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## Nata

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LumCAT: 3-1701-N  
Luminaire: 92.70.065.00+92.70.061.00  
Report No: NATA0100  
Test No: GC20180712009  
LampCAT: BRIDGELUX V9 HD  
Lamp flux(lm): 1191.0  
Number of Lamps: 1  
Length(mm): 86  
Phm Type: C

Voltage(V): 34.1000  
Current(A): 0.3000  
Power (W): 10.2300  
PF: 0.0000  
Ballast type: DC  
Width(mm): 86  
Height(mm):0

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## Photometric Results

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Lumens(lm): 941.98  
Efficiency(%): 79.09%  
Lumens(lm)/Power(W): 92.08  
Central intensity(cd): 8407.112  
Maximum intensity(cd): 8407.112  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=15.0  
                                  [C90/270]Total=15.0  
Field angle(10%Imax): [C0/180]Total=25.3  
                                  [C90/270]Total=25.3  
Maximum s/h(1/2): C0\_180=0.26 C90\_270=0.26  
Maximum s/h(1/4): C0\_180=0.24 C90\_270=0.24  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 79.75%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 96.959%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	8407.112	8.045	8.045	.676%	.854%
2.0	7922.409	60.638	68.683	5.091%	7.291%
4.0	7001.522	107.113	175.796	8.994%	18.662%
6.0	5676.659	130.135	305.93	10.926%	32.477%
8.0	3711.352	113.280	419.21	9.511%	44.503%
10.0	1747.827	66.563	485.773	5.589%	51.570%
12.0	910.144	41.501	527.274	3.485%	55.975%
14.0	688.274	36.518	563.791	3.066%	59.852%
16.0	583.901	35.297	599.089	2.964%	63.599%
18.0	496.285	33.634	632.723	2.824%	67.170%
20.0	424.836	31.867	664.59	2.676%	70.553%
22.0	361.191	29.674	694.264	2.492%	73.703%
24.0	300.491	26.805	721.068	2.251%	76.548%
26.0	254.505	24.468	745.537	2.054%	79.146%
28.0	213.178	21.949	767.486	1.843%	81.476%
30.0	182.691	20.033	787.519	1.682%	83.603%
32.0	154.681	17.977	805.496	1.509%	85.511%
34.0	133.835	16.413	821.909	1.378%	87.254%
36.0	115.963	14.949	836.858	1.255%	88.841%
38.0	101.613	13.720	850.578	1.152%	90.297%
40.0	89.563	12.626	863.204	1.060%	91.637%
42.0	76.714	11.258	874.462	.945%	92.833%
44.0	62.544	9.528	883.99	.800%	93.844%
46.0	49.743	7.848	891.838	.659%	94.677%
48.0	40.542	6.608	898.445	.555%	95.379%
50.0	33.233	5.583	904.029	.469%	95.971%
52.0	27.280	4.715	908.743	.396%	96.472%
54.0	21.823	3.872	912.615	.325%	96.883%
56.0	17.825	3.241	915.856	.272%	97.227%
58.0	14.810	2.755	918.611	.231%	97.519%
60.0	12.546	2.383	920.993	.200%	97.772%
62.0	10.819	2.095	923.088	.176%	97.995%
64.0	9.890	1.949	925.038	.164%	98.202%
66.0	9.256	1.855	926.892	.156%	98.399%
68.0	8.637	1.756	928.649	.147%	98.585%
70.0	8.086	1.667	930.315	.140%	98.762%
72.0	7.570	1.579	931.894	.133%	98.930%
74.0	7.157	1.509	933.403	.127%	99.090%

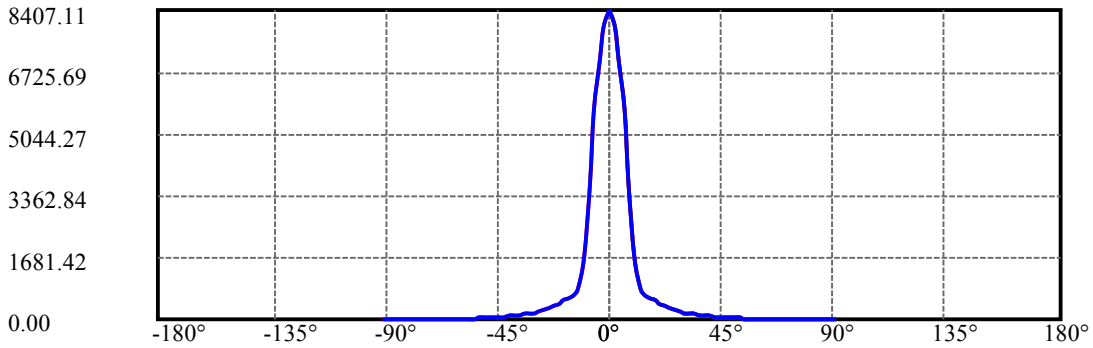
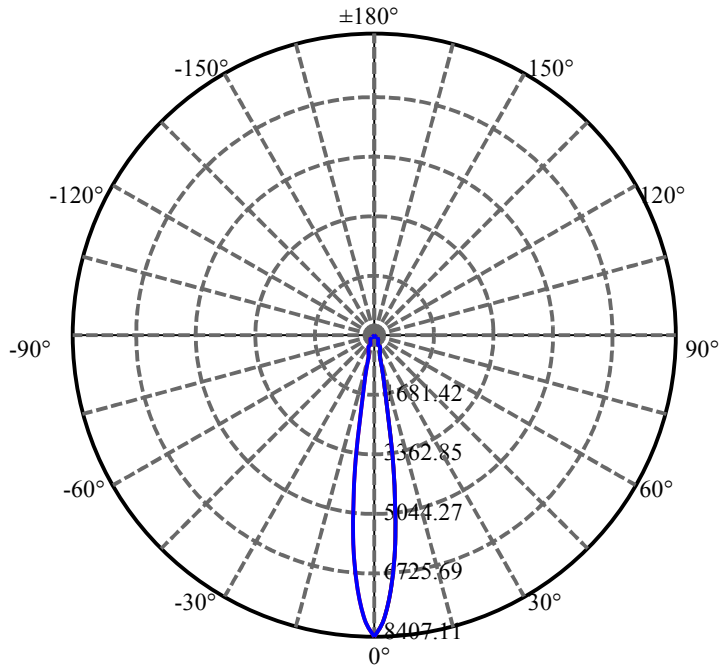
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	6.765	1.440	934.843	.121%	99.243%
78.0	6.352	1.363	936.205	.114%	99.387%
80.0	5.843	1.262	937.467	.106%	99.521%
82.0	5.375	1.167	938.635	.098%	99.645%
84.0	4.866	1.061	939.696	.089%	99.758%
86.0	4.425	0.968	940.664	.081%	99.861%
88.0	4.047	0.887	941.551	.074%	99.955%
90.0	3.888	0.426	941.977	.036%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	787.52	66.12%	83.60%
0-40	863.20	72.48%	91.64%
0-60	920.99	77.33%	97.77%
0-90	941.55	79.06%	99.95%
0-120	941.55	79.06%	99.95%
0-180	941.98	79.09%	100.00%
60-90	22.94	1.93%	2.44%
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%
0-26.73	753.58	63.27%	80.00%

ZONAL LUMEN SUMMARY

0-10	485.77
10-20	178.82
20-30	122.93
30-40	75.68
40-50	40.82
50-60	16.96
60-70	9.32
70-80	7.15
80-90	4.08
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): —————

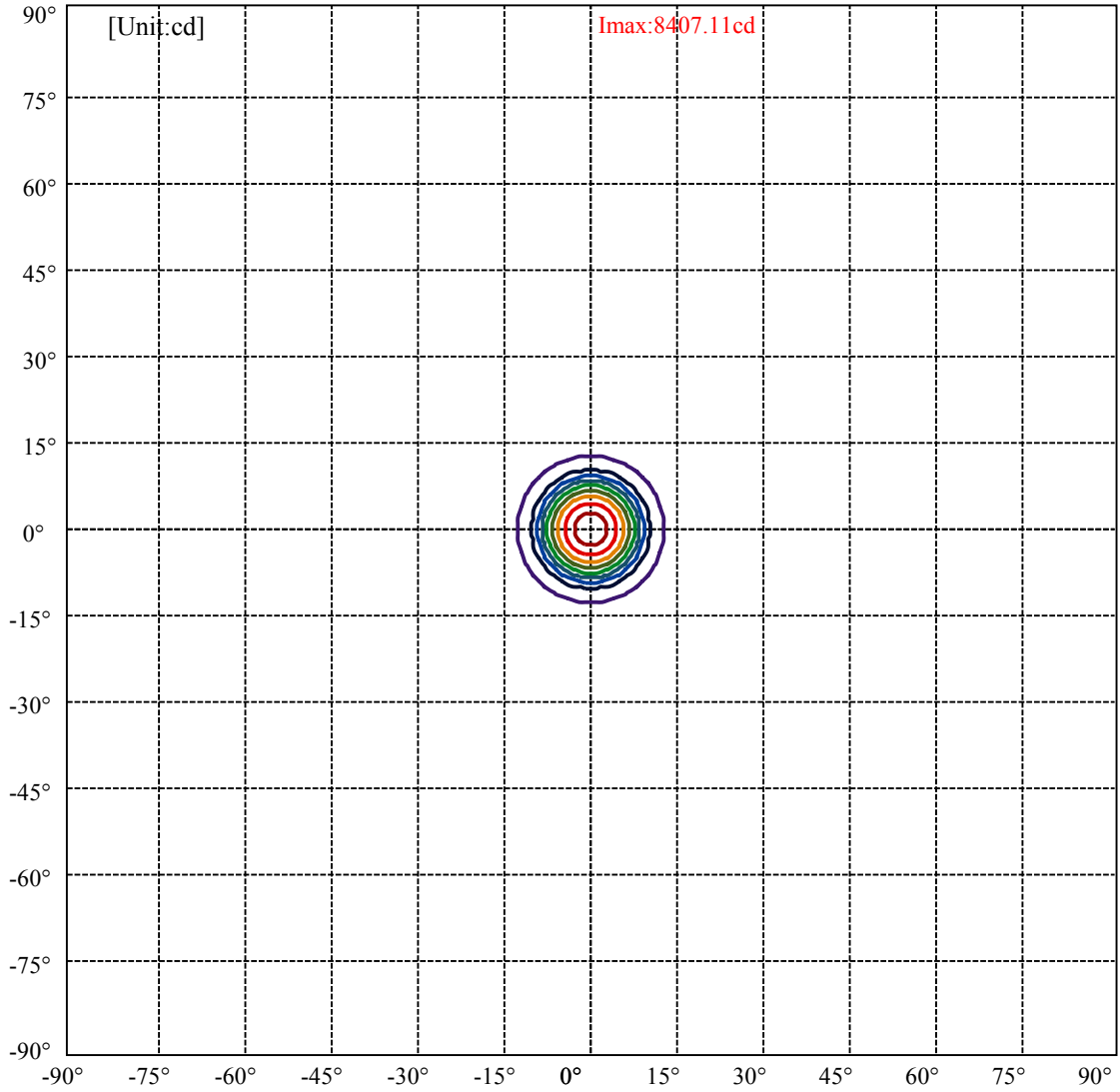
C0/C180: —————

C90/C270: —————

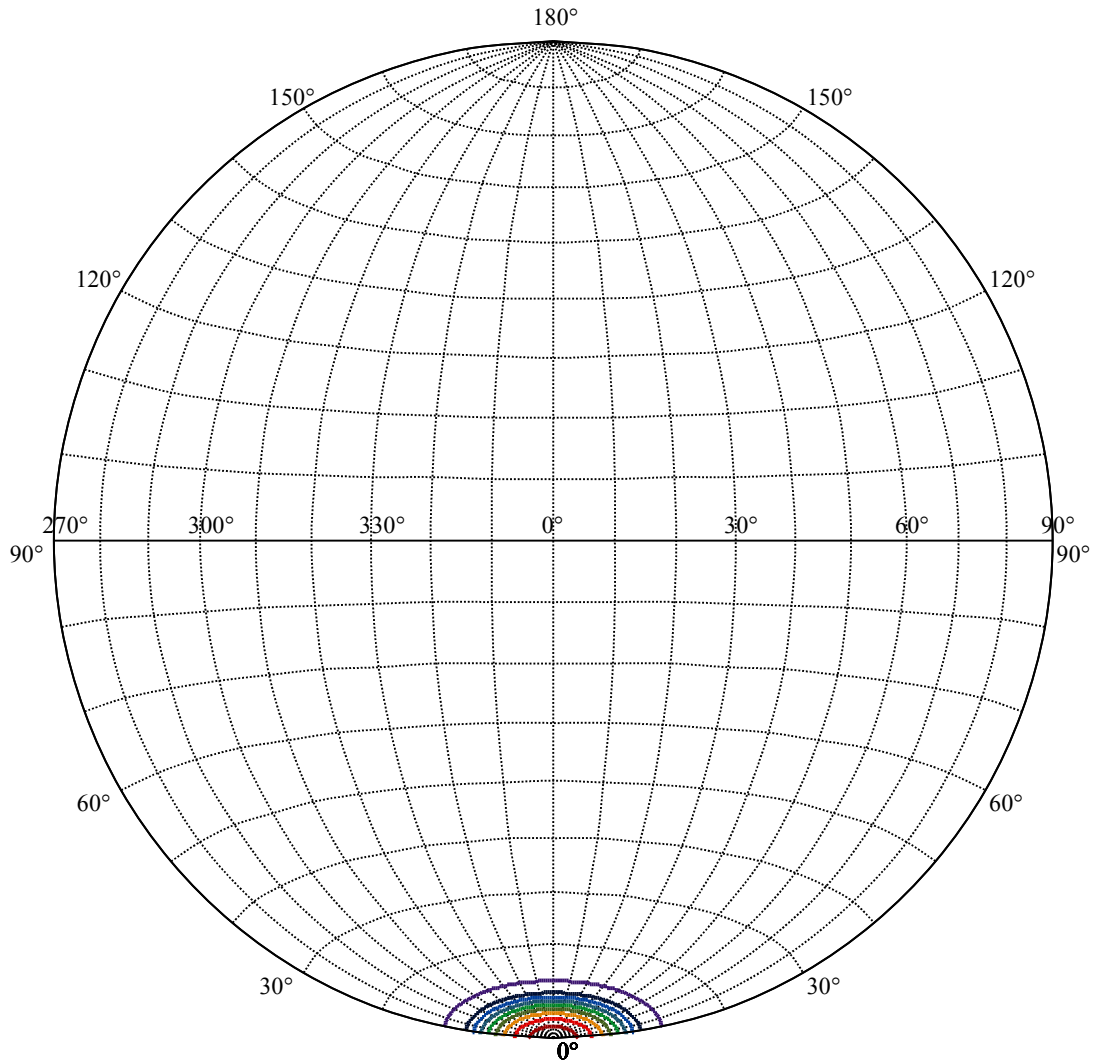
Field angle(10%Imax):C0/180Left:12.6 Right:12.6  
:C90/270Left:12.6 Right:12.6

Beam Angle(50%Imax):C0/180Left:7.5 Right:7.5  
:C90/270Left:7.5 Right:7.5





(10%I <sub>max</sub> ) 840.711	—
(20%I <sub>max</sub> ) 1681.42	—
(30%I <sub>max</sub> ) 2522.13	—
(40%I <sub>max</sub> ) 3362.84	—
(50%I <sub>max</sub> ) 4203.56	—
(60%I <sub>max</sub> ) 5044.27	—
(70%I <sub>max</sub> ) 5884.98	—
(80%I <sub>max</sub> ) 6725.69	—
(90%I <sub>max</sub> ) 7566.4	—



House

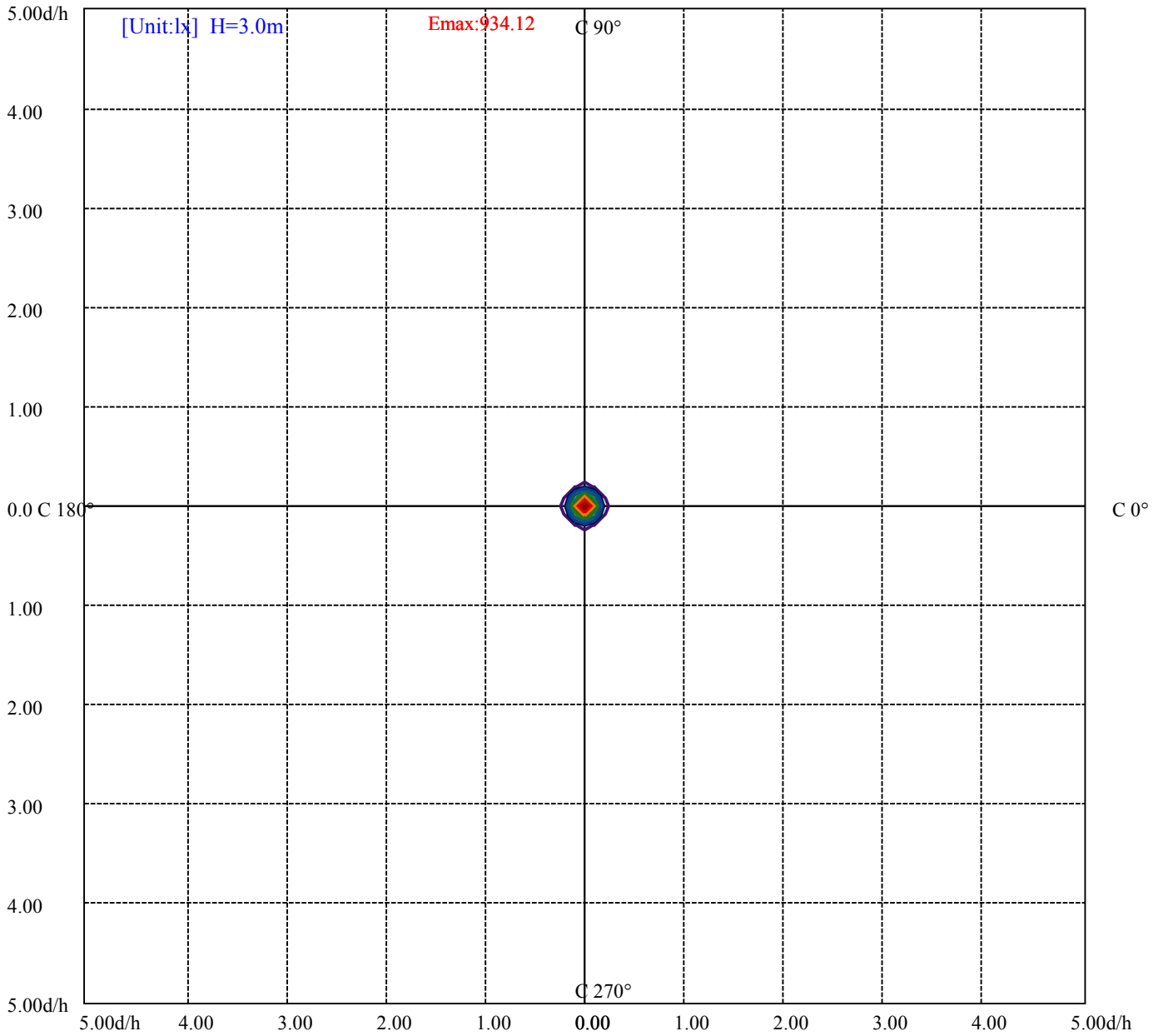
[Unit:cd]

Road

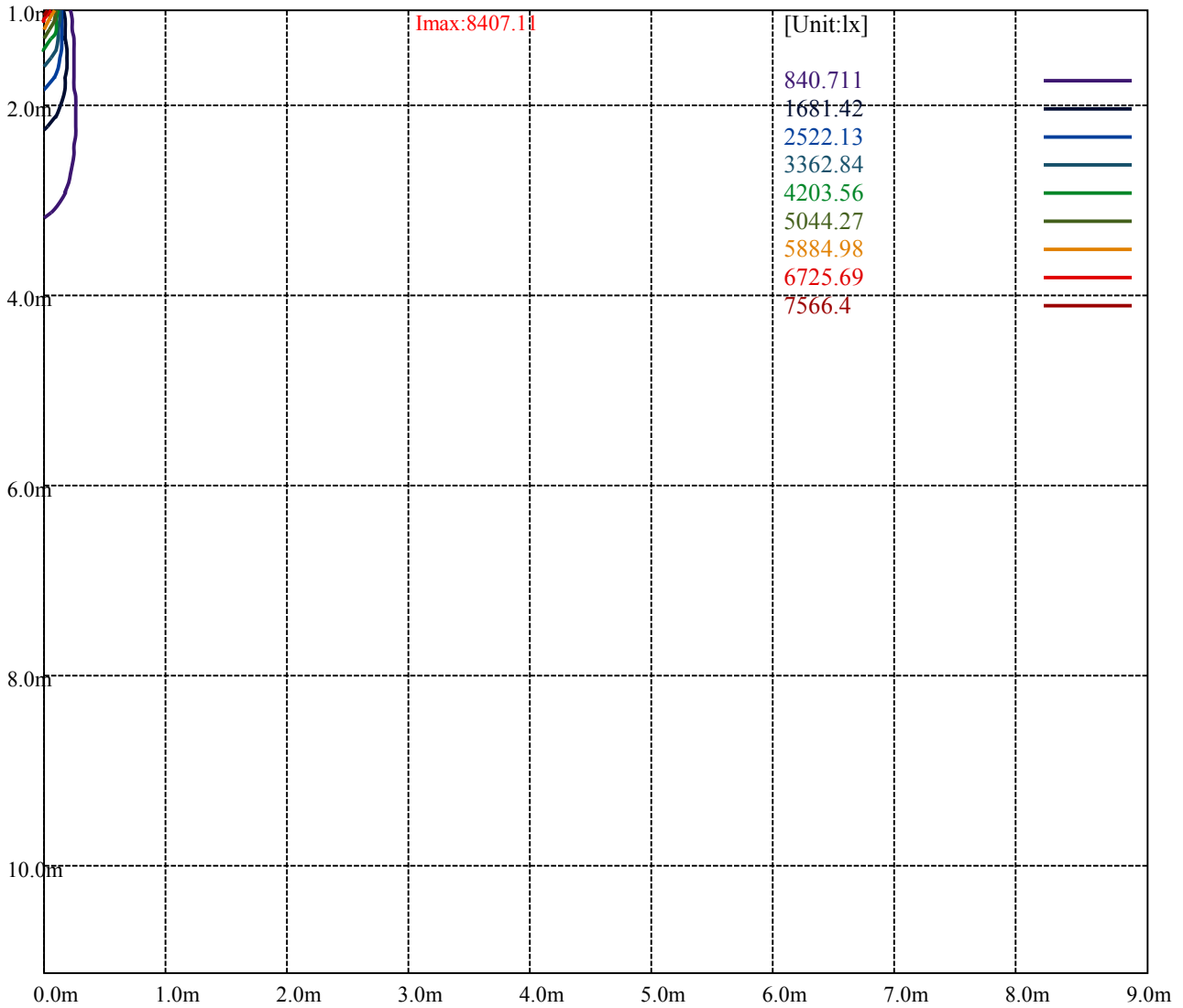
**Imax:8407.11**

(10%Imax) 840.711	—
(20%Imax) 1681.42	—
(30%Imax) 2522.13	—
(40%Imax) 3362.84	—
(50%Imax) 4203.56	—
(60%Imax) 5044.27	—
(70%Imax) 5884.98	—
(80%Imax) 6725.69	—
(90%Imax) 7566.4	—





(10%Emax) 93.412	—
(20%Emax) 186.8244	—
(30%Emax) 280.2356	—
(40%Emax) 373.6478	—
(50%Emax) 467.06	—
(60%Emax) 560.4722	—
(70%Emax) 653.8834	—
(80%Emax) 747.2956	—
(90%Emax) 840.7078	—



Luminance Table

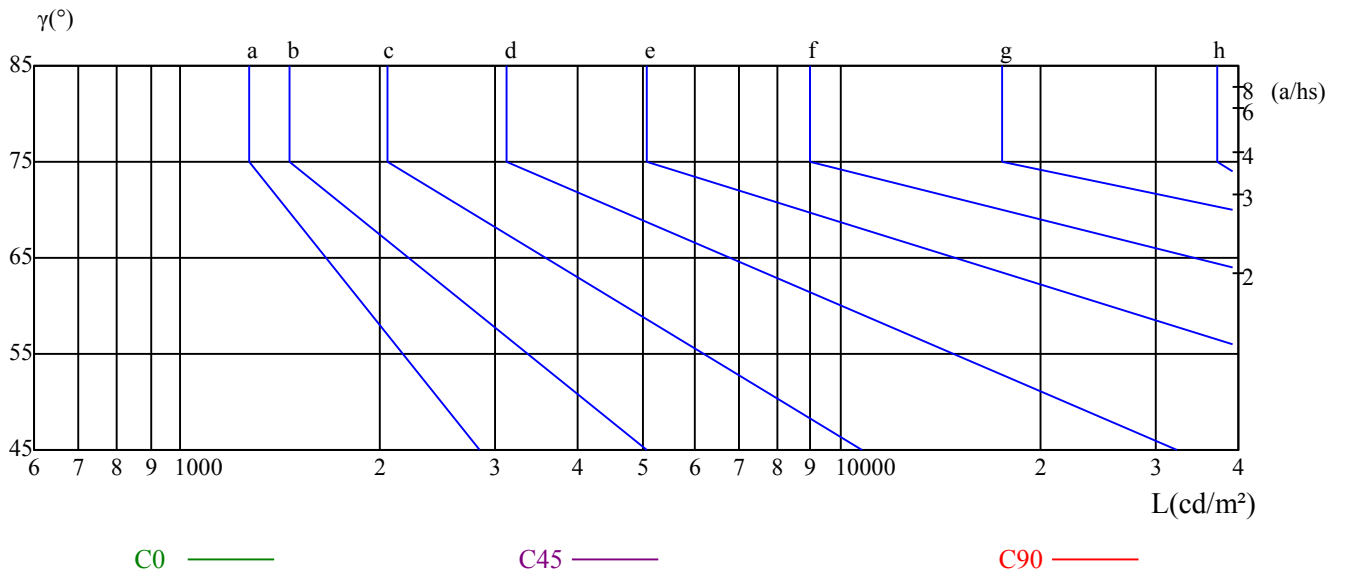
$\gamma$	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

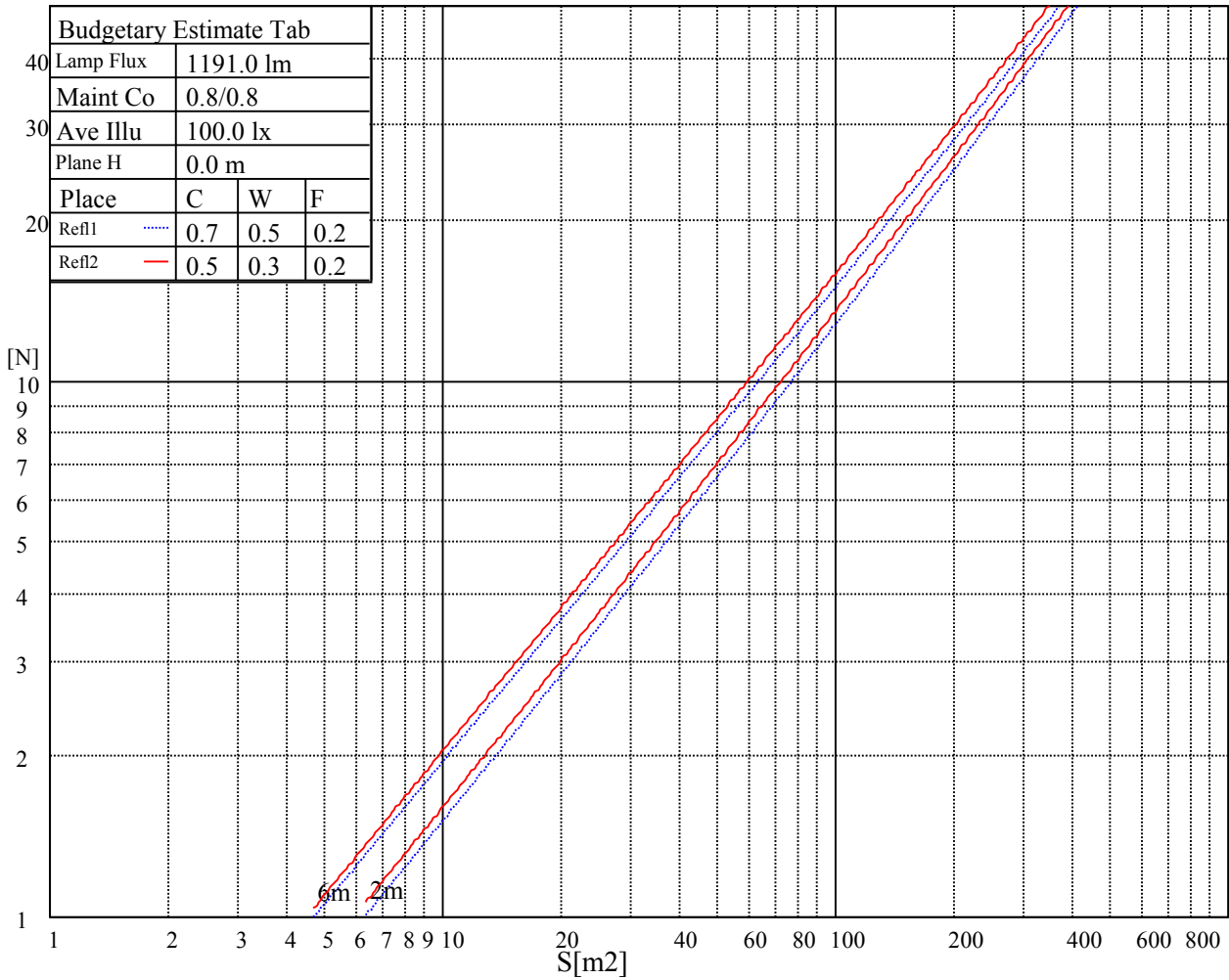
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

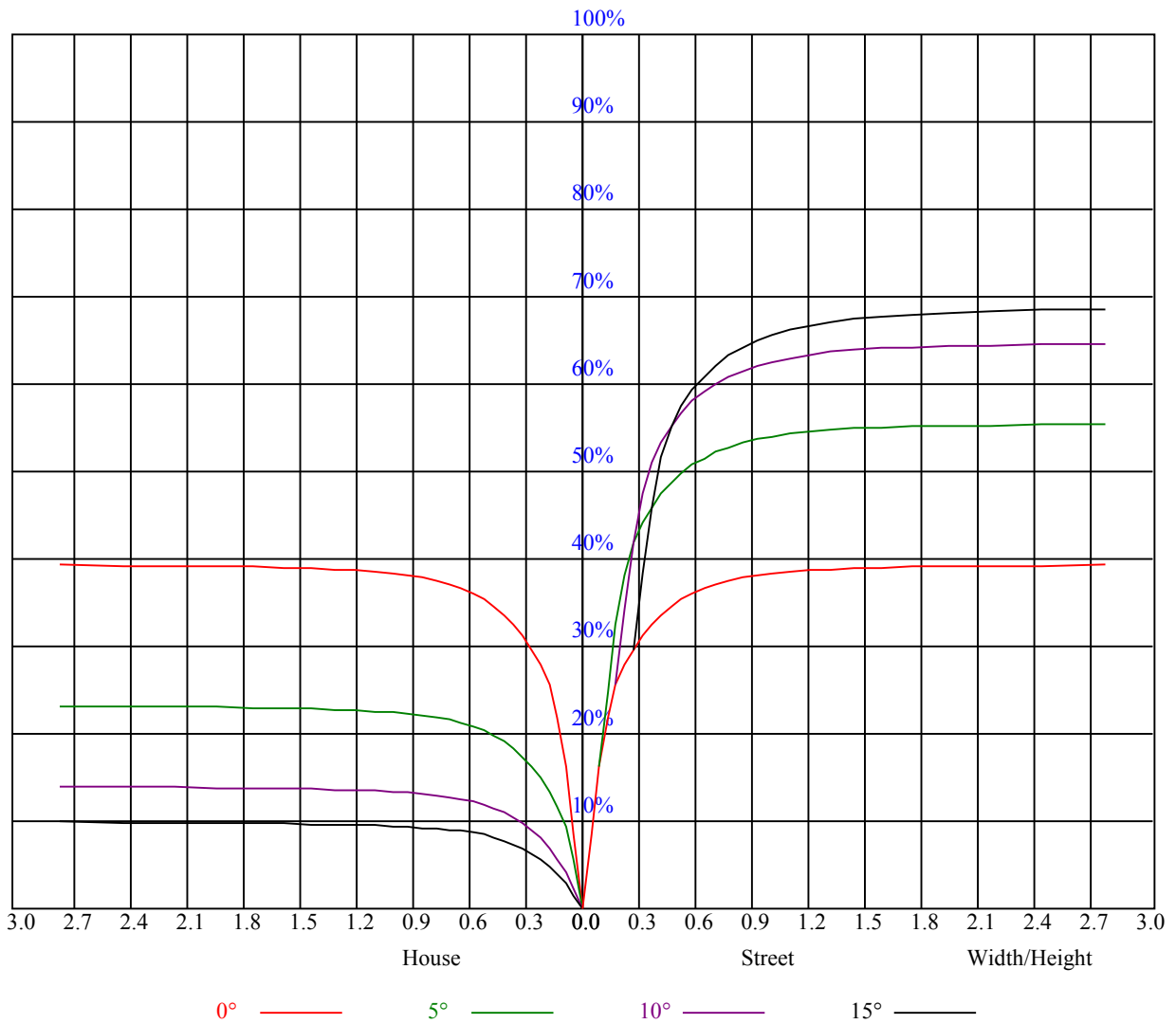
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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



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	8284.89	8251.85	7488.22	6423.43	4782.20	2698.31	1236.57	773.54	645.26
45.0	8404.36	8364.17	7533.92	6407.46	4668.78	2318.98	1045.52	759.78	645.81
90.0	8521.63	8334.44	7544.93	6397.55	4024.07	1759.05	913.44	706.32	602.76
135.0	8417.57	8231.48	7559.79	6193.85	4054.90	1798.69	875.40	683.25	583.05
180.0	8284.89	7483.82	6532.44	4680.34	2561.22	1062.48	709.35	603.09	517.14
225.0	8404.36	7389.67	6182.28	4621.98	2607.47	1084.67	742.66	618.39	523.64
270.0	8521.63	7685.87	6529.69	5171.45	3396.43	1587.28	862.73	682.70	572.59
315.0	8417.57	7637.97	6640.90	5517.20	3595.73	1673.16	895.49	679.12	580.96
360.0	8284.89	8251.85	7488.22	6423.43	4782.20	2698.31	1236.57	773.54	645.26
C/γ(°)	18.0	20.0	22.0	24.0	26.0	28.0	30.0	32.0	34.0
0.0	551.11	468.53	406.87	340.25	285.19	238.83	204.04	172.55	148.49
45.0	546.71	466.88	399.71	328.69	278.59	230.63	198.26	166.55	143.37
90.0	515.00	442.43	374.49	316.90	265.76	226.94	194.07	165.39	144.41
135.0	493.86	422.83	364.47	302.26	264.93	215.38	184.00	154.98	134.94
180.0	436.43	377.25	314.76	260.64	223.31	189.56	162.58	139.35	122.23
225.0	450.14	384.46	317.40	265.65	221.99	186.20	160.87	137.59	118.76
270.0	486.70	416.23	351.81	290.70	244.73	204.75	176.57	149.64	127.35
315.0	490.33	420.08	360.01	298.85	251.55	213.12	181.14	151.41	131.14
360.0	551.11	468.53	406.87	340.25	285.19	238.83	204.04	172.55	148.49
C/γ(°)	36.0	38.0	40.0	42.0	44.0	46.0	48.0	50.0	52.0
0.0	126.79	110.61	97.17	84.40	70.20	56.60	45.42	37.00	31.16
45.0	123.82	107.53	94.64	81.92	67.22	53.18	43.27	35.68	29.29
90.0	123.16	104.50	91.89	78.68	63.87	51.59	41.13	33.69	27.75
135.0	118.04	105.38	93.98	81.59	66.67	52.08	42.50	34.47	28.13
180.0	108.13	97.73	86.16	71.19	57.37	45.42	37.05	30.78	24.61
225.0	105.43	94.04	82.64	70.25	55.77	43.94	36.72	30.17	24.17
270.0	110.17	94.64	83.47	71.52	58.75	46.52	38.76	31.71	26.10
315.0	112.15	98.50	86.55	74.16	60.51	48.61	39.48	32.37	27.03
360.0	126.79	110.61	97.17	84.40	70.20	56.60	45.42	37.00	31.16
C/γ(°)	54.0	56.0	58.0	60.0	62.0	64.0	66.0	68.0	70.0
0.0	24.61	19.88	16.57	13.71	11.62	10.30	9.63	8.97	8.42
45.0	23.51	19.05	15.64	13.21	11.34	10.13	9.52	8.92	8.31
90.0	21.91	17.84	14.92	12.61	10.79	9.97	9.30	8.70	8.09
135.0	22.24	18.06	14.87	12.44	10.68	9.80	9.25	8.59	8.09
180.0	19.27	16.24	13.54	11.56	10.30	9.58	8.92	8.31	7.82
225.0	19.82	16.41	13.49	11.73	10.30	9.58	8.92	8.37	7.82
270.0	21.53	17.34	14.59	12.50	10.79	9.86	9.30	8.64	8.09
315.0	21.69	17.78	14.87	12.61	10.74	9.91	9.19	8.59	8.04
360.0	24.61	19.88	16.57	13.71	11.62	10.30	9.63	8.97	8.42
C/γ(°)	72.0	74.0	76.0	78.0	80.0	82.0	84.0	86.0	88.0
0.0	7.87	7.43	7.05	6.66	6.17	5.73	5.12	4.68	4.24
45.0	7.76	7.32	6.88	6.50	6.00	5.51	5.07	4.62	4.13
90.0	7.54	7.16	6.77	6.33	5.78	5.40	4.90	4.40	4.02
135.0	7.54	7.16	6.72	6.39	5.84	5.34	4.84	4.35	4.02
180.0	7.32	6.94	6.55	6.11	5.56	5.12	4.57	4.18	3.91
225.0	7.38	6.94	6.61	6.17	5.67	5.18	4.68	4.29	3.96
270.0	7.60	7.21	6.77	6.33	5.89	5.34	4.84	4.40	4.02
315.0	7.54	7.10	6.77	6.33	5.84	5.40	4.90	4.46	4.07
360.0	7.87	7.43	7.05	6.66	6.17	5.73	5.12	4.68	4.24

Intensity data(cd)

<b>C/γ(°)</b>	<b>90.0</b>
<b>0.0</b>	<b>3.96</b>
<b>45.0</b>	<b>3.91</b>
<b>90.0</b>	<b>3.85</b>
<b>135.0</b>	<b>3.91</b>
<b>180.0</b>	<b>3.85</b>
<b>225.0</b>	<b>3.91</b>
<b>270.0</b>	<b>3.85</b>
<b>315.0</b>	<b>3.85</b>
<b>360.0</b>	<b>3.96</b>