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Nata

LumCAT: 1-0806-S	
Luminaire: 92.70.208.00	
Report No: NATA0100	Voltage(V): 25.5600
Test No: GC20191021015	Current(A): 0.1980
LampCAT: LUMILEDS LUXEON 5050	Power (W): 5.0600
Lamp flux(lm): 442.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 0	Width(mm): 0
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 368.05
Efficiency(%): 83.27%
Lumens(lm)/Power(W): 72.74
Central intensity(cd): 516.544
Maximum intensity(cd): 516.544
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=70.4
[C90/270]Total=38.0
Field angle(10%Imax): [C0/180]Total=87.2
[C90/270]Total=60.6
Maximum s/h(1/2): C0_180=1.01 C90_270=0.59
Maximum s/h(1/4): C0_180=1.00 C90_270=0.60
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 83.27%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.535%

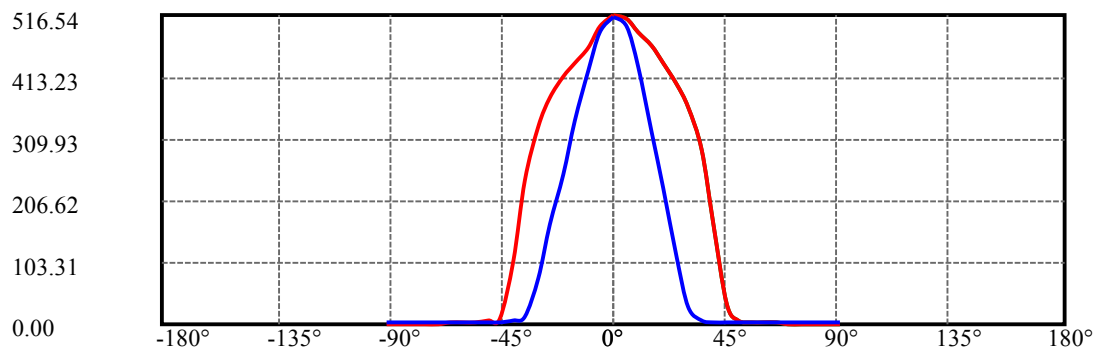
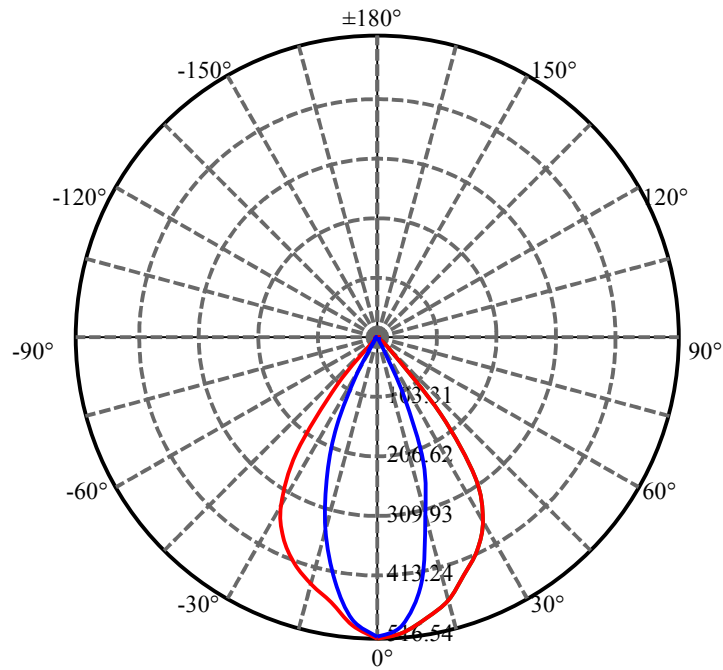
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	513.858	0.000	0	.000%	.000%
5.0	497.686	12.093	12.093	2.736%	3.286%
10.0	449.775	33.894	45.986	7.668%	12.495%
15.0	387.928	49.692	95.678	11.243%	25.996%
20.0	326.334	58.865	154.544	13.318%	41.990%
25.0	257.119	61.193	215.737	13.845%	58.616%
30.0	191.637	56.790	272.527	12.849%	74.046%
35.0	119.623	45.835	318.363	10.370%	86.500%
40.0	50.442	28.374	346.737	6.419%	94.209%
45.0	9.141	11.032	357.769	2.496%	97.206%
50.0	3.558	2.566	360.335	.581%	97.903%
55.0	2.440	1.304	361.639	.295%	98.258%
60.0	1.983	1.022	362.661	.231%	98.536%
65.0	1.807	0.921	363.582	.208%	98.786%
70.0	1.758	0.903	364.485	.204%	99.031%
75.0	1.688	0.901	365.386	.204%	99.276%
80.0	1.666	0.897	366.283	.203%	99.520%
85.0	1.638	0.898	367.181	.203%	99.764%
90.0	1.540	0.870	368.051	.197%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	272.53	61.66%	74.05%
0-40	346.74	78.45%	94.21%
0-60	362.66	82.05%	98.54%
0-90	367.18	83.07%	99.76%
0-120	367.18	83.07%	99.76%
0-180	368.05	83.27%	100.00%
60-90	5.54	1.25%	1.51%
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%
0-32.39	294.44	66.62%	80.00%

ZONAL LUMEN SUMMARY

0-10	45.99
10-20	108.56
20-30	117.98
30-40	74.21
40-50	13.60
50-60	2.33
60-70	1.82
70-80	1.80
80-90	0.90
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

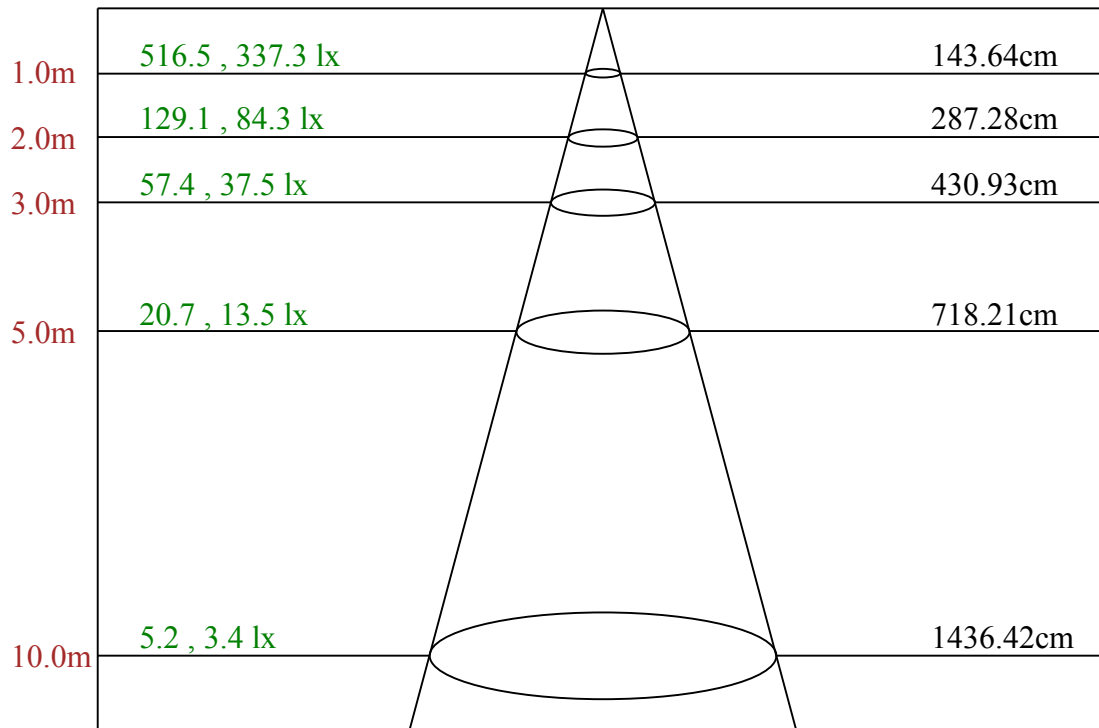
C0(Max): —————C0/C180: —————C90/C270: —————

Field angle(10%Imax):C0/180Left:42.9 Right:44.4

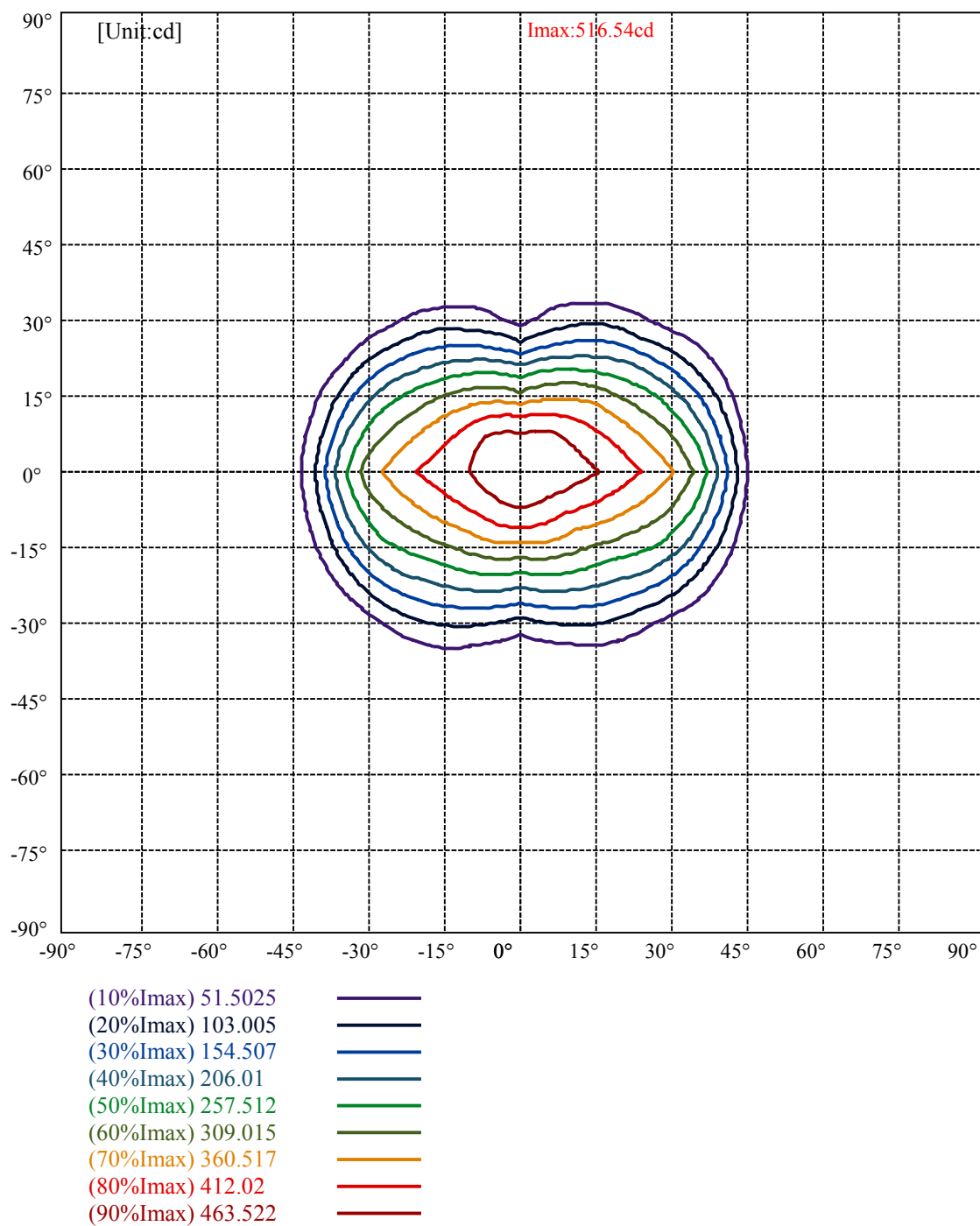
:C90/270Left:31.9 Right:28.6

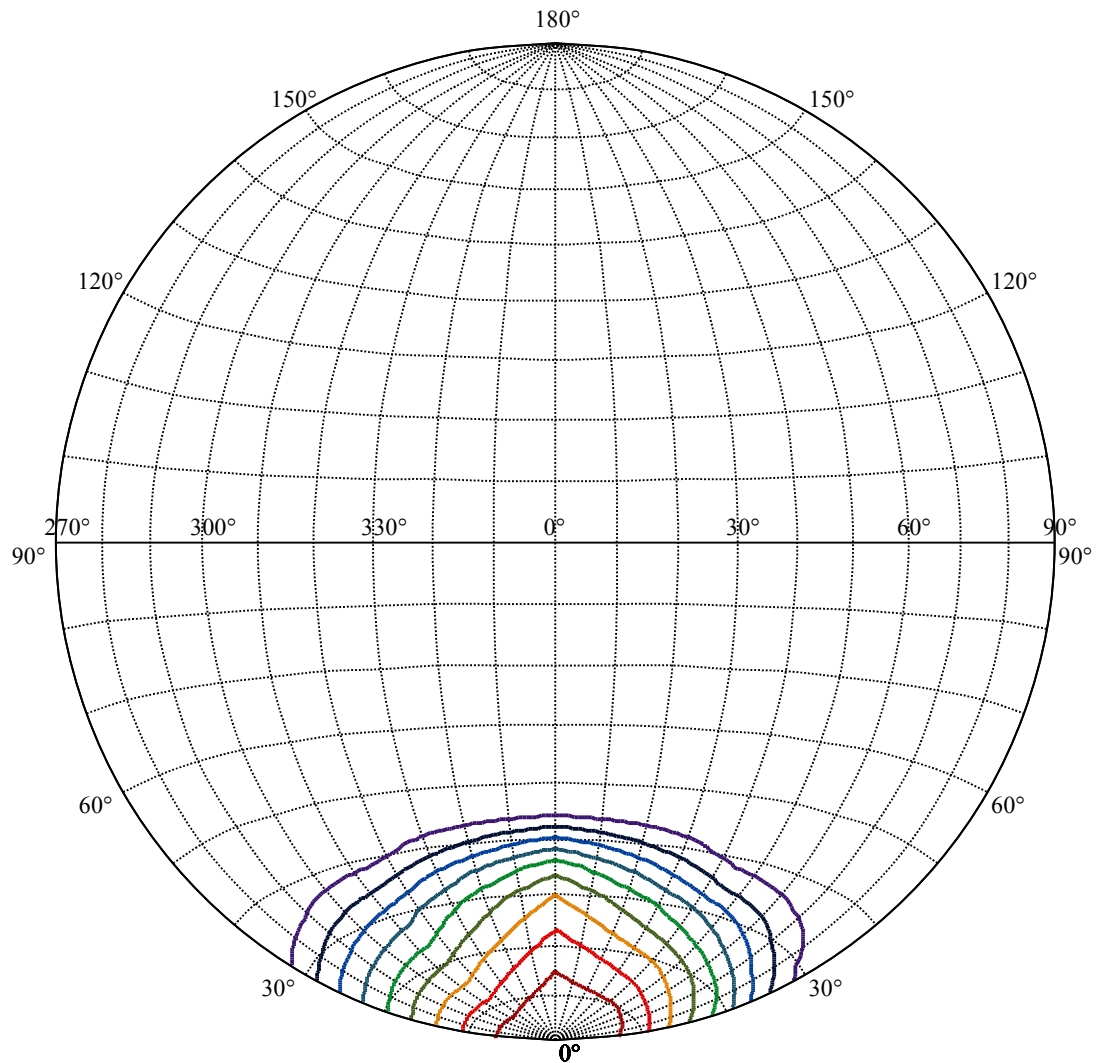
Beam Angle(50%Imax):C0/180Left:34.0 Right:36.4

:C90/270Left:19.6 Right:18.4



Max , Ave Beam angle of C0 plane 71.34





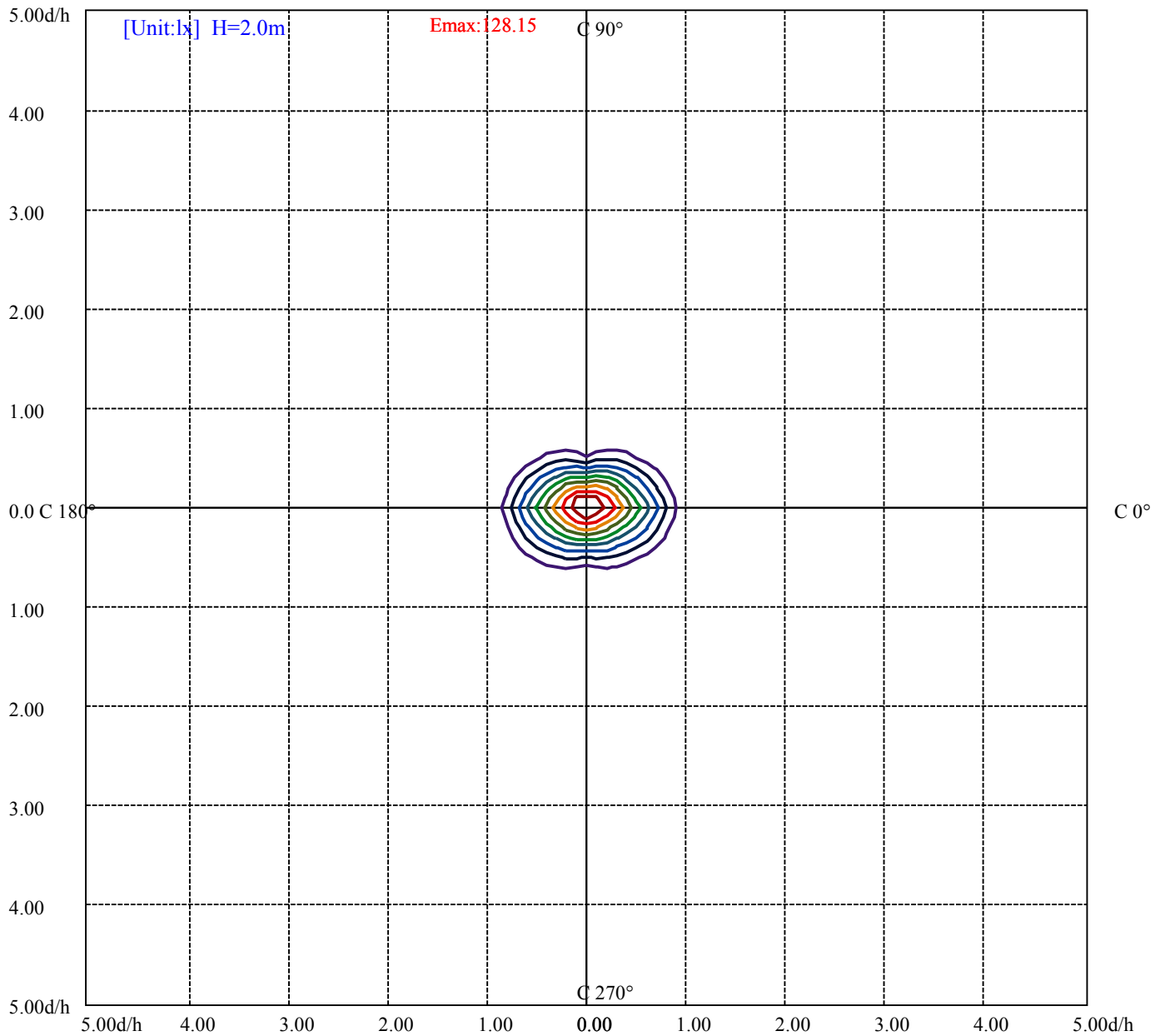
House

[Unit:cd]

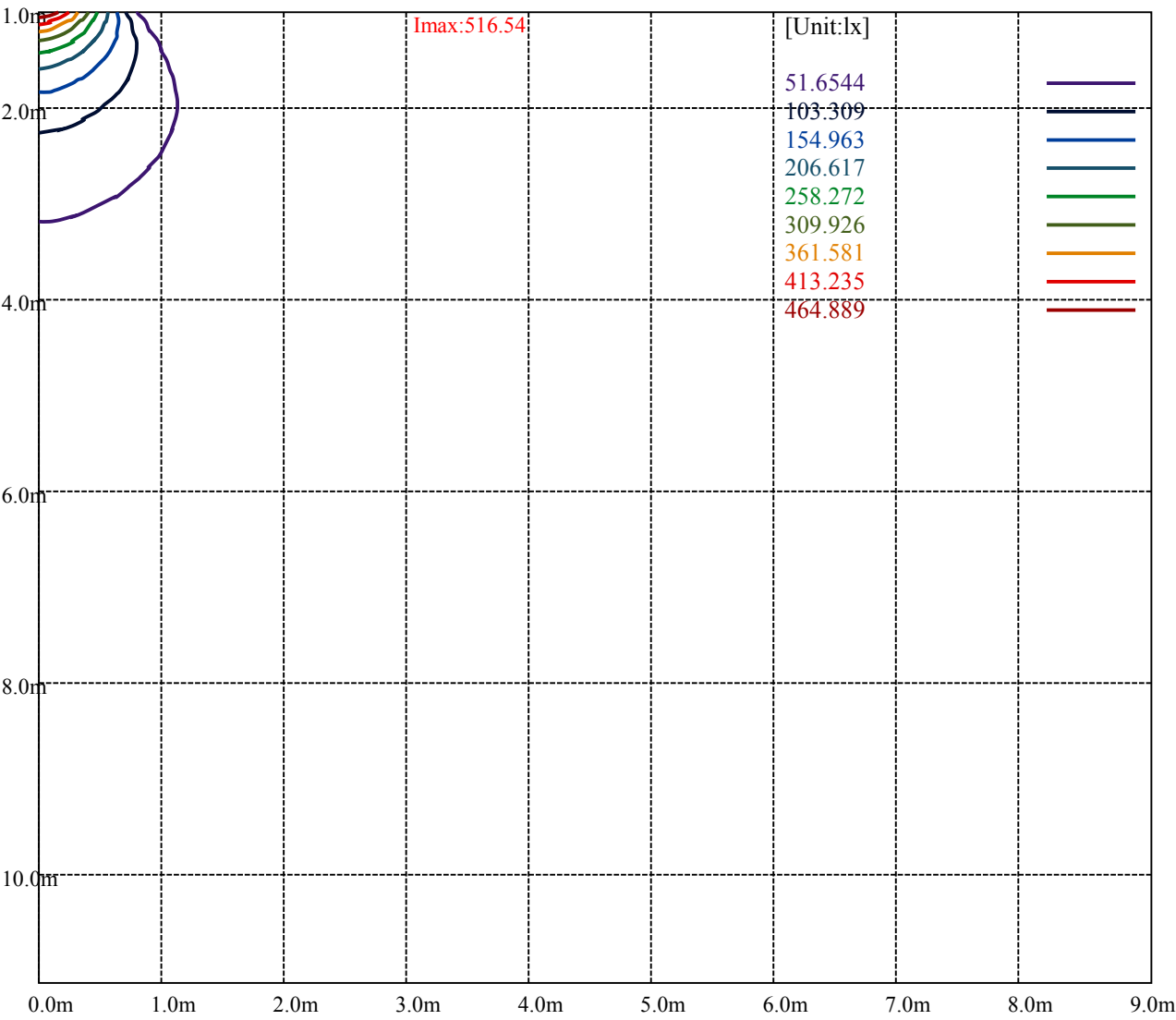
Road

Imax:516.54
 (10%Imax) 51.6544
 (20%Imax) 103.309
 (30%Imax) 154.963
 (40%Imax) 206.617
 (50%Imax) 258.272
 (60%Imax) 309.926
 (70%Imax) 361.581
 (80%Imax) 413.235
 (90%Imax) 464.889





(10%Emax)	12.81515	—
(20%Emax)	25.63025	—
(30%Emax)	38.4455	—
(40%Emax)	51.26075	—
(50%Emax)	64.07575	—
(60%Emax)	76.891	—
(70%Emax)	89.706	—
(80%Emax)	102.5212	—
(90%Emax)	115.3365	—



Luminance Table

γ	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

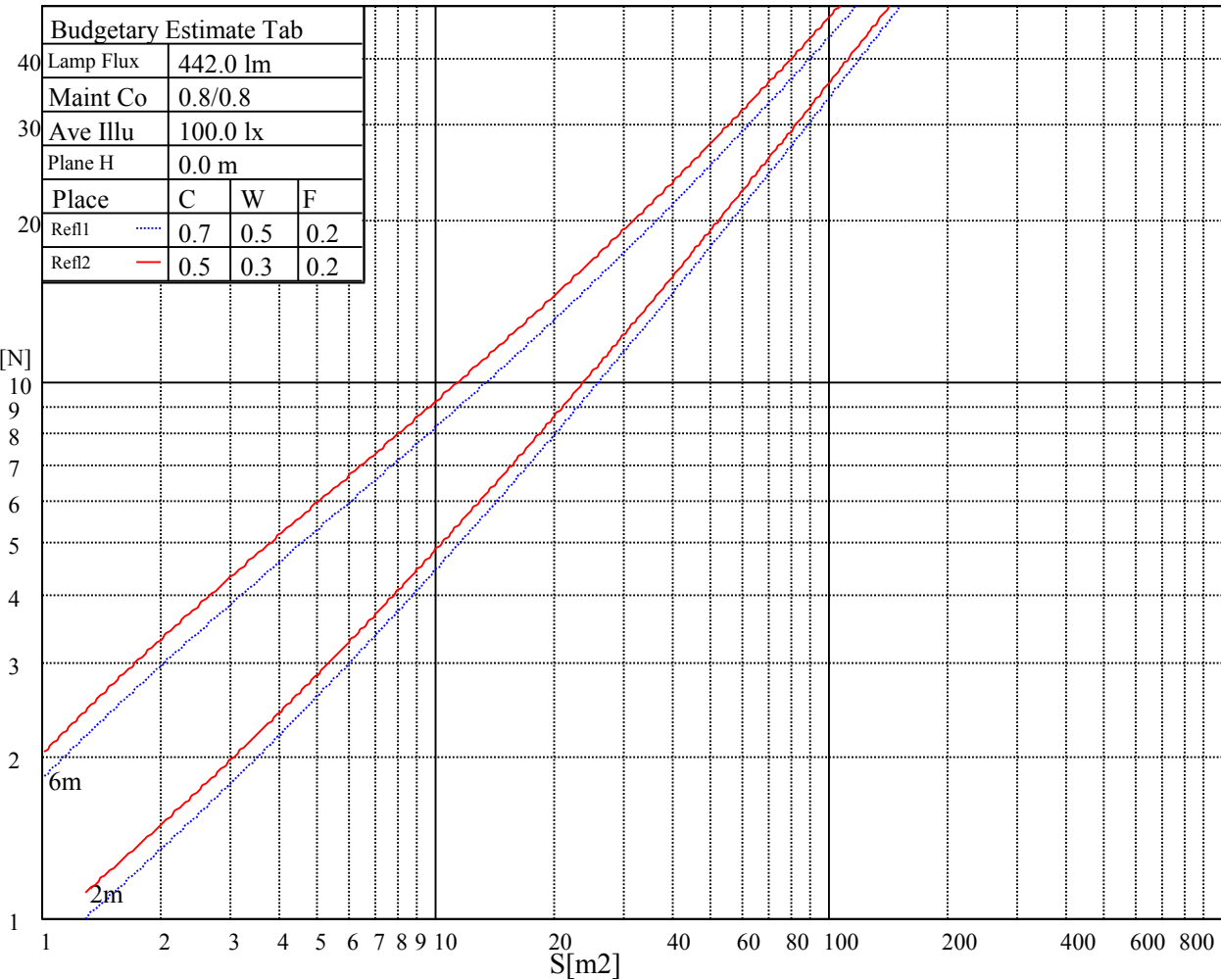
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

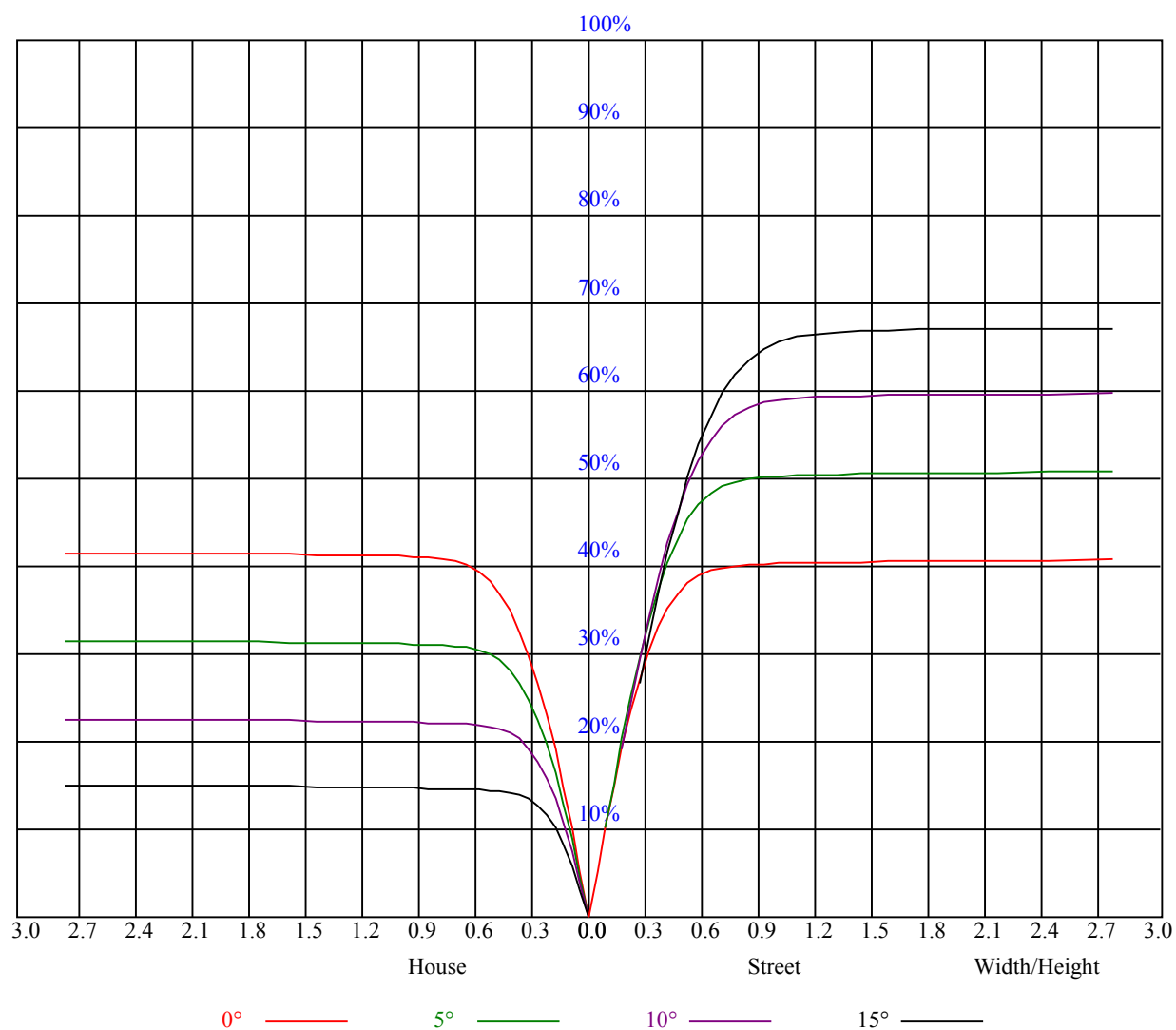
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

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	0.99	0.99	0.99	0.97	0.97	0.97	0.93	0.93	0.93	0.89	0.89	0.89	0.85	0.85	0.85	0.83
1	0.92	0.90	0.88	0.90	0.88	0.87	0.87	0.85	0.84	0.84	0.83	0.82	0.81	0.80	0.79	0.78
2	0.86	0.83	0.80	0.84	0.81	0.79	0.82	0.79	0.77	0.79	0.77	0.75	0.77	0.75	0.74	0.73
3	0.80	0.76	0.73	0.79	0.75	0.72	0.77	0.74	0.71	0.75	0.72	0.70	0.73	0.71	0.69	0.68
4	0.75	0.71	0.67	0.74	0.70	0.67	0.73	0.69	0.66	0.71	0.68	0.65	0.69	0.67	0.65	0.63
5	0.71	0.66	0.63	0.70	0.66	0.62	0.68	0.65	0.62	0.67	0.64	0.61	0.66	0.63	0.61	0.59
6	0.67	0.62	0.58	0.66	0.61	0.58	0.65	0.61	0.58	0.64	0.60	0.57	0.62	0.59	0.57	0.56
7	0.63	0.58	0.55	0.62	0.58	0.54	0.61	0.57	0.54	0.60	0.57	0.54	0.59	0.56	0.54	0.52
8	0.59	0.55	0.51	0.59	0.54	0.51	0.58	0.54	0.51	0.57	0.53	0.51	0.56	0.53	0.51	0.49
9	0.56	0.52	0.48	0.56	0.51	0.48	0.55	0.51	0.48	0.54	0.51	0.48	0.54	0.50	0.48	0.47
10	0.53	0.49	0.46	0.53	0.49	0.46	0.52	0.48	0.45	0.52	0.48	0.45	0.51	0.48	0.45	0.44



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	516.54	508.95	486.73	464.96	435.49	402.58	361.24	292.44	170.61		
45.0	512.61	511.43	468.68	408.54	348.13	267.75	193.95	95.85	27.68		
90.0	514.52	496.63	428.74	320.29	226.74	111.09	28.63	6.92	4.56		
135.0	511.76	508.50	460.97	390.71	319.39	244.01	168.24	83.81	17.21		
180.0	516.54	496.74	462.38	437.85	414.45	378.56	330.24	239.91	106.43		
225.0	512.61	484.82	433.41	371.25	307.74	243.17	188.72	117.73	39.60		
270.0	514.52	486.90	424.63	340.76	250.03	166.33	75.60	13.22	5.12		
315.0	511.76	487.52	432.68	369.06	308.70	243.45	186.47	107.10	32.34		
360.0	516.54	508.95	486.73	464.96	435.49	402.58	361.24	292.44	170.61		
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	34.59	6.24	3.04	2.03	1.69	1.58	1.52	1.46	1.41		
45.0	4.78	2.87	2.48	2.19	2.08	2.08	1.80	1.69	1.63		
90.0	3.43	2.87	2.53	2.08	1.91	1.86	1.86	2.03	1.80		
135.0	4.61	2.98	2.42	2.14	1.97	1.86	1.86	1.69	1.69		
180.0	11.19	5.01	2.70	1.86	1.63	1.52	1.46	1.41	1.46		
225.0	5.34	2.93	2.08	1.80	1.69	1.69	1.63	1.63	1.58		
270.0	3.32	2.53	2.14	1.91	1.80	1.80	1.74	1.80	1.97		
315.0	5.85	3.04	2.14	1.86	1.69	1.69	1.63	1.63	1.58		
360.0	34.59	6.24	3.04	2.03	1.69	1.58	1.52	1.46	1.41		
C/ γ (°)	90.0										
0.0	1.41										
45.0	1.58										
90.0	1.69										
135.0	1.52										
180.0	1.41										
225.0	1.52										
270.0	1.63										
315.0	1.58										
360.0	1.41										