

---

P.Q.L., Inc. 4 LAMPS

---

LumCAT: 4 LAMPS	Luminaire: 4000K
Report No: /	Voltage(V):
Test No:	Current(A):
LampCAT: LEDSM4' 18WT8/40K/FR/V4	Power (W): 69.400
Lamp flux(lm)	PF:
Number of Lamps: 4	Ballast type:
Length(mm): 1200	Width(mm): 500
Phm Type: C	Height(mm): 150

---

Photometric Results

---

Lumens(lm): 7308.31  
Lumens(lm)/Power(W): 105.31  
Central intensity(cd): 2513.619  
Maximum intensity(cd): 2562.483  
Angle of maximum intensity: C=30.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [H]Left=54.5 Right=54.0  
[V]Left=61.8 Right=48.4  
Field angle(10%Imax): [H]Left=82.4 Right=81.6  
[V]Left=85.1 Right=84.8  
Maximum s/h: C0\_180=1.14 C90\_270=1.23  
Up flux rate of LUM(%): 1.66%  
Down flux rate of LUM(%): 98.34%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 73.650%

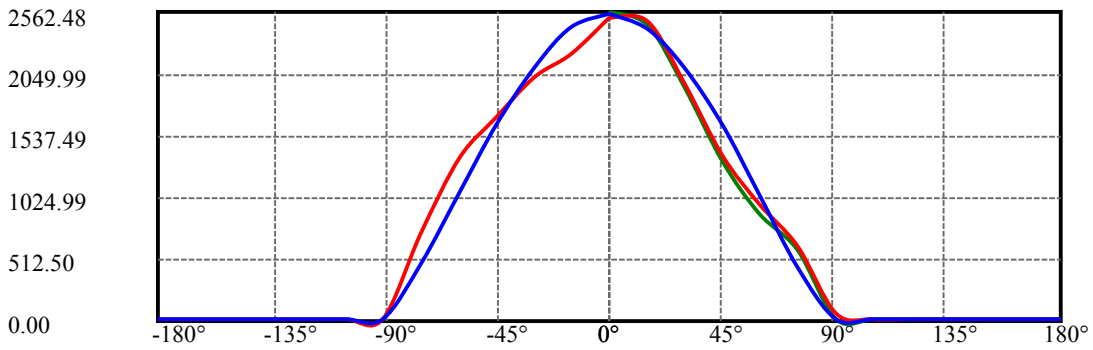
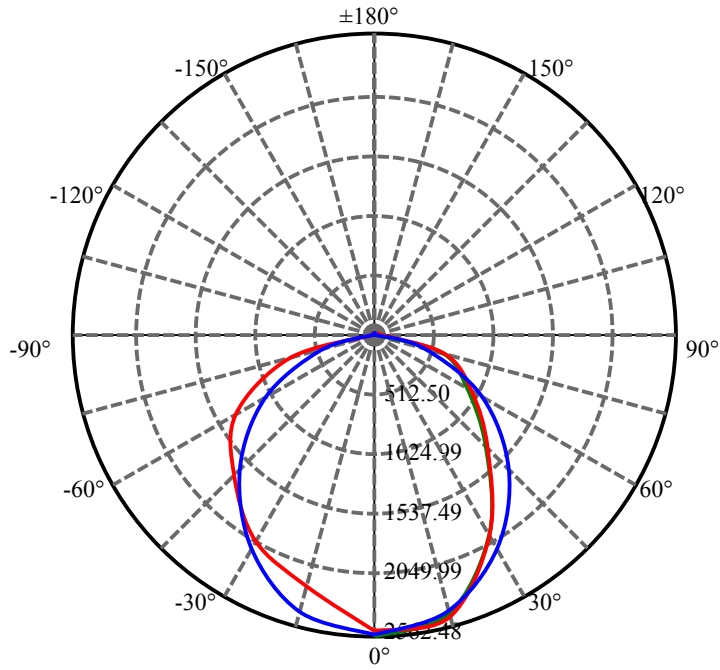
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2542.218	.000	.000	.000%	.000%
15.0	2380.817	526.997	526.997	7.211%	7.211%
30.0	2015.024	1379.619	1906.616	18.877%	26.088%
45.0	1545.501	1777.619	3684.235	24.323%	50.412%
60.0	1064.681	1698.302	5382.537	23.238%	73.650%
75.0	618.746	1275.519	6658.056	17.453%	91.103%
90.0	32.064	529.176	7187.232	7.241%	98.343%
105.0	15.767	38.892	7226.124	.532%	98.875%
120.0	16.174	24.202	7250.326	.331%	99.207%
135.0	17.651	22.008	7272.334	.301%	99.508%
150.0	19.470	18.533	7290.867	.254%	99.761%
165.0	21.231	12.774	7303.640	.175%	99.936%
180.0	22.424	4.673	7308.313	.064%	100.000%

## ZONAL LUMEN SUMMARY

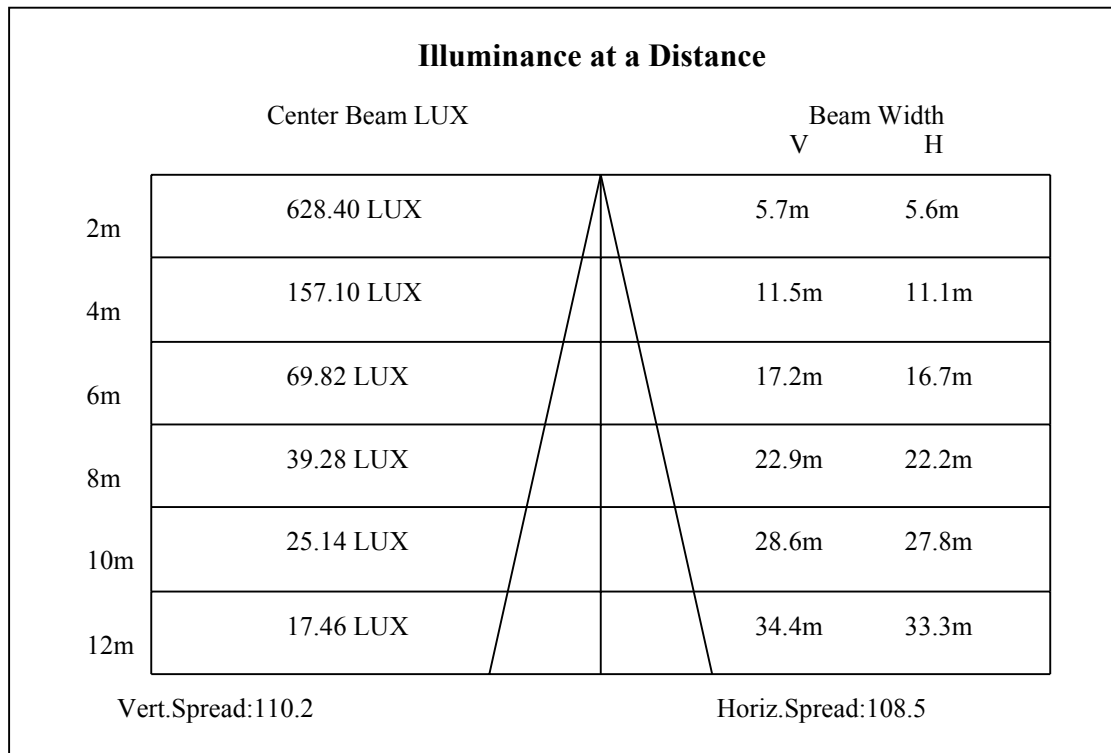
Zone	Lumens	%Fixt
0-30	1906.62	26.09%
0-40	1906.62	26.09%
0-60	5382.54	73.65%
0-90	7187.23	98.34%
90-120	63.09	0.86%
90-130	63.09	0.86%
90-150	103.63	1.42%
90-180	116.41	1.59%
0-180	7308.31	100.00%

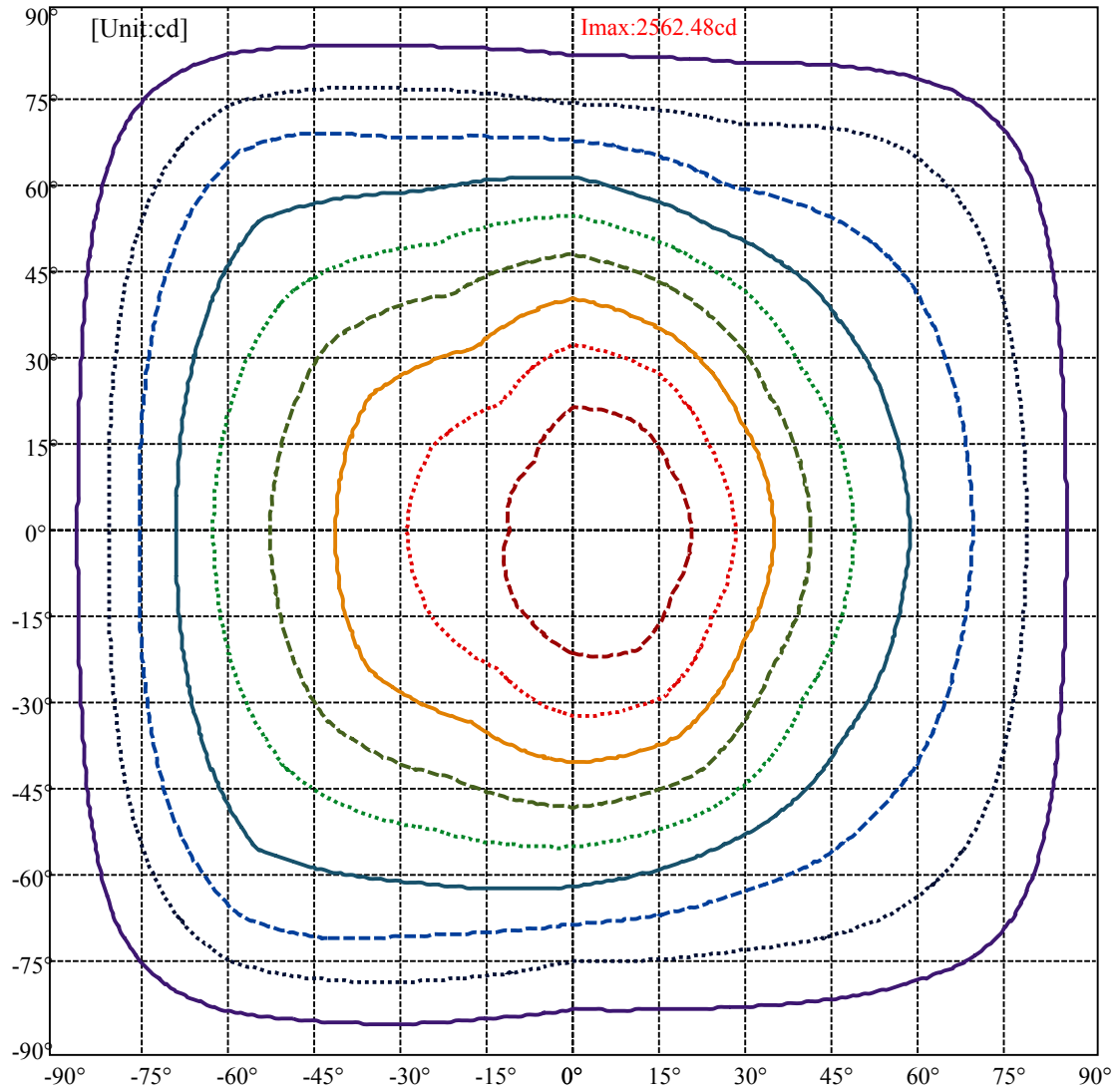
## ZONAL LUMEN SUMMARY

0-10	0.00
10-20	527.00
20-30	1379.62
30-40	0.00
40-50	1777.62
50-60	1698.30
60-70	0.00
70-80	1275.52
80-90	529.18
90-100	0.00
100-110	38.89
110-120	24.20
120-130	0.00
130-140	22.01
140-150	18.53
150-160	0.00
160-170	12.77
170-180	0.00

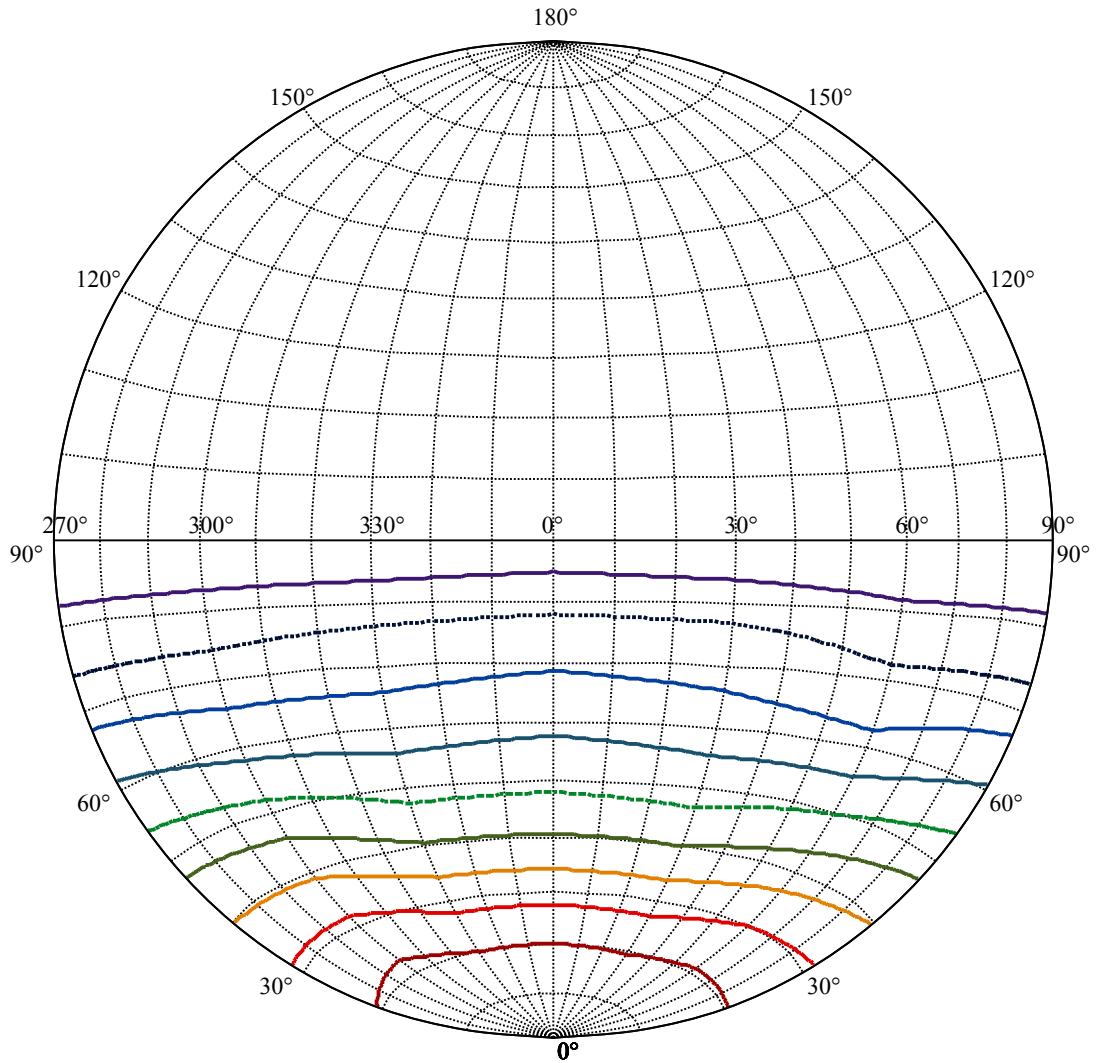


C30(Max): —————  
C0/C180: —————  
C90/C270: —————





- (10%Imax) 255.075      —————
- (20%Imax) 510.15        ·······
- (30%Imax) 765.225      - - - - -
- (40%Imax) 1020.3        ————
- (50%Imax) 1275.38      ·······
- (60%Imax) 1530.45      - - - - -
- (70%Imax) 1785.53      ————
- (80%Imax) 2040.6        ·······
- (90%Imax) 2295.68      - - - - -

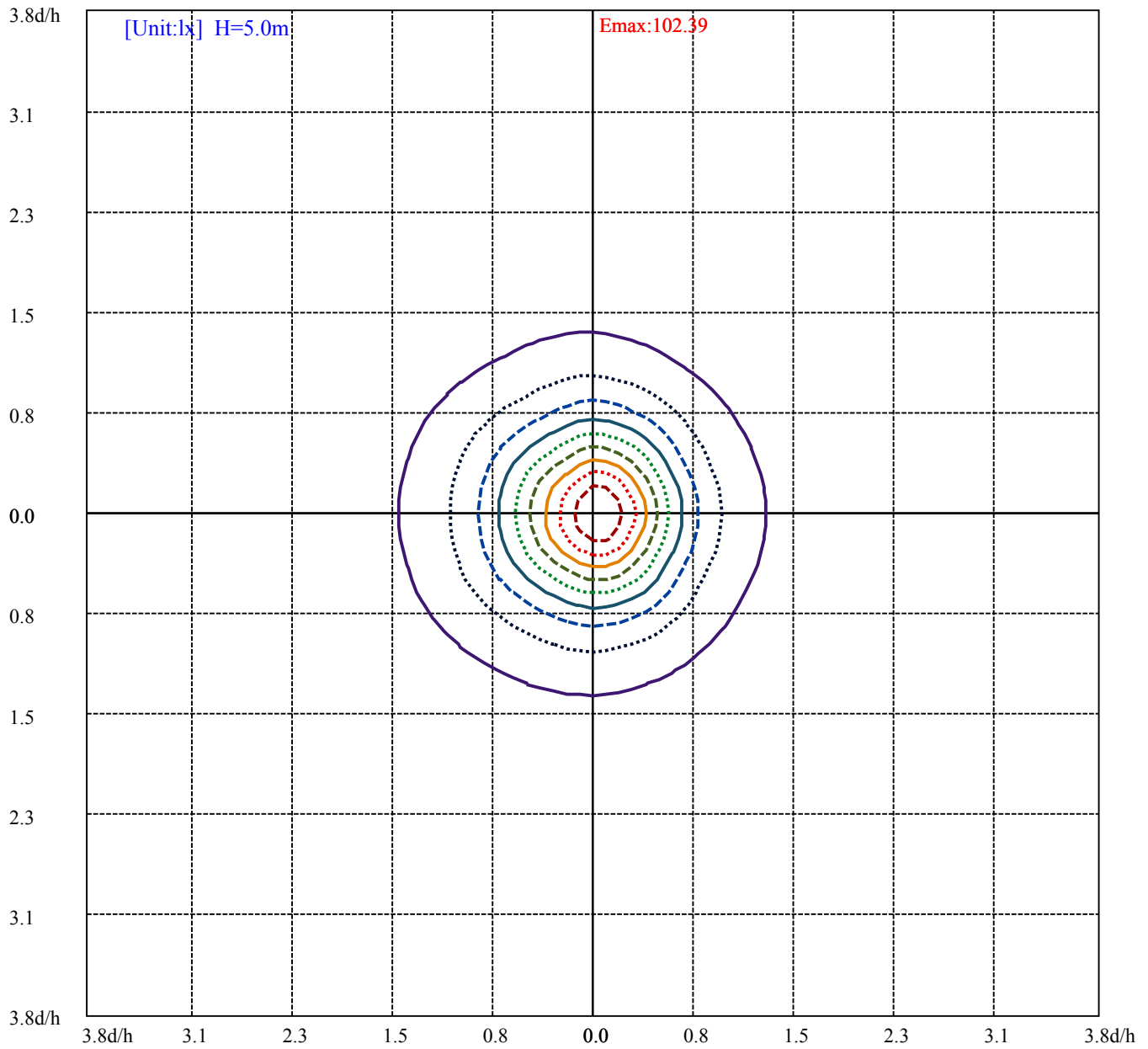


House

Road

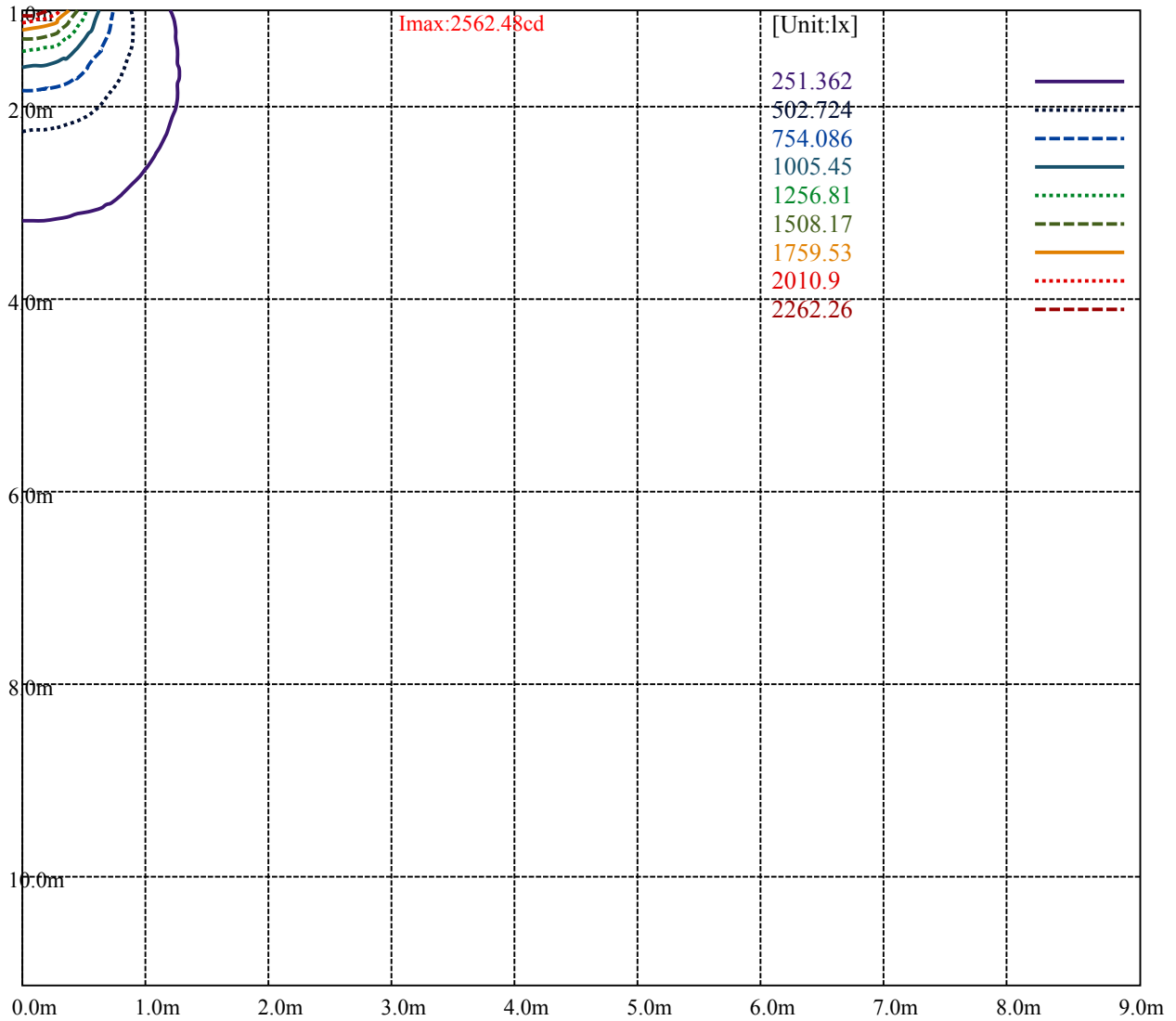
**I<sub>max</sub>:2562.48cd**

(10%I <sub>max</sub> ) 256.248	—
(20%I <sub>max</sub> ) 512.497	⋯
(30%I <sub>max</sub> ) 768.745	- - -
(40%I <sub>max</sub> ) 1024.99	—
(50%I <sub>max</sub> ) 1281.24	⋯
(60%I <sub>max</sub> ) 1537.49	- - -
(70%I <sub>max</sub> ) 1793.74	—
(80%I <sub>max</sub> ) 2049.99	⋯
(90%I <sub>max</sub> ) 2306.23	- - -



- (10%Emax) 10.23856
- (20%Emax) 20.47712
- (30%Emax) 30.71568
- (40%Emax) 40.9544
- (50%Emax) 51.1928
- (60%Emax) 61.4312
- (70%Emax) 71.67
- (80%Emax) 81.9084
- (90%Emax) 92.14719





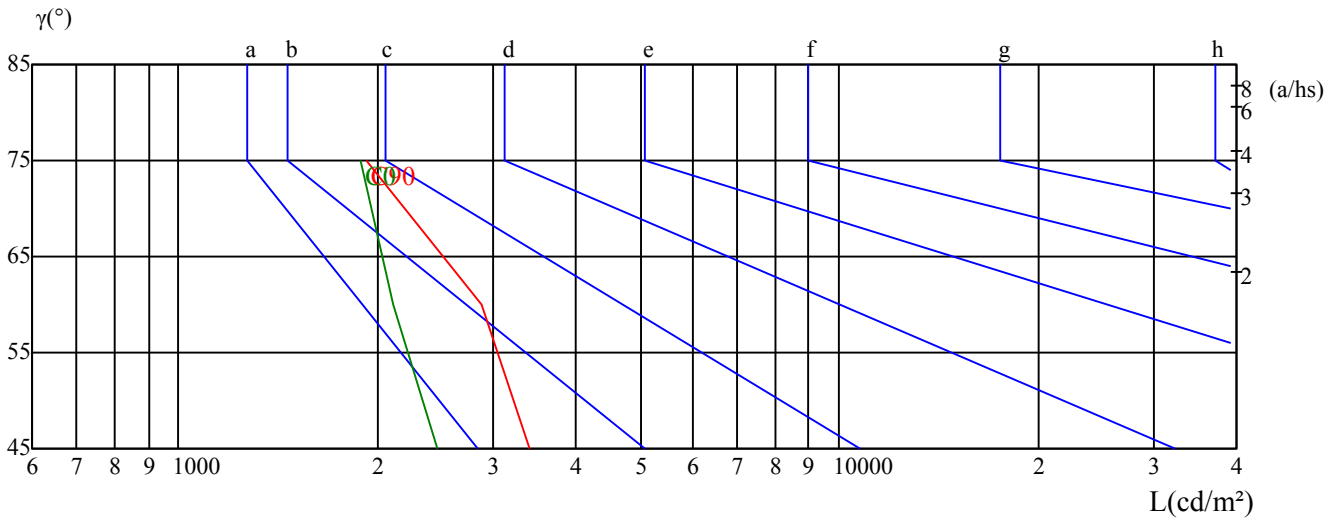
Luminance Table

$\gamma$	45	50	55	60	65	70	75	80	85
C0	2472	0	0	2119	0	0	1888	0	0
C45	0	0	0	0	0	0	0	0	0
C90	3393	0	0	2868	0	0	1931	0	0

Glare Table

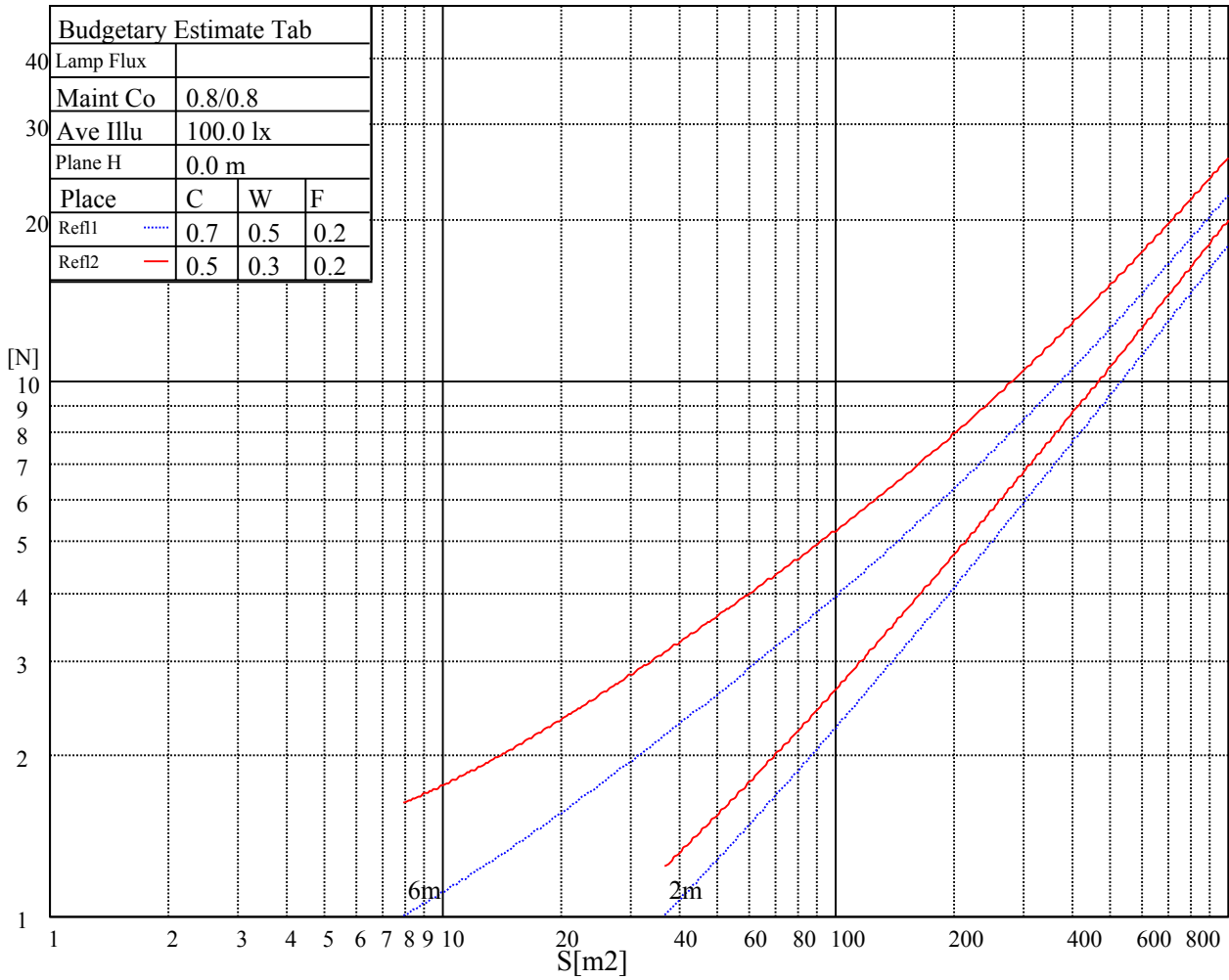
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve

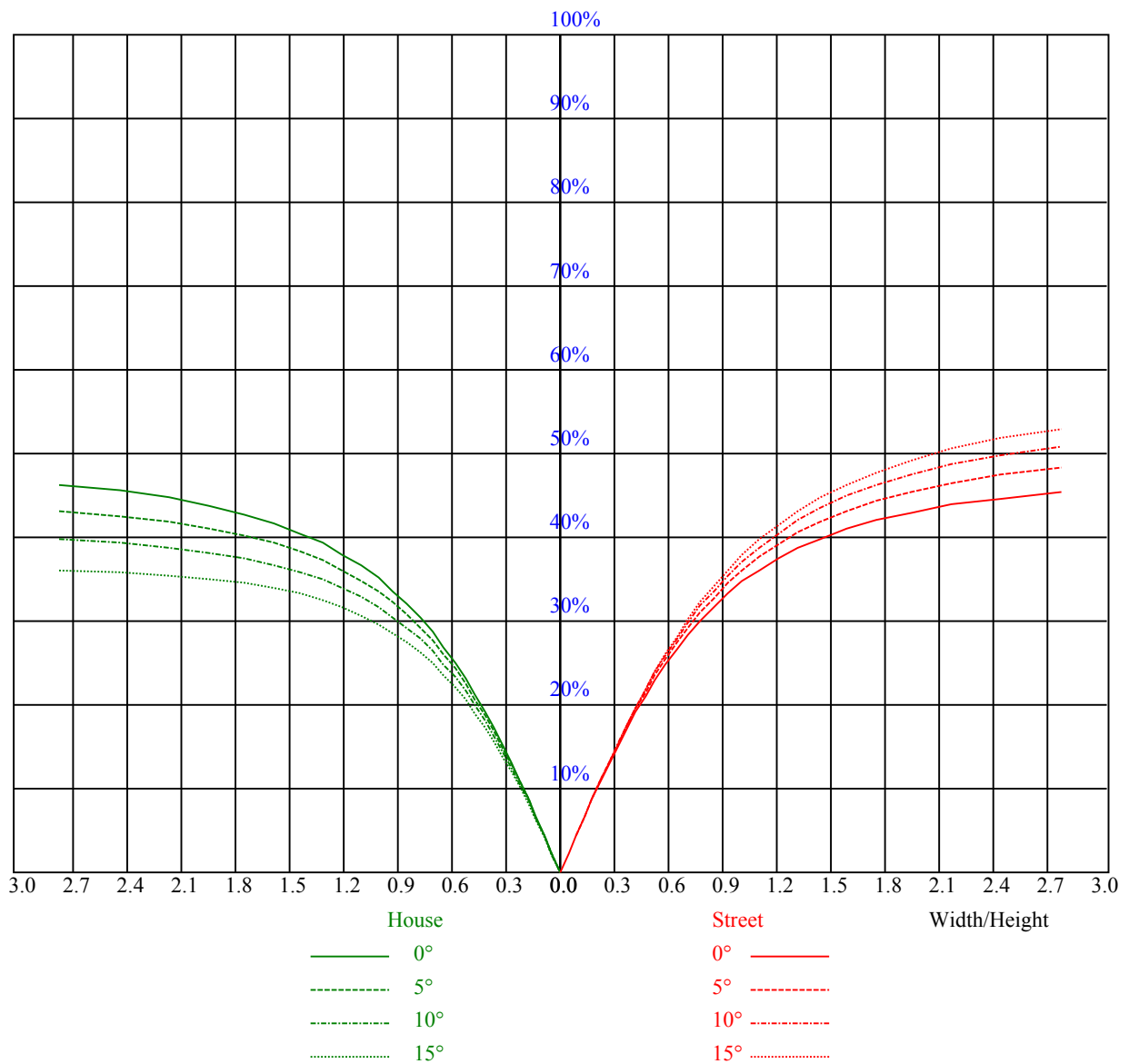


Illuminatin assessment according UGR											
Rf of Ceiling	70	70	50	50	30	70	70	50	50	30	
Rf of Wall	50	30	50	30	30	50	30	50	30	30	
Rf of Floor	20	20	20	20	20	20	20	20	20	20	
Room dimensions		Viewed crosswise					Viewed endwise				
X	Y										
2H	2H	7.5	9.2	7.9	9.5	9.8	8.0	9.6	8.3	9.9	10.2
	3H	9.4	10.9	9.8	11.2	11.6	9.6	11.0	9.9	11.4	11.7
	4H	10.2	11.5	10.6	11.9	12.2	10.0	11.3	10.4	11.7	12.1
	6H	11.0	12.3	11.4	12.6	13.0	10.6	11.9	11.0	12.2	12.6
	8H	11.3	12.6	11.7	12.9	13.3	10.8	12.1	11.2	12.5	12.8
	12H	11.3	12.3	11.7	12.7	13.2	10.7	11.8	11.2	12.2	12.7
4H	2H	7.9	9.2	8.4	9.6	10.0	8.3	9.6	8.7	9.9	10.3
	3H	10.1	11.1	10.5	11.6	12.0	10.0	11.1	10.5	11.5	12.0
	4H	11.2	12.3	11.7	12.7	13.2	10.8	11.9	11.3	12.3	12.8
	6H	12.1	13.2	12.6	13.6	14.1	11.5	12.6	12.0	13.0	13.5
	8H	12.3	13.0	12.8	13.5	14.1	11.6	12.3	12.1	12.9	13.4
	12H	12.6	13.3	13.1	13.8	14.3	11.8	12.6	12.4	13.1	13.6
8H	4H	11.4	12.2	12.0	12.7	13.2	11.1	11.8	11.6	12.3	12.9
	6H	12.5	13.2	13.0	13.8	14.3	11.9	12.6	12.4	13.1	13.7
	8H	12.9	13.7	13.5	14.2	14.7	12.2	13.0	12.8	13.5	14.0
	12H	13.3	14.0	13.8	14.5	15.1	12.5	13.3	13.1	13.8	14.3
12H	4H	11.5	12.2	12.0	12.7	13.3	11.2	11.9	11.7	12.4	13.0
	6H	12.6	13.3	13.1	13.8	14.4	12.0	12.8	12.6	13.3	13.8
	8H	13.1	13.8	13.6	14.3	14.9	12.4	13.1	12.9	13.6	14.2
Variation with the observer position at spacings:											
S = 1.0H		0.2/-0.8					0.3/-0.6				
S = 1.5H		0.6/-0.5					0.6/-0.6				
S = 2.0H		0.6/-0.6					0.8/-0.7				
Standard tables:		BKBF					BK3				
Uncorrected UGR		-2.6					-6.3				
According 1000lm											

五、灯具的概算曲线



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 RHOF=20 CU															
0	1.19	1.19	1.19	1.16	1.16	1.16	1.10	1.10	1.10	1.05	1.05	1.05	1.01	1.01	1.01	0.98
1	0.93	0.86	0.79	0.90	0.84	0.78	0.85	0.80	0.75	0.81	0.76	0.72	0.77	0.73	0.69	0.67
2	0.79	0.70	0.62	0.77	0.69	0.61	0.73	0.66	0.60	0.69	0.63	0.58	0.66	0.61	0.56	0.53
3	0.69	0.58	0.50	0.67	0.57	0.50	0.63	0.55	0.48	0.60	0.53	0.47	0.57	0.51	0.46	0.44
4	0.60	0.49	0.41	0.58	0.48	0.41	0.55	0.47	0.40	0.53	0.45	0.39	0.50	0.44	0.38	0.36
5	0.52	0.42	0.34	0.51	0.41	0.34	0.49	0.40	0.33	0.46	0.38	0.32	0.44	0.37	0.32	0.29
6	0.46	0.36	0.28	0.45	0.35	0.28	0.43	0.34	0.28	0.41	0.33	0.27	0.39	0.32	0.27	0.24
7	0.41	0.31	0.24	0.40	0.31	0.24	0.38	0.30	0.24	0.37	0.29	0.23	0.35	0.28	0.23	0.21
8	0.37	0.27	0.21	0.36	0.27	0.21	0.35	0.26	0.20	0.33	0.26	0.20	0.32	0.25	0.20	0.18
9	0.34	0.24	0.18	0.33	0.24	0.18	0.31	0.23	0.18	0.30	0.23	0.18	0.29	0.22	0.17	0.15
10	0.31	0.22	0.16	0.30	0.22	0.16	0.29	0.21	0.16	0.28	0.21	0.16	0.27	0.20	0.15	0.14



Intensity data(cd)

C/γ(°)	0.0	15.0	30.0	45.0	60.0	75.0	90.0	105.0	120.0
0.0	2513.62	2482.94	1968.17	1363.63	965.90	621.59	61.82	15.45	15.68
30.0	2562.48	2454.53	1948.85	1328.40	895.45	584.09	18.86	16.70	17.61
60.0	2556.80	2476.12	2052.15	1478.85	837.61	437.84	17.84	16.25	17.05
90.0	2547.71	2426.12	2096.58	1619.31	1046.58	439.66	19.20	16.25	16.82
120.0	2535.21	2267.26	1921.35	1518.85	1073.18	616.02	18.98	16.14	16.93
150.0	2537.48	2243.17	2004.53	1703.40	1271.58	869.31	22.39	16.25	16.82
180.0	2513.62	2214.87	2021.12	1690.44	1347.61	738.29	18.30	16.14	16.82
210.0	2562.48	2265.10	2008.62	1720.56	1283.29	903.18	38.98	15.34	15.00
240.0	2556.80	2332.94	1964.76	1570.44	1142.04	680.68	76.14	15.23	15.11
270.0	2547.71	2429.53	2101.12	1626.01	1068.74	477.95	23.64	14.89	15.00
300.0	2535.21	2509.07	2122.71	1572.72	945.45	492.72	43.52	15.00	15.34
330.0	2537.48	2468.17	1970.33	1353.40	898.74	563.63	25.11	15.57	15.91
360.0	2513.62	2482.94	1968.17	1363.63	965.90	621.59	61.82	15.45	15.68
C/γ(°)	135.0	150.0	165.0	180.0					
0.0	17.05	19.20	21.36	21.82					
30.0	19.09	20.57	21.59	21.48					
60.0	18.75	20.45	21.48	21.48					
90.0	18.30	20.11	21.25	21.36					
120.0	18.30	20.11	21.36	26.70					
150.0	18.30	19.89	21.25	21.70					
180.0	18.41	19.77	21.25	21.82					
210.0	16.36	18.30	20.34	21.48					
240.0	16.25	18.18	22.50	21.48					
270.0	16.36	18.41	20.23	21.36					
300.0	16.70	18.64	20.45	26.70					
330.0	17.95	20.00	21.70	21.70					
360.0	17.05	19.20	21.36	21.82					