



SGSO

Address: LIT by CARDI

Client:

LumCAT: 0017440217 RIO 5.4W 4000K 540lm

Luminaire:

Report No:

Voltage(V): 230.46

Test No: KYZ-A251030009-06-002

Current(A): 0.0273

LampCAT: LED

Power (W): 5.4000

Lamp flux(lm): -1.0

PF: 0.8595

Number of Lamps: 1

Ballast type:

Length(mm): -47

Width(mm): -47

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 540.00

Efficiency(%): 100.00%

Lumens(lm)/Power(W): 100.00

Central intensity(cd): 270.776

Maximum intensity(cd): 280.070

Angle of maximum intensity: C=90.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=82.8

[C90/270]Total=81.5

Field angle(10%Imax): [C0/180]Total=150.0

[C90/270]Total=136.5

Maximum s/h(1/2): C0_180=1.09 C90_270=1.09

Maximum s/h(1/4): C0_180=1.14 C90_270=1.13

Up flux rate of lamp(%): 2.18%

Down flux rate of lamp(%): 97.82%

Up flux rate of LUM(%): 2.18%

Down flux rate of LUM(%): 97.82%

CIE Type : Direct lighting

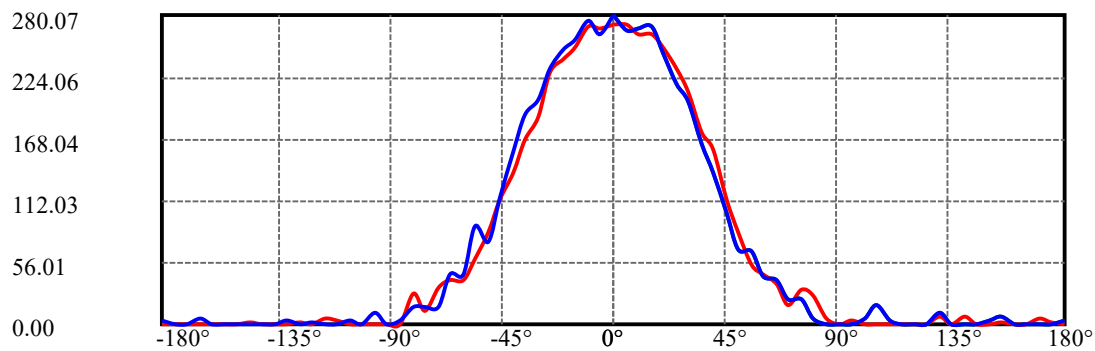
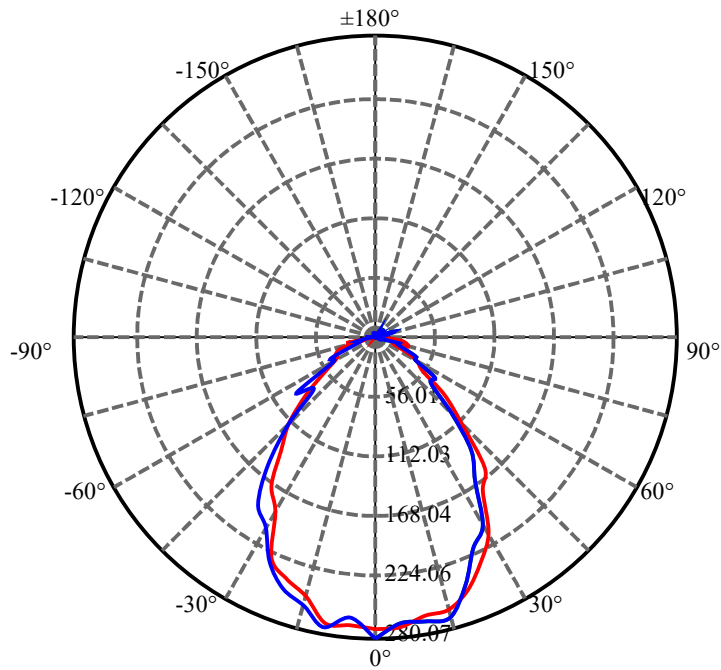
Output flux ratio in π solid angle : 85.680%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	273.806	0.000	0	.000%	.000%
5.0	272.634	6.473	6.473	.000%	1.199%
10.0	271.888	19.301	25.774	.000%	4.773%
15.0	264.374	31.520	57.294	.000%	10.610%
20.0	249.240	41.942	99.236	.000%	18.377%
25.0	230.641	49.871	149.107	.000%	27.613%
30.0	206.181	54.775	203.882	.000%	37.756%
35.0	177.724	56.016	259.898	.000%	48.130%
40.0	148.148	53.872	313.77	.000%	58.106%
45.0	116.120	48.484	362.254	.000%	67.085%
50.0	88.462	40.961	403.215	.000%	74.670%
55.0	67.732	33.651	436.867	.000%	80.902%
60.0	44.924	25.802	462.669	.000%	85.680%
65.0	39.169	20.256	482.925	.000%	89.431%
70.0	25.846	16.312	499.237	.000%	92.452%
75.0	20.783	12.077	511.314	.000%	94.688%
80.0	17.533	10.159	521.472	.000%	96.570%
85.0	3.730	5.725	527.197	.000%	97.630%
90.0	0.107	1.041	528.238	.000%	97.822%
95.0	1.918	0.549	528.788	.000%	97.924%
100.0	0.693	0.703	529.491	.000%	98.054%
105.0	3.038	0.989	530.48	.000%	98.238%
110.0	1.919	1.284	531.763	.000%	98.475%
115.0	1.332	0.816	532.579	.000%	98.626%
120.0	1.812	0.757	533.336	.000%	98.767%
125.0	2.185	0.915	534.252	.000%	98.936%
130.0	5.169	1.584	535.836	.000%	99.229%
135.0	0.320	1.099	536.935	.000%	99.433%
140.0	2.185	0.460	537.395	.000%	99.518%
145.0	2.505	0.775	538.17	.000%	99.662%
150.0	1.386	0.568	538.737	.000%	99.767%
155.0	2.558	0.494	539.232	.000%	99.858%
160.0	0.799	0.349	539.581	.000%	99.923%
165.0	1.226	0.165	539.746	.000%	99.954%
170.0	0.906	0.125	539.871	.000%	99.977%
175.0	1.492	0.085	539.956	.000%	99.993%
180.0	1.919	0.040	539.997	.000%	100.000%

ZONAL LUMEN SUMMARY			
Zone	Lumens	%Lamp	%Fixt
0-30	203.88	N.A.	37.76%
0-40	313.77	N.A.	58.11%
0-60	462.67	N.A.	85.68%
0-90	528.24	N.A.	97.82%
0-120	533.34	N.A.	98.77%
0-180	540.00	N.A.	100.00%
60-90	91.37	N.A.	16.92%
90-120	6.14	N.A.	1.14%
90-130	8.64	N.A.	1.60%
90-150	11.54	N.A.	2.14%
90-180	12.76	N.A.	2.36%
0-54.28	432.00	N.A.	80.00%

ZONAL LUMEN SUMMARY

0-10	25.77
10-20	73.46
20-30	104.65
30-40	109.89
40-50	89.45
50-60	59.45
60-70	36.57
70-80	22.24
80-90	6.77
90-100	1.25
100-110	2.27
110-120	1.57
120-130	2.50
130-140	1.56
140-150	1.34
150-160	0.84
160-170	0.29
170-180	0.09



C90(Max): —————

C0/C180: —————

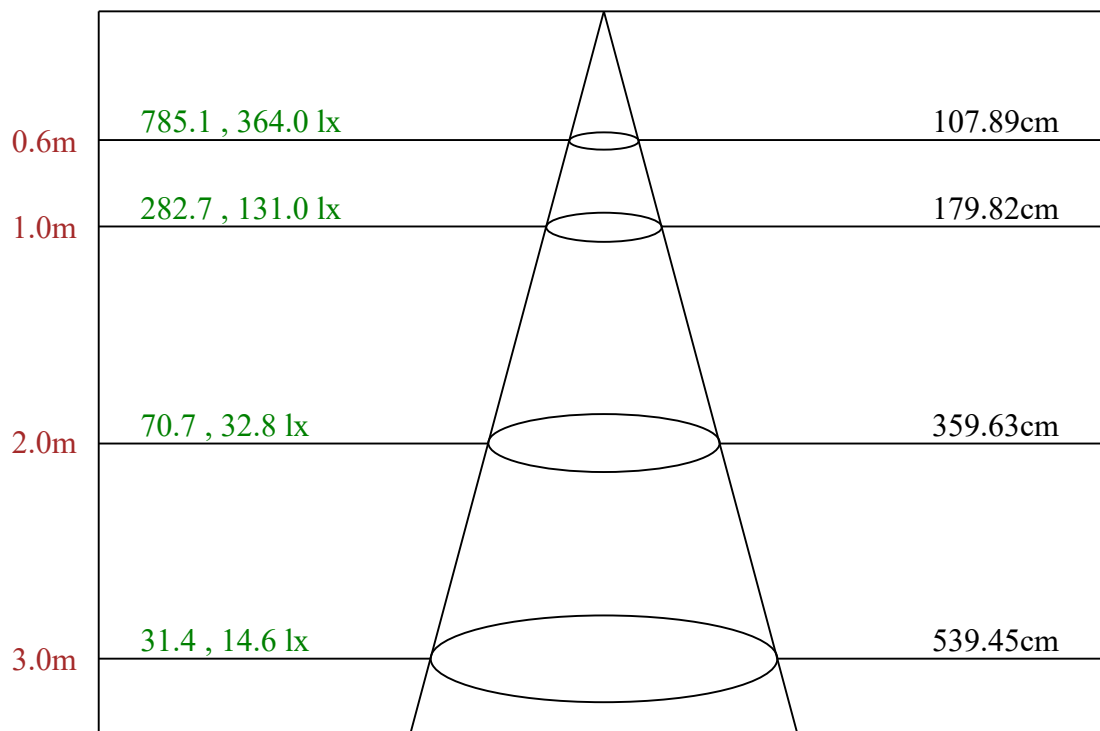
C90/C270: —————

Field angle(10%Imax):C0/180Left:76.5 Right:73.5

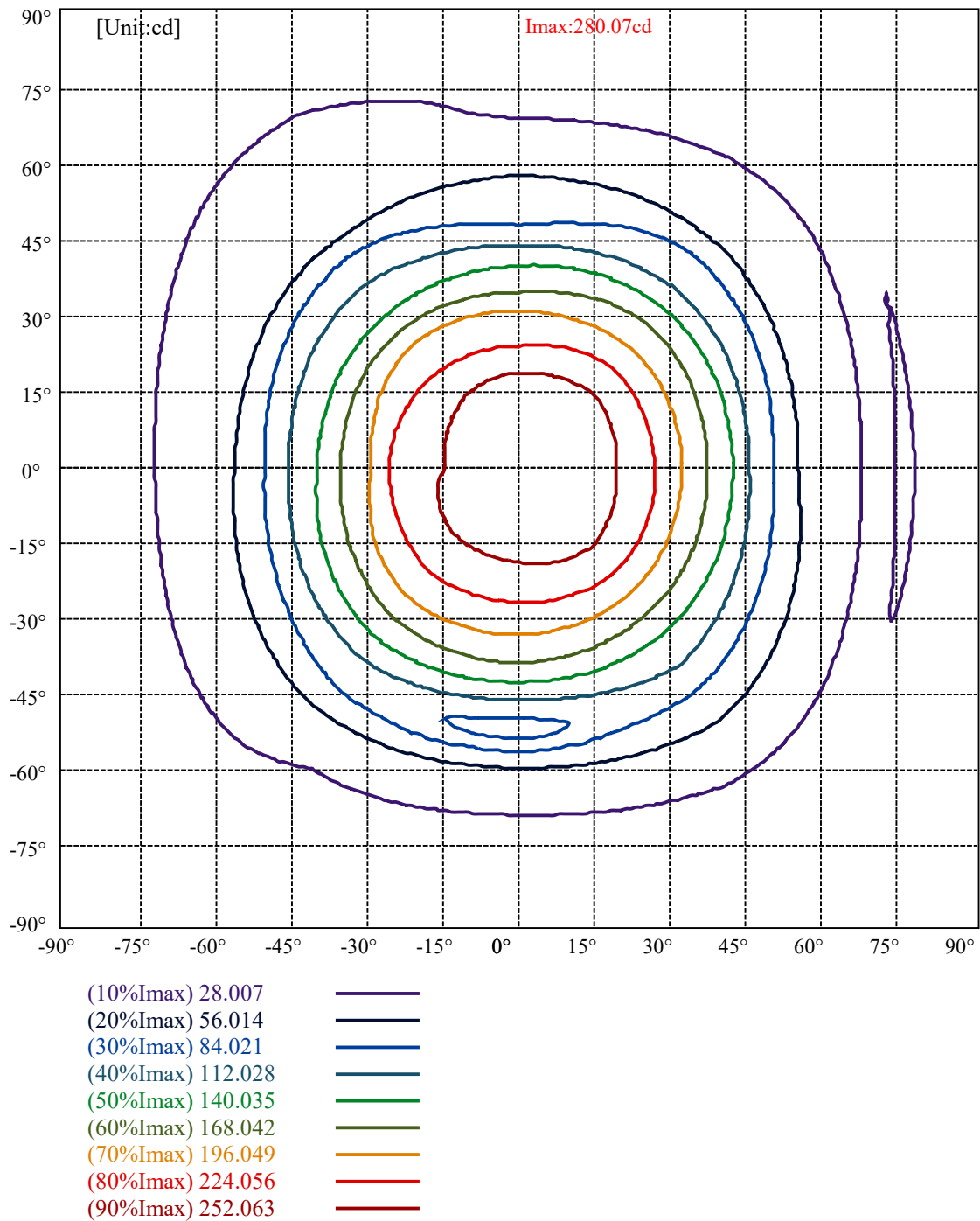
:C90/270Left:68.0 Right:68.5

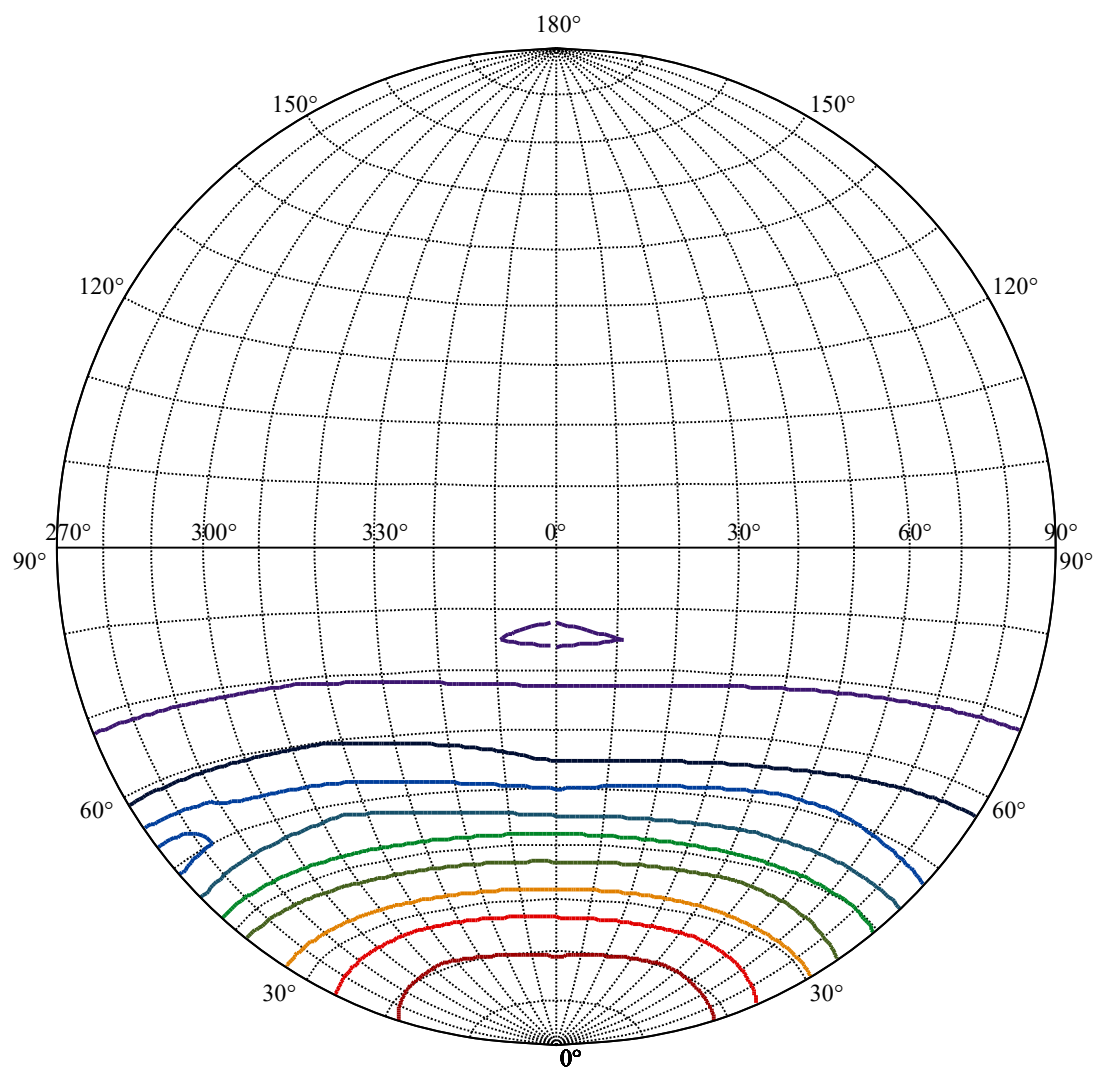
Beam Angle(50%Imax):C0/180Left:45.3 Right:37.5

:C90/270Left:42.0 Right:39.5



Max , Ave Beam angle of C90 plane 83.92





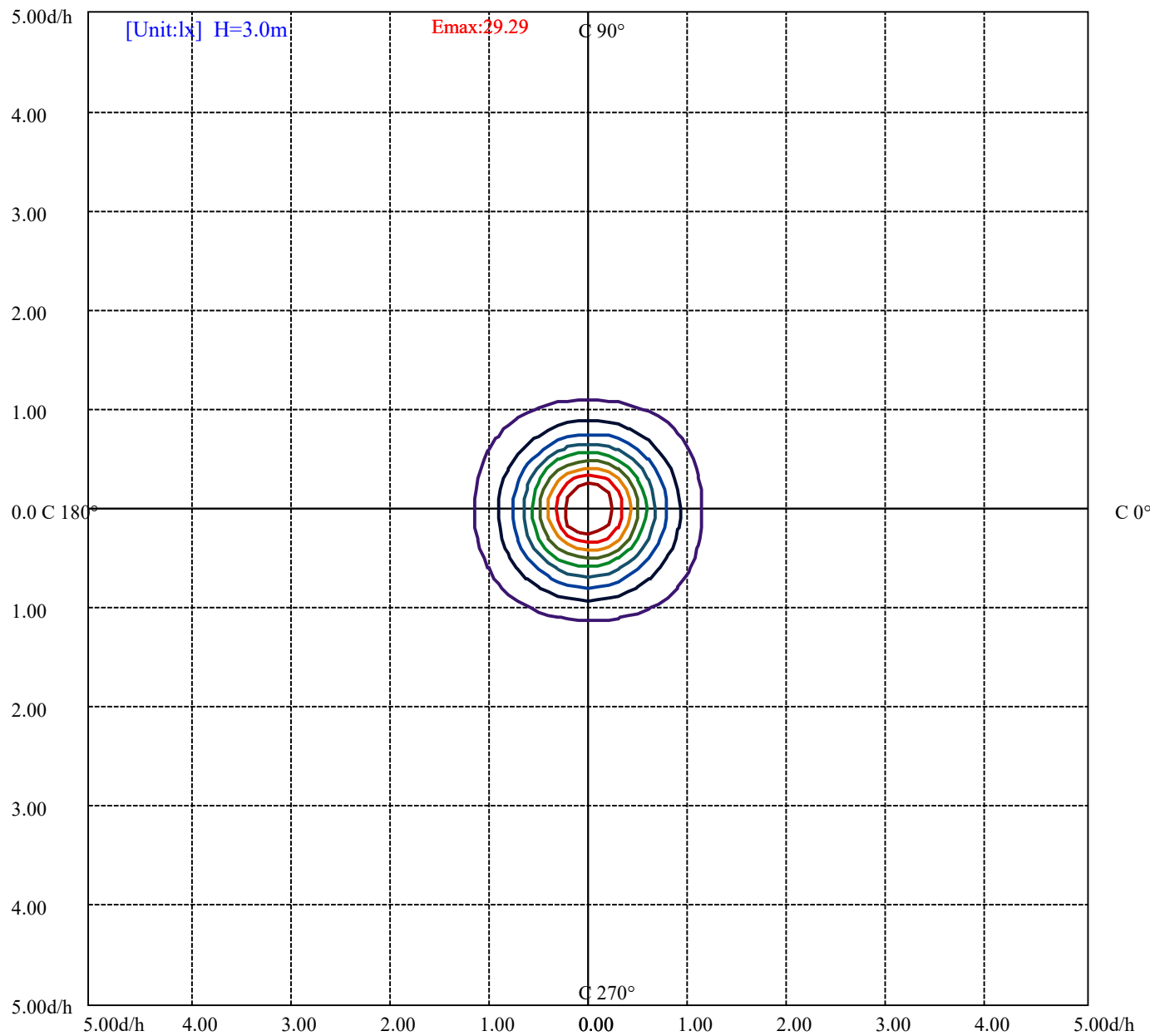
House

[Unit:cd]

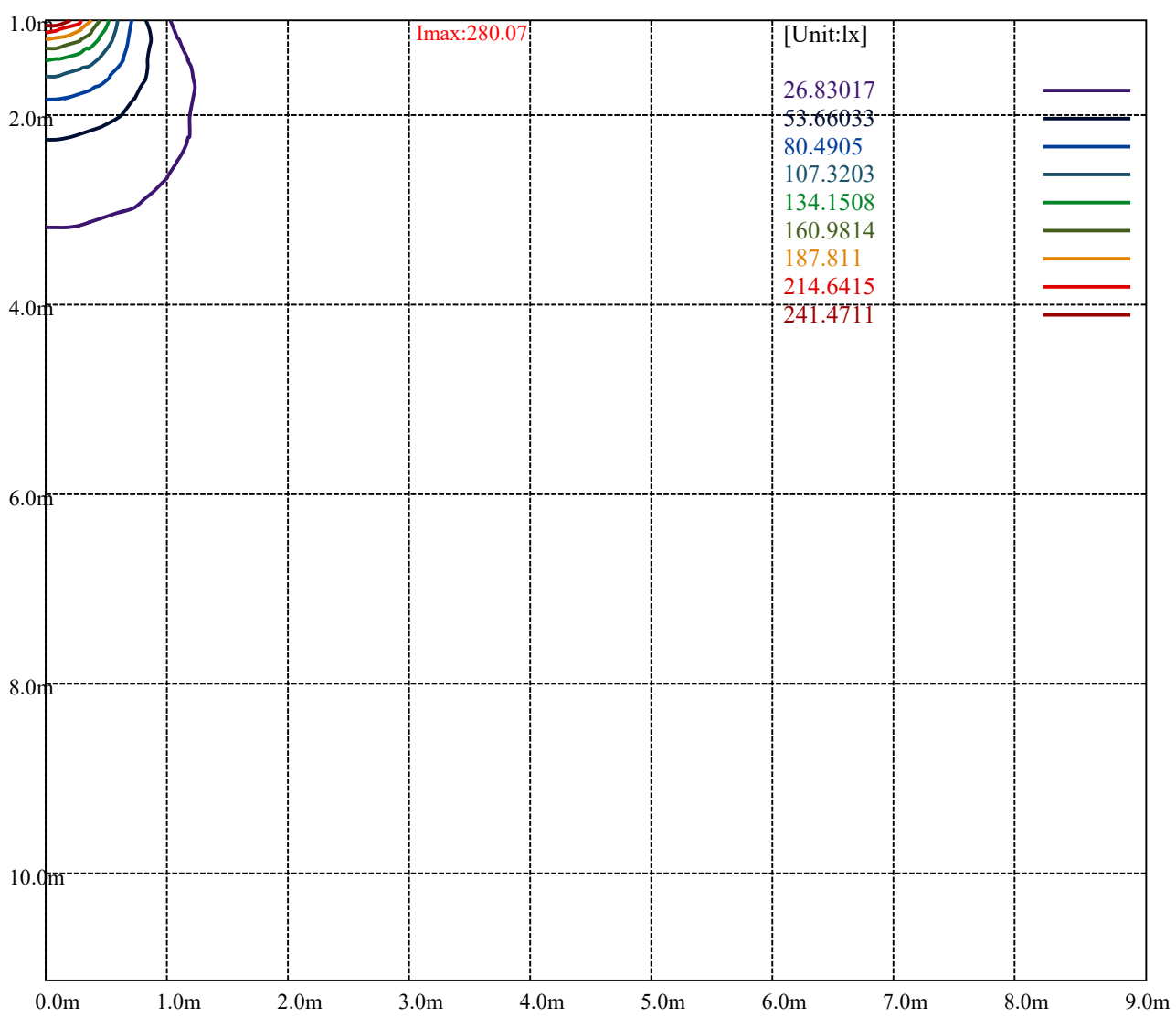
Road

Imax:280.07
(10%Imax) 27.75107
(20%Imax) 55.50214
(30%Imax) 83.25322
(40%Imax) 111.0043
(50%Imax) 138.7554
(60%Imax) 166.5064
(70%Imax) 194.2575
(80%Imax) 222.0086
(90%Imax) 249.7597





(10%E _{max}) 2.929164	—
(20%E _{max}) 5.858328	—
(30%E _{max}) 8.787494	—
(40%E _{max}) 11.71661	—
(50%E _{max}) 14.64582	—
(60%E _{max}) 17.57503	—
(70%E _{max}) 20.50413	—
(80%E _{max}) 23.43334	—
(90%E _{max}) 26.36243	—



Luminance Limiting Curve(no luminous side)

Luminance Table

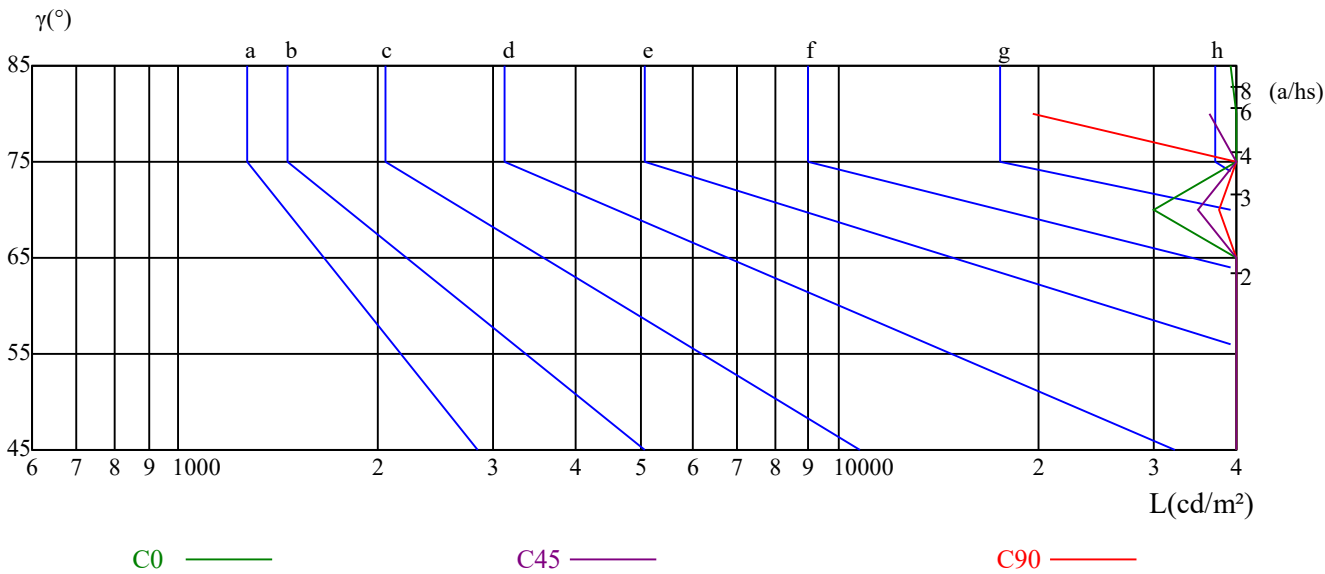
γ	45	50	55	60	65	70	75	80	85
C0	92282	74622	54761	52106	48972	29900	69615	84128	39114
C45	91937	89016	59005	49670	58189	34883	40452	36455	0
C90	82296	60227	67071	49670	55308	37730	48919	19632	0

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
52140	58477	50556	48448	41393	46802	19557	12572	32825

Glare Table

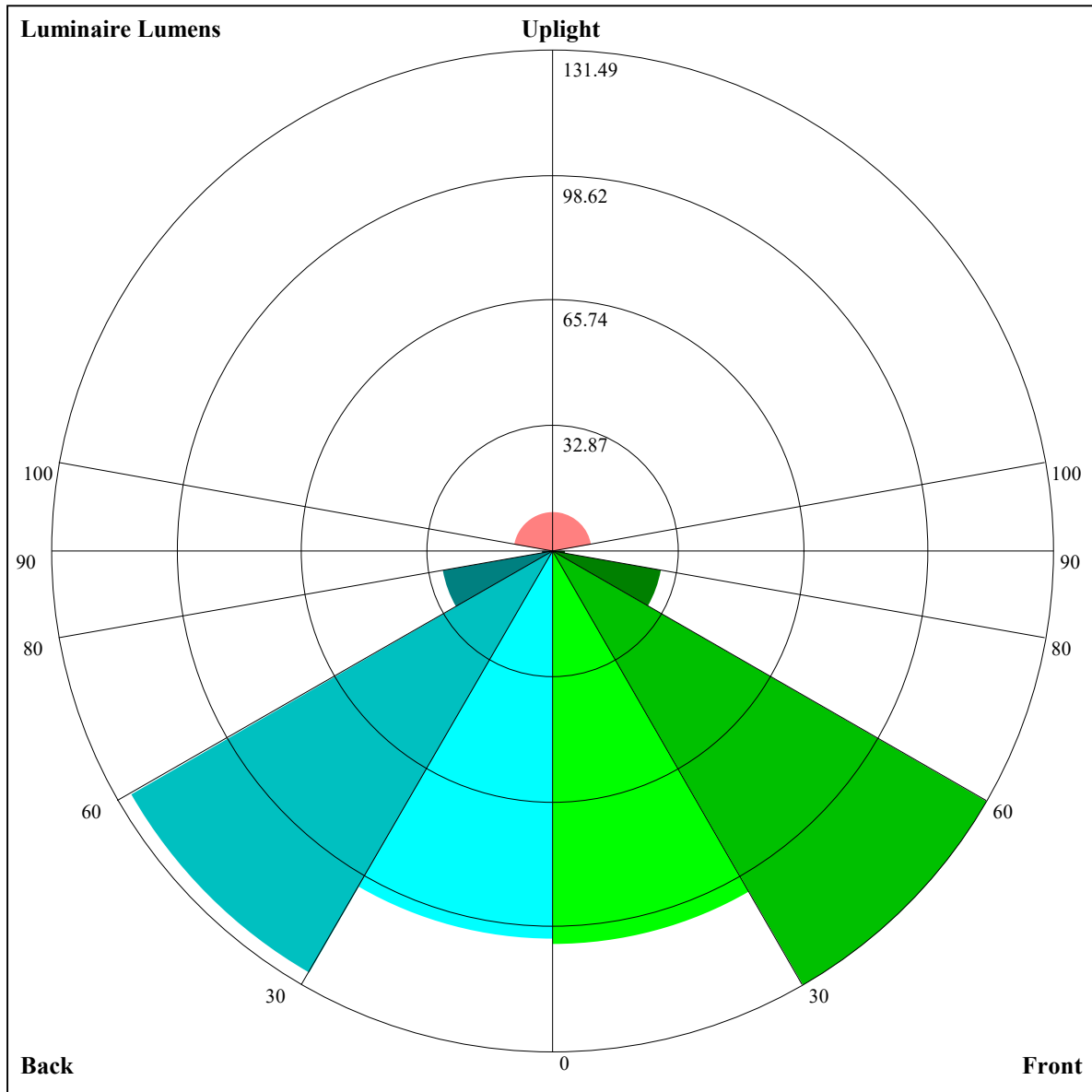
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

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	21.33	22.73	21.73	23.09	23.46	21.23	22.63	21.63	23.00	23.37
	3H	22.12	23.39	22.54	23.77	24.17	22.24	23.50	22.66	23.89	24.28
	4H	22.91	24.09	23.34	24.48	24.90	22.70	23.88	23.13	24.27	24.69
	6H	24.00	25.09	24.45	25.51	25.96	22.92	24.01	23.37	24.43	24.88
	8H	24.35	25.40	24.80	25.82	26.28	22.89	23.94	23.34	24.36	24.82
	12H	24.45	25.46	24.91	25.89	26.35	22.84	23.84	23.29	24.27	24.74
4H	2H	21.75	22.93	22.18	23.32	23.74	21.67	22.85	22.10	23.25	23.66
	3H	22.67	23.66	23.13	24.10	24.56	22.77	23.77	23.23	24.20	24.66
	4H	23.69	24.56	24.16	25.02	25.51	23.41	24.29	23.88	24.74	25.24
	6H	24.92	25.70	25.42	26.18	26.68	23.68	24.46	24.18	24.94	25.44
	8H	25.35	26.08	25.86	26.57	27.08	23.68	24.41	24.20	24.90	25.42
	12H	25.51	26.18	26.03	26.67	27.22	23.66	24.33	24.17	24.81	25.37
8H	4H	23.84	24.57	24.35	25.06	25.58	23.57	24.30	24.08	24.78	25.30
	6H	25.20	25.80	25.72	26.31	26.86	23.91	24.52	24.44	25.03	25.58
	8H	25.73	26.26	26.28	26.81	27.35	23.99	24.52	24.54	25.06	25.60
	12H	25.92	26.36	26.48	26.91	27.47	23.96	24.40	24.52	24.95	25.51
12H	4H	23.84	24.51	24.35	25.00	25.55	23.61	24.28	24.12	24.76	25.32
	6H	25.24	25.77	25.79	26.32	26.86	24.01	24.53	24.56	25.08	25.62
	8H	25.74	26.19	26.30	26.74	27.30	24.05	24.49	24.61	25.04	25.60
Variation with the observer position at spacings:											
S = 1.0H		0.4/-0.8					0.3/-1.1				
S = 1.5H		1.4/-1.0					0.9/-1.0				
S = 2.0H		2.1/-1.5					1.1/-1.1				
Standard tables:		BK3					BK3				
Uncorrected UGR		10.7					11.5				

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



Luminaire Lumens:

FL=103.45,FM=131.49,FH=29.14,FVH=3.35

BL=101.82,BM=128.21,BH=29.34,BVH=2.91

UL=1.26,UH=10.6

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	270.78	271.20	263.17	262.75	249.65	230.65	210.79	174.46	158.41
45.0	257.68	274.16	269.93	263.60	253.88	232.76	202.34	182.07	148.69
90.0	280.07	266.97	268.24	269.93	244.59	217.13	201.08	163.06	137.71
135.0	276.69	269.51	269.09	255.57	245.43	220.51	206.57	166.86	130.95
180.0	270.78	268.66	270.35	250.08	239.52	227.27	187.14	167.70	136.87
225.0	257.68	274.16	269.93	271.62	238.67	227.27	217.13	179.53	156.30
270.0	280.07	262.33	274.16	258.10	249.23	231.07	203.19	190.09	156.72
315.0	276.69	274.16	270.35	264.02	254.72	241.63	206.14	185.02	148.69
360.0	270.78	271.20	263.17	262.75	249.65	230.65	210.79	174.46	158.41
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	113.21	83.22	54.49	45.20	35.91	17.74	31.26	25.35	5.91
45.0	112.79	99.27	58.72	43.09	42.67	20.70	18.16	10.98	0.00
90.0	100.96	67.17	66.74	43.09	40.55	22.39	21.97	5.91	0.00
135.0	114.48	93.36	52.80	38.86	32.10	43.51	27.88	9.29	0.85
180.0	112.79	82.80	58.30	40.55	40.55	33.37	12.25	27.04	0.00
225.0	123.35	95.47	80.26	44.35	29.57	25.35	22.39	19.43	9.29
270.0	114.48	75.61	89.56	45.62	45.20	16.48	15.21	15.63	3.80
315.0	128.42	104.34	76.04	55.34	43.93	25.35	15.63	25.35	9.72
360.0	113.21	83.22	54.49	45.20	35.91	17.74	31.26	25.35	5.91
C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	0.00	2.96	0.00	0.00	0.00	0.00	0.00	0.00	7.18
45.0	0.00	0.00	0.42	0.00	0.85	0.00	0.00	8.03	0.00
90.0	0.00	0.00	5.07	17.74	4.22	0.00	0.00	0.00	10.56
135.0	0.00	0.00	0.00	2.96	0.00	5.91	0.00	0.00	4.22
180.0	0.00	0.00	0.00	0.00	2.96	4.65	0.00	1.27	0.00
225.0	0.85	2.53	0.00	0.00	7.18	0.00	9.29	3.38	0.42
270.0	0.00	9.72	0.00	3.38	0.00	0.00	2.11	0.00	3.80
315.0	0.00	0.00	0.00	0.00	0.00	0.00	2.96	4.65	14.78
360.0	0.00	2.96	0.00	0.00	0.00	0.00	0.00	0.00	7.18
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	0.00	6.76	0.00	0.00	1.69	0.00	0.00	4.65	2.53
45.0	0.00	0.00	14.36	1.69	0.00	6.34	0.00	0.00	0.00
90.0	0.00	0.00	0.00	2.96	6.76	0.00	0.00	0.00	0.00
135.0	2.11	10.56	3.80	6.34	8.87	0.00	0.85	0.00	0.00
180.0	0.00	0.00	1.69	0.00	0.00	0.00	0.00	0.00	0.00
225.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
270.0	0.42	0.00	0.00	0.00	0.00	0.00	5.49	0.00	0.00
315.0	0.00	0.00	0.00	0.00	2.96	0.00	3.38	2.53	9.29
360.0	0.00	6.76	0.00	0.00	1.69	0.00	0.00	4.65	2.53
C/γ(°)	180.0								
0.0	0.85								
45.0	3.38								
90.0	3.38								
135.0	0.00								
180.0	0.85								
225.0	3.38								
270.0	3.38								
315.0	0.00								
360.0	0.85								