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Nata

LumCAT: 1678-A
Luminaire: 92.70.046.00+92.70.147.00
Report No: NT2017092520
Test No: GC2017092520
LampCAT: CREE CXA1512
Lamp flux(lm): 1378.0
Number of Lamps: 1
Length(mm): 46
Phm Type: C

Voltage(V):
Current(A):
Power (W): 11.1900
PF:
Ballast type:
Width(mm): 46
Height(mm): 0

Photometric Results

Lumens(lm): 1148.00
Efficiency(%): 83.31%
Lumens(lm)/Power(W): 102.59
Central intensity(cd): 2180.509
Maximum intensity(cd): 2180.509
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=40.1
 [C90/270]Total=40.1
Field angle(10%Imax): [C0/180]Total=67.8
 [C90/270]Total=67.8
Maximum s/h(1/2): C0_180=0.66 C90_270=0.66
Maximum s/h(1/4): C0_180=0.63 C90_270=0.63
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 83.31%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.725%

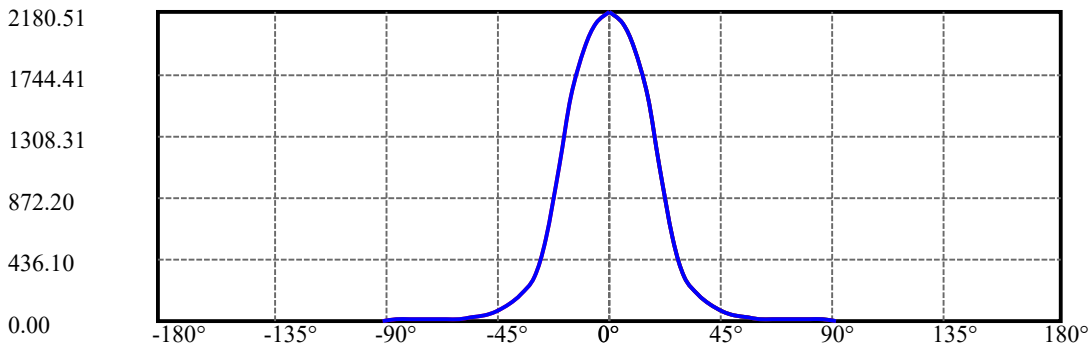
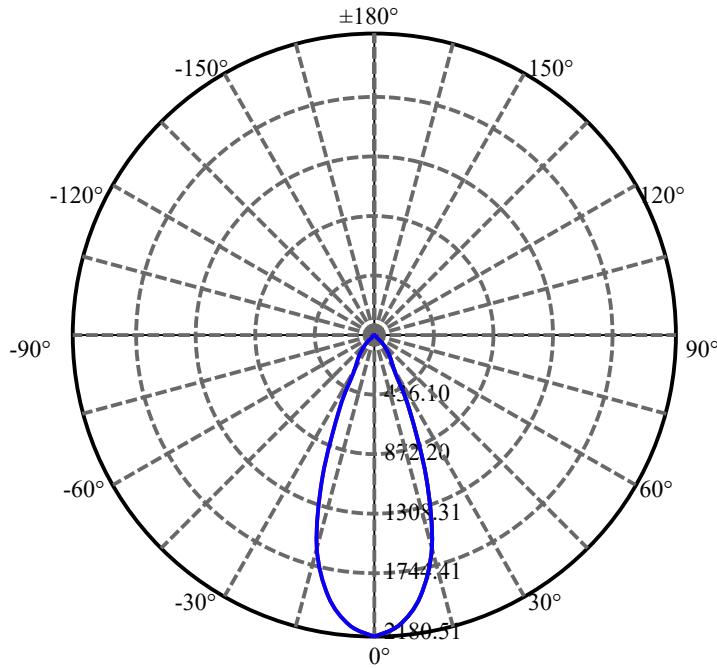
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2180.509	0.000	0	.000%	.000%
5.0	2102.879	51.207	51.207	3.716%	4.461%
10.0	1920.092	143.914	195.121	10.444%	16.997%
15.0	1588.240	208.112	403.233	15.102%	35.125%
20.0	1097.797	221.367	624.6	16.064%	54.408%
25.0	585.931	176.592	801.192	12.815%	69.790%
30.0	314.861	113.996	915.188	8.273%	79.720%
35.0	190.530	74.422	989.61	5.401%	86.203%
40.0	121.214	52.012	1041.622	3.774%	90.734%
45.0	71.566	35.695	1077.317	2.590%	93.843%
50.0	41.746	22.896	1100.214	1.662%	95.837%
55.0	22.952	14.068	1114.281	1.021%	97.063%
60.0	9.910	7.596	1121.877	.551%	97.725%
65.0	7.763	4.296	1126.173	.312%	98.099%
70.0	7.797	3.940	1130.113	.286%	98.442%
75.0	8.465	4.251	1134.364	.308%	98.812%
80.0	9.470	4.799	1139.163	.348%	99.230%
85.0	9.140	5.057	1144.219	.367%	99.671%
90.0	4.666	3.780	1148	.274%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	915.19	66.41%	79.72%
0-40	1041.62	75.59%	90.73%
0-60	1121.88	81.41%	97.72%
0-90	1144.22	83.03%	99.67%
0-120	1144.22	83.03%	99.67%
0-180	1148.00	83.31%	100.00%
60-90	29.94	2.17%	2.61%
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%
0-30.22	918.40	66.65%	80.00%

ZONAL LUMEN SUMMARY

0-10	195.12
10-20	429.48
20-30	290.59
30-40	126.43
40-50	58.59
50-60	21.66
60-70	8.24
70-80	9.05
80-90	5.06
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



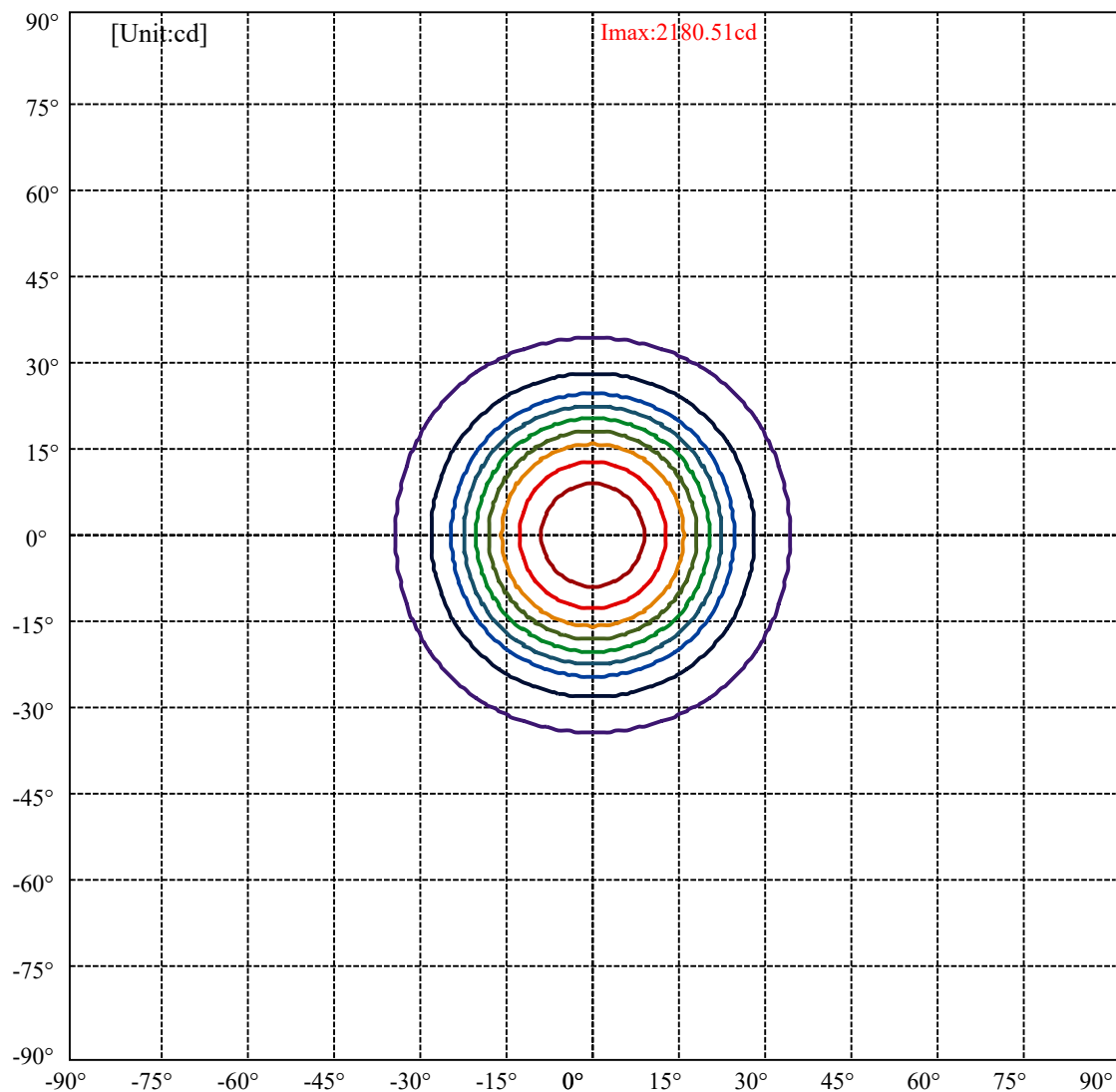
C0(Max): —————

C0/C180: —————

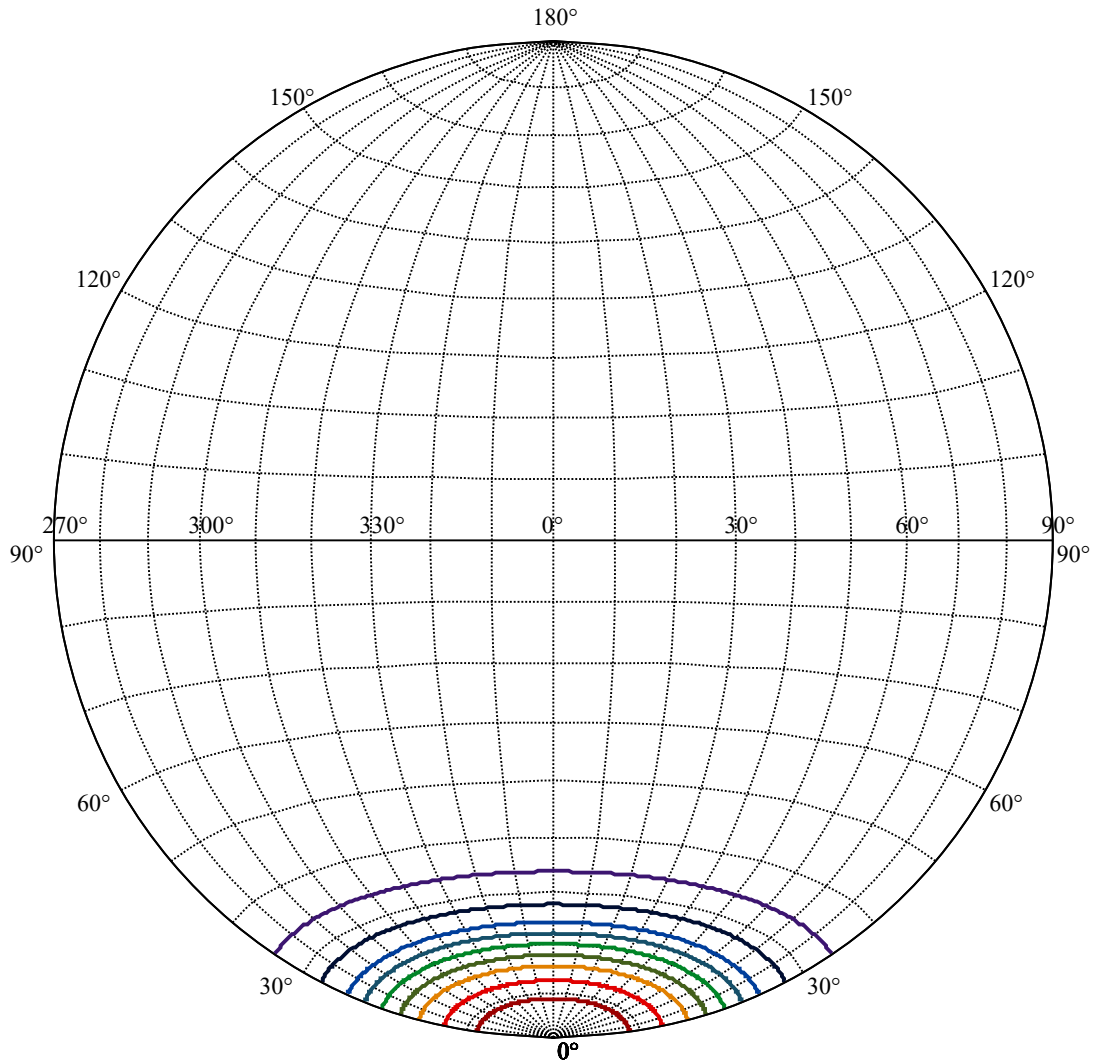
C90/C270: —————

Field angle(10%Imax):C0/180Left:33.9 Right:33.9
:C90/270Left:33.9 Right:33.9

Beam Angle(50%Imax):C0/180Left:20.1 Right:20.1
:C90/270Left:20.1 Right:20.1



(10%Imax) 218.051	—
(20%Imax) 436.102	—
(30%Imax) 654.153	—
(40%Imax) 872.203	—
(50%Imax) 1090.25	—
(60%Imax) 1308.31	—
(70%Imax) 1526.36	—
(80%Imax) 1744.41	—
(90%Imax) 1962.46	—



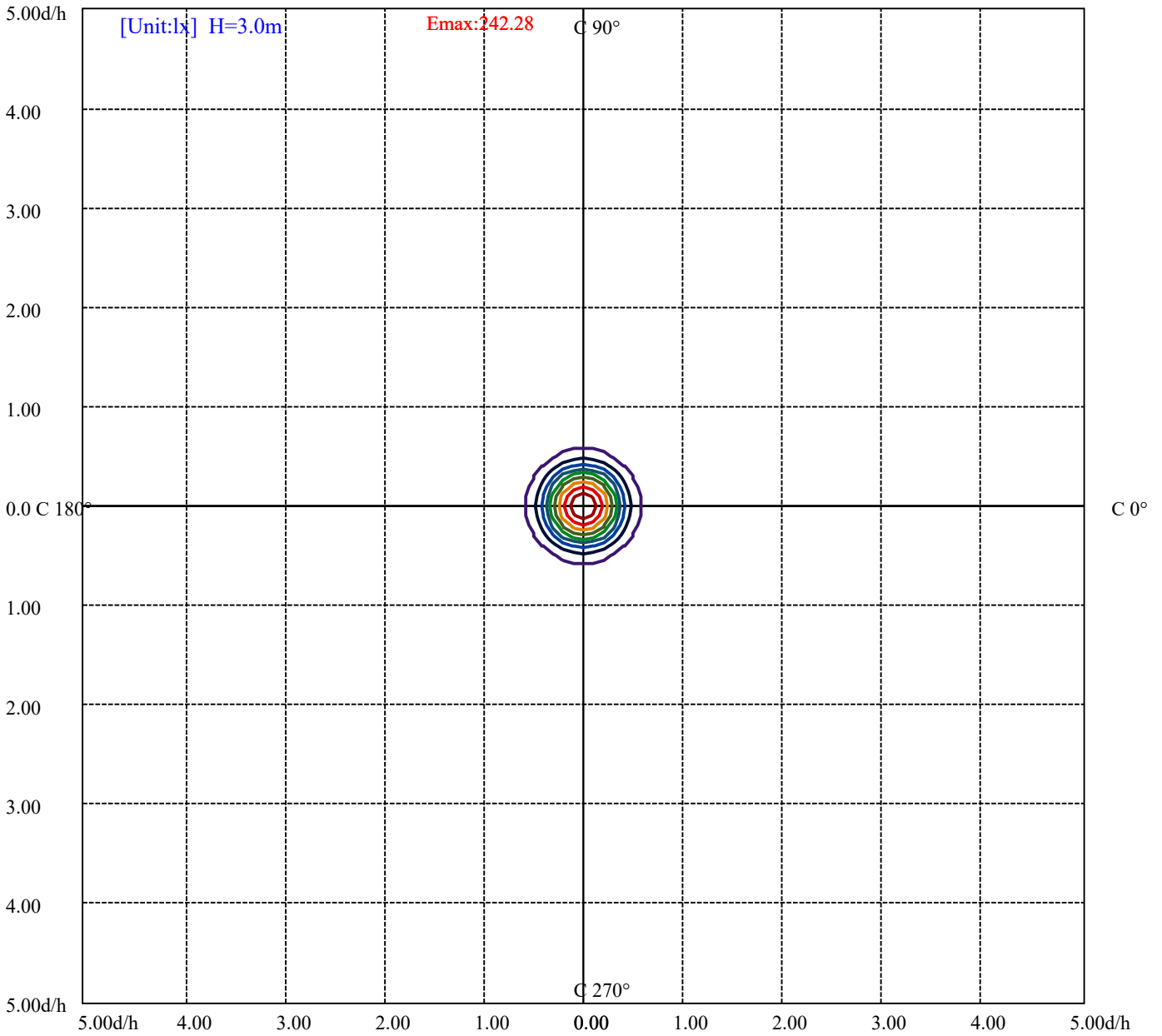
House

[Unit:cd]

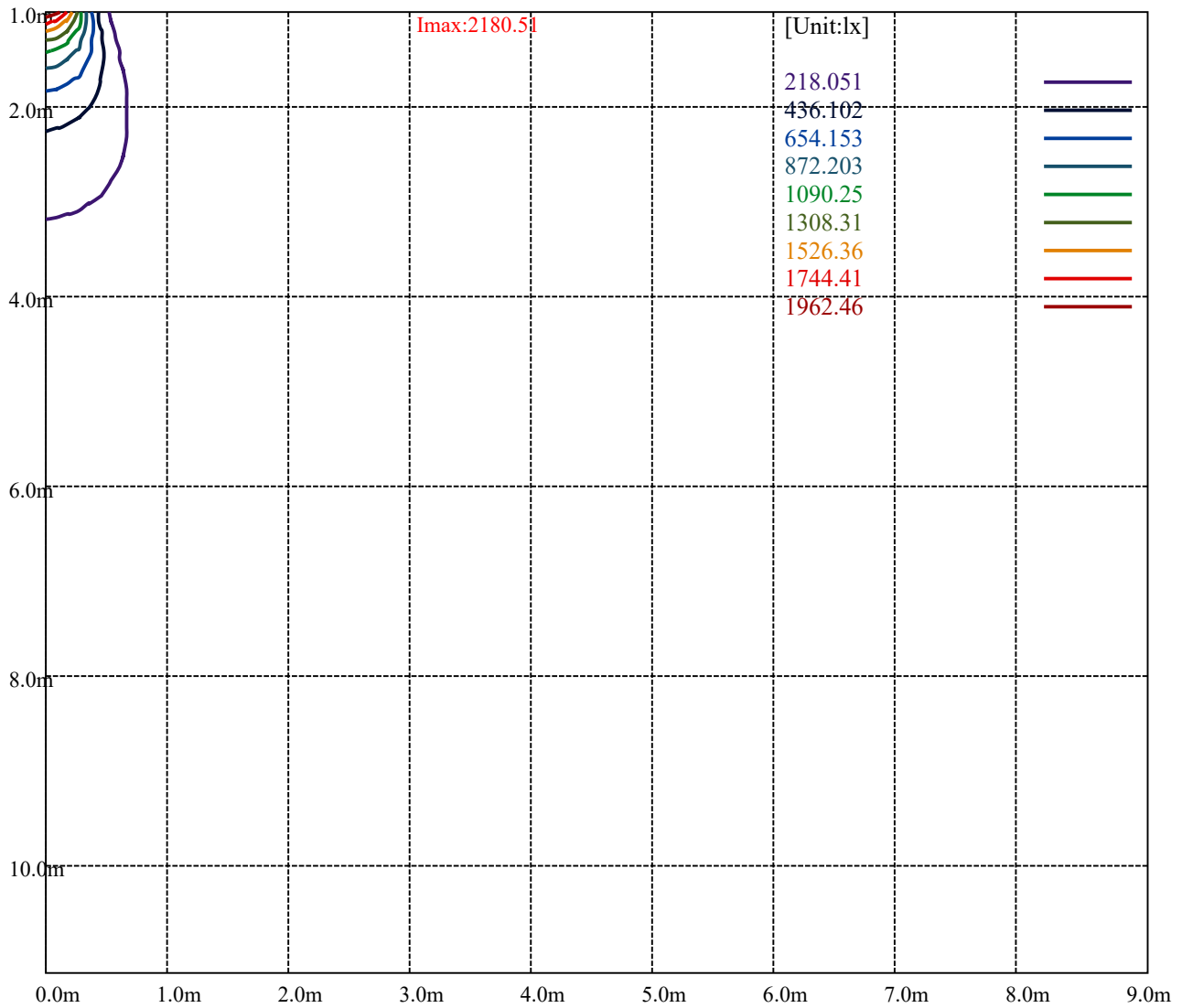
Road

Imax:2180.51

(10%Imax)	218.051	—
(20%Imax)	436.102	—
(30%Imax)	654.153	—
(40%Imax)	872.203	—
(50%Imax)	1090.25	—
(60%Imax)	1308.31	—
(70%Imax)	1526.36	—
(80%Imax)	1744.41	—
(90%Imax)	1962.46	—



- (10%Emax) 24.22789
- (20%Emax) 48.45567
- (30%Emax) 72.68356
- (40%Emax) 96.91145
- (50%Emax) 121.1389
- (60%Emax) 145.3667
- (70%Emax) 169.5944
- (80%Emax) 193.8233
- (90%Emax) 218.0511



Luminance Table

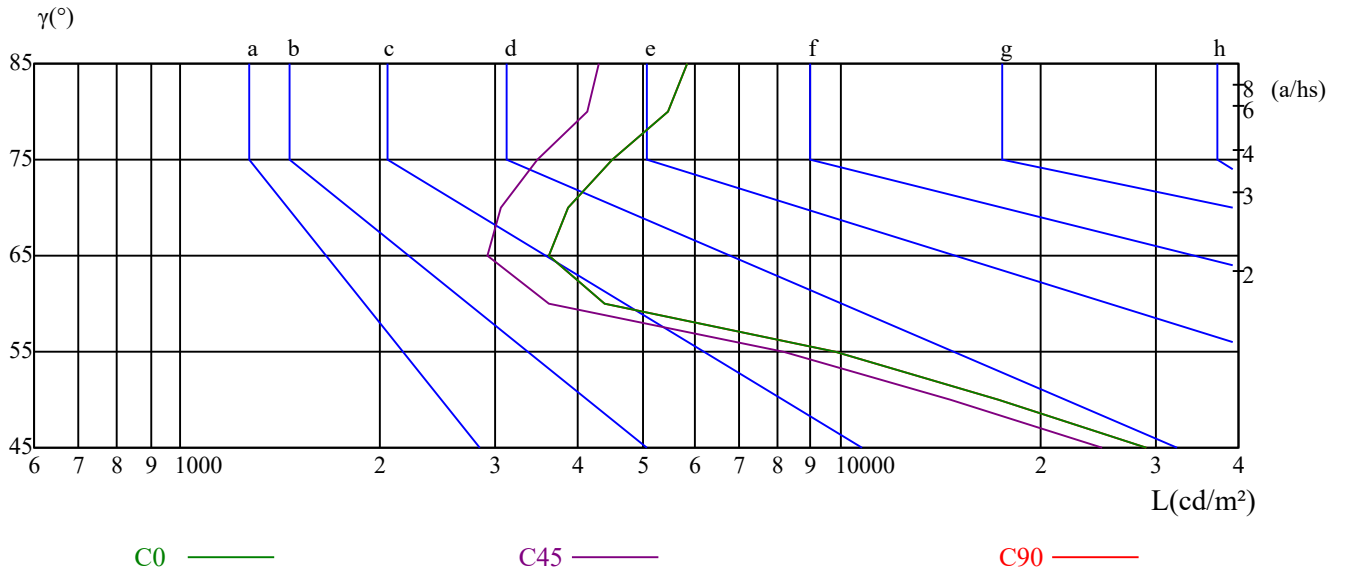
γ	45	50	55	60	65	70	75	80	85
C0	28950	17270	9791	4398	3619	3859	4501	5485	5862
C45	24882	14621	8161	3606	2915	3049	3480	4136	4294
C90	28950	17270	9791	4398	3619	3859	4501	5485	5862

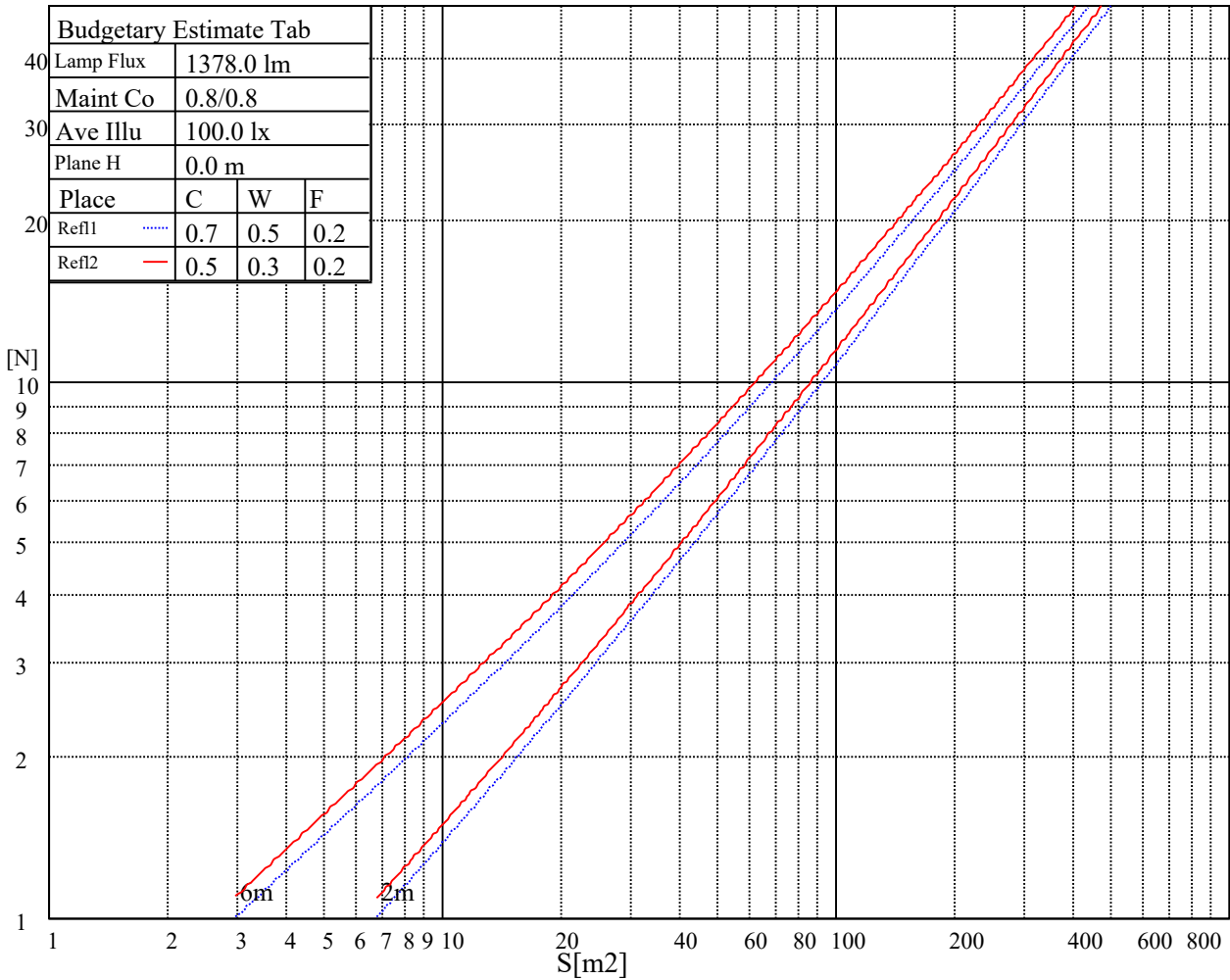
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
8681	8681	8681	15457	15457	15457	49558	49558	49558

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	0.99	0.99	0.99	0.97	0.97	0.97	0.93	0.93	0.93	0.89	0.89	0.89	0.85	0.85	0.85	0.83
1	0.92	0.90	0.88	0.90	0.89	0.87	0.87	0.86	0.84	0.84	0.83	0.82	0.81	0.80	0.79	0.78
2	0.86	0.83	0.80	0.85	0.82	0.79	0.82	0.80	0.78	0.80	0.78	0.76	0.77	0.76	0.74	0.73
3	0.81	0.77	0.74	0.80	0.76	0.73	0.78	0.75	0.72	0.76	0.73	0.71	0.74	0.72	0.70	0.69
4	0.76	0.72	0.69	0.76	0.72	0.68	0.74	0.70	0.68	0.72	0.69	0.67	0.71	0.68	0.66	0.65
5	0.72	0.68	0.64	0.72	0.67	0.64	0.70	0.66	0.64	0.69	0.66	0.63	0.67	0.65	0.63	0.61
6	0.69	0.64	0.61	0.68	0.64	0.60	0.67	0.63	0.60	0.66	0.62	0.60	0.64	0.62	0.59	0.58
7	0.65	0.61	0.57	0.65	0.60	0.57	0.64	0.60	0.57	0.63	0.59	0.57	0.62	0.59	0.56	0.55
8	0.62	0.58	0.54	0.62	0.57	0.54	0.61	0.57	0.54	0.60	0.56	0.54	0.59	0.56	0.54	0.53
9	0.59	0.55	0.52	0.59	0.55	0.52	0.58	0.54	0.52	0.57	0.54	0.51	0.57	0.54	0.51	0.50
10	0.57	0.52	0.49	0.56	0.52	0.49	0.56	0.52	0.49	0.55	0.52	0.49	0.54	0.51	0.49	0.48

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	2182.99	2108.11	1927.53	1598.29	1154.53	629.30	331.99	201.73	128.39
45.0	2181.89	2072.87	1863.11	1528.92	1049.93	542.86	313.27	182.51	116.89
90.0	2175.83	2058.56	1848.24	1482.67	966.57	499.58	271.70	170.95	104.28
135.0	2181.34	2113.07	1935.78	1608.75	1142.97	595.16	311.07	192.26	122.17
180.0	2182.99	2099.30	1900.00	1545.98	1049.16	532.89	288.00	182.35	116.94
225.0	2181.89	2117.47	1953.40	1610.40	1073.38	593.73	316.41	187.47	124.10
270.0	2175.83	2142.25	2005.71	1720.51	1259.14	712.43	363.92	211.42	135.44
315.0	2181.34	2111.41	1926.97	1610.40	1086.70	581.51	322.52	195.56	121.51
360.0	2182.99	2108.11	1927.53	1598.29	1154.53	629.30	331.99	201.73	128.39

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	76.03	44.32	24.17	10.68	7.76	7.71	8.37	9.03	8.59
45.0	69.70	39.97	22.19	9.86	7.76	7.87	9.19	10.08	9.42
90.0	61.66	36.06	19.66	9.03	7.32	7.32	7.71	9.08	9.31
135.0	72.45	43.00	24.50	9.69	7.21	7.16	7.32	7.49	8.09
180.0	69.21	41.40	21.80	9.80	8.42	8.64	9.80	10.30	9.42
225.0	73.72	42.28	23.78	9.75	8.09	8.26	9.42	9.58	8.92
270.0	79.12	45.04	25.05	11.12	7.54	7.49	7.71	9.14	9.03
315.0	70.64	41.90	22.46	9.36	7.98	7.93	8.20	11.07	10.35
360.0	76.03	44.32	24.17	10.68	7.76	7.71	8.37	9.03	8.59

C/γ(°)	90.0
0.0	4.68
45.0	4.63
90.0	4.68
135.0	4.68
180.0	4.68
225.0	4.63
270.0	4.68
315.0	4.68
360.0	4.68