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NT

Client: NT

LumCAT: 61-0228-1

Luminaire: 92.70.458.00

Report No: 20250519-B015

Ballast type: AC

Test No: 20250519-C015

LampCAT: CITIZEN CLU7A2

Lamp flux(lm): 624.3

Number of Lamps: 1

Length(mm): 35

Phm Type: C

Voltage(V): 36.360

Current(A): 0.176

Power (W): 6.399

PF: 0.000

Width(mm): 35

Height(mm): 17

Photometric Results

Lumens(lm): 570.51, Efficiency(%): 91.38% , Luminous Efficacy(lm/W): 89.16

Central intensity(cd): 1365.183, Maximum intensity(cd): 1365.183

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=36.8

[C90/270]Total=36.8

Field angle(10%Imax): [C0/180]Total=60.0

[C90/270]Total=60.0

Maximum s/h(1/2): C0_180=0.60 C90_270=0.60

Maximum s/h(1/4): C0_180=0.59 C90_270=0.59

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 91.38%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 97.596%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1365.183	0.000	0	0.00%	0.00%
1.0	1358.988	1.303	1.303	0.21%	0.23%
2.0	1350.995	3.890	5.193	0.62%	0.91%
3.0	1335.874	6.426	11.619	1.03%	2.04%
4.0	1318.421	8.885	20.504	1.42%	3.59%
5.0	1279.400	11.176	31.68	1.79%	5.55%
6.0	1253.954	13.313	44.993	2.13%	7.89%
7.0	1218.289	15.345	60.338	2.46%	10.58%
8.0	1187.728	17.219	77.558	2.76%	13.59%
9.0	1144.216	18.899	96.457	3.03%	16.91%
10.0	1104.322	20.348	116.805	3.26%	20.47%
11.0	1058.712	21.613	138.418	3.46%	24.26%
12.0	1011.504	22.630	161.049	3.62%	28.23%
13.0	964.682	23.452	184.501	3.76%	32.34%
14.0	905.231	23.935	208.436	3.83%	36.53%
15.0	858.382	24.212	232.648	3.88%	40.78%
16.0	808.636	24.426	257.074	3.91%	45.06%
17.0	750.476	24.280	281.354	3.89%	49.32%
18.0	702.622	23.958	305.312	3.84%	53.52%
19.0	647.134	23.483	328.795	3.76%	57.63%
20.0	585.717	22.565	351.36	3.61%	61.59%
21.0	537.276	21.564	372.923	3.45%	65.37%
22.0	480.396	20.451	393.374	3.28%	68.95%
23.0	422.896	18.954	412.327	3.04%	72.27%
24.0	378.585	17.523	429.851	2.81%	75.34%
25.0	333.895	16.200	446.051	2.59%	78.18%
26.0	280.205	14.496	460.547	2.32%	80.72%
27.0	241.910	12.774	473.321	2.05%	82.96%
28.0	208.257	11.397	484.718	1.83%	84.96%
29.0	169.962	9.895	494.613	1.58%	86.70%
30.0	136.662	8.279	502.892	1.33%	88.15%
31.0	110.051	6.866	509.758	1.10%	89.35%
32.0	83.872	5.556	515.313	0.89%	90.32%
33.0	69.051	4.505	519.818	0.72%	91.11%
34.0	54.449	3.737	523.556	0.60%	91.77%
35.0	42.705	3.017	526.573	0.48%	92.30%
36.0	35.904	2.503	529.076	0.40%	92.74%
37.0	29.549	2.135	531.211	0.34%	93.11%

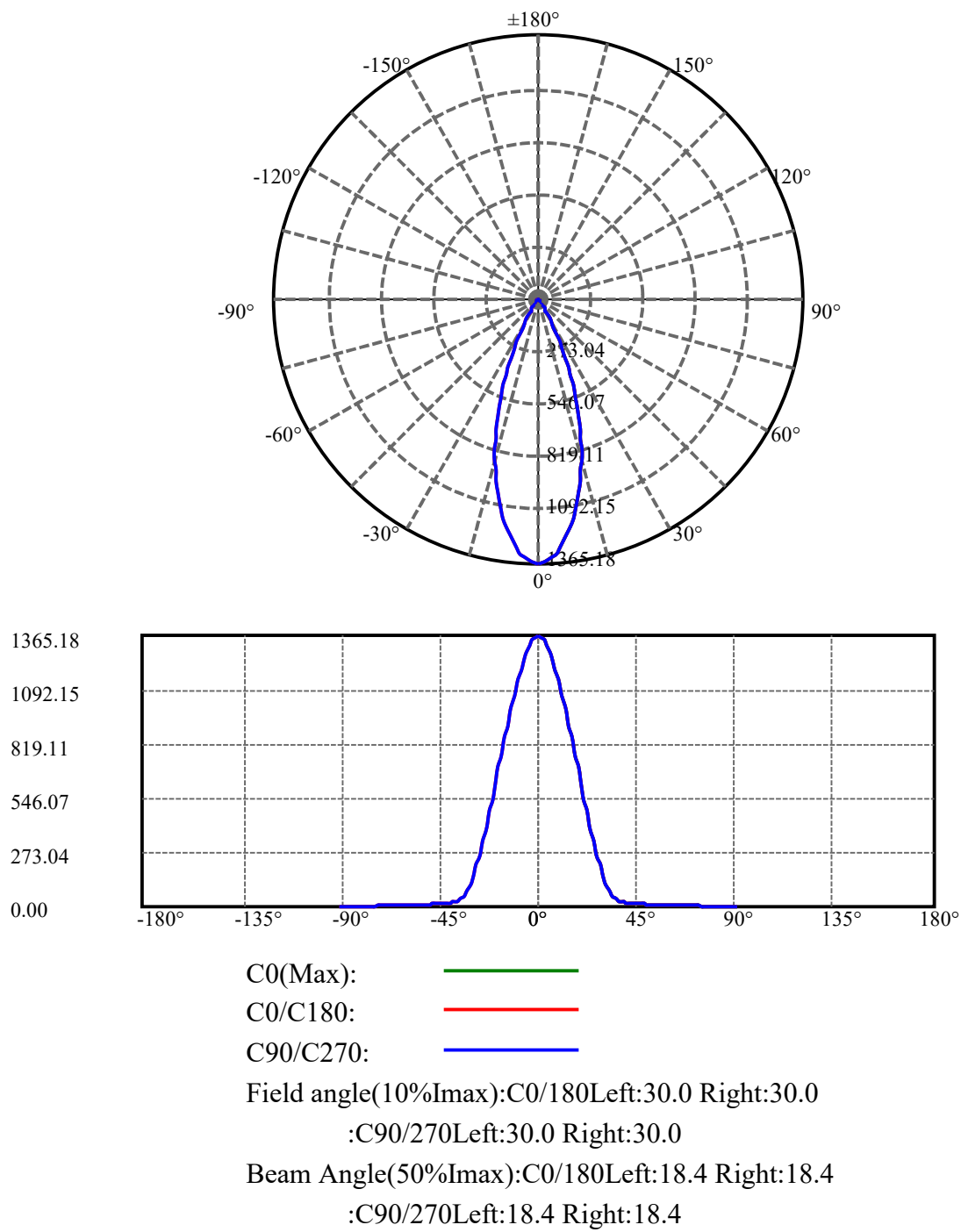
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	25.479	1.837	533.048	0.29%	93.43%
39.0	22.275	1.630	534.678	0.26%	93.72%
40.0	20.224	1.482	536.16	0.24%	93.98%
41.0	18.618	1.383	537.543	0.22%	94.22%
42.0	17.472	1.311	538.854	0.21%	94.45%
43.0	16.487	1.258	540.112	0.20%	94.67%
44.0	15.527	1.208	541.32	0.19%	94.88%
45.0	14.808	1.166	542.486	0.19%	95.09%
46.0	14.049	1.129	543.615	0.18%	95.28%
47.0	13.376	1.091	544.705	0.17%	95.48%
48.0	12.796	1.058	545.763	0.17%	95.66%
49.0	12.270	1.029	546.793	0.16%	95.84%
50.0	11.764	1.002	547.795	0.16%	96.02%
51.0	11.324	0.977	548.772	0.16%	96.19%
52.0	10.971	0.957	549.728	0.15%	96.36%
53.0	10.611	0.939	550.667	0.15%	96.52%
54.0	10.338	0.923	551.591	0.15%	96.68%
55.0	10.005	0.908	552.499	0.15%	96.84%
56.0	9.732	0.892	553.391	0.14%	97.00%
57.0	9.486	0.879	554.269	0.14%	97.15%
58.0	9.159	0.862	555.131	0.14%	97.30%
59.0	8.899	0.844	555.976	0.14%	97.45%
60.0	8.546	0.824	556.8	0.13%	97.60%
61.0	8.253	0.802	557.602	0.13%	97.74%
62.0	7.920	0.779	558.381	0.12%	97.87%
63.0	7.574	0.754	559.134	0.12%	98.01%
64.0	7.281	0.729	559.863	0.12%	98.13%
65.0	6.861	0.700	560.563	0.11%	98.26%
66.0	6.561	0.670	561.233	0.11%	98.37%
67.0	6.188	0.641	561.874	0.10%	98.49%
68.0	5.869	0.611	562.485	0.10%	98.59%
69.0	5.542	0.582	563.067	0.09%	98.69%
70.0	5.242	0.554	563.621	0.09%	98.79%
71.0	4.936	0.526	564.147	0.08%	98.88%
72.0	4.670	0.499	564.646	0.08%	98.97%
73.0	4.450	0.477	565.123	0.08%	99.05%
74.0	4.237	0.457	565.58	0.07%	99.14%
75.0	4.017	0.436	566.016	0.07%	99.21%

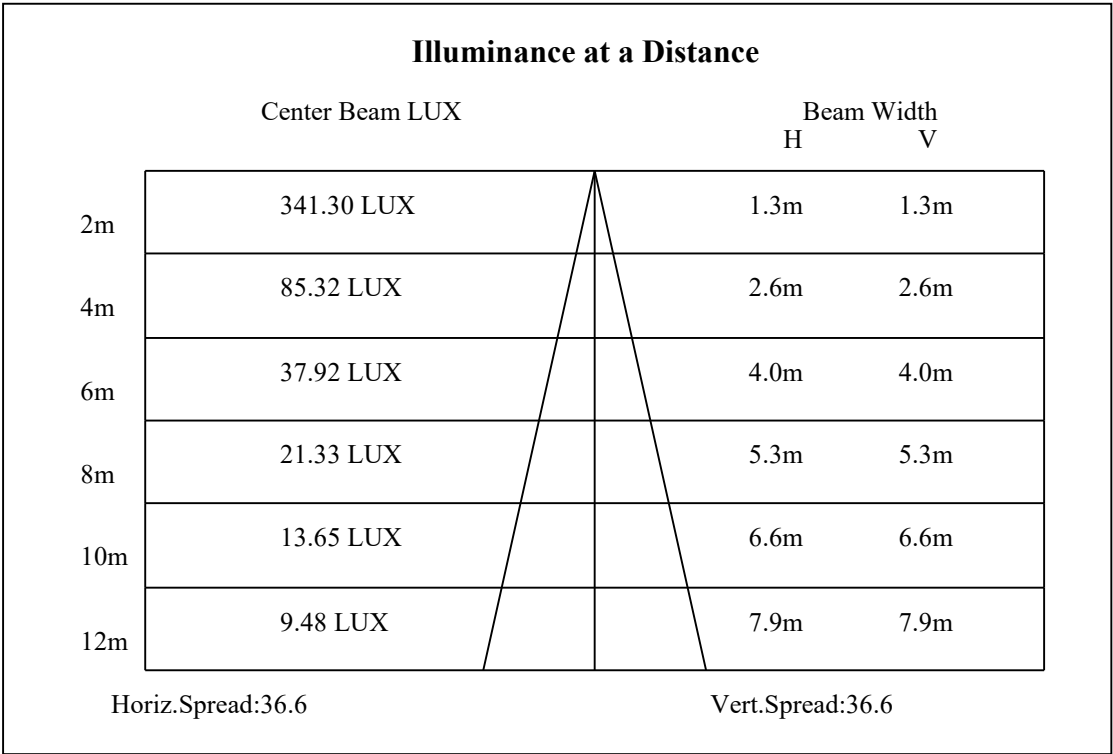
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	3.817	0.416	566.432	0.07%	99.28%
77.0	3.630	0.397	566.829	0.06%	99.35%
78.0	3.457	0.379	567.208	0.06%	99.42%
79.0	3.244	0.360	567.568	0.06%	99.48%
80.0	3.077	0.341	567.909	0.05%	99.54%
81.0	2.951	0.326	568.235	0.05%	99.60%
82.0	2.798	0.312	568.547	0.05%	99.66%
83.0	2.625	0.295	568.842	0.05%	99.71%
84.0	2.491	0.279	569.12	0.04%	99.76%
85.0	2.351	0.264	569.385	0.04%	99.80%
86.0	2.232	0.251	569.635	0.04%	99.85%
87.0	2.098	0.237	569.872	0.04%	99.89%
88.0	1.978	0.223	570.095	0.04%	99.93%
89.0	1.905	0.213	570.308	0.03%	99.96%
90.0	1.858	0.206	570.515	0.03%	100.00%

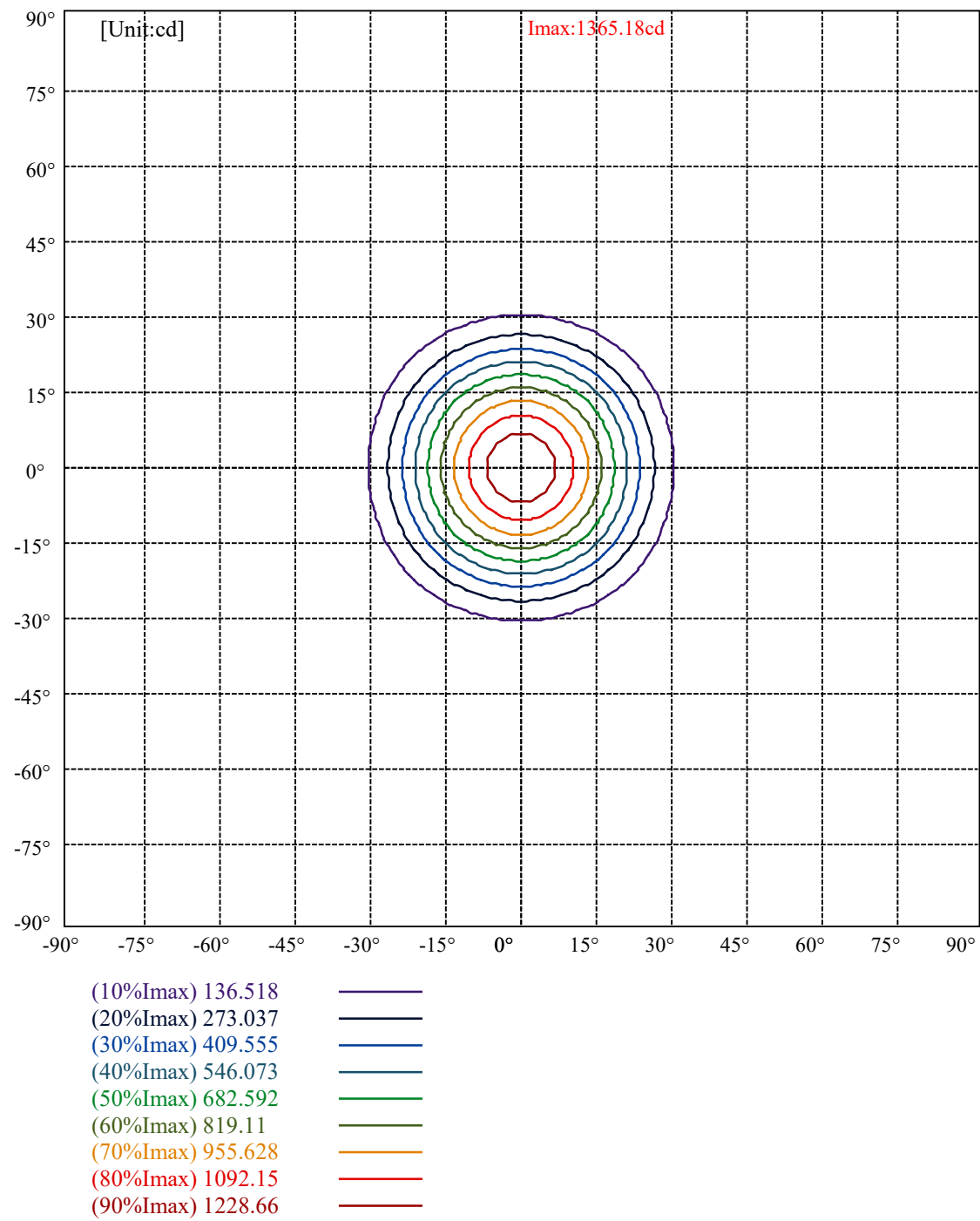
ZONAL LUMEN SUMMARY			
Zone	Lumens	%Lamp	%Fixt
0-30	502.89	80.55%	88.15%
0-40	536.16	85.88%	93.98%
0-60	556.80	89.19%	97.60%
0-90	570.31	91.35%	99.96%
0-120	570.31	91.35%	99.96%
0-180	570.51	91.38%	100.00%
60-90	13.51	2.16%	2.37%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-25.71	456.41	73.11%	80.00%

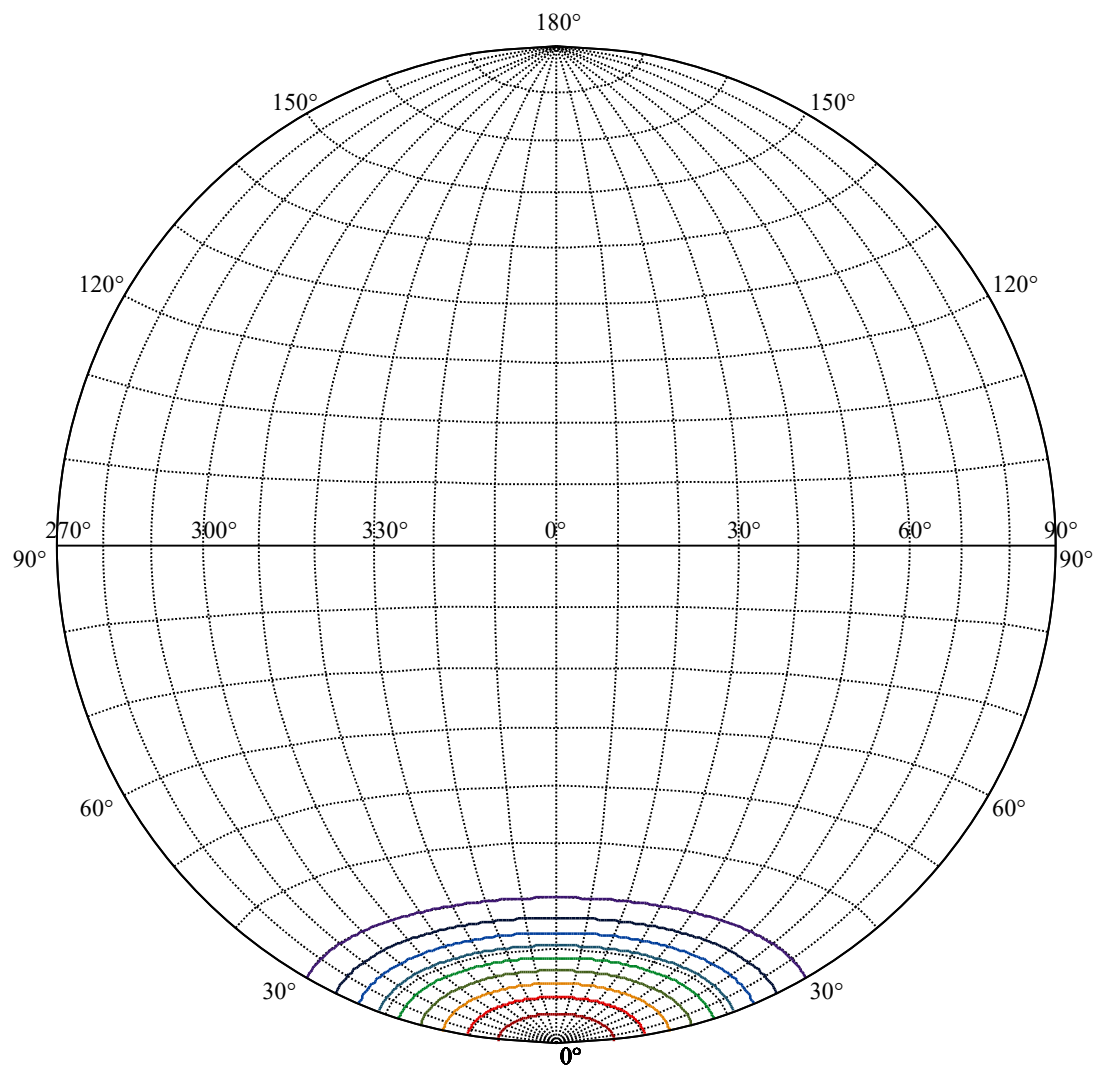
ZONAL LUMEN SUMMARY

0-10	116.81
10-20	234.55
20-30	151.53
30-40	33.27
40-50	11.64
50-60	9.01
60-70	6.82
70-80	4.29
80-90	2.40
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00









House

[Unit:cd]

Road

Imax:1365.18

(10%Imax) 136.518

(20%Imax) 273.037

(30%Imax) 409.555

(40%Imax) 546.073

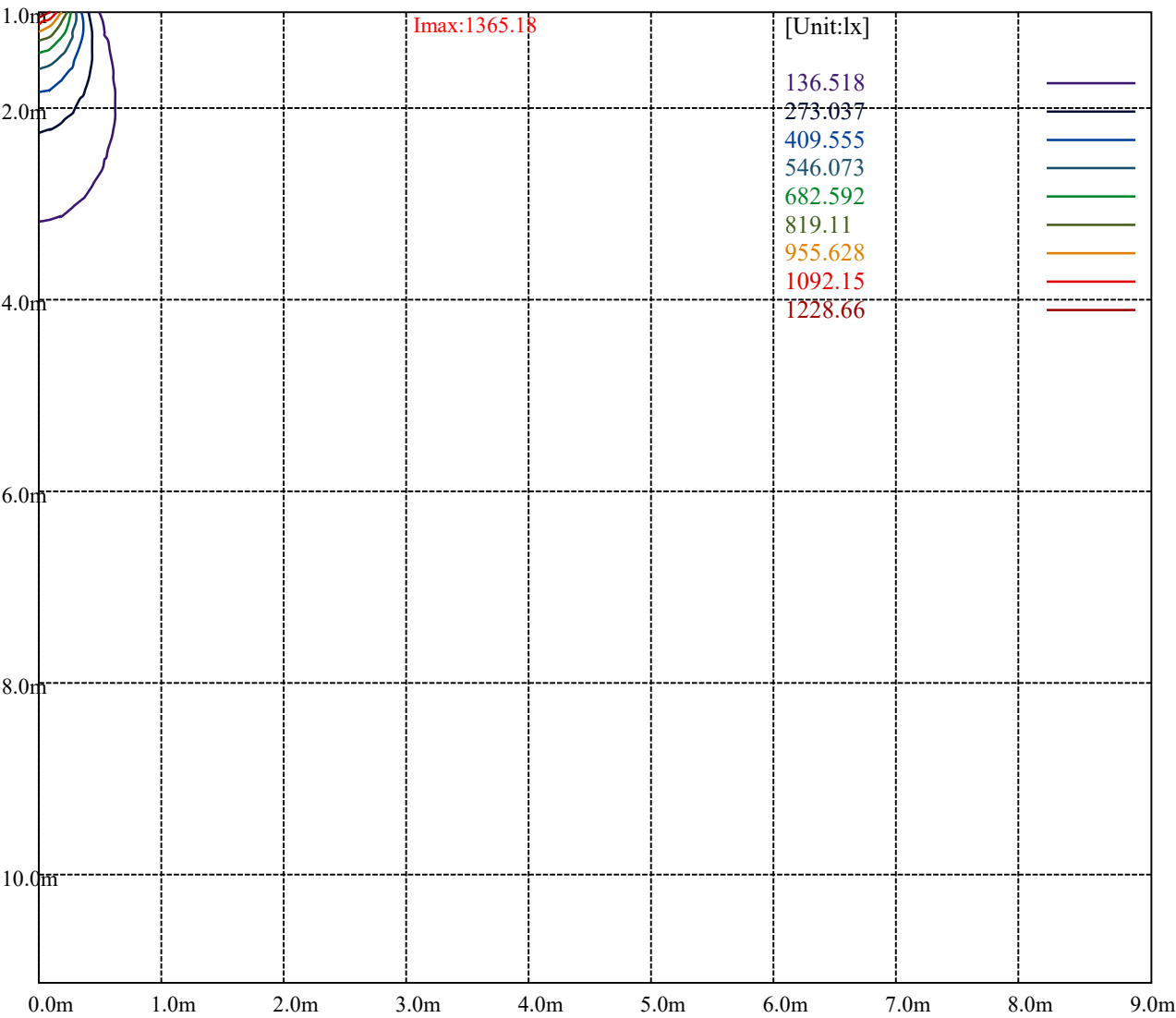
(50%Imax) 682.592

(60%Imax) 819.11

(70%Imax) 955.628

(80%Imax) 1092.15

(90%Imax) 1228.66



Luminance Limiting Curve(no luminous side)

Luminance Table

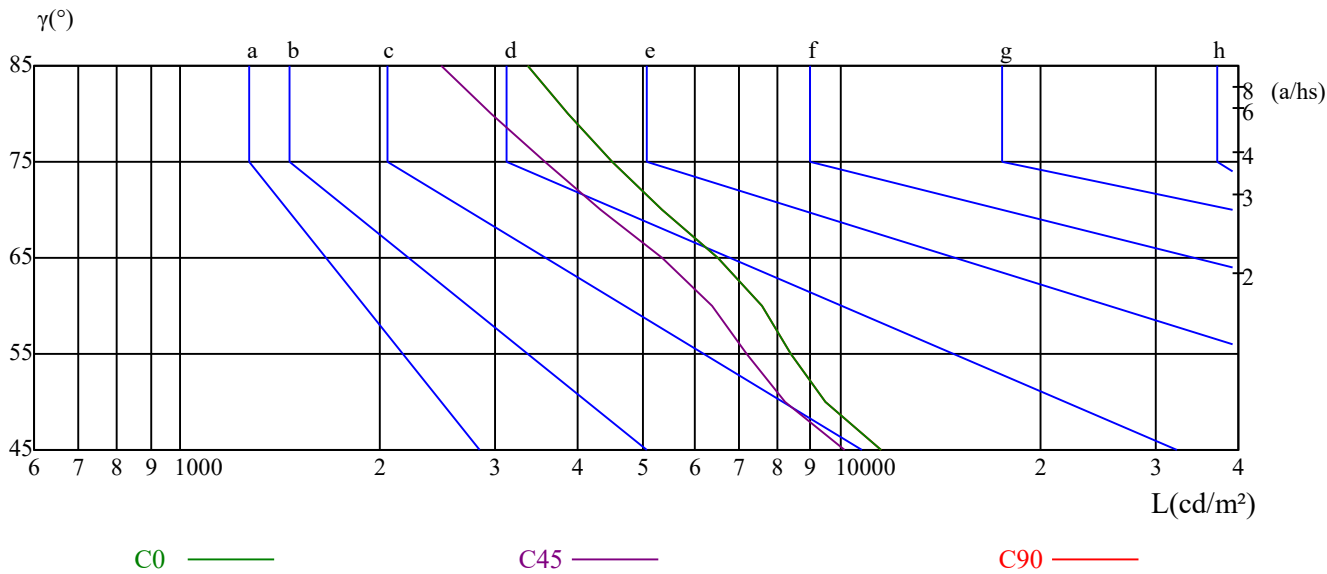
γ	45	50	55	60	65	70	75	80	85
C0	11506	9462	8408	7578	6491	5360	4504	3853	3362
C45	10134	8215	7188	6372	5359	4334	3555	2955	2488
C90	11506	9462	8408	7578	6491	5360	4504	3853	3362

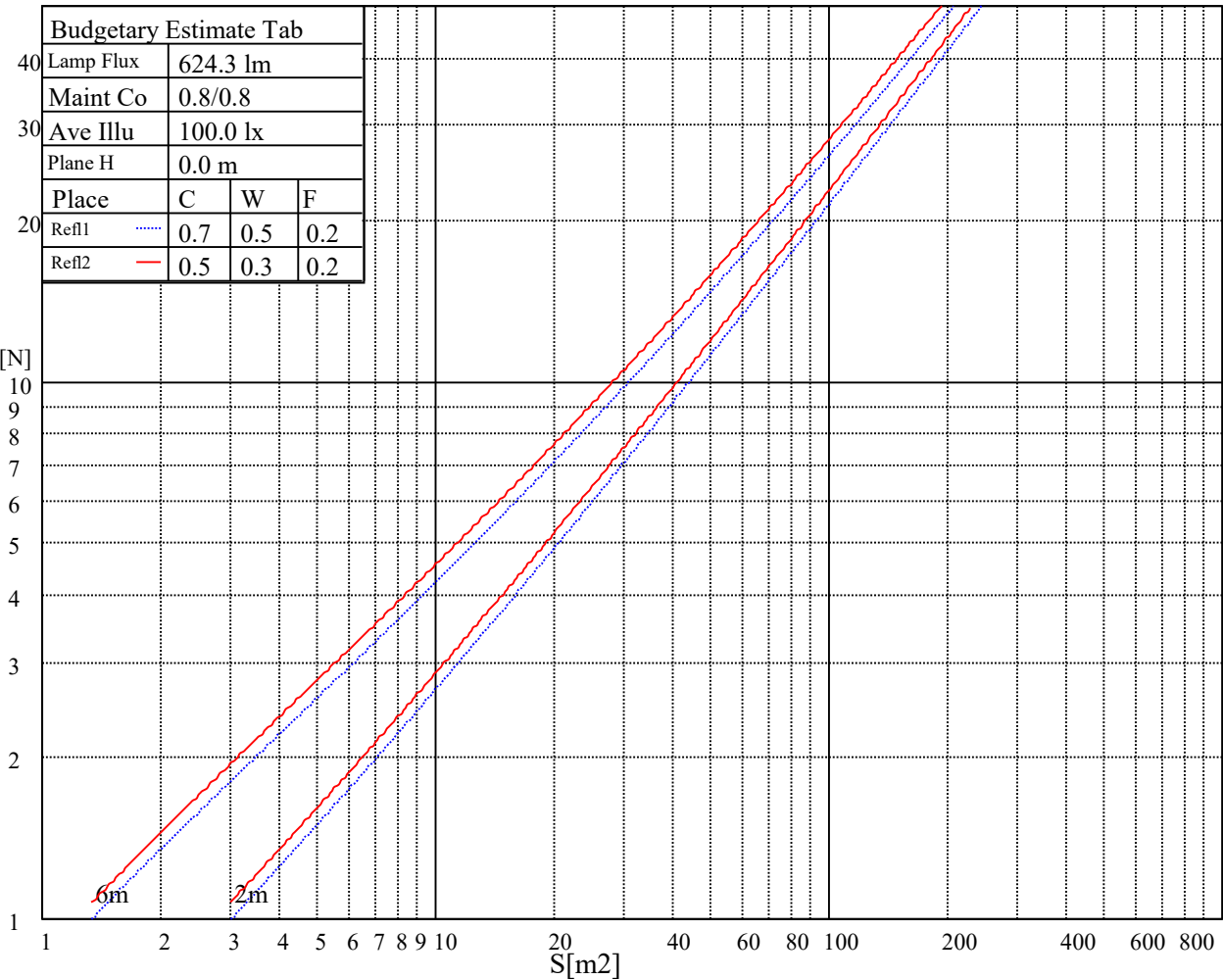
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
13253	13253	13253	12669	12669	12669	22024	22024	22024

Glare Table

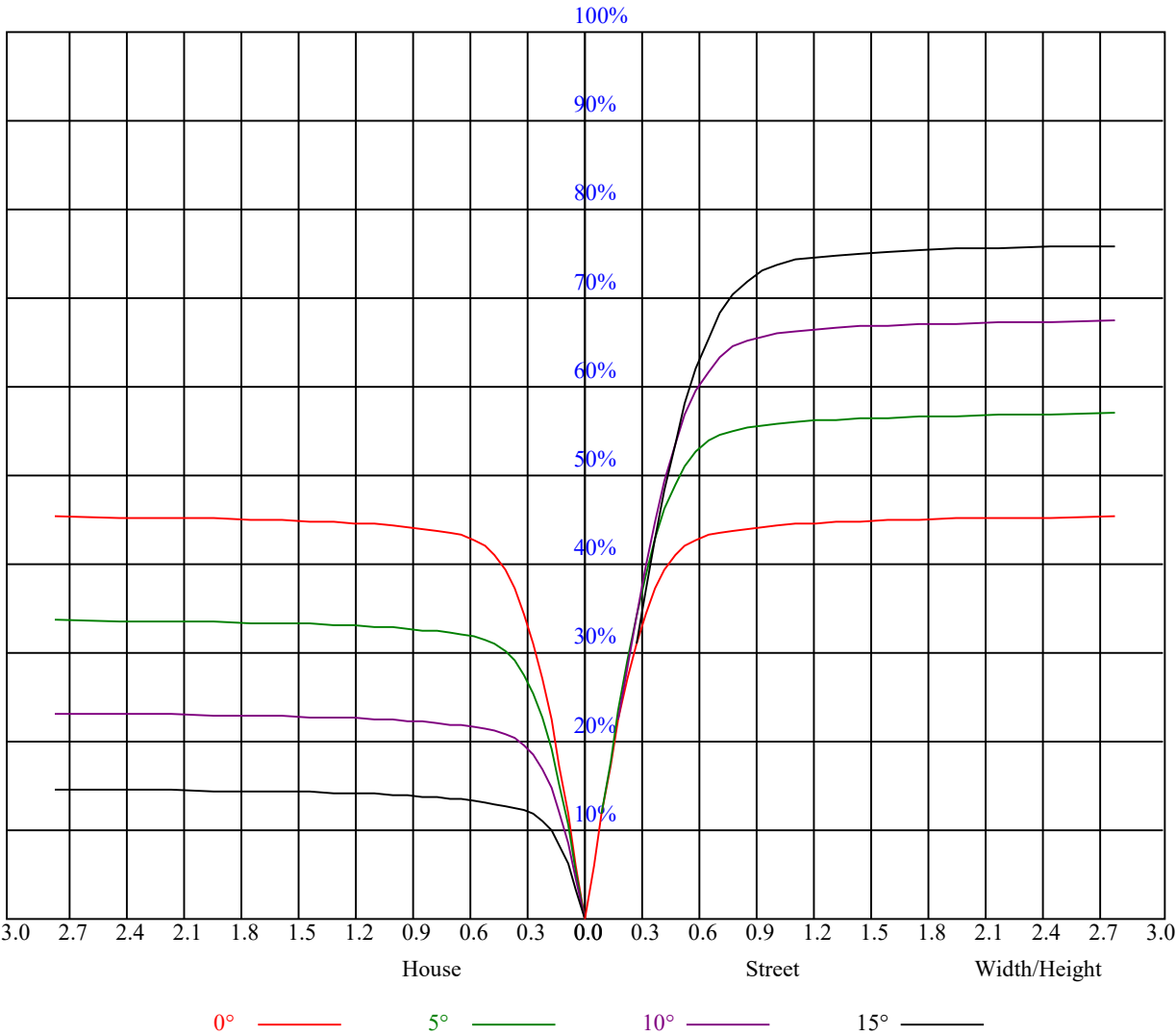
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

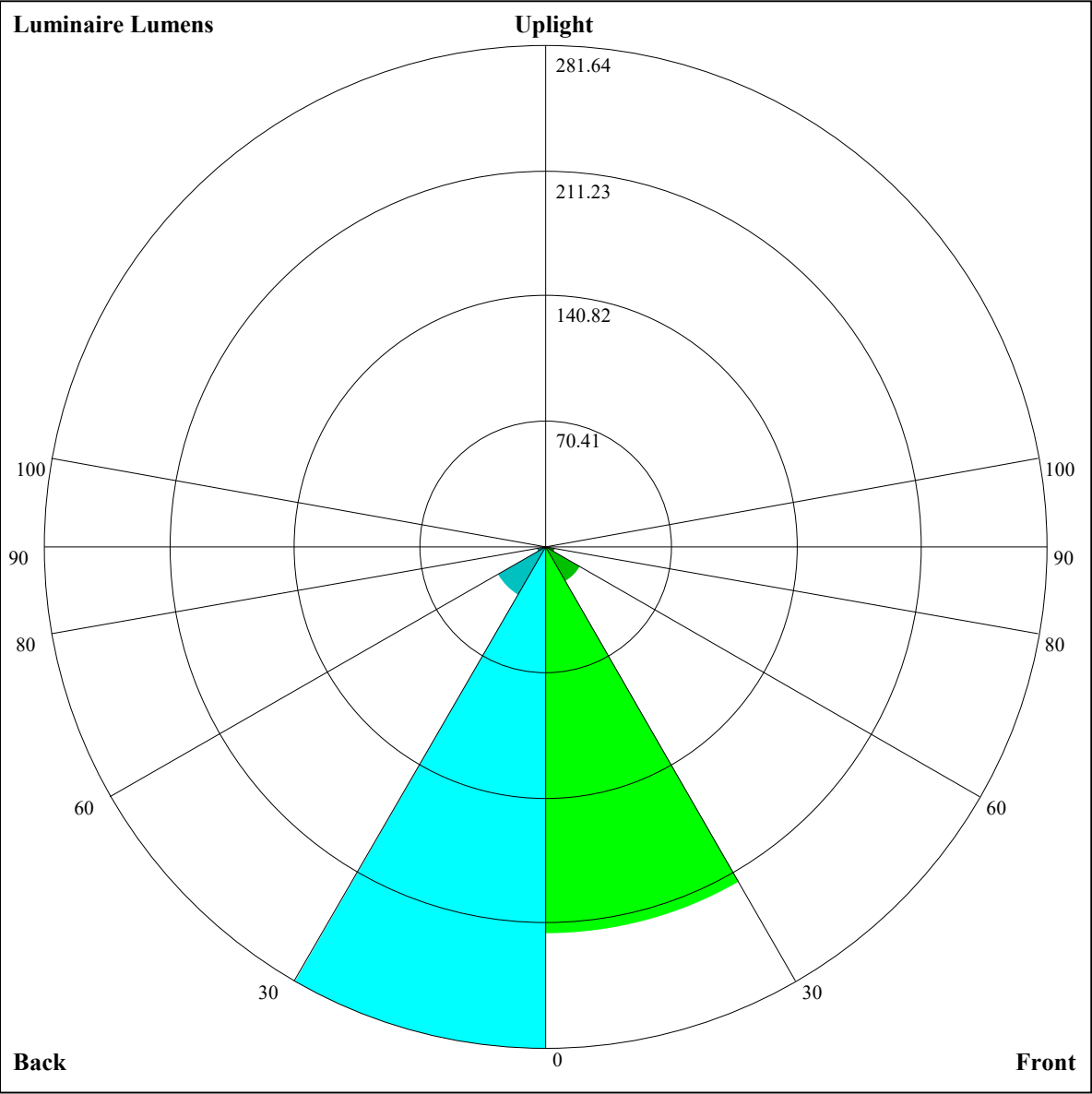
Luminance Limiting Curve





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	COEFFCIENTS OF UTILIZATION RHOFC=20 CU															
0	1.09	1.09	1.09	1.06	1.06	1.06	1.02	1.02	1.02	0.97	0.97	0.97	0.93	0.93	0.93	0.91
1	1.02	1.00	0.98	1.00	0.98	0.96	0.96	0.95	0.93	0.93	0.92	0.90	0.90	0.89	0.88	0.86
2	0.96	0.92	0.90	0.94	0.91	0.89	0.91	0.89	0.87	0.89	0.87	0.85	0.86	0.84	0.83	0.82
3	0.90	0.86	0.83	0.89	0.86	0.83	0.87	0.84	0.81	0.85	0.82	0.80	0.83	0.81	0.79	0.77
4	0.86	0.81	0.78	0.85	0.81	0.78	0.83	0.79	0.77	0.81	0.78	0.76	0.79	0.77	0.75	0.74
5	0.82	0.77	0.74	0.81	0.77	0.73	0.79	0.76	0.73	0.78	0.75	0.72	0.76	0.74	0.71	0.70
6	0.78	0.73	0.70	0.77	0.73	0.70	0.76	0.72	0.69	0.75	0.71	0.69	0.74	0.71	0.68	0.67
7	0.74	0.70	0.67	0.74	0.69	0.66	0.73	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.65	0.64
8	0.71	0.67	0.64	0.71	0.66	0.63	0.70	0.66	0.63	0.69	0.66	0.63	0.68	0.65	0.63	0.62
9	0.68	0.64	0.61	0.68	0.64	0.61	0.67	0.63	0.61	0.67	0.63	0.60	0.66	0.63	0.60	0.59
10	0.66	0.61	0.58	0.65	0.61	0.58	0.65	0.61	0.58	0.64	0.61	0.58	0.64	0.60	0.58	0.57





Luminaire Lumens:

FL=217.35,FM=22.5,FH=5.2,FVH=1.23

BL=281.64,BM=31.57,BH=5.85,BVH=1.37

UL=0,UH=0

BUG Rating:B1-U0-G0

Intensity data(cd)

Appendix Page: 17 Total:19

C/γ(°)	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0
0.0	1334.54	1296.71	1251.94	1207.18	1177.34	1035.16	1035.16	1023.70	972.12
45.0	1380.37	1359.05	1330.28	1297.77	1258.87	1214.64	1164.01	1117.12	1067.56
90.0	1370.78	1359.05	1339.87	1314.29	1290.31	1254.07	1203.98	1171.47	1132.57
135.0	1375.04	1383.04	1394.23	1397.96	1394.76	1382.50	1363.85	1338.27	1306.30
180.0	1334.54	1365.45	1392.09	1409.68	1423.00	1426.20	1427.27	1414.48	1402.75
225.0	1380.37	1393.69	1402.22	1407.55	1405.95	1389.96	1377.17	1364.38	1339.34
270.0	1370.78	1373.98	1373.98	1364.38	1349.46	1329.21	1303.63	1274.32	1238.62
315.0	1375.04	1340.94	1323.35	1288.18	1247.68	1203.45	1156.55	1042.57	1042.57
360.0	1334.54	1296.71	1251.94	1207.18	1177.34	1035.16	1035.16	1023.70	972.12
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	918.45	868.73	817.74	768.18	720.16	669.86	620.24	572.44	525.23
45.0	1014.80	965.24	914.08	866.66	833.62	760.61	707.85	675.88	599.67
90.0	1055.25	1034.41	982.24	927.99	871.29	812.30	747.93	684.19	619.76
135.0	1267.40	1226.90	1181.07	1133.11	1081.41	1028.66	973.24	914.62	852.80
180.0	1379.31	1351.06	1314.82	1272.73	1227.43	1179.47	1128.84	1082.48	1013.20
225.0	1305.23	1265.26	1229.03	1185.33	1138.97	1032.01	1032.01	978.78	919.36
270.0	1200.78	1158.68	1114.99	1069.69	1022.79	974.83	926.34	876.25	825.62
315.0	1012.51	964.28	915.74	868.36	821.79	784.11	730.61	684.46	648.17
360.0	918.45	868.73	817.74	768.18	720.16	669.86	620.24	572.44	525.23
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	488.35	432.82	387.63	353.10	302.53	262.67	231.86	195.15	161.84
45.0	567.70	513.34	460.59	408.89	360.40	315.10	279.93	279.93	185.08
90.0	558.16	521.55	438.36	403.94	348.89	277.43	248.92	204.53	165.20
135.0	787.79	719.57	665.22	585.28	521.34	471.78	411.03	353.47	300.18
180.0	965.24	901.83	837.35	770.73	704.65	640.17	575.69	514.41	454.19
225.0	857.76	792.80	727.83	689.41	622.91	535.94	500.02	441.61	386.35
270.0	794.71	741.96	663.62	629.51	572.49	516.54	462.72	407.83	356.14
315.0	601.27	553.20	505.14	457.33	409.96	363.54	318.51	274.23	232.66
360.0	488.35	432.82	387.63	353.10	302.53	262.67	231.86	195.15	161.84
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	131.68	105.57	83.24	64.75	50.20	39.38	31.60	26.27	22.70
45.0	151.61	122.09	97.04	76.10	65.39	45.78	39.59	31.60	24.46
90.0	131.52	103.12	79.67	61.44	48.07	38.21	31.07	25.95	22.54
135.0	289.52	269.81	163.12	128.43	99.01	75.46	57.61	44.82	35.70
180.0	396.10	341.22	288.46	278.87	225.26	157.74	138.07	109.72	78.02
225.0	333.22	284.41	239.06	198.98	163.17	132.27	106.15	83.93	65.81
270.0	307.64	280.47	280.47	182.31	149.00	119.85	99.76	74.71	61.07
315.0	193.98	159.39	128.64	102.42	80.31	62.30	48.55	38.58	31.33
360.0	131.68	105.57	83.24	64.75	50.20	39.38	31.60	26.27	22.70
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	20.36	18.65	17.48	16.57	15.83	15.03	14.39	13.86	13.27
45.0	22.38	19.88	18.07	16.79	15.88	14.97	14.28	13.64	13.06
90.0	20.30	18.81	17.80	17.00	16.41	15.77	15.13	14.55	13.75
135.0	29.52	26.80	23.45	20.41	19.40	18.07	16.89	15.83	14.92
180.0	67.15	52.22	41.30	33.57	28.35	24.73	22.17	20.30	18.81
225.0	51.58	40.93	33.47	28.08	24.41	21.80	20.62	18.97	17.21
270.0	48.01	36.61	31.17	26.33	23.02	20.78	19.08	17.91	16.79
315.0	27.92	22.49	21.10	19.45	18.49	17.80	17.21	16.84	16.41
360.0	20.36	18.65	17.48	16.57	15.83	15.03	14.39	13.86	13.27

Intensity data(cd)

Appendix Page: 18 Total:19

C/ γ (°)	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	53.0
0.0	12.95	12.47	12.10	11.83	11.40	10.98	10.44	10.13	9.75
45.0	12.47	11.94	11.46	11.14	10.92	10.55	10.34	10.07	9.59
90.0	13.16	12.52	11.88	11.40	11.08	10.82	10.60	10.39	10.23
135.0	14.12	13.43	12.79	12.26	11.83	11.35	10.92	10.66	10.34
180.0	17.53	16.47	15.61	14.76	14.02	13.32	12.79	12.26	11.83
225.0	16.63	15.56	14.65	13.86	13.22	12.63	12.04	11.56	11.19
270.0	15.83	14.97	14.28	13.64	12.95	12.31	11.83	11.40	10.92
315.0	15.77	15.03	14.23	13.48	12.74	12.15	11.62	11.30	11.03
360.0	12.95	12.47	12.10	11.83	11.40	10.98	10.44	10.13	9.75
C/ γ (°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	9.38	9.06	8.79	8.53	8.21	7.89	7.57	7.25	6.87
45.0	9.43	9.11	8.85	8.53	8.26	8.05	7.73	7.41	7.14
90.0	10.02	9.70	9.27	8.90	8.42	8.05	7.57	7.25	6.93
135.0	10.13	9.86	9.65	9.43	9.22	9.01	8.69	8.47	8.21
180.0	11.40	11.14	10.82	10.60	10.34	10.13	9.81	9.59	9.33
225.0	10.82	10.44	10.13	9.91	9.65	9.33	9.11	8.95	8.58
270.0	10.71	10.18	9.91	9.70	9.33	9.17	8.90	8.69	8.42
315.0	10.82	10.55	10.44	10.28	9.86	9.59	9.01	8.42	7.89
360.0	9.38	9.06	8.79	8.53	8.21	7.89	7.57	7.25	6.87
C/ γ (°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	6.55	6.23	5.76	5.54	5.22	4.96	4.69	4.48	4.16
45.0	6.82	6.39	6.08	5.70	5.33	5.01	4.74	4.58	4.32
90.0	6.61	6.45	5.81	5.49	5.22	4.96	4.80	4.58	4.32
135.0	7.83	7.57	7.14	6.77	6.34	6.02	5.60	5.17	4.96
180.0	9.01	8.69	8.31	7.94	7.57	7.14	6.77	6.39	5.97
225.0	8.26	8.05	7.67	7.46	6.98	6.66	6.23	5.86	5.44
270.0	8.10	7.83	7.51	7.25	6.82	6.50	6.13	5.76	5.33
315.0	7.41	7.03	6.61	6.34	6.02	5.70	5.38	5.12	5.01
360.0	6.55	6.23	5.76	5.54	5.22	4.96	4.69	4.48	4.16
C/ γ (°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	3.94	3.84	3.62	3.41	3.25	3.09	2.98	2.82	2.66
45.0	4.10	3.89	3.73	3.52	3.36	3.20	3.04	2.88	2.72
90.0	4.10	3.89	3.73	3.46	3.30	3.14	2.98	2.82	2.66
135.0	4.74	4.53	4.26	4.10	3.89	3.73	3.52	3.36	3.25
180.0	5.54	5.22	5.01	4.74	4.64	4.26	4.16	3.94	3.62
225.0	5.06	4.90	4.69	4.42	4.21	4.05	3.84	3.57	3.36
270.0	5.01	4.74	4.53	4.42	4.05	3.94	3.73	3.46	3.36
315.0	4.85	4.58	4.32	4.05	3.84	3.62	3.41	3.09	2.98
360.0	3.94	3.84	3.62	3.41	3.25	3.09	2.98	2.82	2.66
C/ γ (°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	2.56	2.45	2.29	2.13	2.03	1.97	1.87	1.76	1.76
45.0	2.56	2.34	2.24	2.13	2.03	1.92	1.87	1.76	1.81
90.0	2.56	2.45	2.29	2.18	2.08	1.92	1.81	1.71	1.71
135.0	3.04	2.93	2.72	2.61	2.40	2.29	2.18	2.08	1.92
180.0	3.57	3.30	3.09	2.98	2.77	2.66	2.40	2.29	2.18
225.0	3.25	3.14	2.93	2.72	2.61	2.45	2.29	2.13	2.03
270.0	3.20	2.98	2.82	2.66	2.50	2.34	2.24	2.08	1.92
315.0	2.88	2.77	2.61	2.50	2.40	2.29	2.13	2.03	1.92
360.0	2.56	2.45	2.29	2.13	2.03	1.97	1.87	1.76	1.76

Intensity data(cd)

C/ γ (°)	90.0
0.0	1.76
45.0	1.76
90.0	1.65
135.0	1.87
180.0	2.08
225.0	1.97
270.0	1.87
315.0	1.92
360.0	1.76