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NATA

Client:

LumCAT: 3-1700-N

Luminaire: 92.70.065.00+92.70.089.00

Report No: nata-0100

Voltage(V): 36.3000

Test No: GC2018111402

Current(A): 0.5500

LampCAT: OSRAM SOLERIQ S15

Power (W): 19.9650

Lamp flux(lm): 2661.0

PF: 1.0000

Number of Lamps: 1

Ballast type: DC

Length(mm): 77

Width(mm): 77

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 2122.21, Efficiency(%): 79.75% , Luminous Efficacy(lm/W): 106.30

Central intensity(cd): 4480.031, Maximum intensity(cd): 4480.031

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=37.4

[C90/270]Total=37.4

Field angle(10%Imax): [C0/180]Total=65.6

[C90/270]Total=65.6

Maximum s/h(1/2): C0_180=0.62 C90_270=0.62

Maximum s/h(1/4): C0_180=0.60 C90_270=0.60

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 80.68%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 96.911%

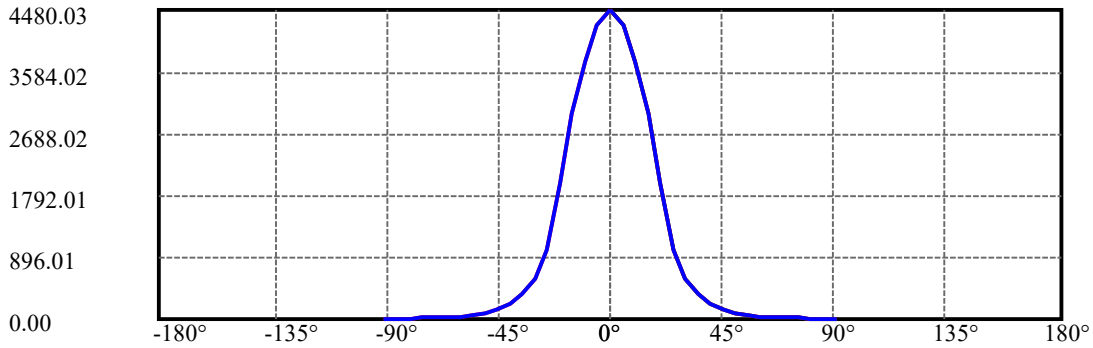
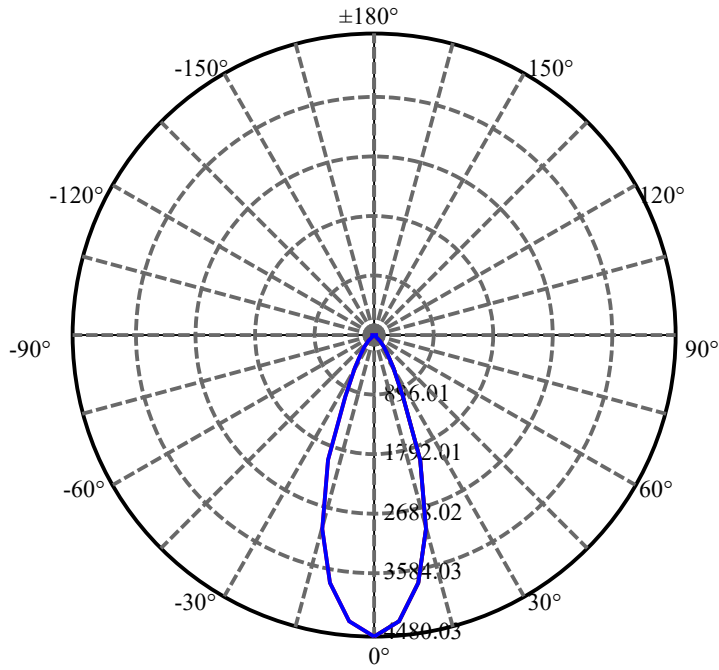
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4480.031	26.791	26.791	1.007%	1.262%
5.0	4264.664	203.737	230.529	7.656%	10.863%
10.0	3730.711	355.100	585.629	13.345%	27.595%
15.0	2989.055	424.052	1009.682	15.936%	47.577%
20.0	1963.828	368.167	1377.848	13.836%	64.925%
25.0	993.277	230.095	1607.944	8.647%	75.768%
30.0	571.050	156.507	1764.451	5.882%	83.142%
35.0	351.984	110.663	1875.114	4.159%	88.357%
40.0	232.369	81.872	1956.986	3.077%	92.215%
45.0	137.166	53.164	2010.15	1.998%	94.720%
50.0	84.080	35.305	2045.455	1.327%	96.383%
55.0	48.052	21.576	2067.031	.811%	97.400%
60.0	28.730	13.638	2080.669	.513%	98.043%
65.0	21.129	10.496	2091.165	.394%	98.537%
70.0	17.452	8.989	2100.154	.338%	98.961%
75.0	14.541	7.699	2107.853	.289%	99.324%
80.0	12.157	6.562	2114.415	.247%	99.633%
85.0	9.935	5.425	2119.84	.204%	99.888%
90.0	8.634	2.366	2122.207	.089%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1764.45	66.31%	83.14%
0-40	1956.99	73.54%	92.21%
0-60	2080.67	78.19%	98.04%
0-90	2119.84	79.66%	99.89%
0-120	2119.84	79.66%	99.89%
0-180	2122.21	79.75%	100.00%
60-90	52.81	1.98%	2.49%
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%
0-27.87	1697.77	63.80%	80.00%

ZONAL LUMEN SUMMARY

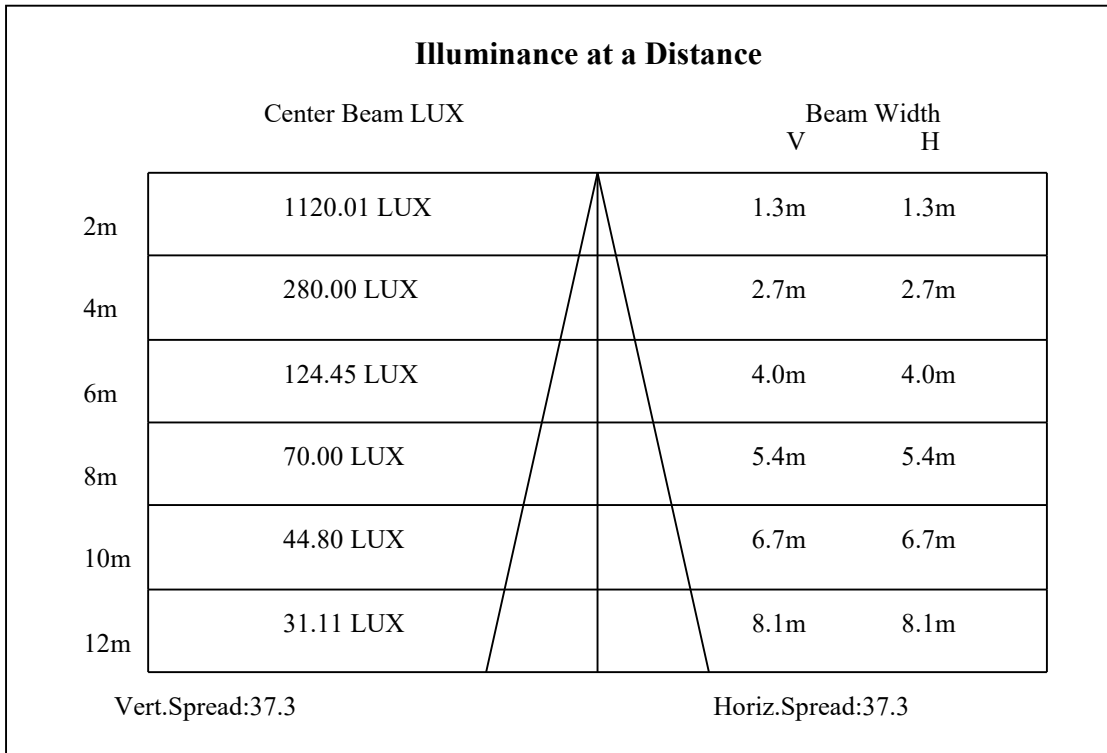
0-10	585.63
10-20	792.22
20-30	386.60
30-40	192.54
40-50	88.47
50-60	35.21
60-70	19.49
70-80	14.26
80-90	5.43
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

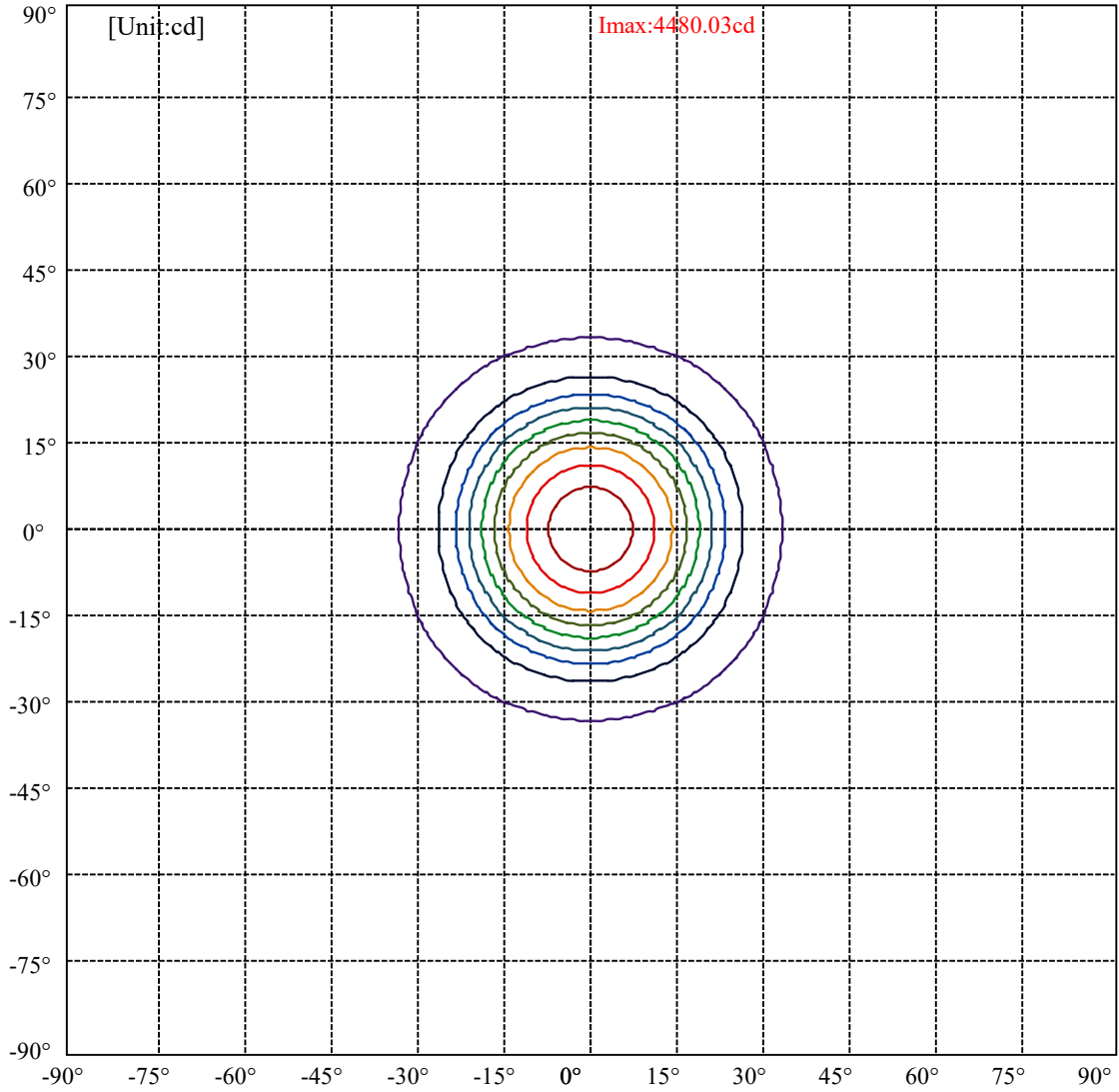


C0(Max): —————
C0/C180: —————
C90/C270: —————

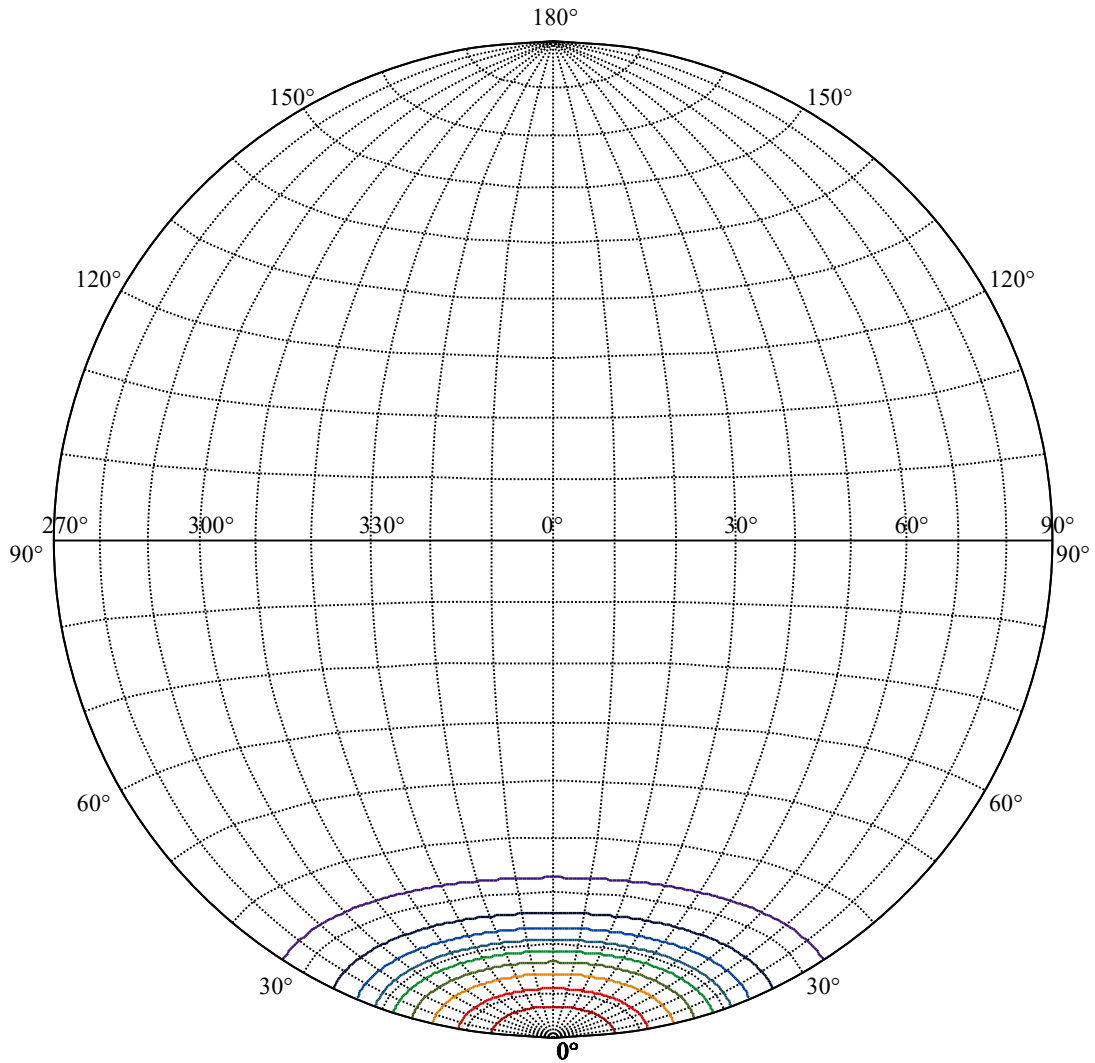
Field angle(10%Imax):C0/180Left:32.8 Right:32.8
:C90/270Left:32.8 Right:32.8

Beam Angle(50%Imax):C0/180Left:18.7 Right:18.7
:C90/270Left:18.7 Right:18.7





(10%Imax) 448.003	—
(20%Imax) 896.006	—
(30%Imax) 1344.01	—
(40%Imax) 1792.01	—
(50%Imax) 2240.02	—
(60%Imax) 2688.02	—
(70%Imax) 3136.02	—
(80%Imax) 3584.02	—
(90%Imax) 4032.03	—



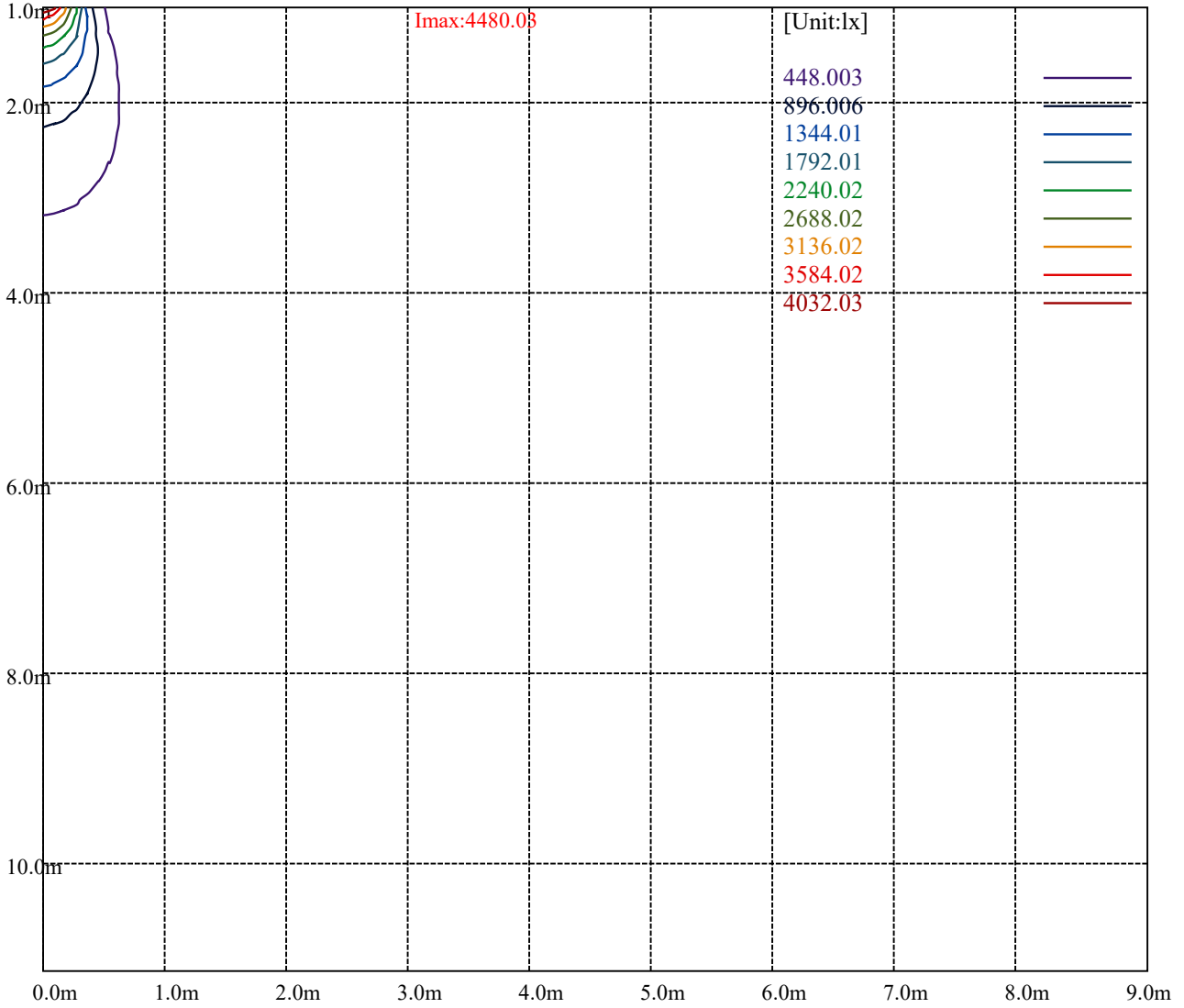
House

[Unit:cd]

Road

Imax:4480.03

(10%Imax) 448.003	—
(20%Imax) 896.006	—
(30%Imax) 1344.01	—
(40%Imax) 1792.01	—
(50%Imax) 2240.02	—
(60%Imax) 2688.02	—
(70%Imax) 3136.02	—
(80%Imax) 3584.02	—
(90%Imax) 4032.03	—



Luminance Table

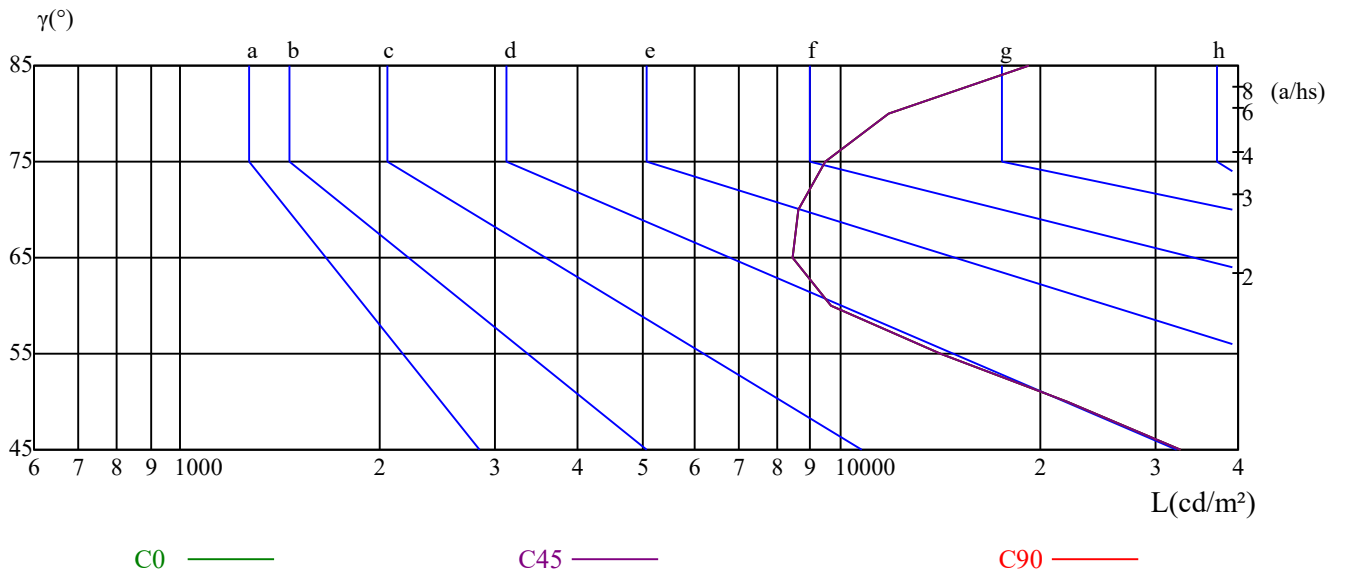
γ	45	50	55	60	65	70	75	80	85
C0	32717	22062	14130	9691	8432	8606	9476	11808	19226
C45	32717	22062	14130	9691	8432	8606	9476	11808	19226
C90	32717	22062	14130	9691	8432	8606	9476	11808	19226

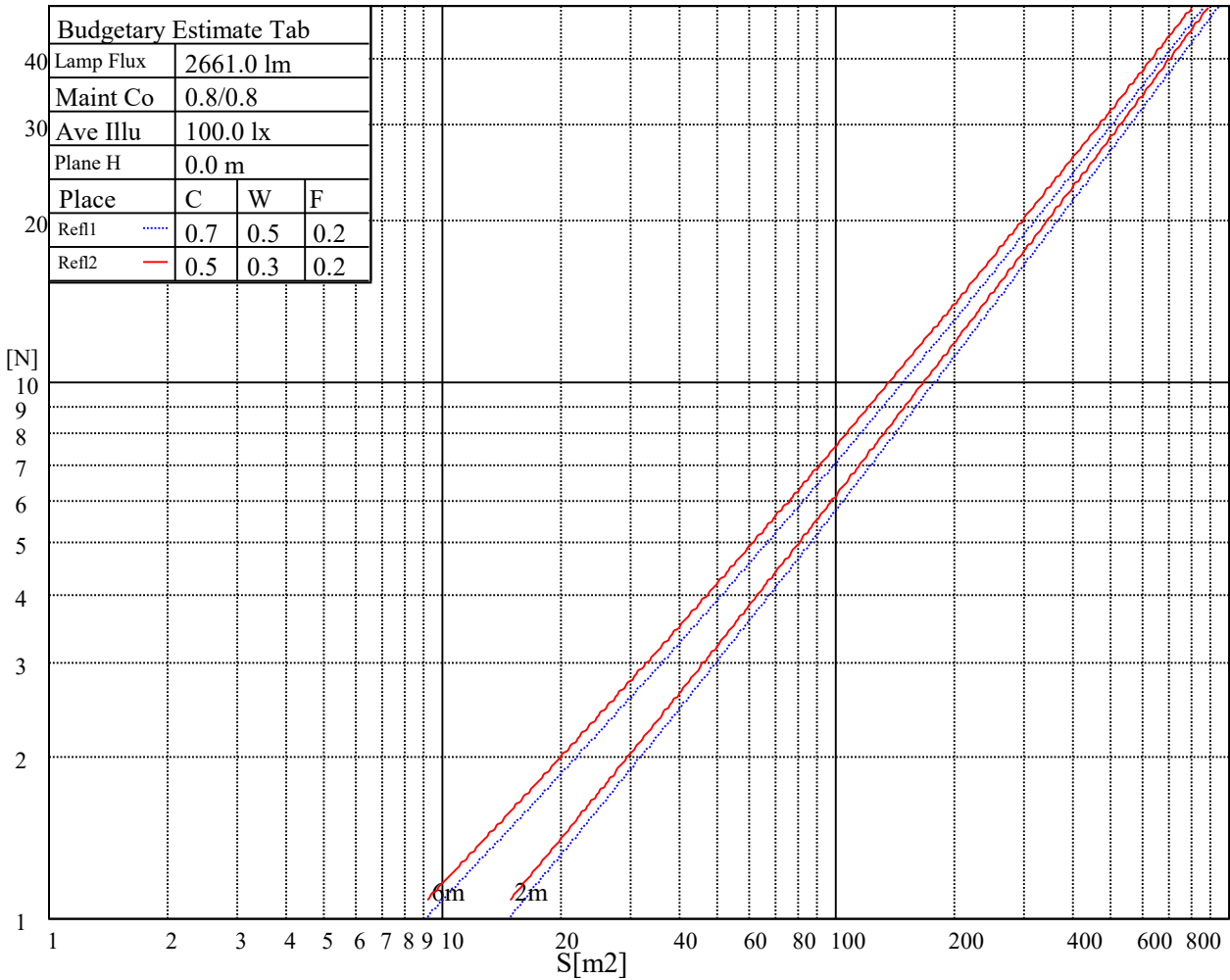
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
8432	8432	8432	9476	9476	9476	19226	19226	19226

Glare Table

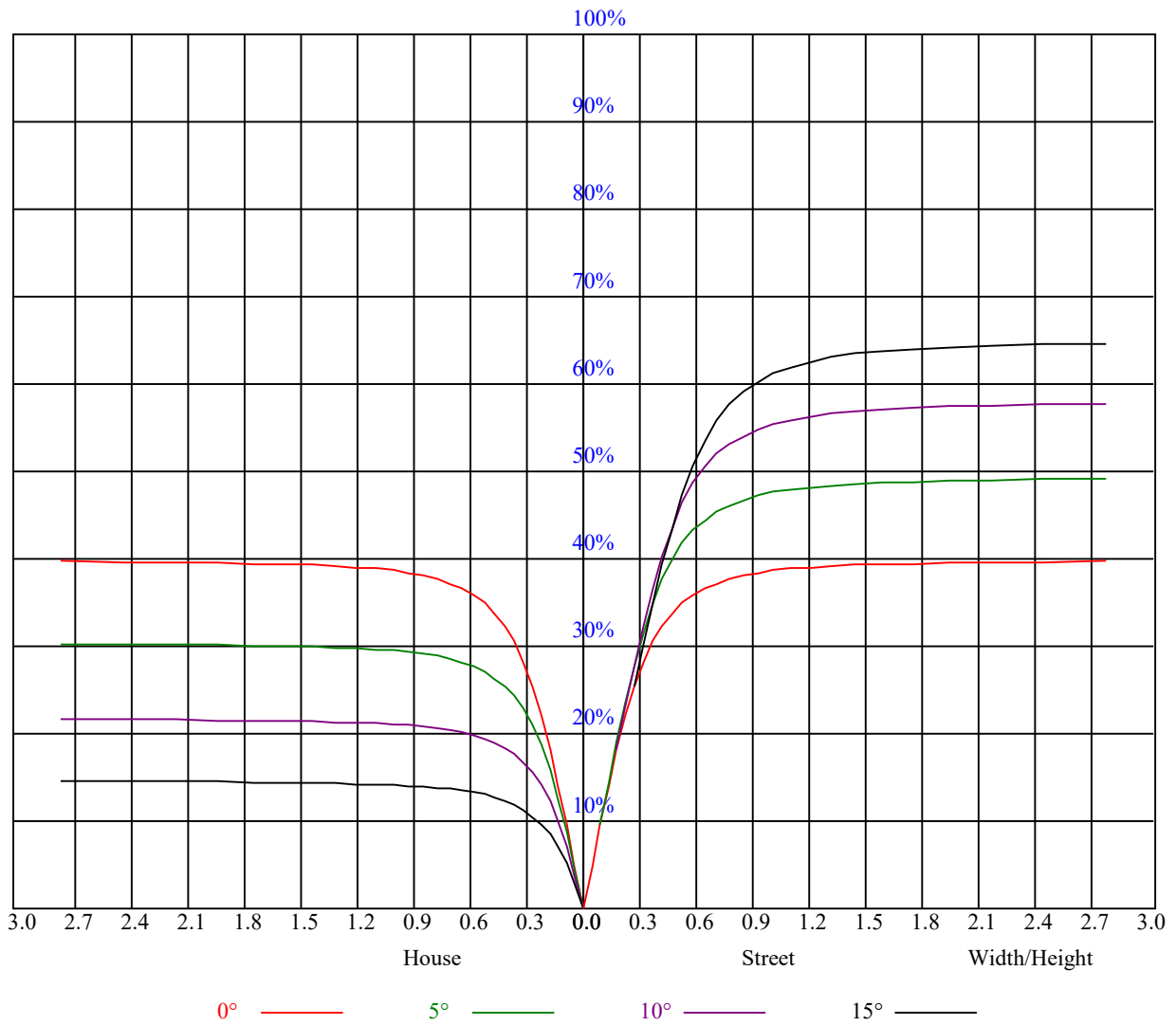
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

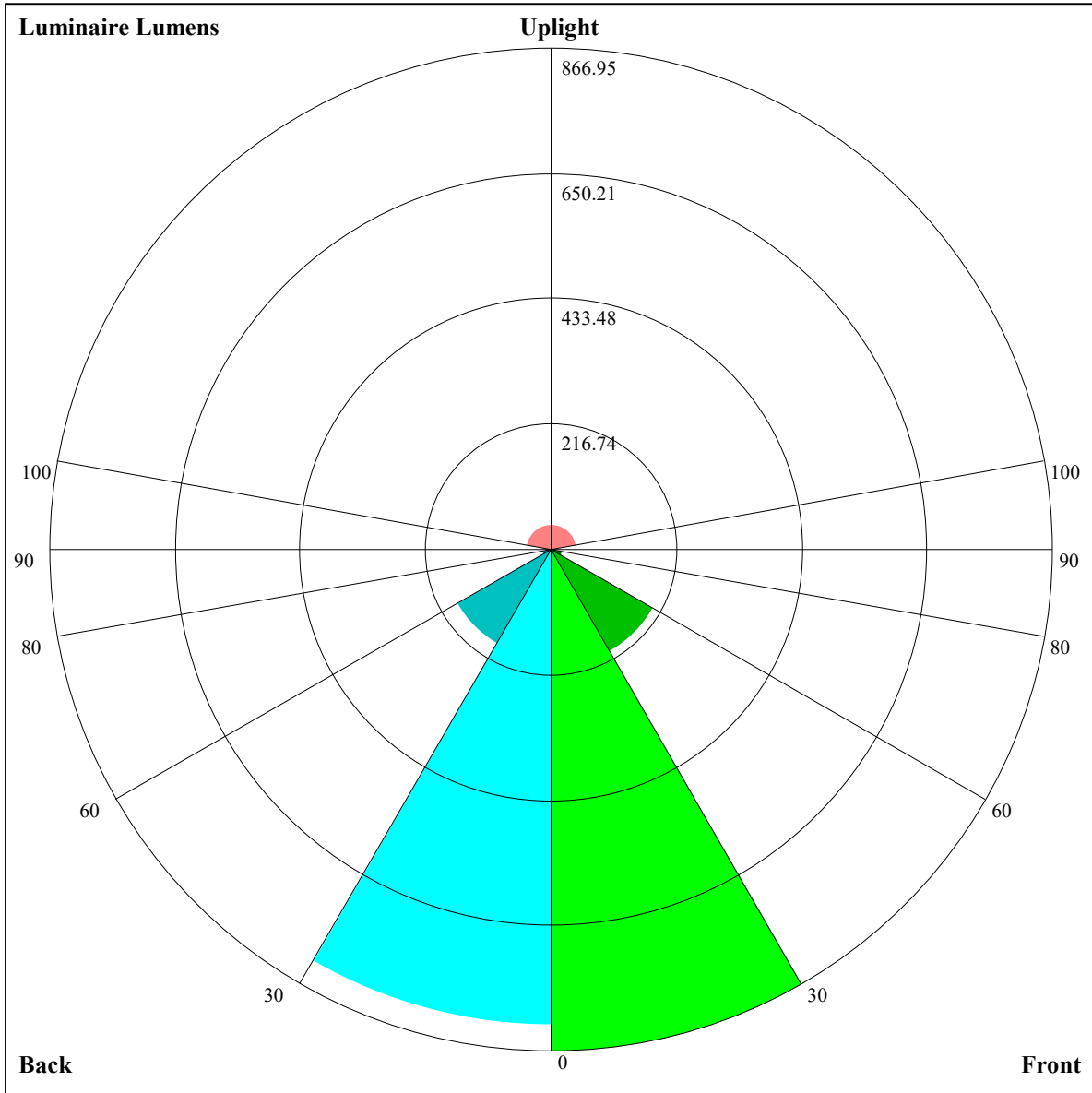
Luminance Limiting Curve





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





Luminaire Lumens:

FL=866.95,FM=203.67,FH=19.11,FVH=5.63

BL=823.28,BM=189.44,BH=18.27,BVH=5.46

UL=9.42,UH=44.83

BUG Rating:B2-U2-G0

NATA 3-1700-N

Intensity data(cd)

C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	4474.69	4382.44	3916.69	3289.50	2363.06	1231.31	674.44	408.94	286.31
45.0	4489.88	4245.75	3712.50	3012.19	1903.50	937.13	555.19	341.44	214.93
90.0	4465.69	4136.06	3516.19	2778.19	1720.69	847.86	527.91	324.51	203.57
135.0	4489.88	4231.69	3666.38	2893.50	1889.44	938.25	544.50	342.56	217.63
180.0	4474.69	4143.94	3545.44	2688.75	1590.19	810.68	487.35	300.83	194.34
225.0	4489.88	4294.13	3795.75	3025.69	1974.38	996.75	567.23	346.39	226.18
270.0	4465.69	4367.81	3911.06	3242.81	2213.44	1174.50	640.13	393.75	289.69
315.0	4489.88	4315.50	3781.69	2981.81	2055.94	1009.74	571.67	357.47	226.29
360.0	4474.69	4382.44	3916.69	3289.50	2363.06	1231.31	674.44	408.94	286.31

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	160.09	100.07	56.70	33.02	22.89	18.68	15.47	13.05	10.63
45.0	134.66	82.13	46.46	28.69	20.98	17.33	14.34	12.09	9.68
90.0	126.28	75.32	42.08	26.38	20.19	16.71	13.84	11.64	9.45
135.0	131.68	82.24	46.97	27.39	20.53	17.16	14.29	11.81	9.51
180.0	116.49	69.24	40.22	25.03	19.46	16.37	13.61	11.19	9.28
225.0	137.42	83.08	47.42	28.41	20.98	17.27	14.57	12.09	10.07
270.0	151.43	92.42	54.17	31.50	22.16	18.17	15.24	12.77	10.46
315.0	139.28	88.14	50.40	29.42	21.83	17.94	14.96	12.60	10.41
360.0	160.09	100.07	56.70	33.02	22.89	18.68	15.47	13.05	10.63

C/γ(°)	90.0
0.0	8.78
45.0	8.61
90.0	8.55
135.0	8.61
180.0	8.61
225.0	8.61
270.0	8.66
315.0	8.66
360.0	8.78