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NATA

LumCAT: 1406-N	
Luminaire: 92.70.064.00	
Report No: NATA0100	Voltage(V): 34.4600
Test No: GC2019022207	Current(A): 0.2000
LampCAT: BRIDGELUX V6 HD	Power (W): 6.8920
Lamp flux(lm): 786.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 39	Width(mm): 39
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 678.45
Efficiency(%): 86.32%
Lumens(lm)/Power(W): 99.25
Central intensity(cd): 1037.222
Maximum intensity(cd): 1037.222
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=36.5
[C90/270]Total=36.5
Field angle(10%Imax): [C0/180]Total=87.9
[C90/270]Total=87.9
Maximum s/h(1/2): C0_180=0.59 C90_270=0.59
Maximum s/h(1/4): C0_180=0.64 C90_270=0.64
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 87.02%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 95.477%

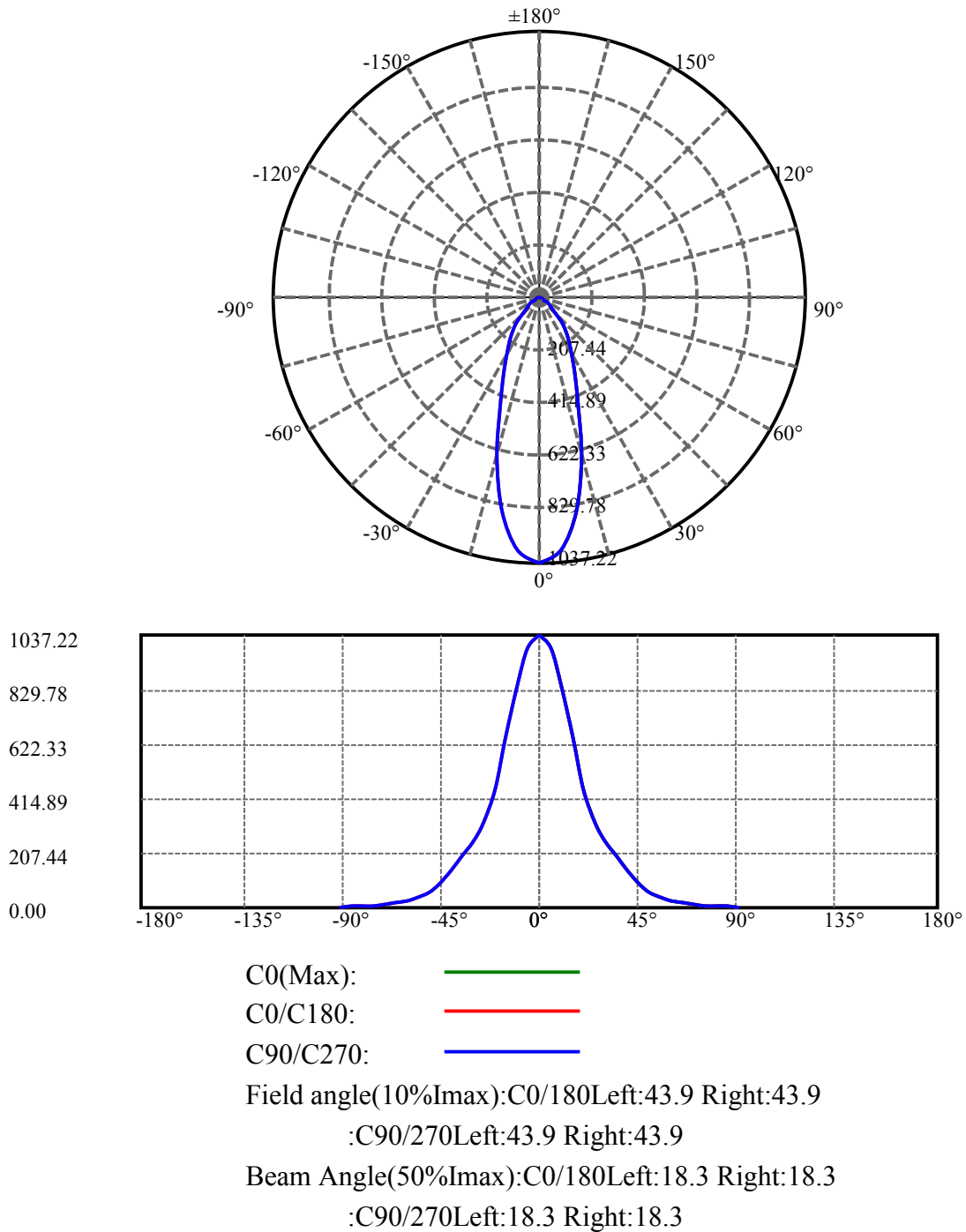
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1037.222	6.203	6.203	.789%	.914%
5.0	986.077	47.108	53.311	5.993%	7.858%
10.0	844.516	80.384	133.695	10.227%	19.706%
15.0	641.918	91.068	224.762	11.586%	33.129%
20.0	452.306	84.796	309.558	10.788%	45.627%
25.0	324.626	75.200	384.759	9.567%	56.711%
30.0	250.017	68.522	453.281	8.718%	66.811%
35.0	191.756	60.288	513.568	7.670%	75.697%
40.0	141.820	49.968	563.537	6.357%	83.062%
45.0	93.396	36.200	599.736	4.606%	88.398%
50.0	58.570	24.594	624.33	3.129%	92.023%
55.0	36.914	16.575	640.905	2.109%	94.466%
60.0	25.629	12.166	653.071	1.548%	96.259%
65.0	17.712	8.799	661.87	1.119%	97.556%
70.0	12.509	6.443	668.312	.820%	98.506%
75.0	8.543	4.523	672.836	.575%	99.172%
80.0	5.618	3.033	675.868	.386%	99.619%
85.0	3.445	1.881	677.75	.239%	99.897%
90.0	2.559	0.701	678.451	.089%	100.000%

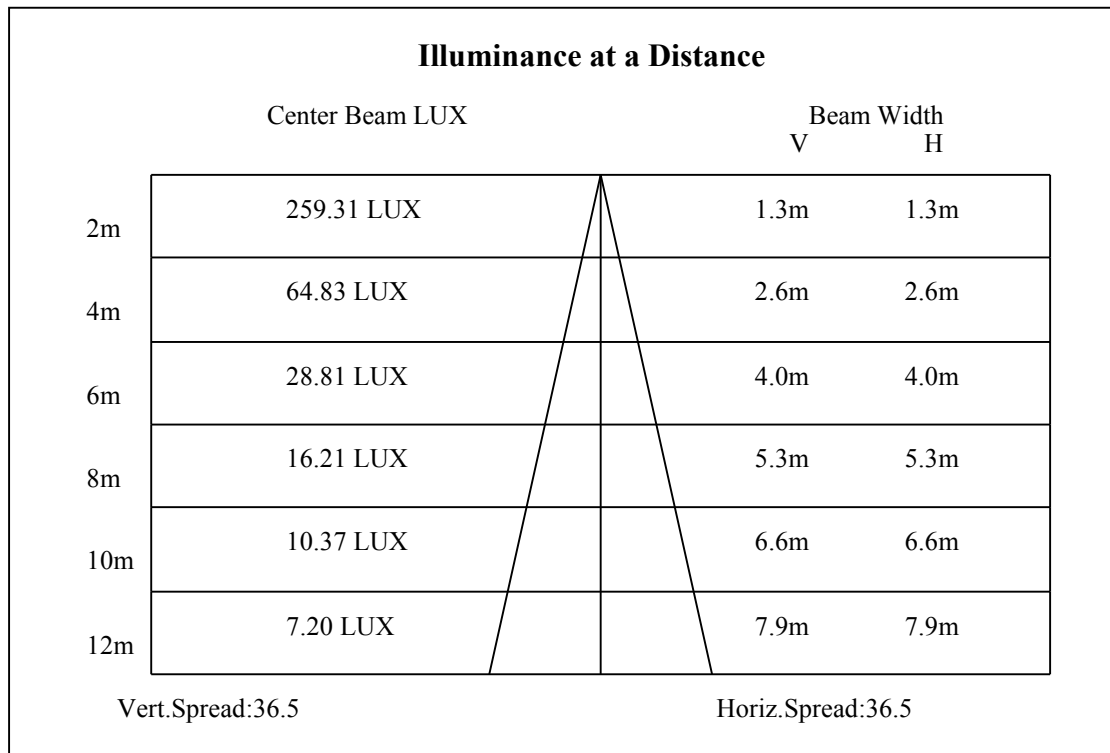
ZONAL LUMEN SUMMARY

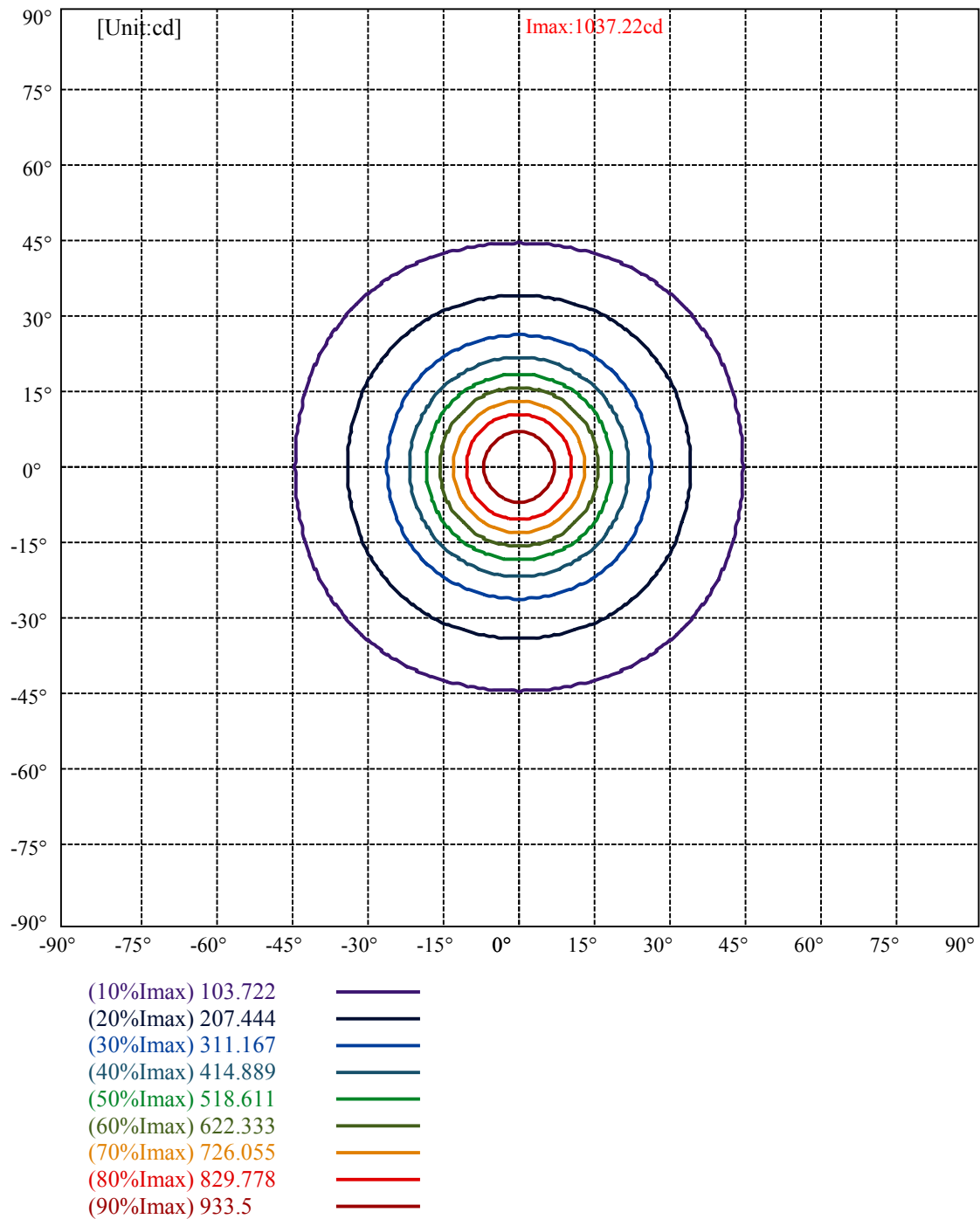
Zone	Lumens	%Lamp	%Fixt
0-30	453.28	57.67%	66.81%
0-40	563.54	71.70%	83.06%
0-60	653.07	83.09%	96.26%
0-90	677.75	86.23%	99.90%
0-120	677.75	86.23%	99.90%
0-180	678.45	86.32%	100.00%
60-90	36.84	4.69%	5.43%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-37.92	542.76	69.05%	80.00%

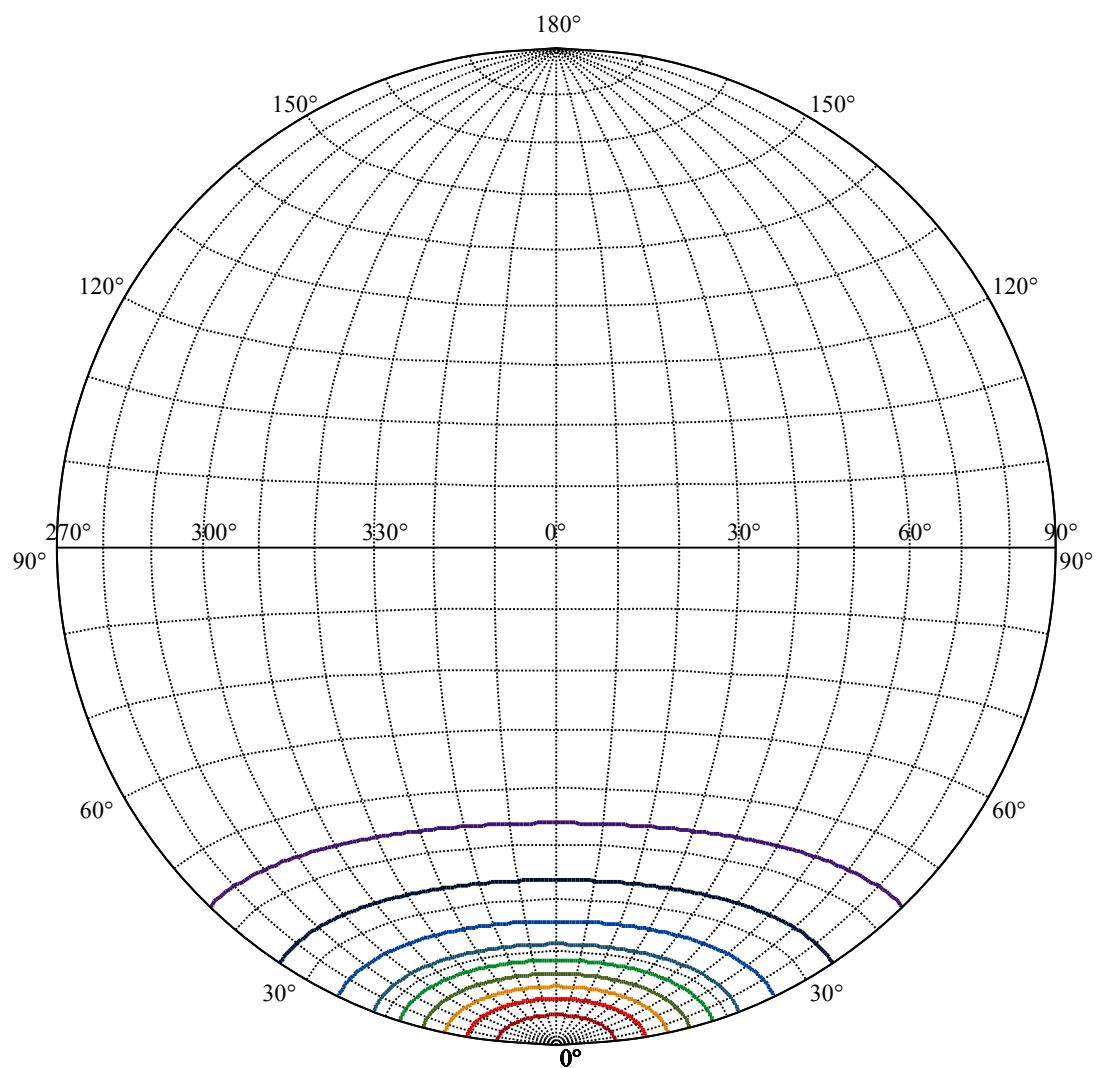
ZONAL LUMEN SUMMARY

0-10	133.69
10-20	175.86
20-30	143.72
30-40	110.26
40-50	60.79
50-60	28.74
60-70	15.24
70-80	7.56
80-90	1.88
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







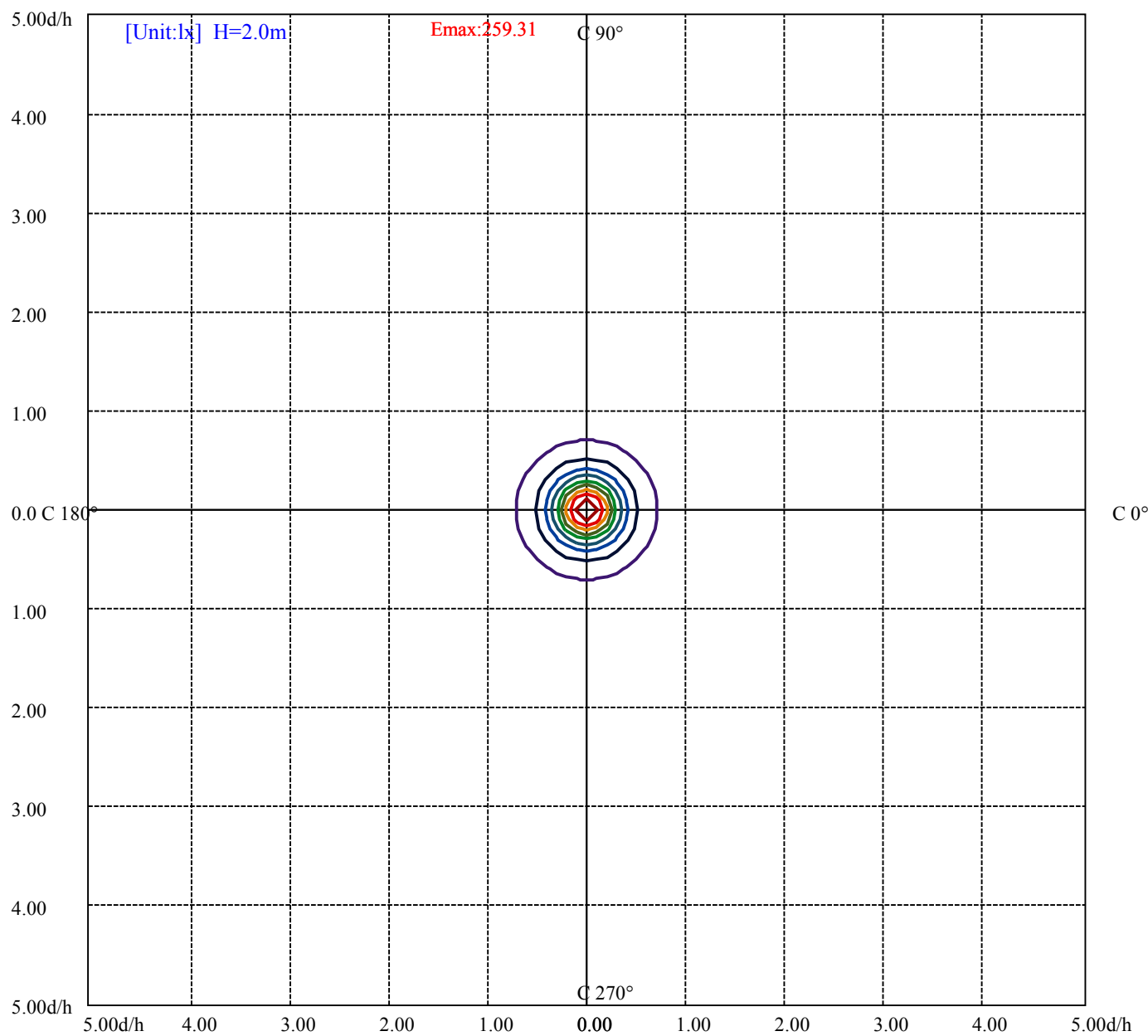


House

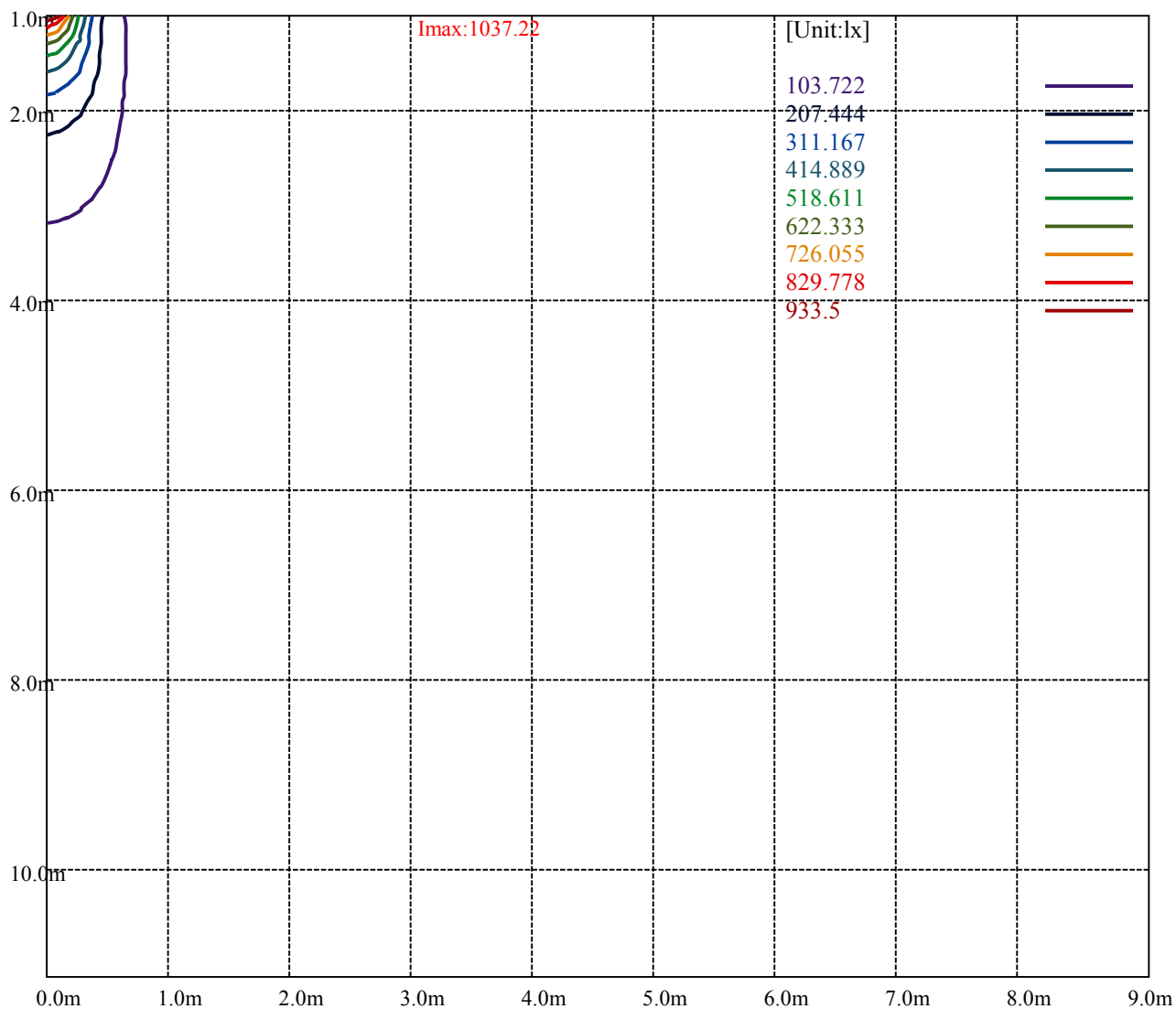
[Unit:cd]

Road

I_{max}:1037.22(10%I_{max}) 103.722(20%I_{max}) 207.444(30%I_{max}) 311.167(40%I_{max}) 414.889(50%I_{max}) 518.611(60%I_{max}) 622.333(70%I_{max}) 726.055(80%I_{max}) 829.778(90%I_{max}) 933.5



(10%E _{max}) 25.9305	—
(20%E _{max}) 51.861	—
(30%E _{max}) 77.7915	—
(40%E _{max}) 103.722	—
(50%E _{max}) 129.6525	—
(60%E _{max}) 155.583	—
(70%E _{max}) 181.5135	—
(80%E _{max}) 207.444	—
(90%E _{max}) 233.3745	—



Luminance Table

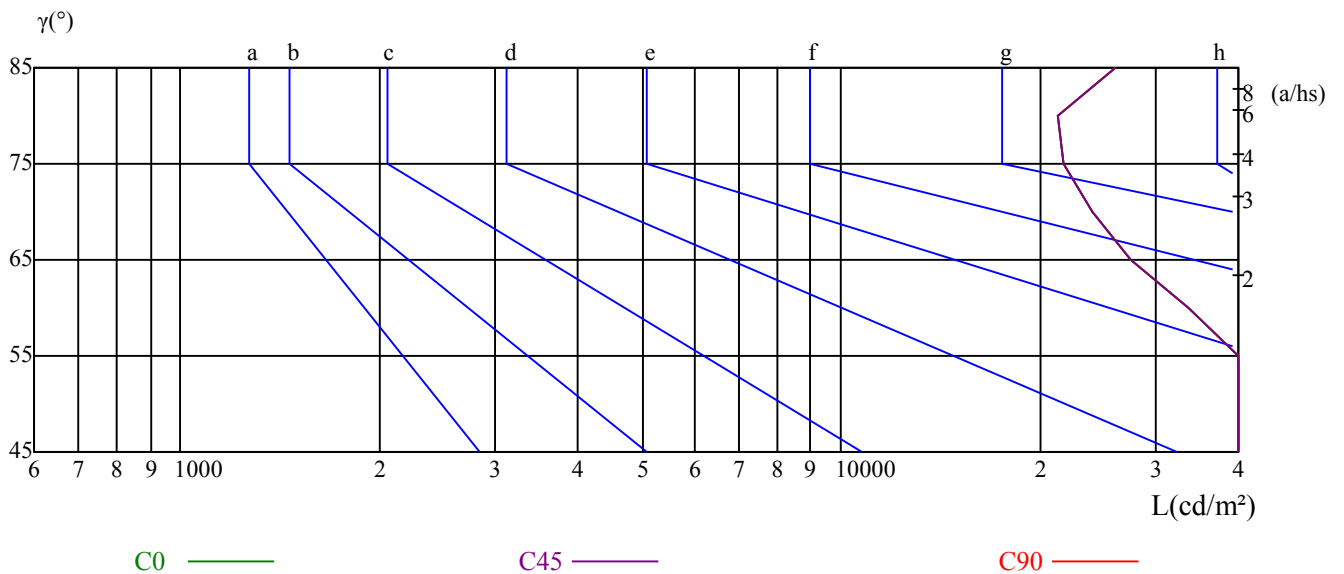
γ	45	50	55	60	65	70	75	80	85
C0	86839	59907	42313	33700	27554	24045	21701	21271	25990
C45	86839	59907	42313	33700	27554	24045	21701	21271	25990
C90	86839	59907	42313	33700	27554	24045	21701	21271	25990

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
27554	27554	27554	21701	21701	21701	25990	25990	25990

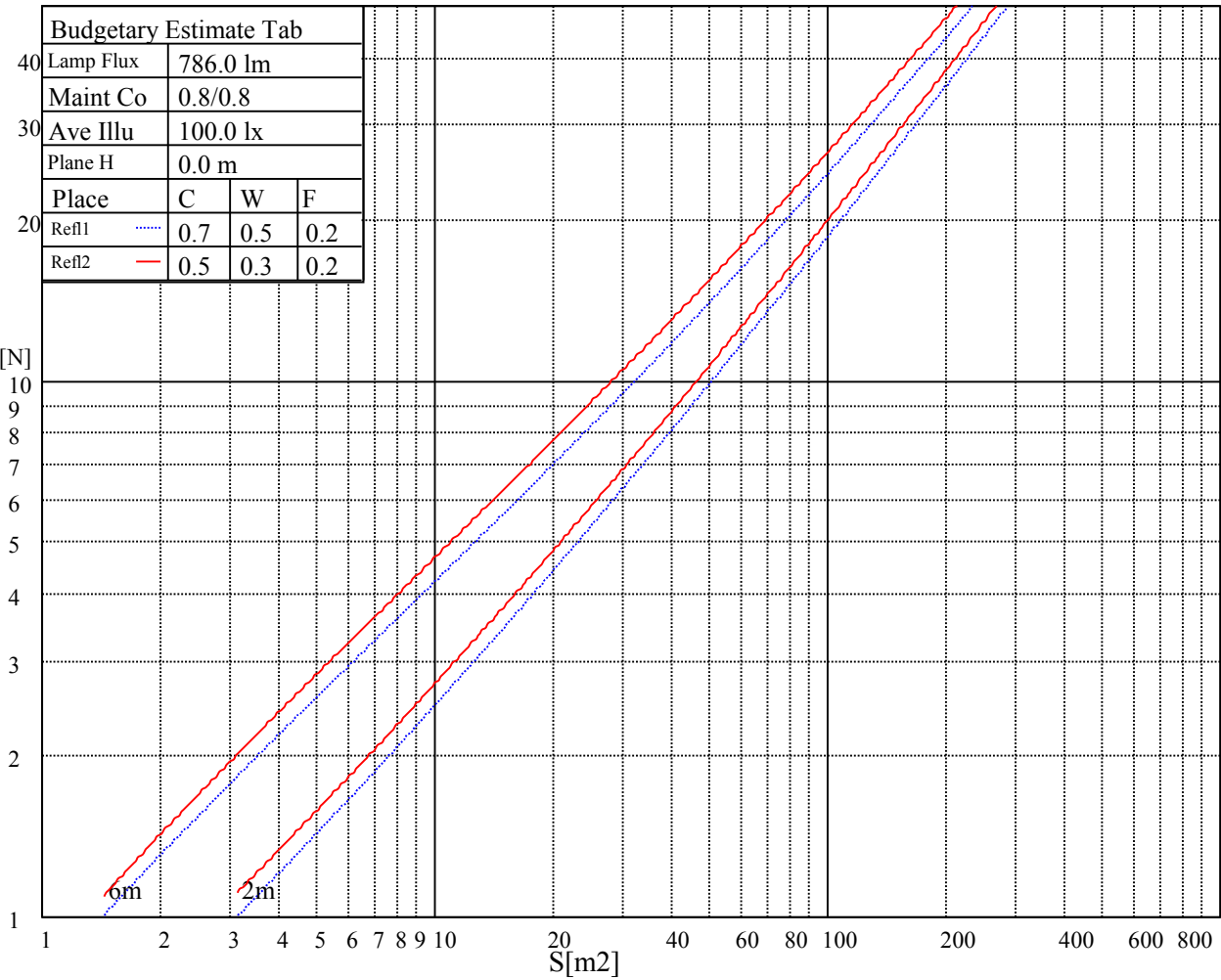
Glare Table

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

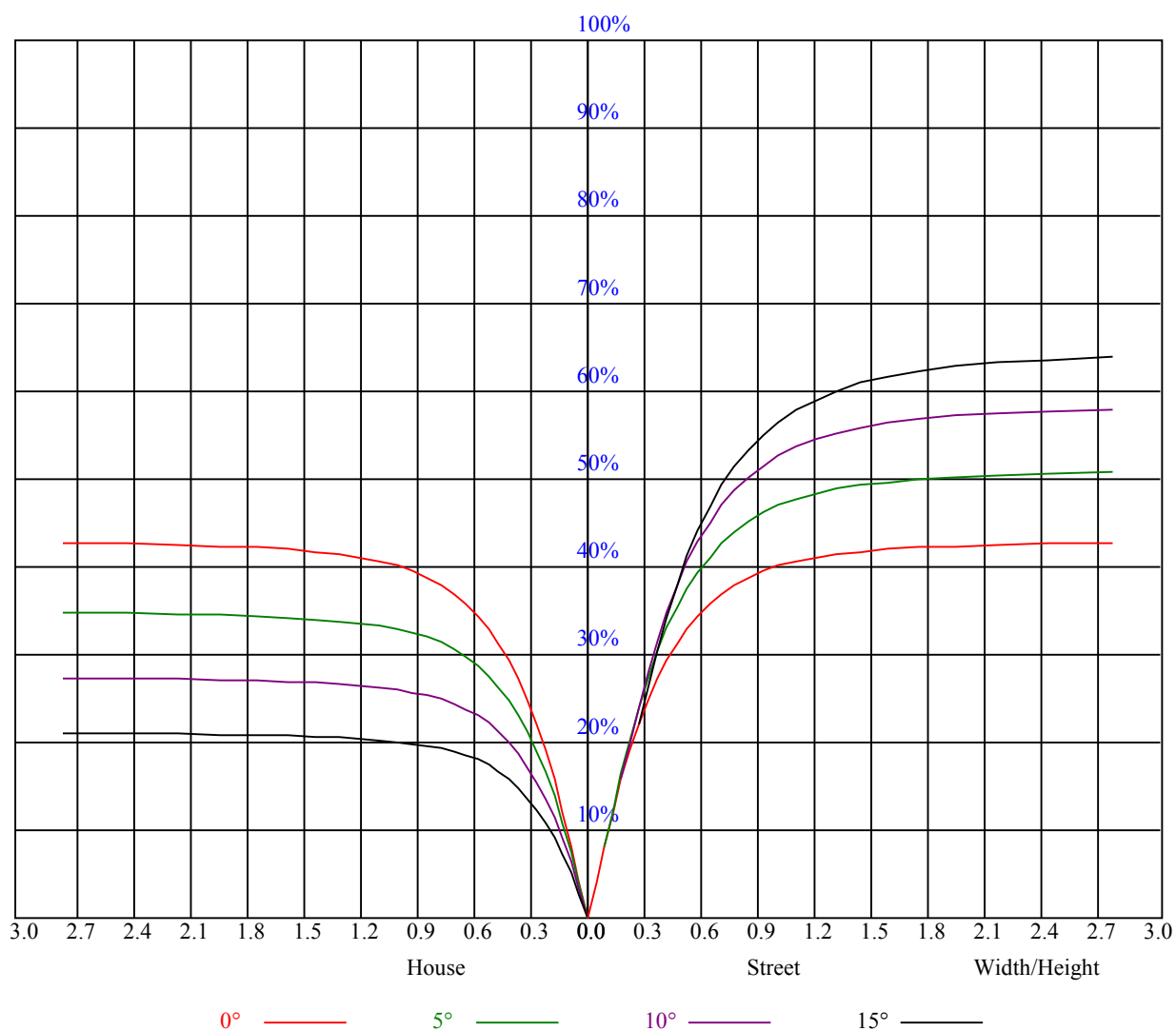
Luminance Limiting Curve



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	22.19	23.35	22.55	23.67	23.98	22.38	23.54	22.74	23.85	24.17
	3H	23.17	24.20	23.55	24.53	24.90	23.36	24.39	23.75	24.73	25.09
	4H	23.53	24.49	23.94	24.84	25.23	23.74	24.70	24.15	25.05	25.44
	6H	23.84	24.72	24.26	25.09	25.48	24.06	24.94	24.48	25.31	25.71
	8H	23.97	24.80	24.40	25.19	25.60	24.20	25.03	24.63	25.42	25.83
	12H	24.19	24.98	24.62	25.36	25.80	24.44	25.23	24.88	25.62	26.05
4H	2H	22.46	23.42	22.87	23.77	24.16	22.62	23.58	23.03	23.93	24.32
	3H	23.66	24.44	24.07	24.85	25.25	23.82	24.60	24.24	25.01	25.41
	4H	24.14	24.83	24.57	25.26	25.70	24.32	25.02	24.75	25.44	25.88
	6H	24.50	25.10	24.97	25.55	26.02	24.70	25.30	25.17	25.75	26.22
	8H	24.69	25.25	25.17	25.70	26.18	24.90	25.46	25.38	25.91	26.39
	12H	24.96	25.45	25.45	25.94	26.41	25.19	25.68	25.68	26.17	26.64
8H	4H	24.29	24.85	24.76	25.30	25.77	24.45	25.01	24.93	25.46	25.94
	6H	24.80	25.25	25.30	25.75	26.23	24.98	25.43	25.48	25.93	26.41
	8H	25.08	25.49	25.61	26.01	26.50	25.28	25.68	25.80	26.20	26.70
	12H	25.87	26.23	26.39	26.73	27.30	26.08	26.44	26.60	26.93	27.51
12H	4H	24.29	24.78	24.77	25.26	25.74	24.45	24.94	24.94	25.42	25.90
	6H	25.28	25.25	25.37	25.72	26.26	25.46	25.42	25.55	25.89	26.44
	8H	25.19	25.55	25.71	26.04	26.62	25.38	25.73	25.90	26.23	26.81
Variation with the observer position at spacings:											
S = 1.0H		1.1/-1.9					1.1/-1.9				
S = 1.5H		2.3/-2.5					2.3/-2.5				
S = 2.0H		4.2/-2.7					4.2/-2.7				
Standard tables:		BK2					BK2				
Uncorrected UGR		7.2					7.2				



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	1.04	1.04	1.04	1.01	1.01	1.01	0.97	0.97	0.97	0.93	0.93	0.93	0.89	0.89	0.89	0.87
1	0.95	0.92	0.90	0.93	0.91	0.89	0.89	0.88	0.86	0.86	0.85	0.83	0.83	0.82	0.81	0.79
2	0.88	0.84	0.81	0.86	0.83	0.80	0.83	0.80	0.78	0.81	0.78	0.76	0.78	0.76	0.75	0.73
3	0.82	0.77	0.73	0.80	0.76	0.73	0.78	0.74	0.71	0.76	0.73	0.70	0.74	0.71	0.69	0.68
4	0.76	0.71	0.67	0.75	0.71	0.67	0.73	0.69	0.66	0.72	0.68	0.65	0.70	0.67	0.64	0.63
5	0.72	0.66	0.62	0.71	0.66	0.62	0.69	0.65	0.61	0.68	0.64	0.61	0.66	0.63	0.60	0.59
6	0.67	0.62	0.58	0.67	0.62	0.58	0.65	0.61	0.57	0.64	0.60	0.57	0.63	0.59	0.57	0.55
7	0.64	0.58	0.55	0.63	0.58	0.54	0.62	0.57	0.54	0.61	0.57	0.54	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	0.57	0.52	0.49	0.57	0.52	0.49	0.56	0.52	0.48	0.55	0.51	0.48	0.54	0.51	0.48	0.47
10	0.55	0.50	0.46	0.54	0.49	0.46	0.53	0.49	0.46	0.53	0.49	0.46	0.52	0.48	0.46	0.45



NATA 1406-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	1038.83	988.99	849.99	653.06	465.53	331.26	256.22	196.93	144.79		
45.0	1038.09	979.31	821.08	629.10	434.08	310.73	248.06	190.24	140.06		
90.0	1032.81	948.60	789.02	573.86	389.64	286.93	220.22	169.31	124.31		
135.0	1039.16	991.74	850.44	640.13	453.49	326.93	249.47	191.59	141.41		
180.0	1038.83	991.91	842.57	637.93	453.32	327.71	249.30	191.03	143.66		
225.0	1038.09	999.62	870.08	666.56	469.35	344.81	263.81	203.23	153.84		
270.0	1032.81	1006.93	887.01	698.51	501.53	348.36	263.31	200.36	149.06		
315.0	1039.16	981.51	845.94	636.19	451.52	320.29	249.75	191.36	137.42		
360.0	1038.83	988.99	849.99	653.06	465.53	331.26	256.22	196.93	144.79		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	95.23	61.26	38.53	26.44	18.62	13.16	8.89	5.79	3.43		
45.0	88.20	56.25	35.83	24.64	17.33	12.15	8.21	5.57	3.15		
90.0	77.79	49.22	31.22	22.84	15.81	11.08	7.48	4.78	2.98		
135.0	94.05	59.68	37.86	27.06	18.17	12.88	8.78	5.85	3.54		
180.0	93.38	58.11	36.79	25.09	17.33	12.38	8.61	5.68	3.66		
225.0	100.80	61.93	38.53	25.71	17.66	12.43	8.72	5.74	3.77		
270.0	104.34	63.96	39.60	27.39	18.90	13.39	9.00	6.08	3.54		
315.0	93.38	58.16	36.96	25.88	17.89	12.60	8.66	5.46	3.49		
360.0	95.23	61.26	38.53	26.44	18.62	13.16	8.89	5.79	3.43		
C/γ(°)	90.0										
0.0	2.53										
45.0	2.53										
90.0	2.48										
135.0	2.53										
180.0	2.59										
225.0	2.70										
270.0	2.59										
315.0	2.53										
360.0	2.53										