

Report No	:	Voltage	:	V
Test No	:	Current	:	A
LumCAT	:	Power	:	13.500 W
Luminaire	:	0019590003 LASTD07 13.5W 4000K 1560lm	:	
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)	:	1560.00	Central intensity(cd)	:	239.747
Efficiency(%)	:	100.00%	Maximum intensity(cd)	:	240.305
Luminous Efficacy(lm/W)	:	115.56	Angle of maximum intensity	:	C=0.0 γ =4.0
Beam Angle(50%Imax)	:	[C0/180]Total=177.2 [C90/270]Total=177.2			
Field angle(10%Imax)	:	[C0/180]Total=302.0 [C90/270]Total=302.0			
Maximum s/h(1/2)	:	C0_180=1.48 C90_270=1.48			
Maximum s/h(1/4)	:	C0_180=1.63 C90_270=1.63			
CIE Type	:	Semidirect lighting			
Output flux ratio in π solid angle	:	44.699%			

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	239.747	0.000	0	0.00%	0.00%
1.0	240.086	0.230	0.23	0.01%	0.01%
2.0	240.275	0.689	0.919	0.04%	0.06%
3.0	240.299	1.149	2.068	0.07%	0.13%
4.0	240.305	1.609	3.677	0.10%	0.24%
5.0	240.303	2.068	5.745	0.13%	0.37%
6.0	240.298	2.526	8.27	0.16%	0.53%
7.0	240.283	2.983	11.253	0.19%	0.72%
8.0	240.264	3.439	14.693	0.22%	0.94%
9.0	240.240	3.894	18.587	0.25%	1.19%
10.0	240.206	4.348	22.935	0.28%	1.47%
11.0	240.167	4.800	27.735	0.31%	1.78%
12.0	240.119	5.250	32.985	0.34%	2.11%
13.0	240.060	5.699	38.683	0.37%	2.48%
14.0	239.994	6.145	44.828	0.39%	2.87%
15.0	239.913	6.588	51.416	0.42%	3.30%
16.0	239.813	7.029	58.446	0.45%	3.75%
17.0	239.698	7.467	65.913	0.48%	4.23%
18.0	239.555	7.902	73.815	0.51%	4.73%
19.0	239.385	8.333	82.147	0.53%	5.27%
20.0	239.189	8.759	90.907	0.56%	5.83%
21.0	238.961	9.181	100.088	0.59%	6.42%
22.0	238.703	9.599	109.687	0.62%	7.03%
23.0	238.407	10.011	119.698	0.64%	7.67%
24.0	238.076	10.418	130.116	0.67%	8.34%
25.0	237.708	10.818	140.934	0.69%	9.03%
26.0	237.295	11.212	152.146	0.72%	9.75%
27.0	236.834	11.600	163.746	0.74%	10.50%
28.0	236.328	11.979	175.725	0.77%	11.26%
29.0	235.780	12.352	188.077	0.79%	12.06%
30.0	235.181	12.716	200.793	0.82%	12.87%
31.0	234.536	13.072	213.865	0.84%	13.71%
32.0	233.838	13.418	227.283	0.86%	14.57%
33.0	233.090	13.756	241.039	0.88%	15.45%
34.0	232.292	14.084	255.123	0.90%	16.35%
35.0	231.443	14.402	269.524	0.92%	17.28%
36.0	230.537	14.710	284.234	0.94%	18.22%
37.0	229.574	15.006	299.24	0.96%	19.18%

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	228.556	15.292	314.532	0.98%	20.16%
39.0	227.483	15.566	330.098	1.00%	21.16%
40.0	226.354	15.828	345.926	1.01%	22.17%
41.0	225.167	16.078	362.005	1.03%	23.21%
42.0	223.923	16.316	378.321	1.05%	24.25%
43.0	222.625	16.541	394.862	1.06%	25.31%
44.0	221.274	16.754	411.616	1.07%	26.39%
45.0	219.861	16.953	428.57	1.09%	27.47%
46.0	218.386	17.139	445.708	1.10%	28.57%
47.0	216.862	17.311	463.019	1.11%	29.68%
48.0	215.282	17.470	480.489	1.12%	30.80%
49.0	213.642	17.614	498.103	1.13%	31.93%
50.0	211.949	17.744	515.847	1.14%	33.07%
51.0	210.196	17.860	533.708	1.14%	34.21%
52.0	208.393	17.962	551.67	1.15%	35.36%
53.0	206.543	18.050	569.719	1.16%	36.52%
54.0	204.634	18.123	587.842	1.16%	37.68%
55.0	202.669	18.181	606.023	1.17%	38.85%
56.0	200.656	18.225	624.249	1.17%	40.02%
57.0	198.597	18.255	642.503	1.17%	41.19%
58.0	196.490	18.270	660.774	1.17%	42.36%
59.0	194.333	18.271	679.045	1.17%	43.53%
60.0	192.131	18.258	697.303	1.17%	44.70%
61.0	189.889	18.231	715.533	1.17%	45.87%
62.0	187.606	18.190	733.723	1.17%	47.03%
63.0	185.282	18.135	751.859	1.16%	48.20%
64.0	182.916	18.067	769.926	1.16%	49.35%
65.0	180.522	17.986	787.912	1.15%	50.51%
66.0	178.089	17.892	805.805	1.15%	51.65%
67.0	175.625	17.786	823.591	1.14%	52.79%
68.0	173.135	17.667	841.258	1.13%	53.93%
69.0	170.622	17.537	858.794	1.12%	55.05%
70.0	168.079	17.395	876.19	1.12%	56.17%
71.0	165.517	17.242	893.432	1.11%	57.27%
72.0	162.933	17.078	910.51	1.09%	58.37%
73.0	160.337	16.905	927.415	1.08%	59.45%
74.0	157.728	16.721	944.136	1.07%	60.52%
75.0	155.115	16.529	960.666	1.06%	61.58%

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	152.495	16.329	976.995	1.05%	62.63%
77.0	149.868	16.121	993.115	1.03%	63.66%
78.0	147.242	15.905	1009.02	1.02%	64.68%
79.0	144.613	15.681	1024.701	1.01%	65.69%
80.0	141.994	15.452	1040.153	0.99%	66.68%
81.0	139.387	15.217	1055.369	0.98%	67.65%
82.0	136.790	14.977	1070.346	0.96%	68.61%
83.0	134.201	14.731	1085.077	0.94%	69.56%
84.0	131.635	14.482	1099.56	0.93%	70.48%
85.0	129.085	14.230	1113.789	0.91%	71.40%
86.0	126.548	13.973	1127.763	0.90%	72.29%
87.0	124.034	13.714	1141.476	0.88%	73.17%
88.0	121.546	13.452	1154.929	0.86%	74.03%
89.0	119.084	13.189	1168.118	0.85%	74.88%
90.0	116.652	12.925	1181.043	0.83%	75.71%
91.0	114.255	12.660	1193.703	0.81%	76.52%
92.0	111.874	12.395	1206.098	0.79%	77.31%
93.0	109.523	12.128	1218.226	0.78%	78.09%
94.0	107.200	11.861	1230.087	0.76%	78.85%
95.0	104.907	11.594	1241.681	0.74%	79.59%
96.0	102.652	11.328	1253.009	0.73%	80.32%
97.0	100.427	11.063	1264.072	0.71%	81.03%
98.0	98.236	10.800	1274.872	0.69%	81.72%
99.0	96.080	10.537	1285.409	0.68%	82.40%
100.0	93.955	10.277	1295.686	0.66%	83.06%
101.0	91.860	10.018	1305.704	0.64%	83.70%
102.0	89.798	9.760	1315.464	0.63%	84.32%
103.0	87.777	9.506	1324.97	0.61%	84.93%
104.0	85.788	9.254	1334.223	0.59%	85.53%
105.0	83.830	9.004	1343.227	0.58%	86.10%
106.0	81.906	8.757	1351.984	0.56%	86.67%
107.0	80.019	8.513	1360.497	0.55%	87.21%
108.0	78.164	8.272	1368.769	0.53%	87.74%
109.0	76.343	8.034	1376.803	0.51%	88.26%
110.0	74.553	7.799	1384.602	0.50%	88.76%
111.0	72.797	7.568	1392.17	0.49%	89.24%
112.0	71.069	7.339	1399.509	0.47%	89.71%
113.0	69.372	7.114	1406.623	0.46%	90.17%

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	67.710	6.893	1413.516	0.44%	90.61%
115.0	66.078	6.675	1420.191	0.43%	91.04%
116.0	64.472	6.461	1426.652	0.41%	91.45%
117.0	62.898	6.250	1432.902	0.40%	91.85%
118.0	61.350	6.043	1438.945	0.39%	92.24%
119.0	59.830	5.839	1444.784	0.37%	92.61%
120.0	58.343	5.639	1450.424	0.36%	92.98%
121.0	56.887	5.444	1455.867	0.35%	93.32%
122.0	55.453	5.252	1461.119	0.34%	93.66%
123.0	54.045	5.064	1466.183	0.32%	93.99%
124.0	52.667	4.879	1471.062	0.31%	94.30%
125.0	51.310	4.698	1475.76	0.30%	94.60%
126.0	49.978	4.521	1480.282	0.29%	94.89%
127.0	48.670	4.348	1484.63	0.28%	95.17%
128.0	47.393	4.179	1488.809	0.27%	95.44%
129.0	46.134	4.013	1492.822	0.26%	95.69%
130.0	44.900	3.852	1496.673	0.25%	95.94%
131.0	43.689	3.694	1500.367	0.24%	96.18%
132.0	42.503	3.540	1503.906	0.23%	96.40%
133.0	41.343	3.389	1507.296	0.22%	96.62%
134.0	40.204	3.243	1510.539	0.21%	96.83%
135.0	39.086	3.101	1513.64	0.20%	97.03%
136.0	37.994	2.962	1516.602	0.19%	97.22%
137.0	36.920	2.827	1519.43	0.18%	97.40%
138.0	35.867	2.696	1522.126	0.17%	97.57%
139.0	34.838	2.569	1524.695	0.16%	97.74%
140.0	33.832	2.445	1527.14	0.16%	97.89%
141.0	32.843	2.325	1529.466	0.15%	98.04%
142.0	31.872	2.209	1531.675	0.14%	98.18%
143.0	30.922	2.096	1533.771	0.13%	98.32%
144.0	29.996	1.987	1535.757	0.13%	98.45%
145.0	29.090	1.881	1537.639	0.12%	98.57%
146.0	28.203	1.779	1539.418	0.11%	98.68%
147.0	27.331	1.681	1541.099	0.11%	98.79%
148.0	26.483	1.585	1542.684	0.10%	98.89%
149.0	25.657	1.494	1544.178	0.10%	98.99%
150.0	24.851	1.406	1545.583	0.09%	99.08%
151.0	24.064	1.321	1546.904	0.08%	99.16%

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	23.294	1.239	1548.143	0.08%	99.24%
153.0	22.538	1.160	1549.303	0.07%	99.31%
154.0	21.794	1.085	1550.388	0.07%	99.38%
155.0	21.051	1.011	1551.399	0.06%	99.45%
156.0	20.315	0.941	1552.34	0.06%	99.51%
157.0	19.587	0.872	1553.212	0.06%	99.56%
158.0	18.865	0.807	1554.019	0.05%	99.62%
159.0	18.144	0.744	1554.763	0.05%	99.66%
160.0	17.418	0.683	1555.446	0.04%	99.71%
161.0	16.690	0.624	1556.07	0.04%	99.75%
162.0	15.961	0.568	1556.638	0.04%	99.78%
163.0	15.227	0.514	1557.152	0.03%	99.82%
164.0	14.489	0.463	1557.615	0.03%	99.85%
165.0	13.738	0.414	1558.029	0.03%	99.87%
166.0	12.971	0.367	1558.395	0.02%	99.90%
167.0	12.181	0.322	1558.717	0.02%	99.92%
168.0	11.372	0.280	1558.997	0.02%	99.94%
169.0	10.530	0.239	1559.236	0.02%	99.95%
170.0	9.628	0.201	1559.438	0.01%	99.96%
171.0	8.617	0.165	1559.603	0.01%	99.97%
172.0	7.436	0.130	1559.733	0.01%	99.98%
173.0	6.031	0.096	1559.829	0.01%	99.99%
174.0	4.570	0.066	1559.895	0.00%	99.99%
175.0	3.325	0.041	1559.936	0.00%	100.00%
176.0	2.605	0.026	1559.962	0.00%	100.00%
177.0	2.412	0.017	1559.979	0.00%	100.00%
178.0	2.392	0.011	1559.99	0.00%	100.00%
179.0	2.391	0.007	1559.997	0.00%	100.00%
180.0	2.391	0.002	1559.999	0.00%	100.00%

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

Date:
Humidity(%): 55.6%

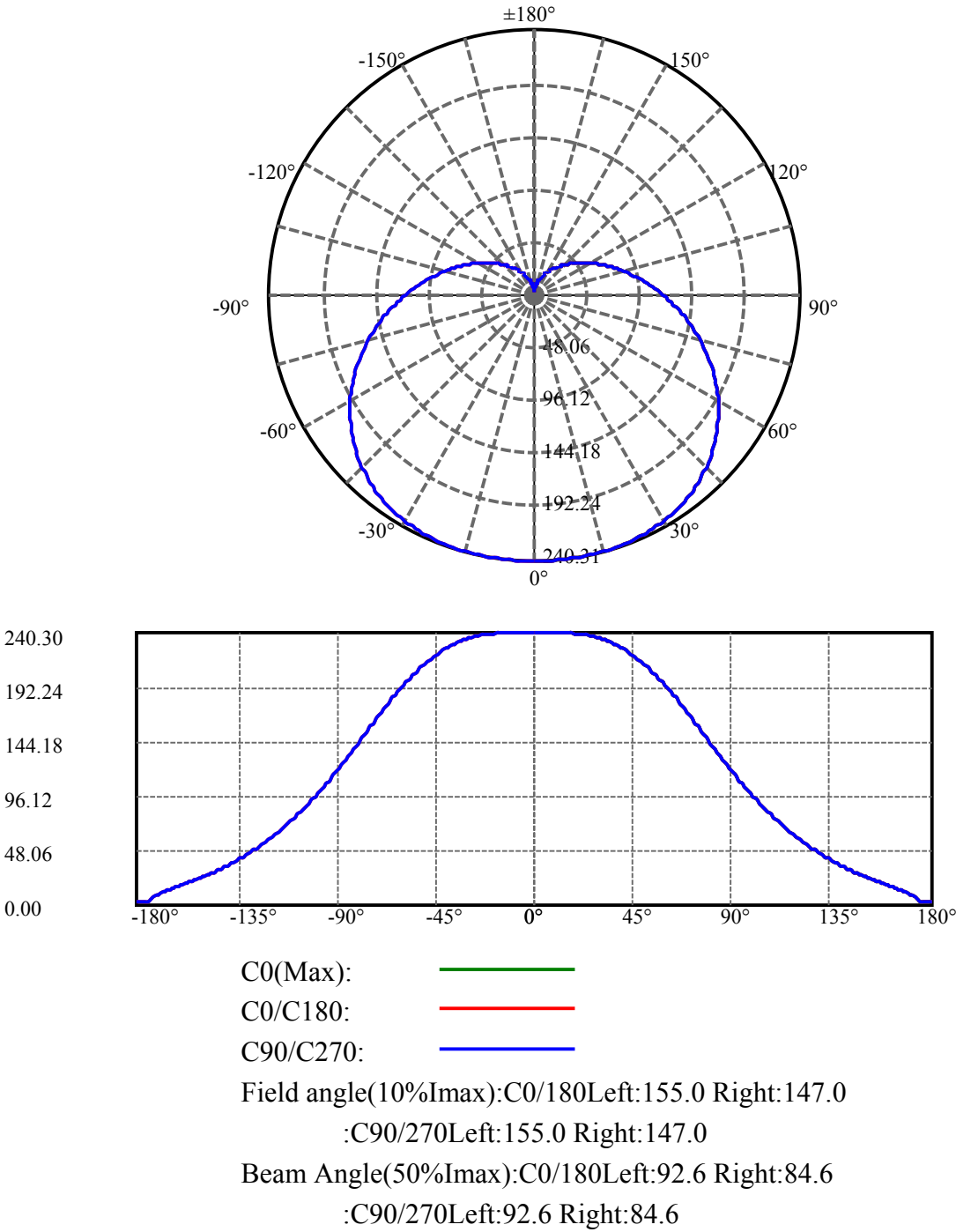
Operator: LSC

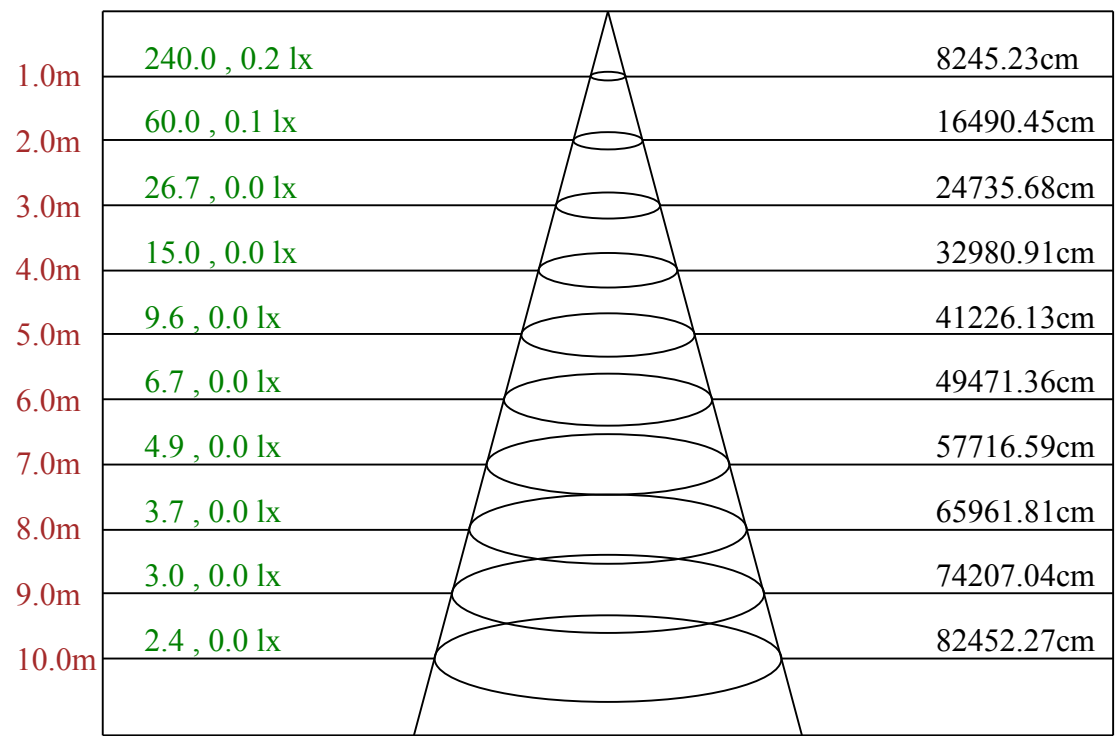
ZONAL LUMEN SUMMARY

Zone	Lumens	%Fixt
0-30	200.79	12.87%
0-40	345.93	22.17%
0-60	697.30	44.70%
0-90	1181.04	75.71%
0-120	1450.42	92.98%
0-180	1560.00	100.00%
60-90	483.74	31.01%
90-120	269.38	17.27%
90-130	315.63	20.23%
90-150	364.54	23.37%
90-180	378.95	24.29%
0-95.56	1248.00	80.00%

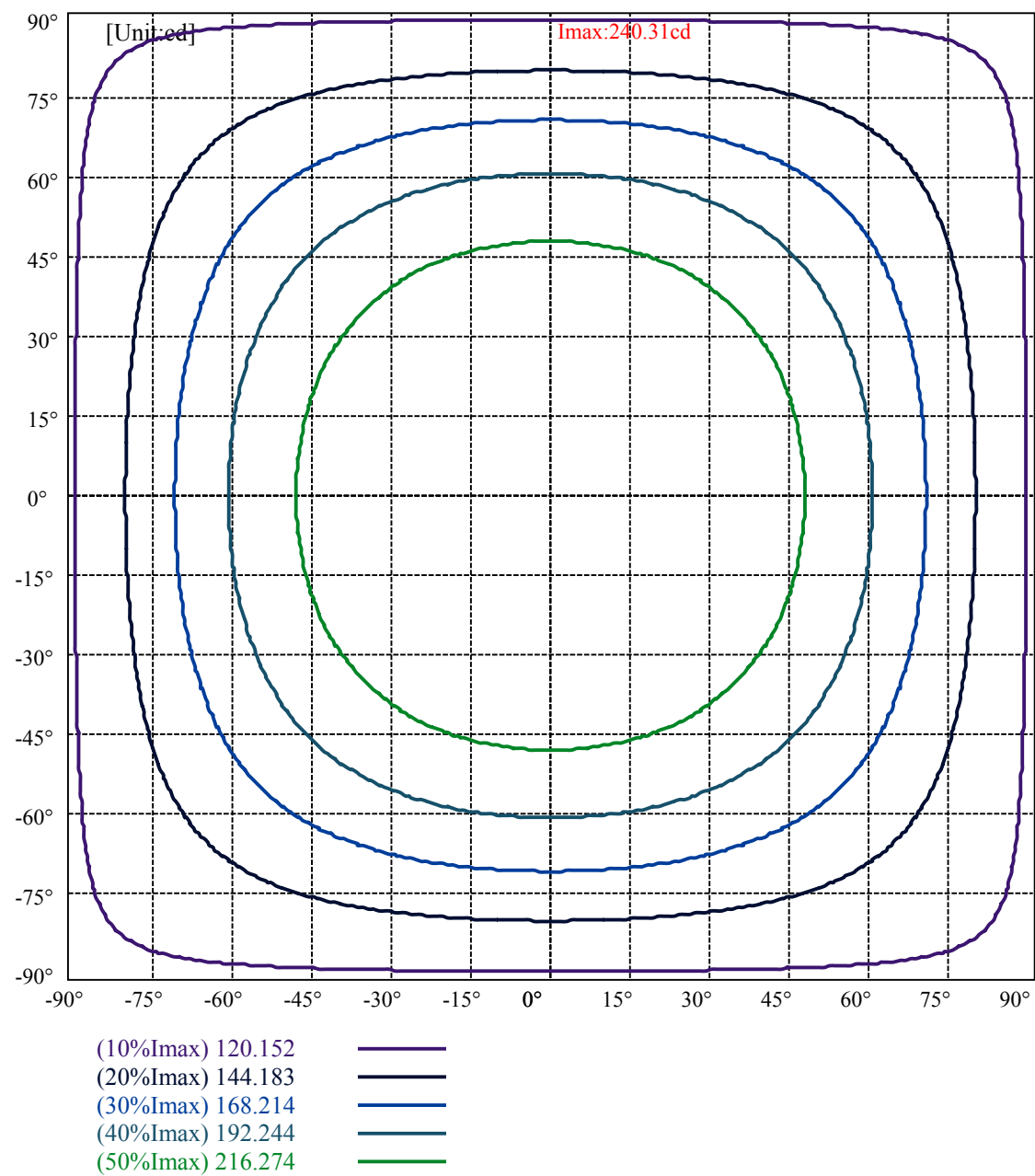
ZONAL LUMEN SUMMARY

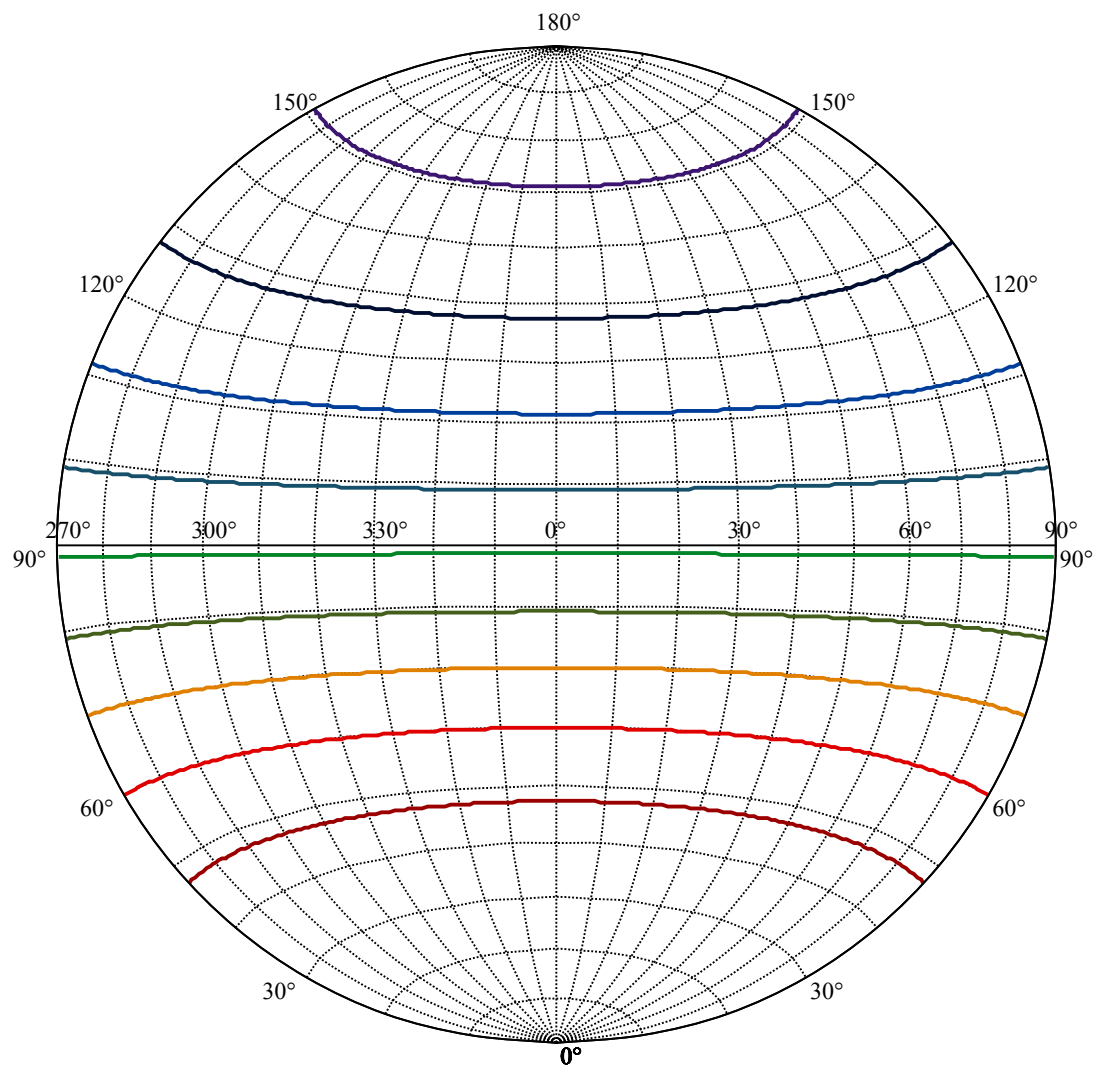
0-10	22.93
10-20	67.97
20-30	109.89
30-40	145.13
40-50	169.92
50-60	181.46
60-70	178.89
70-80	163.96
80-90	140.89
90-100	114.64
100-110	88.92
110-120	65.82
120-130	46.25
130-140	30.47
140-150	18.44
150-160	9.86
160-170	3.99
170-180	0.56





Max , Ave Beam angle of C0 plane 177.22





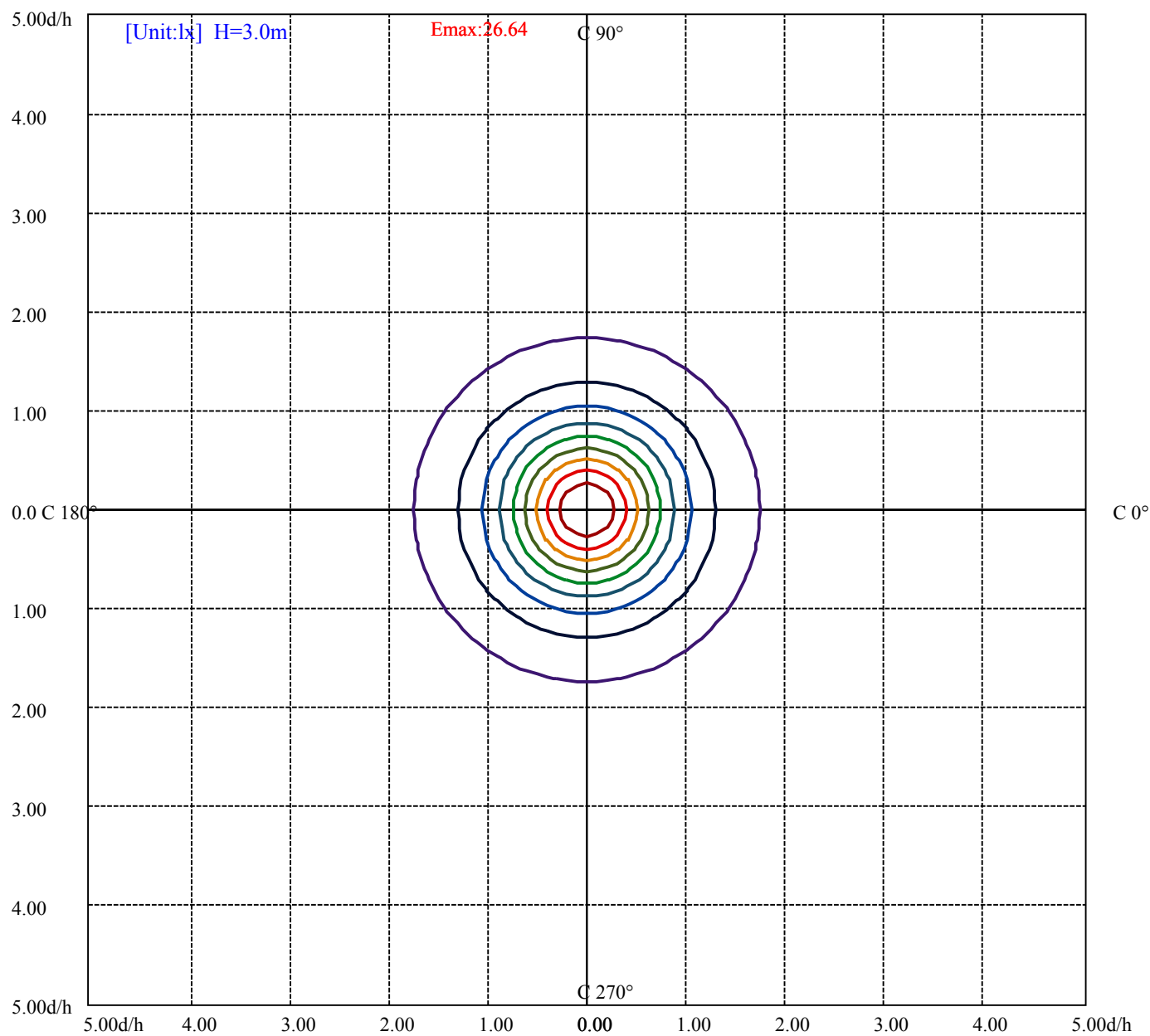
House

[Unit:cd]

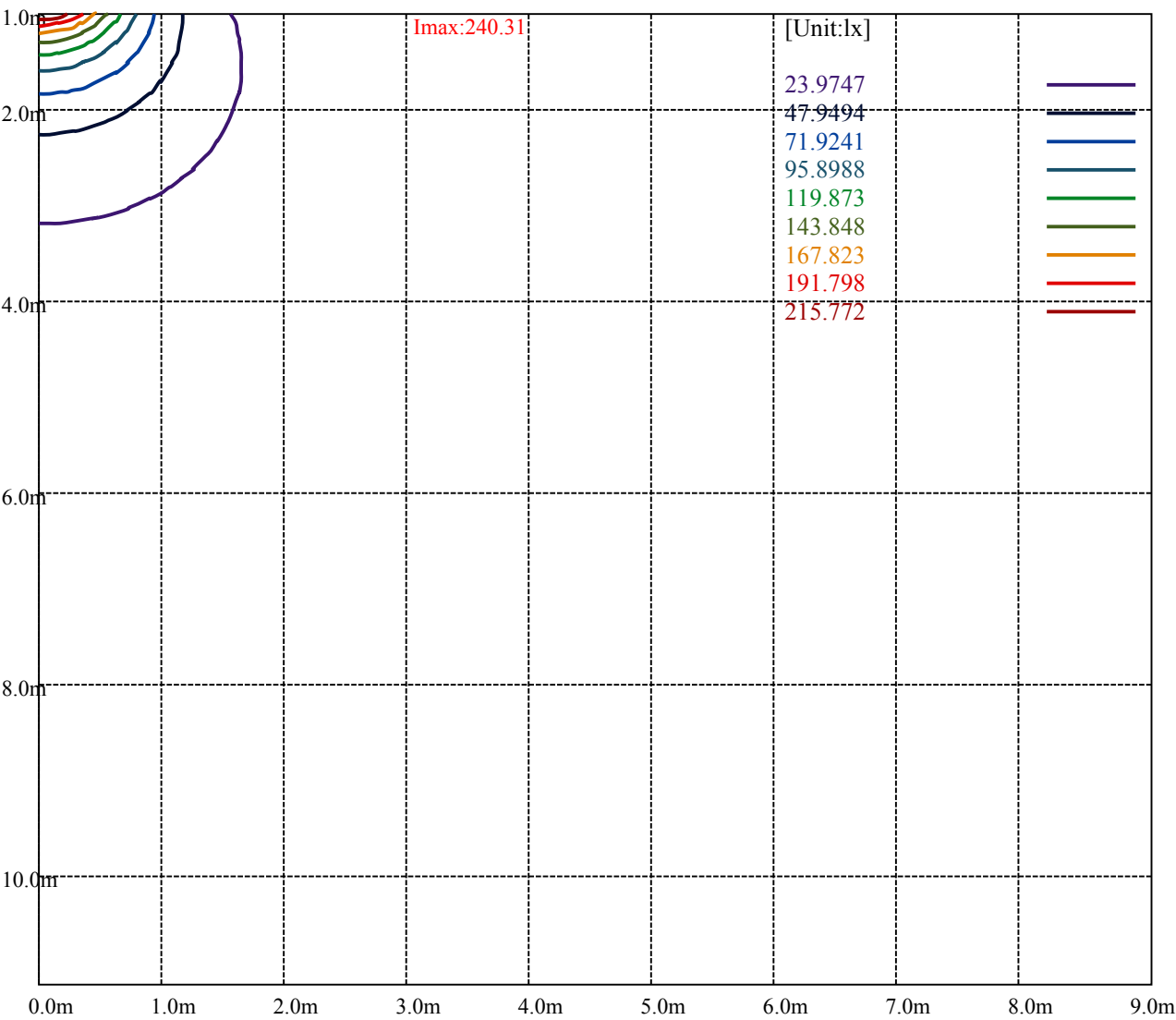
Road

Imax:240.31
(10%Imax) 24.0305
(20%Imax) 48.061
(30%Imax) 72.0915
(40%Imax) 96.122
(50%Imax) 120.152
(60%Imax) 144.183
(70%Imax) 168.214
(80%Imax) 192.244
(90%Imax) 216.274





(10%Emax)	2.663856	
(20%Emax)	5.327711	
(30%Emax)	7.991567	
(40%Emax)	10.65542	
(50%Emax)	13.31933	
(60%Emax)	15.98311	
(70%Emax)	18.647	
(80%Emax)	21.31089	
(90%Emax)	23.97467	



Luminance Limiting Curve(no luminous side)

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Luminance Table

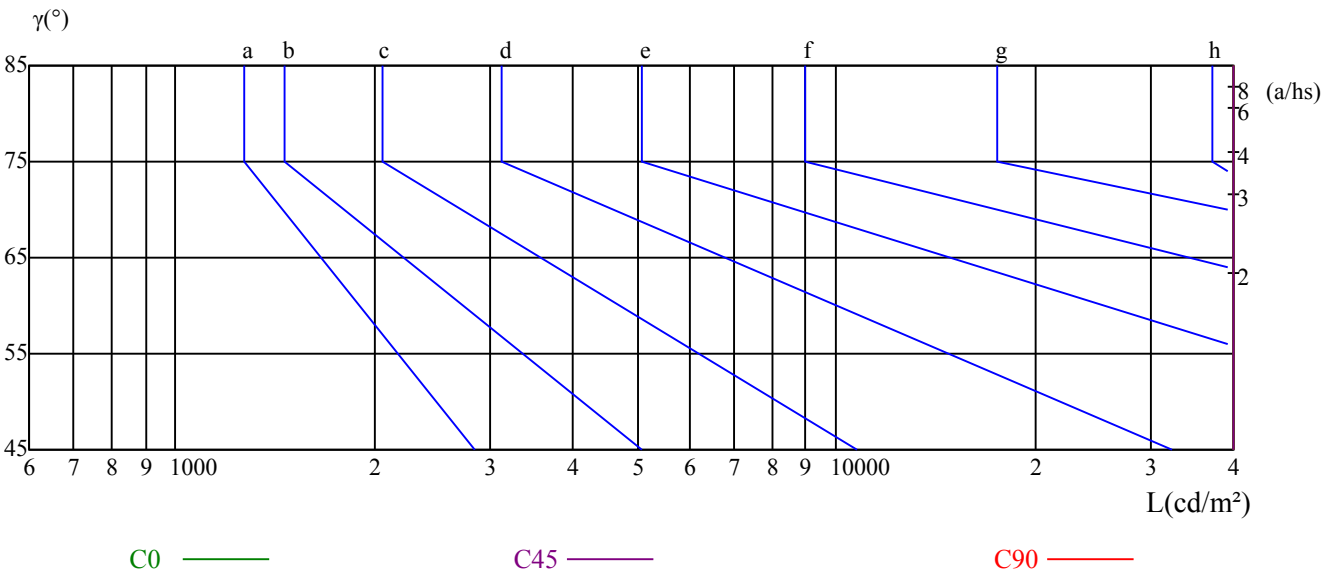
γ	45	50	55	60	65	70	75	80	85
C0	58146	56552	54983	53428	51892	50398	48995	47766	46824
C45	58146	56552	54983	53428	51892	50398	48995	47766	46824
C90	58146	56552	54983	53428	51892	50398	48995	47766	46824

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
151074	151074	151074	211966	211966	211966	523826	523826	523826

Glare Table

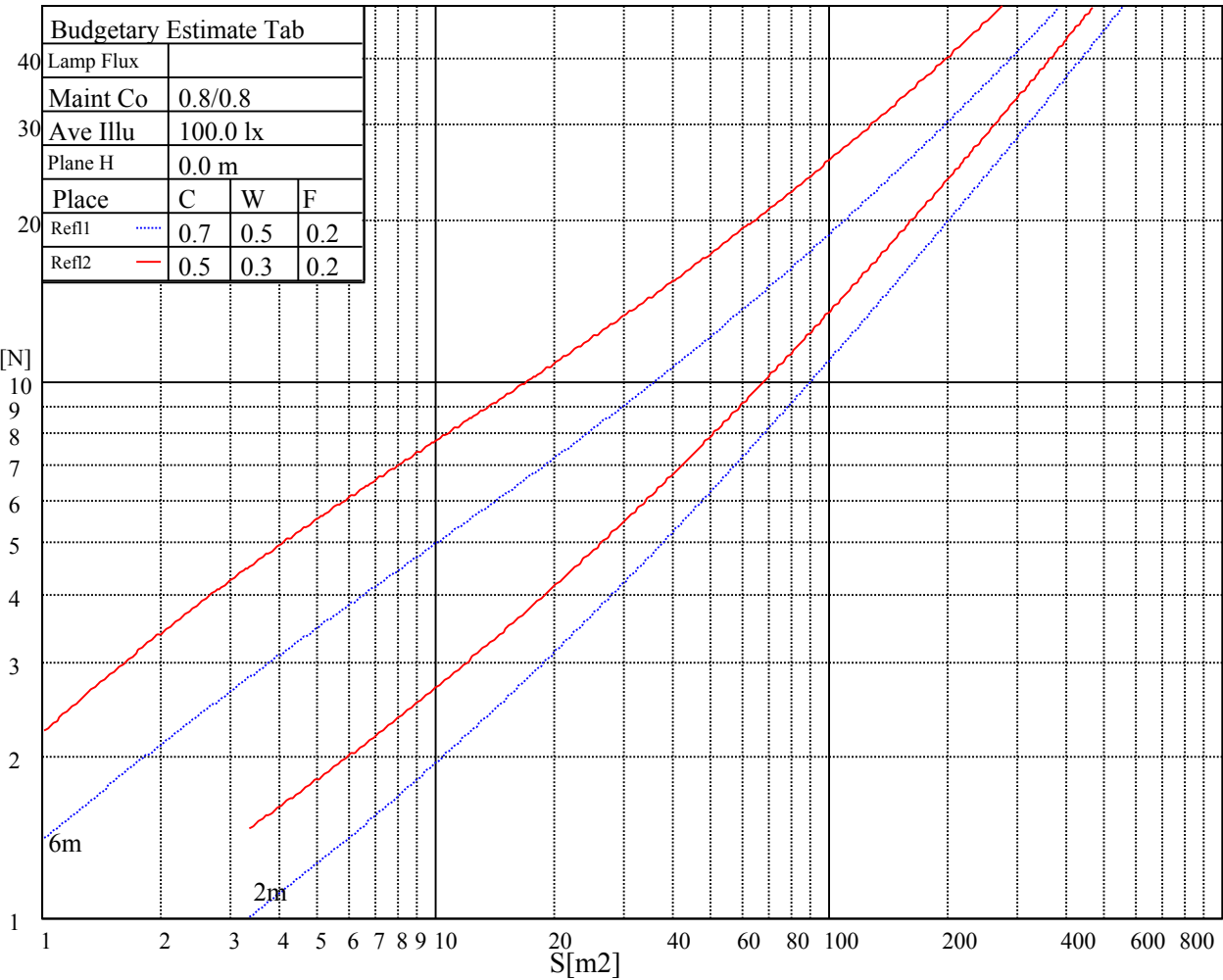
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve

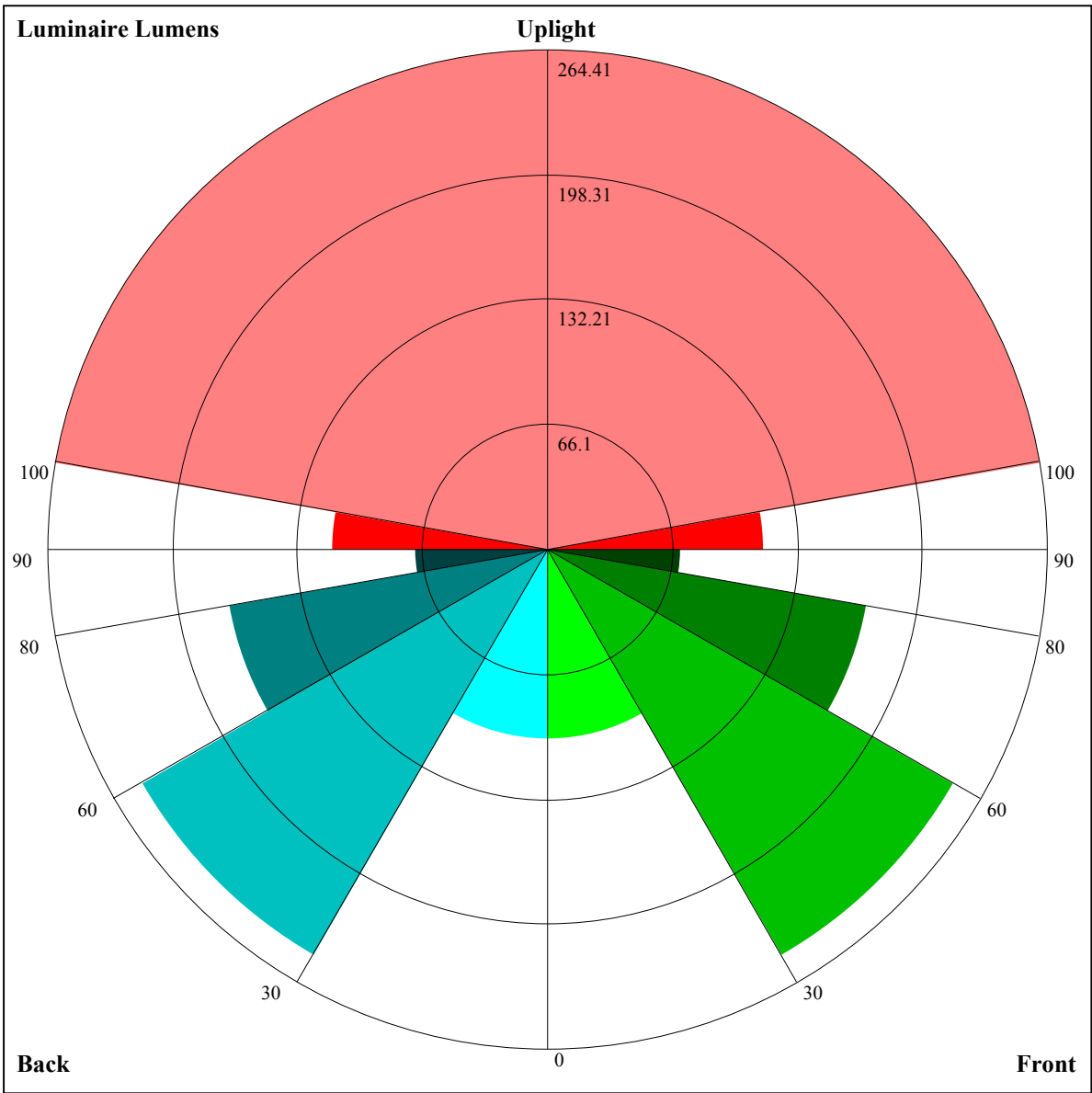


Illumination assessment according UGR											
Rf of Ceiling	70	70	50	50	30	70	70	50	50	30	
Rf of Wall	50	30	50	30	30	50	30	50	30	30	
Rf of Floor	20	20	20	20	20	20	20	20	20	20	
Room dimensions		Viewed crosswise					Viewed endwise				
X	Y										
2H	2H	24.42	25.74	25.10	26.46	27.30	24.42	25.74	25.10	26.46	27.30
	3H	26.66	27.88	27.35	28.61	29.46	26.66	27.88	27.35	28.61	29.46
	4H	27.70	28.86	28.40	29.59	30.47	27.70	28.86	28.40	29.59	30.47
	6H	28.74	29.83	29.45	30.57	31.46	28.74	29.83	29.45	30.57	31.46
	8H	29.20	30.26	29.92	31.01	31.91	29.20	30.26	29.92	31.01	31.91
	12H	29.65	30.67	30.37	31.42	32.33	29.65	30.67	30.37	31.42	32.33
4H	2H	25.27	26.43	25.97	27.16	28.04	25.27	26.43	25.97	27.16	28.04
	3H	27.66	28.68	28.39	29.44	30.34	27.66	28.68	28.39	29.44	30.34
	4H	28.91	29.84	29.65	30.61	31.54	28.91	29.84	29.65	30.61	31.54
	6H	30.07	30.92	30.83	31.71	32.63	30.07	30.92	30.83	31.71	32.63
	8H	30.65	31.45	31.42	32.24	33.18	30.65	31.45	31.42	32.24	33.18
	12H	31.22	31.96	31.99	32.74	33.71	31.22	31.96	31.99	32.74	33.71
8H	4H	29.39	30.19	30.16	30.98	31.91	29.39	30.19	30.16	30.98	31.91
	6H	30.77	31.45	31.55	32.25	33.22	30.77	31.45	31.55	32.25	33.22
	8H	31.54	32.15	32.34	32.98	33.94	31.54	32.15	32.34	32.98	33.94
	12H	32.25	32.78	33.05	33.62	34.58	32.25	32.78	33.05	33.62	34.58
12H	4H	29.49	30.24	30.26	31.02	31.99	29.49	30.24	30.26	31.02	31.99
	6H	30.99	31.60	31.78	32.43	33.39	30.99	31.60	31.78	32.43	33.39
	8H	31.79	32.32	32.59	33.16	34.12	31.79	32.32	32.59	33.16	34.12
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		0.3/-0.6					0.3/-0.6				
Standard tables:		BKBF					BKBF				
Uncorrected UGR		16.1					16.1				

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	1.13	1.13	1.13	1.08	1.08	1.08	0.98	0.98	0.98	0.88	0.88	0.88	0.80	0.80	0.80	0.76
1	0.93	0.87	0.82	0.88	0.83	0.78	0.79	0.75	0.71	0.71	0.68	0.65	0.64	0.61	0.59	0.55
2	0.79	0.70	0.64	0.75	0.67	0.61	0.67	0.61	0.56	0.60	0.55	0.51	0.53	0.50	0.46	0.42
3	0.68	0.58	0.51	0.64	0.56	0.49	0.58	0.51	0.45	0.52	0.46	0.41	0.46	0.41	0.37	0.34
4	0.59	0.49	0.42	0.56	0.47	0.40	0.50	0.43	0.37	0.45	0.39	0.34	0.40	0.35	0.31	0.28
5	0.52	0.43	0.35	0.50	0.41	0.34	0.45	0.37	0.31	0.40	0.34	0.29	0.36	0.31	0.26	0.23
6	0.47	0.37	0.30	0.44	0.36	0.29	0.40	0.33	0.27	0.36	0.30	0.25	0.32	0.27	0.23	0.20
7	0.42	0.33	0.26	0.40	0.31	0.25	0.36	0.29	0.23	0.33	0.26	0.22	0.29	0.24	0.20	0.17
8	0.38	0.29	0.23	0.36	0.28	0.22	0.33	0.26	0.21	0.30	0.24	0.19	0.27	0.21	0.18	0.15
9	0.35	0.26	0.20	0.33	0.25	0.20	0.30	0.23	0.18	0.27	0.21	0.17	0.25	0.19	0.16	0.14
10	0.32	0.24	0.18	0.30	0.23	0.18	0.28	0.21	0.16	0.25	0.19	0.15	0.23	0.18	0.14	0.12



Luminaire Lumens:

FL=100.39,FM=248.22,FH=171.41,FVH=70.45

BL=100.39,BM=248.22,BH=171.41,BVH=70.45

UL=114.66,UH=264.41

BUG Rating:B1-U3-G1

Intensity data(cd)

Appendix Page: 19 Total:23

C/γ(°)	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0
0.0	239.75	240.09	240.28	240.30	240.31	240.30	240.30	240.28	240.26
45.0	239.75	240.09	240.28	240.30	240.31	240.30	240.30	240.28	240.26
90.0	239.75	240.09	240.28	240.30	240.31	240.30	240.30	240.28	240.26
135.0	239.75	240.09	240.28	240.30	240.31	240.30	240.30	240.28	240.26
180.0	239.75	240.09	240.28	240.30	240.31	240.30	240.30	240.28	240.26
225.0	239.75	240.09	240.28	240.30	240.31	240.30	240.30	240.28	240.26
270.0	239.75	240.09	240.28	240.30	240.31	240.30	240.30	240.28	240.26
315.0	239.75	240.09	240.28	240.30	240.31	240.30	240.30	240.28	240.26
360.0	239.75	240.09	240.28	240.30	240.31	240.30	240.30	240.28	240.26

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	240.24	240.21	240.17	240.12	240.06	239.99	239.91	239.81	239.70
45.0	240.24	240.21	240.17	240.12	240.06	239.99	239.91	239.81	239.70
90.0	240.24	240.21	240.17	240.12	240.06	239.99	239.91	239.81	239.70
135.0	240.24	240.21	240.17	240.12	240.06	239.99	239.91	239.81	239.70
180.0	240.24	240.21	240.17	240.12	240.06	239.99	239.91	239.81	239.70
225.0	240.24	240.21	240.17	240.12	240.06	239.99	239.91	239.81	239.70
270.0	240.24	240.21	240.17	240.12	240.06	239.99	239.91	239.81	239.70
315.0	240.24	240.21	240.17	240.12	240.06	239.99	239.91	239.81	239.70
360.0	240.24	240.21	240.17	240.12	240.06	239.99	239.91	239.81	239.70

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	239.56	239.39	239.19	238.96	238.70	238.41	238.08	237.71	237.30
45.0	239.56	239.39	239.19	238.96	238.70	238.41	238.08	237.71	237.30
90.0	239.56	239.39	239.19	238.96	238.70	238.41	238.08	237.71	237.30
135.0	239.56	239.39	239.19	238.96	238.70	238.41	238.08	237.71	237.30
180.0	239.56	239.39	239.19	238.96	238.70	238.41	238.08	237.71	237.30
225.0	239.56	239.39	239.19	238.96	238.70	238.41	238.08	237.71	237.30
270.0	239.56	239.39	239.19	238.96	238.70	238.41	238.08	237.71	237.30
315.0	239.56	239.39	239.19	238.96	238.70	238.41	238.08	237.71	237.30
360.0	239.56	239.39	239.19	238.96	238.70	238.41	238.08	237.71	237.30

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	236.83	236.33	235.78	235.18	234.54	233.84	233.09	232.29	231.44
45.0	236.83	236.33	235.78	235.18	234.54	233.84	233.09	232.29	231.44
90.0	236.83	236.33	235.78	235.18	234.54	233.84	233.09	232.29	231.44
135.0	236.83	236.33	235.78	235.18	234.54	233.84	233.09	232.29	231.44
180.0	236.83	236.33	235.78	235.18	234.54	233.84	233.09	232.29	231.44
225.0	236.83	236.33	235.78	235.18	234.54	233.84	233.09	232.29	231.44
270.0	236.83	236.33	235.78	235.18	234.54	233.84	233.09	232.29	231.44
315.0	236.83	236.33	235.78	235.18	234.54	233.84	233.09	232.29	231.44
360.0	236.83	236.33	235.78	235.18	234.54	233.84	233.09	232.29	231.44

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	230.54	229.57	228.56	227.48	226.35	225.17	223.92	222.63	221.27
45.0	230.54	229.57	228.56	227.48	226.35	225.17	223.92	222.63	221.27
90.0	230.54	229.57	228.56	227.48	226.35	225.17	223.92	222.63	221.27
135.0	230.54	229.57	228.56	227.48	226.35	225.17	223.92	222.63	221.27
180.0	230.54	229.57	228.56	227.48	226.35	225.17	223.92	222.63	221.27
225.0	230.54	229.57	228.56	227.48	226.35	225.17	223.92	222.63	221.27
270.0	230.54	229.57	228.56	227.48	226.35	225.17	223.92	222.63	221.27
315.0	230.54	229.57	228.56	227.48	226.35	225.17	223.92	222.63	221.27
360.0	230.54	229.57	228.56	227.48	226.35	225.17	223.92	222.63	221.27

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	219.86	218.39	216.86	215.28	213.64	211.95	210.20	208.39	206.54
45.0	219.86	218.39	216.86	215.28	213.64	211.95	210.20	208.39	206.54
90.0	219.86	218.39	216.86	215.28	213.64	211.95	210.20	208.39	206.54
135.0	219.86	218.39	216.86	215.28	213.64	211.95	210.20	208.39	206.54
180.0	219.86	218.39	216.86	215.28	213.64	211.95	210.20	208.39	206.54
225.0	219.86	218.39	216.86	215.28	213.64	211.95	210.20	208.39	206.54
270.0	219.86	218.39	216.86	215.28	213.64	211.95	210.20	208.39	206.54
315.0	219.86	218.39	216.86	215.28	213.64	211.95	210.20	208.39	206.54
360.0	219.86	218.39	216.86	215.28	213.64	211.95	210.20	208.39	206.54

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	204.63	202.67	200.66	198.60	196.49	194.33	192.13	189.89	187.61
45.0	204.63	202.67	200.66	198.60	196.49	194.33	192.13	189.89	187.61
90.0	204.63	202.67	200.66	198.60	196.49	194.33	192.13	189.89	187.61
135.0	204.63	202.67	200.66	198.60	196.49	194.33	192.13	189.89	187.61
180.0	204.63	202.67	200.66	198.60	196.49	194.33	192.13	189.89	187.61
225.0	204.63	202.67	200.66	198.60	196.49	194.33	192.13	189.89	187.61
270.0	204.63	202.67	200.66	198.60	196.49	194.33	192.13	189.89	187.61
315.0	204.63	202.67	200.66	198.60	196.49	194.33	192.13	189.89	187.61
360.0	204.63	202.67	200.66	198.60	196.49	194.33	192.13	189.89	187.61

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	185.28	182.92	180.52	178.09	175.63	173.14	170.62	168.08	165.52
45.0	185.28	182.92	180.52	178.09	175.63	173.14	170.62	168.08	165.52
90.0	185.28	182.92	180.52	178.09	175.63	173.14	170.62	168.08	165.52
135.0	185.28	182.92	180.52	178.09	175.63	173.14	170.62	168.08	165.52
180.0	185.28	182.92	180.52	178.09	175.63	173.14	170.62	168.08	165.52
225.0	185.28	182.92	180.52	178.09	175.63	173.14	170.62	168.08	165.52
270.0	185.28	182.92	180.52	178.09	175.63	173.14	170.62	168.08	165.52
315.0	185.28	182.92	180.52	178.09	175.63	173.14	170.62	168.08	165.52
360.0	185.28	182.92	180.52	178.09	175.63	173.14	170.62	168.08	165.52

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	162.93	160.34	157.73	155.12	152.50	149.87	147.24	144.61	141.99
45.0	162.93	160.34	157.73	155.12	152.50	149.87	147.24	144.61	141.99
90.0	162.93	160.34	157.73	155.12	152.50	149.87	147.24	144.61	141.99
135.0	162.93	160.34	157.73	155.12	152.50	149.87	147.24	144.61	141.99
180.0	162.93	160.34	157.73	155.12	152.50	149.87	147.24	144.61	141.99
225.0	162.93	160.34	157.73	155.12	152.50	149.87	147.24	144.61	141.99
270.0	162.93	160.34	157.73	155.12	152.50	149.87	147.24	144.61	141.99
315.0	162.93	160.34	157.73	155.12	152.50	149.87	147.24	144.61	141.99
360.0	162.93	160.34	157.73	155.12	152.50	149.87	147.24	144.61	141.99

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	139.39	136.79	134.20	131.64	129.09	126.55	124.03	121.55	119.08
45.0	139.39	136.79	134.20	131.64	129.09	126.55	124.03	121.55	119.08
90.0	139.39	136.79	134.20	131.64	129.09	126.55	124.03	121.55	119.08
135.0	139.39	136.79	134.20	131.64	129.09	126.55	124.03	121.55	119.08
180.0	139.39	136.79	134.20	131.64	129.09	126.55	124.03	121.55	119.08
225.0	139.39	136.79	134.20	131.64	129.09	126.55	124.03	121.55	119.08
270.0	139.39	136.79	134.20	131.64	129.09	126.55	124.03	121.55	119.08
315.0	139.39	136.79	134.20	131.64	129.09	126.55	124.03	121.55	119.08
360.0	139.39	136.79	134.20	131.64	129.09	126.55	124.03	121.55	119.08

C/γ(°)	90.0	91.0	92.0	93.0	94.0	95.0	96.0	97.0	98.0
0.0	116.65	114.26	111.87	109.52	107.20	104.91	102.65	100.43	98.24
45.0	116.65	114.26	111.87	109.52	107.20	104.91	102.65	100.43	98.24
90.0	116.65	114.26	111.87	109.52	107.20	104.91	102.65	100.43	98.24
135.0	116.65	114.26	111.87	109.52	107.20	104.91	102.65	100.43	98.24
180.0	116.65	114.26	111.87	109.52	107.20	104.91	102.65	100.43	98.24
225.0	116.65	114.26	111.87	109.52	107.20	104.91	102.65	100.43	98.24
270.0	116.65	114.26	111.87	109.52	107.20	104.91	102.65	100.43	98.24
315.0	116.65	114.26	111.87	109.52	107.20	104.91	102.65	100.43	98.24
360.0	116.65	114.26	111.87	109.52	107.20	104.91	102.65	100.43	98.24

C/γ(°)	99.0	100.0	101.0	102.0	103.0	104.0	105.0	106.0	107.0
0.0	96.08	93.96	91.86	89.80	87.78	85.79	83.83	81.91	80.02
45.0	96.08	93.96	91.86	89.80	87.78	85.79	83.83	81.91	80.02
90.0	96.08	93.96	91.86	89.80	87.78	85.79	83.83	81.91	80.02
135.0	96.08	93.96	91.86	89.80	87.78	85.79	83.83	81.91	80.02
180.0	96.08	93.96	91.86	89.80	87.78	85.79	83.83	81.91	80.02
225.0	96.08	93.96	91.86	89.80	87.78	85.79	83.83	81.91	80.02
270.0	96.08	93.96	91.86	89.80	87.78	85.79	83.83	81.91	80.02
315.0	96.08	93.96	91.86	89.80	87.78	85.79	83.83	81.91	80.02
360.0	96.08	93.96	91.86	89.80	87.78	85.79	83.83	81.91	80.02

C/γ(°)	108.0	109.0	110.0	111.0	112.0	113.0	114.0	115.0	116.0
0.0	78.16	76.34	74.55	72.80	71.07	69.37	67.71	66.08	64.47
45.0	78.16	76.34	74.55	72.80	71.07	69.37	67.71	66.08	64.47
90.0	78.16	76.34	74.55	72.80	71.07	69.37	67.71	66.08	64.47
135.0	78.16	76.34	74.55	72.80	71.07	69.37	67.71	66.08	64.47
180.0	78.16	76.34	74.55	72.80	71.07	69.37	67.71	66.08	64.47
225.0	78.16	76.34	74.55	72.80	71.07	69.37	67.71	66.08	64.47
270.0	78.16	76.34	74.55	72.80	71.07	69.37	67.71	66.08	64.47
315.0	78.16	76.34	74.55	72.80	71.07	69.37	67.71	66.08	64.47
360.0	78.16	76.34	74.55	72.80	71.07	69.37	67.71	66.08	64.47

C/γ(°)	117.0	118.0	119.0	120.0	121.0	122.0	123.0	124.0	125.0
0.0	62.90	61.35	59.83	58.34	56.89	55.45	54.05	52.67	51.31
45.0	62.90	61.35	59.83	58.34	56.89	55.45	54.05	52.67	51.31
90.0	62.90	61.35	59.83	58.34	56.89	55.45	54.05	52.67	51.31
135.0	62.90	61.35	59.83	58.34	56.89	55.45	54.05	52.67	51.31
180.0	62.90	61.35	59.83	58.34	56.89	55.45	54.05	52.67	51.31
225.0	62.90	61.35	59.83	58.34	56.89	55.45	54.05	52.67	51.31
270.0	62.90	61.35	59.83	58.34	56.89	55.45	54.05	52.67	51.31
315.0	62.90	61.35	59.83	58.34	56.89	55.45	54.05	52.67	51.31
360.0	62.90	61.35	59.83	58.34	56.89	55.45	54.05	52.67	51.31

C/γ(°)	126.0	127.0	128.0	129.0	130.0	131.0	132.0	133.0	134.0
0.0	49.98	48.67	47.39	46.13	44.90	43.69	42.50	41.34	40.20
45.0	49.98	48.67	47.39	46.13	44.90	43.69	42.50	41.34	40.20
90.0	49.98	48.67	47.39	46.13	44.90	43.69	42.50	41.34	40.20
135.0	49.98	48.67	47.39	46.13	44.90	43.69	42.50	41.34	40.20
180.0	49.98	48.67	47.39	46.13	44.90	43.69	42.50	41.34	40.20
225.0	49.98	48.67	47.39	46.13	44.90	43.69	42.50	41.34	40.20
270.0	49.98	48.67	47.39	46.13	44.90	43.69	42.50	41.34	40.20
315.0	49.98	48.67	47.39	46.13	44.90	43.69	42.50	41.34	40.20
360.0	49.98	48.67	47.39	46.13	44.90	43.69	42.50	41.34	40.20

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	39.09	37.99	36.92	35.87	34.84	33.83	32.84	31.87	30.92
45.0	39.09	37.99	36.92	35.87	34.84	33.83	32.84	31.87	30.92
90.0	39.09	37.99	36.92	35.87	34.84	33.83	32.84	31.87	30.92
135.0	39.09	37.99	36.92	35.87	34.84	33.83	32.84	31.87	30.92
180.0	39.09	37.99	36.92	35.87	34.84	33.83	32.84	31.87	30.92
225.0	39.09	37.99	36.92	35.87	34.84	33.83	32.84	31.87	30.92
270.0	39.09	37.99	36.92	35.87	34.84	33.83	32.84	31.87	30.92
315.0	39.09	37.99	36.92	35.87	34.84	33.83	32.84	31.87	30.92
360.0	39.09	37.99	36.92	35.87	34.84	33.83	32.84	31.87	30.92
C/ γ (°)	144.0	145.0	146.0	147.0	148.0	149.0	150.0	151.0	152.0
0.0	30.00	29.09	28.20	27.33	26.48	25.66	24.85	24.06	23.29
45.0	30.00	29.09	28.20	27.33	26.48	25.66	24.85	24.06	23.29
90.0	30.00	29.09	28.20	27.33	26.48	25.66	24.85	24.06	23.29
135.0	30.00	29.09	28.20	27.33	26.48	25.66	24.85	24.06	23.29
180.0	30.00	29.09	28.20	27.33	26.48	25.66	24.85	24.06	23.29
225.0	30.00	29.09	28.20	27.33	26.48	25.66	24.85	24.06	23.29
270.0	30.00	29.09	28.20	27.33	26.48	25.66	24.85	24.06	23.29
315.0	30.00	29.09	28.20	27.33	26.48	25.66	24.85	24.06	23.29
360.0	30.00	29.09	28.20	27.33	26.48	25.66	24.85	24.06	23.29
C/ γ (°)	153.0	154.0	155.0	156.0	157.0	158.0	159.0	160.0	161.0
0.0	22.54	21.79	21.05	20.32	19.59	18.87	18.14	17.42	16.69
45.0	22.54	21.79	21.05	20.32	19.59	18.87	18.14	17.42	16.69
90.0	22.54	21.79	21.05	20.32	19.59	18.87	18.14	17.42	16.69
135.0	22.54	21.79	21.05	20.32	19.59	18.87	18.14	17.42	16.69
180.0	22.54	21.79	21.05	20.32	19.59	18.87	18.14	17.42	16.69
225.0	22.54	21.79	21.05	20.32	19.59	18.87	18.14	17.42	16.69
270.0	22.54	21.79	21.05	20.32	19.59	18.87	18.14	17.42	16.69
315.0	22.54	21.79	21.05	20.32	19.59	18.87	18.14	17.42	16.69
360.0	22.54	21.79	21.05	20.32	19.59	18.87	18.14	17.42	16.69
C/ γ (°)	162.0	163.0	164.0	165.0	166.0	167.0	168.0	169.0	170.0
0.0	15.96	15.23	14.49	13.74	12.97	12.18	11.37	10.53	9.63
45.0	15.96	15.23	14.49	13.74	12.97	12.18	11.37	10.53	9.63
90.0	15.96	15.23	14.49	13.74	12.97	12.18	11.37	10.53	9.63
135.0	15.96	15.23	14.49	13.74	12.97	12.18	11.37	10.53	9.63
180.0	15.96	15.23	14.49	13.74	12.97	12.18	11.37	10.53	9.63
225.0	15.96	15.23	14.49	13.74	12.97	12.18	11.37	10.53	9.63
270.0	15.96	15.23	14.49	13.74	12.97	12.18	11.37	10.53	9.63
315.0	15.96	15.23	14.49	13.74	12.97	12.18	11.37	10.53	9.63
360.0	15.96	15.23	14.49	13.74	12.97	12.18	11.37	10.53	9.63
C/ γ (°)	171.0	172.0	173.0	174.0	175.0	176.0	177.0	178.0	179.0
0.0	8.62	7.44	6.03	4.57	3.32	2.61	2.41	2.39	2.39
45.0	8.62	7.44	6.03	4.57	3.32	2.61	2.41	2.39	2.39
90.0	8.62	7.44	6.03	4.57	3.32	2.61	2.41	2.39	2.39
135.0	8.62	7.44	6.03	4.57	3.32	2.61	2.41	2.39	2.39
180.0	8.62	7.44	6.03	4.57	3.32	2.61	2.41	2.39	2.39
225.0	8.62	7.44	6.03	4.57	3.32	2.61	2.41	2.39	2.39
270.0	8.62	7.44	6.03	4.57	3.32	2.61	2.41	2.39	2.39
315.0	8.62	7.44	6.03	4.57	3.32	2.61	2.41	2.39	2.39
360.0	8.62	7.44	6.03	4.57	3.32	2.61	2.41	2.39	2.39

Intensity data(cd)

Appendix Page: 23 Total:23

C/γ(°)	180.0
0.0	2.39
45.0	2.39
90.0	2.39
135.0	2.39
180.0	2.39
225.0	2.39
270.0	2.39
315.0	2.39
360.0	2.39