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Nata

LumCAT: 1733-A
Luminaire: 92.76.330.00
Report No: NATA0100
Test No: GC2017101701
LampCAT: BXR V-DR-1830-H-1000-B-13
Lamp flux(lm): 1191.5
Number of Lamps: 1
Length(mm): 39
Phm Type: C

Voltage(V): 34.7000
Current(A): 0.4000
Power (W): 13.8800
PF: 0.0000
Ballast type: DC
Width(mm): 39
Height(mm): 0

Photometric Results

Lumens(lm): 1063.57
Efficiency(%): 89.26%
Lumens(lm)/Power(W): 77.01
Central intensity(cd): 1057.248
Maximum intensity(cd): 1064.949
Angle of maximum intensity: $C=0.0$ $\gamma=5.0$
Beam Angle(50%Imax): [C0/180]Total=62.9
[C90/270]Total=62.9
Field angle(10%Imax): [C0/180]Total=86.5
[C90/270]Total=86.5
Maximum s/h(1/2): C0_180=1.00 C90_270=1.00
Maximum s/h(1/4): C0_180=0.93 C90_270=0.93
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 89.71%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.109%

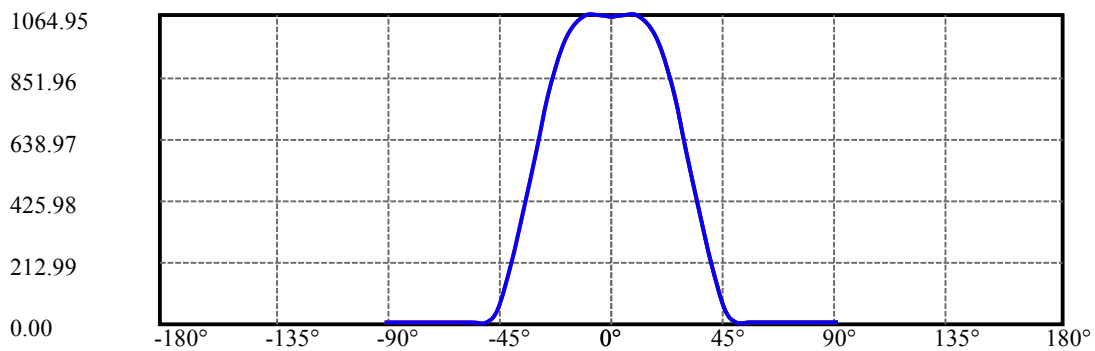
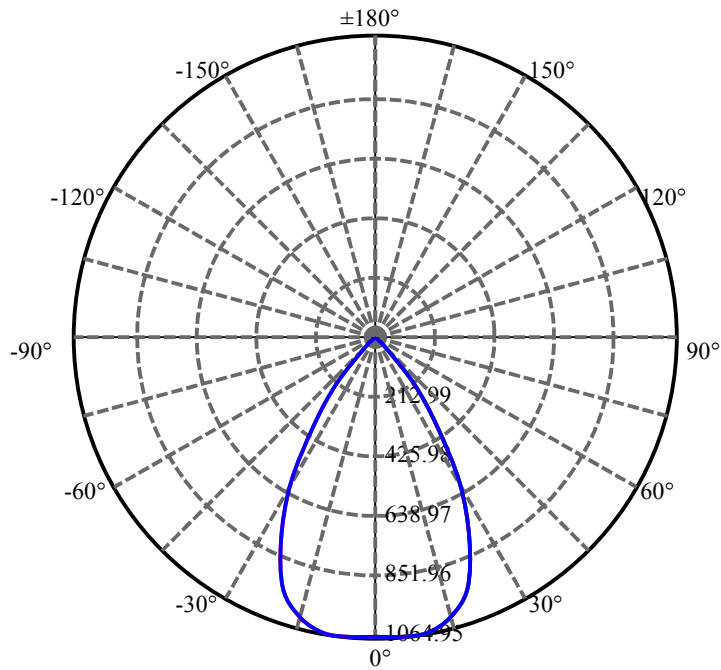
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1057.248	6.323	6.323	.531%	.594%
5.0	1064.949	50.876	57.199	4.270%	5.378%
10.0	1063.407	101.218	158.417	8.495%	14.895%
15.0	1027.118	145.716	304.133	12.229%	28.596%
20.0	943.495	176.881	481.013	14.845%	45.226%
25.0	789.371	182.860	663.874	15.347%	62.420%
30.0	593.804	162.743	826.617	13.659%	77.721%
35.0	381.988	120.097	946.713	10.079%	89.013%
40.0	210.543	74.182	1020.895	6.226%	95.988%
45.0	49.709	19.267	1040.162	1.617%	97.799%
50.0	9.311	3.910	1044.072	.328%	98.167%
55.0	5.168	2.321	1046.392	.195%	98.385%
60.0	4.797	2.277	1048.669	.191%	98.599%
65.0	4.577	2.274	1050.943	.191%	98.813%
70.0	4.466	2.301	1053.243	.193%	99.029%
75.0	4.817	2.551	1055.794	.214%	99.269%
80.0	7.150	3.860	1059.654	.324%	99.632%
85.0	5.031	2.747	1062.401	.231%	99.890%
90.0	4.253	1.166	1063.567	.098%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	826.62	69.38%	77.72%
0-40	1020.89	85.68%	95.99%
0-60	1048.67	88.01%	98.60%
0-90	1062.40	89.16%	99.89%
0-120	1062.40	89.16%	99.89%
0-180	1063.57	89.26%	100.00%
60-90	16.01	1.34%	1.51%
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%
0-31.01	850.85	71.41%	80.00%

ZONAL LUMEN SUMMARY

0-10	158.42
10-20	322.60
20-30	345.60
30-40	194.28
40-50	23.18
50-60	4.60
60-70	4.57
70-80	6.41
80-90	2.75
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



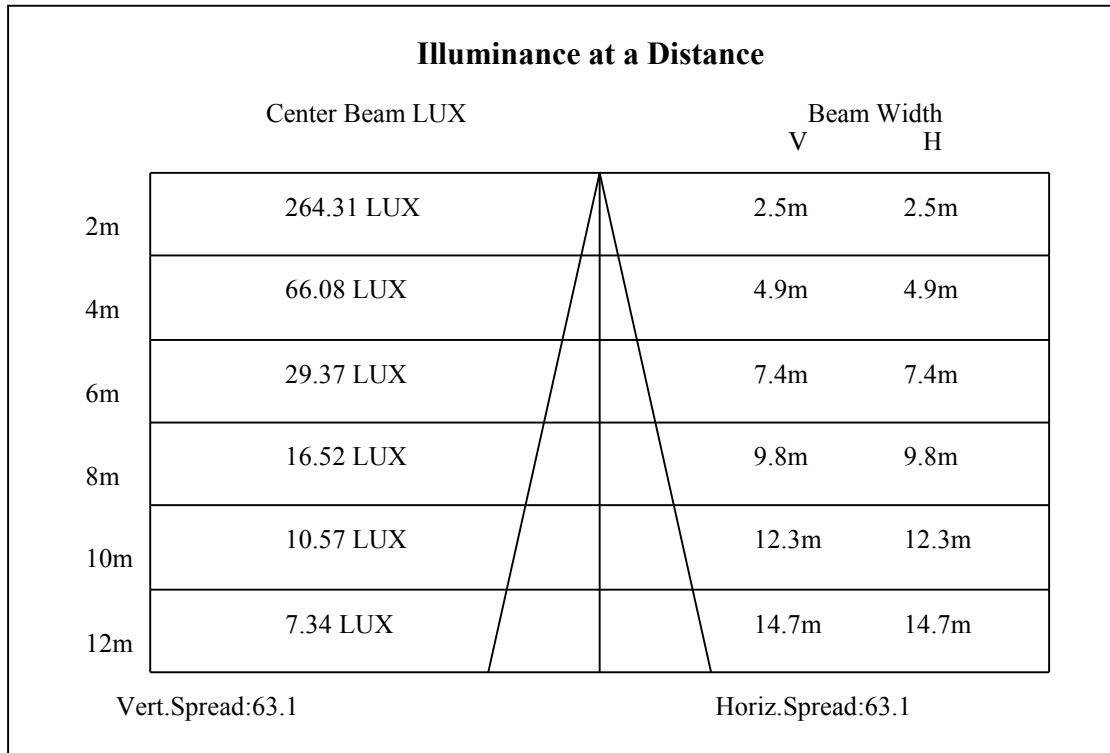
C0(Max): —————

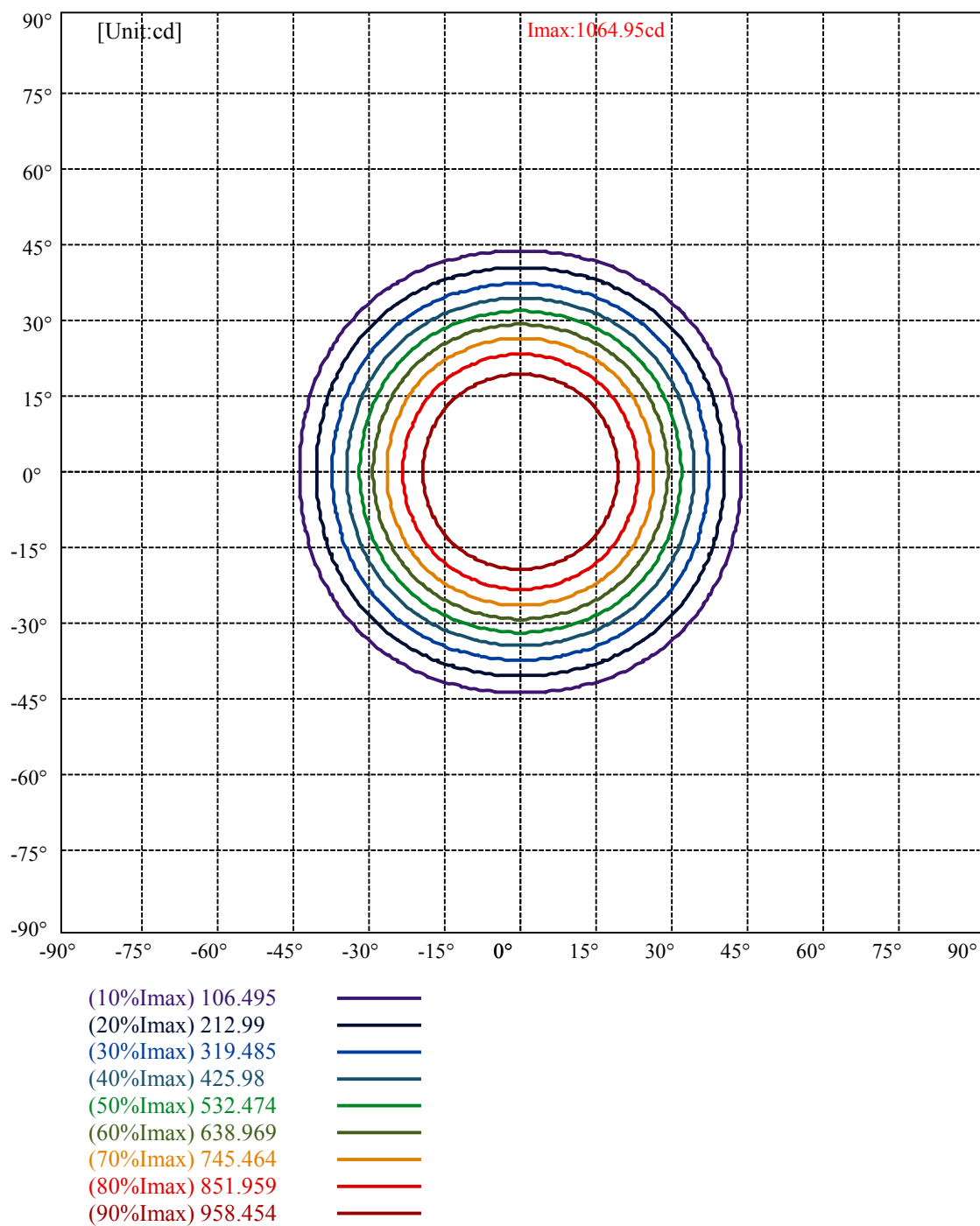
C0/C180: —————

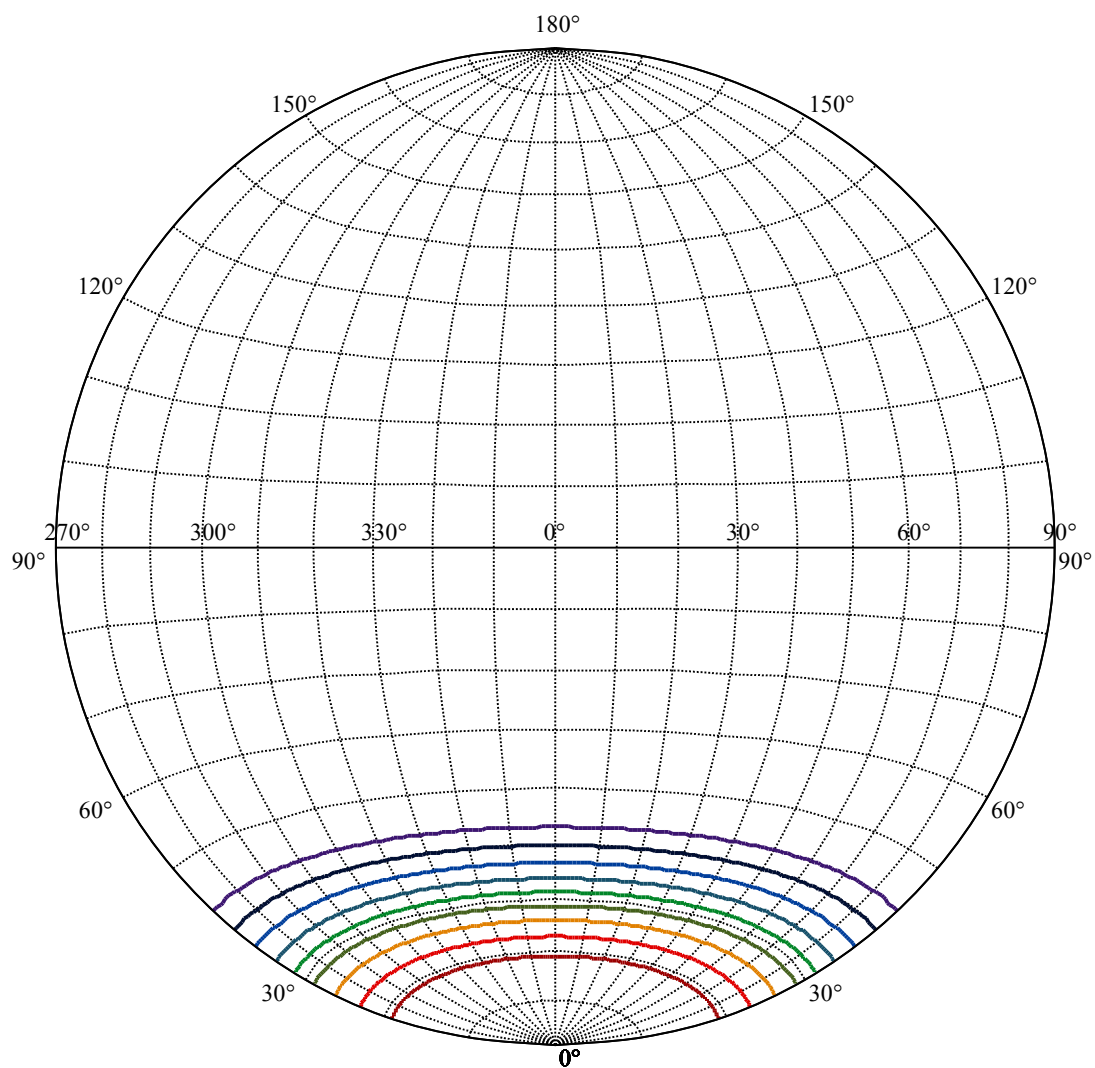
C90/C270: —————

Field angle(10%Imax):C0/180Left:48.2 Right:38.2
:C90/270Left:48.2 Right:38.2

Beam Angle(50%Imax):C0/180Left:36.4 Right:26.4
:C90/270Left:36.4 Right:26.4







House

[Unit:cd]

Road

Imax:1064.95

(10%Imax) 106.495

(20%Imax) 212.99

(30%Imax) 319.485

(40%Imax) 425.98

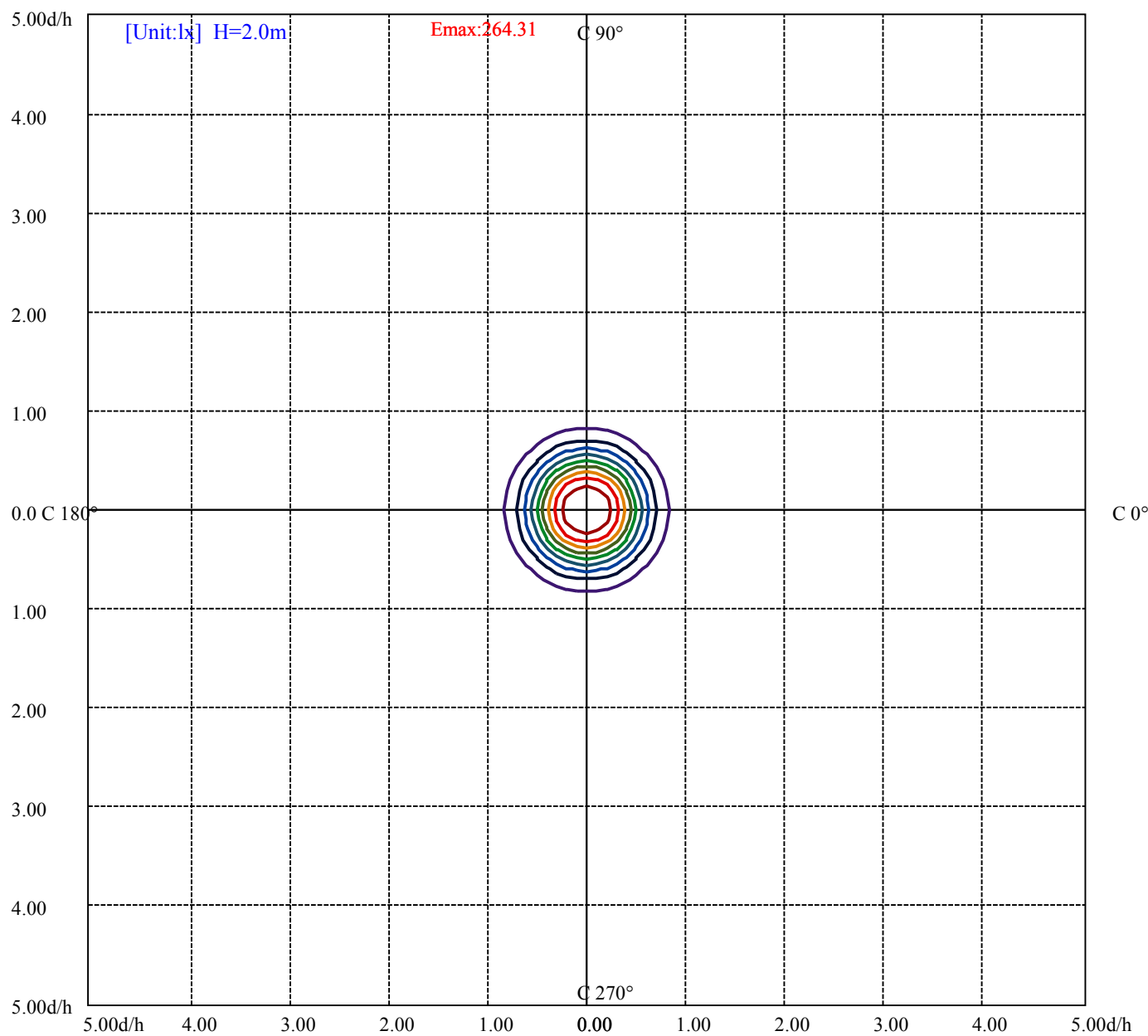
(50%Imax) 532.474

(60%Imax) 638.969

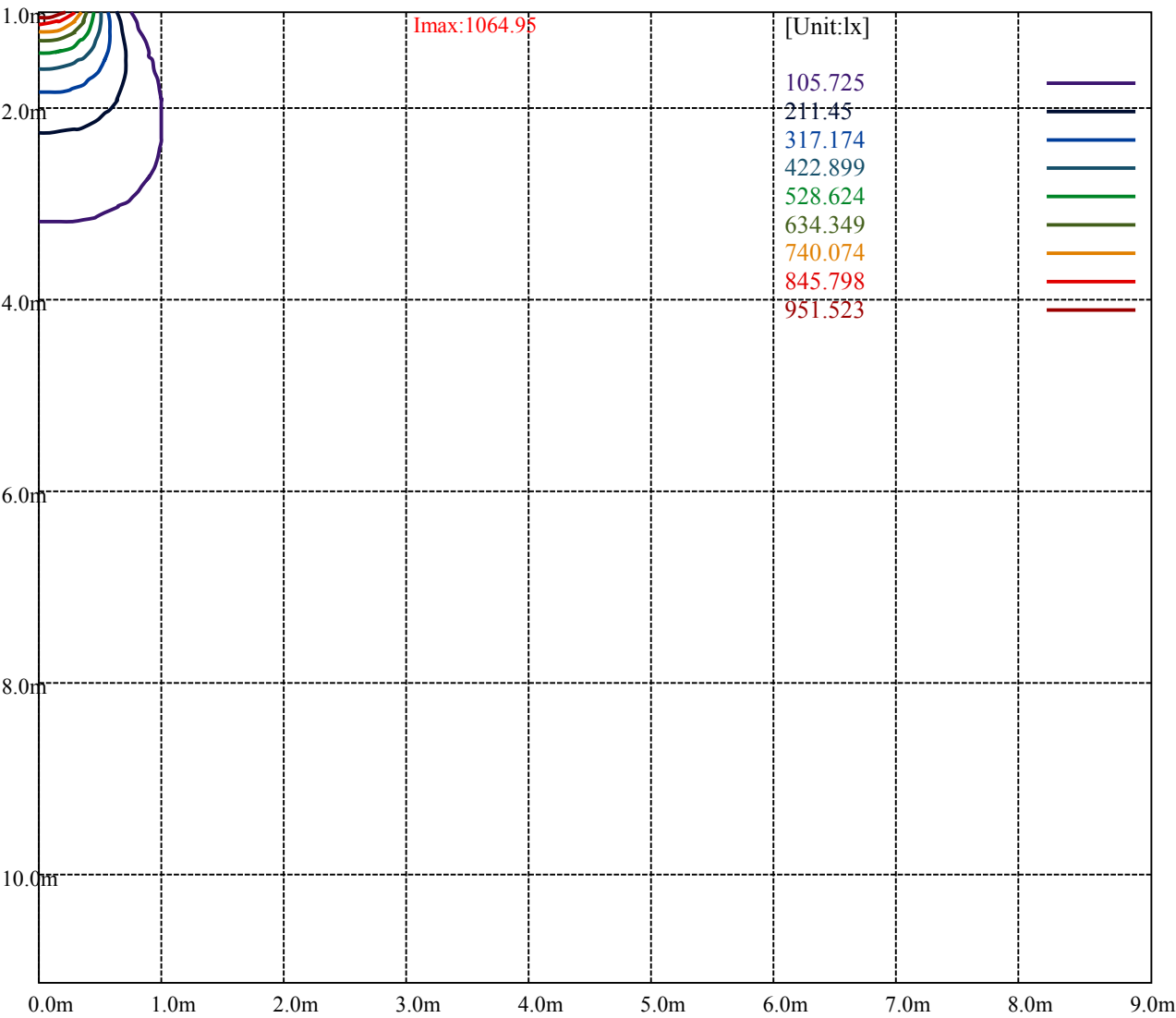
(70%Imax) 745.464

(80%Imax) 851.959

(90%Imax) 958.454



(10%E _{max}) 26.43125	—
(20%E _{max}) 52.8625	—
(30%E _{max}) 79.2935	—
(40%E _{max}) 105.7247	—
(50%E _{max}) 132.156	—
(60%E _{max}) 158.5872	—
(70%E _{max}) 185.0185	—
(80%E _{max}) 211.4498	—
(90%E _{max}) 237.8808	—



Luminance Table

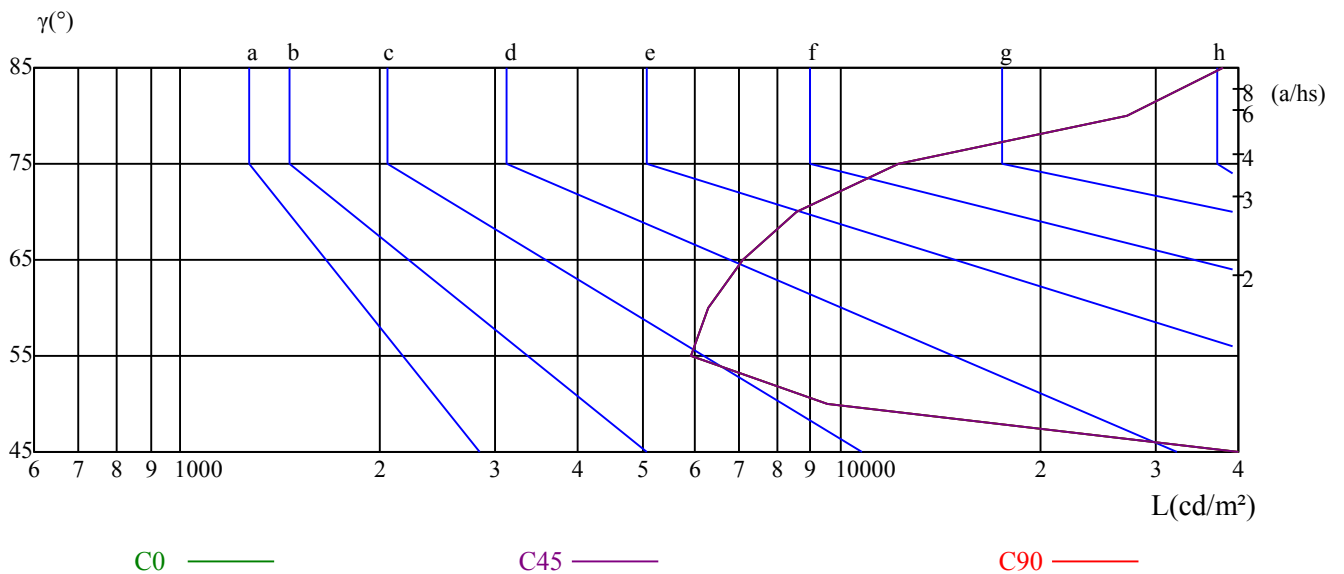
γ	45	50	55	60	65	70	75	80	85
C0	46219	9524	5924	6307	7120	8586	12237	27073	37950
C45	46219	9524	5924	6307	7120	8586	12237	27073	37950
C90	46219	9524	5924	6307	7120	8586	12237	27073	37950

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
7120	7120	7120	12237	12237	12237	37950	37950	37950

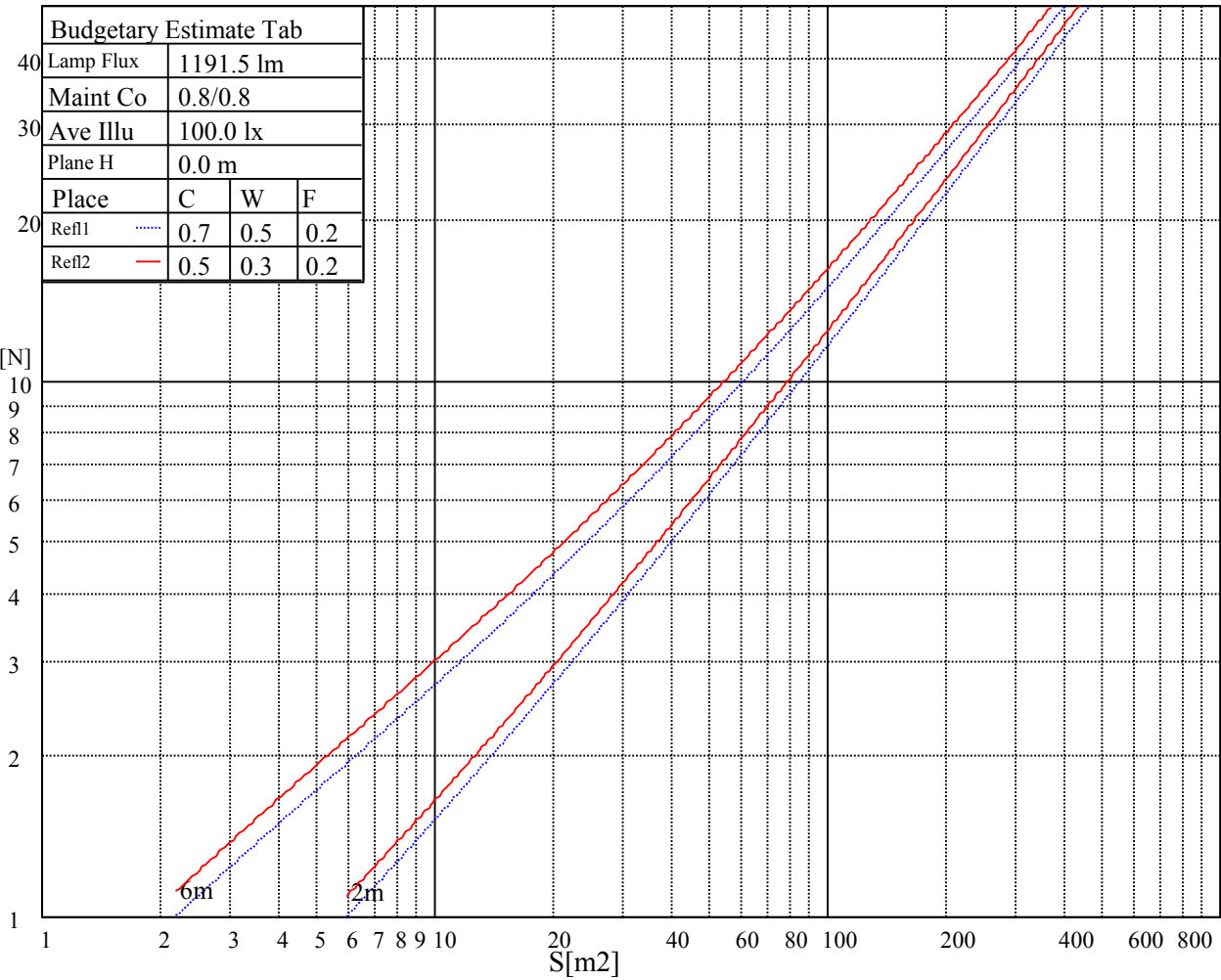
Glare Table

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

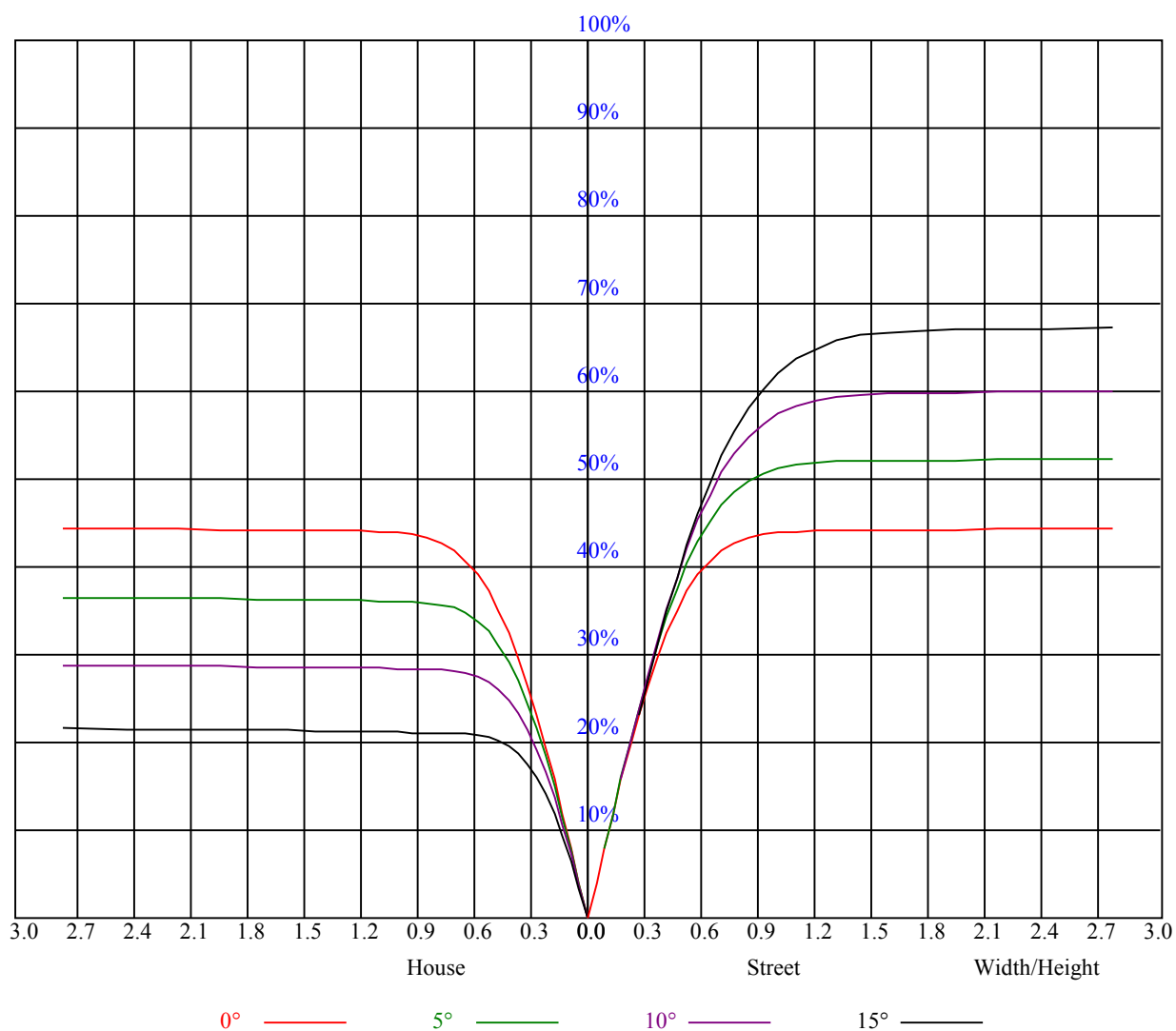
Luminance Limiting Curve



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	6.76	7.72	7.13	8.03	8.35	6.71	7.67	7.08	7.98	8.30
	3H	9.84	10.69	10.22	11.02	11.39	9.80	10.65	10.19	10.98	11.35
	4H	12.07	12.85	12.48	13.21	13.60	11.55	12.34	11.96	12.69	13.08
	6H	15.89	16.60	16.30	16.98	17.37	13.86	14.57	14.28	14.95	15.34
	8H	17.32	17.99	17.76	18.38	18.79	15.05	15.72	15.49	16.11	16.53
	12H	18.83	19.47	19.27	19.85	20.29	16.85	17.49	17.28	17.87	18.30
4H	2H	7.61	8.39	8.02	8.75	9.14	7.58	8.36	7.99	8.71	9.10
	3H	11.01	11.65	11.43	12.06	12.47	10.96	11.60	11.37	12.01	12.41
	4H	13.45	14.02	13.89	14.44	14.89	12.94	13.51	13.38	13.93	14.38
	6H	17.01	17.49	17.48	17.94	18.42	15.40	15.88	15.87	16.34	16.81
	8H	18.67	19.13	19.15	19.58	20.05	16.76	17.22	17.24	17.67	18.15
	12H	20.13	20.53	20.62	21.01	21.49	18.43	18.82	18.92	19.31	19.79
8H	4H	14.50	14.96	14.98	15.41	15.88	14.12	14.58	14.60	15.03	15.50
	6H	18.38	18.74	18.89	19.24	19.73	17.09	17.45	17.60	17.95	18.44
	8H	20.06	20.38	20.59	20.90	21.40	18.53	18.85	19.06	19.37	19.87
	12H	21.50	21.78	22.02	22.27	22.86	20.13	20.41	20.66	20.91	21.49
12H	4H	14.90	15.29	15.39	15.78	16.26	14.71	15.11	15.20	15.59	16.07
	6H	19.00	19.08	19.30	19.56	20.11	17.95	18.03	18.25	18.50	19.05
	8H	20.50	20.78	21.02	21.28	21.86	19.22	19.50	19.75	20.00	20.58
Variation with the observer position at spacings:											
S = 1.0H		4.6/-10.5					4.6/-10.5				
S = 1.5H		6.9/-7.7					6.9/-7.7				
S = 2.0H		8.4/-5.4					8.4/-5.4				
Standard tables:		BK2					BK2				
Uncorrected UGR		6.1					6.1				



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	1.07	1.07	1.07	1.04	1.04	1.04	1.00	1.00	1.00	0.95	0.95	0.95	0.92	0.92	0.92	0.90
1	0.99	0.96	0.94	0.97	0.95	0.93	0.93	0.92	0.90	0.90	0.89	0.87	0.87	0.86	0.85	0.83
2	0.92	0.89	0.86	0.91	0.88	0.85	0.88	0.85	0.83	0.85	0.83	0.81	0.83	0.81	0.79	0.78
3	0.87	0.82	0.79	0.85	0.81	0.78	0.83	0.80	0.77	0.81	0.78	0.76	0.79	0.77	0.75	0.73
4	0.81	0.77	0.73	0.80	0.76	0.73	0.78	0.75	0.72	0.77	0.73	0.71	0.75	0.72	0.70	0.69
5	0.77	0.72	0.68	0.76	0.71	0.68	0.74	0.70	0.67	0.73	0.69	0.66	0.71	0.68	0.66	0.65
6	0.72	0.67	0.64	0.72	0.67	0.63	0.70	0.66	0.63	0.69	0.65	0.63	0.68	0.65	0.62	0.61
7	0.69	0.63	0.60	0.68	0.63	0.60	0.67	0.63	0.59	0.66	0.62	0.59	0.65	0.61	0.59	0.58
8	0.65	0.60	0.56	0.64	0.60	0.56	0.64	0.59	0.56	0.63	0.59	0.56	0.62	0.58	0.56	0.54
9	0.62	0.57	0.53	0.61	0.57	0.53	0.60	0.56	0.53	0.60	0.56	0.53	0.59	0.55	0.53	0.52
10	0.59	0.54	0.51	0.58	0.54	0.50	0.58	0.53	0.50	0.57	0.53	0.50	0.56	0.53	0.50	0.49



Nata 1733-A

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	1056.81	1043.15	1036.33	1011.39	955.12	830.75	626.21	413.69	229.59	
45.0	1062.31	1064.90	1054.83	1011.39	935.02	793.20	605.79	390.90	211.64	
90.0	1057.03	1067.43	1071.89	1023.66	911.35	754.66	572.92	364.14	195.45	
135.0	1052.84	1067.05	1061.82	1028.62	958.70	816.16	611.18	393.82	226.89	
180.0	1056.81	1079.88	1069.58	1035.12	939.48	761.76	558.22	347.63	185.93	
225.0	1062.31	1083.79	1095.84	1060.33	951.32	787.47	586.24	377.80	217.03	
270.0	1057.03	1065.01	1074.65	1041.61	961.84	802.50	613.60	407.31	224.69	
315.0	1052.84	1048.38	1042.33	1004.83	935.13	768.48	576.28	360.62	193.14	
360.0	1056.81	1043.15	1036.33	1011.39	955.12	830.75	626.21	413.69	229.59	
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0	
0.0	77.19	8.86	5.45	4.84	4.62	4.51	4.40	4.73	4.62	
45.0	58.08	9.91	5.18	4.79	4.57	4.46	4.40	4.46	4.35	
90.0	35.18	8.37	5.23	4.90	4.62	4.51	6.61	11.51	4.73	
135.0	65.68	11.12	5.23	4.84	4.62	4.51	4.57	8.97	4.68	
180.0	24.89	10.08	4.96	4.68	4.51	4.40	4.40	4.57	4.57	
225.0	41.35	7.38	5.01	4.73	4.51	4.46	4.40	7.38	6.99	
270.0	58.52	10.13	5.12	4.79	4.57	4.46	4.40	5.45	5.45	
315.0	36.78	8.64	5.18	4.79	4.57	4.40	5.34	10.13	4.84	
360.0	77.19	8.86	5.45	4.84	4.62	4.51	4.40	4.73	4.62	
C/γ(°)	90.0									
0.0	4.24									
45.0	4.29									
90.0	4.24									
135.0	4.24									
180.0	4.29									
225.0	4.24									
270.0	4.24									
315.0	4.24									
360.0	4.24									