
NATA

Client:

LumCAT: 2-1795-N

Luminaire: 92.70.131.00

Report No: nata-0100

Test No: GC2018121203

LampCAT: OSRAM SOLERIQ S13

Lamp flux(lm): 1828.0

Number of Lamps: 1

Length(mm): 69

Phm Type: C

Voltage(V): 36.7000

Current(A): 0.5100

Power (W): 18.7170

PF: 0.0000

Ballast type: DC

Width(mm): 69

Height(mm): 0

Photometric Results

Lumens(lm): 1491.87, Efficiency(%): 81.61% , Luminous Efficacy(lm/W): 79.71

Central intensity(cd): 3290.484, Maximum intensity(cd): 3290.484

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=38.0

[C90/270]Total=38.0

Field angle(10%Imax): [C0/180]Total=63.2

[C90/270]Total=63.2

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

Maximum s/h(1/4): C0_180=0.63 C90_270=0.63

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 82.61%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 96.604%

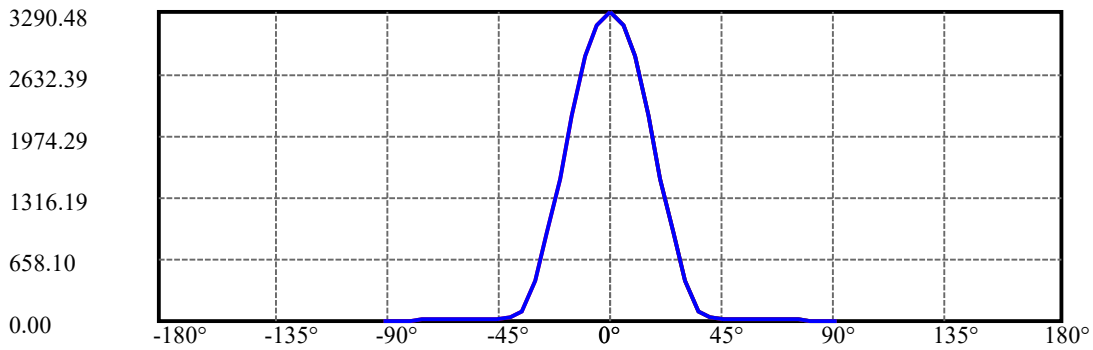
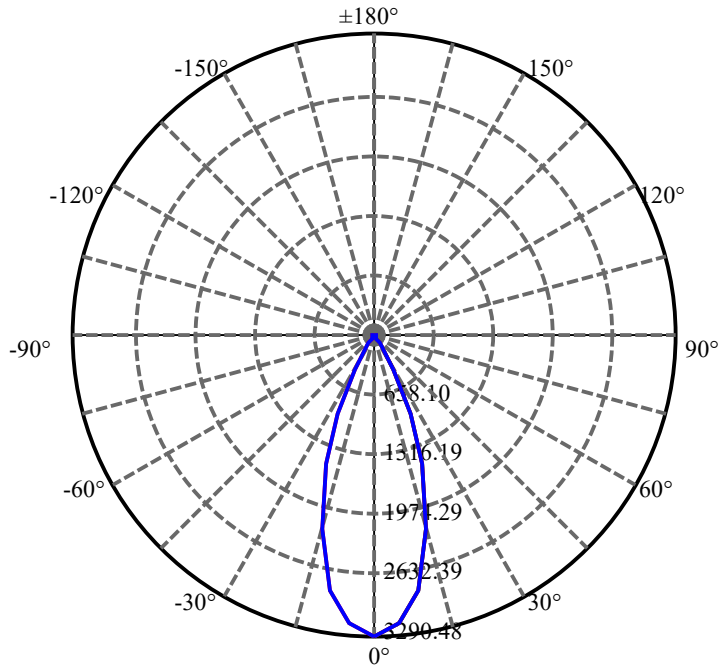
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	3290.484	19.678	19.678	1.076%	1.319%
5.0	3157.453	150.842	170.52	8.252%	11.430%
10.0	2827.477	269.128	439.648	14.723%	29.470%
15.0	2191.008	310.835	750.482	17.004%	50.305%
20.0	1504.617	282.077	1032.559	15.431%	69.212%
25.0	947.939	219.593	1252.152	12.013%	83.932%
30.0	432.654	118.577	1370.729	6.487%	91.880%
35.0	106.207	33.391	1404.12	1.827%	94.118%
40.0	43.453	15.310	1419.43	.838%	95.144%
45.0	29.595	11.471	1430.901	.627%	95.913%
50.0	23.977	10.068	1440.968	.551%	96.588%
55.0	20.517	9.212	1450.181	.504%	97.206%
60.0	18.260	8.668	1458.849	.474%	97.787%
65.0	15.968	7.933	1466.782	.434%	98.318%
70.0	13.943	7.182	1473.963	.393%	98.800%
75.0	11.939	6.321	1480.285	.346%	99.223%
80.0	9.956	5.374	1485.659	.294%	99.584%
85.0	7.988	4.362	1490.021	.239%	99.876%
90.0	6.750	1.850	1491.871	.101%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1370.73	74.99%	91.88%
0-40	1419.43	77.65%	95.14%
0-60	1458.85	79.81%	97.79%
0-90	1490.02	81.51%	99.88%
0-120	1490.02	81.51%	99.88%
0-180	1491.87	81.61%	100.00%
60-90	39.84	2.18%	2.67%
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%
0-23.66	1193.50	65.29%	80.00%

ZONAL LUMEN SUMMARY

0-10	439.65
10-20	592.91
20-30	338.17
30-40	48.70
40-50	21.54
50-60	17.88
60-70	15.11
70-80	11.70
80-90	4.36
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: —————

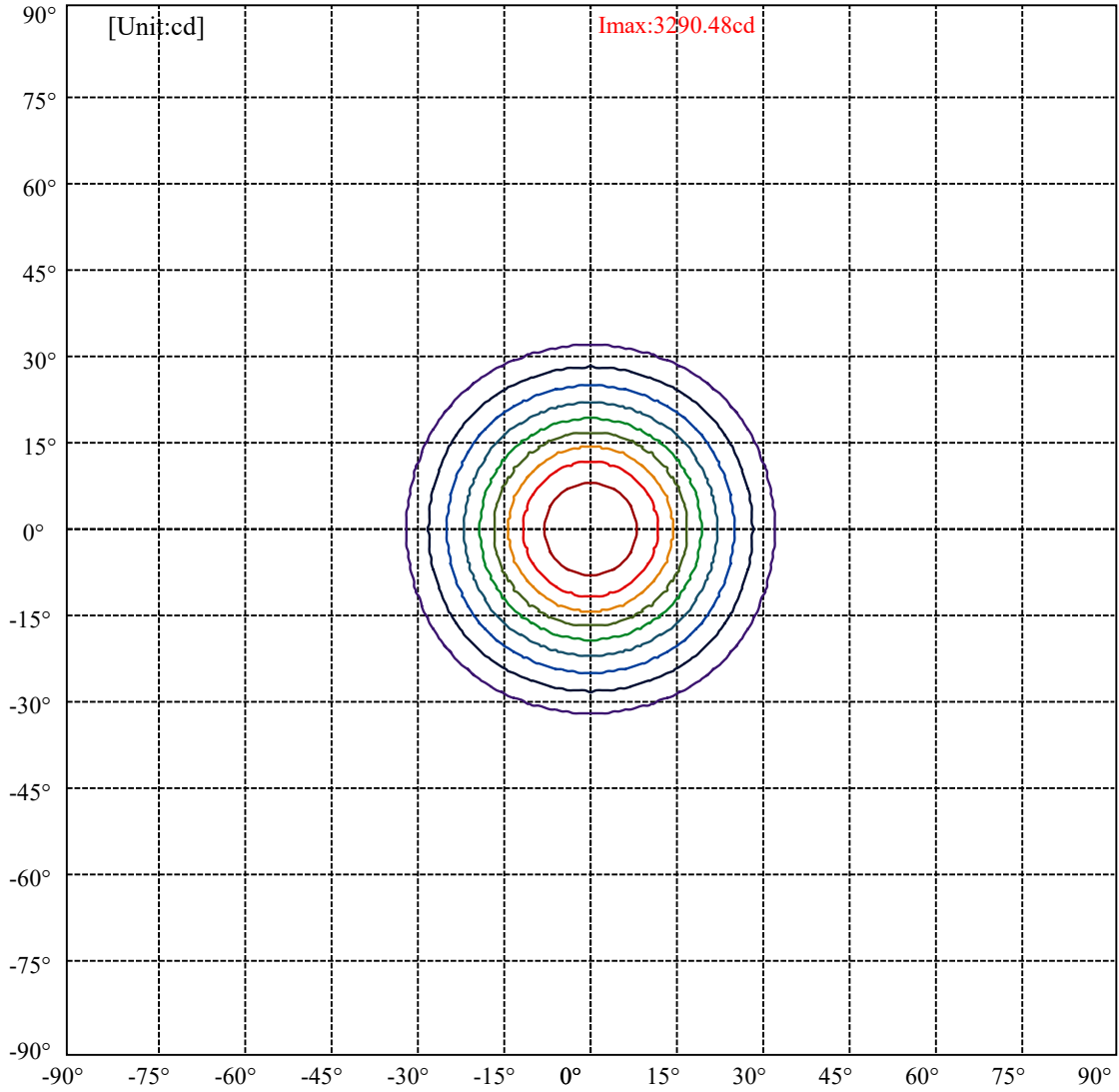
C90/C270: —————

Field angle(10%Imax):C0/180Left:31.6 Right:31.6

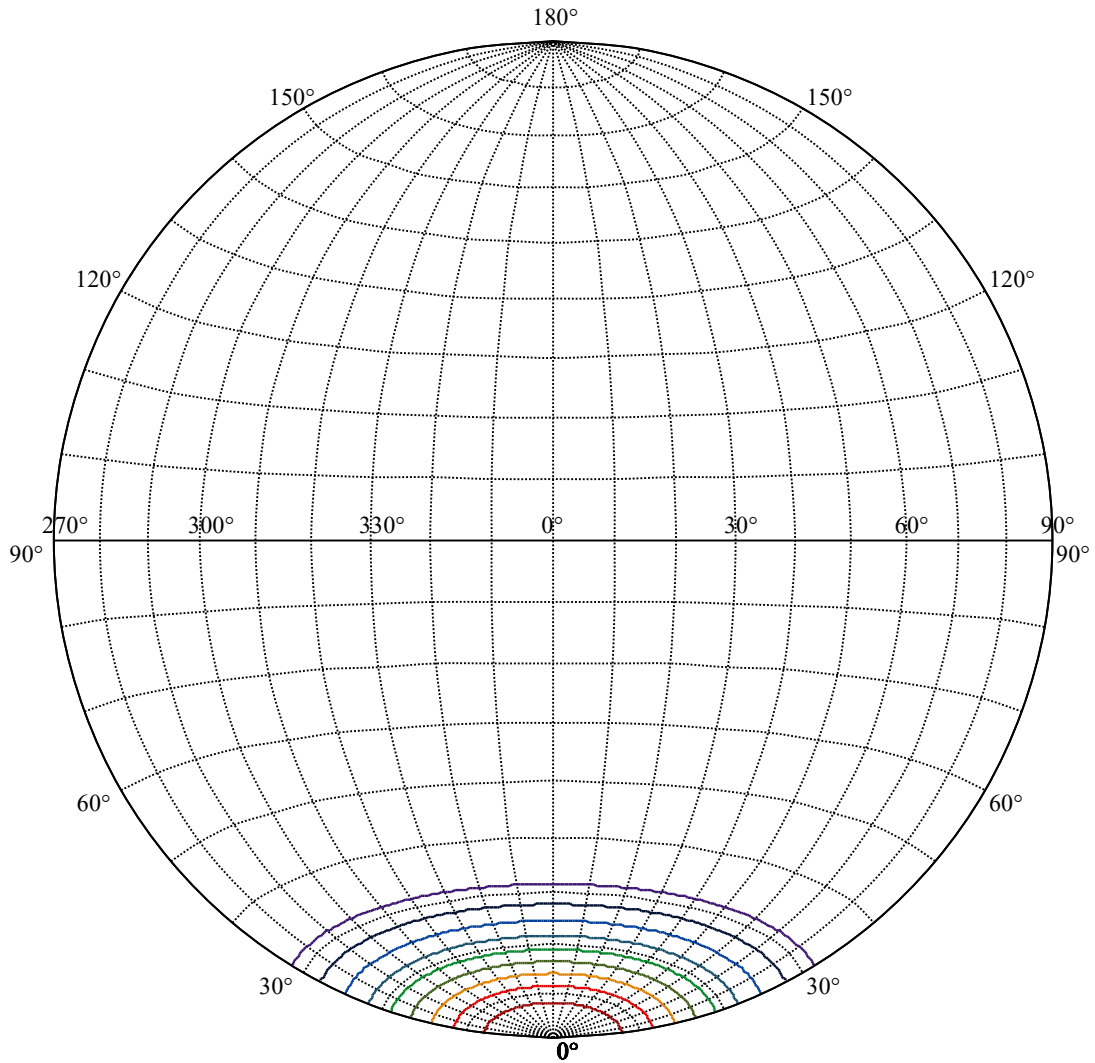
:C90/270Left:31.6 Right:31.6

Beam Angle(50%Imax):C0/180Left:19.0 Right:19.0

:C90/270Left:19.0 Right:19.0



(10%Imax) 329.048	—
(20%Imax) 658.097	—
(30%Imax) 987.145	—
(40%Imax) 1316.19	—
(50%Imax) 1645.24	—
(60%Imax) 1974.29	—
(70%Imax) 2303.34	—
(80%Imax) 2632.39	—
(90%Imax) 2961.44	—



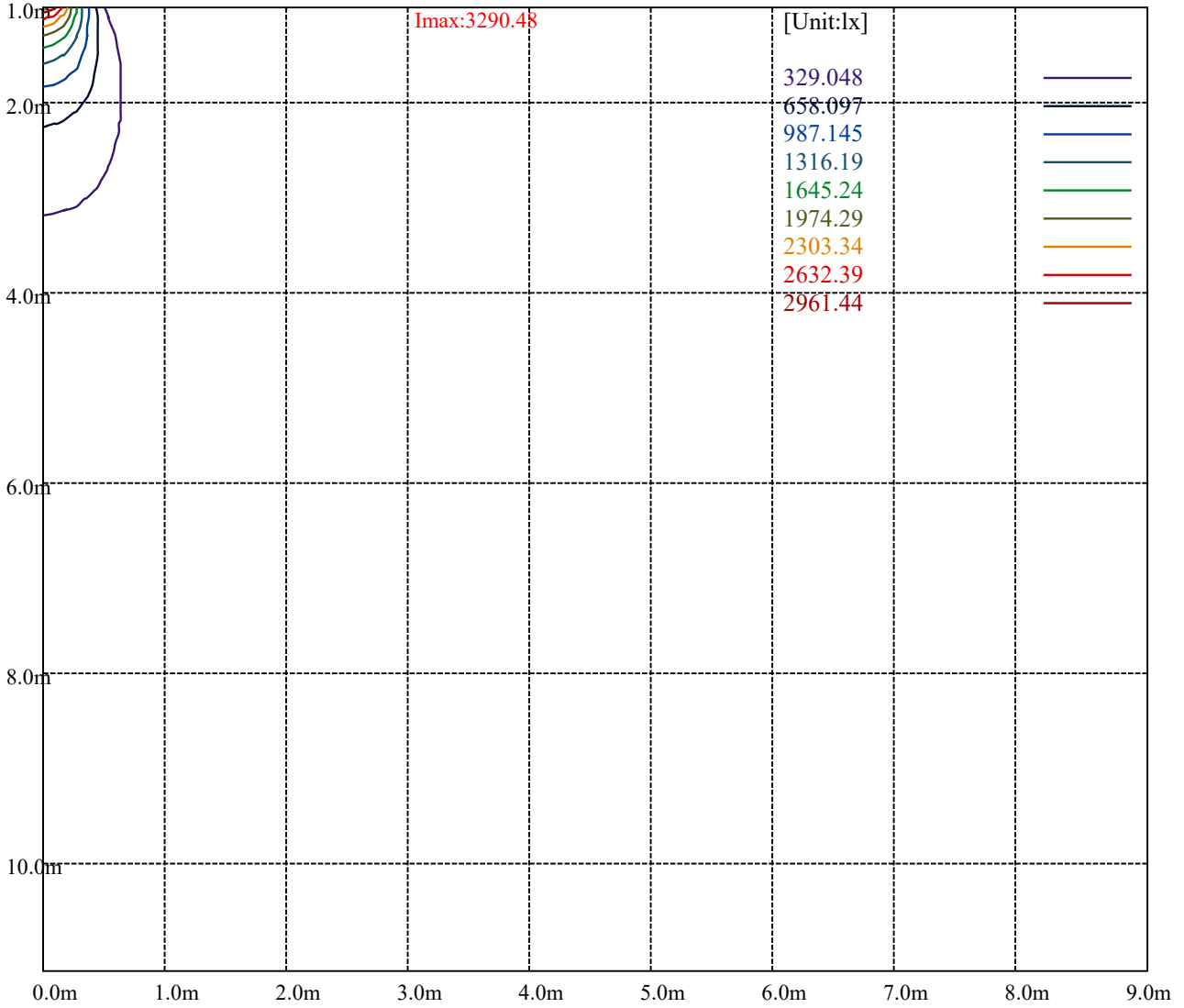
House

[Unit:cd]

Road

Imax:3290.48

(10%Imax) 329.048	—
(20%Imax) 658.097	—
(30%Imax) 987.145	—
(40%Imax) 1316.19	—
(50%Imax) 1645.24	—
(60%Imax) 1974.29	—
(70%Imax) 2303.34	—
(80%Imax) 2632.39	—
(90%Imax) 2961.44	—



Luminance Table

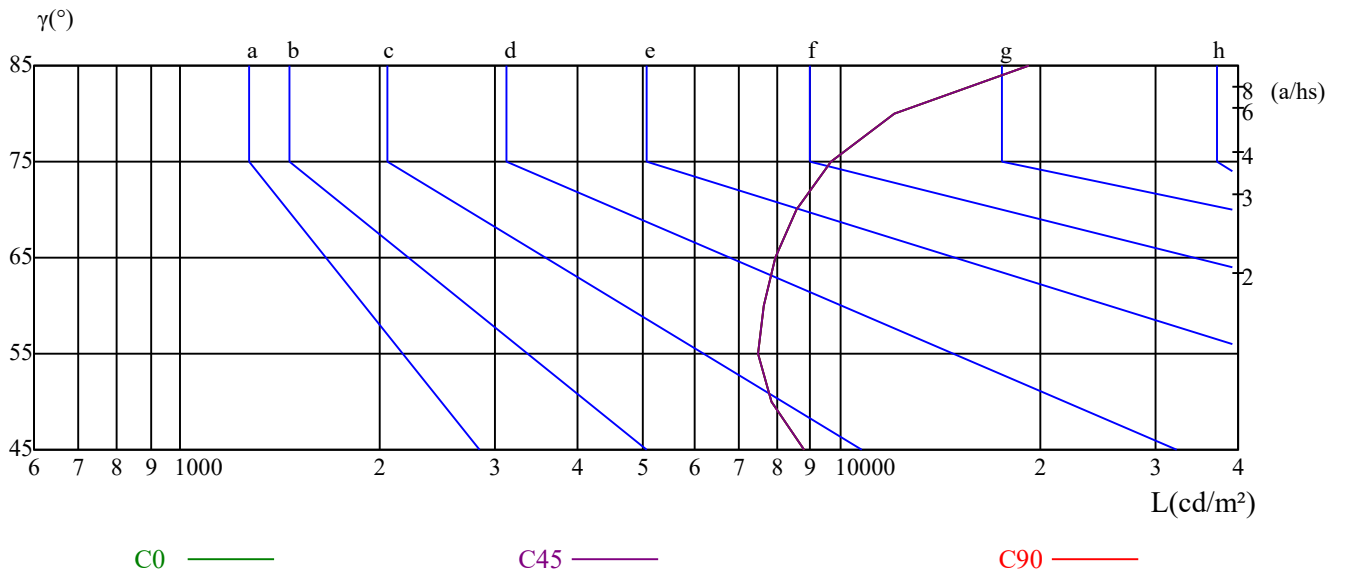
γ	45	50	55	60	65	70	75	80	85
C0	8791	7835	7513	7671	7936	8563	9689	12043	19249
C45	8791	7835	7513	7671	7936	8563	9689	12043	19249
C90	8791	7835	7513	7671	7936	8563	9689	12043	19249

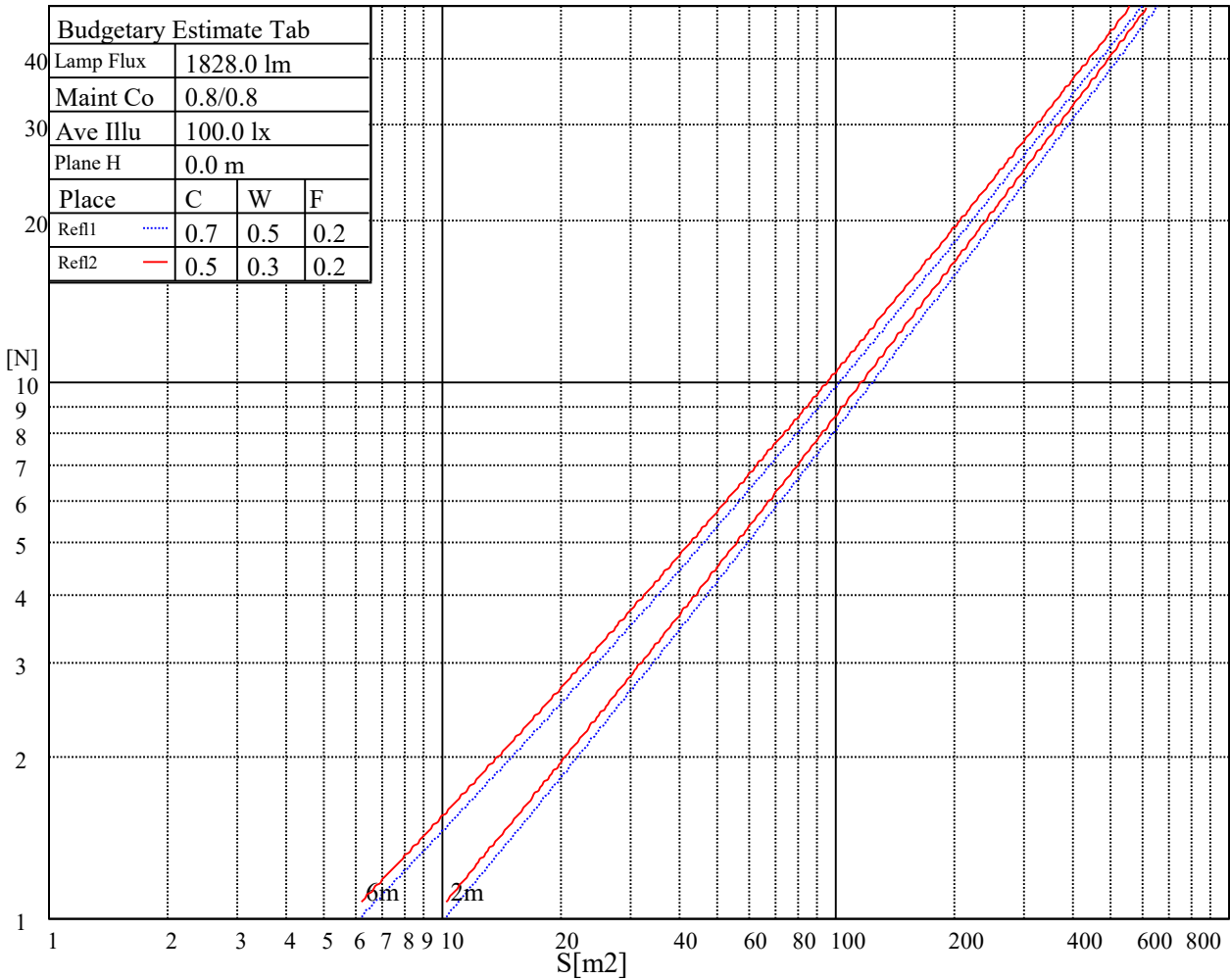
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
7936	7936	7936	9689	9689	9689	19249	19249	19249

Glare Table

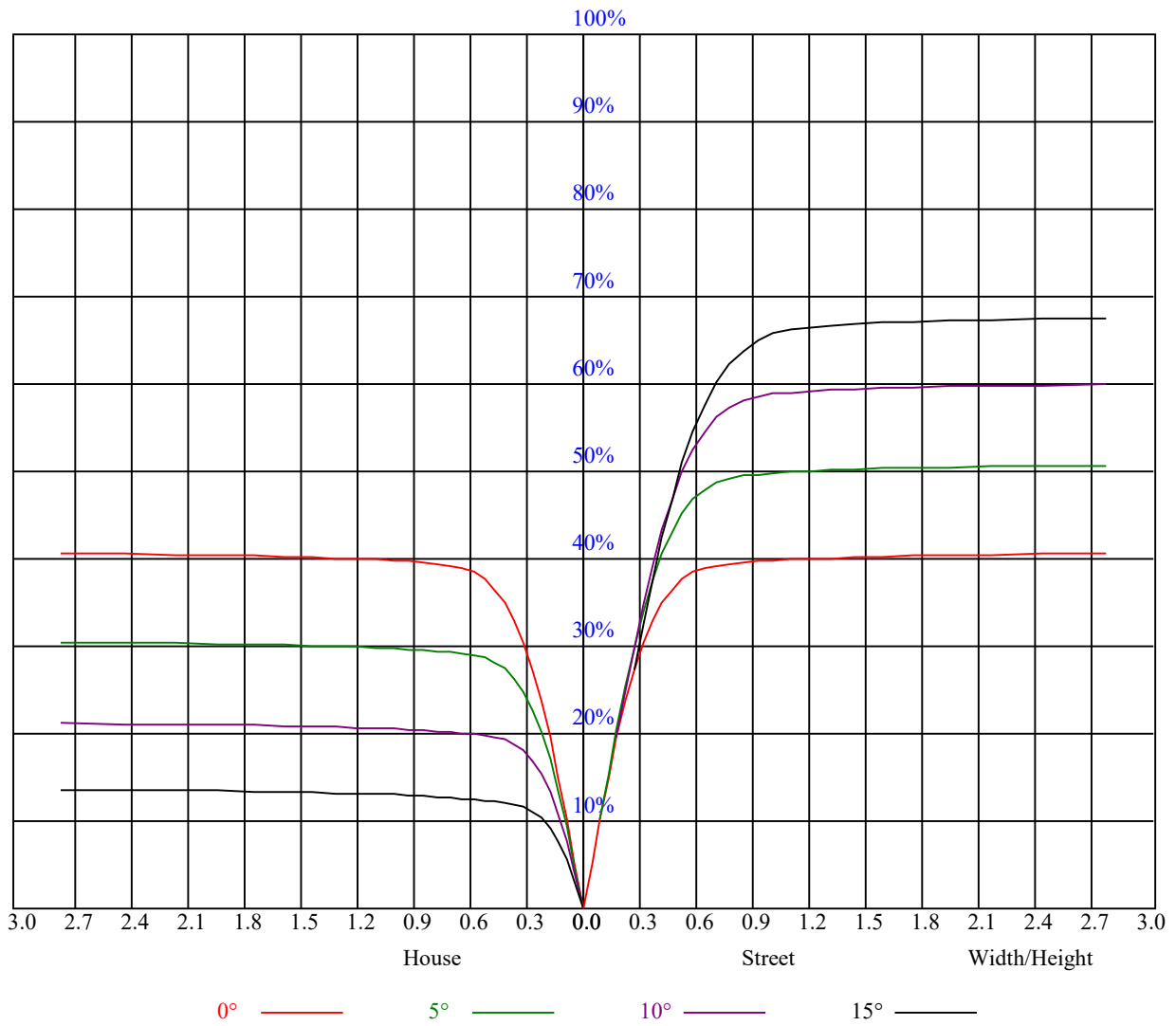
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

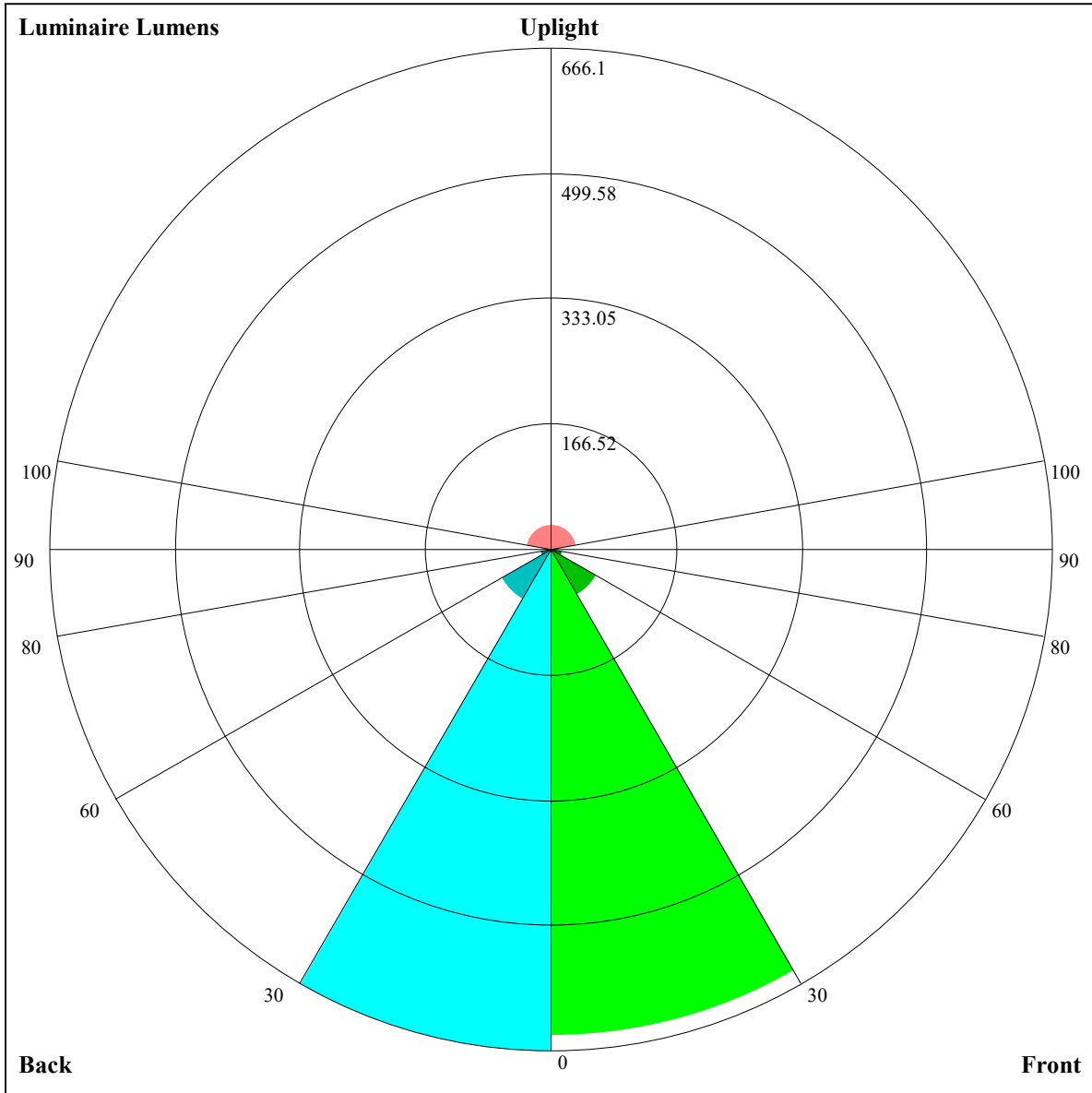
Luminance Limiting Curve





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	0.98	0.98	0.98	0.96	0.96	0.96	0.92	0.92	0.92	0.88	0.88	0.88	0.84	0.84	0.84	0.83
1	0.91	0.89	0.87	0.89	0.87	0.86	0.86	0.84	0.83	0.83	0.82	0.80	0.80	0.79	0.78	0.77
2	0.86	0.83	0.80	0.85	0.82	0.79	0.82	0.80	0.78	0.80	0.78	0.76	0.77	0.76	0.74	0.73
3	0.82	0.78	0.75	0.81	0.77	0.75	0.78	0.76	0.73	0.76	0.74	0.72	0.75	0.73	0.71	0.70
4	0.78	0.74	0.71	0.77	0.73	0.71	0.75	0.72	0.70	0.74	0.71	0.69	0.72	0.70	0.68	0.67
5	0.75	0.71	0.68	0.74	0.70	0.67	0.72	0.69	0.67	0.71	0.68	0.66	0.70	0.67	0.66	0.64
6	0.72	0.67	0.65	0.71	0.67	0.64	0.70	0.66	0.64	0.69	0.66	0.64	0.68	0.65	0.63	0.62
7	0.69	0.65	0.62	0.68	0.64	0.62	0.67	0.64	0.61	0.66	0.63	0.61	0.66	0.63	0.61	0.60
8	0.66	0.62	0.60	0.66	0.62	0.60	0.65	0.62	0.59	0.64	0.61	0.59	0.64	0.61	0.59	0.58
9	0.64	0.60	0.58	0.64	0.60	0.57	0.63	0.60	0.57	0.62	0.59	0.57	0.62	0.59	0.57	0.56
10	0.62	0.58	0.56	0.62	0.58	0.56	0.61	0.58	0.55	0.60	0.57	0.55	0.60	0.57	0.55	0.54





Luminaire Lumens:

FL=645.46,FM=68.87,FH=14.17,FVH=4.41

BL=666.1,BM=75.47,BH=14.44,BVH=4.5

UL=7.36,UH=35.05

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	3292.88	3151.13	2838.38	2190.38	1531.13	942.75	417.94	97.88	43.43
45.0	3287.81	3180.94	2877.19	2273.06	1563.19	991.13	491.06	103.84	45.79
90.0	3292.88	3183.19	2850.75	2184.75	1478.81	900.56	425.87	95.85	40.39
135.0	3288.38	3213.00	2940.75	2388.38	1711.13	1108.13	567.56	198.73	50.29
180.0	3292.88	3165.19	2847.94	2224.69	1559.81	995.57	436.33	102.94	44.44
225.0	3287.81	3133.69	2761.88	2098.69	1424.25	898.76	392.74	88.20	42.86
270.0	3292.88	3141.56	2831.06	2169.00	1494.00	969.75	415.13	87.64	42.92
315.0	3288.38	3090.94	2671.88	1999.13	1274.63	776.87	314.61	74.59	37.52
360.0	3292.88	3151.13	2838.38	2190.38	1531.13	942.75	417.94	97.88	43.43
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	30.04	24.30	20.59	17.94	15.86	13.89	11.64	9.68	7.88
45.0	31.61	24.98	20.87	18.68	16.20	14.01	11.93	10.07	7.93
90.0	29.36	23.91	20.59	18.39	16.14	14.18	12.09	10.07	7.99
135.0	30.38	24.30	20.70	18.51	16.26	14.46	12.09	10.35	8.16
180.0	29.98	24.58	20.98	18.68	16.31	14.29	12.21	10.35	8.27
225.0	29.53	23.74	20.36	18.11	15.75	13.56	11.70	9.73	8.10
270.0	28.97	23.51	20.36	18.45	16.14	14.23	12.60	10.18	7.82
315.0	26.89	22.50	19.69	17.33	15.08	12.94	11.25	9.23	7.76
360.0	30.04	24.30	20.59	17.94	15.86	13.89	11.64	9.68	7.88
C/ γ (°)	90.0								
0.0	6.69								
45.0	6.81								
90.0	6.75								
135.0	6.86								
180.0	6.69								
225.0	6.75								
270.0	6.75								
315.0	6.69								
360.0	6.69								