

Report No	:	Voltage	:	V
Test No	:	Current	:	A
LumCAT	:	Power	:	9.600 W
Luminaire	:	0019590007 LASTD04 9.6W 2700K 1060lm	:	
LampCAT	:	Ballast type	:	
Lamp flux	:	lm	:	Width : -60 mm
Number of Lamps	:	1	:	Length : -60 mm
Phm Type	:	C	:	Height : 42 mm

Photometric Results

Lumens(lm)	:	1060.00	Central intensity(cd)	:	174.477
Efficiency(%)	:	100.00%	Maximum intensity(cd)	:	174.477
Luminous Efficacy(lm/W)	:	110.42	Angle of maximum intensity	:	C=0.0 γ =0.0
Beam Angle(50%Imax)	:	[C0/180]Total=168.6 [C90/270]Total=168.6			
Field angle(10%Imax)	:	[C0/180]Total=293.0 [C90/270]Total=293.0			
Maximum s/h(1/2)	:	C0_180=1.44 C90_270=1.44			
Maximum s/h(1/4)	:	C0_180=1.59 C90_270=1.59			
CIE Type	:	Semidirect lighting			
Output flux ratio in π solid angle	:	46.170%			

Zonal flux distribution table

Appendix Page: 2 Total:23

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	174.477	0.000	0	0.00%	0.00%
1.0	173.722	0.167	0.167	0.02%	0.02%
2.0	173.803	0.499	0.665	0.05%	0.06%
3.0	173.748	0.831	1.497	0.08%	0.14%
4.0	173.684	1.163	2.66	0.11%	0.25%
5.0	173.629	1.494	4.154	0.14%	0.39%
6.0	173.559	1.825	5.978	0.17%	0.56%
7.0	173.470	2.154	8.132	0.20%	0.77%
8.0	173.366	2.482	10.615	0.23%	1.00%
9.0	173.256	2.809	13.424	0.27%	1.27%
10.0	173.135	3.135	16.558	0.30%	1.56%
11.0	173.013	3.459	20.017	0.33%	1.89%
12.0	172.871	3.781	23.798	0.36%	2.25%
13.0	172.733	4.101	27.9	0.39%	2.63%
14.0	172.582	4.420	32.32	0.42%	3.05%
15.0	172.403	4.736	37.056	0.45%	3.50%
16.0	172.195	5.049	42.105	0.48%	3.97%
17.0	171.976	5.360	47.465	0.51%	4.48%
18.0	171.735	5.667	53.132	0.53%	5.01%
19.0	171.479	5.971	59.103	0.56%	5.58%
20.0	171.204	6.272	65.375	0.59%	6.17%
21.0	170.898	6.569	71.944	0.62%	6.79%
22.0	170.568	6.862	78.806	0.65%	7.43%
23.0	170.208	7.150	85.956	0.67%	8.11%
24.0	169.821	7.434	93.391	0.70%	8.81%
25.0	169.397	7.713	101.104	0.73%	9.54%
26.0	168.942	7.987	109.09	0.75%	10.29%
27.0	168.449	8.254	117.345	0.78%	11.07%
28.0	167.928	8.516	125.861	0.80%	11.87%
29.0	167.370	8.772	134.633	0.83%	12.70%
30.0	166.780	9.022	143.655	0.85%	13.55%
31.0	166.138	9.265	152.92	0.87%	14.43%
32.0	165.468	9.500	162.42	0.90%	15.32%
33.0	164.768	9.729	172.149	0.92%	16.24%
34.0	164.026	9.950	182.099	0.94%	17.18%
35.0	163.238	10.164	192.263	0.96%	18.14%
36.0	162.413	10.369	202.632	0.98%	19.12%
37.0	161.546	10.566	213.197	1.00%	20.11%

Equipment: ZT-40
Temperature($^{\circ}\text{C}$): 24.9

Date:
Humidity(%): 55.6%

Operator: LSC

Zonal flux distribution table

Appendix Page: 3 Total:23

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	160.639	10.754	223.951	1.01%	21.13%
39.0	159.700	10.934	234.885	1.03%	22.16%
40.0	158.720	11.105	245.991	1.05%	23.21%
41.0	157.704	11.268	257.259	1.06%	24.27%
42.0	156.654	11.421	268.68	1.08%	25.35%
43.0	155.551	11.565	280.245	1.09%	26.44%
44.0	154.415	11.699	291.944	1.10%	27.54%
45.0	153.241	11.824	303.767	1.12%	28.66%
46.0	152.030	11.938	315.706	1.13%	29.78%
47.0	150.775	12.043	327.749	1.14%	30.92%
48.0	149.500	12.139	339.888	1.15%	32.06%
49.0	148.195	12.225	352.113	1.15%	33.22%
50.0	146.848	12.301	364.414	1.16%	34.38%
51.0	145.457	12.367	376.781	1.17%	35.55%
52.0	144.040	12.423	389.204	1.17%	36.72%
53.0	142.587	12.468	401.672	1.18%	37.89%
54.0	141.100	12.504	414.176	1.18%	39.07%
55.0	139.594	12.530	426.705	1.18%	40.26%
56.0	138.053	12.546	439.251	1.18%	41.44%
57.0	136.488	12.553	451.804	1.18%	42.62%
58.0	134.892	12.550	464.354	1.18%	43.81%
59.0	133.266	12.537	476.89	1.18%	44.99%
60.0	131.609	12.514	489.404	1.18%	46.17%
61.0	129.929	12.481	501.885	1.18%	47.35%
62.0	128.223	12.439	514.324	1.17%	48.52%
63.0	126.497	12.388	526.713	1.17%	49.69%
64.0	124.753	12.329	539.041	1.16%	50.85%
65.0	122.996	12.261	551.302	1.16%	52.01%
66.0	121.213	12.184	563.487	1.15%	53.16%
67.0	119.404	12.099	575.586	1.14%	54.30%
68.0	117.583	12.005	587.591	1.13%	55.43%
69.0	115.755	11.904	599.494	1.12%	56.56%
70.0	113.915	11.795	611.29	1.11%	57.67%
71.0	112.064	11.680	622.97	1.10%	58.77%
72.0	110.205	11.557	634.527	1.09%	59.86%
73.0	108.346	11.429	645.956	1.08%	60.94%
74.0	106.471	11.293	657.249	1.07%	62.00%
75.0	104.602	11.152	668.401	1.05%	63.06%

Equipment: ZT-40
Temperature($^{\circ}\text{C}$): 24.9

Date:
Humidity(%): 55.6%

Operator: LSC

Zonal flux distribution table

Appendix Page: 4 Total:23

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	102.725	11.006	679.407	1.04%	64.09%
77.0	100.846	10.853	690.261	1.02%	65.12%
78.0	98.972	10.696	700.957	1.01%	66.13%
79.0	97.083	10.534	711.491	0.99%	67.12%
80.0	95.208	10.367	721.858	0.98%	68.10%
81.0	93.341	10.196	732.054	0.96%	69.06%
82.0	91.483	10.023	742.077	0.95%	70.01%
83.0	89.642	9.846	751.923	0.93%	70.94%
84.0	87.809	9.667	761.59	0.91%	71.85%
85.0	85.991	9.486	771.076	0.89%	72.74%
86.0	84.182	9.302	780.378	0.88%	73.62%
87.0	82.403	9.117	789.495	0.86%	74.48%
88.0	80.646	8.932	798.426	0.84%	75.32%
89.0	78.895	8.745	807.171	0.82%	76.15%
90.0	77.169	8.557	815.728	0.81%	76.96%
91.0	75.465	8.369	824.096	0.79%	77.74%
92.0	73.792	8.181	832.277	0.77%	78.52%
93.0	72.150	7.994	840.272	0.75%	79.27%
94.0	70.511	7.808	848.079	0.74%	80.01%
95.0	68.903	7.621	855.7	0.72%	80.73%
96.0	67.320	7.435	863.135	0.70%	81.43%
97.0	65.763	7.250	870.385	0.68%	82.11%
98.0	64.238	7.067	877.452	0.67%	82.78%
99.0	62.743	6.886	884.338	0.65%	83.43%
100.0	61.264	6.706	891.044	0.63%	84.06%
101.0	59.812	6.527	897.571	0.62%	84.68%
102.0	58.384	6.351	903.922	0.60%	85.28%
103.0	56.986	6.176	910.098	0.58%	85.86%
104.0	55.628	6.004	916.102	0.57%	86.42%
105.0	54.291	5.835	921.937	0.55%	86.98%
106.0	52.971	5.667	927.604	0.53%	87.51%
107.0	51.681	5.502	933.106	0.52%	88.03%
108.0	50.424	5.339	938.445	0.50%	88.53%
109.0	49.179	5.179	943.624	0.49%	89.02%
110.0	47.970	5.021	948.646	0.47%	89.49%
111.0	46.794	4.867	953.512	0.46%	89.95%
112.0	45.638	4.715	958.228	0.44%	90.40%
113.0	44.498	4.566	962.794	0.43%	90.83%

Equipment: ZT-40
Temperature($^{\circ}\text{C}$): 24.9

Date:
Humidity(%): 55.6%

Operator: LSC

Zonal flux distribution table

Appendix Page: 5 Total:23

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
114.0	43.377	4.419	967.213	0.42%	91.25%
115.0	42.287	4.274	971.487	0.40%	91.65%
116.0	41.226	4.133	975.62	0.39%	92.04%
117.0	40.175	3.994	979.614	0.38%	92.42%
118.0	39.149	3.858	983.472	0.36%	92.78%
119.0	38.147	3.725	987.196	0.35%	93.13%
120.0	37.177	3.595	990.791	0.34%	93.47%
121.0	36.219	3.467	994.259	0.33%	93.80%
122.0	35.274	3.342	997.601	0.32%	94.11%
123.0	34.347	3.220	1000.82	0.30%	94.42%
124.0	33.453	3.100	1003.92	0.29%	94.71%
125.0	32.583	2.984	1006.904	0.28%	94.99%
126.0	31.716	2.870	1009.775	0.27%	95.26%
127.0	30.861	2.758	1012.533	0.26%	95.52%
128.0	30.027	2.649	1015.181	0.25%	95.77%
129.0	29.220	2.542	1017.724	0.24%	96.01%
130.0	28.436	2.439	1020.163	0.23%	96.24%
131.0	27.655	2.339	1022.502	0.22%	96.46%
132.0	26.889	2.240	1024.741	0.21%	96.67%
133.0	26.140	2.144	1026.885	0.20%	96.88%
134.0	25.403	2.050	1028.935	0.19%	97.07%
135.0	24.684	1.959	1030.894	0.18%	97.25%
136.0	23.983	1.870	1032.764	0.18%	97.43%
137.0	23.293	1.784	1034.549	0.17%	97.60%
138.0	22.616	1.701	1036.249	0.16%	97.76%
139.0	21.953	1.619	1037.869	0.15%	97.91%
140.0	21.303	1.540	1039.409	0.15%	98.06%
141.0	20.670	1.464	1040.873	0.14%	98.20%
142.0	20.060	1.390	1042.263	0.13%	98.33%
143.0	19.463	1.319	1043.582	0.12%	98.45%
144.0	18.866	1.250	1044.832	0.12%	98.57%
145.0	18.285	1.183	1046.015	0.11%	98.68%
146.0	17.712	1.118	1047.133	0.11%	98.79%
147.0	17.152	1.055	1048.188	0.10%	98.89%
148.0	16.609	0.995	1049.183	0.09%	98.98%
149.0	16.081	0.937	1050.119	0.09%	99.07%
150.0	15.570	0.881	1051	0.08%	99.15%
151.0	15.067	0.827	1051.827	0.08%	99.23%

Equipment: ZT-40
Temperature($^{\circ}\text{C}$): 24.9

Date:
Humidity(%): 55.6%

Operator: LSC

Zonal flux distribution table

Appendix Page: 6 Total:23

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
152.0	14.570	0.775	1052.603	0.07%	99.30%
153.0	14.080	0.725	1053.328	0.07%	99.37%
154.0	13.607	0.677	1054.005	0.06%	99.43%
155.0	13.140	0.631	1054.637	0.06%	99.49%
156.0	12.678	0.587	1055.224	0.06%	99.55%
157.0	12.219	0.544	1055.768	0.05%	99.60%
158.0	11.770	0.503	1056.272	0.05%	99.65%
159.0	11.333	0.464	1056.736	0.04%	99.69%
160.0	10.903	0.427	1057.163	0.04%	99.73%
161.0	10.468	0.391	1057.554	0.04%	99.77%
162.0	10.018	0.356	1057.91	0.03%	99.80%
163.0	9.560	0.323	1058.233	0.03%	99.83%
164.0	9.101	0.291	1058.524	0.03%	99.86%
165.0	8.627	0.260	1058.783	0.02%	99.89%
166.0	8.136	0.230	1059.014	0.02%	99.91%
167.0	7.619	0.202	1059.215	0.02%	99.93%
168.0	7.075	0.174	1059.39	0.02%	99.94%
169.0	6.501	0.148	1059.538	0.01%	99.96%
170.0	5.907	0.124	1059.662	0.01%	99.97%
171.0	5.277	0.101	1059.763	0.01%	99.98%
172.0	4.556	0.080	1059.843	0.01%	99.99%
173.0	3.642	0.059	1059.902	0.01%	99.99%
174.0	2.517	0.038	1059.94	0.00%	99.99%
175.0	1.748	0.022	1059.962	0.00%	100.00%
176.0	1.572	0.014	1059.977	0.00%	100.00%
177.0	1.573	0.011	1059.987	0.00%	100.00%
178.0	1.578	0.008	1059.995	0.00%	100.00%
179.0	1.577	0.005	1059.999	0.00%	100.00%
180.0	1.581	0.002	1060.001	0.00%	100.00%

Equipment: ZT-40
Temperature($^{\circ}\text{C}$): 24.9

Date:
Humidity(%): 55.6%

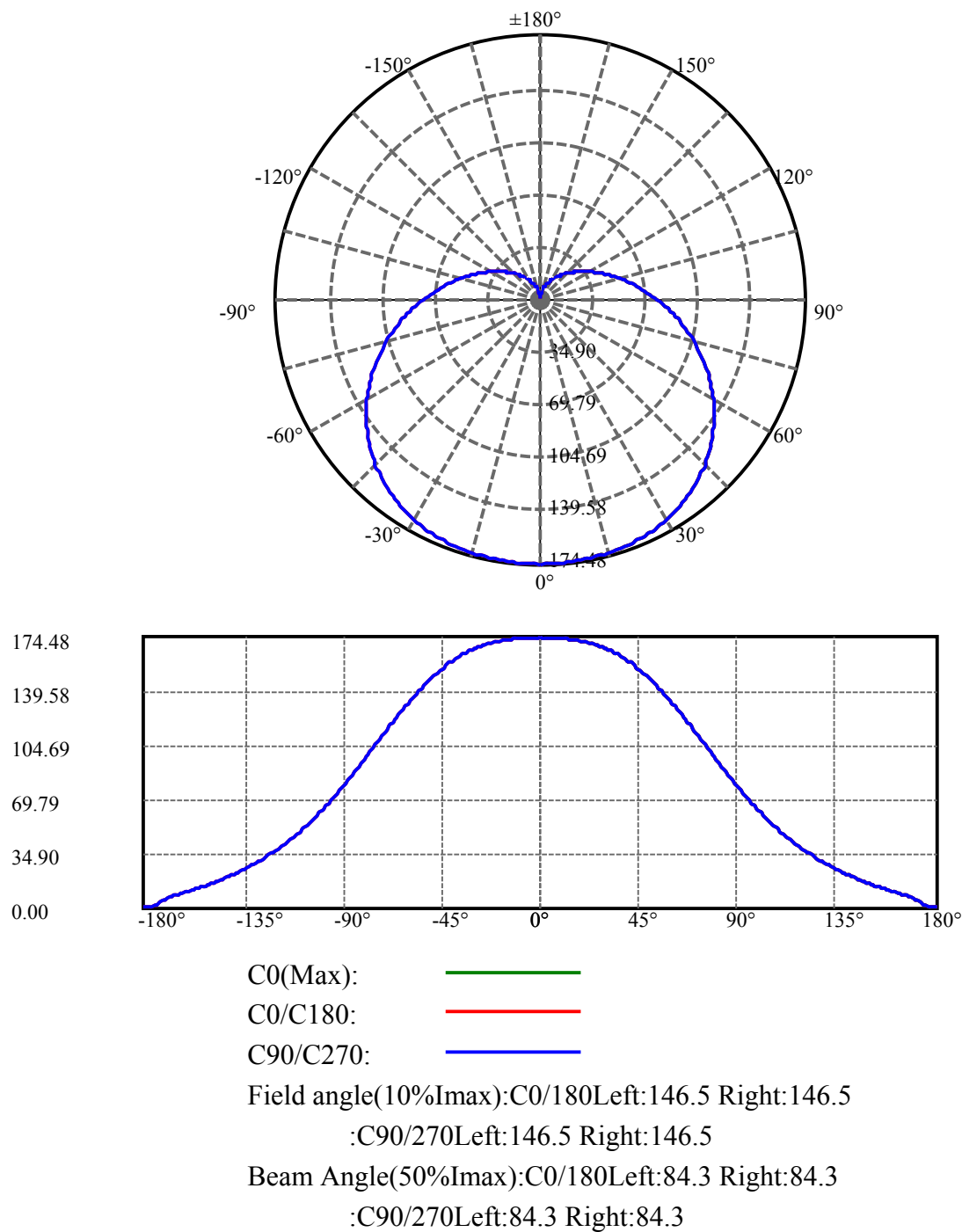
Operator: LSC

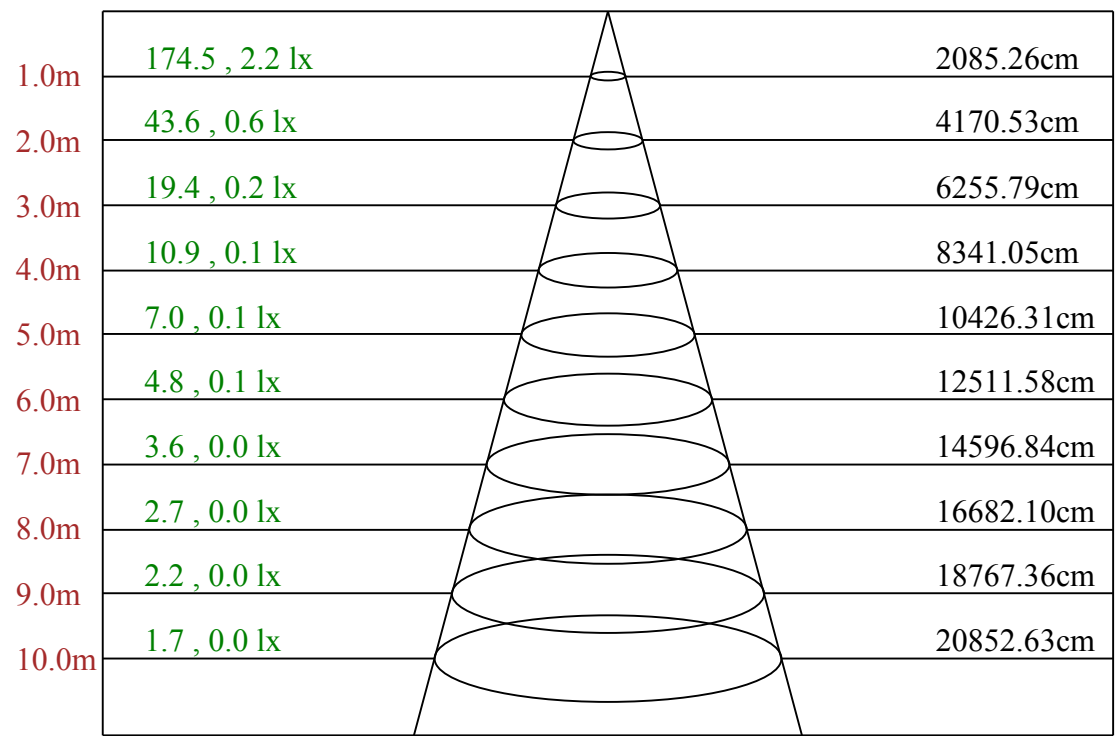
ZONAL LUMEN SUMMARY

Zone	Lumens	%Fixt
0-30	143.66	13.55%
0-40	245.99	23.21%
0-60	489.40	46.17%
0-90	815.73	76.96%
0-120	990.79	93.47%
0-180	1060.00	100.00%
60-90	326.32	30.79%
90-120	175.06	16.52%
90-130	204.44	19.29%
90-150	235.27	22.20%
90-180	244.27	23.04%
0-93.99	848.00	80.00%

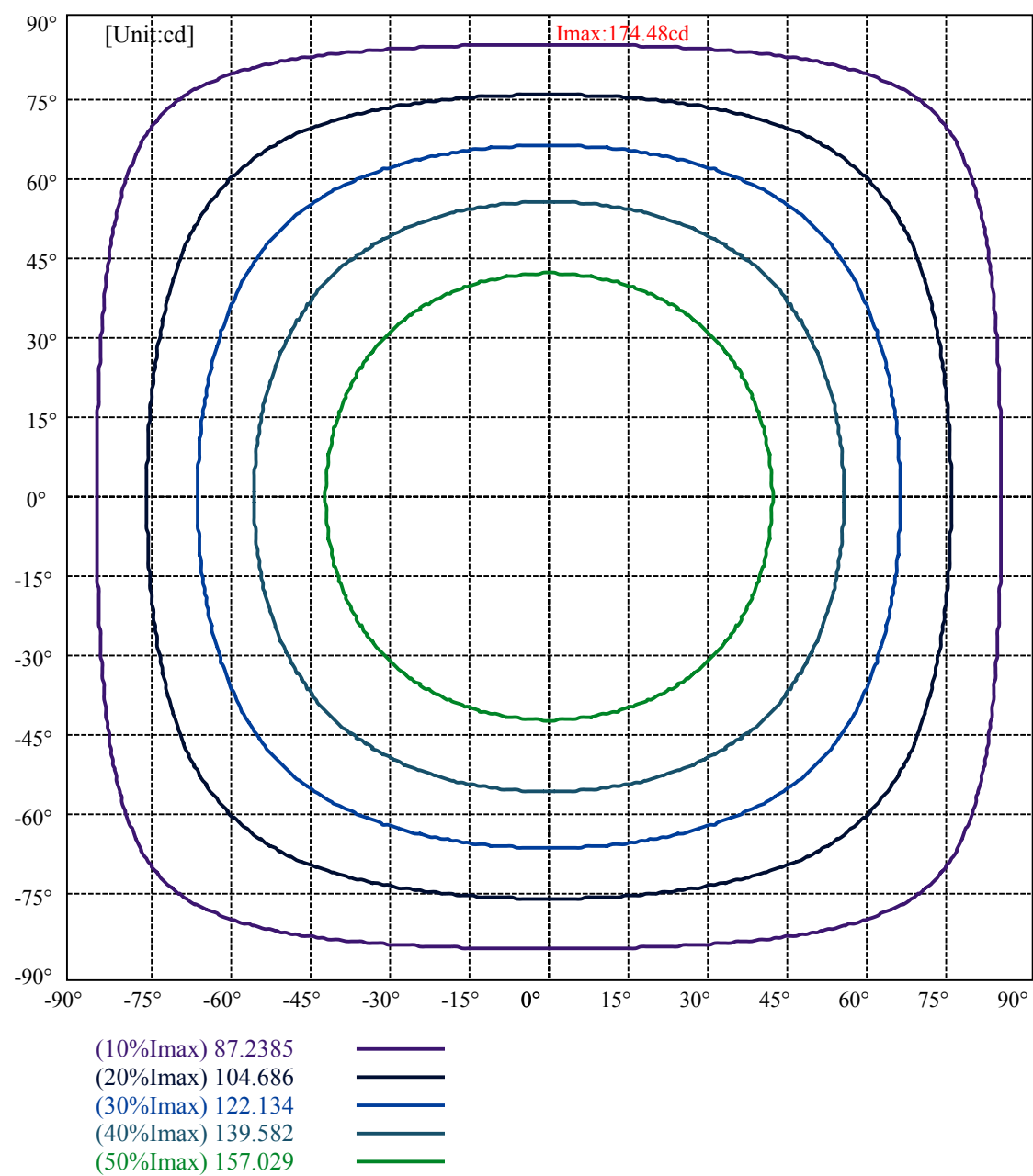
ZONAL LUMEN SUMMARY

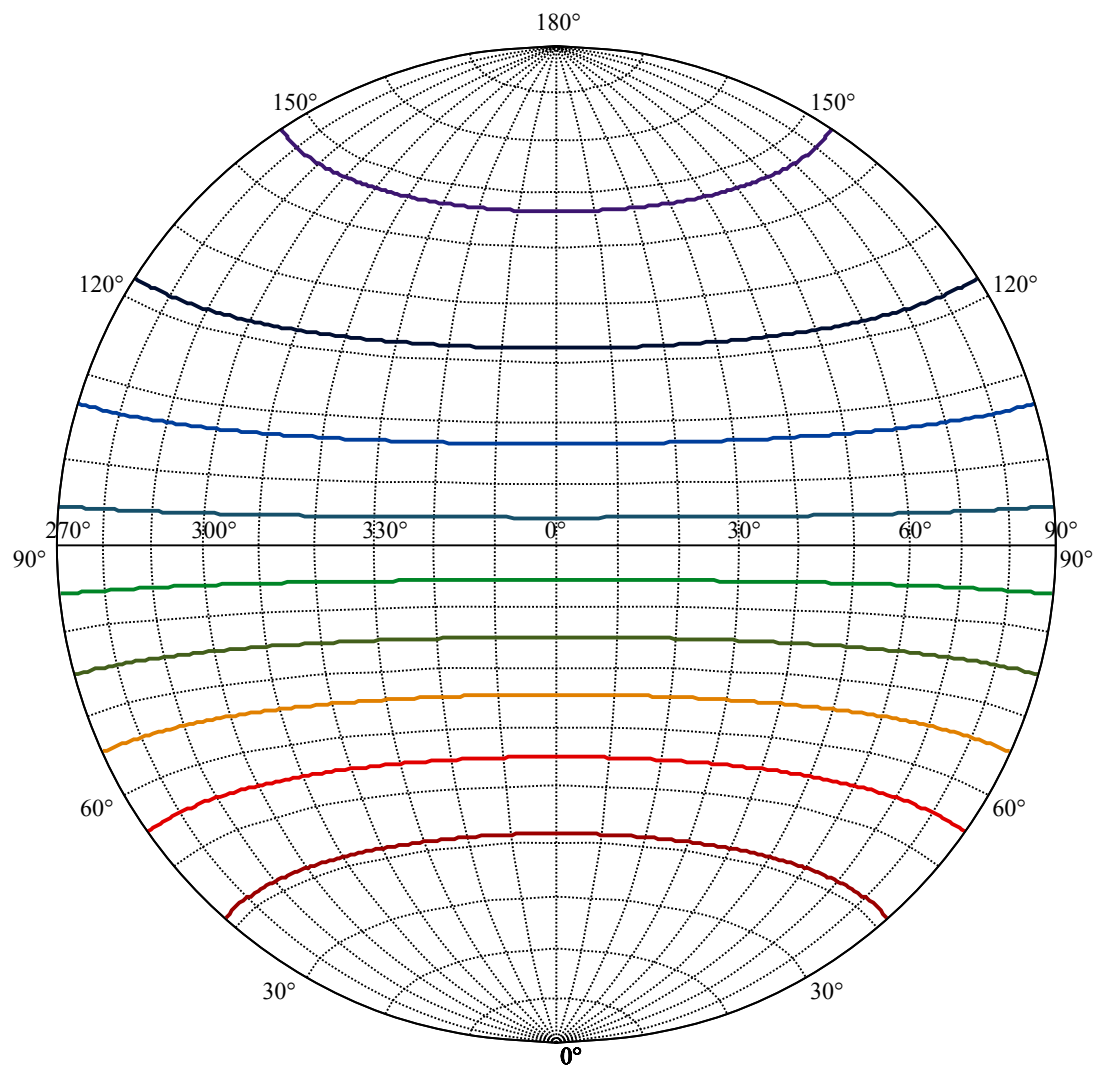
0-10	16.56
10-20	48.82
20-30	78.28
30-40	102.34
40-50	118.42
50-60	124.99
60-70	121.89
70-80	110.57
80-90	93.87
90-100	75.32
100-110	57.60
110-120	42.15
120-130	29.37
130-140	19.25
140-150	11.59
150-160	6.16
160-170	2.50
170-180	0.34





Max , Ave Beam angle of C0 plane 169.04



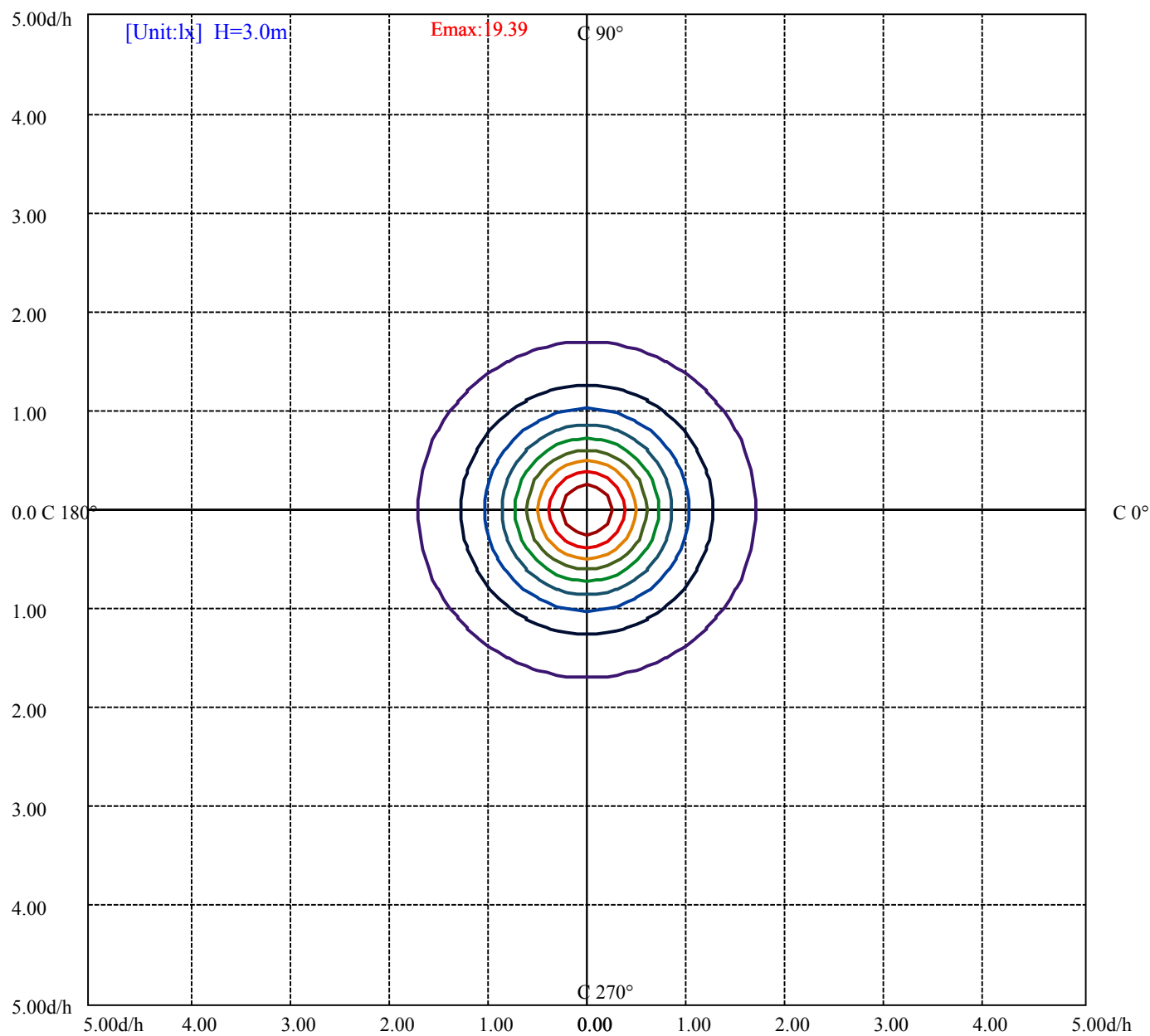


House

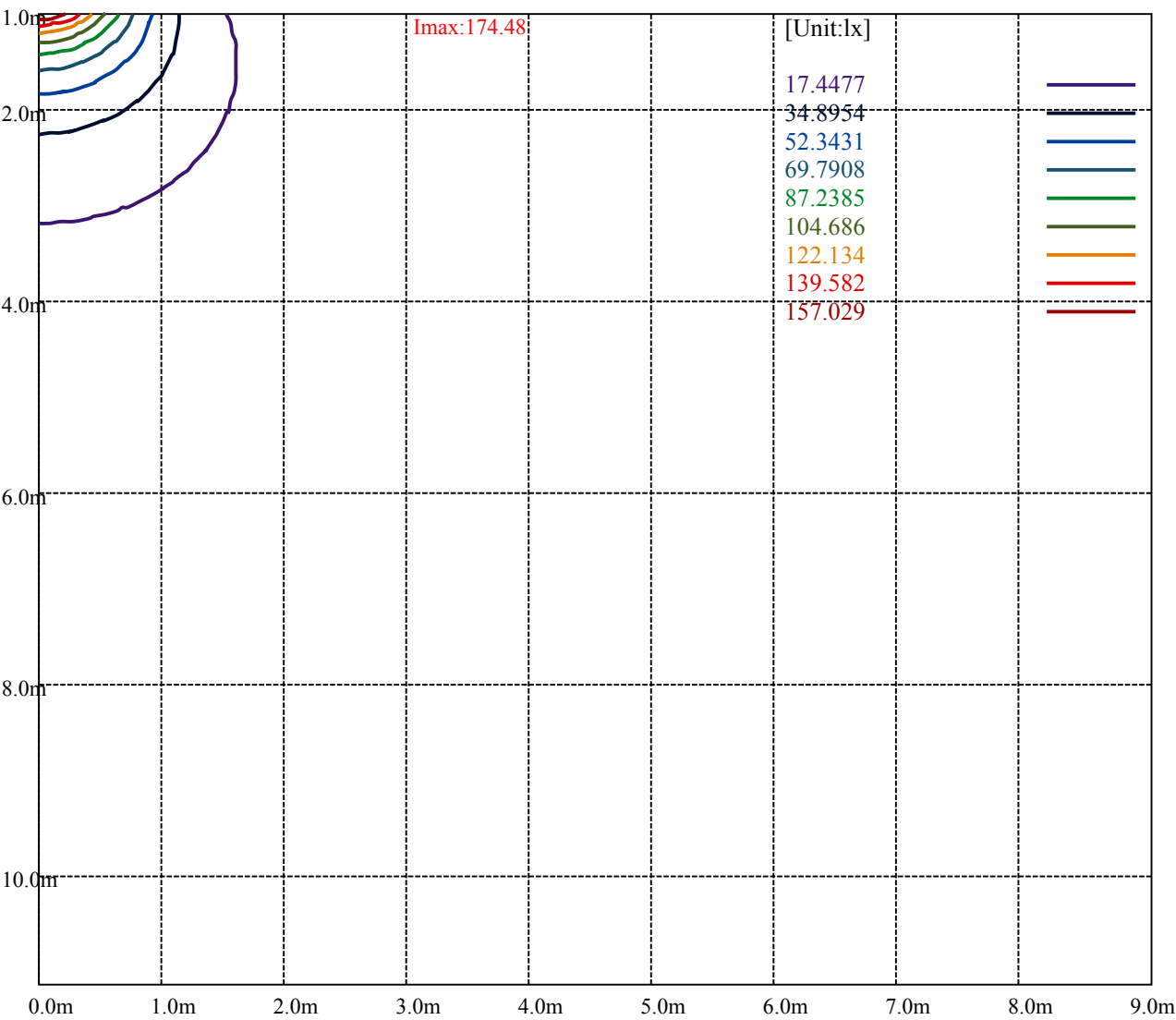
[Unit:cd]

Road

Imax:174.48	
(10%Imax) 17.4477	
(20%Imax) 34.8954	
(30%Imax) 52.3431	
(40%Imax) 69.7908	
(50%Imax) 87.2385	
(60%Imax) 104.686	
(70%Imax) 122.134	
(80%Imax) 139.582	
(90%Imax) 157.029	



(10%Emax) 1.938633	—
(20%Emax) 3.877267	—
(30%Emax) 5.8159	—
(40%Emax) 7.754534	—
(50%Emax) 9.693156	—
(60%Emax) 11.63178	—
(70%Emax) 13.57045	—
(80%Emax) 15.50911	—
(90%Emax) 17.44767	—



Luminance Limiting Curve(no luminous side)

Appendix Page: 14 Total:23

Luminance Table

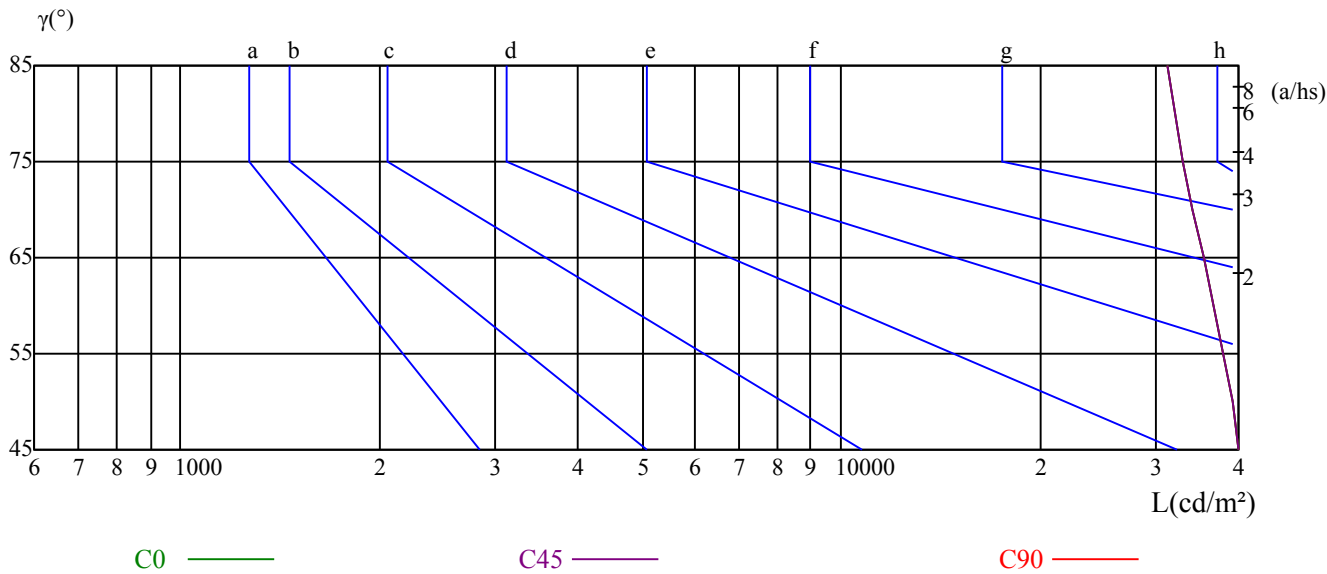
γ	45	50	55	60	65	70	75	80	85
C0	40527	39182	37871	36598	35356	34157	33040	32028	31192
C45	40527	39182	37871	36598	35356	34157	33040	32028	31192
C90	40527	39182	37871	36598	35356	34157	33040	32028	31192

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
102932	102932	102932	142939	142939	142939	348951	348951	348951

Glare Table

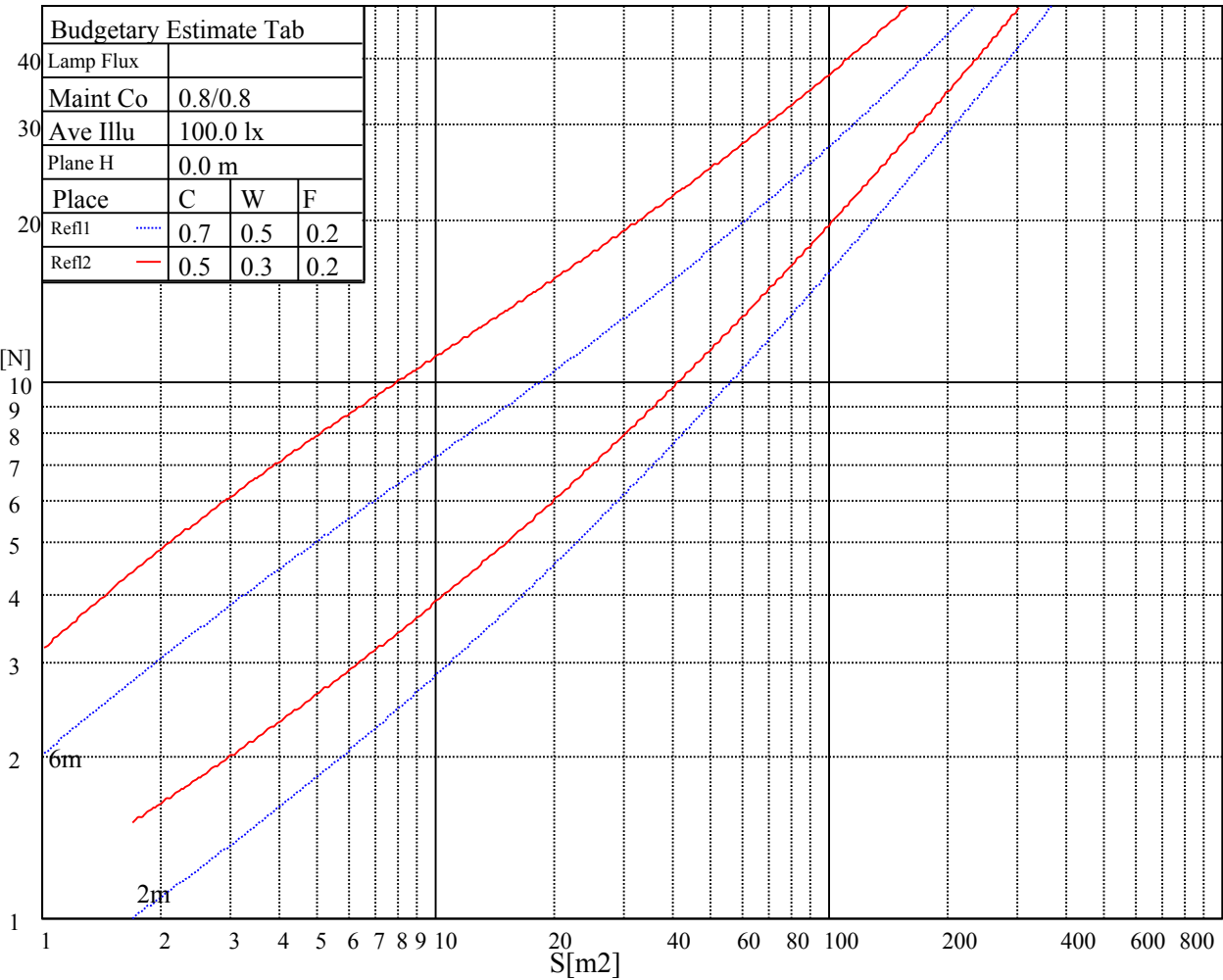
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve

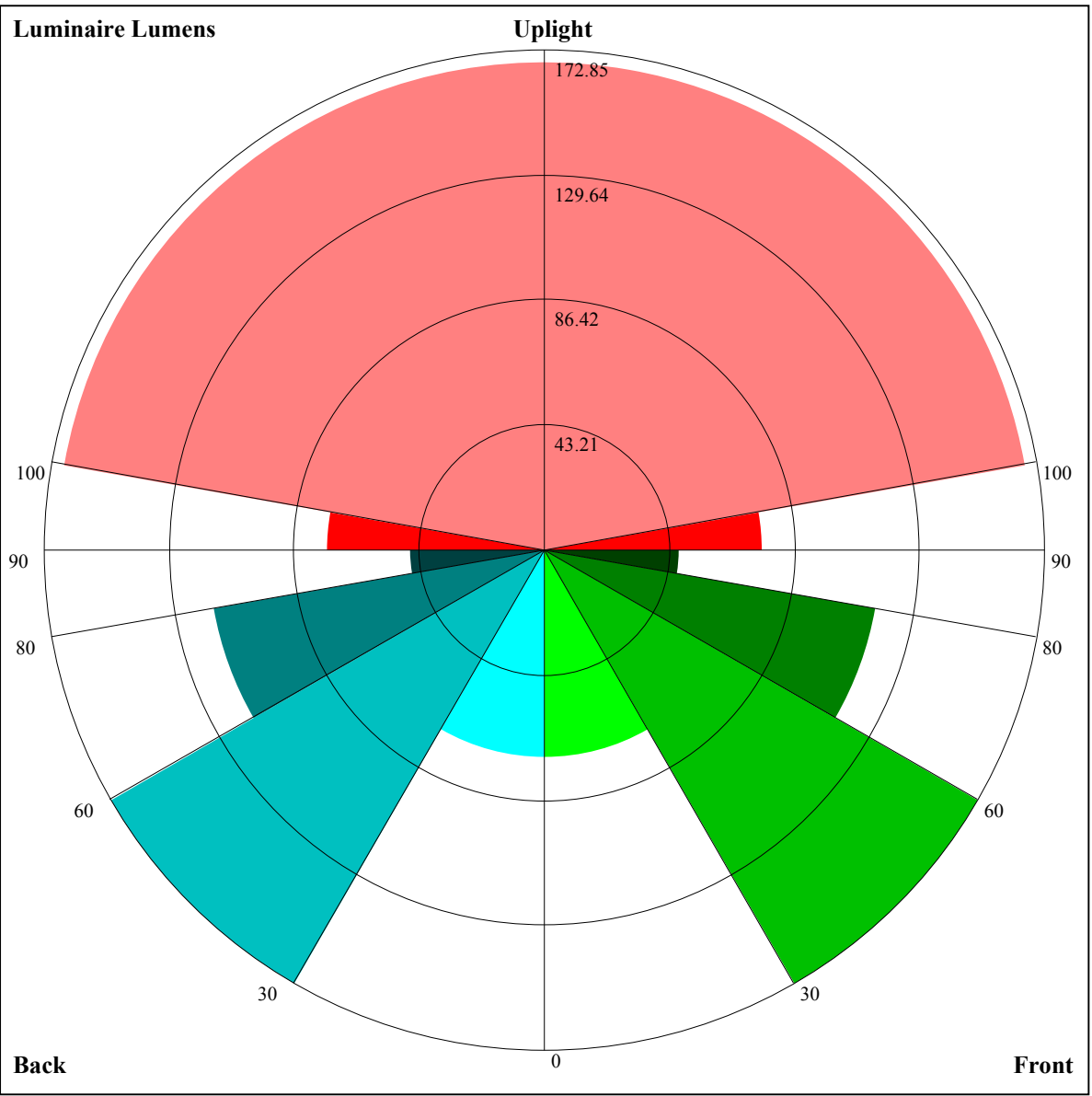


Illumination assessment according UGR												
Rf of Ceiling	70	70	50	50	30	70	70	50	50	30		
Rf of Wall	50	30	50	30	30	50	30	50	30	30		
Rf of Floor	20	20	20	20	20	20	20	20	20	20		
Room dimensions		Viewed crosswise					Viewed endwise					
X	Y											
2H	2H	23.21	24.54	23.87	25.24	26.06	23.21	24.54	23.87	25.24	26.06	
	3H	25.40	26.63	26.08	27.34	28.18	25.40	26.63	26.08	27.34	28.18	
	4H	26.42	27.59	27.11	28.31	29.16	26.42	27.59	27.11	28.31	29.16	
	6H	27.43	28.53	28.13	29.26	30.13	27.43	28.53	28.13	29.26	30.13	
	8H	27.88	28.95	28.59	29.68	30.56	27.88	28.95	28.59	29.68	30.56	
	12H	28.31	29.34	29.02	30.08	30.97	28.31	29.34	29.02	30.08	30.97	
4H	2H	24.04	25.21	24.73	25.93	26.78	24.04	25.21	24.73	25.93	26.78	
	3H	26.39	27.42	27.10	28.16	29.05	26.39	27.42	27.10	28.16	29.05	
	4H	27.62	28.56	28.35	29.31	30.22	27.62	28.56	28.35	29.31	30.22	
	6H	28.75	29.61	29.50	30.38	31.28	28.75	29.61	29.50	30.38	31.28	
	8H	29.32	30.12	30.08	30.90	31.82	29.32	30.12	30.08	30.90	31.82	
	12H	29.87	30.62	30.63	31.39	32.34	29.87	30.62	30.63	31.39	32.34	
8H	4H	28.09	28.89	28.84	29.67	30.58	28.09	28.89	28.84	29.67	30.58	
	6H	29.44	30.13	30.20	30.91	31.86	29.44	30.13	30.20	30.91	31.86	
	8H	30.20	30.81	30.98	31.62	32.57	30.20	30.81	30.98	31.62	32.57	
	12H	30.89	31.43	31.68	32.25	33.19	30.89	31.43	31.68	32.25	33.19	
12H	4H	28.18	28.94	28.94	29.70	30.65	28.18	28.94	28.94	29.70	30.65	
	6H	29.65	30.27	30.44	31.08	32.02	29.65	30.27	30.44	31.08	32.02	
	8H	30.44	30.98	31.23	31.80	32.74	30.44	30.98	31.23	31.80	32.74	
Variation with the observer position at spacings:												
S = 1.0H		0.2/-0.9					0.2/-0.9					
S = 1.5H		0.4/-0.8					0.4/-0.8					
S = 2.0H		0.4/-0.6					0.4/-0.6					
Standard tables:		BKBF					BKBF					
Uncorrected UGR		14.8					14.8					

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



RHOCC	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 RHOFC=20 CU															
0	1.14	1.14	1.14	1.08	1.08	1.08	0.98	0.98	0.98	0.89	0.89	0.89	0.81	0.81	0.81	0.77
1	0.93	0.88	0.82	0.89	0.84	0.79	0.80	0.76	0.72	0.72	0.69	0.66	0.65	0.62	0.60	0.56
2	0.79	0.71	0.64	0.75	0.68	0.61	0.68	0.62	0.57	0.61	0.56	0.52	0.55	0.51	0.47	0.44
3	0.68	0.59	0.51	0.65	0.56	0.50	0.58	0.51	0.46	0.53	0.47	0.42	0.47	0.42	0.38	0.35
4	0.60	0.50	0.43	0.57	0.48	0.41	0.51	0.44	0.38	0.46	0.40	0.35	0.41	0.36	0.32	0.29
5	0.53	0.43	0.36	0.50	0.41	0.35	0.45	0.38	0.32	0.41	0.35	0.30	0.37	0.31	0.27	0.24
6	0.47	0.38	0.31	0.45	0.36	0.30	0.41	0.33	0.28	0.37	0.30	0.25	0.33	0.28	0.23	0.21
7	0.42	0.33	0.27	0.40	0.32	0.26	0.37	0.29	0.24	0.33	0.27	0.22	0.30	0.25	0.21	0.18
8	0.38	0.29	0.23	0.37	0.28	0.23	0.33	0.26	0.21	0.30	0.24	0.20	0.27	0.22	0.18	0.16
9	0.35	0.26	0.21	0.33	0.26	0.20	0.31	0.24	0.19	0.28	0.22	0.17	0.25	0.20	0.16	0.14
10	0.32	0.24	0.19	0.31	0.23	0.18	0.28	0.21	0.17	0.26	0.20	0.16	0.23	0.18	0.15	0.13



Luminaire Lumens:

FL=71.82,FM=172.85,FH=116.22,FVH=46.94

BL=71.82,BM=172.85,BH=116.22,BVH=46.94

UL=75.33,UH=169.03

BUG Rating:B1-U3-G1

C/γ(°)	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0
0.0	174.48	173.72	173.80	173.75	173.68	173.63	173.56	173.47	173.37
45.0	174.48	173.72	173.80	173.75	173.68	173.63	173.56	173.47	173.37
90.0	174.48	173.72	173.80	173.75	173.68	173.63	173.56	173.47	173.37
135.0	174.48	173.72	173.80	173.75	173.68	173.63	173.56	173.47	173.37
180.0	174.48	173.72	173.80	173.75	173.68	173.63	173.56	173.47	173.37
225.0	174.48	173.72	173.80	173.75	173.68	173.63	173.56	173.47	173.37
270.0	174.48	173.72	173.80	173.75	173.68	173.63	173.56	173.47	173.37
315.0	174.48	173.72	173.80	173.75	173.68	173.63	173.56	173.47	173.37
360.0	174.48	173.72	173.80	173.75	173.68	173.63	173.56	173.47	173.37

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	173.26	173.14	173.01	172.87	172.73	172.58	172.40	172.20	171.98
45.0	173.26	173.14	173.01	172.87	172.73	172.58	172.40	172.20	171.98
90.0	173.26	173.14	173.01	172.87	172.73	172.58	172.40	172.20	171.98
135.0	173.26	173.14	173.01	172.87	172.73	172.58	172.40	172.20	171.98
180.0	173.26	173.14	173.01	172.87	172.73	172.58	172.40	172.20	171.98
225.0	173.26	173.14	173.01	172.87	172.73	172.58	172.40	172.20	171.98
270.0	173.26	173.14	173.01	172.87	172.73	172.58	172.40	172.20	171.98
315.0	173.26	173.14	173.01	172.87	172.73	172.58	172.40	172.20	171.98
360.0	173.26	173.14	173.01	172.87	172.73	172.58	172.40	172.20	171.98

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	171.74	171.48	171.20	170.90	170.57	170.21	169.82	169.40	168.94
45.0	171.74	171.48	171.20	170.90	170.57	170.21	169.82	169.40	168.94
90.0	171.74	171.48	171.20	170.90	170.57	170.21	169.82	169.40	168.94
135.0	171.74	171.48	171.20	170.90	170.57	170.21	169.82	169.40	168.94
180.0	171.74	171.48	171.20	170.90	170.57	170.21	169.82	169.40	168.94
225.0	171.74	171.48	171.20	170.90	170.57	170.21	169.82	169.40	168.94
270.0	171.74	171.48	171.20	170.90	170.57	170.21	169.82	169.40	168.94
315.0	171.74	171.48	171.20	170.90	170.57	170.21	169.82	169.40	168.94
360.0	171.74	171.48	171.20	170.90	170.57	170.21	169.82	169.40	168.94

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	168.45	167.93	167.37	166.78	166.14	165.47	164.77	164.03	163.24
45.0	168.45	167.93	167.37	166.78	166.14	165.47	164.77	164.03	163.24
90.0	168.45	167.93	167.37	166.78	166.14	165.47	164.77	164.03	163.24
135.0	168.45	167.93	167.37	166.78	166.14	165.47	164.77	164.03	163.24
180.0	168.45	167.93	167.37	166.78	166.14	165.47	164.77	164.03	163.24
225.0	168.45	167.93	167.37	166.78	166.14	165.47	164.77	164.03	163.24
270.0	168.45	167.93	167.37	166.78	166.14	165.47	164.77	164.03	163.24
315.0	168.45	167.93	167.37	166.78	166.14	165.47	164.77	164.03	163.24
360.0	168.45	167.93	167.37	166.78	166.14	165.47	164.77	164.03	163.24

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	162.41	161.55	160.64	159.70	158.72	157.70	156.65	155.55	154.42
45.0	162.41	161.55	160.64	159.70	158.72	157.70	156.65	155.55	154.42
90.0	162.41	161.55	160.64	159.70	158.72	157.70	156.65	155.55	154.42
135.0	162.41	161.55	160.64	159.70	158.72	157.70	156.65	155.55	154.42
180.0	162.41	161.55	160.64	159.70	158.72	157.70	156.65	155.55	154.42
225.0	162.41	161.55	160.64	159.70	158.72	157.70	156.65	155.55	154.42
270.0	162.41	161.55	160.64	159.70	158.72	157.70	156.65	155.55	154.42
315.0	162.41	161.55	160.64	159.70	158.72	157.70	156.65	155.55	154.42
360.0	162.41	161.55	160.64	159.70	158.72	157.70	156.65	155.55	154.42

Intensity data(cd)										Appendix Page: 20 Total:23	
C/ γ (°)	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	53.0		
0.0	153.24	152.03	150.78	149.50	148.20	146.85	145.46	144.04	142.59		
45.0	153.24	152.03	150.78	149.50	148.20	146.85	145.46	144.04	142.59		
90.0	153.24	152.03	150.78	149.50	148.20	146.85	145.46	144.04	142.59		
135.0	153.24	152.03	150.78	149.50	148.20	146.85	145.46	144.04	142.59		
180.0	153.24	152.03	150.78	149.50	148.20	146.85	145.46	144.04	142.59		
225.0	153.24	152.03	150.78	149.50	148.20	146.85	145.46	144.04	142.59		
270.0	153.24	152.03	150.78	149.50	148.20	146.85	145.46	144.04	142.59		
315.0	153.24	152.03	150.78	149.50	148.20	146.85	145.46	144.04	142.59		
360.0	153.24	152.03	150.78	149.50	148.20	146.85	145.46	144.04	142.59		
C/ γ (°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0		
0.0	141.10	139.59	138.05	136.49	134.89	133.27	131.61	129.93	128.22		
45.0	141.10	139.59	138.05	136.49	134.89	133.27	131.61	129.93	128.22		
90.0	141.10	139.59	138.05	136.49	134.89	133.27	131.61	129.93	128.22		
135.0	141.10	139.59	138.05	136.49	134.89	133.27	131.61	129.93	128.22		
180.0	141.10	139.59	138.05	136.49	134.89	133.27	131.61	129.93	128.22		
225.0	141.10	139.59	138.05	136.49	134.89	133.27	131.61	129.93	128.22		
270.0	141.10	139.59	138.05	136.49	134.89	133.27	131.61	129.93	128.22		
315.0	141.10	139.59	138.05	136.49	134.89	133.27	131.61	129.93	128.22		
360.0	141.10	139.59	138.05	136.49	134.89	133.27	131.61	129.93	128.22		
C/ γ (°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0		
0.0	126.50	124.75	123.00	121.21	119.40	117.58	115.76	113.92	112.06		
45.0	126.50	124.75	123.00	121.21	119.40	117.58	115.76	113.92	112.06		
90.0	126.50	124.75	123.00	121.21	119.40	117.58	115.76	113.92	112.06		
135.0	126.50	124.75	123.00	121.21	119.40	117.58	115.76	113.92	112.06		
180.0	126.50	124.75	123.00	121.21	119.40	117.58	115.76	113.92	112.06		
225.0	126.50	124.75	123.00	121.21	119.40	117.58	115.76	113.92	112.06		
270.0	126.50	124.75	123.00	121.21	119.40	117.58	115.76	113.92	112.06		
315.0	126.50	124.75	123.00	121.21	119.40	117.58	115.76	113.92	112.06		
360.0	126.50	124.75	123.00	121.21	119.40	117.58	115.76	113.92	112.06		
C/ γ (°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0		
0.0	110.21	108.35	106.47	104.60	102.73	100.85	98.97	97.08	95.21		
45.0	110.21	108.35	106.47	104.60	102.73	100.85	98.97	97.08	95.21		
90.0	110.21	108.35	106.47	104.60	102.73	100.85	98.97	97.08	95.21		
135.0	110.21	108.35	106.47	104.60	102.73	100.85	98.97	97.08	95.21		
180.0	110.21	108.35	106.47	104.60	102.73	100.85	98.97	97.08	95.21		
225.0	110.21	108.35	106.47	104.60	102.73	100.85	98.97	97.08	95.21		
270.0	110.21	108.35	106.47	104.60	102.73	100.85	98.97	97.08	95.21		
315.0	110.21	108.35	106.47	104.60	102.73	100.85	98.97	97.08	95.21		
360.0	110.21	108.35	106.47	104.60	102.73	100.85	98.97	97.08	95.21		
C/ γ (°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0		
0.0	93.34	91.48	89.64	87.81	85.99	84.18	82.40	80.65	78.90		
45.0	93.34	91.48	89.64	87.81	85.99	84.18	82.40	80.65	78.90		
90.0	93.34	91.48	89.64	87.81	85.99	84.18	82.40	80.65	78.90		
135.0	93.34	91.48	89.64	87.81	85.99	84.18	82.40	80.65	78.90		
180.0	93.34	91.48	89.64	87.81	85.99	84.18	82.40	80.65	78.90		
225.0	93.34	91.48	89.64	87.81	85.99	84.18	82.40	80.65	78.90		
270.0	93.34	91.48	89.64	87.81	85.99	84.18	82.40	80.65	78.90		
315.0	93.34	91.48	89.64	87.81	85.99	84.18	82.40	80.65	78.90		
360.0	93.34	91.48	89.64	87.81	85.99	84.18	82.40	80.65	78.90		

C/γ(°)	90.0	91.0	92.0	93.0	94.0	95.0	96.0	97.0	98.0
0.0	77.17	75.47	73.79	72.15	70.51	68.90	67.32	65.76	64.24
45.0	77.17	75.47	73.79	72.15	70.51	68.90	67.32	65.76	64.24
90.0	77.17	75.47	73.79	72.15	70.51	68.90	67.32	65.76	64.24
135.0	77.17	75.47	73.79	72.15	70.51	68.90	67.32	65.76	64.24
180.0	77.17	75.47	73.79	72.15	70.51	68.90	67.32	65.76	64.24
225.0	77.17	75.47	73.79	72.15	70.51	68.90	67.32	65.76	64.24
270.0	77.17	75.47	73.79	72.15	70.51	68.90	67.32	65.76	64.24
315.0	77.17	75.47	73.79	72.15	70.51	68.90	67.32	65.76	64.24
360.0	77.17	75.47	73.79	72.15	70.51	68.90	67.32	65.76	64.24
C/γ(°)	99.0	100.0	101.0	102.0	103.0	104.0	105.0	106.0	107.0
0.0	62.74	61.26	59.81	58.38	56.99	55.63	54.29	52.97	51.68
45.0	62.74	61.26	59.81	58.38	56.99	55.63	54.29	52.97	51.68
90.0	62.74	61.26	59.81	58.38	56.99	55.63	54.29	52.97	51.68
135.0	62.74	61.26	59.81	58.38	56.99	55.63	54.29	52.97	51.68
180.0	62.74	61.26	59.81	58.38	56.99	55.63	54.29	52.97	51.68
225.0	62.74	61.26	59.81	58.38	56.99	55.63	54.29	52.97	51.68
270.0	62.74	61.26	59.81	58.38	56.99	55.63	54.29	52.97	51.68
315.0	62.74	61.26	59.81	58.38	56.99	55.63	54.29	52.97	51.68
360.0	62.74	61.26	59.81	58.38	56.99	55.63	54.29	52.97	51.68
C/γ(°)	108.0	109.0	110.0	111.0	112.0	113.0	114.0	115.0	116.0
0.0	50.42	49.18	47.97	46.79	45.64	44.50	43.38	42.29	41.23
45.0	50.42	49.18	47.97	46.79	45.64	44.50	43.38	42.29	41.23
90.0	50.42	49.18	47.97	46.79	45.64	44.50	43.38	42.29	41.23
135.0	50.42	49.18	47.97	46.79	45.64	44.50	43.38	42.29	41.23
180.0	50.42	49.18	47.97	46.79	45.64	44.50	43.38	42.29	41.23
225.0	50.42	49.18	47.97	46.79	45.64	44.50	43.38	42.29	41.23
270.0	50.42	49.18	47.97	46.79	45.64	44.50	43.38	42.29	41.23
315.0	50.42	49.18	47.97	46.79	45.64	44.50	43.38	42.29	41.23
360.0	50.42	49.18	47.97	46.79	45.64	44.50	43.38	42.29	41.23
C/γ(°)	117.0	118.0	119.0	120.0	121.0	122.0	123.0	124.0	125.0
0.0	40.18	39.15	38.15	37.18	36.22	35.27	34.35	33.45	32.58
45.0	40.18	39.15	38.15	37.18	36.22	35.27	34.35	33.45	32.58
90.0	40.18	39.15	38.15	37.18	36.22	35.27	34.35	33.45	32.58
135.0	40.18	39.15	38.15	37.18	36.22	35.27	34.35	33.45	32.58
180.0	40.18	39.15	38.15	37.18	36.22	35.27	34.35	33.45	32.58
225.0	40.18	39.15	38.15	37.18	36.22	35.27	34.35	33.45	32.58
270.0	40.18	39.15	38.15	37.18	36.22	35.27	34.35	33.45	32.58
315.0	40.18	39.15	38.15	37.18	36.22	35.27	34.35	33.45	32.58
360.0	40.18	39.15	38.15	37.18	36.22	35.27	34.35	33.45	32.58
C/γ(°)	126.0	127.0	128.0	129.0	130.0	131.0	132.0	133.0	134.0
0.0	31.72	30.86	30.03	29.22	28.44	27.66	26.89	26.14	25.40
45.0	31.72	30.86	30.03	29.22	28.44	27.66	26.89	26.14	25.40
90.0	31.72	30.86	30.03	29.22	28.44	27.66	26.89	26.14	25.40
135.0	31.72	30.86	30.03	29.22	28.44	27.66	26.89	26.14	25.40
180.0	31.72	30.86	30.03	29.22	28.44	27.66	26.89	26.14	25.40
225.0	31.72	30.86	30.03	29.22	28.44	27.66	26.89	26.14	25.40
270.0	31.72	30.86	30.03	29.22	28.44	27.66	26.89	26.14	25.40
315.0	31.72	30.86	30.03	29.22	28.44	27.66	26.89	26.14	25.40
360.0	31.72	30.86	30.03	29.22	28.44	27.66	26.89	26.14	25.40

Intensity data(cd)

Appendix Page: 22 Total:23

C/ γ (°)	135.0	136.0	137.0	138.0	139.0	140.0	141.0	142.0	143.0
0.0	24.68	23.98	23.29	22.62	21.95	21.30	20.67	20.06	19.46
45.0	24.68	23.98	23.29	22.62	21.95	21.30	20.67	20.06	19.46
90.0	24.68	23.98	23.29	22.62	21.95	21.30	20.67	20.06	19.46
135.0	24.68	23.98	23.29	22.62	21.95	21.30	20.67	20.06	19.46
180.0	24.68	23.98	23.29	22.62	21.95	21.30	20.67	20.06	19.46
225.0	24.68	23.98	23.29	22.62	21.95	21.30	20.67	20.06	19.46
270.0	24.68	23.98	23.29	22.62	21.95	21.30	20.67	20.06	19.46
315.0	24.68	23.98	23.29	22.62	21.95	21.30	20.67	20.06	19.46
360.0	24.68	23.98	23.29	22.62	21.95	21.30	20.67	20.06	19.46
C/ γ (°)	144.0	145.0	146.0	147.0	148.0	149.0	150.0	151.0	152.0
0.0	18.87	18.29	17.71	17.15	16.61	16.08	15.57	15.07	14.57
45.0	18.87	18.29	17.71	17.15	16.61	16.08	15.57	15.07	14.57
90.0	18.87	18.29	17.71	17.15	16.61	16.08	15.57	15.07	14.57
135.0	18.87	18.29	17.71	17.15	16.61	16.08	15.57	15.07	14.57
180.0	18.87	18.29	17.71	17.15	16.61	16.08	15.57	15.07	14.57
225.0	18.87	18.29	17.71	17.15	16.61	16.08	15.57	15.07	14.57
270.0	18.87	18.29	17.71	17.15	16.61	16.08	15.57	15.07	14.57
315.0	18.87	18.29	17.71	17.15	16.61	16.08	15.57	15.07	14.57
360.0	18.87	18.29	17.71	17.15	16.61	16.08	15.57	15.07	14.57
C/ γ (°)	153.0	154.0	155.0	156.0	157.0	158.0	159.0	160.0	161.0
0.0	14.08	13.61	13.14	12.68	12.22	11.77	11.33	10.90	10.47
45.0	14.08	13.61	13.14	12.68	12.22	11.77	11.33	10.90	10.47
90.0	14.08	13.61	13.14	12.68	12.22	11.77	11.33	10.90	10.47
135.0	14.08	13.61	13.14	12.68	12.22	11.77	11.33	10.90	10.47
180.0	14.08	13.61	13.14	12.68	12.22	11.77	11.33	10.90	10.47
225.0	14.08	13.61	13.14	12.68	12.22	11.77	11.33	10.90	10.47
270.0	14.08	13.61	13.14	12.68	12.22	11.77	11.33	10.90	10.47
315.0	14.08	13.61	13.14	12.68	12.22	11.77	11.33	10.90	10.47
360.0	14.08	13.61	13.14	12.68	12.22	11.77	11.33	10.90	10.47
C/ γ (°)	162.0	163.0	164.0	165.0	166.0	167.0	168.0	169.0	170.0
0.0	10.02	9.56	9.10	8.63	8.14	7.62	7.08	6.50	5.91
45.0	10.02	9.56	9.10	8.63	8.14	7.62	7.08	6.50	5.91
90.0	10.02	9.56	9.10	8.63	8.14	7.62	7.08	6.50	5.91
135.0	10.02	9.56	9.10	8.63	8.14	7.62	7.08	6.50	5.91
180.0	10.02	9.56	9.10	8.63	8.14	7.62	7.08	6.50	5.91
225.0	10.02	9.56	9.10	8.63	8.14	7.62	7.08	6.50	5.91
270.0	10.02	9.56	9.10	8.63	8.14	7.62	7.08	6.50	5.91
315.0	10.02	9.56	9.10	8.63	8.14	7.62	7.08	6.50	5.91
360.0	10.02	9.56	9.10	8.63	8.14	7.62	7.08	6.50	5.91
C/ γ (°)	171.0	172.0	173.0	174.0	175.0	176.0	177.0	178.0	179.0
0.0	5.28	4.56	3.64	2.52	1.75	1.57	1.57	1.58	1.58
45.0	5.28	4.56	3.64	2.52	1.75	1.57	1.57	1.58	1.58
90.0	5.28	4.56	3.64	2.52	1.75	1.57	1.57	1.58	1.58
135.0	5.28	4.56	3.64	2.52	1.75	1.57	1.57	1.58	1.58
180.0	5.28	4.56	3.64	2.52	1.75	1.57	1.57	1.58	1.58
225.0	5.28	4.56	3.64	2.52	1.75	1.57	1.57	1.58	1.58
270.0	5.28	4.56	3.64	2.52	1.75	1.57	1.57	1.58	1.58
315.0	5.28	4.56	3.64	2.52	1.75	1.57	1.57	1.58	1.58
360.0	5.28	4.56	3.64	2.52	1.75	1.57	1.57	1.58	1.58

Intensity data(cd)

Appendix Page: 23 Total:23

C/γ(°)	180.0
0.0	1.58
45.0	1.58
90.0	1.58
135.0	1.58
180.0	1.58
225.0	1.58
270.0	1.58
315.0	1.58
360.0	1.58