
Nata

LumCAT: 3-2025-M	
Luminaire: 92.70.135.00	
Report No: NT2017103104	Voltage(V): 34.3000
Test No: GC2017103104	Current(A): 0.5000
LampCAT: NICHIA NFCWD084B-V2	Power (W): 17.1500
Lamp flux(lm): 2537.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 78	Width(mm): 78
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 2261.52
Efficiency(%): 89.14%
Lumens(lm)/Power(W): 131.87
Central intensity(cd): 3917.814
Maximum intensity(cd): 3917.814
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=42.9
[C90/270]Total=42.9
Field angle(10%Imax): [C0/180]Total=73.4
[C90/270]Total=73.4
Maximum s/h(1/2): C0_180=0.69 C90_270=0.69
Maximum s/h(1/4): C0_180=0.70 C90_270=0.70
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 89.14%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.492%

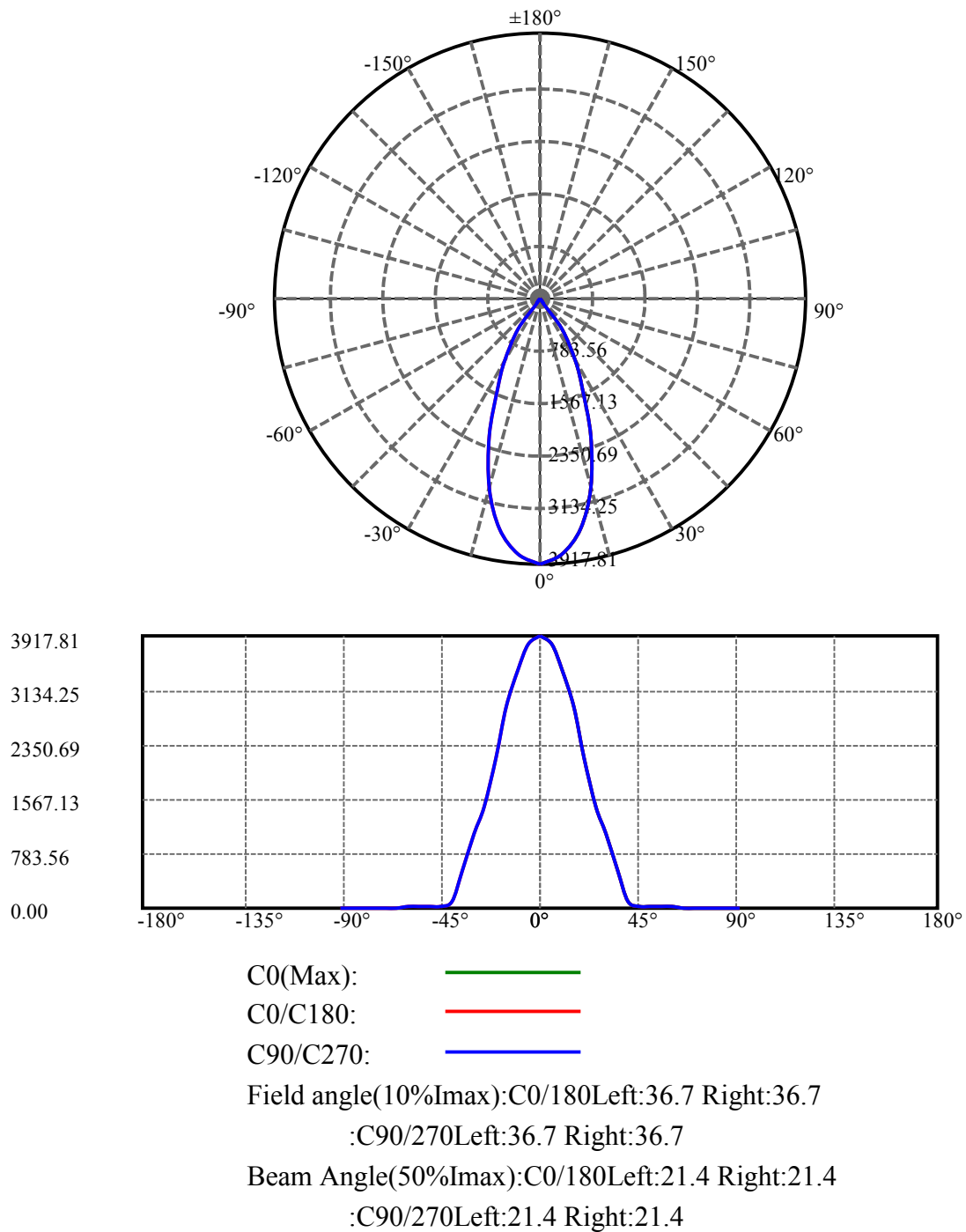
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	3917.813	0.000	0	.000%	.000%
5.0	3789.532	92.139	92.139	3.632%	4.074%
10.0	3439.786	258.615	350.755	10.194%	15.510%
15.0	2890.323	375.498	726.252	14.801%	32.113%
20.0	2160.826	416.286	1142.538	16.409%	50.521%
25.0	1458.582	379.609	1522.147	14.963%	67.306%
30.0	1072.980	320.371	1842.519	12.628%	81.473%
35.0	546.889	238.537	2081.056	9.402%	92.020%
40.0	90.836	106.400	2187.455	4.194%	96.725%
45.0	19.456	20.421	2207.877	.805%	97.628%
50.0	15.553	7.074	2214.951	.279%	97.941%
55.0	13.764	6.375	2221.325	.251%	98.223%
60.0	12.615	6.097	2227.423	.240%	98.492%
65.0	11.727	5.918	2233.34	.233%	98.754%
70.0	11.108	5.782	2239.122	.228%	99.010%
75.0	10.647	5.686	2244.808	.224%	99.261%
80.0	10.357	5.620	2250.428	.222%	99.510%
85.0	10.151	5.573	2256.001	.220%	99.756%
90.0	10.007	5.519	2261.52	.218%	100.000%

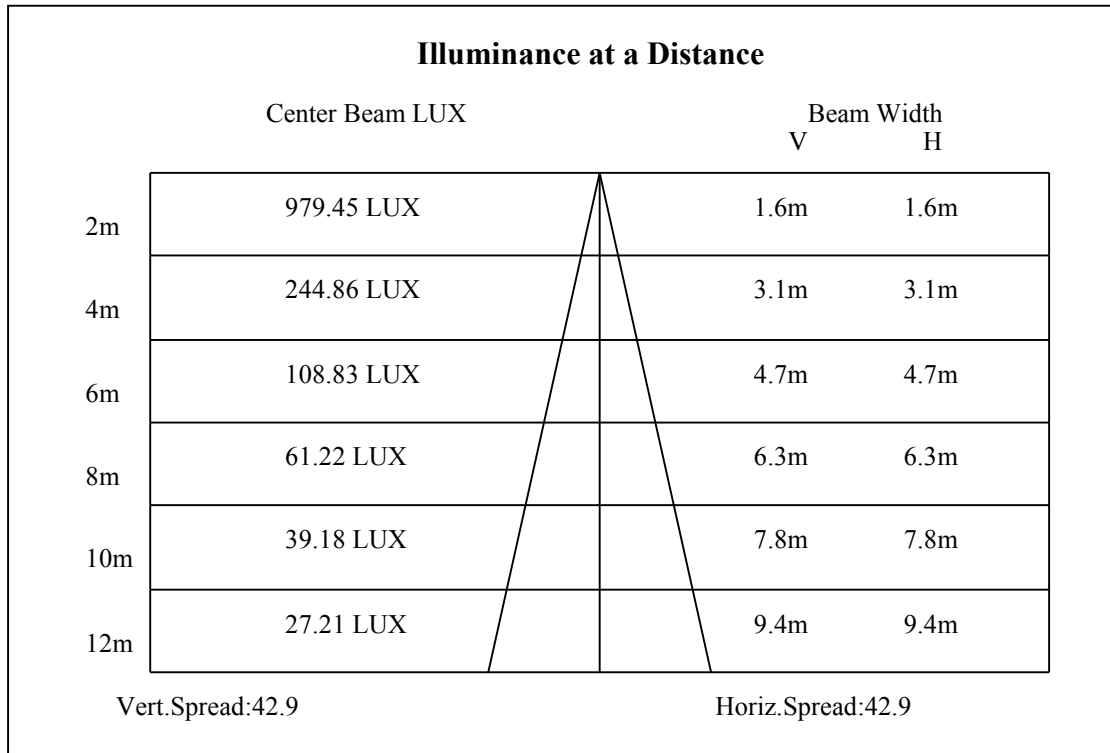
ZONAL LUMEN SUMMARY

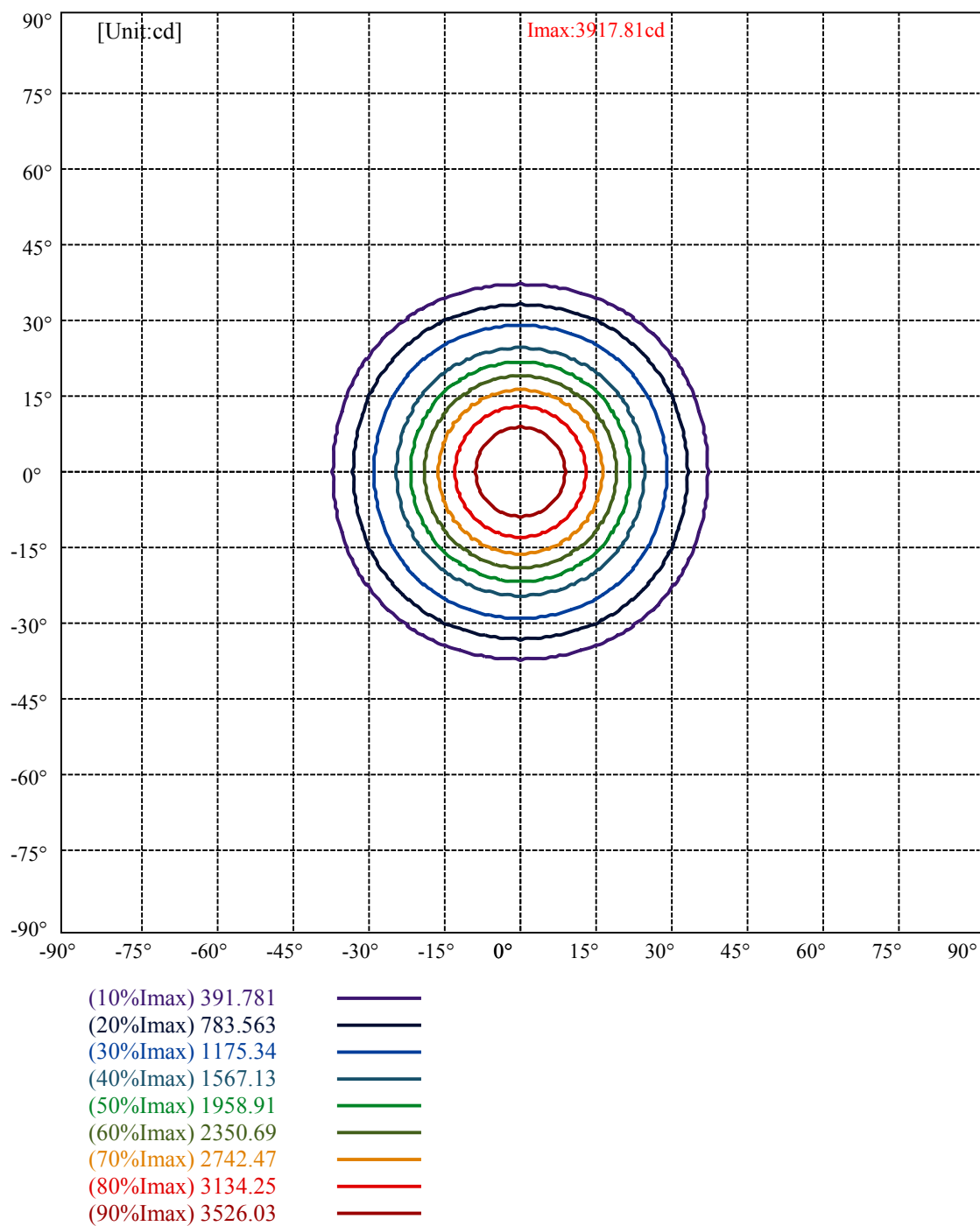
Zone	Lumens	%Lamp	%Fixt
0-30	1842.52	72.63%	81.47%
0-40	2187.46	86.22%	96.72%
0-60	2227.42	87.80%	98.49%
0-90	2256.00	88.92%	99.76%
0-120	2256.00	88.92%	99.76%
0-180	2261.52	89.14%	100.00%
60-90	34.68	1.37%	1.53%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-29.48	1809.22	71.31%	80.00%

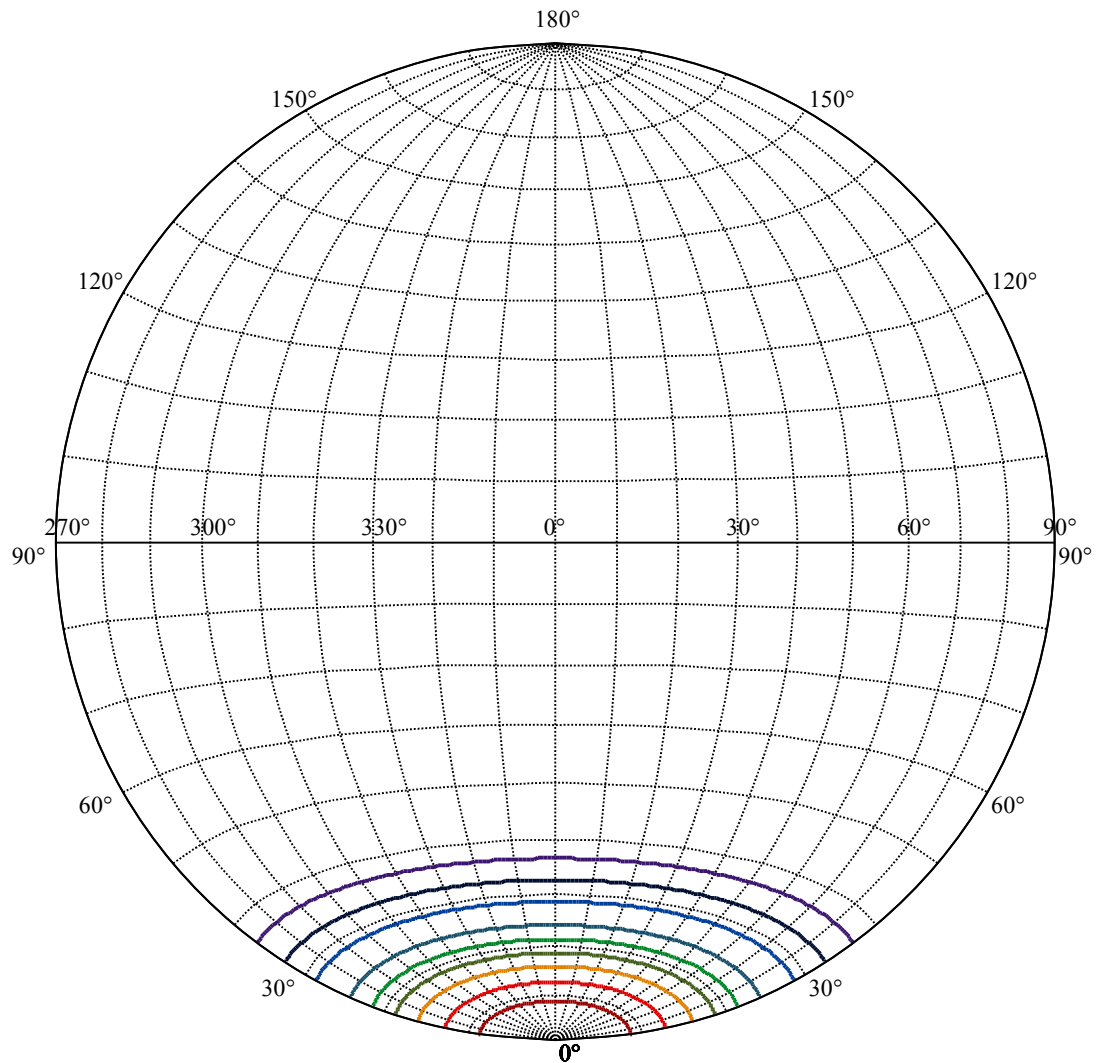
ZONAL LUMEN SUMMARY

0-10	350.75
10-20	791.78
20-30	699.98
30-40	344.94
40-50	27.50
50-60	12.47
60-70	11.70
70-80	11.31
80-90	5.57
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









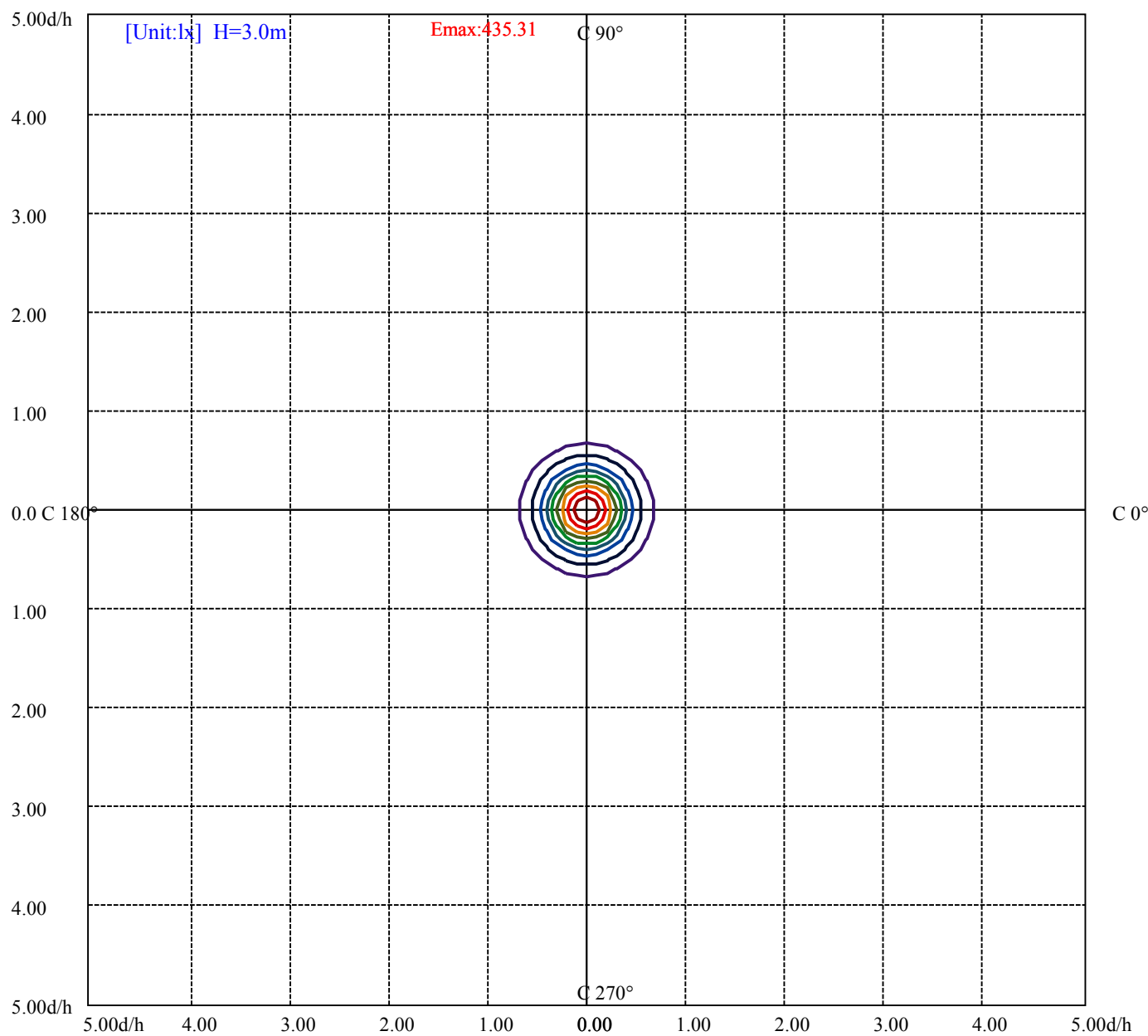
House

[Unit:cd]

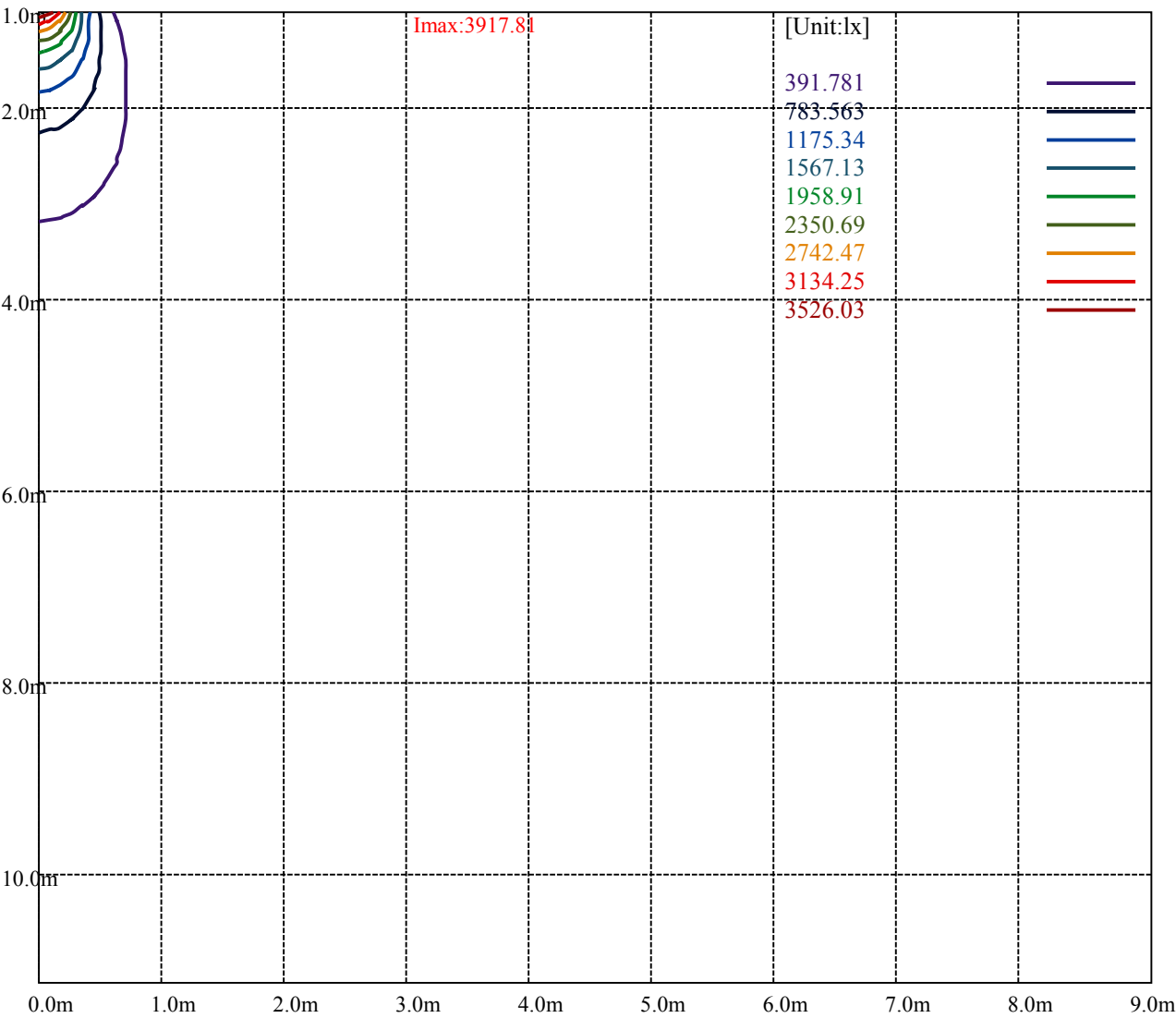
Road

Imax:3917.81

(10%Imax)	391.781	—
(20%Imax)	783.563	—
(30%Imax)	1175.34	—
(40%Imax)	1567.13	—
(50%Imax)	1958.91	—
(60%Imax)	2350.69	—
(70%Imax)	2742.47	—
(80%Imax)	3134.25	—
(90%Imax)	3526.03	—



(10%Emax)	43.53122	—
(20%Emax)	87.06245	—
(30%Emax)	130.5933	—
(40%Emax)	174.1245	—
(50%Emax)	217.6556	—
(60%Emax)	261.1878	—
(70%Emax)	304.7189	—
(80%Emax)	348.25	—
(90%Emax)	391.7811	—



Luminance Table

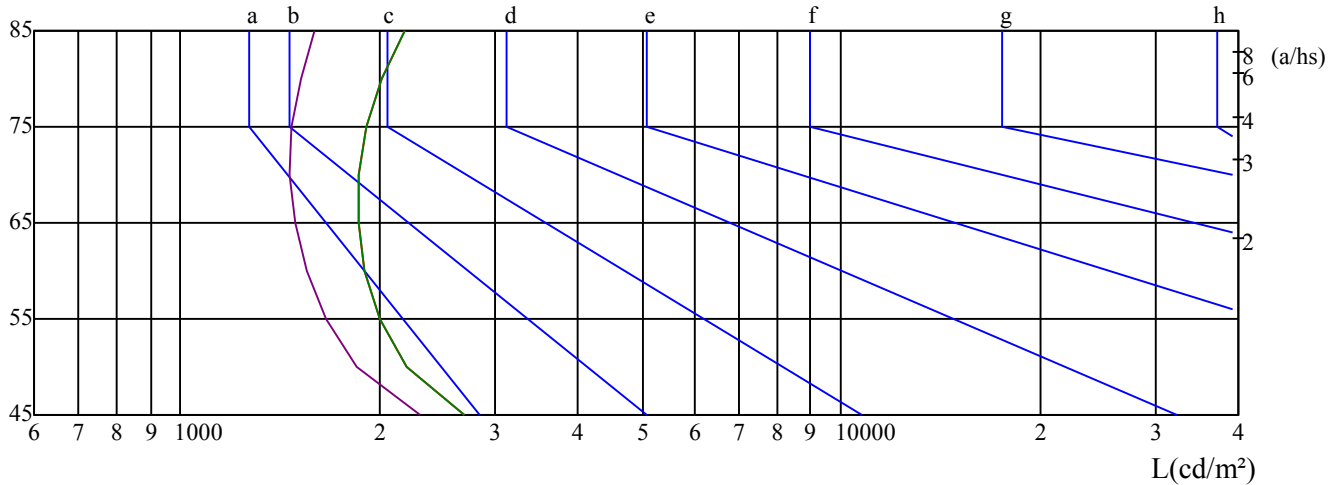
γ	45	50	55	60	65	70	75	80	85
C0	2693	2198	2002	1905	1856	1862	1912	2020	2184
C45	2306	1854	1663	1556	1490	1466	1474	1520	1597
C90	2693	2198	2002	1905	1856	1862	1912	2020	2184

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
4561	4561	4561	6761	6761	6761	19144	19144	19144

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

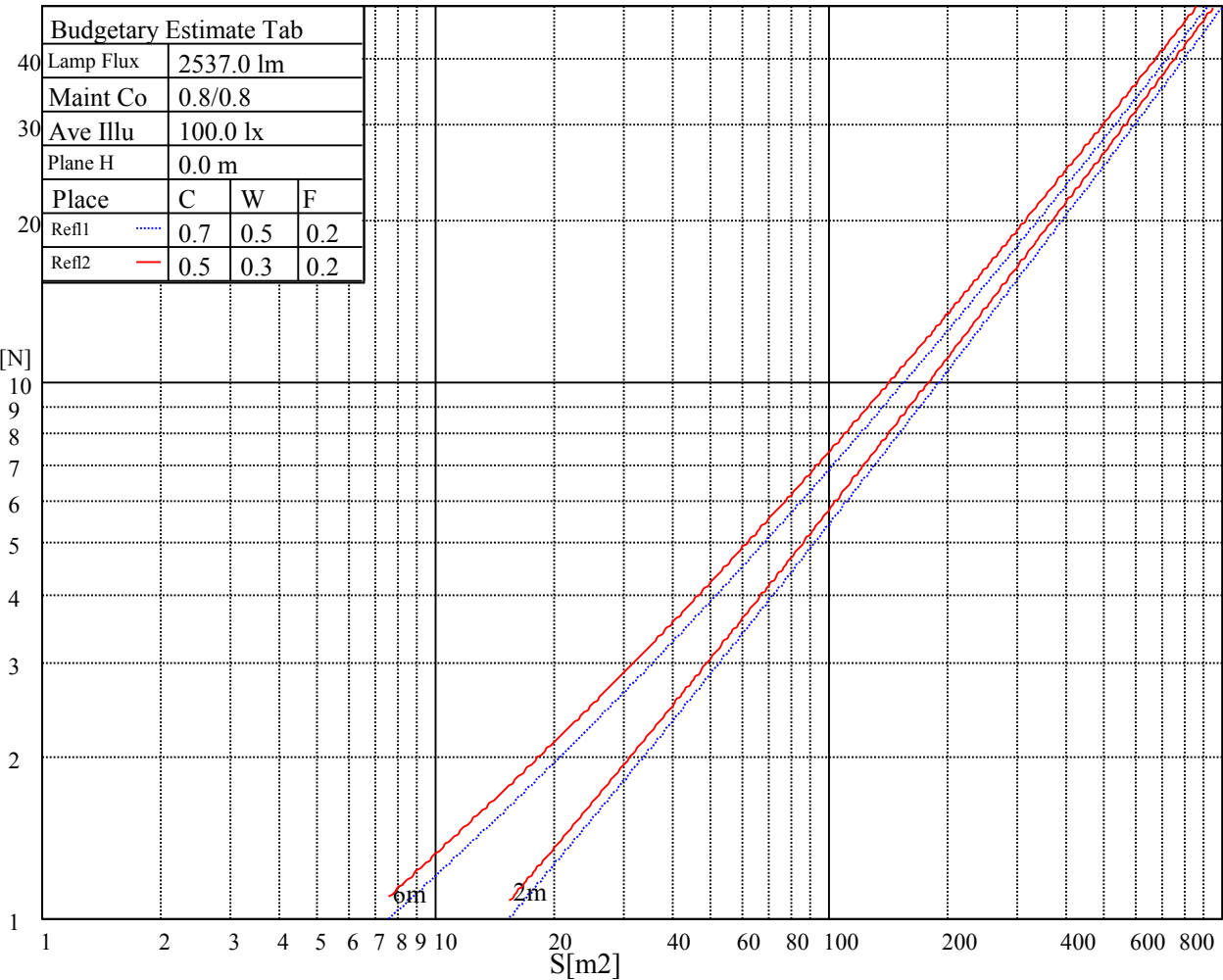
 $\gamma(^{\circ})$ 

C0 ———

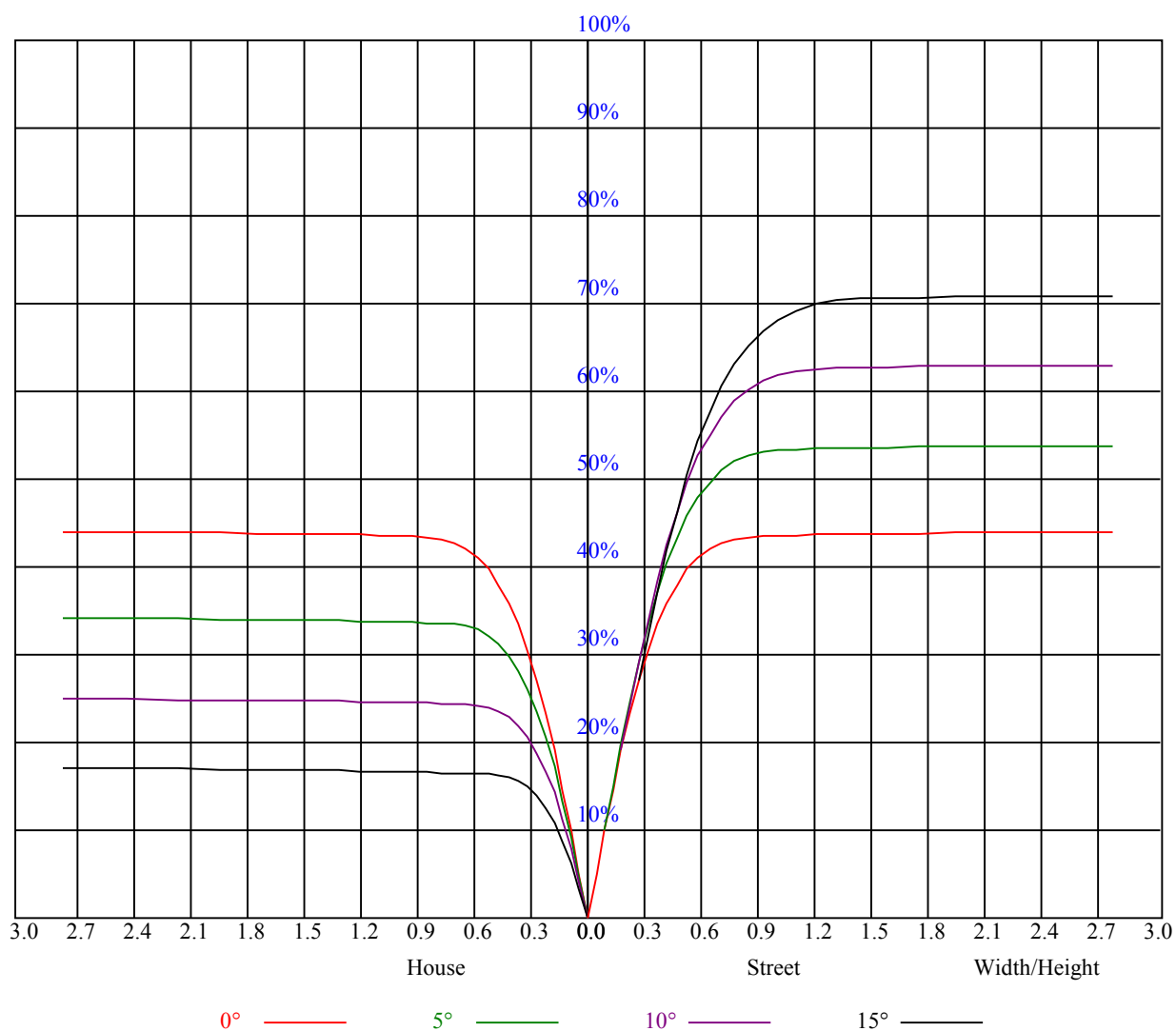
C45 ———

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	1.36	2.28	1.73	2.59	2.91	1.34	2.26	1.70	2.57	2.88
	3H	3.31	4.12	3.69	4.46	4.83	3.28	4.09	3.67	4.43	4.80
	4H	4.37	5.12	4.77	5.47	5.86	4.34	5.09	4.75	5.45	5.84
	6H	5.50	6.19	5.92	6.56	6.96	5.48	6.17	5.90	6.54	6.94
	8H	6.07	6.72	6.51	7.11	7.52	6.06	6.70	6.49	7.09	7.50
	12H	6.98	7.59	7.41	7.98	8.41	6.96	7.58	7.40	7.96	8.39
4H	2H	1.75	2.50	2.16	2.86	3.25	1.73	2.49	2.14	2.84	3.23
	3H	4.00	4.61	4.41	5.02	5.43	3.97	4.59	4.39	5.00	5.41
	4H	5.23	5.78	5.67	6.21	6.66	5.21	5.76	5.65	6.19	6.64
	6H	6.47	6.94	6.95	7.40	7.87	6.46	6.93	6.93	7.38	7.85
	8H	7.16	7.60	7.64	8.05	8.53	7.15	7.59	7.62	8.04	8.51
	12H	8.08	8.46	8.57	8.95	9.43	8.07	8.44	8.56	8.93	9.41
8H	4H	5.61	6.05	6.09	6.50	6.97	5.59	6.03	6.07	6.48	6.96
	6H	7.09	7.43	7.60	7.94	8.42	7.07	7.42	7.58	7.92	8.41
	8H	7.93	8.24	8.47	8.76	9.26	7.92	8.22	8.45	8.75	9.24
	12H	9.00	9.26	9.52	9.76	10.34	8.98	9.25	9.51	9.75	10.33
12H	4H	5.68	6.06	6.17	6.55	7.02	5.66	6.04	6.15	6.53	7.01
	6H	7.45	7.54	7.77	8.02	8.57	7.43	7.53	7.76	8.00	8.55
	8H	8.18	8.44	8.70	8.94	9.52	8.16	8.43	8.69	8.93	9.51
Variation with the observer position at spacings:											
S = 1.0H		5.8/-8.3					5.8/-8.3				
S = 1.5H		8.3/-6.7					8.3/-6.7				
S = 2.0H		10.0/-5.5					10.0/-5.5				
Standard tables:		BK1					BK1				
Uncorrected UGR		-2.2					-2.2				



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	1.06	1.06	1.06	1.04	1.04	1.04	0.99	0.99	0.99	0.95	0.95	0.95	0.91	0.91	0.91	0.89
1	0.99	0.97	0.95	0.97	0.95	0.93	0.94	0.92	0.91	0.90	0.89	0.88	0.87	0.86	0.85	0.84
2	0.93	0.89	0.87	0.91	0.88	0.86	0.88	0.86	0.84	0.86	0.84	0.82	0.83	0.82	0.80	0.79
3	0.87	0.83	0.80	0.86	0.82	0.79	0.84	0.81	0.78	0.82	0.79	0.77	0.80	0.78	0.76	0.74
4	0.82	0.78	0.74	0.81	0.77	0.74	0.79	0.76	0.73	0.78	0.75	0.72	0.76	0.74	0.71	0.70
5	0.78	0.73	0.70	0.77	0.73	0.69	0.76	0.72	0.69	0.74	0.71	0.68	0.73	0.70	0.68	0.66
6	0.74	0.69	0.65	0.73	0.69	0.65	0.72	0.68	0.65	0.71	0.67	0.64	0.69	0.66	0.64	0.63
7	0.70	0.65	0.62	0.70	0.65	0.62	0.68	0.64	0.61	0.67	0.64	0.61	0.66	0.63	0.61	0.60
8	0.67	0.62	0.59	0.66	0.62	0.58	0.65	0.61	0.58	0.64	0.61	0.58	0.64	0.60	0.58	0.57
9	0.64	0.59	0.56	0.63	0.59	0.55	0.62	0.58	0.55	0.62	0.58	0.55	0.61	0.57	0.55	0.54
10	0.61	0.56	0.53	0.60	0.56	0.53	0.60	0.55	0.53	0.59	0.55	0.52	0.58	0.55	0.52	0.51



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	3912.31	3813.21	3514.25	2976.90	2238.59	1496.98	1102.78	596.81	64.91		
45.0	3919.47	3796.14	3460.29	2898.17	2168.67	1482.12	1106.08	548.91	61.83		
90.0	3921.12	3775.77	3394.78	2855.22	2106.46	1416.05	1010.06	489.51	43.71		
135.0	3918.36	3829.72	3505.99	2977.45	2278.23	1495.33	1101.13	645.26	279.14		
180.0	3912.31	3753.19	3408.54	2840.36	2087.19	1436.97	1053.78	501.89	45.31		
225.0	3919.47	3781.27	3383.77	2870.09	2122.42	1451.84	1082.74	502.39	46.14		
270.0	3921.12	3807.70	3468.55	2916.34	2255.66	1510.75	1118.75	635.35	143.48		
315.0	3918.36	3759.25	3382.11	2788.06	2029.38	1378.61	1008.52	454.99	42.17		
360.0	3912.31	3813.21	3514.25	2976.90	2238.59	1496.98	1102.78	596.81	64.91		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	20.10	15.53	13.65	12.55	11.67	11.01	10.57	10.30	10.13		
45.0	19.27	16.02	14.26	12.94	11.95	11.23	10.74	10.41	10.13		
90.0	18.88	15.97	14.04	12.88	11.89	11.23	10.68	10.35	10.19		
135.0	21.03	15.97	14.04	12.83	11.95	11.29	10.79	10.46	10.24		
180.0	18.94	15.42	13.65	12.61	11.73	11.18	10.68	10.41	10.13		
225.0	20.43	15.53	13.71	12.55	11.73	11.07	10.63	10.35	10.19		
270.0	19.88	15.31	13.54	12.44	11.62	11.01	10.63	10.35	10.13		
315.0	17.12	14.70	13.21	12.11	11.29	10.85	10.46	10.24	10.08		
360.0	20.10	15.53	13.65	12.55	11.67	11.01	10.57	10.30	10.13		
C/γ(°)	90.0										
0.0	10.02										
45.0	10.02										
90.0	10.02										
135.0	9.97										
180.0	9.97										
225.0	10.02										
270.0	10.02										
315.0	10.02										
360.0	10.02										