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NATA

LumCAT: NA01D020045BW

Luminaire:

Report No: NATA0100

Voltage(V): 3.6000

Test No: GC2018121907

Current(A): 0.2500

LampCAT: NICHIA NF2W757

Power (W): 0.9000

Lamp flux(lm): 97.1

PF: 0.0000

Number of Lamps: 1

Ballast type: DC

Length(mm): 20

Width(mm): 20

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 88.92

Efficiency(%): 91.61%

Lumens(lm)/Power(W): 99.40

Central intensity(cd): 105.159

Maximum intensity(cd): 105.159

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=47.1

[C90/270]Total=47.1

Field angle(10%Imax): [C0/180]Total=93.5

[C90/270]Total=93.5

Maximum s/h(1/2): C0_180=0.73 C90_270=0.73

Maximum s/h(1/4): C0_180=0.78 C90_270=0.78

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 92.17%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 94.343%

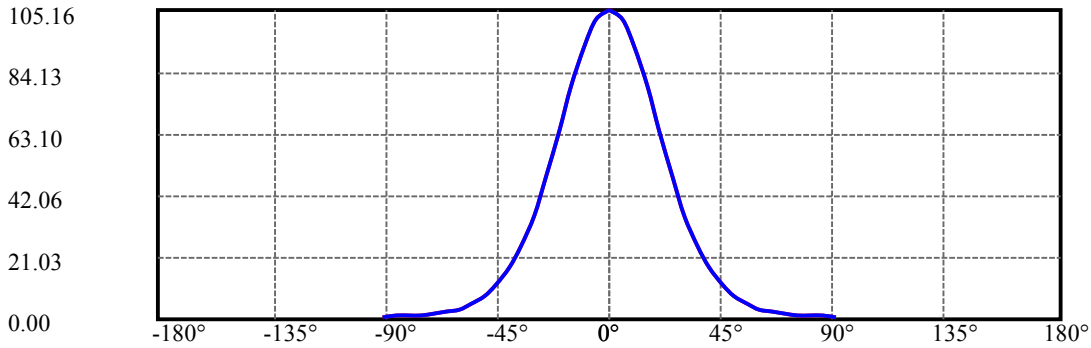
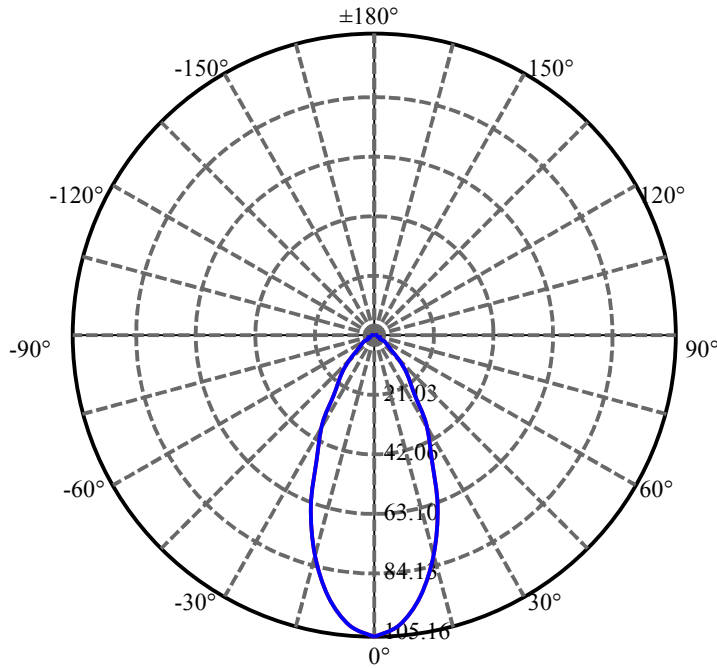
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	105.159	0.629	0.629	.648%	.707%
5.0	101.658	4.857	5.485	5.004%	6.169%
10.0	92.834	8.836	14.322	9.104%	16.107%
15.0	78.975	11.204	25.526	11.543%	28.707%
20.0	63.717	11.945	37.471	12.307%	42.141%
25.0	48.101	11.143	48.614	11.480%	54.673%
30.0	35.557	9.745	58.359	10.040%	65.633%
35.0	25.017	7.865	66.224	8.104%	74.478%
40.0	17.613	6.206	72.43	6.394%	81.458%
45.0	11.918	4.619	77.049	4.759%	86.653%
50.0	7.966	3.345	80.394	3.446%	90.415%
55.0	5.154	2.314	82.708	2.384%	93.017%
60.0	3.565	1.692	84.401	1.743%	94.921%
65.0	2.489	1.237	85.637	1.274%	96.311%
70.0	1.905	0.981	86.619	1.011%	97.415%
75.0	1.540	0.815	87.434	.840%	98.332%
80.0	1.392	0.752	88.185	.774%	99.177%
85.0	1.174	0.641	88.827	.661%	99.898%
90.0	0.330	0.091	88.917	.093%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	58.36	60.13%	65.63%
0-40	72.43	74.62%	81.46%
0-60	84.40	86.96%	94.92%
0-90	88.83	91.52%	99.90%
0-120	88.83	91.52%	99.90%
0-180	88.92	91.61%	100.00%
60-90	6.12	6.30%	6.88%
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%
0-38.96	71.13	73.29%	80.00%

ZONAL LUMEN SUMMARY

0-10	14.32
10-20	23.15
20-30	20.89
30-40	14.07
40-50	7.96
50-60	4.01
60-70	2.22
70-80	1.57
80-90	0.64
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

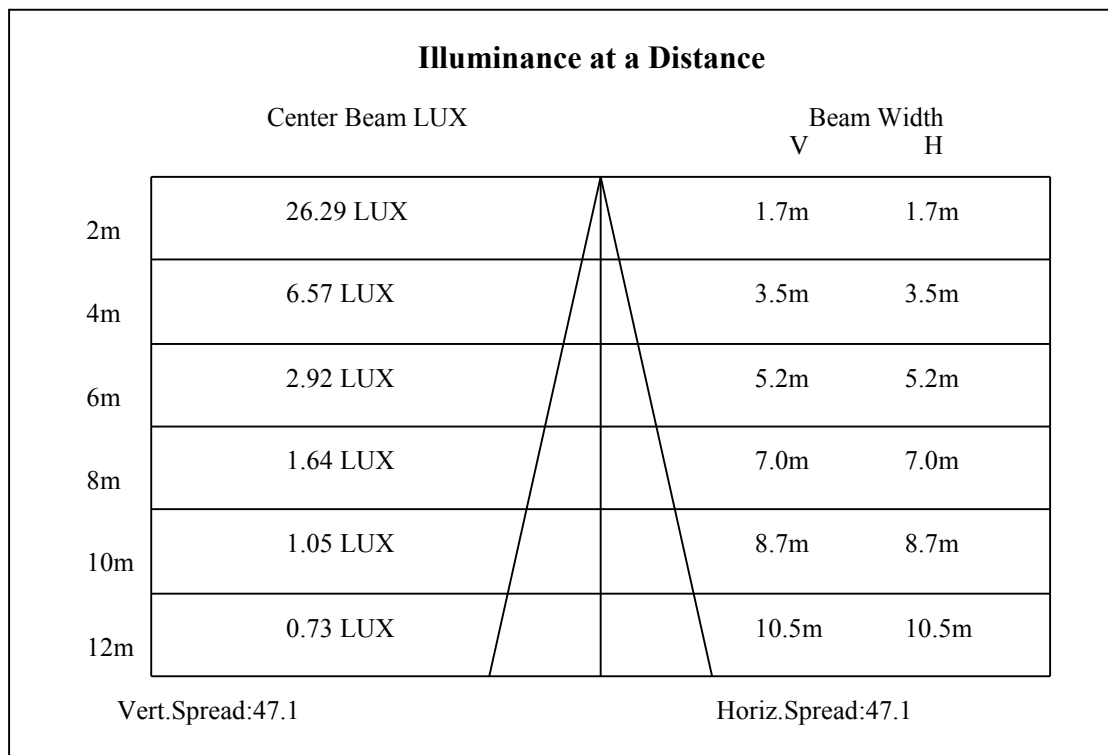


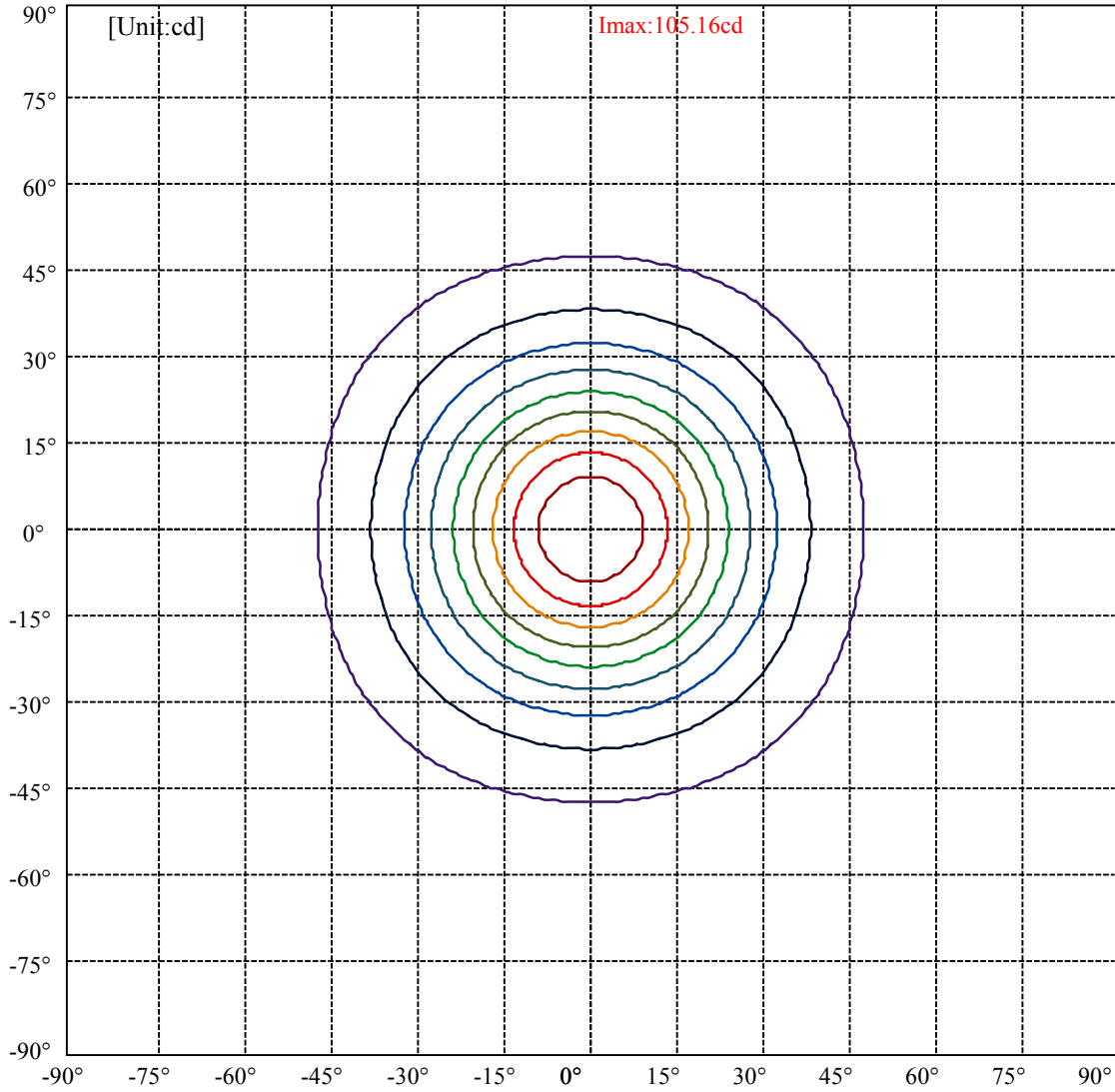
C0/C180: —

C90/C270: —

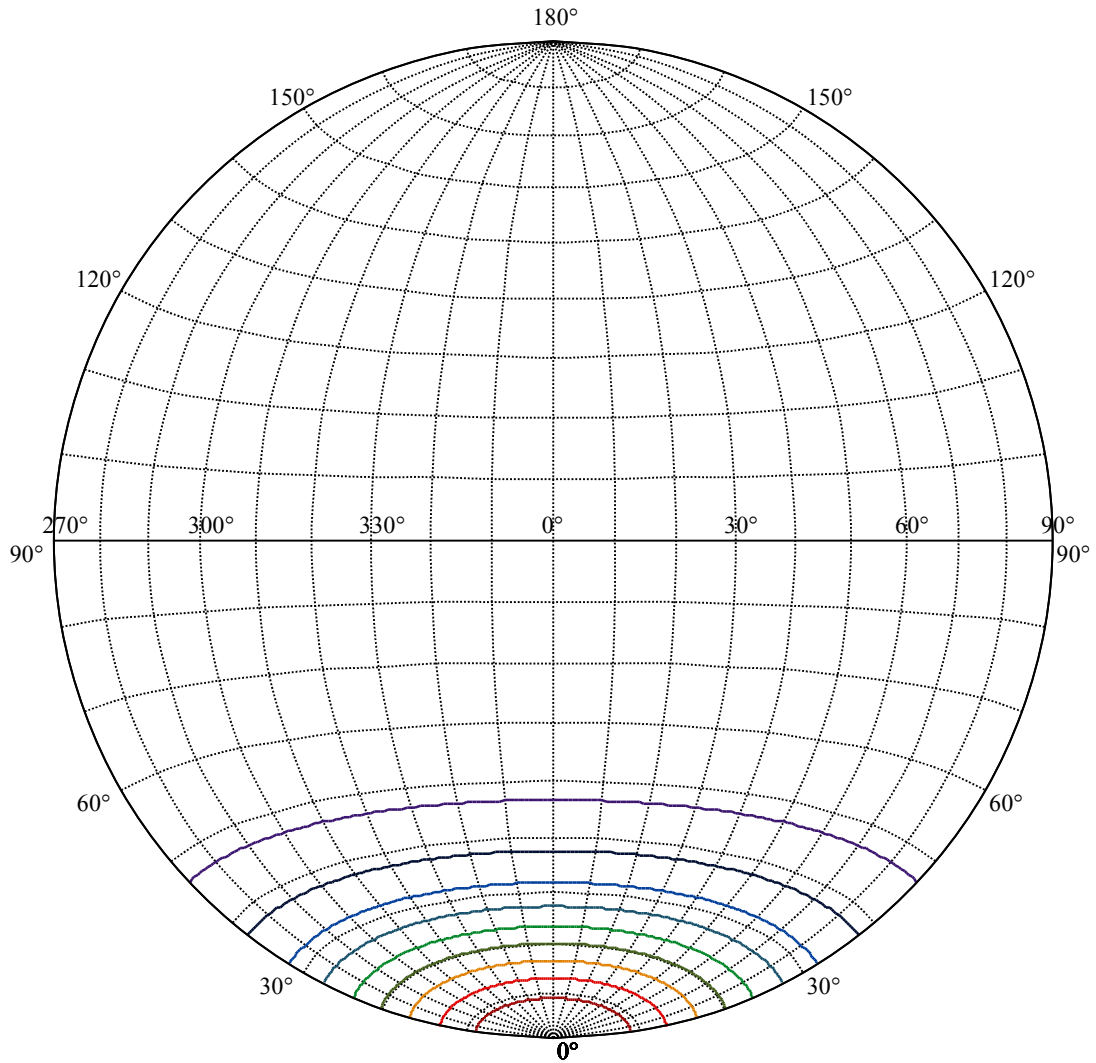
Field angle(10%Imax):C0/180Left:46.8 Right:46.8
:C90/270Left:46.8 Right:46.8

Beam Angle(50%Imax):C0/180Left:23.6 Right:23.6
:C90/270Left:23.6 Right:23.6





(10%Imax) 10.5159	—
(20%Imax) 21.0319	—
(30%Imax) 31.5478	—
(40%Imax) 42.0638	—
(50%Imax) 52.5797	—
(60%Imax) 63.0956	—
(70%Imax) 73.6116	—
(80%Imax) 84.1275	—
(90%Imax) 94.6434	—



House

[Unit:cd]

Road

Imax:105.16

(10%Imax) 10.5159

(20%Imax) 21.0319

(30%Imax) 31.5478

(40%Imax) 42.0638

(50%Imax) 52.5797

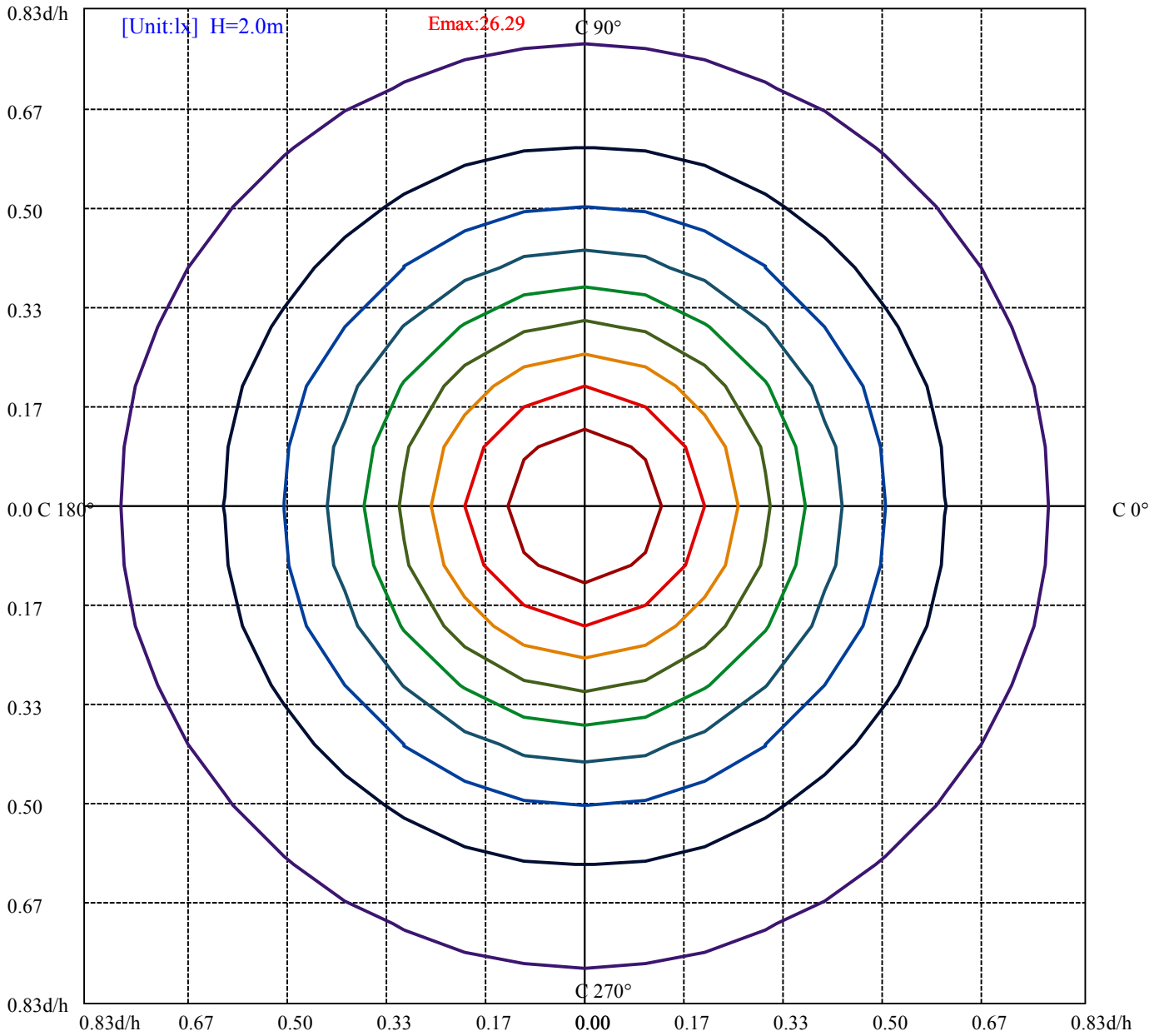
(60%Imax) 63.0956

(70%Imax) 73.6116

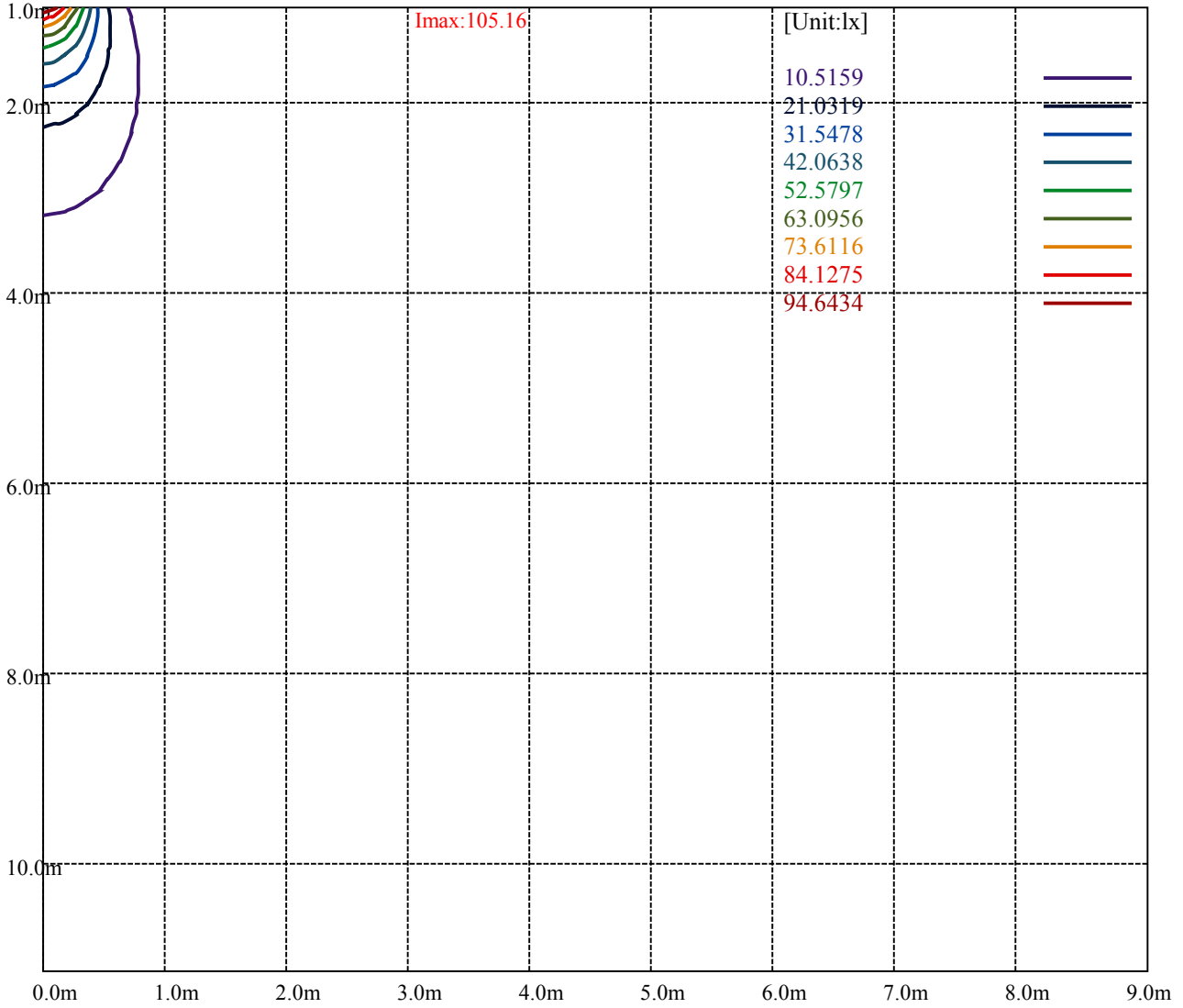
(80%Imax) 84.1275

(90%Imax) 94.6434





- (10%Emax) 2.628975
- (20%Emax) 5.257975
- (30%Emax) 7.88695
- (40%Emax) 10.51593
- (50%Emax) 13.1449
- (60%Emax) 15.7739
- (70%Emax) 18.40288
- (80%Emax) 21.03185
- (90%Emax) 23.66083



Luminance Table

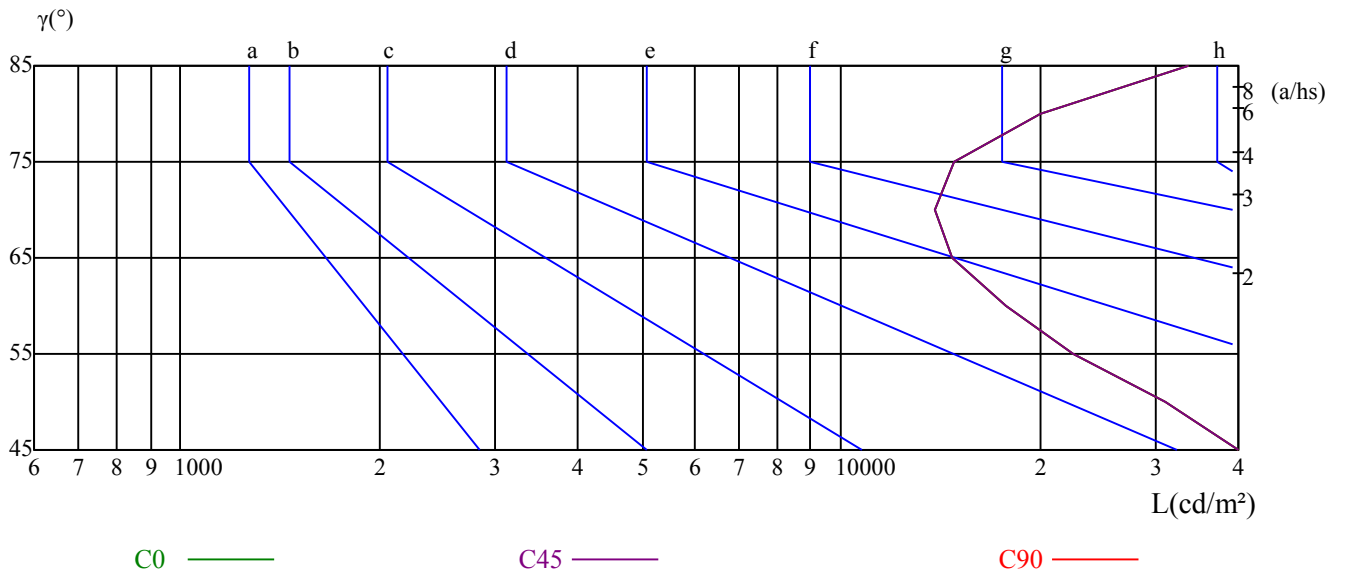
γ	45	50	55	60	65	70	75	80	85
C0	42136	30984	22464	17824	14724	13928	14874	20043	33682
C45	42136	30984	22464	17824	14724	13928	14874	20043	33682
C90	42136	30984	22464	17824	14724	13928	14874	20043	33682

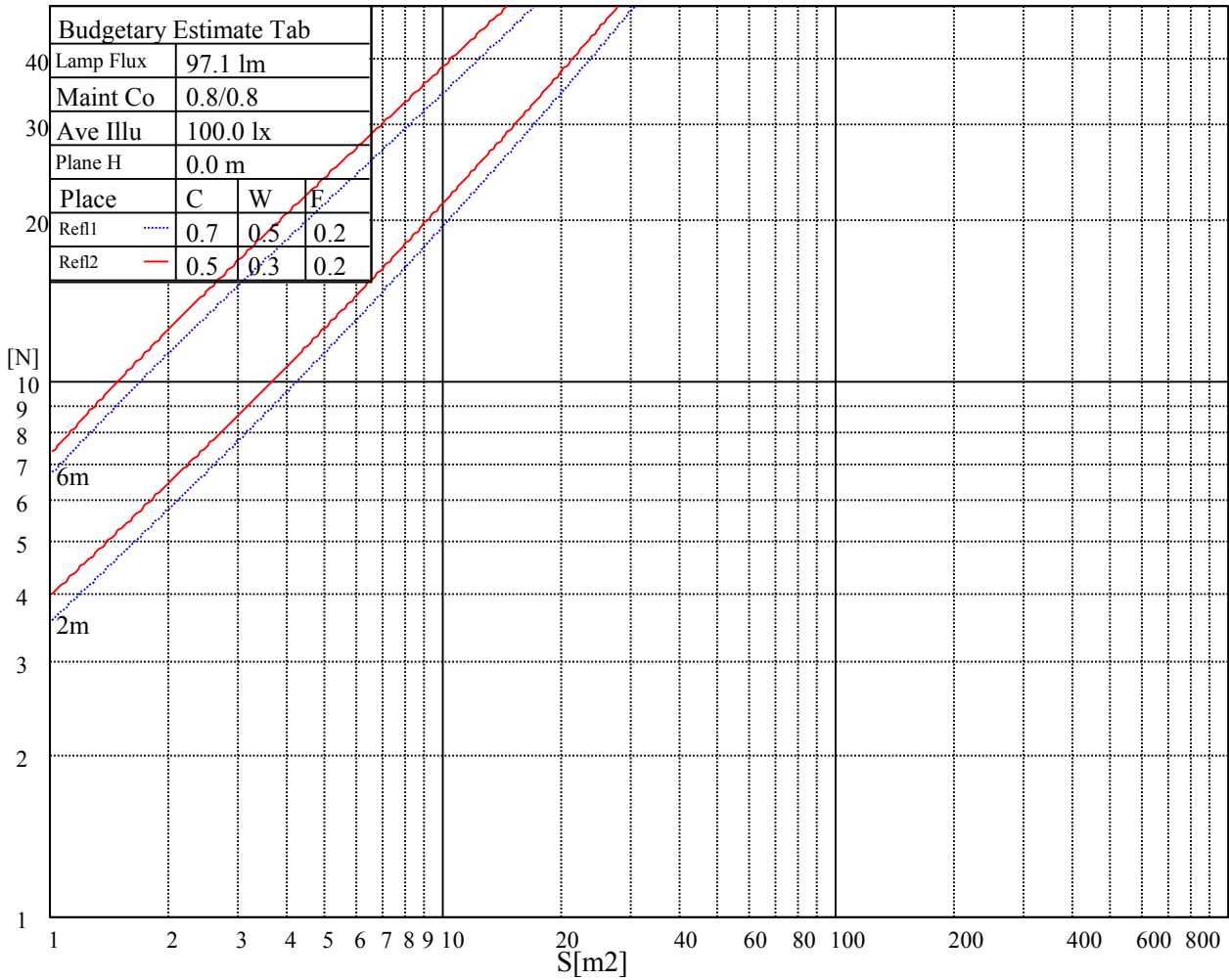
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
14724	14724	14724	14874	14874	14874	33682	33682	33682

Glare Table

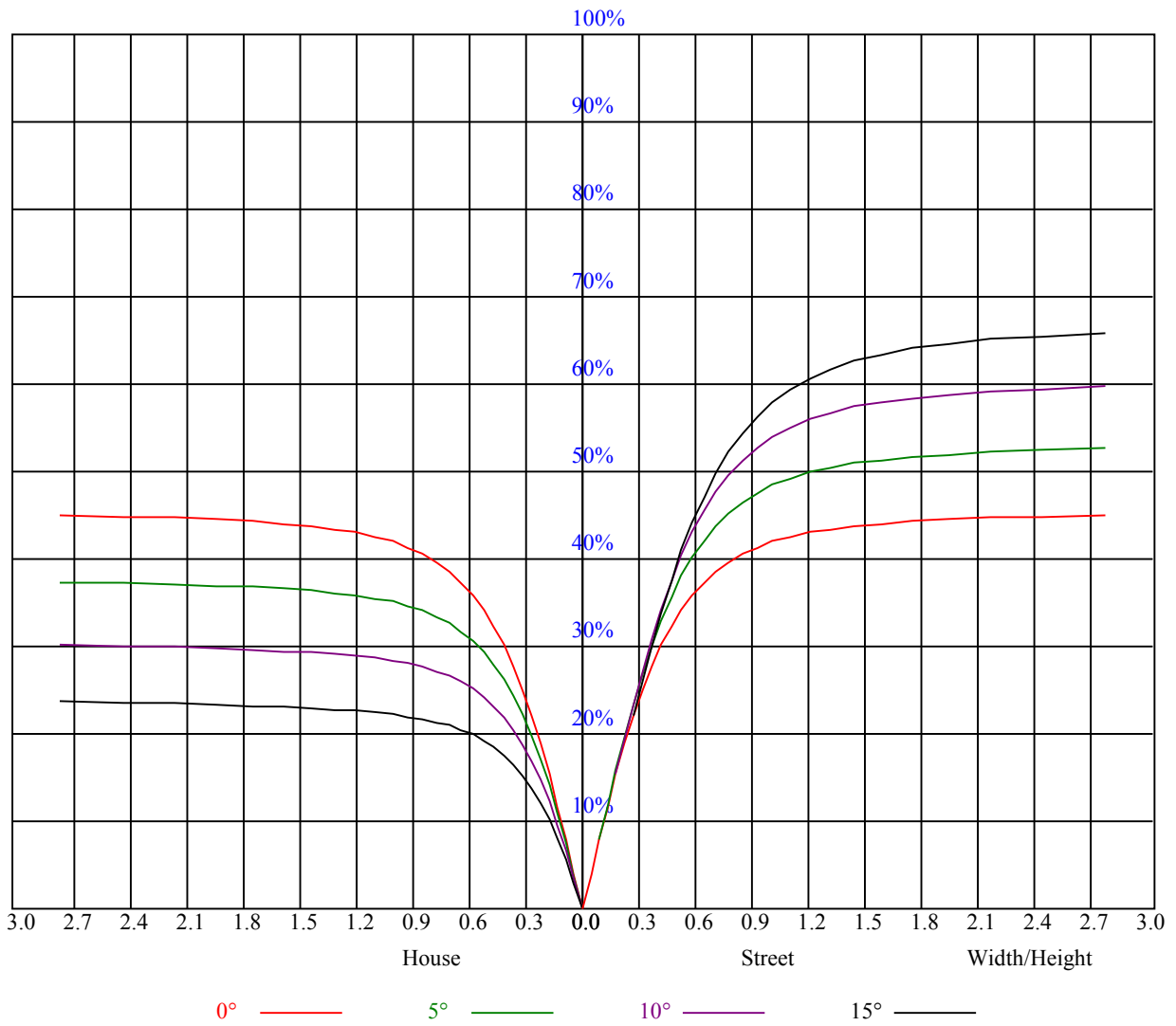
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.10	1.10	1.10	1.07	1.07	1.07	1.02	1.02	1.02	0.98	0.98	0.98	0.94	0.94	0.94	0.92
1	1.00	0.97	0.95	0.98	0.96	0.93	0.94	0.92	0.90	0.91	0.89	0.88	0.88	0.86	0.85	0.83
2	0.92	0.88	0.84	0.91	0.87	0.83	0.88	0.84	0.82	0.85	0.82	0.80	0.82	0.80	0.78	0.77
3	0.86	0.80	0.76	0.84	0.80	0.76	0.82	0.78	0.74	0.79	0.76	0.73	0.77	0.75	0.72	0.71
4	0.80	0.74	0.70	0.79	0.73	0.69	0.77	0.72	0.69	0.75	0.71	0.68	0.73	0.70	0.67	0.65
5	0.75	0.69	0.64	0.74	0.68	0.64	0.72	0.67	0.64	0.70	0.66	0.63	0.69	0.65	0.62	0.61
6	0.70	0.64	0.60	0.69	0.64	0.60	0.68	0.63	0.59	0.66	0.62	0.59	0.65	0.61	0.58	0.57
7	0.66	0.60	0.56	0.65	0.60	0.56	0.64	0.59	0.55	0.63	0.58	0.55	0.62	0.58	0.55	0.54
8	0.62	0.56	0.53	0.62	0.56	0.52	0.61	0.56	0.52	0.60	0.55	0.52	0.59	0.55	0.52	0.50
9	0.59	0.53	0.50	0.59	0.53	0.49	0.58	0.53	0.49	0.57	0.52	0.49	0.56	0.52	0.49	0.48
10	0.56	0.51	0.47	0.56	0.50	0.47	0.55	0.50	0.47	0.54	0.50	0.47	0.53	0.49	0.46	0.45



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	105.53	99.39	89.78	75.54	60.58	45.90	33.08	23.12	16.26
45.0	104.40	99.73	89.89	76.89	62.10	46.52	34.20	23.51	16.37
90.0	105.19	100.74	90.34	76.16	60.69	45.62	33.08	23.23	16.14
135.0	105.53	103.95	96.58	83.14	67.61	52.03	38.25	27.06	19.29
180.0	105.53	104.29	96.41	82.86	67.44	51.13	38.53	27.45	19.35
225.0	104.40	102.04	93.66	79.88	64.41	49.22	36.34	25.71	18.45
270.0	105.19	102.71	95.79	81.79	66.60	50.34	37.91	27.00	19.01
315.0	105.53	100.41	90.23	75.54	60.30	44.04	33.08	23.06	16.03
360.0	105.53	99.39	89.78	75.54	60.58	45.90	33.08	23.12	16.26
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	10.74	7.20	4.73	3.38	2.42	1.91	1.69	1.46	1.24
45.0	11.08	7.37	4.89	3.38	2.48	1.91	1.58	1.46	1.18
90.0	11.19	7.59	4.95	3.49	2.48	1.97	1.63	1.46	1.24
135.0	13.22	8.89	5.74	3.94	2.64	2.03	1.69	1.52	1.29
180.0	13.16	8.83	5.63	3.71	2.53	1.91	1.58	1.46	1.18
225.0	12.15	8.04	5.01	3.43	2.31	1.69	1.24	1.07	0.96
270.0	13.05	8.61	5.63	3.94	2.59	1.86	1.35	1.24	1.07
315.0	10.74	7.20	4.67	3.26	2.48	1.97	1.58	1.46	1.24
360.0	10.74	7.20	4.73	3.38	2.42	1.91	1.69	1.46	1.24
C/γ(°)	90.0								
0.0	0.34								
45.0	0.45								
90.0	0.28								
135.0	0.28								
180.0	0.28								
225.0	0.28								
270.0	0.34								
315.0	0.39								
360.0	0.34								