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Nata

LumCAT: 1653-S	
Luminaire: 92.70.051.00	
Report No: NATA0100	Voltage(V): 37.3000
Test No: GC2018080106	Current(A): 0.2000
LampCAT: BRIDGELUX V4 HD	Power (W): 7.4600
Lamp flux(lm): 732.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 32	Width(mm): 32
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 642.38
Efficiency(%): 87.76%
Lumens(lm)/Power(W): 86.99
Central intensity(cd): 6969.452
Maximum intensity(cd): 6969.452
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=12.5
 [C90/270]Total=12.5
Field angle(10%Imax): [C0/180]Total=25.0
 [C90/270]Total=25.0
Maximum s/h(1/2): C0_180=0.22 C90_270=0.22
Maximum s/h(1/4): C0_180=0.22 C90_270=0.22
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 88.65%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.391%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	6969.452	6.669	6.669	.911%	1.038%
2.0	6463.071	49.468	56.137	6.758%	8.739%
4.0	5264.562	80.540	136.677	11.003%	21.277%
6.0	3659.186	83.885	220.562	11.460%	34.335%
8.0	2215.125	67.611	288.174	9.237%	44.860%
10.0	1227.909	46.763	334.937	6.388%	52.140%
12.0	763.825	34.829	369.765	4.758%	57.562%
14.0	493.987	26.209	395.975	3.581%	61.642%
16.0	372.174	22.498	418.473	3.074%	65.144%
18.0	311.323	21.099	439.572	2.882%	68.429%
20.0	280.856	21.067	460.639	2.878%	71.708%
22.0	264.408	21.723	482.362	2.968%	75.090%
24.0	250.369	22.334	504.695	3.051%	78.566%
26.0	241.863	23.253	527.948	3.177%	82.186%
28.0	234.237	24.117	552.065	3.295%	85.941%
30.0	223.405	24.498	576.563	3.347%	89.754%
32.0	184.673	21.462	598.026	2.932%	93.095%
34.0	120.849	14.821	612.846	2.025%	95.402%
36.0	55.304	7.129	619.976	.974%	96.512%
38.0	17.907	2.418	622.393	.330%	96.889%
40.0	9.662	1.362	623.756	.186%	97.101%
42.0	7.660	1.124	624.88	.154%	97.276%
44.0	6.118	0.932	625.812	.127%	97.421%
46.0	5.375	0.848	626.66	.116%	97.553%
48.0	4.976	0.811	627.471	.111%	97.679%
50.0	4.597	0.772	628.243	.106%	97.799%
52.0	4.343	0.750	628.993	.103%	97.916%
54.0	4.157	0.738	629.731	.101%	98.031%
56.0	4.109	0.747	630.478	.102%	98.147%
58.0	4.040	0.751	631.229	.103%	98.264%
60.0	4.157	0.789	632.019	.108%	98.387%
62.0	4.184	0.810	632.829	.111%	98.513%
64.0	4.102	0.809	633.638	.110%	98.639%
66.0	3.854	0.772	634.41	.105%	98.759%
68.0	3.682	0.749	635.158	.102%	98.876%
70.0	3.530	0.728	635.886	.099%	98.989%
72.0	3.448	0.719	636.605	.098%	99.101%
74.0	3.386	0.714	637.319	.098%	99.212%

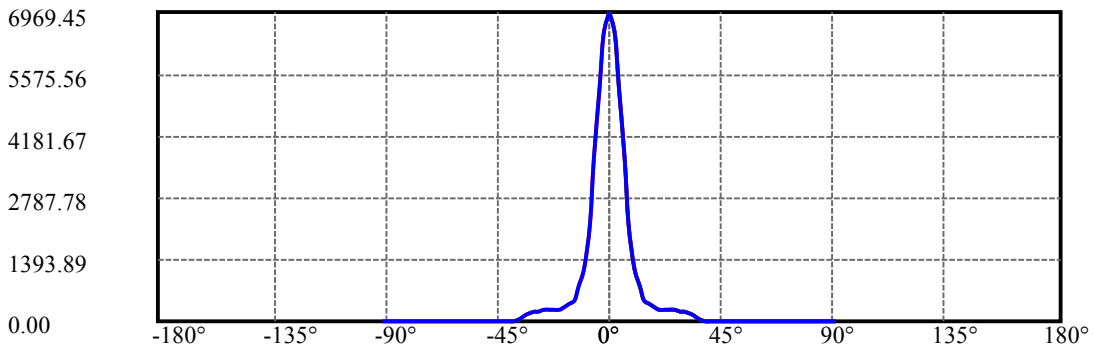
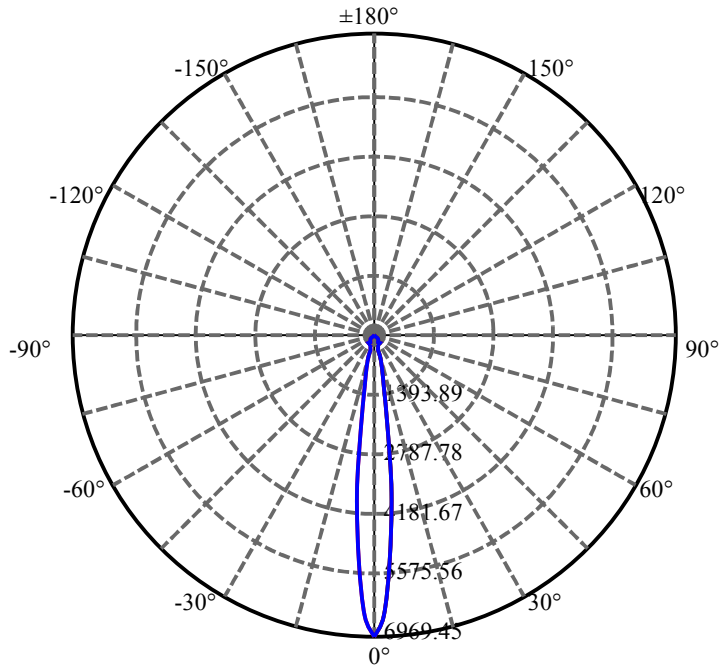
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	3.324	0.707	638.026	.097%	99.322%
78.0	3.262	0.700	638.726	.096%	99.431%
80.0	3.193	0.690	639.416	.094%	99.538%
82.0	3.124	0.679	640.094	.093%	99.644%
84.0	3.083	0.672	640.767	.092%	99.749%
86.0	3.028	0.662	641.429	.091%	99.852%
88.0	2.918	0.640	642.069	.087%	99.951%
90.0	2.842	0.312	642.381	.043%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	576.56	78.77%	89.75%
0-40	623.76	85.21%	97.10%
0-60	632.02	86.34%	98.39%
0-90	642.07	87.71%	99.95%
0-120	642.07	87.71%	99.95%
0-180	642.38	87.76%	100.00%
60-90	10.84	1.48%	1.69%
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%
0-24.79	513.90	70.21%	80.00%

ZONAL LUMEN SUMMARY

0-10	334.94
10-20	125.70
20-30	115.92
30-40	47.19
40-50	4.49
50-60	3.78
60-70	3.87
70-80	3.53
80-90	2.65
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



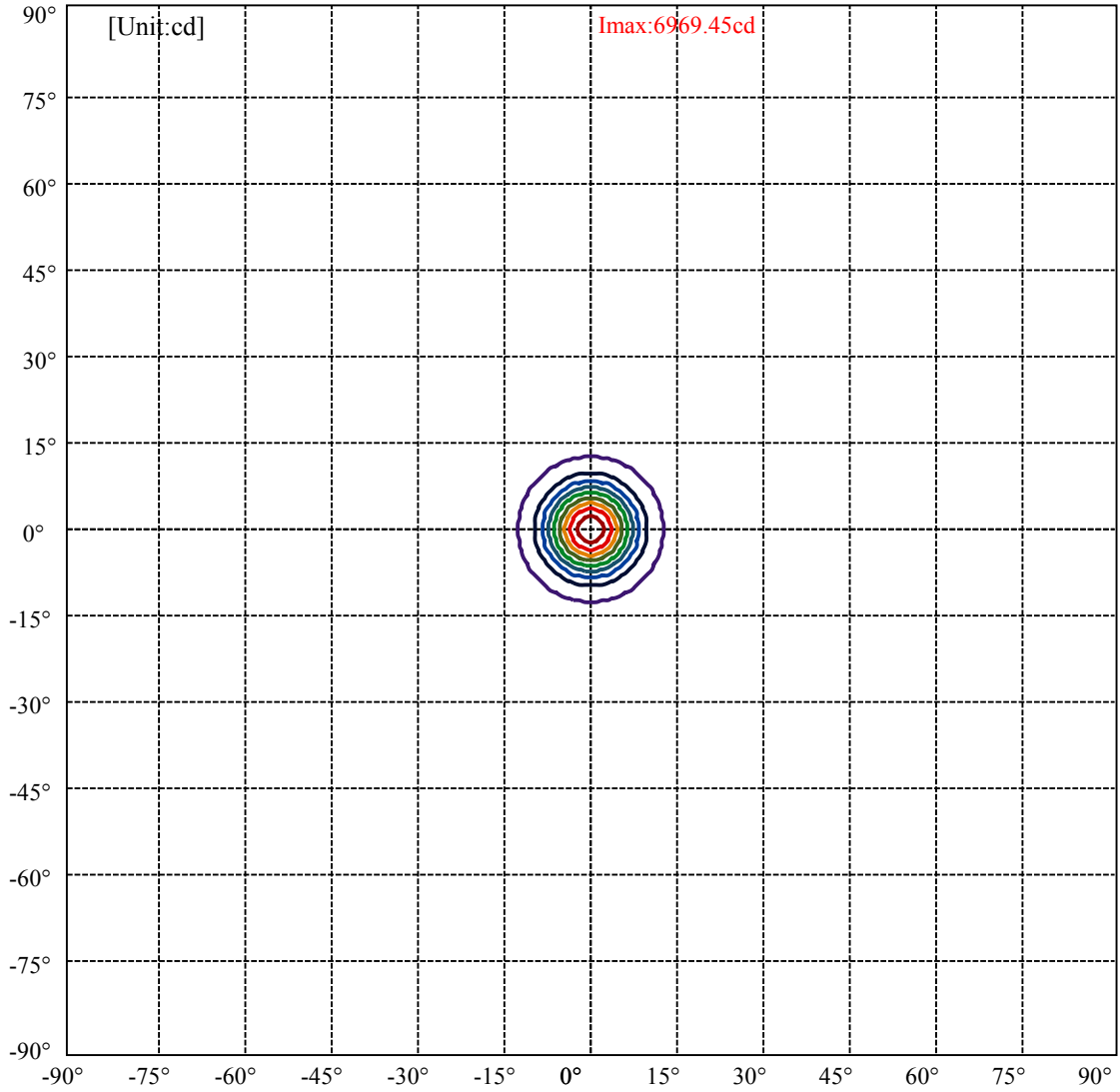
C0(Max): —————

C0/C180: —————

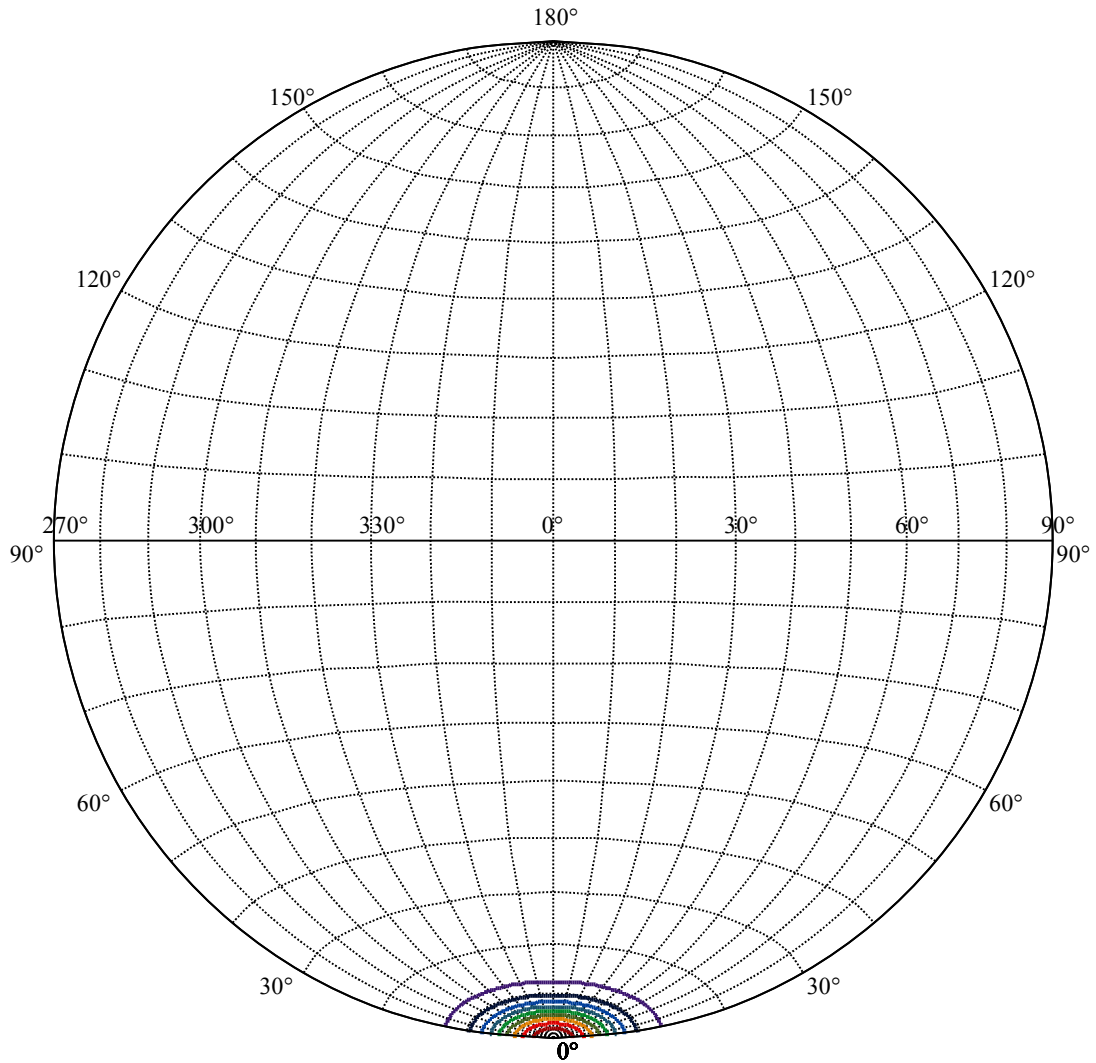
C90/C270: —————

Field angle(10%Imax):C0/180Left:12.5 Right:12.5
:C90/270Left:12.5 Right:12.5

Beam Angle(50%Imax):C0/180Left:6.2 Right:6.2
:C90/270Left:6.2 Right:6.2



(10%Imax) 696.945	—
(20%Imax) 1393.89	—
(30%Imax) 2090.84	—
(40%Imax) 2787.78	—
(50%Imax) 3484.73	—
(60%Imax) 4181.67	—
(70%Imax) 4878.62	—
(80%Imax) 5575.56	—
(90%Imax) 6272.51	—



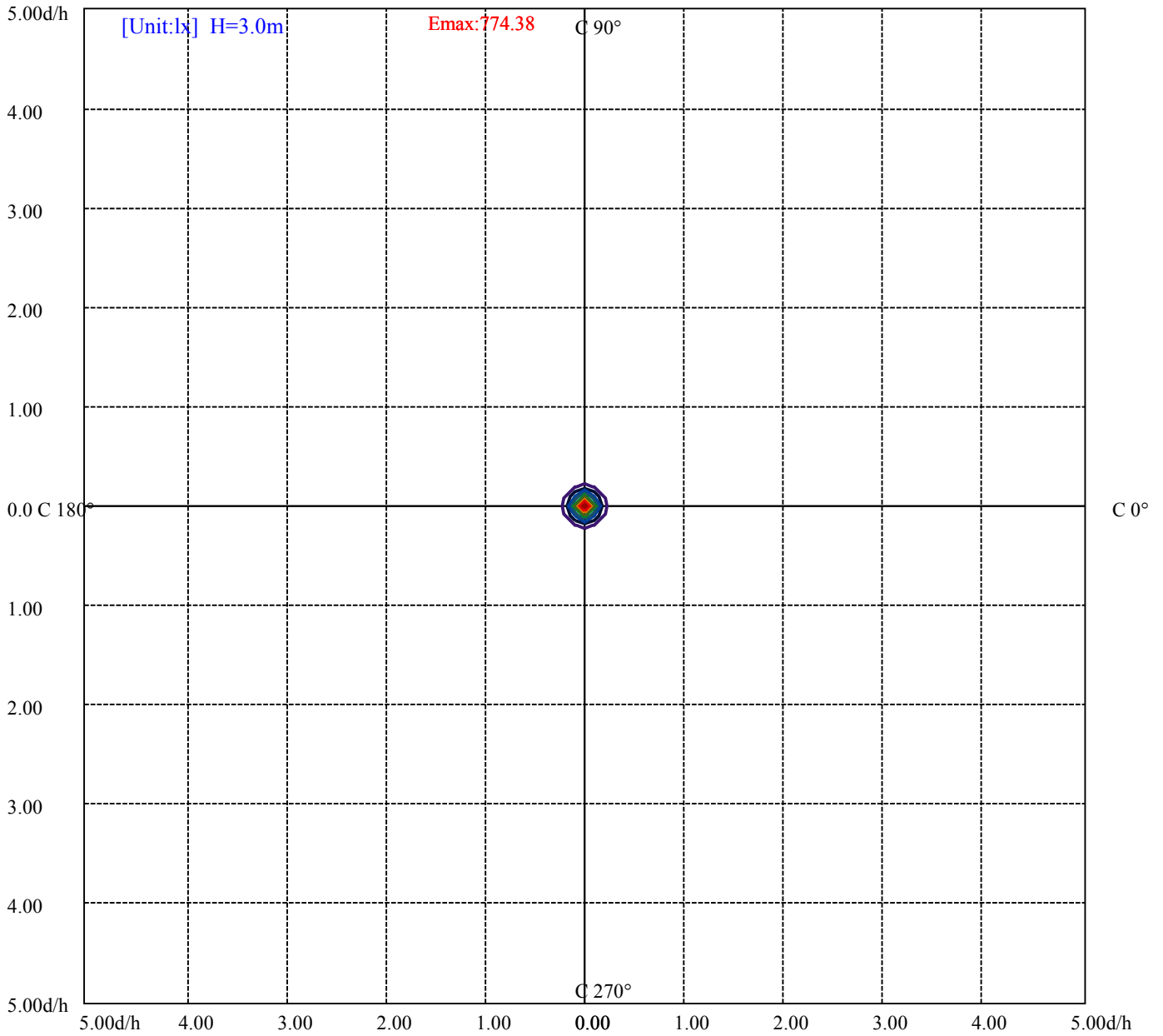
House

[Unit:cd]

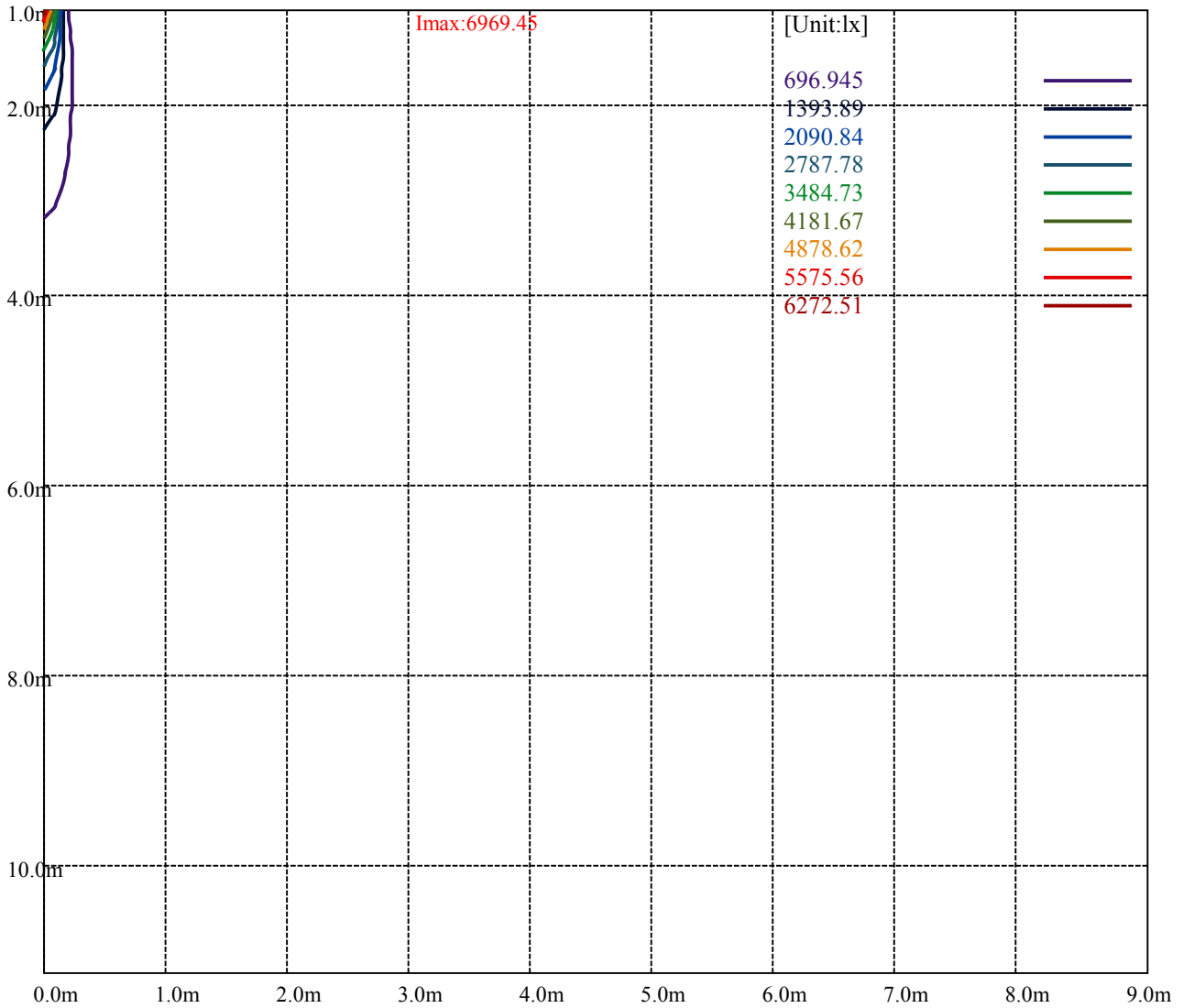
Road

Imax:6969.45

(10%Imax) 696.945	—
(20%Imax) 1393.89	—
(30%Imax) 2090.84	—
(40%Imax) 2787.78	—
(50%Imax) 3484.73	—
(60%Imax) 4181.67	—
(70%Imax) 4878.62	—
(80%Imax) 5575.56	—
(90%Imax) 6272.51	—



- (10%E_{max}) 77.43789
- (20%E_{max}) 154.8755
- (30%E_{max}) 232.3133
- (40%E_{max}) 309.7522
- (50%E_{max}) 387.19
- (60%E_{max}) 464.6278
- (70%E_{max}) 542.0656
- (80%E_{max}) 619.5033
- (90%E_{max}) 696.9412



Luminance Table

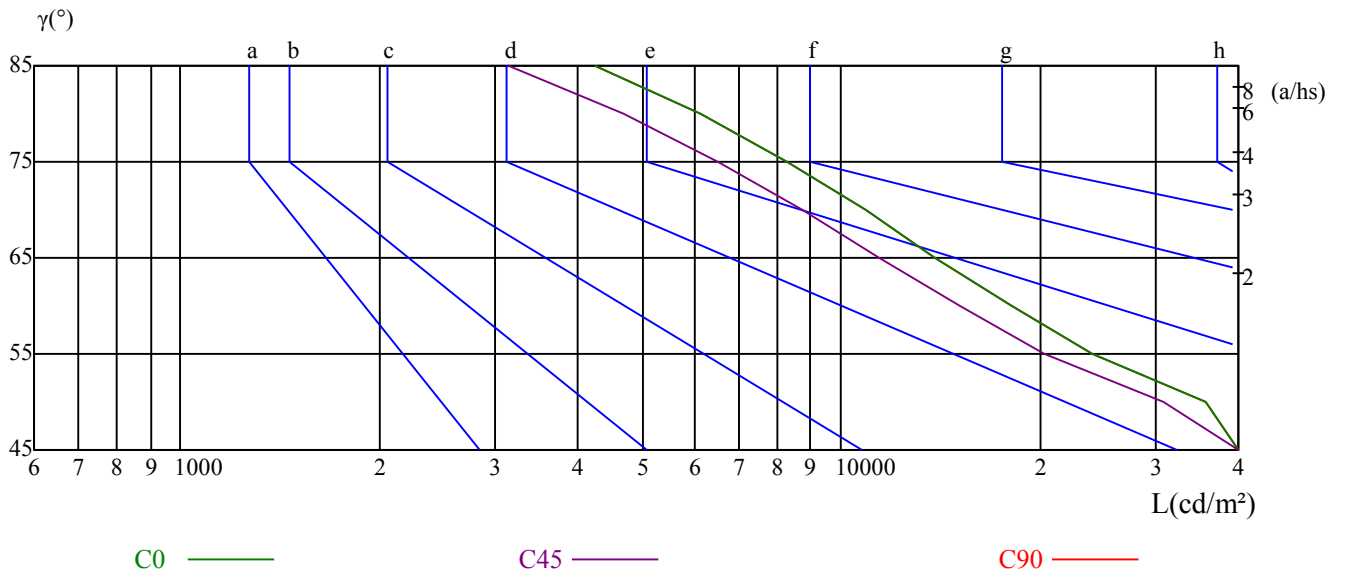
γ	45	50	55	60	65	70	75	80	85
C0	54391	35651	23966	18140	13910	10896	8303	6134	4237
C45	47694	30810	20394	15182	11430	8771	6528	4688	3130
C90	54391	35651	23966	18140	13910	10896	8303	6134	4237

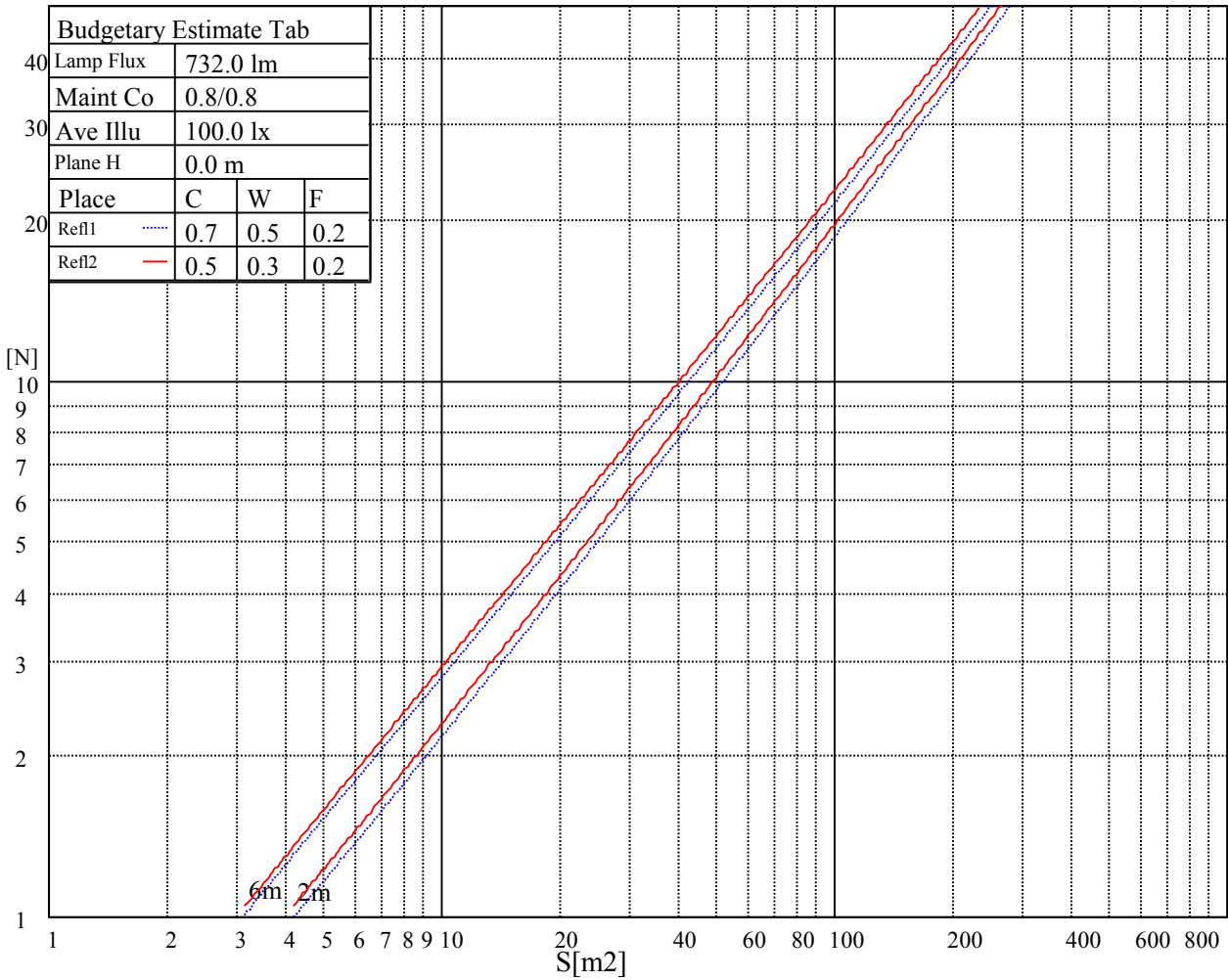
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
29207	29207	29207	24195	24195	24195	29072	29072	29072

Glare Table

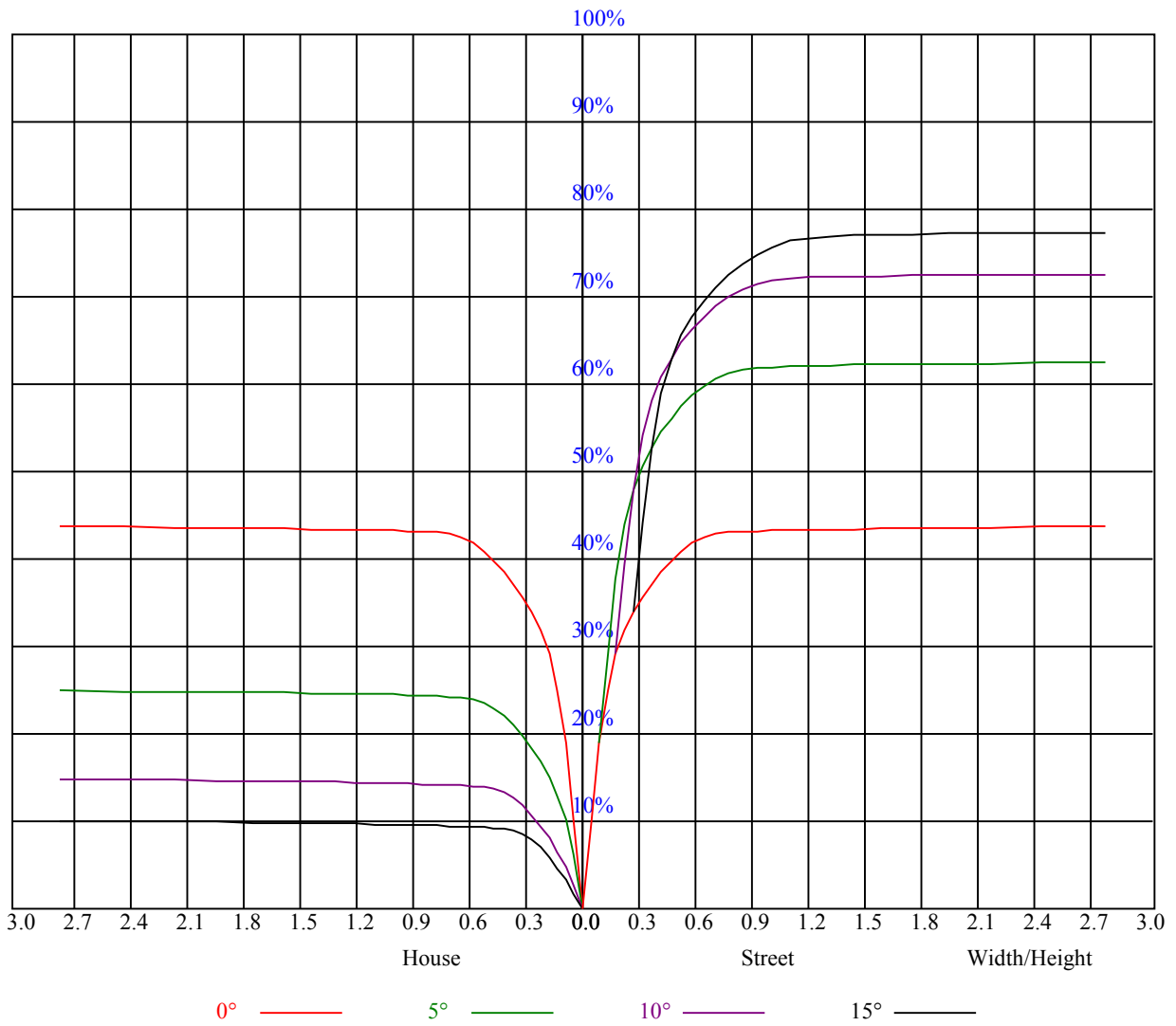
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.06	1.06	1.06	1.03	1.03	1.03	0.99	0.99	0.99	0.94	0.94	0.94	0.90	0.90	0.90	0.89
1	0.99	0.97	0.95	0.97	0.95	0.93	0.93	0.92	0.90	0.90	0.89	0.88	0.87	0.86	0.85	0.84
2	0.94	0.91	0.88	0.92	0.90	0.87	0.90	0.87	0.86	0.87	0.85	0.84	0.85	0.83	0.82	0.81
3	0.90	0.87	0.84	0.89	0.86	0.83	0.87	0.84	0.82	0.85	0.82	0.81	0.83	0.81	0.79	0.78
4	0.87	0.83	0.80	0.86	0.82	0.80	0.84	0.81	0.79	0.82	0.80	0.78	0.81	0.79	0.77	0.76
5	0.84	0.80	0.77	0.83	0.79	0.77	0.81	0.78	0.76	0.80	0.77	0.75	0.79	0.77	0.75	0.74
6	0.81	0.77	0.74	0.80	0.77	0.74	0.79	0.76	0.74	0.78	0.75	0.73	0.77	0.75	0.73	0.72
7	0.79	0.75	0.72	0.78	0.74	0.72	0.77	0.74	0.72	0.76	0.73	0.71	0.75	0.73	0.71	0.70
8	0.76	0.73	0.70	0.76	0.72	0.70	0.75	0.72	0.70	0.74	0.72	0.69	0.74	0.71	0.69	0.68
9	0.74	0.71	0.68	0.74	0.71	0.68	0.73	0.70	0.68	0.73	0.70	0.68	0.72	0.70	0.68	0.67
10	0.73	0.69	0.67	0.72	0.69	0.67	0.72	0.69	0.67	0.71	0.68	0.66	0.71	0.68	0.66	0.66



Intensity data(cd)

C/γ(°)	0.0	2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0
0.0	7170.55	6432.79	5041.51	3360.64	1966.61	1100.03	686.00	447.61	348.51
45.0	6899.67	5665.85	4180.43	2507.27	1435.87	852.27	539.00	388.70	313.82
90.0	6784.60	5679.07	4136.39	2566.73	1417.70	836.03	541.09	377.19	309.53
135.0	7022.99	6461.42	5298.63	3599.04	2121.32	1227.76	741.61	496.61	384.29
180.0	7170.55	6814.33	5578.31	3946.99	2372.93	1098.21	796.06	529.15	403.62
225.0	6899.67	7220.10	6414.62	4977.65	3224.10	1854.30	1058.40	628.08	438.25
270.0	6784.60	7022.99	6257.16	4732.10	3123.35	1781.63	1037.26	613.33	416.23
315.0	7022.99	6408.01	5209.44	3583.07	2059.11	1073.05	711.16	471.23	363.15
360.0	7170.55	6432.79	5041.51	3360.64	1966.61	1100.03	686.00	447.61	348.51
C/γ(°)	18.0	20.0	22.0	24.0	26.0	28.0	30.0	32.0	34.0
0.0	309.42	285.74	278.03	261.41	251.83	243.40	235.59	185.71	116.50
45.0	280.24	261.63	252.05	244.07	243.35	239.33	219.40	156.53	74.71
90.0	273.47	250.12	231.51	223.47	211.91	204.97	187.52	129.99	72.78
135.0	322.63	290.15	278.59	255.79	245.94	237.35	227.93	187.63	122.06
180.0	330.72	295.05	272.25	259.15	249.41	240.71	232.39	199.74	133.57
225.0	345.42	304.35	280.95	263.89	251.44	241.20	232.17	220.61	173.65
270.0	328.14	285.19	261.52	244.01	234.32	224.91	217.91	204.92	150.47
315.0	300.55	274.62	260.36	251.17	246.71	242.03	234.32	192.26	123.05
360.0	309.42	285.74	278.03	261.41	251.83	243.40	235.59	185.71	116.50
C/γ(°)	36.0	38.0	40.0	42.0	44.0	46.0	48.0	50.0	52.0
0.0	48.50	11.51	9.30	7.27	5.51	5.01	4.68	4.46	4.29
45.0	20.54	10.19	8.64	6.33	6.00	5.56	4.84	4.51	4.29
90.0	25.00	12.50	9.80	7.82	7.10	6.33	6.00	5.34	5.07
135.0	54.12	12.77	9.08	7.43	5.56	5.07	4.73	4.35	4.13
180.0	61.83	18.61	8.92	7.16	5.45	4.79	4.35	4.18	4.02
225.0	95.47	34.58	10.41	8.59	6.44	4.96	4.46	4.13	3.96
270.0	85.67	29.84	12.06	9.52	7.71	6.28	6.11	5.45	4.90
315.0	51.31	13.27	9.08	7.16	5.18	5.01	4.62	4.35	4.07
360.0	48.50	11.51	9.30	7.27	5.51	5.01	4.68	4.46	4.29
C/γ(°)	54.0	56.0	58.0	60.0	62.0	64.0	66.0	68.0	70.0
0.0	4.18	4.07	4.02	3.91	3.85	3.80	3.74	3.63	3.52
45.0	4.13	4.07	4.02	4.35	4.40	4.18	3.69	3.58	3.47
90.0	4.79	4.79	4.79	5.29	5.29	4.68	4.07	3.85	3.58
135.0	4.02	3.91	3.85	3.80	3.91	3.96	3.91	3.69	3.47
180.0	3.85	3.80	3.69	3.69	3.69	3.63	3.63	3.52	3.52
225.0	3.80	3.69	3.63	3.58	3.52	3.52	3.47	3.47	3.41
270.0	4.46	4.62	4.35	4.79	4.79	5.12	4.46	4.13	3.85
315.0	4.02	3.91	3.96	3.85	4.02	3.91	3.85	3.58	3.41
360.0	4.18	4.07	4.02	3.91	3.85	3.80	3.74	3.63	3.52
C/γ(°)	72.0	74.0	76.0	78.0	80.0	82.0	84.0	86.0	88.0
0.0	3.47	3.41	3.36	3.30	3.25	3.19	3.19	3.30	2.97
45.0	3.36	3.30	3.19	3.14	3.08	3.08	3.14	2.92	2.86
90.0	3.52	3.47	3.36	3.25	3.14	3.03	2.97	2.86	2.81
135.0	3.41	3.36	3.30	3.25	3.19	3.08	3.03	2.97	2.86
180.0	3.47	3.41	3.30	3.25	3.19	3.14	3.08	3.14	3.03
225.0	3.41	3.36	3.36	3.30	3.25	3.19	3.08	3.03	2.97
270.0	3.58	3.52	3.52	3.47	3.36	3.25	3.14	3.03	2.92
315.0	3.36	3.25	3.19	3.14	3.08	3.03	3.03	2.97	2.92
360.0	3.47	3.41	3.36	3.30	3.25	3.19	3.19	3.30	2.97

Intensity data(cd)

C/γ(°)	90.0
0.0	2.81
45.0	2.81
90.0	2.81
135.0	2.86
180.0	2.86
225.0	2.86
270.0	2.86
315.0	2.86
360.0	2.81