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NATA

LumCAT: 1408-N	
Luminaire: 92.70.051.00	
Report No: NATA0100	Voltage(V): 35.2000
Test No: GC2019010409	Current(A): 0.2600
LampCAT: BRIDGELUX V8E G7	Power (W): 9.1520
Lamp flux(lm): 1259.0	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): 1075.06
Efficiency(%): 85.39%
Lumens(lm)/Power(W): 118.01
Central intensity(cd): 994.022
Maximum intensity(cd): 994.022
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=58.3
[C90/270]Total=58.3
Field angle(10%Imax): [C0/180]Total=101.8
[C90/270]Total=101.8
Maximum s/h(1/2): C0_180=0.86 C90_270=0.86
Maximum s/h(1/4): C0_180=0.91 C90_270=0.91
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 85.78%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 95.222%

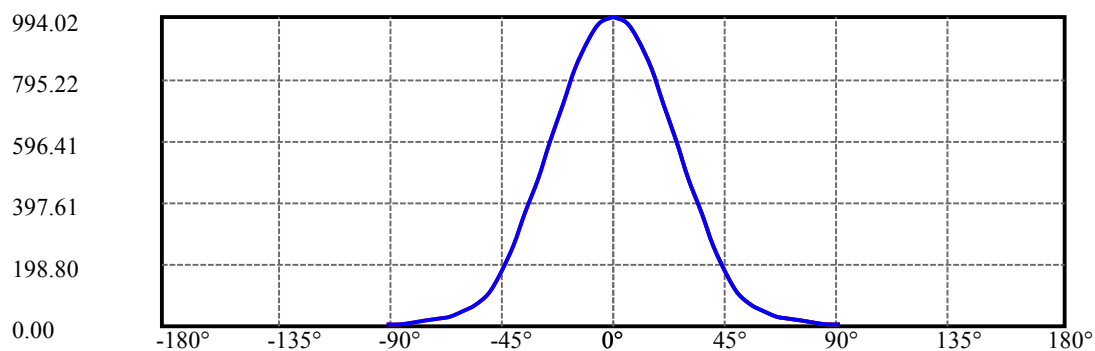
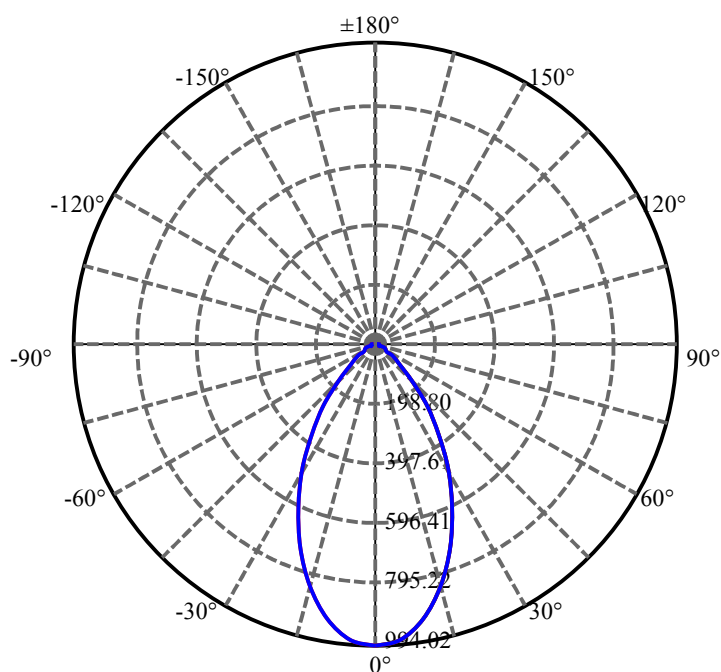
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	994.022	5.944	5.944	.472%	.553%
5.0	976.802	46.665	52.61	3.707%	4.894%
10.0	920.264	87.594	140.203	6.957%	13.041%
15.0	826.369	117.236	257.439	9.312%	23.946%
20.0	715.866	134.206	391.645	10.660%	36.430%
25.0	592.833	137.331	528.976	10.908%	49.204%
30.0	477.795	130.949	659.925	10.401%	61.385%
35.0	364.549	114.614	774.539	9.104%	72.046%
40.0	261.485	92.131	866.669	7.318%	80.616%
45.0	166.732	64.624	931.293	5.133%	86.627%
50.0	106.348	44.655	975.948	3.547%	90.781%
55.0	67.718	30.406	1006.354	2.415%	93.609%
60.0	46.399	22.026	1028.38	1.749%	95.658%
65.0	32.295	16.043	1044.423	1.274%	97.150%
70.0	23.266	11.984	1056.407	.952%	98.265%
75.0	15.827	8.380	1064.787	.666%	99.044%
80.0	10.385	5.606	1070.393	.445%	99.566%
85.0	6.349	3.467	1073.86	.275%	99.888%
90.0	4.380	1.201	1075.061	.095%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	659.92	52.42%	61.38%
0-40	866.67	68.84%	80.62%
0-60	1028.38	81.68%	95.66%
0-90	1073.86	85.29%	99.89%
0-120	1073.86	85.29%	99.89%
0-180	1075.06	85.39%	100.00%
60-90	67.51	5.36%	6.28%
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%
0-39.64	860.05	68.31%	80.00%

ZONAL LUMEN SUMMARY

0-10	140.20
10-20	251.44
20-30	268.28
30-40	206.74
40-50	109.28
50-60	52.43
60-70	28.03
70-80	13.99
80-90	3.47
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



C0(Max):

C0/C180:

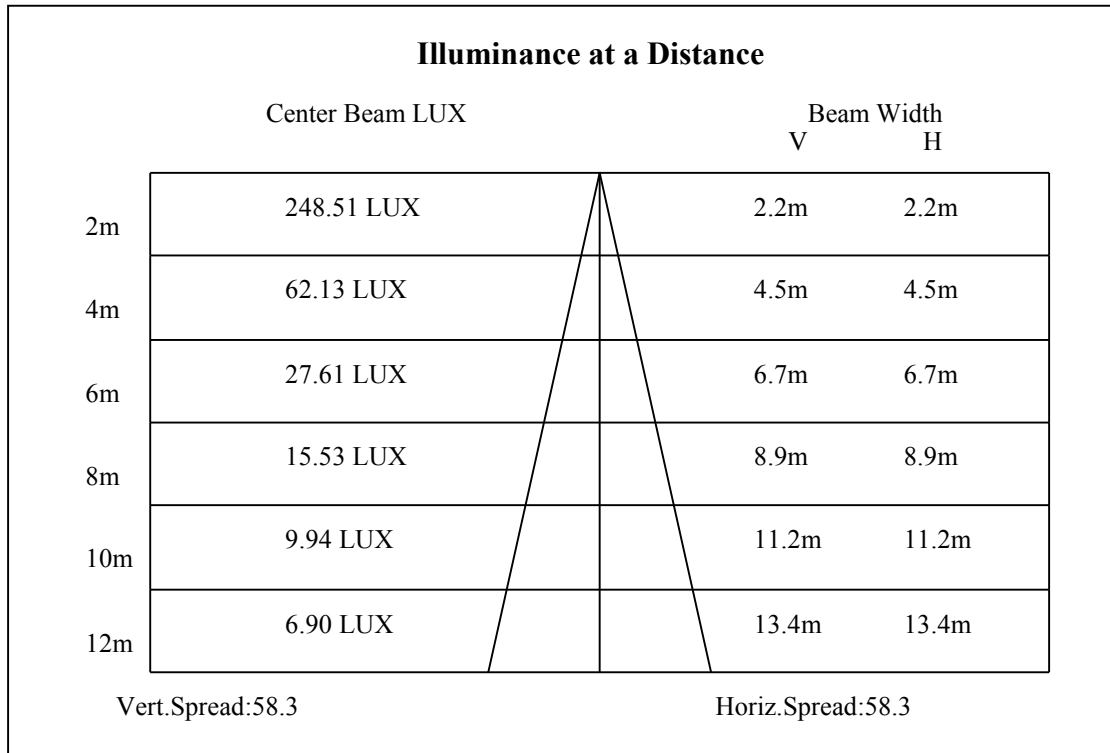
C90/C270:

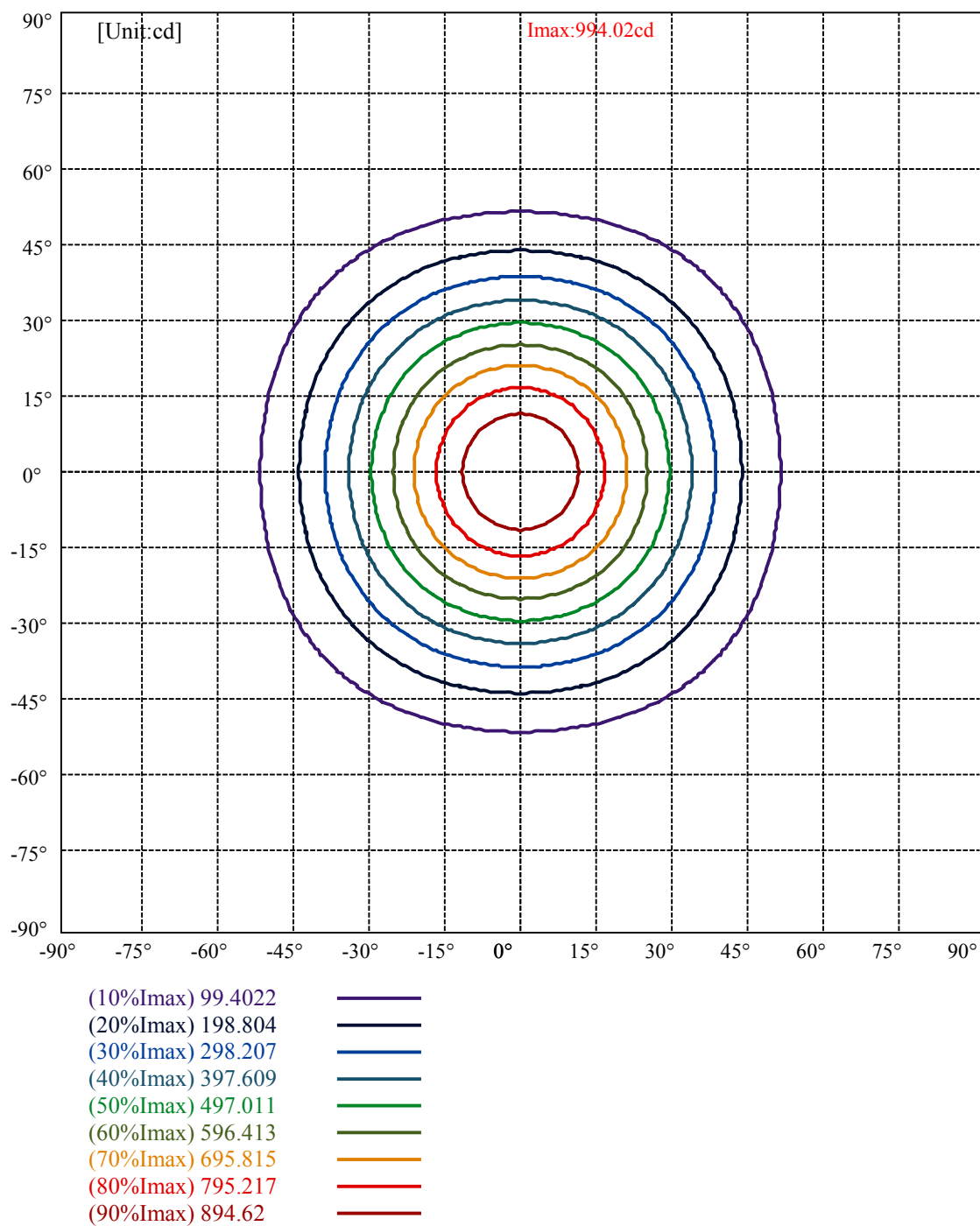
Field angle(10%Imax):C0/180Left:50.9 Right:50.9

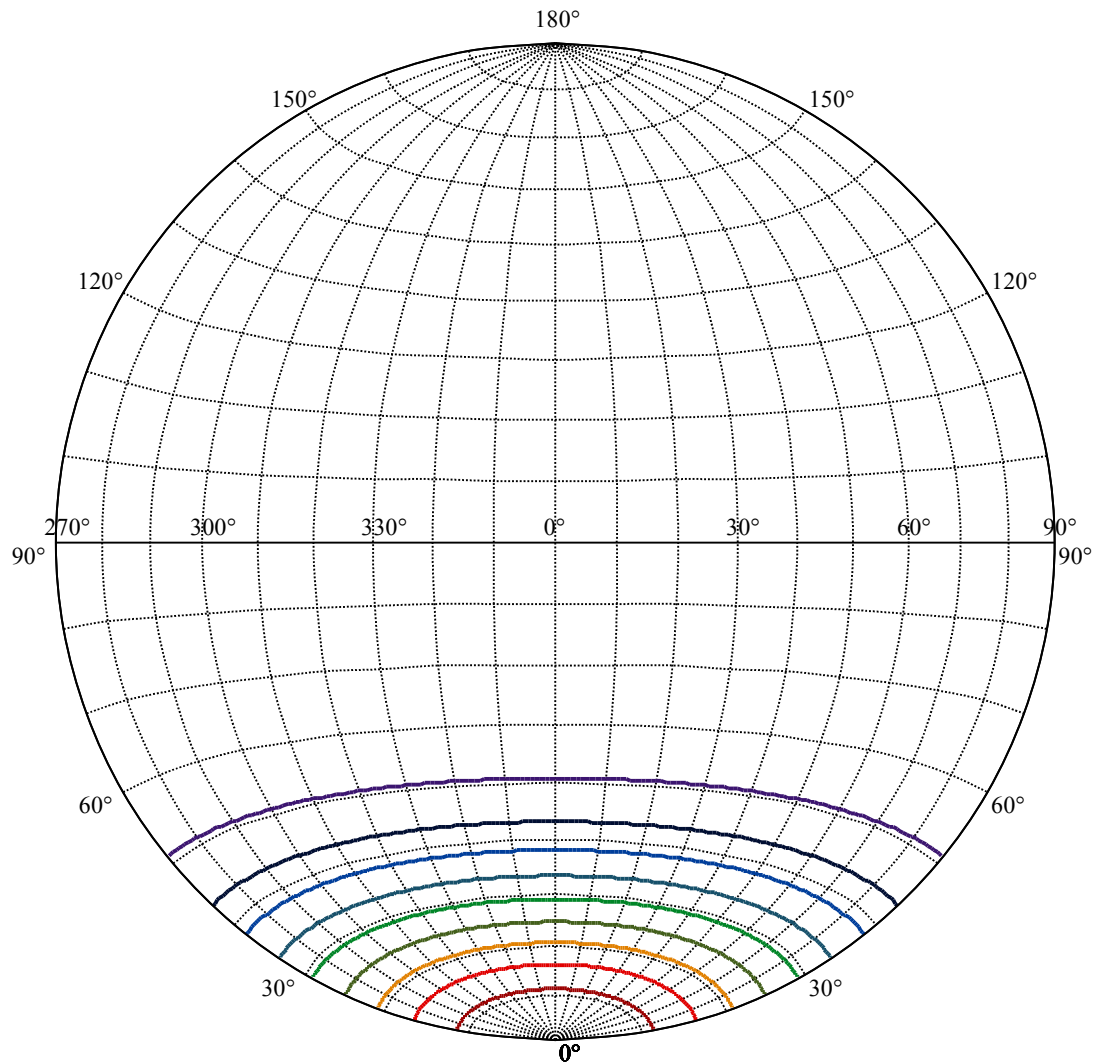
:C90/270Left:50.9 Right:50.9

Beam Angle(50%Imax):C0/180Left:29.2 Right:29.2

:C90/270Left:29.2 Right:29.2







House

[Unit:cd]

Road

Imax:994.02

(10%Imax) 99.4022

(20%Imax) 198.804

(30%Imax) 298.207

(40%Imax) 397.609

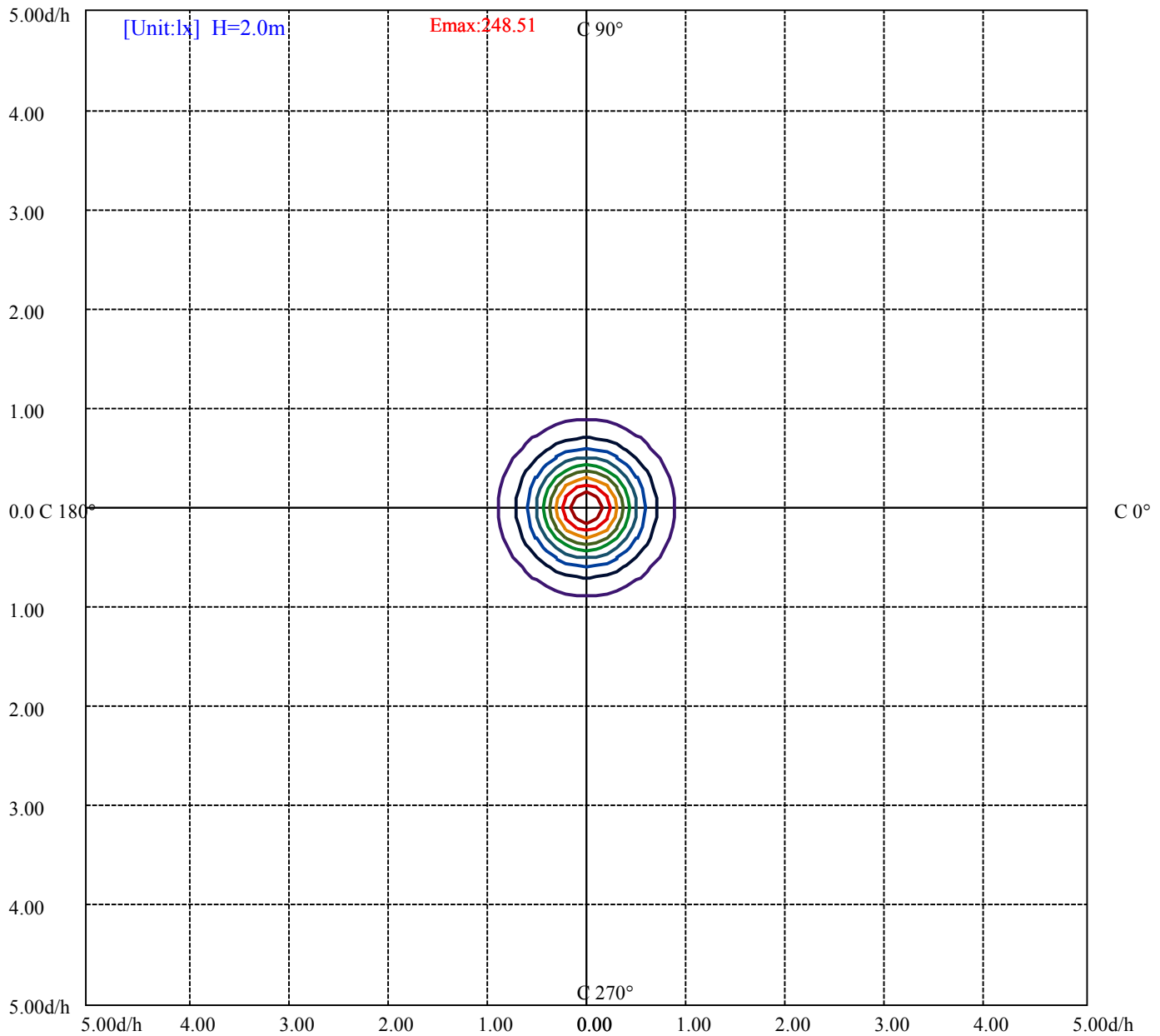
(50%Imax) 497.011

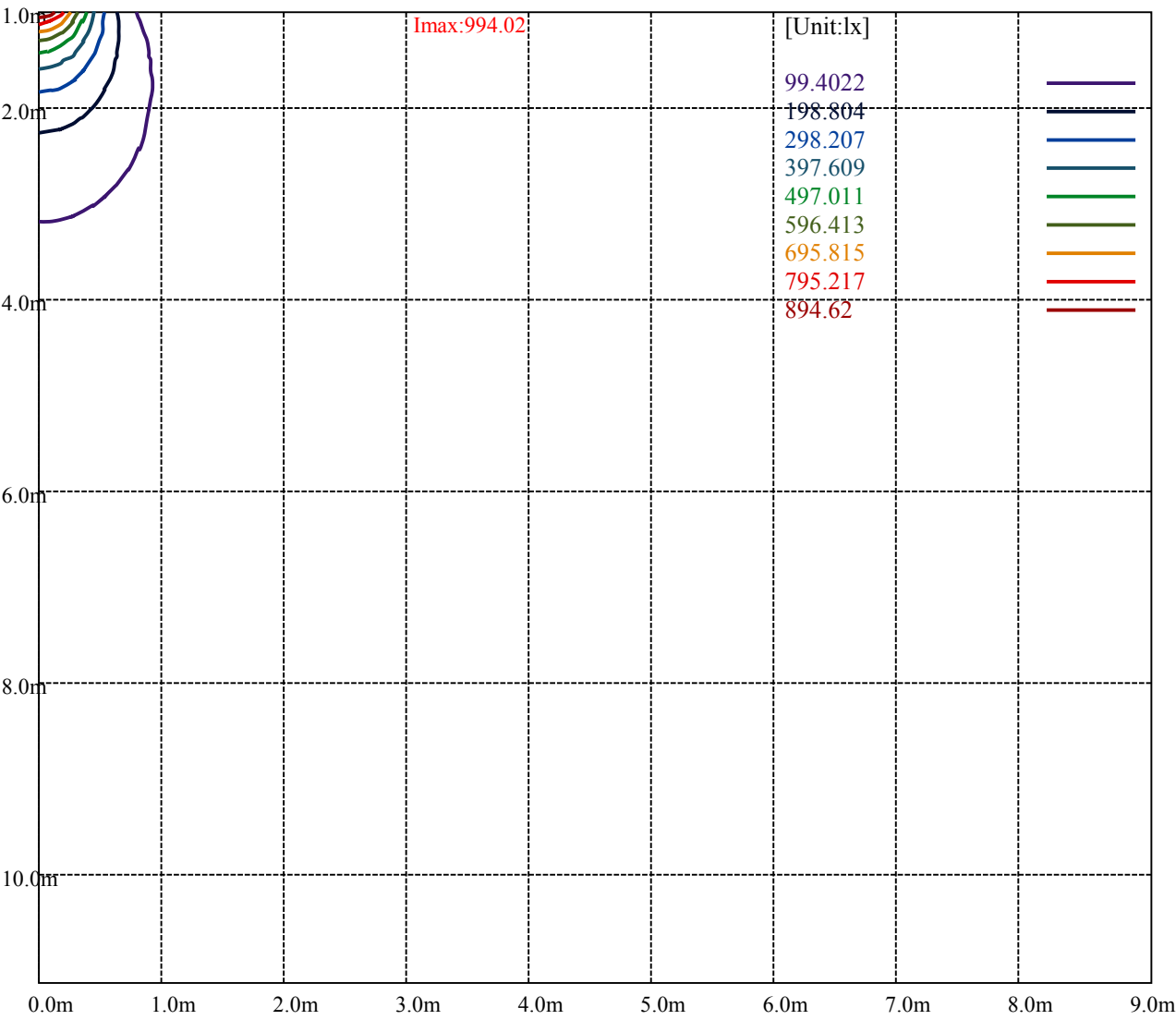
(60%Imax) 596.413

(70%Imax) 695.815

(80%Imax) 795.217

(90%Imax) 894.62

(10%E_{max}) 24.85052(20%E_{max}) 49.701(30%E_{max}) 74.5515(40%E_{max}) 99.40225(50%E_{max}) 124.2527(60%E_{max}) 149.1033(70%E_{max}) 173.9538(80%E_{max}) 198.8042(90%E_{max}) 223.6548



Luminance Table

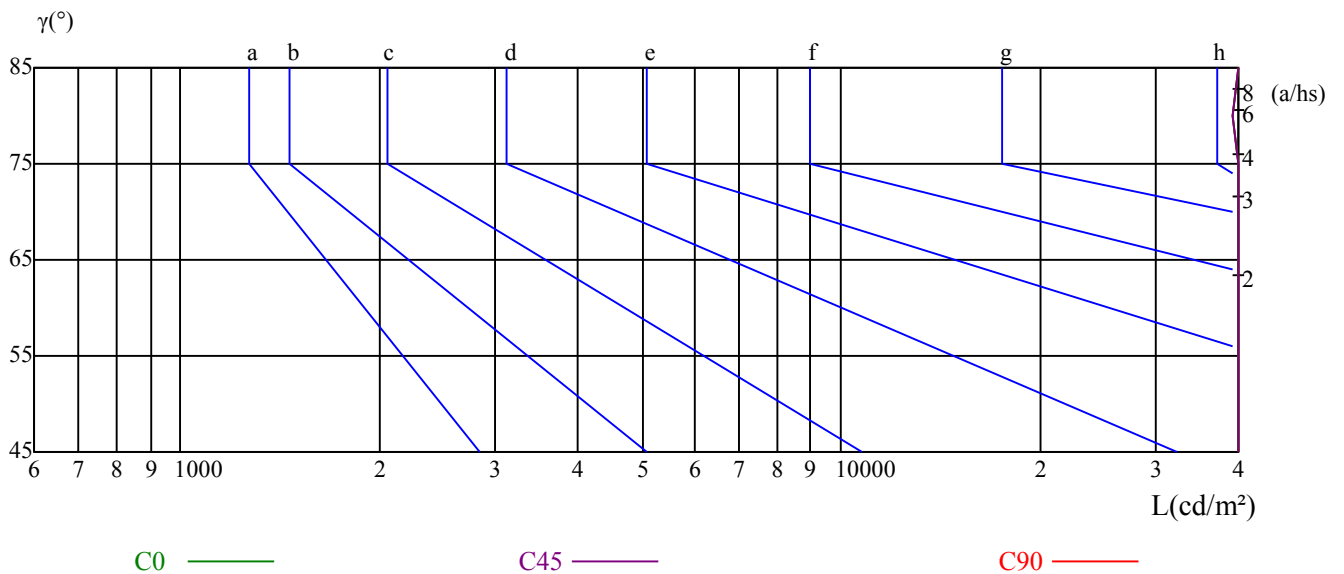
γ	45	50	55	60	65	70	75	80	85
C0	155026	108776	77622	61011	50240	44725	40205	39320	47896
C45	155026	108776	77622	61011	50240	44725	40205	39320	47896
C90	155026	108776	77622	61011	50240	44725	40205	39320	47896

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
50240	50240	50240	40205	40205	40205	47896	47896	47896

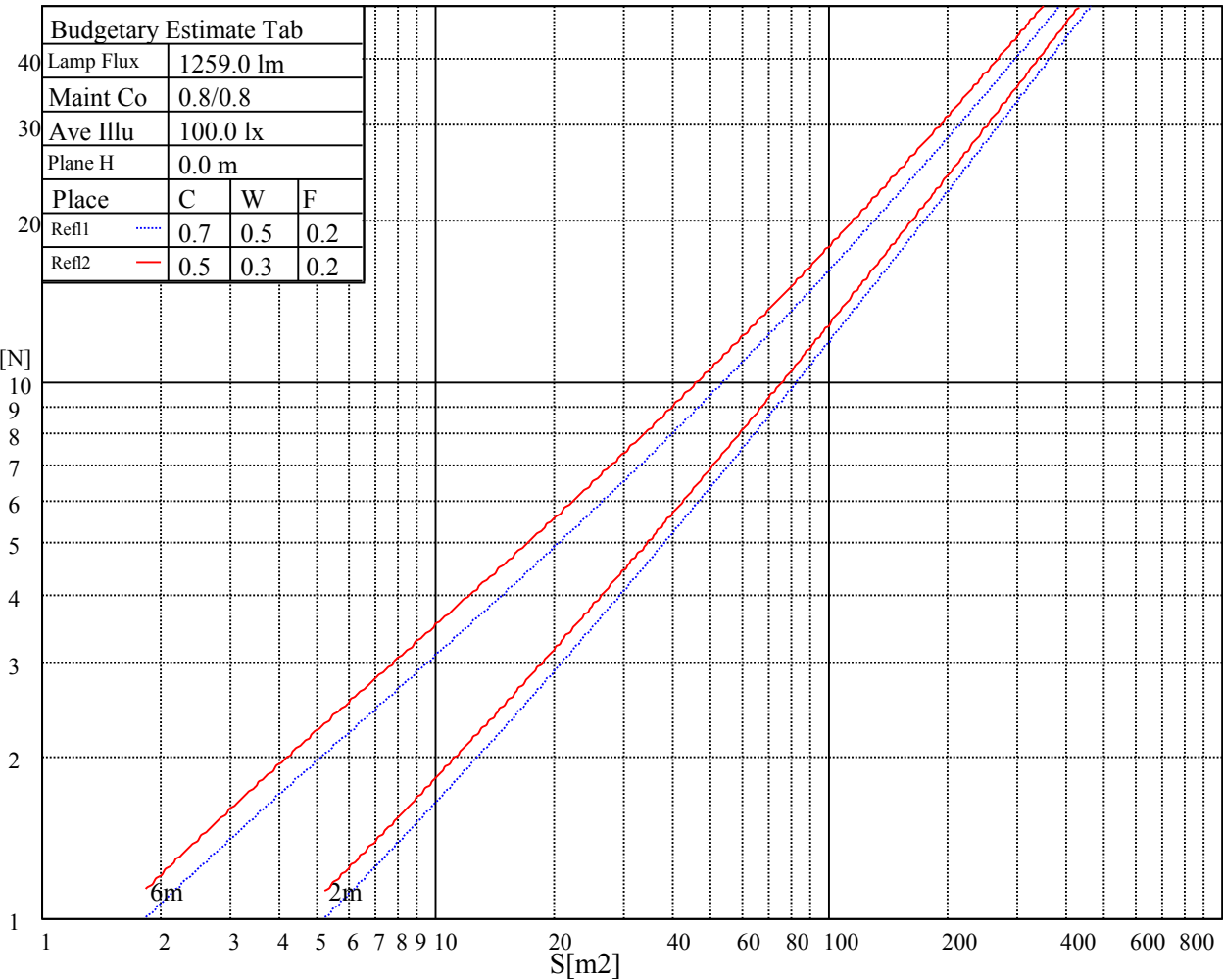
Glare Table

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

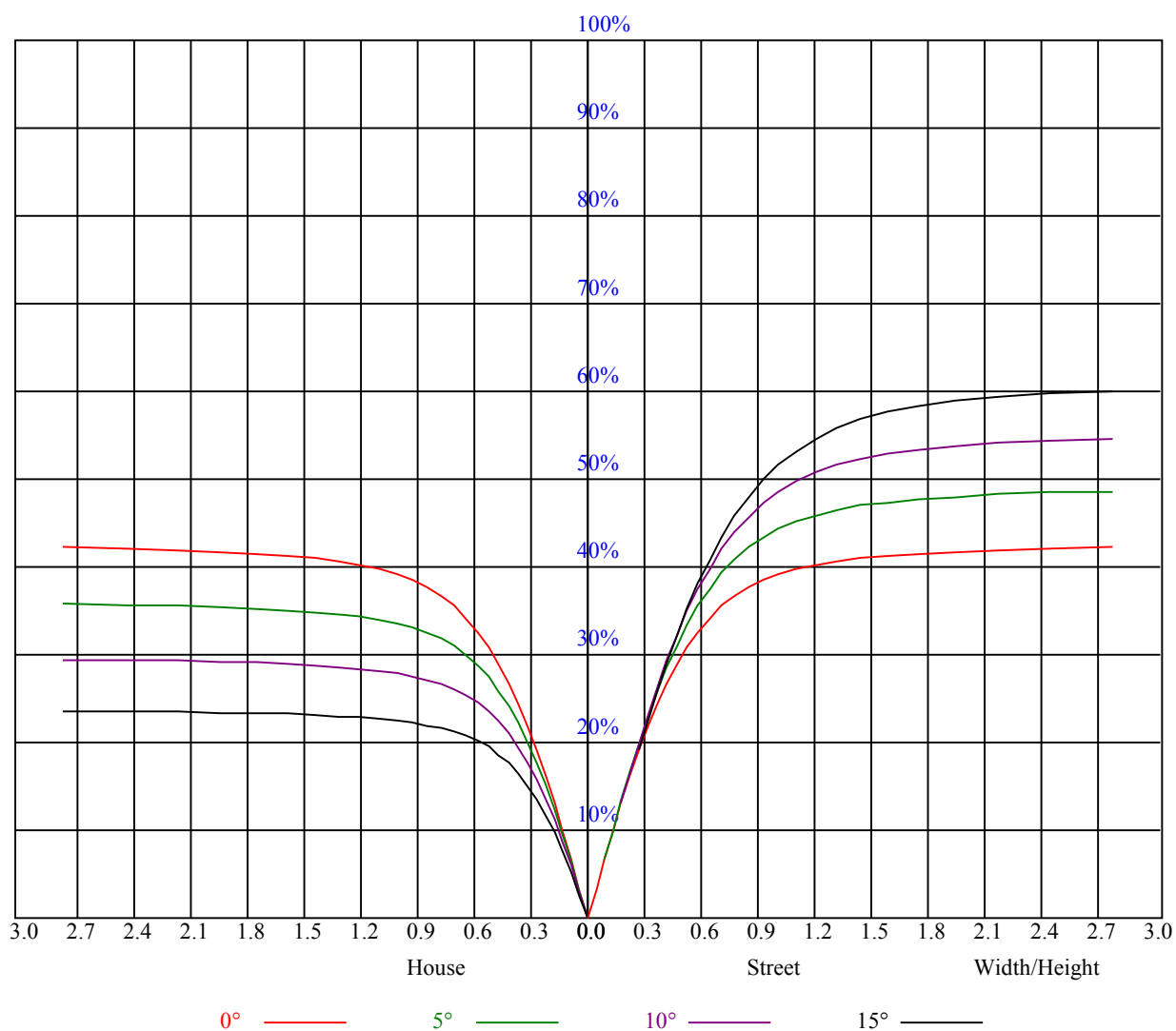
Luminance Limiting Curve



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	23.19	24.39	23.55	24.71	25.02	23.28	24.49	23.65	24.80	25.12
	3H	24.19	25.25	24.57	25.58	25.95	24.33	25.40	24.71	25.73	26.09
	4H	24.56	25.55	24.97	25.91	26.29	24.73	25.72	25.14	26.08	26.46
	6H	24.88	25.79	25.30	26.16	26.56	25.07	25.98	25.48	26.35	26.75
	8H	25.01	25.87	25.45	26.27	26.67	25.21	26.07	25.64	26.46	26.87
	12H	25.25	26.07	25.68	26.45	26.88	25.45	26.28	25.89	26.66	27.09
4H	2H	23.45	24.44	23.85	24.79	25.18	23.53	24.52	23.93	24.87	25.26
	3H	24.66	25.47	25.08	25.88	26.28	24.79	25.60	25.21	26.01	26.41
	4H	25.16	25.88	25.59	26.30	26.75	25.31	26.04	25.75	26.46	26.90
	6H	25.54	26.16	26.00	26.61	27.08	25.71	26.33	26.18	26.78	27.25
	8H	25.73	26.32	26.20	26.76	27.24	25.92	26.50	26.39	26.95	27.42
	12H	26.01	26.52	26.50	27.01	27.48	26.21	26.72	26.70	27.21	27.68
8H	4H	25.31	25.89	25.78	26.34	26.82	25.45	26.04	25.92	26.48	26.96
	6H	25.83	26.30	26.33	26.80	27.28	25.99	26.46	26.49	26.96	27.44
	8H	26.12	26.55	26.65	27.07	27.56	26.29	26.72	26.82	27.24	27.73
	12H	26.91	27.28	27.43	27.78	28.36	27.09	27.47	27.61	27.96	28.54
12H	4H	25.31	25.82	25.80	26.31	26.78	25.45	25.96	25.94	26.45	26.92
	6H	26.36	26.30	26.41	26.77	27.31	26.52	26.45	26.56	26.92	27.47
	8H	26.23	26.61	26.75	27.10	27.68	26.40	26.77	26.91	27.26	27.84
Variation with the observer position at spacings:											
S = 1.0H		1.2/-1.9					1.2/-1.9				
S = 1.5H		2.5/-2.5					2.5/-2.5				
S = 2.0H		4.4/-2.6					4.4/-2.6				
Standard tables:		BK2					BK2				
Uncorrected UGR		9.9					9.9				



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	1.02	1.02	1.02	1.00	1.00	1.00	0.95	0.95	0.95	0.91	0.91	0.91	0.88	0.88	0.88	0.86
1	0.93	0.91	0.88	0.91	0.89	0.87	0.88	0.86	0.84	0.85	0.83	0.82	0.82	0.81	0.79	0.78
2	0.86	0.82	0.78	0.84	0.81	0.78	0.82	0.78	0.76	0.79	0.76	0.74	0.76	0.74	0.73	0.71
3	0.79	0.74	0.70	0.78	0.74	0.70	0.76	0.72	0.69	0.74	0.70	0.68	0.72	0.69	0.67	0.65
4	0.73	0.68	0.64	0.72	0.67	0.64	0.71	0.66	0.63	0.69	0.65	0.62	0.67	0.64	0.61	0.60
5	0.68	0.63	0.59	0.67	0.62	0.58	0.66	0.61	0.58	0.64	0.60	0.57	0.63	0.60	0.57	0.55
6	0.64	0.58	0.54	0.63	0.58	0.54	0.62	0.57	0.54	0.60	0.56	0.53	0.59	0.56	0.53	0.51
7	0.60	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
8	0.56	0.51	0.47	0.56	0.50	0.47	0.55	0.50	0.47	0.54	0.49	0.46	0.53	0.49	0.46	0.45
9	0.53	0.48	0.44	0.53	0.47	0.44	0.52	0.47	0.44	0.51	0.47	0.43	0.50	0.46	0.43	0.42
10	0.50	0.45	0.41	0.50	0.45	0.41	0.49	0.44	0.41	0.48	0.44	0.41	0.48	0.44	0.41	0.40



NATA 1408-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	988.54	981.45	936.00	848.25	746.21	620.94	500.91	385.31	273.99		
45.0	998.66	983.98	935.38	843.92	734.01	616.44	498.43	374.34	275.18		
90.0	996.30	971.27	903.43	806.12	687.77	559.80	447.13	328.78	228.49		
135.0	992.59	971.61	915.69	817.88	711.39	589.39	478.86	371.64	267.75		
180.0	988.54	964.18	900.11	800.33	692.33	571.44	460.69	355.73	254.42		
225.0	998.66	977.40	915.86	820.86	704.59	577.97	470.42	357.64	255.15		
270.0	996.30	986.06	933.30	840.66	728.44	609.64	492.75	377.55	277.65		
315.0	992.59	978.47	922.33	832.95	722.19	597.04	473.18	365.40	259.26		
360.0	988.54	981.45	936.00	848.25	746.21	620.94	500.91	385.31	273.99		
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	178.26	119.64	74.87	51.64	35.89	25.93	17.55	11.48	6.64		
45.0	171.06	108.84	69.02	48.15	33.02	23.34	16.09	10.41	6.13		
90.0	141.19	94.67	60.53	42.13	29.93	21.21	14.06	9.17	5.68		
135.0	170.10	105.24	67.28	46.29	32.40	23.74	16.20	10.74	6.41		
180.0	159.53	98.04	62.83	43.71	30.77	22.61	15.36	10.01	6.36		
225.0	165.66	101.87	63.00	42.30	29.59	21.04	14.51	9.90	6.47		
270.0	181.29	114.30	75.38	49.89	34.14	24.69	16.88	11.19	6.64		
315.0	166.78	108.17	68.85	47.08	32.63	23.57	15.98	10.18	6.47		
360.0	178.26	119.64	74.87	51.64	35.89	25.93	17.55	11.48	6.64		
C/ γ (°)	90.0										
0.0	4.39										
45.0	4.33										
90.0	4.28										
135.0	4.50										
180.0	4.44										
225.0	4.44										
270.0	4.33										
315.0	4.33										
360.0	4.39										