



SGSO

Address: LIT by CARDI

Client:

LumCAT: 0017440224 KAI 3.7W 4000K 450lm

Luminaire:

Report No:

Voltage(V): 230.4500

Test No:

Current(A): 0.0305

LampCAT: LED

Power (W): 3.7000

Lamp flux(lm): -1.0

PF: 0.5271

Number of Lamps: 1

Ballast type:

Length(mm): -80

Width(mm): -80

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 450.00

Efficiency(%): 100.00%

Lumens(lm)/Power(W): 121.62

Central intensity(cd): 214.992

Maximum intensity(cd): 225.117

Angle of maximum intensity: C=45.0 γ =10.0

Beam Angle(50%Imax): [C0/180]Total=85.9

[C90/270]Total=85.5

Field angle(10%Imax): [C0/180]Total=145.0

[C90/270]Total=140.8

Maximum s/h(1/2): C0_180=1.22 C90_270=1.24

Maximum s/h(1/4): C0_180=1.21 C90_270=1.23

Up flux rate of lamp(%): 2.49%

Down flux rate of lamp(%): 97.51%

Up flux rate of LUM(%): 2.49%

Down flux rate of LUM(%): 97.51%

CIE Type : Direct lighting

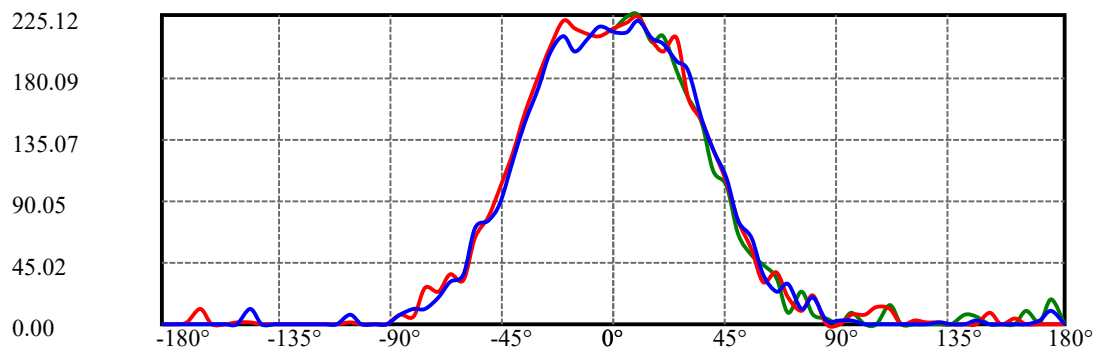
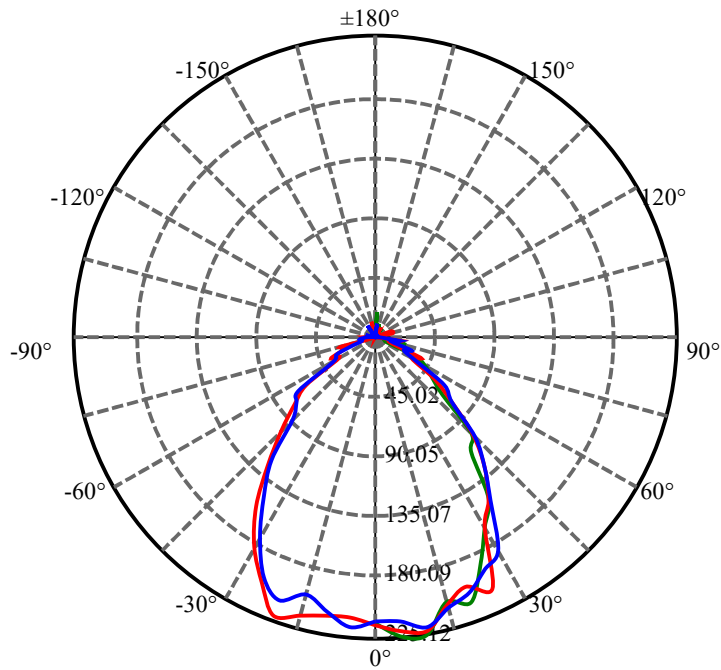
Output flux ratio in π solid angle : 86.028%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	234.752	0.000	0	.000%	.000%
5.0	237.210	5.133	5.133	.000%	1.141%
10.0	238.601	15.485	20.617	.000%	4.582%
15.0	228.631	25.214	45.831	.000%	10.185%
20.0	227.703	34.213	80.044	.000%	17.787%
25.0	215.646	42.301	122.345	.000%	27.188%
30.0	188.516	46.529	168.874	.000%	37.527%
35.0	164.123	47.240	216.114	.000%	48.025%
40.0	137.178	45.731	261.845	.000%	58.188%
45.0	108.519	41.385	303.231	.000%	67.385%
50.0	77.679	34.227	337.458	.000%	74.991%
55.0	62.839	27.795	365.253	.000%	81.167%
60.0	41.182	21.873	387.126	.000%	86.028%
65.0	32.927	16.389	403.515	.000%	89.670%
70.0	22.910	12.862	416.377	.000%	92.528%
75.0	17.066	9.506	425.883	.000%	94.640%
80.0	14.423	7.665	433.547	.000%	96.344%
85.0	3.200	4.356	437.904	.000%	97.312%
90.0	0.325	0.878	438.781	.000%	97.507%
95.0	3.478	0.947	439.729	.000%	97.717%
100.0	0.928	1.089	440.818	.000%	97.959%
105.0	3.571	1.095	441.913	.000%	98.203%
110.0	3.988	1.797	443.71	.000%	98.602%
115.0	1.299	1.218	444.928	.000%	98.873%
120.0	0.371	0.369	445.297	.000%	98.955%
125.0	0.278	0.137	445.434	.000%	98.985%
130.0	0.649	0.183	445.617	.000%	99.026%
135.0	0.742	0.256	445.873	.000%	99.083%
140.0	2.412	0.531	446.404	.000%	99.201%
145.0	3.385	0.880	447.284	.000%	99.396%
150.0	3.710	0.951	448.234	.000%	99.608%
155.0	1.067	0.550	448.784	.000%	99.730%
160.0	2.087	0.301	449.085	.000%	99.797%
165.0	2.922	0.376	449.461	.000%	99.880%
170.0	1.159	0.220	449.681	.000%	99.929%
175.0	6.307	0.243	449.924	.000%	99.983%
180.0	0.742	0.077	450.001	.000%	100.000%

ZONAL LUMEN SUMMARY			
Zone	Lumens	%Lamp	%Fixt
0-30	168.87	N.A.	37.53%
0-40	261.85	N.A.	58.19%
0-60	387.13	N.A.	86.03%
0-90	438.78	N.A.	97.51%
0-120	445.30	N.A.	98.95%
0-180	450.00	N.A.	100.00%
60-90	73.53	N.A.	16.34%
90-120	7.39	N.A.	1.64%
90-130	7.71	N.A.	1.71%
90-150	10.33	N.A.	2.30%
90-180	12.02	N.A.	2.67%
0-54.06	360.00	N.A.	80.00%

ZONAL LUMEN SUMMARY

0-10	20.62
10-20	59.43
20-30	88.83
30-40	92.97
40-50	75.61
50-60	49.67
60-70	29.25
70-80	17.17
80-90	5.23
90-100	2.04
100-110	2.89
110-120	1.59
120-130	0.32
130-140	0.79
140-150	1.83
150-160	0.85
160-170	0.60
170-180	0.24



C45(Max):

C0/C180:

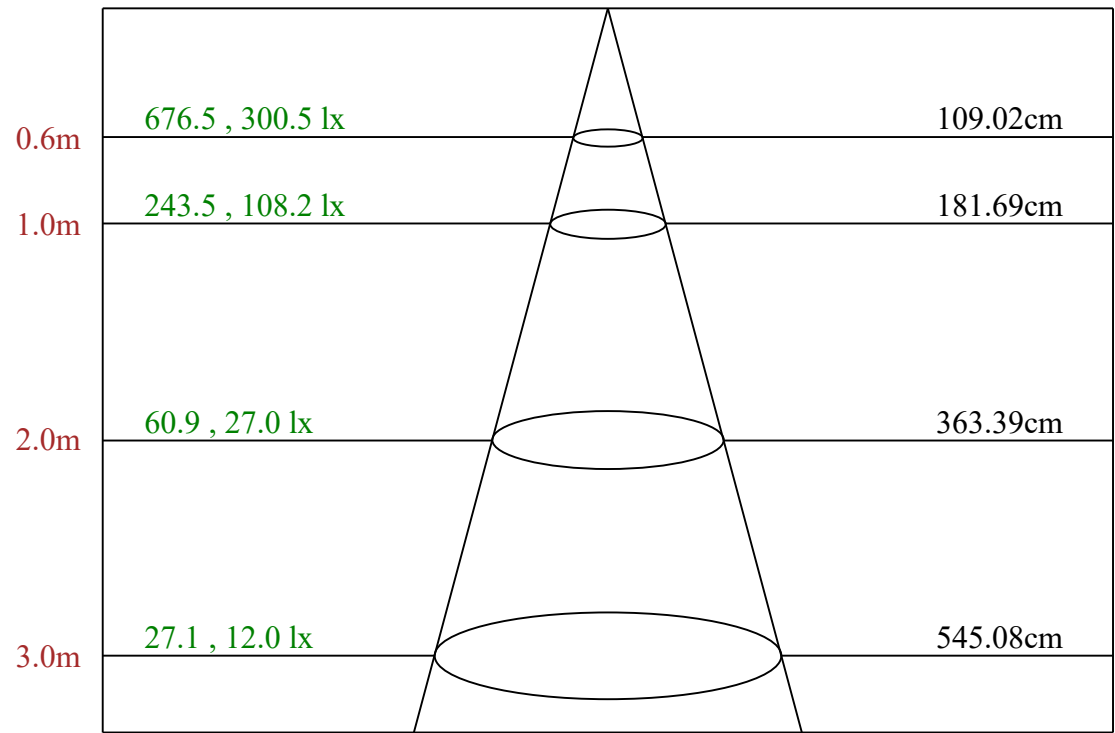
C90/C270:

Field angle(10%Imax):C0/180Left:85.9 Right:59.1

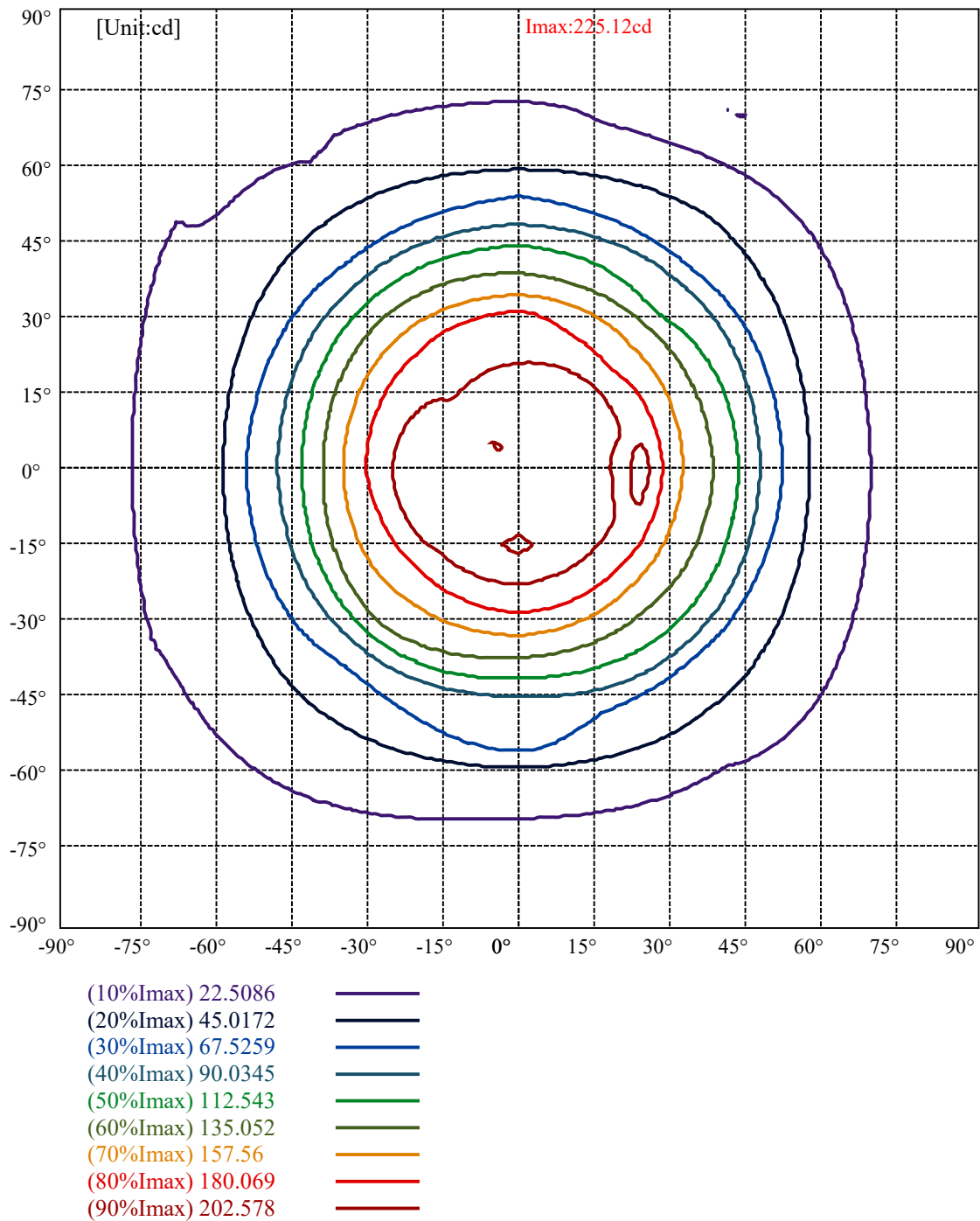
:C90/270Left:78.9 Right:61.9

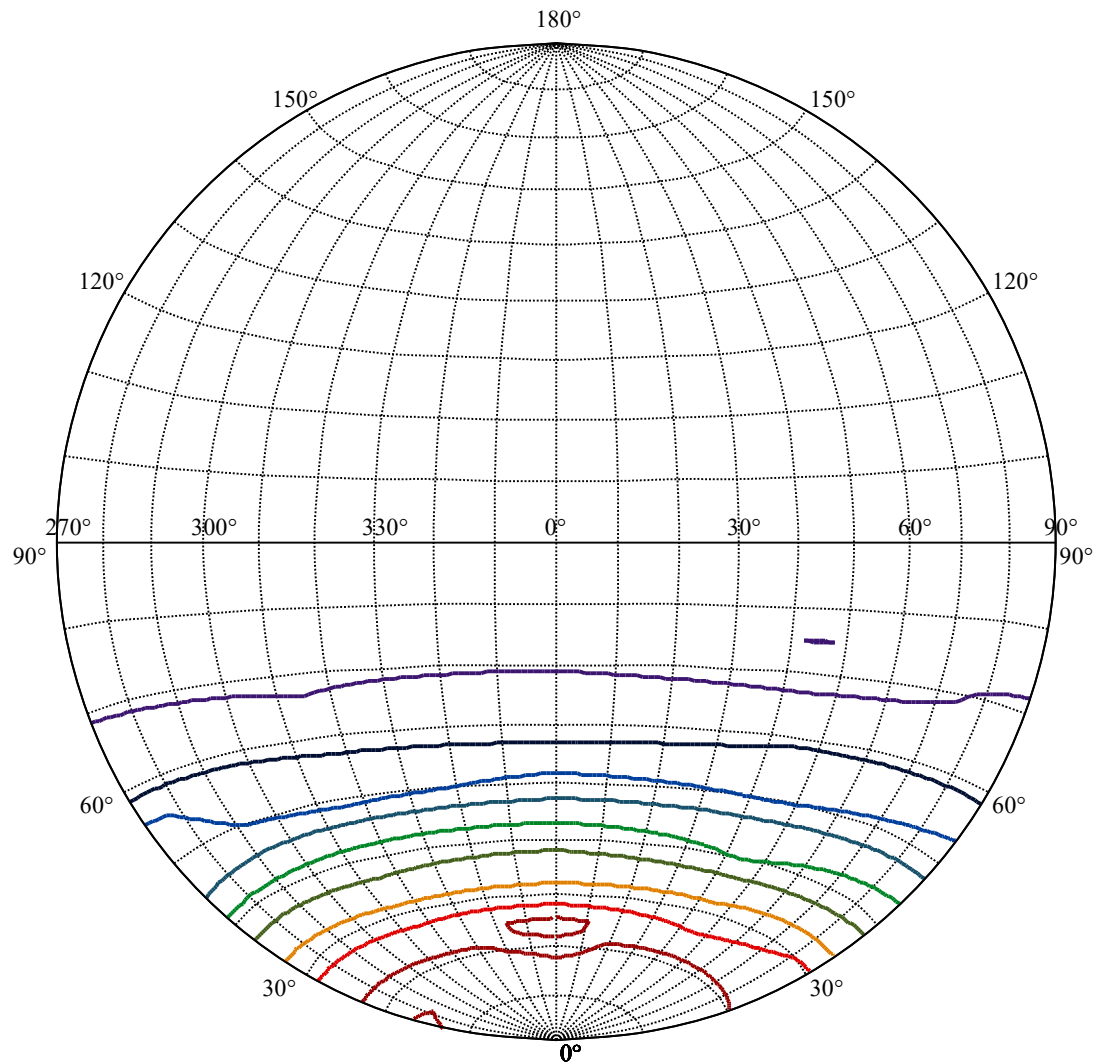
Beam Angle(50%Imax):C0/180Left:52.6 Right:33.3

:C90/270Left:51.5 Right:34.0



Max , Ave Beam angle of C45 plane 84.51



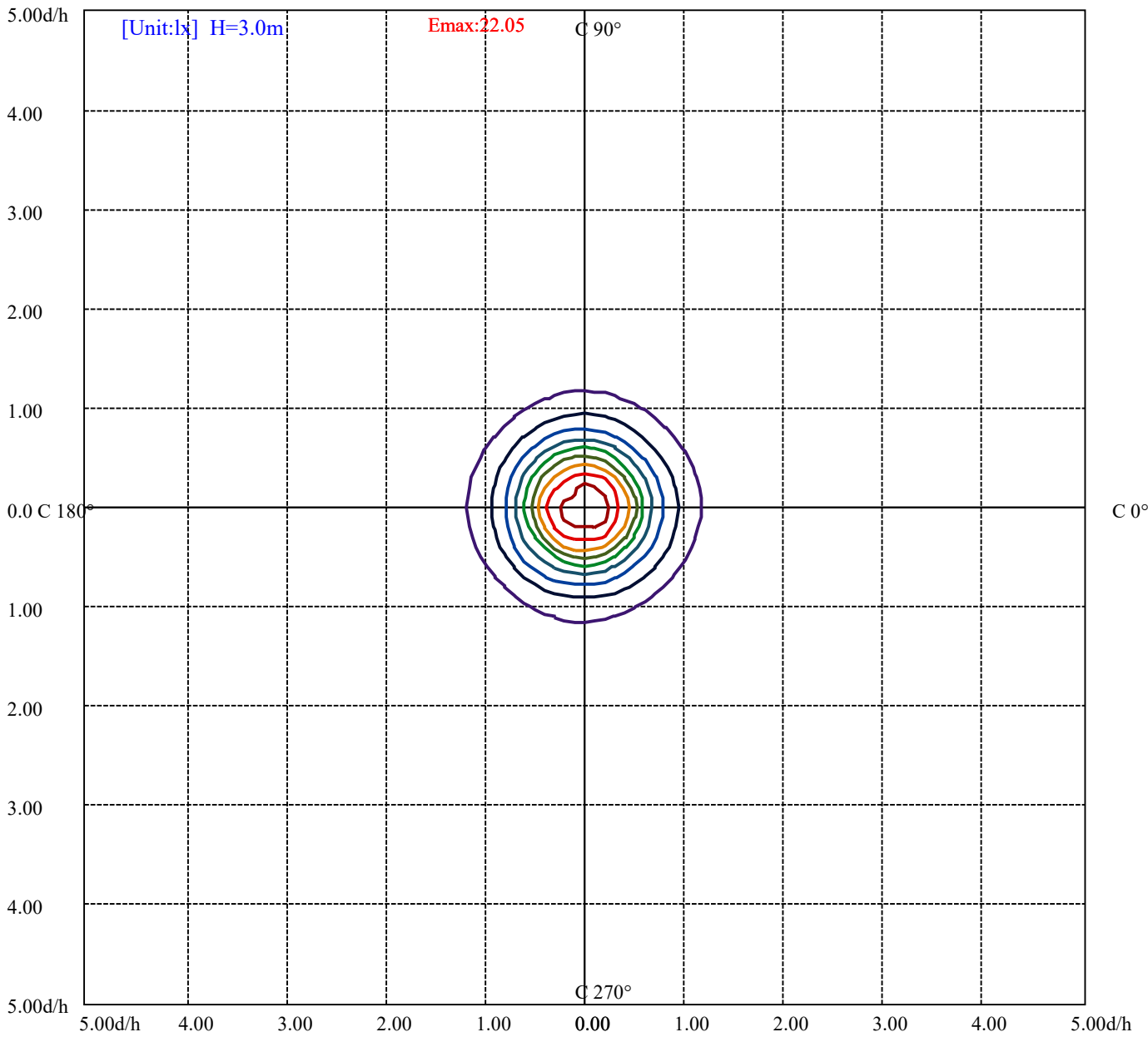


House

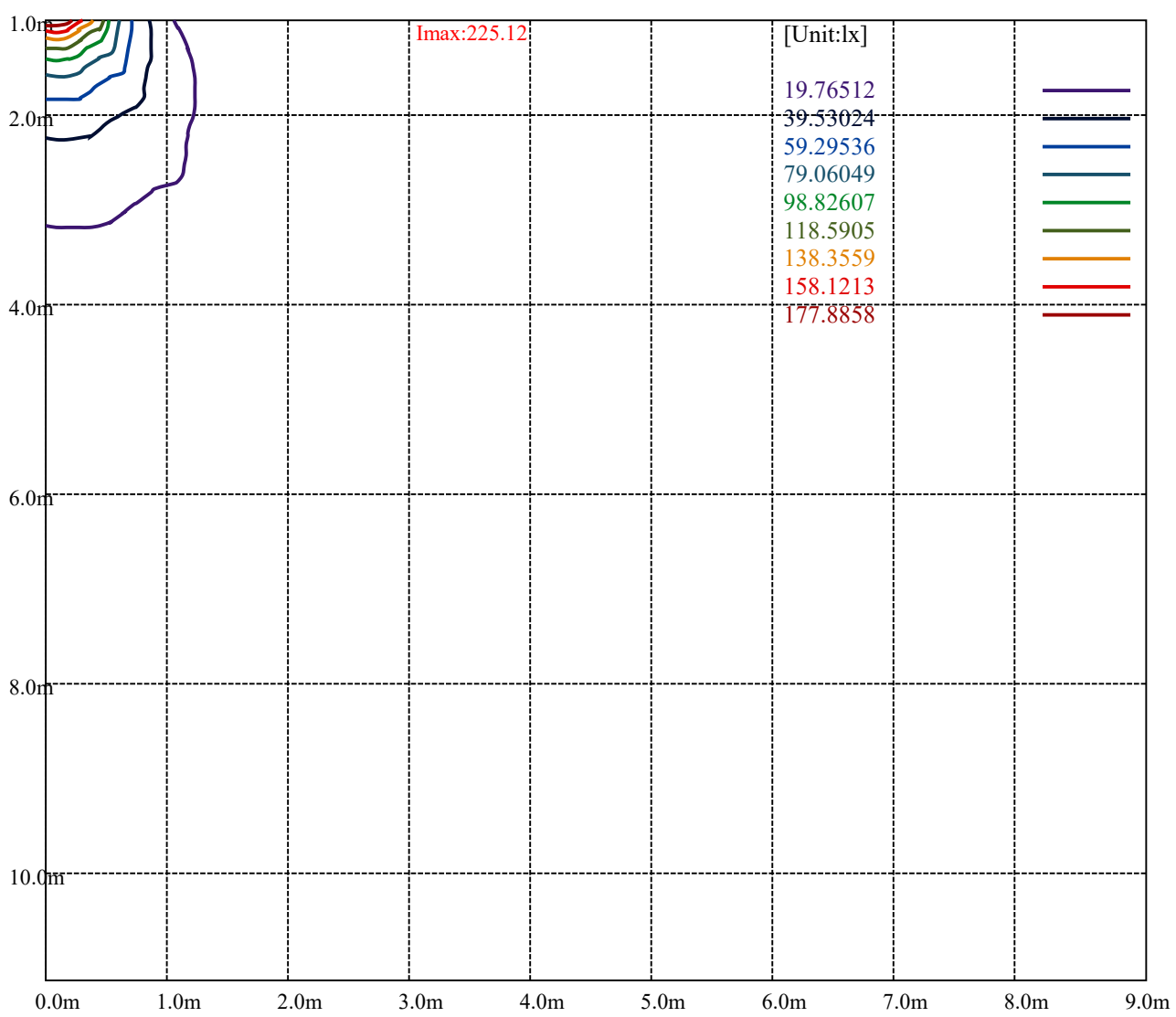
[Unit:cd]

Road

I _{max} :225.12	
(10%I _{max}) 20.47925	
(20%I _{max}) 40.95859	
(30%I _{max}) 61.43784	
(40%I _{max}) 81.91708	
(50%I _{max}) 102.3967	
(60%I _{max}) 122.8753	
(70%I _{max}) 143.3548	
(80%I _{max}) 163.8344	
(90%I _{max}) 184.3139	



(10%Emax)	2.204989	
(20%Emax)	4.409978	
(30%Emax)	6.614958	
(40%Emax)	8.819947	
(50%Emax)	11.02495	
(60%Emax)	13.2299	
(70%Emax)	15.43495	
(80%Emax)	17.63989	
(90%Emax)	19.84484	



Luminance Limiting Curve(no luminous side)

Luminance Table

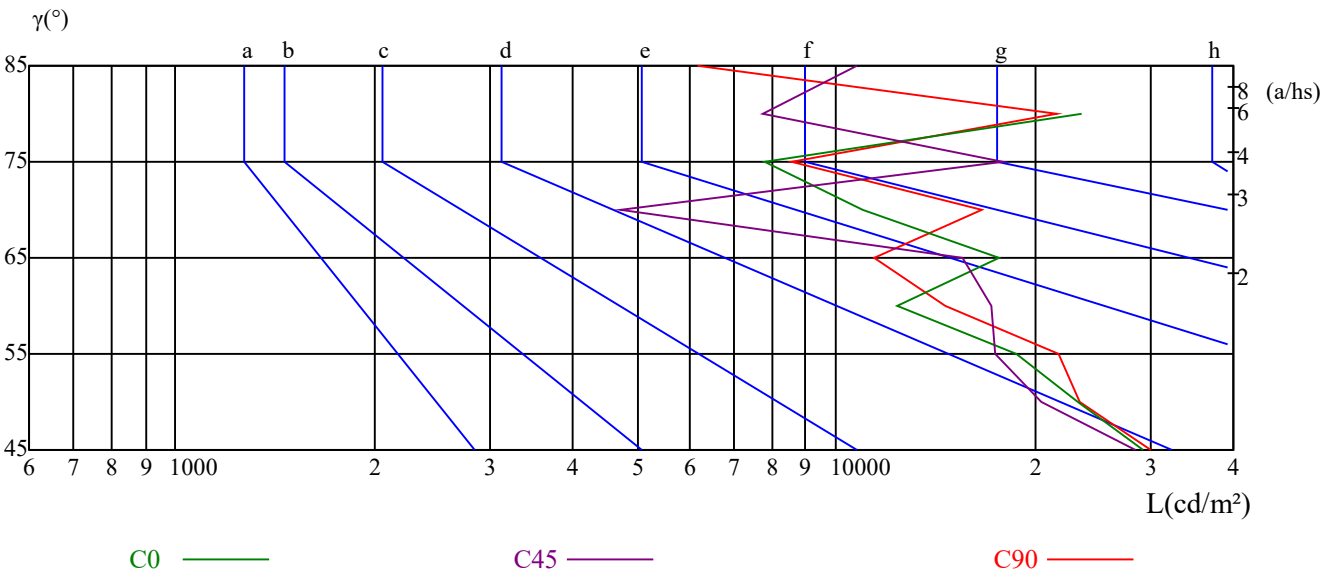
γ	45	50	55	60	65	70	75	80	85
C0	29152	23294	18730	12355	17636	10994	7783	23587	0
C45	28487	20474	17443	17189	15570	4712	17900	7733	10786
C90	29912	23399	21774	14638	11439	16687	8561	21655	6163

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
17477	13028	12949	13880	8431	12712	8089	10400	4045

Glare Table

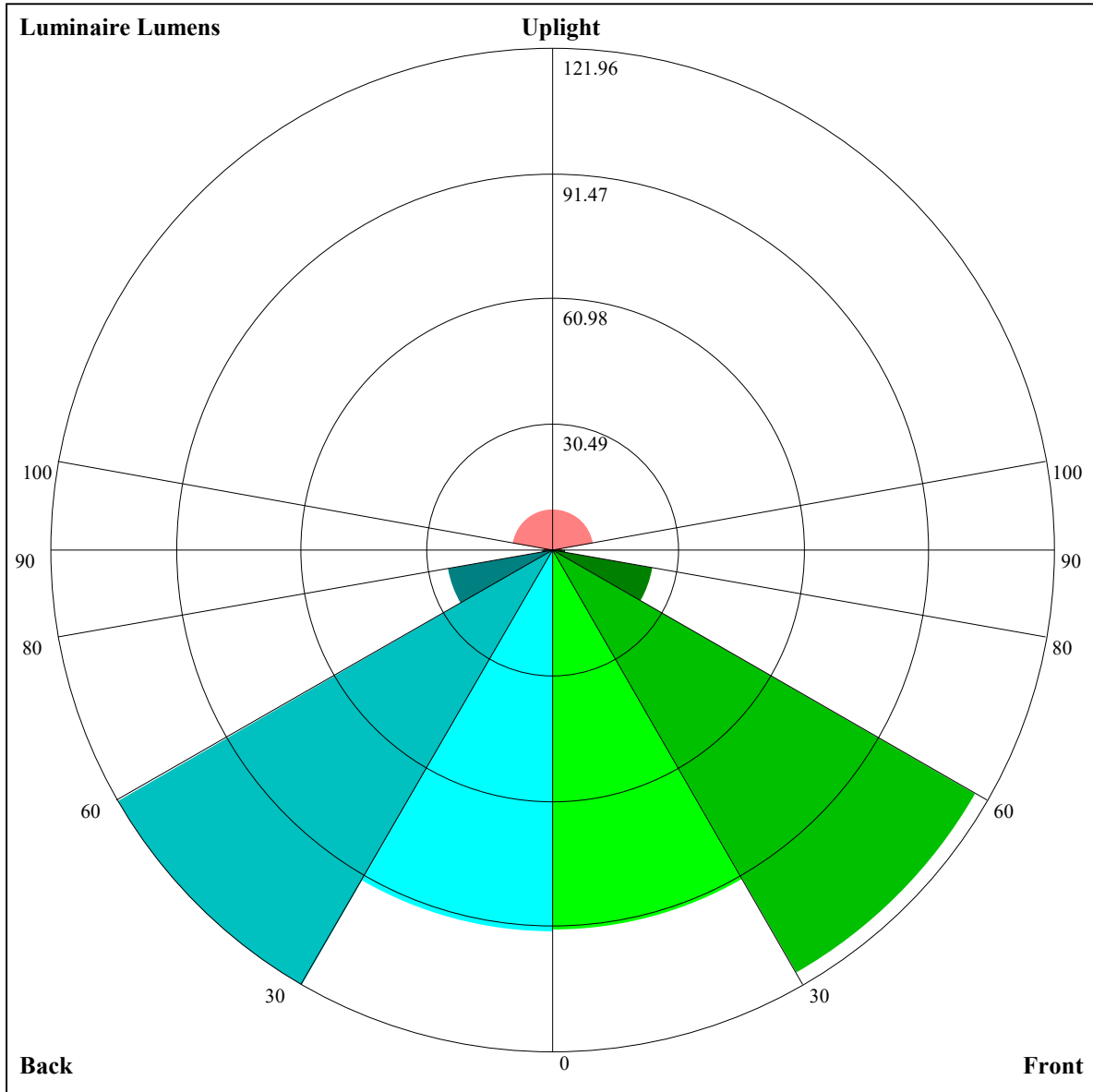
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve



Illumination 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	17.68	19.07	18.08	19.43	19.81	17.83	19.22	18.23	19.59	19.97
	3H	18.62	19.87	19.04	20.26	20.66	18.71	19.96	19.14	20.35	20.76
	4H	18.86	20.03	19.30	20.44	20.86	19.06	20.22	19.49	20.63	21.05
	6H	19.66	20.74	20.11	21.16	21.61	19.74	20.82	20.19	21.24	21.69
	8H	19.97	21.01	20.42	21.43	21.90	20.03	21.07	20.49	21.50	21.96
	12H	19.97	20.97	20.43	21.40	21.88	20.08	21.08	20.54	21.52	21.99
4H	2H	18.07	19.24	18.51	19.64	20.07	18.18	19.35	18.62	19.75	20.18
	3H	19.03	20.02	19.49	20.45	20.93	19.14	20.13	19.61	20.57	21.04
	4H	19.53	20.40	20.01	20.86	21.36	19.73	20.60	20.21	21.06	21.56
	6H	20.50	21.27	21.01	21.76	22.26	20.57	21.33	21.07	21.82	22.33
	8H	20.90	21.62	21.42	22.11	22.64	20.95	21.67	21.47	22.16	22.69
	12H	20.95	21.62	21.47	22.11	22.67	21.06	21.73	21.58	22.22	22.78
8H	4H	19.80	20.51	20.31	21.01	21.53	19.97	20.68	20.48	21.18	21.70
	6H	20.86	21.46	21.39	21.97	22.53	20.90	21.50	21.43	22.01	22.57
	8H	21.36	21.88	21.91	22.43	22.98	21.39	21.91	21.95	22.47	23.01
	12H	21.43	21.86	21.99	22.42	22.99	21.54	21.98	22.11	22.53	23.10
12H	4H	19.81	20.48	20.34	20.97	21.53	19.99	20.65	20.51	21.14	21.71
	6H	20.93	21.45	21.48	22.00	22.55	20.97	21.49	21.52	22.04	22.59
	8H	21.40	21.84	21.97	22.39	22.96	21.44	21.88	22.01	22.43	23.00
Variation with the observer position at spacings:											
S = 1.0H		0.3/-0.6					0.5/-0.8				
S = 1.5H		0.6/-1.4					1.1/-1.4				
S = 2.0H		1.8/-1.8					1.5/-1.3				
Standard tables:		BK3					BK3				
Uncorrected UGR		6.6					6.5				

UGR calculation is based on CIE Publ. 117 ,S/H = 0.25



Luminaire Lumens:

FL=92.47,FM=118.66,FH=24.66,FVH=3.16

BL=92.86,BM=121.96,BH=25.99,BVH=2.97

UL=2.24,UH=10.1

BUG Rating:B0-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	214.99	220.05	223.43	207.57	198.79	207.90	164.70	148.50	127.58
45.0	214.32	224.10	225.12	204.87	210.27	184.95	164.70	146.82	111.38
90.0	212.29	212.63	220.39	208.58	203.52	191.70	184.28	149.18	126.57
135.0	212.63	201.15	204.19	206.22	200.82	194.07	178.54	153.23	128.93
180.0	214.99	210.27	211.28	214.99	221.07	201.83	179.89	154.24	125.22
225.0	214.32	217.35	221.40	209.93	206.55	198.45	162.34	155.59	135.68
270.0	212.29	217.35	208.58	199.13	209.59	197.10	172.47	146.14	119.82
315.0	212.63	223.43	222.08	212.63	206.55	193.39	165.04	140.74	123.19
360.0	214.99	220.05	223.43	207.57	198.79	207.90	164.70	148.50	127.58
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	103.61	75.26	54.00	31.05	37.46	18.90	10.13	20.59	0.00
45.0	101.25	66.15	50.29	43.20	33.08	8.10	23.29	6.75	4.73
90.0	106.31	75.60	62.78	36.79	24.30	28.69	11.14	18.90	2.70
135.0	99.23	69.19	48.60	42.86	23.63	21.60	17.21	14.18	0.00
180.0	99.56	78.98	62.44	32.06	36.79	23.96	25.99	5.06	7.09
225.0	93.15	66.15	57.71	39.49	29.70	25.99	11.48	12.83	1.01
270.0	87.41	75.94	70.54	36.11	31.05	19.58	10.80	11.48	6.41
315.0	99.23	58.05	50.96	38.14	23.63	19.91	14.18	15.19	1.35
360.0	103.61	75.26	54.00	31.05	37.46	18.90	10.13	20.59	0.00
C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	0.00	7.09	6.41	12.83	11.48	0.00	2.36	2.03	1.35
45.0	0.00	8.10	0.00	0.00	13.84	0.00	0.00	0.00	0.00
90.0	2.36	3.04	0.00	0.00	0.00	0.00	0.00	0.00	1.01
135.0	0.00	7.09	0.34	5.06	0.34	0.00	0.00	0.00	0.68
180.0	0.00	0.00	0.00	1.01	0.00	0.00	0.00	0.00	0.00
225.0	0.00	0.00	0.00	0.00	0.00	9.45	0.00	0.00	0.00
270.0	0.00	0.00	0.00	7.09	0.00	0.00	0.00	0.00	0.00
315.0	0.00	0.00	0.00	0.00	3.38	0.00	0.34	0.00	1.69
360.0	0.00	7.09	6.41	12.83	11.48	0.00	2.36	2.03	1.35
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	0.00	0.00	0.34	8.10	0.00	4.39	0.00	0.00	0.00
45.0	0.00	6.75	5.74	0.00	0.00	0.00	9.79	1.35	18.56
90.0	0.00	0.68	3.04	0.00	0.00	0.00	0.00	2.70	10.46
135.0	0.00	0.00	0.00	17.55	0.00	0.00	0.00	0.00	13.84
180.0	0.00	0.00	1.69	1.35	0.00	0.00	11.48	2.03	0.00
225.0	0.00	0.00	1.01	0.00	4.73	0.00	0.00	2.36	0.00
270.0	0.00	0.00	10.80	0.00	0.00	0.00	0.00	0.00	0.00
315.0	5.40	10.13	2.03	0.00	3.04	10.80	0.00	0.00	3.04
360.0	0.00	0.00	0.34	8.10	0.00	4.39	0.00	0.00	0.00
C/γ(°)	180.0								
0.0	0.00								
45.0	0.00								
90.0	0.00								
135.0	2.70								
180.0	0.00								
225.0	0.00								
270.0	0.00								
315.0	2.70								
360.0	0.00								