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NATA

LumCAT: 2-1740-M	
Luminaire: 92.70.136.00	
Report No: NATA0100	Voltage(V): 50.5400
Test No: GC2019021912	Current(A): 0.9000
LampCAT: BRIDGELUX V22B	Power (W): 45.4860
Lamp flux(lm): 6644.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 70	Width(mm): 70
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 5741.67
Efficiency(%): 86.42%
Lumens(lm)/Power(W): 127.75
Central intensity(cd): 12510.000
Maximum intensity(cd): 12510.000
Angle of maximum intensity: $C=0.0$ $\gamma=0.0$
Beam Angle(50%Imax): [C0/180]Total=35.5
[C90/270]Total=35.5
Field angle(10%Imax): [C0/180]Total=70.2
[C90/270]Total=70.2
Maximum s/h(1/2): C0_180=0.60 C90_270=0.60
Maximum s/h(1/4): C0_180=0.57 C90_270=0.57
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 87.46%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.599%

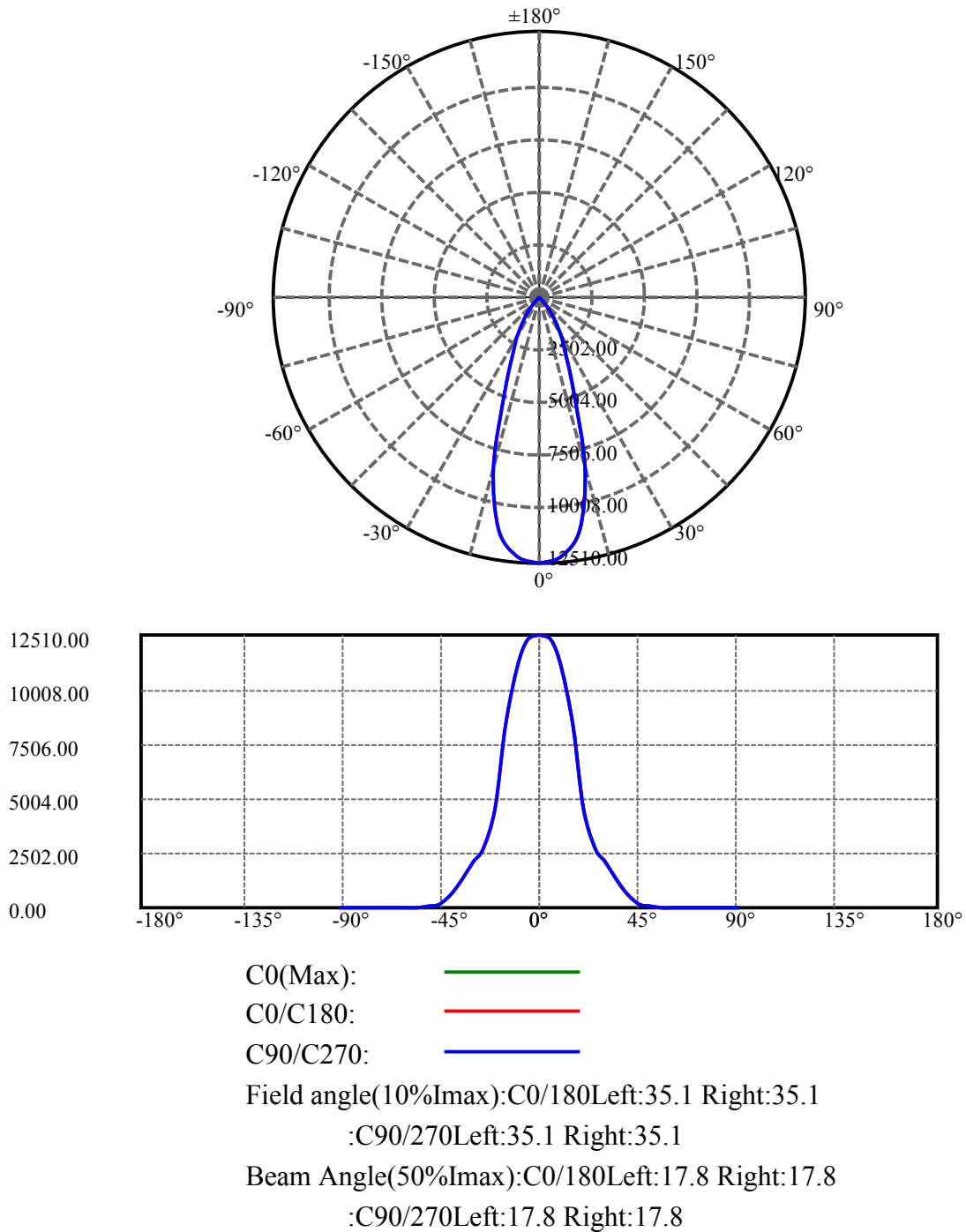
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	12510.000	74.812	74.812	1.126%	1.303%
5.0	12240.703	584.779	659.591	8.802%	11.488%
10.0	11064.305	1053.134	1712.726	15.851%	29.830%
15.0	8277.328	1174.291	2887.017	17.674%	50.282%
20.0	4600.969	862.562	3749.579	12.983%	65.305%
25.0	2750.484	637.158	4386.737	9.590%	76.402%
30.0	2104.102	576.668	4963.405	8.680%	86.445%
35.0	1264.071	397.422	5360.827	5.982%	93.367%
40.0	607.535	214.056	5574.884	3.222%	97.095%
45.0	128.278	49.720	5624.603	.748%	97.961%
50.0	42.054	17.658	5642.262	.266%	98.269%
55.0	33.919	15.230	5657.491	.229%	98.534%
60.0	29.510	14.008	5671.5	.211%	98.778%
65.0	26.691	13.259	5684.759	.200%	99.009%
70.0	24.891	12.821	5697.58	.193%	99.232%
75.0	24.005	12.710	5710.29	.191%	99.453%
80.0	23.491	12.681	5722.97	.191%	99.674%
85.0	23.140	12.636	5735.606	.190%	99.894%
90.0	22.134	6.066	5741.672	.091%	100.000%

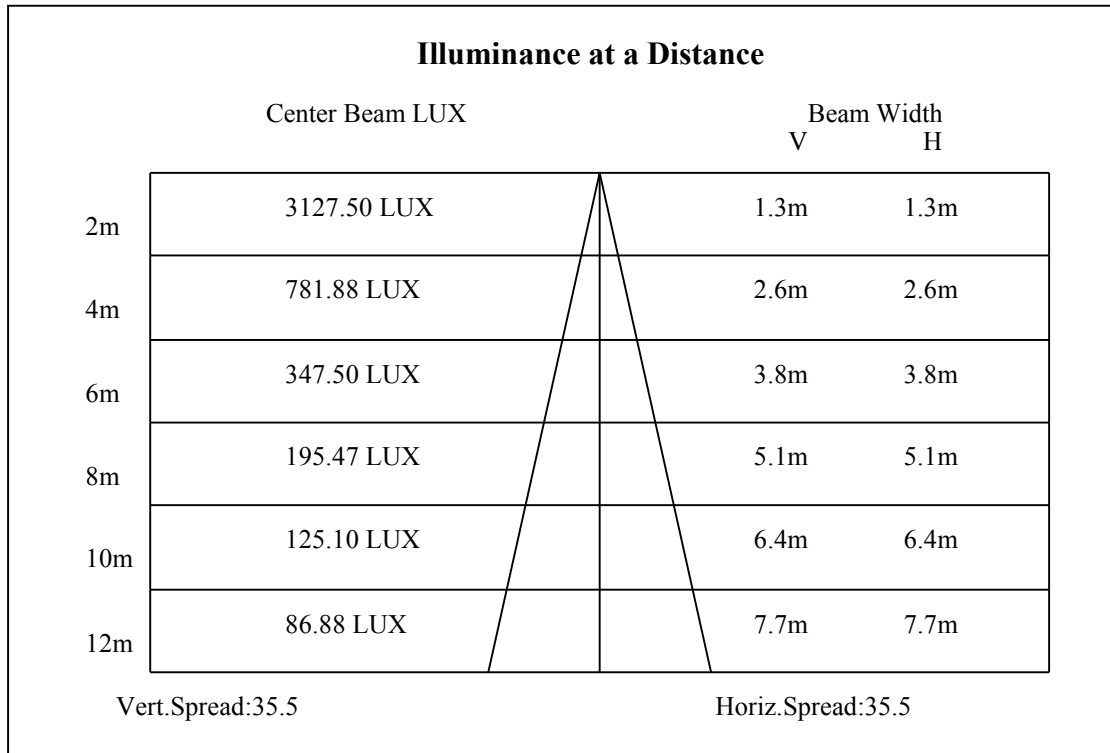
ZONAL LUMEN SUMMARY

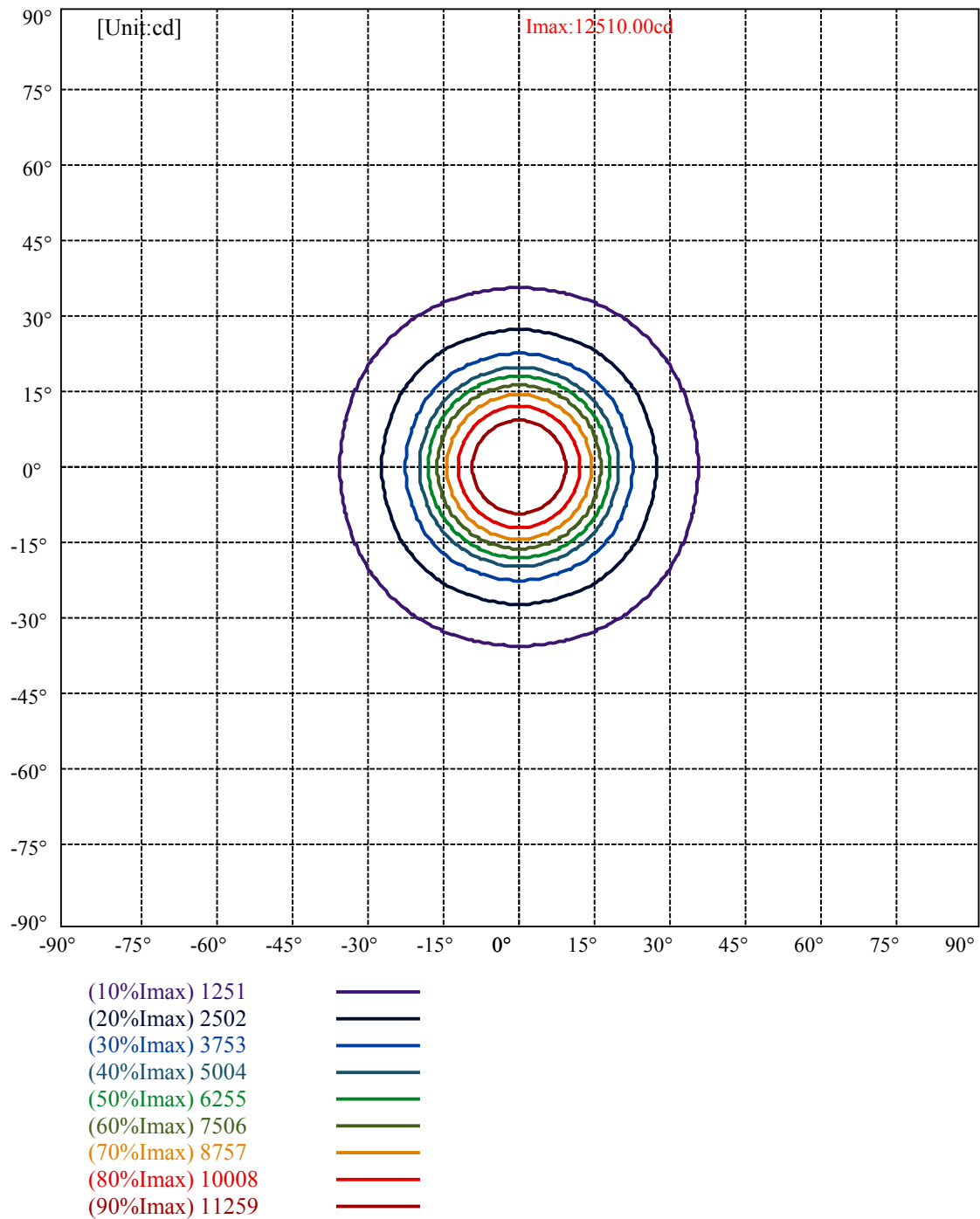
Zone	Lumens	%Lamp	%Fixt
0-30	4963.41	74.71%	86.45%
0-40	5574.88	83.91%	97.10%
0-60	5671.50	85.36%	98.78%
0-90	5735.61	86.33%	99.89%
0-120	5735.61	86.33%	99.89%
0-180	5741.67	86.42%	100.00%
60-90	78.11	1.18%	1.36%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-26.79	4593.34	69.14%	80.00%

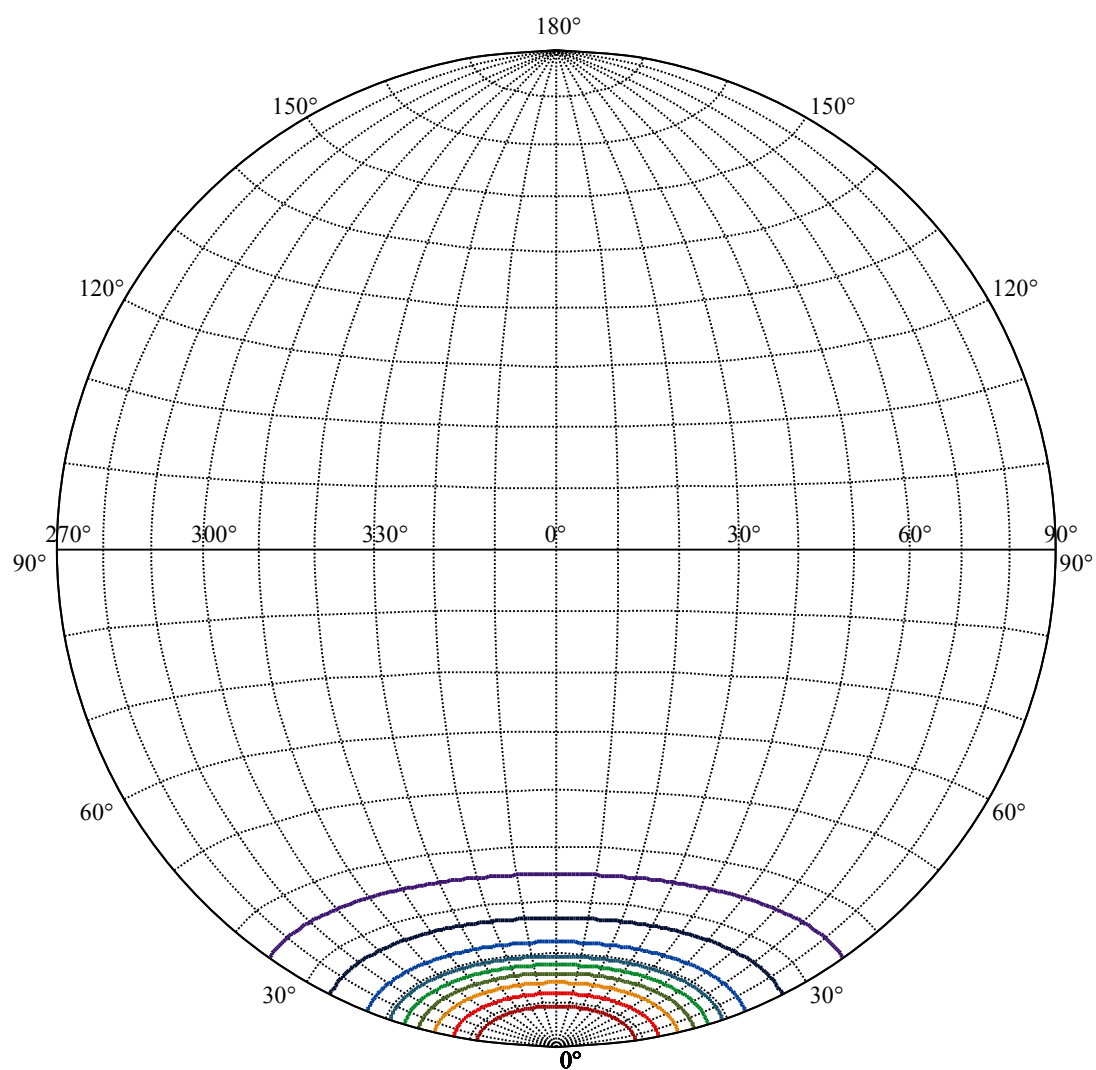
ZONAL LUMEN SUMMARY

0-10	1712.73
10-20	2036.85
20-30	1213.83
30-40	611.48
40-50	67.38
50-60	29.24
60-70	26.08
70-80	25.39
80-90	12.64
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









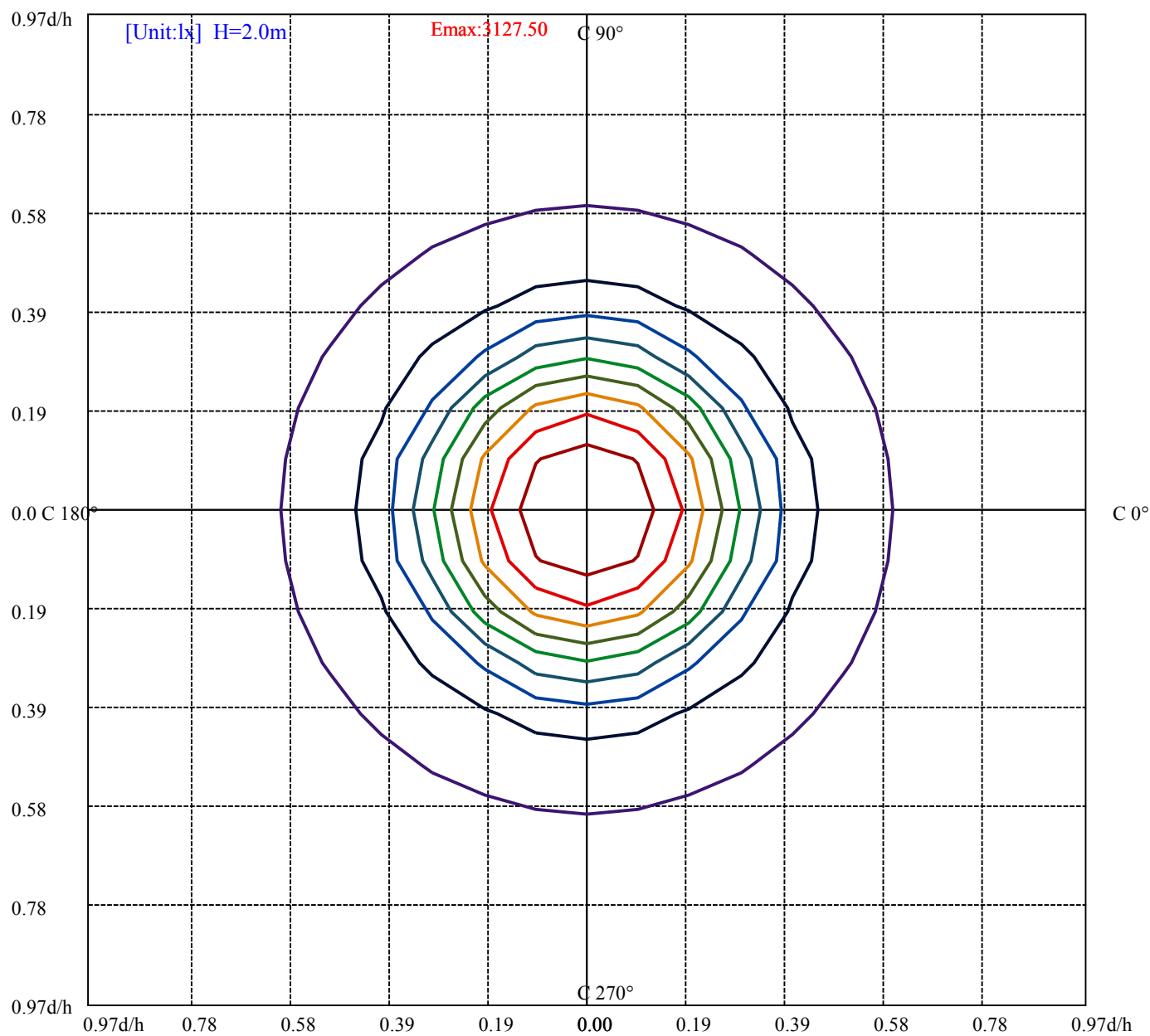
House

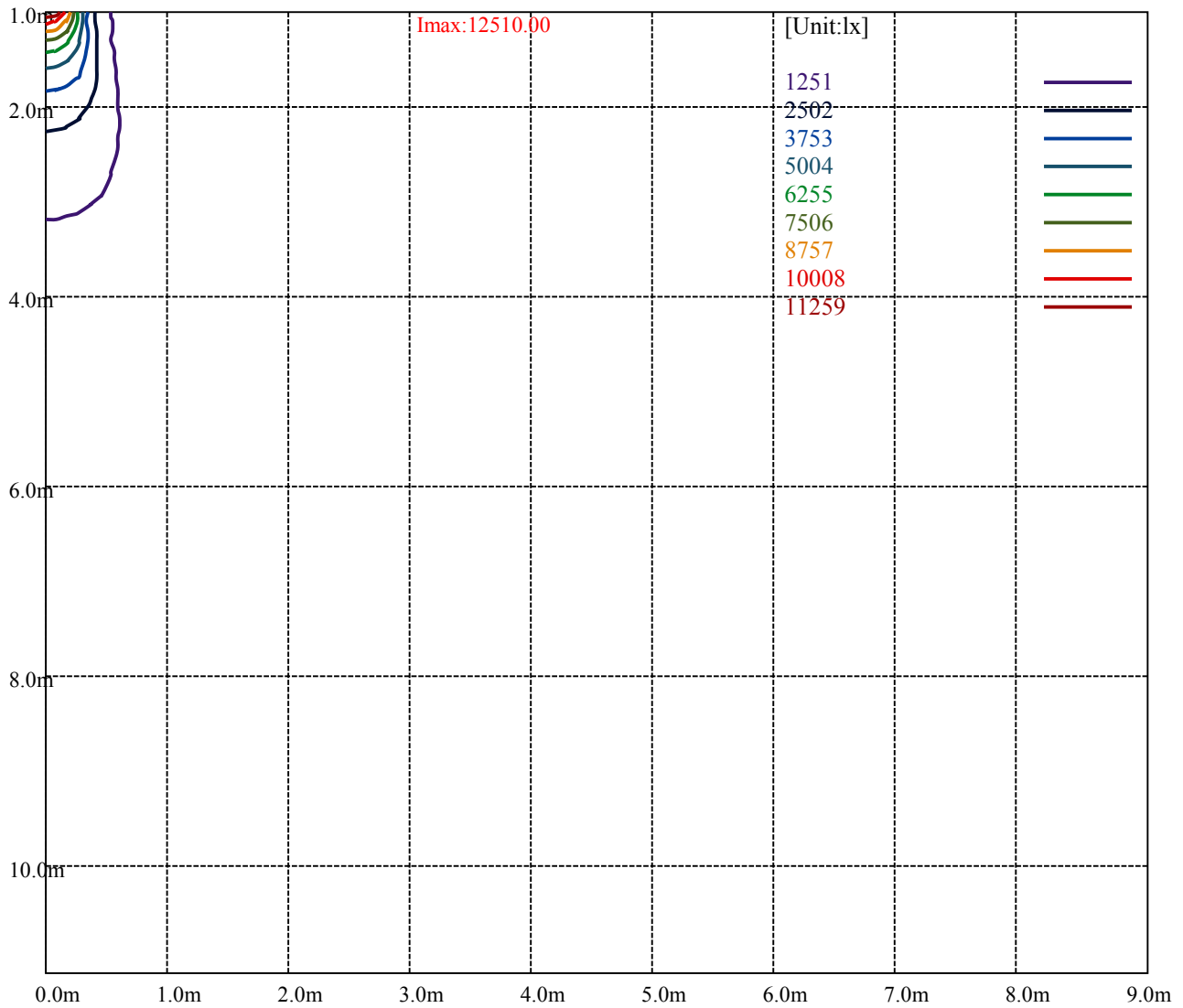
[Unit:cd]

Road

I_{max}:12510.00

(10%I _{max})	1251	
(20%I _{max})	2502	
(30%I _{max})	3753	
(40%I _{max})	5004	
(50%I _{max})	6255	
(60%I _{max})	7506	
(70%I _{max})	8757	
(80%I _{max})	10008	
(90%I _{max})	11259	





Luminance Table

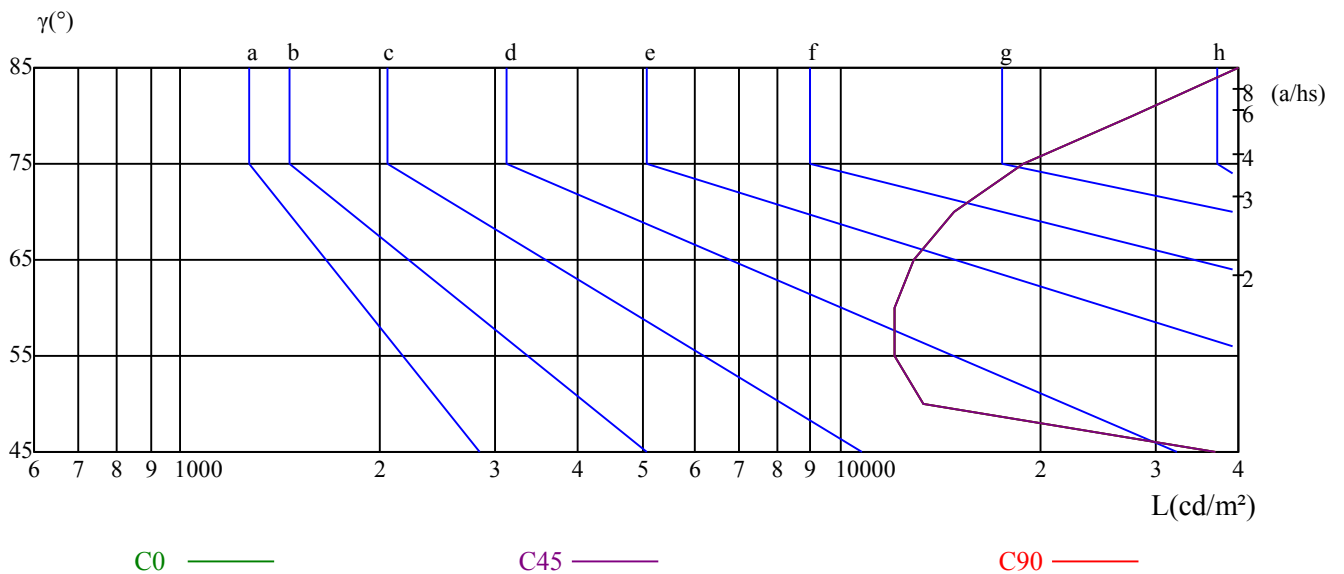
γ	45	50	55	60	65	70	75	80	85
C0	37023	13352	12068	12045	12889	14852	18928	27608	54184
C45	37023	13352	12068	12045	12889	14852	18928	27608	54184
C90	37023	13352	12068	12045	12889	14852	18928	27608	54184

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
12889	12889	12889	18928	18928	18928	54184	54184	54184

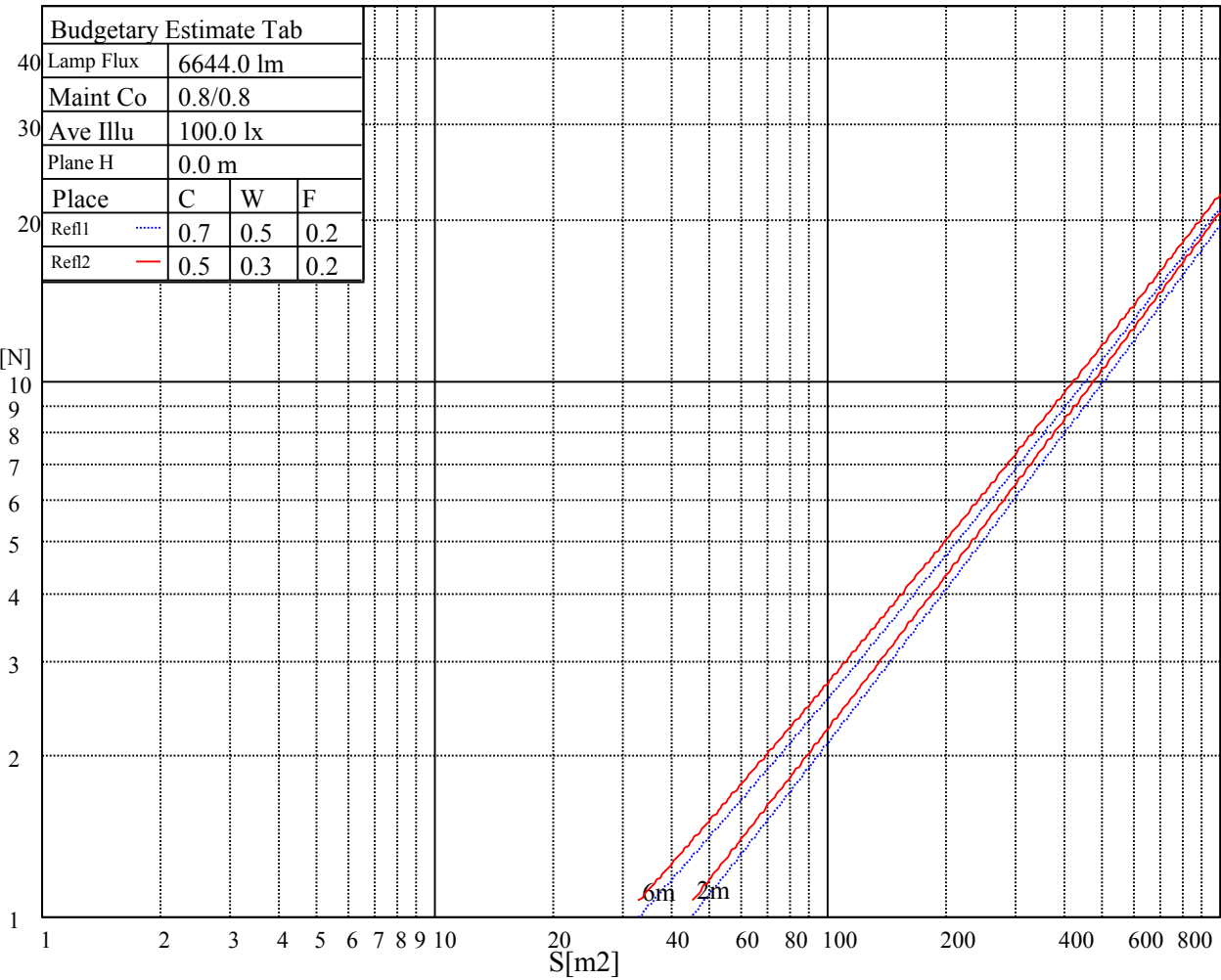
Glare Table

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

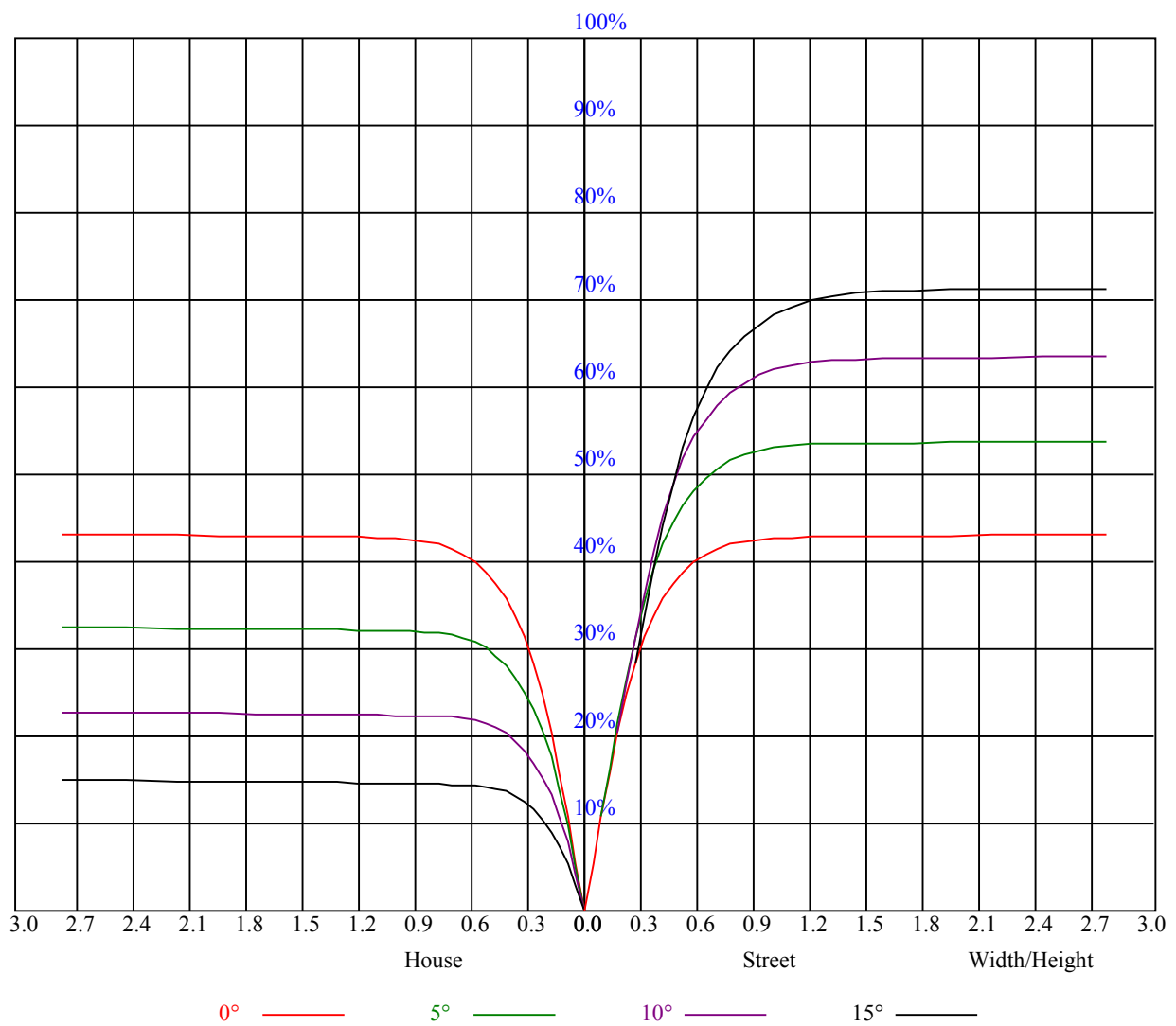
Luminance Limiting Curve



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	3.84	4.77	4.20	5.08	5.39	3.82	4.76	4.19	5.07	5.38
	3H	6.43	7.25	6.82	7.59	7.96	6.41	7.23	6.80	7.57	7.94
	4H	7.91	8.67	8.32	9.03	9.42	7.95	8.71	8.36	9.07	9.46
	6H	9.66	10.35	10.07	10.73	11.12	9.79	10.49	10.21	10.86	11.26
	8H	10.66	11.31	11.09	11.70	12.11	10.83	11.48	11.27	11.87	12.28
	12H	12.33	12.95	12.77	13.34	13.77	12.52	13.14	12.95	13.52	13.95
4H	2H	4.54	5.30	4.95	5.65	6.04	4.53	5.29	4.94	5.64	6.03
	3H	7.44	8.06	7.85	8.47	8.88	7.43	8.06	7.85	8.47	8.87
	4H	9.12	9.67	9.56	10.10	10.55	9.17	9.72	9.61	10.15	10.60
	6H	11.04	11.52	11.51	11.97	12.44	11.15	11.62	11.62	12.07	12.55
	8H	12.16	12.61	12.64	13.06	13.53	12.31	12.75	12.78	13.20	13.68
	12H	13.77	14.15	14.26	14.64	15.12	13.93	14.31	14.42	14.80	15.27
8H	4H	9.77	10.21	10.25	10.66	11.14	9.81	10.25	10.29	10.70	11.18
	6H	11.99	12.33	12.50	12.84	13.32	12.09	12.44	12.60	12.94	13.43
	8H	13.30	13.61	13.84	14.14	14.64	13.44	13.75	13.97	14.27	14.77
	12H	15.08	15.34	15.60	15.84	16.42	15.22	15.48	15.74	15.98	16.56
12H	4H	9.96	10.34	10.45	10.83	11.31	9.99	10.37	10.48	10.86	11.34
	6H	12.50	12.60	12.83	13.07	13.62	12.59	12.69	12.91	13.16	13.71
	8H	13.74	14.01	14.26	14.50	15.09	13.86	14.12	14.38	14.62	15.20
Variation with the observer position at spacings:											
S = 1.0H		4.7/-7.2					4.7/-7.2				
S = 1.5H		7.0/-5.6					7.0/-5.6				
S = 2.0H		8.4/-4.4					8.4/-4.4				
Standard tables:		BK2					BK2				
Uncorrected UGR		4.8					4.8				



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	1.04	1.04	1.04	1.02	1.02	1.02	0.97	0.97	0.97	0.93	0.93	0.93	0.89	0.89	0.89	0.87
1	0.96	0.94	0.92	0.95	0.93	0.91	0.91	0.89	0.88	0.88	0.86	0.85	0.85	0.84	0.83	0.81
2	0.91	0.88	0.85	0.90	0.87	0.84	0.87	0.84	0.82	0.84	0.82	0.81	0.82	0.80	0.79	0.77
3	0.86	0.83	0.79	0.85	0.82	0.79	0.83	0.80	0.78	0.81	0.78	0.76	0.79	0.77	0.75	0.74
4	0.82	0.78	0.75	0.81	0.77	0.75	0.80	0.76	0.74	0.78	0.75	0.73	0.76	0.74	0.72	0.71
5	0.79	0.74	0.71	0.78	0.74	0.71	0.76	0.73	0.70	0.75	0.72	0.70	0.74	0.71	0.69	0.68
6	0.75	0.71	0.68	0.75	0.71	0.68	0.73	0.70	0.67	0.72	0.69	0.67	0.71	0.68	0.66	0.65
7	0.72	0.68	0.65	0.72	0.68	0.65	0.71	0.67	0.64	0.70	0.66	0.64	0.69	0.66	0.64	0.63
8	0.69	0.65	0.62	0.69	0.65	0.62	0.68	0.64	0.62	0.67	0.64	0.62	0.67	0.64	0.61	0.60
9	0.67	0.63	0.60	0.67	0.63	0.60	0.66	0.62	0.60	0.65	0.62	0.59	0.64	0.61	0.59	0.58
10	0.65	0.60	0.58	0.64	0.60	0.58	0.64	0.60	0.58	0.63	0.60	0.57	0.62	0.59	0.57	0.56



NATA 2-1740-M

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	12515.63	12195.00	11030.63	8291.25	4696.88	2851.88	2127.38	1398.38	623.25	
45.0	12526.88	12346.88	11300.63	8808.75	5118.75	2840.63	2147.06	1386.00	676.13	
90.0	12498.75	12200.63	11027.25	8233.31	4609.13	2718.00	2080.69	1097.94	622.46	
135.0	12498.75	12301.88	11362.50	8949.38	5101.88	2902.50	2239.88	1501.88	786.38	
180.0	12515.63	12341.25	11089.13	8034.75	4540.50	2675.25	2064.38	1107.17	584.66	
225.0	12526.88	12296.25	11021.06	8206.31	4350.38	2628.56	2038.50	1120.95	510.75	
270.0	12498.75	12223.13	11070.00	8420.63	4556.25	2863.13	2132.44	1380.38	621.00	
315.0	12498.75	12020.63	10613.25	7274.25	3834.00	2523.94	2002.50	1119.88	435.66	
360.0	12515.63	12195.00	11030.63	8291.25	4696.88	2851.88	2127.38	1398.38	623.25	
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0	
0.0	89.78	43.26	34.54	29.93	27.11	25.26	25.93	26.04	25.03	
45.0	159.36	45.11	35.89	30.71	27.68	25.82	24.36	23.85	23.34	
90.0	89.04	42.64	34.93	30.43	27.45	25.54	24.19	23.40	23.29	
135.0	284.63	46.35	35.33	30.66	27.45	25.43	24.02	23.18	22.73	
180.0	78.98	40.39	33.13	28.74	26.10	24.36	23.29	22.67	22.33	
225.0	73.86	38.48	31.78	28.07	25.71	24.08	23.12	22.73	22.44	
270.0	177.69	41.01	33.13	28.80	25.99	24.30	23.40	22.95	22.84	
315.0	72.90	39.21	32.63	28.74	26.04	24.36	23.74	23.12	23.12	
360.0	89.78	43.26	34.54	29.93	27.11	25.26	25.93	26.04	25.03	
C/γ(°)	90.0									
0.0	22.05									
45.0	22.22									
90.0	22.16									
135.0	22.16									
180.0	22.05									
225.0	22.22									
270.0	22.16									
315.0	22.05									
360.0	22.05									