
Nata

LumCAT: 2-1676-M	
Luminaire: 92.70.135.00	
Report No: NT2017103103	Voltage(V): 34.3000
Test No: GC2017103103	Current(A): 0.5000
LampCAT: NICHIA NFCWD084B-V2	Power (W): 17.1500
Lamp flux(lm): 2537.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 70	Width(mm): 70
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 2299.30
Efficiency(%): 90.63%
Lumens(lm)/Power(W): 134.07
Central intensity(cd): 4982.742
Maximum intensity(cd): 4982.742
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=35.6
[C90/270]Total=35.6
Field angle(10%Imax): [C0/180]Total=71.8
[C90/270]Total=71.8
Maximum s/h(1/2): C0_180=0.59 C90_270=0.59
Maximum s/h(1/4): C0_180=0.59 C90_270=0.59
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 90.63%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.482%

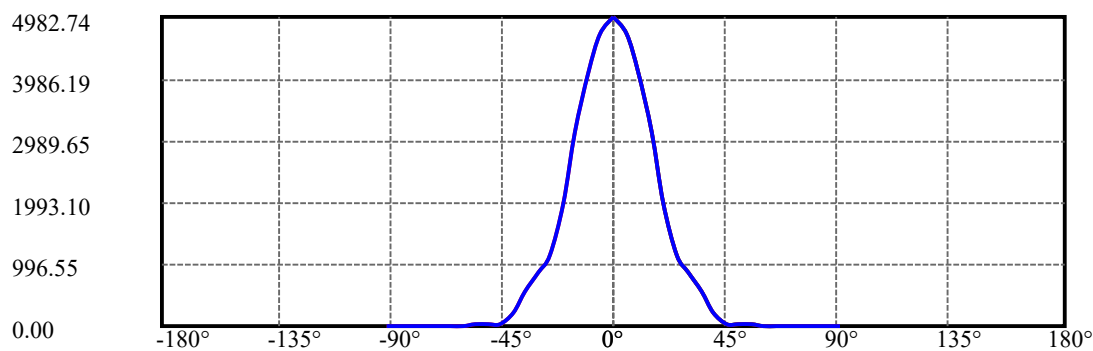
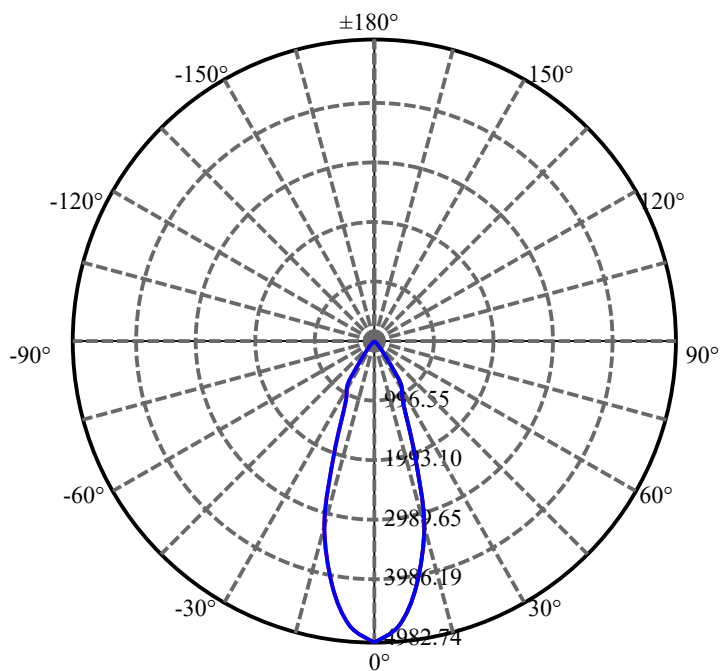
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4982.742	0.000	0	.000%	.000%
5.0	4699.270	115.746	115.746	4.562%	5.034%
10.0	4087.181	314.319	430.065	12.389%	18.704%
15.0	3133.673	428.336	858.401	16.884%	37.333%
20.0	1990.427	422.298	1280.699	16.646%	55.699%
25.0	1135.256	327.826	1608.525	12.922%	69.957%
30.0	857.345	252.165	1860.69	9.940%	80.924%
35.0	565.023	209.454	2070.144	8.256%	90.034%
40.0	204.115	128.325	2198.469	5.058%	95.615%
45.0	26.104	42.627	2241.096	1.680%	97.469%
50.0	18.561	9.025	2250.121	.356%	97.861%
55.0	15.739	7.458	2257.579	.294%	98.185%
60.0	13.757	6.818	2264.397	.269%	98.482%
65.0	12.395	6.358	2270.754	.251%	98.758%
70.0	11.493	6.048	2276.803	.238%	99.022%
75.0	10.819	5.832	2282.635	.230%	99.275%
80.0	10.364	5.668	2288.303	.223%	99.522%
85.0	10.041	5.545	2293.847	.219%	99.763%
90.0	9.876	5.453	2299.301	.215%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1860.69	73.34%	80.92%
0-40	2198.47	86.66%	95.61%
0-60	2264.40	89.25%	98.48%
0-90	2293.85	90.42%	99.76%
0-120	2293.85	90.42%	99.76%
0-180	2299.30	90.63%	100.00%
60-90	36.27	1.43%	1.58%
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%
0-29.58	1839.44	72.50%	80.00%

ZONAL LUMEN SUMMARY

0-10	430.06
10-20	850.63
20-30	579.99
30-40	337.78
40-50	51.65
50-60	14.28
60-70	12.41
70-80	11.50
80-90	5.54
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:

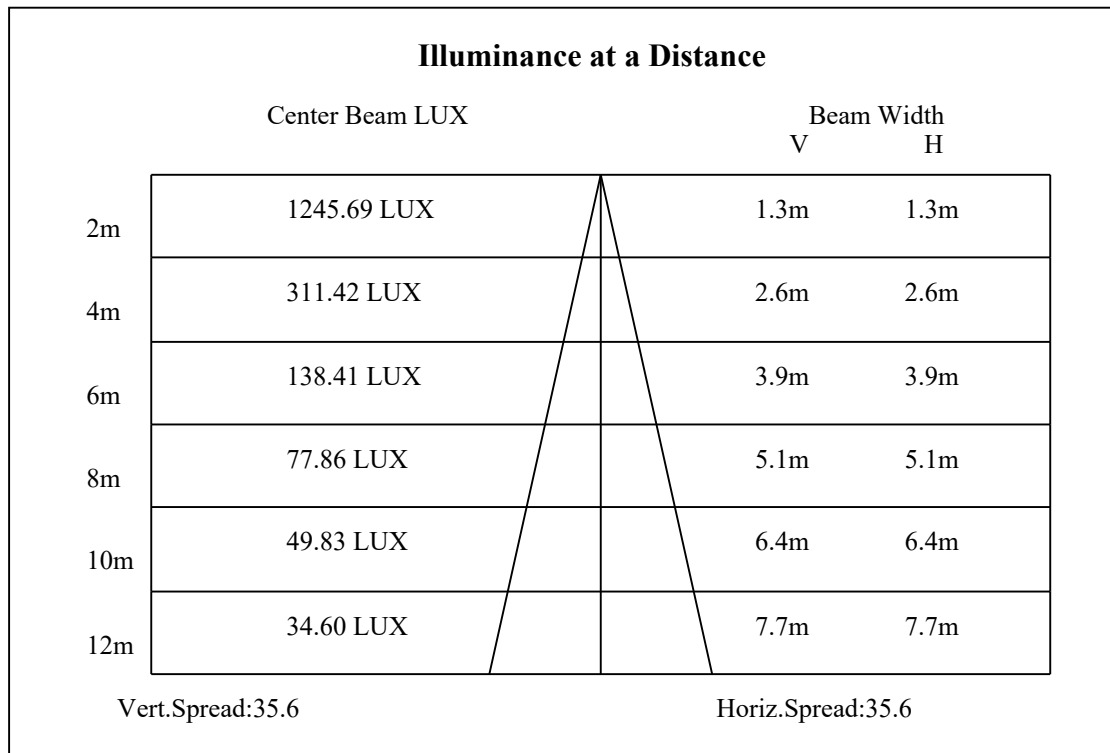
C90/C270:

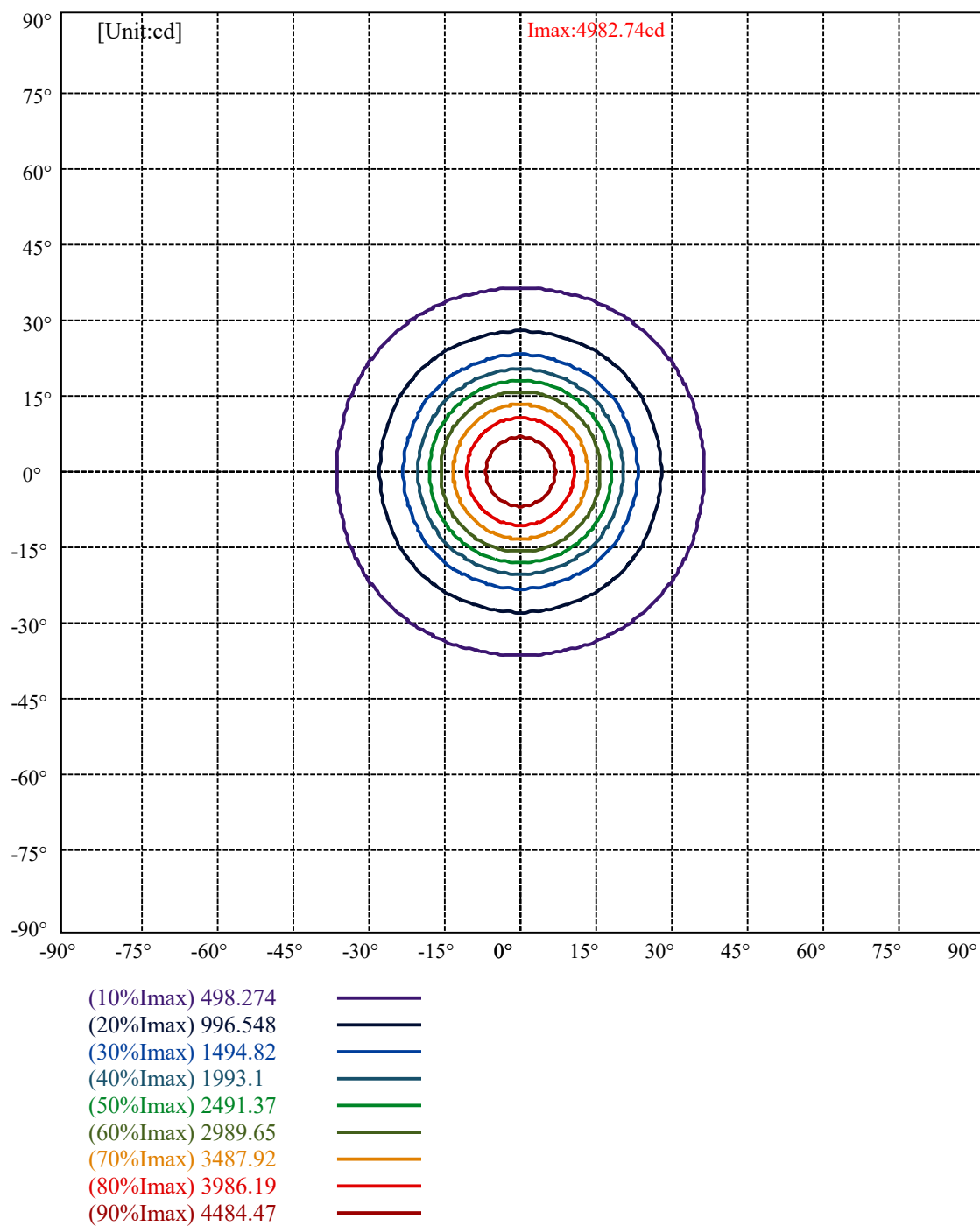
Field angle(10%Imax):C0/180Left:35.9 Right:35.9

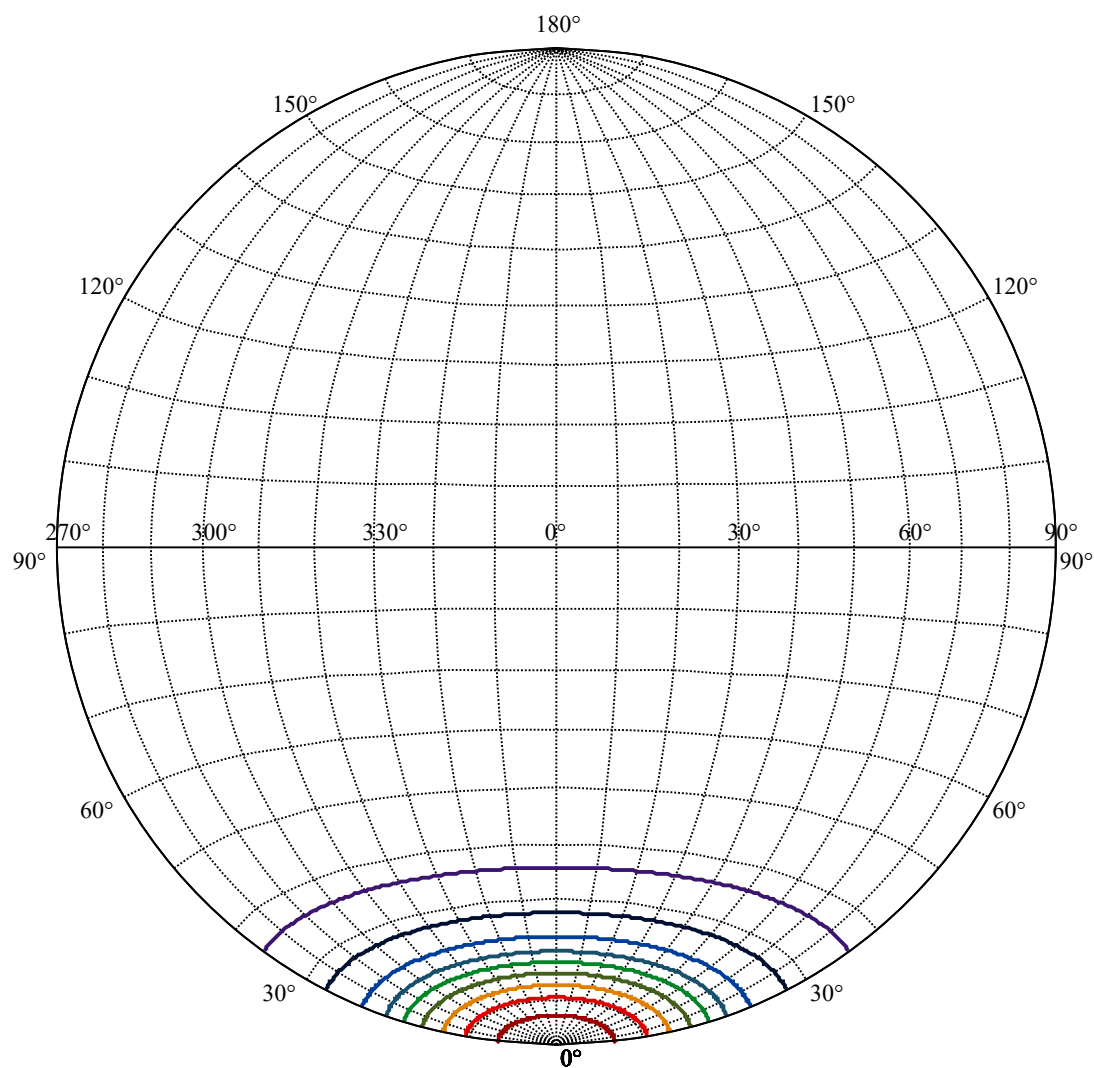
:C90/270Left:35.9 Right:35.9

Beam Angle(50%Imax):C0/180Left:17.8 Right:17.8

:C90/270Left:17.8 Right:17.8







House

[Unit:cd]

Road

Imax:4982.74

(10%Imax) 498.274

(20%Imax) 996.548

(30%Imax) 1494.82

(40%Imax) 1993.1

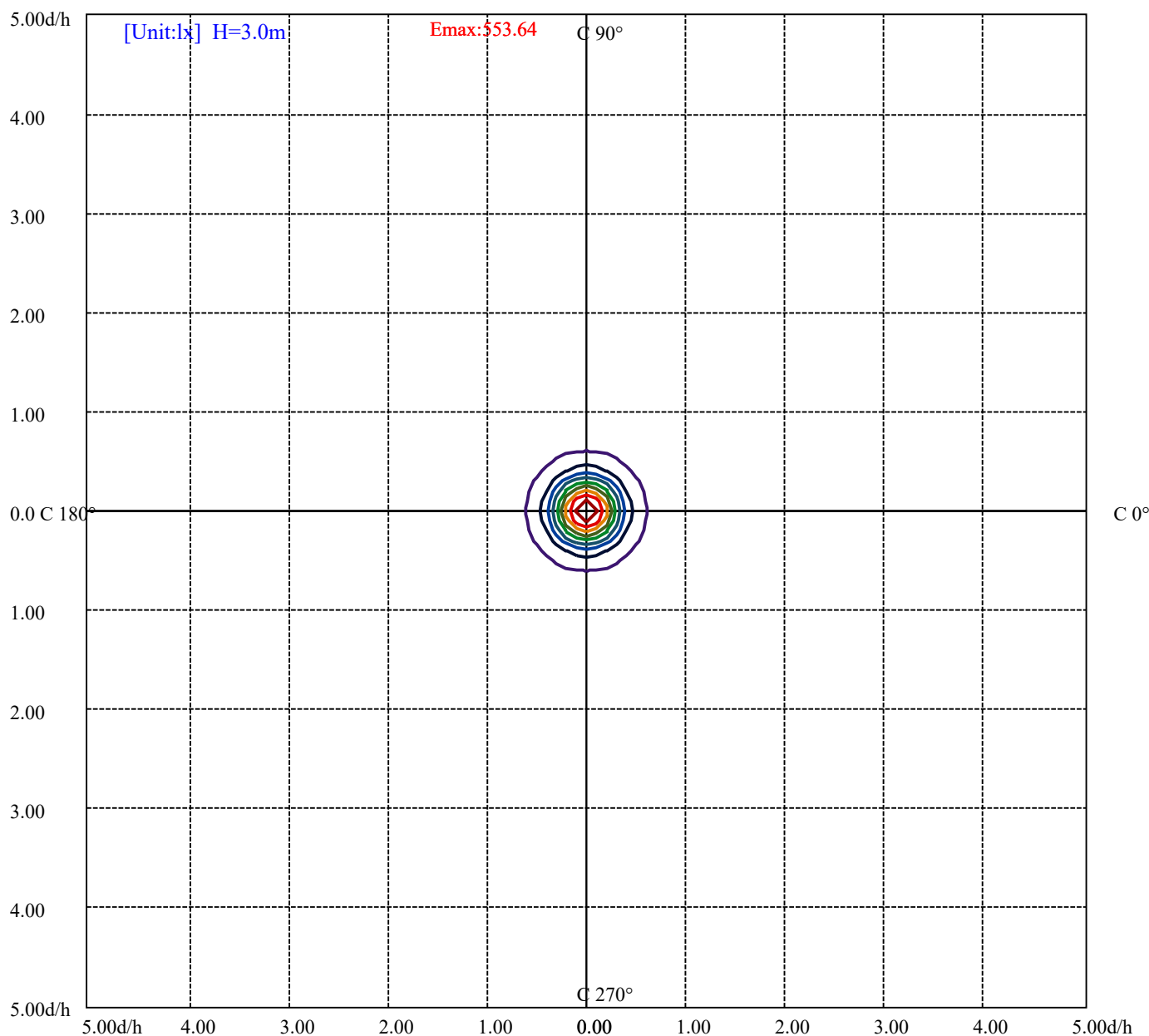
(50%Imax) 2491.37

(60%Imax) 2989.65

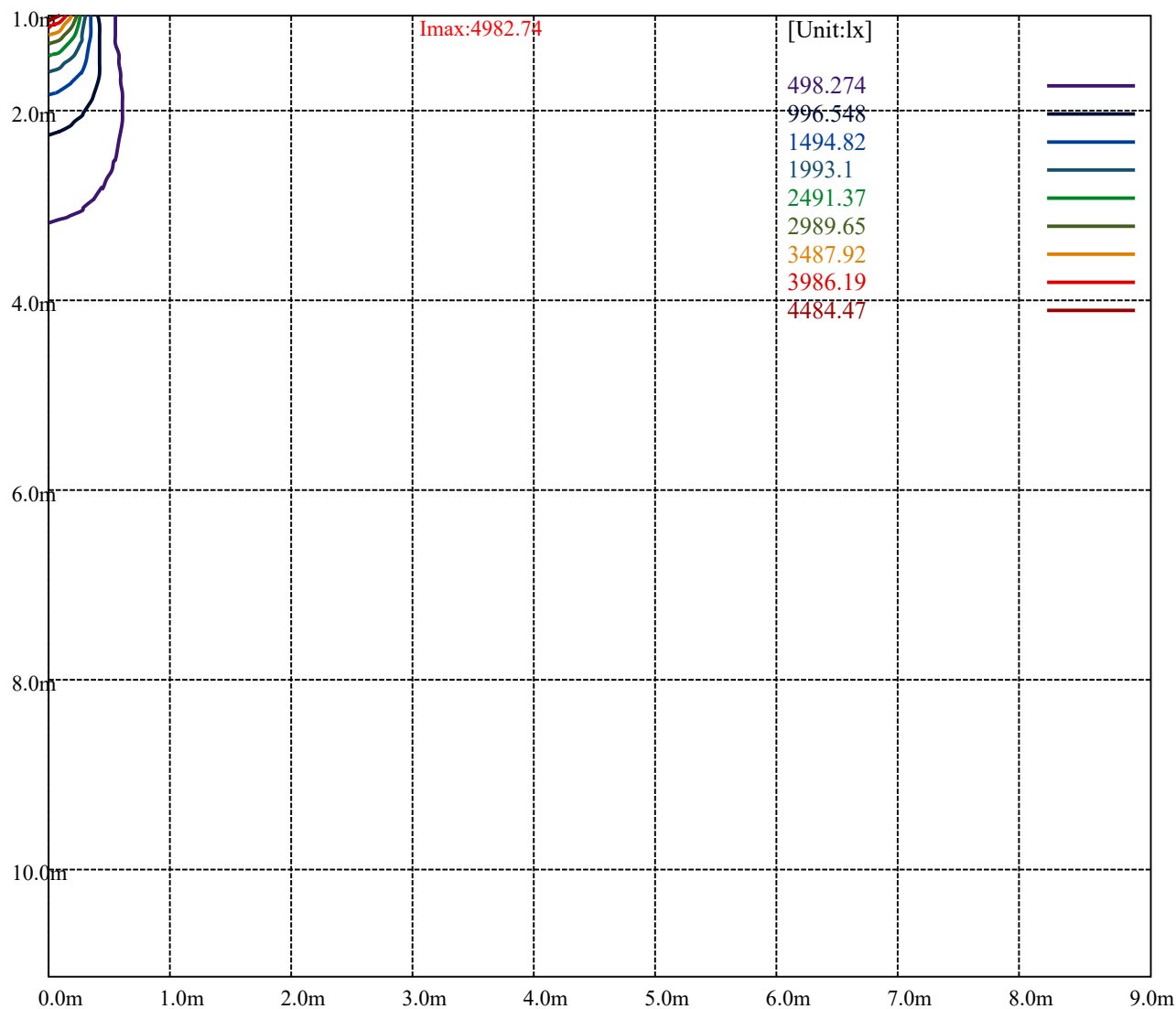
(70%Imax) 3487.92

(80%Imax) 3986.19

(90%Imax) 4484.47



(10%Emax) 55.36367	—
(20%Emax) 110.7274	—
(30%Emax) 166.0911	—
(40%Emax) 221.4544	—
(50%Emax) 276.8189	—
(60%Emax) 332.1822	—
(70%Emax) 387.5455	—
(80%Emax) 442.91	—
(90%Emax) 498.2733	—



Luminance Table

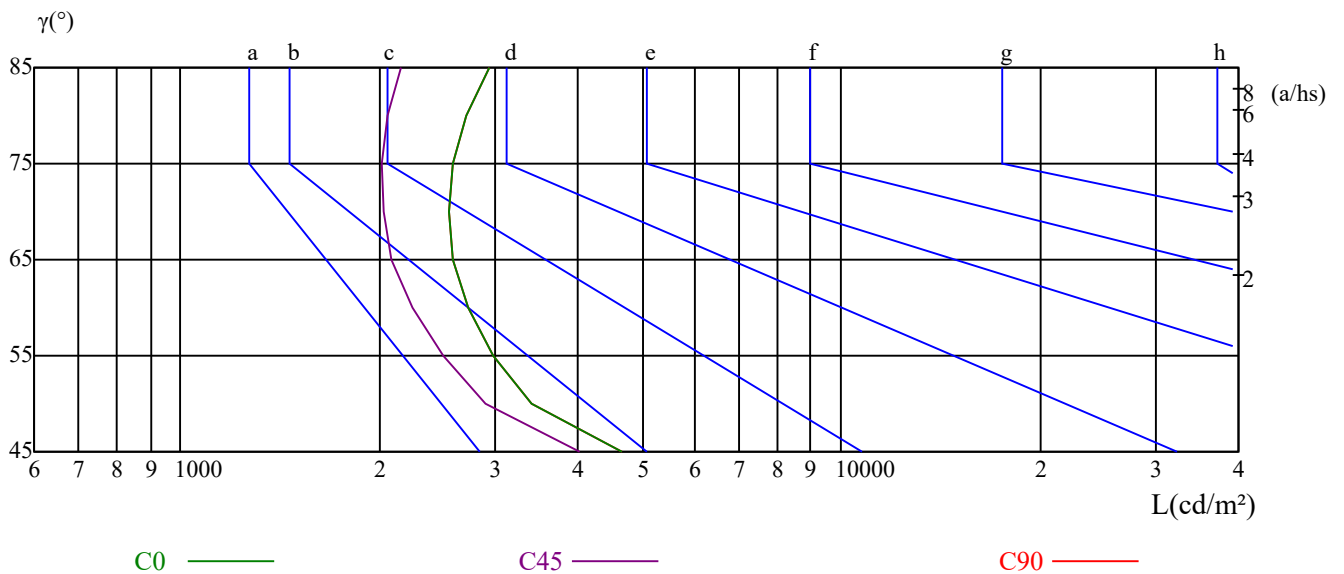
γ	45	50	55	60	65	70	75	80	85
C0	4667	3402	2983	2721	2583	2552	2591	2717	2931
C45	4032	2895	2499	2242	2091	2025	2011	2055	2151
C90	4667	3402	2983	2721	2583	2552	2591	2717	2931

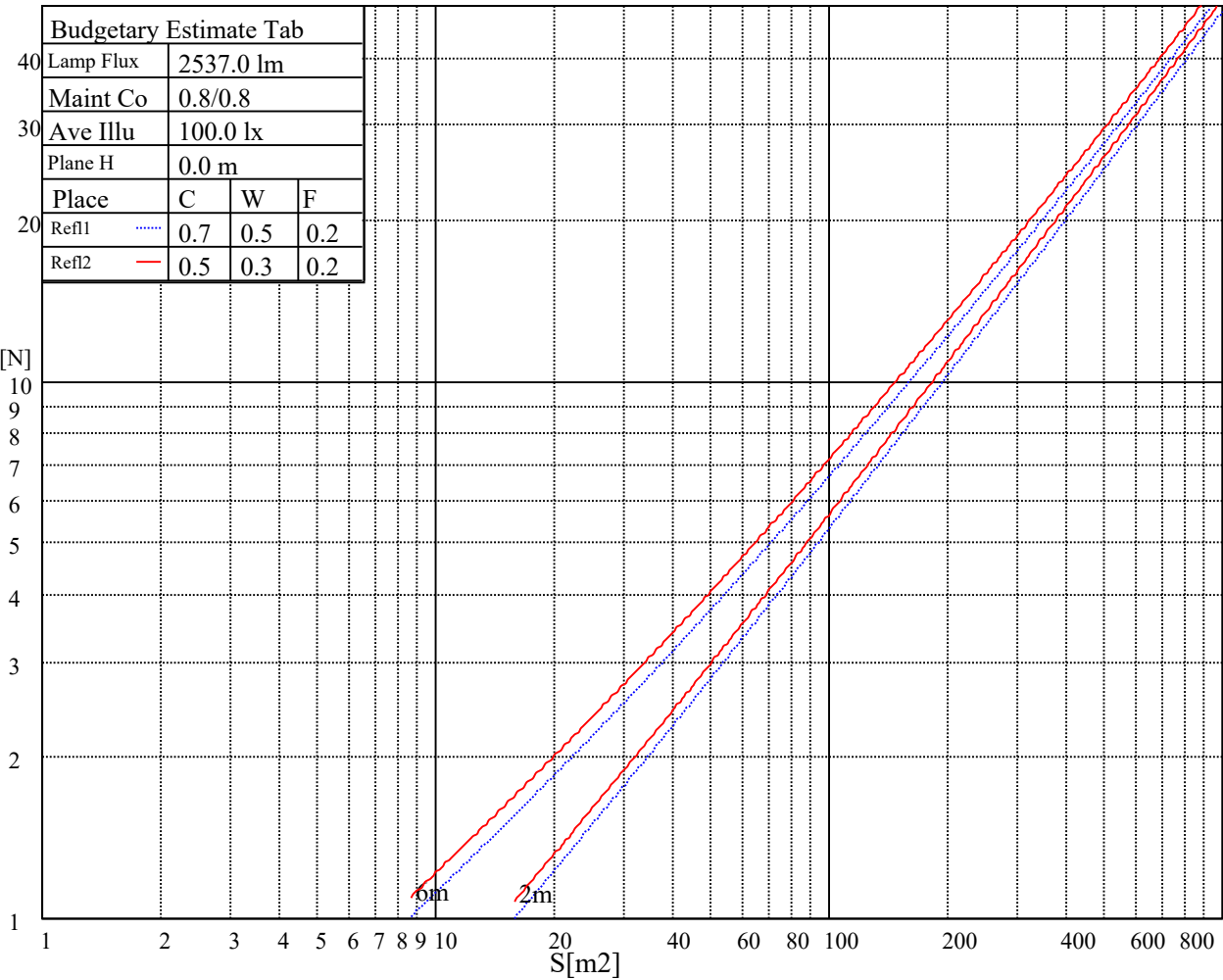
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
5985	5985	5985	8531	8531	8531	23512	23512	23512

Glare Table

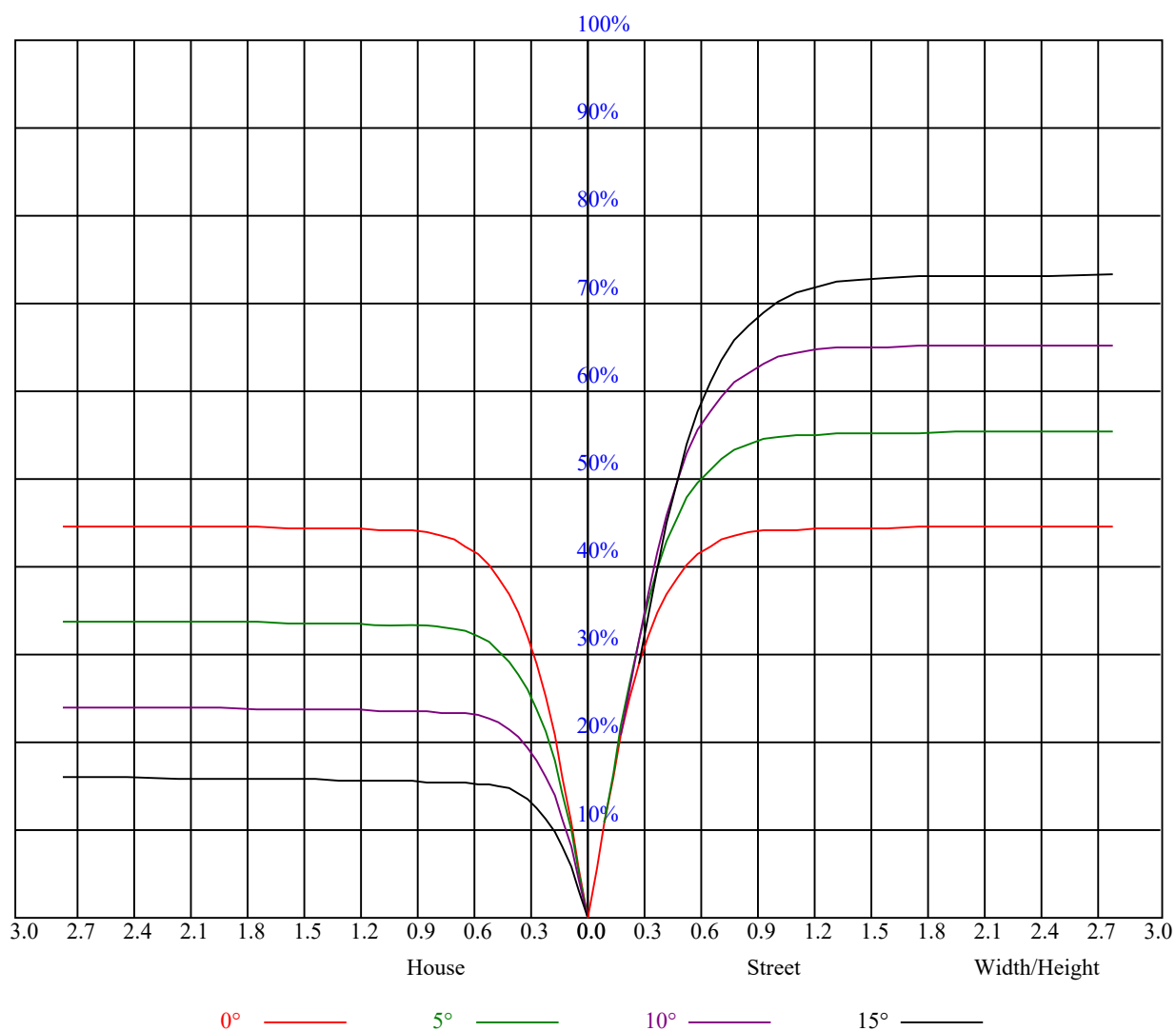
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve





RHOC	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	1.08	1.08	1.08	1.05	1.05	1.05	1.01	1.01	1.01	0.96	0.96	0.96	0.92	0.92	0.92	0.91
1	1.01	0.99	0.97	0.99	0.97	0.95	0.95	0.94	0.92	0.92	0.91	0.90	0.89	0.88	0.87	0.85
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	0.89	0.85	0.82	0.88	0.84	0.81	0.86	0.82	0.80	0.83	0.81	0.79	0.81	0.79	0.77	0.76
4	0.84	0.80	0.76	0.83	0.79	0.76	0.81	0.78	0.75	0.80	0.77	0.74	0.78	0.75	0.73	0.72
5	0.80	0.75	0.72	0.79	0.75	0.71	0.78	0.74	0.71	0.76	0.73	0.70	0.75	0.72	0.70	0.68
6	0.76	0.71	0.68	0.75	0.71	0.67	0.74	0.70	0.67	0.73	0.69	0.67	0.72	0.69	0.66	0.65
7	0.72	0.67	0.64	0.72	0.67	0.64	0.71	0.67	0.64	0.70	0.66	0.63	0.69	0.65	0.63	0.62
8	0.69	0.64	0.61	0.68	0.64	0.61	0.68	0.63	0.61	0.67	0.63	0.60	0.66	0.63	0.60	0.59
9	0.66	0.61	0.58	0.66	0.61	0.58	0.65	0.61	0.58	0.64	0.60	0.58	0.63	0.60	0.57	0.56
10	0.63	0.59	0.55	0.63	0.58	0.55	0.62	0.58	0.55	0.61	0.58	0.55	0.61	0.57	0.55	0.54



Intensity data(cd)

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C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	4979.85	4699.06	4107.21	3270.90	2061.31	1163.89	874.30	597.36	298.96
45.0	4983.15	4712.28	4130.88	3170.15	2002.95	1152.88	854.48	579.19	283.54
90.0	4985.91	4673.19	4036.74	3095.82	1911.56	1092.37	832.45	529.15	111.82
135.0	4982.05	4793.76	4229.43	3335.32	2236.94	1238.77	892.46	638.10	296.75
180.0	4979.85	4690.81	4043.89	3069.94	1893.94	1081.31	844.07	526.28	128.23
225.0	4983.15	4665.48	4085.18	3085.36	1934.13	1089.07	852.77	555.74	127.73
270.0	4985.91	4759.63	4136.39	3167.95	2081.13	1191.42	880.90	597.91	298.96
315.0	4982.05	4599.96	3927.72	2873.94	1801.45	1072.33	827.33	496.44	86.93
360.0	4979.85	4699.06	4107.21	3270.90	2061.31	1163.89	874.30	597.36	298.96

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	27.36	19.10	16.08	13.93	12.50	11.56	10.85	10.41	10.02
45.0	27.53	18.72	15.75	13.82	12.39	11.51	10.79	10.41	10.08
90.0	24.72	18.50	15.69	13.54	12.22	11.34	10.68	10.30	10.02
135.0	28.24	18.99	15.91	13.82	12.39	11.51	10.85	10.35	10.08
180.0	24.61	17.95	15.42	13.54	12.22	11.40	10.74	10.24	9.97
225.0	26.10	18.28	15.58	13.71	12.44	11.51	10.85	10.41	10.08
270.0	26.70	18.55	15.86	13.98	12.55	11.62	10.96	10.46	10.08
315.0	23.56	18.39	15.64	13.71	12.44	11.51	10.85	10.35	10.02
360.0	27.36	19.10	16.08	13.93	12.50	11.56	10.85	10.41	10.02

C/γ(°)	90.0
0.0	9.86
45.0	9.91
90.0	9.91
135.0	9.86
180.0	9.80
225.0	9.91
270.0	9.91
315.0	9.86
360.0	9.86