



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: 1677-N
Luminaire: 92.70.188.00+92.70.147.00
Report No: NATA0100
Test No: GC2019011115
LampCAT: LUMILEDS LUXEON 1203
Lamp flux(lm): 1246.0
Number of Lamps: 1
Length(mm): 46
Phm Type: C

Voltage(V): 35.4000
Current(A): 0.3000
Power (W): 10.6200
PF: 0.0000
Ballast type: DC
Width(mm): 46
Height(mm): 0

Photometric Results

Lumens(lm): 1028.22
Efficiency(%): 82.52%
Lumens(lm)/Power(W): 98.37
Central intensity(cd): 2922.328
Maximum intensity(cd): 2922.328
Angle of maximum intensity: $C=0.0$ $\gamma=0.0$
Beam Angle(50%Imax): [C0/180]Total=28.3
[C90/270]Total=28.3
Field angle(10%Imax): [C0/180]Total=59.3
[C90/270]Total=59.3
Maximum s/h(1/2): C0_180=0.48 C90_270=0.48
Maximum s/h(1/4): C0_180=0.48 C90_270=0.48
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 83.85%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 95.931%

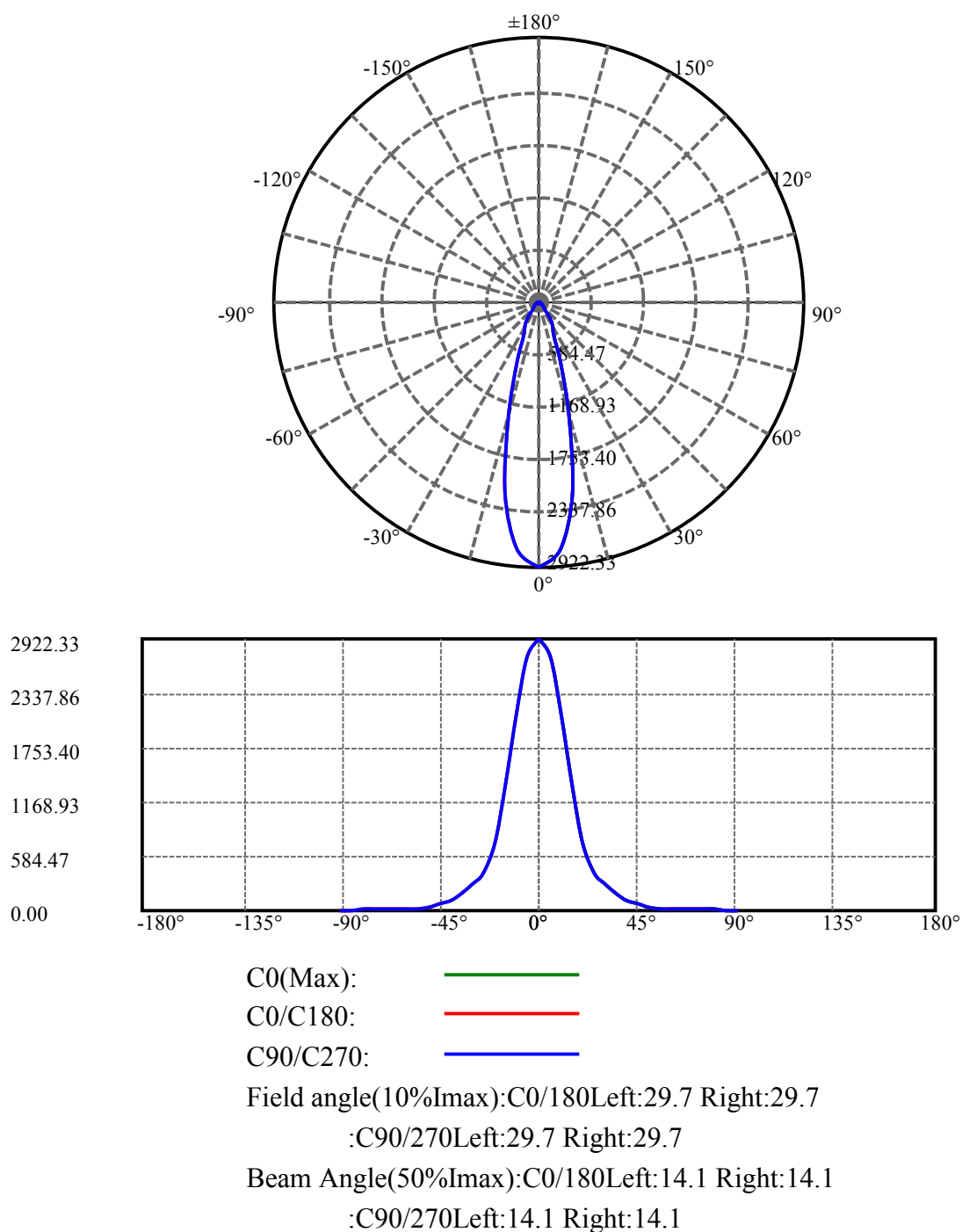
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2922.328	17.476	17.476	1.403%	1.700%
5.0	2723.063	130.090	147.566	10.441%	14.352%
10.0	2137.008	203.407	350.973	16.325%	34.134%
15.0	1318.184	187.009	537.981	15.009%	52.322%
20.0	720.253	135.029	673.01	10.837%	65.454%
25.0	408.171	94.554	767.564	7.589%	74.650%
30.0	284.063	77.853	845.417	6.248%	82.222%
35.0	184.423	57.982	903.399	4.653%	87.861%
40.0	115.770	40.790	944.189	3.274%	91.828%
45.0	66.495	25.773	969.962	2.068%	94.334%
50.0	39.614	16.634	986.595	1.335%	95.952%
55.0	23.288	10.456	997.052	.839%	96.969%
60.0	10.863	5.157	1002.208	.414%	97.470%
65.0	9.281	4.611	1006.819	.370%	97.919%
70.0	9.260	4.770	1011.589	.383%	98.383%
75.0	9.499	5.029	1016.618	.404%	98.872%
80.0	10.512	5.674	1022.293	.455%	99.424%
85.0	8.726	4.765	1027.057	.382%	99.887%
90.0	4.233	1.160	1028.218	.093%	100.000%

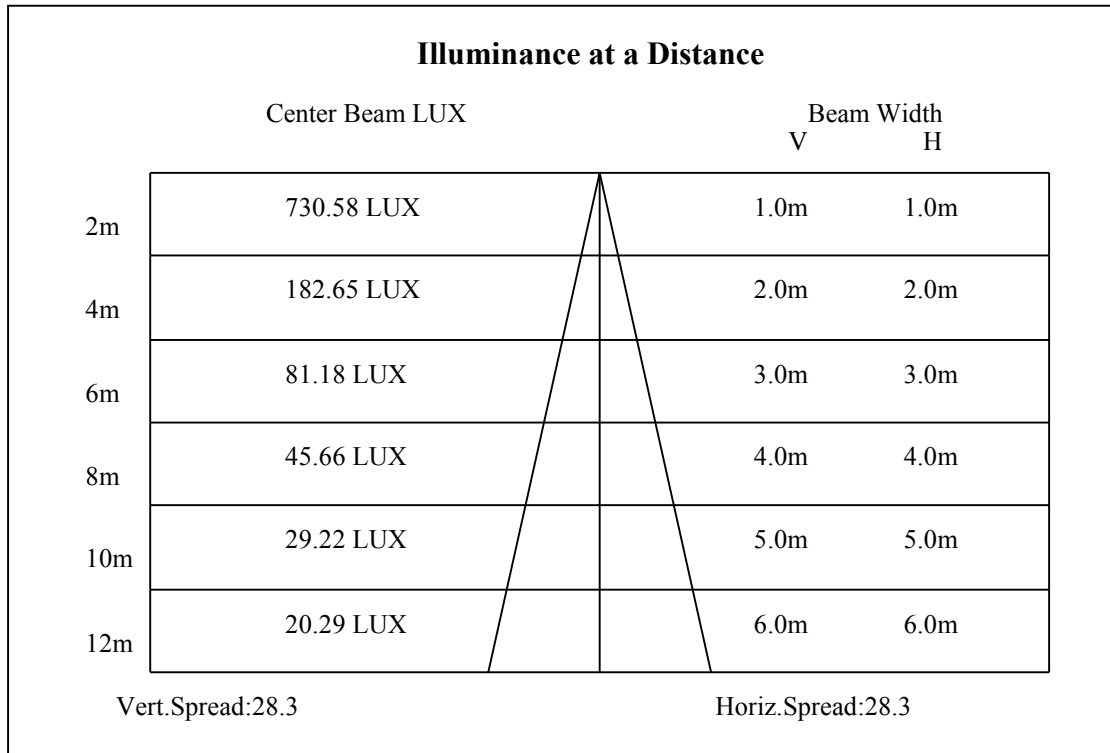
ZONAL LUMEN SUMMARY

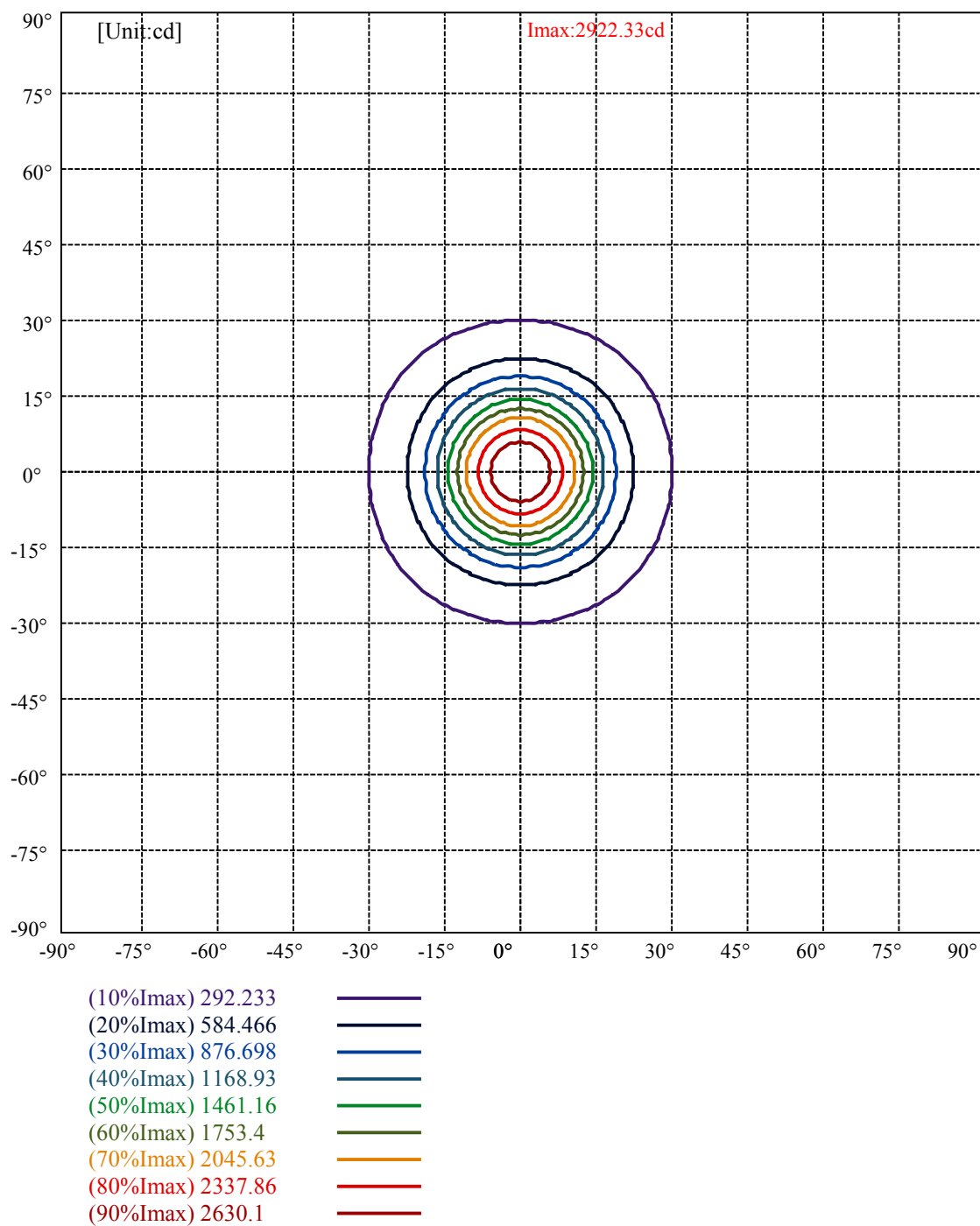
Zone	Lumens	%Lamp	%Fixt
0-30	845.42	67.85%	82.22%
0-40	944.19	75.78%	91.83%
0-60	1002.21	80.43%	97.47%
0-90	1027.06	82.43%	99.89%
0-120	1027.06	82.43%	99.89%
0-180	1028.22	82.52%	100.00%
60-90	30.01	2.41%	2.92%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-28.53	822.57	66.02%	80.00%

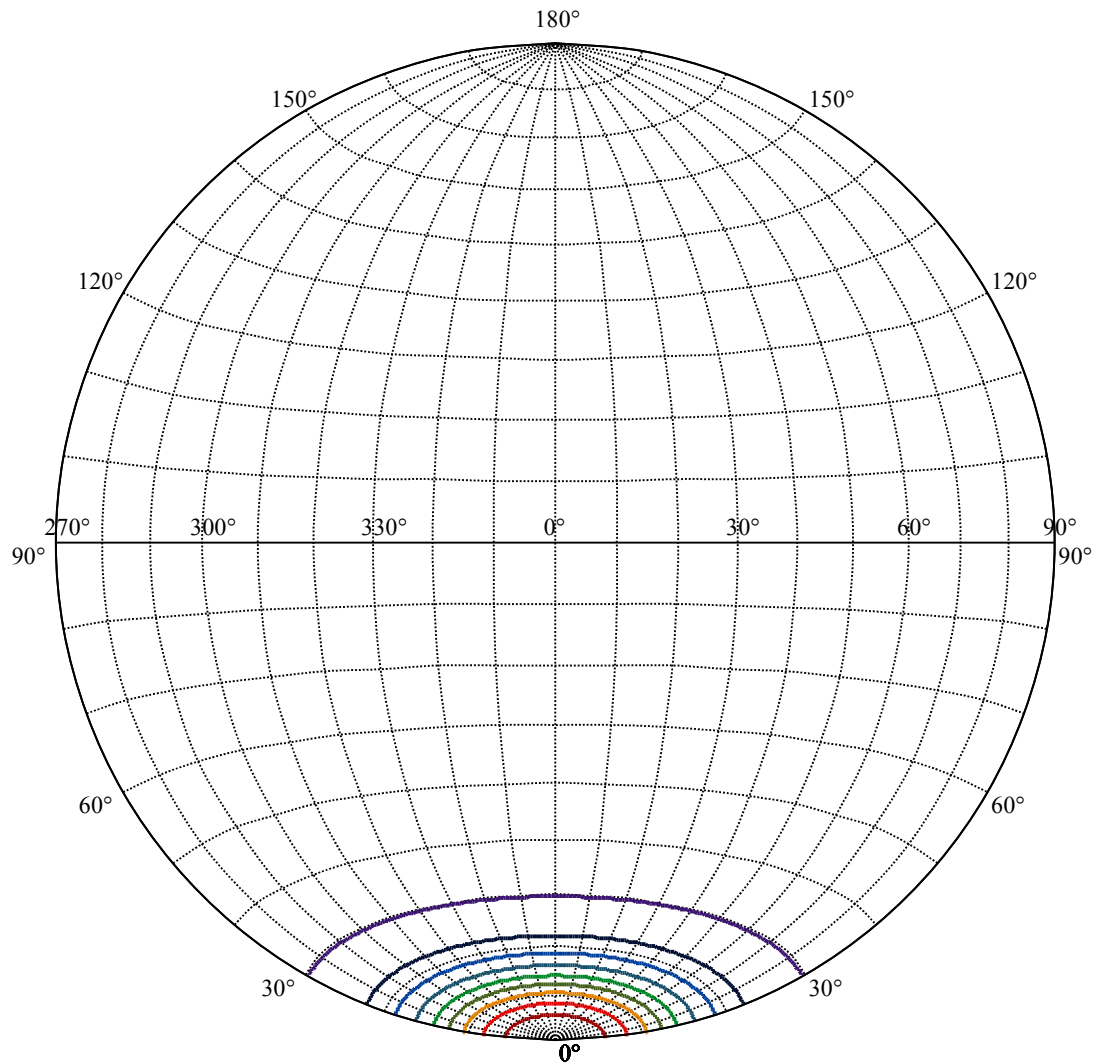
ZONAL LUMEN SUMMARY

0-10	350.97
10-20	322.04
20-30	172.41
30-40	98.77
40-50	42.41
50-60	15.61
60-70	9.38
70-80	10.70
80-90	4.76
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







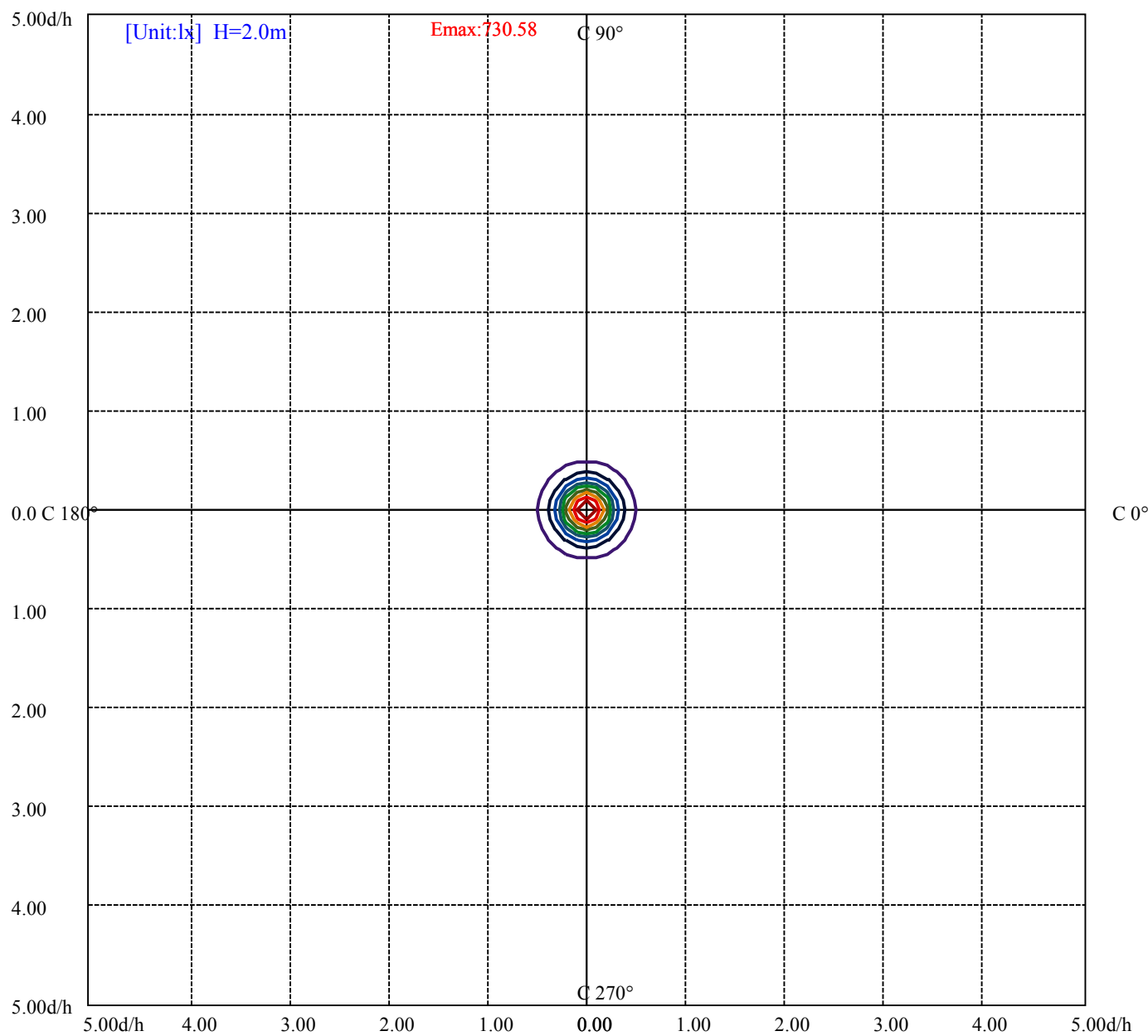


House

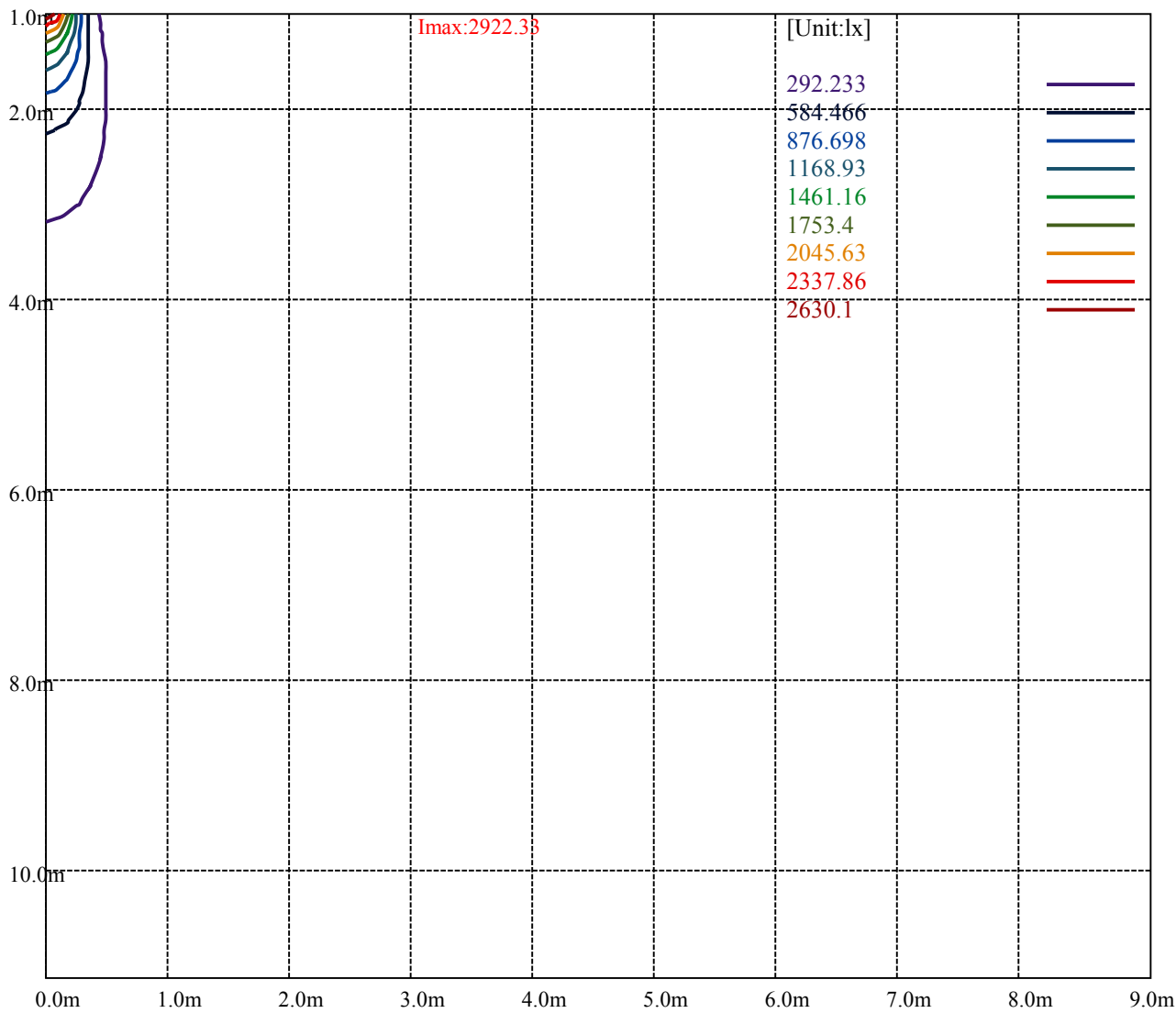
[Unit:cd]

Road

I_{max}:2922.33(10%I_{max}) 292.233(20%I_{max}) 584.466(30%I_{max}) 876.698(40%I_{max}) 1168.93(50%I_{max}) 1461.16(60%I_{max}) 1753.4(70%I_{max}) 2045.63(80%I_{max}) 2337.86(90%I_{max}) 2630.1



(10%E _{max}) 73.058	—
(20%E _{max}) 146.116	—
(30%E _{max}) 219.1743	—
(40%E _{max}) 292.2325	—
(50%E _{max}) 365.29	—
(60%E _{max}) 438.3475	—
(70%E _{max}) 511.4075	—
(80%E _{max}) 584.465	—
(90%E _{max}) 657.5225	—



Luminance Table

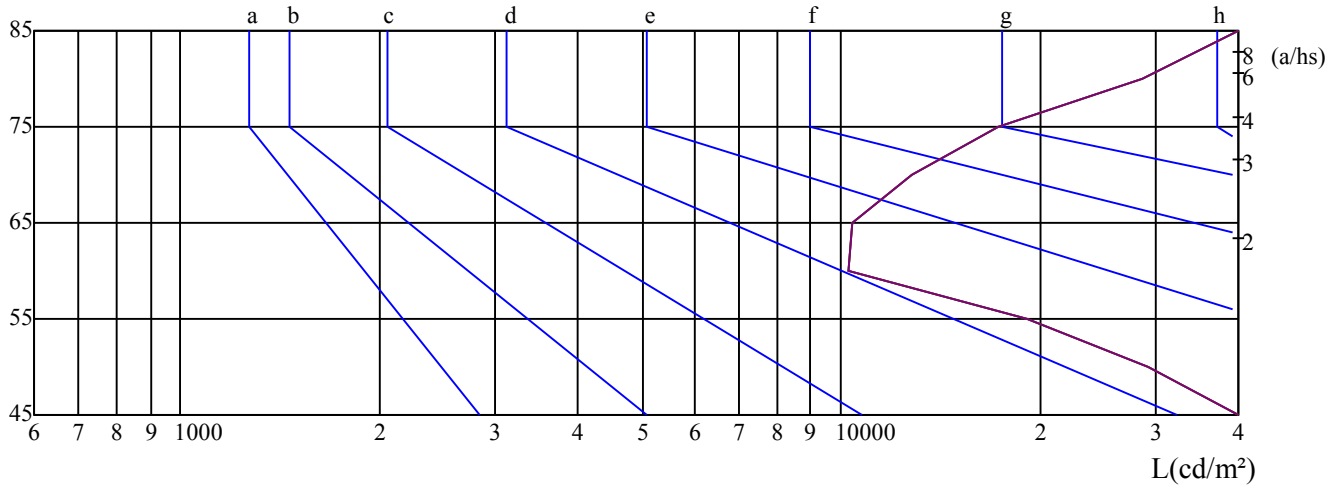
γ	45	50	55	60	65	70	75	80	85
C0	44441	29125	19187	10268	10379	12795	17345	28608	47314
C45	44441	29125	19187	10268	10379	12795	17345	28608	47314
C90	44441	29125	19187	10268	10379	12795	17345	28608	47314

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
10379	10379	10379	17345	17345	17345	47314	47314	47314

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

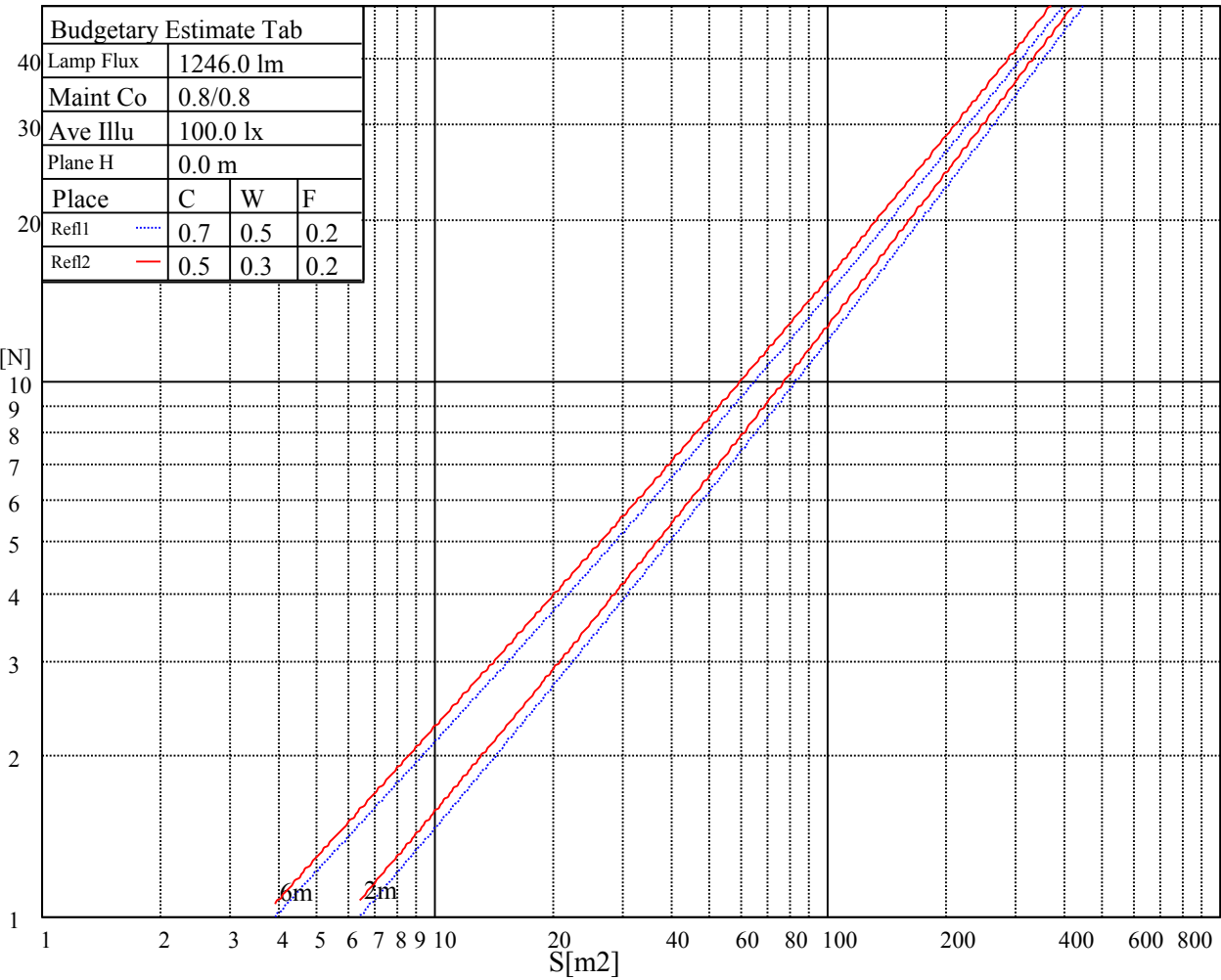
 $\gamma(^{\circ})$ 

C0 ———

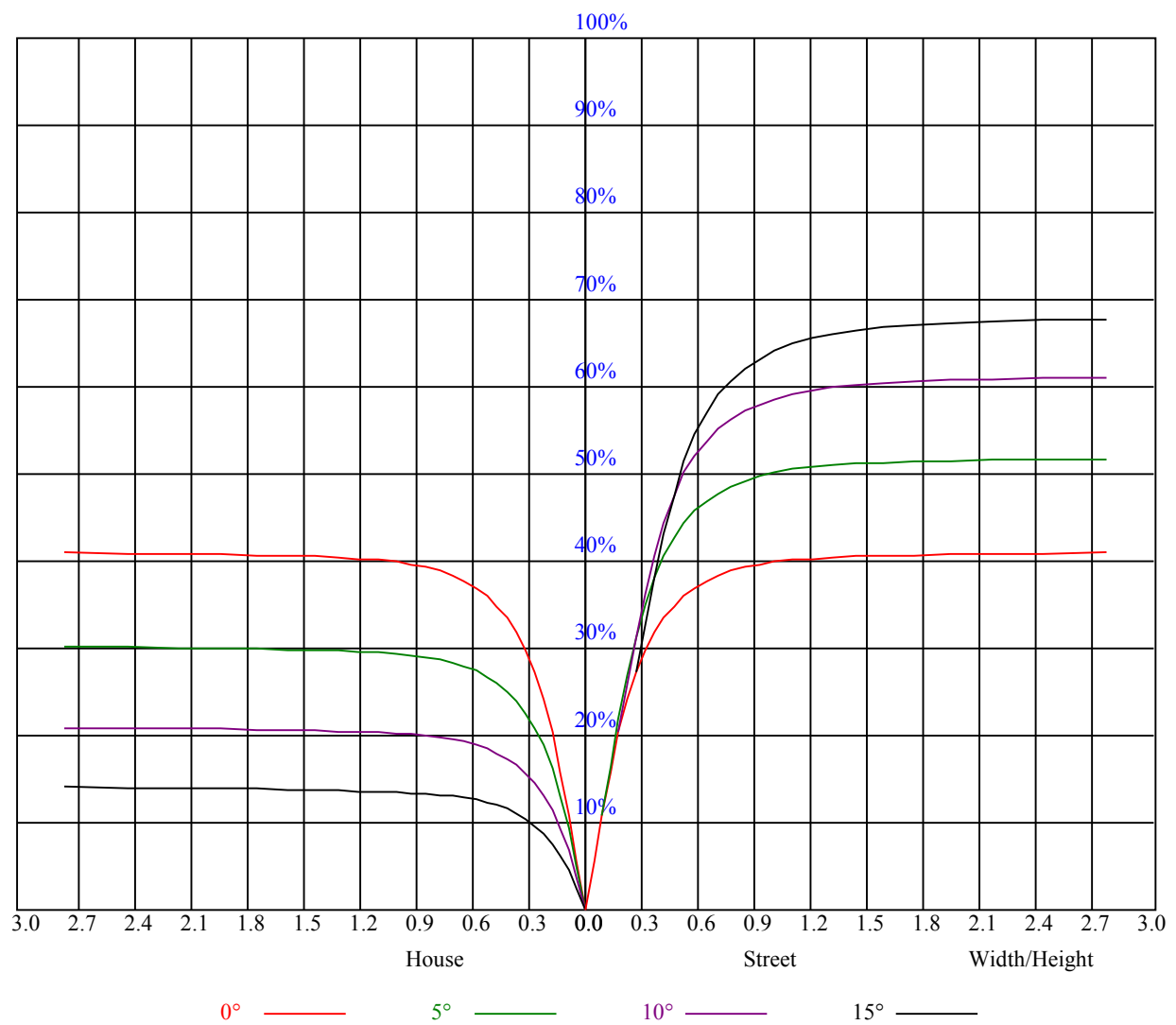
C45 ———

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	14.03	15.06	14.40	15.37	15.69	14.25	15.27	14.61	15.58	15.90
	3H	15.43	16.33	15.81	16.66	17.03	15.70	16.60	16.08	16.94	17.31
	4H	16.59	17.43	17.00	17.78	18.17	16.94	17.78	17.35	18.14	18.53
	6H	18.37	19.14	18.79	19.51	19.91	18.74	19.51	19.15	19.88	20.28
	8H	19.31	20.04	19.75	20.43	20.84	19.63	20.35	20.06	20.74	21.15
	12H	20.69	21.38	21.12	21.76	22.20	20.87	21.56	21.30	21.94	22.37
4H	2H	14.24	15.08	14.64	15.43	15.82	14.42	15.26	14.83	15.61	16.00
	3H	16.11	16.80	16.53	17.21	17.62	16.36	17.05	16.77	17.45	17.86
	4H	17.60	18.22	18.04	18.64	19.09	17.92	18.53	18.36	18.96	19.41
	6H	19.39	19.92	19.86	20.37	20.84	19.72	20.25	20.19	20.70	21.17
	8H	20.57	21.07	21.05	21.52	21.99	20.84	21.34	21.32	21.79	22.26
	12H	21.98	22.41	22.47	22.90	23.38	22.12	22.55	22.61	23.04	23.52
8H	4H	18.32	18.81	18.79	19.26	19.74	18.56	19.06	19.04	19.51	19.98
	6H	20.54	20.94	21.05	21.44	21.92	20.78	21.18	21.29	21.68	22.17
	8H	21.88	22.24	22.41	22.76	23.25	22.07	22.43	22.61	22.95	23.45
	12H	23.40	23.71	23.92	24.20	24.78	23.48	23.79	24.01	24.29	24.87
12H	4H	18.56	18.99	19.05	19.48	19.96	18.78	19.21	19.27	19.70	20.17
	6H	21.24	21.27	21.45	21.74	22.29	21.45	21.48	21.66	21.96	22.50
	8H	22.38	22.69	22.90	23.19	23.76	22.54	22.85	23.06	23.35	23.93
Variation with the observer position at spacings:											
S = 1.0H		2.3/-2.7					2.3/-2.7				
S = 1.5H		3.2/-2.3					3.2/-2.3				
S = 2.0H		4.0/-1.8					4.0/-1.8				
Standard tables:		BKBF					BKBF				
Uncorrected UGR		7.4					7.4				



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	1.00	1.00	1.00	0.97	0.97	0.97	0.93	0.93	0.93	0.89	0.89	0.89	0.86	0.86	0.86	0.84
1	0.92	0.89	0.87	0.90	0.88	0.86	0.86	0.85	0.83	0.83	0.82	0.81	0.80	0.79	0.78	0.77
2	0.86	0.83	0.80	0.85	0.82	0.79	0.82	0.80	0.77	0.80	0.78	0.76	0.77	0.76	0.74	0.73
3	0.82	0.78	0.75	0.81	0.77	0.74	0.78	0.75	0.73	0.76	0.74	0.72	0.75	0.72	0.71	0.69
4	0.78	0.73	0.70	0.77	0.73	0.70	0.75	0.72	0.69	0.73	0.71	0.68	0.72	0.69	0.67	0.66
5	0.74	0.70	0.67	0.73	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.65	0.69	0.67	0.65	0.64
6	0.71	0.67	0.64	0.70	0.66	0.63	0.69	0.66	0.63	0.68	0.65	0.63	0.67	0.64	0.62	0.61
7	0.68	0.64	0.61	0.68	0.64	0.61	0.67	0.63	0.60	0.66	0.63	0.60	0.65	0.62	0.60	0.59
8	0.66	0.61	0.59	0.65	0.61	0.58	0.64	0.61	0.58	0.64	0.60	0.58	0.63	0.60	0.58	0.57
9	0.63	0.59	0.56	0.63	0.59	0.56	0.62	0.59	0.56	0.62	0.58	0.56	0.61	0.58	0.56	0.55
10	0.61	0.57	0.55	0.61	0.57	0.54	0.60	0.57	0.54	0.60	0.56	0.54	0.59	0.56	0.54	0.53



NATA 1677-N

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	3071.25	2911.50	2360.81	1573.88	825.75	466.88	323.44	211.73	135.62	
45.0	2930.06	2701.13	2114.44	1366.88	680.63	396.00	286.88	179.78	109.52	
90.0	2889.00	2593.69	1920.38	1104.64	573.53	344.42	233.21	154.69	94.78	
135.0	2799.00	2589.19	2019.38	1311.75	659.81	378.00	285.75	170.61	107.04	
180.0	3071.25	2810.81	2098.13	1115.38	688.16	405.00	279.45	183.88	113.51	
225.0	2930.06	2766.38	2204.44	1332.56	750.54	425.14	287.44	189.73	120.54	
270.0	2889.00	2804.06	2308.50	1643.06	899.44	453.38	300.94	201.21	127.63	
315.0	2799.00	2607.75	2070.00	1097.33	684.17	396.56	275.40	183.77	117.51	
360.0	3071.25	2911.50	2360.81	1573.88	825.75	466.88	323.44	211.73	135.62	
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0	
0.0	77.85	45.79	27.62	11.76	9.62	9.73	10.01	10.63	10.13	
45.0	63.06	38.31	22.56	10.01	9.06	9.11	9.45	10.13	10.24	
90.0	53.49	31.56	18.11	9.34	8.66	8.49	8.83	9.96	5.74	
135.0	63.17	37.86	21.94	10.52	9.23	9.11	9.45	9.39	8.27	
180.0	65.87	39.04	21.21	9.96	9.17	9.51	9.84	10.46	5.01	
225.0	67.89	39.77	24.53	10.74	9.23	9.23	9.28	13.28	10.58	
270.0	73.46	44.04	26.27	12.99	9.39	9.11	9.23	10.07	10.07	
315.0	67.16	40.56	24.08	11.59	9.90	9.79	9.90	10.18	9.79	
360.0	77.85	45.79	27.62	11.76	9.62	9.73	10.01	10.63	10.13	
C/γ(°)	90.0									
0.0	4.61									
45.0	4.44									
90.0	4.28									
135.0	4.05									
180.0	4.11									
225.0	4.22									
270.0	4.05									
315.0	4.11									
360.0	4.61									