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NT

Client: NT

LumCAT: 62-0102-1

Luminaire: 92.70.427.00

Report No: 20251212-B008

Ballast type: AC

Test No: 20251212-C008

LampCAT: CITIZEN CLU028

Lamp flux(lm): 1546.7

Number of Lamps: 1

Length(mm): 55

Phm Type: C

Voltage(V): 35.200

Current(A): 0.360

Power (W): 12.672

PF: 0.000

Width(mm): 55

Height(mm): 25

Photometric Results

Lumens(lm): 1403.25, Efficiency(%): 90.73% , Luminous Efficacy(lm/W): 110.74

Central intensity(cd): 8626.304, Maximum intensity(cd): 8626.304

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=18.8

[C90/270]Total=18.8

Field angle(10%Imax): [C0/180]Total=36.8

[C90/270]Total=36.8

Maximum s/h(1/2): C0_180=0.32 C90_270=0.32

Maximum s/h(1/4): C0_180=0.32 C90_270=0.32

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 90.73%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 97.081%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	8626.303	0.000	0	0.00%	0.00%
1.0	8599.444	8.242	8.242	0.53%	0.59%
2.0	8393.288	24.390	32.632	1.58%	2.33%
3.0	8175.459	39.627	72.259	2.56%	5.15%
4.0	7817.991	53.535	125.794	3.46%	8.96%
5.0	7224.834	64.713	190.507	4.18%	13.58%
6.0	6657.975	72.958	263.465	4.72%	18.78%
7.0	6002.944	78.586	342.051	5.08%	24.38%
8.0	5312.475	80.982	423.034	5.24%	30.15%
9.0	4587.834	80.237	503.27	5.19%	35.86%
10.0	3855.038	76.405	579.675	4.94%	41.31%
11.0	3204.295	70.537	650.212	4.56%	46.34%
12.0	2649.811	63.994	714.206	4.14%	50.90%
13.0	2142.253	56.870	771.076	3.68%	54.95%
14.0	1686.136	49.003	820.079	3.17%	58.44%
15.0	1454.604	43.117	863.196	2.79%	61.51%
16.0	1187.824	38.719	901.915	2.50%	64.27%
17.0	1030.978	34.553	936.468	2.23%	66.74%
18.0	906.975	31.953	968.421	2.07%	69.01%
19.0	791.395	29.548	997.969	1.91%	71.12%
20.0	699.377	27.285	1025.254	1.76%	73.06%
21.0	619.650	25.328	1050.582	1.64%	74.87%
22.0	545.196	23.408	1073.99	1.51%	76.54%
23.0	491.498	21.753	1095.743	1.41%	78.09%
24.0	443.011	20.432	1116.175	1.32%	79.54%
25.0	395.128	19.057	1135.232	1.23%	80.90%
26.0	355.521	17.719	1152.951	1.15%	82.16%
27.0	320.836	16.547	1169.498	1.07%	83.34%
28.0	293.892	15.564	1185.062	1.01%	84.45%
29.0	260.845	14.513	1199.576	0.94%	85.49%
30.0	239.716	13.515	1213.091	0.87%	86.45%
31.0	213.792	12.620	1225.711	0.82%	87.35%
32.0	184.795	11.419	1237.13	0.74%	88.16%
33.0	158.780	10.122	1247.252	0.65%	88.88%
34.0	141.546	9.089	1256.341	0.59%	89.53%
35.0	125.058	8.280	1264.621	0.54%	90.12%
36.0	110.855	7.512	1272.132	0.49%	90.66%
37.0	98.620	6.832	1278.964	0.44%	91.14%

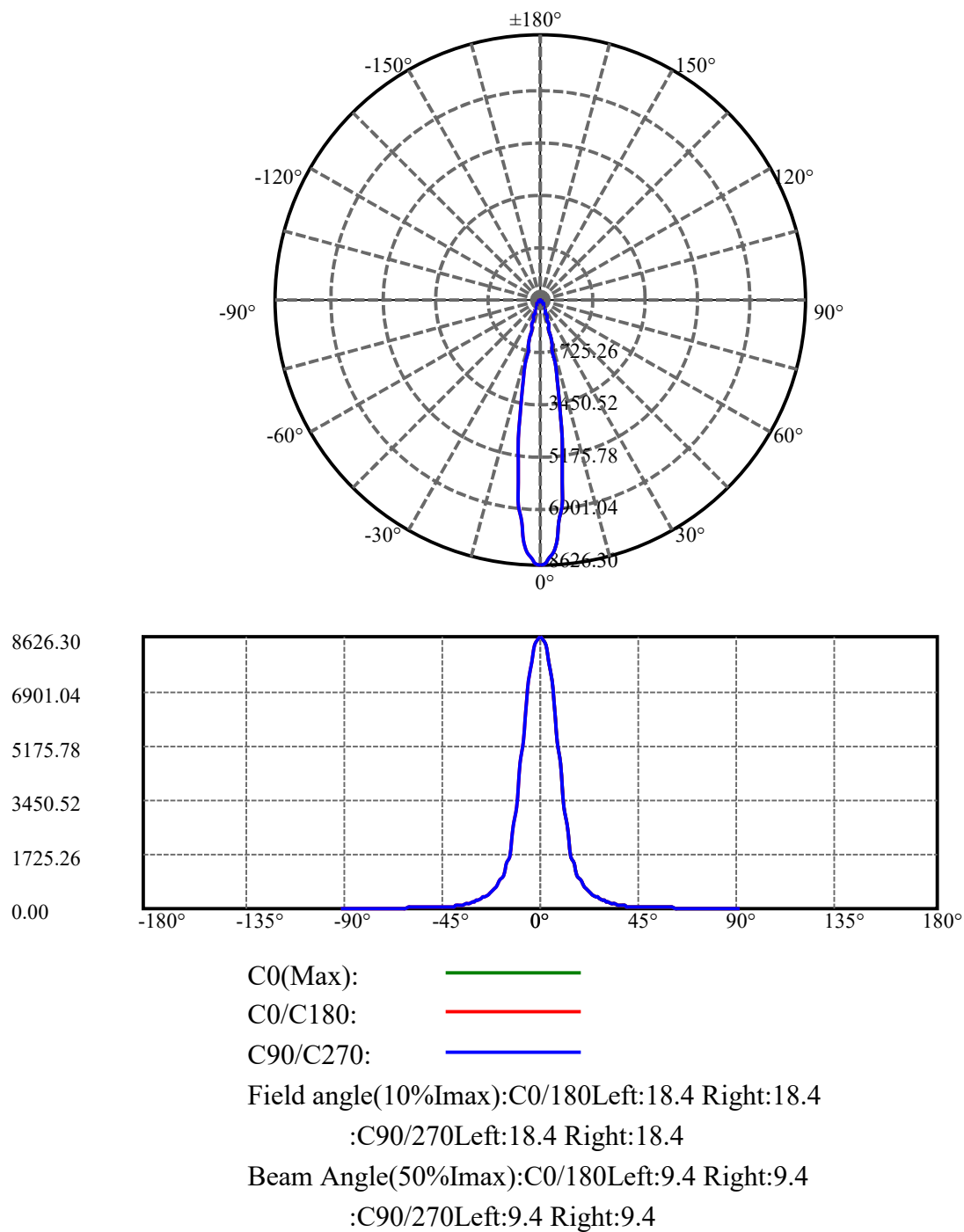
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	87.870	6.225	1285.189	0.40%	91.59%
39.0	78.961	5.694	1290.883	0.37%	91.99%
40.0	71.107	5.234	1296.117	0.34%	92.37%
41.0	64.582	4.832	1300.949	0.31%	92.71%
42.0	58.113	4.458	1305.406	0.29%	93.03%
43.0	53.487	4.134	1309.54	0.27%	93.32%
44.0	49.275	3.879	1313.419	0.25%	93.60%
45.0	46.385	3.676	1317.095	0.24%	93.86%
46.0	43.601	3.519	1320.614	0.23%	94.11%
47.0	41.527	3.386	1324	0.22%	94.35%
48.0	39.635	3.281	1327.281	0.21%	94.59%
49.0	38.159	3.195	1330.476	0.21%	94.81%
50.0	37.013	3.134	1333.61	0.20%	95.04%
51.0	35.895	3.085	1336.695	0.20%	95.26%
52.0	34.854	3.036	1339.73	0.20%	95.47%
53.0	33.989	2.995	1342.725	0.19%	95.69%
54.0	33.068	2.956	1345.681	0.19%	95.90%
55.0	32.140	2.911	1348.591	0.19%	96.10%
56.0	31.233	2.864	1351.455	0.19%	96.31%
57.0	30.178	2.808	1354.263	0.18%	96.51%
58.0	29.159	2.744	1357.007	0.18%	96.70%
59.0	28.111	2.677	1359.684	0.17%	96.90%
60.0	27.120	2.609	1362.294	0.17%	97.08%
61.0	25.980	2.534	1364.828	0.16%	97.26%
62.0	24.848	2.449	1367.277	0.16%	97.44%
63.0	23.843	2.368	1369.645	0.15%	97.61%
64.0	22.774	2.287	1371.932	0.15%	97.77%
65.0	21.720	2.202	1374.134	0.14%	97.93%
66.0	20.672	2.115	1376.249	0.14%	98.08%
67.0	19.547	2.022	1378.272	0.13%	98.22%
68.0	18.584	1.932	1380.203	0.12%	98.36%
69.0	17.606	1.846	1382.05	0.12%	98.49%
70.0	16.566	1.755	1383.805	0.11%	98.61%
71.0	15.553	1.660	1385.465	0.11%	98.73%
72.0	14.498	1.563	1387.027	0.10%	98.84%
73.0	13.613	1.470	1388.497	0.10%	98.95%
74.0	12.684	1.382	1389.88	0.09%	99.05%
75.0	11.735	1.290	1391.17	0.08%	99.14%

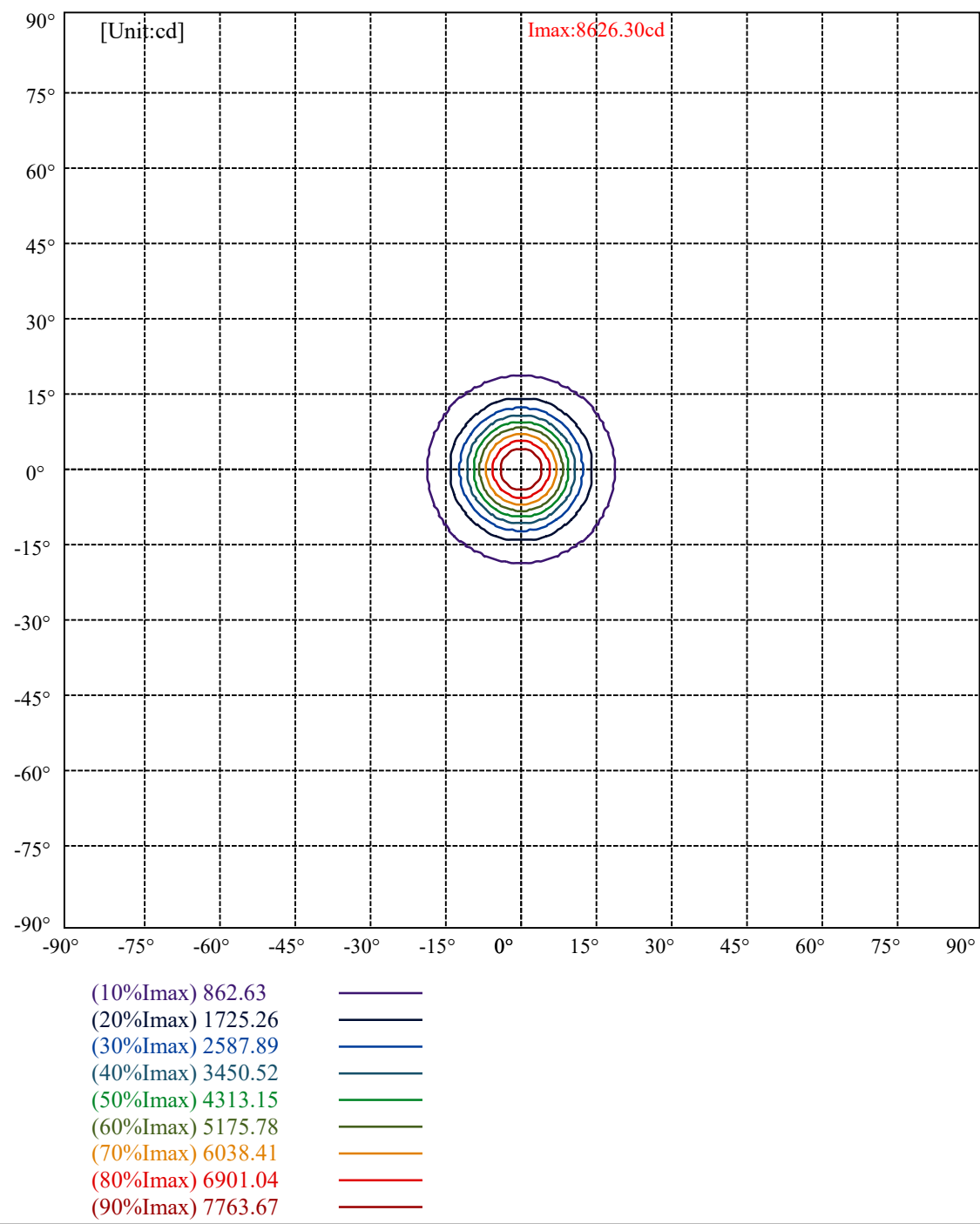
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	10.772	1.195	1392.365	0.08%	99.22%
77.0	10.090	1.112	1393.477	0.07%	99.30%
78.0	9.816	1.066	1394.543	0.07%	99.38%
79.0	9.113	1.017	1395.56	0.07%	99.45%
80.0	8.979	0.975	1396.535	0.06%	99.52%
81.0	9.049	0.975	1397.51	0.06%	99.59%
82.0	8.592	0.957	1398.466	0.06%	99.66%
83.0	7.186	0.858	1399.324	0.06%	99.72%
84.0	6.223	0.730	1400.055	0.05%	99.77%
85.0	5.702	0.651	1400.705	0.04%	99.82%
86.0	5.245	0.598	1401.304	0.04%	99.86%
87.0	4.753	0.547	1401.851	0.04%	99.90%
88.0	4.416	0.502	1402.353	0.03%	99.94%
89.0	4.050	0.464	1402.817	0.03%	99.97%
90.0	3.846	0.433	1403.25	0.03%	100.00%

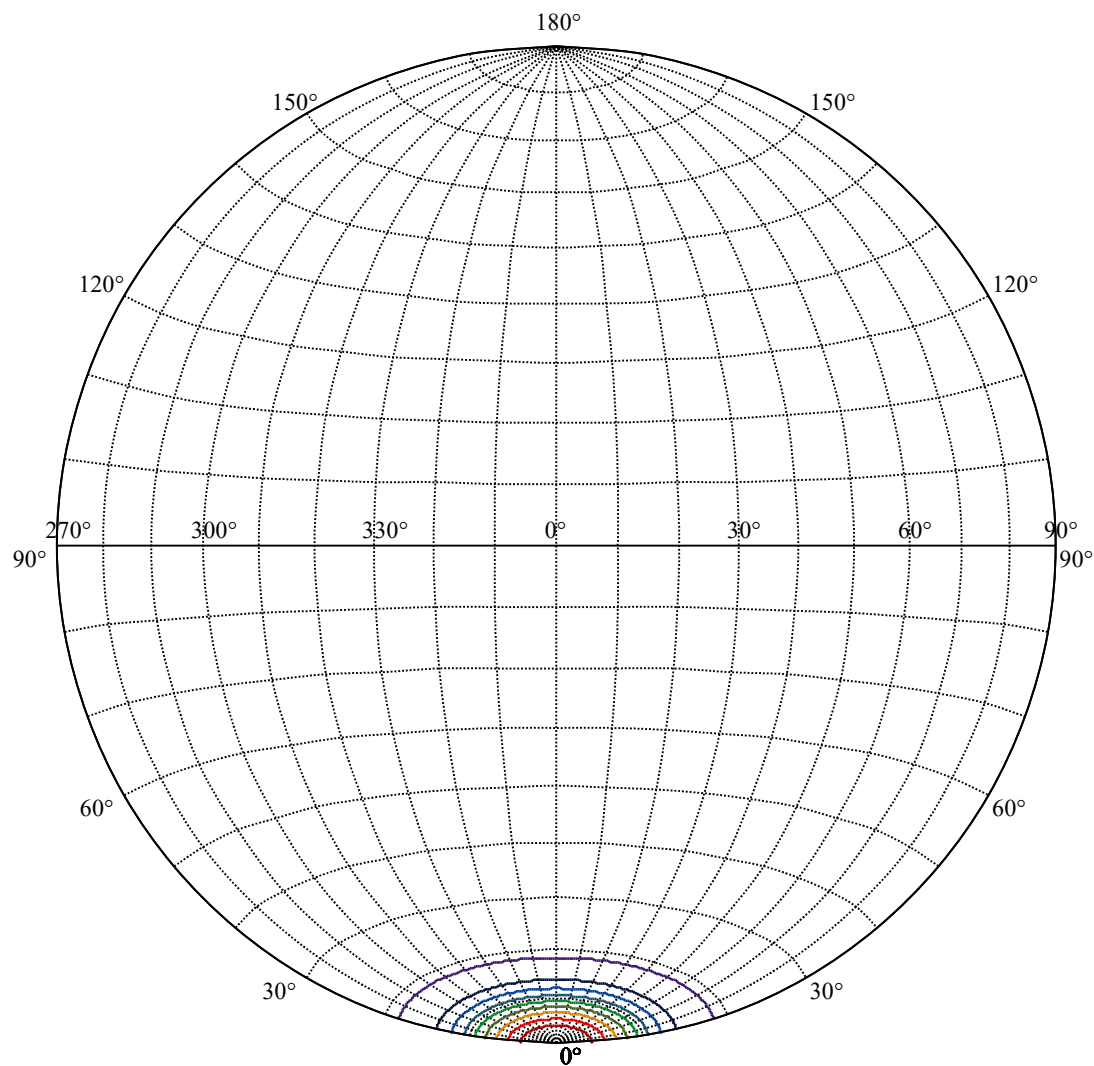
ZONAL LUMEN SUMMARY			
Zone	Lumens	%Lamp	%Fixt
0-30	1213.09	78.43%	86.45%
0-40	1296.12	83.80%	92.37%
0-60	1362.29	88.08%	97.08%
0-90	1402.82	90.70%	99.97%
0-120	1402.82	90.70%	99.97%
0-180	1403.25	90.73%	100.00%
60-90	40.52	2.62%	2.89%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-24.34	1122.60	72.58%	80.00%

ZONAL LUMEN SUMMARY

0-10	579.68
10-20	445.58
20-30	187.84
30-40	83.03
40-50	37.49
50-60	28.68
60-70	21.51
70-80	12.73
80-90	6.28
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





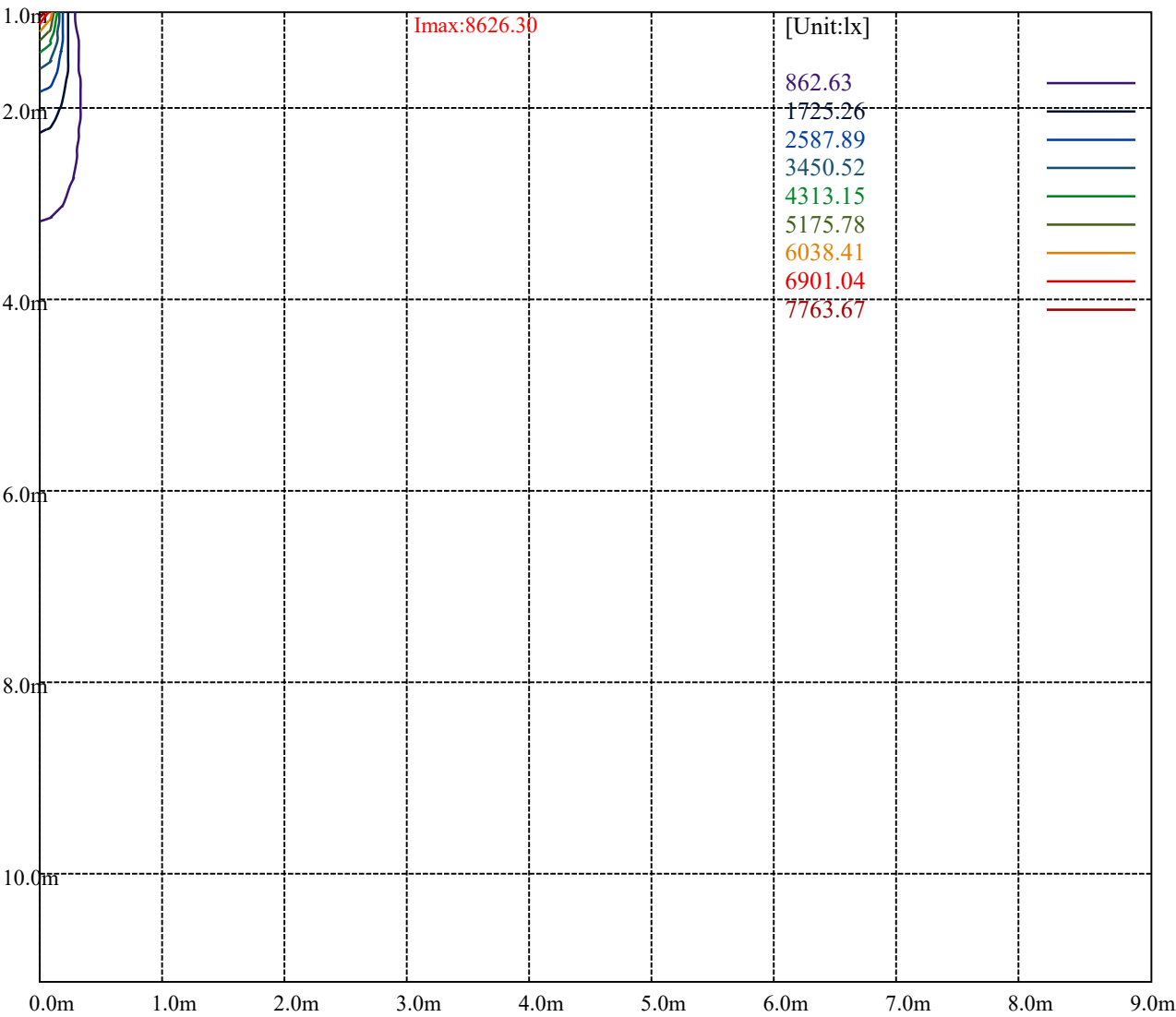


House

[Unit:cd]

Road

Imax:8626.30	
(10%Imax) 862.63	———
(20%Imax) 1725.26	———
(30%Imax) 2587.89	———
(40%Imax) 3450.52	———
(50%Imax) 4313.15	———
(60%Imax) 5175.78	———
(70%Imax) 6038.41	———
(80%Imax) 6901.04	———
(90%Imax) 7763.67	———



Luminance Table

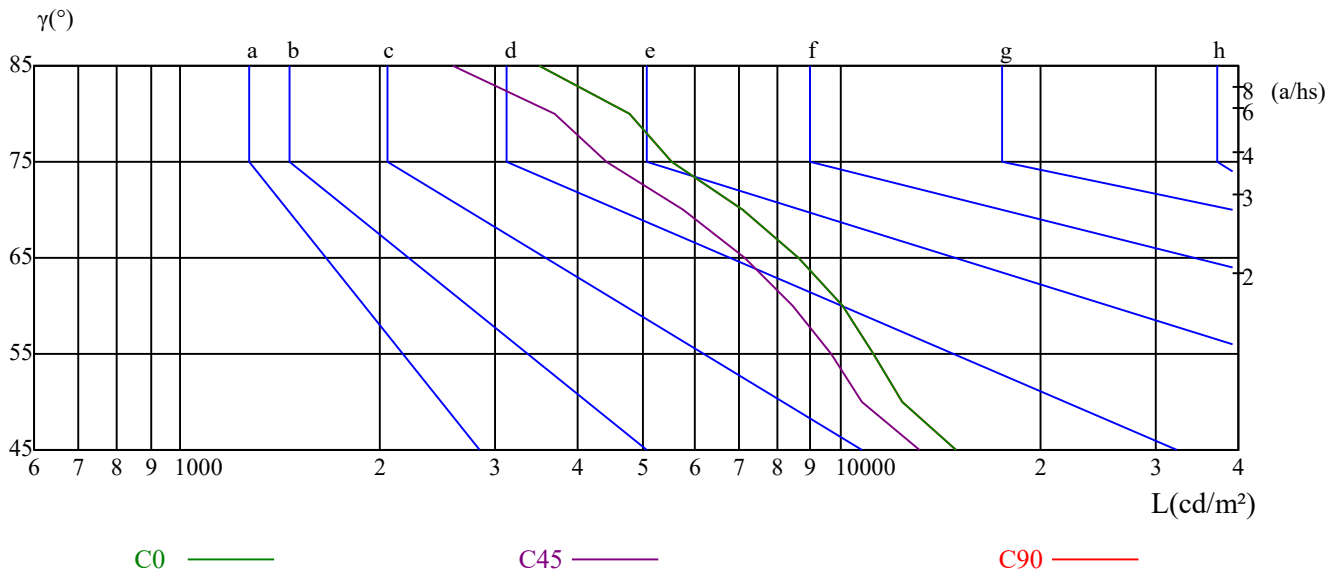
γ	45	50	55	60	65	70	75	80	85
C0	14909	12347	11232	10032	8603	7120	5559	4778	3491
C45	13200	10778	9658	8484	7143	5788	4410	3679	2591
C90	14909	12347	11232	10032	8603	7120	5559	4778	3491

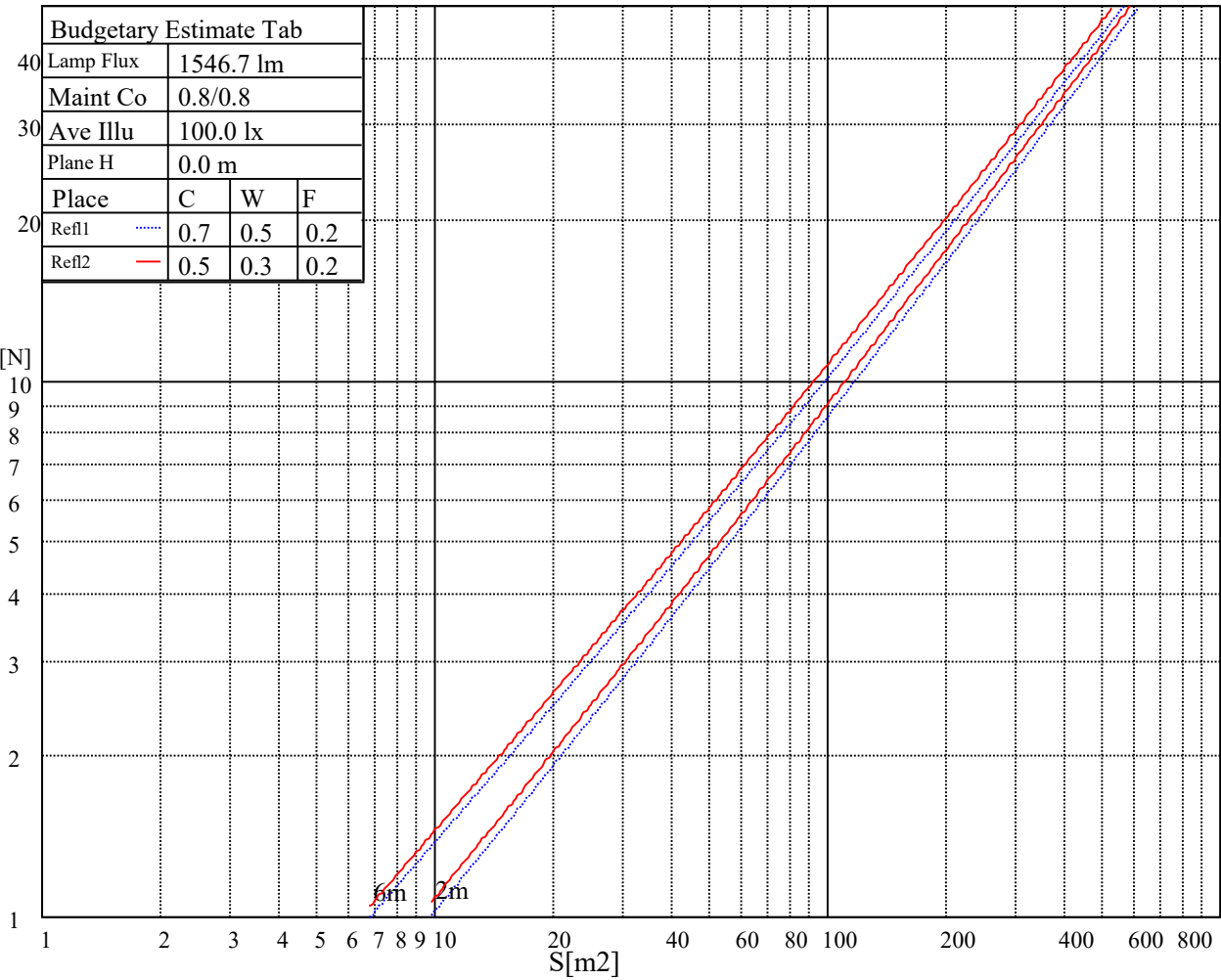
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
16989	16989	16989	14989	14989	14989	21629	21629	21629

Glare Table

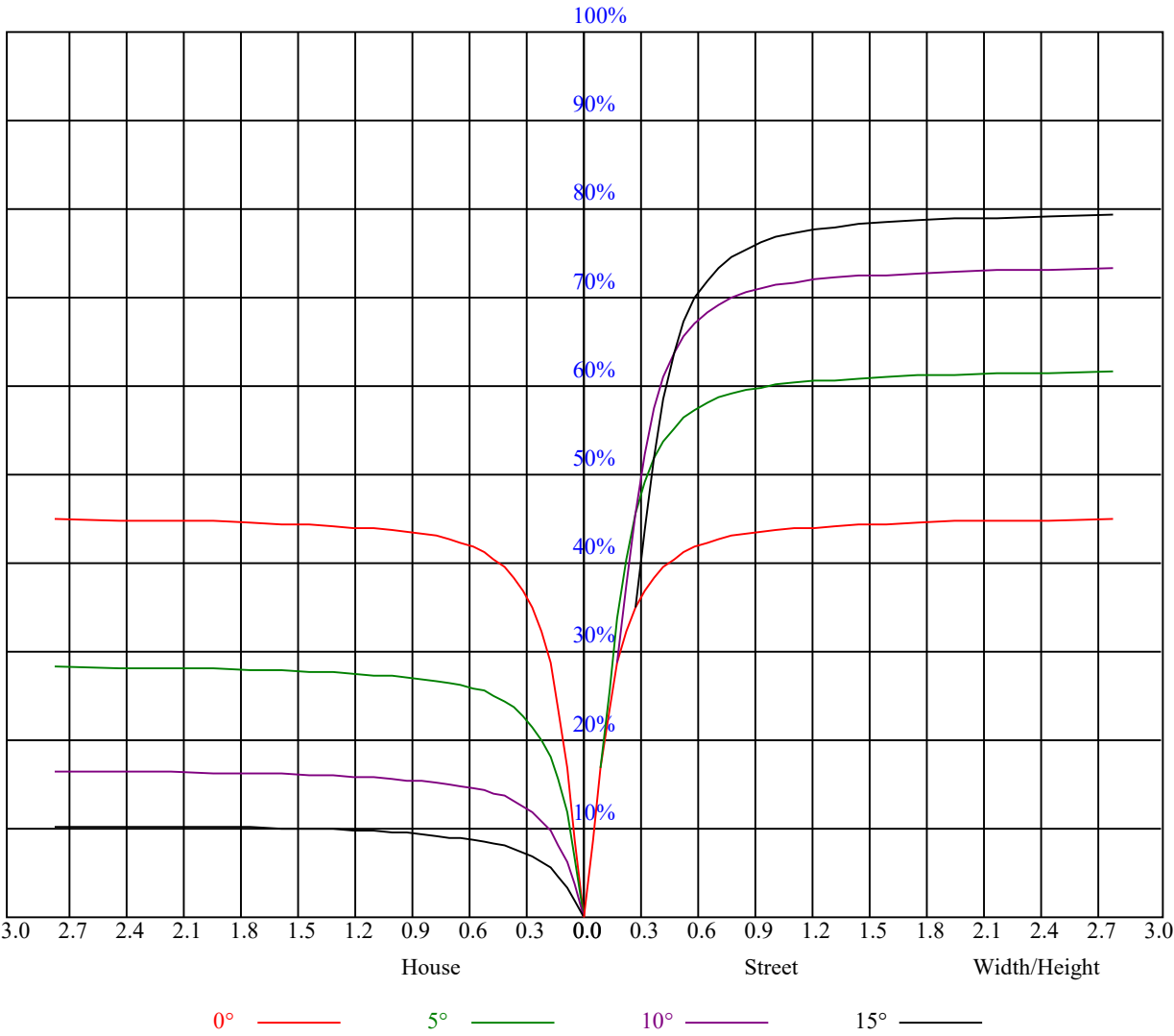
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

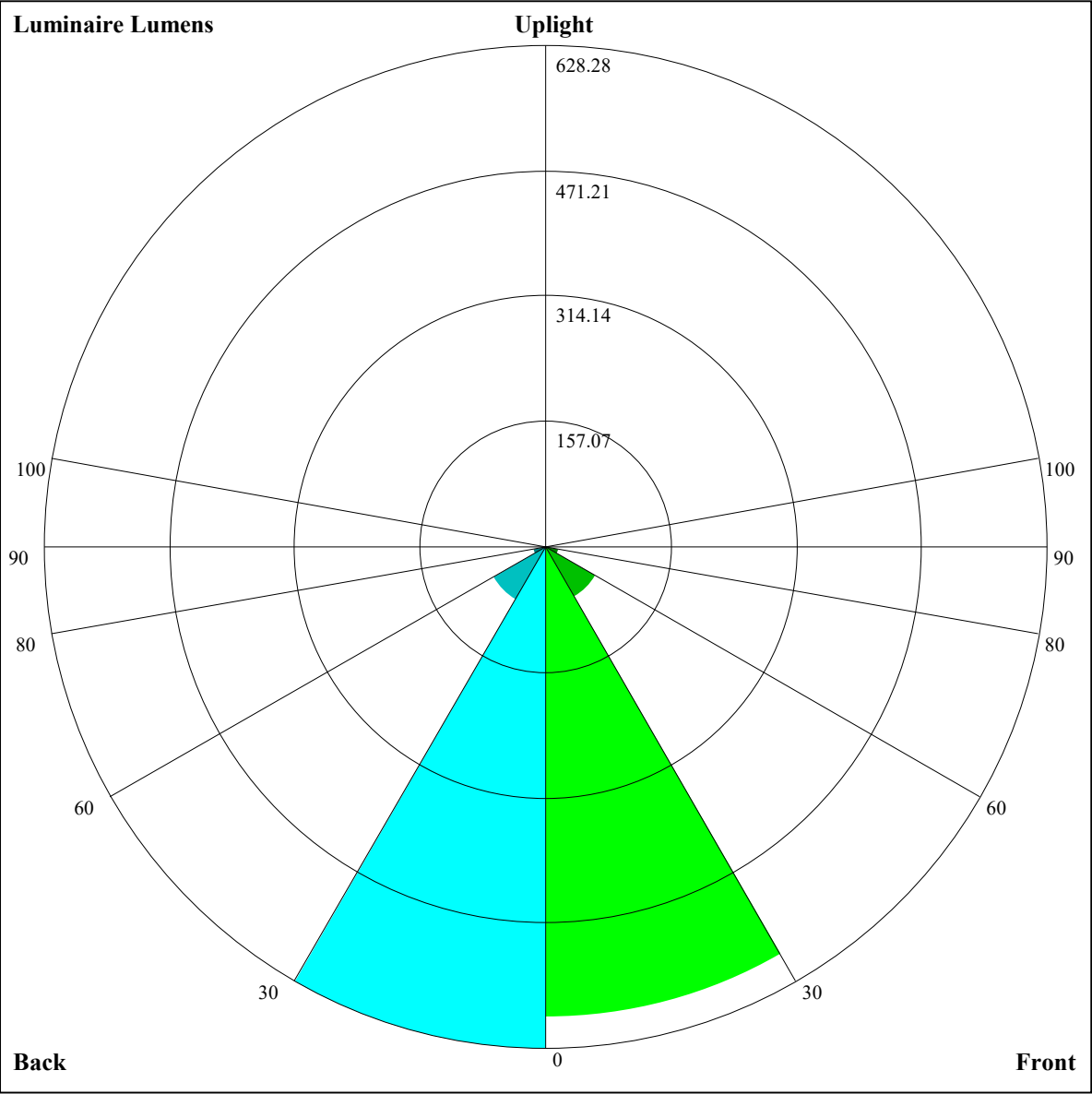
Luminance Limiting Curve





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	1.08	1.08	1.08	1.05	1.05	1.05	1.01	1.01	1.01	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	0.91	0.90	0.89	0.88	0.86
2	0.96	0.93	0.91	0.95	0.92	0.90	0.92	0.90	0.88	0.89	0.87	0.86	0.87	0.85	0.84	0.83
3	0.92	0.88	0.85	0.90	0.87	0.84	0.88	0.85	0.83	0.86	0.84	0.82	0.84	0.82	0.81	0.79
4	0.88	0.84	0.81	0.87	0.83	0.80	0.85	0.82	0.79	0.83	0.81	0.79	0.82	0.79	0.78	0.77
5	0.84	0.80	0.77	0.84	0.80	0.77	0.82	0.79	0.76	0.81	0.78	0.76	0.79	0.77	0.75	0.74
6	0.81	0.77	0.74	0.81	0.77	0.74	0.79	0.76	0.74	0.78	0.75	0.73	0.77	0.75	0.73	0.72
7	0.79	0.75	0.72	0.78	0.74	0.72	0.77	0.74	0.71	0.76	0.73	0.71	0.75	0.73	0.71	0.70
8	0.76	0.72	0.69	0.76	0.72	0.69	0.75	0.72	0.69	0.74	0.71	0.69	0.73	0.71	0.69	0.68
9	0.74	0.70	0.68	0.74	0.70	0.67	0.73	0.70	0.67	0.72	0.69	0.67	0.72	0.69	0.67	0.66
10	0.72	0.68	0.66	0.72	0.68	0.66	0.71	0.68	0.65	0.71	0.67	0.65	0.70	0.67	0.65	0.64





Luminaire Lumens:

FL=589.35,FM=72.33,FH=16.85,FVH=3.12

BL=628.28,BM=76.69,BH=17.32,BVH=3.49

UL=0,UH=0

BUG Rating:B2-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	8634.88	8496.51	8187.69	7968.88	7493.01	6494.01	6064.26	5315.01	4551.13
45.0	8621.94	8710.26	8718.69	8640.51	8472.88	8179.82	7751.19	7424.94	6633.51
90.0	8737.26	8796.88	8719.82	8627.57	8376.13	7976.19	7439.01	6636.32	6188.01
135.0	8511.13	8687.19	8728.26	8674.82	8514.51	8360.94	7905.88	7377.13	6728.01
180.0	8634.88	8670.32	8614.07	8525.76	8217.51	7802.38	7238.19	6562.07	6120.51
225.0	8621.94	8422.82	8008.26	7497.51	7129.63	6133.44	5195.19	4722.13	3954.88
270.0	8737.26	8655.13	8355.88	7962.13	7430.57	6784.82	6350.57	5430.32	4654.07
315.0	8511.13	8356.44	7813.63	7506.51	6909.69	6067.07	5319.51	4555.63	3669.69
360.0	8634.88	8496.51	8187.69	7968.88	7493.01	6494.01	6064.26	5315.01	4551.13
C/ γ (°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	3806.38	2988.51	2631.32	2127.32	1731.88	1307.19	1100.93	1034.49	892.74
45.0	5875.26	5088.88	4145.57	3845.19	3003.69	2200.44	1929.88	1514.76	1263.32
90.0	5403.88	4606.82	3846.88	3020.01	2655.51	1960.82	1731.88	1096.09	1096.09
135.0	5999.57	5547.88	4337.38	3625.82	3228.69	2531.76	2070.51	1709.38	1431.51
180.0	5200.26	4120.82	3679.26	2877.69	2319.13	1877.57	1535.57	1372.44	1117.07
225.0	3249.51	2632.44	2036.76	1798.26	1486.63	1072.07	1072.07	923.85	804.94
270.0	3910.44	3211.82	2829.88	2187.51	1646.38	1473.13	1196.94	1022.01	881.38
315.0	3257.38	2643.13	2127.32	1716.69	1066.11	1066.11	999.06	829.58	760.78
360.0	3806.38	2988.51	2631.32	2127.32	1731.88	1307.19	1100.93	1034.49	892.74
C/ γ (°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	759.04	703.80	623.48	555.41	486.11	436.84	393.30	354.43	312.69
45.0	1074.32	925.82	852.69	731.19	649.07	578.19	507.88	456.13	411.13
90.0	1028.42	885.15	751.44	664.48	591.13	516.94	484.43	435.77	393.24
135.0	1295.38	1072.63	926.94	808.82	710.94	660.88	572.01	489.32	457.82
180.0	954.51	826.26	725.57	674.38	587.76	528.69	476.94	422.94	383.01
225.0	709.20	615.04	574.37	513.68	432.51	406.24	366.30	329.79	296.21
270.0	768.32	712.07	613.63	546.13	487.07	428.01	410.57	360.51	309.88
315.0	666.62	590.40	526.89	463.11	416.98	376.20	332.66	312.13	280.18
360.0	759.04	703.80	623.48	555.41	486.11	436.84	393.30	354.43	312.69
C/ γ (°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	293.23	262.74	234.28	208.46	180.17	167.18	141.24	131.40	116.04
45.0	370.63	347.57	305.94	293.01	293.01	215.83	190.52	167.79	147.04
90.0	354.71	312.36	292.67	261.23	232.37	205.48	176.51	154.86	135.56
135.0	403.82	362.76	326.76	293.57	286.82	252.51	205.43	190.63	164.70
180.0	345.32	311.57	291.88	291.88	220.44	204.81	176.29	155.42	136.35
225.0	258.92	241.71	214.48	189.45	167.18	142.65	125.44	110.81	95.68
270.0	290.19	290.19	229.39	202.56	173.81	152.49	134.33	118.13	109.18
315.0	249.86	222.24	191.36	177.58	156.54	137.42	120.49	103.33	95.91
360.0	293.23	262.74	234.28	208.46	180.17	167.18	141.24	131.40	116.04
C/ γ (°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	100.91	90.28	81.17	71.94	67.95	61.93	56.98	52.88	48.60
45.0	135.73	116.72	103.33	91.35	81.28	75.99	64.18	58.11	55.13
90.0	115.76	107.16	94.73	84.04	74.81	65.64	61.71	56.03	48.94
135.0	146.14	129.43	114.75	107.16	93.49	83.76	75.32	66.77	60.81
180.0	119.81	111.26	96.30	85.39	75.83	67.95	59.96	54.62	50.12
225.0	89.16	79.71	71.61	64.80	58.05	55.13	50.96	47.76	45.11
270.0	94.28	83.87	75.15	67.73	63.68	56.98	50.96	48.71	45.00
315.0	85.05	70.54	65.93	59.29	53.78	49.28	44.83	43.03	40.50
360.0	100.91	90.28	81.17	71.94	67.95	61.93	56.98	52.88	48.60

Intensity data(cd)

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C/ γ (°)	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	53.0
0.0	46.91	44.44	41.46	40.50	39.21	38.03	36.96	35.66	35.04
45.0	49.84	46.46	43.54	41.18	40.05	38.19	36.96	35.78	34.88
90.0	47.42	43.59	42.02	39.09	37.07	36.17	35.16	34.14	33.24
135.0	55.80	51.64	49.56	46.01	43.48	41.57	39.99	39.09	37.52
180.0	47.64	43.82	41.34	39.32	37.80	36.90	35.66	34.37	33.86
225.0	42.41	41.34	39.83	37.86	37.18	36.23	35.27	34.31	33.24
270.0	42.47	40.39	38.70	37.86	36.39	35.38	34.37	33.41	32.85
315.0	38.59	37.13	35.78	35.27	34.09	33.64	32.79	32.06	31.28
360.0	46.91	44.44	41.46	40.50	39.21	38.03	36.96	35.66	35.04
C/ γ (°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	33.98	32.79	31.61	30.15	29.36	28.07	26.78	25.43	24.30
45.0	34.37	33.53	32.40	31.84	30.83	29.87	28.86	27.84	27.17
90.0	32.40	31.95	31.22	30.49	29.48	28.58	27.96	26.49	25.31
135.0	35.83	35.16	33.98	32.51	31.28	30.15	29.42	27.96	26.72
180.0	33.13	32.18	31.39	30.54	30.04	28.91	27.96	26.94	25.88
225.0	32.68	31.73	30.66	29.48	28.13	27.34	26.27	25.14	23.74
270.0	31.73	30.32	29.70	28.52	27.28	26.16	25.09	24.47	23.23
315.0	30.43	29.48	28.91	27.90	26.89	25.82	24.64	23.57	22.44
360.0	33.98	32.79	31.61	30.15	29.36	28.07	26.78	25.43	24.30
C/ γ (°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	23.18	22.05	20.76	20.03	18.96	17.94	16.88	15.81	15.19
45.0	25.88	24.69	23.57	22.50	21.77	20.48	19.24	18.11	16.88
90.0	24.69	23.68	22.61	21.54	20.31	19.69	18.68	17.66	16.65
135.0	25.65	24.64	24.08	22.78	21.26	20.70	19.41	18.96	17.33
180.0	25.31	23.91	22.78	21.77	20.42	19.35	18.68	17.21	16.65
225.0	22.61	21.43	20.25	18.79	18.06	16.99	16.03	15.02	13.89
270.0	22.22	21.21	20.19	19.52	18.23	17.27	16.31	15.08	14.18
315.0	21.21	20.59	19.52	18.45	17.38	16.26	15.64	14.68	13.67
360.0	23.18	22.05	20.76	20.03	18.96	17.94	16.88	15.81	15.19
C/ γ (°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	13.89	13.39	12.38	11.25	10.24	10.52	12.71	12.15	9.84
45.0	15.92	14.96	14.06	13.44	12.26	11.19	10.24	9.23	8.78
90.0	15.53	14.51	13.50	12.38	11.76	10.74	9.68	8.78	8.16
135.0	16.31	15.81	14.57	13.67	12.71	11.70	11.14	10.13	14.85
180.0	15.47	14.51	13.56	12.54	11.93	10.69	9.62	8.83	8.10
225.0	12.88	11.87	10.69	10.24	9.17	8.55	8.10	7.65	7.37
270.0	13.28	12.32	11.76	10.46	9.56	9.06	9.34	9.00	8.10
315.0	12.71	11.53	10.97	9.90	8.55	8.27	7.71	7.14	6.64
360.0	13.89	13.39	12.38	11.25	10.24	10.52	12.71	12.15	9.84
C/ γ (°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	8.44	8.04	7.65	6.81	6.13	5.68	5.06	4.89	5.12
45.0	8.04	7.43	6.98	6.64	5.96	5.46	5.01	4.61	4.22
90.0	7.88	7.26	6.81	6.19	5.79	5.40	4.95	4.50	4.05
135.0	19.91	19.97	12.04	8.38	7.88	7.48	6.75	6.24	5.23
180.0	7.48	7.03	6.47	5.85	5.40	4.89	4.39	3.88	3.43
225.0	6.86	6.08	5.85	5.29	4.84	4.50	4.11	3.71	3.32
270.0	7.71	7.31	6.41	5.85	5.23	4.61	4.22	4.22	4.11
315.0	6.08	5.63	5.29	4.78	4.39	3.94	3.54	3.26	2.93
360.0	8.44	8.04	7.65	6.81	6.13	5.68	5.06	4.89	5.12

Intensity data(cd)

C/ $\gamma(^{\circ})$	90.0
0.0	5.23
45.0	3.66
90.0	3.83
135.0	5.01
180.0	3.15
225.0	3.15
270.0	3.94
315.0	2.81
360.0	5.23