



NATA LIGHTING CO.,LTD.
www.nata.cn
Email:info@nata.com
Tel:+86-750-3770000 Fax:+86-750-3771111
Address:380JinOu Road,GaoXin Zone,Jiang Men City,Guangdong,China

Nata

LumCAT: CR01D04124CC

Luminaire:

Report No: NATA0100

Voltage(V): 11.6200

Test No: GC2019082908

Current(A): 0.2980

LampCAT: CREE XML COLOR

Power (W): 3.4600

Lamp flux(lm): 217.0

PF: 0.0000

Number of Lamps: 1

Ballast type: DC

Length(mm): 0

Width(mm): 0

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 191.78

Efficiency(%): 88.40%

Lumens(lm)/Power(W): 55.43

Central intensity(cd): 538.284

Maximum intensity(cd): 538.284

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=25.3

[C90/270]Total=25.3

Field angle(10%Imax): [C0/180]Total=51.1

[C90/270]Total=51.1

Maximum s/h(1/2): C0_180=0.43 C90_270=0.43

Maximum s/h(1/4): C0_180=0.44 C90_270=0.44

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 88.40%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 86.375%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	538.284	0.000	0	.000%	.000%
1.0	536.639	0.514	0.514	.237%	.268%
2.0	529.327	1.530	2.044	.705%	1.066%
3.0	517.043	2.503	4.547	1.154%	2.371%
4.0	501.708	3.410	7.957	1.572%	4.149%
5.0	481.127	4.228	12.185	1.949%	6.354%
6.0	458.613	4.939	17.124	2.276%	8.929%
7.0	432.893	5.534	22.657	2.551%	11.814%
8.0	405.478	6.000	28.657	2.766%	14.943%
9.0	376.587	6.338	34.995	2.922%	18.247%
10.0	346.584	6.544	41.54	3.017%	21.660%
11.0	317.398	6.635	48.174	3.058%	25.119%
12.0	288.436	6.623	54.797	3.053%	28.573%
13.0	258.405	6.490	61.287	2.991%	31.956%
14.0	230.766	6.261	67.548	2.886%	35.221%
15.0	206.227	5.999	73.547	2.765%	38.349%
16.0	182.665	5.698	79.246	2.627%	41.321%
17.0	161.304	5.357	84.602	2.469%	44.114%
18.0	141.785	4.997	89.599	2.303%	46.719%
19.0	124.868	4.639	94.239	2.138%	49.138%
20.0	109.153	4.283	98.522	1.974%	51.372%
21.0	95.583	3.931	102.453	1.812%	53.422%
22.0	83.827	3.605	106.059	1.662%	55.301%
23.0	73.779	3.307	109.366	1.524%	57.026%
24.0	64.884	3.032	112.397	1.397%	58.607%
25.0	57.199	2.776	115.173	1.280%	60.054%
26.0	51.103	2.556	117.73	1.178%	61.387%
27.0	45.450	2.362	120.092	1.089%	62.619%
28.0	40.746	2.182	122.274	1.006%	63.757%
29.0	36.654	2.025	124.299	.933%	64.813%
30.0	33.279	1.888	126.187	.870%	65.797%
31.0	30.248	1.768	127.955	.815%	66.719%
32.0	27.675	1.659	129.615	.765%	67.584%
33.0	25.453	1.565	131.18	.721%	68.400%
34.0	23.541	1.483	132.662	.683%	69.173%
35.0	21.938	1.412	134.075	.651%	69.910%
36.0	20.517	1.352	135.427	.623%	70.615%
37.0	19.336	1.300	136.726	.599%	71.292%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	18.330	1.257	137.984	.580%	71.948%
39.0	17.438	1.221	139.205	.563%	72.585%
40.0	16.755	1.193	140.397	.550%	73.206%
41.0	16.193	1.173	141.57	.541%	73.818%
42.0	15.729	1.160	142.73	.535%	74.423%
43.0	15.370	1.152	143.882	.531%	75.024%
44.0	15.152	1.152	145.034	.531%	75.624%
45.0	14.963	1.157	146.191	.533%	76.228%
46.0	14.850	1.166	147.357	.537%	76.836%
47.0	14.815	1.180	148.537	.544%	77.451%
48.0	14.829	1.198	149.736	.552%	78.076%
49.0	14.878	1.220	150.956	.562%	78.712%
50.0	14.963	1.244	152.2	.573%	79.361%
51.0	15.068	1.271	153.47	.586%	80.023%
52.0	15.145	1.296	154.767	.598%	80.699%
53.0	15.251	1.322	156.089	.609%	81.389%
54.0	15.335	1.348	157.437	.621%	82.091%
55.0	15.328	1.369	158.806	.631%	82.805%
56.0	15.195	1.379	160.185	.636%	83.524%
57.0	14.984	1.380	161.565	.636%	84.244%
58.0	14.723	1.374	162.939	.633%	84.960%
59.0	14.449	1.364	164.302	.629%	85.671%
60.0	14.126	1.350	165.652	.622%	86.375%
61.0	13.739	1.330	166.982	.613%	87.069%
62.0	13.373	1.306	168.289	.602%	87.750%
63.0	13.001	1.283	169.571	.591%	88.419%
64.0	12.593	1.256	170.827	.579%	89.073%
65.0	12.178	1.226	172.053	.565%	89.713%
66.0	11.756	1.194	173.247	.550%	90.335%
67.0	11.320	1.160	174.408	.535%	90.940%
68.0	10.884	1.125	175.532	.518%	91.527%
69.0	10.448	1.088	176.621	.502%	92.094%
70.0	10.027	1.052	177.672	.485%	92.643%
71.0	9.598	1.014	178.687	.468%	93.171%
72.0	9.218	0.978	179.665	.451%	93.682%
73.0	8.838	0.944	180.609	.435%	94.174%
74.0	8.466	0.910	181.519	.419%	94.648%
75.0	8.079	0.874	182.393	.403%	95.104%

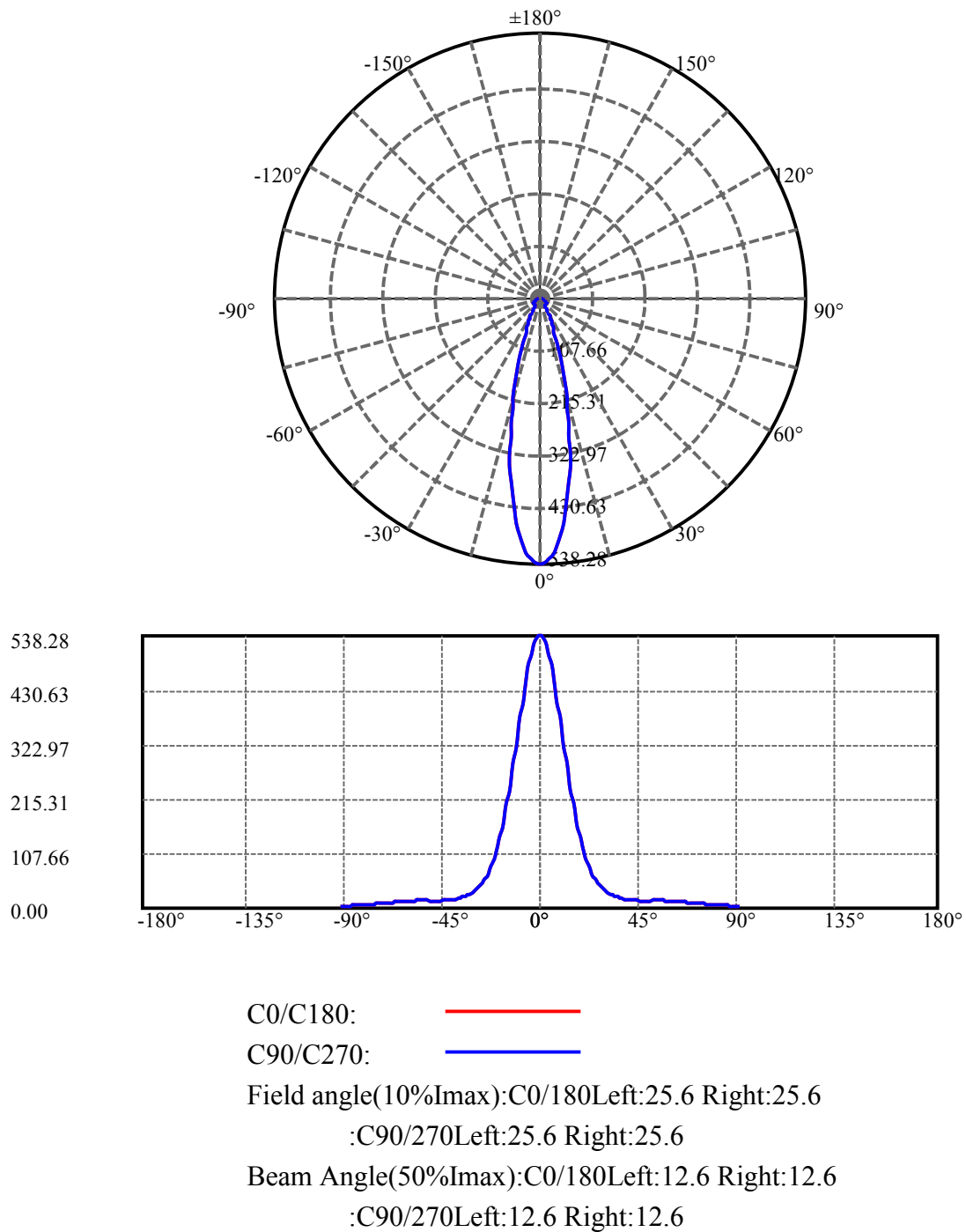
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	7.741	0.840	183.233	.387%	95.542%
77.0	7.411	0.808	184.041	.372%	95.963%
78.0	7.109	0.777	184.818	.358%	96.369%
79.0	6.792	0.747	185.565	.344%	96.758%
80.0	6.511	0.717	186.282	.331%	97.132%
81.0	6.265	0.691	186.973	.318%	97.492%
82.0	6.033	0.667	187.64	.307%	97.840%
83.0	5.787	0.643	188.282	.296%	98.175%
84.0	5.569	0.619	188.901	.285%	98.497%
85.0	5.379	0.598	189.498	.275%	98.809%
86.0	4.957	0.565	190.063	.260%	99.104%
87.0	4.402	0.512	190.576	.236%	99.371%
88.0	3.860	0.453	191.028	.209%	99.607%
89.0	3.473	0.402	191.43	.185%	99.816%
90.0	2.953	0.352	191.782	.162%	100.000%

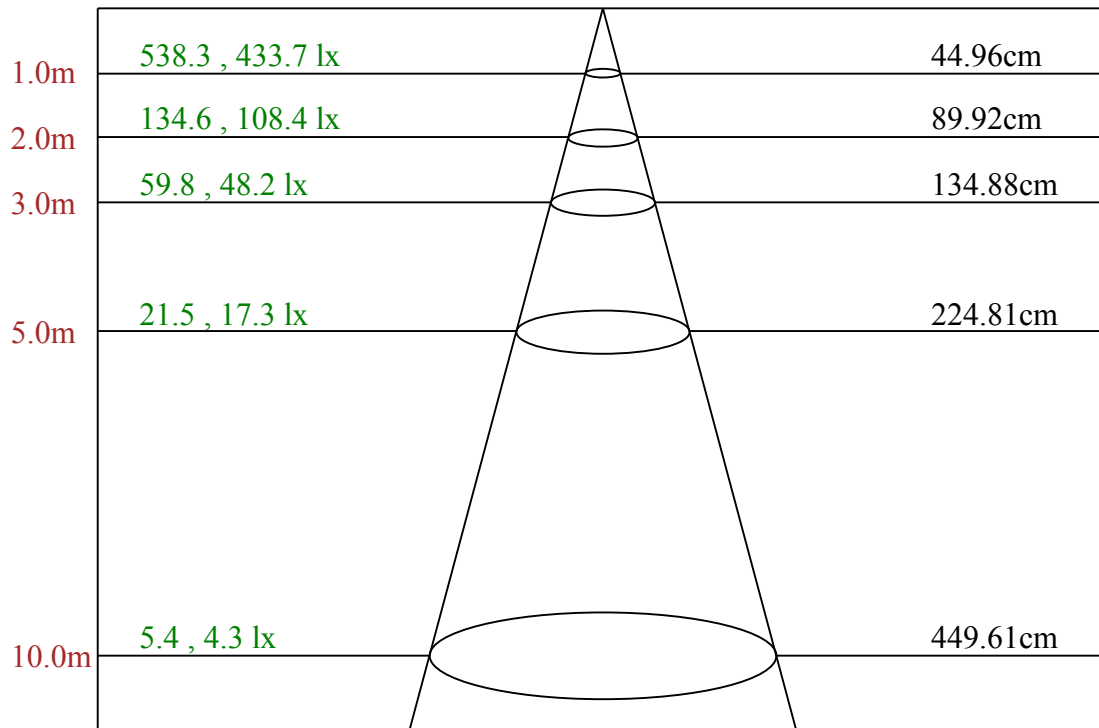
ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	126.19	58.16%	65.80%
0-40	140.40	64.71%	73.21%
0-60	165.65	76.36%	86.38%
0-90	191.43	88.24%	99.82%
0-120	191.43	88.24%	99.82%
0-180	191.78	88.40%	100.00%
60-90	27.13	12.50%	14.15%
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%
0-50.97	153.43	70.72%	80.00%

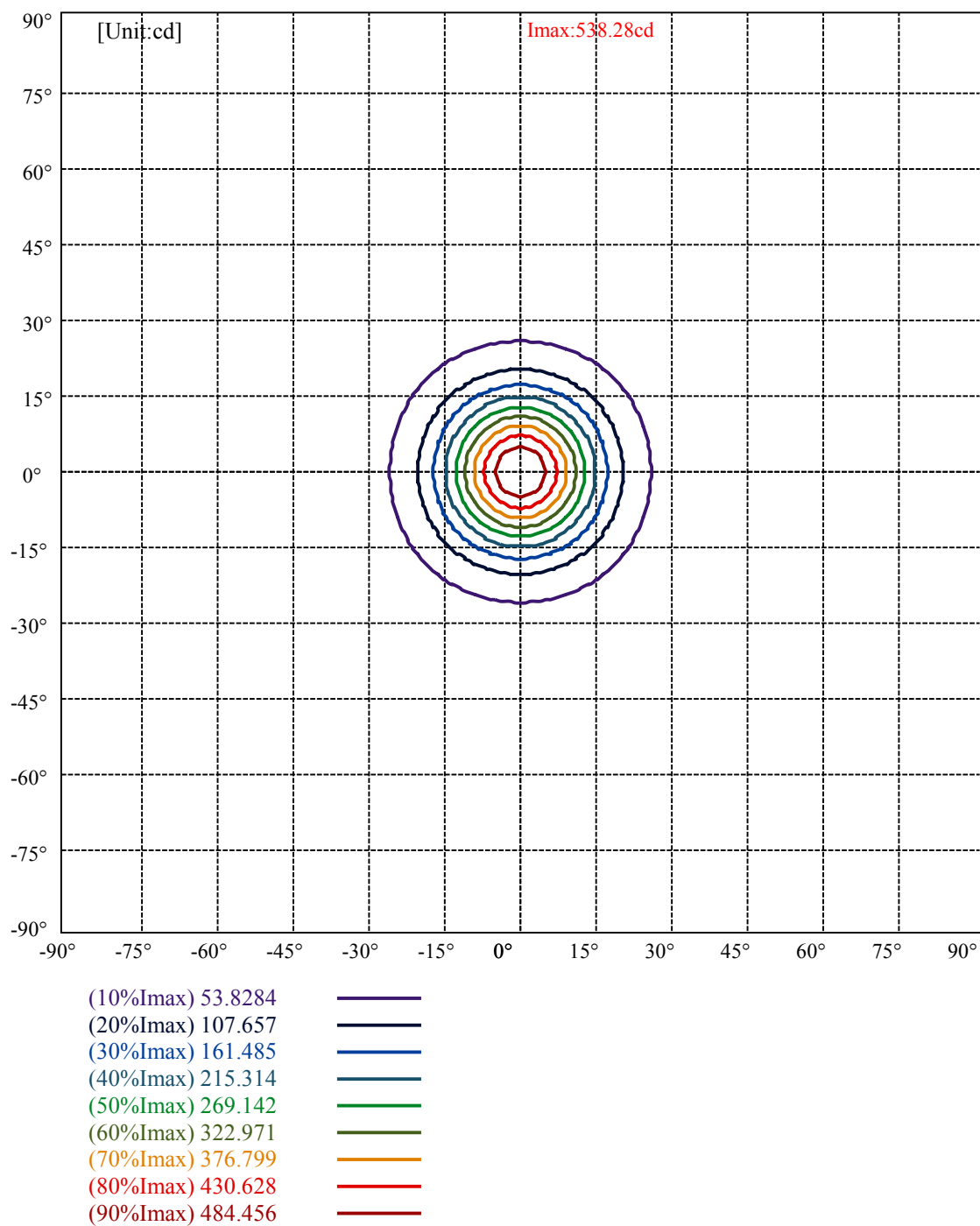
ZONAL LUMEN SUMMARY

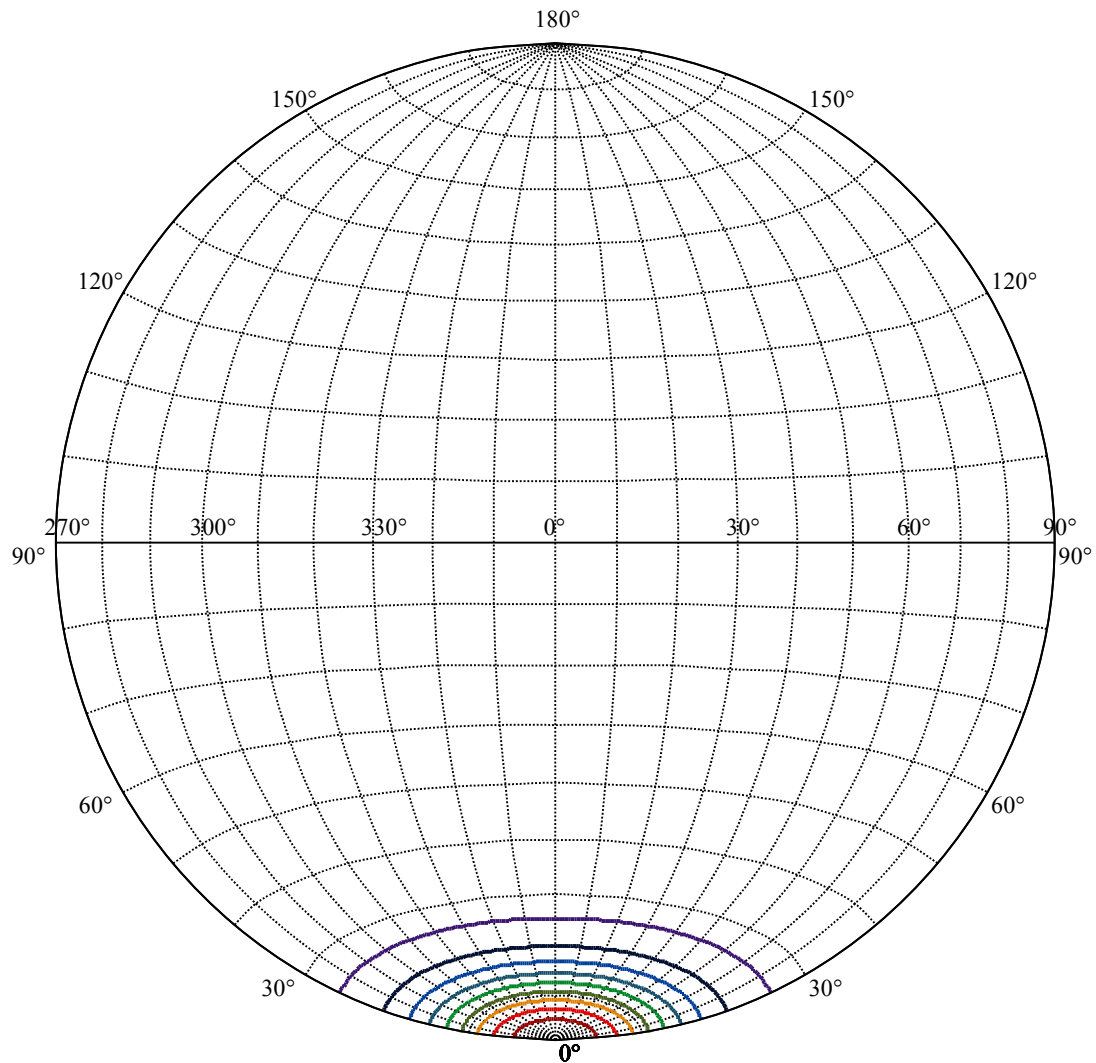
0-10	41.54
10-20	56.98
20-30	27.67
30-40	14.21
40-50	11.80
50-60	13.45
60-70	12.02
70-80	8.61
80-90	5.15
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00





Max , Ave Beam angle of C0 plane 25.34





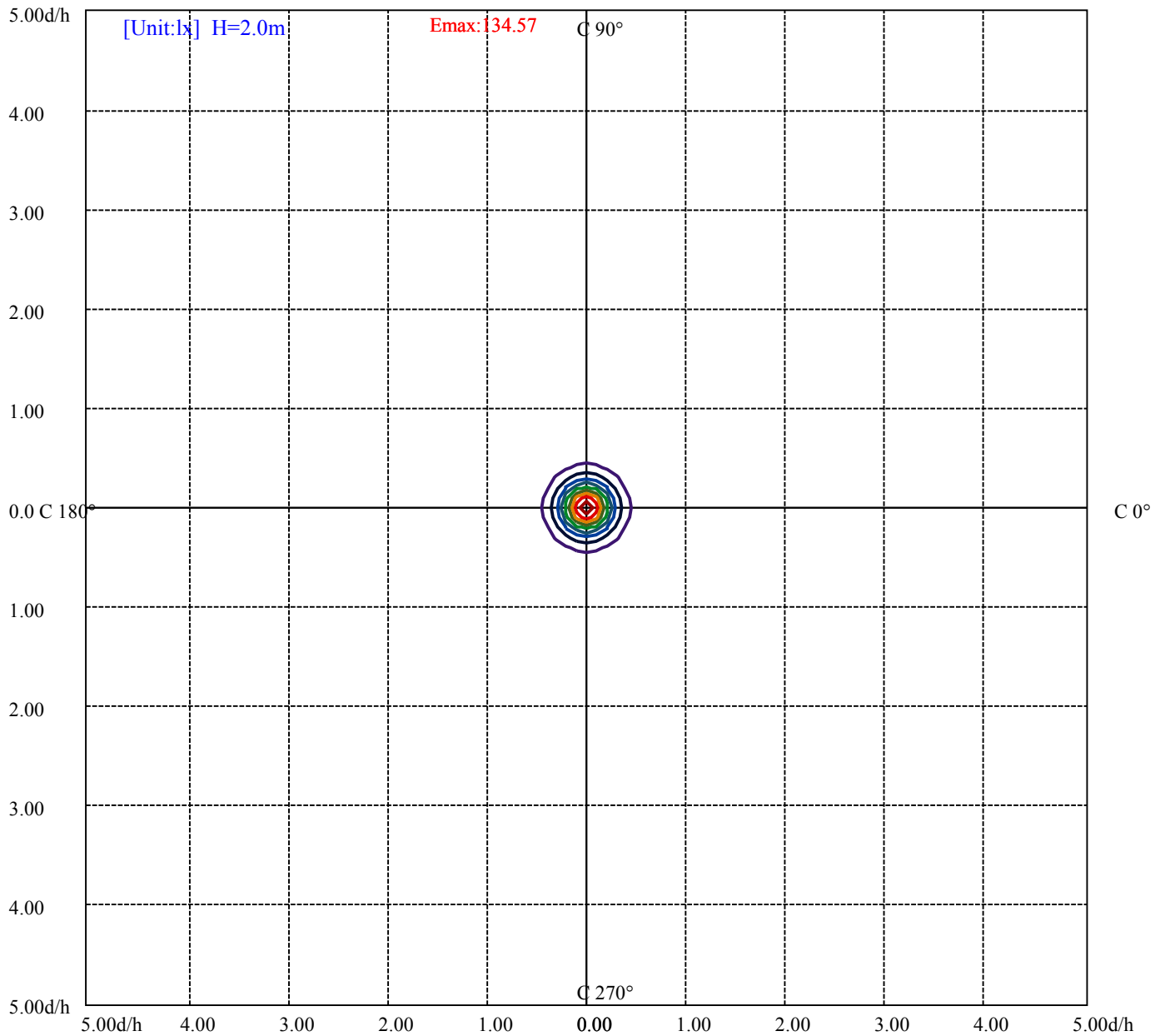
House

[Unit:cd]

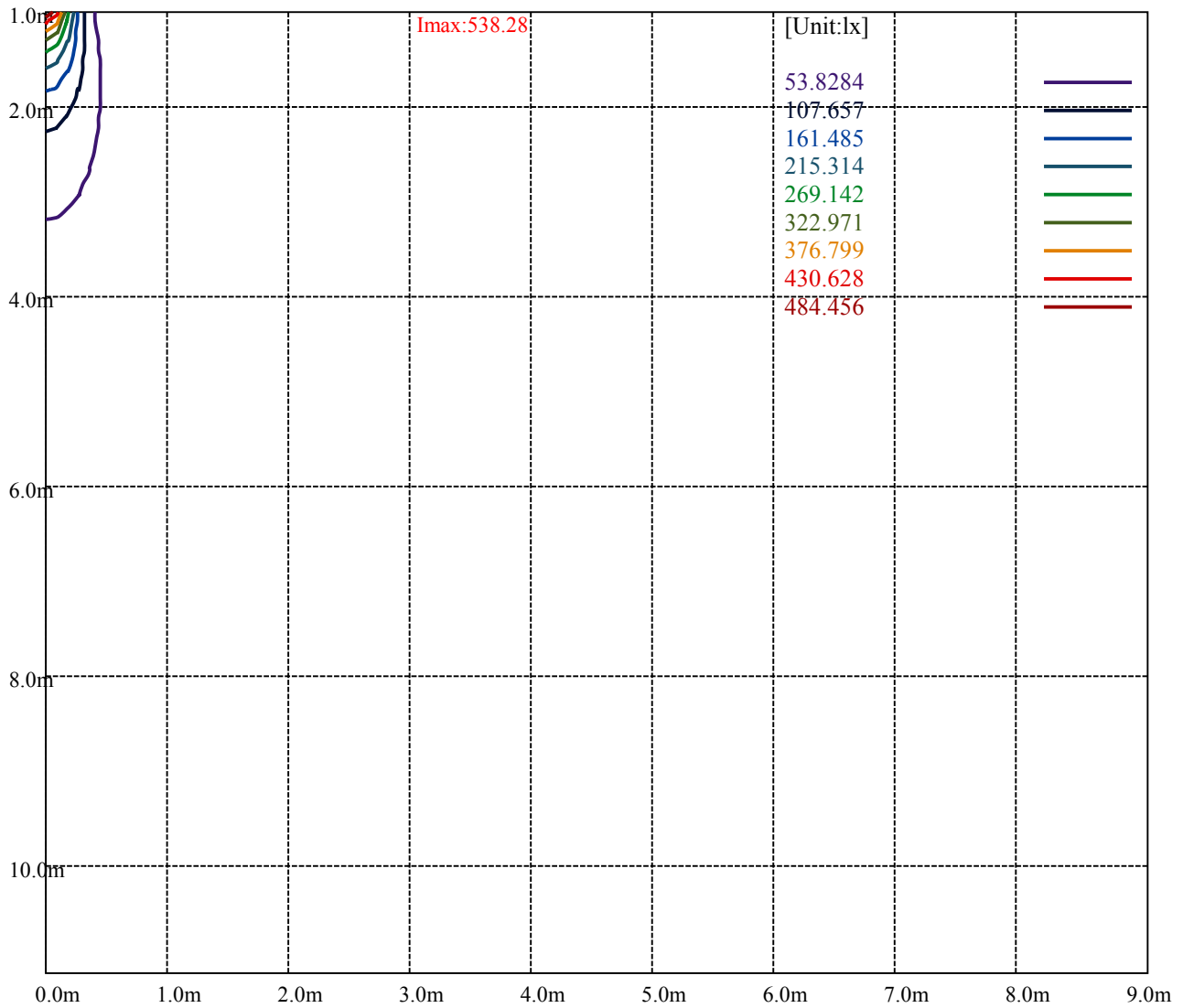
Road

Imax:538.28
 (10%Imax) 53.8284
 (20%Imax) 107.657
 (30%Imax) 161.485
 (40%Imax) 215.314
 (50%Imax) 269.142
 (60%Imax) 322.971
 (70%Imax) 376.799
 (80%Imax) 430.628
 (90%Imax) 484.456





(10%Emax)	13.4571	—
(20%Emax)	26.91425	—
(30%Emax)	40.37125	—
(40%Emax)	53.8285	—
(50%Emax)	67.2855	—
(60%Emax)	80.7425	—
(70%Emax)	94.19975	—
(80%Emax)	107.6568	—
(90%Emax)	121.114	—



Luminance Table

γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

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

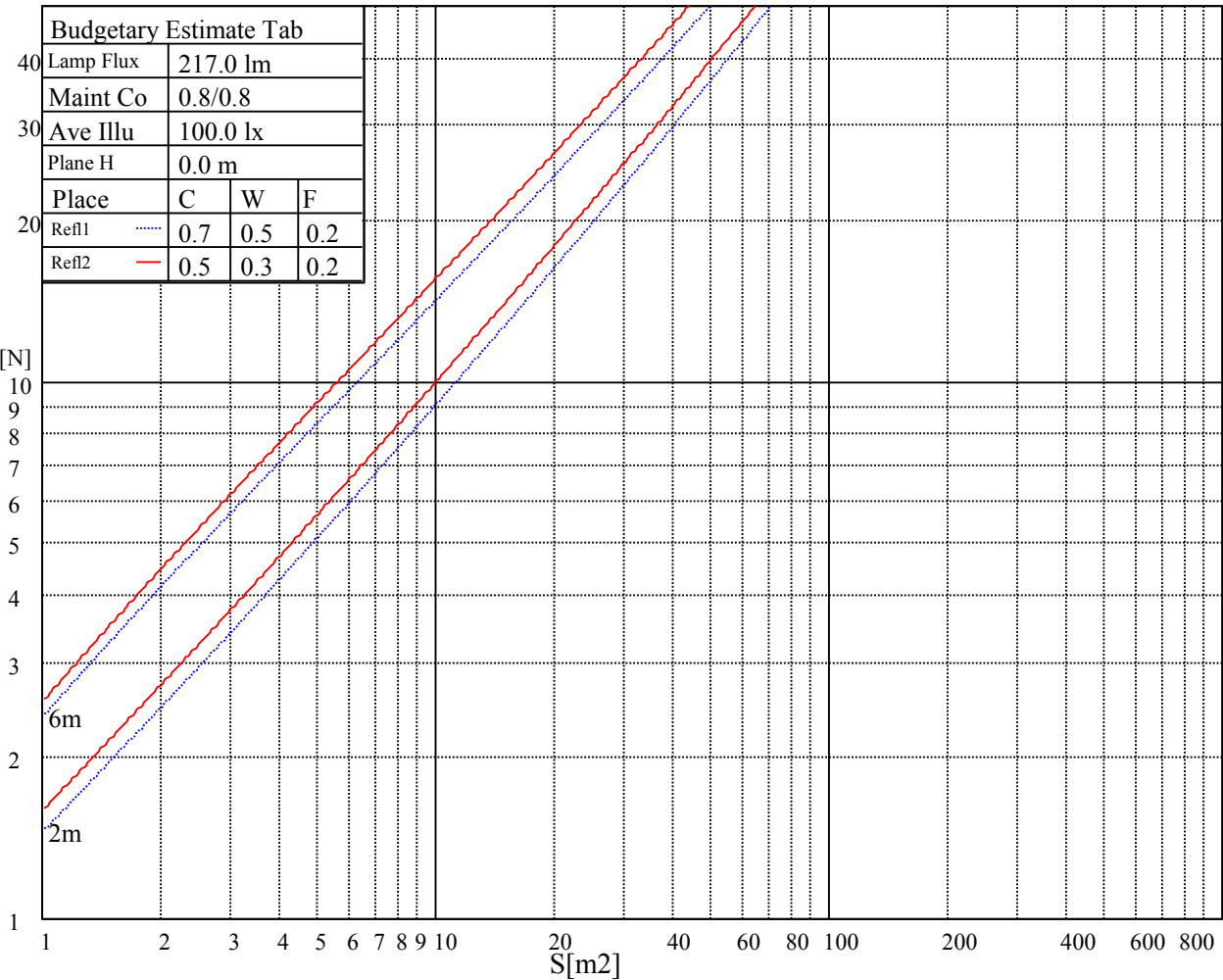
Luminance Limiting Curve

 $\gamma(^{\circ})$ 

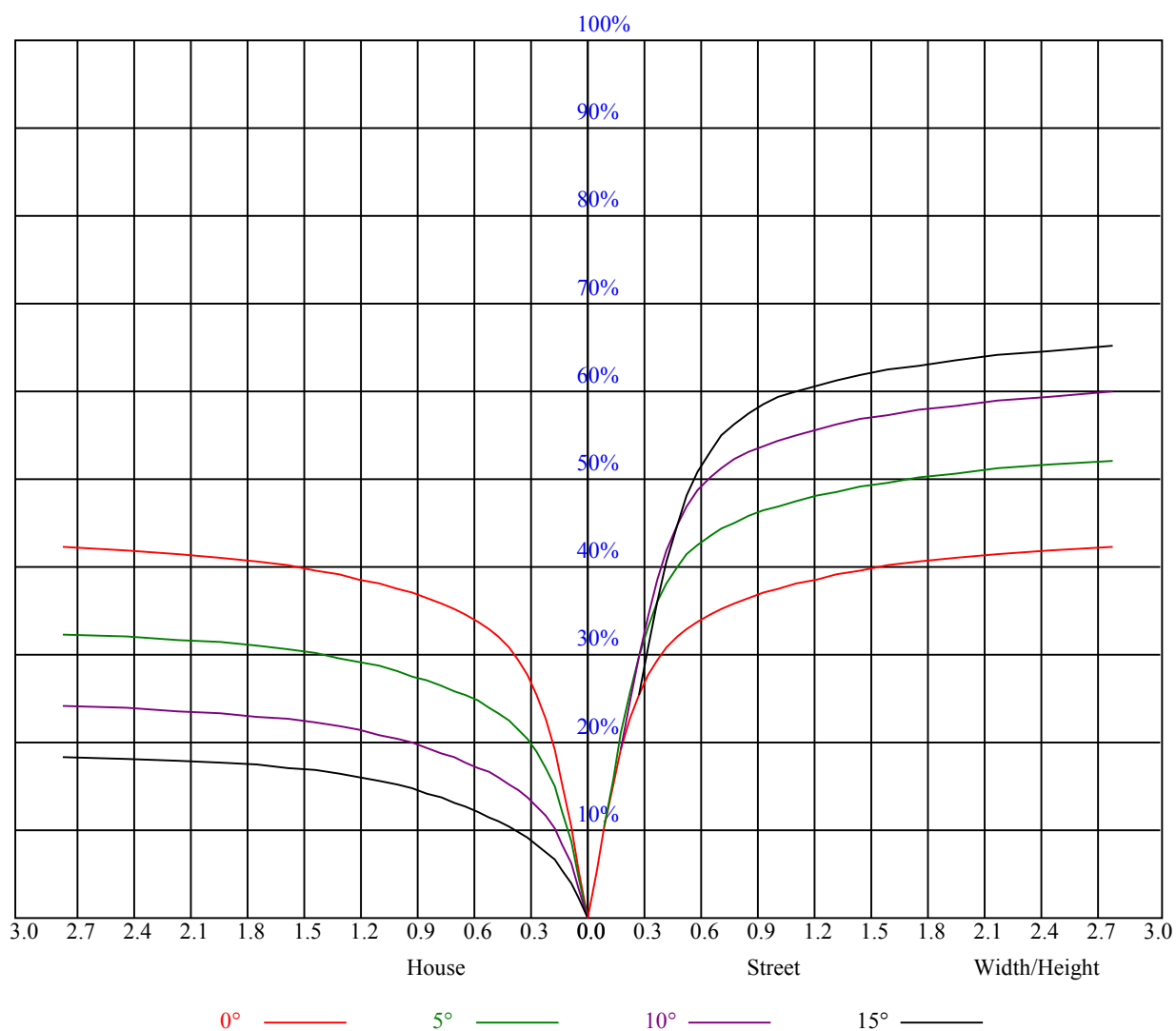
C0 ———

C45 ———

C90 ———



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	1.05	1.05	1.05	1.03	1.03	1.03	0.98	0.98	0.98	0.94	0.94	0.94	0.90	0.90	0.90	0.88
1	0.95	0.92	0.89	0.93	0.90	0.88	0.89	0.87	0.85	0.86	0.84	0.83	0.83	0.82	0.80	0.78
2	0.87	0.82	0.79	0.85	0.81	0.78	0.82	0.79	0.76	0.80	0.77	0.74	0.77	0.75	0.73	0.71
3	0.80	0.75	0.71	0.79	0.74	0.70	0.77	0.73	0.69	0.75	0.71	0.68	0.72	0.70	0.67	0.66
4	0.75	0.69	0.65	0.74	0.69	0.65	0.72	0.68	0.64	0.70	0.66	0.63	0.68	0.65	0.62	0.61
5	0.71	0.65	0.61	0.70	0.64	0.60	0.68	0.63	0.60	0.67	0.62	0.59	0.65	0.62	0.59	0.57
6	0.67	0.61	0.57	0.66	0.61	0.57	0.65	0.60	0.56	0.63	0.59	0.56	0.62	0.58	0.56	0.54
7	0.63	0.58	0.54	0.63	0.57	0.54	0.62	0.57	0.53	0.61	0.56	0.53	0.60	0.56	0.53	0.52
8	0.60	0.55	0.51	0.60	0.55	0.51	0.59	0.54	0.51	0.58	0.54	0.51	0.57	0.53	0.51	0.49
9	0.58	0.53	0.49	0.57	0.52	0.49	0.57	0.52	0.49	0.56	0.52	0.49	0.55	0.51	0.48	0.47
10	0.56	0.50	0.47	0.55	0.50	0.47	0.54	0.50	0.47	0.54	0.50	0.47	0.53	0.49	0.47	0.45



Intensity data(cd)

C/ γ (°)	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0
0.0	539.33	535.33	525.21	511.09	493.14	469.74	444.49	418.84	393.36
45.0	537.41	539.38	536.74	528.19	516.26	498.83	476.66	454.05	425.42
90.0	540.51	542.93	541.74	533.25	520.82	503.27	484.03	459.17	431.27
135.0	535.89	543.21	543.26	539.61	528.92	514.01	499.05	471.77	448.09
180.0	539.33	540.17	535.61	525.99	511.48	493.82	473.23	442.86	416.87
225.0	537.41	531.28	519.36	505.01	487.18	464.18	439.03	414.45	386.10
270.0	540.51	533.70	519.64	503.33	484.48	456.24	432.56	410.96	378.96
315.0	535.89	527.12	513.06	489.88	471.38	448.93	419.85	391.05	363.77
360.0	539.33	535.33	525.21	511.09	493.14	469.74	444.49	418.84	393.36
C/ γ (°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	358.48	330.58	302.34	271.24	241.48	216.45	190.29	166.22	147.26
45.0	396.11	369.06	340.71	309.49	279.00	249.30	223.88	200.59	173.70
90.0	405.39	375.30	348.08	317.59	290.31	257.29	231.41	207.68	185.29
135.0	422.21	387.79	358.03	329.68	293.85	267.08	240.92	210.99	188.55
180.0	388.74	353.42	325.13	296.89	263.19	237.77	213.92	186.64	169.59
225.0	359.21	328.73	297.56	270.79	241.48	214.14	191.98	171.28	148.33
270.0	349.76	326.14	293.01	266.96	238.50	210.71	188.16	167.91	144.96
315.0	332.78	301.67	274.33	244.86	219.43	193.39	169.26	150.02	132.75
360.0	358.48	330.58	302.34	271.24	241.48	216.45	190.29	166.22	147.26
C/ γ (°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	128.25	113.18	98.21	85.28	75.54	66.04	57.77	51.64	46.29
45.0	154.52	136.91	117.73	104.34	90.90	81.00	69.81	62.10	55.07
90.0	159.36	141.19	123.13	107.49	95.46	84.60	73.97	64.80	57.94
135.0	168.19	146.64	127.97	113.01	96.75	84.26	74.70	65.25	58.11
180.0	148.95	127.97	114.47	99.56	85.44	76.50	67.78	57.49	51.98
225.0	131.68	117.34	102.83	89.83	79.88	69.69	61.03	54.56	48.38
270.0	129.21	114.81	99.28	88.03	78.13	67.33	60.24	54.17	48.09
315.0	114.13	100.91	89.61	77.12	68.51	60.81	53.78	47.59	42.98
360.0	128.25	113.18	98.21	85.28	75.54	66.04	57.77	51.64	46.29
C/ γ (°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	40.73	36.90	33.69	30.60	28.07	25.93	23.91	22.22	20.93
45.0	48.66	43.26	38.93	35.21	31.61	29.31	26.72	24.86	23.06
90.0	51.36	46.29	41.51	37.41	34.26	31.16	28.46	26.55	24.69
135.0	51.41	45.28	40.84	37.13	32.96	30.09	27.68	24.98	23.06
180.0	46.52	41.18	36.51	32.96	29.59	26.78	24.64	22.56	20.93
225.0	43.31	38.64	34.65	31.39	28.74	26.04	24.08	22.33	20.64
270.0	42.98	39.15	35.27	32.46	29.81	27.34	25.43	23.57	22.05
315.0	38.64	35.27	31.84	29.08	26.94	24.75	22.73	21.26	20.14
360.0	40.73	36.90	33.69	30.60	28.07	25.93	23.91	22.22	20.93
C/ γ (°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	19.58	18.56	17.55	16.88	16.37	15.98	15.64	15.53	15.36
45.0	21.54	20.36	19.46	18.23	17.55	16.99	16.43	16.03	15.75
90.0	22.78	21.43	20.31	19.18	18.39	17.61	17.04	16.48	16.26
135.0	21.66	20.08	18.84	17.78	16.82	16.09	15.53	14.91	14.57
180.0	19.46	18.17	17.21	16.43	15.58	15.08	14.63	14.23	14.01
225.0	19.46	18.39	17.38	16.54	15.98	15.36	14.91	14.57	14.34
270.0	20.76	19.69	18.56	17.83	17.21	16.65	16.14	15.92	15.69
315.0	18.90	18.00	17.33	16.65	16.14	15.81	15.53	15.30	15.24
360.0	19.58	18.56	17.55	16.88	16.37	15.98	15.64	15.53	15.36

Intensity data(cd)

C/ γ (°)	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	53.0
0.0	15.30	15.24	15.30	15.41	15.53	15.69	15.86	16.03	16.20
45.0	15.53	15.36	15.36	15.30	15.41	15.47	15.64	15.75	15.92
90.0	15.98	15.75	15.58	15.58	15.58	15.64	15.69	15.75	15.86
135.0	14.18	13.95	13.78	13.73	13.67	13.67	13.67	13.73	13.73
180.0	13.89	13.84	13.73	13.73	13.84	13.89	14.06	14.18	14.34
225.0	14.23	14.18	14.18	14.23	14.29	14.40	14.51	14.57	14.68
270.0	15.47	15.36	15.36	15.41	15.41	15.53	15.64	15.69	15.75
315.0	15.13	15.13	15.24	15.24	15.30	15.41	15.47	15.47	15.53
360.0	15.30	15.24	15.30	15.41	15.53	15.69	15.86	16.03	16.20
C/ γ (°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	16.31	16.37	16.14	15.86	15.58	15.30	14.85	14.51	14.18
45.0	16.09	16.20	16.31	16.09	15.86	15.64	15.30	15.02	14.63
90.0	15.92	16.03	15.98	15.86	15.58	15.41	15.13	14.74	14.34
135.0	13.84	13.89	13.84	13.73	13.56	13.28	13.05	12.71	12.43
180.0	14.46	14.51	14.46	14.18	13.95	13.67	13.44	12.99	12.71
225.0	14.74	14.68	14.46	14.23	13.95	13.61	13.33	12.94	12.49
270.0	15.81	15.69	15.41	15.19	14.96	14.63	14.23	13.78	13.33
315.0	15.53	15.24	14.96	14.74	14.34	14.06	13.67	13.22	12.88
360.0	16.31	16.37	16.14	15.86	15.58	15.30	14.85	14.51	14.18
C/ γ (°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	13.73	13.28	12.83	12.38	11.93	11.48	11.03	10.63	10.18
45.0	14.18	13.78	13.39	12.83	12.32	11.81	11.25	10.80	10.35
90.0	13.95	13.61	13.16	12.71	12.26	11.81	11.25	10.80	10.35
135.0	12.15	11.76	11.42	11.08	10.69	10.41	10.07	9.68	9.34
180.0	12.38	12.04	11.64	11.31	10.91	10.52	10.18	9.84	9.45
225.0	12.15	11.70	11.25	10.86	10.46	9.96	9.56	9.11	8.66
270.0	12.94	12.43	11.98	11.53	11.03	10.52	10.07	9.62	9.11
315.0	12.54	12.15	11.76	11.36	10.97	10.58	10.18	9.73	9.34
360.0	13.73	13.28	12.83	12.38	11.93	11.48	11.03	10.63	10.18
C/ γ (°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	9.90	9.51	9.23	8.89	8.61	8.27	7.93	7.65	7.37
45.0	9.84	9.45	9.11	8.61	8.21	7.88	7.54	7.09	6.81
90.0	9.84	9.51	9.11	8.66	8.27	7.93	7.59	7.26	6.92
135.0	9.06	8.72	8.44	8.10	7.76	7.54	7.20	6.98	6.75
180.0	9.17	8.83	8.49	8.21	7.93	7.65	7.43	7.14	6.86
225.0	8.33	7.93	7.48	7.14	6.86	6.47	6.24	5.91	5.63
270.0	8.61	8.10	7.48	6.92	6.53	6.08	5.63	5.29	4.95
315.0	9.00	8.66	8.38	8.10	7.76	7.48	7.31	7.03	6.81
360.0	9.90	9.51	9.23	8.89	8.61	8.27	7.93	7.65	7.37
C/ γ (°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	7.09	6.69	6.36	6.08	5.79	4.67	3.88	3.54	3.26
45.0	6.41	6.19	5.91	5.57	5.34	4.95	4.22	3.66	3.49
90.0	6.69	6.41	6.19	5.91	5.63	5.40	4.50	3.71	3.49
135.0	6.53	6.36	6.19	6.08	5.91	5.79	5.57	4.67	3.83
180.0	6.64	6.41	6.19	5.96	5.79	5.57	5.18	4.44	3.60
225.0	5.46	5.29	5.06	4.89	4.78	4.61	4.39	3.77	3.43
270.0	4.67	4.44	4.16	3.99	3.88	3.71	3.54	3.43	3.38
315.0	6.64	6.47	6.24	6.08	5.91	4.95	3.94	3.66	3.32
360.0	7.09	6.69	6.36	6.08	5.79	4.67	3.88	3.54	3.26

Nata 61.0078.000

Intensity data(cd)

Appendix Page: 18 Total:18

C/ γ (°)	90.0
0.0	1.97
45.0	2.81
90.0	3.09
135.0	3.54
180.0	3.38
225.0	3.38
270.0	3.09
315.0	2.36
360.0	1.97