
Nata

LumCAT: 3-1703-N

Luminaire: 92.70.045.00+92.70.061.00

Report No: NT2018041312

Test No: nata-0100

LampCAT: LUXEON COB 1208

Lamp flux(lm): 2587.5

Number of Lamps: 1

Length(mm): 86

Phm Type: C

Voltage(V): 34.8000

Current(A): 0.5900

Power (W): 20.5320

PF: 0.0000

Ballast type: DC

Width(mm): 86

Height(mm): 0

Photometric Results

Lumens(lm): 2064.89

Efficiency(%): 79.80%

Lumens(lm)/Power(W): 100.57

Central intensity(cd): 4580.210

Maximum intensity(cd): 4580.210

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=35.0

[C90/270]Total=35.0

Field angle(10%Imax): [C0/180]Total=65.1

[C90/270]Total=65.1

Maximum s/h(1/2): C0_180=0.57 C90_270=0.57

Maximum s/h(1/4): C0_180=0.59 C90_270=0.59

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 80.79%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 96.747%

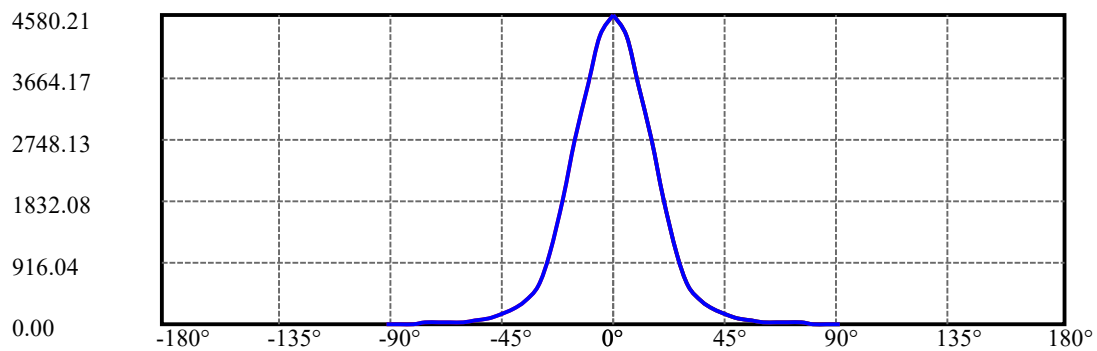
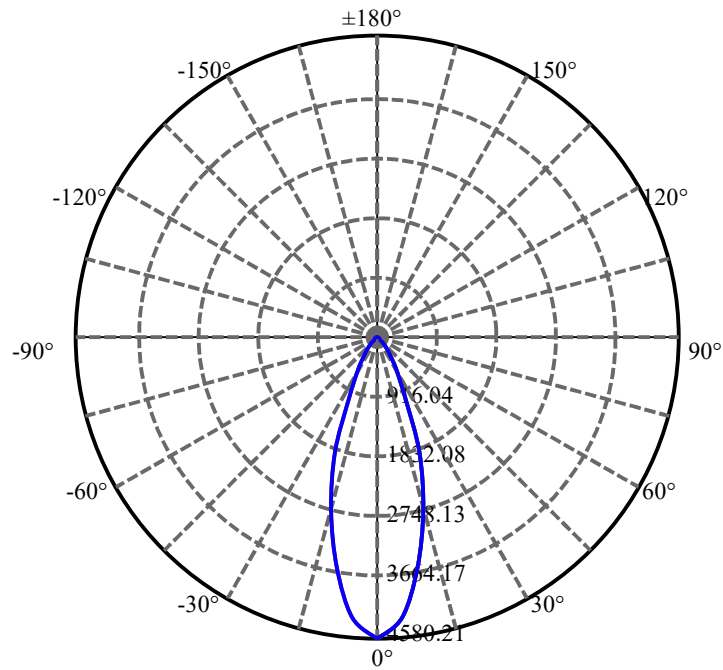
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4580.211	27.391	27.391	1.059%	1.326%
5.0	4267.766	203.885	231.276	7.880%	11.200%
10.0	3542.742	337.209	568.485	13.032%	27.531%
15.0	2717.515	385.530	954.014	14.900%	46.202%
20.0	1864.347	349.517	1303.531	13.508%	63.128%
25.0	1055.576	244.527	1548.058	9.450%	74.971%
30.0	574.341	157.409	1705.467	6.083%	82.594%
35.0	346.250	108.860	1814.328	4.207%	87.866%
40.0	231.340	81.509	1895.837	3.150%	91.813%
45.0	140.538	54.471	1950.309	2.105%	94.451%
50.0	85.613	35.949	1986.257	1.389%	96.192%
55.0	48.911	21.961	2008.219	.849%	97.256%
60.0	29.710	14.103	2022.322	.545%	97.939%
65.0	21.362	10.612	2032.934	.410%	98.453%
70.0	18.120	9.333	2042.267	.361%	98.905%
75.0	15.237	8.067	2050.335	.312%	99.295%
80.0	12.629	6.817	2057.152	.263%	99.625%
85.0	10.068	5.498	2062.65	.212%	99.892%
90.0	8.162	2.237	2064.887	.086%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1705.47	65.91%	82.59%
0-40	1895.84	73.27%	91.81%
0-60	2022.32	78.16%	97.94%
0-90	2062.65	79.72%	99.89%
0-120	2062.65	79.72%	99.89%
0-180	2064.89	79.80%	100.00%
60-90	54.43	2.10%	2.64%
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%
0-28.30	1651.91	63.84%	80.00%

ZONAL LUMEN SUMMARY

0-10	568.48
10-20	735.05
20-30	401.94
30-40	190.37
40-50	90.42
50-60	36.06
60-70	19.95
70-80	14.88
80-90	5.50
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: —————

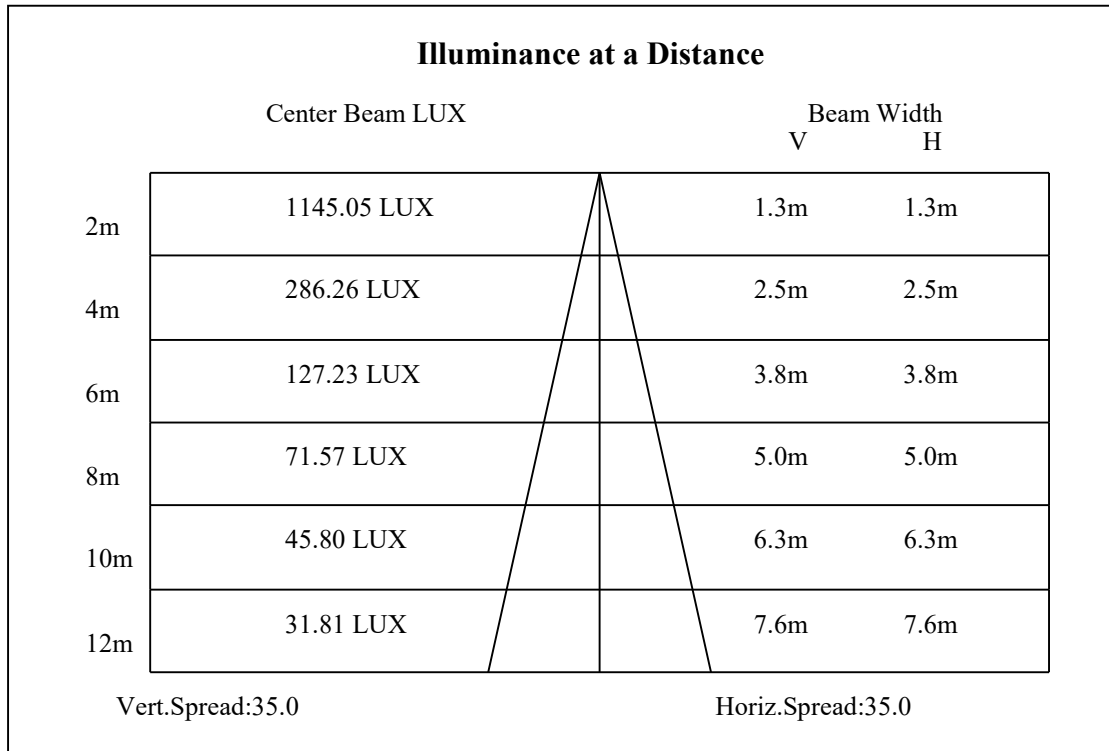
C90/C270: —————

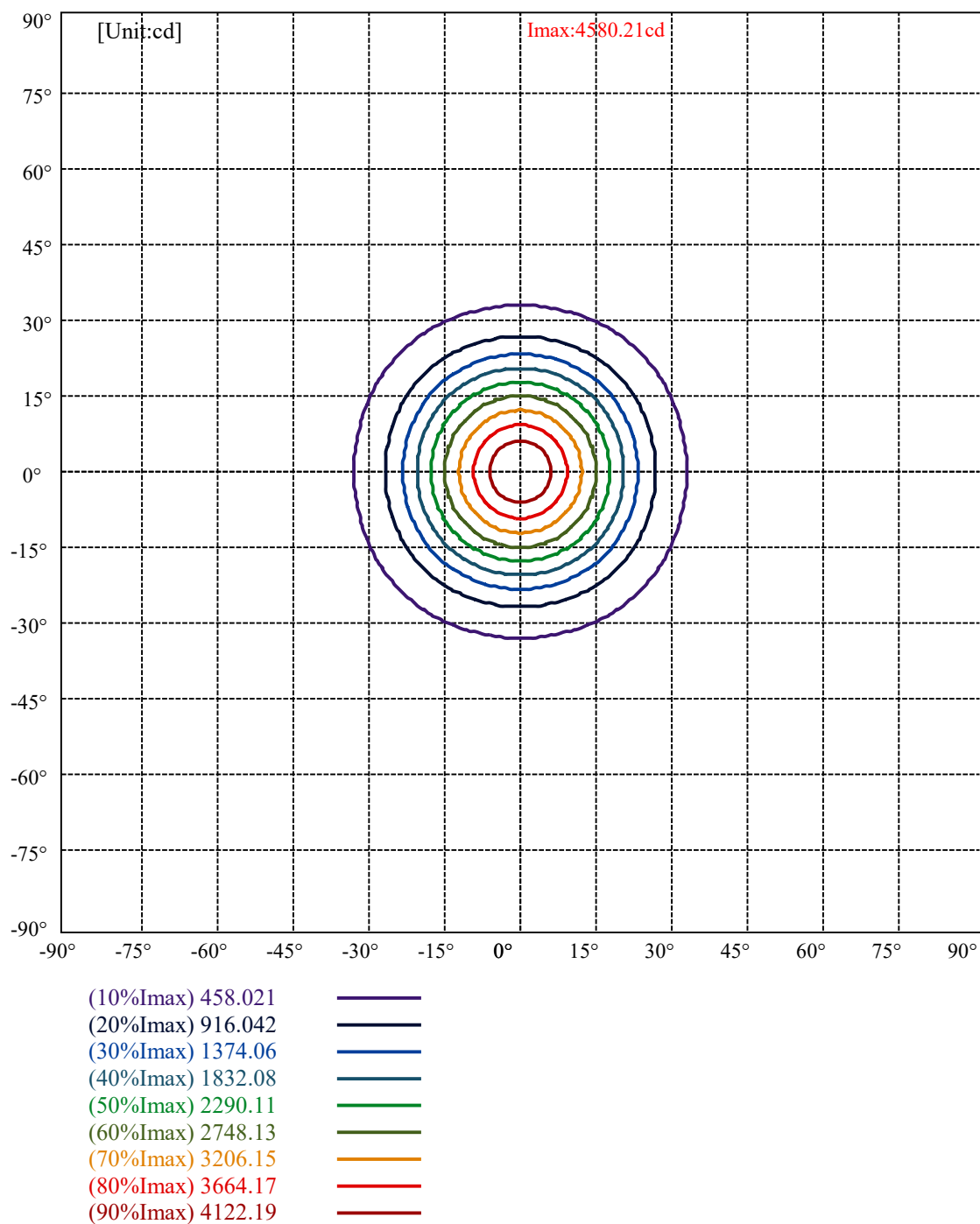
Field angle(10%Imax):C0/180Left:32.5 Right:32.5

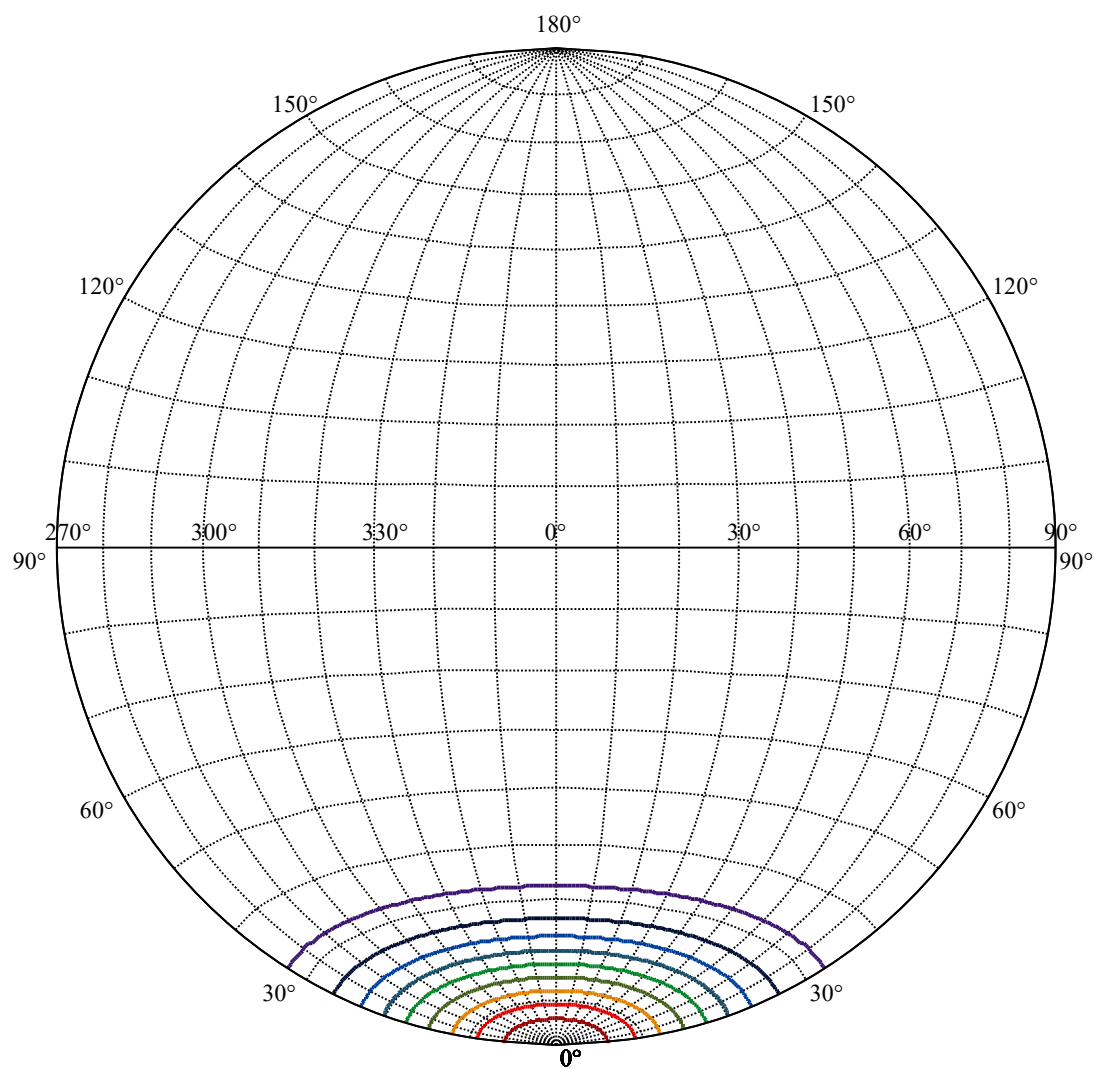
:C90/270Left:32.5 Right:32.5

Beam Angle(50%Imax):C0/180Left:17.5 Right:17.5

:C90/270Left:17.5 Right:17.5







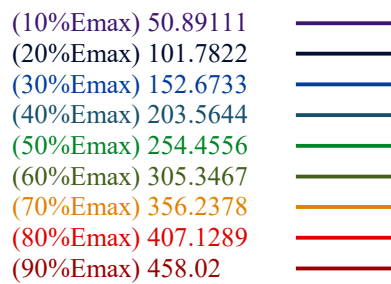
House

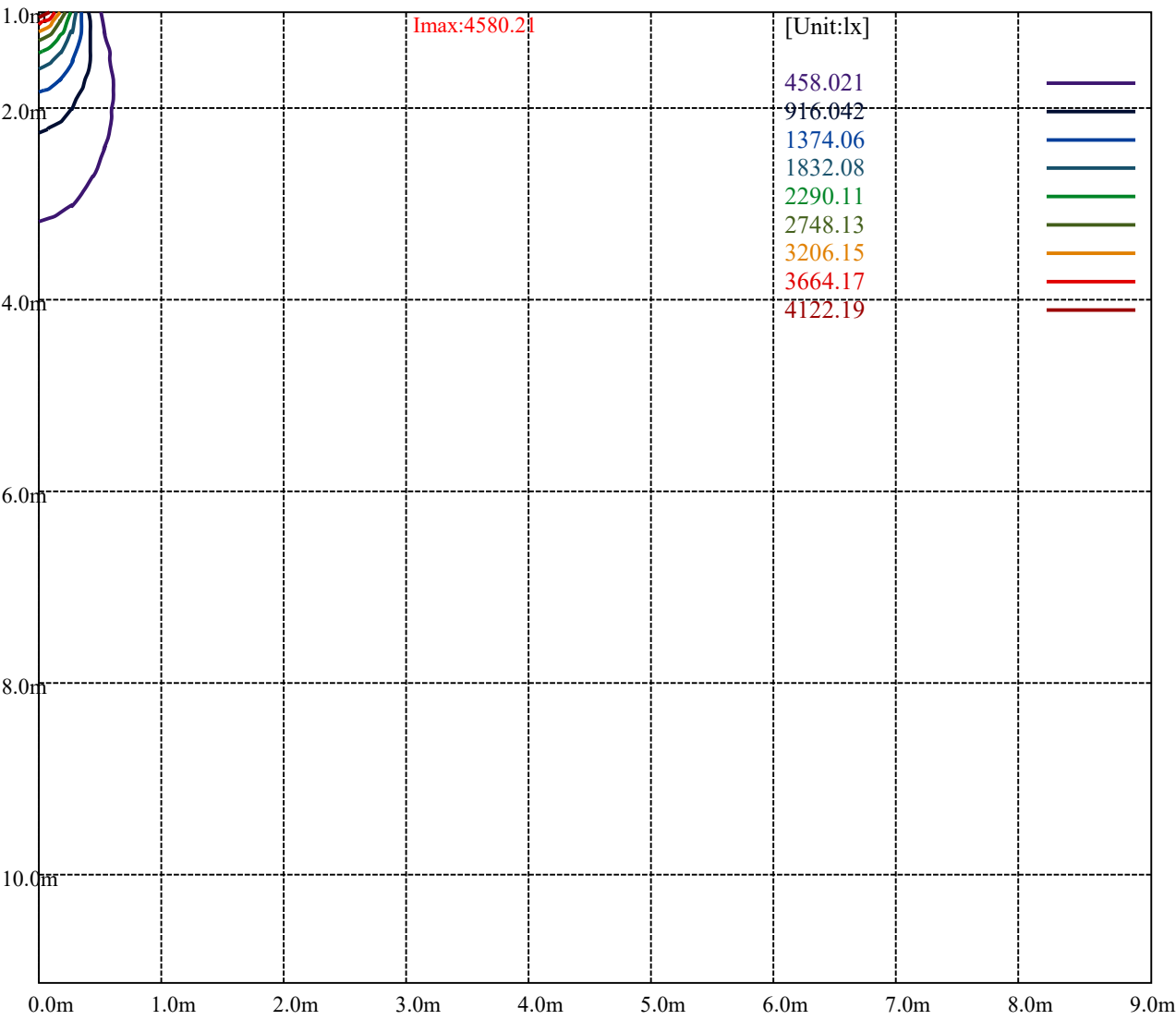
[Unit:cd]

Road

Imax:4580.21

(10%Imax)	458.021	—
(20%Imax)	916.042	—
(30%Imax)	1374.06	—
(40%Imax)	1832.08	—
(50%Imax)	2290.11	—
(60%Imax)	2748.13	—
(70%Imax)	3206.15	—
(80%Imax)	3664.17	—
(90%Imax)	4122.19	—





Luminance Table

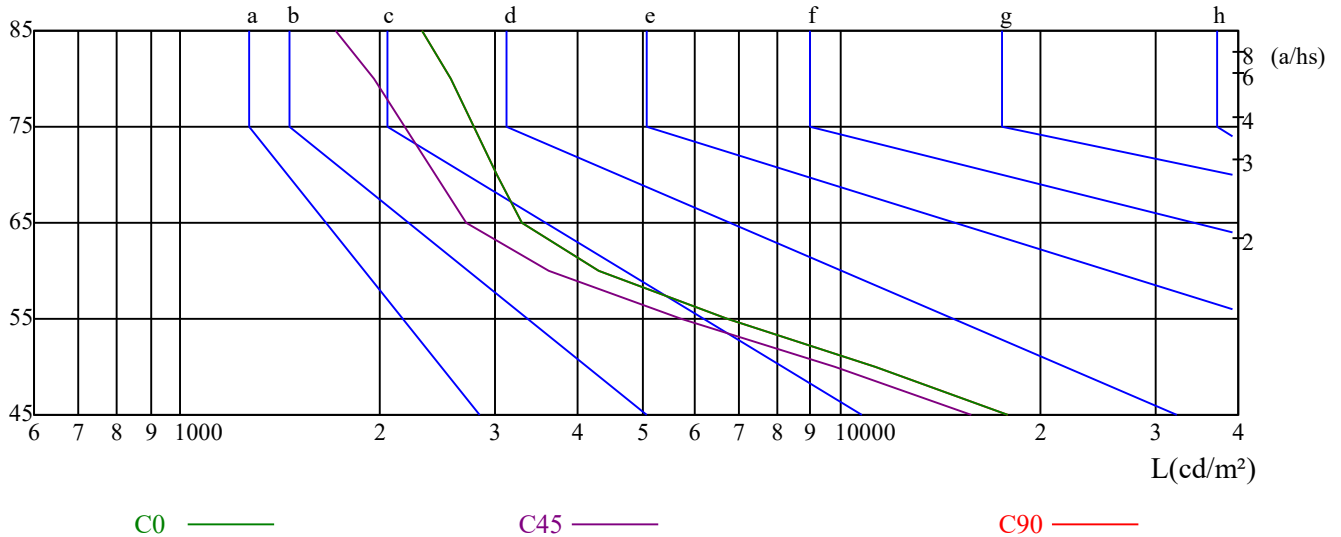
γ	45	50	55	60	65	70	75	80	85
C0	17915	11284	6726	4305	3298	3018	2777	2564	2326
C45	15742	9773	5737	3611	2716	2434	2187	1963	1720
C90	17915	11284	6726	4305	3298	3018	2777	2564	2326

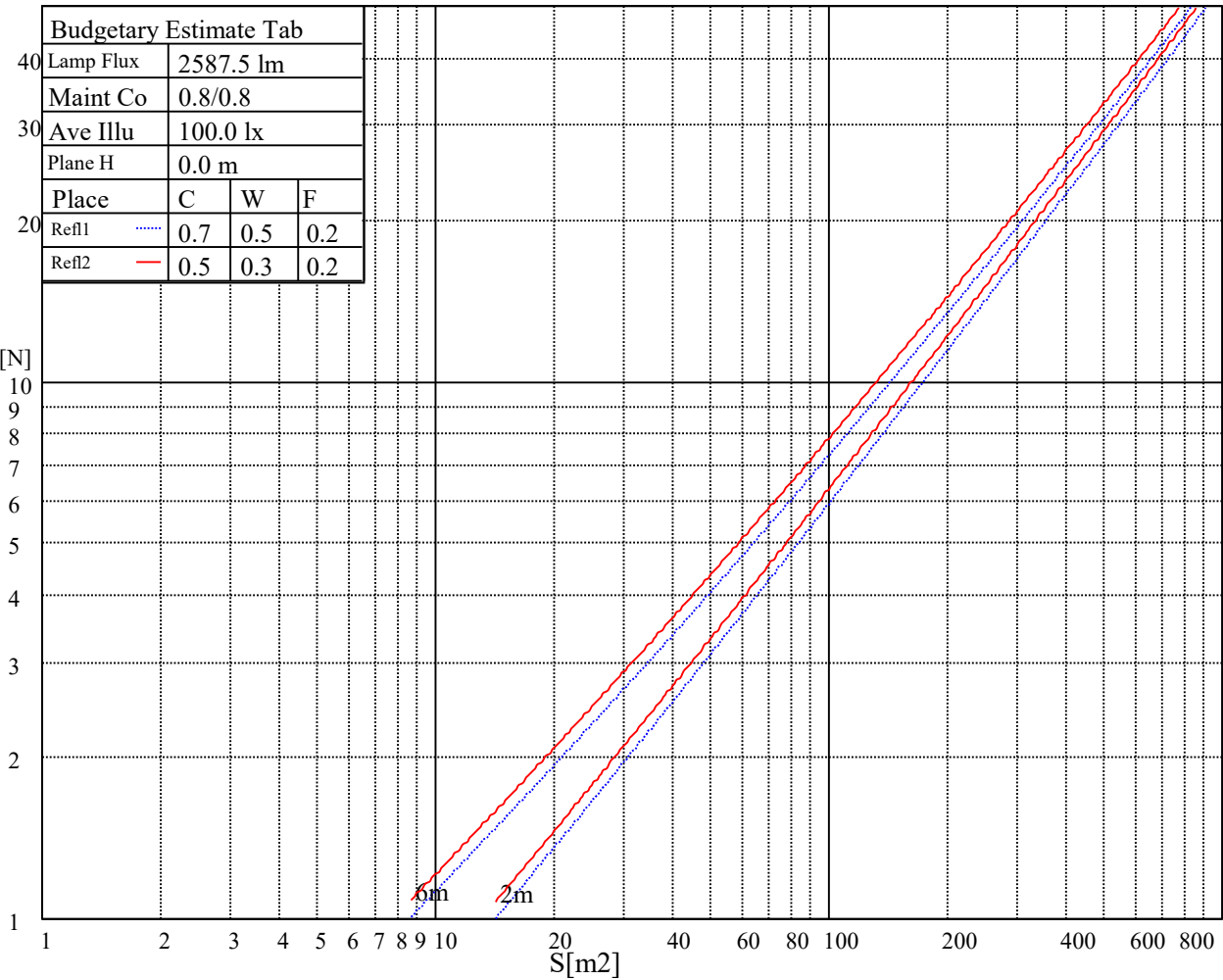
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
6834	6834	6834	7960	7960	7960	15620	15620	15620

Glare Table

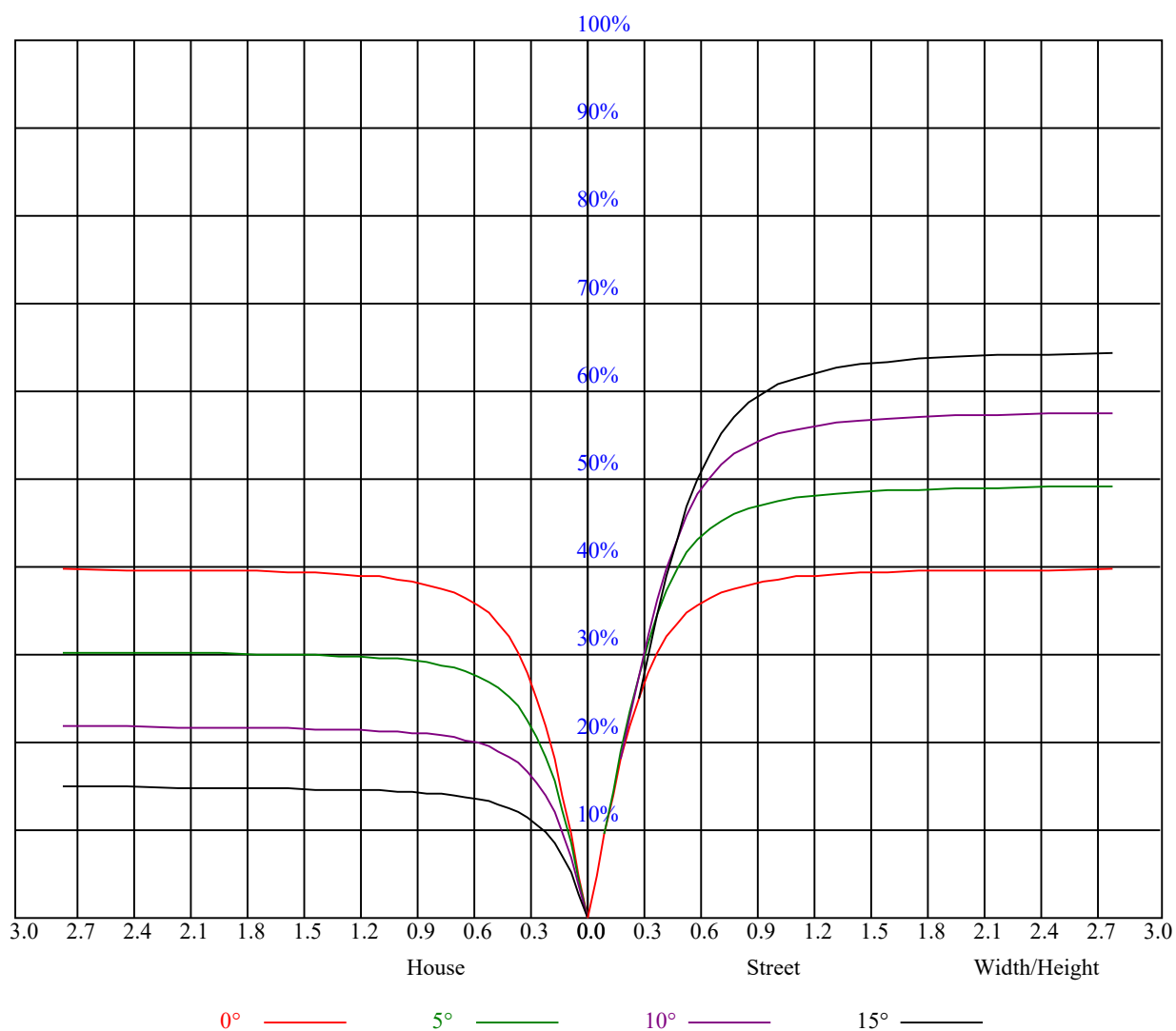
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve

 $\gamma(^{\circ})$ 



RHOC	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	0.96	0.96	0.96	0.94	0.94	0.94	0.90	0.90	0.90	0.86	0.86	0.86	0.82	0.82	0.82	0.81
1	0.89	0.86	0.84	0.87	0.85	0.83	0.84	0.82	0.81	0.81	0.79	0.78	0.78	0.77	0.76	0.74
2	0.83	0.80	0.77	0.82	0.79	0.77	0.79	0.77	0.75	0.77	0.75	0.73	0.75	0.73	0.72	0.70
3	0.79	0.75	0.72	0.78	0.74	0.71	0.76	0.73	0.70	0.74	0.71	0.69	0.72	0.70	0.68	0.67
4	0.75	0.71	0.67	0.74	0.70	0.67	0.72	0.69	0.66	0.70	0.68	0.66	0.69	0.67	0.65	0.64
5	0.71	0.67	0.64	0.70	0.66	0.63	0.69	0.65	0.63	0.68	0.65	0.62	0.66	0.64	0.62	0.61
6	0.68	0.64	0.61	0.67	0.63	0.60	0.66	0.63	0.60	0.65	0.62	0.60	0.64	0.61	0.59	0.58
7	0.65	0.61	0.58	0.64	0.60	0.58	0.63	0.60	0.57	0.63	0.59	0.57	0.62	0.59	0.57	0.56
8	0.62	0.58	0.55	0.62	0.58	0.55	0.61	0.57	0.55	0.60	0.57	0.55	0.60	0.57	0.54	0.54
9	0.60	0.56	0.53	0.60	0.56	0.53	0.59	0.55	0.53	0.58	0.55	0.53	0.58	0.55	0.52	0.52
10	0.58	0.54	0.51	0.57	0.54	0.51	0.57	0.53	0.51	0.56	0.53	0.51	0.56	0.53	0.51	0.50



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Intensity data(cd)										Appendix Page: 14 Total:14	
C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0		
0.0	4569.13	4417.17	3782.37	2951.57	2131.23	1368.15	693.71	409.07	286.29		
45.0	4572.98	4417.17	3799.44	2989.01	2145.00	1292.72	671.69	395.86	282.99		
90.0	4582.34	4236.04	3485.07	2675.19	1794.29	969.54	522.10	324.45	210.21		
135.0	4599.41	4242.10	3452.04	2684.55	1777.22	953.58	539.00	325.93	208.66		
180.0	4569.13	4064.81	3234.56	2357.52	1522.86	797.93	464.07	286.02	182.40		
225.0	4572.98	4112.71	3299.53	2470.93	1623.61	843.79	490.99	296.09	191.76		
270.0	4576.29	4348.35	3673.91	2826.60	2011.21	1145.17	600.11	366.68	251.44		
315.0	4599.41	4303.76	3615.00	2784.75	1909.36	1073.71	613.05	365.90	236.96		
360.0	4569.13	4417.17	3782.37	2951.57	2131.23	1368.15	693.71	409.07	286.29		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	165.39	101.36	57.04	34.30	22.63	19.10	16.30	13.65	10.96		
45.0	157.30	97.01	55.72	32.92	22.46	19.05	16.02	13.32	10.68		
90.0	131.20	80.71	45.37	27.69	20.59	17.62	14.76	12.17	9.74		
135.0	137.48	79.78	44.87	27.36	21.03	17.73	14.76	12.22	9.63		
180.0	117.77	70.64	39.86	25.77	20.15	17.23	14.53	12.00	9.47		
225.0	120.74	72.73	41.57	25.88	20.37	17.29	14.42	11.95	9.52		
270.0	145.95	92.49	54.07	32.59	21.91	18.55	15.53	12.83	10.13		
315.0	148.49	90.18	52.80	31.16	21.75	18.39	15.58	12.88	10.41		
360.0	165.39	101.36	57.04	34.30	22.63	19.10	16.30	13.65	10.96		
C/γ(°)	90.0										
0.0	8.37										
45.0	8.04										
90.0	8.09										
135.0	8.15										
180.0	8.20										
225.0	8.09										
270.0	8.09										
315.0	8.26										
360.0	8.37										