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NATA

LumCAT: 4-1991-E
Luminaire: TE 2213382-2+92.76.233.00
Report No: NATA0100 Voltage(V): 34.6000
Test No: GC2019022705 Current(A): 0.4000
LampCAT: NICHIA NFCWJ060B-V3 LES11.5 Power (W): 13.8400
Lamp flux(lm): 1745.0 PF: 0.0000
Number of Lamps: 1 Ballast type: DC
Length(mm): 100 Width(mm): 100
Phm Type: C Height(mm): 0

Photometric Results

Lumens(lm): 1552.46
Efficiency(%): 88.97%
Lumens(lm)/Power(W): 113.24
Central intensity(cd): 2714.625
Maximum intensity(cd): 2714.625
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=44.4
 [C90/270]Total=44.4
Field angle(10%Imax): [C0/180]Total=72.8
 [C90/270]Total=72.8
Maximum s/h(1/2): C0_180=0.71 C90_270=0.71
Maximum s/h(1/4): C0_180=0.71 C90_270=0.71
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 89.81%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.896%

Equipment: GMS1980
Temperature(°C): 10.0

Date: 2019/2/27
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

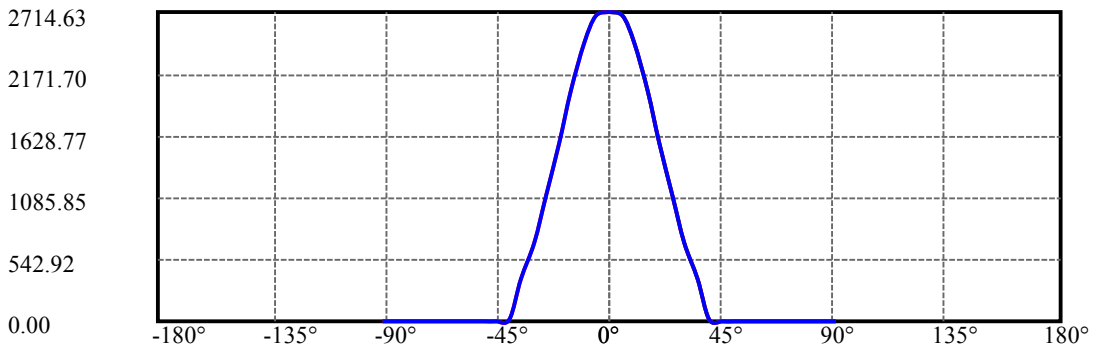
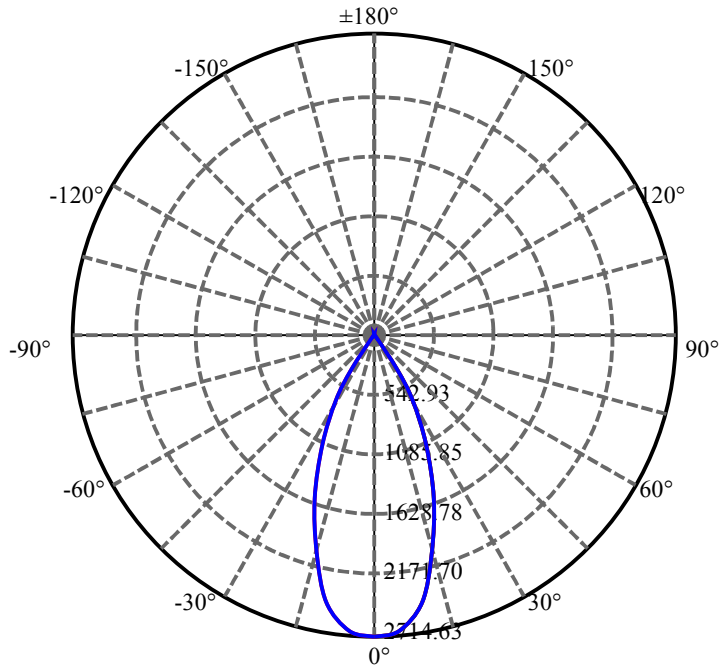
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2714.625	16.234	16.234	.930%	1.046%
5.0	2674.547	127.772	144.006	7.322%	9.276%
10.0	2440.195	232.265	376.271	13.310%	24.237%
15.0	2022.820	286.974	663.246	16.446%	42.722%
20.0	1571.344	294.586	957.832	16.882%	61.698%
25.0	1088.775	252.218	1210.05	14.454%	77.944%
30.0	687.354	188.382	1398.432	10.796%	90.078%
35.0	371.918	116.931	1515.362	6.701%	97.610%
40.0	19.266	6.788	1522.15	.389%	98.048%
45.0	8.051	3.120	1525.271	.179%	98.248%
50.0	7.003	2.941	1528.211	.169%	98.438%
55.0	6.602	2.965	1531.176	.170%	98.629%
60.0	6.455	3.064	1534.24	.176%	98.826%
65.0	6.370	3.165	1537.404	.181%	99.030%
70.0	6.321	3.256	1540.66	.187%	99.240%
75.0	6.286	3.328	1543.988	.191%	99.454%
80.0	6.265	3.382	1547.37	.194%	99.672%
85.0	6.230	3.402	1550.772	.195%	99.891%
90.0	6.166	1.690	1552.462	.097%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1398.43	80.14%	90.08%
0-40	1522.15	87.23%	98.05%
0-60	1534.24	87.92%	98.83%
0-90	1550.77	88.87%	99.89%
0-120	1550.77	88.87%	99.89%
0-180	1552.46	88.97%	100.00%
60-90	19.60	1.12%	1.26%
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%
0-25.85	1241.97	71.17%	80.00%

ZONAL LUMEN SUMMARY

0-10	376.27
10-20	581.56
20-30	440.60
30-40	123.72
40-50	6.06
50-60	6.03
60-70	6.42
70-80	6.71
80-90	3.40
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: —————

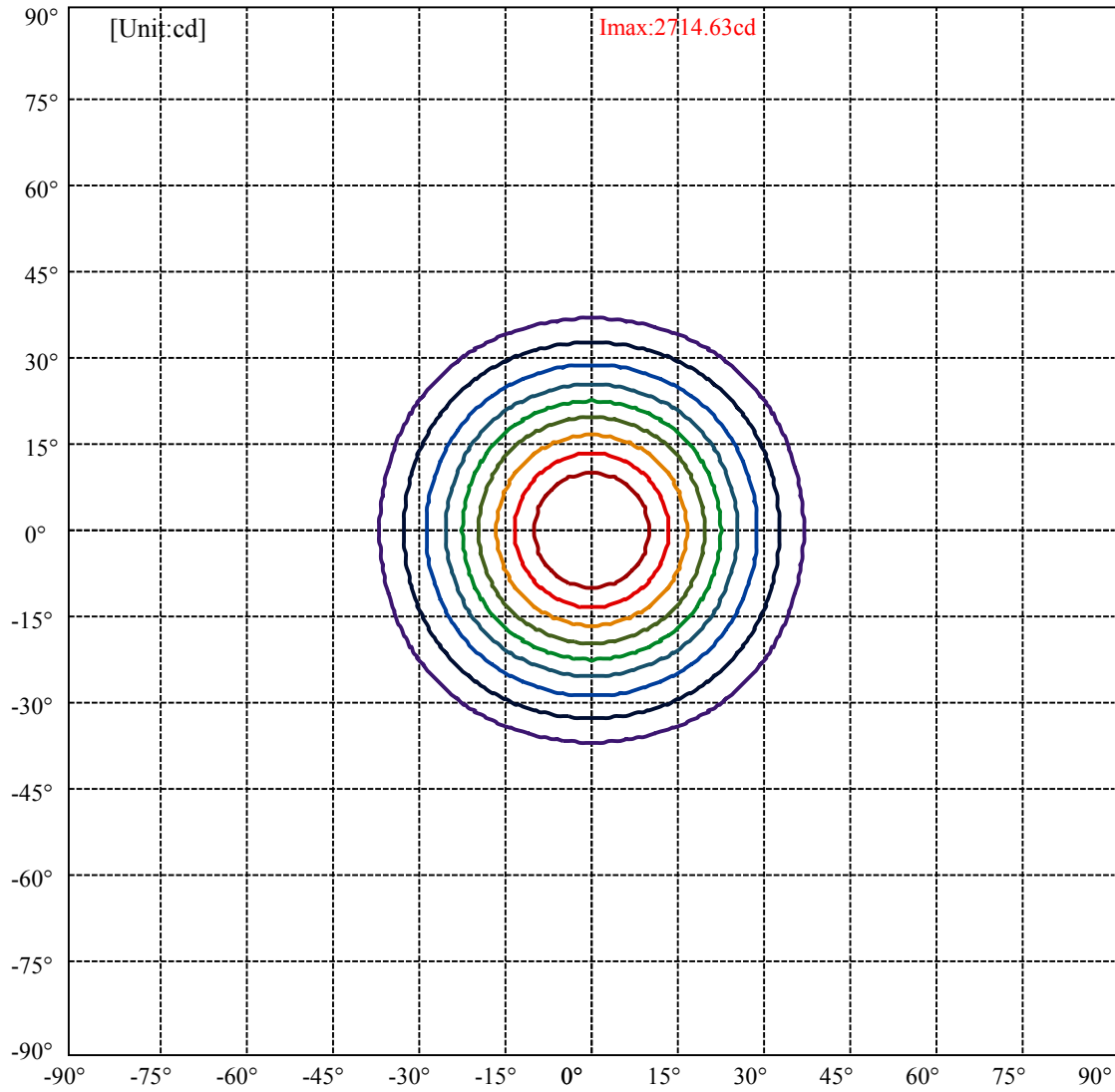
C90/C270: —————

Field angle(10%Imax):C0/180Left:36.4 Right:36.4

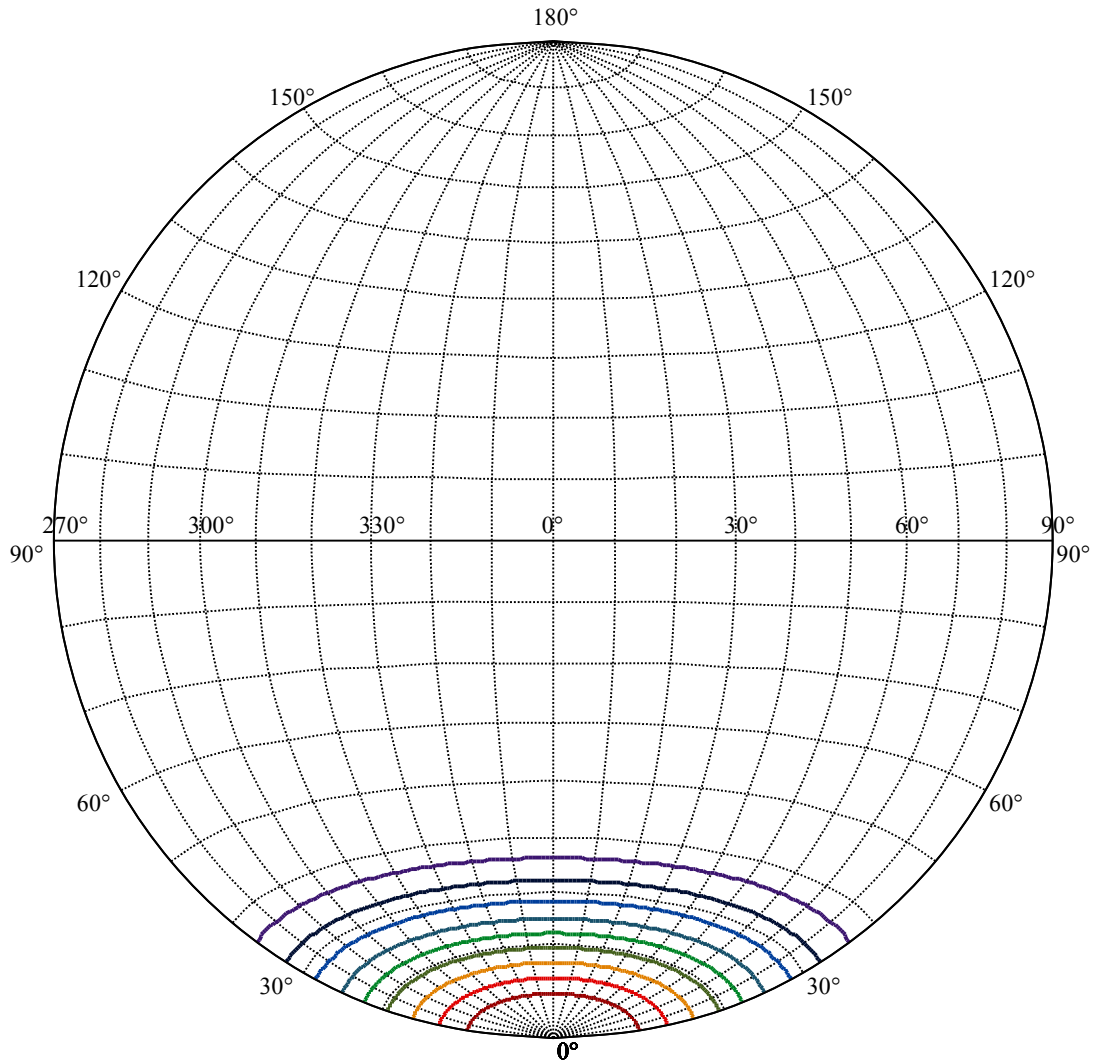
:C90/270Left:36.4 Right:36.4

Beam Angle(50%Imax):C0/180Left:22.2 Right:22.2

:C90/270Left:22.2 Right:22.2



(10%Imax) 271.462	—
(20%Imax) 542.925	—
(30%Imax) 814.388	—
(40%Imax) 1085.85	—
(50%Imax) 1357.31	—
(60%Imax) 1628.78	—
(70%Imax) 1900.24	—
(80%Imax) 2171.7	—
(90%Imax) 2443.16	—



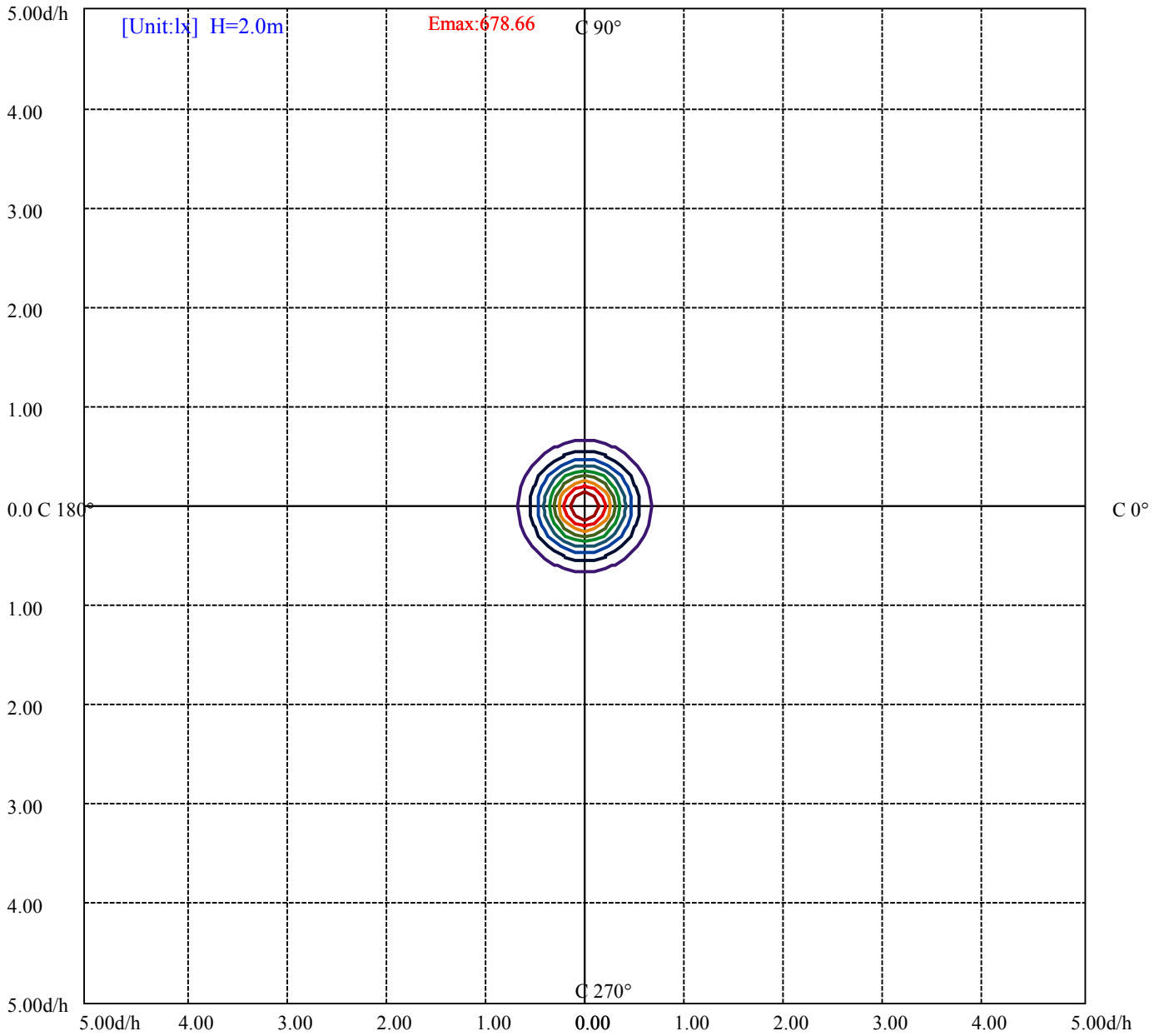
House

[Unit:cd]

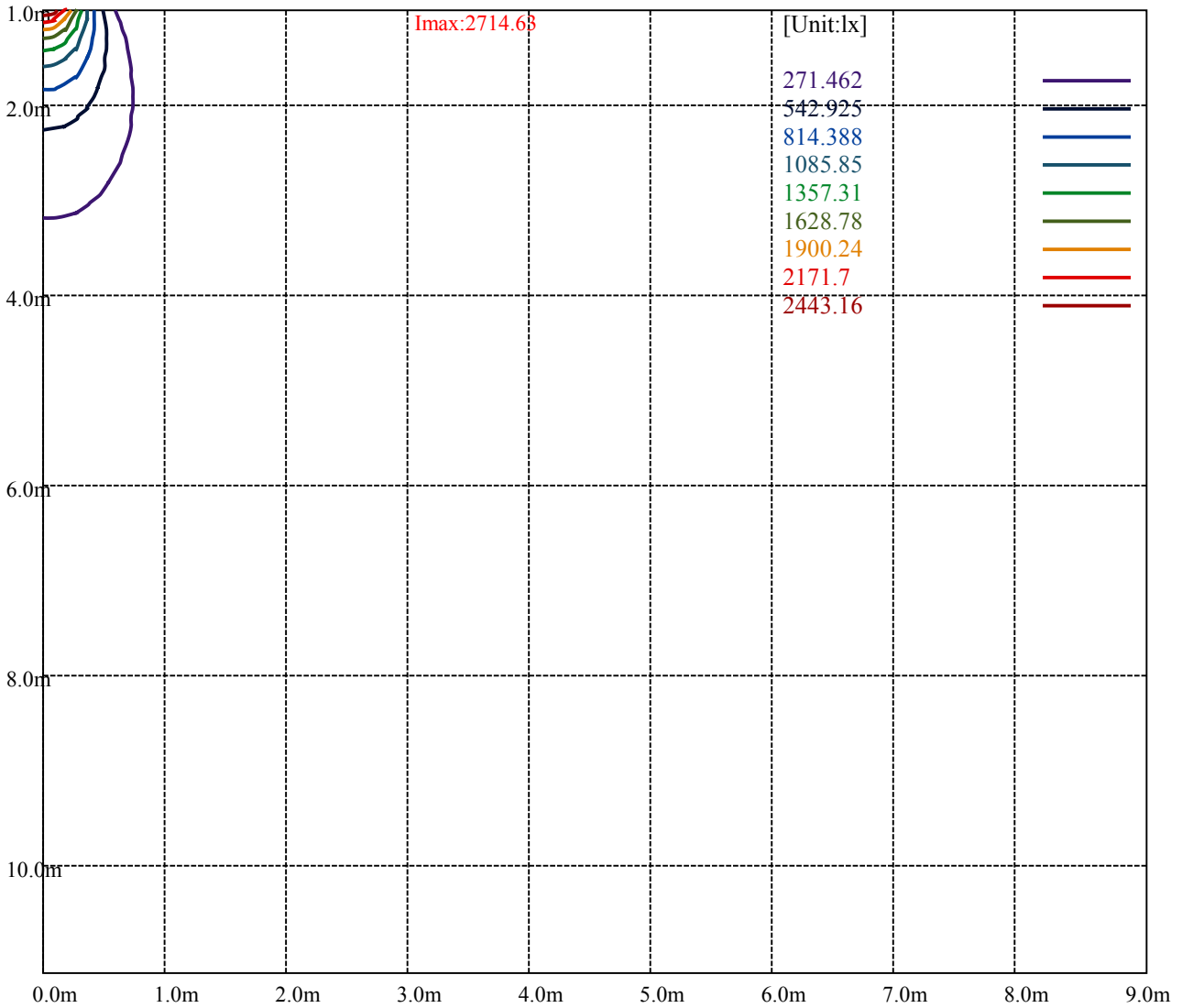
Road

Imax:2714.63

(10%Imax) 271.462	—
(20%Imax) 542.925	—
(30%Imax) 814.388	—
(40%Imax) 1085.85	—
(50%Imax) 1357.31	—
(60%Imax) 1628.78	—
(70%Imax) 1900.24	—
(80%Imax) 2171.7	—
(90%Imax) 2443.16	—



(10%Emax) 67.8655	—
(20%Emax) 135.7312	—
(30%Emax) 203.5968	—
(40%Emax) 271.4625	—
(50%Emax) 339.3275	—
(60%Emax) 407.1925	—
(70%Emax) 475.06	—
(80%Emax) 542.925	—
(90%Emax) 610.79	—



Luminance Table

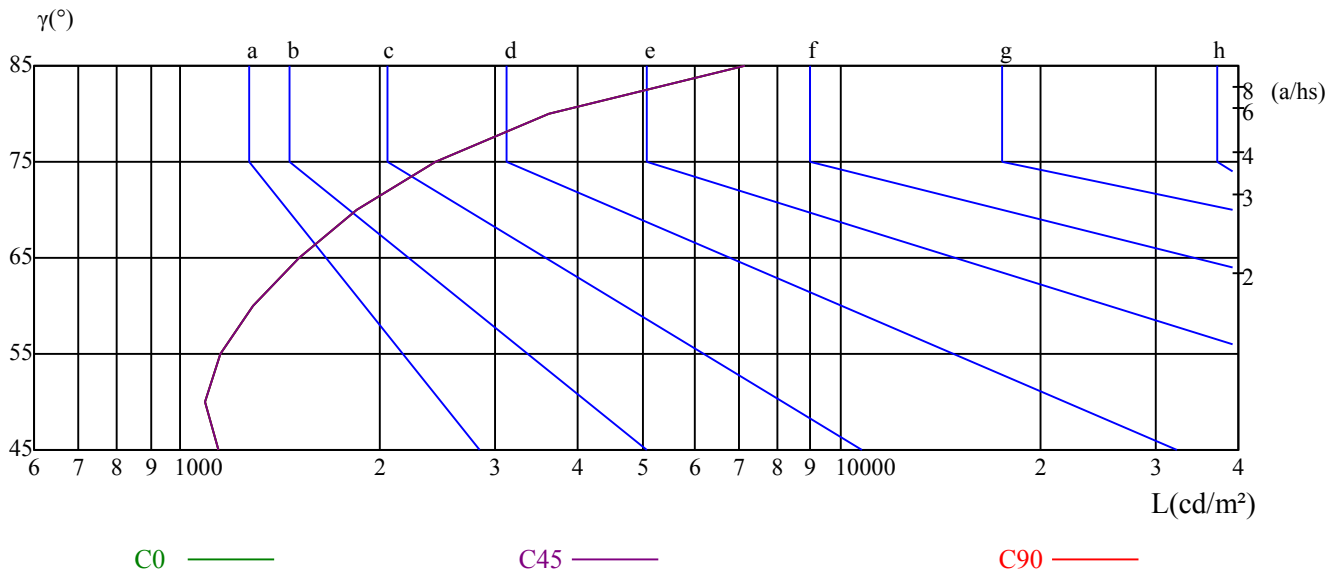
γ	45	50	55	60	65	70	75	80	85
C0	1139	1089	1151	1291	1507	1848	2429	3608	7148
C45	1139	1089	1151	1291	1507	1848	2429	3608	7148
C90	1139	1089	1151	1291	1507	1848	2429	3608	7148

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
1507	1507	1507	2429	2429	2429	7148	7148	7148

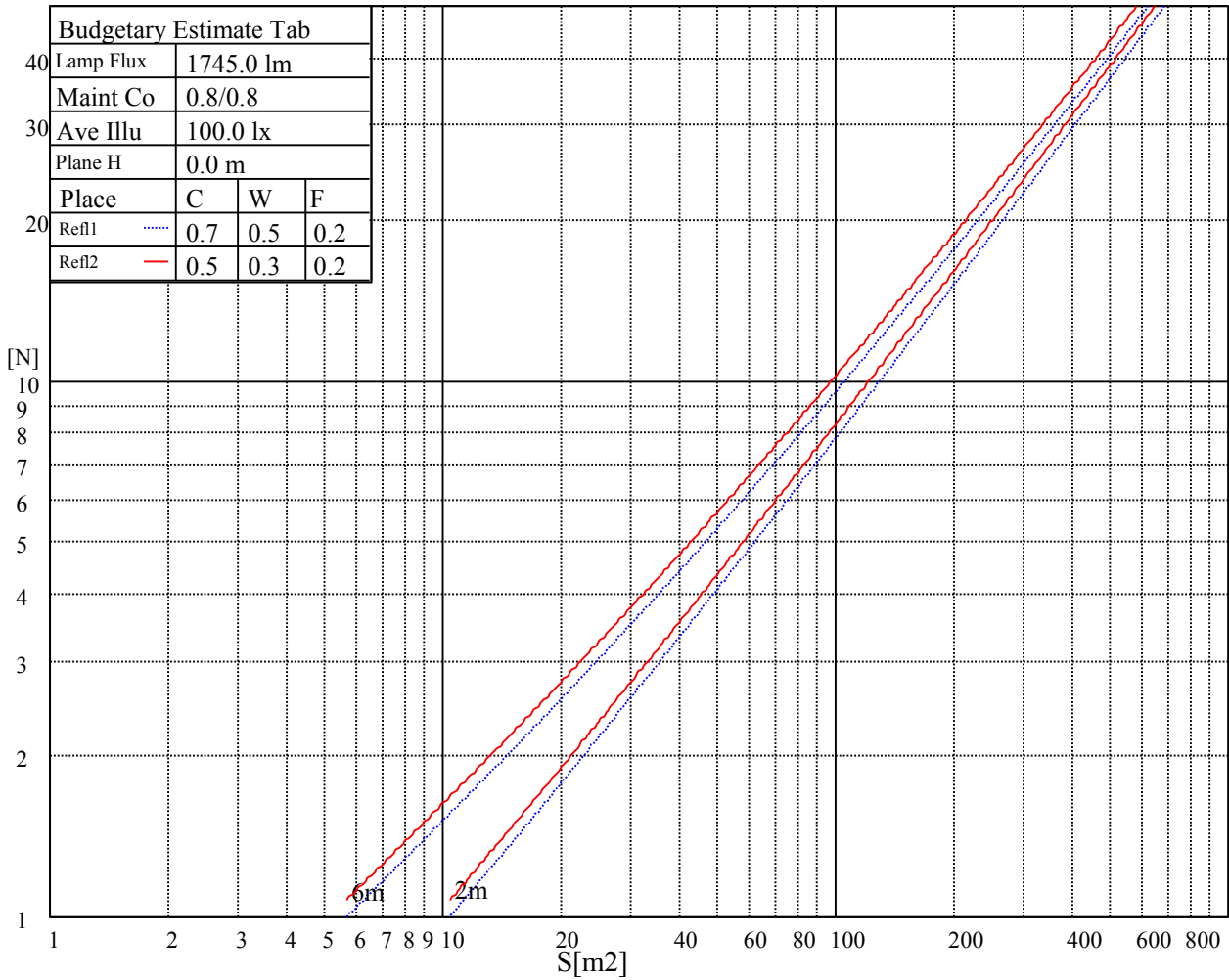
Glare Table

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

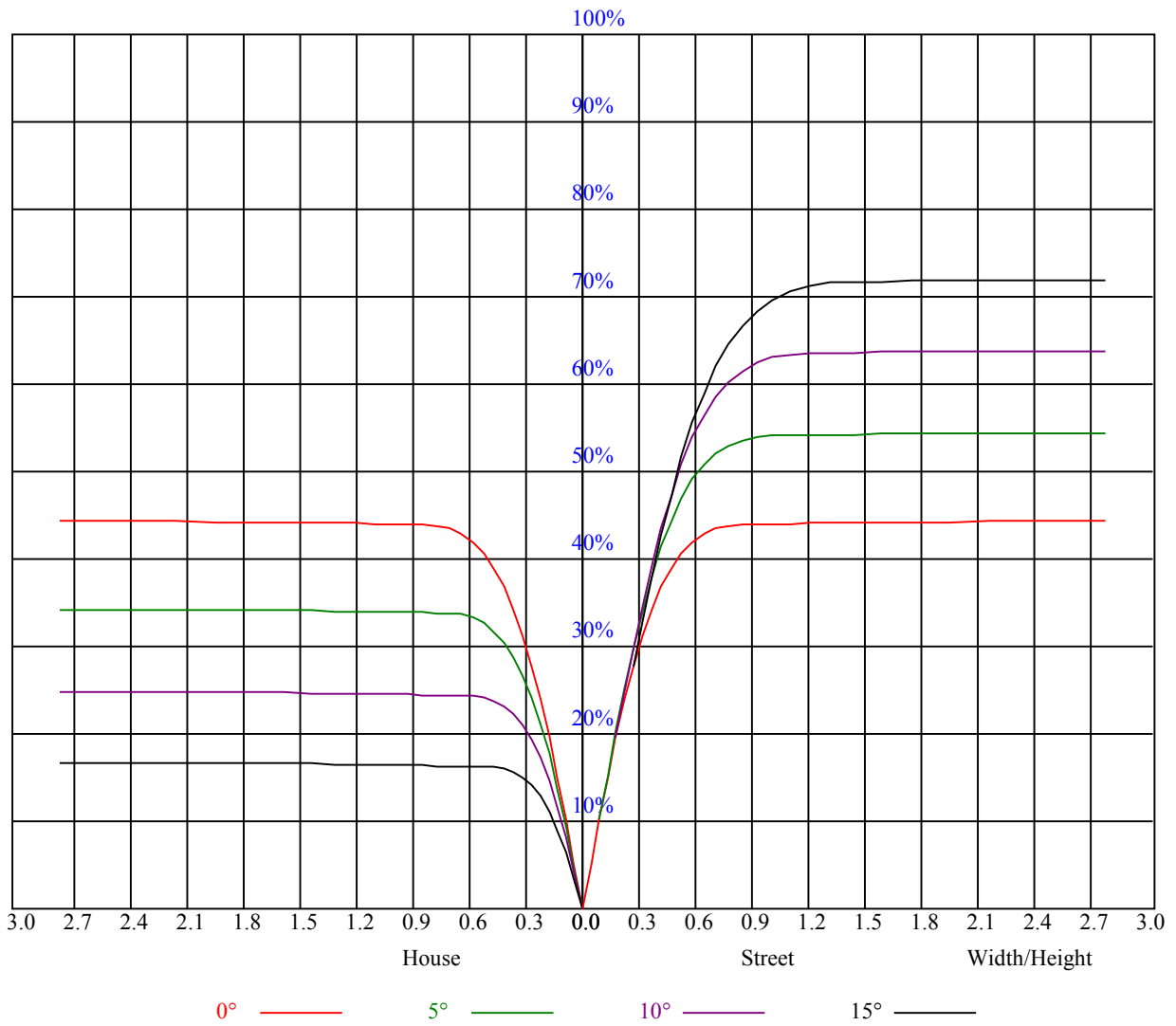
Luminance Limiting Curve



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	-0.51	0.40	-0.14	0.71	1.03	-0.45	0.46	-0.09	0.77	1.08
	3H	2.88	3.68	3.27	4.02	4.39	2.93	3.73	3.31	4.06	4.43
	4H	4.70	5.45	5.11	5.80	6.19	4.73	5.48	5.14	5.83	6.22
	6H	6.74	7.42	7.16	7.79	8.19	6.77	7.44	7.19	7.82	8.22
	8H	7.85	8.49	8.29	8.88	9.29	7.89	8.52	8.33	8.92	9.33
	12H	9.65	10.25	10.08	10.64	11.07	9.69	10.30	10.13	10.68	11.11
4H	2H	0.47	1.21	0.88	1.57	1.96	0.51	1.25	0.92	1.60	2.00
	3H	4.07	4.68	4.49	5.09	5.50	4.11	4.72	4.53	5.13	5.54
	4H	6.05	6.59	6.49	7.02	7.47	6.07	6.62	6.51	7.04	7.49
	6H	8.24	8.70	8.71	9.15	9.63	8.26	8.72	8.73	9.17	9.65
	8H	9.45	9.88	9.92	10.33	10.81	9.47	9.90	9.95	10.35	10.83
8H	12H	11.13	11.50	11.62	11.99	12.47	11.16	11.53	11.66	12.02	12.50
	4H	6.80	7.23	7.28	7.68	8.16	6.82	7.25	7.30	7.70	8.18
	6H	9.25	9.59	9.77	10.10	10.59	9.27	9.61	9.78	10.11	10.60
	8H	10.65	10.95	11.18	11.47	11.97	10.67	10.97	11.20	11.49	11.99
12H	12H	12.46	12.72	12.99	13.22	13.80	12.49	12.75	13.01	13.25	13.83
	4H	7.02	7.39	7.51	7.88	8.36	7.03	7.40	7.53	7.89	8.37
	6H	9.77	9.88	10.12	10.35	10.90	9.79	9.89	10.13	10.37	10.92
	8H	11.11	11.36	11.63	11.86	12.45	11.12	11.38	11.65	11.88	12.46
Variation with the observer position at spacings:											
S = 1.0H		5.8/-8.4					5.8/-8.4				
S = 1.5H		8.1/-6.2					8.1/-6.2				
S = 2.0H		9.5/-4.6					9.5/-4.6				
Standard tables:		BK2					BK2				
Uncorrected UGR		-2.3					-2.3				



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	1.07	1.07	1.07	1.04	1.04	1.04	1.00	1.00	1.00	0.96	0.96	0.96	0.92	0.92	0.92	0.90
1	0.99	0.97	0.95	0.97	0.95	0.93	0.94	0.92	0.91	0.90	0.89	0.88	0.87	0.86	0.85	0.84
2	0.94	0.90	0.87	0.92	0.89	0.86	0.89	0.87	0.85	0.87	0.85	0.83	0.84	0.83	0.81	0.80
3	0.89	0.85	0.82	0.88	0.84	0.81	0.85	0.82	0.80	0.83	0.81	0.78	0.81	0.79	0.77	0.76
4	0.84	0.80	0.77	0.83	0.79	0.76	0.82	0.78	0.75	0.80	0.77	0.75	0.78	0.76	0.74	0.73
5	0.80	0.76	0.73	0.80	0.75	0.72	0.78	0.75	0.72	0.77	0.74	0.71	0.75	0.73	0.71	0.69
6	0.77	0.72	0.69	0.76	0.72	0.69	0.75	0.71	0.68	0.74	0.70	0.68	0.73	0.70	0.68	0.66
7	0.74	0.69	0.66	0.73	0.69	0.66	0.72	0.68	0.65	0.71	0.68	0.65	0.70	0.67	0.65	0.64
8	0.71	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
9	0.68	0.63	0.60	0.67	0.63	0.60	0.67	0.63	0.60	0.66	0.62	0.60	0.65	0.62	0.60	0.59
10	0.65	0.61	0.58	0.65	0.61	0.58	0.64	0.61	0.58	0.64	0.60	0.58	0.63	0.60	0.58	0.57



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	2721.38	2698.88	2522.81	2181.38	1710.00	1211.06	820.13	520.31	32.01
45.0	2709.00	2674.13	2520.00	2114.44	1670.63	1170.56	769.50	480.38	24.02
90.0	2710.13	2657.25	2377.69	1955.25	1500.75	1011.04	630.17	300.54	15.53
135.0	2718.00	2683.13	2432.25	1985.06	1563.75	1068.19	646.31	378.00	16.88
180.0	2721.38	2654.44	2347.31	1890.00	1402.31	970.20	602.27	209.59	12.99
225.0	2709.00	2654.44	2375.44	1931.63	1470.38	1006.59	627.64	245.87	14.40
270.0	2710.13	2686.50	2493.56	2089.69	1640.25	1167.19	726.75	438.19	19.86
315.0	2718.00	2687.63	2452.50	2035.13	1612.69	1105.37	676.07	402.47	18.45
360.0	2721.38	2698.88	2522.81	2181.38	1710.00	1211.06	820.13	520.31	32.01
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	8.72	7.14	6.69	6.47	6.41	6.36	6.30	6.30	6.24
45.0	8.55	7.14	6.69	6.47	6.36	6.30	6.30	6.24	6.24
90.0	7.76	6.98	6.53	6.47	6.36	6.30	6.30	6.24	6.19
135.0	7.76	6.98	6.58	6.47	6.41	6.36	6.30	6.30	6.24
180.0	7.65	6.86	6.58	6.47	6.30	6.36	6.24	6.30	6.24
225.0	7.82	6.92	6.58	6.47	6.36	6.30	6.30	6.24	6.24
270.0	8.21	7.03	6.58	6.41	6.36	6.30	6.24	6.24	6.19
315.0	7.93	6.98	6.58	6.41	6.41	6.30	6.30	6.24	6.24
360.0	8.72	7.14	6.69	6.47	6.41	6.36	6.30	6.30	6.24
C/ γ (°)	90.0								
0.0	6.19								
45.0	6.19								
90.0	6.13								
135.0	6.19								
180.0	6.19								
225.0	6.19								
270.0	6.13								
315.0	6.13								
360.0	6.19								