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NATA

Client:

LumCAT: 1653-S

Luminaire: 92.70.043.00

Report No: nt0100

Test No: GC2020011601

LampCAT: LUMINUS CXM-6-AC40

Lamp flux(lm): 823.0

Number of Lamps: 1

Length(mm): 0

Phm Type: C

Voltage(V): 34.7400

Current(A): 0.1970

Power (W): 6.8400

PF: 0.0000

Ballast type: DC

Width(mm): 0

Height(mm): 0

Photometric Results

Lumens(lm): 747.80, Efficiency(%): 90.86% , Luminous Efficacy(lm/W): 109.33

Central intensity(cd): 4203.422, Maximum intensity(cd): 4203.422

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=17.4

[C90/270]Total=17.4

Field angle(10%Imax): [C0/180]Total=39.4

[C90/270]Total=39.4

Maximum s/h(1/2): C0_180=0.30 C90_270=0.30

Maximum s/h(1/4): C0_180=0.32 C90_270=0.32

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 90.86%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 98.357%

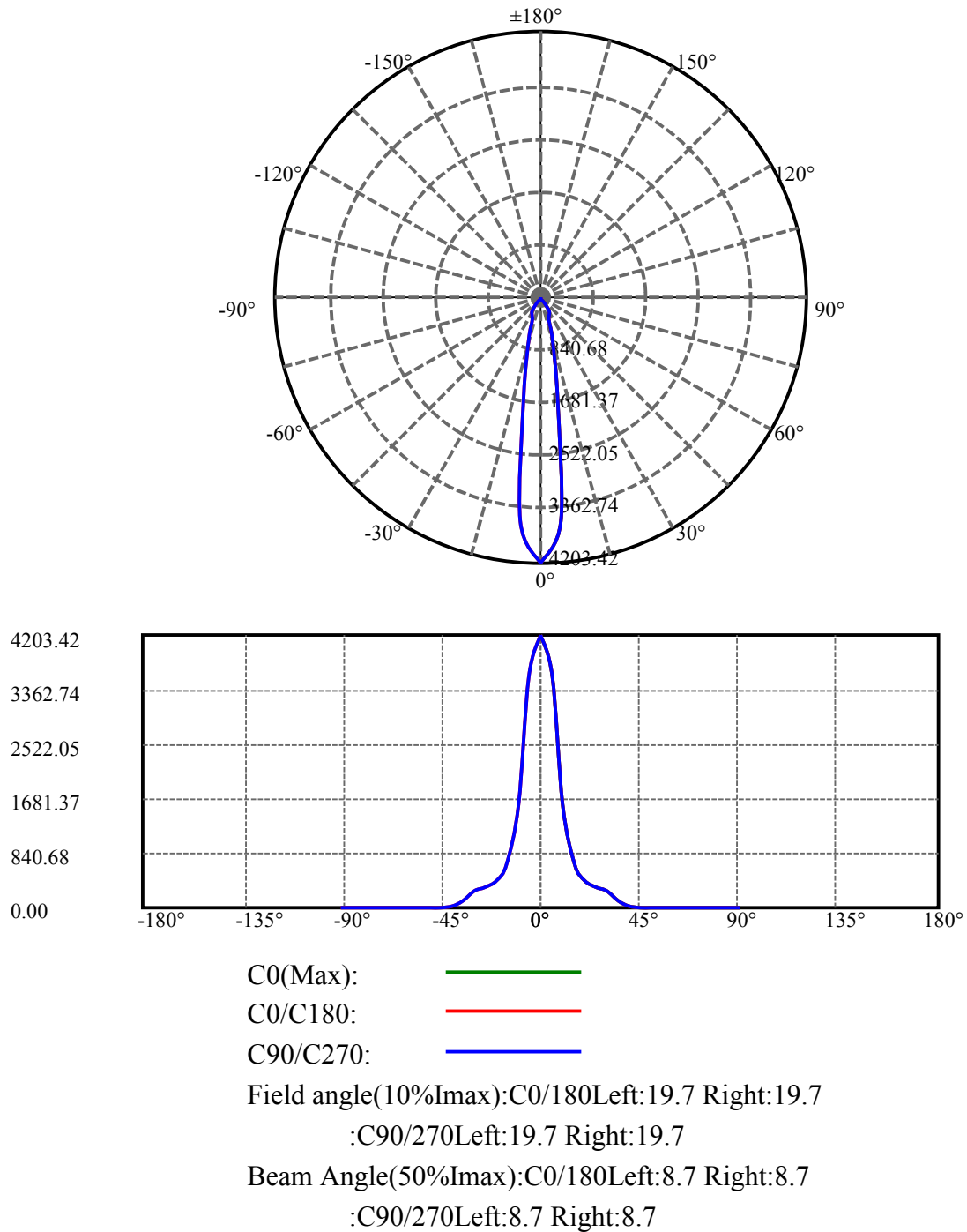
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4203.422	0.000	0	.000%	.000%
5.0	3547.406	92.659	92.659	11.259%	12.391%
10.0	1595.398	183.974	276.633	22.354%	36.993%
15.0	690.652	135.607	412.24	16.477%	55.127%
20.0	405.865	90.368	502.608	10.980%	67.212%
25.0	310.887	75.174	577.783	9.134%	77.265%
30.0	252.267	71.268	649.05	8.659%	86.795%
35.0	107.395	52.963	702.013	6.435%	93.877%
40.0	17.501	20.838	722.851	2.532%	96.664%
45.0	8.037	4.728	727.579	.575%	97.296%
50.0	6.420	2.921	730.5	.355%	97.687%
55.0	5.435	2.578	733.078	.313%	98.032%
60.0	5.077	2.430	735.508	.295%	98.357%
65.0	4.676	2.371	737.879	.288%	98.674%
70.0	4.001	2.197	740.076	.267%	98.967%
75.0	3.748	2.025	742.101	.246%	99.238%
80.0	3.586	1.962	744.063	.238%	99.501%
85.0	3.424	1.905	745.968	.231%	99.755%
90.0	3.255	1.829	747.797	.222%	100.000%

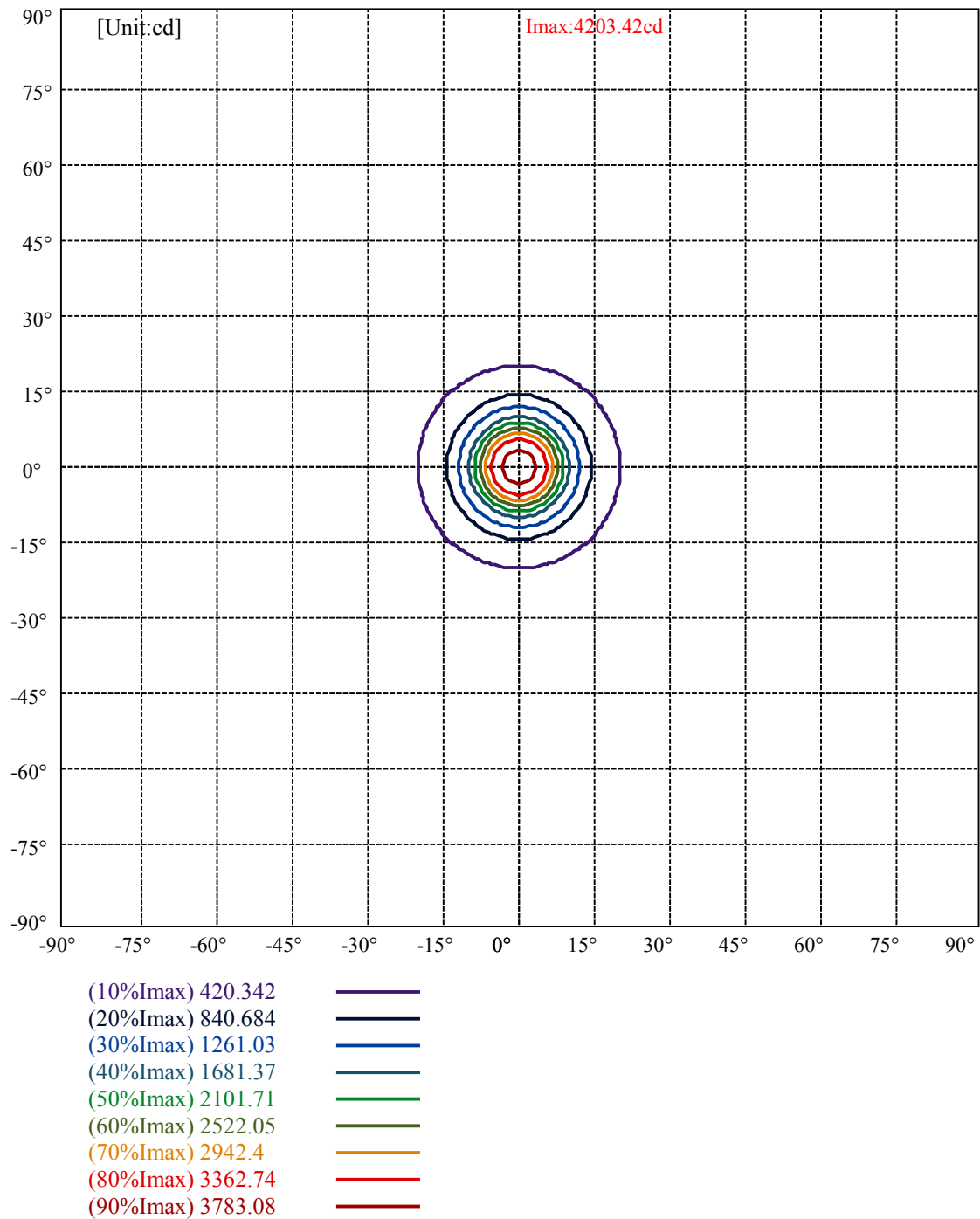
ZONAL LUMEN SUMMARY

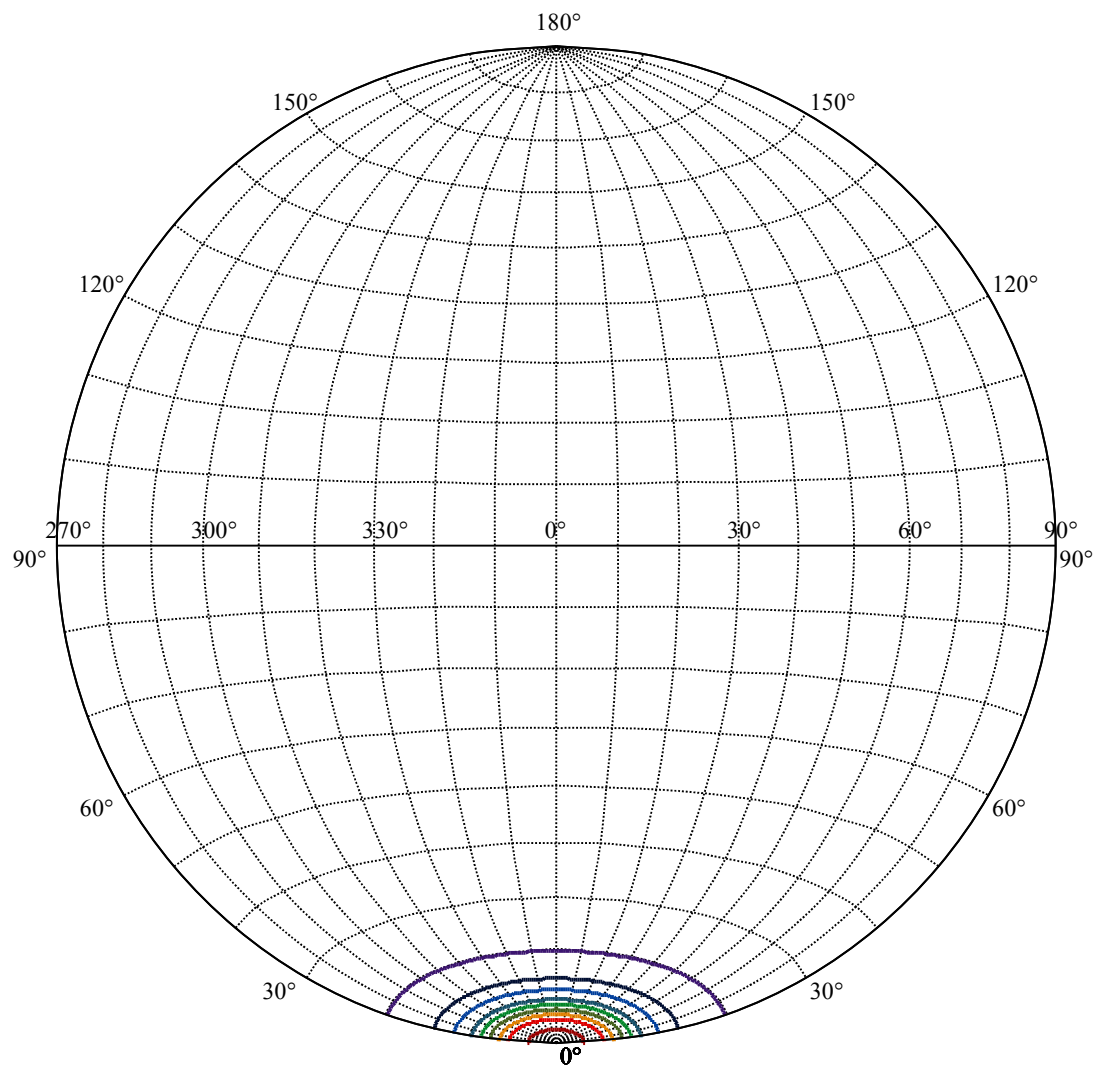
Zone	Lumens	%Lamp	%Fixt
0-30	649.05	78.86%	86.79%
0-40	722.85	87.83%	96.66%
0-60	735.51	89.37%	98.36%
0-90	745.97	90.64%	99.76%
0-120	745.97	90.64%	99.76%
0-180	747.80	90.86%	100.00%
60-90	12.89	1.57%	1.72%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-26.44	598.24	72.69%	80.00%

ZONAL LUMEN SUMMARY

0-10	276.63
10-20	225.98
20-30	146.44
30-40	73.80
40-50	7.65
50-60	5.01
60-70	4.57
70-80	3.99
80-90	1.90
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





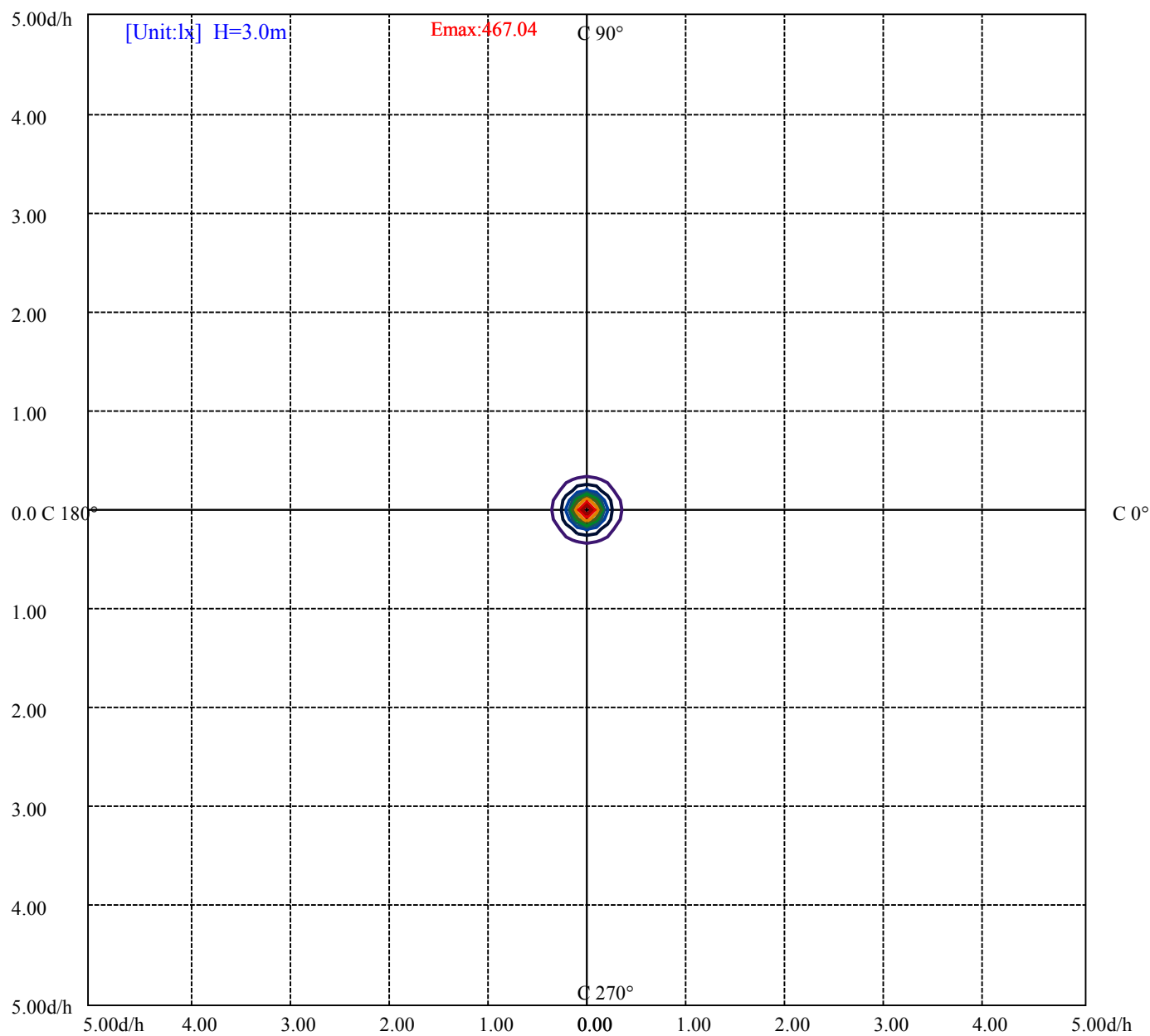


House

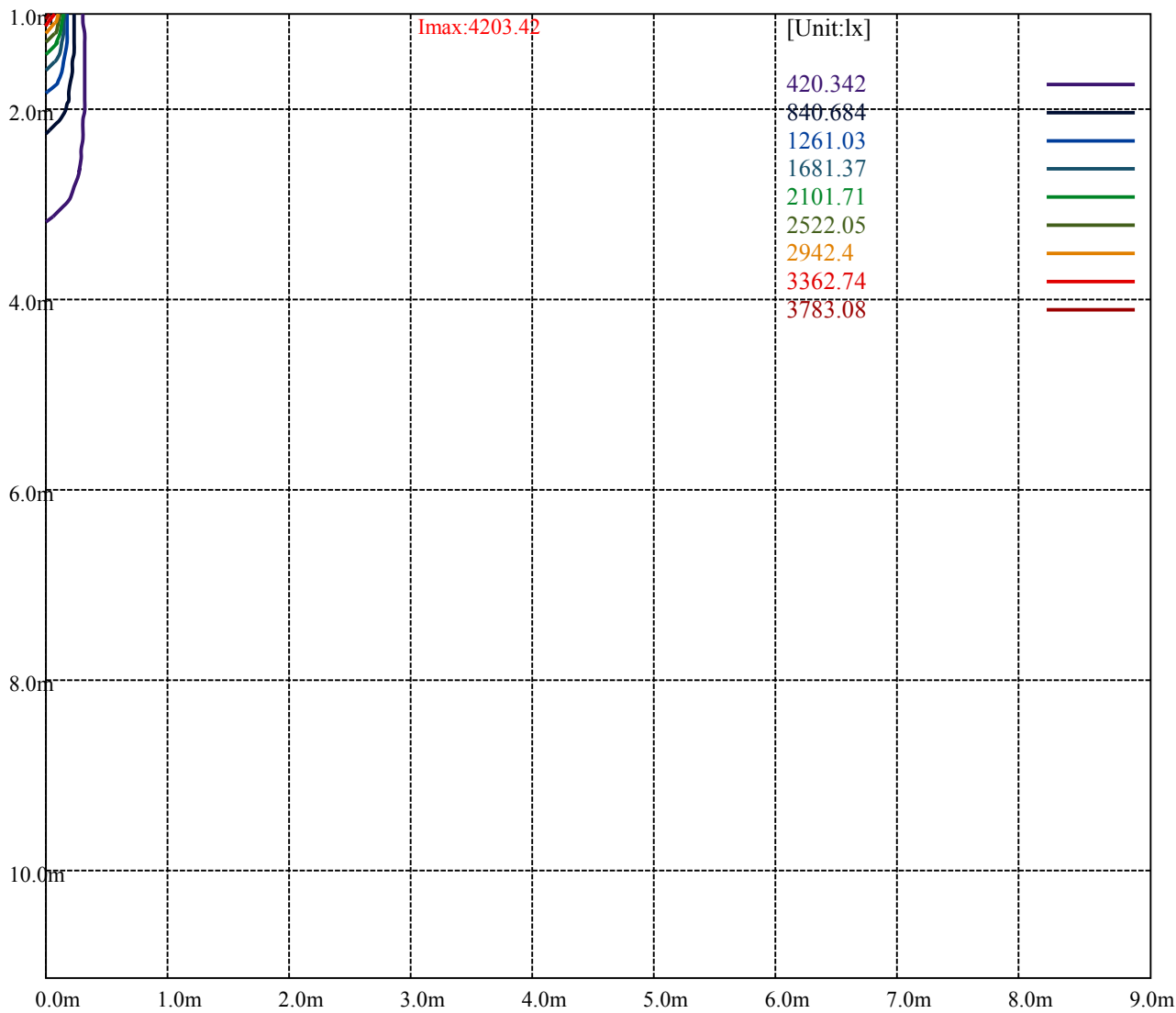
[Unit:cd]

Road

Imax:4203.42	
(10%Imax) 420.342	
(20%Imax) 840.684	
(30%Imax) 1261.03	
(40%Imax) 1681.37	
(50%Imax) 2101.71	
(60%Imax) 2522.05	
(70%Imax) 2942.4	
(80%Imax) 3362.74	
(90%Imax) 3783.08	



(10%E _{max}) 46.70444	—
(20%E _{max}) 93.40889	—
(30%E _{max}) 140.1133	—
(40%E _{max}) 186.8178	—
(50%E _{max}) 233.5222	—
(60%E _{max}) 280.2267	—
(70%E _{max}) 326.9311	—
(80%E _{max}) 373.6356	—
(90%E _{max}) 420.34	—



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

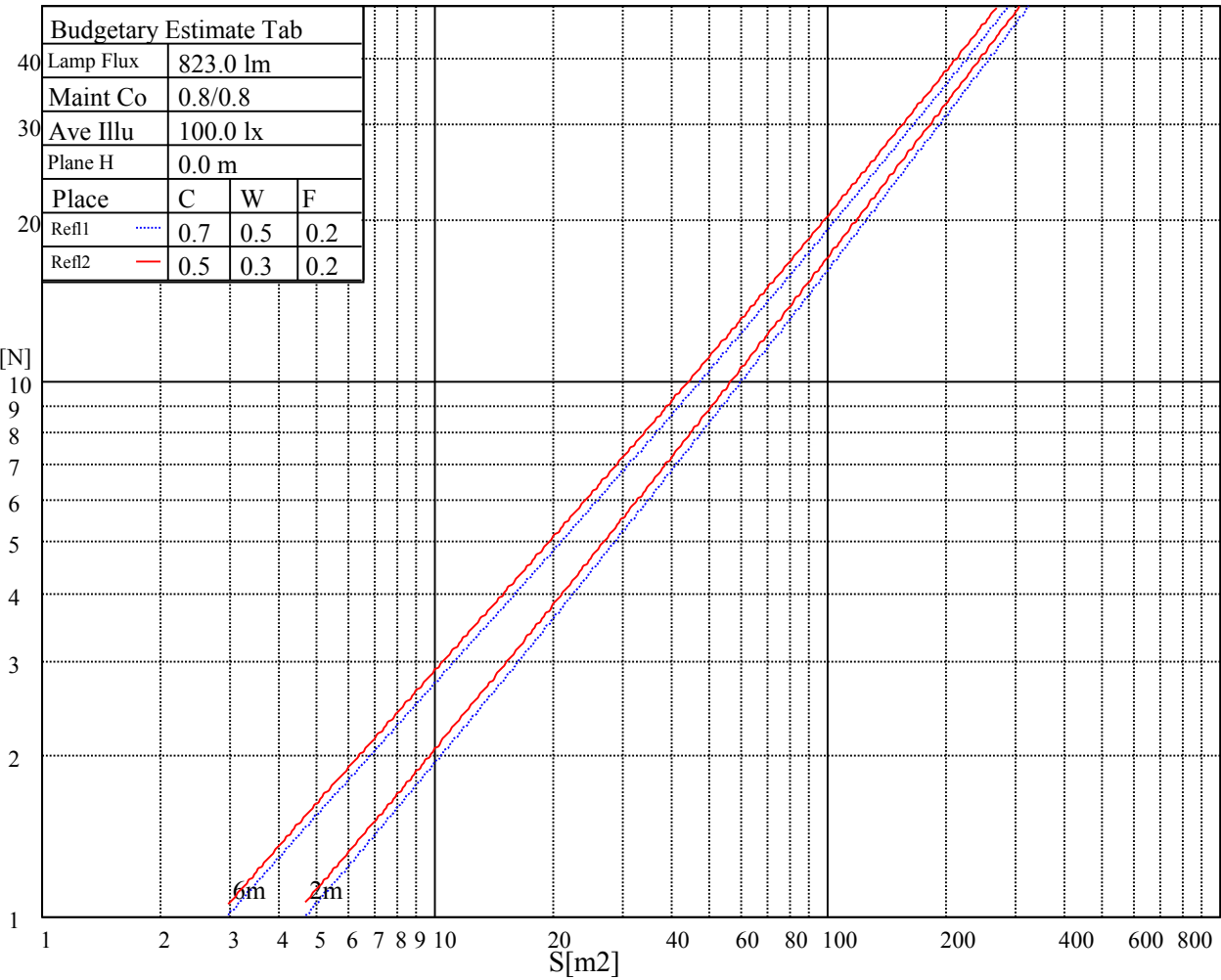
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

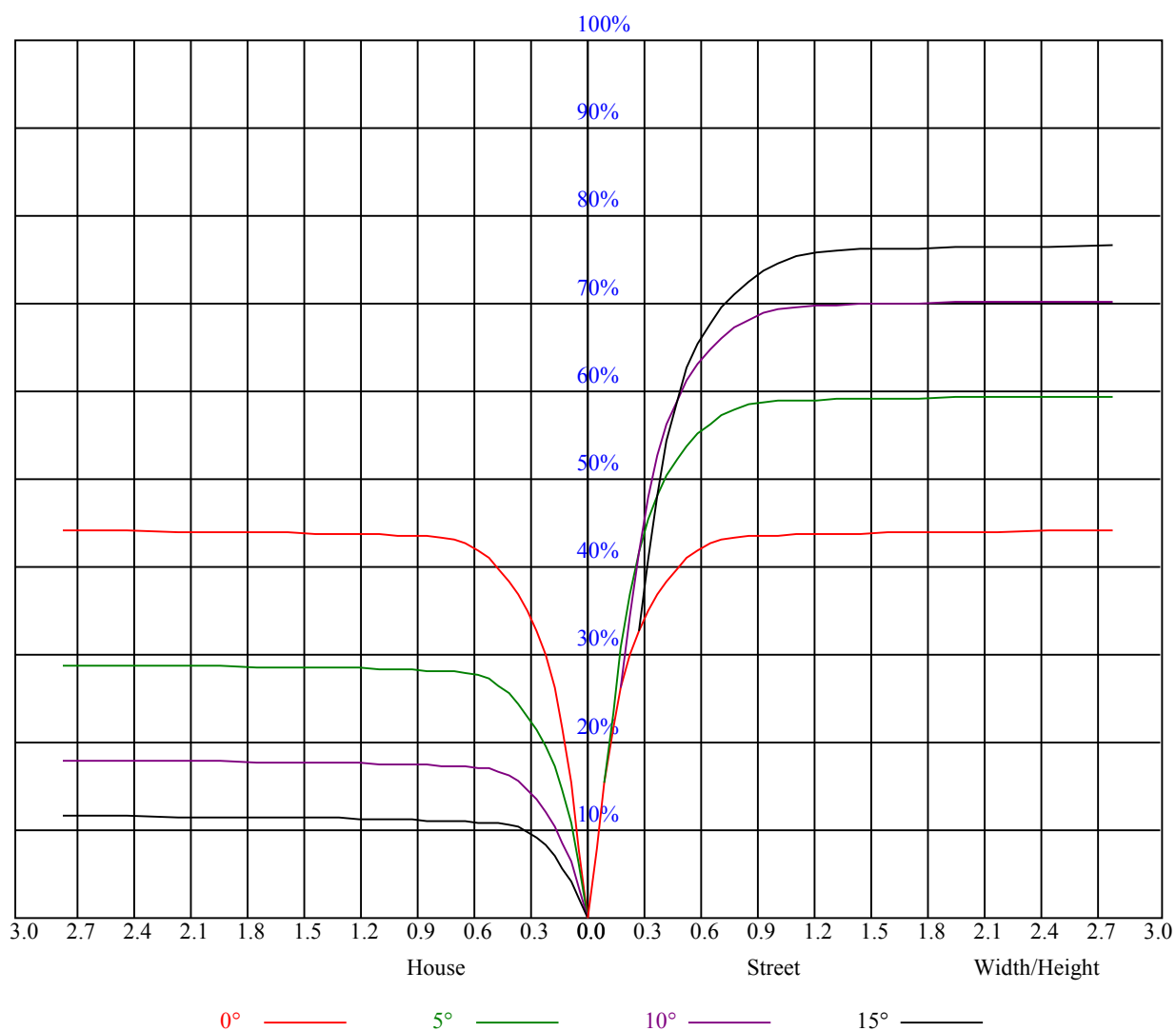
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

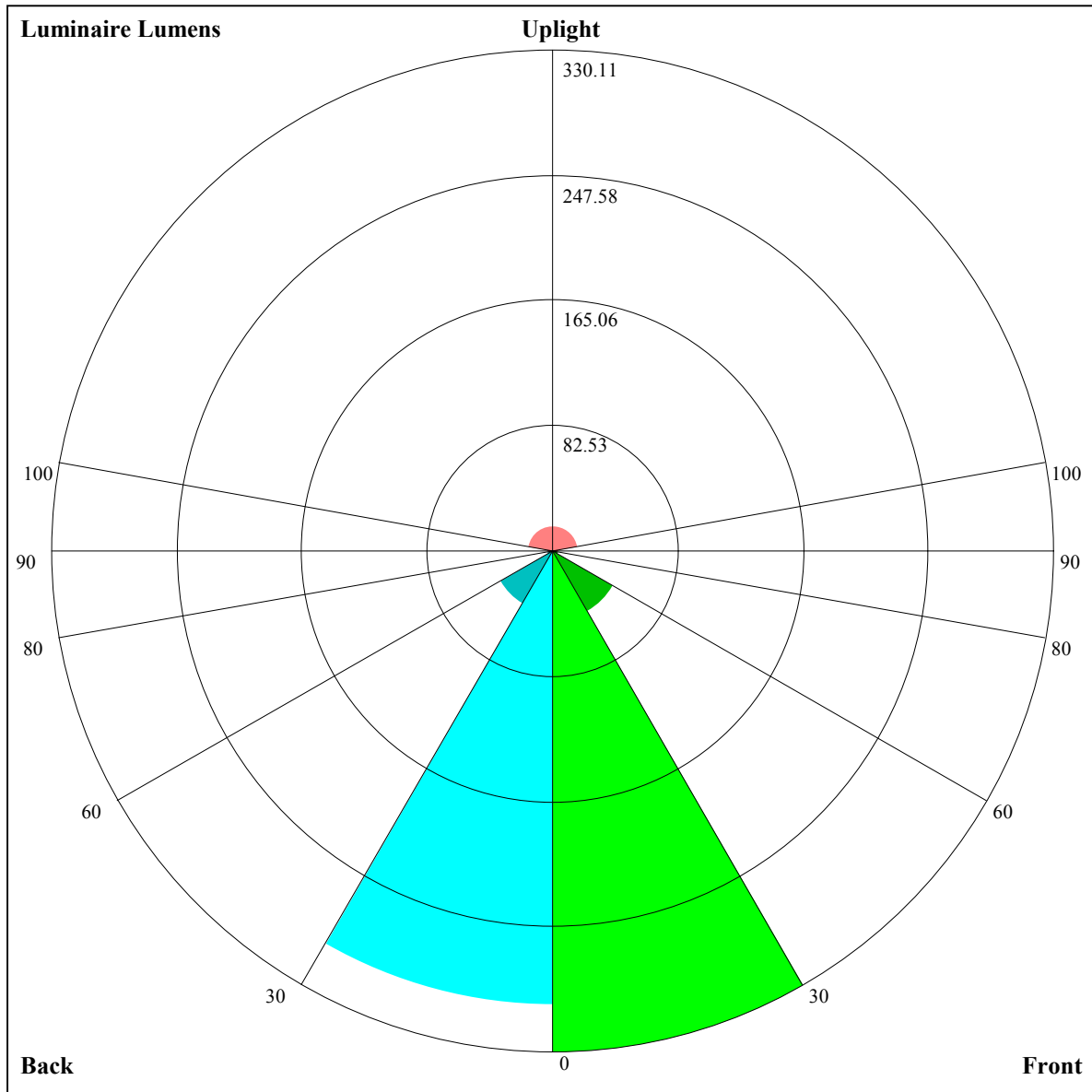
Luminance Limiting Curve





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	1.08	1.08	1.08	1.06	1.06	1.06	1.01	1.01	1.01	0.97	0.97	0.97	0.93	0.93	0.93	0.91
1	1.02	1.00	0.98	1.00	0.98	0.97	0.96	0.95	0.94	0.93	0.92	0.91	0.90	0.89	0.88	0.87
2	0.96	0.93	0.91	0.95	0.92	0.90	0.92	0.90	0.88	0.89	0.88	0.86	0.87	0.86	0.84	0.83
3	0.92	0.88	0.85	0.91	0.87	0.85	0.88	0.86	0.83	0.86	0.84	0.82	0.84	0.82	0.81	0.80
4	0.88	0.84	0.81	0.87	0.83	0.80	0.85	0.82	0.79	0.83	0.81	0.79	0.82	0.80	0.78	0.77
5	0.84	0.80	0.77	0.83	0.80	0.77	0.82	0.79	0.76	0.81	0.78	0.75	0.79	0.77	0.75	0.74
6	0.81	0.77	0.74	0.80	0.76	0.74	0.79	0.76	0.73	0.78	0.75	0.73	0.77	0.74	0.72	0.71
7	0.78	0.74	0.71	0.78	0.74	0.71	0.77	0.73	0.71	0.76	0.72	0.70	0.75	0.72	0.70	0.69
8	0.75	0.71	0.69	0.75	0.71	0.68	0.74	0.71	0.68	0.73	0.70	0.68	0.73	0.70	0.68	0.67
9	0.73	0.69	0.66	0.73	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.66	0.71	0.68	0.66	0.65
10	0.71	0.67	0.64	0.70	0.67	0.64	0.70	0.66	0.64	0.69	0.66	0.64	0.69	0.66	0.64	0.63





Luminaire Lumens:

FL=330.11,FM=45.77,FH=4.29,FVH=1.86

BL=299.64,BM=40.36,BH=4.27,BVH=1.87

UL=3.55,UH=16.9

BUG Rating:B1-U2-G0

NATA 1653-S

Intensity data(cd)										Appendix Page: 15 Total:15	
C/ γ (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0		
0.0	4196.81	3792.94	2166.19	777.38	438.75	333.56	285.75	137.19	22.78		
45.0	4205.81	3718.13	1947.38	751.50	441.00	333.56	287.44	117.06	17.72		
90.0	4199.06	3328.88	1077.24	600.86	390.32	313.76	227.70	90.90	12.71		
135.0	4212.00	3659.06	1749.38	759.94	394.31	295.31	216.68	89.21	16.82		
180.0	4196.81	3237.75	1081.18	591.36	366.41	291.26	231.36	84.15	13.67		
225.0	4205.81	3306.94	1070.94	628.65	398.64	317.53	252.62	94.44	13.50		
270.0	4199.06	3797.44	1948.50	726.75	421.88	316.69	285.19	138.77	23.34		
315.0	4212.00	3538.13	1722.38	688.78	395.61	285.41	231.41	107.44	19.46		
360.0	4196.81	3792.94	2166.19	777.38	438.75	333.56	285.75	137.19	22.78		
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	9.06	7.20	5.91	5.18	4.89	4.11	3.71	3.54	3.43		
45.0	7.76	6.58	5.23	4.39	4.28	4.05	3.71	3.43	3.32		
90.0	7.14	6.41	5.12	4.67	4.67	3.83	3.71	3.60	3.43		
135.0	8.89	7.14	6.30	5.96	4.95	4.05	3.99	3.88	3.49		
180.0	6.75	5.40	4.61	4.89	4.67	3.83	3.66	3.49	3.38		
225.0	6.36	5.12	4.67	4.44	4.22	3.94	3.66	3.54	3.49		
270.0	8.89	6.30	5.12	4.89	5.01	4.22	3.71	3.54	3.43		
315.0	9.45	7.20	6.53	6.19	4.73	3.99	3.83	3.66	3.43		
360.0	9.06	7.20	5.91	5.18	4.89	4.11	3.71	3.54	3.43		
C/ γ (°)	90.0										
0.0	3.32										
45.0	3.26										
90.0	3.32										
135.0	3.21										
180.0	3.21										
225.0	3.26										
270.0	3.26										
315.0	3.21										
360.0	3.32										