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## Nata

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LumCAT: 3-1941-E  
Luminaire: BJB 47.319.2011  
Report No: NATA0100 Voltage(V): 35.9700  
Test No: GC2019112009 Current(A): 0.3970  
LampCAT: LUMILEDS LUXEON CoB 1204 LES13 Power (W): 14.2800  
Lamp flux(lm): 1930.0 PF: 1.0000  
Number of Lamps: 1 Ballast type: DC  
Length(mm): 0 Width(mm): 0  
Phm Type: C Height(mm): 0

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## Photometric Results

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Lumens(lm): 1712.53  
Efficiency(%): 88.73%  
Lumens(lm)/Power(W): 119.93  
Central intensity(cd): 2060.016  
Maximum intensity(cd): 2090.531  
Angle of maximum intensity: C=0.0  $\gamma$ =10.0  
Beam Angle(50%Imax): [C0/180]Total=58.1  
[C90/270]Total=58.1  
Field angle(10%Imax): [C0/180]Total=74.7  
[C90/270]Total=74.7  
Maximum s/h(1/2): C0\_180=0.94 C90\_270=0.94  
Maximum s/h(1/4): C0\_180=0.86 C90\_270=0.86  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 88.73%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 98.449%

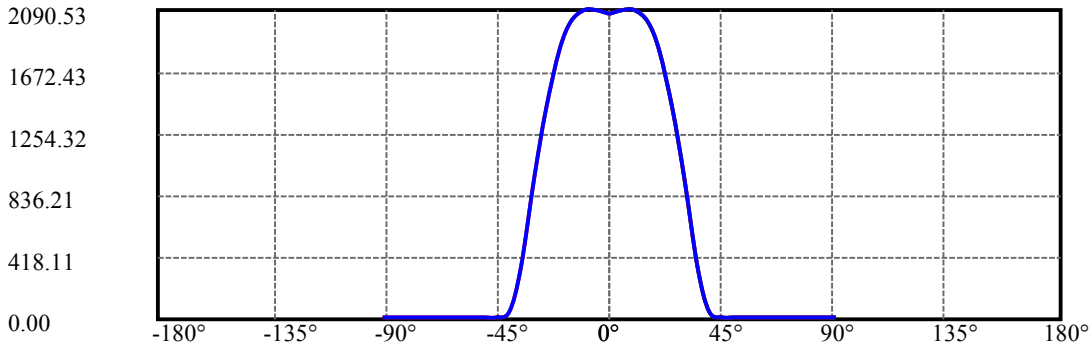
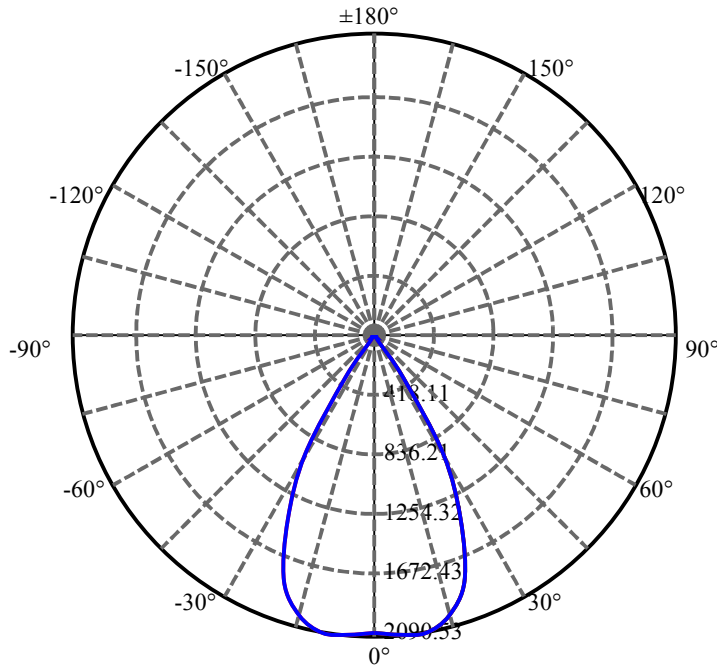
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2060.016	0.000	0	.000%	.000%
5.0	2086.805	49.574	49.574	2.569%	2.895%
10.0	2090.531	149.436	199.011	7.743%	11.621%
15.0	2012.344	243.380	442.39	12.610%	25.833%
20.0	1818.492	315.715	758.105	16.358%	44.268%
25.0	1415.503	339.186	1097.291	17.574%	64.074%
30.0	957.600	300.318	1397.61	15.561%	81.611%
35.0	356.597	193.525	1591.134	10.027%	92.911%
40.0	45.935	67.159	1658.294	3.480%	96.833%
45.0	17.620	11.768	1670.062	.610%	97.520%
50.0	12.677	6.122	1676.184	.317%	97.878%
55.0	10.695	5.082	1681.265	.263%	98.174%
60.0	9.668	4.707	1685.972	.244%	98.449%
65.0	8.923	4.519	1690.492	.234%	98.713%
70.0	8.452	4.399	1694.891	.228%	98.970%
75.0	8.459	4.420	1699.311	.229%	99.228%
80.0	8.107	4.433	1703.743	.230%	99.487%
85.0	8.058	4.392	1708.136	.228%	99.743%
90.0	7.995	4.395	1712.531	.228%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1397.61	72.42%	81.61%
0-40	1658.29	85.92%	96.83%
0-60	1685.97	87.36%	98.45%
0-90	1708.14	88.50%	99.74%
0-120	1708.14	88.50%	99.74%
0-180	1712.53	88.73%	100.00%
60-90	26.87	1.39%	1.57%
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%
0-29.54	1370.03	70.99%	80.00%

ZONAL LUMEN SUMMARY

0-10	199.01
10-20	559.09
20-30	639.50
30-40	260.68
40-50	17.89
50-60	9.79
60-70	8.92
70-80	8.85
80-90	4.39
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: ———

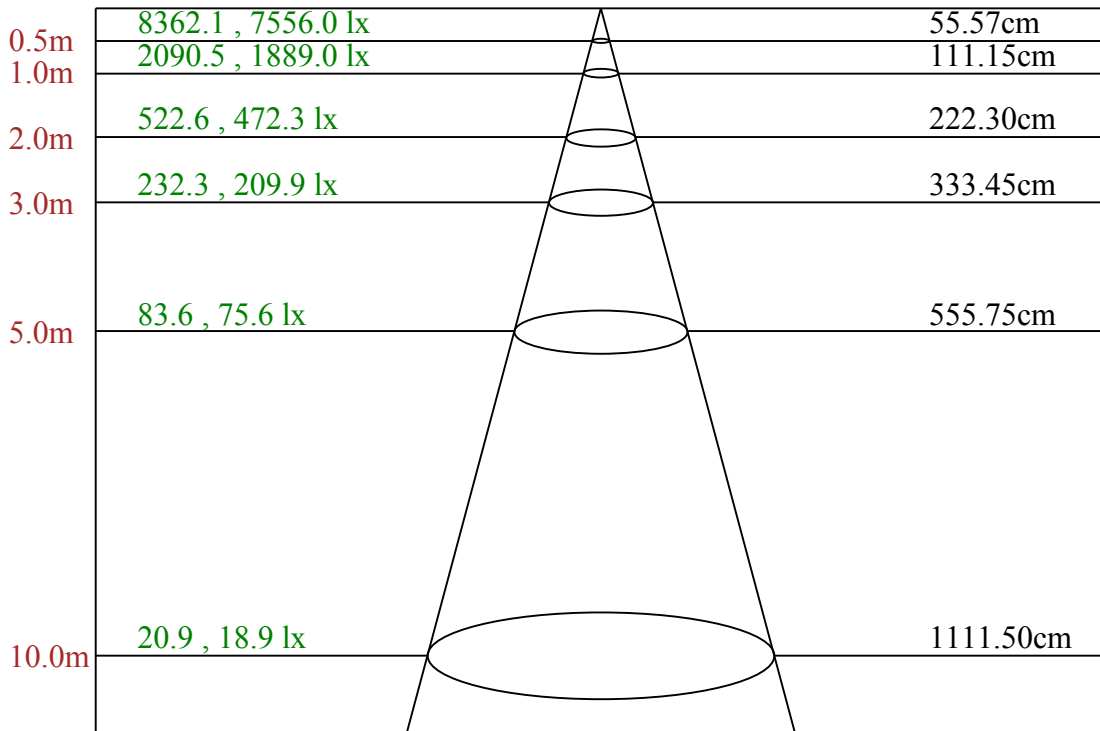
C90/C270: ———

Field angle(10%Imax):C0/180Left:47.4 Right:27.4

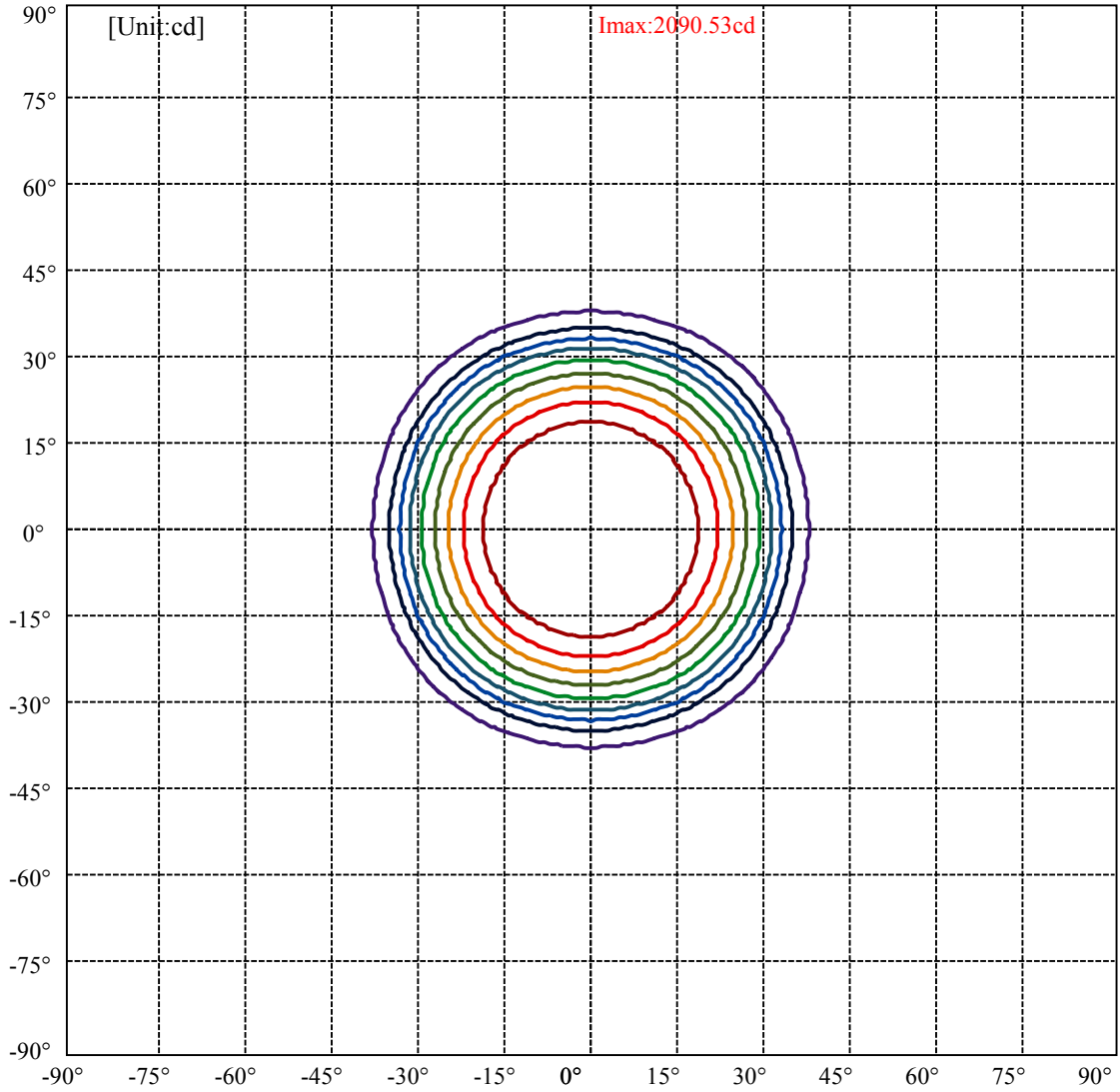
:C90/270Left:47.4 Right:27.4

Beam Angle(50%Imax):C0/180Left:39.0 Right:19.0

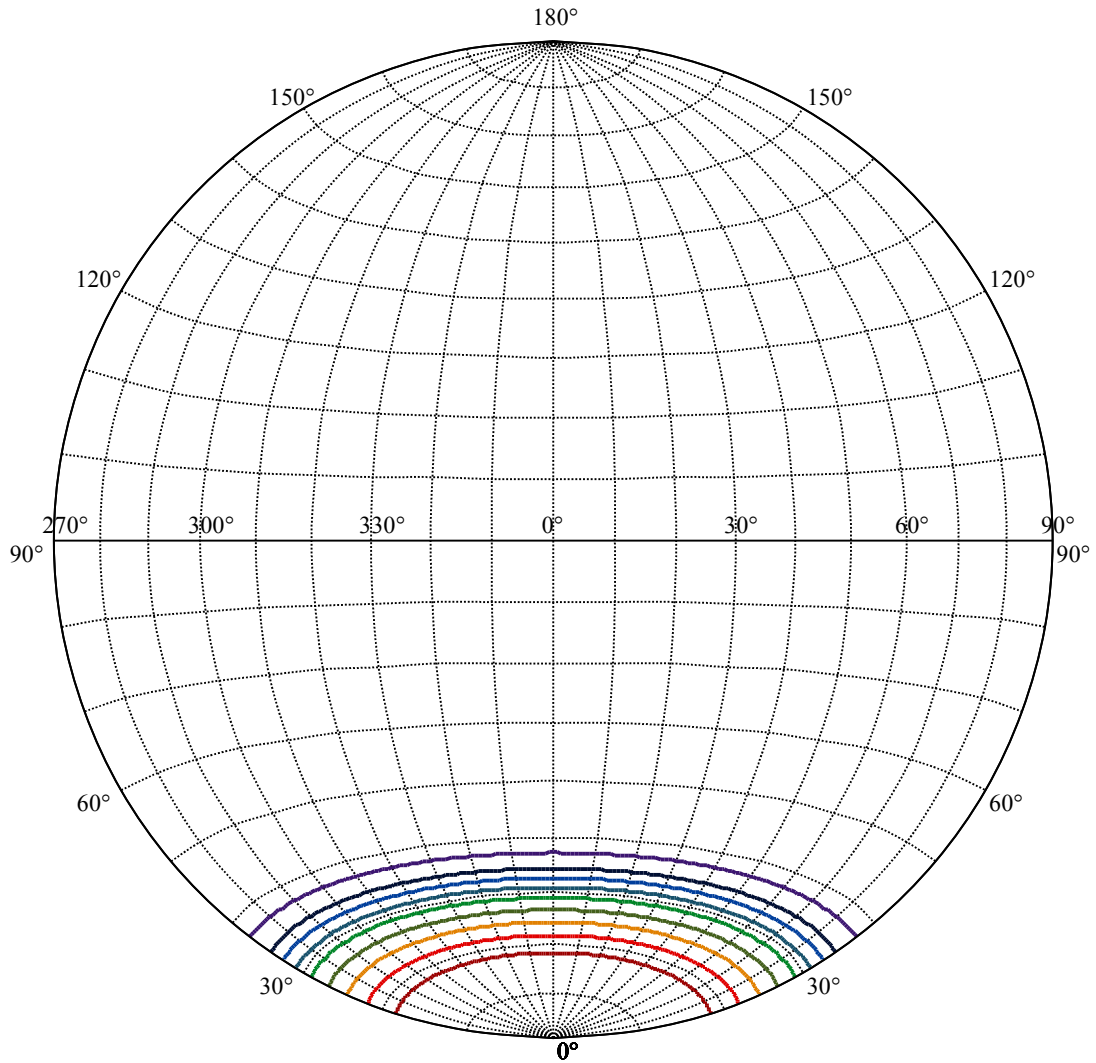
:C90/270Left:39.0 Right:19.0



Max , Ave      Beam angle of C0 plane 58.13



(10%Imax) 209.053	—
(20%Imax) 418.106	—
(30%Imax) 627.159	—
(40%Imax) 836.213	—
(50%Imax) 1045.27	—
(60%Imax) 1254.32	—
(70%Imax) 1463.37	—
(80%Imax) 1672.43	—
(90%Imax) 1881.48	—



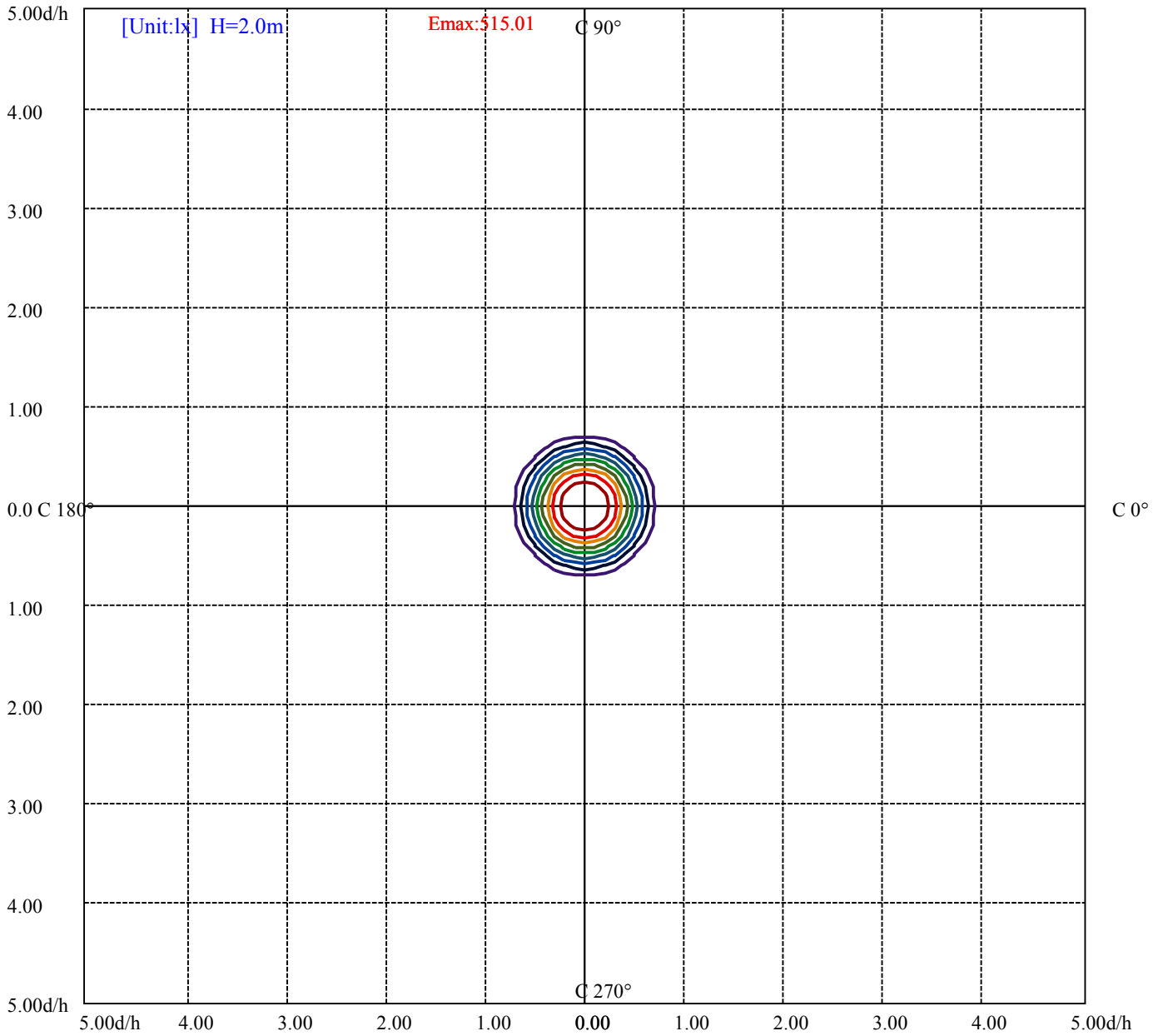
House

[Unit:cd]

Road

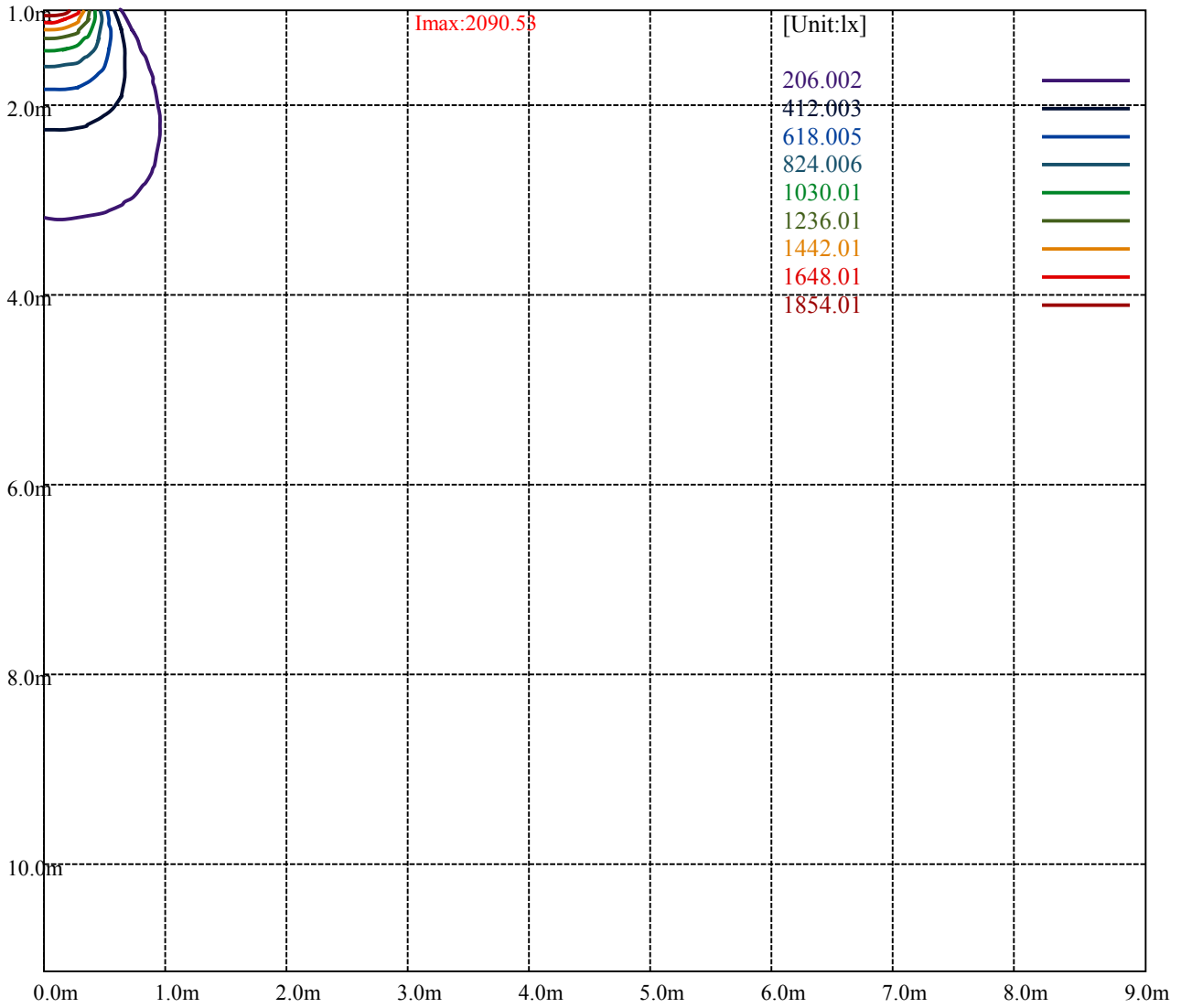
**Imax:2090.53**

(10%Imax) 209.053	—
(20%Imax) 418.106	—
(30%Imax) 627.159	—
(40%Imax) 836.213	—
(50%Imax) 1045.27	—
(60%Imax) 1254.32	—
(70%Imax) 1463.37	—
(80%Imax) 1672.43	—
(90%Imax) 1881.48	—



- (10%Emax) 51.5005
- (20%Emax) 103.0007
- (30%Emax) 154.5013
- (40%Emax) 206.0018
- (50%Emax) 257.5025
- (60%Emax) 309.0025
- (70%Emax) 360.5025
- (80%Emax) 412.0025
- (90%Emax) 463.5025





Luminance Table

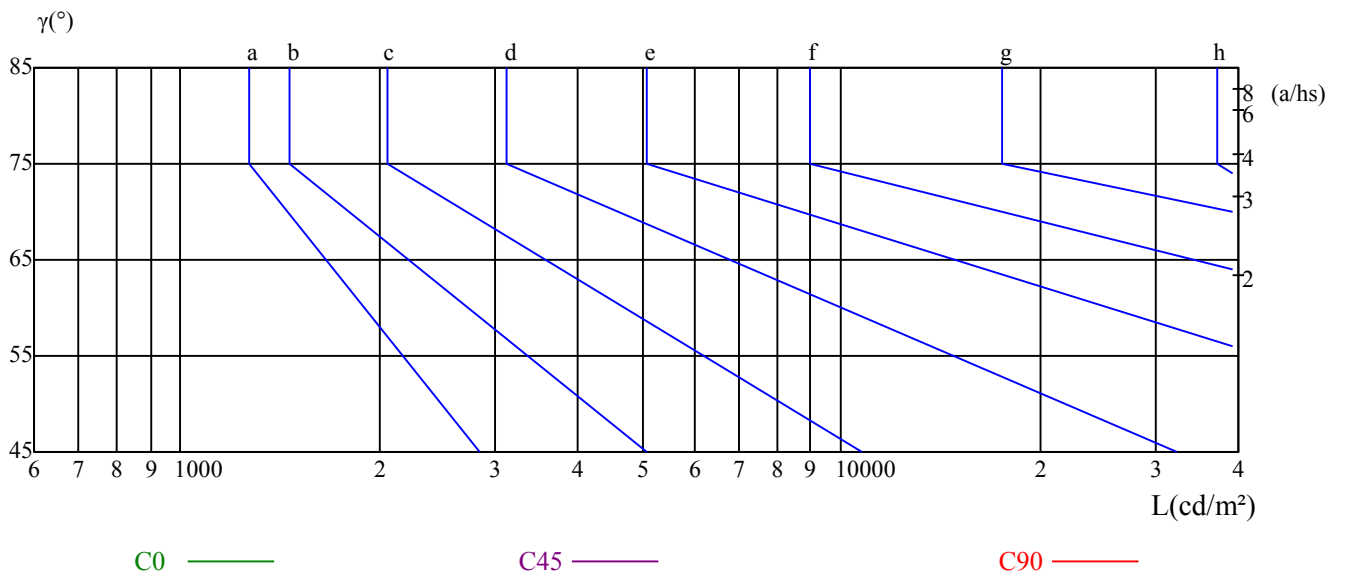
$\gamma$	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

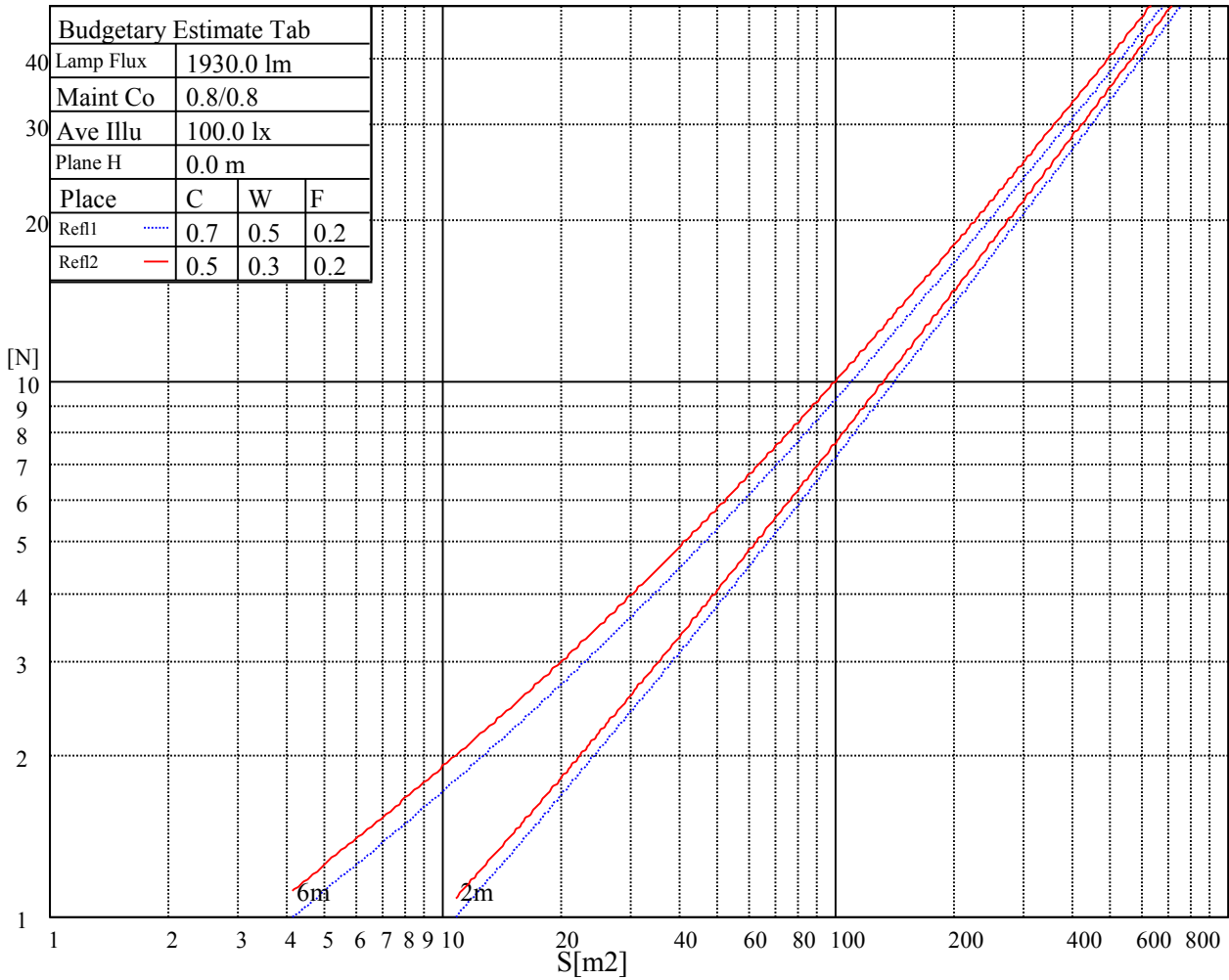
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

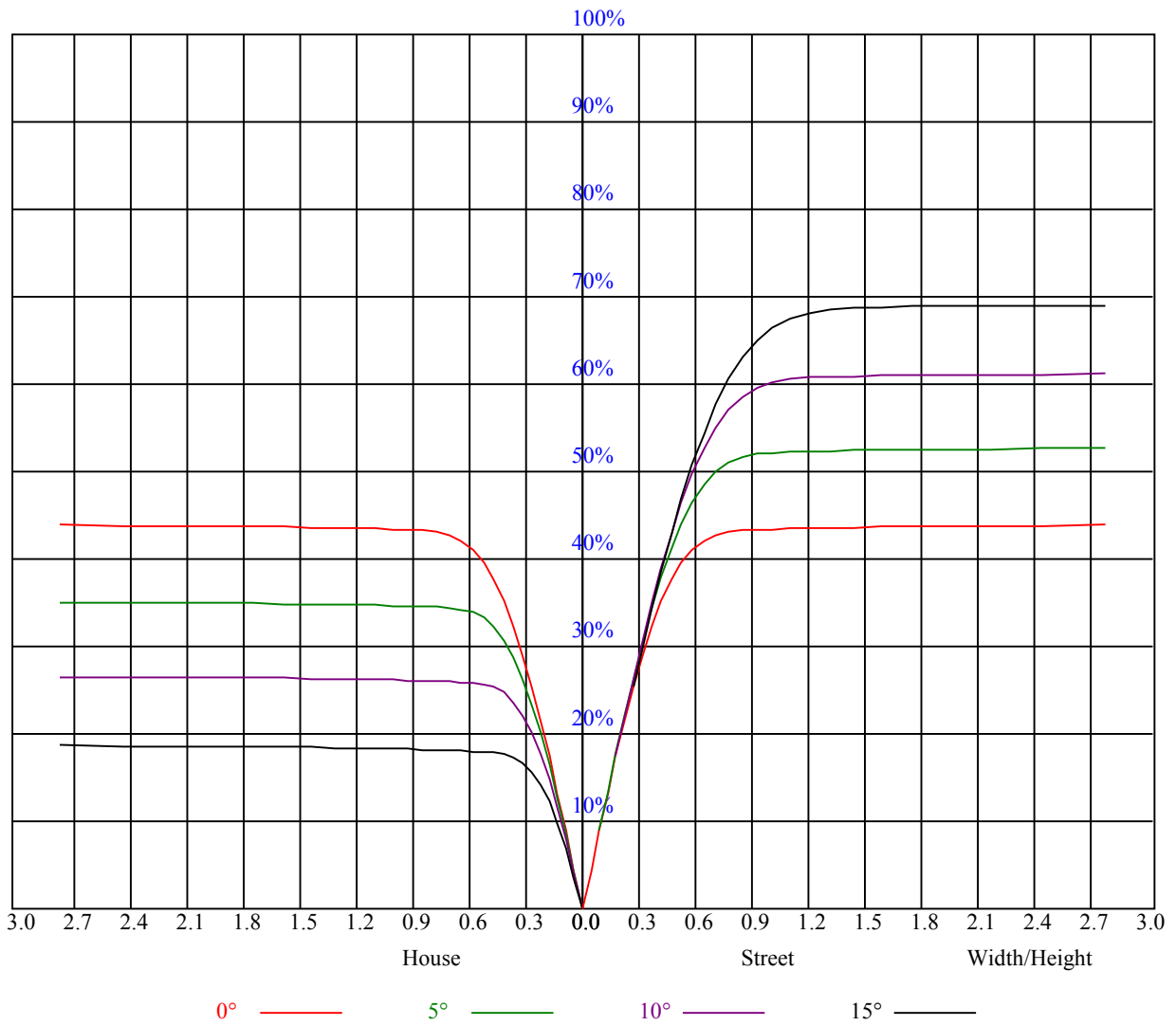
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.06	1.06	1.06	1.03	1.03	1.03	0.99	0.99	0.99	0.94	0.94	0.94	0.91	0.91	0.91	0.89
1	0.98	0.96	0.94	0.96	0.94	0.93	0.93	0.91	0.90	0.90	0.88	0.87	0.87	0.86	0.85	0.83
2	0.92	0.89	0.86	0.90	0.87	0.85	0.88	0.85	0.83	0.85	0.83	0.81	0.83	0.81	0.79	0.78
3	0.86	0.82	0.79	0.85	0.81	0.78	0.83	0.79	0.77	0.81	0.78	0.76	0.79	0.76	0.74	0.73
4	0.81	0.76	0.73	0.80	0.76	0.72	0.78	0.75	0.72	0.76	0.73	0.71	0.75	0.72	0.70	0.69
5	0.76	0.72	0.68	0.76	0.71	0.68	0.74	0.70	0.67	0.73	0.69	0.66	0.71	0.68	0.66	0.65
6	0.72	0.67	0.64	0.72	0.67	0.63	0.70	0.66	0.63	0.69	0.65	0.63	0.68	0.65	0.62	0.61
7	0.68	0.63	0.60	0.68	0.63	0.60	0.67	0.62	0.59	0.66	0.62	0.59	0.65	0.61	0.59	0.58
8	0.65	0.60	0.56	0.64	0.59	0.56	0.63	0.59	0.56	0.62	0.59	0.56	0.62	0.58	0.55	0.54
9	0.61	0.57	0.53	0.61	0.56	0.53	0.60	0.56	0.53	0.59	0.56	0.53	0.59	0.55	0.53	0.51
10	0.58	0.54	0.50	0.58	0.53	0.50	0.57	0.53	0.50	0.57	0.53	0.50	0.56	0.52	0.50	0.49



Intensity data(cd)

C/ $\gamma$ (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	2057.06	2067.75	2059.31	1973.81	1788.19	1379.25	871.31	320.06	36.84
45.0	2061.00	2085.75	2074.50	2000.25	1785.94	1357.88	874.13	301.50	34.20
90.0	2064.94	2104.88	2096.44	2008.69	1796.06	1365.19	869.68	249.58	34.76
135.0	2057.06	2090.25	2120.63	2053.13	1875.38	1560.38	1069.88	459.56	55.46
180.0	2057.06	2093.06	2116.13	2043.56	1868.63	1513.13	1017.62	432.00	49.78
225.0	2061.00	2095.31	2120.06	2048.06	1861.31	1537.88	1063.18	407.31	60.81
270.0	2064.94	2080.69	2085.75	2009.25	1824.19	1495.13	1053.00	445.50	58.84
315.0	2057.06	2076.75	2051.44	1962.00	1748.25	1115.21	842.01	237.26	36.79
360.0	2057.06	2067.75	2059.31	1973.81	1788.19	1379.25	871.31	320.06	36.84

C/ $\gamma$ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	15.75	12.26	10.35	9.45	8.83	8.44	9.11	8.33	8.16
45.0	15.75	12.21	10.52	9.51	8.89	8.44	8.21	8.10	8.10
90.0	15.75	12.15	10.46	9.56	8.83	8.38	8.16	8.04	8.04
135.0	18.11	12.49	10.58	9.62	8.89	8.44	8.10	8.04	7.99
180.0	17.83	12.38	10.46	9.51	8.78	8.33	8.04	7.99	7.93
225.0	20.36	13.56	11.19	9.96	9.06	8.55	8.16	8.10	8.04
270.0	20.76	13.89	11.42	10.24	9.23	8.55	8.16	8.04	8.04
315.0	16.65	12.49	10.58	9.51	8.89	8.49	9.73	8.21	8.16
360.0	15.75	12.26	10.35	9.45	8.83	8.44	9.11	8.33	8.16

C/ $\gamma$ (°)	90.0
0.0	7.93
45.0	8.04
90.0	8.04
135.0	7.99
180.0	7.93
225.0	8.04
270.0	8.04
315.0	7.93
360.0	7.93