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## NATA

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LumCAT: 3-2070-A

Luminaire:

Report No: NATA0100

Voltage(V): 34.5000

Test No: GC2019030702

Current(A): 0.7000

LampCAT: PHILIPS SLM1211

Power (W): 24.1500

Lamp flux(lm): 3695.0

PF: 0.0000

Number of Lamps: 1

Ballast type: DC

Length(mm): 76

Width(mm): 76

Phm Type: C

Height(mm): 0

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## Photometric Results

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Lumens(lm): 3302.05

Efficiency(%): 89.37%

Lumens(lm)/Power(W): 138.40

Central intensity(cd): 7280.156

Maximum intensity(cd): 7280.156

Angle of maximum intensity: C=0.0  $\gamma$ =0.0

Beam Angle(50%Imax): [C0/180]Total=36.4

[C90/270]Total=36.4

Field angle(10%Imax): [C0/180]Total=68.2

[C90/270]Total=68.2

Maximum s/h(1/2): C0\_180=0.60 C90\_270=0.60

Maximum s/h(1/4): C0\_180=0.61 C90\_270=0.61

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 90.46%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 97.598%

Zonal flux distribution table

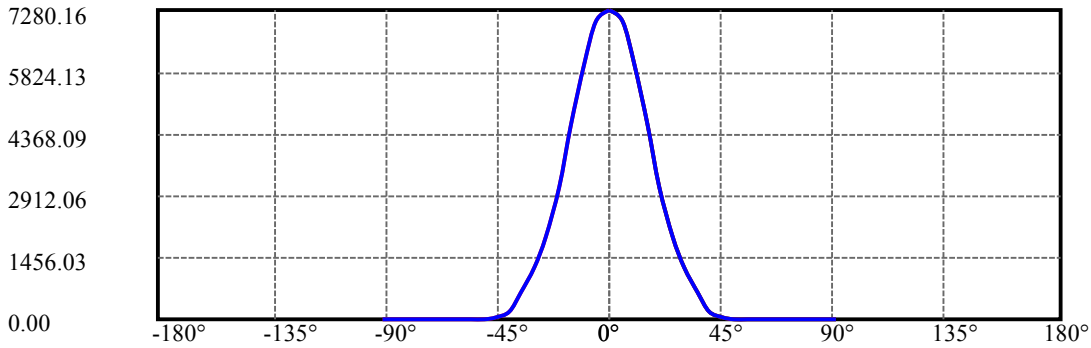
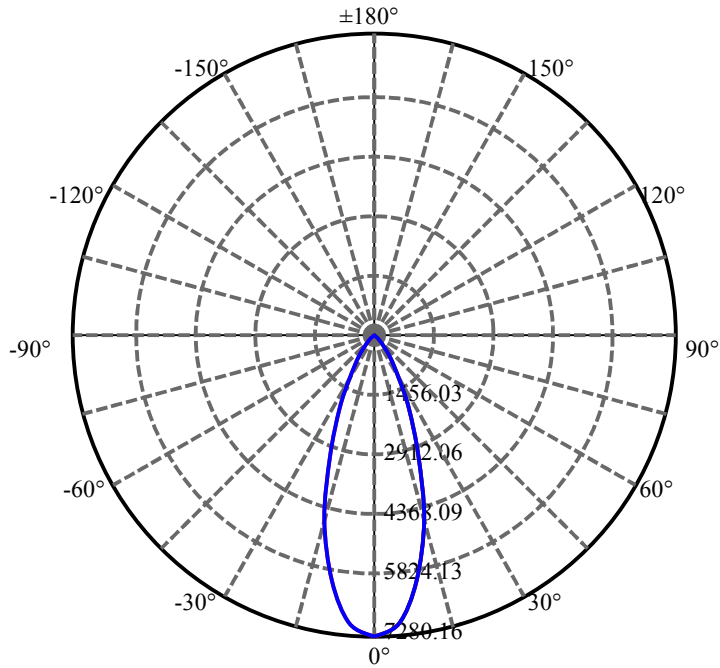
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	7280.156	43.537	43.537	1.178%	1.318%
5.0	6989.414	333.908	377.444	9.037%	11.431%
10.0	6003.984	571.478	948.922	15.466%	28.737%
15.0	4588.102	650.907	1599.829	17.616%	48.450%
20.0	3101.203	581.395	2181.224	15.735%	66.057%
25.0	1935.141	448.281	2629.504	12.132%	79.632%
30.0	1226.510	336.148	2965.652	9.097%	89.812%
35.0	622.160	195.606	3161.259	5.294%	95.736%
40.0	193.746	68.264	3229.523	1.847%	97.804%
45.0	24.940	9.666	3239.189	.262%	98.096%
50.0	19.413	8.152	3247.341	.221%	98.343%
55.0	16.763	7.526	3254.867	.204%	98.571%
60.0	15.377	7.300	3262.167	.198%	98.792%
65.0	14.681	7.293	3269.46	.197%	99.013%
70.0	14.196	7.312	3276.772	.198%	99.234%
75.0	13.795	7.304	3284.076	.198%	99.456%
80.0	13.507	7.291	3291.368	.197%	99.676%
85.0	13.177	7.195	3298.563	.195%	99.894%
90.0	12.727	3.488	3302.051	.094%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	2965.65	80.26%	89.81%
0-40	3229.52	87.40%	97.80%
0-60	3262.17	88.29%	98.79%
0-90	3298.56	89.27%	99.89%
0-120	3298.56	89.27%	99.89%
0-180	3302.05	89.37%	100.00%
60-90	43.70	1.18%	1.32%
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%
0-25.18	2641.64	71.49%	80.00%

ZONAL LUMEN SUMMARY

0-10	948.92
10-20	1232.30
20-30	784.43
30-40	263.87
40-50	17.82
50-60	14.83
60-70	14.61
70-80	14.60
80-90	7.20
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: ———

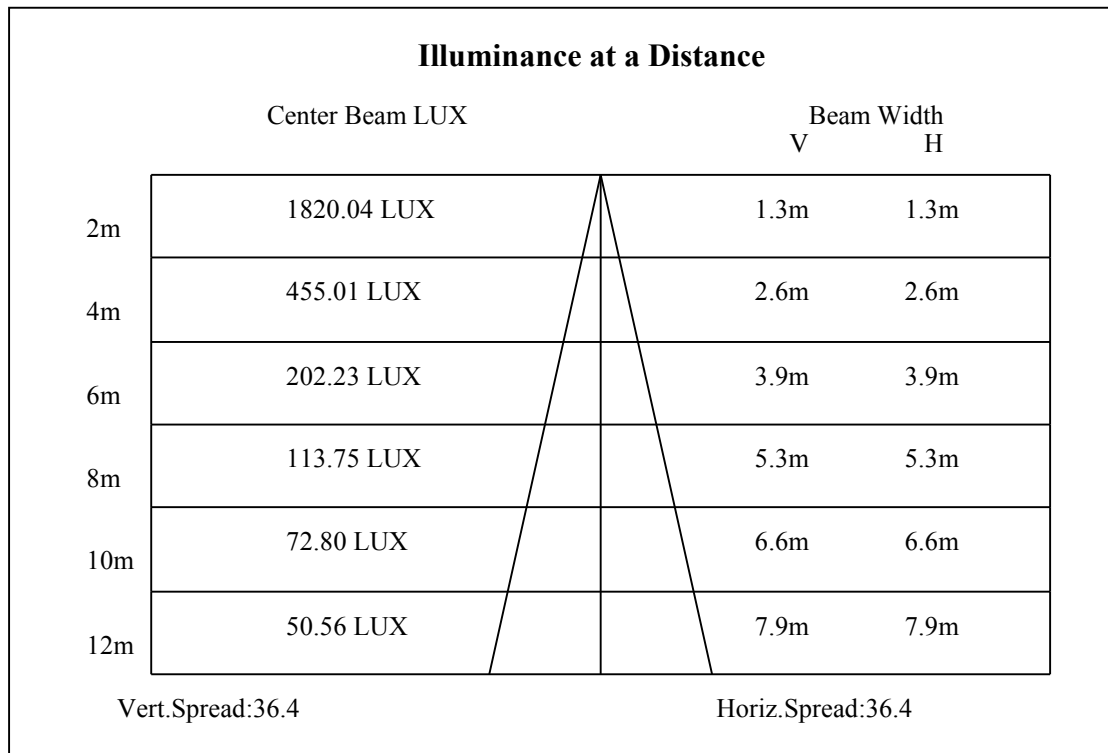
C90/C270: ———

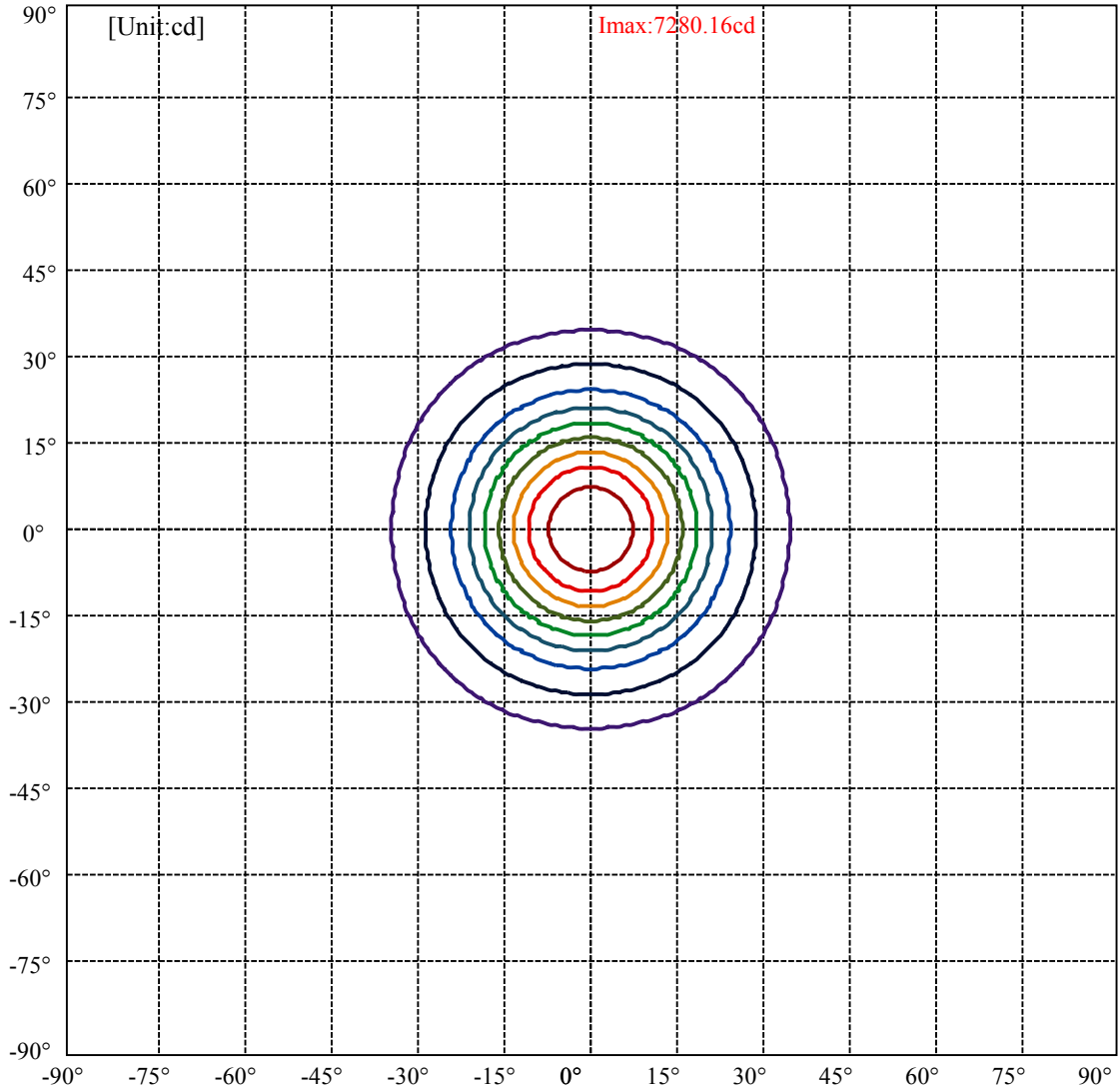
Field angle(10%Imax):C0/180Left:34.1 Right:34.1

:C90/270Left:34.1 Right:34.1

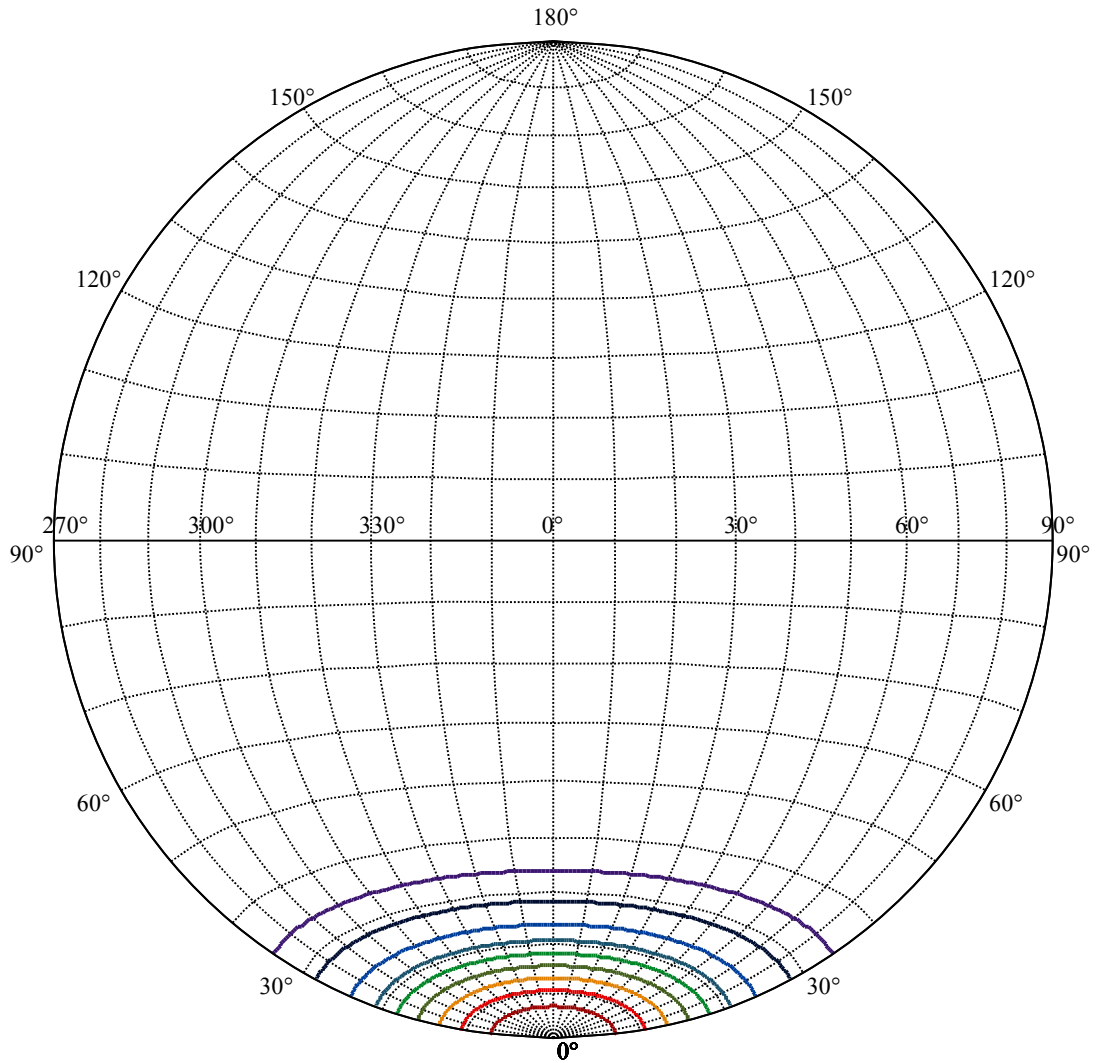
Beam Angle(50%Imax):C0/180Left:18.2 Right:18.2

:C90/270Left:18.2 Right:18.2





(10%Imax) 728.016	—
(20%Imax) 1456.03	—
(30%Imax) 2184.05	—
(40%Imax) 2912.06	—
(50%Imax) 3640.08	—
(60%Imax) 4368.09	—
(70%Imax) 5096.11	—
(80%Imax) 5824.13	—
(90%Imax) 6552.14	—



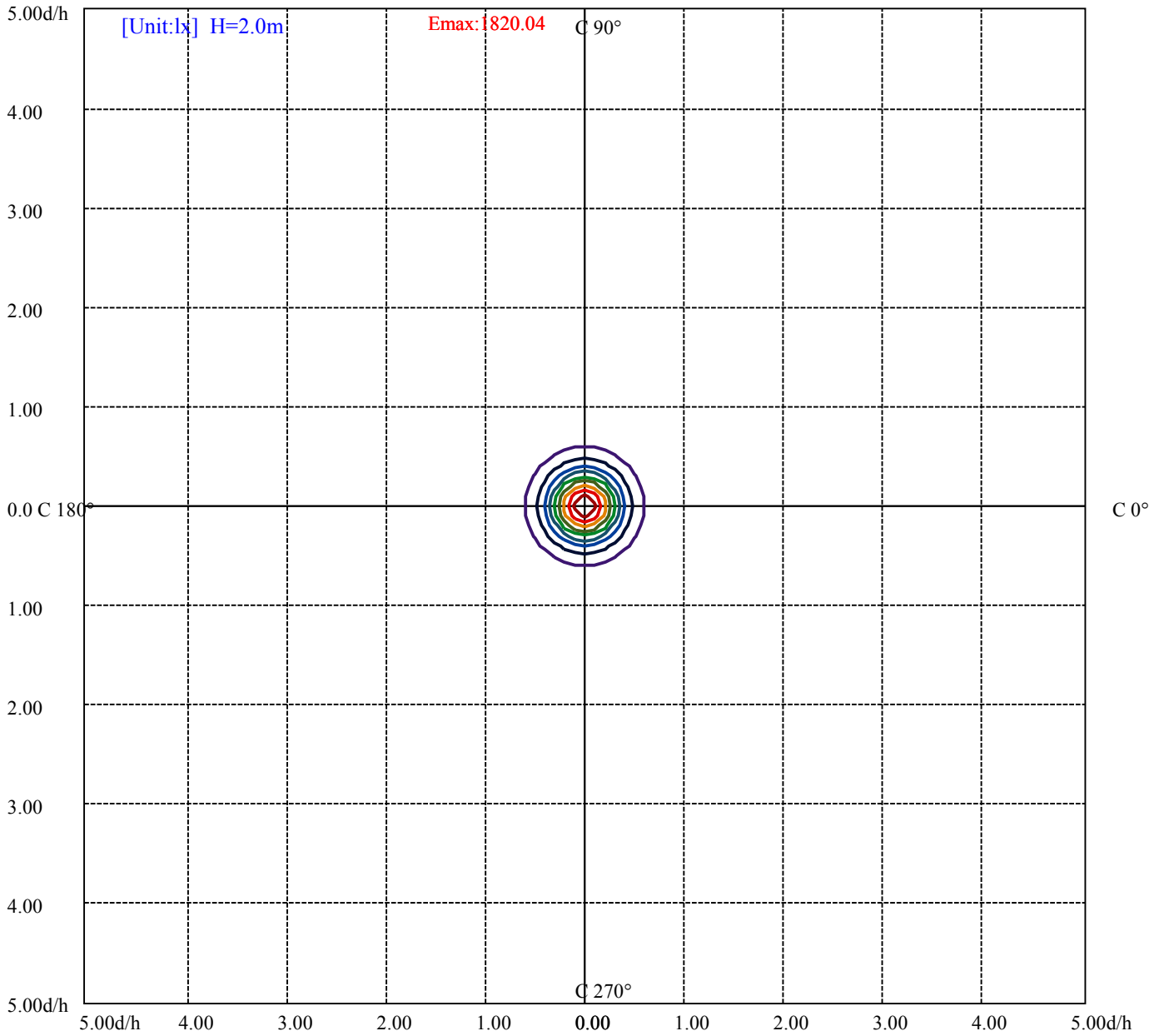
House

[Unit:cd]

Road

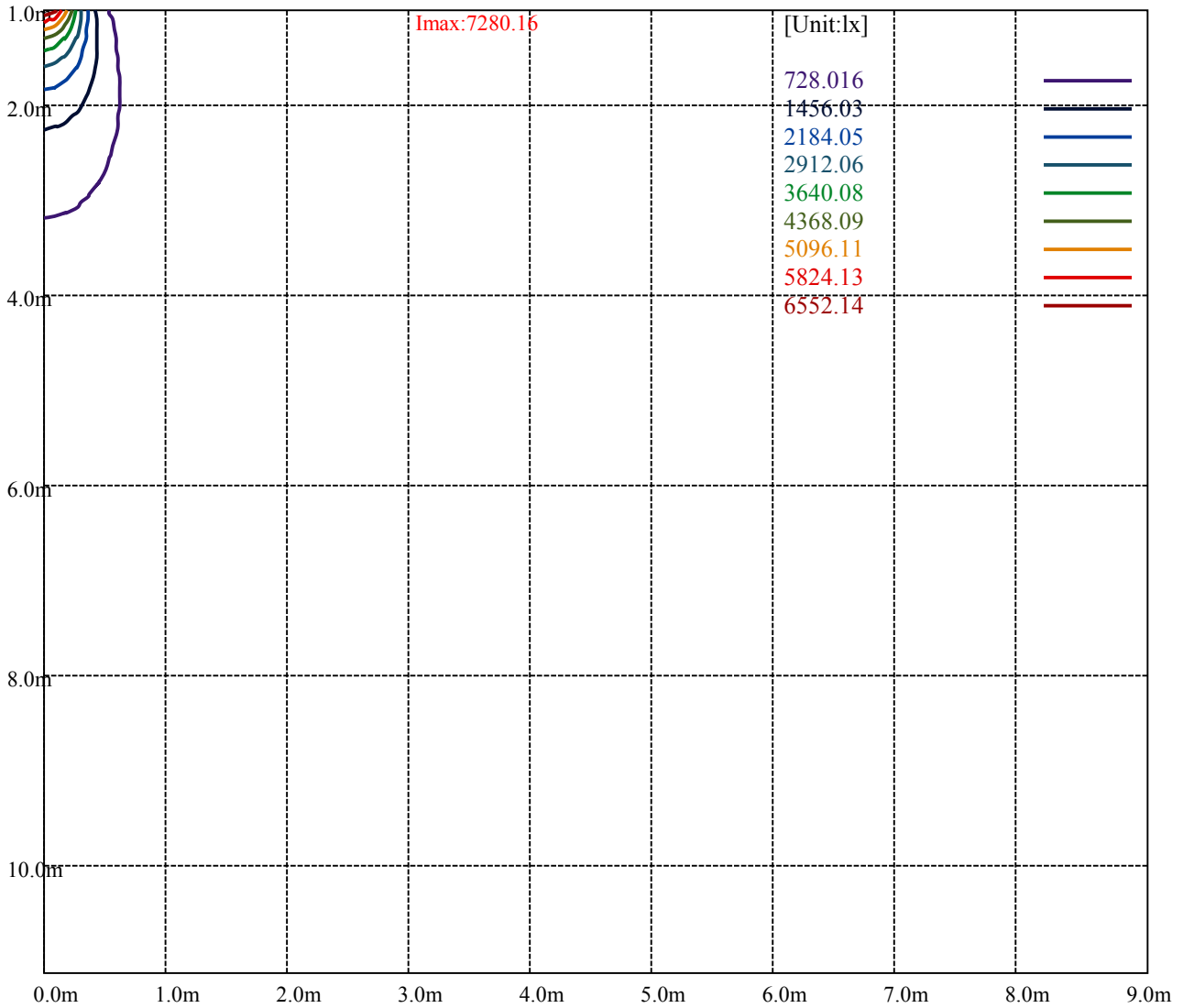
Imax:7280.16

(10%Imax) 728.016	—
(20%Imax) 1456.03	—
(30%Imax) 2184.05	—
(40%Imax) 2912.06	—
(50%Imax) 3640.08	—
(60%Imax) 4368.09	—
(70%Imax) 5096.11	—
(80%Imax) 5824.13	—
(90%Imax) 6552.14	—



(10%Emax) 182.0038	—
(20%Emax) 364.0075	—
(30%Emax) 546.01	—
(40%Emax) 728.015	—
(50%Emax) 910.0175	—
(60%Emax) 1092.022	—
(70%Emax) 1274.025	—
(80%Emax) 1456.03	—
(90%Emax) 1638.032	—





Luminance Table

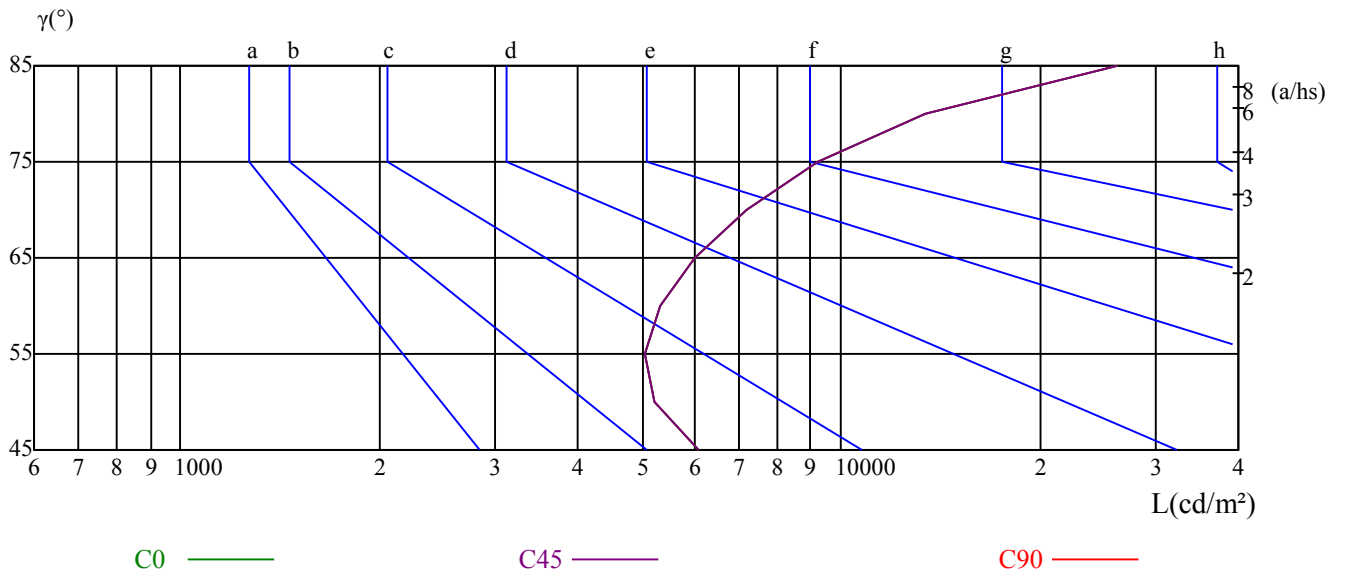
$\gamma$	45	50	55	60	65	70	75	80	85
C0	6106	5229	5060	5325	6014	7186	9228	13467	26175
C45	6106	5229	5060	5325	6014	7186	9228	13467	26175
C90	6106	5229	5060	5325	6014	7186	9228	13467	26175

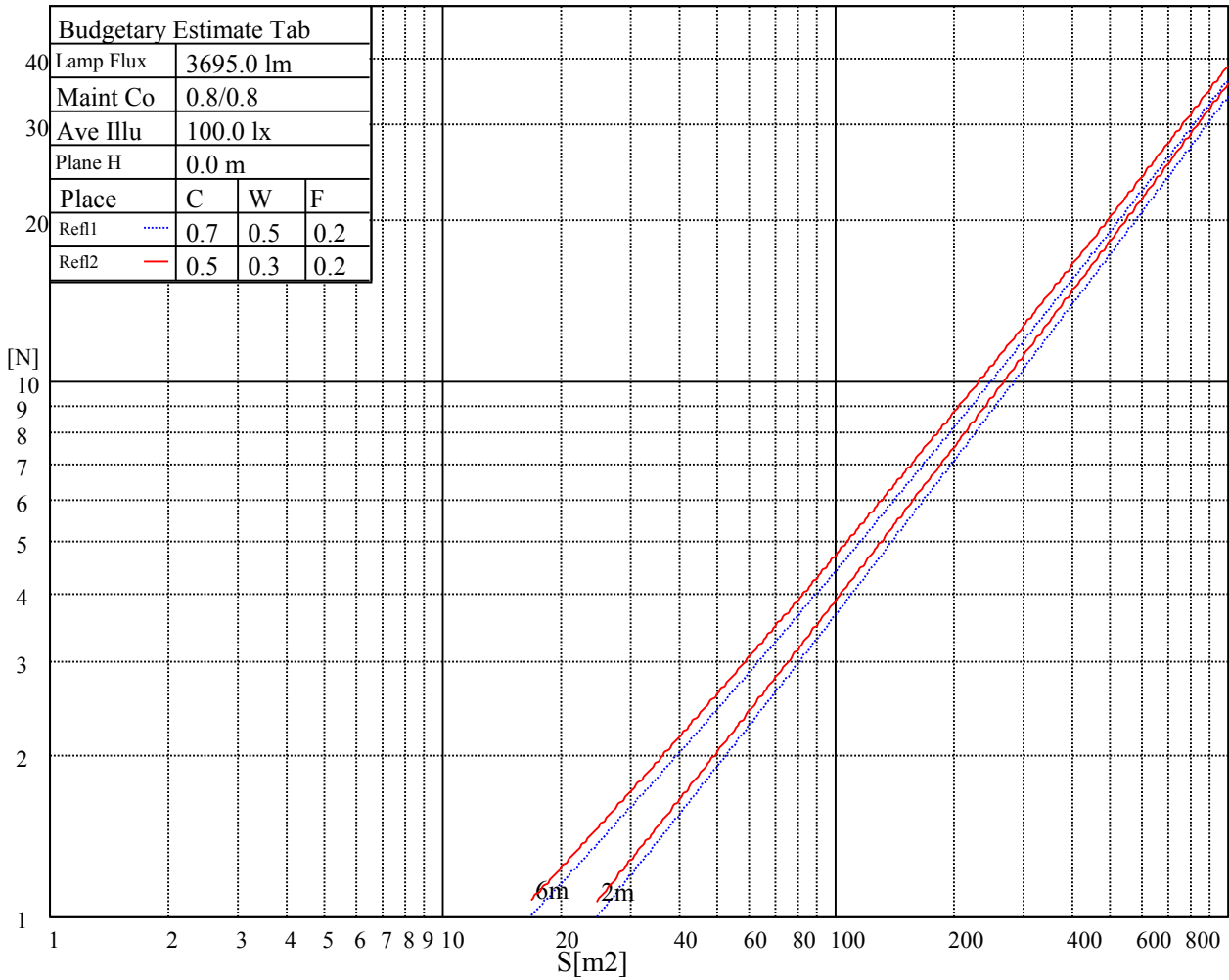
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
6014	6014	6014	9228	9228	9228	26175	26175	26175

Glare Table

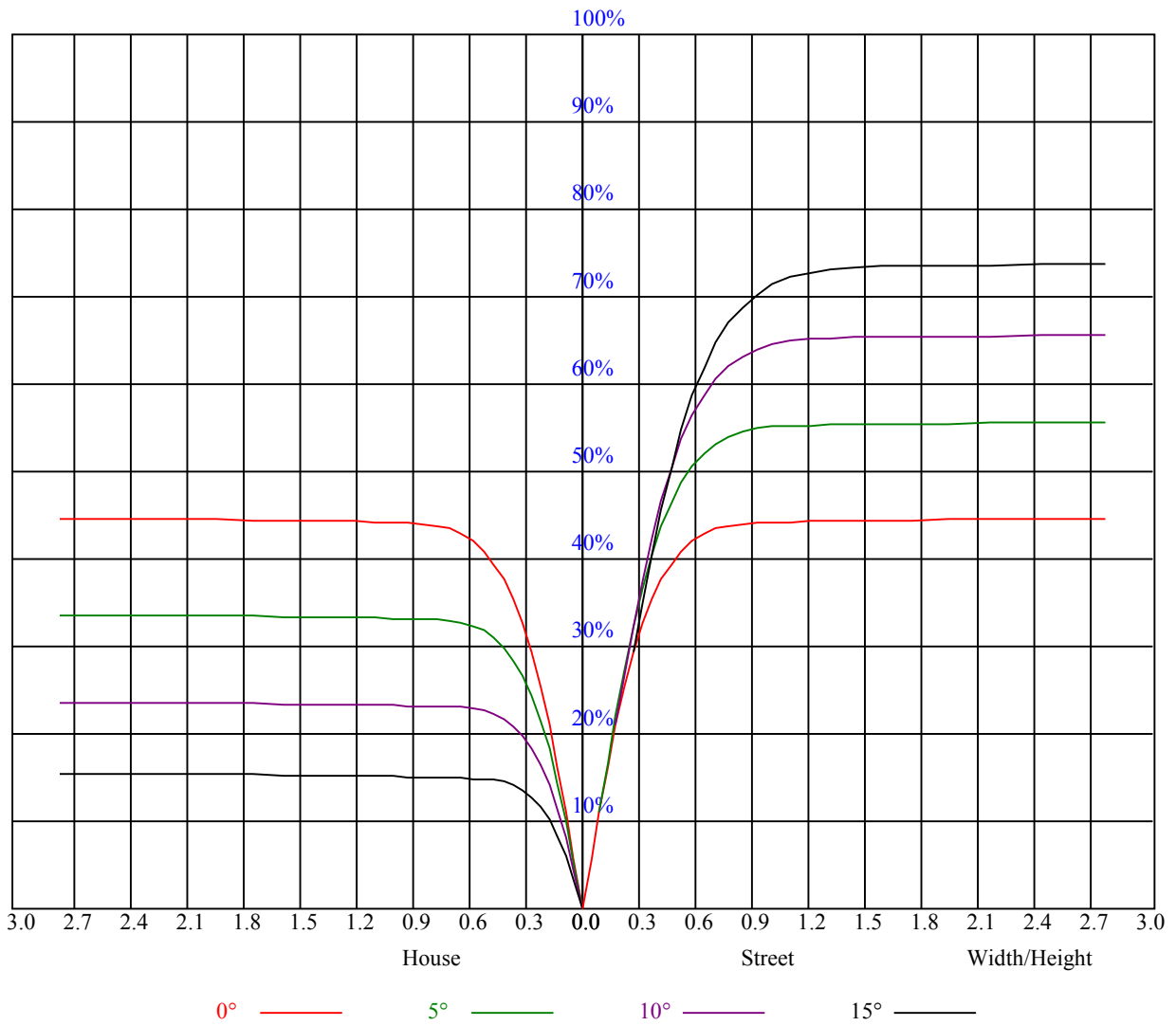
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.08	1.08	1.08	1.05	1.05	1.05	1.01	1.01	1.01	0.96	0.96	0.96	0.92	0.92	0.92	0.90
1	1.00	0.97	0.95	0.98	0.96	0.94	0.94	0.92	0.91	0.91	0.89	0.88	0.88	0.87	0.86	0.84
2	0.94	0.91	0.88	0.93	0.90	0.87	0.90	0.87	0.85	0.87	0.85	0.83	0.85	0.83	0.82	0.80
3	0.90	0.86	0.82	0.88	0.85	0.82	0.86	0.83	0.81	0.84	0.81	0.79	0.82	0.80	0.78	0.77
4	0.85	0.81	0.78	0.84	0.80	0.77	0.83	0.79	0.77	0.81	0.78	0.76	0.79	0.77	0.75	0.74
5	0.82	0.77	0.74	0.81	0.77	0.74	0.79	0.76	0.73	0.78	0.75	0.72	0.77	0.74	0.72	0.71
6	0.78	0.74	0.71	0.78	0.73	0.70	0.76	0.73	0.70	0.75	0.72	0.69	0.74	0.71	0.69	0.68
7	0.75	0.71	0.68	0.75	0.70	0.67	0.73	0.70	0.67	0.72	0.69	0.67	0.72	0.69	0.66	0.65
8	0.72	0.68	0.65	0.72	0.68	0.65	0.71	0.67	0.64	0.70	0.67	0.64	0.69	0.66	0.64	0.63
9	0.70	0.65	0.62	0.69	0.65	0.62	0.68	0.65	0.62	0.68	0.64	0.62	0.67	0.64	0.62	0.61
10	0.67	0.63	0.60	0.67	0.63	0.60	0.66	0.63	0.60	0.66	0.62	0.60	0.65	0.62	0.60	0.59



Intensity data(cd)

C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	7279.31	7107.75	6193.13	4831.88	3299.06	2059.31	1369.13	729.56	294.75
45.0	7288.88	6998.06	6026.06	4552.88	3142.69	1956.94	1281.38	648.56	306.56
90.0	7267.50	6713.44	5740.88	4260.94	2820.94	1811.25	1120.95	499.89	70.82
135.0	7284.94	6958.13	6022.13	4613.63	3124.69	1988.44	1299.94	623.81	303.75
180.0	7279.31	6872.63	5814.00	4348.13	2959.88	1845.56	1111.50	556.03	78.47
225.0	7288.88	7016.06	5938.31	4452.75	3021.19	1824.75	1100.03	562.89	92.48
270.0	7267.50	7181.44	6259.50	5024.81	3382.31	2100.94	1420.88	743.06	301.50
315.0	7284.94	7067.81	6037.88	4619.81	3058.88	1893.94	1108.29	613.46	101.64
360.0	7279.31	7107.75	6193.13	4831.88	3299.06	2059.31	1369.13	729.56	294.75

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	25.65	18.96	16.59	15.36	14.68	14.29	13.89	13.67	13.28
45.0	30.38	21.77	17.78	15.98	15.19	14.51	14.06	13.95	13.44
90.0	22.89	19.52	16.88	15.36	14.63	14.06	13.73	13.28	12.99
135.0	23.23	18.73	16.48	15.19	14.63	14.18	13.73	13.39	13.16
180.0	22.28	19.29	16.59	15.19	14.57	14.12	13.67	13.33	13.05
225.0	24.53	19.86	17.04	15.47	14.63	14.06	13.67	13.39	13.05
270.0	29.93	19.63	16.71	15.36	14.63	14.12	13.78	13.56	13.22
315.0	20.64	17.55	16.03	15.13	14.51	14.23	13.84	13.50	13.22
360.0	25.65	18.96	16.59	15.36	14.68	14.29	13.89	13.67	13.28

C/γ(°)	90.0
0.0	12.77
45.0	12.71
90.0	12.71
135.0	12.71
180.0	12.71
225.0	12.71
270.0	12.77
315.0	12.71
360.0	12.77