



SGSO

Address: LIT by CARDI

Client:

LumCAT: 0017440225 KAI 12.5W 4000K 1500lm

Luminaire:

Report No:

Voltage(V): 230.0000

Test No: KYZ-A250930027-03-001

Current(A): 0.0560

LampCAT: LED

Power (W): 12.5000

Lamp flux(lm)

PF: 0.9649

Number of Lamps: 1

Ballast type:

Length(mm): -126

Width(mm): -126

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 1500.00

Lumens(lm)/Power(W): 120.00

Central intensity(cd): 728.353

Maximum intensity(cd): 742.971

Angle of maximum intensity: C=90.0 γ =5.0

Beam Angle(50%Imax): [C0/180]Total=87.0

[C90/270]Total=87.6

Field angle(10%Imax): [C0/180]Total=140.3

[C90/270]Total=140.0

Maximum s/h(1/2): C0_180=1.21 C90_270=1.22

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

Up flux rate of LUM(%): 0.61%

Down flux rate of LUM(%): 99.39%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 87.341%

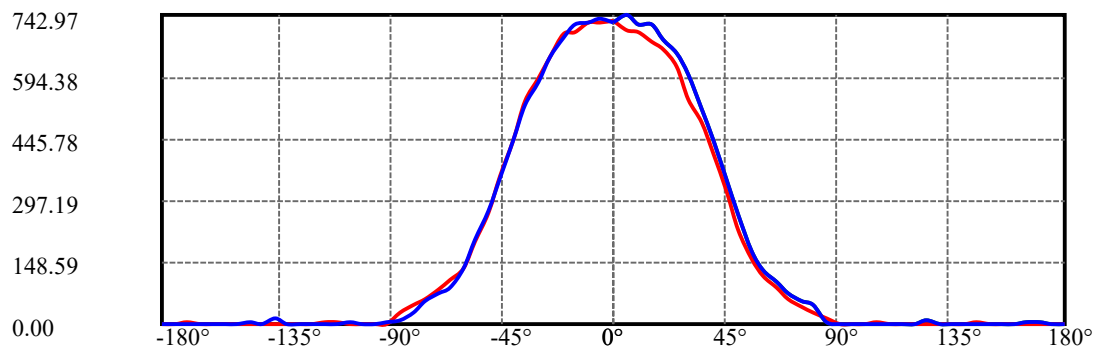
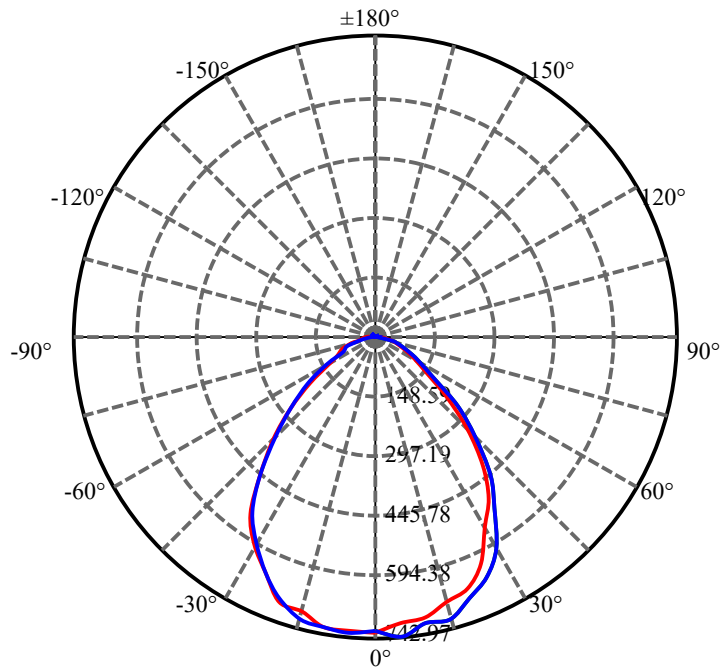
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	796.589	0.000	0	.000%	.000%
5.0	795.835	17.308	17.308	1.154%	1.154%
10.0	791.640	51.631	68.939	3.442%	4.596%
15.0	777.320	84.617	153.556	5.641%	10.237%
20.0	749.660	114.415	267.972	7.628%	17.865%
25.0	703.911	138.607	406.578	9.240%	27.105%
30.0	639.120	154.526	561.104	10.302%	37.407%
35.0	560.888	160.661	721.765	10.711%	48.118%
40.0	473.712	156.938	878.703	10.463%	58.580%
45.0	368.022	141.699	1020.402	9.447%	68.027%
50.0	280.519	119.145	1139.547	7.943%	75.970%
55.0	205.101	96.000	1235.548	6.400%	82.370%
60.0	149.706	74.564	1310.112	4.971%	87.341%
65.0	113.655	58.209	1368.321	3.881%	91.221%
70.0	82.955	45.262	1413.582	3.017%	94.239%
75.0	60.018	33.977	1447.559	2.265%	96.504%
80.0	44.140	25.339	1472.898	1.689%	98.193%
85.0	13.365	14.207	1487.104	.947%	99.140%
90.0	1.407	3.677	1490.782	.245%	99.385%
95.0	1.583	0.744	1491.526	.050%	99.435%
100.0	1.005	0.639	1492.165	.043%	99.478%
105.0	0.854	0.452	1492.617	.030%	99.508%
110.0	3.844	1.116	1493.734	.074%	99.582%
115.0	0.754	1.058	1494.792	.071%	99.653%
120.0	0.578	0.294	1495.087	.020%	99.672%
125.0	1.909	0.523	1495.609	.035%	99.707%
130.0	2.261	0.824	1496.434	.055%	99.762%
135.0	2.412	0.858	1497.292	.057%	99.820%
140.0	1.206	0.609	1497.901	.041%	99.860%
145.0	2.362	0.541	1498.442	.036%	99.896%
150.0	0.804	0.424	1498.866	.028%	99.924%
155.0	1.884	0.309	1499.176	.021%	99.945%
160.0	1.357	0.309	1499.485	.021%	99.966%
165.0	1.156	0.188	1499.673	.013%	99.978%
170.0	1.809	0.160	1499.833	.011%	99.989%
175.0	2.437	0.138	1499.971	.009%	99.998%
180.0	0.201	0.029	1499.999	.002%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Fixt
0-30	561.10	37.41%
0-40	878.70	58.58%
0-60	1310.11	87.34%
0-90	1490.78	99.39%
0-120	1495.09	99.67%
0-180	1500.00	100.00%
60-90	255.23	17.02%
90-120	7.98	0.53%
90-130	9.33	0.62%
90-150	11.76	0.78%
90-180	12.87	0.86%
0-53.15	1200.00	80.00%

ZONAL LUMEN SUMMARY

0-10	68.94
10-20	199.03
20-30	293.13
30-40	317.60
40-50	260.84
50-60	170.56
60-70	103.47
70-80	59.32
80-90	17.88
90-100	1.38
100-110	1.57
110-120	1.35
120-130	1.35
130-140	1.47
140-150	0.96
150-160	0.62
160-170	0.35
170-180	0.14



C90(Max):

C0/C180:

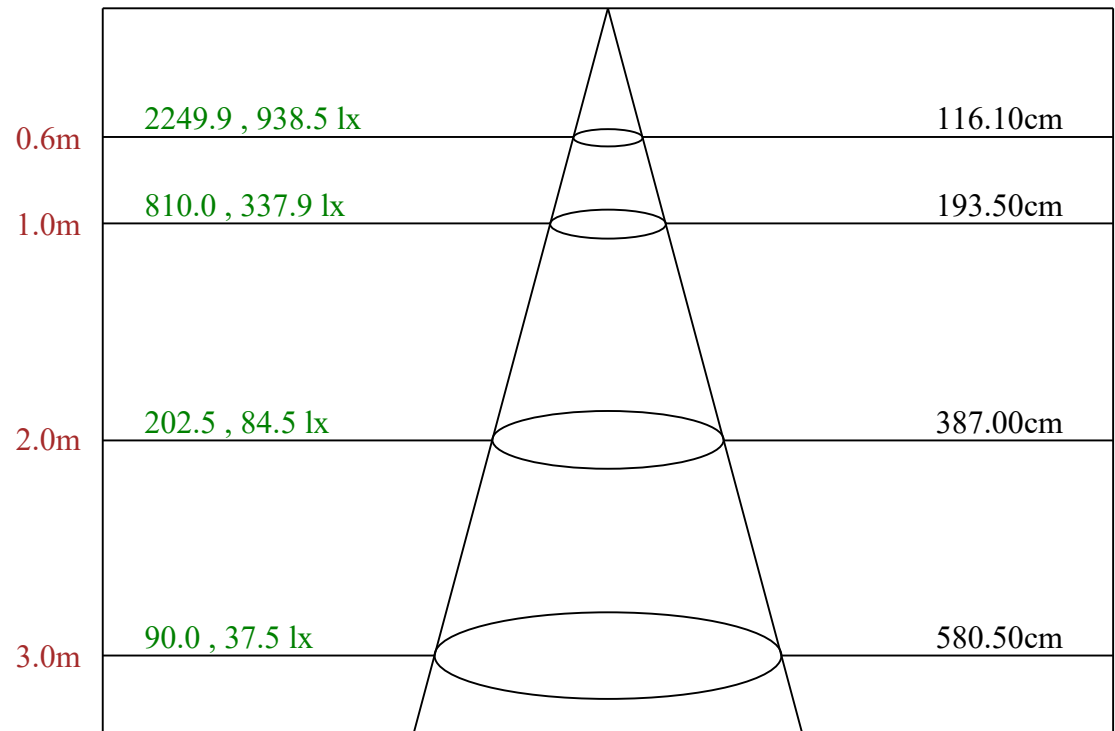
C90/C270:

Field angle(10%Imax):C0/180Left:72.5 Right:67.8

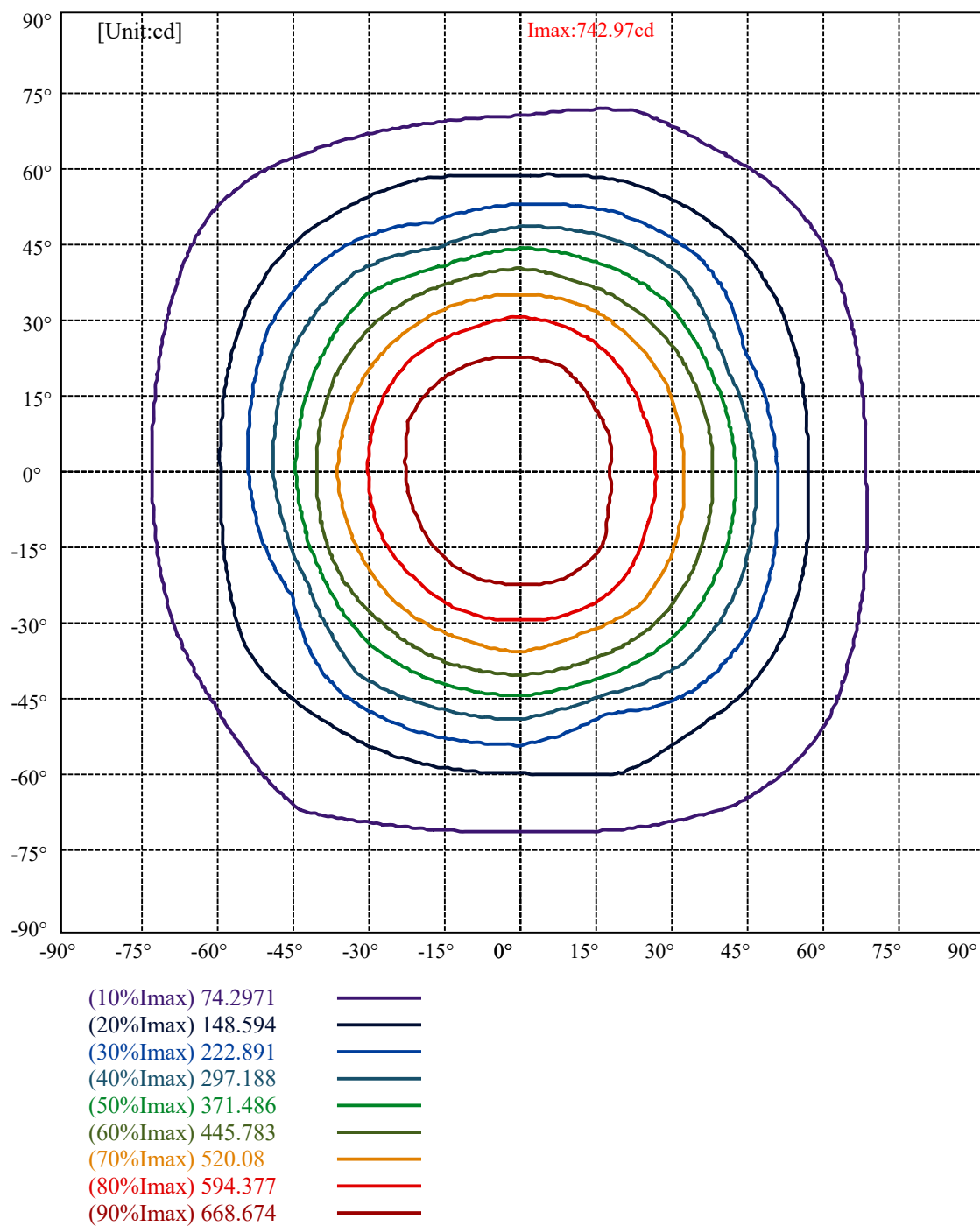
:C90/270Left:75.3 Right:64.7

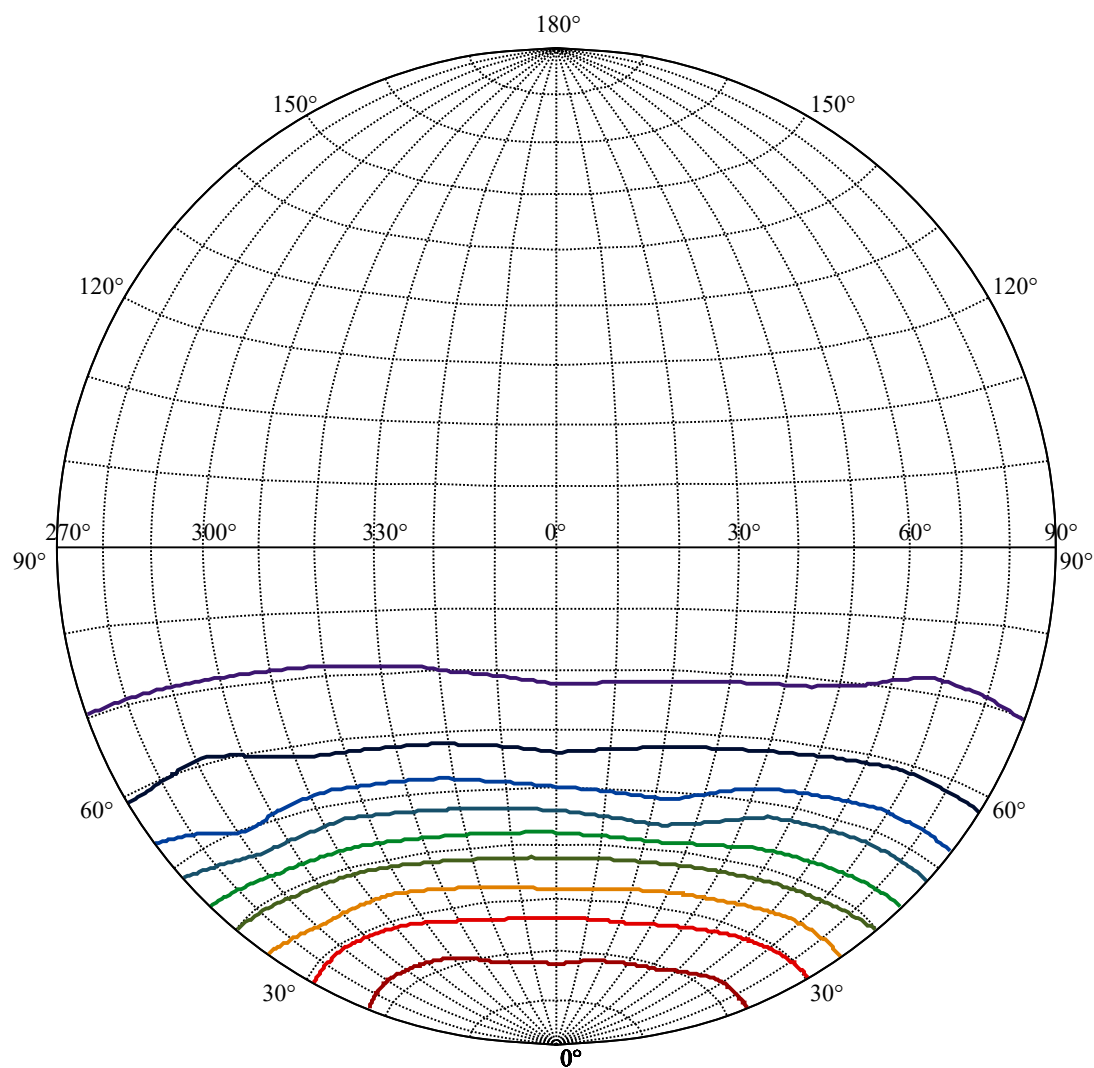
Beam Angle(50%Imax):C0/180Left:44.4 Right:42.6

:C90/270Left:48.9 Right:38.7



Max , Ave Beam angle of C90 plane 88.11





House

[Unit:cd]

Road

Imax:742.97

(10%Imax) 67.54937

(20%Imax) 135.0986

(30%Imax) 202.6478

(40%Imax) 270.1971

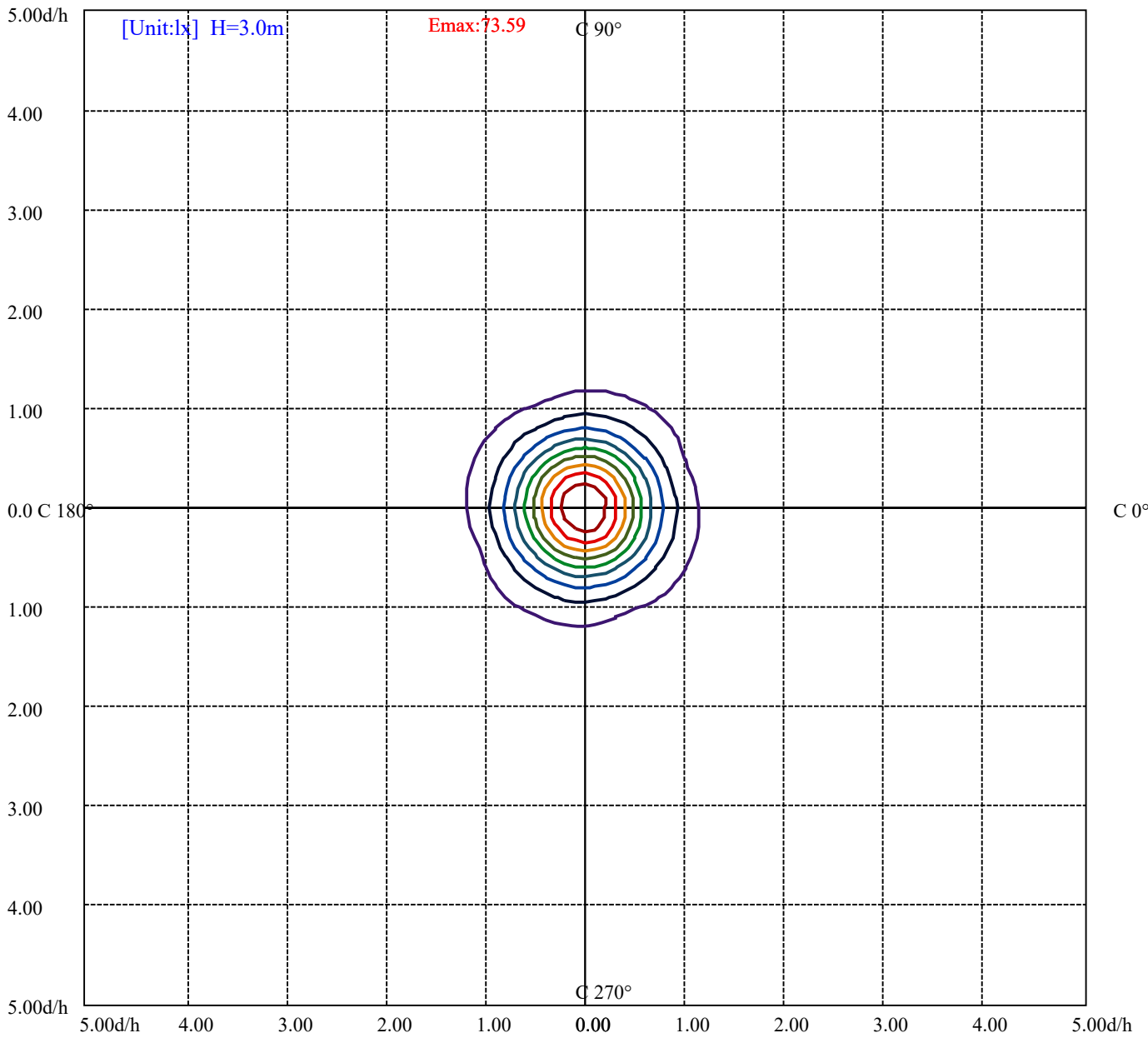
(50%Imax) 337.7473

(60%Imax) 405.2966

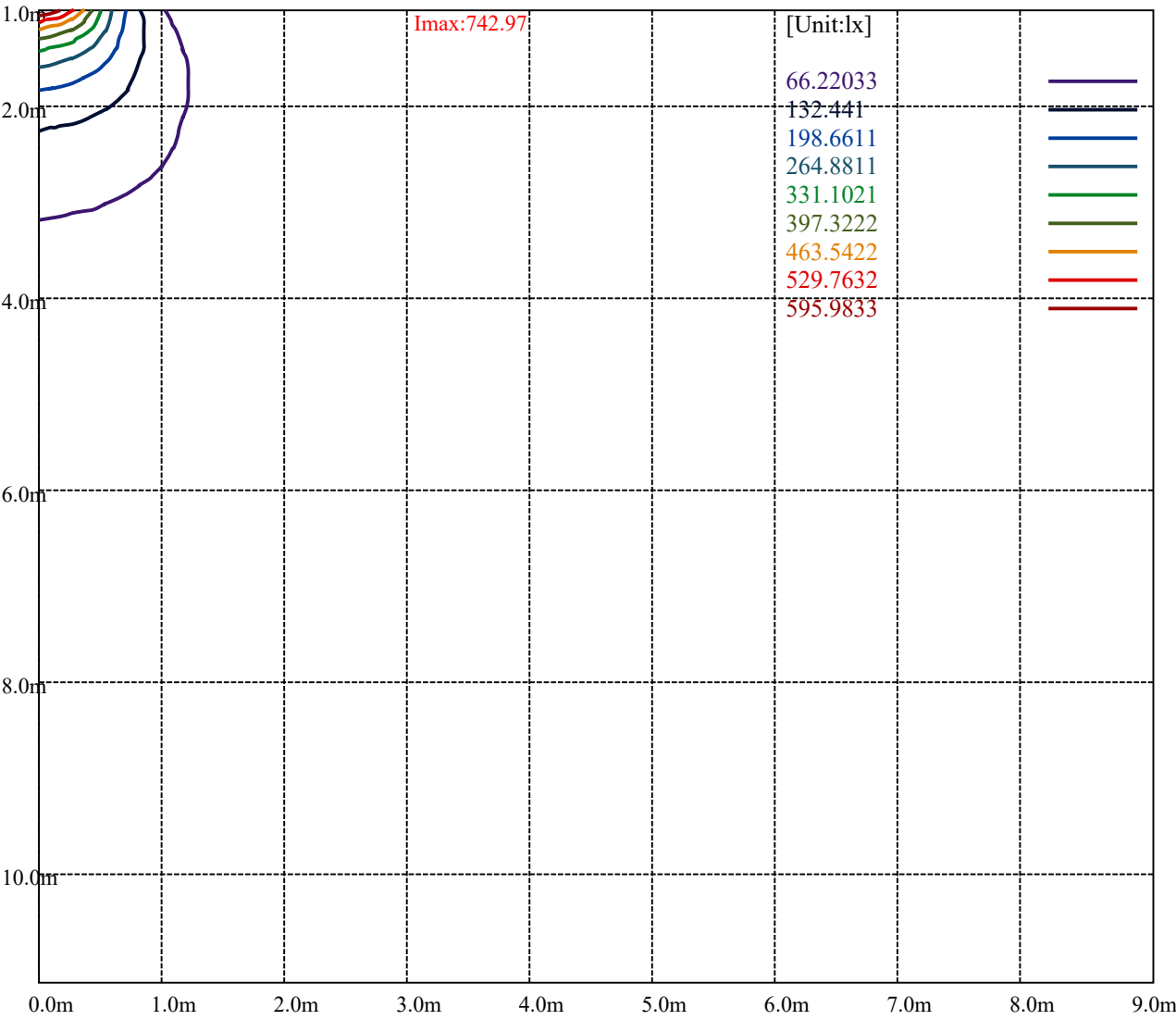
(70%Imax) 472.8459

(80%Imax) 540.3951

(90%Imax) 607.9445



(10%Emax)	7.358552	
(20%Emax)	14.71708	
(30%Emax)	22.07568	
(40%Emax)	29.43417	
(50%Emax)	36.79276	
(60%Emax)	44.15136	
(70%Emax)	51.50985	
(80%Emax)	58.86844	
(90%Emax)	66.22703	



Luminance Table

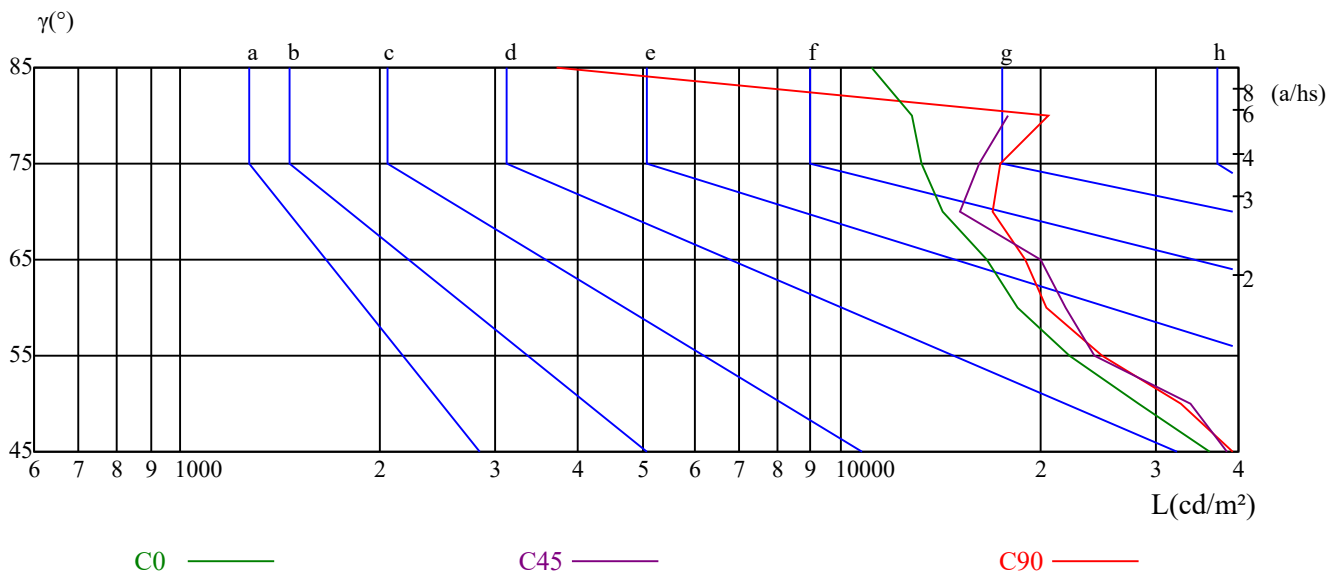
γ	45	50	55	60	65	70	75	80	85
C0	36144	28270	22126	18465	16644	14225	13249	12828	11098
C45	38341	33742	24272	21865	20043	15168	16194	17891	0
C90	39294	32784	24834	20458	19002	16968	17439	20592	3699

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
18447	17927	18968	16024	16986	17156	17487	5885	10593

Glare Table

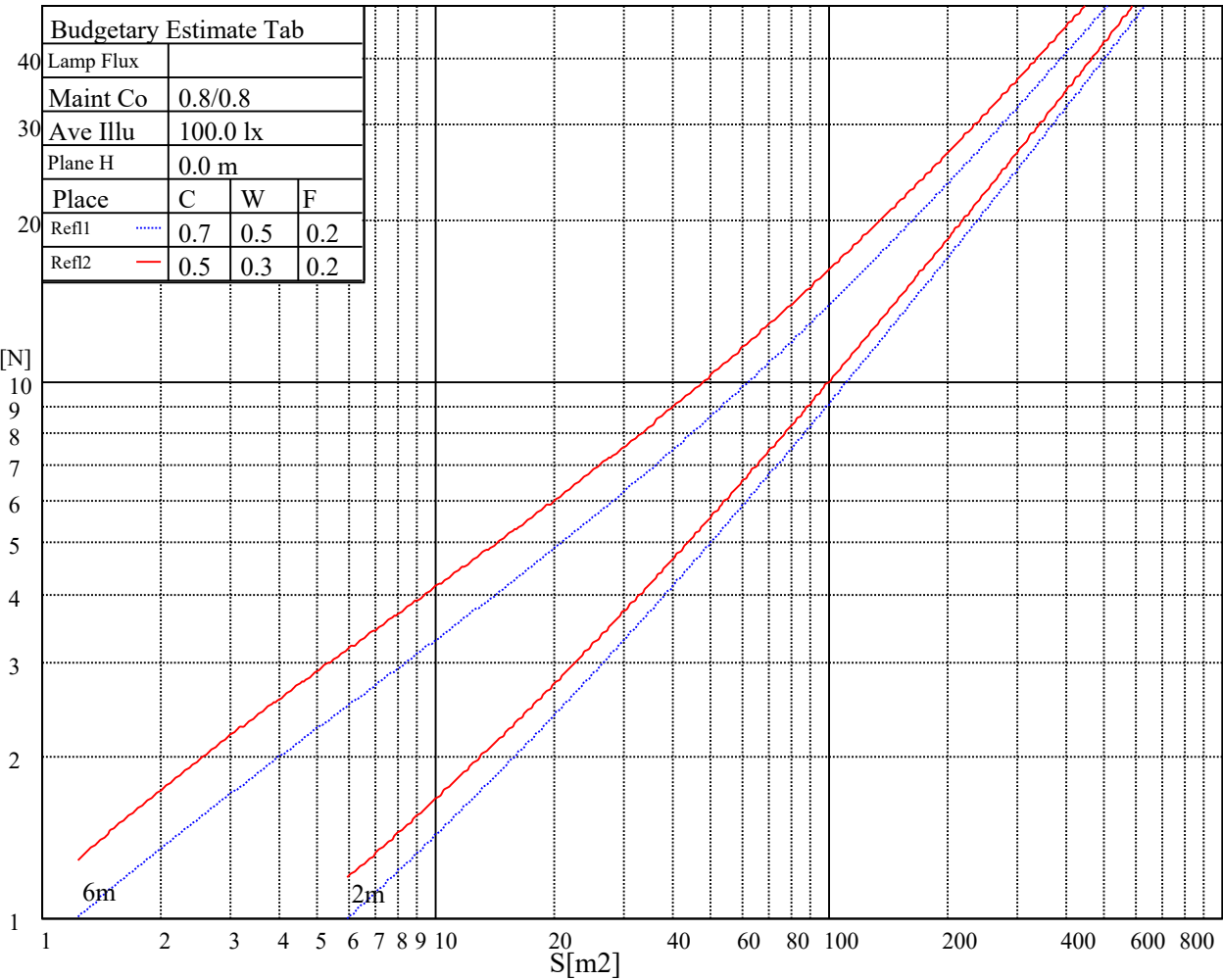
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve

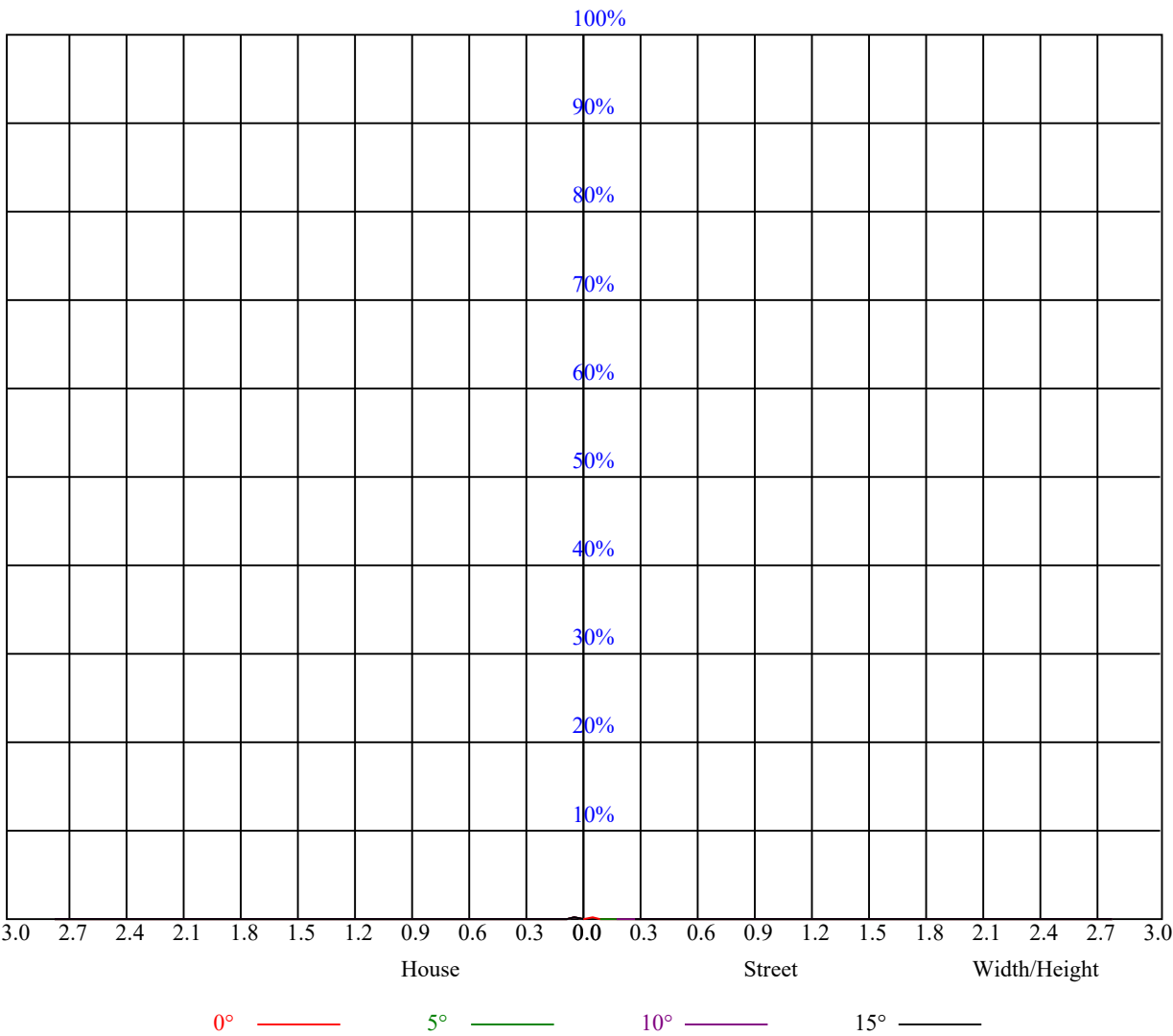


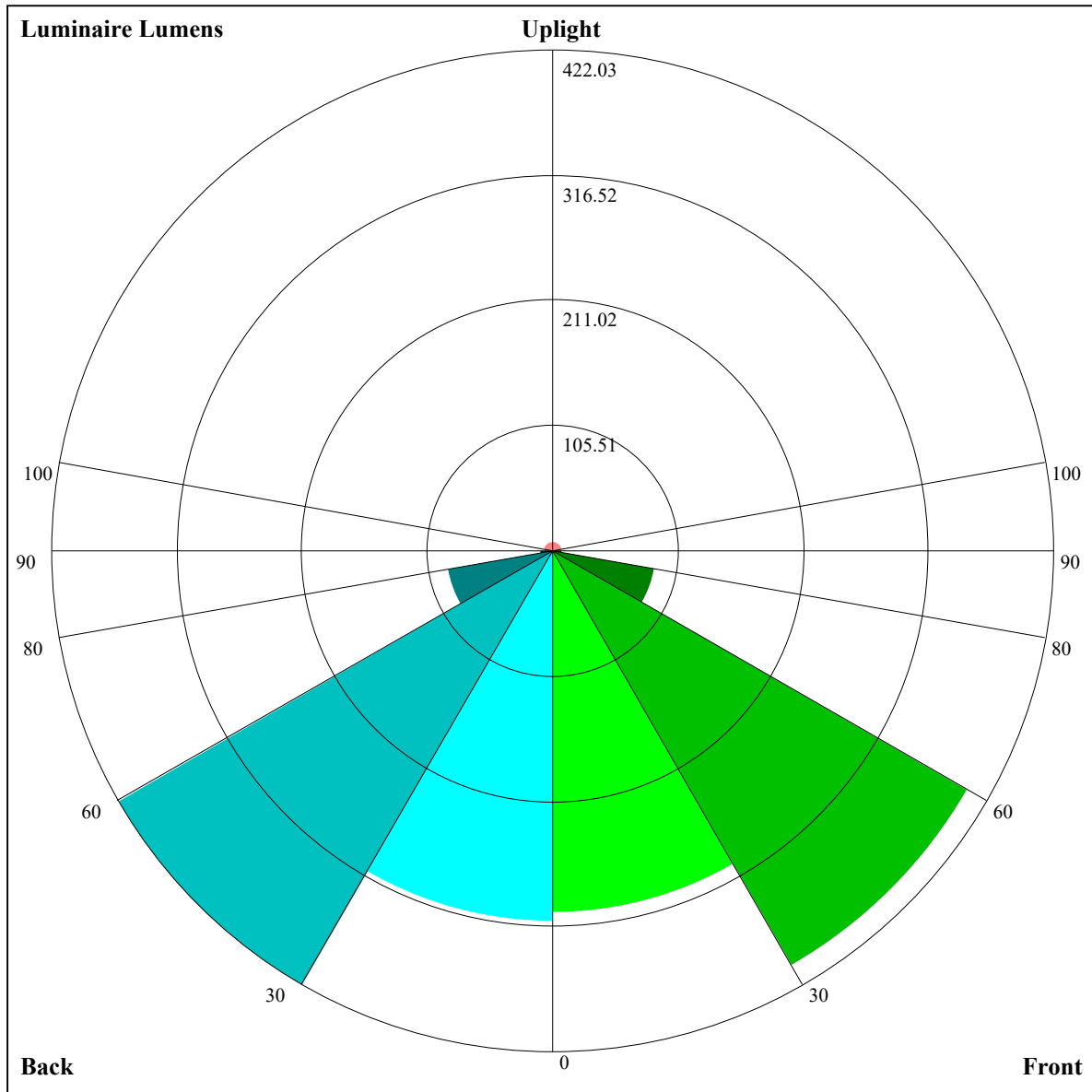
Illumination assessment according UGR											
Rf of Ceiling		70	70	50	50	30	70	70	50	50	30
Rf of Wall		50	30	50	30	30	50	30	50	30	30
Rf of Floor		20	20	20	20	20	20	20	20	20	20
Room dimensions		Viewed crosswise					Viewed endwise				
X	Y										
2H	2H	18.47	19.91	18.84	20.24	20.57	19.20	20.64	19.57	20.97	21.30
	3H	19.29	20.59	19.69	20.94	21.29	20.18	21.48	20.58	21.83	22.19
	4H	19.62	20.83	20.03	21.19	21.57	20.61	21.82	21.01	22.18	22.56
	6H	19.94	21.06	20.36	21.44	21.85	21.10	22.22	21.52	22.60	23.01
	8H	20.02	21.10	20.44	21.49	21.90	21.23	22.30	21.65	22.69	23.11
	12H	20.05	21.07	20.47	21.47	21.90	21.23	22.26	21.65	22.65	23.08
4H	2H	18.94	20.15	19.34	20.51	20.89	19.55	20.76	19.95	21.12	21.50
	3H	19.91	20.93	20.34	21.33	21.75	20.73	21.75	21.16	22.15	22.57
	4H	20.41	21.31	20.86	21.74	22.19	21.36	22.25	21.80	22.68	23.14
	6H	20.86	21.65	21.33	22.11	22.57	21.99	22.78	22.46	23.24	23.70
	8H	21.01	21.75	21.49	22.21	22.69	22.21	22.96	22.70	23.42	23.89
	12H	21.08	21.77	21.57	22.22	22.74	22.27	22.96	22.76	23.41	23.94
8H	4H	20.65	21.40	21.14	21.86	22.34	21.50	22.25	21.99	22.71	23.19
	6H	21.26	21.88	21.77	22.36	22.88	22.31	22.93	22.81	23.41	23.92
	8H	21.52	22.06	22.04	22.58	23.08	22.69	23.23	23.21	23.75	24.25
	12H	21.59	22.05	22.13	22.57	23.09	22.83	23.28	23.36	23.80	24.33
12H	4H	20.70	21.39	21.19	21.85	22.37	21.52	22.21	22.01	22.66	23.18
	6H	21.38	21.92	21.91	22.44	22.95	22.38	22.93	22.91	23.45	23.95
	8H	21.61	22.06	22.14	22.58	23.10	22.75	23.20	23.28	23.72	24.25
Variation with the observer position at spacings:											
S = 1.0H		0.3/-0.8					0.5/-0.8				
S = 1.5H		0.7/-1.3					0.9/-1.3				
S = 2.0H		1.4/-1.4					1.8/-1.6				
Standard tables:		BK3					BK3				
Uncorrected UGR		7.9					7.0				

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	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.01	1.01	1.01	0.99
1	1.06	1.02	0.99	1.04	1.01	0.98	1.00	0.97	0.94	0.96	0.93	0.91	0.92	0.90	0.89	0.87
2	0.95	0.89	0.84	0.93	0.87	0.83	0.89	0.85	0.81	0.86	0.82	0.79	0.83	0.80	0.77	0.75
3	0.85	0.78	0.72	0.83	0.77	0.71	0.80	0.75	0.70	0.77	0.73	0.69	0.75	0.71	0.67	0.65
4	0.76	0.69	0.63	0.75	0.68	0.62	0.73	0.66	0.61	0.70	0.65	0.60	0.68	0.63	0.60	0.58
5	0.69	0.61	0.55	0.68	0.60	0.55	0.66	0.59	0.54	0.64	0.58	0.54	0.62	0.57	0.53	0.51
6	0.63	0.55	0.49	0.62	0.54	0.49	0.60	0.53	0.48	0.59	0.53	0.48	0.57	0.52	0.48	0.46
7	0.58	0.50	0.44	0.57	0.49	0.44	0.55	0.48	0.44	0.54	0.48	0.43	0.53	0.47	0.43	0.41
8	0.53	0.45	0.40	0.52	0.45	0.40	0.51	0.44	0.39	0.50	0.44	0.39	0.49	0.43	0.39	0.37
9	0.49	0.41	0.36	0.48	0.41	0.36	0.47	0.41	0.36	0.46	0.40	0.36	0.45	0.40	0.36	0.34
10	0.45	0.38	0.33	0.45	0.38	0.33	0.44	0.37	0.33	0.43	0.37	0.33	0.42	0.37	0.33	0.31





Luminaire Lumens:

FL=305.55,FM=402.65,FH=87.09,FVH=8.37

BL=311.72,BM=422.03,BH=90.92,BVH=10.83

UL=1.52,UH=8.62

BUG Rating:B1-U1-G1

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	728.35	705.69	700.94	677.55	658.19	616.89	541.24	483.50	412.60
22.5	722.87	711.18	718.49	695.83	659.28	611.04	549.65	492.27	404.56
45.0	711.18	722.14	717.76	692.17	665.13	622.37	572.67	492.27	413.70
67.5	721.04	714.83	719.95	706.79	683.77	646.13	586.56	512.37	416.98
90.0	723.97	742.97	717.76	718.12	684.86	651.24	599.35	514.93	442.57
112.5	736.39	727.62	724.33	715.56	694.37	652.70	587.65	516.39	428.68
135.0	724.70	723.60	724.33	722.87	695.10	658.19	598.62	517.49	441.47
157.5	725.43	726.16	723.24	719.95	686.33	664.40	596.79	525.89	449.15
180.0	728.35	725.43	726.53	701.31	695.83	641.01	592.40	533.57	445.12
202.5	722.87	726.16	714.47	715.56	681.58	649.05	591.67	518.22	448.41
225.0	711.18	723.60	712.64	702.04	689.98	642.11	581.81	516.02	432.70
247.5	721.04	722.87	722.14	704.23	685.96	650.51	586.92	511.27	439.64
270.0	723.97	733.10	724.33	718.85	686.69	642.84	583.63	524.79	441.84
292.5	736.39	729.82	728.72	714.10	695.83	641.01	588.38	494.46	431.24
315.0	724.70	721.04	737.12	706.43	685.59	635.16	581.81	510.91	427.58
337.5	725.43	720.68	703.14	696.19	656.72	615.06	558.05	494.83	414.79
360.0	728.35	705.69	700.94	677.55	658.19	616.89	541.24	483.50	412.60
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	318.68	226.58	158.24	115.12	87.71	60.67	42.76	27.77	12.06
22.5	279.57	202.46	169.57	129.37	94.29	65.42	48.24	38.01	2.92
45.0	338.05	270.44	173.59	136.32	105.62	64.69	52.26	38.74	0.00
67.5	344.26	271.53	193.69	137.78	114.75	85.52	59.57	46.05	20.47
90.0	346.45	262.76	177.61	127.54	100.14	72.36	56.28	44.59	4.02
112.5	314.66	232.43	180.90	143.99	112.19	67.24	51.53	47.14	1.10
135.0	366.19	277.38	204.66	135.95	102.33	72.73	38.01	43.49	10.96
157.5	351.20	287.98	220.37	144.72	125.72	87.71	51.53	40.20	5.85
180.0	353.03	269.71	196.25	131.93	106.71	85.15	60.67	45.32	25.95
202.5	318.68	215.25	170.67	156.42	104.89	69.80	59.20	55.18	19.37
225.0	347.91	285.06	195.88	134.12	97.94	81.86	68.71	44.95	28.51
247.5	345.36	274.09	203.56	137.78	97.21	79.30	55.91	37.28	20.10
270.0	351.20	272.26	201.37	135.58	88.81	75.65	53.36	28.51	8.77
292.5	318.31	213.79	169.21	157.51	108.91	80.77	54.82	29.60	17.18
315.0	332.56	266.78	177.98	129.37	93.92	80.77	62.49	30.70	6.58
337.5	327.45	252.16	190.04	124.25	112.19	77.11	57.74	44.59	10.60
360.0	318.68	226.58	158.24	115.12	87.71	60.67	42.76	27.77	12.06
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	3.65	1.46	0.00	0.00	0.00	0.00
22.5	0.00	0.00	0.00	0.00	8.41	0.00	0.00	0.00	0.73
45.0	4.75	0.00	0.00	0.00	0.00	0.00	0.00	0.73	3.29
67.5	0.00	11.69	0.00	0.37	0.00	5.12	0.00	0.00	0.00
90.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.77	0.00
112.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
135.0	0.00	0.73	0.00	0.00	9.87	0.00	3.29	0.00	2.56
157.5	0.00	0.00	0.00	0.00	2.92	0.00	0.00	0.00	0.00
180.0	0.00	0.00	0.00	0.00	2.56	5.85	0.00	0.00	0.00
202.5	0.00	4.02	7.31	0.00	0.00	0.00	0.37	0.00	4.02
225.0	10.23	0.00	0.73	3.65	7.31	0.00	0.00	0.00	1.10
247.5	0.00	3.65	5.48	0.00	0.00	0.00	0.00	1.46	0.73
270.0	5.48	0.00	1.10	4.75	0.00	0.00	0.00	0.00	0.00
292.5	0.00	2.92	0.00	0.00	0.00	0.00	0.00	4.75	2.92
315.0	0.00	0.00	0.00	0.00	12.43	0.00	0.00	12.06	2.56
337.5	0.00	0.00	0.00	0.00	10.96	0.00	4.75	0.00	14.98
360.0	0.00	0.00	0.00	3.65	1.46	0.00	0.00	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	3.29	0.00	0.00	0.00	0.00	0.00	0.00
22.5	0.00	0.00	0.00	0.00	10.23	0.00	3.29	4.39	0.00
45.0	2.56	2.19	1.10	6.94	6.58	6.58	0.00	0.00	0.00
67.5	2.56	0.00	1.83	0.00	0.00	0.00	1.46	0.00	2.56
90.0	0.00	0.00	0.00	0.00	0.00	0.00	5.12	2.92	0.00
112.5	0.00	2.56	9.14	2.56	0.00	7.31	0.00	0.00	4.75
135.0	7.31	0.00	0.00	0.00	0.00	0.00	5.85	5.85	12.06
157.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.92	0.00
202.5	7.31	0.00	0.00	0.00	0.00	1.83	0.00	0.00	1.83
225.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
247.5	0.00	4.39	0.00	0.00	0.00	1.46	1.10	8.77	6.21
270.0	15.35	0.00	4.39	0.00	0.00	0.00	0.00	1.46	0.00
292.5	0.00	1.83	1.83	0.00	0.00	0.00	0.00	0.00	2.92
315.0	0.00	4.75	0.00	2.19	9.50	2.56	0.00	0.00	0.00
337.5	0.00	1.83	12.79	0.00	1.10	0.00	0.00	0.00	5.12
360.0	0.00	0.00	3.29	0.00	0.00	0.00	0.00	0.00	0.00

C/γ(°)	180.0
0.0	1.46
22.5	0.00
45.0	0.00
67.5	0.00
90.0	0.00
112.5	0.00
135.0	0.00
157.5	0.00
180.0	1.46
202.5	0.00
225.0	0.00
247.5	0.00
270.0	0.00
292.5	0.00
315.0	0.00
337.5	0.00
360.0	1.46