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Nata

LumCAT: 3-2116-N	
Luminaire: 92.70.135.00	
Report No: NATA0100	Voltage(V): 33.8000
Test No: GC2018061915	Current(A): 0.4900
LampCAT: NICHIA NFCW108B-V3	Power (W): 16.5620
Lamp flux(lm): 2263.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 80	Width(mm): 80
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 1895.44
Efficiency(%): 83.76%
Lumens(lm)/Power(W): 116.74
Central intensity(cd): 6650.400
Maximum intensity(cd): 6650.400
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=26.4
 [C90/270]Total=26.4
Field angle(10%Imax): [C0/180]Total=55.4
 [C90/270]Total=55.4
Maximum s/h(1/2): C0_180=0.45 C90_270=0.45
Maximum s/h(1/4): C0_180=0.46 C90_270=0.46
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 85.44%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 95.969%

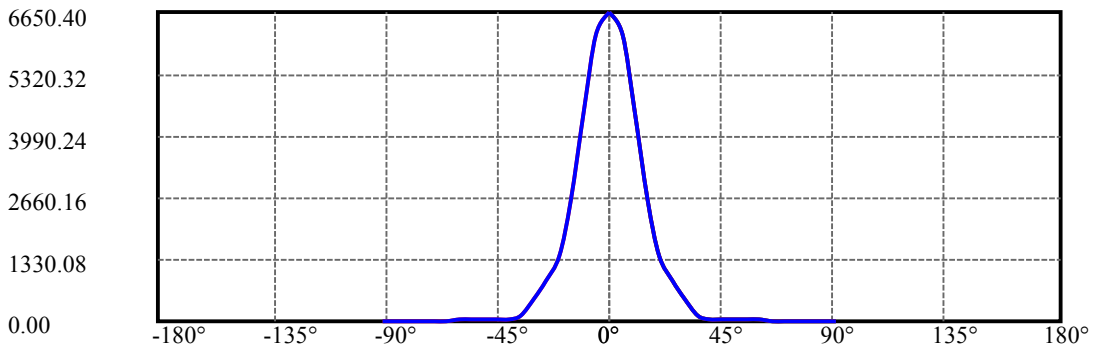
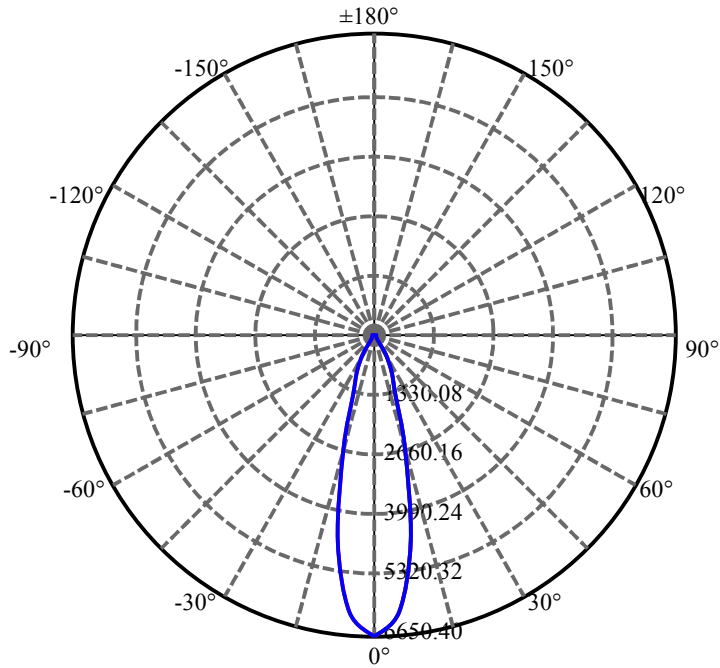
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	6650.400	39.771	39.771	1.757%	2.098%
5.0	6136.724	293.172	332.942	12.955%	17.565%
10.0	4601.201	437.956	770.899	19.353%	40.671%
15.0	2603.273	369.322	1140.221	16.320%	60.156%
20.0	1389.224	260.443	1400.664	11.509%	73.897%
25.0	886.539	205.369	1606.034	9.075%	84.732%
30.0	477.477	130.861	1736.895	5.783%	91.636%
35.0	138.797	43.638	1780.533	1.928%	93.938%
40.0	56.488	19.903	1800.435	.879%	94.988%
45.0	44.148	17.112	1817.547	.756%	95.891%
50.0	34.961	14.680	1832.227	.649%	96.665%
55.0	27.370	12.289	1844.516	.543%	97.313%
60.0	23.069	10.951	1855.467	.484%	97.891%
65.0	18.850	9.364	1864.831	.414%	98.385%
70.0	15.251	7.855	1872.687	.347%	98.800%
75.0	13.895	7.357	1880.043	.325%	99.188%
80.0	12.642	6.824	1886.868	.302%	99.548%
85.0	11.115	6.069	1892.937	.268%	99.868%
90.0	9.126	2.501	1895.438	.111%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1736.90	76.75%	91.64%
0-40	1800.44	79.56%	94.99%
0-60	1855.47	81.99%	97.89%
0-90	1892.94	83.65%	99.87%
0-120	1892.94	83.65%	99.87%
0-180	1895.44	83.76%	100.00%
60-90	48.42	2.14%	2.55%
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%
0-22.82	1516.35	67.01%	80.00%

ZONAL LUMEN SUMMARY

0-10	770.90
10-20	629.77
20-30	336.23
30-40	63.54
40-50	31.79
50-60	23.24
60-70	17.22
70-80	14.18
80-90	6.07
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



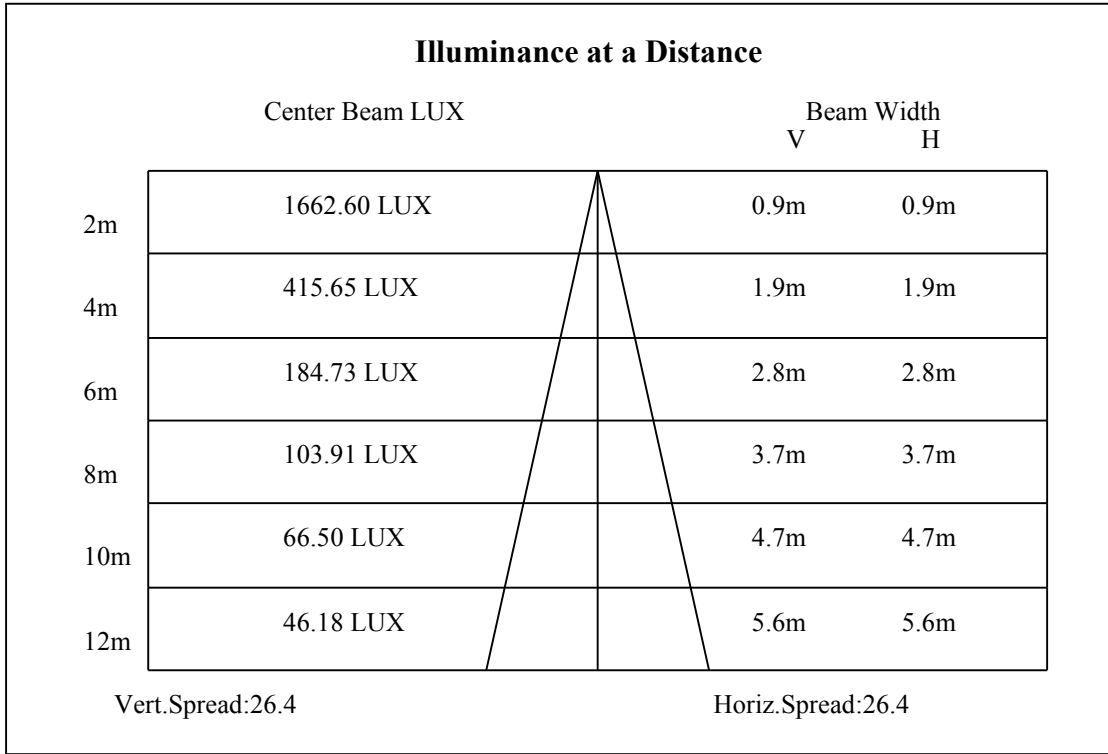
C0(Max): —————

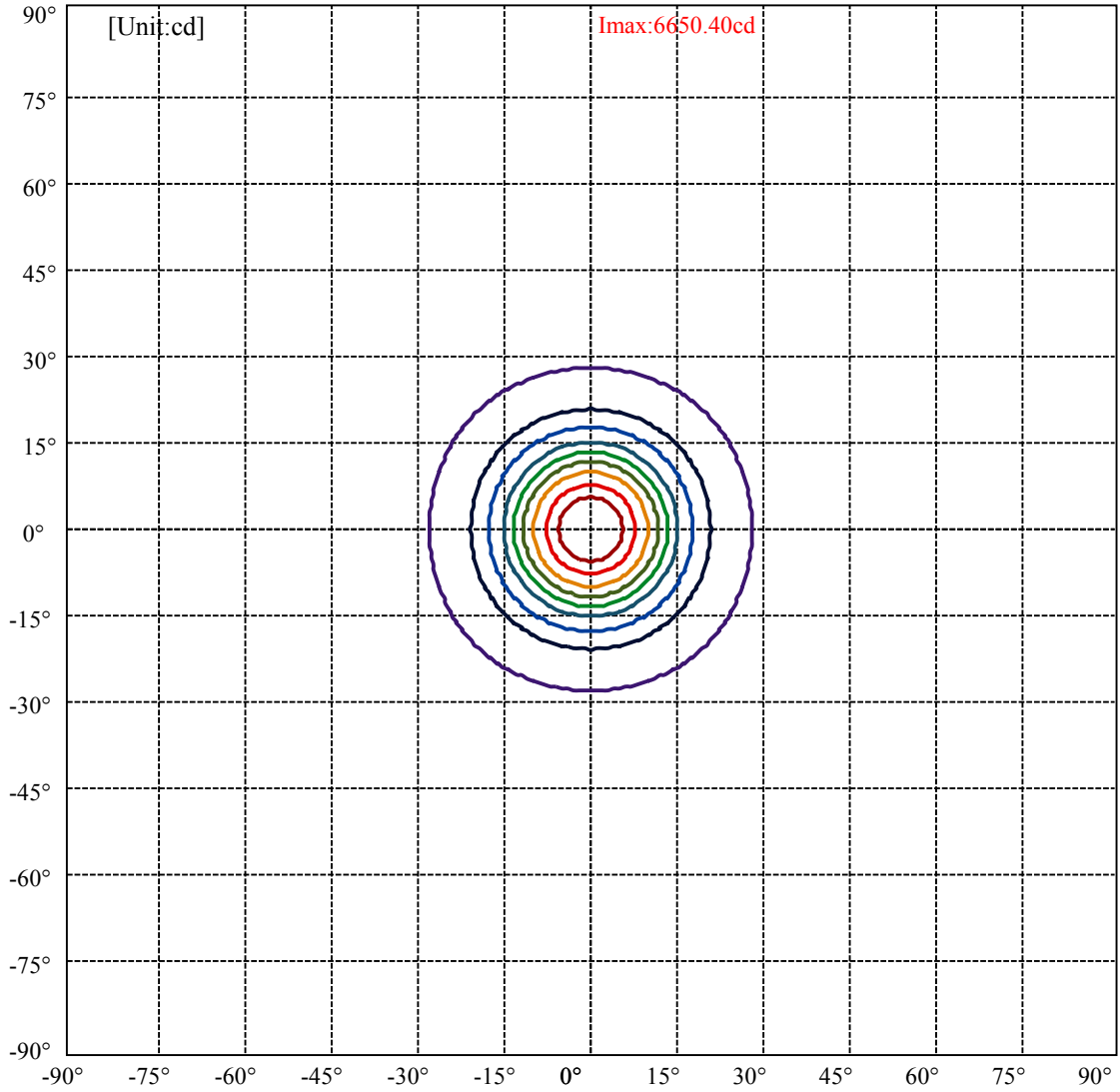
C0/C180: —————

C90/C270: —————

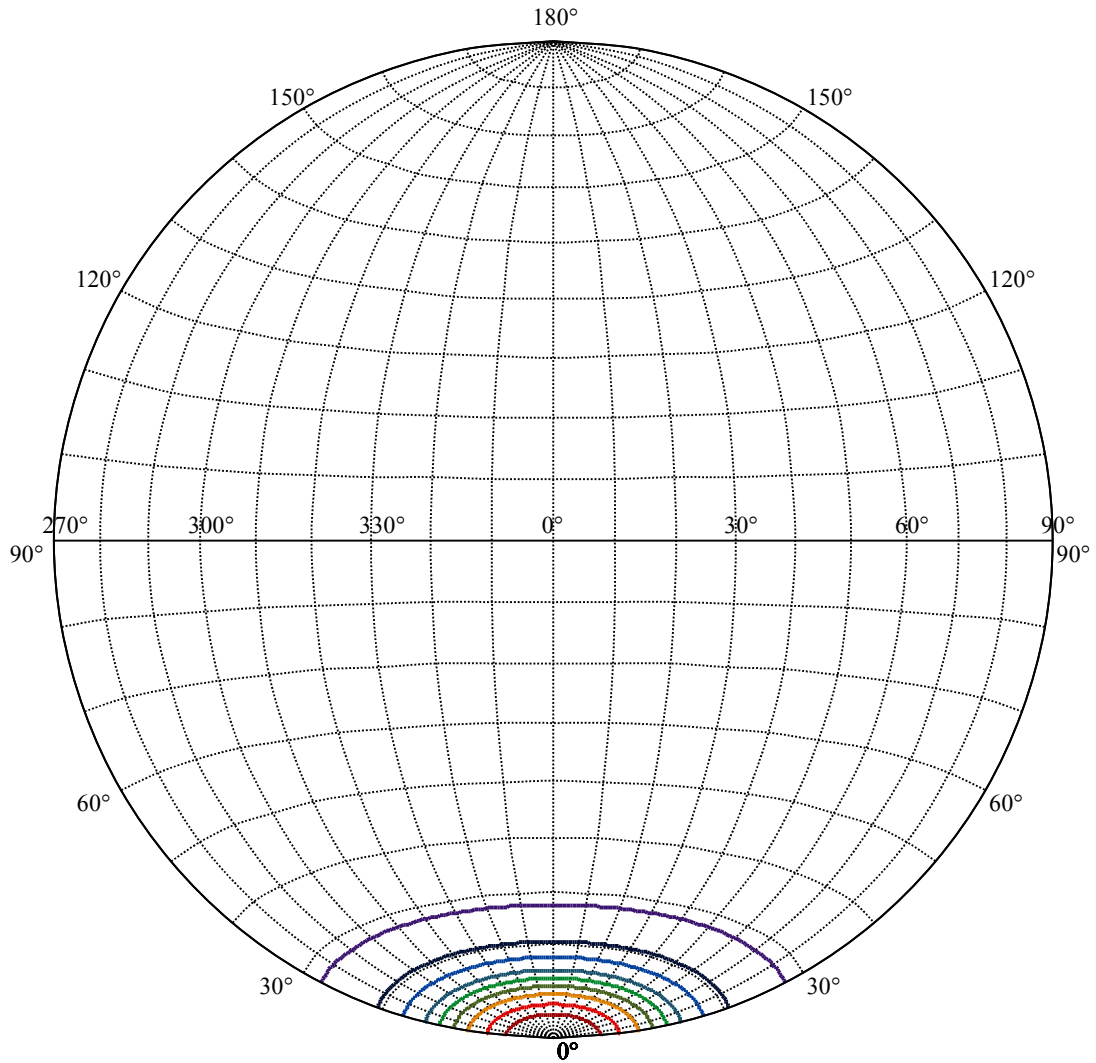
Field angle(10%Imax):C0/180Left:27.7 Right:27.7
:C90/270Left:27.7 Right:27.7

Beam Angle(50%Imax):C0/180Left:13.2 Right:13.2
:C90/270Left:13.2 Right:13.2





(10%Imax) 665.04	—
(20%Imax) 1330.08	—
(30%Imax) 1995.12	—
(40%Imax) 2660.16	—
(50%Imax) 3325.2	—
(60%Imax) 3990.24	—
(70%Imax) 4655.28	—
(80%Imax) 5320.32	—
(90%Imax) 5985.36	—



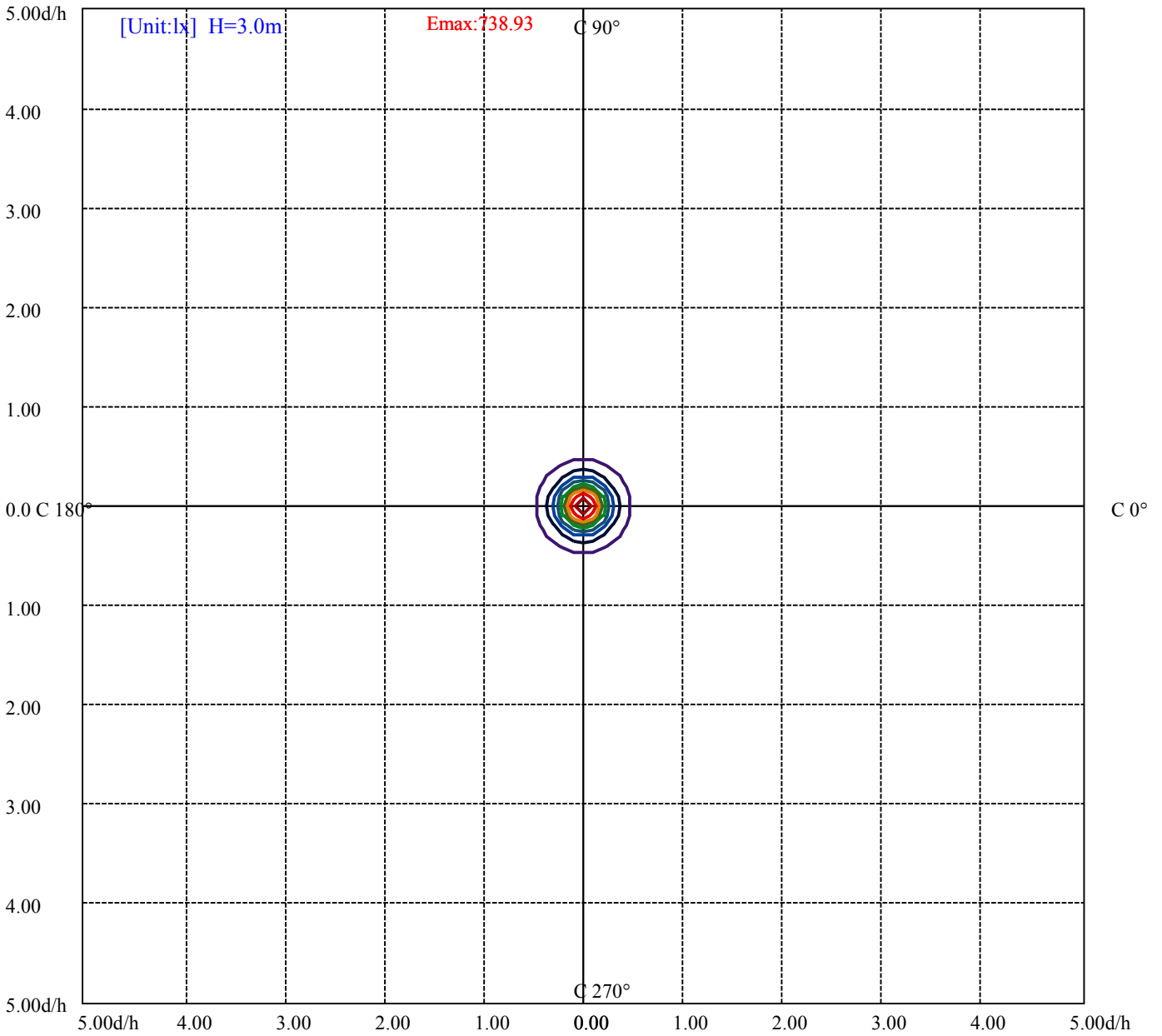
House

[Unit:cd]

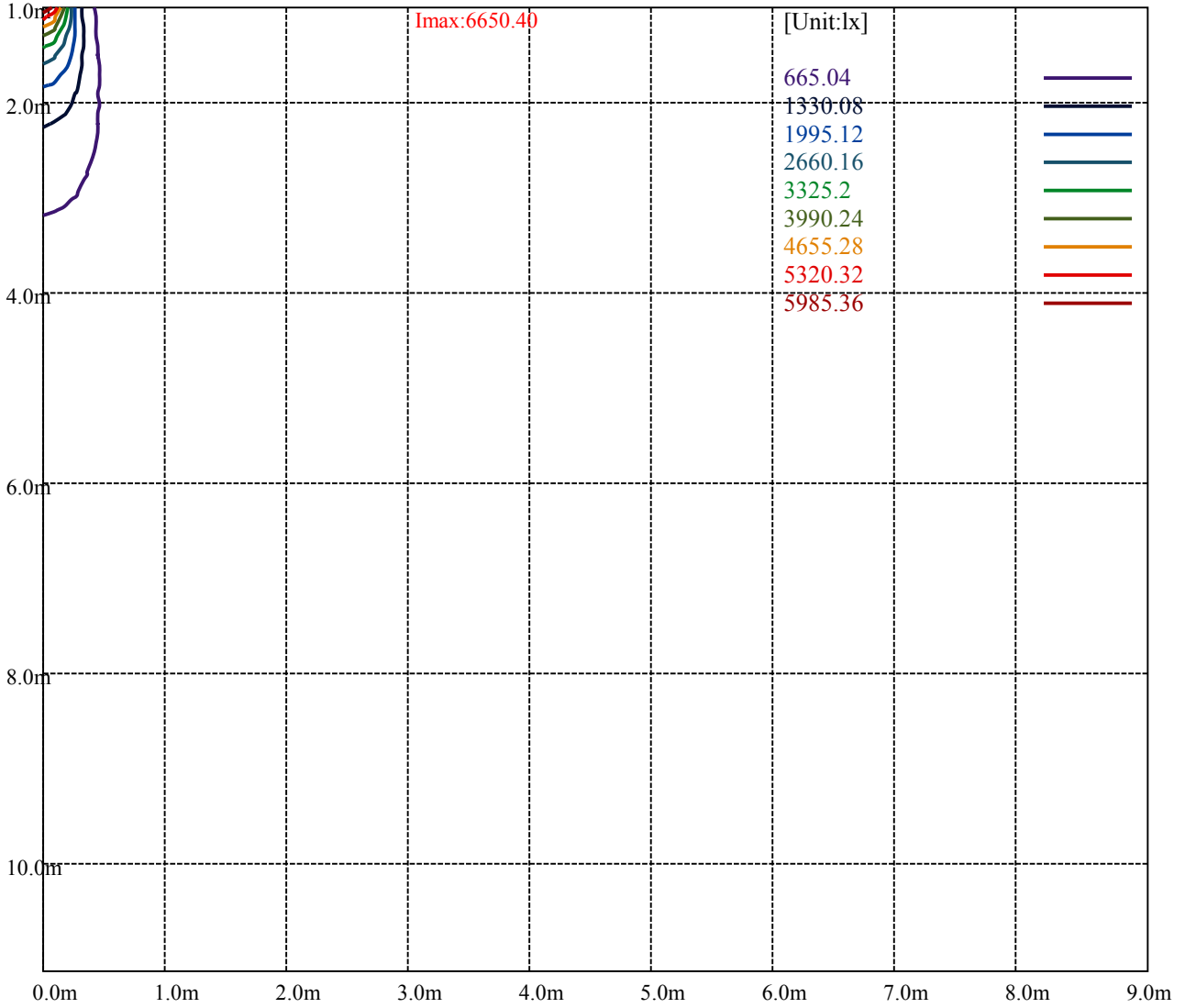
Road

Imax:6650.40

(10%Imax) 665.04	—
(20%Imax) 1330.08	—
(30%Imax) 1995.12	—
(40%Imax) 2660.16	—
(50%Imax) 3325.2	—
(60%Imax) 3990.24	—
(70%Imax) 4655.28	—
(80%Imax) 5320.32	—
(90%Imax) 5985.36	—



(10%Emax) 73.89311	—
(20%Emax) 147.7867	—
(30%Emax) 221.68	—
(40%Emax) 295.5722	—
(50%Emax) 369.4655	—
(60%Emax) 443.3589	—
(70%Emax) 517.2522	—
(80%Emax) 591.1456	—
(90%Emax) 665.0389	—



Luminance Table

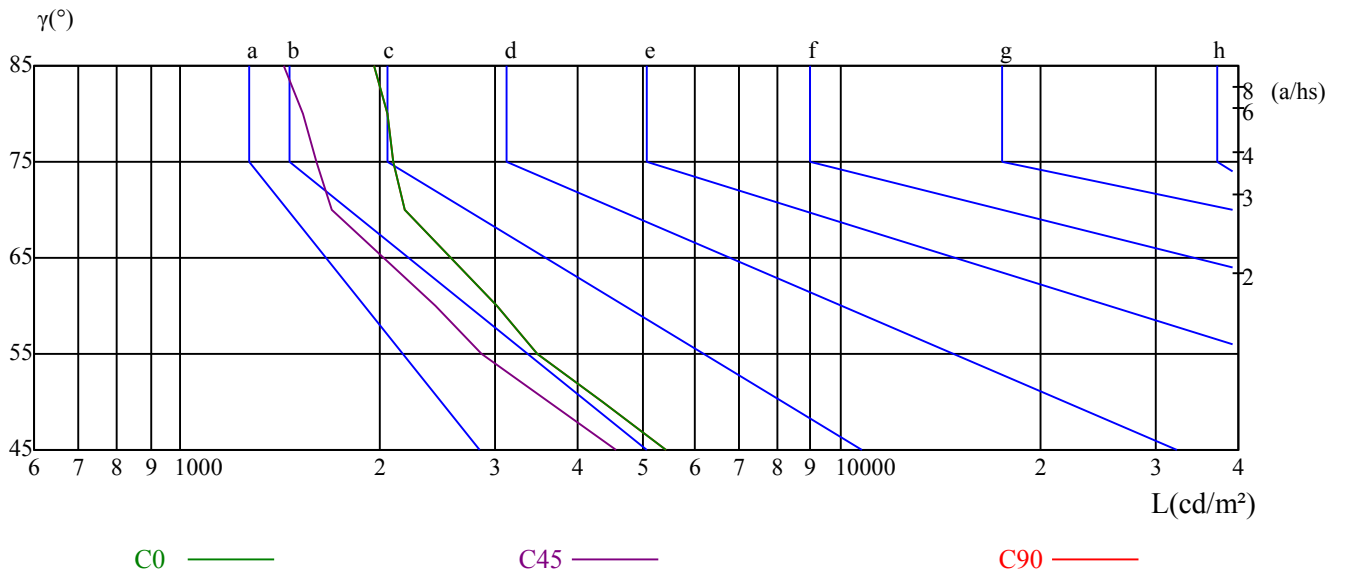
γ	45	50	55	60	65	70	75	80	85
C0	5420	4351	3480	3022	2566	2179	2105	2054	1964
C45	4577	3619	2850	2436	2034	1696	1606	1534	1430
C90	5420	4351	3480	3022	2566	2179	2105	2054	1964

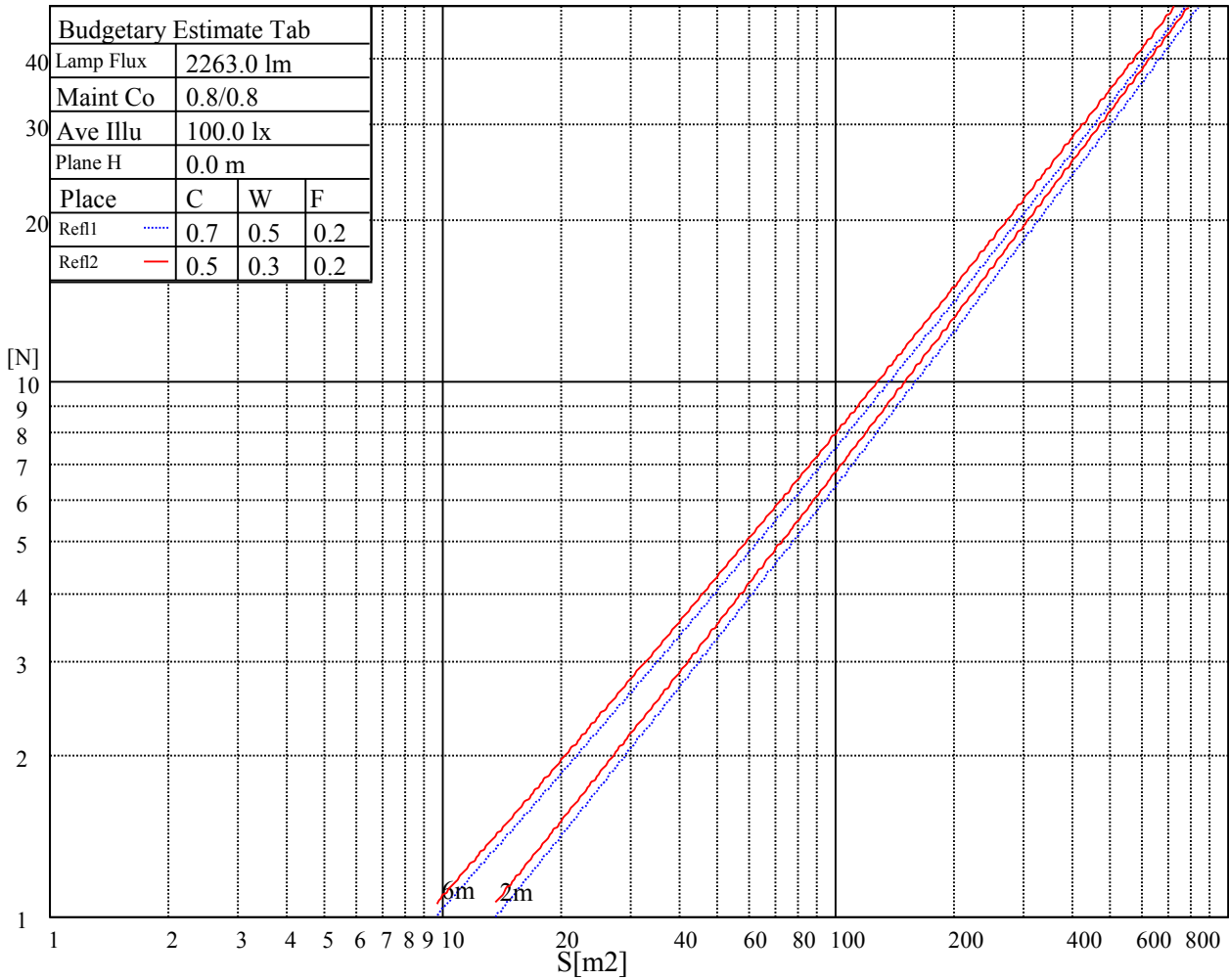
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
6969	6969	6969	8388	8388	8388	19926	19926	19926

Glare Table

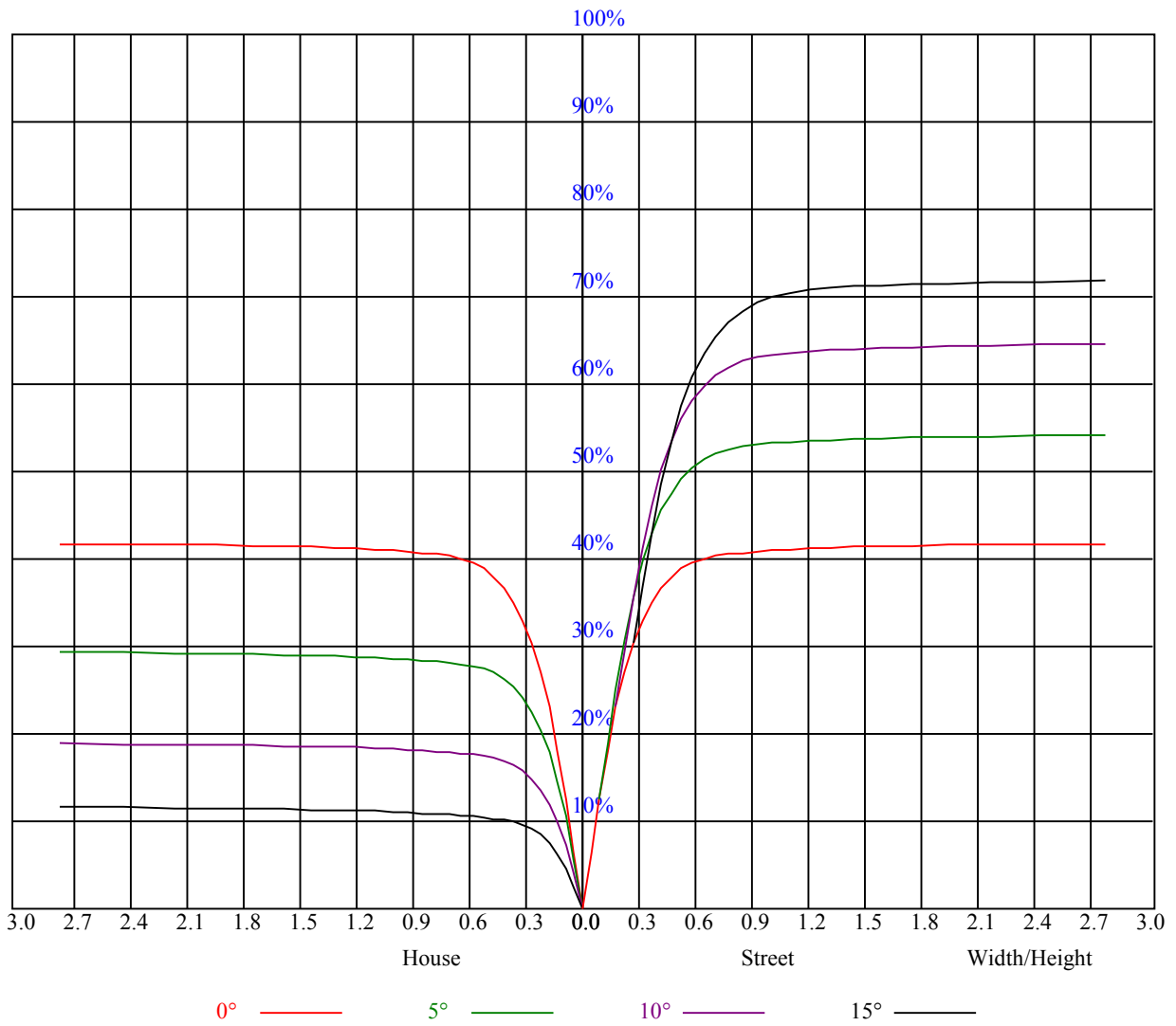
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	0.99	0.99	0.99	0.95	0.95	0.95	0.91	0.91	0.91	0.87	0.87	0.87	0.85
1	0.94	0.91	0.89	0.92	0.90	0.88	0.88	0.87	0.85	0.85	0.84	0.82	0.82	0.81	0.80	0.78
2	0.89	0.85	0.83	0.87	0.84	0.82	0.85	0.82	0.80	0.82	0.80	0.78	0.80	0.78	0.77	0.75
3	0.85	0.81	0.78	0.83	0.80	0.77	0.81	0.78	0.76	0.79	0.77	0.75	0.77	0.75	0.74	0.72
4	0.81	0.77	0.74	0.80	0.76	0.74	0.78	0.75	0.73	0.77	0.74	0.72	0.75	0.73	0.71	0.70
5	0.78	0.74	0.71	0.77	0.73	0.71	0.76	0.72	0.70	0.74	0.72	0.69	0.73	0.71	0.69	0.68
6	0.75	0.71	0.68	0.75	0.71	0.68	0.73	0.70	0.68	0.72	0.69	0.67	0.71	0.69	0.67	0.66
7	0.73	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.65	0.70	0.67	0.65	0.69	0.67	0.65	0.64
8	0.70	0.66	0.64	0.70	0.66	0.64	0.69	0.66	0.63	0.68	0.65	0.63	0.68	0.65	0.63	0.62
9	0.68	0.64	0.62	0.68	0.64	0.62	0.67	0.64	0.62	0.67	0.64	0.61	0.66	0.63	0.61	0.60
10	0.66	0.63	0.60	0.66	0.63	0.60	0.65	0.62	0.60	0.65	0.62	0.60	0.64	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	6637.05	6416.82	5202.28	3090.87	1646.19	1027.90	608.37	290.15	61.94
45.0	6684.95	6024.82	4324.13	2363.02	1302.63	834.66	407.42	74.49	52.58
90.0	6604.02	5743.48	3738.88	1925.87	1017.83	632.82	241.42	66.01	49.94
135.0	6675.59	5902.60	4243.75	2239.69	1250.88	804.37	354.01	73.45	52.96
180.0	6637.05	5843.69	3941.49	2160.96	1076.63	774.53	329.24	73.11	53.18
225.0	6684.95	6253.31	4889.56	2758.33	1499.19	961.01	551.56	111.10	57.31
270.0	6604.02	6528.04	5399.93	3374.96	1755.20	1062.04	722.89	290.15	64.42
315.0	6675.59	6381.04	5069.59	2912.48	1565.25	994.98	604.90	131.92	59.57
360.0	6637.05	6416.82	5202.28	3090.87	1646.19	1027.90	608.37	290.15	61.94
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	48.67	40.08	30.83	26.48	23.51	18.72	16.85	15.47	13.71
45.0	42.01	32.92	25.05	21.69	17.40	13.71	12.61	12.00	10.63
90.0	39.09	31.05	25.33	21.20	16.13	14.81	13.54	12.61	10.08
135.0	41.90	33.58	27.53	23.78	18.66	15.25	14.15	12.11	10.96
180.0	41.84	32.87	26.37	22.24	16.85	14.98	12.88	12.00	10.85
225.0	44.76	34.85	27.14	22.68	18.61	13.87	12.72	11.40	10.52
270.0	49.28	38.76	29.90	24.22	20.81	16.30	15.20	13.32	10.85
315.0	45.64	35.57	26.81	22.24	18.83	14.37	13.21	12.22	11.34
360.0	48.67	40.08	30.83	26.48	23.51	18.72	16.85	15.47	13.71
C/γ(°)	90.0								
0.0	11.23								
45.0	8.97								
90.0	8.48								
135.0	8.64								
180.0	8.59								
225.0	8.81								
270.0	8.81								
315.0	9.47								
360.0	11.23								