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Nata

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LumCAT: 3-1546-A3  
Luminaire: TE 2213407-1+92.76.365.00  
Report No: GC2015050807  
Test No: NT-0010  
LampCAT: OSRAM OPTO SOLERIQ S19  
Lamp flux(lm): 3679.0  
Number of Lamps: 1  
Length(mm): 84  
Phm Type: C

Voltage(V): 48.2000  
Current(A): 0.7100  
Power (W): 34.2200  
PF: 0.0000  
Ballast type: DC  
Width(mm): 84  
Height(mm): 0

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Photometric Results

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Lumens(lm): 3362.54  
Efficiency(%): 91.40%  
Lumens(lm)/Power(W): 98.26  
Central intensity(cd): 10504.970  
Maximum intensity(cd): 10504.970  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=27.4  
                                  [C90/270]Total=27.4  
Field angle(10%Imax): [C0/180]Total=61.4  
                                  [C90/270]Total=61.4  
Maximum s/h(1/2): C0\_180=0.47 C90\_270=0.47  
Maximum s/h(1/4): C0\_180=0.46 C90\_270=0.46  
Up flux rate of lamp(%): 1.90%  
Down flux rate of lamp(%): 89.50%  
Up flux rate of LUM(%): 2.08%  
Down flux rate of LUM(%): 97.92%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 96.213%

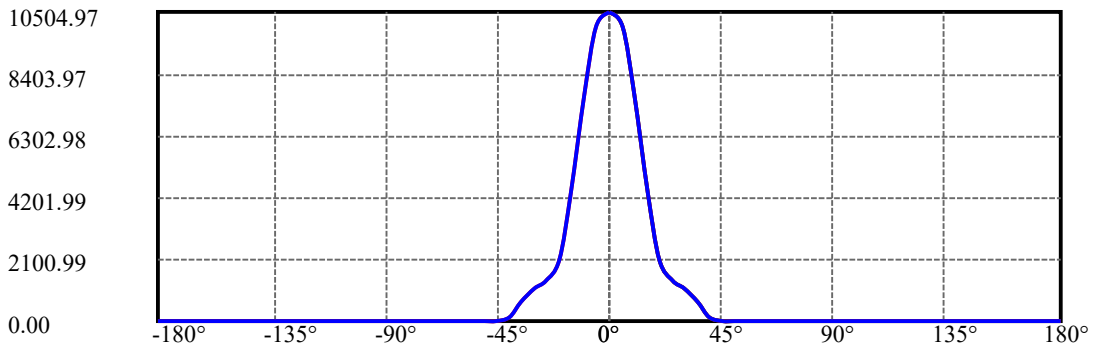
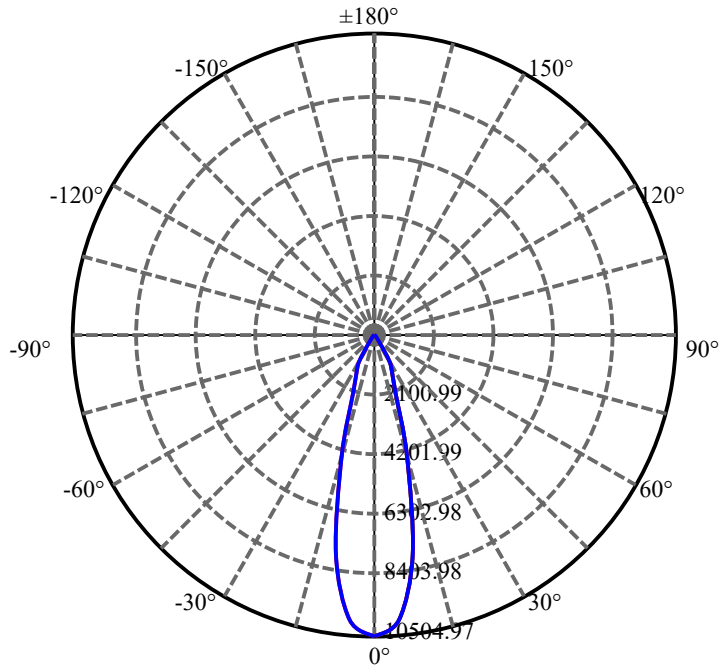
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	10504.967	0.000	0	.000%	.000%
5.0	9956.304	244.609	244.609	6.649%	7.275%
10.0	7721.155	632.378	876.987	17.189%	26.081%
15.0	4387.001	718.248	1595.235	19.523%	47.441%
20.0	2112.687	535.666	2130.9	14.560%	63.372%
25.0	1357.357	363.944	2494.844	9.892%	74.195%
30.0	1119.141	313.403	2808.247	8.519%	83.516%
35.0	628.183	257.306	3065.552	6.994%	91.168%
40.0	129.980	126.494	3192.046	3.438%	94.930%
45.0	14.673	26.784	3218.83	.728%	95.726%
50.0	12.736	5.538	3224.368	.151%	95.891%
55.0	12.043	5.388	3229.756	.146%	96.051%
60.0	11.470	5.435	3235.191	.148%	96.213%
65.0	11.211	5.514	3240.705	.150%	96.377%
70.0	15.771	6.832	3247.537	.186%	96.580%
75.0	31.157	12.266	3259.803	.333%	96.945%
80.0	28.122	15.862	3275.665	.431%	97.416%
85.0	11.673	10.813	3286.478	.294%	97.738%
90.0	11.176	6.256	3292.734	.170%	97.924%
95.0	10.973	6.065	3298.799	.165%	98.104%
100.0	11.071	5.990	3304.789	.163%	98.283%
105.0	10.057	5.653	3310.442	.154%	98.451%
110.0	10.022	5.248	3315.69	.143%	98.607%
115.0	9.882	5.040	3320.73	.137%	98.757%
120.0	9.749	4.772	3325.503	.130%	98.899%
125.0	9.693	4.494	3329.997	.122%	99.032%
130.0	9.812	4.241	3334.238	.115%	99.158%
135.0	9.959	3.995	3338.233	.109%	99.277%
140.0	10.036	3.702	3341.935	.101%	99.387%
145.0	10.344	3.400	3345.336	.092%	99.488%
150.0	11.827	3.265	3348.6	.089%	99.585%
155.0	14.722	3.360	3351.96	.091%	99.685%
160.0	17.666	3.397	3355.357	.092%	99.786%
165.0	19.324	3.049	3358.406	.083%	99.877%
170.0	19.576	2.307	3360.713	.063%	99.946%
175.0	18.974	1.379	3362.092	.037%	99.987%
180.0	18.478	0.448	3362.54	.012%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	2808.25	76.33%	83.52%
0-40	3192.05	86.76%	94.93%
0-60	3235.19	87.94%	96.21%
0-90	3292.73	89.50%	97.92%
0-120	3325.50	90.39%	98.90%
0-180	3362.54	91.40%	100.00%
60-90	62.98	1.71%	1.87%
90-120	39.02	1.06%	1.16%
90-130	47.76	1.30%	1.42%
90-150	62.12	1.69%	1.85%
90-180	75.61	2.06%	2.25%
0-28.11	2690.03	73.12%	80.00%

ZONAL LUMEN SUMMARY

0-10	876.99
10-20	1253.91
20-30	677.35
30-40	383.80
40-50	32.32
50-60	10.82
60-70	12.35
70-80	28.13
80-90	17.07
90-100	12.05
100-110	10.90
110-120	9.81
120-130	8.74
130-140	7.70
140-150	6.66
150-160	6.76
160-170	5.36
170-180	1.38



C0(Max): —————

C0/C180: —————

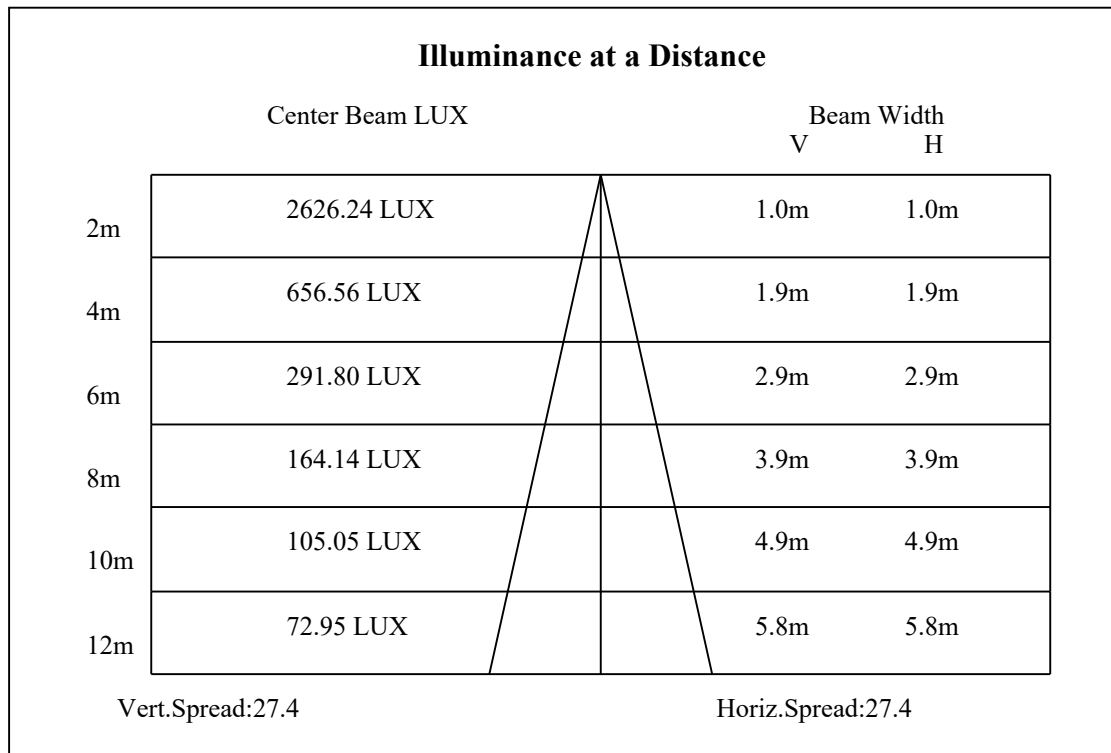
C90/C270: —————

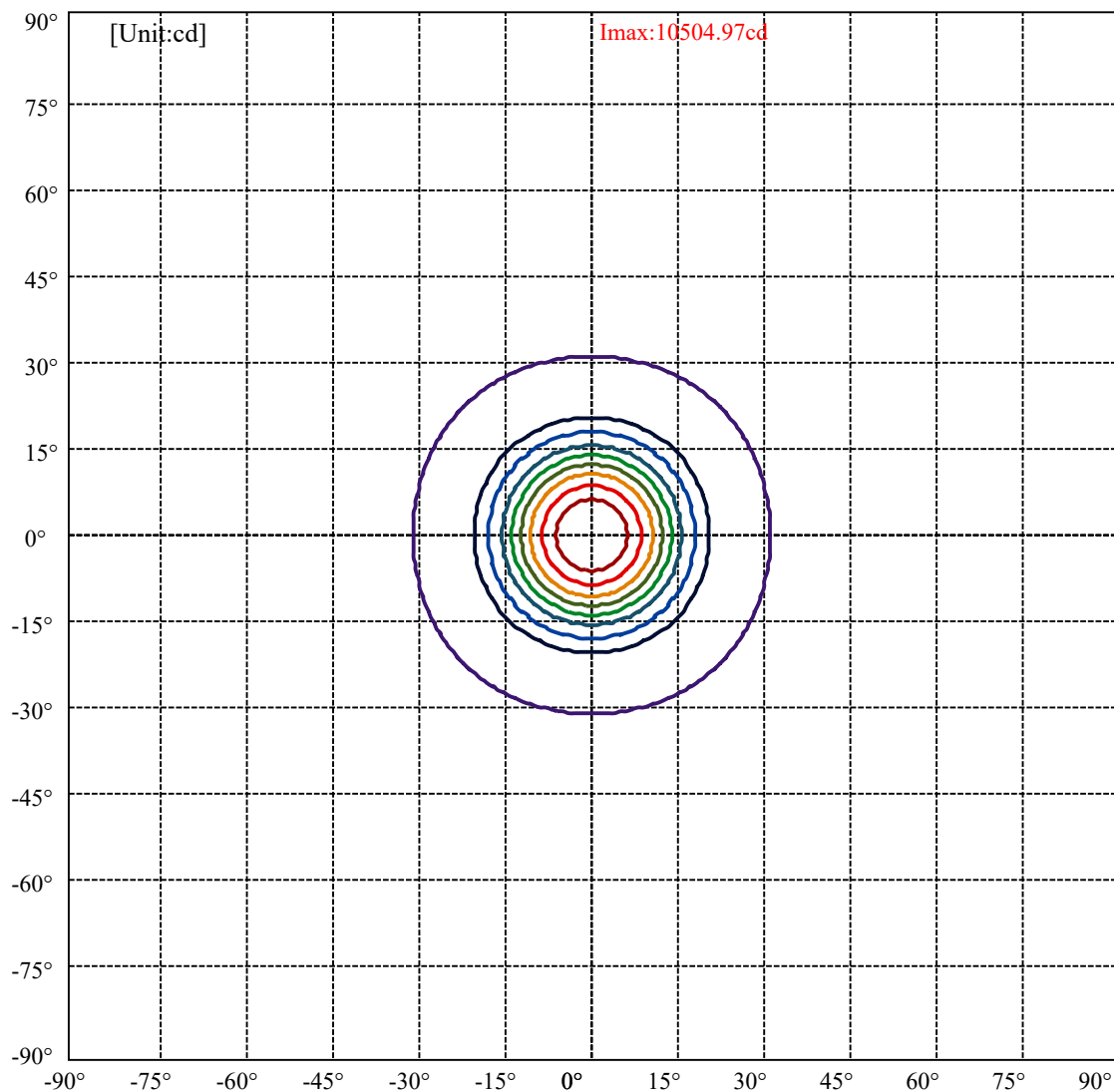
Field angle(10%Imax):C0/180Left:30.7 Right:30.7

:C90/270Left:30.7 Right:30.7

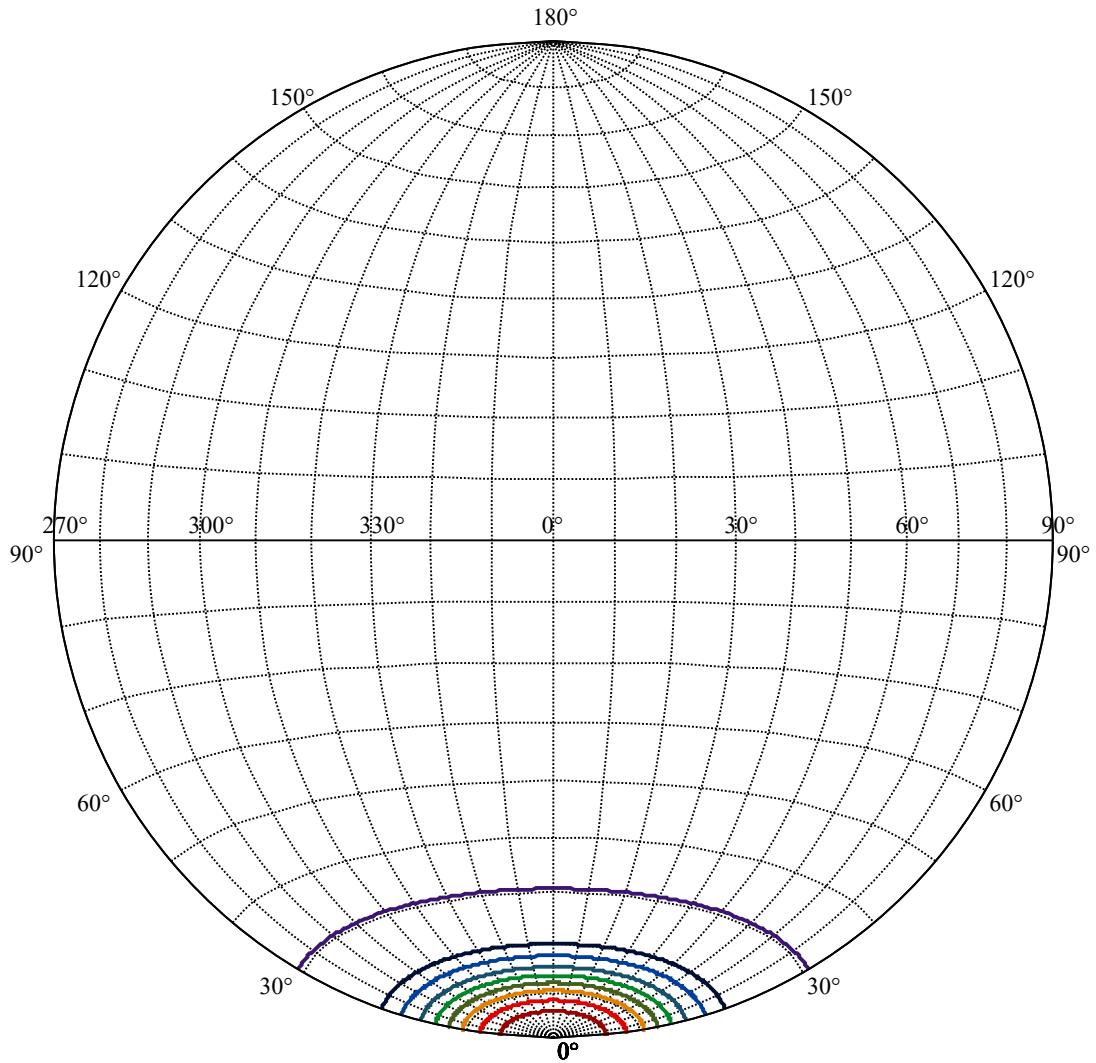
Beam Angle(50%Imax):C0/180Left:13.7 Right:13.7

:C90/270Left:13.7 Right:13.7





(10%Imax) 1050.5	—
(20%Imax) 2100.99	—
(30%Imax) 3151.49	—
(40%Imax) 4201.99	—
(50%Imax) 5252.48	—
(60%Imax) 6302.98	—
(70%Imax) 7353.48	—
(80%Imax) 8403.97	—
(90%Imax) 9454.47	—



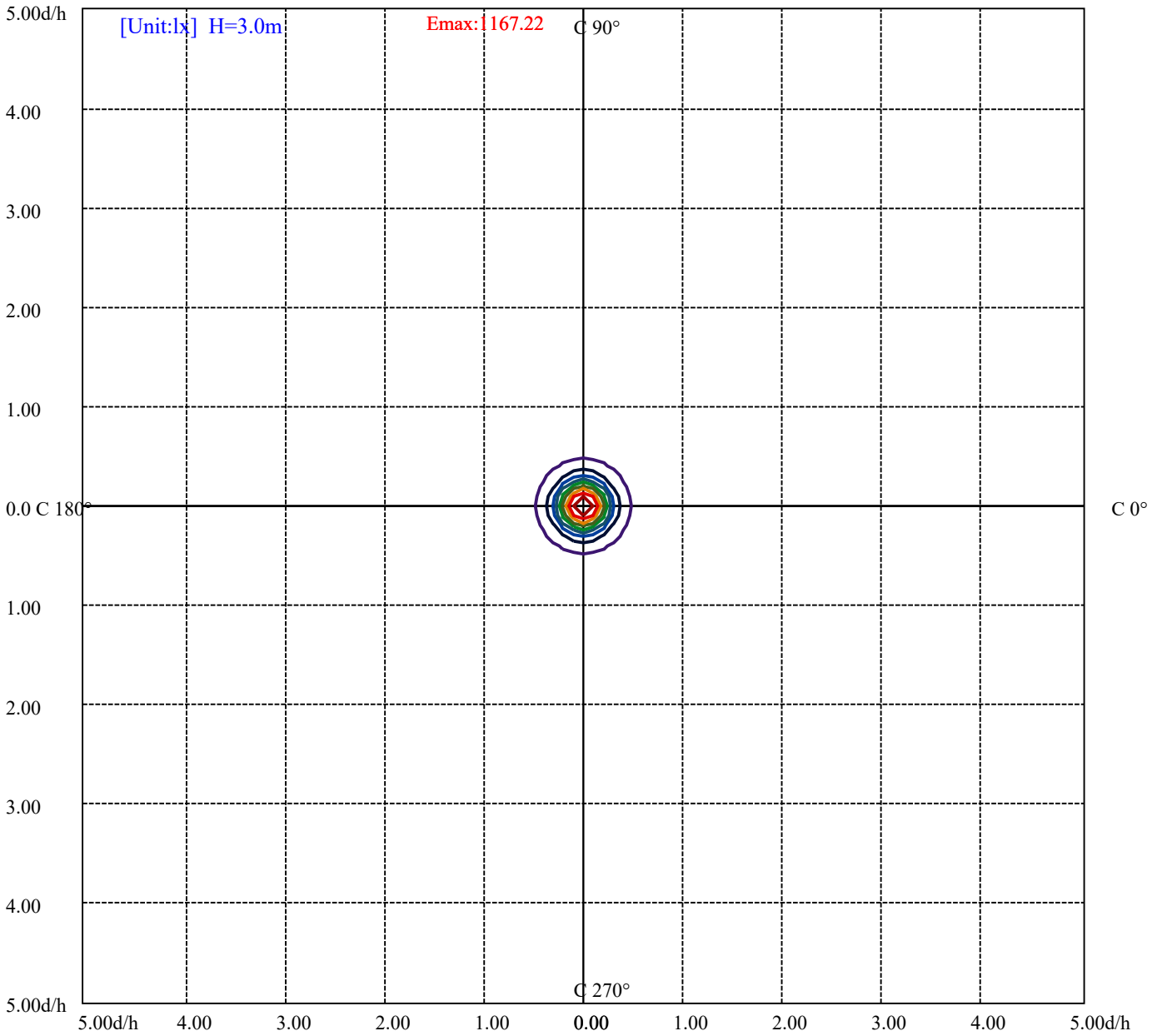
House

[Unit:cd]

Road

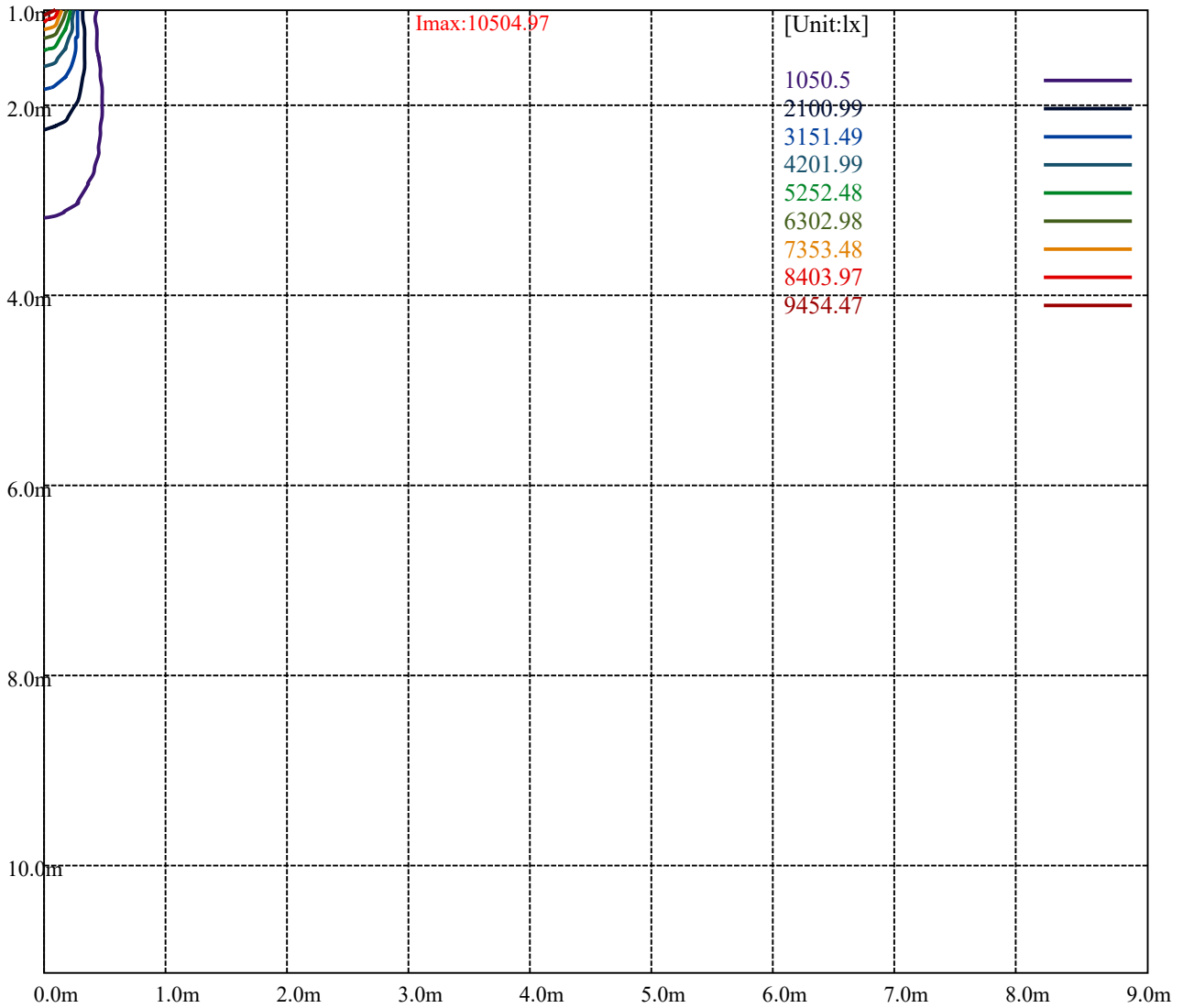
**Imax:10504.97**

(10%Imax) 1050.5	—
(20%Imax) 2100.99	—
(30%Imax) 3151.49	—
(40%Imax) 4201.99	—
(50%Imax) 5252.48	—
(60%Imax) 6302.98	—
(70%Imax) 7353.48	—
(80%Imax) 8403.97	—
(90%Imax) 9454.47	—



(10%Emax) 116.7222	—
(20%Emax) 233.4433	—
(30%Emax) 350.1656	—
(40%Emax) 466.8867	—
(50%Emax) 583.6089	—
(60%Emax) 700.33	—
(70%Emax) 817.0522	—
(80%Emax) 933.7733	—
(90%Emax) 1050.496	—





Luminance Table

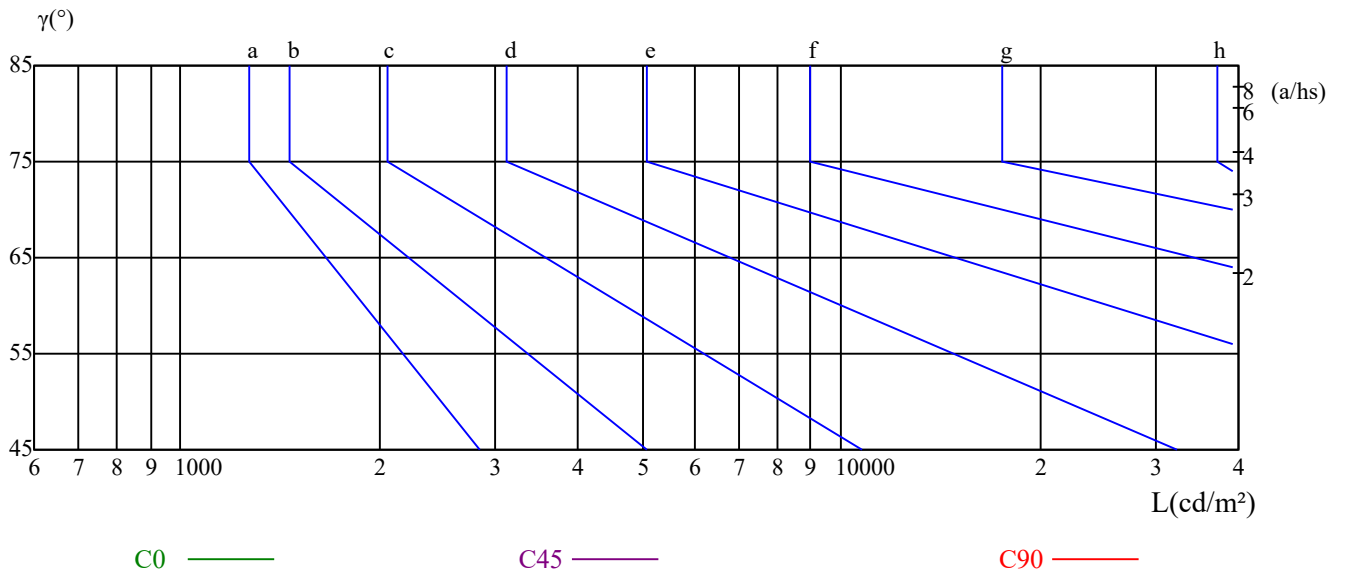
$\gamma$	45	50	55	60	65	70	75	80	85
C0	591	556	579	619	695	1158	2834	3394	2117
C45	573	536	555	588	654	1075	2581	2996	1761
C90	591	556	579	619	695	1158	2834	3394	2117

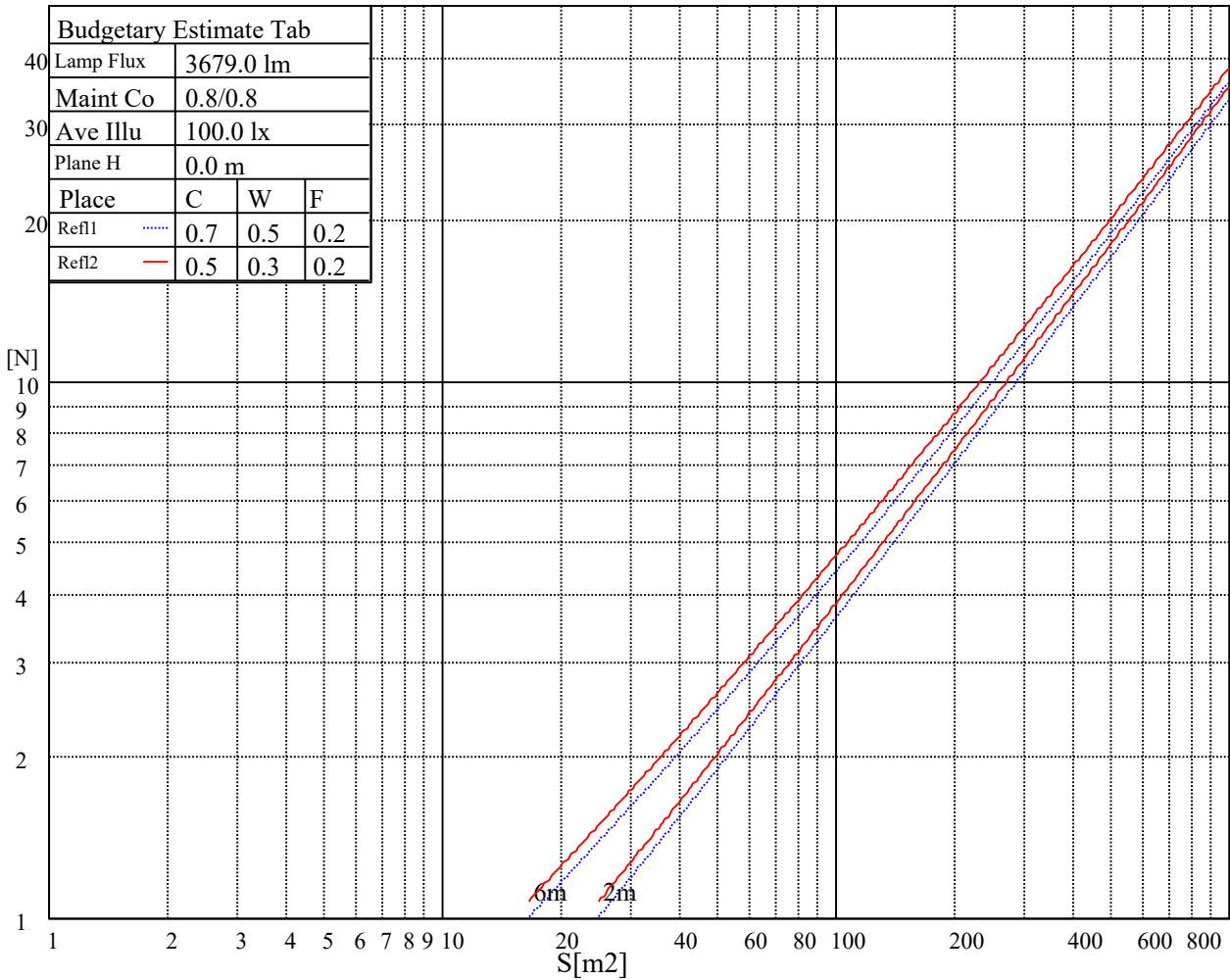
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
819	819	819	3716	3716	3716	4134	4134	4134

Glare Table

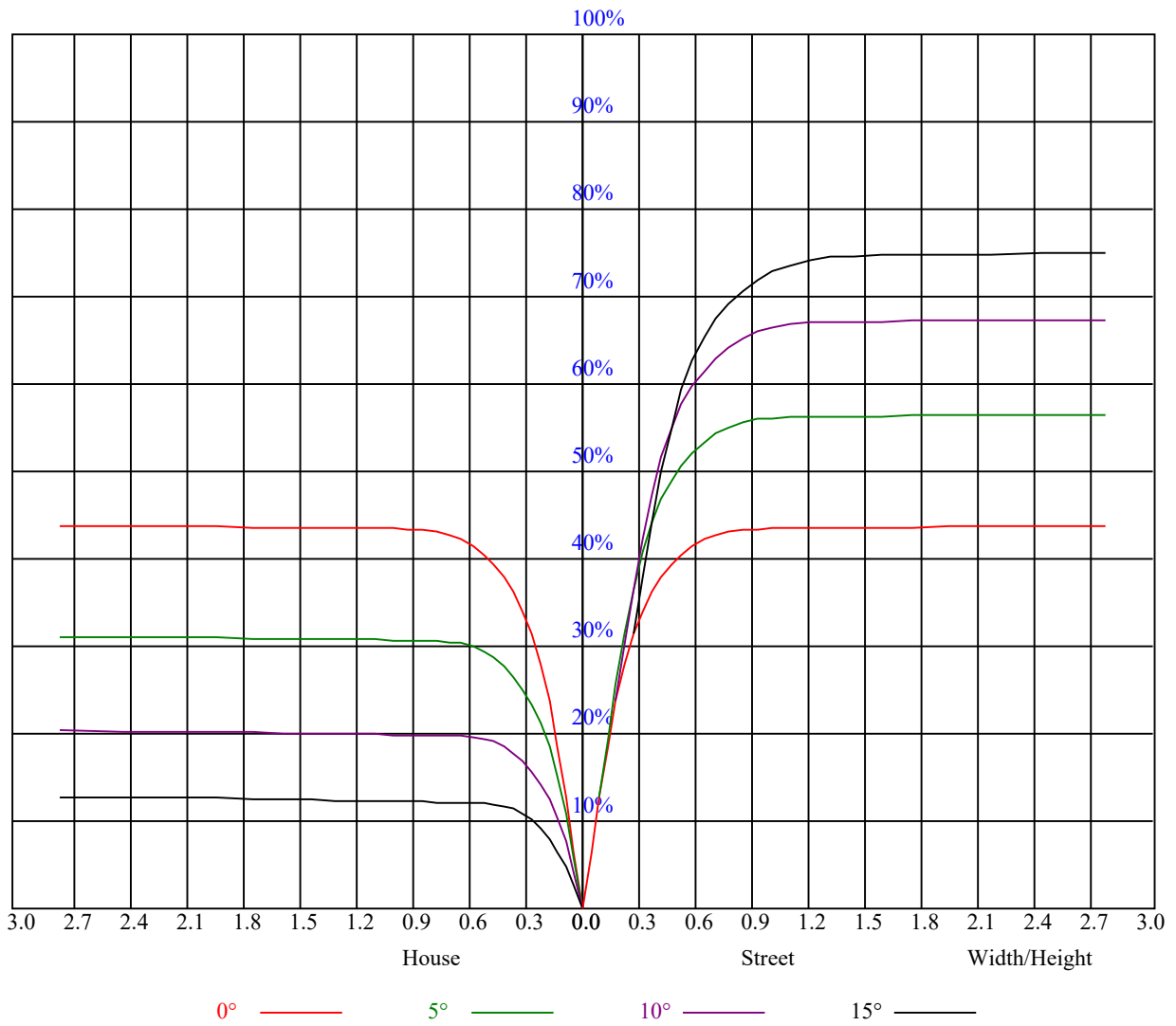
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.00	1.00	1.00	0.96	0.96	0.96	0.92	0.92	0.92	0.90
1	1.02	0.99	0.98	0.99	0.98	0.96	0.95	0.94	0.93	0.92	0.91	0.89	0.88	0.87	0.87	0.85
2	0.96	0.92	0.90	0.94	0.91	0.89	0.91	0.88	0.86	0.88	0.86	0.84	0.85	0.84	0.82	0.81
3	0.91	0.87	0.84	0.89	0.86	0.83	0.87	0.84	0.81	0.84	0.82	0.80	0.82	0.80	0.78	0.77
4	0.86	0.82	0.79	0.85	0.81	0.78	0.83	0.80	0.77	0.81	0.78	0.76	0.79	0.77	0.75	0.74
5	0.82	0.78	0.75	0.81	0.77	0.74	0.80	0.76	0.73	0.78	0.75	0.73	0.76	0.74	0.72	0.71
6	0.79	0.74	0.71	0.78	0.74	0.71	0.76	0.73	0.70	0.75	0.72	0.69	0.74	0.71	0.69	0.68
7	0.75	0.71	0.68	0.75	0.70	0.67	0.73	0.70	0.67	0.72	0.69	0.67	0.71	0.68	0.66	0.65
8	0.72	0.68	0.65	0.72	0.68	0.65	0.71	0.67	0.64	0.70	0.66	0.64	0.69	0.66	0.64	0.63
9	0.70	0.65	0.62	0.69	0.65	0.62	0.68	0.65	0.62	0.67	0.64	0.62	0.67	0.64	0.61	0.60
10	0.67	0.63	0.60	0.67	0.63	0.60	0.66	0.62	0.60	0.65	0.62	0.59	0.64	0.61	0.59	0.58



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	10433.07	9123.83	6339.18	3069.44	1603.54	1245.46	1007.67	317.24	17.62
45.0	10618.83	10060.44	7748.01	4116.27	1958.26	1313.72	1144.75	566.22	42.52
90.0	10543.29	10005.05	7434.69	4050.25	1903.43	1310.36	1079.00	588.26	37.15
135.0	10424.68	10422.44	8964.37	5576.58	2653.73	1458.07	1219.72	864.99	315.56
180.0	10433.07	10454.89	9066.20	5979.42	2799.76	1512.34	1221.96	931.24	234.04
225.0	10618.83	10209.83	7933.21	4497.29	2163.04	1374.70	1104.46	697.25	70.16
270.0	10543.29	10097.37	8023.85	4498.97	2170.32	1381.42	1174.40	673.08	303.81
315.0	10424.68	9276.58	6259.73	3307.79	1649.42	1262.80	1001.18	387.18	18.97
360.0	10433.07	9123.83	6339.18	3069.44	1603.54	1245.46	1007.67	317.24	17.62
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	12.81	12.31	11.75	11.36	11.25	25.68	38.83	21.99	11.75
45.0	14.66	12.81	12.42	11.75	11.53	16.23	41.29	37.43	11.81
90.0	14.16	12.59	12.09	11.53	11.25	11.64	25.07	23.33	11.36
135.0	15.61	12.59	12.09	11.58	11.19	11.08	20.70	24.90	11.47
180.0	16.95	13.65	11.92	11.36	10.97	10.97	20.31	27.75	11.81
225.0	13.88	12.31	11.75	11.19	10.85	11.19	27.53	29.09	11.41
270.0	15.16	13.09	12.42	11.69	11.30	11.69	30.94	32.40	12.03
315.0	14.16	12.53	11.92	11.30	11.36	27.70	44.59	28.09	11.75
360.0	12.81	12.31	11.75	11.36	11.25	25.68	38.83	21.99	11.75
C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	11.19	11.25	11.30	9.96	9.85	9.79	9.74	9.74	9.96
45.0	11.36	11.25	11.30	9.96	9.85	9.74	9.62	9.57	9.68
90.0	10.85	10.74	10.97	10.18	10.07	9.85	9.68	9.62	9.68
135.0	10.97	10.57	10.69	10.07	10.07	9.85	9.68	9.57	9.62
180.0	11.02	10.46	10.46	9.90	9.90	9.74	9.51	9.40	9.46
225.0	11.02	10.85	10.97	10.13	10.18	10.02	9.90	9.85	9.96
270.0	11.41	11.13	11.25	10.24	10.29	10.18	10.02	9.96	10.07
315.0	11.58	11.53	11.64	10.02	9.96	9.90	9.85	9.85	10.07
360.0	11.19	11.25	11.30	9.96	9.85	9.79	9.74	9.74	9.96
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	10.13	10.29	11.08	13.65	17.29	19.97	21.04	20.48	19.14
45.0	9.79	9.79	10.13	11.69	15.05	17.96	19.58	19.86	19.81
90.0	9.79	9.79	10.07	11.41	13.93	16.56	17.90	18.07	17.85
135.0	9.68	9.74	9.79	10.35	12.42	15.05	17.01	17.68	17.68
180.0	9.57	9.57	9.57	10.29	12.42	15.27	17.46	18.46	18.69
225.0	10.18	10.29	10.52	12.14	15.55	19.47	21.43	21.88	20.98
270.0	10.29	10.41	10.63	11.92	14.77	18.07	20.03	20.48	19.36
315.0	10.24	10.41	10.97	13.15	16.34	18.97	20.14	19.69	18.30
360.0	10.13	10.29	11.08	13.65	17.29	19.97	21.04	20.48	19.14
C/γ(°)	180.0								
0.0	18.46								
45.0	19.97								
90.0	18.07								
135.0	17.40								
180.0	18.46								
225.0	19.97								
270.0	18.07								
315.0	17.40								
360.0	18.46								