



SGSO

Address: LIT by CARDI

Client:

LumCAT: 0017440223 KAI 2W 3000K 240lm

Luminaire:

Report No:

Voltage(V): 230.0000

Test No: KYZ-A251014055-02-001

Current(A): 0.0190

LampCAT: LED

Power (W): 2.0000

Lamp flux(lm)

PF: 0.4673

Number of Lamps: 1

Ballast type:

Length(mm): -46

Width(mm): -46

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 240.00

Lumens(lm)/Power(W): 120.00

Central intensity(cd): 110.784

Maximum intensity(cd): 130.359

Angle of maximum intensity: $C=337.5$ $\gamma=15.0$

Beam Angle(50%Imax): [C0/180]Total=79.8

[C90/270]Total=79.3

Field angle(10%Imax): [C0/180]Total=238.2

[C90/270]Total=228.1

Maximum s/h(1/2): C0_180=1.23 C90_270=1.12

Maximum s/h(1/4): C0_180=1.13 C90_270=56.89

Up flux rate of LUM(%): 6.01%

Down flux rate of LUM(%): 93.99%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 82.798%

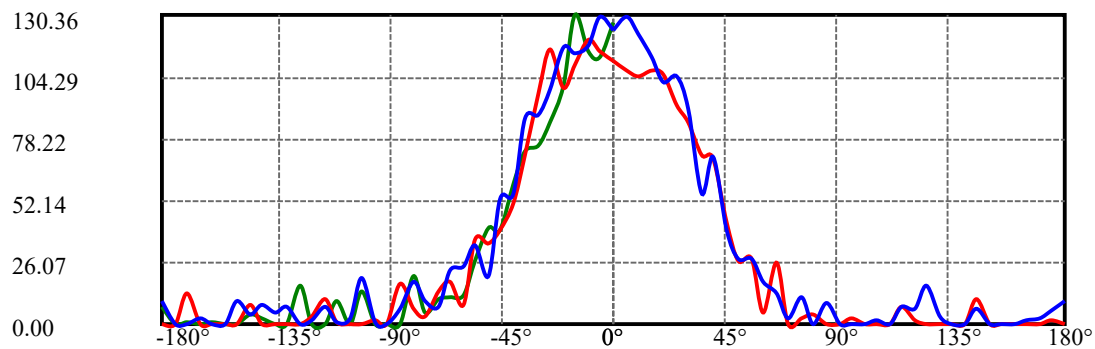
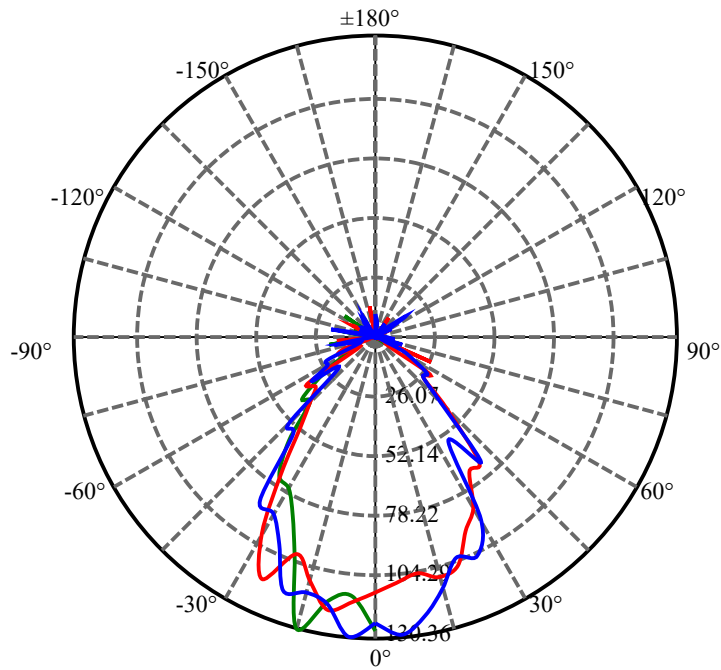
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	123.358	0.000	0	.000%	.000%
5.0	125.677	2.841	2.841	1.184%	1.184%
10.0	120.112	8.390	11.231	3.496%	4.679%
15.0	120.167	13.600	24.831	5.667%	10.346%
20.0	113.565	18.381	43.212	7.659%	18.005%
25.0	104.372	21.811	65.022	9.088%	27.093%
30.0	90.541	23.537	88.559	9.807%	36.900%
35.0	80.830	24.080	112.639	10.033%	46.933%
40.0	65.580	23.309	135.947	9.712%	56.645%
45.0	53.114	20.971	156.918	8.738%	65.383%
50.0	38.273	17.620	174.538	7.342%	72.724%
55.0	29.162	13.991	188.529	5.830%	78.554%
60.0	17.023	10.186	198.716	4.244%	82.798%
65.0	16.695	7.821	206.537	3.259%	86.057%
70.0	10.421	6.551	213.088	2.730%	88.787%
75.0	6.301	4.171	217.259	1.738%	90.525%
80.0	7.120	3.427	220.686	1.428%	91.953%
85.0	5.265	3.211	223.897	1.338%	93.291%
90.0	1.118	1.668	225.565	.695%	93.986%
95.0	2.291	0.891	226.456	.371%	94.357%
100.0	3.328	1.457	227.913	.607%	94.964%
105.0	1.037	1.114	229.027	.464%	95.428%
110.0	1.828	0.714	229.741	.298%	95.726%
115.0	4.310	1.483	231.224	.618%	96.344%
120.0	3.546	1.822	233.047	.759%	97.103%
125.0	4.337	1.739	234.786	.725%	97.828%
130.0	1.228	1.155	235.94	.481%	98.309%
135.0	2.346	0.689	236.629	.287%	98.596%
140.0	1.364	0.655	237.285	.273%	98.869%
145.0	2.783	0.660	237.945	.275%	99.144%
150.0	1.228	0.563	238.508	.235%	99.379%
155.0	1.773	0.362	238.871	.151%	99.530%
160.0	1.746	0.352	239.223	.147%	99.676%
165.0	0.791	0.200	239.422	.083%	99.760%
170.0	4.065	0.275	239.697	.115%	99.874%
175.0	2.701	0.231	239.928	.096%	99.970%
180.0	3.546	0.071	239.999	.030%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Fixt
0-30	88.56	36.90%
0-40	135.95	56.64%
0-60	198.72	82.80%
0-90	225.56	93.99%
0-120	233.05	97.10%
0-180	240.00	100.00%
60-90	37.04	15.43%
90-120	9.15	3.81%
90-130	12.04	5.02%
90-150	14.61	6.09%
90-180	16.03	6.68%
0-56.70	192.00	80.00%

ZONAL LUMEN SUMMARY

0-10	11.23
10-20	31.98
20-30	45.35
30-40	47.39
40-50	38.59
50-60	24.18
60-70	14.37
70-80	7.60
80-90	4.88
90-100	2.35
100-110	1.83
110-120	3.31
120-130	2.89
130-140	1.34
140-150	1.22
150-160	0.71
160-170	0.47
170-180	0.23



C337.5(Max):

C0/C180:

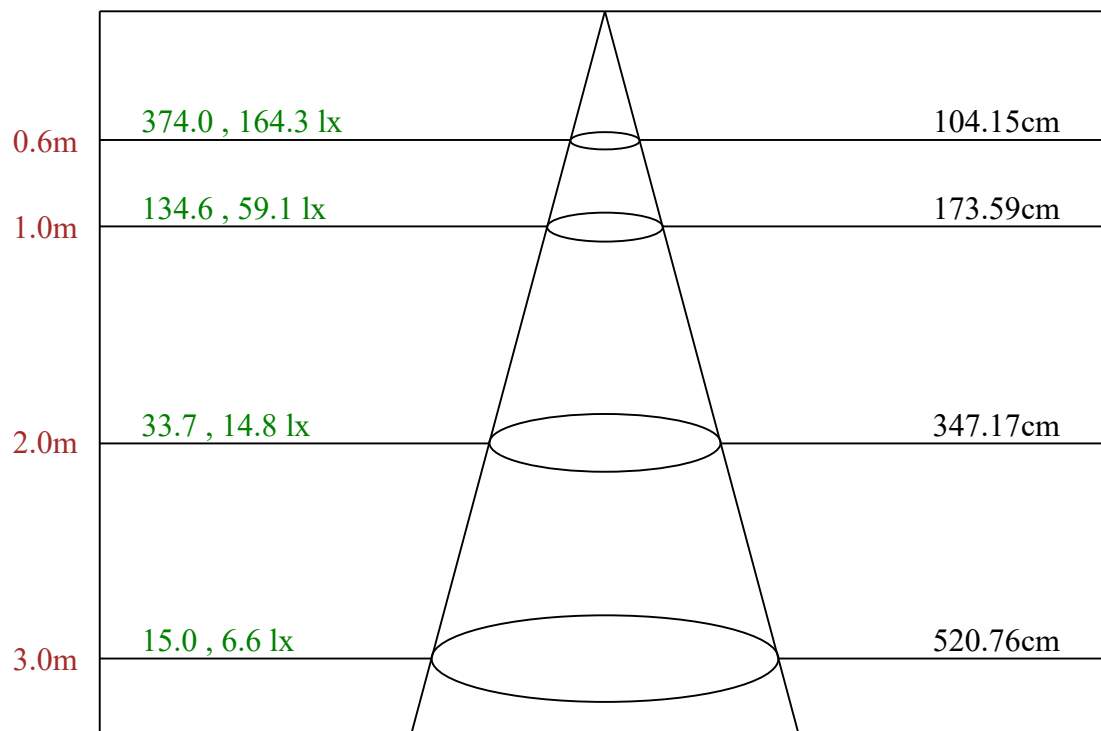
C90/C270:

Field angle(10%Imax):C0/180Left:160.5 Right:77.7

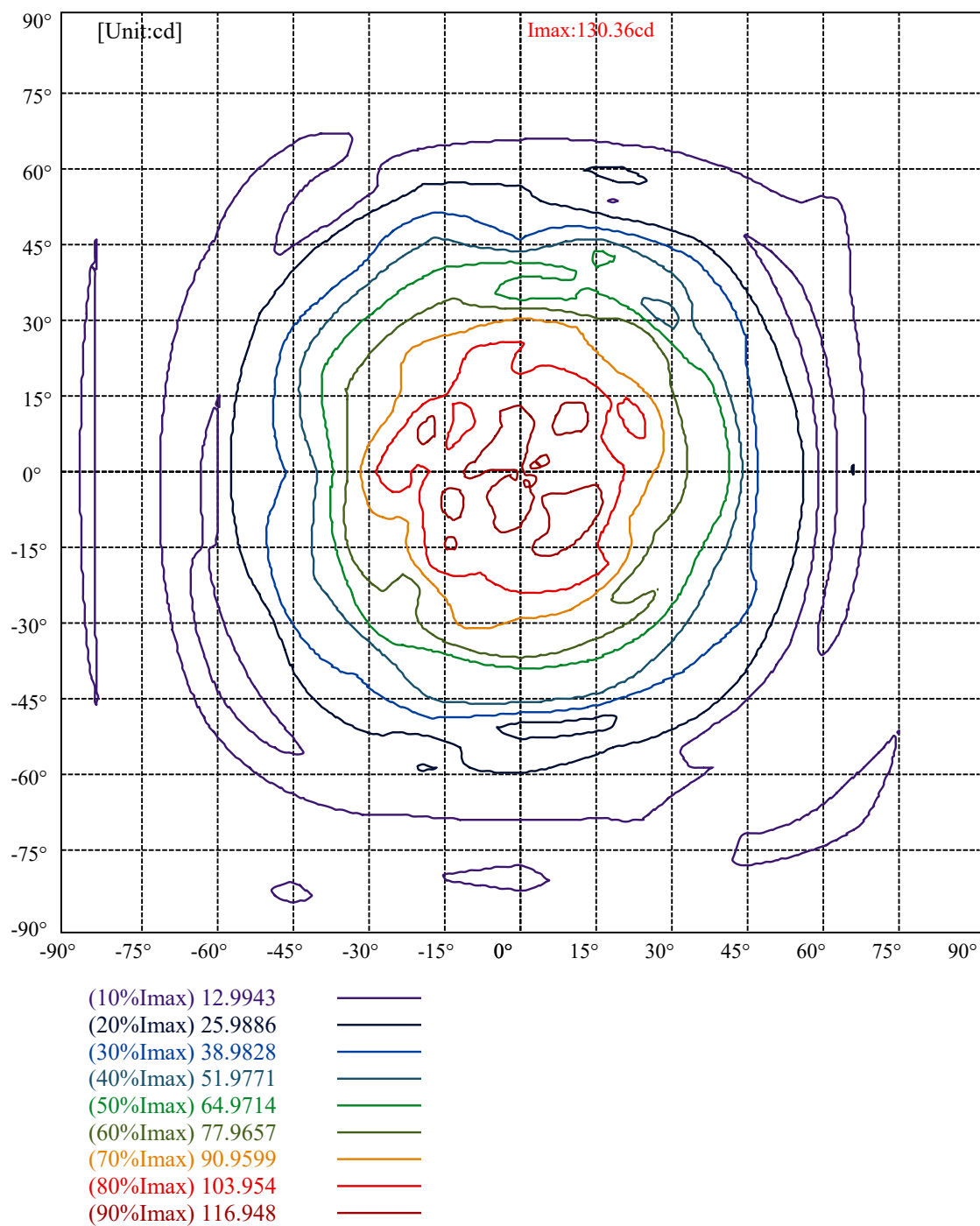
:C90/270Left:96.8 Right:131.3

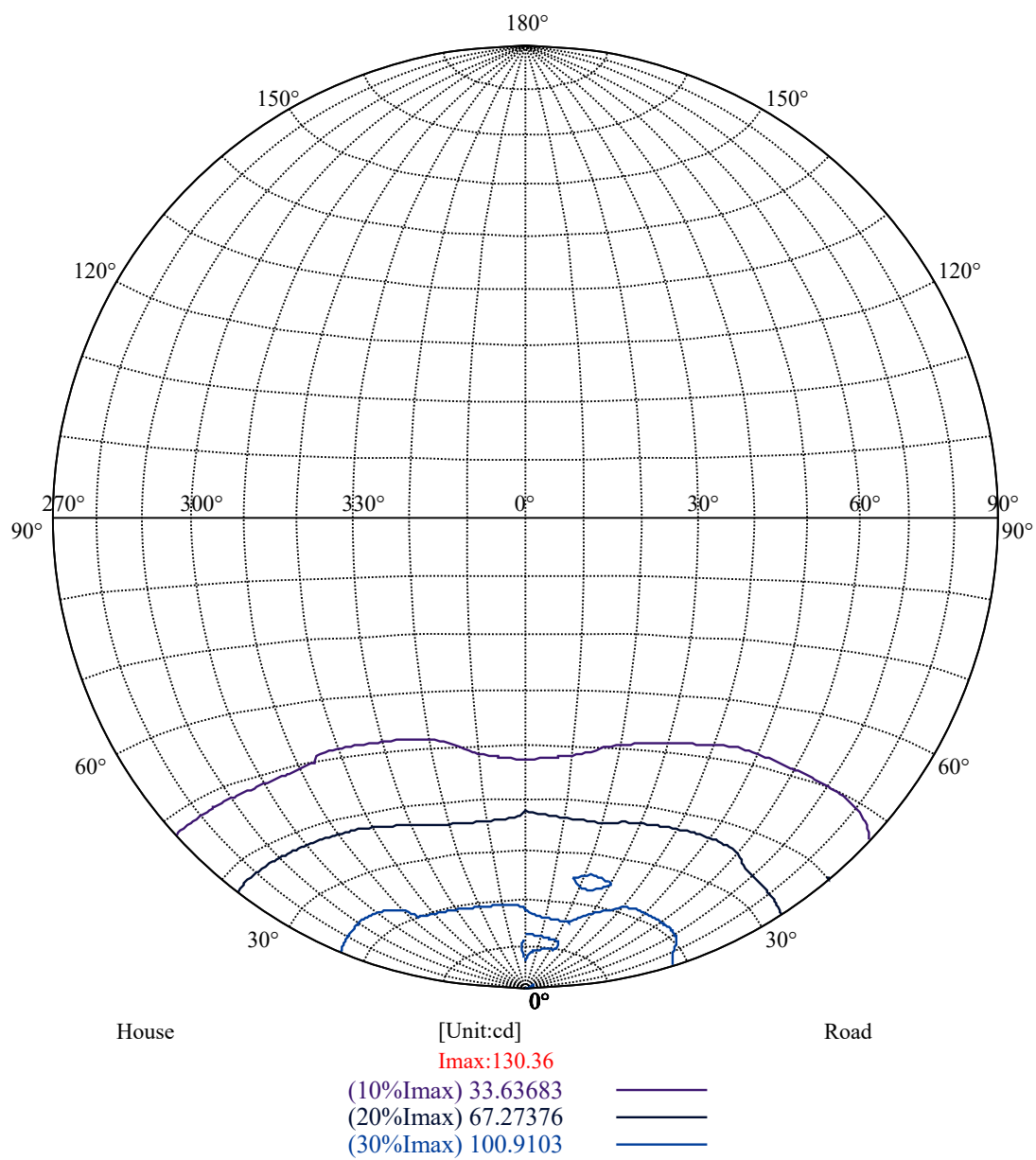
Beam Angle(50%Imax):C0/180Left:27.9 Right:51.9

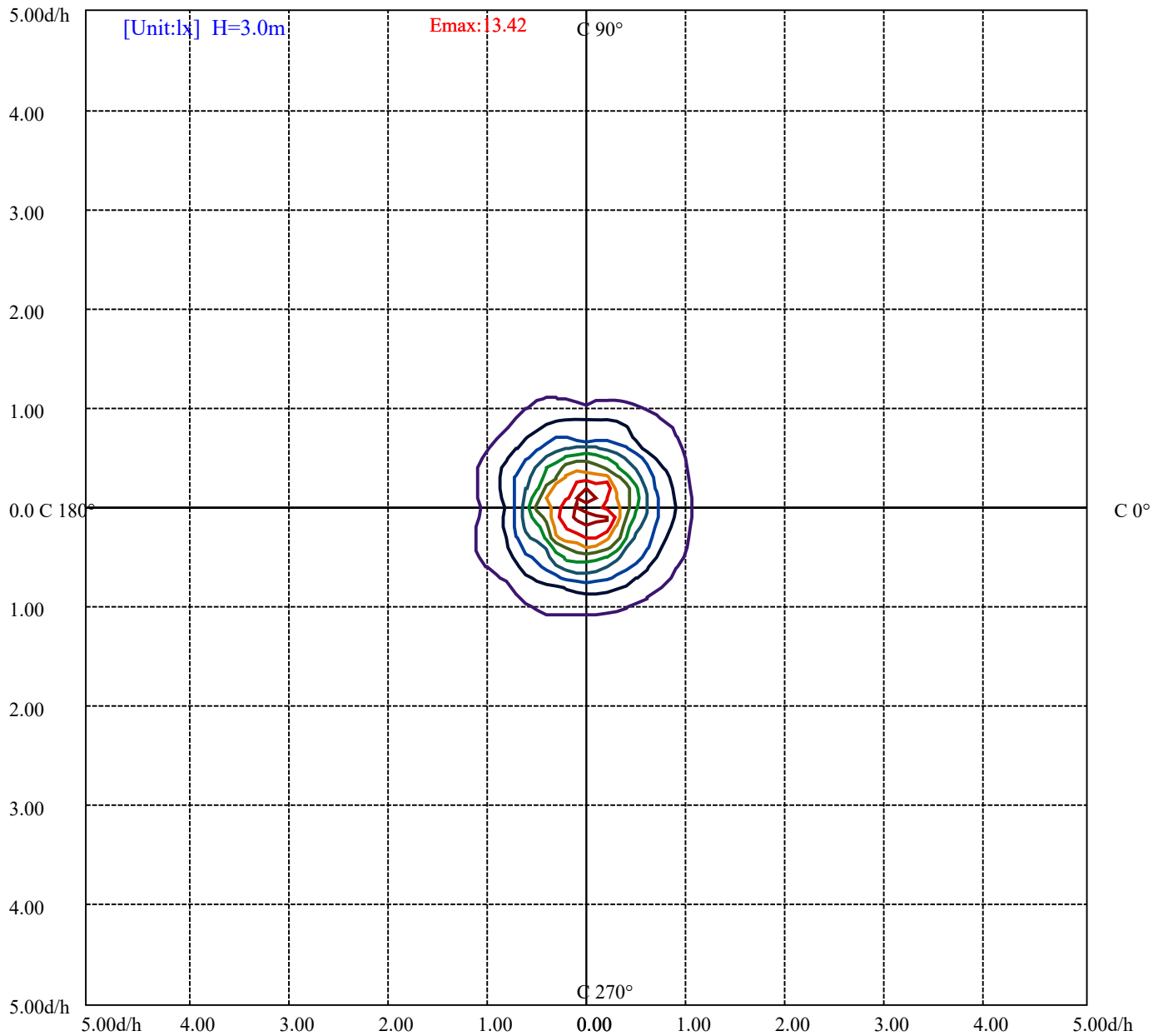
:C90/270Left:33.4 Right:45.9



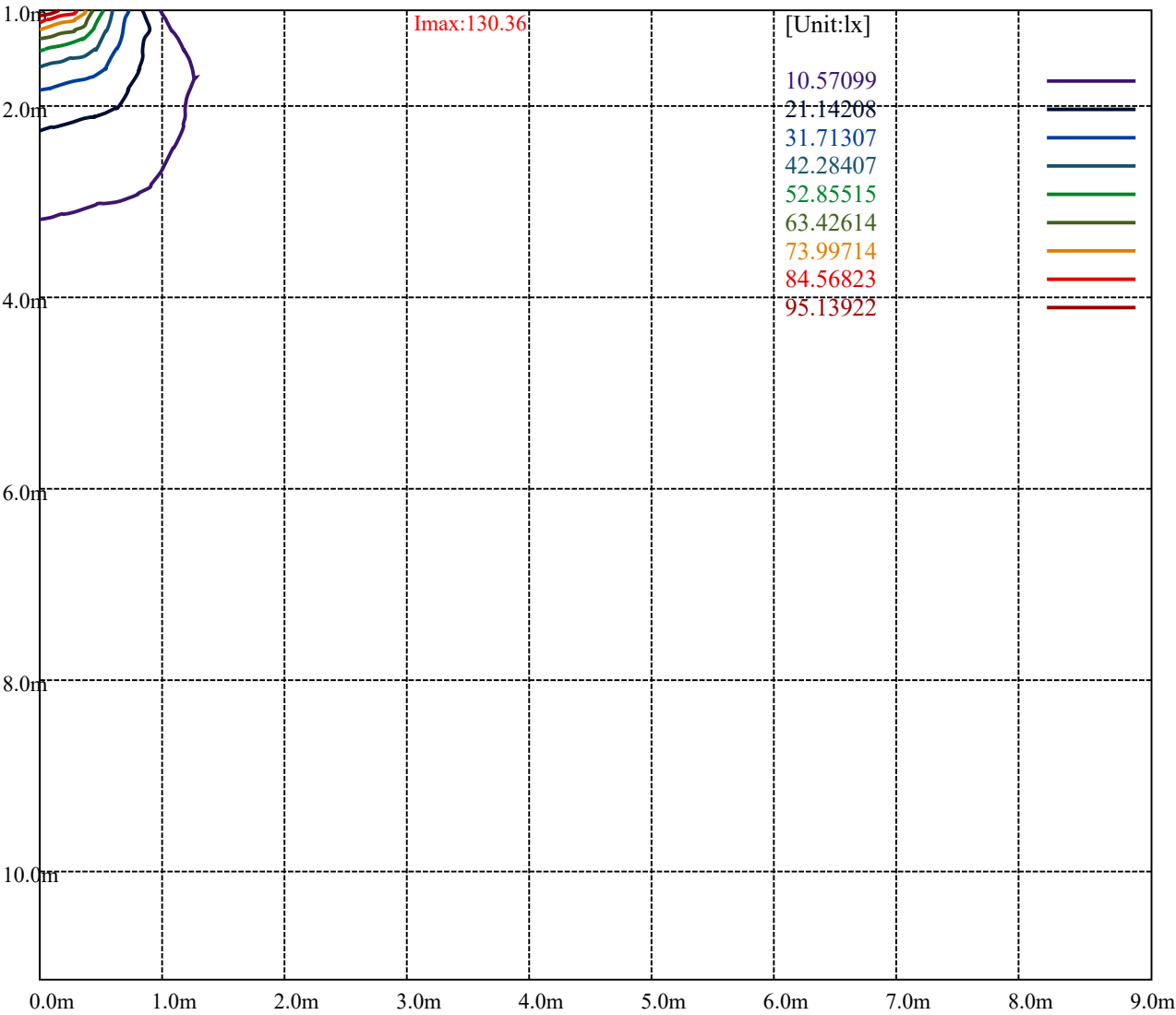
Max , Ave Beam angle of C337.5 plane 81.91







(10%Emax)	1.341762	
(20%Emax)	2.683524	
(30%Emax)	4.025276	
(40%Emax)	5.367037	
(50%Emax)	6.7088	
(60%Emax)	8.050562	
(70%Emax)	9.392324	
(80%Emax)	10.7341	
(90%Emax)	12.07581	



Luminance Table

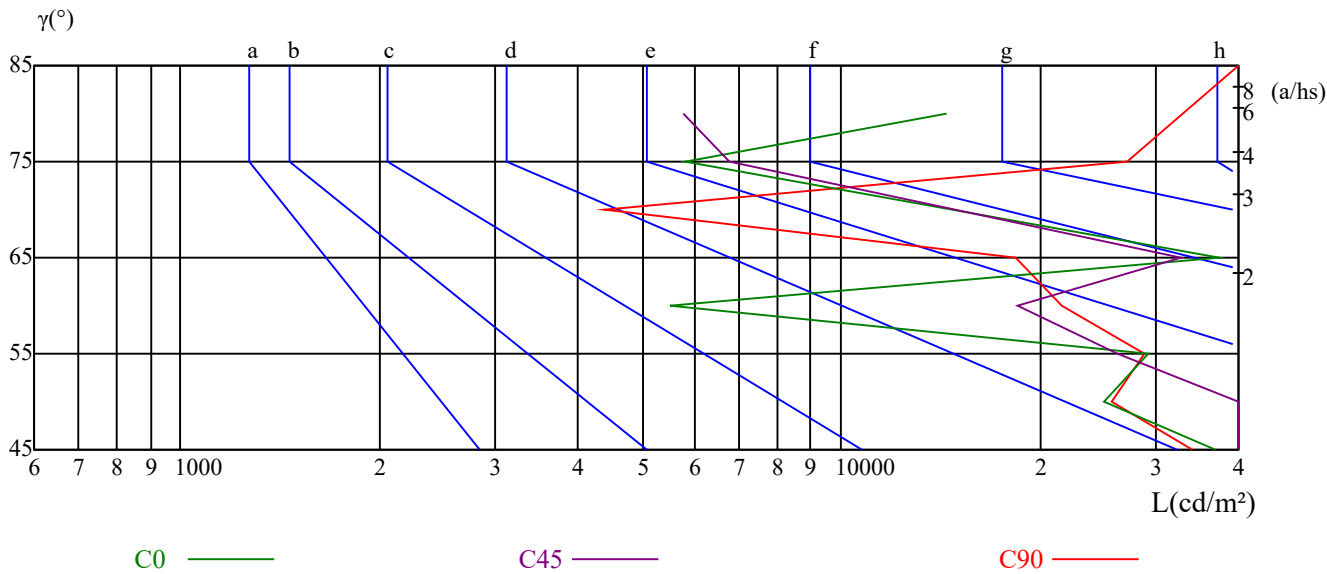
γ	45	50	55	60	65	70	75	80	85
C0	36858	24952	29274	5513	37358	0	5810	14433	0
C45	48199	43276	26215	18545	32614	0	6777	5773	0
C90	34024	25731	28836	21552	18383	4397	27111	0	60383

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
31132	25498	21940	6294	25174	10409	58944	51757	29472

Glare Table

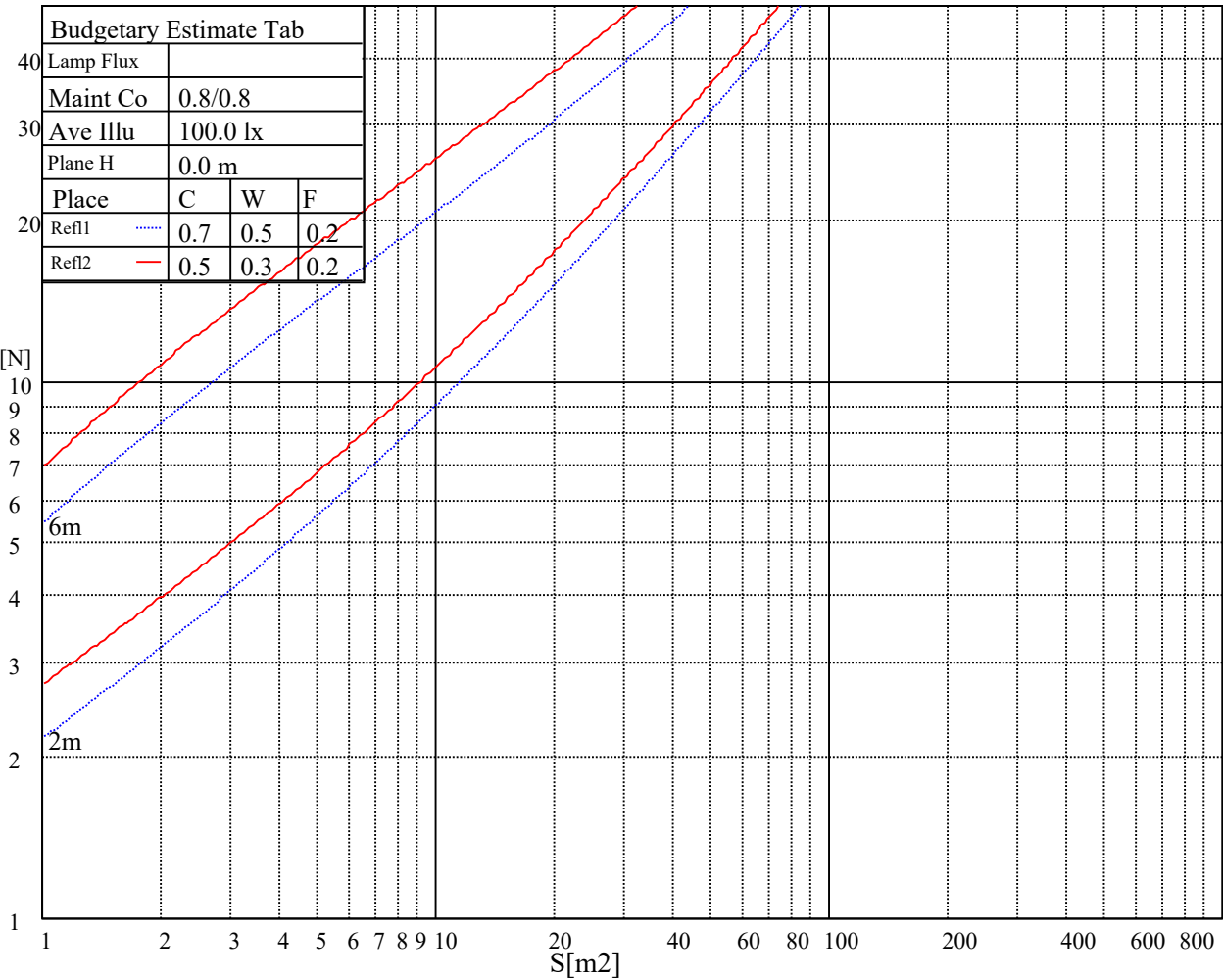
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve

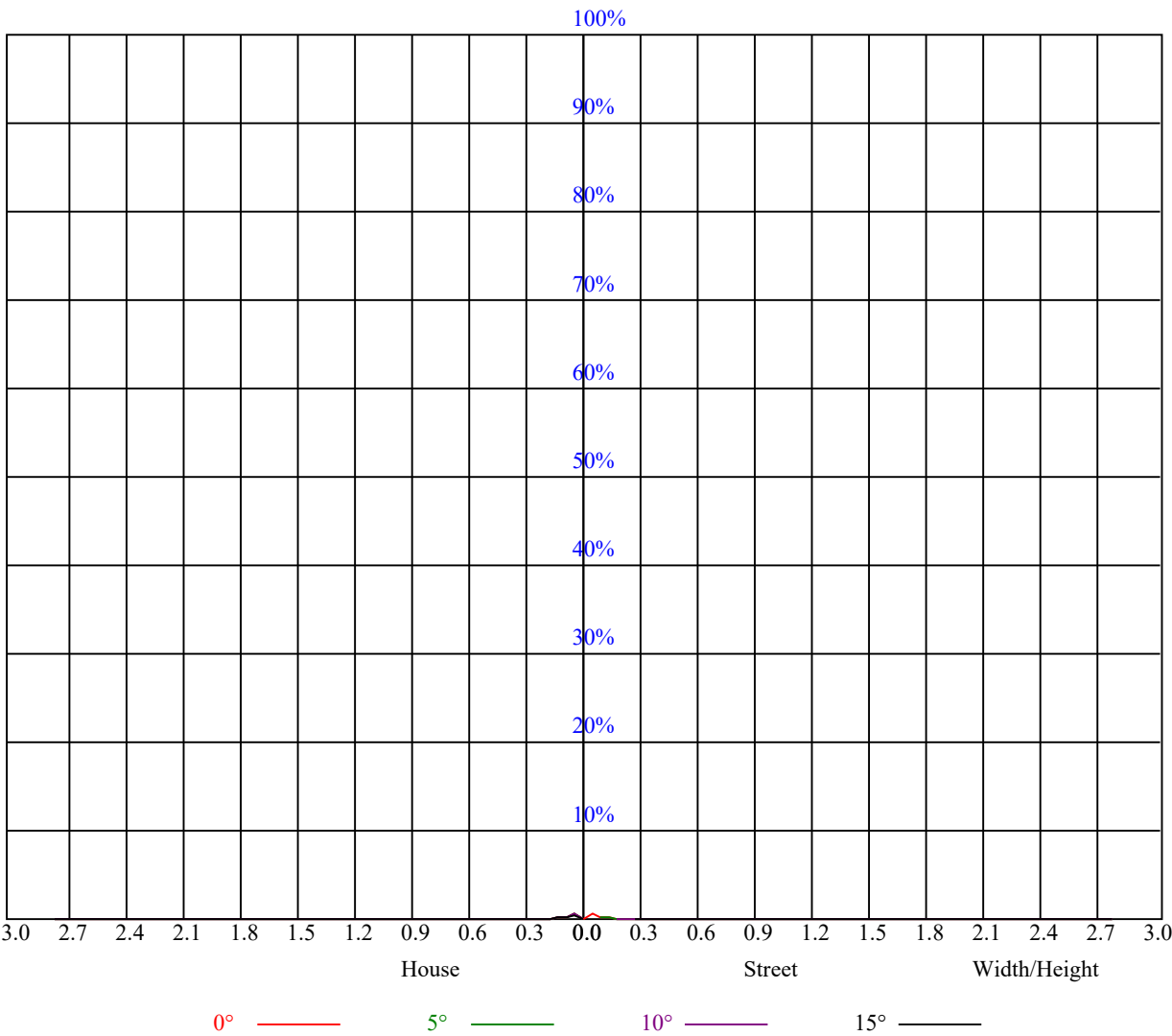


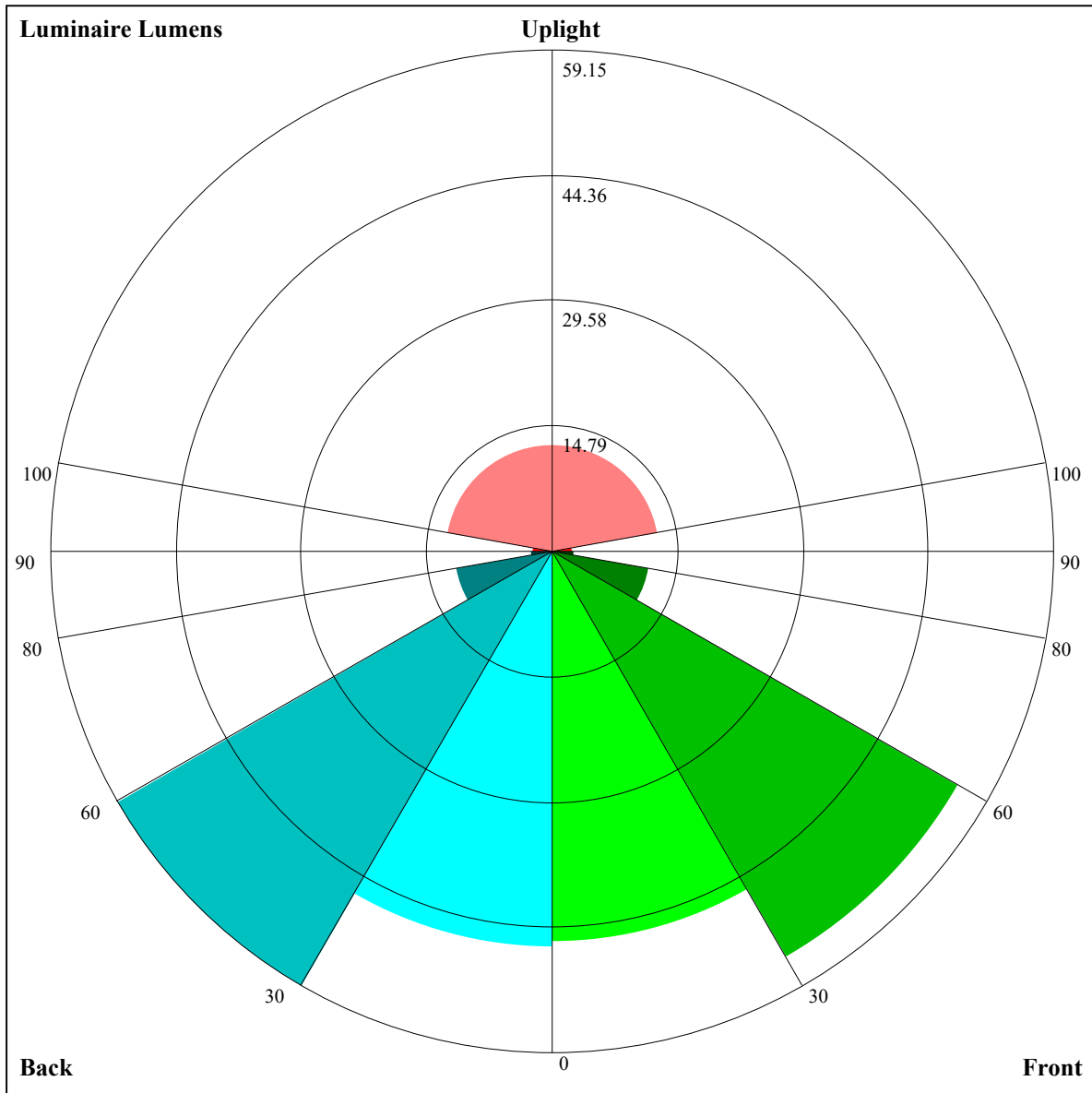
Illumination assessment according UGR											
Rf of Ceiling		70	70	50	50	30	70	70	50	50	30
Rf of Wall		50	30	50	30	30	50	30	50	30	30
Rf of Floor		20	20	20	20	20	20	20	20	20	20
Room dimensions		Viewed crosswise					Viewed endwise				
X	Y										
2H	2H	17.80	19.11	18.26	19.55	20.02	18.75	20.07	19.21	20.51	20.97
	3H	19.36	20.55	19.85	21.01	21.50	19.03	20.21	19.51	20.67	21.16
	4H	19.55	20.66	20.05	21.13	21.64	19.63	20.73	20.12	21.21	21.71
	6H	19.68	20.70	20.18	21.19	21.73	20.00	21.03	20.51	21.51	22.05
	8H	19.72	20.71	20.23	21.20	21.75	20.16	21.14	20.67	21.64	22.18
	12H	19.74	20.69	20.26	21.19	21.75	20.95	21.89	21.46	22.39	22.95
4H	2H	18.36	19.47	18.85	19.94	20.45	19.11	20.21	19.60	20.69	21.20
	3H	20.08	21.01	20.60	21.52	22.07	19.37	20.30	19.89	20.81	21.36
	4H	20.59	21.42	21.12	21.95	22.53	20.33	21.16	20.86	21.68	22.26
	6H	20.70	21.44	21.26	21.99	22.57	21.11	21.85	21.67	22.40	22.98
	8H	20.84	21.53	21.41	22.08	22.68	21.51	22.20	22.08	22.76	23.36
	12H	21.10	21.73	21.67	22.28	22.92	22.54	23.18	23.12	23.73	24.37
8H	4H	20.57	21.25	21.14	21.81	22.41	20.40	21.08	20.97	21.64	22.24
	6H	20.69	21.27	21.28	21.84	22.48	21.56	22.14	22.15	22.71	23.35
	8H	21.16	21.66	21.77	22.27	22.90	22.42	22.93	23.03	23.54	24.16
	12H	22.34	22.76	22.96	23.37	24.02	23.82	24.25	24.44	24.86	25.50
12H	4H	20.63	21.26	21.20	21.81	22.46	20.37	21.01	20.94	21.56	22.20
	6H	20.80	21.30	21.41	21.91	22.54	21.58	22.09	22.19	22.70	23.32
	8H	21.30	21.72	21.92	22.33	22.98	22.47	22.90	23.09	23.51	24.15
Variation with the observer position at spacings:											
S = 1.0H		1.0/-1.8					1.1/-0.7				
S = 1.5H		1.1/-1.7					2.2/-2.7				
S = 2.0H		1.3/-2.1					1.9/-3.4				
Standard tables:		BKBF					BK5				
Uncorrected UGR		11.4					8.5				

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



RHOC	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	1.18	1.18	1.18	1.14	1.14	1.14	1.08	1.08	1.08	1.02	1.02	1.02	0.97	0.97	0.97	0.94
1	1.05	1.01	0.98	1.02	0.99	0.96	0.97	0.94	0.91	0.92	0.90	0.88	0.87	0.86	0.84	0.82
2	0.93	0.88	0.83	0.91	0.86	0.81	0.87	0.82	0.78	0.83	0.79	0.76	0.79	0.76	0.73	0.71
3	0.84	0.77	0.71	0.82	0.75	0.70	0.78	0.73	0.68	0.75	0.70	0.66	0.72	0.68	0.65	0.62
4	0.76	0.68	0.62	0.74	0.67	0.61	0.71	0.65	0.60	0.68	0.63	0.59	0.65	0.61	0.57	0.55
5	0.69	0.61	0.55	0.67	0.60	0.54	0.65	0.58	0.53	0.62	0.56	0.52	0.60	0.55	0.51	0.49
6	0.63	0.55	0.49	0.61	0.54	0.48	0.59	0.52	0.48	0.57	0.51	0.47	0.55	0.50	0.46	0.44
7	0.57	0.49	0.44	0.56	0.49	0.44	0.54	0.48	0.43	0.52	0.47	0.42	0.51	0.45	0.42	0.40
8	0.53	0.45	0.40	0.52	0.45	0.40	0.50	0.44	0.39	0.48	0.43	0.38	0.47	0.42	0.38	0.36
9	0.49	0.41	0.36	0.48	0.41	0.36	0.46	0.40	0.36	0.45	0.39	0.35	0.44	0.38	0.35	0.33
10	0.45	0.38	0.33	0.45	0.38	0.33	0.43	0.37	0.33	0.42	0.36	0.32	0.41	0.36	0.32	0.30





Luminaire Lumens:

FL=46.08,FM=55.34,FH=11.64,FVH=2.69

BL=46.81,BM=59.15,BH=11.68,BVH=2.6

UL=2.46,UH=12.66

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	110.78	106.62	104.12	107.04	104.95	92.46	85.38	71.22	69.97
22.5	122.45	122.03	104.95	107.45	98.29	110.78	87.88	71.22	67.89
45.0	102.04	114.12	117.03	128.69	109.95	96.21	81.63	87.46	46.23
67.5	118.70	111.20	114.95	107.87	108.70	94.13	91.63	67.05	63.31
90.0	124.11	129.53	122.03	112.87	101.62	104.54	90.79	54.98	70.80
112.5	109.12	123.70	116.62	117.03	111.62	107.04	88.71	79.96	69.97
135.0	127.44	126.61	110.78	98.29	105.79	90.38	96.21	81.63	68.30
157.5	127.03	126.19	113.28	100.79	126.19	99.96	82.05	82.46	72.88
180.0	110.78	115.37	119.53	109.12	99.96	115.78	97.46	71.64	50.81
202.5	122.45	114.95	112.03	123.70	107.04	87.04	87.04	87.04	59.14
225.0	102.04	129.53	112.45	112.87	119.53	105.37	74.55	74.13	72.88
247.5	118.70	124.94	119.11	114.95	105.37	97.87	96.21	84.96	52.89
270.0	124.11	129.94	117.45	114.53	116.20	99.12	88.29	86.63	54.98
292.5	109.12	118.70	108.70	121.20	112.87	103.29	86.21	79.96	61.22
315.0	127.44	112.87	125.36	127.86	104.95	104.12	72.88	80.80	61.22
337.5	127.03	112.45	115.37	130.36	100.79	85.38	75.38	72.88	58.72
360.0	110.78	106.62	104.12	107.04	104.95	92.46	85.38	71.22	69.97
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	43.31	26.65	27.90	4.58	26.24	0.00	2.50	4.17	0.00
22.5	41.65	38.32	22.49	7.91	17.91	17.91	11.66	0.00	12.91
45.0	56.64	46.23	24.99	15.41	22.91	0.00	2.92	1.67	0.00
67.5	67.47	36.65	11.25	30.82	14.99	0.42	11.66	10.83	8.75
90.0	39.98	27.49	27.49	17.91	12.91	2.50	11.66	0.00	8.75
112.5	58.72	48.31	31.24	23.32	12.49	2.92	5.41	5.41	0.00
135.0	55.81	35.40	34.57	0.42	11.66	20.41	2.50	0.00	0.00
157.5	58.72	42.06	30.40	20.82	19.16	12.08	4.17	0.00	0.00
180.0	39.98	33.73	35.40	7.91	17.49	14.16	2.92	6.25	17.08
202.5	51.23	48.73	23.32	22.07	4.58	18.74	2.08	7.91	0.00
225.0	42.48	38.32	33.73	17.49	14.16	16.66	0.00	7.91	16.24
247.5	60.39	40.81	21.66	26.65	19.16	11.25	8.75	11.66	0.00
270.0	52.48	20.41	33.32	24.16	22.91	7.50	10.00	17.49	6.25
292.5	54.14	24.57	27.49	19.16	14.16	13.33	2.92	0.00	9.58
315.0	47.90	35.82	33.32	9.16	12.91	10.83	12.49	14.99	0.83
337.5	39.98	40.81	26.65	12.08	11.25	10.41	4.58	20.41	0.00
360.0	43.31	26.65	27.90	4.58	26.24	0.00	2.50	4.17	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	2.50	0.00	0.00	0.00	7.08	1.67	0.00	0.00
22.5	0.00	0.00	5.83	0.00	2.08	0.00	0.42	8.75	0.00
45.0	0.00	0.00	0.00	0.00	7.50	0.00	2.08	0.00	0.00
67.5	0.00	2.92	2.08	0.00	0.83	0.00	0.00	0.00	0.00
90.0	0.00	0.00	0.00	1.25	0.00	7.50	6.66	16.24	3.33
112.5	0.00	14.99	0.00	4.17	0.00	0.00	0.00	10.00	0.00
135.0	0.00	0.00	0.00	0.00	0.00	10.41	3.75	5.41	0.00
157.5	0.00	3.33	7.08	2.08	3.33	0.42	5.00	0.00	6.66
180.0	0.00	1.25	0.00	0.00	0.83	10.83	3.33	0.00	0.00
202.5	6.25	0.00	0.00	0.42	2.50	22.07	0.00	0.00	0.00
225.0	0.00	8.75	0.00	2.08	0.00	0.00	3.75	5.00	0.83
247.5	4.58	0.00	2.50	0.00	0.00	0.00	0.00	0.00	0.00
270.0	0.00	0.42	19.16	2.08	0.83	7.50	1.25	0.00	7.08
292.5	0.00	0.83	0.00	0.00	0.00	0.00	3.33	3.75	0.00
315.0	6.25	0.00	0.00	3.75	0.00	0.00	22.91	1.25	0.83
337.5	0.00	0.00	14.16	0.00	10.00	0.00	0.00	15.83	0.00
360.0	0.00	2.50	0.00	0.00	0.00	7.08	1.67	0.00	0.00

Intensity data(cd)

Appendix Page: 17 Total:17

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	10.41	0.00	0.00	0.00	0.00	0.00	1.67
22.5	0.00	2.08	0.00	0.00	0.00	0.00	0.00	0.00	10.00
45.0	0.00	0.00	0.00	0.00	0.00	5.83	0.00	7.50	0.00
67.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.25
90.0	0.00	0.00	6.66	0.00	0.00	0.00	1.67	2.08	5.83
112.5	5.41	0.00	0.00	6.66	0.00	1.25	1.67	0.00	0.00
135.0	0.42	0.00	0.00	0.00	0.00	3.75	6.66	0.00	5.41
157.5	5.83	2.50	5.00	0.00	9.16	5.00	0.00	0.00	7.50
180.0	0.00	0.00	7.91	0.00	0.00	0.00	0.00	13.33	0.00
202.5	2.08	0.00	0.00	0.00	8.33	0.00	0.00	10.00	3.75
225.0	0.00	0.42	0.00	0.00	0.00	0.00	0.00	13.33	0.00
247.5	0.00	0.00	5.00	0.00	4.17	0.00	0.00	4.58	5.83
270.0	4.58	8.33	3.75	10.00	0.00	0.00	2.08	0.00	0.00
292.5	17.08	5.00	0.00	0.00	5.41	10.00	0.00	0.00	0.00
315.0	0.42	0.00	0.00	2.08	0.00	0.42	0.00	10.41	0.00
337.5	0.00	2.50	3.75	0.00	0.00	0.42	0.00	0.83	0.00
360.0	0.00	0.00	10.41	0.00	0.00	0.00	0.00	0.00	1.67

C/γ(°)	180.0
0.0	0.00
22.5	7.50
45.0	0.00
67.5	0.00
90.0	9.58
112.5	2.92
135.0	0.00
157.5	7.08
180.0	0.00
202.5	7.50
225.0	0.00
247.5	0.00
270.0	9.58
292.5	2.92
315.0	0.00
337.5	7.08
360.0	0.00