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Nata

LumCAT: 4-1731-E	
Luminaire: 92.76.263.00	
Report No: NATA0100	Voltage(V): 33.0000
Test No:	Current(A): 0.5500
LampCAT: BRIDGELUX VERO 13	Power (W): 18.1500
Lamp flux(lm): 1556.0	PF: 0.0000
Number of Lamps: 1	Ballast type:
Length(mm): 100	Width(mm): 100
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 1419.34
Efficiency(%): 91.22%
Lumens(lm)/Power(W): 80.17
Central intensity(cd): 6201.278
Maximum intensity(cd): 6201.278
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=21.5
 [C90/270]Total=21.5
Field angle(10%Imax): [C0/180]Total=47.0
 [C90/270]Total=47.0
Maximum s/h(1/2): C0_180=0.36 C90_270=0.36
Maximum s/h(1/4): C0_180=0.37 C90_270=0.37
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 93.51%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 96.295%

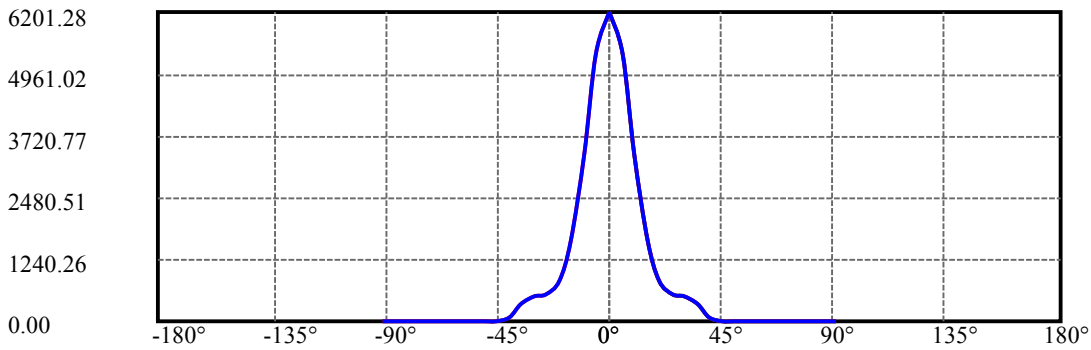
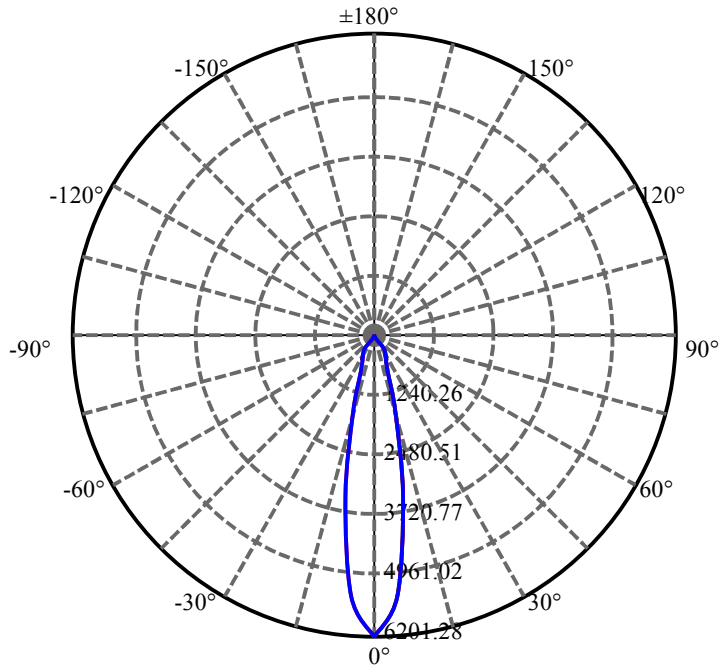
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	6201.278	37.085	37.085	2.383%	2.613%
5.0	5372.679	256.671	293.756	16.496%	20.697%
10.0	3365.322	320.322	614.077	20.586%	43.265%
15.0	1635.540	232.031	846.109	14.912%	59.613%
20.0	797.705	149.549	995.658	9.611%	70.150%
25.0	543.186	125.831	1121.488	8.087%	79.015%
30.0	489.149	134.060	1255.549	8.616%	88.460%
35.0	338.494	106.422	1361.971	6.839%	95.958%
40.0	77.815	27.417	1389.388	1.762%	97.890%
45.0	7.818	3.030	1392.418	.195%	98.104%
50.0	6.868	2.884	1395.302	.185%	98.307%
55.0	6.448	2.895	1398.197	.186%	98.511%
60.0	6.235	2.960	1401.157	.190%	98.719%
65.0	6.125	3.043	1404.2	.196%	98.934%
70.0	6.139	3.162	1407.362	.203%	99.156%
75.0	6.173	3.268	1410.63	.210%	99.387%
80.0	6.524	3.522	1414.152	.226%	99.635%
85.0	6.504	3.551	1417.704	.228%	99.885%
90.0	5.953	1.632	1419.335	.105%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1255.55	80.69%	88.46%
0-40	1389.39	89.29%	97.89%
0-60	1401.16	90.05%	98.72%
0-90	1417.70	91.11%	99.89%
0-120	1417.70	91.11%	99.89%
0-180	1419.34	91.22%	100.00%
60-90	19.51	1.25%	1.37%
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%
0-25.52	1135.47	72.97%	80.00%

ZONAL LUMEN SUMMARY

0-10	614.08
10-20	381.58
20-30	259.89
30-40	133.84
40-50	5.91
50-60	5.86
60-70	6.20
70-80	6.79
80-90	3.55
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: —————

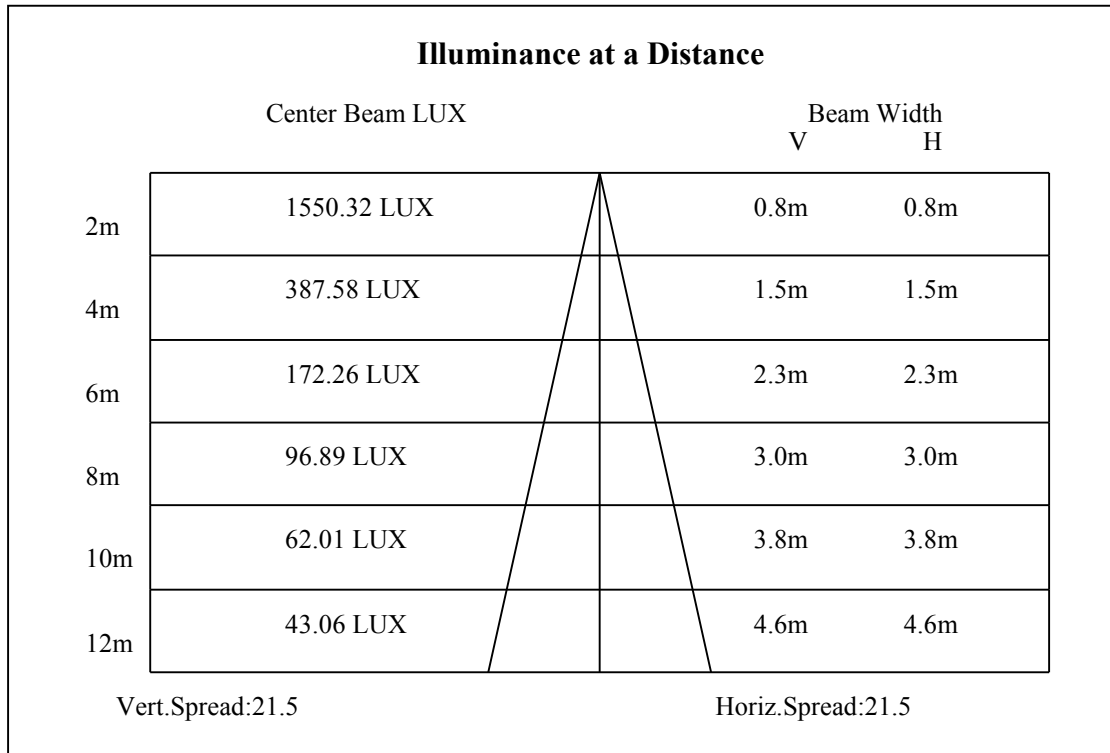
C90/C270: —————

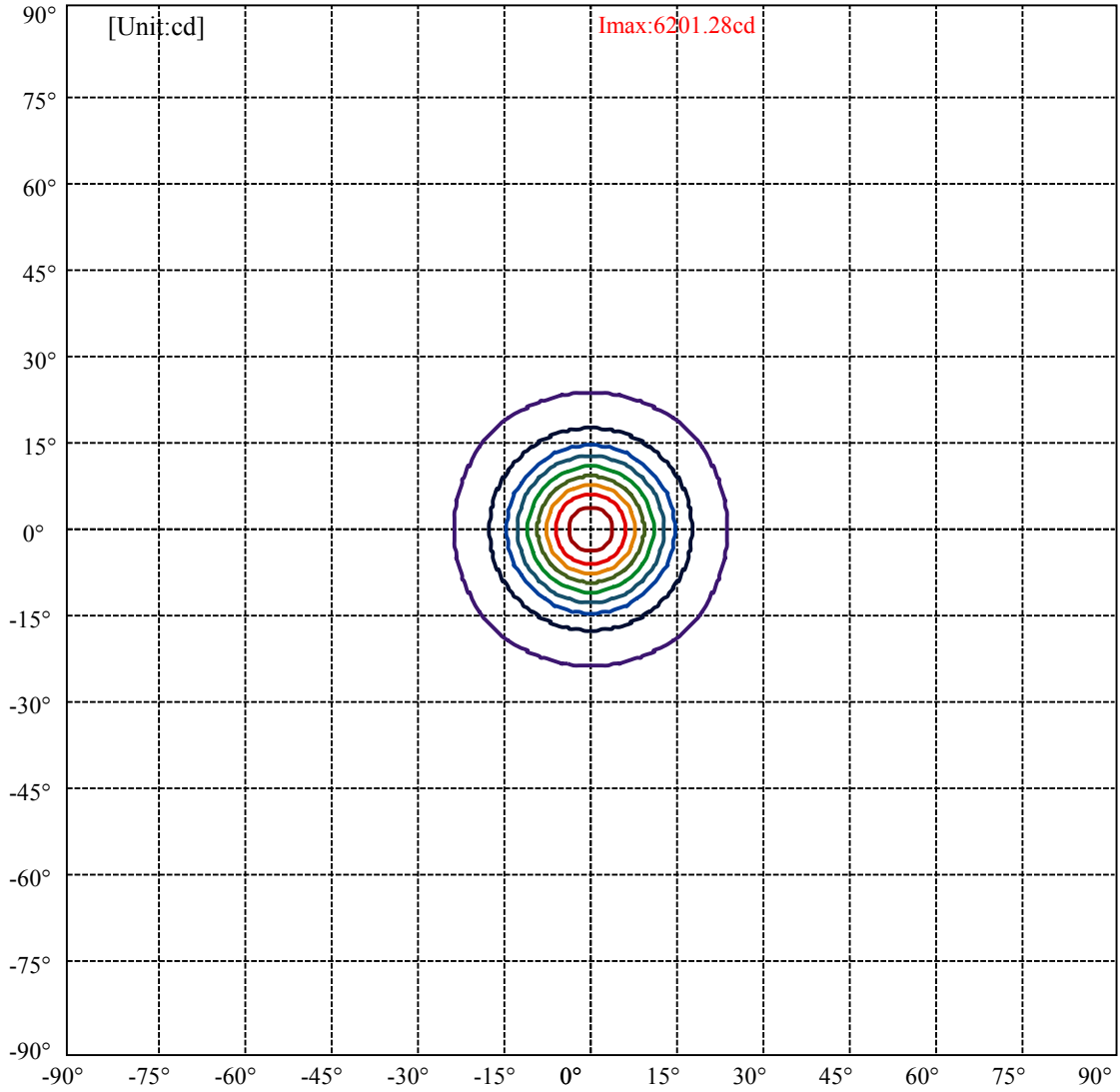
Field angle(10%Imax):C0/180Left:23.5 Right:23.5

:C90/270Left:23.5 Right:23.5

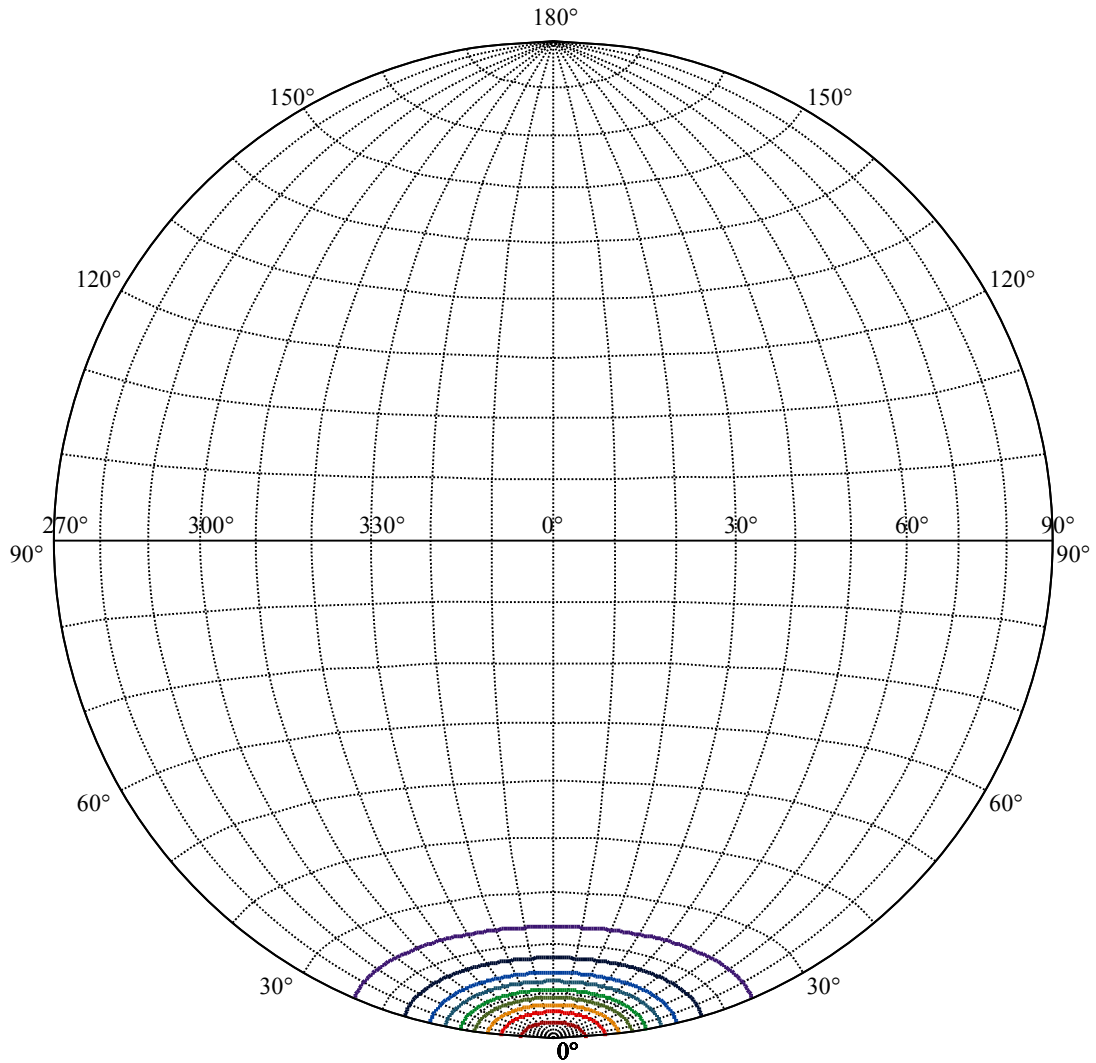
Beam Angle(50%Imax):C0/180Left:10.8 Right:10.8

:C90/270Left:10.8 Right:10.8





(10%Imax) 620.128	—
(20%Imax) 1240.26	—
(30%Imax) 1860.38	—
(40%Imax) 2480.51	—
(50%Imax) 3100.64	—
(60%Imax) 3720.77	—
(70%Imax) 4340.89	—
(80%Imax) 4961.02	—
(90%Imax) 5581.15	—



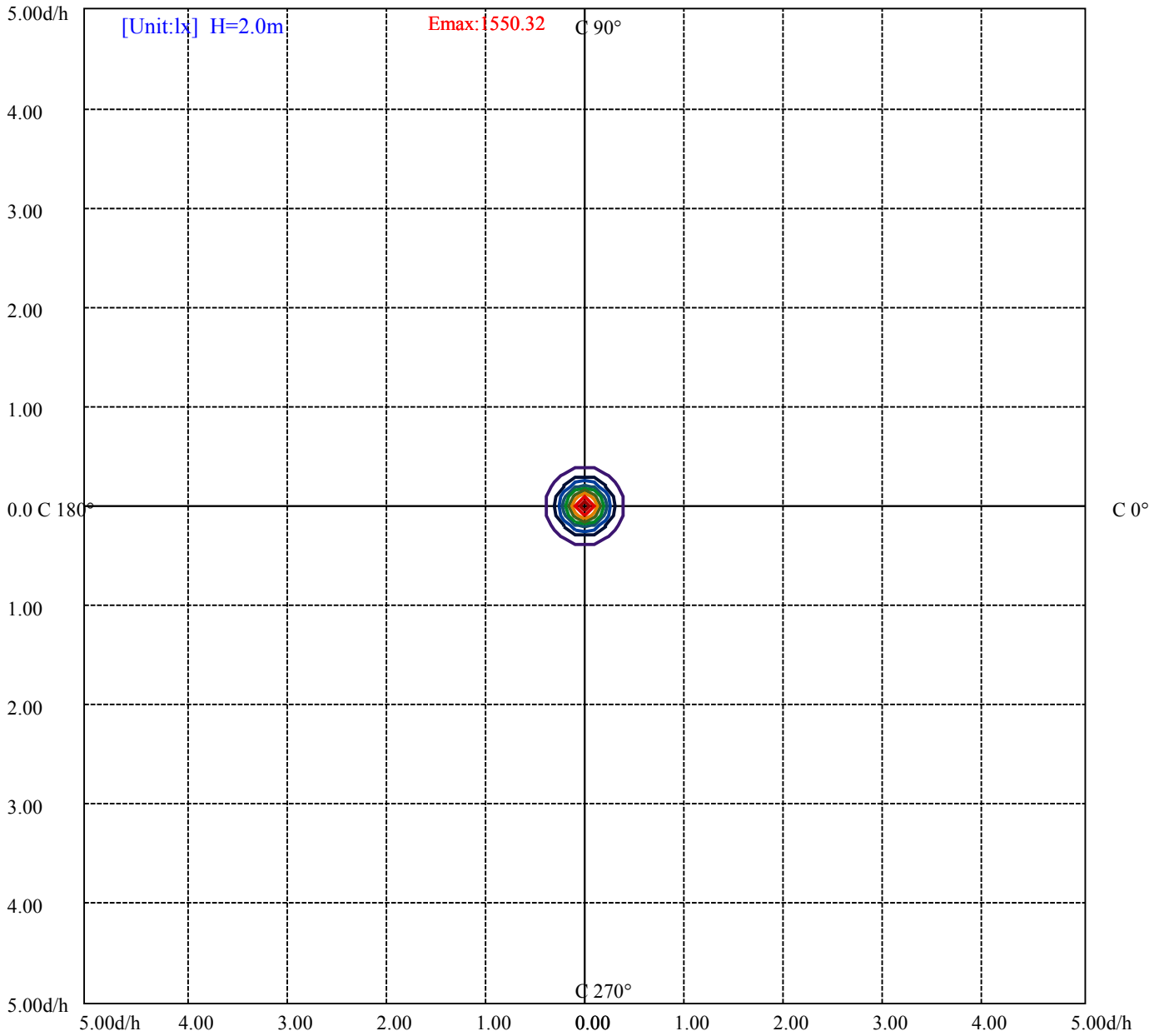
House

[Unit:cd]

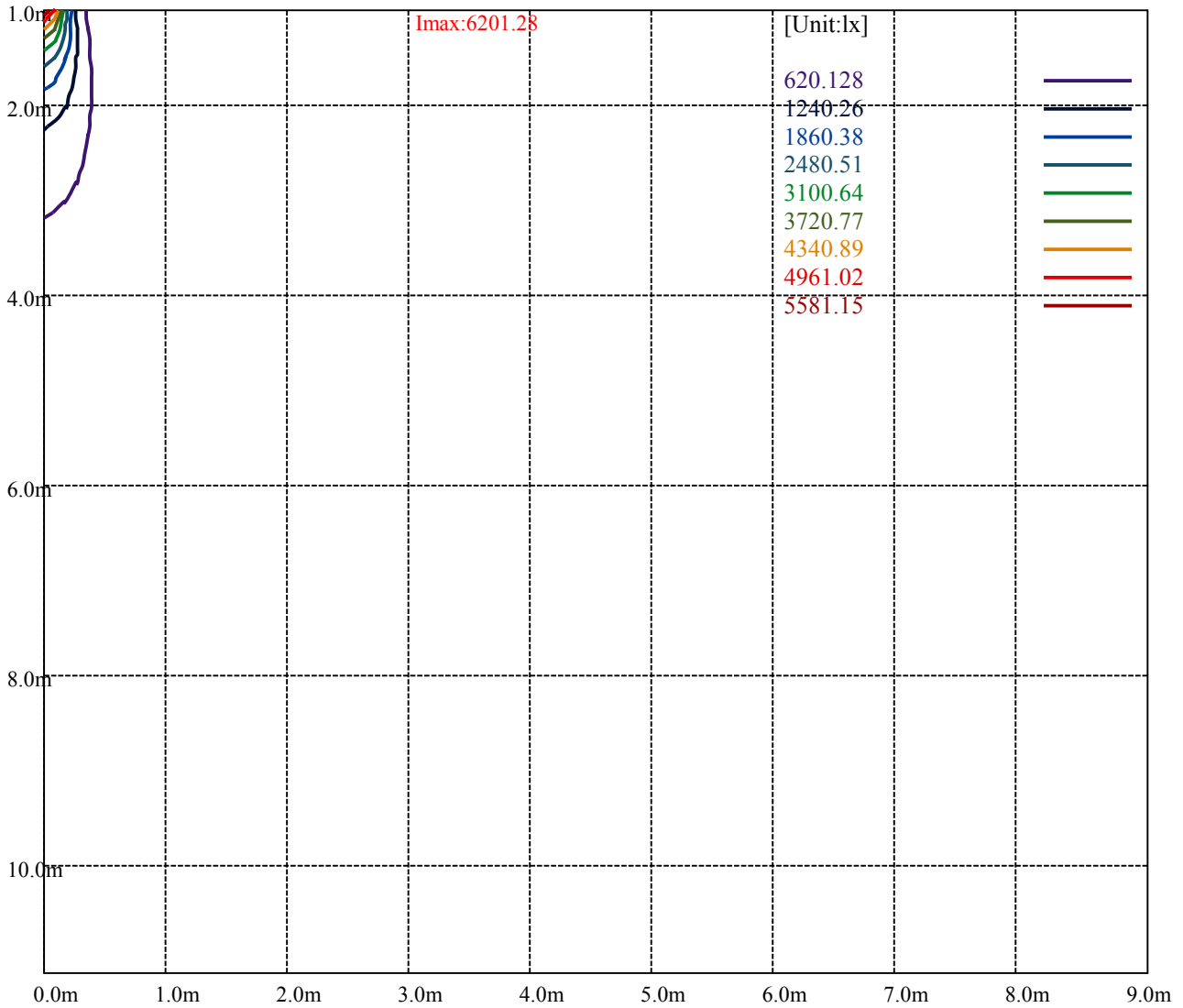
Road

Imax:6201.28

(10%Imax) 620.128	—
(20%Imax) 1240.26	—
(30%Imax) 1860.38	—
(40%Imax) 2480.51	—
(50%Imax) 3100.64	—
(60%Imax) 3720.77	—
(70%Imax) 4340.89	—
(80%Imax) 4961.02	—
(90%Imax) 5581.15	—



(10%Emax) 155.0313	—
(20%Emax) 310.0625	—
(30%Emax) 465.095	—
(40%Emax) 620.125	—
(50%Emax) 775.1575	—
(60%Emax) 930.1875	—
(70%Emax) 1085.22	—
(80%Emax) 1240.25	—
(90%Emax) 1395.282	—



Luminance Table

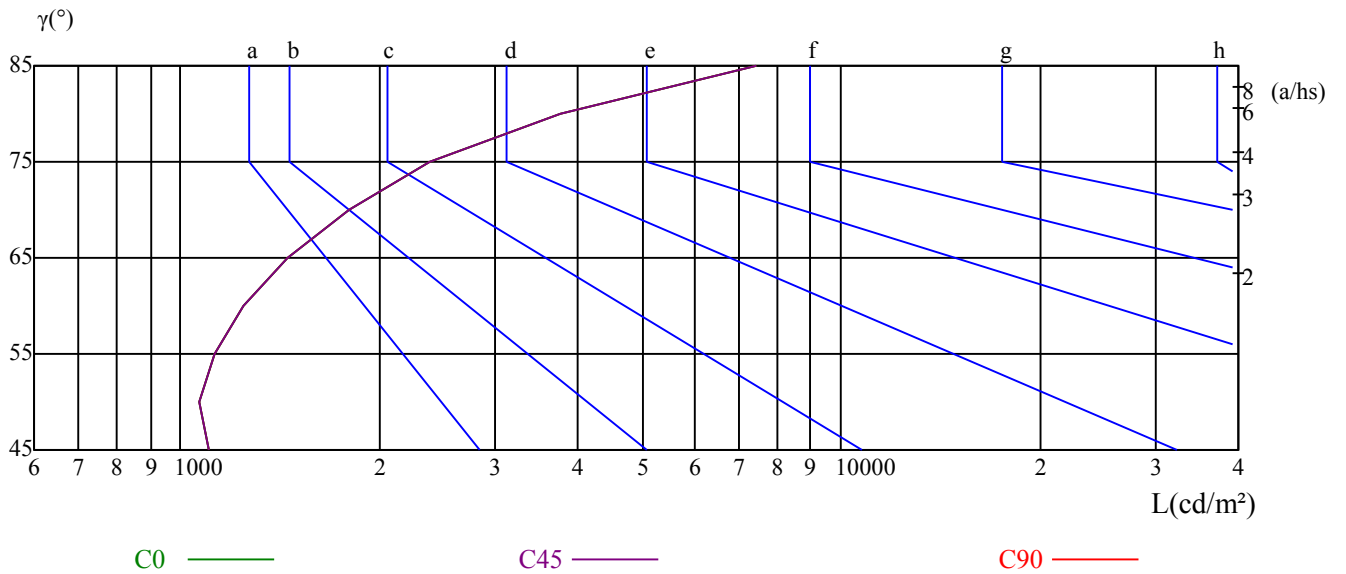
γ	45	50	55	60	65	70	75	80	85
C0	1106	1069	1124	1247	1449	1795	2385	3757	7462
C45	1106	1069	1124	1247	1449	1795	2385	3757	7462
C90	1106	1069	1124	1247	1449	1795	2385	3757	7462

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
1449	1449	1449	2385	2385	2385	7462	7462	7462

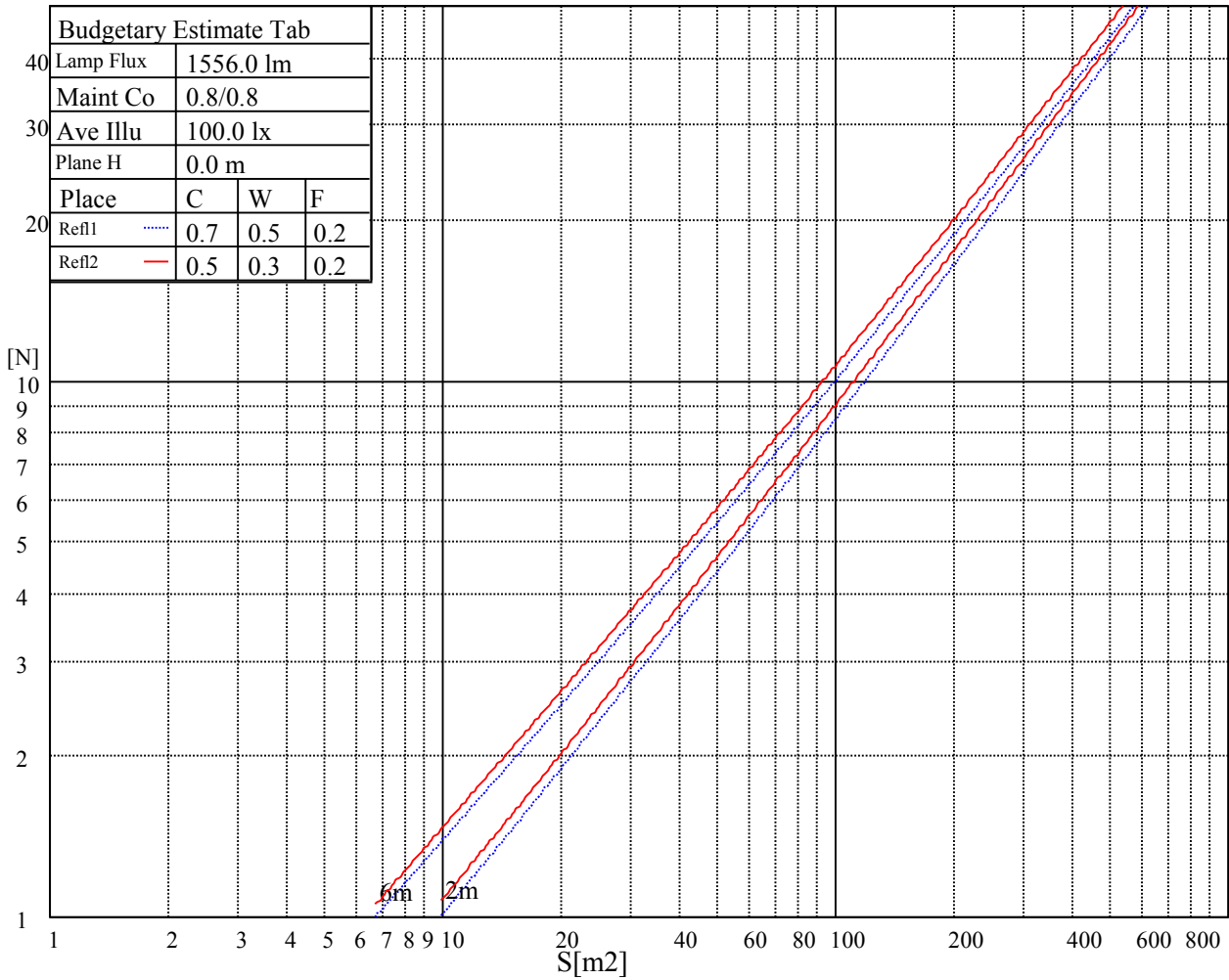
Glare Table

Glare	Quality	Service Values Illuminance(lx)							
		a	b	c	d	e	f	g	h
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

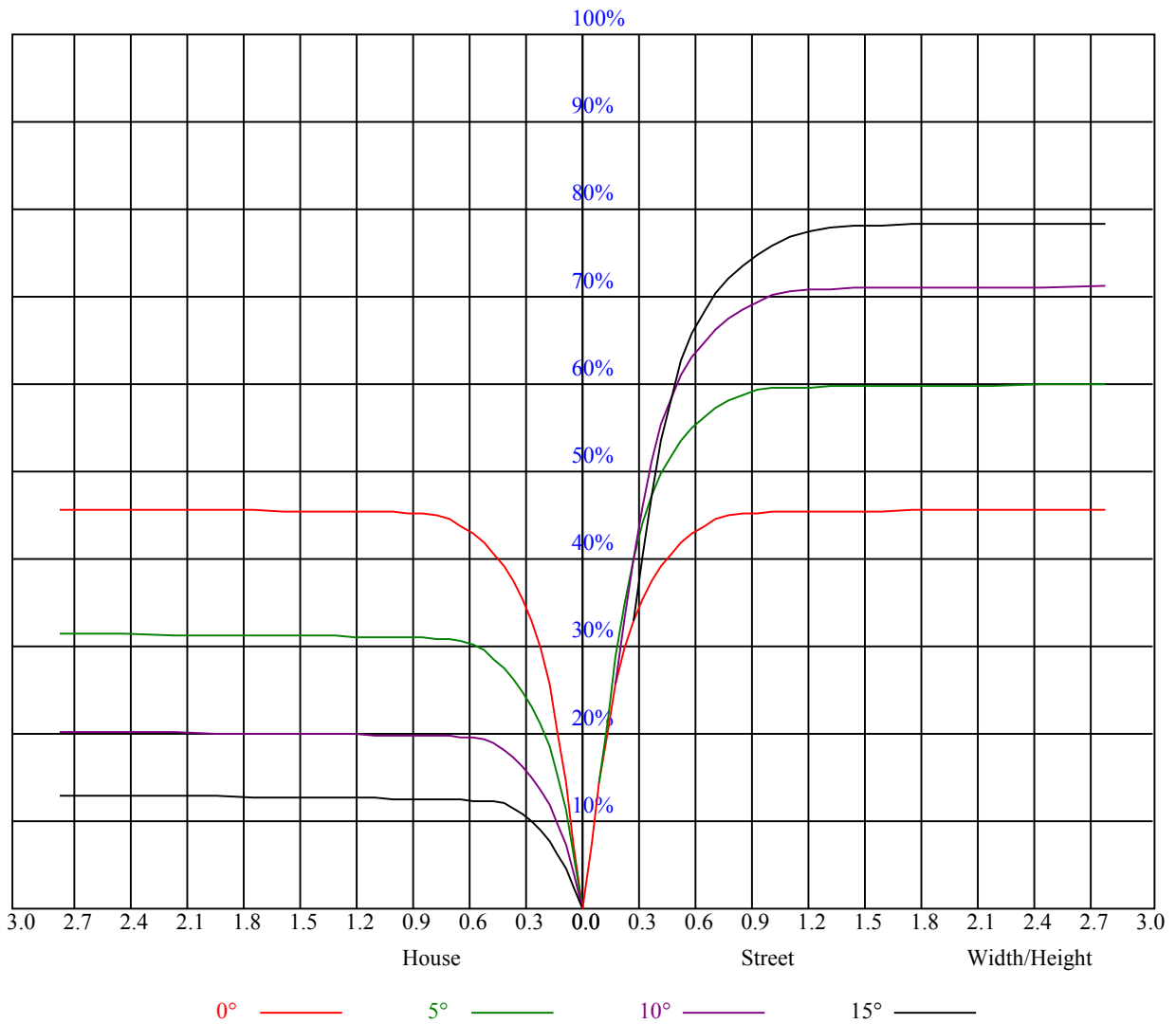
Luminance Limiting Curve



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	-0.03	0.88	0.33	1.19	1.51	-0.12	0.79	0.25	1.10	1.42
	3H	3.33	4.13	3.71	4.47	4.83	3.24	4.05	3.63	4.38	4.75
	4H	5.21	5.96	5.62	6.31	6.70	5.09	5.84	5.50	6.19	6.58
	6H	7.51	8.19	7.93	8.56	8.96	7.32	8.00	7.74	8.38	8.77
	8H	8.77	9.41	9.21	9.80	10.21	8.53	9.17	8.97	9.56	9.97
	12H	10.72	11.33	11.15	11.71	12.14	10.40	11.01	10.84	11.39	11.82
4H	2H	0.91	1.66	1.32	2.01	2.40	0.85	1.60	1.26	1.95	2.34
	3H	4.52	5.13	4.93	5.54	5.94	4.45	5.06	4.87	5.47	5.88
	4H	6.56	7.11	7.00	7.53	7.98	6.46	7.01	6.90	7.43	7.88
	6H	8.93	9.40	9.40	9.85	10.32	8.78	9.25	9.25	9.70	10.17
	8H	10.31	10.74	10.79	11.19	11.67	10.10	10.53	10.57	10.98	11.46
	12H	12.15	12.53	12.65	13.02	13.49	11.86	12.23	12.35	12.72	13.20
8H	4H	7.33	7.76	7.81	8.21	8.69	7.25	7.69	7.73	8.14	8.61
	6H	9.97	10.32	10.49	10.82	11.31	9.84	10.19	10.36	10.69	11.18
	8H	11.52	11.82	12.06	12.35	12.85	11.33	11.63	11.87	12.16	12.66
	12H	13.46	13.72	13.99	14.22	14.80	13.20	13.46	13.72	13.96	14.54
12H	4H	7.56	7.93	8.05	8.42	8.90	7.50	7.88	8.00	8.37	8.84
	6H	10.50	10.61	10.84	11.08	11.63	10.39	10.50	10.73	10.97	11.52
	8H	11.97	12.23	12.50	12.73	13.31	11.80	12.06	12.33	12.56	13.14
Variation with the observer position at spacings:											
S = 1.0H	5.2/-7.4					5.2/-7.4					
S = 1.5H	7.2/-5.4					7.2/-5.4					
S = 2.0H	8.5/-3.9					8.5/-3.9					
Standard tables:	BK3					BK3					
Uncorrected UGR	-2.6					-2.6					



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	1.11	1.11	1.11	1.09	1.09	1.09	1.04	1.04	1.04	0.99	0.99	0.99	0.95	0.95	0.95	0.94
1	1.02	0.99	0.97	1.00	0.97	0.95	0.96	0.94	0.92	0.93	0.91	0.90	0.89	0.88	0.87	0.85
2	0.97	0.93	0.90	0.95	0.92	0.89	0.92	0.89	0.87	0.89	0.87	0.85	0.87	0.85	0.83	0.82
3	0.92	0.88	0.85	0.91	0.87	0.84	0.89	0.85	0.83	0.86	0.84	0.81	0.84	0.82	0.80	0.79
4	0.88	0.84	0.81	0.87	0.83	0.80	0.85	0.82	0.79	0.84	0.81	0.78	0.82	0.79	0.77	0.76
5	0.85	0.80	0.77	0.84	0.80	0.77	0.82	0.79	0.76	0.81	0.78	0.75	0.80	0.77	0.75	0.74
6	0.82	0.77	0.74	0.81	0.77	0.74	0.80	0.76	0.73	0.79	0.75	0.73	0.77	0.75	0.72	0.71
7	0.79	0.75	0.71	0.78	0.74	0.71	0.77	0.74	0.71	0.76	0.73	0.71	0.75	0.72	0.70	0.69
8	0.76	0.72	0.69	0.76	0.72	0.69	0.75	0.71	0.69	0.74	0.71	0.68	0.73	0.70	0.68	0.67
9	0.74	0.70	0.67	0.74	0.70	0.67	0.73	0.69	0.67	0.72	0.69	0.66	0.72	0.69	0.66	0.65
10	0.72	0.68	0.65	0.72	0.68	0.65	0.71	0.67	0.65	0.70	0.67	0.65	0.70	0.67	0.65	0.64



Intensity data(cd)

C/ γ (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	6246.15	5235.86	2996.17	1418.25	676.64	544.51	492.20	295.10	11.67
45.0	6203.20	5902.05	4048.85	2006.81	966.24	574.79	514.23	461.92	166.05
90.0	6255.51	5933.43	3913.41	1945.14	923.68	552.38	492.53	419.64	88.26
135.0	6115.66	6099.70	4593.36	2292.00	1069.75	564.88	501.56	452.56	284.64
180.0	6246.15	5697.79	3557.19	1907.70	837.63	532.07	484.83	407.31	42.17
225.0	6172.37	4866.99	2637.20	1092.87	641.79	521.99	474.04	236.69	10.30
270.0	6255.51	4864.23	2738.51	1353.84	665.63	535.70	487.25	281.89	10.24
315.0	6115.66	4381.39	2437.90	1067.71	600.28	519.18	466.55	152.84	9.19
360.0	6246.15	5235.86	2996.17	1418.25	676.64	544.51	492.20	295.10	11.67
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	7.38	6.66	6.33	6.17	6.00	6.11	6.22	7.10	6.72
45.0	8.42	7.27	6.66	6.39	6.22	6.17	6.22	6.33	6.83
90.0	8.04	7.05	6.55	6.28	6.17	6.11	6.06	6.06	6.39
135.0	9.08	7.05	6.55	6.28	6.11	6.11	5.95	6.06	6.22
180.0	7.60	6.83	6.39	6.17	6.06	6.00	6.00	6.00	6.06
225.0	7.49	6.83	6.44	6.28	6.22	6.39	6.39	6.66	6.22
270.0	7.49	6.77	6.44	6.28	6.17	6.22	6.50	7.65	7.32
315.0	7.05	6.50	6.22	6.06	6.06	6.00	6.06	6.33	6.28
360.0	7.38	6.66	6.33	6.17	6.00	6.11	6.22	7.10	6.72
C/ γ (°)	90.0								
0.0	5.89								
45.0	6.06								
90.0	6.00								
135.0	5.95								
180.0	5.89								
225.0	6.00								
270.0	5.95								
315.0	5.89								
360.0	5.89								