



NATA LIGHTING CO.,LTD.
www.nata.cn
Email:info@nata.com
Tel:+86-750-3770000 Fax:+86-750-3771111
Address:380JinOu Road,GaoXin Zone,Jiang Men City,Guangdong,China

Nata

LumCAT: 2-1676-M	
Luminaire: 92.70.131.00	
Report No: NATA0100	Voltage(V): 34.6000
Test No: GC2018091016	Current(A): 0.5000
LampCAT: LUMINUS CXM-11-AC30	Power (W): 17.3000
Lamp flux(lm): 2547.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 70	Width(mm): 70
Phm Type: C	Height(mm): 43

Photometric Results

Lumens(lm): 2302.50
Efficiency(%): 90.40%
Lumens(lm)/Power(W): 134.82
Central intensity(cd): 5365.266
Maximum intensity(cd): 5365.266
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=34.5
[C90/270]Total=34.5
Field angle(10%Imax): [C0/180]Total=70.9
[C90/270]Total=70.9
Maximum s/h(1/2): C0_180=0.57 C90_270=0.57
Maximum s/h(1/4): C0_180=0.56 C90_270=0.56
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 91.57%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.425%

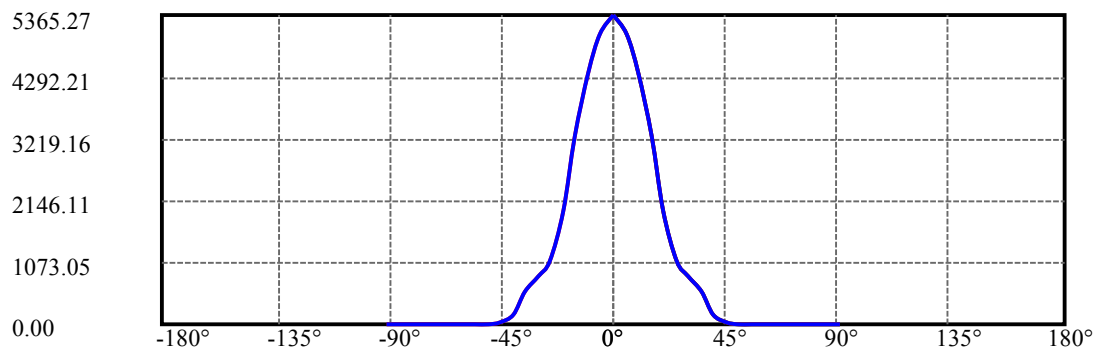
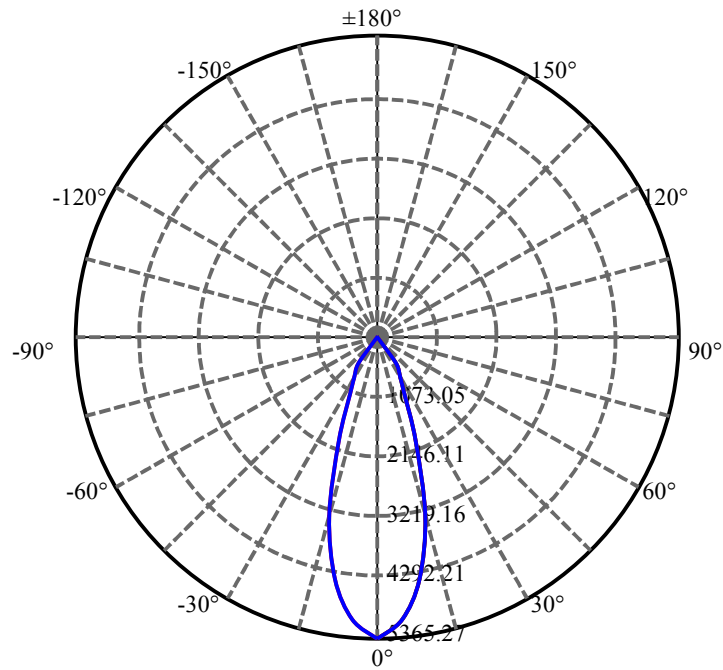
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	5365.266	32.085	32.085	1.260%	1.394%
5.0	5042.531	240.898	272.984	9.458%	11.856%
10.0	4375.758	416.498	689.482	16.352%	29.945%
15.0	3276.844	464.881	1154.362	18.252%	50.135%
20.0	1954.758	366.466	1520.829	14.388%	66.051%
25.0	1110.579	257.269	1778.098	10.101%	77.225%
30.0	839.531	230.089	2008.187	9.034%	87.218%
35.0	571.809	179.776	2187.963	7.058%	95.026%
40.0	174.157	61.362	2249.325	2.409%	97.691%
45.0	17.916	6.944	2256.269	.273%	97.992%
50.0	12.804	5.376	2261.645	.211%	98.226%
55.0	11.890	5.339	2266.984	.210%	98.458%
60.0	11.292	5.360	2272.344	.210%	98.690%
65.0	10.884	5.407	2277.751	.212%	98.925%
70.0	10.596	5.458	2283.209	.214%	99.162%
75.0	10.371	5.491	2288.7	.216%	99.401%
80.0	10.230	5.523	2294.223	.217%	99.641%
85.0	10.118	5.525	2299.747	.217%	99.881%
90.0	10.034	2.750	2302.497	.108%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	2008.19	78.85%	87.22%
0-40	2249.32	88.31%	97.69%
0-60	2272.34	89.22%	98.69%
0-90	2299.75	90.29%	99.88%
0-120	2299.75	90.29%	99.88%
0-180	2302.50	90.40%	100.00%
60-90	32.76	1.29%	1.42%
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%
0-26.39	1842.00	72.32%	80.00%

ZONAL LUMEN SUMMARY

0-10	689.48
10-20	831.35
20-30	487.36
30-40	241.14
40-50	12.32
50-60	10.70
60-70	10.86
70-80	11.01
80-90	5.52
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

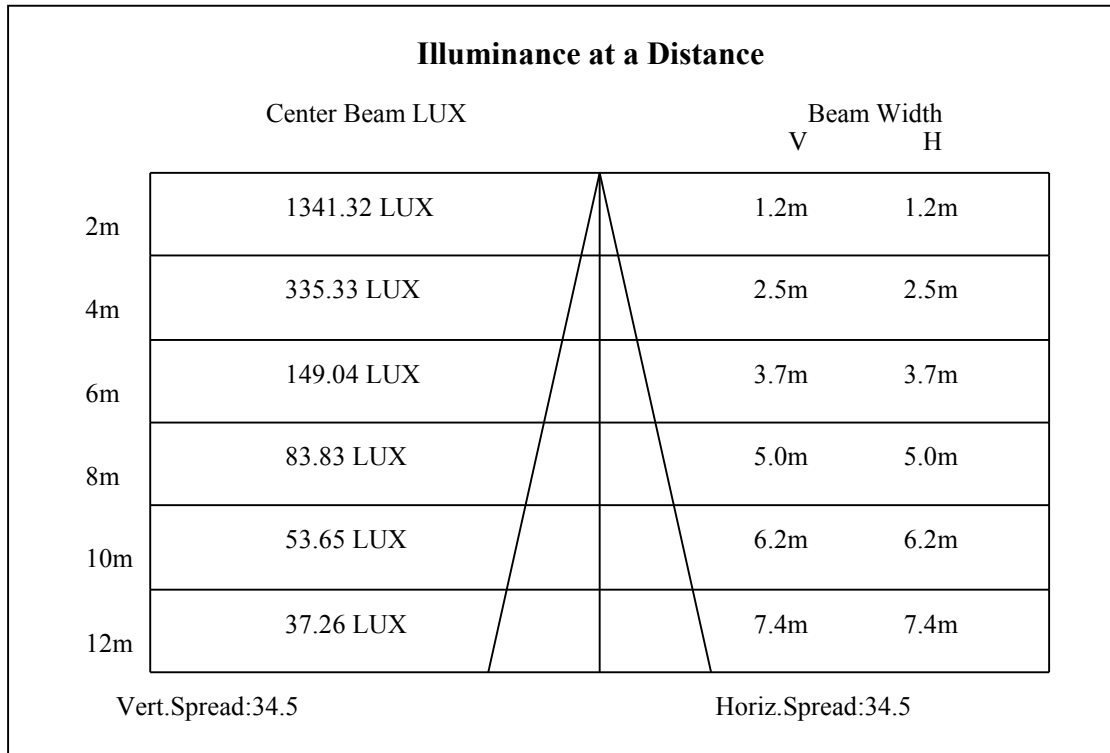
C0(Max): —————C0/C180: —————C90/C270: —————

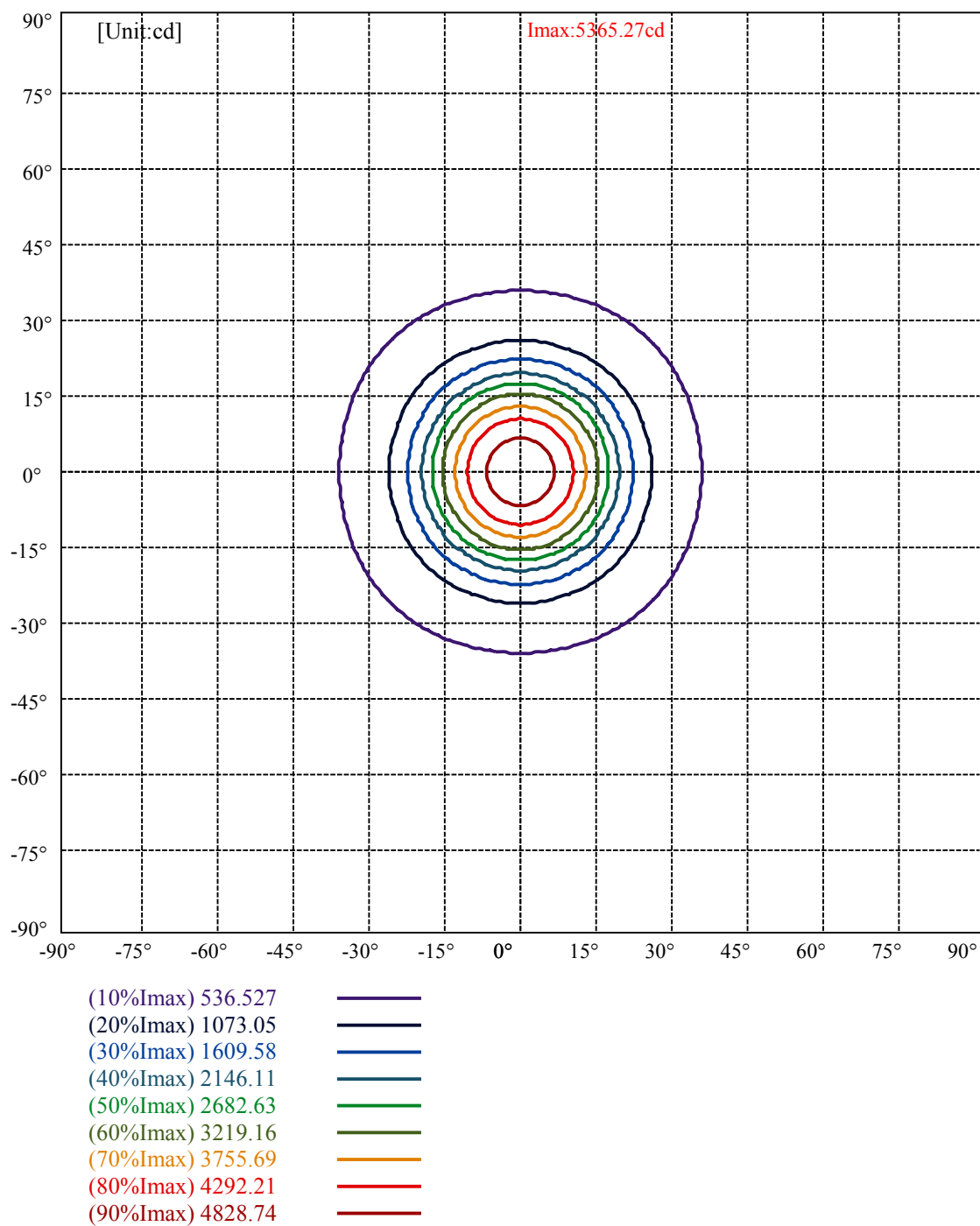
Field angle(10%Imax):C0/180Left:35.4 Right:35.4

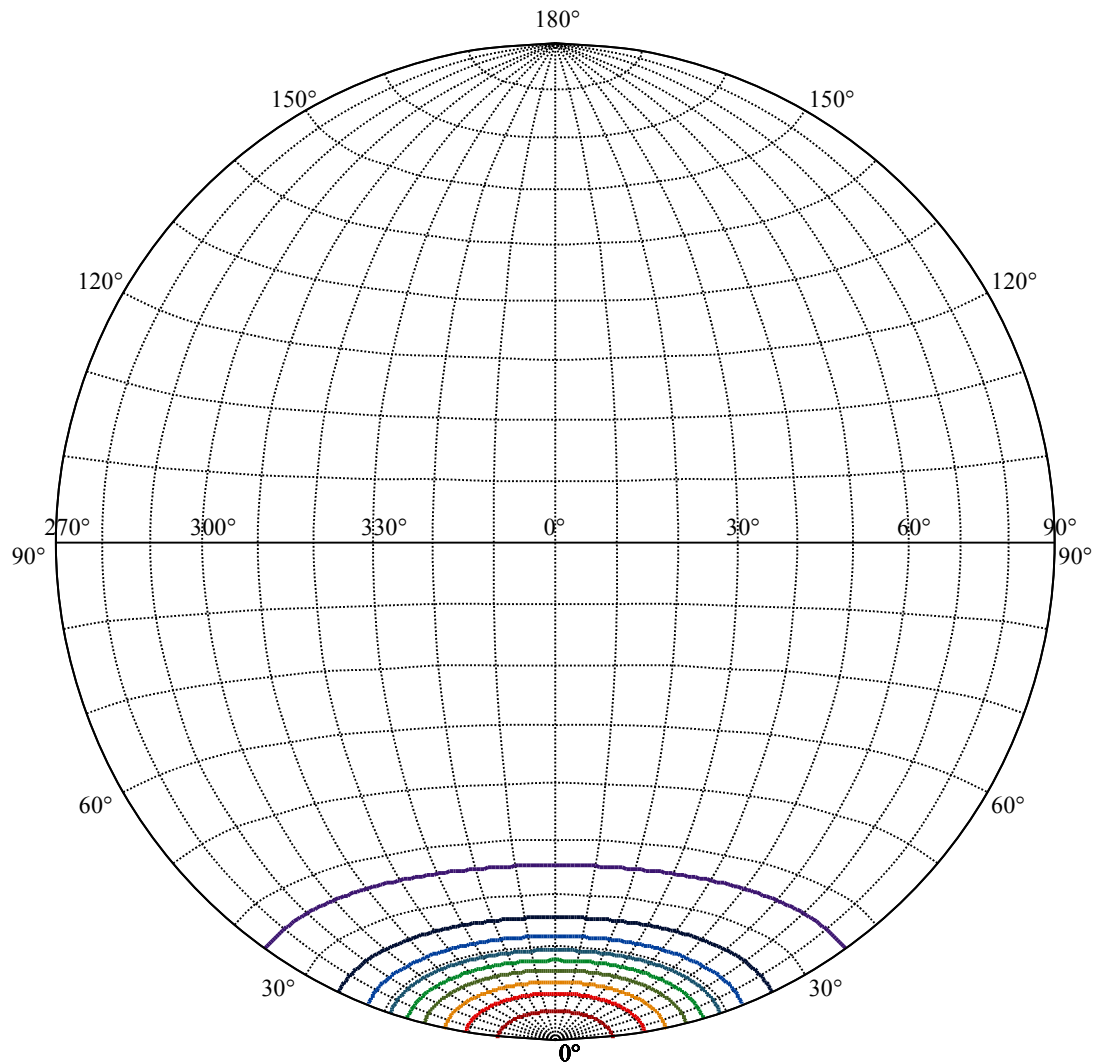
:C90/270Left:35.4 Right:35.4

Beam Angle(50%Imax):C0/180Left:17.2 Right:17.2

:C90/270Left:17.2 Right:17.2







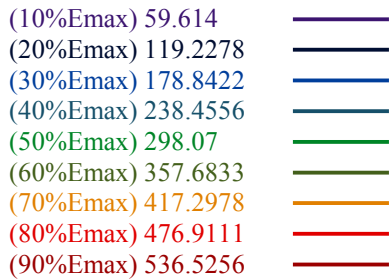
House

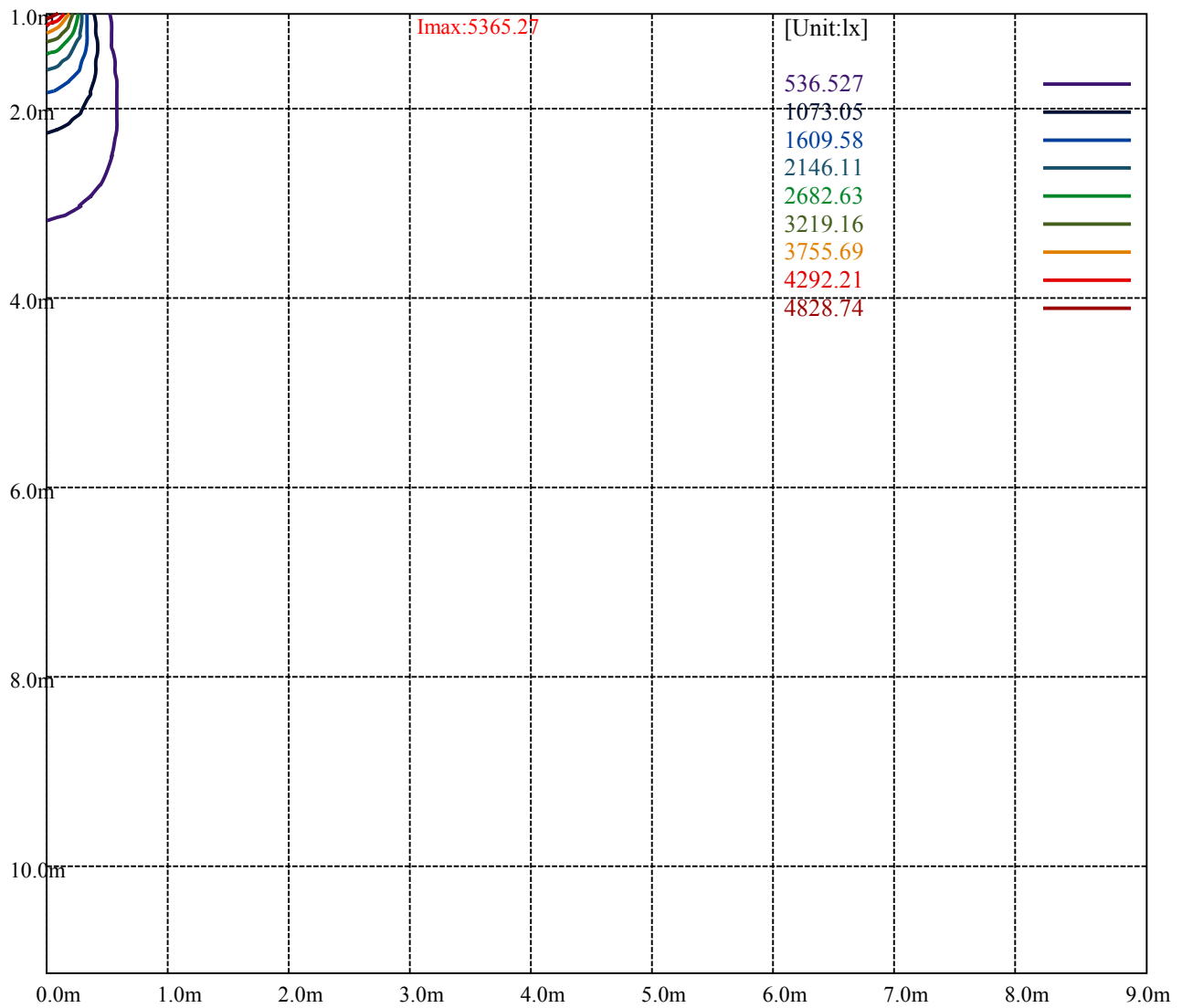
[Unit:cd]

Road

Imax:5365.27

(10%Imax)	536.527	—
(20%Imax)	1073.05	—
(30%Imax)	1609.58	—
(40%Imax)	2146.11	—
(50%Imax)	2682.63	—
(60%Imax)	3219.16	—
(70%Imax)	3755.69	—
(80%Imax)	4292.21	—
(90%Imax)	4828.74	—





Luminance Table

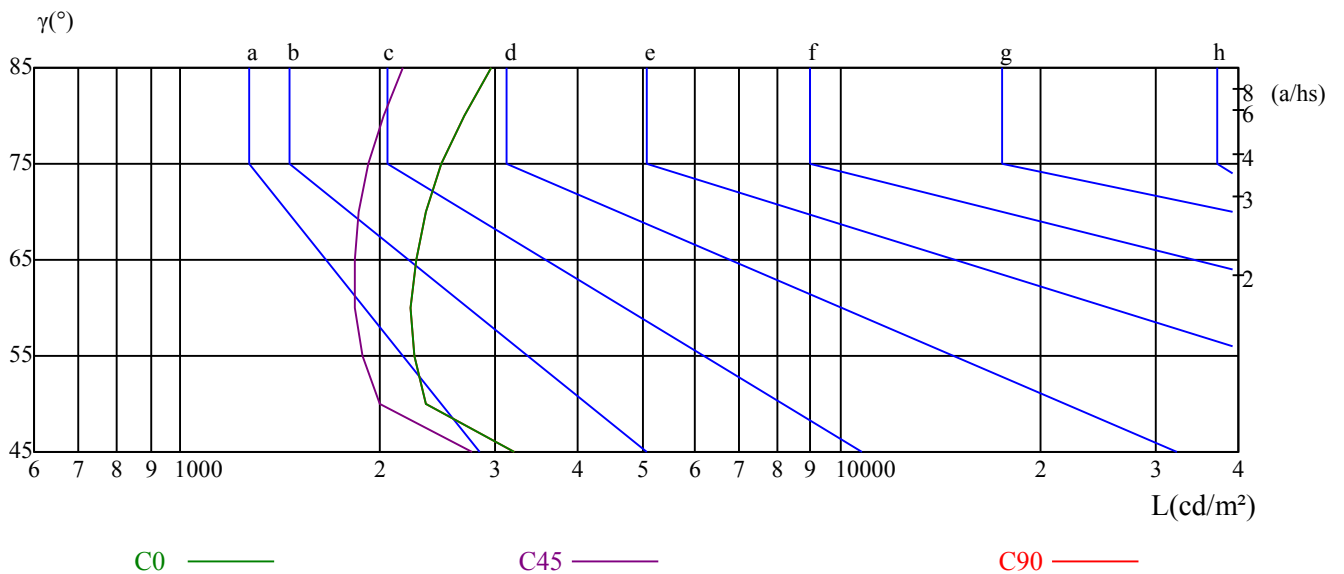
γ	45	50	55	60	65	70	75	80	85
C0	3203	2347	2253	2233	2268	2352	2484	2682	2954
C45	2767	1997	1888	1840	1836	1867	1928	2029	2168
C90	3203	2347	2253	2233	2268	2352	2484	2682	2954

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
5256	5256	5256	8178	8178	8178	23692	23692	23692

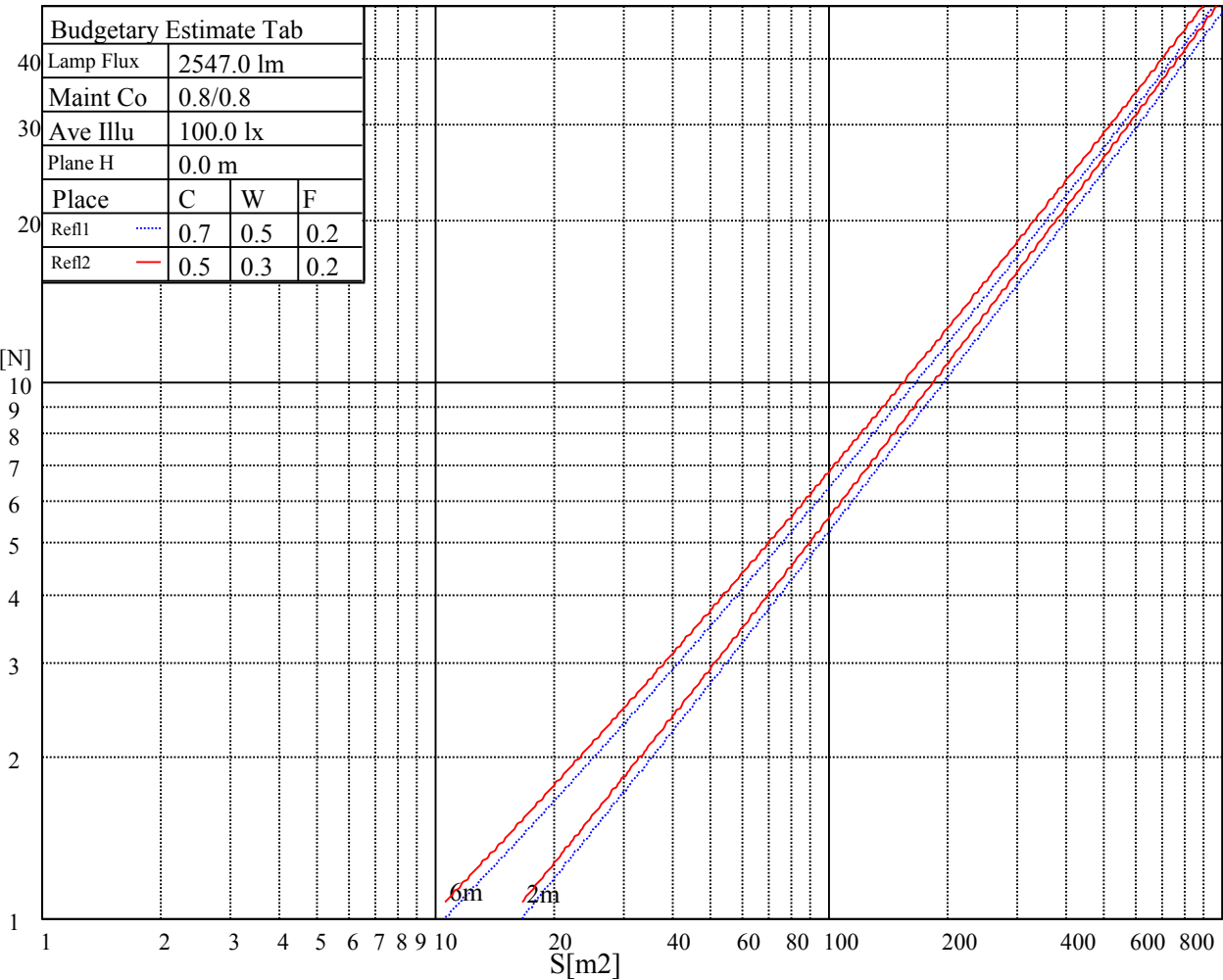
Glare Table

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

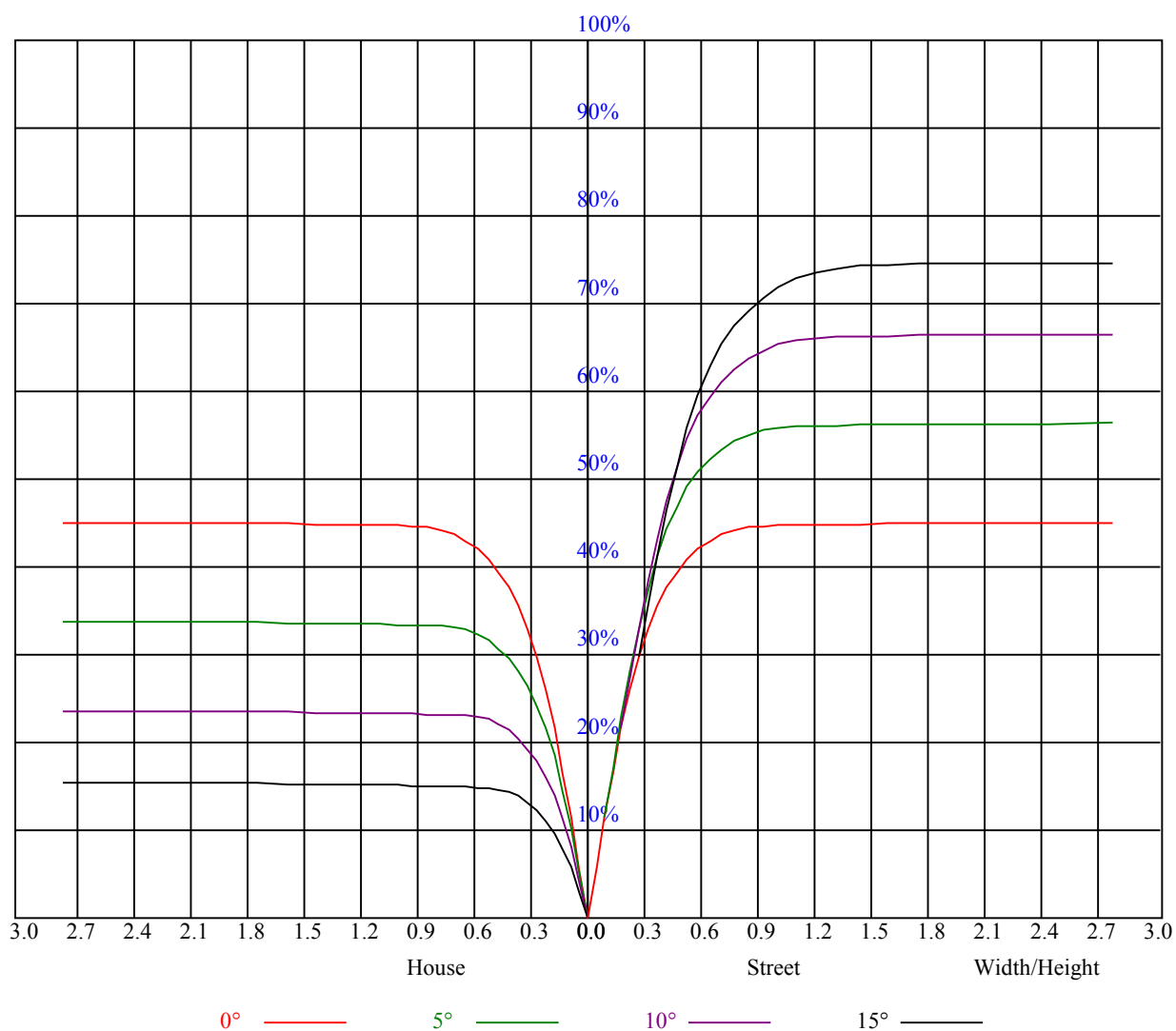
Luminance Limiting Curve



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	1.27	2.19	1.64	2.50	2.81	1.25	2.17	1.62	2.48	2.80
	3H	3.48	4.29	3.86	4.62	4.99	3.47	4.28	3.86	4.62	4.98
	4H	4.69	5.44	5.10	5.79	6.18	4.69	5.43	5.09	5.79	6.18
	6H	5.96	6.64	6.38	7.02	7.41	5.97	6.65	6.39	7.03	7.43
	8H	6.59	7.23	7.03	7.63	8.04	6.61	7.25	7.05	7.65	8.06
	12H	7.58	8.20	8.02	8.58	9.01	7.60	8.21	8.04	8.60	9.03
4H	2H	1.75	2.49	2.15	2.85	3.24	1.73	2.48	2.14	2.84	3.23
	3H	4.25	4.87	4.67	5.28	5.68	4.25	4.86	4.66	5.27	5.68
	4H	5.63	6.18	6.07	6.61	7.06	5.63	6.18	6.07	6.60	7.05
	6H	7.01	7.47	7.48	7.93	8.40	7.02	7.49	7.49	7.94	8.42
	8H	7.75	8.19	8.23	8.64	9.12	7.77	8.21	8.25	8.66	9.14
	12H	8.74	9.12	9.23	9.61	10.08	8.76	9.14	9.26	9.63	10.11
8H	4H	6.06	6.50	6.54	6.95	7.42	6.06	6.50	6.54	6.95	7.42
	6H	7.68	8.02	8.19	8.52	9.01	7.69	8.03	8.20	8.54	9.02
	8H	8.58	8.88	9.11	9.41	9.90	8.60	8.90	9.13	9.43	9.92
	12H	9.70	9.96	10.22	10.46	11.04	9.72	9.98	10.24	10.48	11.06
12H	4H	6.15	6.52	6.64	7.01	7.49	6.15	6.52	6.64	7.01	7.49
	6H	8.05	8.15	8.38	8.62	9.17	8.06	8.16	8.40	8.64	9.19
	8H	8.84	9.10	9.37	9.60	10.19	8.86	9.12	9.39	9.62	10.21
Variation with the observer position at spacings:											
S = 1.0H		5.2/-8.4					5.2/-8.4				
S = 1.5H		7.6/-6.7					7.6/-6.7				
S = 2.0H		9.3/-5.4					9.3/-5.4				
Standard tables:		BK1					BK1				
Uncorrected UGR		-1.7					-1.7				



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	1.09	1.09	1.09	1.06	1.06	1.06	1.02	1.02	1.02	0.97	0.97	0.97	0.93	0.93	0.93	0.92
1	1.01	0.99	0.96	0.99	0.97	0.95	0.95	0.93	0.92	0.92	0.90	0.89	0.89	0.88	0.87	0.85
2	0.95	0.92	0.89	0.94	0.91	0.88	0.91	0.88	0.86	0.88	0.86	0.84	0.86	0.84	0.82	0.81
3	0.91	0.86	0.83	0.89	0.86	0.83	0.87	0.84	0.81	0.85	0.82	0.80	0.83	0.81	0.79	0.77
4	0.86	0.82	0.79	0.85	0.81	0.78	0.83	0.80	0.77	0.82	0.79	0.76	0.80	0.77	0.75	0.74
5	0.82	0.78	0.75	0.82	0.77	0.74	0.80	0.76	0.74	0.79	0.75	0.73	0.77	0.75	0.72	0.71
6	0.79	0.74	0.71	0.78	0.74	0.71	0.77	0.73	0.70	0.76	0.72	0.70	0.75	0.72	0.70	0.68
7	0.76	0.71	0.68	0.75	0.71	0.68	0.74	0.70	0.68	0.73	0.70	0.67	0.72	0.69	0.67	0.66
8	0.73	0.68	0.65	0.72	0.68	0.65	0.72	0.68	0.65	0.71	0.67	0.65	0.70	0.67	0.64	0.63
9	0.70	0.66	0.63	0.70	0.66	0.63	0.69	0.65	0.63	0.68	0.65	0.62	0.68	0.65	0.62	0.61
10	0.68	0.64	0.61	0.67	0.63	0.61	0.67	0.63	0.60	0.66	0.63	0.60	0.66	0.62	0.60	0.59



Nata 2-1676-M

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	5379.19	5069.81	4414.50	3331.69	1958.63	1091.81	833.63	592.31	286.88		
45.0	5337.00	5216.06	4642.88	3660.75	2242.13	1208.81	877.50	680.63	313.88		
90.0	5376.94	5096.81	4389.75	3318.75	1942.88	1090.91	837.34	574.59	107.94		
135.0	5367.94	5137.31	4517.44	3510.00	2187.00	1186.31	877.50	655.31	306.56		
180.0	5379.19	4987.69	4321.69	3195.56	1879.31	1106.89	836.38	569.76	119.81		
225.0	5337.00	4843.13	4128.19	2910.94	1641.94	1024.48	800.33	451.63	30.32		
270.0	5376.94	5018.63	4363.31	3263.63	2010.38	1128.94	848.81	557.44	175.61		
315.0	5367.94	4970.81	4228.31	3023.44	1775.81	1046.48	804.77	492.81	52.26		
360.0	5379.19	5069.81	4414.50	3331.69	1958.63	1091.81	833.63	592.31	286.88		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	19.35	12.99	11.93	11.25	10.80	10.52	10.35	10.24	10.13		
45.0	20.25	12.99	11.98	11.42	10.97	10.69	10.46	10.29	10.35		
90.0	16.54	12.77	11.87	11.31	10.86	10.58	10.35	10.18	10.07		
135.0	18.51	12.94	11.98	11.36	11.03	10.63	10.41	10.29	10.13		
180.0	17.61	12.66	11.81	11.31	10.91	10.63	10.41	10.24	10.07		
225.0	15.86	12.49	11.70	11.14	10.80	10.58	10.35	10.24	10.07		
270.0	18.34	12.94	12.04	11.36	10.91	10.63	10.35	10.18	10.07		
315.0	16.88	12.66	11.81	11.19	10.80	10.52	10.29	10.18	10.07		
360.0	19.35	12.99	11.93	11.25	10.80	10.52	10.35	10.24	10.13		
C/γ(°)	90.0										
0.0	10.07										
45.0	10.01										
90.0	10.01										
135.0	10.07										
180.0	10.07										
225.0	10.01										
270.0	10.01										
315.0	10.01										
360.0	10.07										