
LumCAT: 1658-S
Luminaire: 92.70.123.00
Report No: NATA0100
Test No: GC2019120515
LampCAT: LUMINUS CXM-4-AC40
Lamp flux(lm): 589.0
Number of Lamps: 1
Length(mm): 0
Phm Type: C

Voltage(V): 34.5800
Current(A): 0.1470
Power (W): 5.0800
PF: 1.0000
Ballast type: DC
Width(mm): 0
Height(mm): 0

Photometric Results

Lumens(lm): 511.41
Efficiency(%): 86.83%
Lumens(lm)/Power(W): 100.67
Central intensity(cd): 1544.062
Maximum intensity(cd): 1544.062
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=28.0
 [C90/270]Total=28.0
Field angle(10%Imax): [C0/180]Total=62.4
 [C90/270]Total=62.4
Maximum s/h(1/2): C0_180=0.47 C90_270=0.47
Maximum s/h(1/4): C0_180=0.50 C90_270=0.50
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 86.83%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.276%

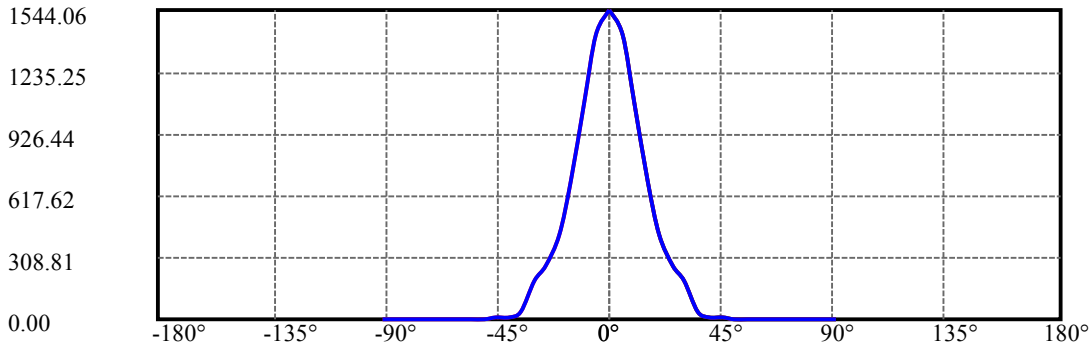
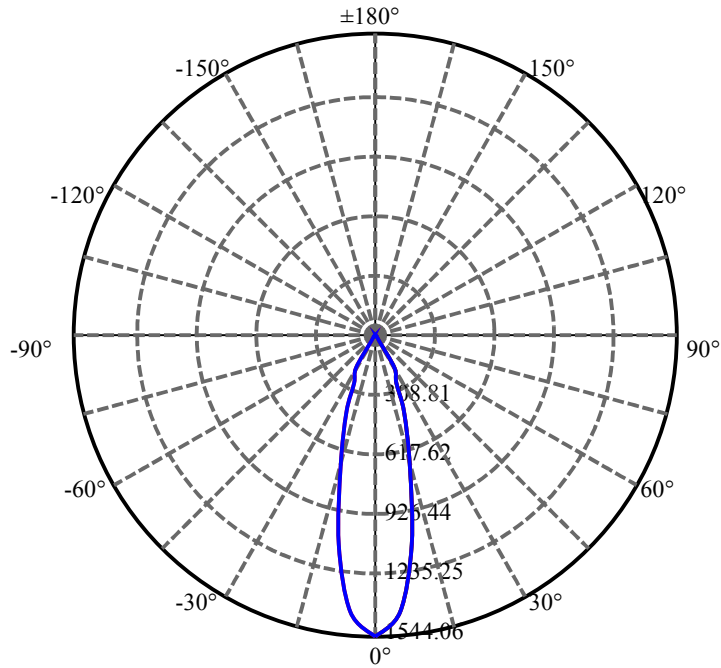
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1544.063	0.000	0	.000%	.000%
5.0	1417.641	35.406	35.406	6.011%	6.923%
10.0	1086.518	89.582	124.988	15.209%	24.440%
15.0	694.020	105.620	230.608	17.932%	45.093%
20.0	417.860	91.635	322.243	15.558%	63.011%
25.0	266.653	71.793	394.036	12.189%	77.049%
30.0	190.891	57.903	451.938	9.831%	88.371%
35.0	41.555	34.229	486.168	5.811%	95.064%
40.0	9.169	8.463	494.63	1.437%	96.719%
45.0	5.266	2.673	497.303	.454%	97.242%
50.0	4.268	1.927	499.23	.327%	97.618%
55.0	3.705	1.734	500.963	.294%	97.957%
60.0	3.340	1.629	502.592	.276%	98.276%
65.0	3.080	1.561	504.152	.265%	98.581%
70.0	2.904	1.515	505.668	.257%	98.877%
75.0	2.756	1.479	507.147	.251%	99.167%
80.0	2.658	1.449	508.596	.246%	99.450%
85.0	2.630	1.437	510.032	.244%	99.731%
90.0	2.398	1.377	511.409	.234%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	451.94	76.73%	88.37%
0-40	494.63	83.98%	96.72%
0-60	502.59	85.33%	98.28%
0-90	510.03	86.59%	99.73%
0-120	510.03	86.59%	99.73%
0-180	511.41	86.83%	100.00%
60-90	9.07	1.54%	1.77%
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%
0-26.30	409.13	69.46%	80.00%

ZONAL LUMEN SUMMARY

0-10	124.99
10-20	197.25
20-30	129.70
30-40	42.69
40-50	4.60
50-60	3.36
60-70	3.08
70-80	2.93
80-90	1.44
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: —————

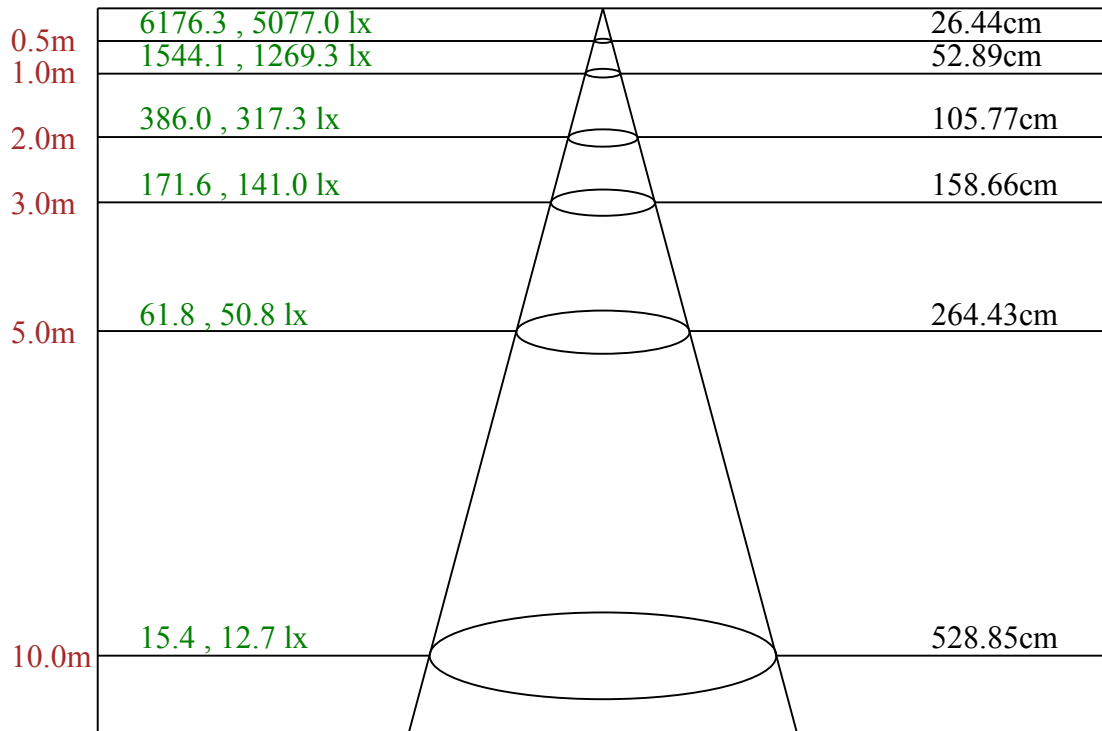
C90/C270: —————

Field angle(10%Imax):C0/180Left:31.2 Right:31.2

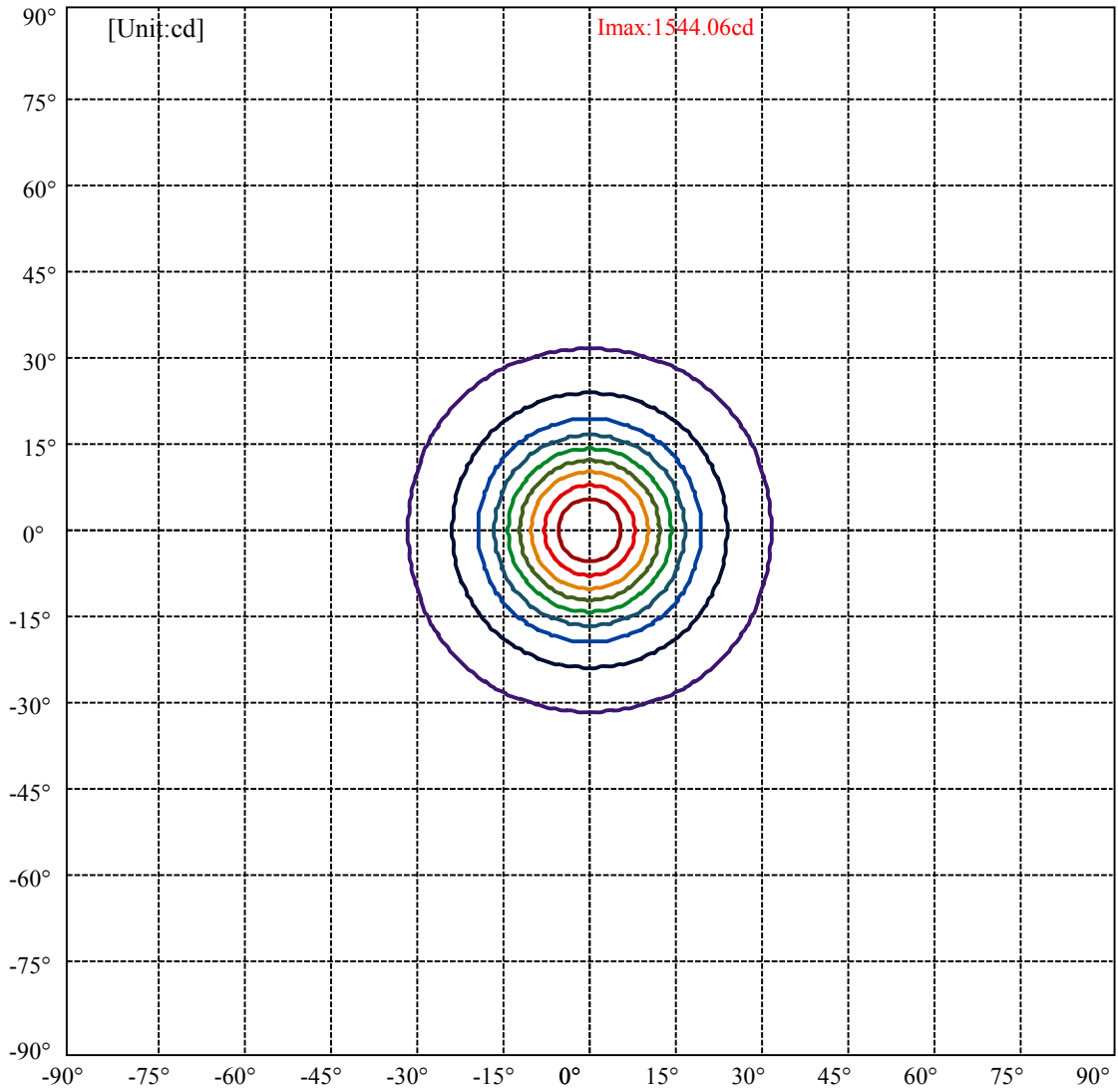
:C90/270Left:31.2 Right:31.2

Beam Angle(50%Imax):C0/180Left:14.0 Right:14.0

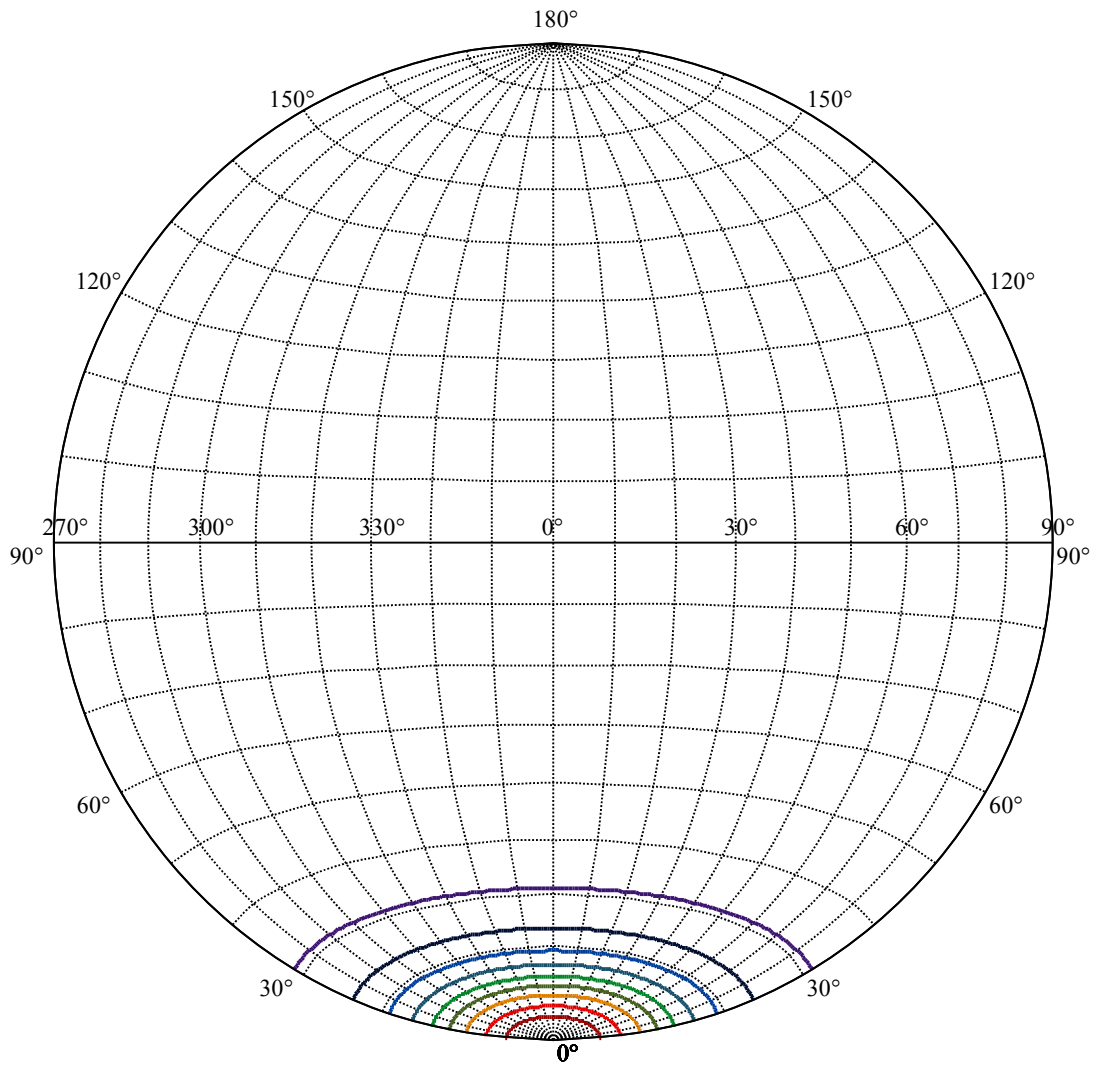
:C90/270Left:14.0 Right:14.0



Max , Ave Beam angle of C0 plane 29.62



(10%Imax)	154.406	—
(20%Imax)	308.812	—
(30%Imax)	463.219	—
(40%Imax)	617.625	—
(50%Imax)	772.031	—
(60%Imax)	926.437	—
(70%Imax)	1080.84	—
(80%Imax)	1235.25	—
(90%Imax)	1389.66	—



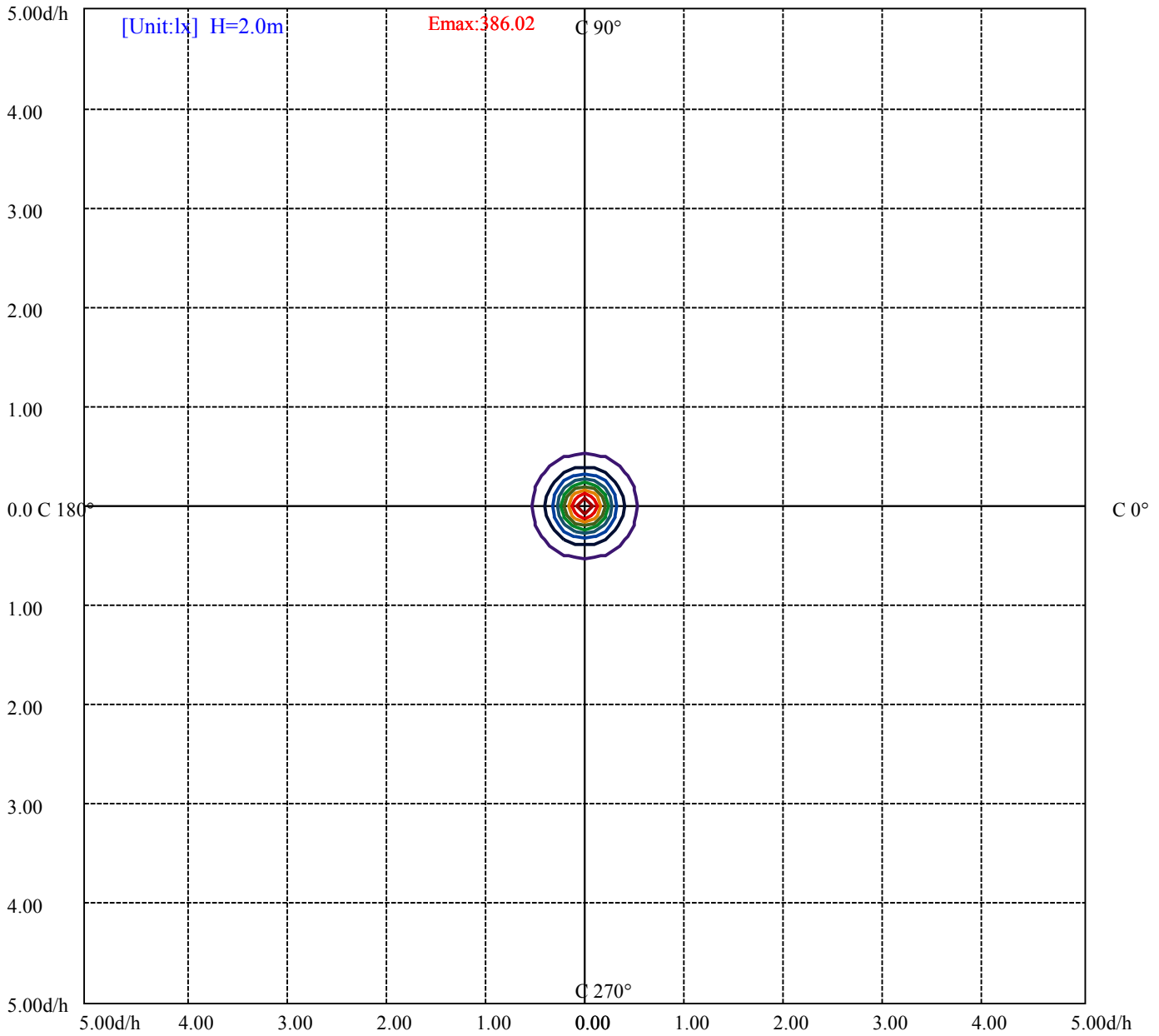
House

[Unit:cd]

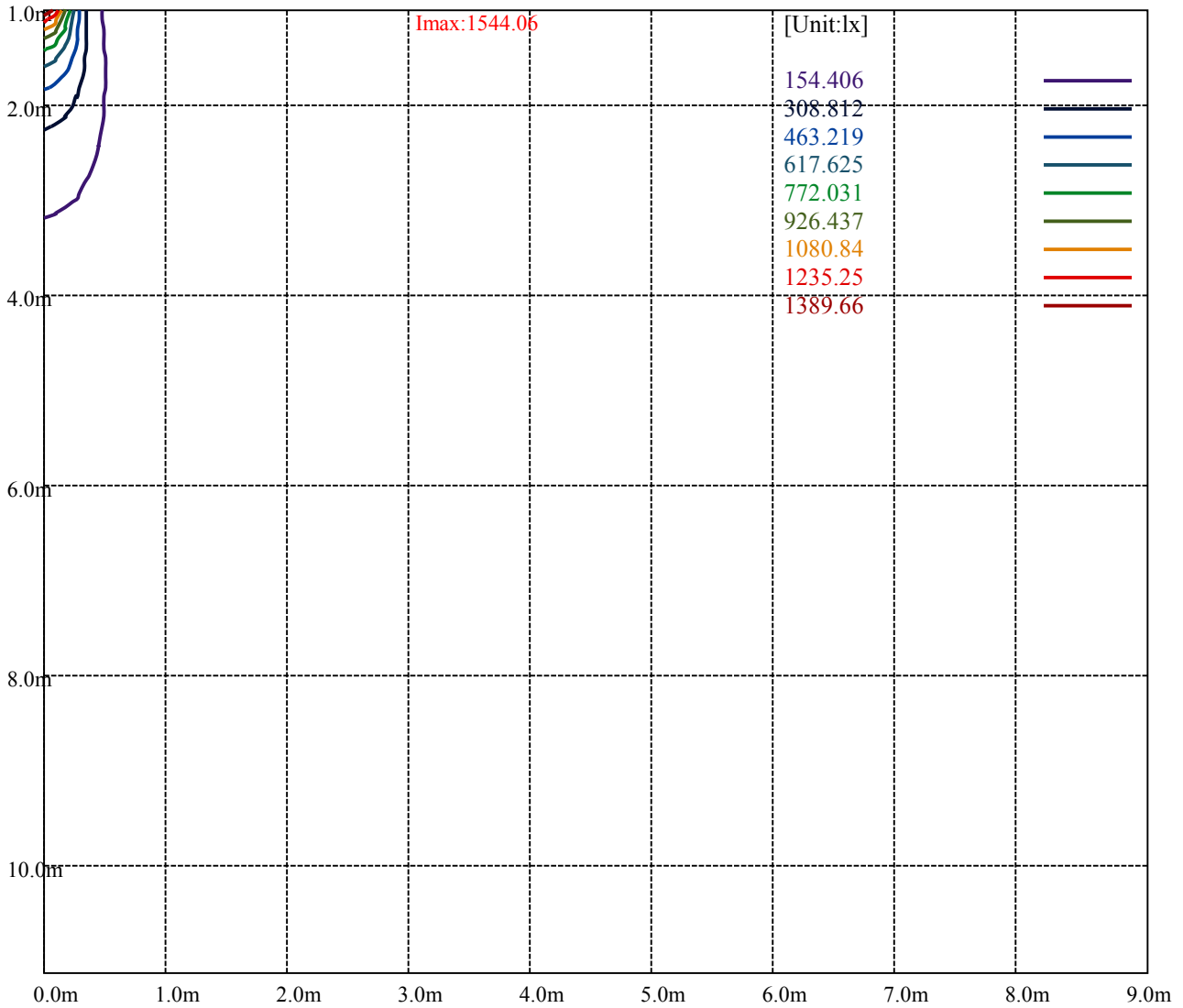
Road

I_{max}:1544.06

(10%I _{max}) 154.406	—
(20%I _{max}) 308.812	—
(30%I _{max}) 463.219	—
(40%I _{max}) 617.625	—
(50%I _{max}) 772.031	—
(60%I _{max}) 926.437	—
(70%I _{max}) 1080.84	—
(80%I _{max}) 1235.25	—
(90%I _{max}) 1389.66	—



(10%Emax) 38.6015	—
(20%Emax) 77.203	—
(30%Emax) 115.8045	—
(40%Emax) 154.4057	—
(50%Emax) 193.0072	—
(60%Emax) 231.6087	—
(70%Emax) 270.21	—
(80%Emax) 308.8125	—
(90%Emax) 347.4125	—



Luminance Table

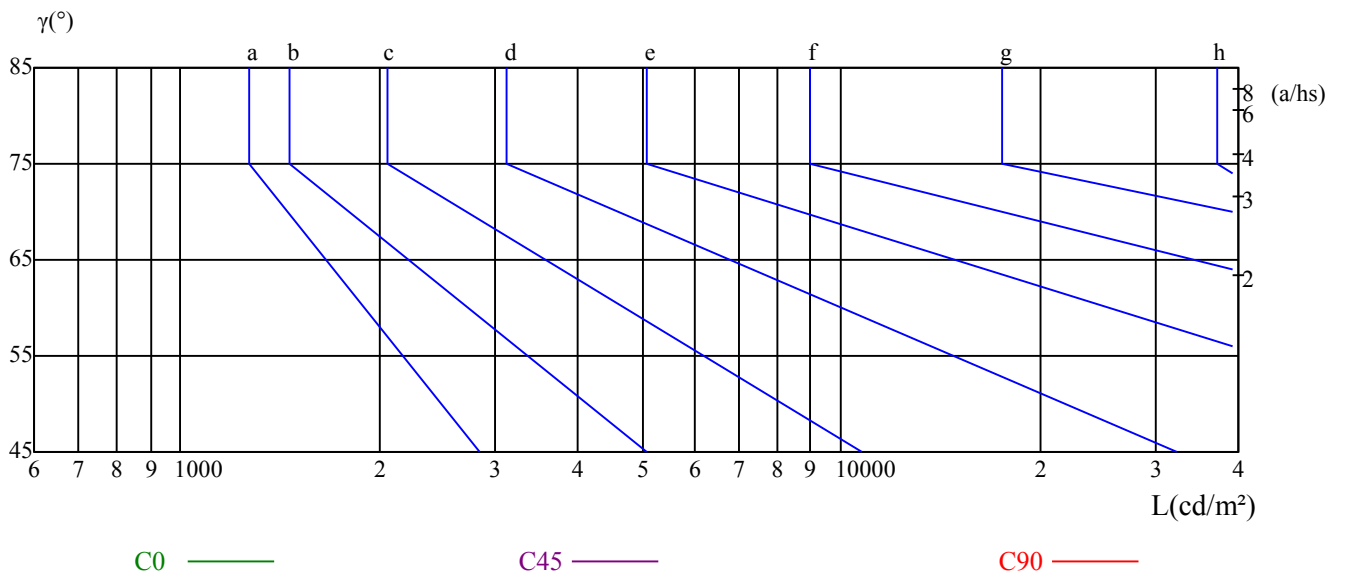
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

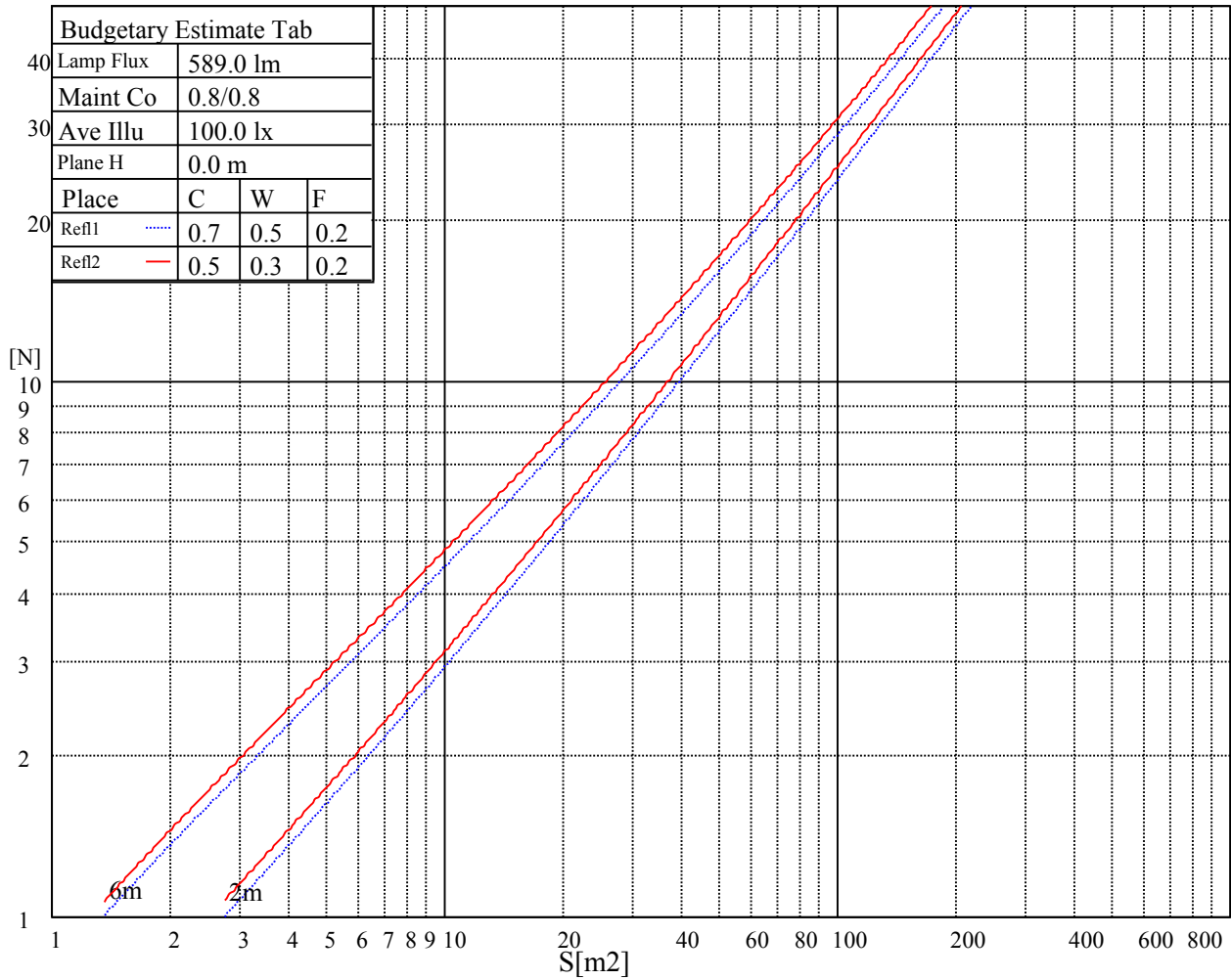
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

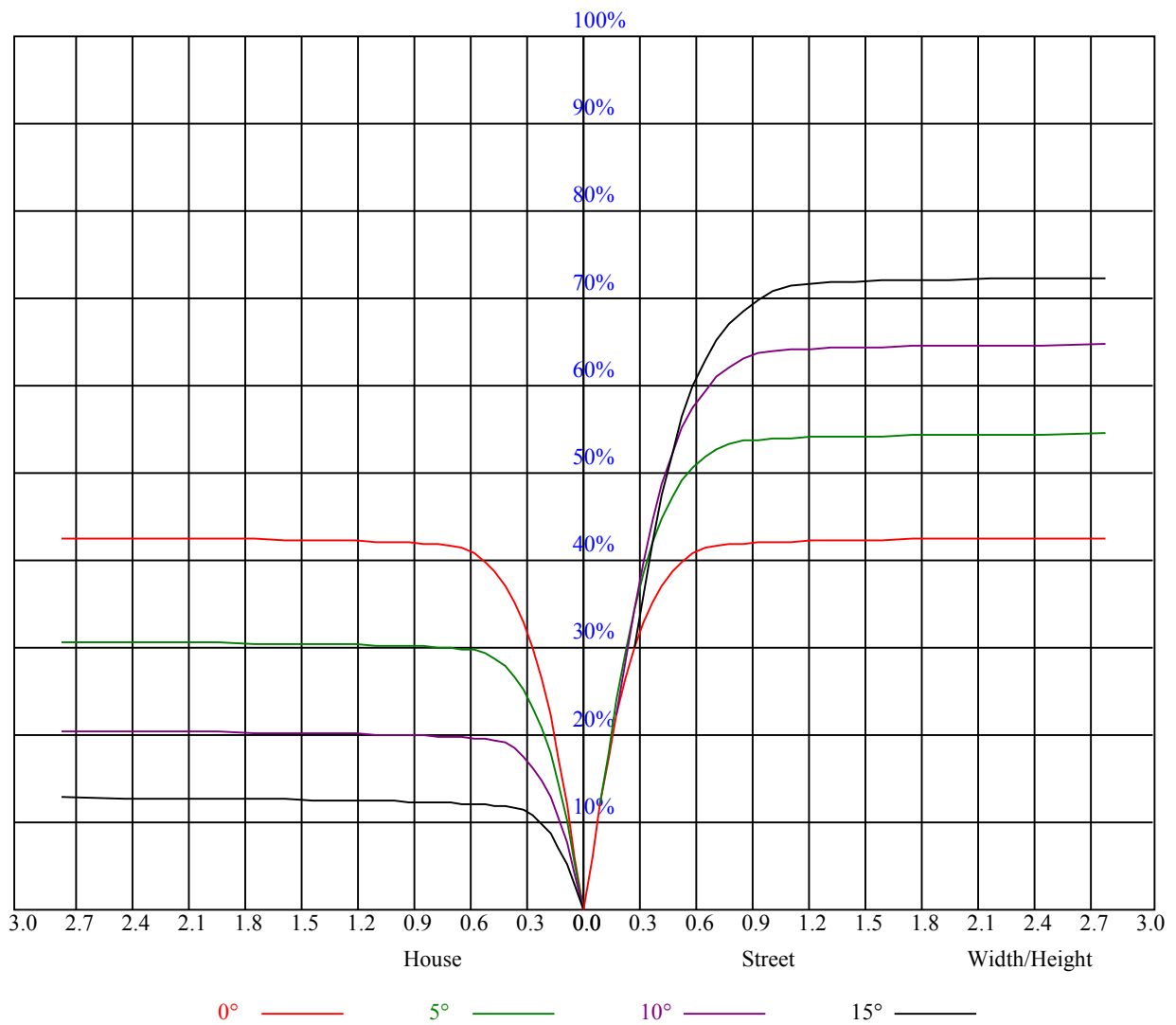
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.03	1.03	1.03	1.01	1.01	1.01	0.96	0.96	0.96	0.92	0.92	0.92	0.89	0.89	0.89	0.87
1	0.97	0.95	0.93	0.95	0.93	0.92	0.92	0.90	0.89	0.88	0.87	0.86	0.85	0.85	0.84	0.82
2	0.91	0.88	0.86	0.90	0.87	0.85	0.87	0.85	0.83	0.85	0.83	0.81	0.82	0.81	0.80	0.78
3	0.87	0.83	0.80	0.86	0.82	0.79	0.83	0.81	0.78	0.81	0.79	0.77	0.79	0.78	0.76	0.75
4	0.82	0.78	0.75	0.82	0.78	0.75	0.80	0.77	0.74	0.78	0.75	0.73	0.77	0.74	0.72	0.71
5	0.79	0.75	0.71	0.78	0.74	0.71	0.76	0.73	0.70	0.75	0.72	0.70	0.74	0.71	0.69	0.68
6	0.75	0.71	0.68	0.75	0.71	0.68	0.73	0.70	0.67	0.72	0.69	0.67	0.71	0.69	0.66	0.65
7	0.72	0.68	0.65	0.72	0.68	0.65	0.71	0.67	0.64	0.70	0.66	0.64	0.69	0.66	0.64	0.63
8	0.69	0.65	0.62	0.69	0.65	0.62	0.68	0.64	0.62	0.67	0.64	0.62	0.66	0.63	0.61	0.60
9	0.67	0.62	0.60	0.66	0.62	0.60	0.65	0.62	0.59	0.65	0.62	0.59	0.64	0.61	0.59	0.58
10	0.64	0.60	0.57	0.64	0.60	0.57	0.63	0.60	0.57	0.63	0.59	0.57	0.62	0.59	0.57	0.56



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	1539.56	1505.81	1230.75	817.88	503.44	294.75	208.24	69.64	10.80
45.0	1545.75	1479.38	1169.44	749.25	449.44	290.81	203.68	60.47	10.52
90.0	1545.19	1395.56	1039.56	642.04	374.40	235.24	180.28	25.99	8.49
135.0	1545.75	1389.38	1055.25	673.31	414.56	289.13	193.73	37.52	8.33
180.0	1539.56	1302.75	941.63	594.34	353.03	237.15	166.39	15.13	7.20
225.0	1545.75	1366.88	1007.27	631.24	366.86	232.76	172.24	22.22	8.44
270.0	1545.19	1455.75	1127.81	726.19	447.19	286.31	203.63	58.28	9.96
315.0	1545.75	1445.63	1120.44	717.92	433.97	267.08	198.96	43.20	9.62
360.0	1539.56	1505.81	1230.75	817.88	503.44	294.75	208.24	69.64	10.80
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	5.68	4.28	3.60	3.21	2.98	2.93	2.76	2.70	2.59
45.0	5.91	4.89	4.11	3.66	3.32	3.04	2.87	2.70	2.59
90.0	5.01	4.05	3.54	3.26	3.04	2.87	2.70	2.59	2.59
135.0	4.84	4.05	3.54	3.21	2.98	2.87	2.76	2.64	2.70
180.0	4.73	3.94	3.43	3.15	2.98	2.76	2.64	2.59	2.70
225.0	5.23	4.39	4.05	3.49	3.15	2.93	2.81	2.64	2.70
270.0	5.40	4.39	3.77	3.54	3.26	3.04	2.81	2.81	2.64
315.0	5.34	4.16	3.60	3.21	2.93	2.81	2.70	2.59	2.53
360.0	5.68	4.28	3.60	3.21	2.98	2.93	2.76	2.70	2.59
C/γ(°)	90.0								
0.0	2.42								
45.0	2.36								
90.0	2.42								
135.0	2.36								
180.0	2.36								
225.0	2.42								
270.0	2.42								
315.0	2.42								
360.0	2.42								