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Nata

LumCAT: 4-1983-M
Luminaire:

Report No:	Voltage(V): 20.1000
Test No: GC2019062912	Current(A): 1.2490
LampCAT: LUMENETIX CTM1C19 2000	Power (W): 25.1000
Lamp flux(lm): 1125.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 0	Width(mm): 0
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 949.75
Efficiency(%): 84.42%
Lumens(lm)/Power(W): 37.84
Central intensity(cd): 3238.031
Maximum intensity(cd): 3238.031
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=24.9
[C90/270]Total=24.9
Field angle(10%Imax): [C0/180]Total=62.7
[C90/270]Total=62.7
Maximum s/h(1/2): C0_180=0.42 C90_270=0.42
Maximum s/h(1/4): C0_180=0.43 C90_270=0.43
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 84.42%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.760%

Equipment: GMS1980	Date: 2019/6/29	Operator: NT07
Temperature(°C): 25.0	Humidity(%): 65.0%	Distance(m): 7.50

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	3238.031	0.000	0	.000%	.000%
5.0	3002.836	74.608	74.608	6.632%	7.855%
10.0	2100.656	182.568	257.176	16.228%	27.078%
15.0	1110.635	190.492	447.667	16.933%	47.135%
20.0	570.473	138.547	586.214	12.315%	61.723%
25.0	394.748	101.234	687.448	8.999%	72.382%
30.0	350.789	94.348	781.797	8.387%	82.316%
35.0	250.284	88.512	870.309	7.868%	91.635%
40.0	54.823	50.905	921.214	4.525%	96.995%
45.0	5.358	11.143	932.357	.990%	98.168%
50.0	4.345	1.961	934.317	.174%	98.375%
55.0	4.043	1.824	936.141	.162%	98.567%
60.0	3.888	1.833	937.975	.163%	98.760%
65.0	3.783	1.865	939.839	.166%	98.956%
70.0	3.720	1.900	941.739	.169%	99.156%
75.0	3.663	1.930	943.669	.172%	99.359%
80.0	3.670	1.962	945.631	.174%	99.566%
85.0	3.804	2.031	947.662	.181%	99.780%
90.0	3.832	2.091	949.753	.186%	100.000%

Zonal flux distribution table

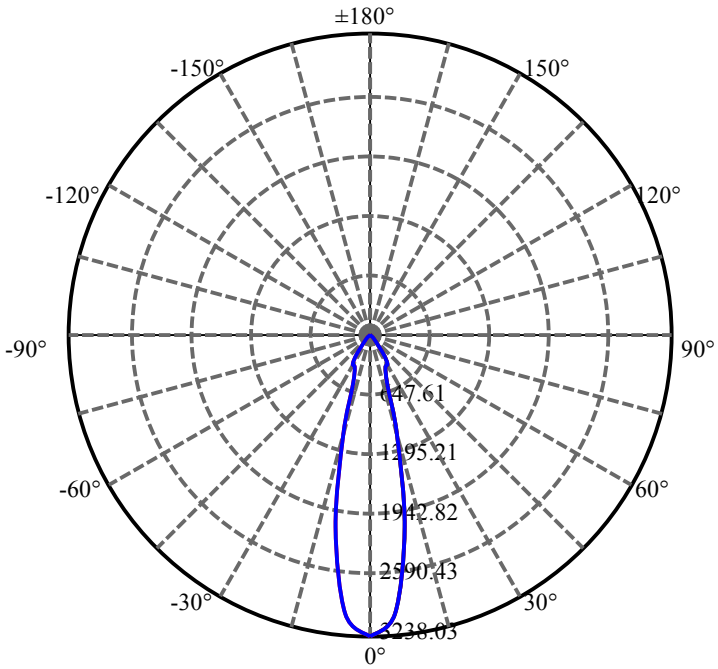
ZONAL LUMEN SUMMARY

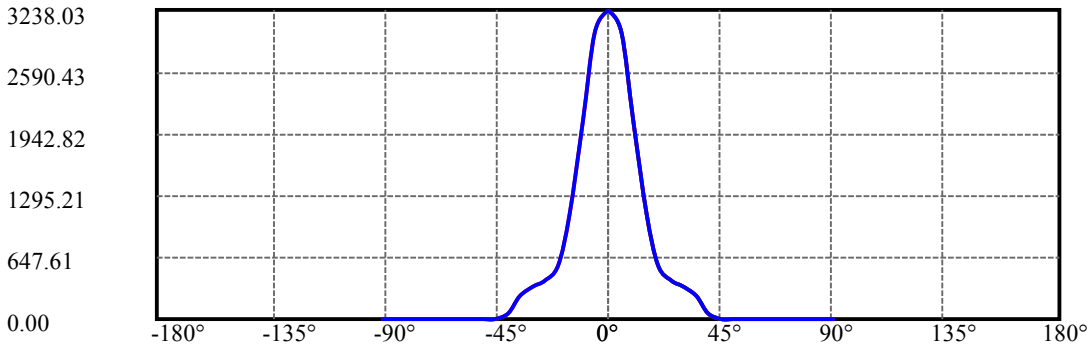
Zone	Lumens	%Lamp	%Fixt
0-30	781.80	69.49%	82.32%
0-40	921.21	81.89%	97.00%
0-60	937.97	83.38%	98.76%
0-90	947.66	84.24%	99.78%
0-120	947.66	84.24%	99.78%
0-180	949.75	84.42%	100.00%
60-90	11.52	1.02%	1.21%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-28.83	759.80	67.54%	80.00%

ZONAL LUMEN SUMMARY

0-10	257.18
10-20	329.04
20-30	195.58
30-40	139.42
40-50	13.10
50-60	3.66
60-70	3.76
70-80	3.89
80-90	2.03
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

Light Distribution Curve [Unit:cd]





C0(Max):

C0/C180:

C90/C270:

Field angle(10%Imax):C0/180Left:31.3 Right:31.3
:C90/270Left:31.3 Right:31.3

Beam Angle(50%Imax):C0/180Left:12.4 Right:12.4
:C90/270Left:12.4 Right:12.4

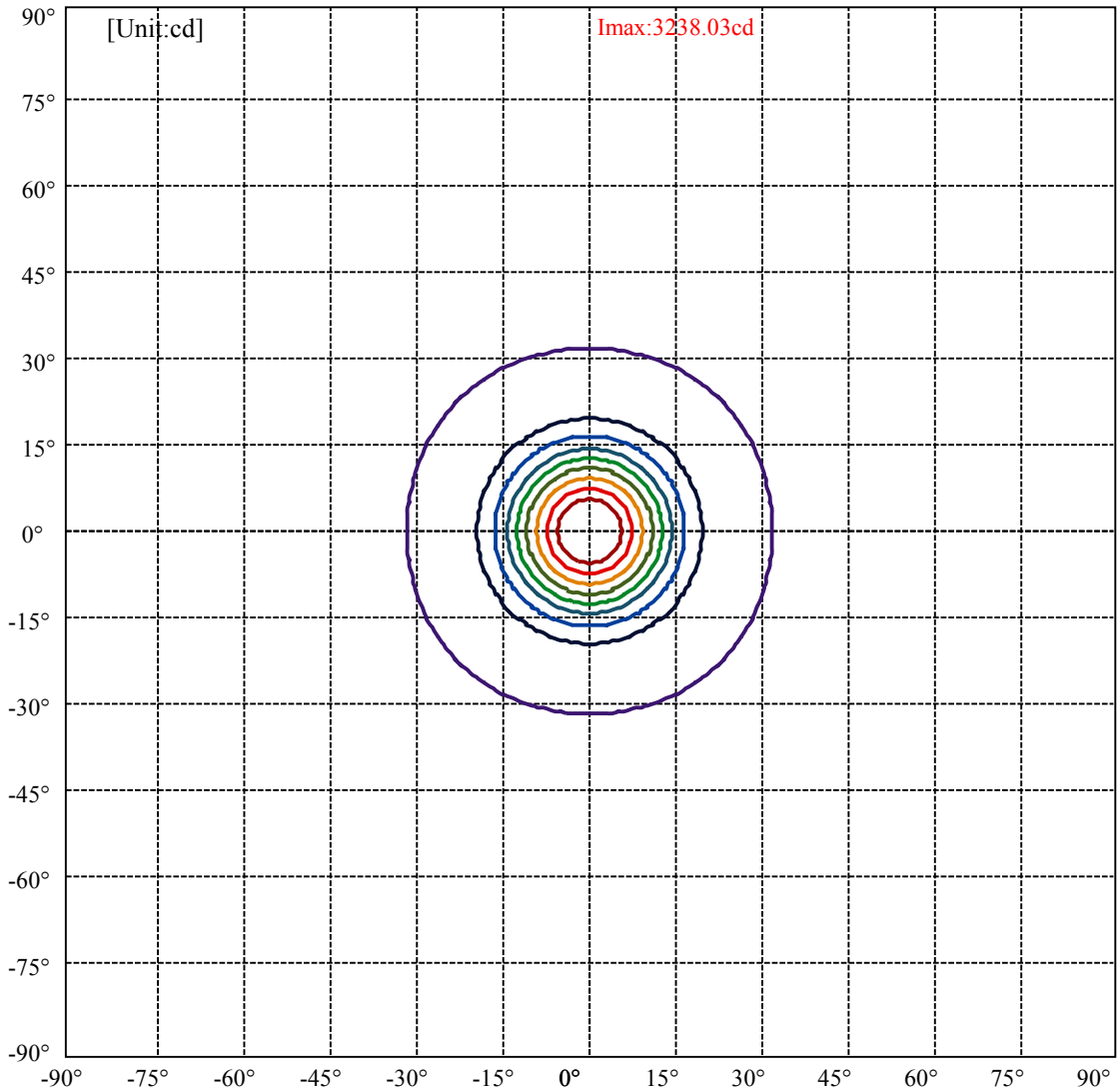
Lux distance Curve

Illuminance at a Distance

	Center Beam LUX	Beam Width V	Beam Width H
2m	809.51 LUX	0.9m	0.9m
4m	202.38 LUX	1.8m	1.8m
6m	89.95 LUX	2.6m	2.6m
8m	50.59 LUX	3.5m	3.5m
10m	32.38 LUX	4.4m	4.4m
12m	22.49 LUX	5.3m	5.3m

Vert.Spread:24.9 Horiz.Spread:24.9

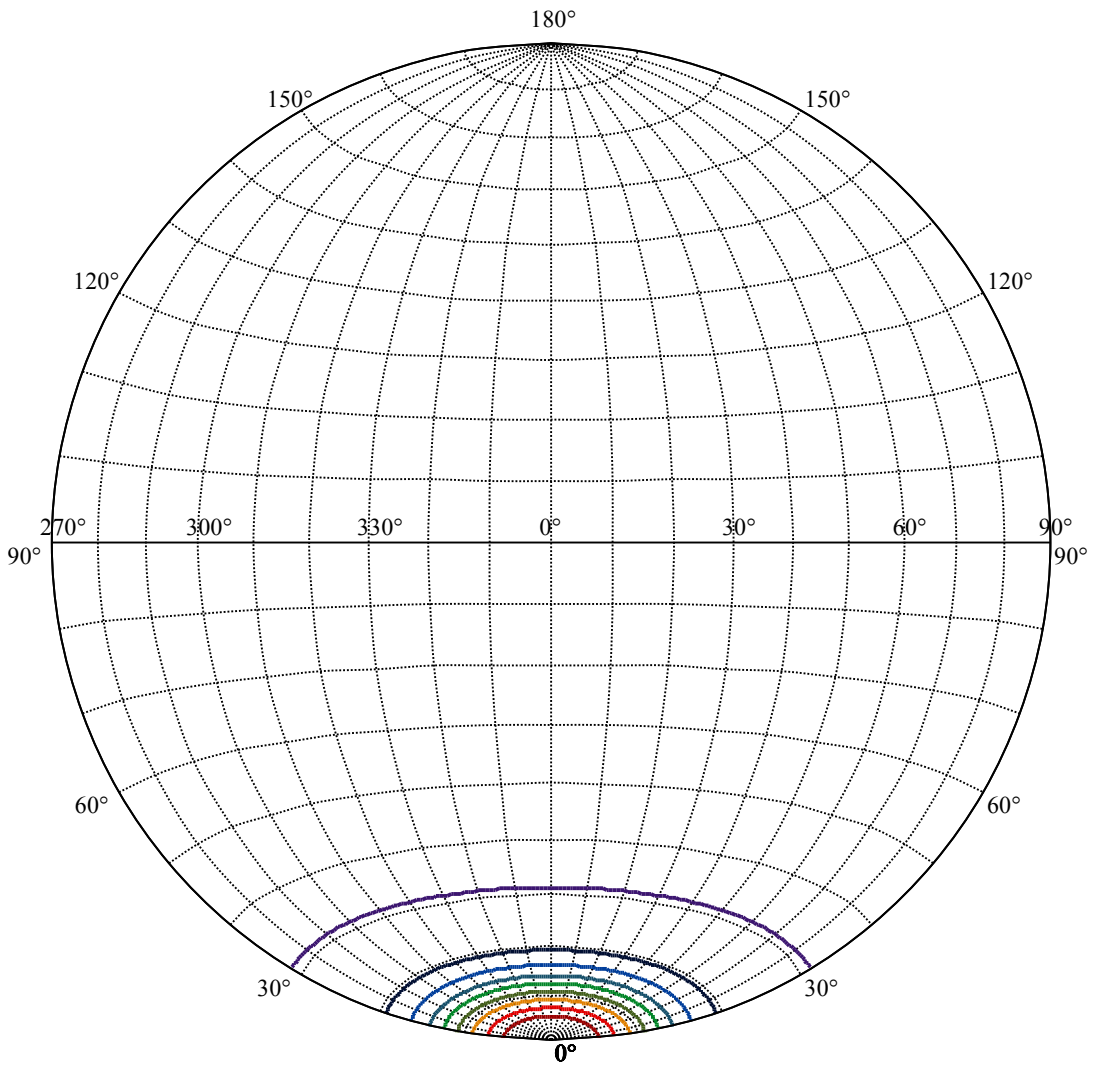
ISO-Intensity(V-H)



(10%Imax) 323.803
(20%Imax) 647.606
(30%Imax) 971.409
(40%Imax) 1295.21
(50%Imax) 1619.02
(60%Imax) 1942.82
(70%Imax) 2266.62
(80%Imax) 2590.43
(90%Imax) 2914.23

Equipment: GMS1980 Date: 2019/6/29 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

ISO candela diagram on circular web



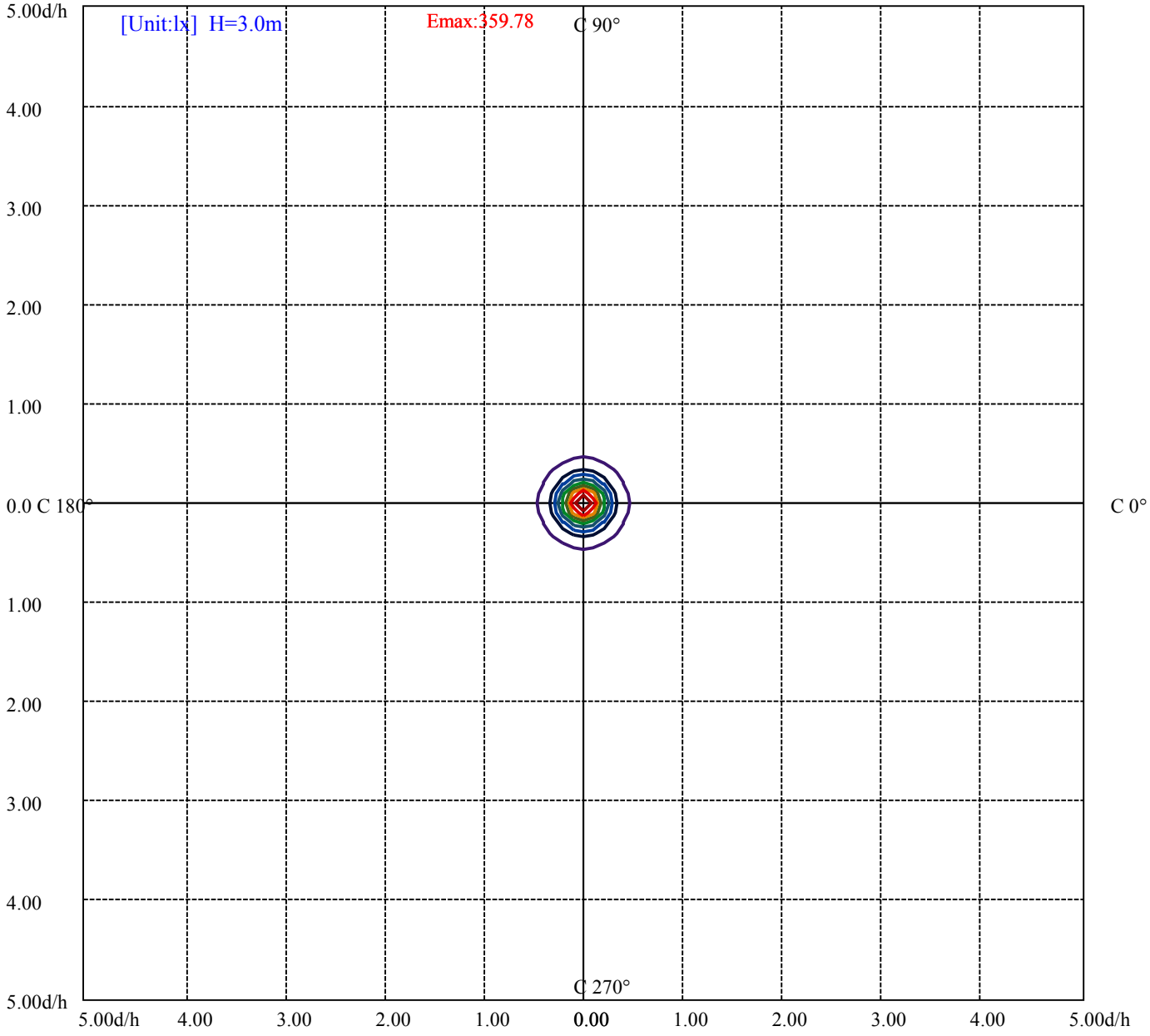
House [Unit:cd] Road

Imax:3238.03

(10%Imax) 323.803
(20%Imax) 647.606
(30%Imax) 971.409
(40%Imax) 1295.21
(50%Imax) 1619.02
(60%Imax) 1942.82
(70%Imax) 2266.62
(80%Imax) 2590.43
(90%Imax) 2914.23

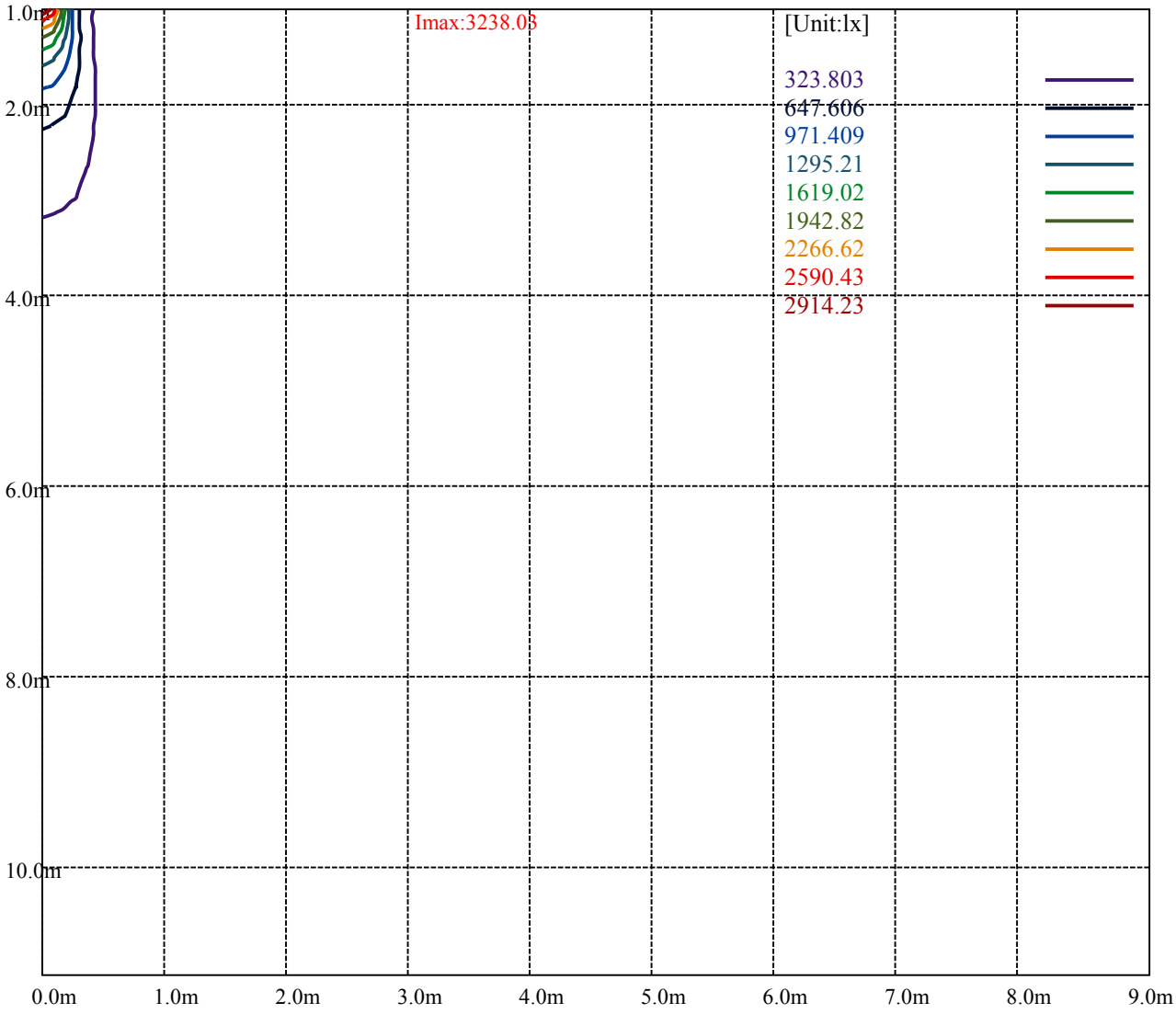
Equipment: GMS1980 Date: 2019/6/29 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

ISO illuminance diagram



Equipment: GMS1980 Date: 2019/6/29 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

Space ISO Lux diagram



Equipment: GMS1980 Date: 2019/6/29 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

Luminance Limitting Curve(no luminous side)

Luminance Table

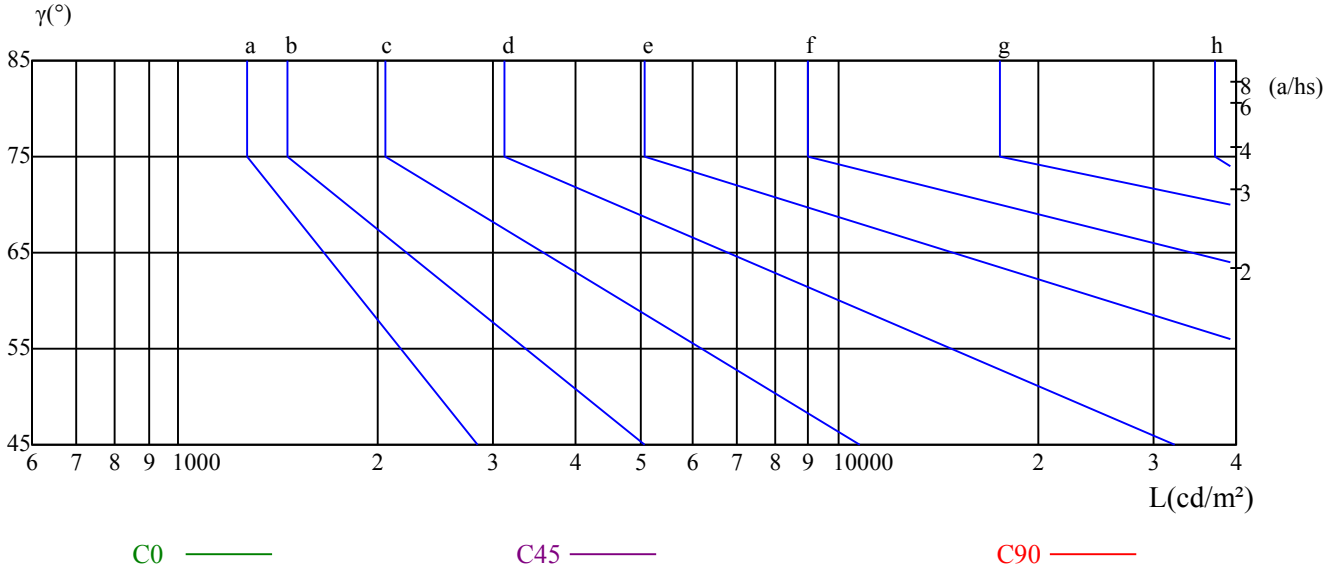
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

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

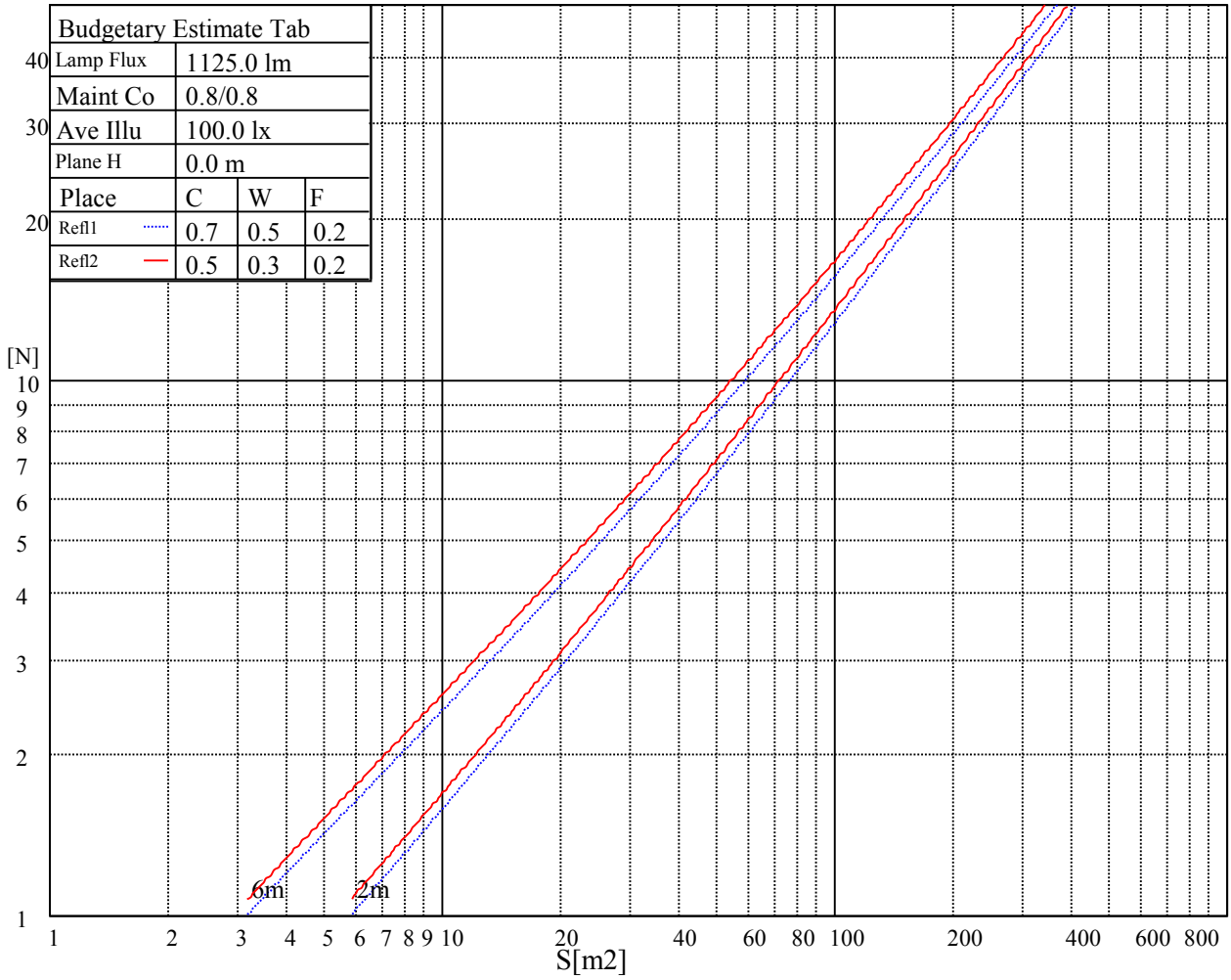
Luminance Limitting Curve



Equipment: GMS1980 Date: 2019/6/29 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

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	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷大
	3H	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷大
	4H	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷大
	6H	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷大
	8H	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷大
	12H	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷大
4H	2H	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷大
	3H	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷大
	4H	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷大
	6H	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷大
	8H	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷大
	12H	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷大
8H	4H	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷大
	6H	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷大
	8H	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷大
	12H	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷大
12H	4H	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷大
	6H	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷大
	8H	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷	正无穷大
Variation with the observer position at spacings:											
S = 1.0H		非数字/非数字					非数字/非数字				
S = 1.5H		非数字/非数字					非数字/非数字				
S = 2.0H		非数字/非数字					非数字/非数字				
Standard tables:		BK0					BK0				
Uncorrected UGR		负无穷大					负无穷大				

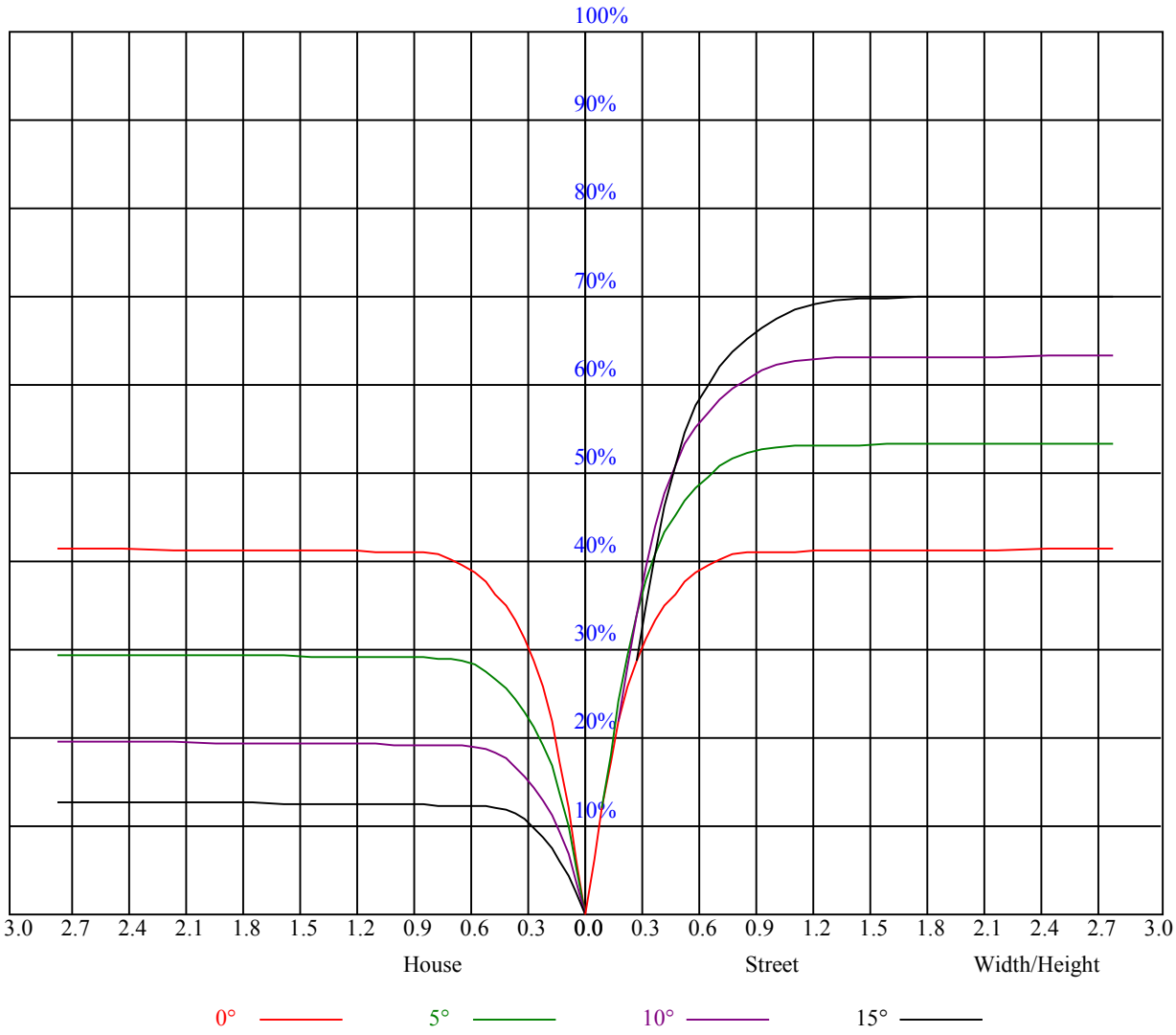
Budgetary Estimate Table



Utilization factor table for indoor luminaire

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	COEFFCIENTS OF UTILIZATION RHOFC=20 CU															
0	1.01	1.01	1.01	0.98	0.98	0.98	0.94	0.94	0.94	0.90	0.90	0.90	0.86	0.86	0.86	0.84
1	0.94	0.92	0.91	0.92	0.91	0.89	0.89	0.88	0.87	0.86	0.85	0.84	0.83	0.82	0.82	0.80
2	0.89	0.86	0.84	0.88	0.85	0.83	0.85	0.83	0.81	0.82	0.81	0.79	0.80	0.79	0.77	0.76
3	0.84	0.81	0.78	0.83	0.80	0.77	0.81	0.78	0.76	0.79	0.77	0.75	0.77	0.75	0.74	0.73
4	0.80	0.76	0.73	0.79	0.76	0.73	0.77	0.74	0.72	0.76	0.73	0.71	0.74	0.72	0.70	0.69
5	0.76	0.72	0.69	0.76	0.72	0.69	0.74	0.71	0.68	0.73	0.70	0.68	0.72	0.69	0.67	0.66
6	0.73	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.65	0.70	0.67	0.65	0.69	0.66	0.64	0.63
7	0.70	0.66	0.63	0.69	0.65	0.63	0.68	0.65	0.62	0.67	0.64	0.62	0.67	0.64	0.62	0.61
8	0.67	0.63	0.60	0.67	0.63	0.60	0.66	0.62	0.60	0.65	0.62	0.59	0.64	0.61	0.59	0.58
9	0.64	0.60	0.58	0.64	0.60	0.58	0.63	0.60	0.57	0.63	0.59	0.57	0.62	0.59	0.57	0.56
10	0.62	0.58	0.55	0.62	0.58	0.55	0.61	0.58	0.55	0.61	0.57	0.55	0.60	0.57	0.55	0.54

Coefficient Utilization Curve



Equipment: GMS1980 Date: 2019/6/29 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

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	3231.00	3119.06	2275.88	1303.31	628.31	410.63	367.31	290.81	71.94
45.0	3231.56	3052.13	2178.00	1121.06	582.19	390.38	346.50	291.94	59.79
90.0	3240.00	2874.38	1874.25	967.39	475.37	375.81	333.17	188.10	32.91
135.0	3249.56	2989.69	2093.63	1083.94	569.81	383.63	342.56	284.63	46.80
180.0	3231.00	2896.88	1955.25	1004.57	535.39	379.41	339.98	190.63	36.45
225.0	3231.56	2952.56	2032.31	1057.11	563.74	395.66	351.90	221.23	49.11
270.0	3240.00	3113.44	2282.06	1287.00	626.06	420.75	366.19	290.81	84.77
315.0	3249.56	3024.56	2113.88	1060.71	582.92	401.74	358.71	244.13	56.81
360.0	3231.00	3119.06	2275.88	1303.31	628.31	410.63	367.31	290.81	71.94

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	5.51	4.44	4.05	3.94	3.83	3.77	3.71	3.71	3.66
45.0	5.29	4.33	4.05	3.94	3.83	3.77	3.71	3.83	4.95
90.0	5.06	4.28	4.05	3.88	3.77	3.71	3.66	3.66	3.60
135.0	5.23	4.33	4.05	3.88	3.77	3.71	3.66	3.66	3.66
180.0	5.01	4.28	3.99	3.88	3.77	3.71	3.66	3.66	3.66
225.0	5.23	4.33	3.99	3.83	3.77	3.66	3.60	3.60	3.60
270.0	6.24	4.44	4.11	3.88	3.77	3.71	3.66	3.60	3.66
315.0	5.29	4.33	4.05	3.88	3.77	3.71	3.66	3.66	3.66
360.0	5.51	4.44	4.05	3.94	3.83	3.77	3.71	3.71	3.66

C/γ(°)	90.0
0.0	3.77
45.0	3.66
90.0	3.60
135.0	3.60
180.0	3.60
225.0	3.71
270.0	4.39
315.0	4.33
360.0	3.77