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NATA

Client:

LumCAT: 3-1742-N

Luminaire: 92.70.065.00+92.70.061.00

Report No: nata-0100

Voltage(V): 36.3000

Test No: GC2018111404

Current(A): 0.5600

LampCAT: OSRAM SOLERIQ S15

Power (W): 20.3280

Lamp flux(lm): 2661.0

PF: 0.0000

Number of Lamps: 1

Ballast type: DC

Length(mm): 86

Width(mm): 86

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 2108.99, Efficiency(%): 79.26% , Luminous Efficacy(lm/W): 103.75

Central intensity(cd): 8163.843, Maximum intensity(cd): 8163.843

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=23.6

[C90/270]Total=23.6

Field angle(10%Imax): [C0/180]Total=47.8

[C90/270]Total=47.8

Maximum s/h(1/2): C0_180=0.40 C90_270=0.40

Maximum s/h(1/4): C0_180=0.41 C90_270=0.41

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 81.01%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 95.708%

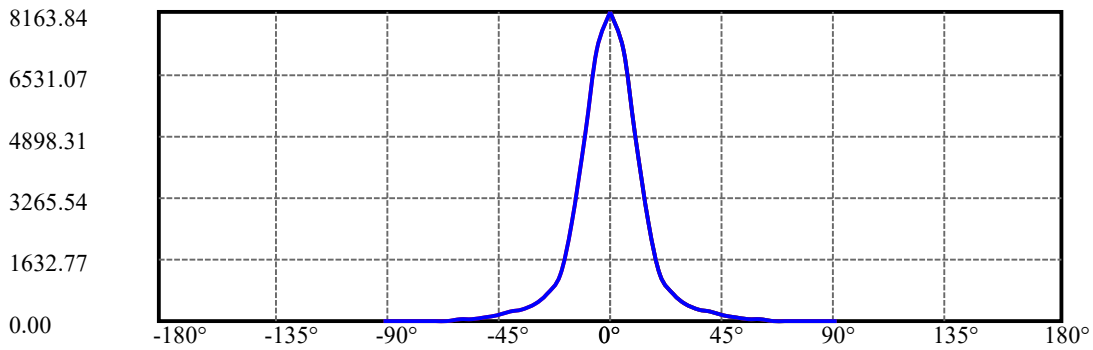
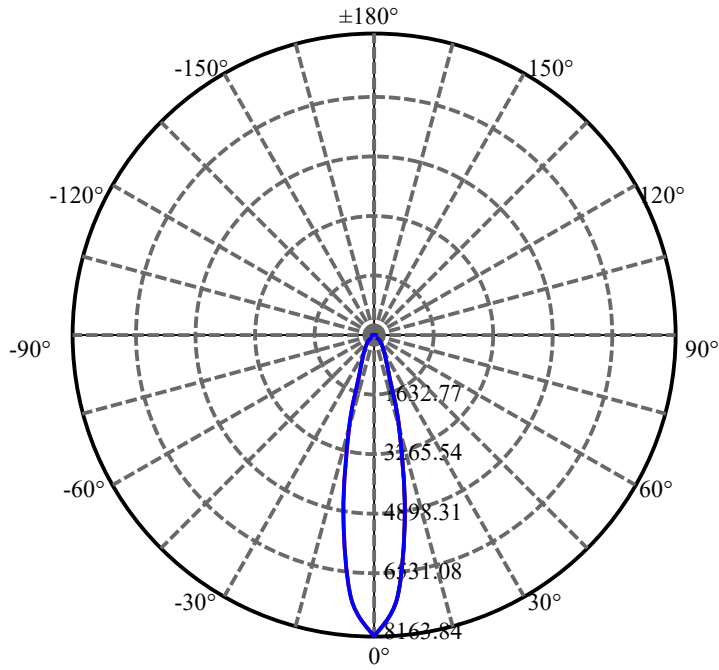
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	8163.844	48.821	48.821	1.835%	2.315%
5.0	7133.906	340.810	389.632	12.808%	18.475%
10.0	4912.805	467.616	857.248	17.573%	40.647%
15.0	2592.492	367.793	1225.04	13.822%	58.087%
20.0	1216.034	227.975	1453.015	8.567%	68.896%
25.0	706.317	163.620	1616.635	6.149%	76.654%
30.0	472.338	129.453	1746.089	4.865%	82.793%
35.0	323.824	101.810	1847.898	3.826%	87.620%
40.0	228.832	80.626	1928.524	3.030%	91.443%
45.0	147.115	57.020	1985.545	2.143%	94.147%
50.0	91.287	38.331	2023.876	1.440%	95.964%
55.0	52.945	23.773	2047.649	.893%	97.091%
60.0	32.941	15.637	2063.286	.588%	97.833%
65.0	23.730	11.789	2075.075	.443%	98.392%
70.0	19.835	10.217	2085.291	.384%	98.876%
75.0	16.390	8.678	2093.969	.326%	99.288%
80.0	13.289	7.174	2101.143	.270%	99.628%
85.0	10.160	5.548	2106.691	.208%	99.891%
90.0	8.388	2.299	2108.99	.086%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1746.09	65.62%	82.79%
0-40	1928.52	72.47%	91.44%
0-60	2063.29	77.54%	97.83%
0-90	2106.69	79.17%	99.89%
0-120	2106.69	79.17%	99.89%
0-180	2108.99	79.26%	100.00%
60-90	59.04	2.22%	2.80%
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%
0-27.73	1687.19	63.40%	80.00%

ZONAL LUMEN SUMMARY

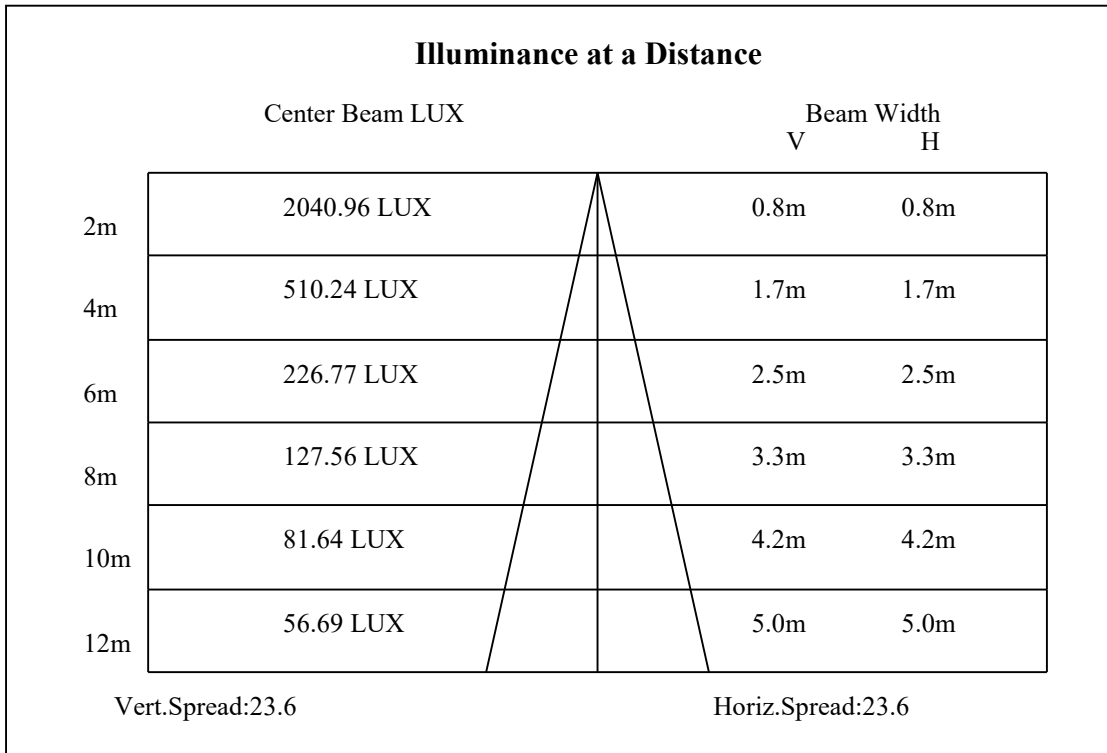
0-10	857.25
10-20	595.77
20-30	293.07
30-40	182.44
40-50	95.35
50-60	39.41
60-70	22.01
70-80	15.85
80-90	5.55
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

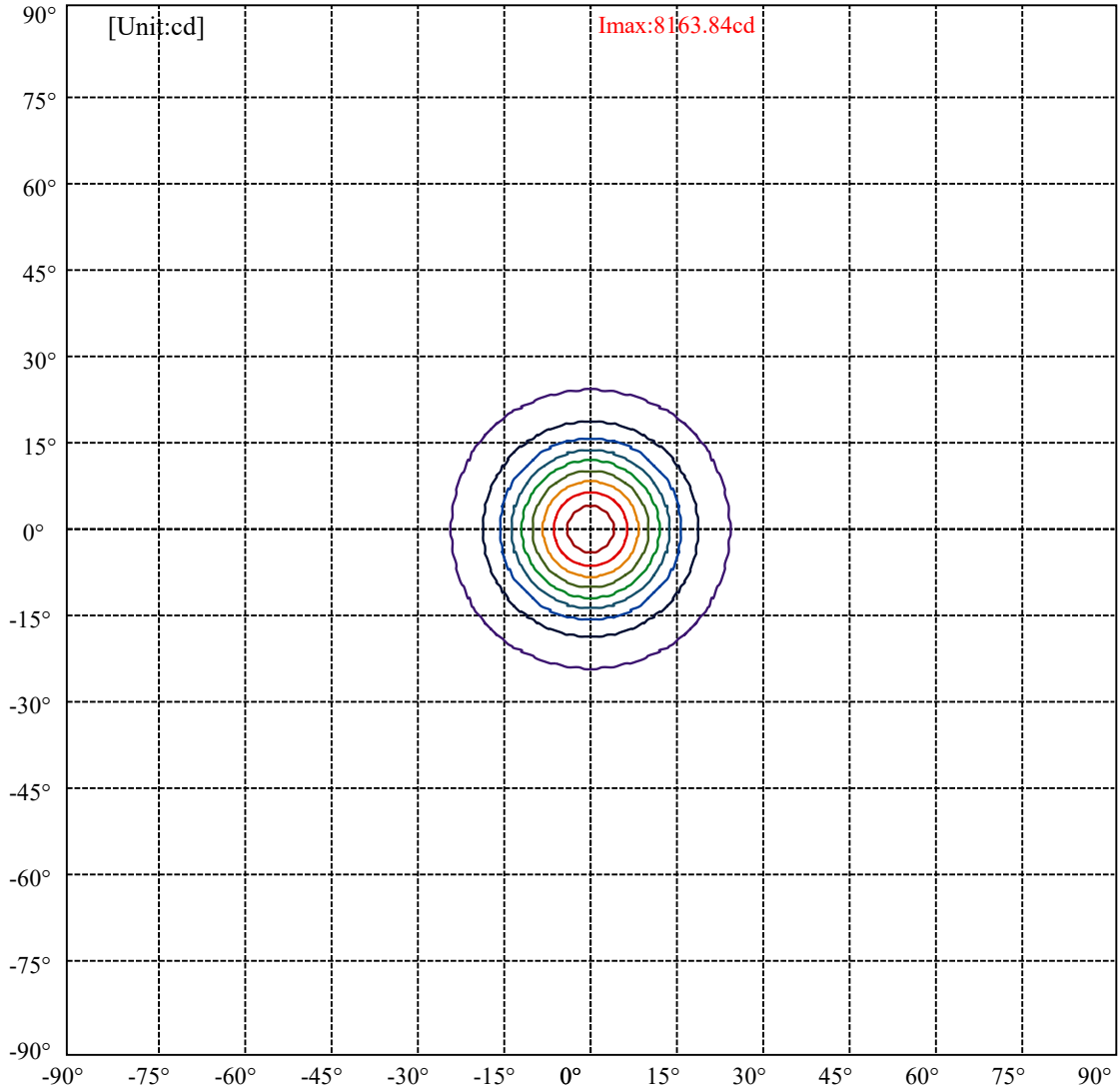


C0(Max): ———
C0/C180: ———
C90/C270: ———

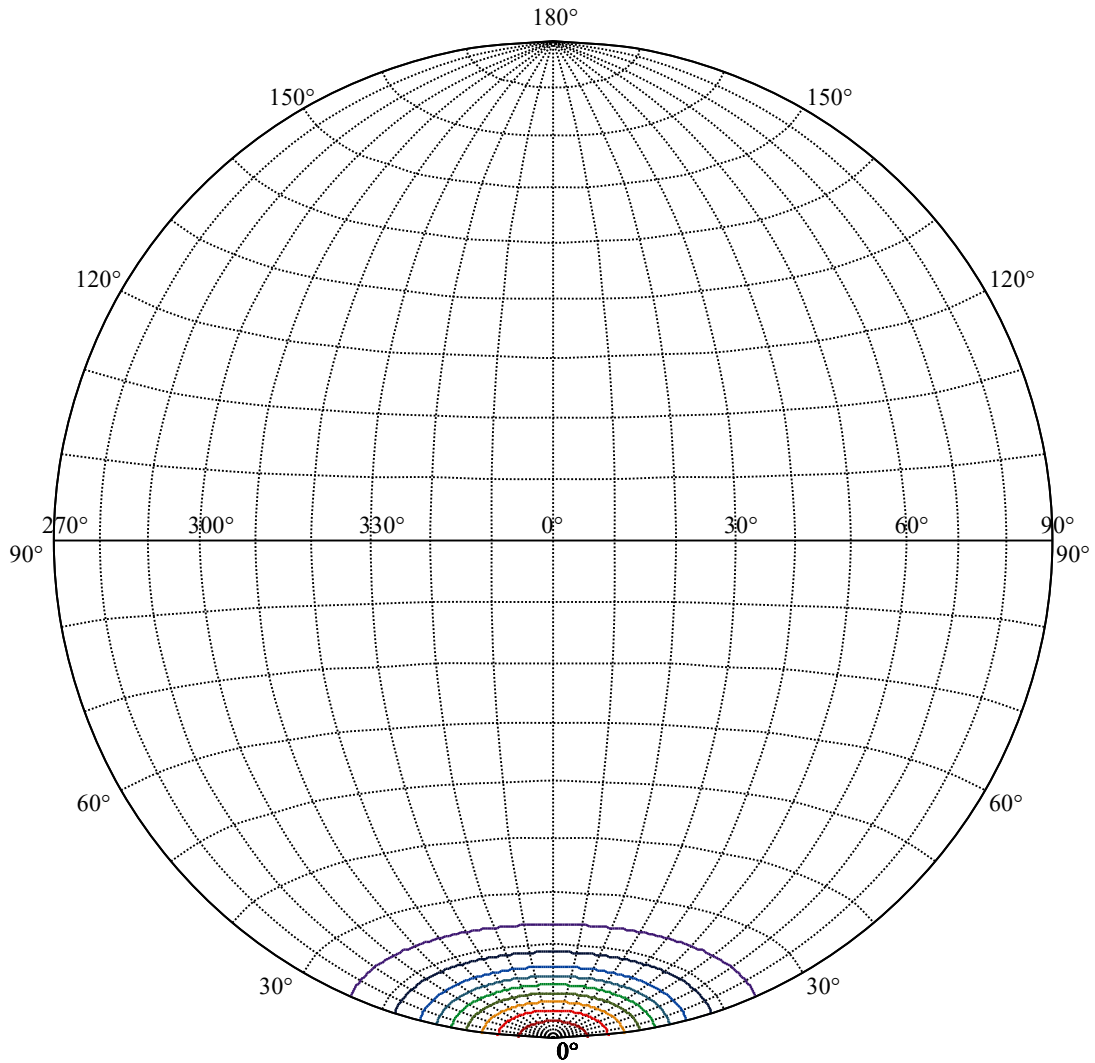
Field angle(10%Imax):C0/180Left:23.9 Right:23.9
:C90/270Left:23.9 Right:23.9

Beam Angle(50%Imax):C0/180Left:11.8 Right:11.8
:C90/270Left:11.8 Right:11.8





(10%Imax) 816.384	—
(20%Imax) 1632.77	—
(30%Imax) 2449.15	—
(40%Imax) 3265.54	—
(50%Imax) 4081.92	—
(60%Imax) 4898.31	—
(70%Imax) 5714.69	—
(80%Imax) 6531.07	—
(90%Imax) 7347.46	—



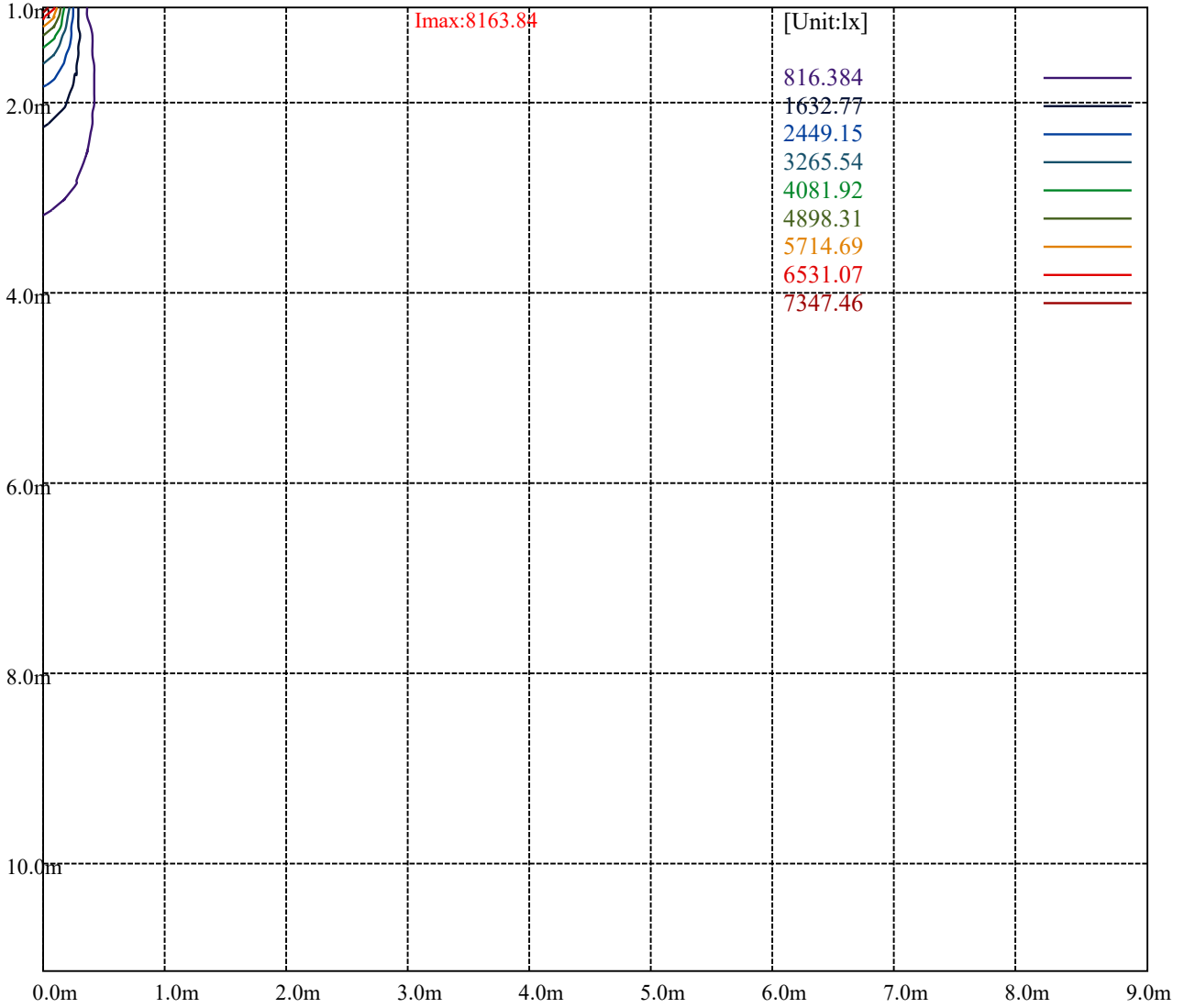
House

[Unit:cd]

Road

Imax:8163.84

(10%Imax) 816.384	—
(20%Imax) 1632.77	—
(30%Imax) 2449.15	—
(40%Imax) 3265.54	—
(50%Imax) 4081.92	—
(60%Imax) 4898.31	—
(70%Imax) 5714.69	—
(80%Imax) 6531.07	—
(90%Imax) 7347.46	—



Luminance Table

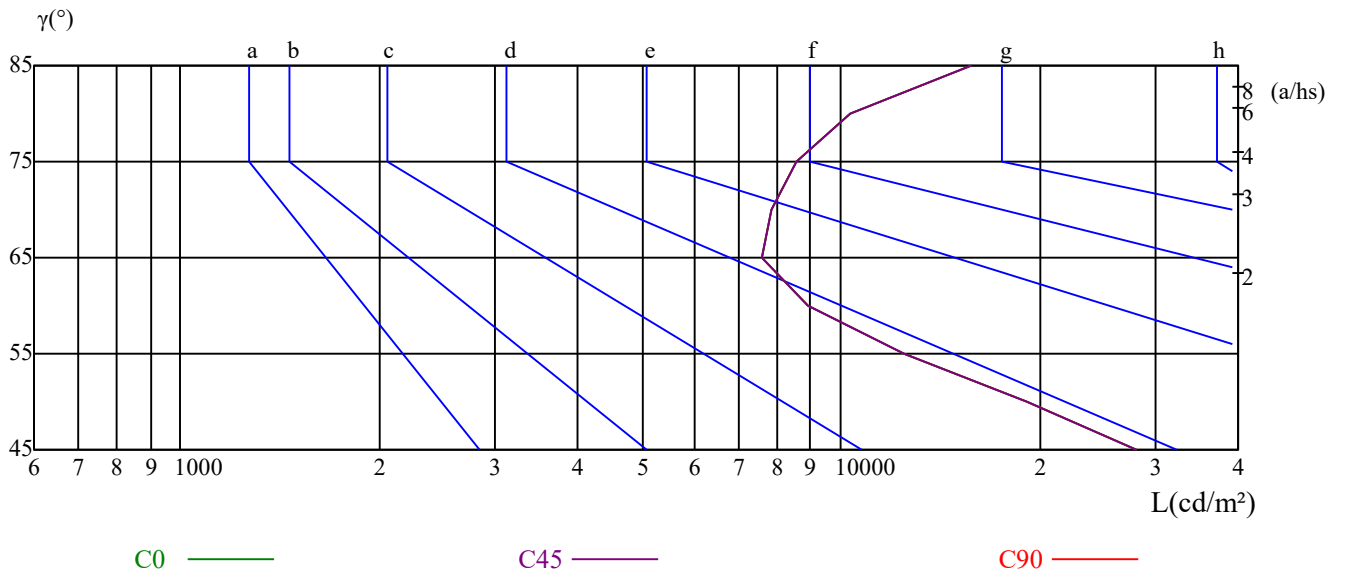
γ	45	50	55	60	65	70	75	80	85
C0	28130	19202	12481	8908	7592	7841	8562	10347	15762
C45	28130	19202	12481	8908	7592	7841	8562	10347	15762
C90	28130	19202	12481	8908	7592	7841	8562	10347	15762

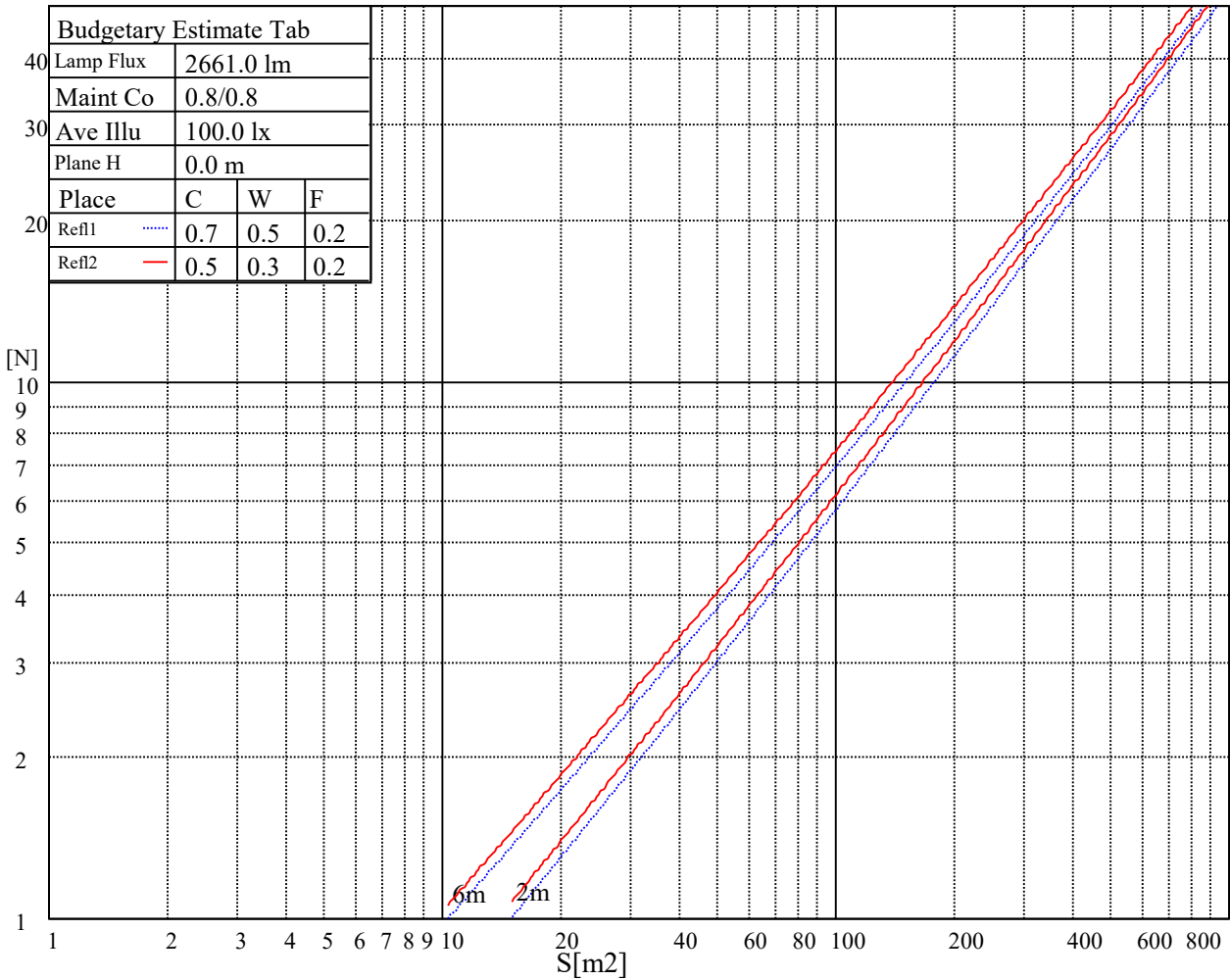
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
7592	7592	7592	8562	8562	8562	15762	15762	15762

Glare Table

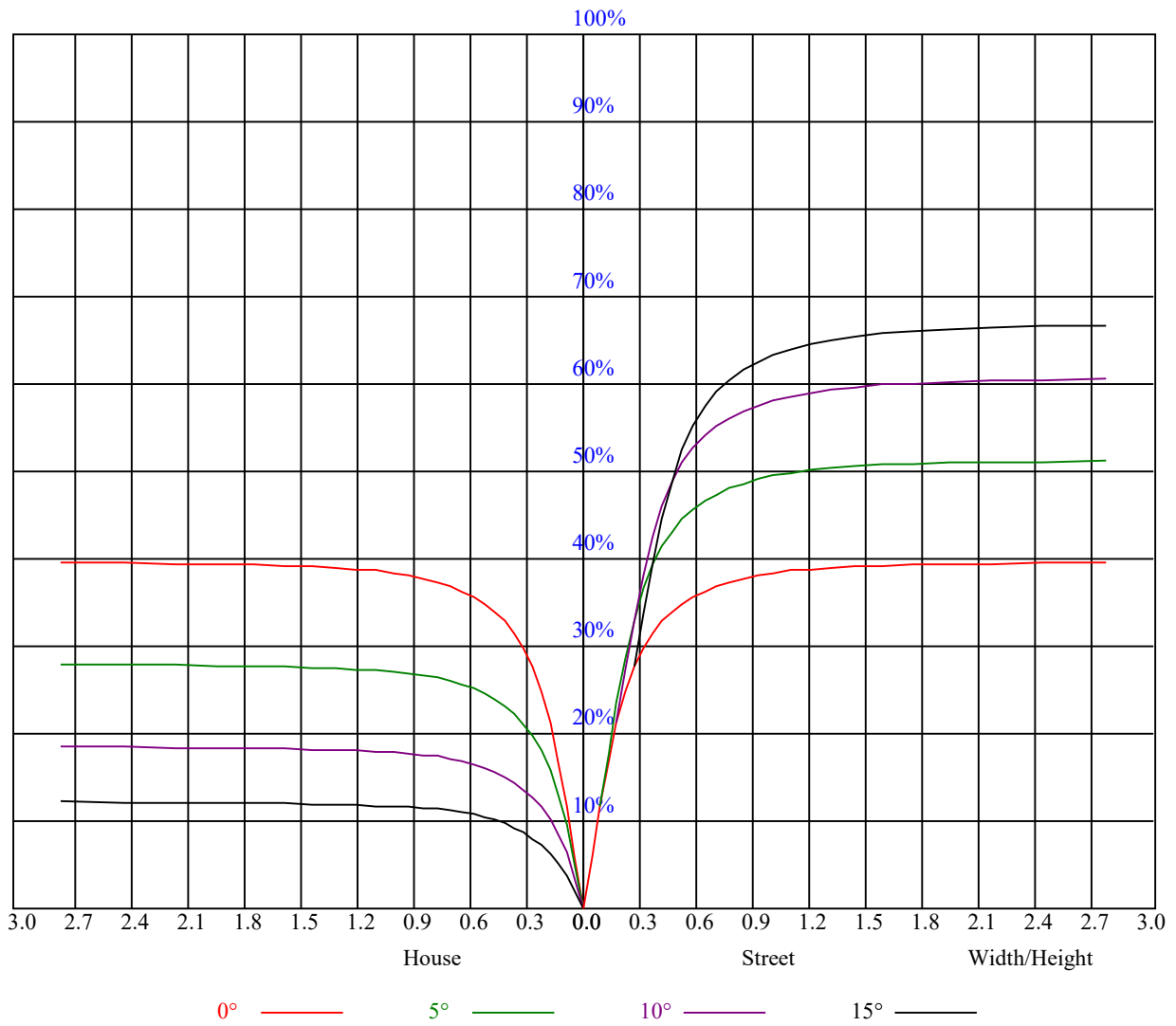
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

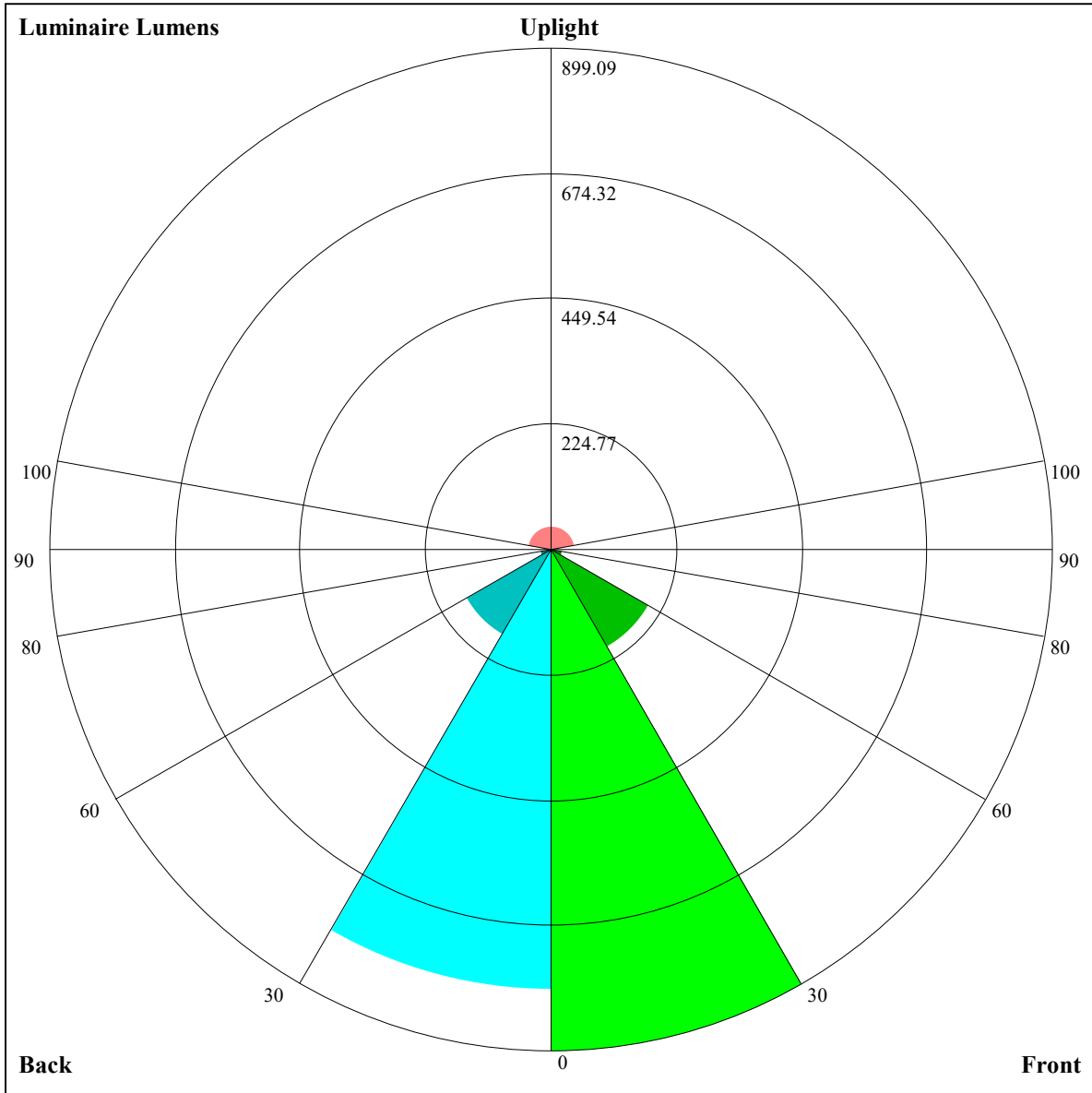
Luminance Limiting Curve





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	0.83	0.83	0.83	0.81
1	0.88	0.86	0.84	0.86	0.84	0.82	0.83	0.81	0.80	0.80	0.79	0.77	0.77	0.76	0.75	0.74
2	0.83	0.80	0.77	0.82	0.79	0.76	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	0.72	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	0.71	0.68	0.73	0.70	0.67	0.71	0.68	0.66	0.70	0.67	0.66	0.64
5	0.72	0.68	0.65	0.71	0.68	0.65	0.70	0.67	0.64	0.69	0.66	0.64	0.67	0.65	0.63	0.62
6	0.69	0.65	0.62	0.69	0.65	0.62	0.67	0.64	0.62	0.66	0.63	0.61	0.65	0.63	0.61	0.60
7	0.67	0.63	0.60	0.66	0.62	0.60	0.65	0.62	0.59	0.64	0.61	0.59	0.63	0.61	0.59	0.58
8	0.64	0.60	0.58	0.64	0.60	0.58	0.63	0.60	0.57	0.62	0.59	0.57	0.62	0.59	0.57	0.56
9	0.62	0.58	0.56	0.62	0.58	0.56	0.61	0.58	0.56	0.61	0.58	0.55	0.60	0.57	0.55	0.54
10	0.60	0.57	0.54	0.60	0.57	0.54	0.60	0.56	0.54	0.59	0.56	0.54	0.59	0.56	0.54	0.53





Luminaire Lumens:

FL=899.09,FM=203.22,FH=21.74,FVH=5.85

BL=790.39,BM=174.84,BH=20.46,BVH=5.6

UL=9.15,UH=43.55

BUG Rating:B2-U2-G0

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	8070.75	7822.69	5999.06	3471.75	1738.69	880.31	573.75	384.75	287.44
45.0	8220.38	7198.88	4934.25	2513.25	1189.13	679.50	455.63	314.44	217.63
90.0	8159.63	6416.44	4218.75	1985.06	913.33	577.46	383.12	260.16	188.49
135.0	8204.63	6859.69	4601.25	2205.56	1019.81	610.31	402.19	287.44	186.36
180.0	8070.75	6508.69	3930.19	1730.81	917.94	561.49	357.92	253.07	176.96
225.0	8220.38	7220.25	4887.56	2536.31	1111.56	708.75	477.00	325.18	224.78
270.0	8159.63	7597.13	5453.44	3288.94	1542.94	844.31	570.94	387.56	287.44
315.0	8204.63	7447.50	5277.94	3008.25	1294.88	788.40	558.17	378.00	261.56
360.0	8070.75	7822.69	5999.06	3471.75	1738.69	880.31	573.75	384.75	287.44

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	187.43	118.52	67.67	40.05	26.04	21.60	17.83	14.68	11.14
45.0	140.74	88.14	50.23	31.39	23.63	19.74	16.31	13.05	9.79
90.0	118.58	72.68	43.71	28.13	21.77	18.39	15.36	12.26	9.39
135.0	119.36	74.19	45.90	29.31	22.22	18.90	15.64	12.60	9.51
180.0	110.08	70.03	41.79	27.17	21.99	18.51	15.24	12.04	9.28
225.0	144.06	90.06	52.26	32.29	23.79	19.97	16.59	13.33	10.35
270.0	181.58	110.93	62.66	39.26	25.48	21.04	17.38	14.46	10.97
315.0	175.11	105.75	59.34	35.94	24.92	20.53	16.76	13.89	10.86
360.0	187.43	118.52	67.67	40.05	26.04	21.60	17.83	14.68	11.14

C/γ(°)	90.0
0.0	8.55
45.0	8.33
90.0	8.33
135.0	8.38
180.0	8.38
225.0	8.33
270.0	8.44
315.0	8.38
360.0	8.55