
Nata

LumCAT: 1405-N	
Luminaire: 92.70.064.00	
Report No: NT2018041122	Voltage(V): 36.8000
Test No: nata-0100	Current(A): 0.2400
LampCAT: SAMSUNG LC008	Power (W): 8.8320
Lamp flux(lm): 1044.2	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 39	Width(mm): 39
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 894.15
Efficiency(%): 85.63%
Lumens(lm)/Power(W): 101.24
Central intensity(cd): 2158.486
Maximum intensity(cd): 2158.486
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=23.9
[C90/270]Total=23.9
Field angle(10%Imax): [C0/180]Total=75.2
[C90/270]Total=75.2
Maximum s/h(1/2): C0_180=0.40 C90_270=0.40
Maximum s/h(1/4): C0_180=0.46 C90_270=0.46
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 86.78%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 94.998%

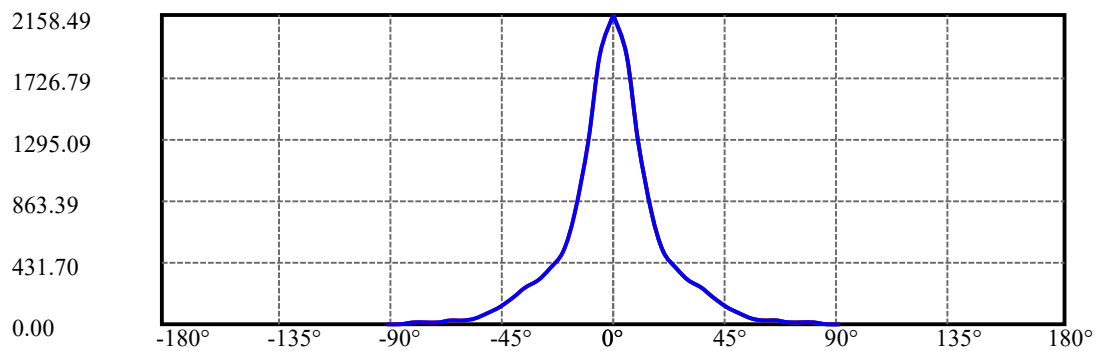
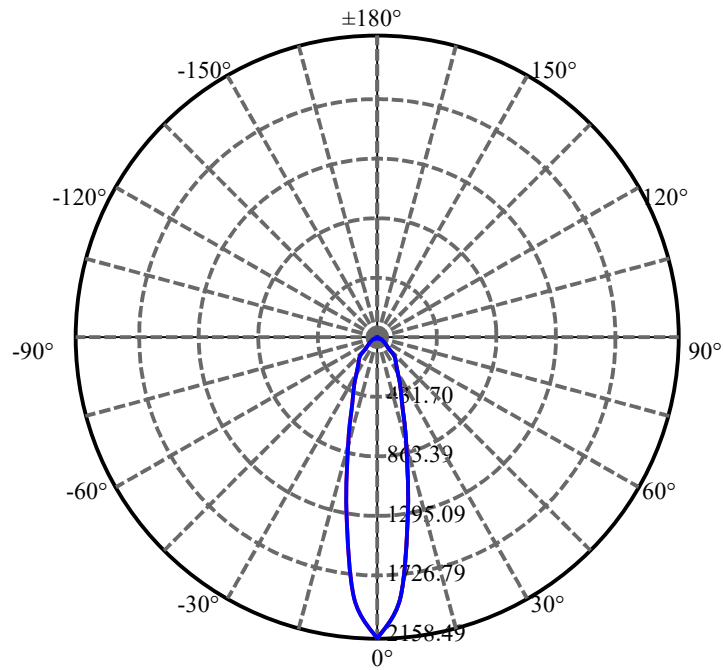
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2158.486	12.908	12.908	1.236%	1.444%
5.0	1871.780	89.421	102.329	8.563%	11.444%
10.0	1275.024	121.361	223.69	11.622%	25.017%
15.0	773.150	109.686	333.376	10.504%	37.284%
20.0	514.461	96.448	429.824	9.236%	48.071%
25.0	384.390	89.045	518.869	8.527%	58.029%
30.0	313.477	85.914	604.783	8.228%	67.638%
35.0	250.644	78.802	683.585	7.546%	76.451%
40.0	183.400	64.618	748.204	6.188%	83.677%
45.0	118.832	46.058	794.262	4.411%	88.829%
50.0	73.782	30.981	825.243	2.967%	92.293%
55.0	46.007	20.657	845.9	1.978%	94.604%
60.0	31.554	14.979	860.879	1.434%	96.279%
65.0	22.277	11.067	871.946	1.060%	97.517%
70.0	16.242	8.366	880.312	.801%	98.452%
75.0	11.390	6.030	886.342	.578%	99.127%
80.0	7.735	4.176	890.518	.400%	99.594%
85.0	4.900	2.676	893.194	.256%	99.893%
90.0	3.496	0.958	894.152	.092%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	604.78	57.92%	67.64%
0-40	748.20	71.65%	83.68%
0-60	860.88	82.44%	96.28%
0-90	893.19	85.54%	99.89%
0-120	893.19	85.54%	99.89%
0-180	894.15	85.63%	100.00%
60-90	47.29	4.53%	5.29%
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%
0-37.46	715.32	68.50%	80.00%

ZONAL LUMEN SUMMARY

0-10	223.69
10-20	206.13
20-30	174.96
30-40	143.42
40-50	77.04
50-60	35.64
60-70	19.43
70-80	10.21
80-90	2.68
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:

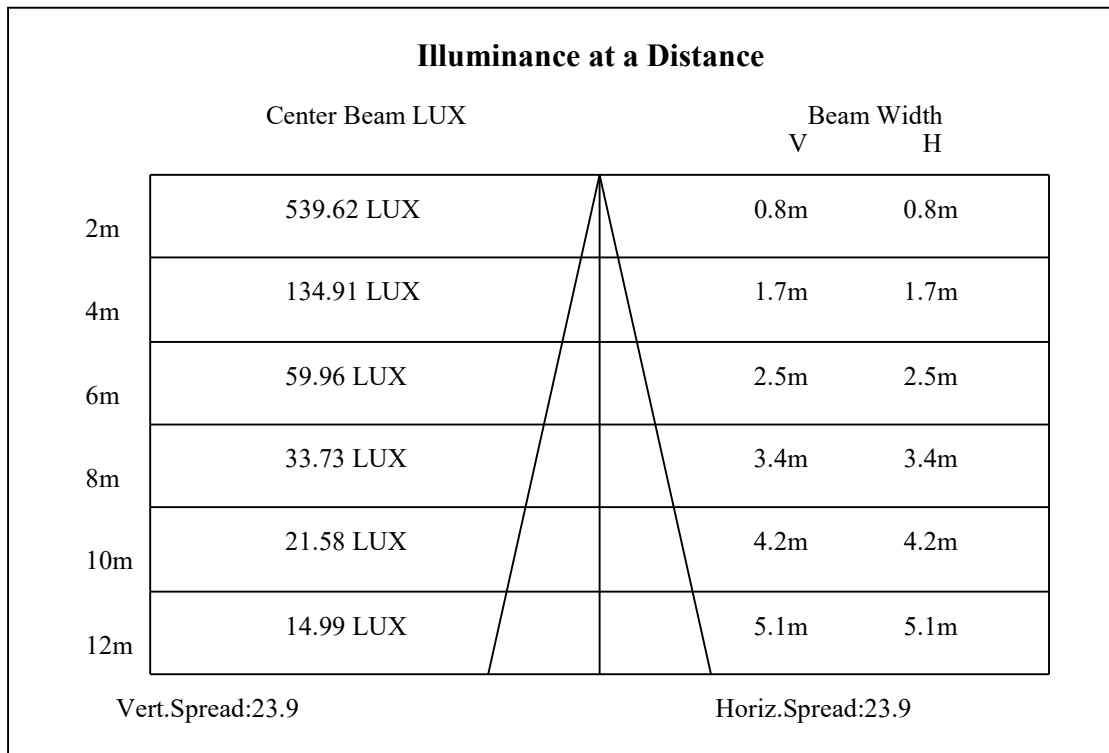
C90/C270:

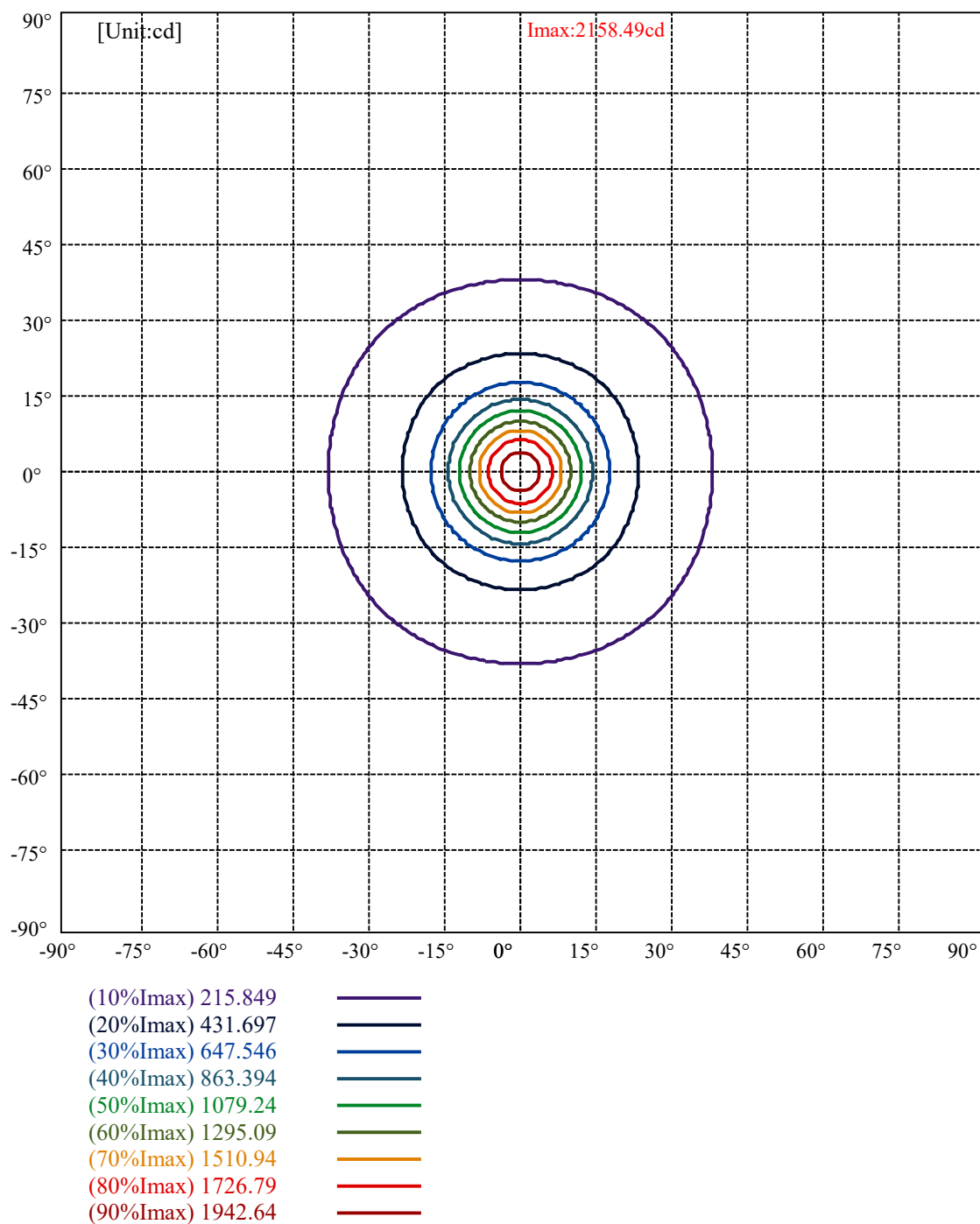
Field angle(10%Imax):C0/180Left:37.6 Right:37.6

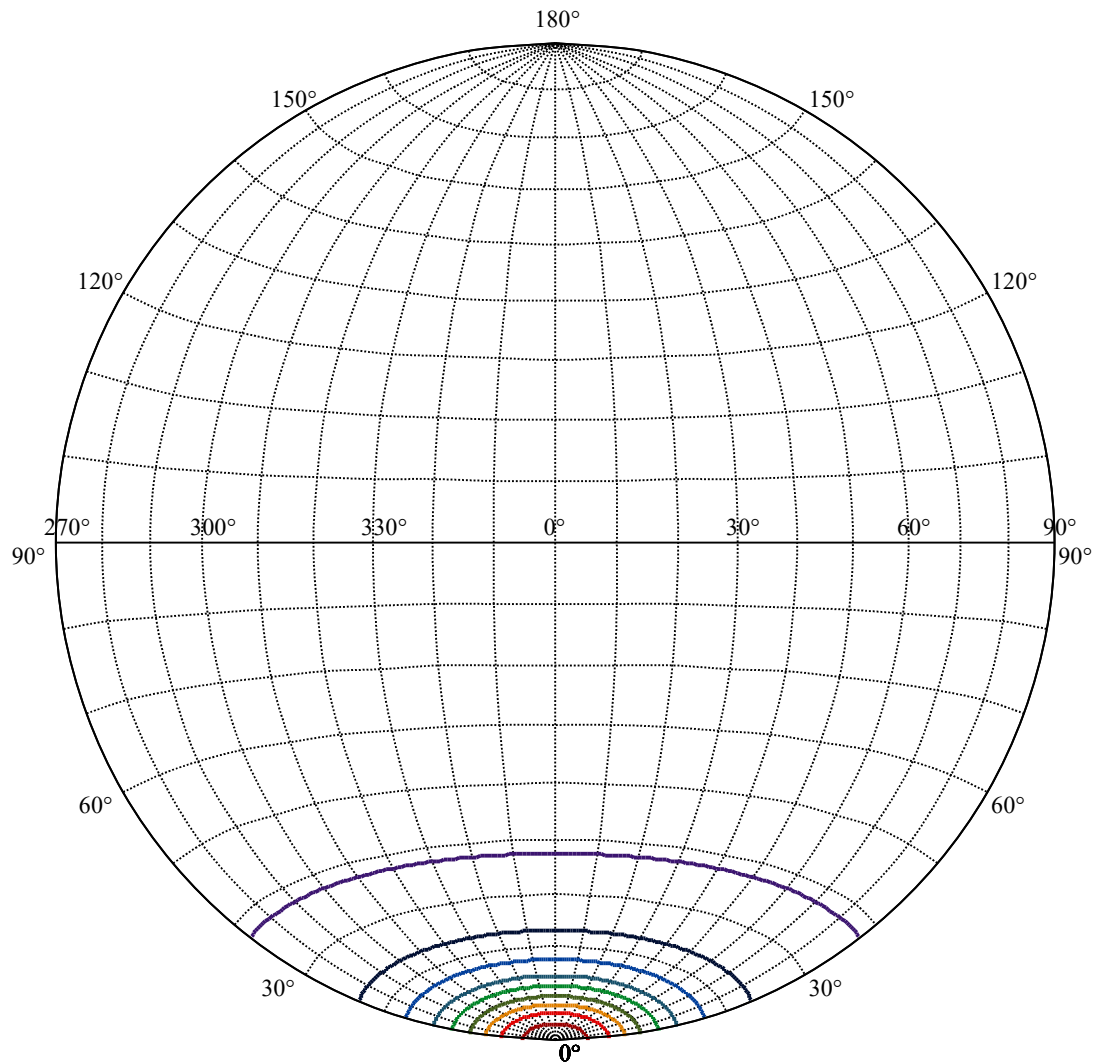
:C90/270Left:37.6 Right:37.6

Beam Angle(50%Imax):C0/180Left:12.0 Right:12.0

:C90/270Left:12.0 Right:12.0







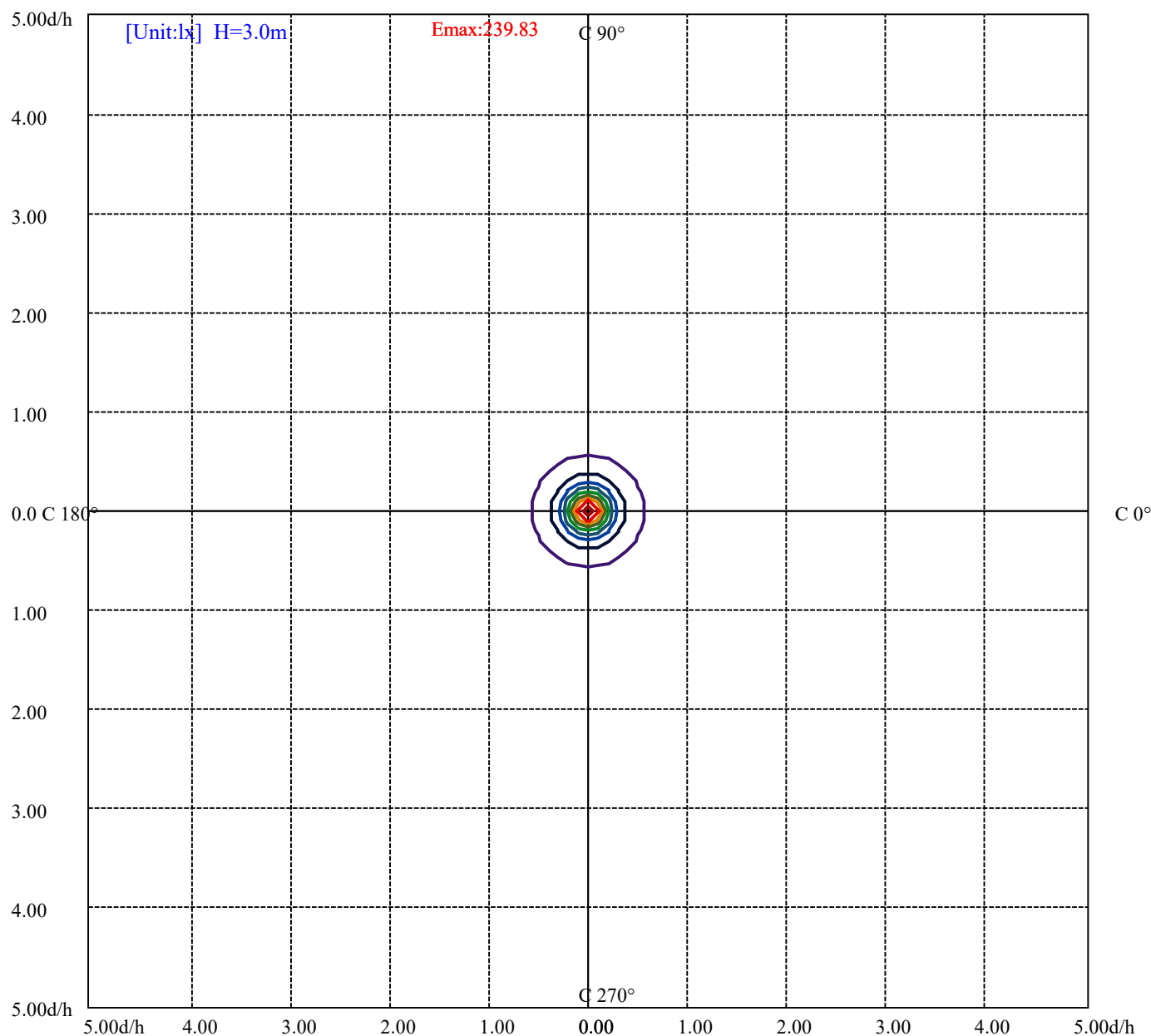
House

[Unit:cd]

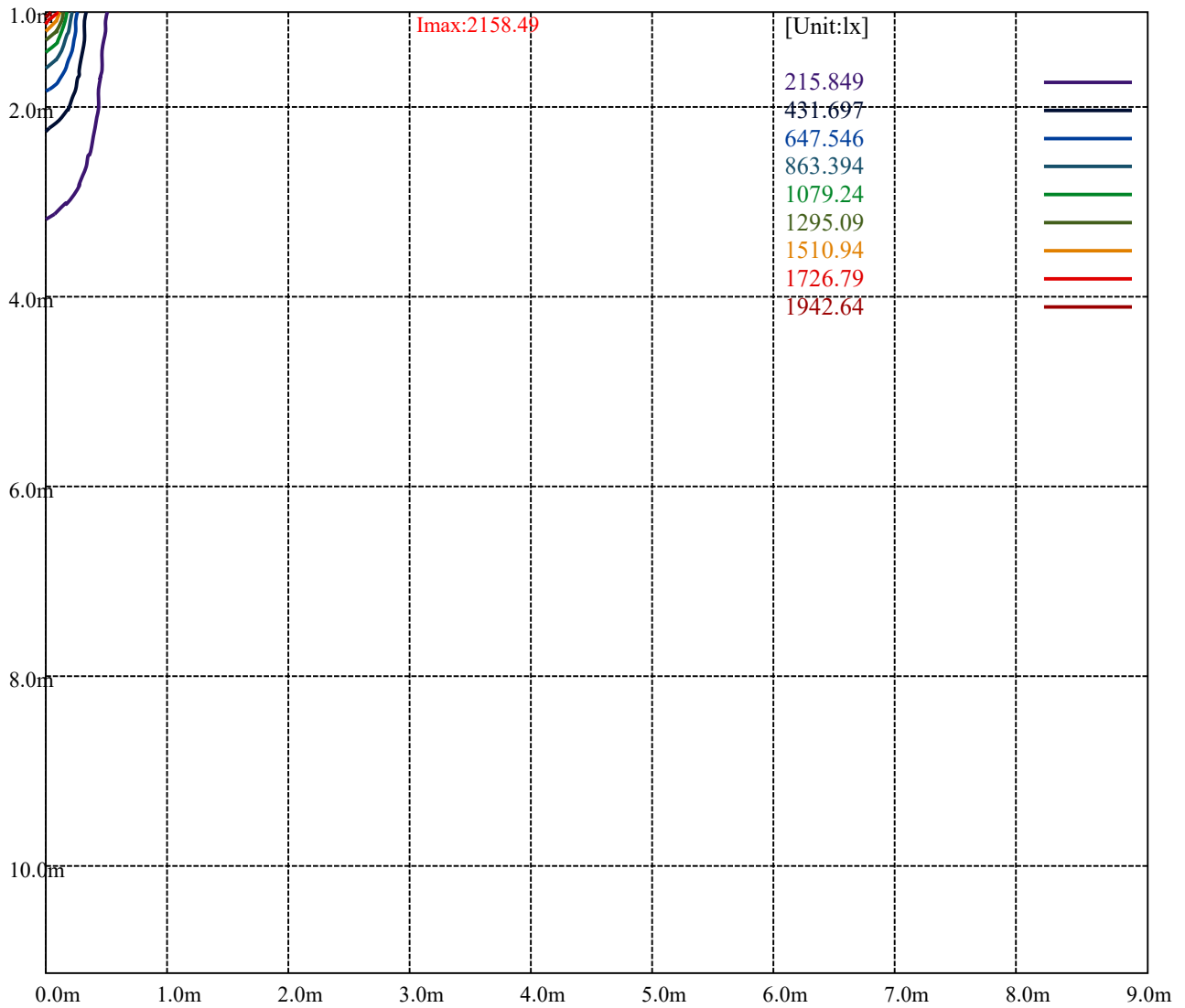
Road

Imax:2158.49

(10%Imax)	215.849	—
(20%Imax)	431.697	—
(30%Imax)	647.546	—
(40%Imax)	863.394	—
(50%Imax)	1079.24	—
(60%Imax)	1295.09	—
(70%Imax)	1510.94	—
(80%Imax)	1726.79	—
(90%Imax)	1942.64	—



(10%E _{max}) 23.98311	—
(20%E _{max}) 47.96611	—
(30%E _{max}) 71.94923	—
(40%E _{max}) 95.93233	—
(50%E _{max}) 119.9156	—
(60%E _{max}) 143.8989	—
(70%E _{max}) 167.8811	—
(80%E _{max}) 191.8644	—
(90%E _{max}) 215.8478	—



Luminance Table

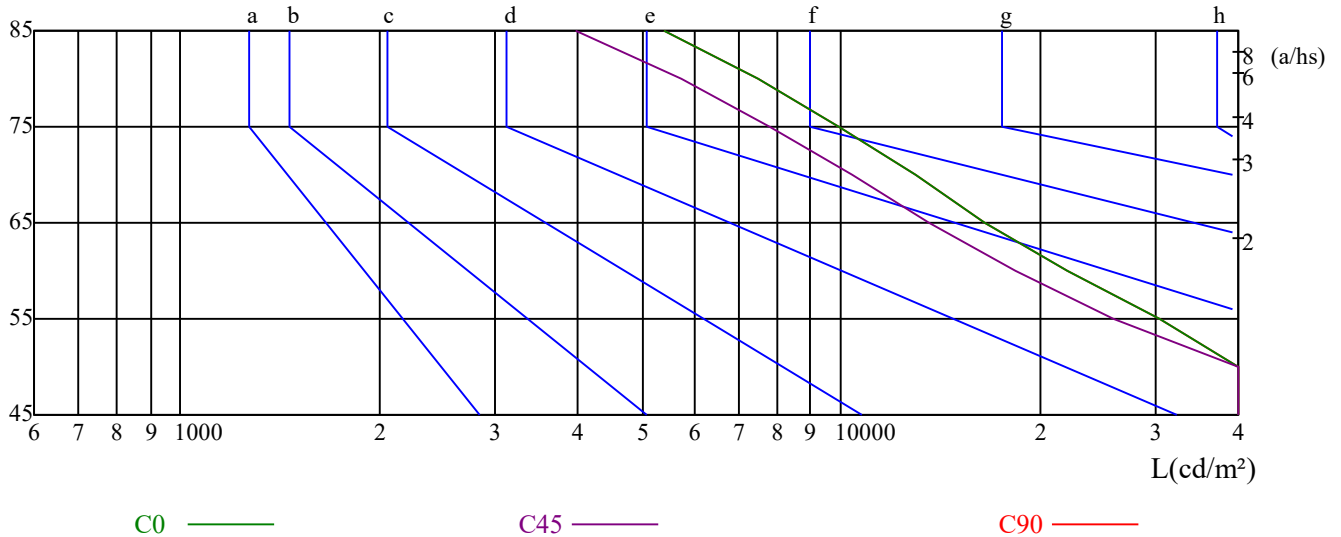
γ	45	50	55	60	65	70	75	80	85
C0	73035	46840	30441	21974	16505	12960	9929	7494	5387
C45	64043	40480	25904	18390	13563	10433	7806	5728	3979
C90	73035	46840	30441	21974	16505	12960	9929	7494	5387

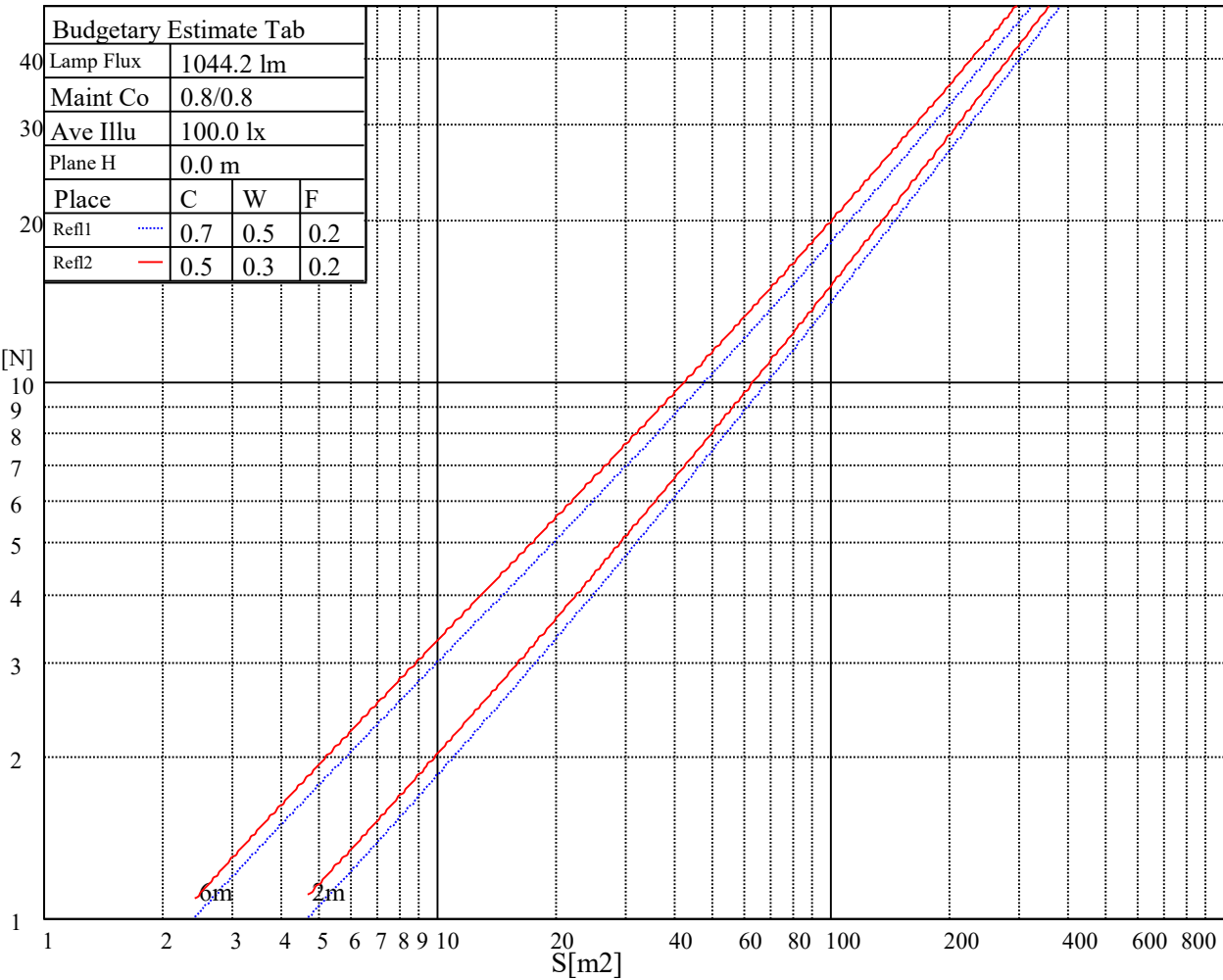
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
34656	34656	34656	28933	28933	28933	36963	36963	36963

Glare Table

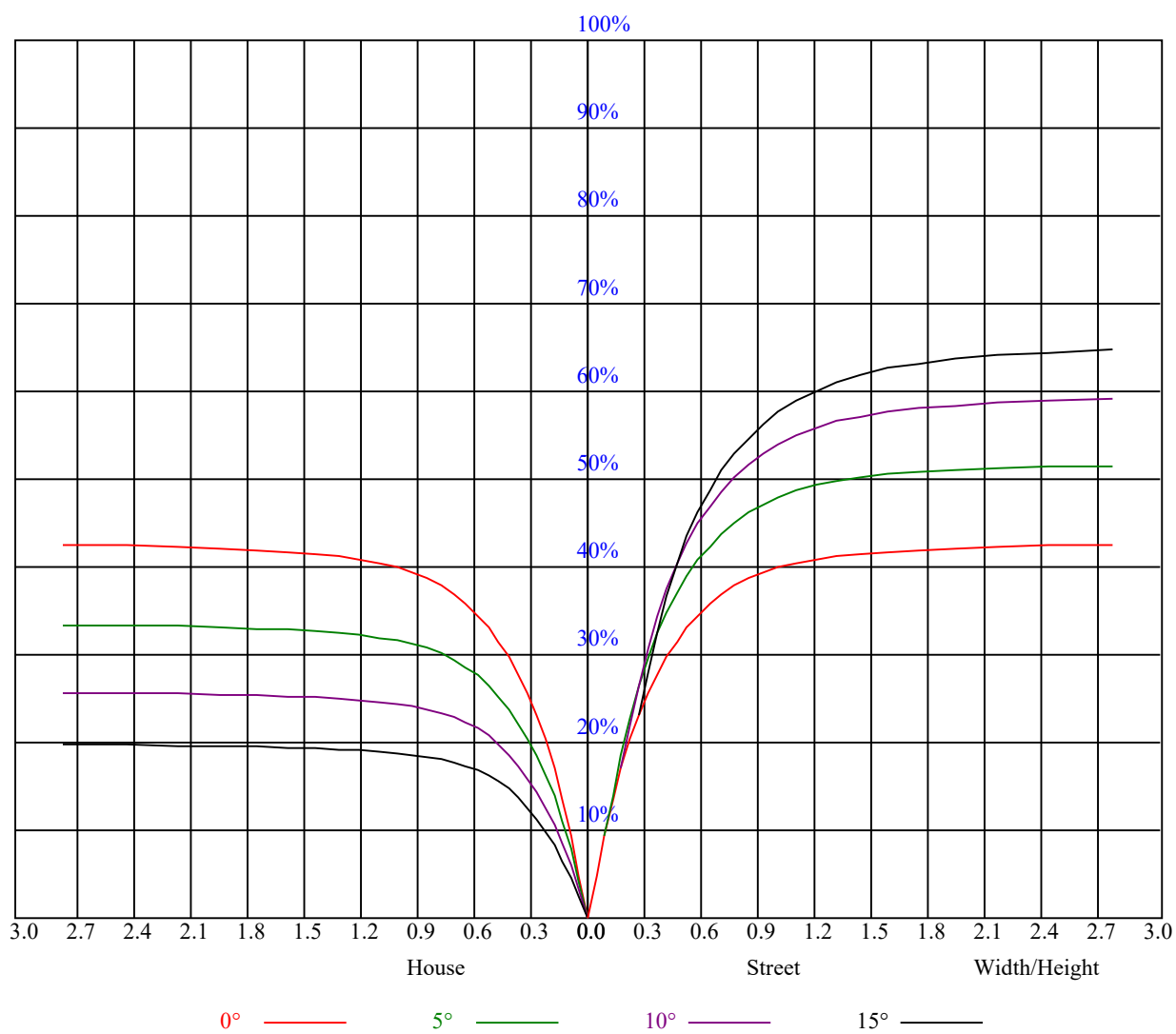
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

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	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	0.94	0.92	0.89	0.92	0.90	0.88	0.89	0.87	0.85	0.85	0.84	0.82	0.82	0.81	0.80	0.78
2	0.87	0.83	0.80	0.86	0.82	0.79	0.83	0.80	0.77	0.80	0.78	0.76	0.78	0.76	0.74	0.73
3	0.81	0.77	0.73	0.80	0.76	0.72	0.78	0.74	0.71	0.76	0.73	0.70	0.74	0.71	0.69	0.68
4	0.76	0.71	0.67	0.75	0.71	0.67	0.73	0.69	0.66	0.72	0.68	0.65	0.70	0.67	0.65	0.63
5	0.72	0.67	0.63	0.71	0.66	0.62	0.69	0.65	0.62	0.68	0.64	0.61	0.67	0.63	0.61	0.59
6	0.68	0.62	0.59	0.67	0.62	0.58	0.66	0.61	0.58	0.65	0.61	0.58	0.63	0.60	0.57	0.56
7	0.64	0.59	0.55	0.64	0.59	0.55	0.63	0.58	0.55	0.61	0.58	0.55	0.60	0.57	0.54	0.53
8	0.61	0.56	0.52	0.61	0.56	0.52	0.60	0.55	0.52	0.59	0.55	0.52	0.58	0.54	0.52	0.50
9	0.58	0.53	0.50	0.58	0.53	0.50	0.57	0.53	0.50	0.56	0.52	0.49	0.55	0.52	0.49	0.48
10	0.56	0.51	0.48	0.55	0.51	0.47	0.55	0.50	0.47	0.54	0.50	0.47	0.53	0.50	0.47	0.46



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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	2132.33	2062.41	1505.79	899.62	581.95	417.88	336.95	279.69	209.43		
45.0	2137.84	2179.13	1629.12	1015.24	628.19	438.25	354.01	285.74	221.49		
90.0	2194.55	2012.86	1428.71	856.24	549.68	407.64	330.78	267.19	200.24		
135.0	2169.22	1994.14	1387.97	839.61	557.72	402.46	325.38	281.89	196.22		
180.0	2132.33	1716.66	1094.96	670.97	472.55	364.47	298.30	233.22	163.52		
225.0	2137.84	1545.43	987.44	598.74	427.46	340.96	281.56	217.14	152.56		
270.0	2194.55	1726.02	1089.57	639.20	441.00	346.30	280.24	202.22	152.56		
315.0	2169.22	1737.58	1076.63	665.58	457.13	357.15	300.61	238.06	171.17		
360.0	2132.33	2062.41	1505.79	899.62	581.95	417.88	336.95	279.69	209.43		
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	140.06	89.25	54.12	35.90	24.94	17.89	12.61	8.70	5.56		
45.0	155.48	92.71	54.78	36.17	25.55	18.55	13.10	9.30	5.62		
90.0	138.03	85.89	52.19	36.12	25.05	18.22	12.83	8.92	5.67		
135.0	126.08	77.85	49.33	33.64	23.62	17.45	12.44	8.42	5.07		
180.0	100.48	63.48	40.19	28.08	19.88	14.76	10.19	6.66	4.35		
225.0	88.97	55.72	37.16	25.88	18.50	13.49	9.36	6.06	3.96		
270.0	93.82	57.64	37.60	27.42	19.77	14.48	10.13	6.66	4.29		
315.0	107.75	67.72	42.67	29.23	20.92	15.09	10.46	7.16	4.68		
360.0	140.06	89.25	54.12	35.90	24.94	17.89	12.61	8.70	5.56		
C/ γ (°)	90.0										
0.0	3.63										
45.0	3.58										
90.0	3.58										
135.0	3.47										
180.0	3.41										
225.0	3.47										
270.0	3.36										
315.0	3.47										
360.0	3.63										