



SGSO

Address: LIT by CARDI

Client:

LumCAT: 0017440218 RIO 8W 3000K 800lm

Luminaire:

Report No:

Voltage(V): 229.8200

Test No: KYZ-A251014055-01-002

Current(A): 0.0434

LampCAT: LED

Power (W): 8.0000

Lamp flux(lm): -1.0

PF: 0.8014

Number of Lamps: 1

Ballast type:

Length(mm): -80

Width(mm): -80

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 800.00

Efficiency(%): 100.00%

Lumens(lm)/Power(W): 100.00

Central intensity(cd): 365.796

Maximum intensity(cd): 396.085

Angle of maximum intensity: $C=67.5$ $\gamma=5.0$

Beam Angle(50%Imax): [C0/180]Total=85.7

[C90/270]Total=85.0

Field angle(10%Imax): [C0/180]Total=137.2

[C90/270]Total=137.6

Maximum s/h(1/2): C0_180=1.26 C90_270=1.13

Maximum s/h(1/4): C0_180=1.24 C90_270=1.16

Up flux rate of lamp(%): 1.43%

Down flux rate of lamp(%): 98.57%

Up flux rate of LUM(%): 1.43%

Down flux rate of LUM(%): 98.57%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 86.484%

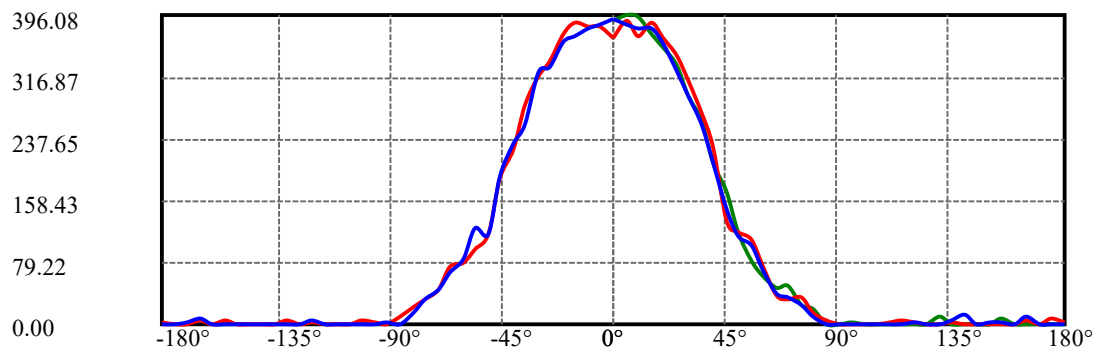
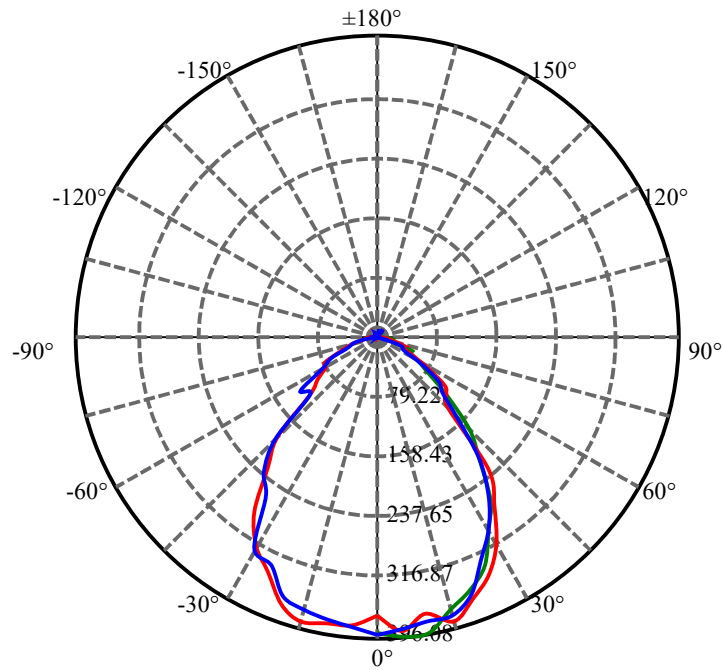
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	429.873	0.000	0	.000%	.000%
5.0	433.746	9.185	9.185	.000%	1.148%
10.0	431.946	27.552	36.737	.000%	4.592%
15.0	424.253	45.186	81.923	.000%	10.240%
20.0	410.258	61.187	143.11	.000%	17.889%
25.0	379.978	73.737	216.847	.000%	27.106%
30.0	339.904	81.050	297.897	.000%	37.237%
35.0	300.103	83.847	381.745	.000%	47.718%
40.0	252.773	82.066	463.811	.000%	57.976%
45.0	197.586	74.188	537.998	.000%	67.250%
50.0	151.757	62.802	600.8	.000%	75.100%
55.0	112.147	51.050	651.85	.000%	81.481%
60.0	82.466	40.021	691.872	.000%	86.484%
65.0	61.407	31.117	722.989	.000%	90.373%
70.0	49.240	24.925	747.914	.000%	93.489%
75.0	32.899	19.101	767.015	.000%	95.877%
80.0	23.297	13.378	780.392	.000%	97.549%
85.0	4.747	6.779	787.172	.000%	98.396%
90.0	0.818	1.356	788.527	.000%	98.566%
95.0	0.873	0.412	788.939	.000%	98.617%
100.0	1.691	0.620	789.559	.000%	98.695%
105.0	0.518	0.526	790.085	.000%	98.761%
110.0	2.101	0.609	790.694	.000%	98.837%
115.0	2.101	0.946	791.641	.000%	98.955%
120.0	2.810	1.062	792.703	.000%	99.088%
125.0	2.592	1.111	793.813	.000%	99.227%
130.0	3.219	1.124	794.937	.000%	99.367%
135.0	2.401	1.010	795.948	.000%	99.493%
140.0	1.828	0.697	796.644	.000%	99.580%
145.0	2.264	0.607	797.251	.000%	99.656%
150.0	3.274	0.726	797.977	.000%	99.747%
155.0	2.537	0.654	798.631	.000%	99.829%
160.0	2.728	0.491	799.122	.000%	99.890%
165.0	3.001	0.420	799.542	.000%	99.943%
170.0	0.600	0.190	799.732	.000%	99.966%
175.0	5.047	0.180	799.912	.000%	99.989%
180.0	3.274	0.088	800.001	.000%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	297.90	N.A.	37.24%
0-40	463.81	N.A.	57.98%
0-60	691.87	N.A.	86.48%
0-90	788.53	N.A.	98.57%
0-120	792.70	N.A.	99.09%
0-180	800.00	N.A.	100.00%
60-90	136.68	N.A.	17.08%
90-120	5.53	N.A.	0.69%
90-130	7.77	N.A.	0.97%
90-150	10.81	N.A.	1.35%
90-180	12.74	N.A.	1.59%
0-53.84	640.00	N.A.	80.00%

ZONAL LUMEN SUMMARY

0-10	36.74
10-20	106.37
20-30	154.79
30-40	165.91
40-50	136.99
50-60	91.07
60-70	56.04
70-80	32.48
80-90	8.13
90-100	1.03
100-110	1.13
110-120	2.01
120-130	2.23
130-140	1.71
140-150	1.33
150-160	1.15
160-170	0.61
170-180	0.18



C67.5(Max):

C0/C180:

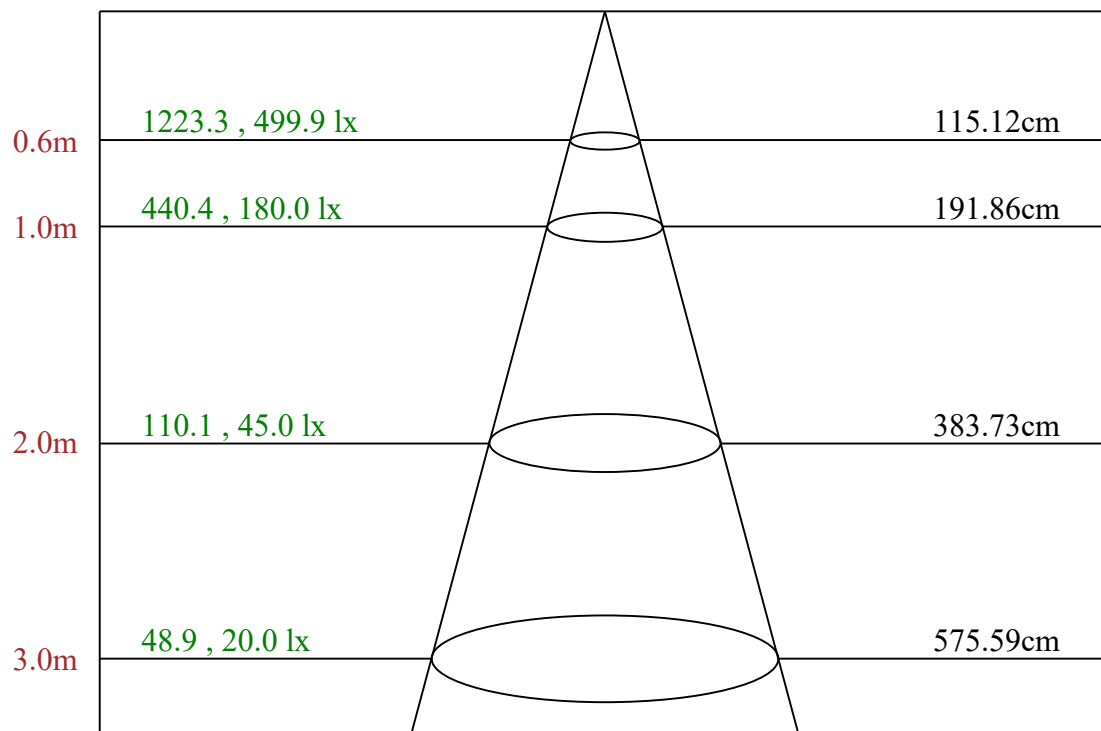
C90/C270:

Field angle(10%Imax):C0/180Left:77.3 Right:59.9

:C90/270Left:71.8 Right:65.8

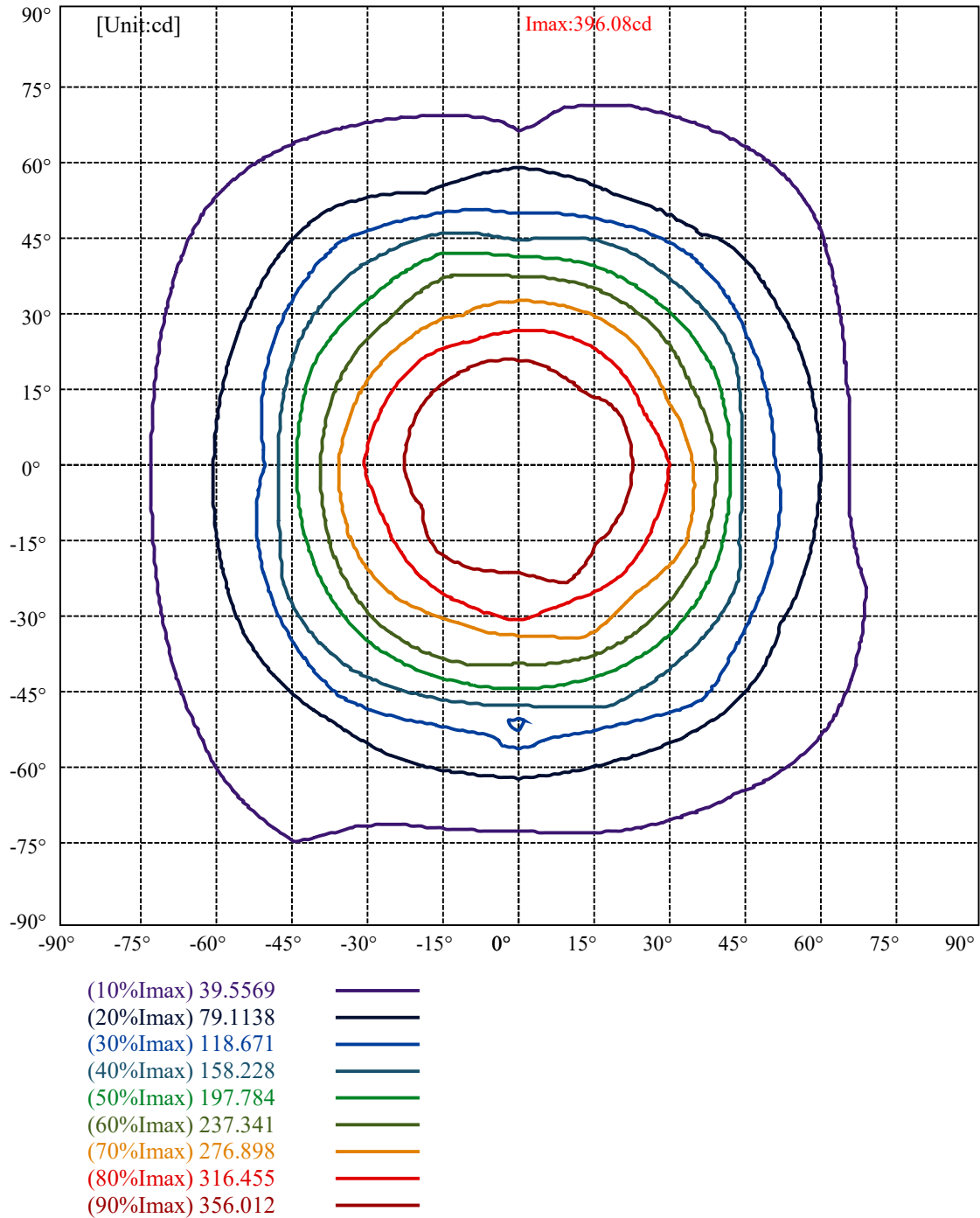
Beam Angle(50%Imax):C0/180Left:49.0 Right:36.7

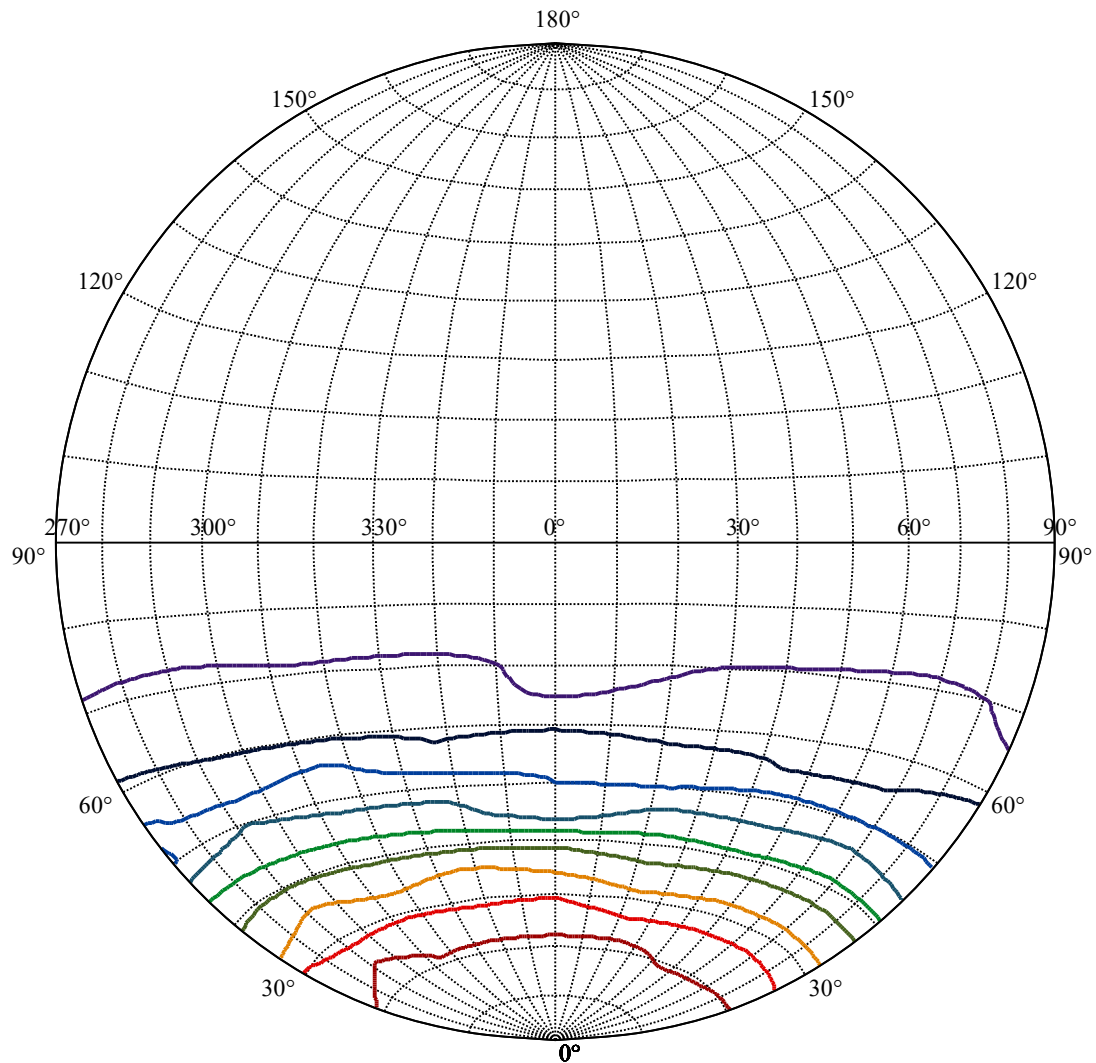
:C90/270Left:44.1 Right:40.9



Max , Ave

Beam angle of C67.5 plane 87.62





House

[Unit:cd]

Road

Imax:396.08

(10%Imax) 35.22923

(20%Imax) 70.45847

(30%Imax) 105.6874

(40%Imax) 140.9166

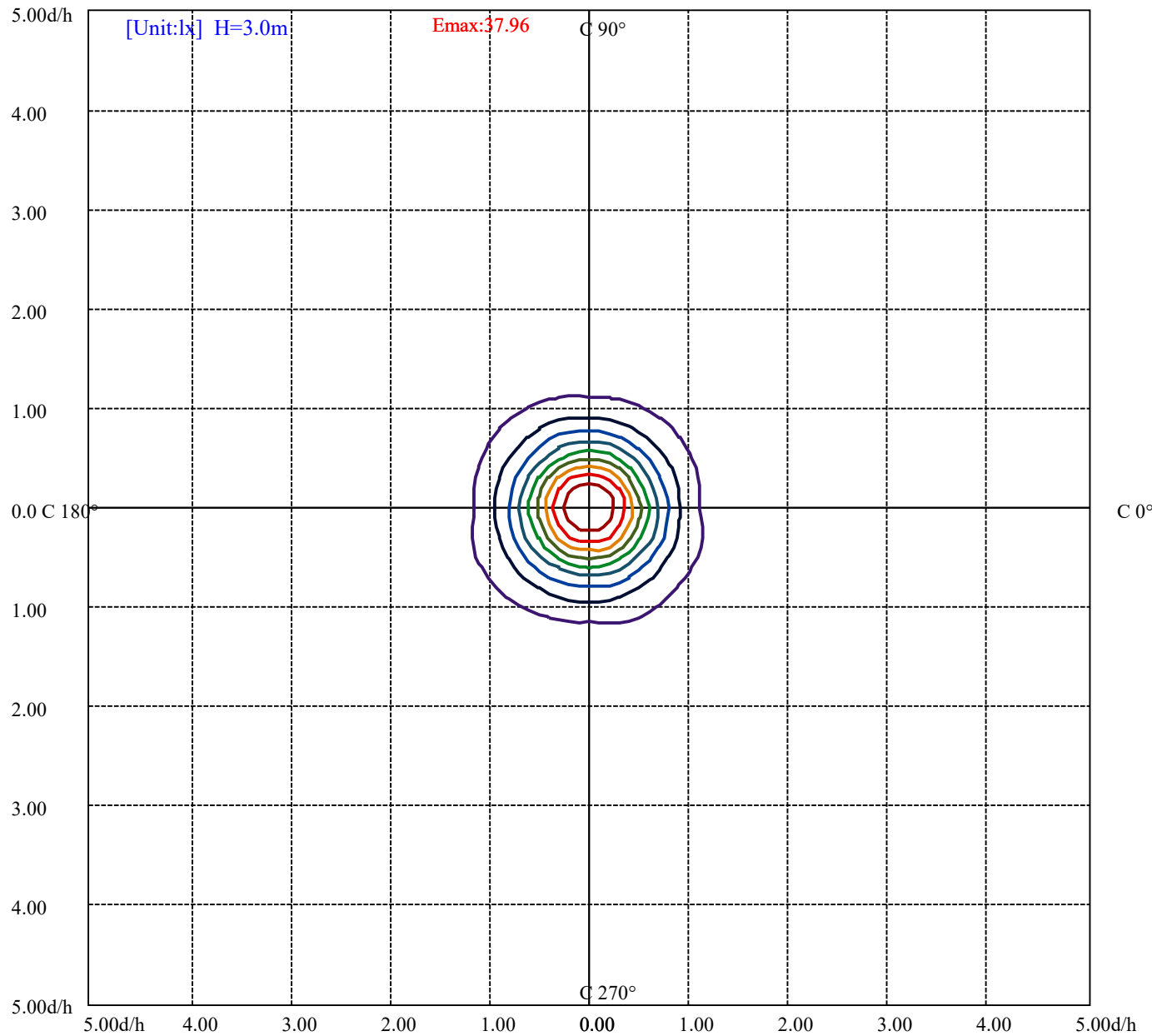
(50%Imax) 176.1466

(60%Imax) 211.3758

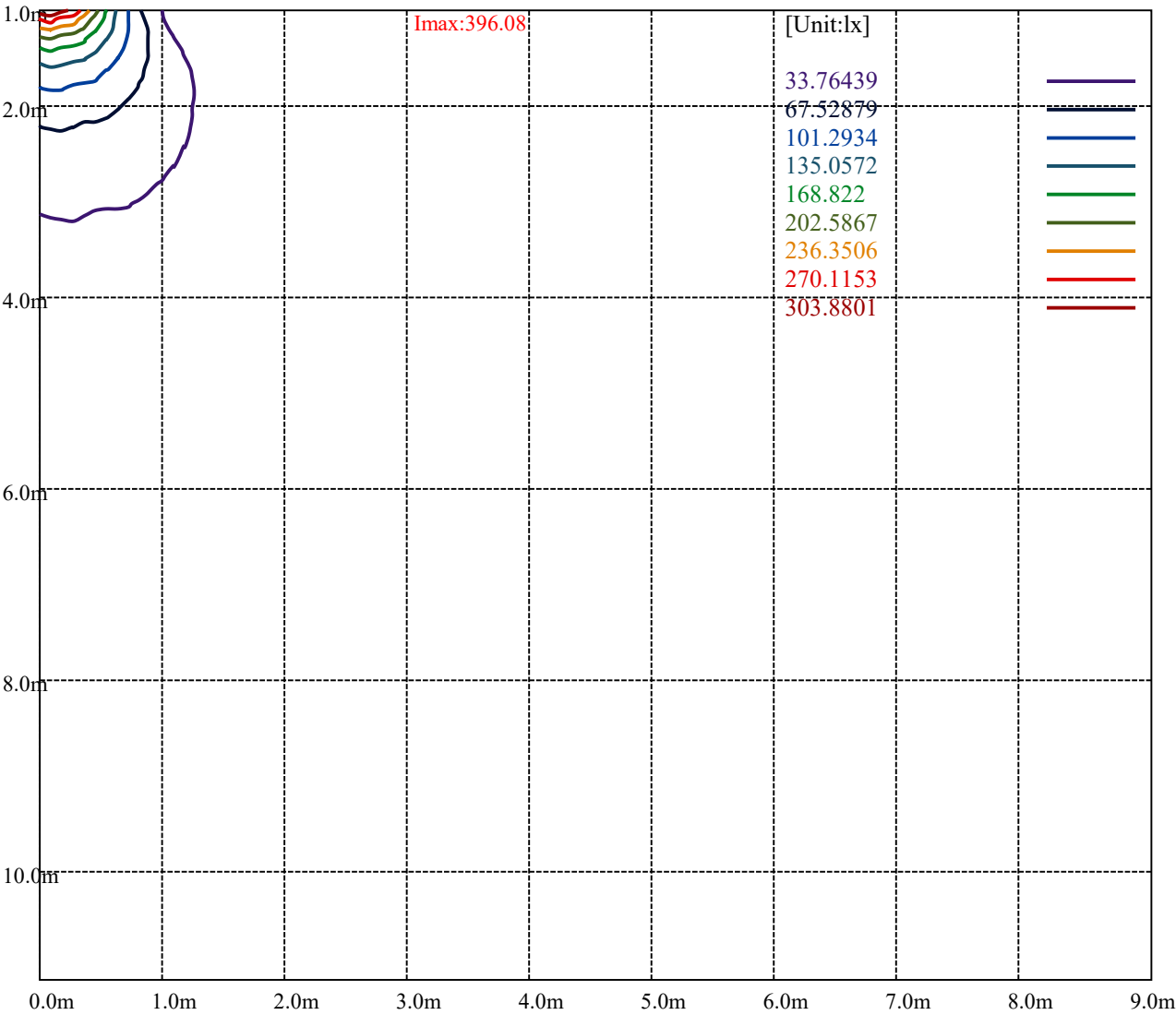
(70%Imax) 246.6049

(80%Imax) 281.8341

(90%Imax) 317.0632



(10%E _{max}) 3.796389	
(20%E _{max}) 7.592779	
(30%E _{max}) 11.38916	
(40%E _{max}) 15.18558	
(50%E _{max}) 18.982	
(60%E _{max}) 22.77832	
(70%E _{max}) 26.57474	
(80%E _{max}) 30.37115	
(90%E _{max}) 34.16757	



Luminance Table

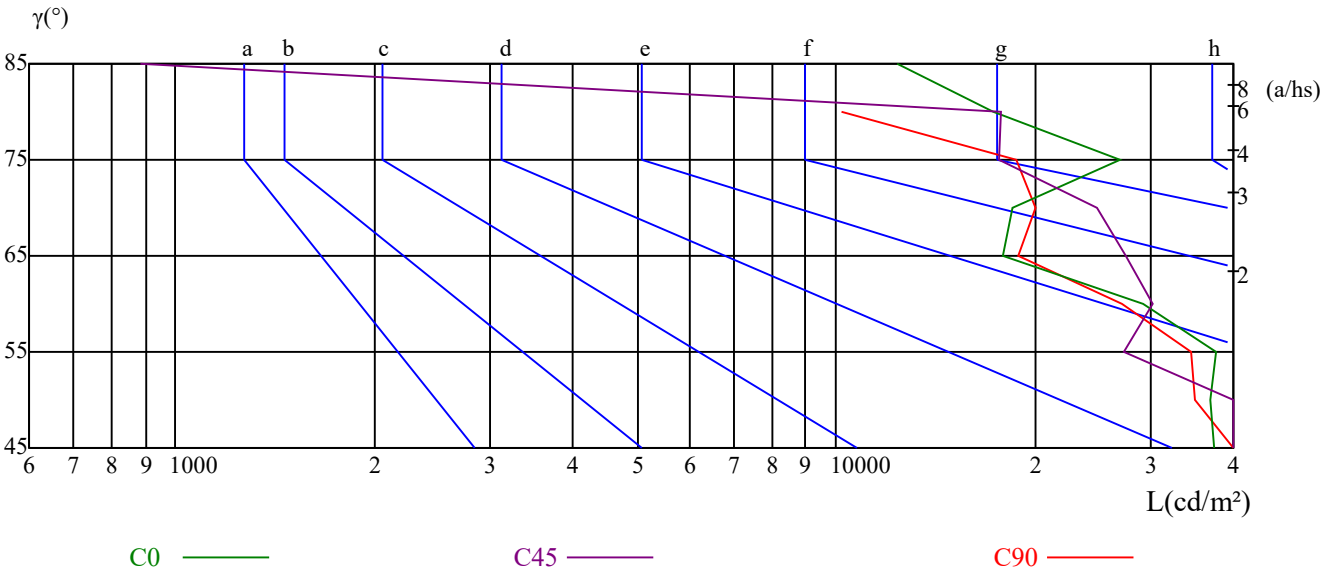
γ	45	50	55	60	65	70	75	80	85
C0	37474	36897	37712	29202	17914	18522	26864	17350	12410
C45	45886	40382	27341	30129	27420	24846	17611	17795	885
C90	41407	35094	34615	27193	18828	20103	18805	10232	0

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
26597	24860	28608	25520	21491	23655	16399	0	9085

Glare Table

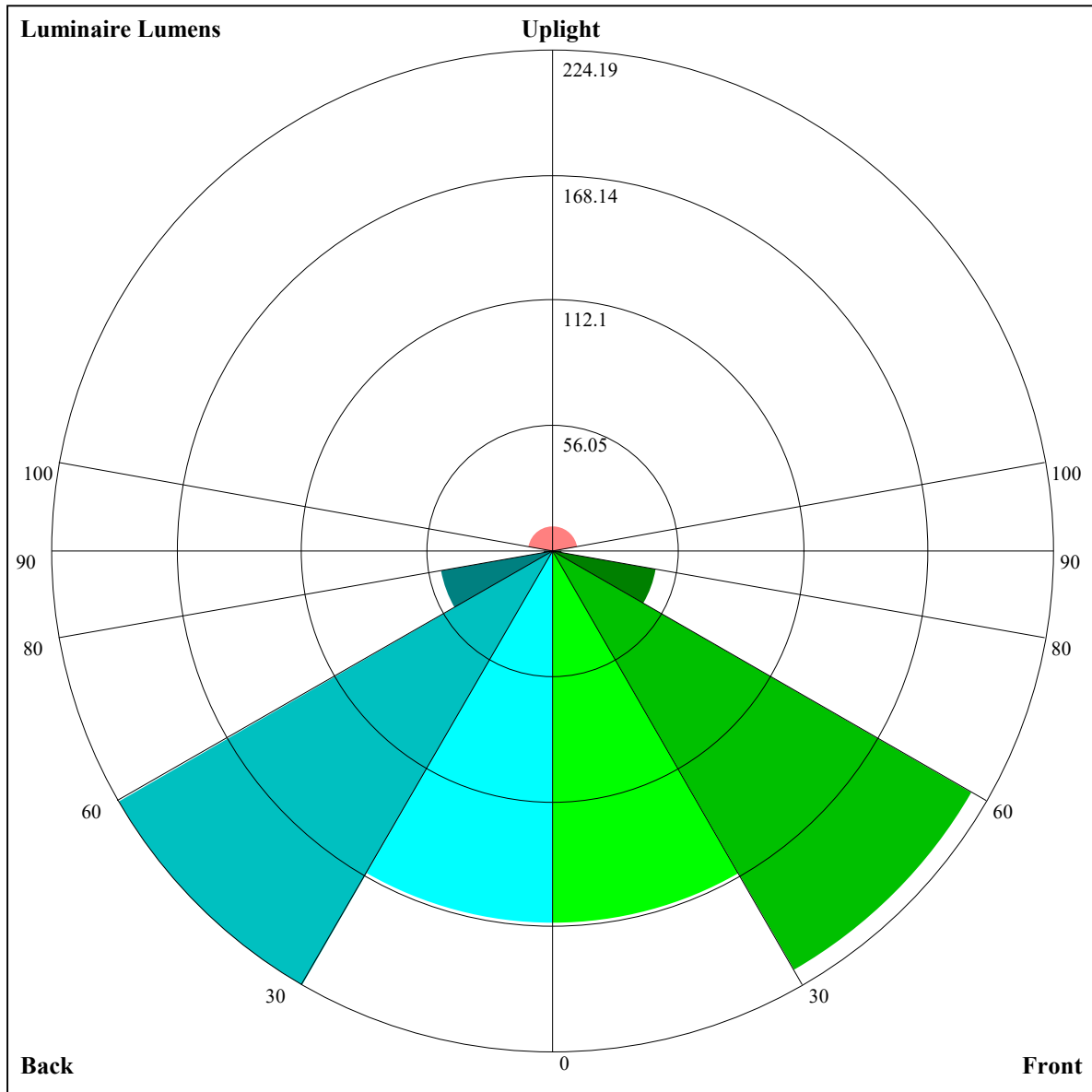
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

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	19.63	21.05	20.01	21.40	21.75	19.39	20.81	19.78	21.16	21.51
	3H	20.35	21.63	20.76	22.00	22.38	20.36	21.64	20.76	22.01	22.38
	4H	20.91	22.10	21.33	22.48	22.88	20.74	21.93	21.16	22.32	22.71
	6H	21.29	22.40	21.72	22.80	23.23	20.95	22.06	21.39	22.46	22.89
	8H	21.36	22.42	21.79	22.83	23.27	20.94	22.01	21.38	22.41	22.85
	12H	21.39	22.40	21.83	22.82	23.27	20.89	21.91	21.33	22.33	22.77
4H	2H	20.04	21.24	20.46	21.62	22.02	19.86	21.06	20.28	21.44	21.84
	3H	21.01	22.01	21.45	22.43	22.88	21.10	22.11	21.54	22.53	22.97
	4H	21.71	22.60	22.17	23.04	23.52	21.63	22.51	22.08	22.96	23.43
	6H	22.14	22.93	22.63	23.40	23.88	21.94	22.73	22.43	23.20	23.68
	8H	22.28	23.02	22.78	23.49	23.99	21.99	22.72	22.48	23.20	23.69
	12H	22.39	23.07	22.89	23.54	24.08	21.96	22.64	22.47	23.11	23.65
8H	4H	21.86	22.60	22.36	23.07	23.57	21.77	22.51	22.27	22.98	23.48
	6H	22.38	23.00	22.90	23.49	24.02	22.24	22.85	22.75	23.35	23.88
	8H	22.66	23.19	23.20	23.73	24.25	22.39	22.92	22.93	23.45	23.98
	12H	22.89	23.34	23.44	23.87	24.42	22.37	22.81	22.91	23.35	23.89
12H	4H	21.87	22.55	22.38	23.02	23.56	21.78	22.46	22.28	22.93	23.47
	6H	22.45	22.99	22.99	23.52	24.05	22.30	22.84	22.84	23.37	23.90
	8H	22.71	23.16	23.26	23.69	24.24	22.42	22.87	22.97	23.40	23.95
Variation with the observer position at spacings:											
S = 1.0H		0.4/-0.6					0.4/-0.8				
S = 1.5H		0.8/-1.3					0.7/-1.0				
S = 2.0H		2.0/-1.7					2.2/-1.8				
Standard tables:		BK3					BK3				
Uncorrected UGR		7.6					8.0				

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



Luminaire Lumens:

FL=166.87,FM=216.49,FH=47.32,FVH=3.99

BL=167.14,BM=224.19,BH=51.38,BVH=4.6

UL=1.16,UH=11.73

BUG Rating:B1-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	365.80	387.93	368.90	385.60	366.18	344.44	313.37	269.88	226.39
22.5	379.78	392.20	380.94	388.32	377.83	327.74	288.52	250.47	212.41
45.0	384.05	391.42	387.54	379.78	350.26	332.40	290.85	262.11	206.20
67.5	387.93	396.08	393.75	372.01	354.15	332.40	291.63	260.95	207.75
90.0	391.81	384.43	379.78	378.22	359.58	324.25	292.40	255.51	206.20
112.5	387.15	394.53	395.70	374.34	366.18	325.41	279.20	269.10	230.66
135.0	383.66	382.11	389.48	379.78	362.30	342.50	296.29	254.74	220.18
157.5	379.39	385.21	377.45	377.83	371.62	337.45	309.49	266.77	223.67
180.0	365.80	380.94	381.72	386.76	372.40	338.22	318.42	279.98	223.28
202.5	379.78	387.93	384.43	372.01	357.64	342.11	302.11	283.47	234.54
225.0	384.05	395.70	394.92	368.90	370.84	346.38	305.61	275.32	243.48
247.5	387.93	373.17	381.72	379.78	362.30	345.99	310.27	254.74	241.15
270.0	391.81	383.66	377.83	370.07	361.91	330.85	321.14	256.29	231.83
292.5	387.15	364.24	386.76	373.17	377.83	355.70	299.78	284.64	233.77
315.0	383.66	389.87	389.48	376.67	359.97	344.44	310.65	262.11	231.44
337.5	379.39	384.82	378.22	375.89	368.90	338.61	308.71	285.80	225.22
360.0	365.80	387.93	368.90	385.60	366.18	344.44	313.37	269.88	226.39
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	133.19	119.21	108.73	73.39	38.05	31.84	34.95	15.14	5.44
22.5	173.19	118.44	89.31	66.01	43.49	38.44	28.35	14.37	12.43
45.0	163.09	130.47	78.83	75.72	58.25	42.71	22.91	15.53	0.39
67.5	170.08	118.83	79.99	60.58	46.99	48.15	24.46	19.80	0.00
90.0	147.17	113.39	99.80	68.34	40.00	34.56	24.46	8.93	0.00
112.5	184.45	130.09	81.16	56.31	57.47	38.44	20.19	23.30	1.94
135.0	177.46	147.56	107.95	74.17	67.18	42.71	24.08	32.62	0.00
157.5	190.66	139.41	98.63	72.62	62.13	46.21	30.29	16.70	3.11
180.0	186.78	116.50	95.91	78.44	74.95	45.04	31.45	22.13	8.93
202.5	186.00	166.59	98.63	81.16	51.26	45.43	37.67	22.91	10.87
225.0	189.89	158.05	118.05	71.06	62.13	49.70	47.37	36.11	4.66
247.5	184.45	139.41	101.74	85.82	43.88	47.37	27.18	18.25	6.21
270.0	188.33	116.11	122.71	84.27	65.63	43.49	31.45	15.53	0.00
292.5	184.45	157.66	100.96	78.44	60.58	52.42	29.51	16.31	0.00
315.0	181.73	142.51	126.98	75.33	55.53	43.88	28.74	25.24	10.87
337.5	171.64	146.01	86.98	72.23	46.60	50.48	25.24	28.74	2.72
360.0	133.19	119.21	108.73	73.39	38.05	31.84	34.95	15.14	5.44
C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	0.00	0.00	0.00	0.78	2.72	4.27	1.55	0.00	0.00
22.5	3.49	0.00	3.49	0.00	15.14	0.00	0.39	0.00	0.00
45.0	0.39	0.00	0.00	6.60	0.00	3.11	2.72	11.65	0.00
67.5	0.00	3.49	0.00	0.00	0.00	0.00	0.00	0.39	10.10
90.0	0.00	0.00	0.00	0.00	0.00	0.00	1.94	0.00	0.00
112.5	0.00	2.33	0.00	0.00	0.00	0.00	4.66	0.00	0.00
135.0	0.00	0.00	0.39	0.00	0.00	0.00	0.00	6.99	9.32
157.5	0.00	4.27	0.00	0.00	6.21	0.00	1.55	0.00	0.00
180.0	0.00	2.33	5.44	0.00	0.00	0.00	2.72	0.00	4.27
202.5	0.00	0.00	0.00	0.00	0.00	6.21	8.93	8.93	1.16
225.0	0.00	0.00	4.27	0.00	5.82	0.00	0.00	2.72	0.00
247.5	0.00	0.00	0.00	0.00	0.00	10.10	10.48	0.00	0.00
270.0	3.11	0.00	0.00	0.00	0.00	0.00	5.05	0.00	0.00
292.5	0.00	0.00	10.48	0.00	0.00	0.00	0.00	2.72	11.26
315.0	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.05
337.5	4.27	0.00	0.00	0.00	0.00	6.21	0.00	3.49	4.66
360.0	0.00	0.00	0.00	0.78	2.72	4.27	1.55	0.00	0.00

Intensity data(cd)

Appendix Page: 14 Total:14

C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	3.11	0.00	0.00	0.00	0.00	1.16	5.82	0.39	7.77
22.5	3.49	0.00	0.00	3.11	10.48	0.00	3.11	0.00	7.77
45.0	0.00	1.55	9.71	0.00	0.00	5.82	3.11	0.00	1.94
67.5	0.00	0.00	0.00	0.00	7.38	0.00	0.00	0.00	0.00
90.0	3.88	13.20	0.00	3.49	3.11	0.00	9.32	0.00	0.00
112.5	0.00	3.49	0.00	0.00	1.55	10.48	3.49	0.00	13.20
135.0	5.05	0.00	0.00	3.11	0.00	5.82	0.00	3.11	0.00
157.5	5.82	0.00	6.99	2.33	0.00	8.15	0.00	0.00	0.00
180.0	0.00	0.00	0.00	0.00	4.66	0.00	5.44	0.00	0.00
202.5	5.82	2.33	0.00	3.49	0.00	0.00	2.72	0.00	0.00
225.0	0.00	0.00	10.87	19.42	8.93	0.00	3.49	0.00	19.03
247.5	0.00	0.00	0.00	5.05	0.00	1.94	0.00	0.00	19.03
270.0	0.00	0.00	0.00	0.00	0.00	0.00	6.21	2.72	0.00
292.5	4.27	0.00	0.00	6.60	0.00	0.00	0.00	0.00	0.00
315.0	2.72	0.00	4.66	0.00	0.00	2.33	0.00	2.33	3.11
337.5	0.00	5.44	0.00	0.00	0.00	3.11	0.00	0.00	0.00
360.0	3.11	0.00	0.00	0.00	0.00	1.16	5.82	0.39	7.77

C/γ(°)	180.0
0.0	2.33
22.5	0.00
45.0	0.00
67.5	0.00
90.0	0.00
112.5	6.60
135.0	4.27
157.5	10.10
180.0	2.33
202.5	0.00
225.0	0.00
247.5	0.00
270.0	0.00
292.5	6.60
315.0	4.27
337.5	10.10
360.0	2.33