
Nata

LumCAT: 4-1762-E
Luminaire: TE 2213382-2+92.76.233.00
Report No: 2017010047
Test No: 2017120047
LampCAT: NICHIA NFCLL060B
Lamp flux(lm): 2235.0
Number of Lamps: 1
Length(mm): 0
Phm Type: C

Voltage(V): 36.2000
Current(A): 0.4600
Power (W): 16.6520
PF: 0.0000
Ballast type: DC
Width(mm): 0
Height(mm): 0

Photometric Results

Lumens(lm): 1934.01
Efficiency(%): 86.53%
Lumens(lm)/Power(W): 119.06
Central intensity(cd): 8457.463
Maximum intensity(cd): 8494.949
Angle of maximum intensity: C=90.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=22.7
[C90/270]Total=22.7
Field angle(10%Imax): [C0/180]Total=44.7
[C90/270]Total=45.1
Maximum s/h(1/2): C0_180=0.39 C90_270=0.39
Maximum s/h(1/4): C0_180=0.37 C90_270=0.37
Up flux rate of lamp(%): 1.00%
Down flux rate of lamp(%): 87.70%
Up flux rate of LUM(%): 3.53%
Down flux rate of LUM(%): 98.87%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 95.809%

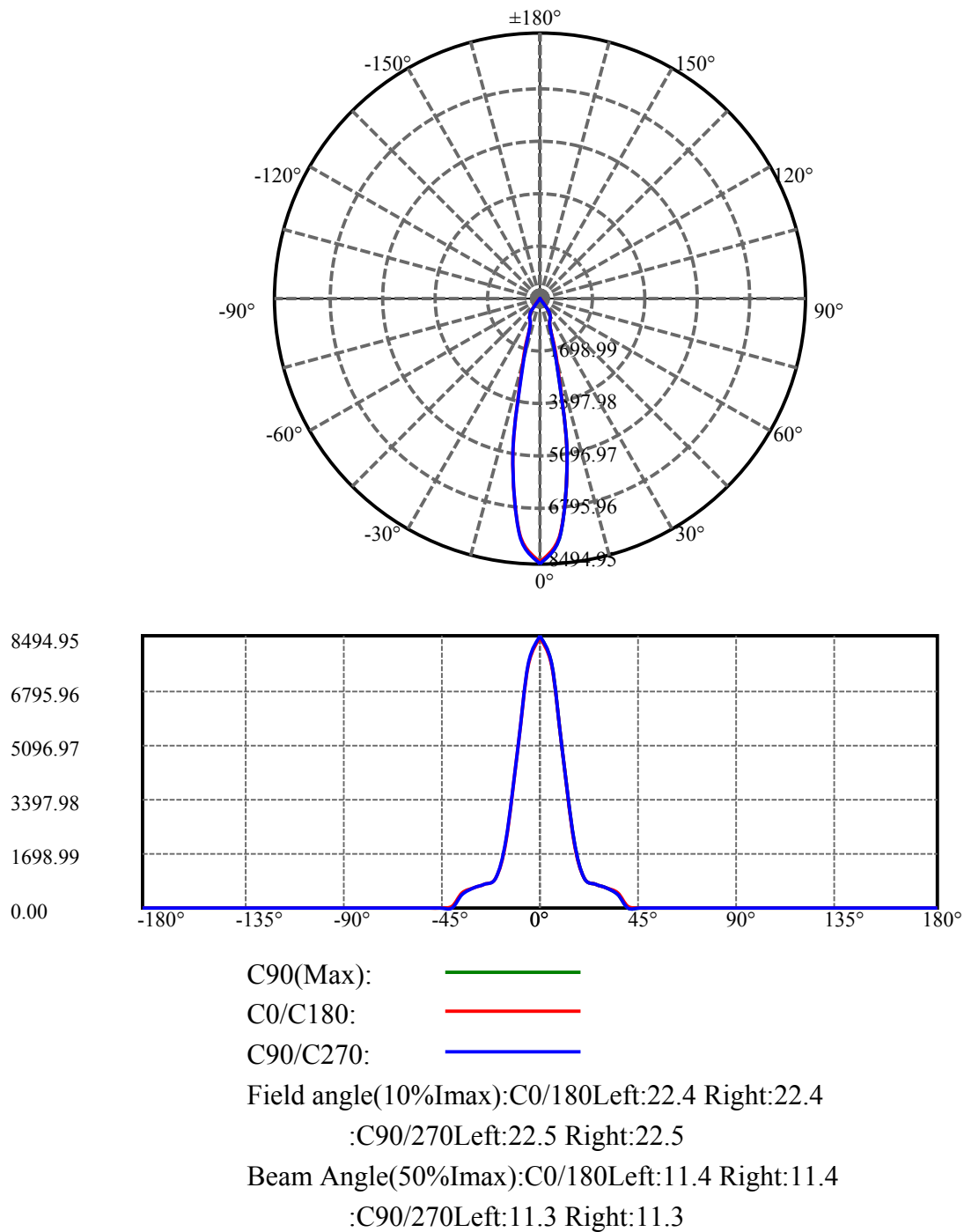
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	8415.779	50.328	50.328	2.252%	2.602%
5.0	7538.058	360.118	410.446	16.113%	21.223%
10.0	4995.042	475.443	885.889	21.273%	45.806%
15.0	2134.753	302.854	1188.743	13.551%	61.465%
20.0	982.853	184.259	1373.003	8.244%	70.993%
25.0	736.230	170.550	1543.553	7.631%	79.811%
30.0	656.074	179.809	1723.362	8.045%	89.108%
35.0	429.769	135.119	1858.481	6.046%	96.095%
40.0	96.710	34.075	1892.555	1.525%	97.857%
45.0	6.581	2.551	1895.106	.114%	97.989%
50.0	3.483	1.462	1896.569	.065%	98.064%
55.0	3.210	1.441	1898.01	.064%	98.139%
60.0	3.063	1.454	1899.464	.065%	98.214%
65.0	2.986	1.484	1900.948	.066%	98.291%
70.0	4.364	2.248	1903.196	.101%	98.407%
75.0	6.043	3.199	1906.395	.143%	98.572%
80.0	4.196	2.265	1908.66	.101%	98.689%
85.0	3.840	2.097	1910.757	.094%	98.798%
90.0	3.329	1.825	1912.582	.082%	98.892%
95.0	2.721	1.486	1914.067	.066%	98.969%
100.0	2.819	1.521	1915.589	.068%	99.048%
105.0	2.805	1.485	1917.073	.066%	99.124%
110.0	2.763	1.423	1918.496	.064%	99.198%
115.0	2.714	1.348	1919.844	.060%	99.268%
120.0	2.679	1.272	1921.116	.057%	99.333%
125.0	2.714	1.218	1922.334	.055%	99.396%
130.0	2.784	1.169	1923.503	.052%	99.457%
135.0	2.812	1.090	1924.593	.049%	99.513%
140.0	2.888	1.018	1925.611	.046%	99.566%
145.0	3.399	1.069	1926.679	.048%	99.621%
150.0	4.889	1.340	1928.019	.060%	99.690%
155.0	6.910	1.601	1929.62	.072%	99.773%
160.0	8.714	1.634	1931.253	.073%	99.858%
165.0	9.540	1.353	1932.607	.061%	99.928%
170.0	9.582	0.912	1933.519	.041%	99.975%
175.0	9.120	0.436	1933.955	.019%	99.997%
180.0	8.784	0.053	1934.007	.002%	100.000%

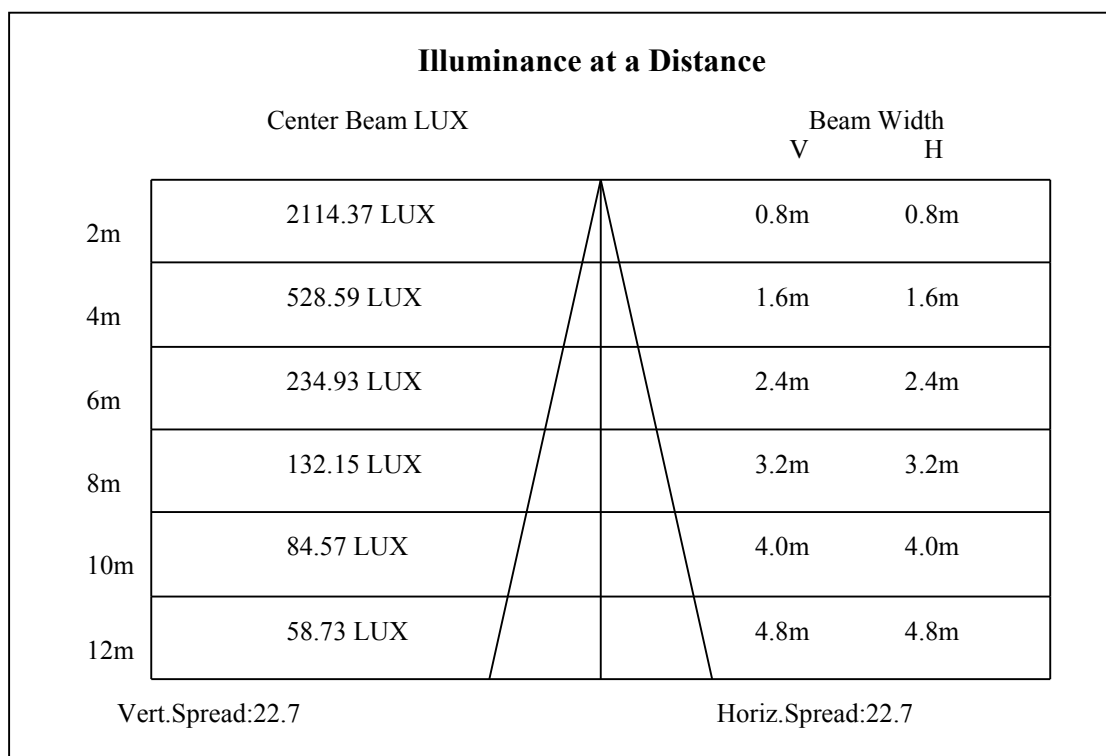
ZONAL LUMEN SUMMARY

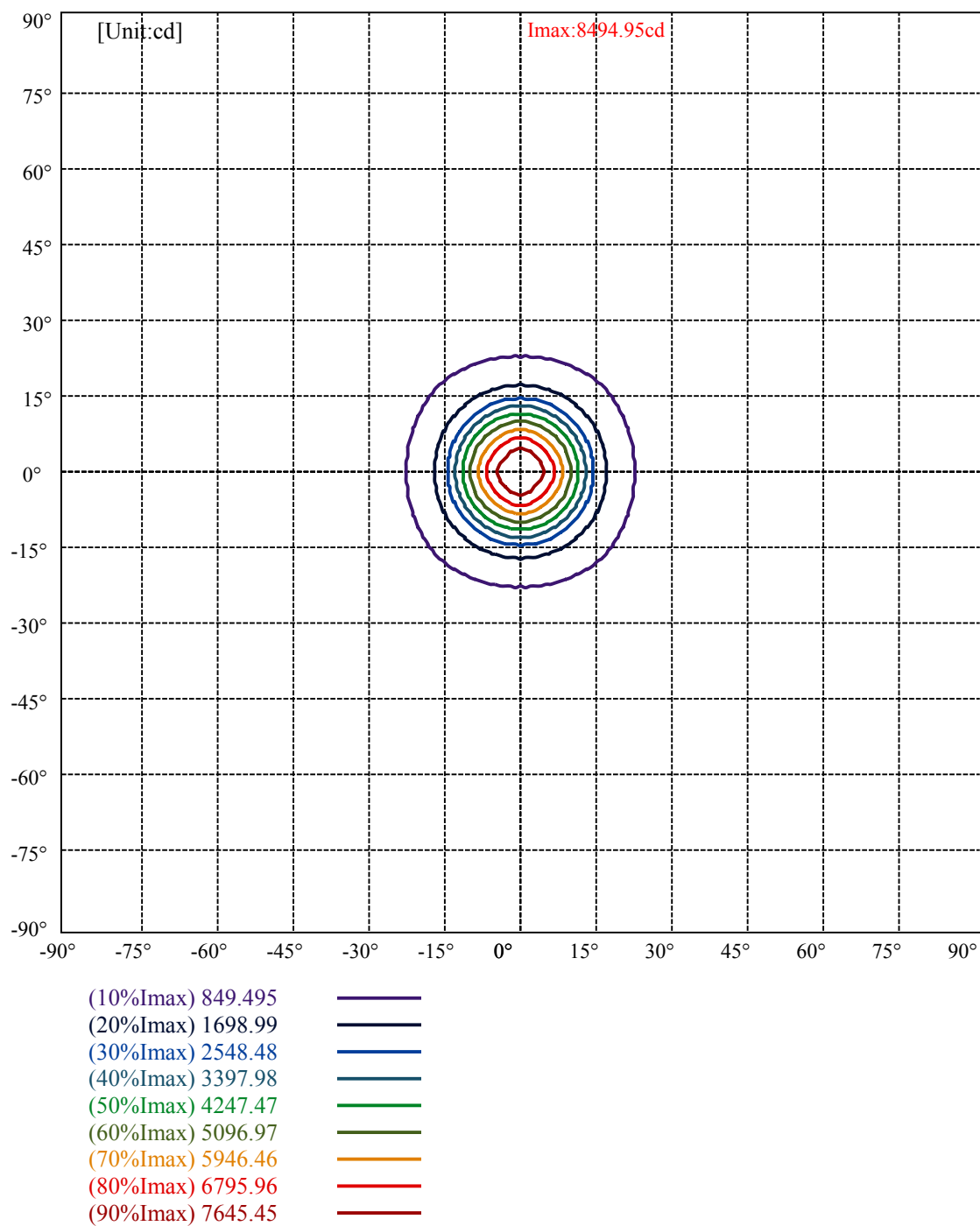
Zone	Lumens	%Lamp	%Fixt
0-30	1723.36	77.11%	89.11%
0-40	1892.56	84.68%	97.86%
0-60	1899.46	84.99%	98.21%
0-90	1912.58	85.57%	98.89%
0-120	1921.12	85.96%	99.33%
0-180	1934.01	86.53%	100.00%
60-90	14.57	0.65%	0.75%
90-120	10.36	0.46%	0.54%
90-130	12.75	0.57%	0.66%
90-150	17.26	0.77%	0.89%
90-180	23.20	1.04%	1.20%
0-25.10	1547.21	69.23%	80.00%

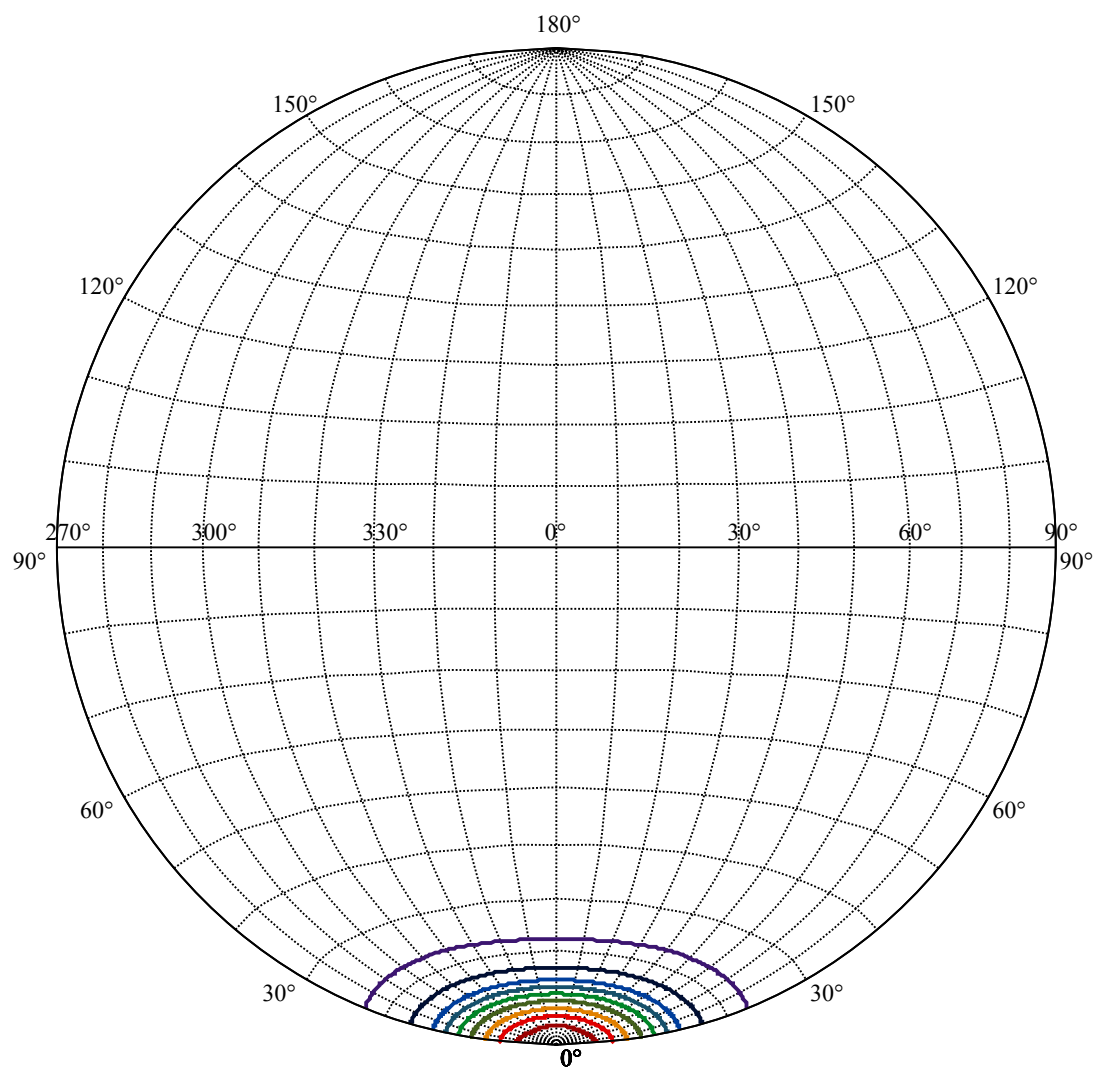
ZONAL LUMEN SUMMARY

0-10	885.89
10-20	487.11
20-30	350.36
30-40	169.19
40-50	4.01
50-60	2.90
60-70	3.73
70-80	5.46
80-90	3.92
90-100	3.01
100-110	2.91
110-120	2.62
120-130	2.39
130-140	2.11
140-150	2.41
150-160	3.23
160-170	2.27
170-180	0.44









House

[Unit:cd]

Road

Imax:8494.95

(10%Imax) 849.495

(20%Imax) 1698.99

(30%Imax) 2548.48

(40%Imax) 3397.98

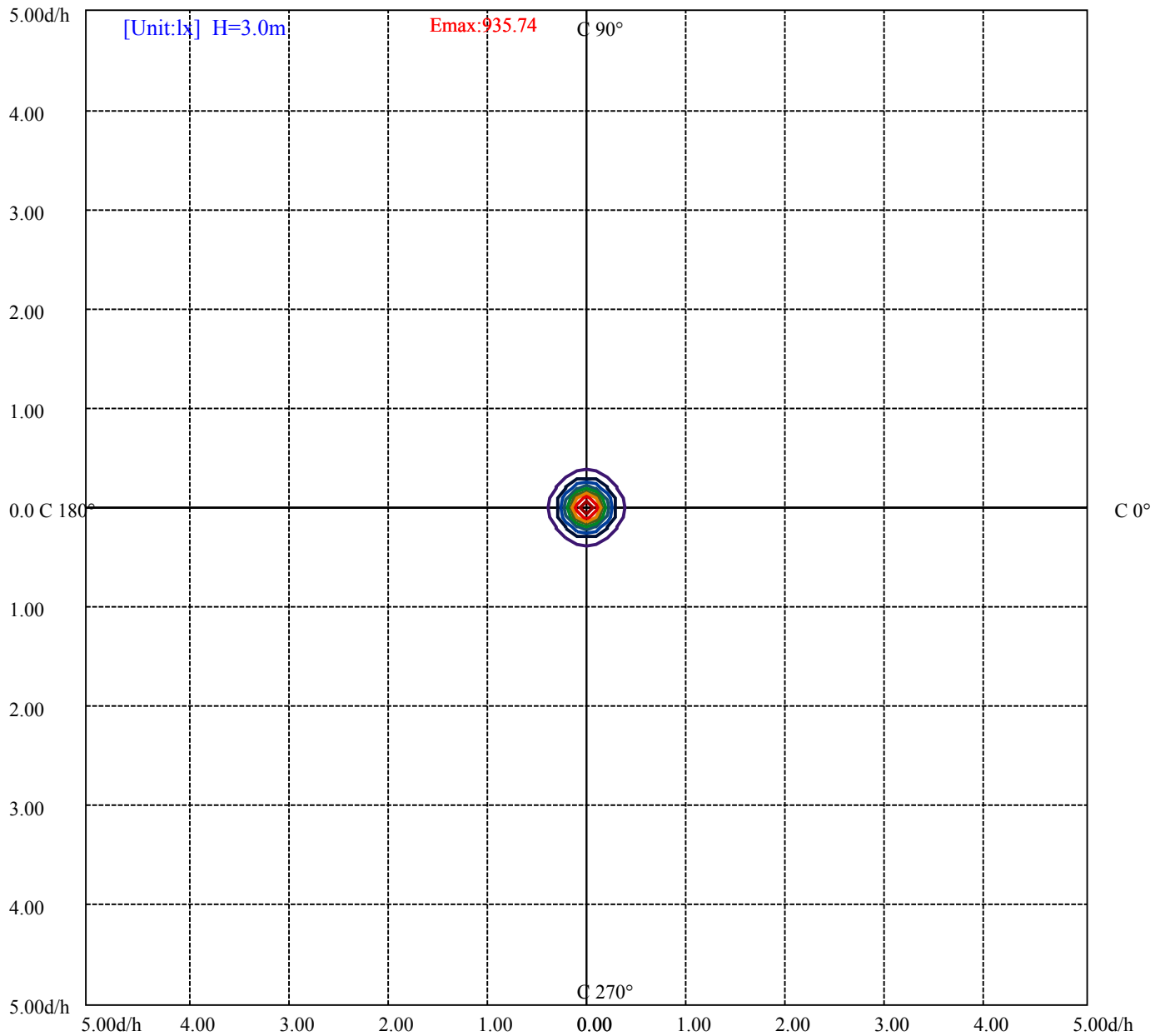
(50%Imax) 4247.47

(60%Imax) 5096.97

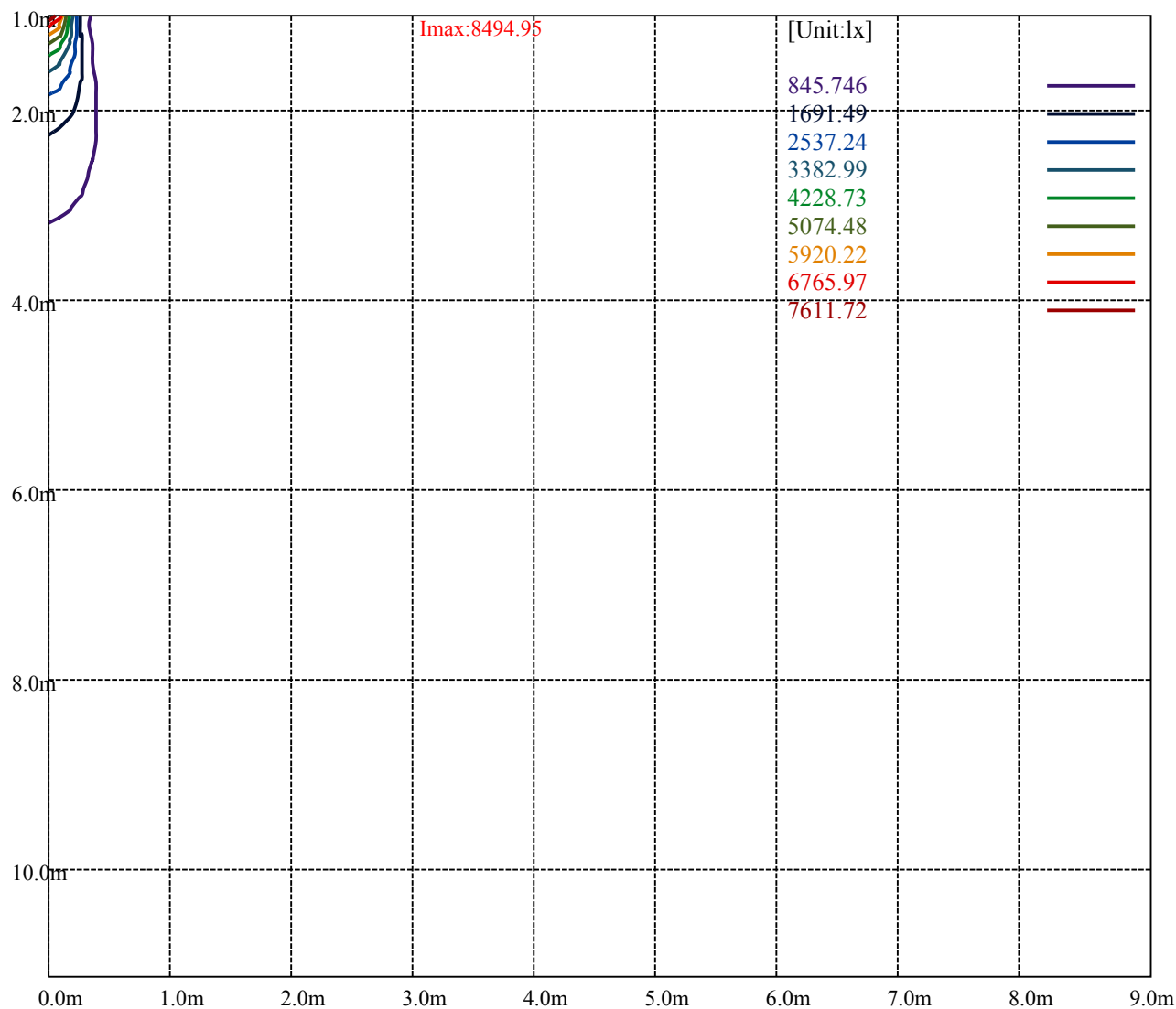
(70%Imax) 5946.46

(80%Imax) 6795.96

(90%Imax) 7645.45



(10%Emax) 93.57367	—
(20%Emax) 187.1478	—
(30%Emax) 280.7211	—
(40%Emax) 374.2944	—
(50%Emax) 467.8689	—
(60%Emax) 561.4422	—
(70%Emax) 655.0156	—
(80%Emax) 748.59	—
(90%Emax) 842.1633	—



Luminance Table

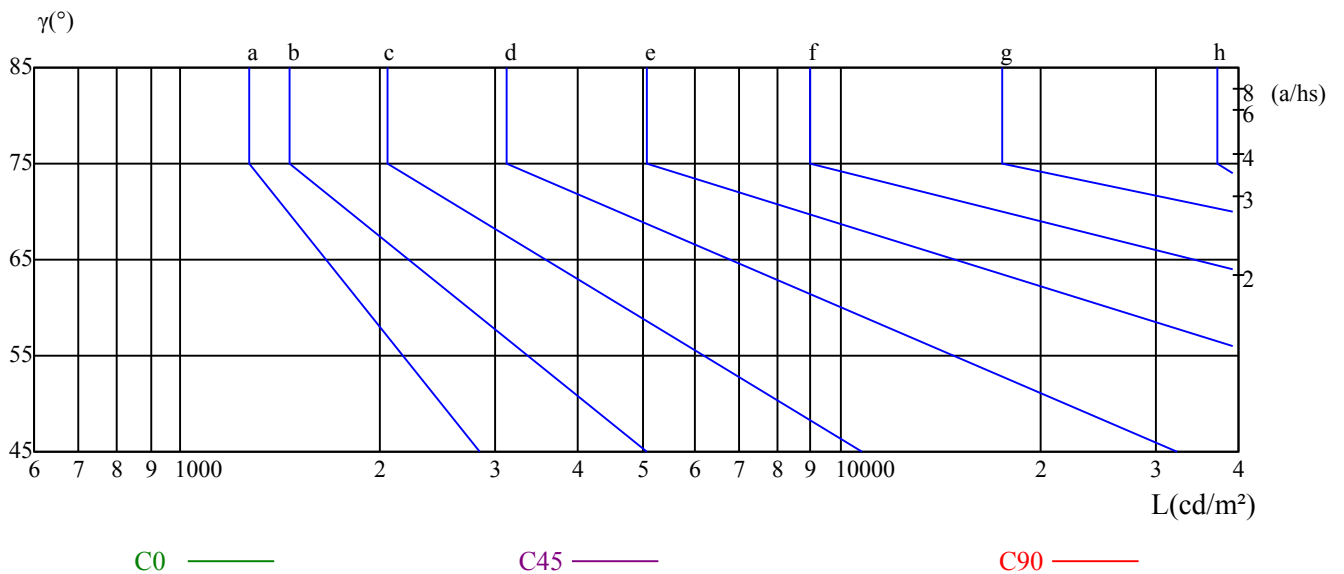
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

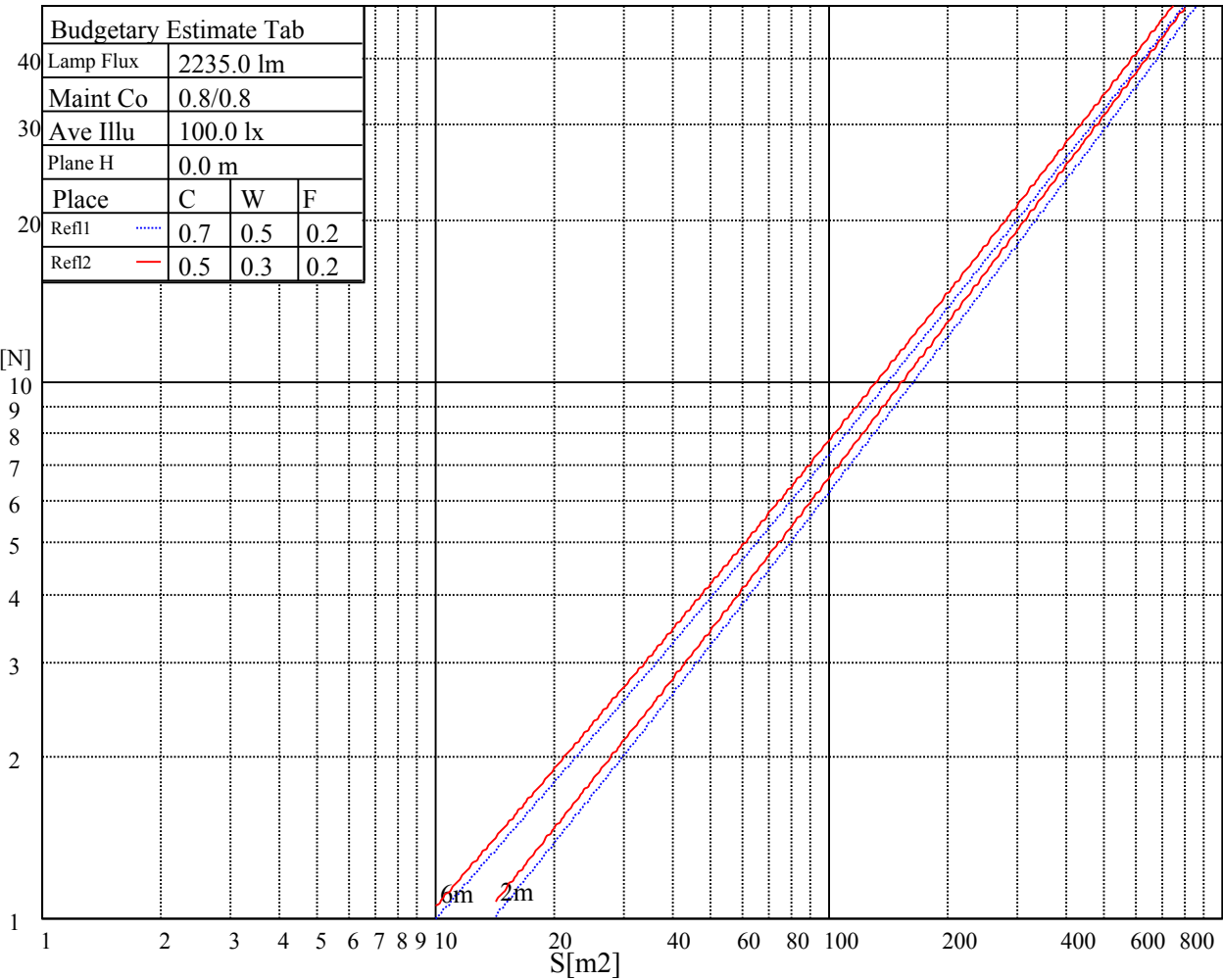
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

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 Limiting Curve





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	1.05	1.05	1.05	1.03	1.03	1.03	0.98	0.98	0.98	0.94	0.94	0.94	0.90	0.90	0.90	0.88
1	0.97	0.94	0.92	0.95	0.92	0.90	0.91	0.89	0.87	0.87	0.86	0.85	0.84	0.83	0.82	0.80
2	0.92	0.89	0.86	0.90	0.87	0.85	0.87	0.85	0.83	0.85	0.83	0.81	0.82	0.80	0.79	0.77
3	0.88	0.84	0.81	0.87	0.83	0.80	0.84	0.81	0.79	0.82	0.80	0.77	0.80	0.78	0.76	0.75
4	0.84	0.80	0.77	0.83	0.79	0.77	0.81	0.78	0.76	0.79	0.77	0.75	0.78	0.76	0.74	0.72
5	0.81	0.77	0.74	0.80	0.76	0.73	0.79	0.75	0.73	0.77	0.74	0.72	0.76	0.73	0.71	0.70
6	0.78	0.74	0.71	0.77	0.74	0.71	0.76	0.73	0.70	0.75	0.72	0.70	0.74	0.71	0.69	0.68
7	0.76	0.72	0.69	0.75	0.71	0.68	0.74	0.71	0.68	0.73	0.70	0.68	0.72	0.69	0.67	0.66
8	0.73	0.69	0.67	0.73	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.66	0.70	0.67	0.65	0.64
9	0.71	0.67	0.65	0.71	0.67	0.64	0.70	0.67	0.64	0.69	0.66	0.64	0.68	0.66	0.64	0.63
10	0.69	0.65	0.63	0.69	0.65	0.63	0.68	0.65	0.63	0.68	0.64	0.62	0.67	0.64	0.62	0.61

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	8457.46	7027.93	4092.77	1448.00	830.86	701.62	638.39	315.00	29.77
45.0	8421.65	8195.61	6195.95	2995.02	1177.20	778.27	685.39	609.30	302.13
90.0	8494.95	8105.53	5976.06	2775.14	1072.12	762.94	665.36	587.76	39.11
135.0	8289.05	8294.09	6563.54	3373.25	1281.82	796.17	694.90	622.73	302.69
180.0	8457.46	8113.37	5977.18	2727.02	1071.79	751.97	666.76	586.08	74.19
225.0	8421.65	6798.53	3785.60	1094.39	785.04	698.48	635.37	251.61	8.00
270.0	8494.95	7074.93	4035.70	1581.16	855.48	714.49	643.43	306.61	9.40
315.0	8289.05	6694.47	3333.52	1084.04	788.51	685.90	618.98	159.07	8.39
360.0	8457.46	7027.93	4092.77	1448.00	830.86	701.62	638.39	315.00	29.77
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	3.80	3.41	3.13	3.02	2.91	5.93	7.22	3.58	3.75
45.0	19.64	3.69	3.36	3.19	3.02	2.97	3.08	3.08	3.02
90.0	5.65	3.52	3.25	3.08	2.97	2.91	3.19	3.64	3.41
135.0	7.11	3.69	3.36	3.13	3.02	3.02	3.13	3.19	3.25
180.0	5.26	3.47	3.25	3.08	3.13	3.13	6.60	7.16	6.55
225.0	3.69	3.30	3.08	3.02	3.02	4.25	5.26	5.37	3.97
270.0	3.75	3.41	3.13	3.02	2.91	3.97	7.55	3.64	3.58
315.0	3.75	3.36	3.13	2.97	2.91	8.73	12.31	3.92	3.19
360.0	3.80	3.41	3.13	3.02	2.91	5.93	7.22	3.58	3.75
C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	2.74	2.69	2.85	2.85	2.85	2.69	2.69	2.69	2.80
45.0	3.08	2.74	2.80	2.80	2.74	2.74	2.69	2.74	2.74
90.0	3.30	2.69	2.85	2.80	2.74	2.69	2.63	2.69	2.74
135.0	3.41	2.69	2.80	2.74	2.74	2.69	2.63	2.69	2.69
180.0	5.65	2.63	2.80	2.80	2.74	2.63	2.63	2.63	2.69
225.0	2.80	2.85	2.85	2.85	2.80	2.80	2.74	2.80	2.91
270.0	2.97	2.80	2.85	2.85	2.80	2.80	2.74	2.80	2.85
315.0	2.69	2.69	2.74	2.74	2.69	2.69	2.69	2.69	2.85
360.0	2.74	2.69	2.85	2.85	2.85	2.69	2.69	2.69	2.80
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	2.85	2.97	3.75	5.76	8.28	10.18	10.74	10.41	9.62
45.0	2.80	2.80	2.97	3.75	5.43	7.22	8.39	8.90	8.73
90.0	2.74	2.74	2.91	3.92	5.60	7.44	8.50	8.95	8.78
135.0	2.69	2.69	2.85	3.75	5.48	7.44	8.62	9.18	9.12
180.0	2.69	2.69	3.02	4.08	5.93	7.89	9.01	9.40	9.40
225.0	2.97	3.13	3.97	5.93	8.00	9.68	10.18	9.79	9.01
270.0	2.91	3.08	3.75	5.71	8.06	9.74	10.35	9.96	9.06
315.0	2.85	3.02	3.97	6.21	8.50	10.13	10.52	10.07	9.23
360.0	2.85	2.97	3.75	5.76	8.28	10.18	10.74	10.41	9.62
C/γ(°)	180.0								
0.0	9.18								
45.0	8.56								
90.0	8.50								
135.0	8.90								
180.0	9.18								
225.0	8.56								
270.0	8.50								
315.0	8.90								
360.0	9.18								