.55



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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	10121.06	8913.38	6437.25	3245.06	1455.75	792.00	536.06	337.50	211.44		
45.0	10089.56	8260.31	5469.19	2602.69	1186.31	709.88	459.00	285.19	189.39		
90.0	10024.31	8240.06	5101.88	2496.94	1109.53	685.07	446.51	286.59	184.22		
135.0	10117.69	8881.31	6057.56	3297.94	1410.19	773.44	507.94	324.56	209.48		
180.0	10121.06	8535.38	5607.00	2711.81	1087.14	751.95	500.06	314.38	202.61		
225.0	10089.56	9144.00	6437.25	3343.50	1321.31	814.89	552.49	345.32	222.58		
270.0	10024.31	9279.56	6654.94	3558.94	1679.63	862.31	573.19	360.00	254.64		
315.0	10117.69	8730.56	5715.56	2801.81	1048.44	739.07	485.16	301.73	201.60		
360.0	10121.06	8913.38	6437.25	3245.06	1455.75	792.00	536.06	337.50	211.44		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	131.63	82.13	46.80	27.68	21.09	18.51	16.43	14.01	11.36		
45.0	116.16	71.49	40.39	24.58	20.25	18.00	15.75	13.50	10.86		
90.0	114.36	71.10	39.38	24.36	20.53	18.23	15.92	13.67	10.97		
135.0	130.84	83.93	47.31	26.78	21.38	18.73	16.31	14.23	11.42		
180.0	124.71	75.83	40.61	25.37	20.59	18.17	15.92	13.33	11.03		
225.0	142.20	88.37	49.84	28.80	21.09	18.51	16.37	14.01	11.76		
270.0	144.51	92.87	52.48	29.98	21.60	18.96	16.59	14.18	11.81		
315.0	124.14	74.36	45.06	25.76	20.59	18.23	15.92	13.56	11.19		
360.0	131.63	82.13	46.80	27.68	21.09	18.51	16.43	14.01	11.36		
C/γ(°)	90.0										
0.0	9.51										
45.0	9.62										
90.0	9.62										
135.0	9.56										
180.0	9.51										
225.0	9.73										
270.0	9.73										
315.0	9.62										
360.0	9.51										