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Nata

LumCAT: 2-1672-M
Luminaire: 92.70.135.00
Report No: NATA0100
Test No: GC2018062003
LampCAT: NICHIA NFCW108B-V3
Lamp flux(lm): 2255.0
Number of Lamps: 1
Length(mm): 70
Phm Type: C

Voltage(V): 33.9000
Current(A): 0.4900
Power (W): 16.6110
PF: 0.0000
Ballast type: DC
Width(mm): 70
Height(mm): 0

Photometric Results

Lumens(lm): 2015.29
Efficiency(%): 89.37%
Lumens(lm)/Power(W): 123.47
Central intensity(cd): 6298.659
Maximum intensity(cd): 6298.659
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=27.7
[C90/270]Total=27.7
Field angle(10%Imax): [C0/180]Total=63.2
[C90/270]Total=63.2
Maximum s/h(1/2): C0_180=0.47 C90_270=0.47
Maximum s/h(1/4): C0_180=0.45 C90_270=0.45
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 90.96%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.023%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	6298.659	37.667	37.667	1.670%	1.869%
5.0	6147.116	293.668	331.335	13.023%	16.441%
10.0	5020.455	477.862	809.198	21.191%	40.153%
15.0	2591.023	367.584	1176.782	16.301%	58.393%
20.0	1084.040	203.229	1380.011	9.012%	68.477%
25.0	773.893	179.275	1559.286	7.950%	77.373%
30.0	689.864	189.070	1748.356	8.384%	86.755%
35.0	500.401	157.325	1905.681	6.977%	94.561%
40.0	182.911	64.446	1970.127	2.858%	97.759%
45.0	17.295	6.703	1976.831	.297%	98.092%
50.0	10.413	4.372	1981.203	.194%	98.309%
55.0	9.704	4.357	1985.56	.193%	98.525%
60.0	9.291	4.410	1989.97	.196%	98.744%
65.0	9.022	4.482	1994.452	.199%	98.966%
70.0	8.843	4.555	1999.007	.202%	99.192%
75.0	8.713	4.613	2003.62	.205%	99.421%
80.0	8.616	4.651	2008.272	.206%	99.652%
85.0	8.575	4.682	2012.954	.208%	99.884%
90.0	8.513	2.333	2015.287	.103%	100.000%

Zonal flux distribution table

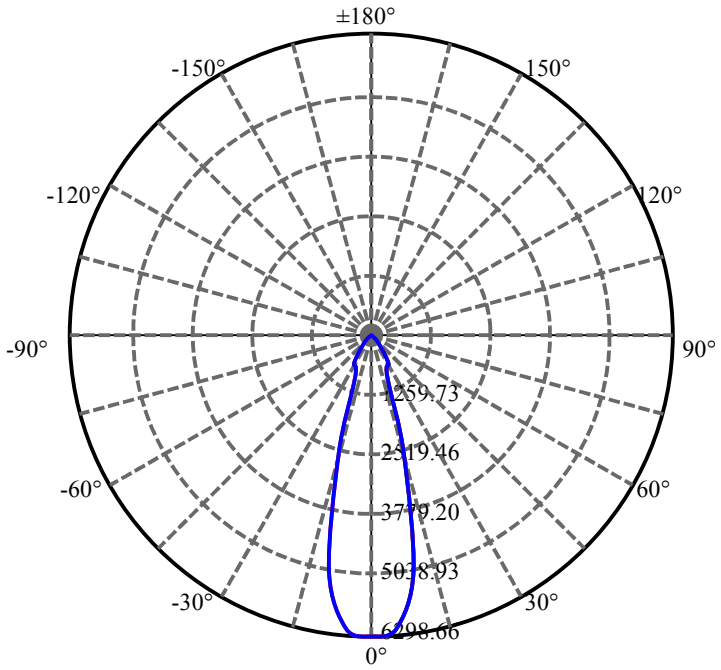
ZONAL LUMEN SUMMARY

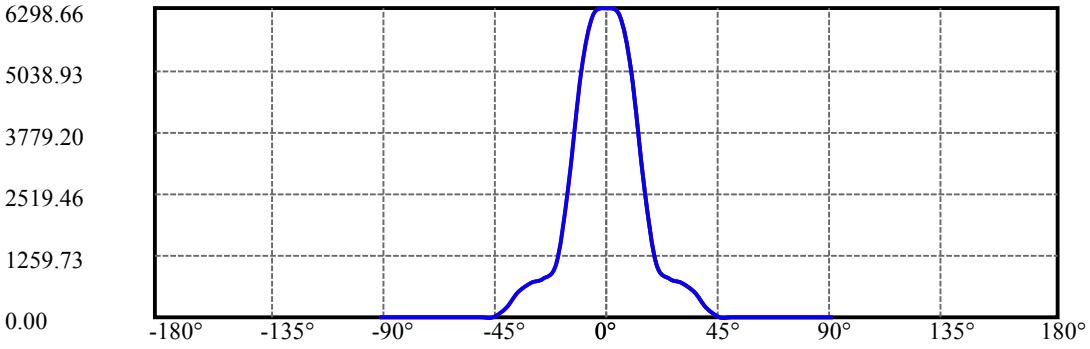
Zone	Lumens	%Lamp	%Fixt
0-30	1748.36	77.53%	86.75%
0-40	1970.13	87.37%	97.76%
0-60	1989.97	88.25%	98.74%
0-90	2012.95	89.27%	99.88%
0-120	2012.95	89.27%	99.88%
0-180	2015.29	89.37%	100.00%
60-90	27.39	1.21%	1.36%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-26.40	1612.23	71.50%	80.00%

ZONAL LUMEN SUMMARY

0-10	809.20
10-20	570.81
20-30	368.34
30-40	221.77
40-50	11.08
50-60	8.77
60-70	9.04
70-80	9.26
80-90	4.68
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):

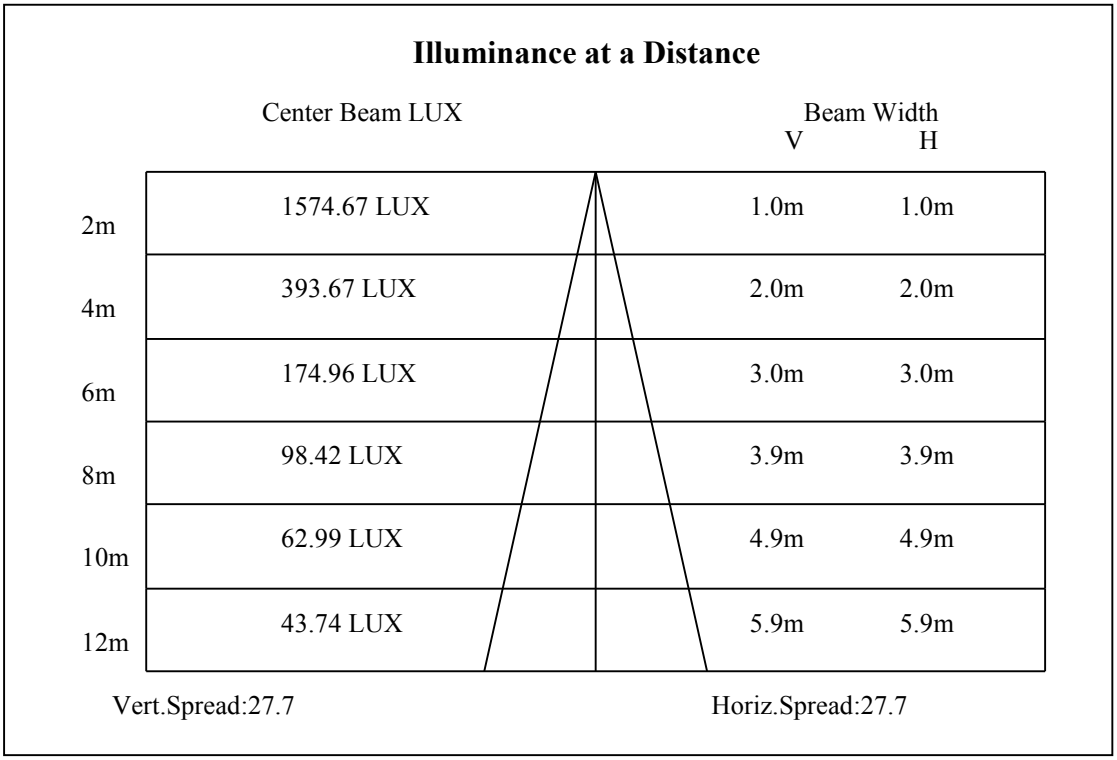
C0/C180:

C90/C270:

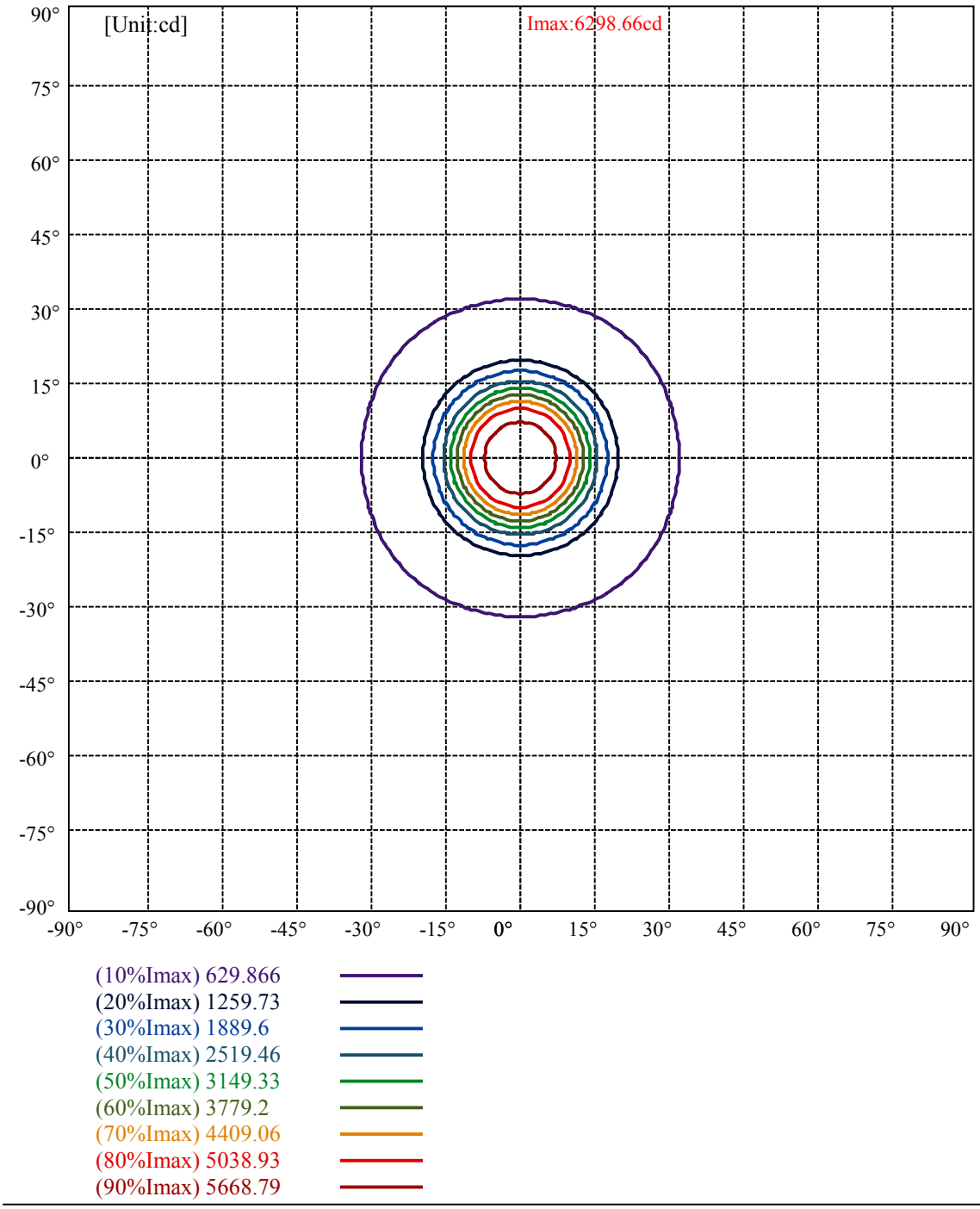
Field angle(10%Imax):C0/180Left:31.6 Right:31.6
:C90/270Left:31.6 Right:31.6

Beam Angle(50%Imax):C0/180Left:13.9 Right:13.9
:C90/270Left:13.9 Right:13.9

Lux distance Curve



ISO-Intensity(V-H)

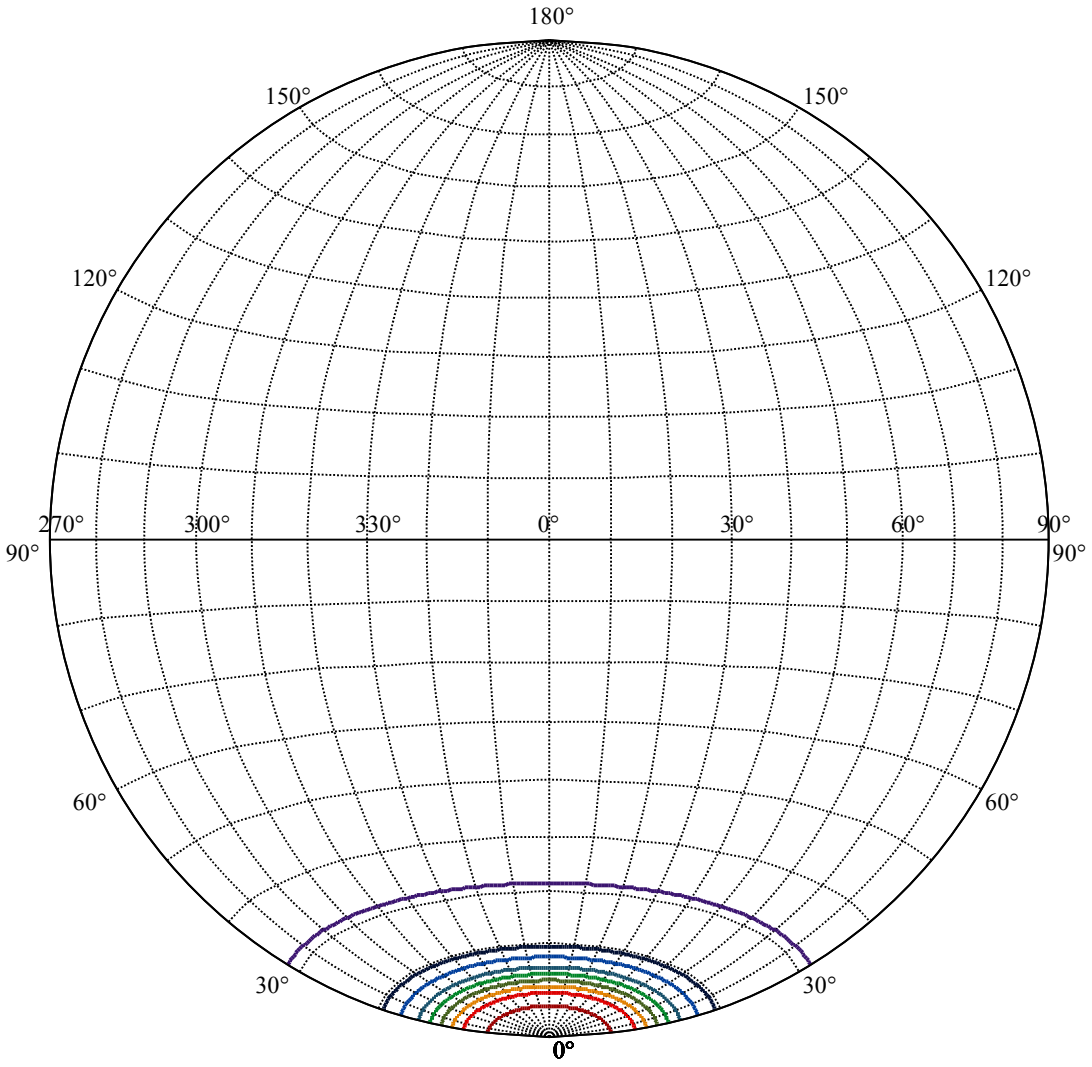


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2018/6/20
Humidity(%): 60.0%

Operator: NT07
Distance(m): 7.42

ISO candela diagram on circular web



House [Unit:cd] Road

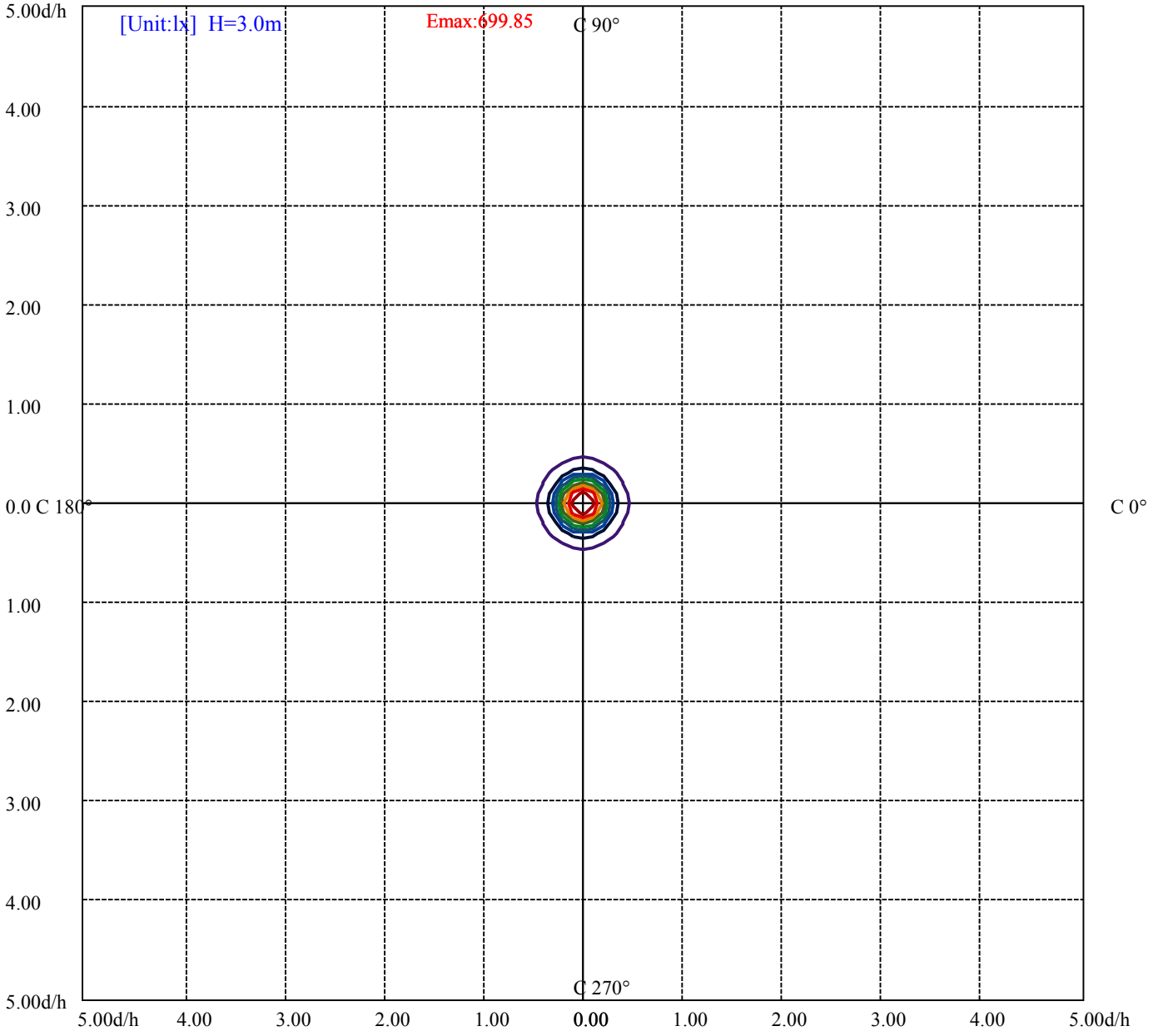
Imax:6298.66

(10%Imax) 629.866
(20%Imax) 1259.73
(30%Imax) 1889.6
(40%Imax) 2519.46
(50%Imax) 3149.33
(60%Imax) 3779.2
(70%Imax) 4409.06
(80%Imax) 5038.93
(90%Imax) 5668.79

Equipment: GMS1980 Date: 2018/6/20 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 60.0% Distance(m): 7.42

Nata 2-1672-M

ISO illuminance diagram

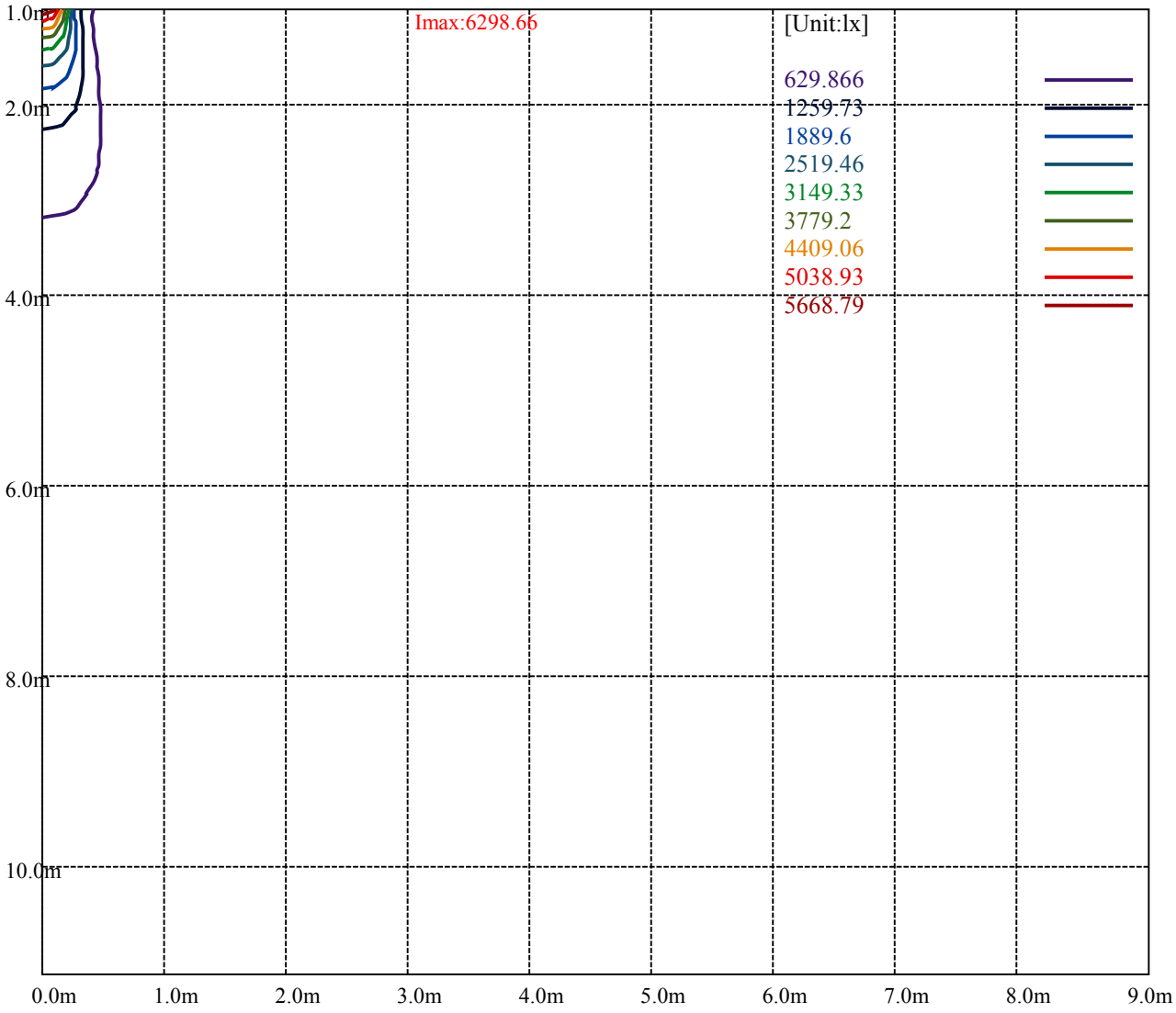


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2018/6/20
Humidity(%): 60.0%

Operator: NT07
Distance(m): 7.42

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2018/6/20
Humidity(%): 60.0%

Operator: NT07
Distance(m): 7.42

Nata 2-1672-M

Luminance Limitting Curve(no luminous side)

Luminance Table

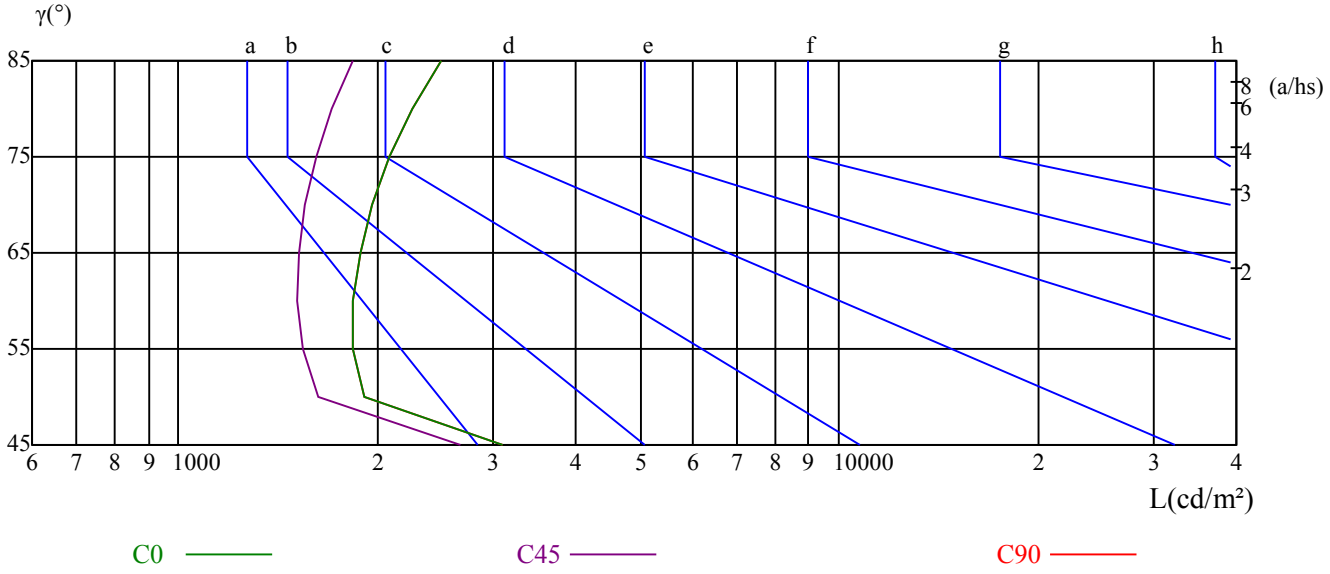
γ	45	50	55	60	65	70	75	80	85
C0	3092	1909	1839	1837	1880	1963	2087	2258	2503
C45	2671	1624	1541	1514	1522	1558	1619	1709	1837
C90	3092	1909	1839	1837	1880	1963	2087	2258	2503

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
4357	4357	4357	6870	6870	6870	20079	20079	20079

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

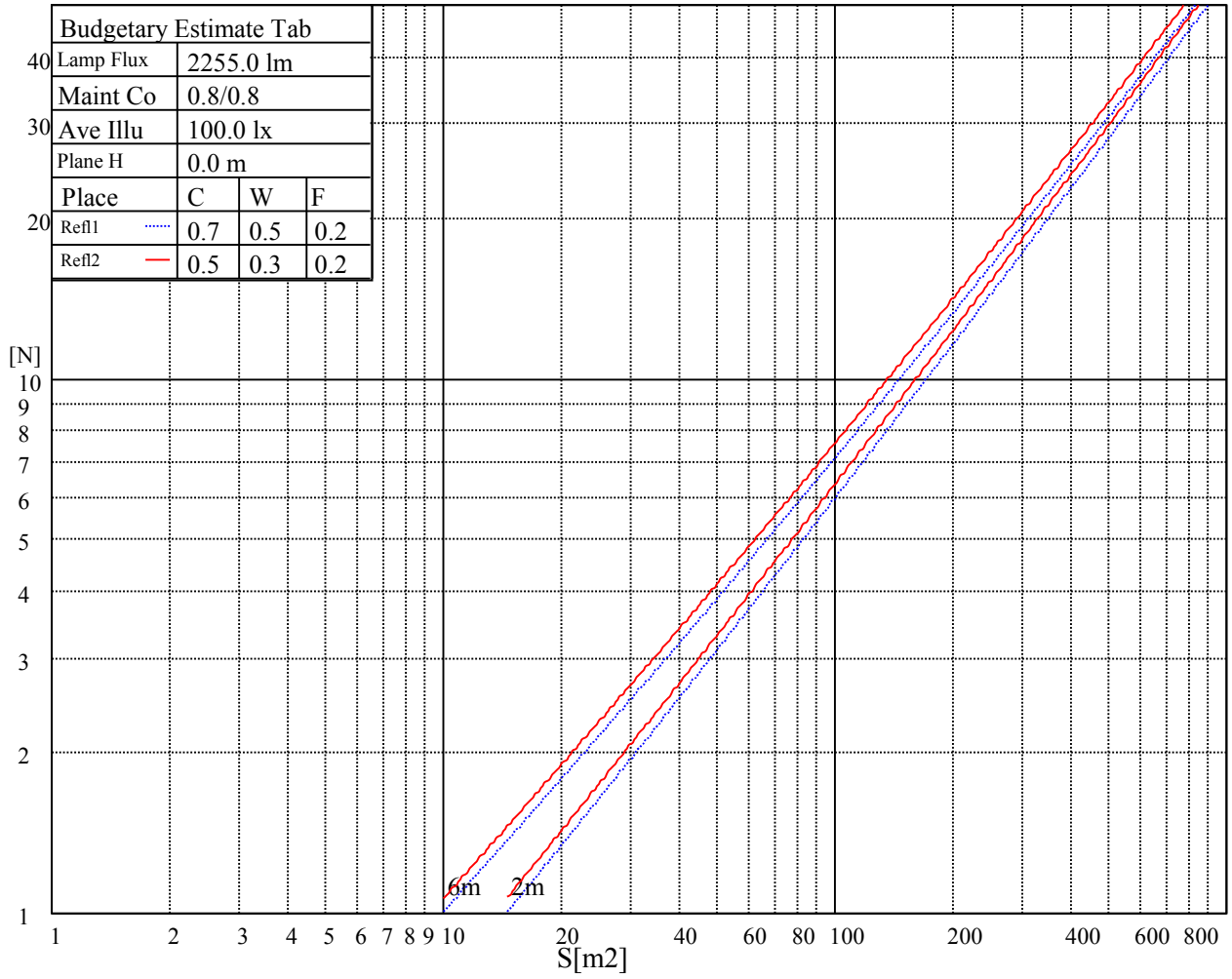


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2018/6/20
Humidity(%): 60.0%

Operator: NT07
Distance(m): 7.42

Budgetary Estimate Table

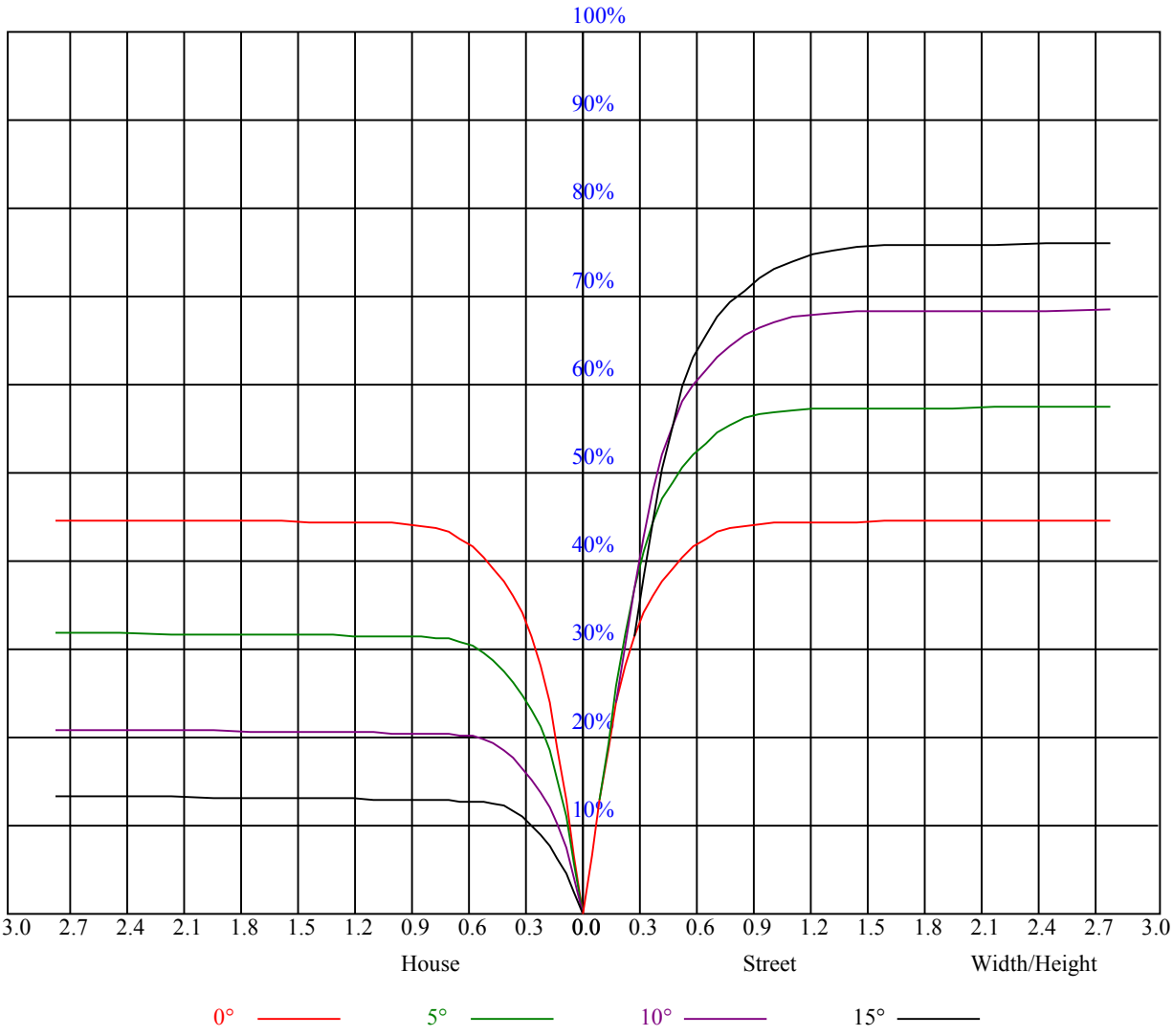


Equipment: GMS1980 Date: 2018/6/20 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 60.0% Distance(m): 7.42

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	1.08	1.08	1.08	1.06	1.06	1.06	1.01	1.01	1.01	0.97	0.97	0.97	0.93	0.93	0.93	0.91
1	1.00	0.97	0.95	0.98	0.96	0.94	0.94	0.92	0.91	0.91	0.89	0.88	0.88	0.87	0.86	0.84
2	0.95	0.91	0.88	0.93	0.90	0.87	0.90	0.88	0.86	0.88	0.86	0.84	0.85	0.83	0.82	0.81
3	0.90	0.86	0.83	0.89	0.85	0.82	0.87	0.84	0.81	0.85	0.82	0.80	0.83	0.80	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	0.77	0.80	0.78	0.76	0.74
5	0.83	0.78	0.75	0.82	0.78	0.75	0.80	0.77	0.74	0.79	0.76	0.74	0.78	0.75	0.73	0.72
6	0.80	0.75	0.72	0.79	0.75	0.72	0.78	0.74	0.71	0.76	0.73	0.71	0.75	0.73	0.71	0.69
7	0.77	0.72	0.69	0.76	0.72	0.69	0.75	0.72	0.69	0.74	0.71	0.69	0.73	0.70	0.68	0.67
8	0.74	0.70	0.67	0.74	0.70	0.67	0.73	0.69	0.67	0.72	0.69	0.66	0.71	0.68	0.66	0.65
9	0.72	0.68	0.65	0.71	0.67	0.65	0.71	0.67	0.65	0.70	0.67	0.64	0.69	0.66	0.64	0.63
10	0.70	0.66	0.63	0.69	0.65	0.63	0.69	0.65	0.63	0.68	0.65	0.63	0.67	0.65	0.62	0.61

Coefficient Utilization Curve



Equipment: GMS1980	Date: 2018/6/20	Operator: NT07
Temperature(°C): 25.0	Humidity(%): 60.0%	Distance(m): 7.42

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	6292.95	6220.27	5327.81	2980.75	1248.68	804.37	708.03	567.08	286.84
45.0	6305.06	6078.23	4708.97	2157.11	995.97	748.77	678.29	458.62	102.90
90.0	6299.00	5973.07	4245.40	1755.75	900.89	725.04	658.58	341.13	67.77
135.0	6297.35	6061.71	4887.91	2354.21	988.26	756.47	681.05	464.68	196.88
180.0	6292.95	6029.23	4629.14	2183.54	948.40	739.46	673.12	439.13	100.04
225.0	6305.61	6288.54	5441.22	2978.00	1088.08	793.58	694.87	563.78	224.35
270.0	6299.00	6323.78	5704.39	3583.07	1421.56	832.45	722.89	624.89	299.51
315.0	6297.35	6202.10	5218.80	2735.75	1080.48	791.00	702.08	543.90	184.99
360.0	6292.95	6220.27	5327.81	2980.75	1248.68	804.37	708.03	567.08	286.84

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	18.83	10.52	9.74	9.30	9.03	8.86	8.70	8.59	8.53
45.0	13.98	10.30	9.63	9.25	8.97	8.81	8.70	8.59	8.59
90.0	12.94	10.08	9.63	9.25	8.97	8.86	8.75	8.64	8.59
135.0	15.47	10.30	9.63	9.36	9.08	8.86	8.75	8.64	8.59
180.0	13.38	10.19	9.58	9.19	8.97	8.81	8.59	8.59	8.53
225.0	19.27	10.52	9.74	9.30	8.97	8.81	8.70	8.59	8.53
270.0	26.37	10.96	9.97	9.41	9.14	8.92	8.81	8.70	8.64
315.0	18.11	10.46	9.69	9.25	9.03	8.81	8.70	8.59	8.59
360.0	18.83	10.52	9.74	9.30	9.03	8.86	8.70	8.59	8.53

C/γ(°)	90.0
0.0	8.53
45.0	8.53
90.0	8.48
135.0	8.53
180.0	8.53
225.0	8.48
270.0	8.53
315.0	8.48
360.0	8.53