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NATA

LumCAT: 1547-E	
Luminaire: 92.70.051.00	
Report No: NATA0100	Voltage(V): 35.5000
Test No: GC2019010304	Current(A): 0.2600
LampCAT: BRIDGELUX V8E G7	Power (W): 9.2300
Lamp flux(lm): 1392.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 21	Width(mm): 21
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 1218.71
Efficiency(%): 87.55%
Lumens(lm)/Power(W): 132.66
Central intensity(cd): 1154.109
Maximum intensity(cd): 1154.109
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=63.5
[C90/270]Total=63.5
Field angle(10%Imax): [C0/180]Total=97.0
[C90/270]Total=97.0
Maximum s/h(1/2): C0_180=0.88 C90_270=0.88
Maximum s/h(1/4): C0_180=0.96 C90_270=0.96
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 87.96%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.760%

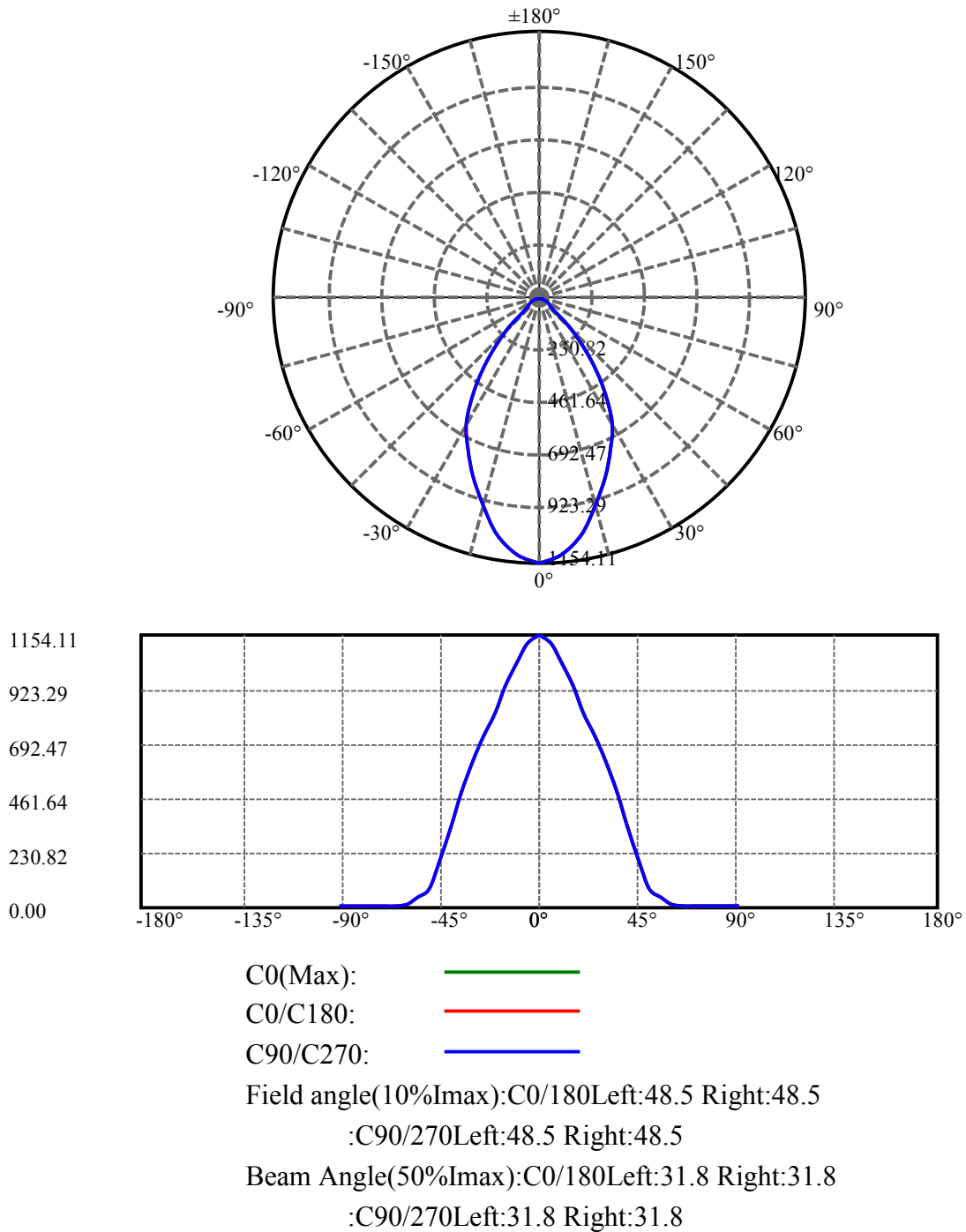
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1154.109	6.902	6.902	.496%	.566%
5.0	1119.530	53.484	60.385	3.842%	4.955%
10.0	1041.771	99.159	159.544	7.123%	13.091%
15.0	936.190	132.816	292.36	9.541%	23.989%
20.0	827.740	155.180	447.54	11.148%	36.722%
25.0	726.180	168.222	615.762	12.085%	50.526%
30.0	626.006	171.569	787.33	12.325%	64.604%
35.0	486.907	153.083	940.413	10.997%	77.165%
40.0	342.330	120.615	1061.029	8.665%	87.062%
45.0	196.910	76.321	1137.349	5.483%	93.324%
50.0	80.888	33.964	1171.314	2.440%	96.111%
55.0	40.774	18.308	1189.622	1.315%	97.613%
60.0	15.588	7.400	1197.022	.532%	98.220%
65.0	10.631	5.281	1202.303	.379%	98.654%
70.0	8.831	4.549	1206.852	.327%	99.027%
75.0	7.495	3.968	1210.82	.285%	99.353%
80.0	6.504	3.511	1214.331	.252%	99.641%
85.0	5.709	3.118	1217.449	.224%	99.897%
90.0	4.598	1.260	1218.709	.091%	100.000%

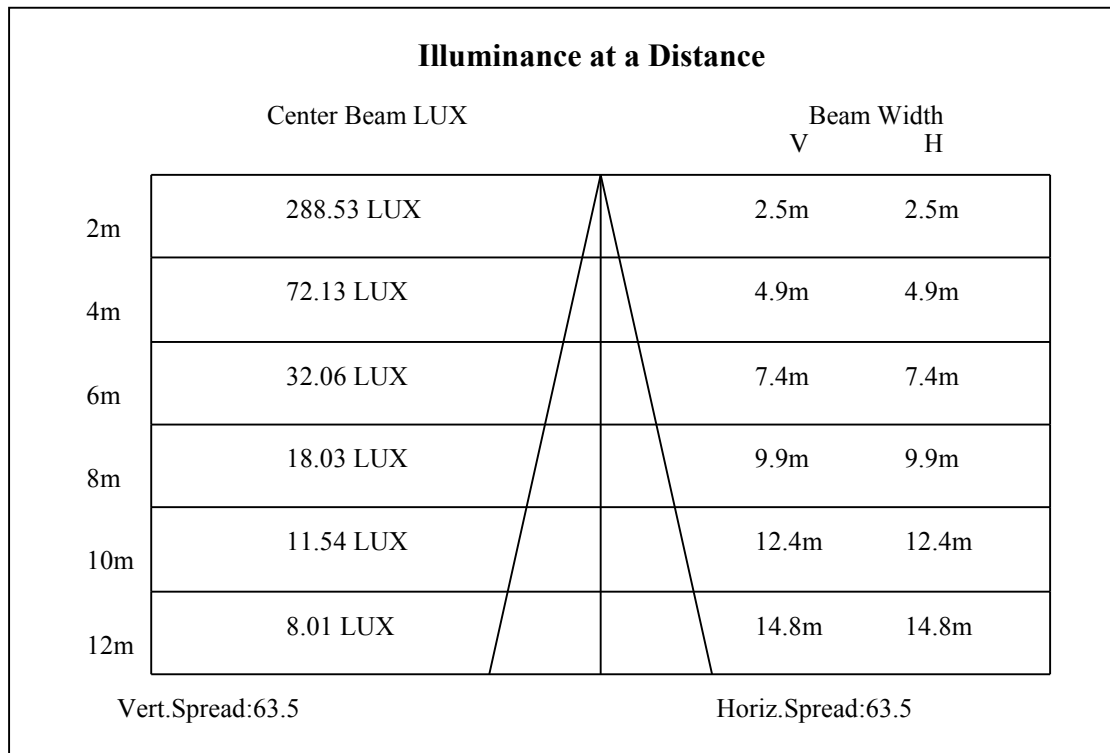
ZONAL LUMEN SUMMARY

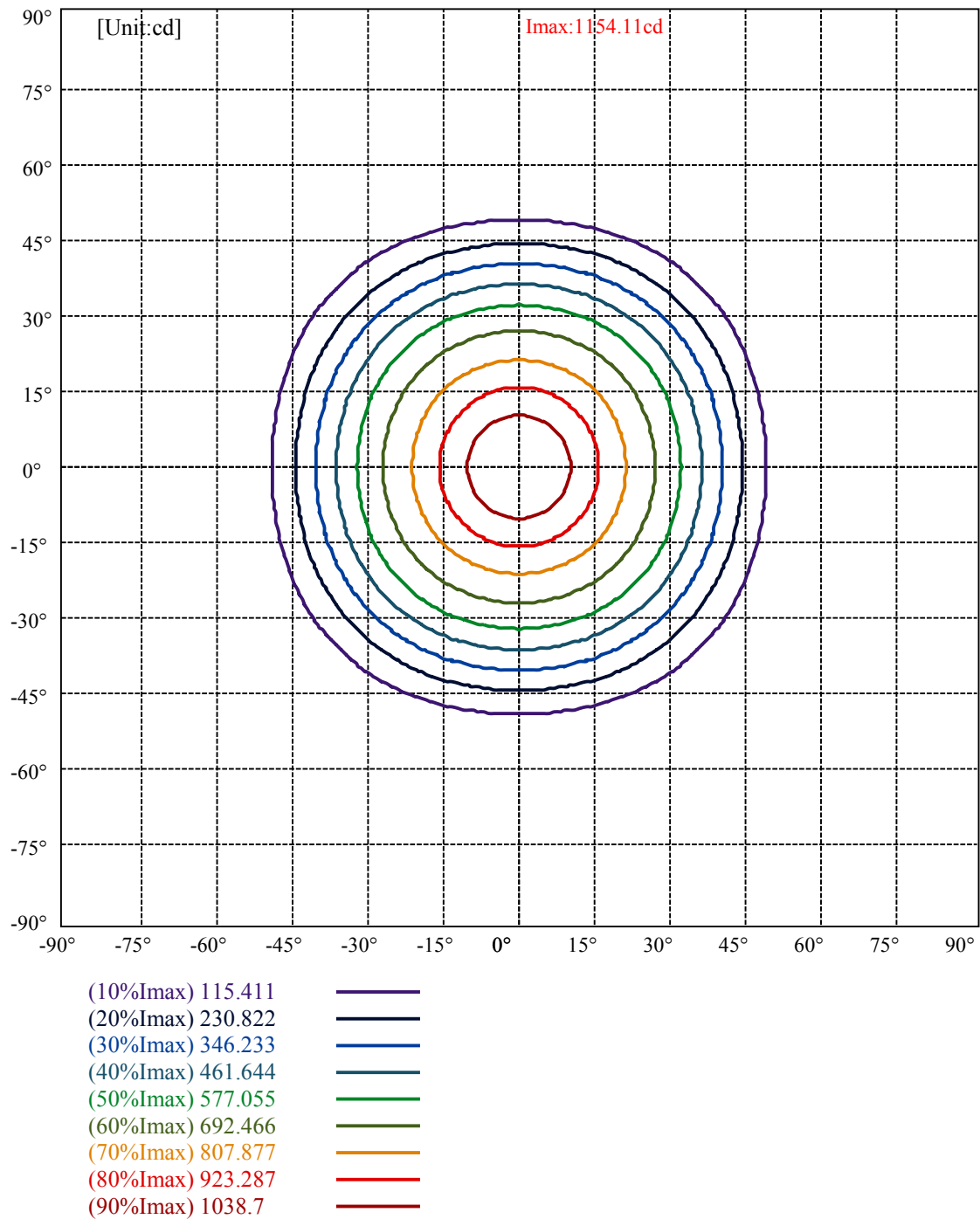
Zone	Lumens	%Lamp	%Fixt
0-30	787.33	56.56%	64.60%
0-40	1061.03	76.22%	87.06%
0-60	1197.02	85.99%	98.22%
0-90	1217.45	87.46%	99.90%
0-120	1217.45	87.46%	99.90%
0-180	1218.71	87.55%	100.00%
60-90	27.83	2.00%	2.28%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-36.43	974.97	70.04%	80.00%

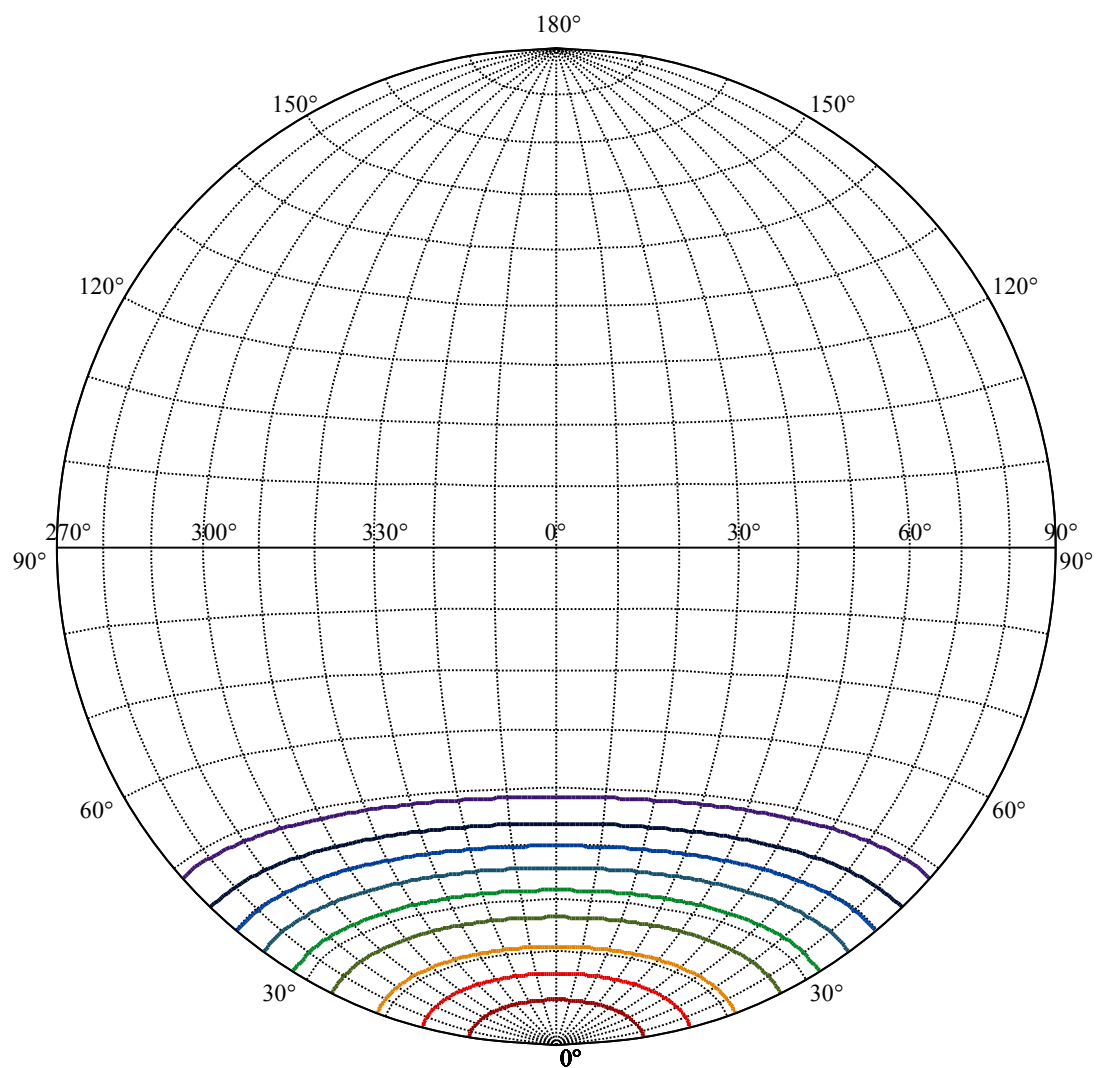
ZONAL LUMEN SUMMARY

0-10	159.54
10-20	288.00
20-30	339.79
30-40	273.70
40-50	110.29
50-60	25.71
60-70	9.83
70-80	7.48
80-90	3.12
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









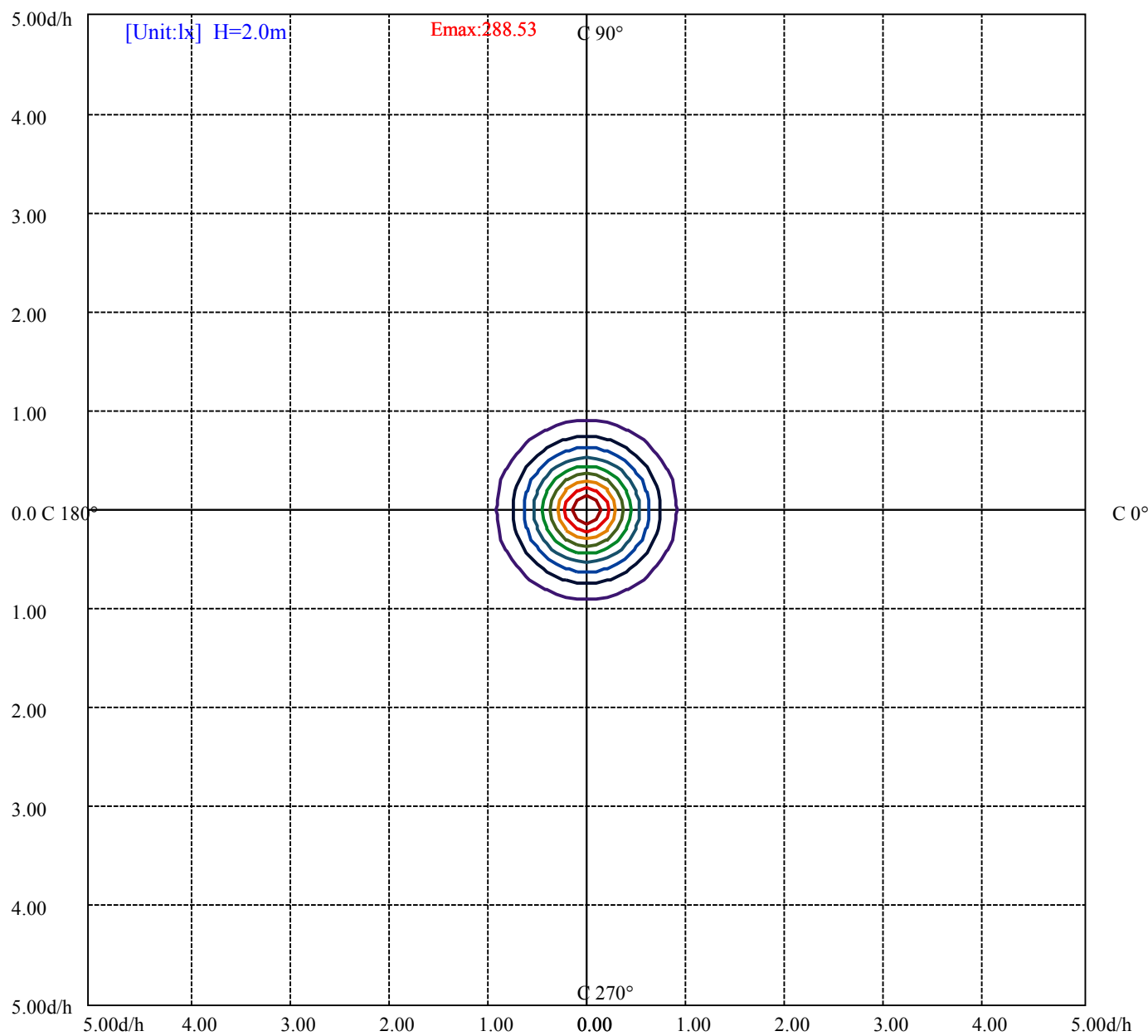
House

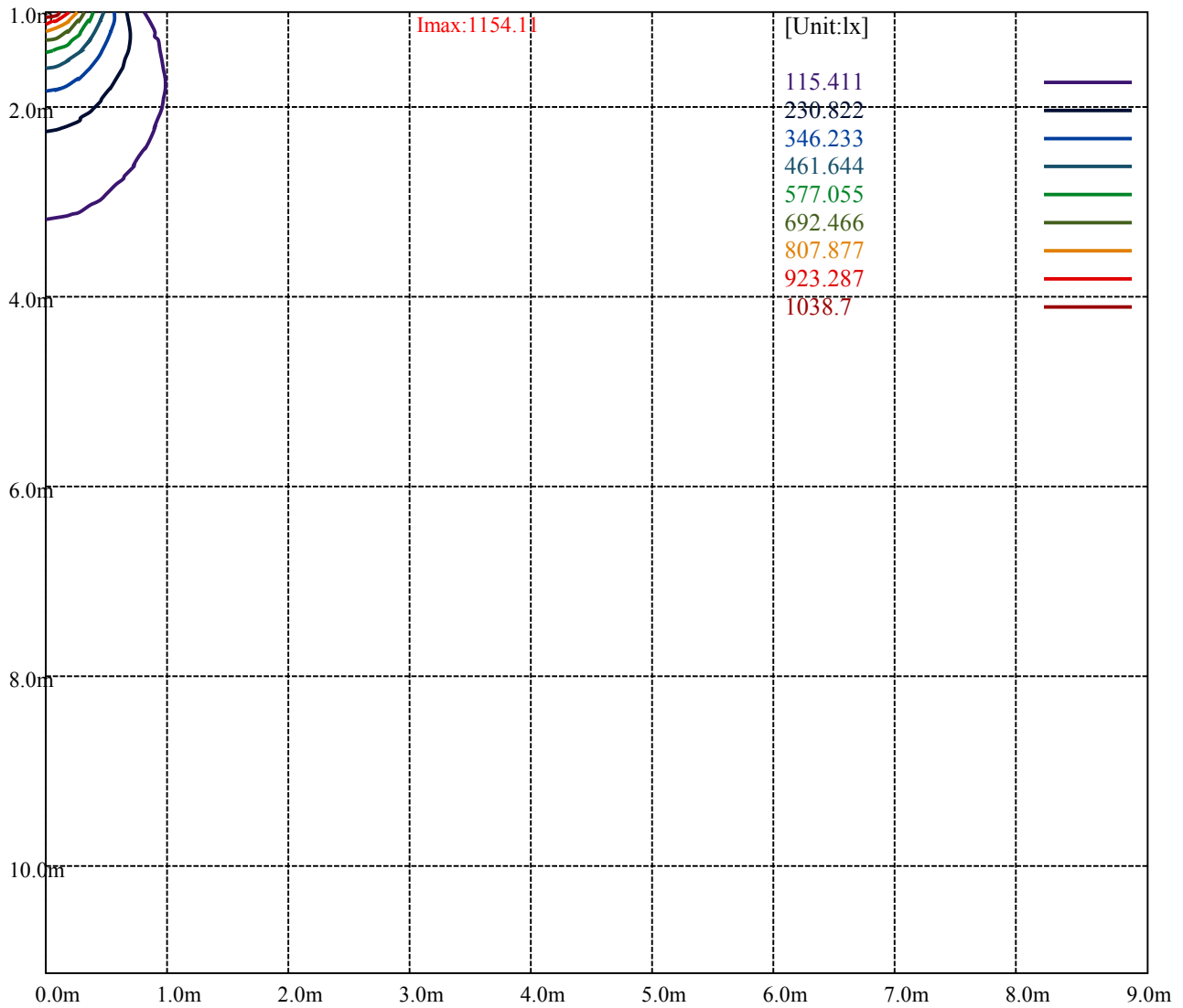
[Unit:cd]

Road

I_{max}:1154.11

(10%I _{max})	115.411	—
(20%I _{max})	230.822	—
(30%I _{max})	346.233	—
(40%I _{max})	461.644	—
(50%I _{max})	577.055	—
(60%I _{max})	692.466	—
(70%I _{max})	807.877	—
(80%I _{max})	923.287	—
(90%I _{max})	1038.7	—





Luminance Table

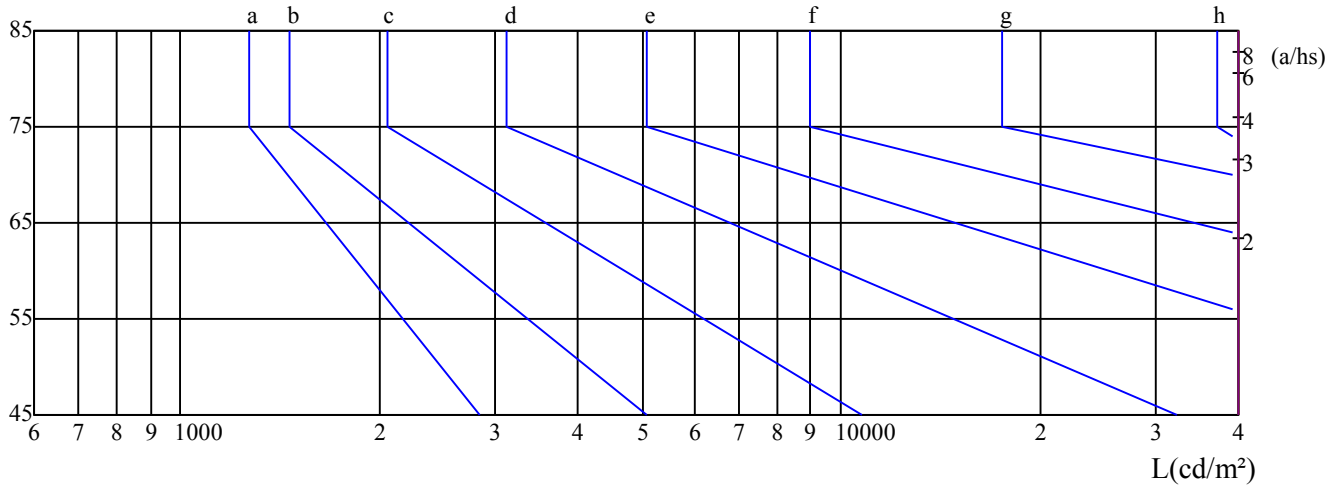
γ	45	50	55	60	65	70	75	80	85
C0	631458	285348	161197	70695	57042	58551	65668	84931	148544
C45	631458	285348	161197	70695	57042	58551	65668	84931	148544
C90	631458	285348	161197	70695	57042	58551	65668	84931	148544

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
57042	57042	57042	65668	65668	65668	148544	148544	148544

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

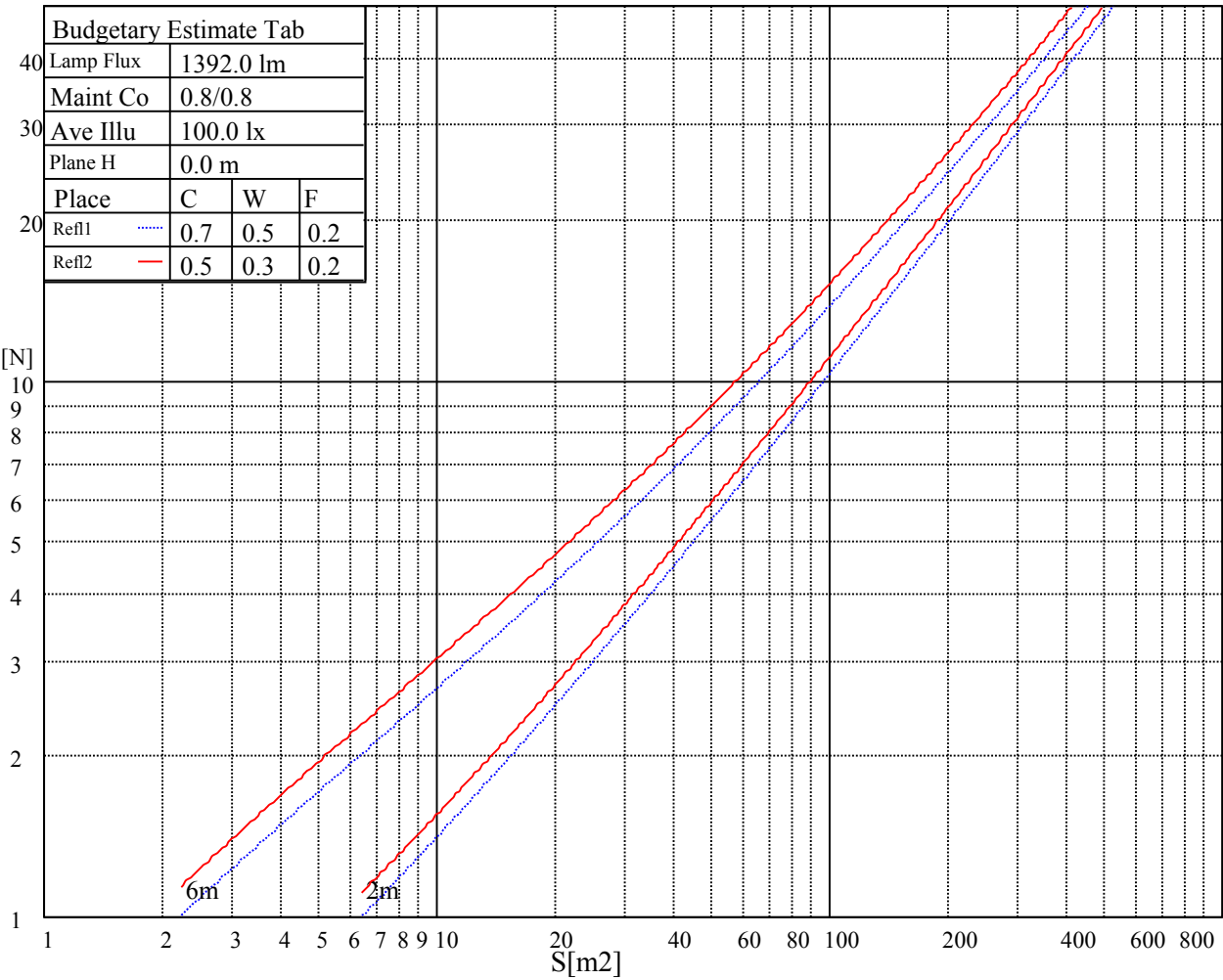
 $\gamma(^{\circ})$ 

C0 ———

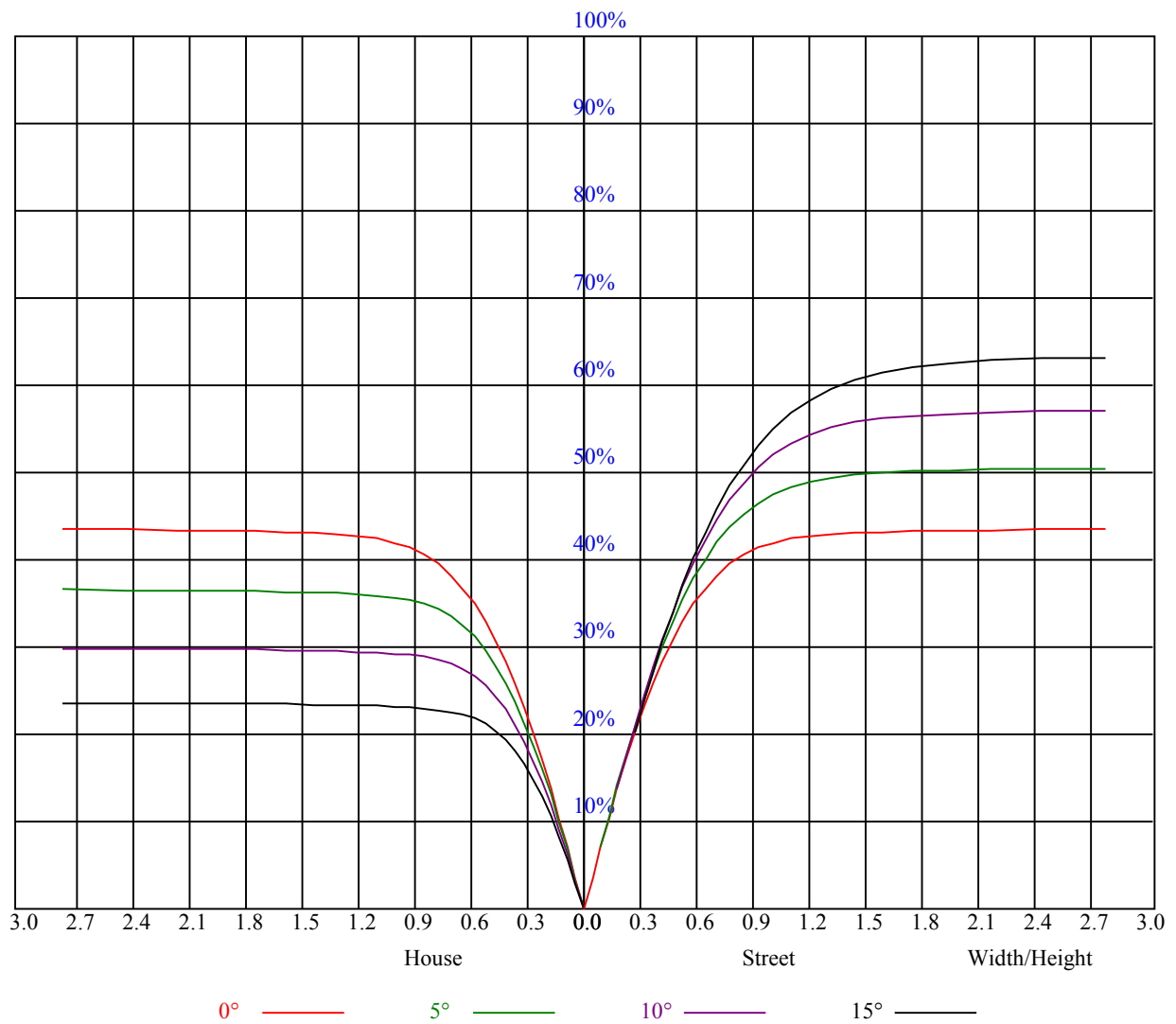
C45 ———

C90 ———

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	21.36	22.49	21.73	22.80	23.11	22.10	23.22	22.46	23.53	23.85
	3H	21.97	22.95	22.35	23.29	23.65	22.56	23.55	22.95	23.88	24.25
	4H	22.40	23.31	22.81	23.67	24.05	22.91	23.82	23.31	24.17	24.56
	6H	22.98	23.82	23.40	24.19	24.58	23.40	24.24	23.82	24.61	25.01
	8H	23.34	24.13	23.78	24.52	24.93	23.74	24.53	24.18	24.92	25.33
	12H	24.05	24.80	24.48	25.19	25.62	24.43	25.18	24.87	25.57	26.00
4H	2H	21.37	22.28	21.77	22.64	23.02	22.05	22.97	22.46	23.32	23.71
	3H	22.23	22.97	22.65	23.38	23.79	22.75	23.49	23.16	23.90	24.30
	4H	22.85	23.52	23.29	23.94	24.38	23.26	23.92	23.70	24.35	24.79
	6H	23.60	24.17	24.07	24.62	25.09	23.93	24.50	24.40	24.95	25.42
	8H	24.12	24.65	24.60	25.10	25.58	24.43	24.96	24.90	25.41	25.88
	12H	24.95	25.41	25.44	25.90	26.38	25.25	25.72	25.74	26.20	26.68
8H	4H	23.07	23.61	23.55	24.05	24.53	23.44	23.97	23.92	24.42	24.90
	6H	24.09	24.51	24.59	25.01	25.50	24.36	24.79	24.87	25.29	25.77
	8H	24.79	25.18	25.32	25.70	26.20	25.05	25.43	25.57	25.95	26.45
	12H	25.94	26.28	26.46	26.78	27.35	26.19	26.53	26.71	27.03	27.61
12H	4H	23.12	23.58	23.61	24.07	24.55	23.48	23.94	23.97	24.43	24.90
	6H	24.62	24.61	24.76	25.08	25.63	24.88	24.87	25.02	25.34	25.89
	8H	25.05	25.39	25.57	25.89	26.47	25.28	25.62	25.80	26.12	26.70
Variation with the observer position at spacings:											
S = 1.0H		2.4/-6.1					2.4/-6.1				
S = 1.5H		4.7/-7.4					4.7/-7.4				
S = 2.0H		6.7/-6.6					6.7/-6.6				
Standard tables:		BK1					BK1				
Uncorrected UGR		12.7					12.7				



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 RHOFC=20 CU															
0	1.05	1.05	1.05	1.02	1.02	1.02	0.98	0.98	0.98	0.94	0.94	0.94	0.90	0.90	0.90	0.88
1	0.96	0.94	0.92	0.94	0.92	0.90	0.91	0.89	0.87	0.87	0.86	0.85	0.84	0.83	0.82	0.81
2	0.89	0.85	0.82	0.88	0.84	0.81	0.85	0.82	0.79	0.82	0.80	0.78	0.80	0.78	0.76	0.74
3	0.83	0.78	0.74	0.82	0.77	0.74	0.79	0.76	0.73	0.77	0.74	0.71	0.75	0.72	0.70	0.69
4	0.77	0.72	0.68	0.76	0.71	0.67	0.74	0.70	0.67	0.72	0.69	0.66	0.71	0.68	0.65	0.64
5	0.72	0.66	0.62	0.71	0.66	0.62	0.69	0.65	0.62	0.68	0.64	0.61	0.67	0.63	0.61	0.59
6	0.67	0.62	0.58	0.67	0.61	0.58	0.65	0.61	0.57	0.64	0.60	0.57	0.63	0.59	0.56	0.55
7	0.63	0.58	0.54	0.63	0.57	0.54	0.61	0.57	0.53	0.60	0.56	0.53	0.59	0.56	0.53	0.51
8	0.59	0.54	0.50	0.59	0.54	0.50	0.58	0.53	0.50	0.57	0.53	0.50	0.56	0.52	0.49	0.48
9	0.56	0.51	0.47	0.56	0.50	0.47	0.55	0.50	0.47	0.54	0.50	0.47	0.53	0.49	0.46	0.45
10	0.53	0.48	0.44	0.53	0.47	0.44	0.52	0.47	0.44	0.51	0.47	0.44	0.50	0.47	0.44	0.43



NATA 1547-E

Intensity data(cd)									
Appendix Page: 15 Total:15									
C/ γ (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	1147.50	1141.31	1073.25	977.63	871.31	773.44	667.13	549.00	404.44
45.0	1152.00	1136.25	1062.00	961.31	842.63	732.94	636.75	506.25	363.94
90.0	1159.31	1108.46	1020.54	909.00	795.88	697.95	594.45	444.26	301.56
135.0	1157.63	1107.00	1023.19	906.75	800.44	707.63	610.31	464.63	327.38
180.0	1147.50	1092.54	992.87	885.32	784.41	689.23	595.29	452.98	302.29
225.0	1152.00	1109.70	1020.60	907.82	805.78	704.48	605.87	451.41	316.58
270.0	1159.31	1140.19	1074.94	977.63	866.25	758.25	653.06	516.94	364.50
315.0	1157.63	1120.78	1066.78	964.07	855.23	745.54	645.19	509.79	357.98
360.0	1147.50	1141.31	1073.25	977.63	871.31	773.44	667.13	549.00	404.44
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	290.25	111.99	54.39	22.95	11.03	9.06	7.59	6.47	5.57
45.0	210.77	99.73	48.88	17.38	10.63	8.78	7.43	6.47	5.57
90.0	164.08	67.50	37.69	13.22	10.13	8.61	7.37	6.30	5.46
135.0	177.19	71.49	39.54	14.18	10.86	8.94	7.59	6.53	5.68
180.0	148.33	62.21	34.65	13.11	10.41	8.66	7.31	6.64	6.13
225.0	162.23	60.98	30.88	13.22	10.29	8.72	7.43	6.64	6.19
270.0	209.87	85.33	38.03	16.26	11.14	9.17	7.88	6.64	5.57
315.0	212.57	87.86	42.13	14.40	10.58	8.72	7.37	6.36	5.51
360.0	290.25	111.99	54.39	22.95	11.03	9.06	7.59	6.47	5.57
C/ γ (°)	90.0								
0.0	4.44								
45.0	4.50								
90.0	4.56								
135.0	4.73								
180.0	4.84								
225.0	4.73								
270.0	4.50								
315.0	4.50								
360.0	4.44								