



NATA LIGHTING CO.,LTD.
www.nata.cn
Email:info@nata.com
Tel:+86-750-3770000 Fax:+86-750-3771111
Address:380JinOu Road,GaoXin Zone,Jiang Men City,Guangdong,China

Nata

Client:

LumCAT: CR01D07524AR

Luminaire: 92.70.074.00

Report No: GC2019091909

Test No:

LampCAT: CREE CXA1816

Lamp flux(lm): 1109.0

Number of Lamps: 1

Length(mm): 75

Phm Type: C

Voltage(V): 34.7000

Current(A): 0.2970

Power (W): 10.3100

PF: 0.0000

Ballast type:

Width(mm): 75

Height(mm): 0

Photometric Results

Lumens(lm): 1013.40, Efficiency(%): 91.38% , Luminous Efficacy(lm/W): 98.29

Central intensity(cd): 5253.750, Maximum intensity(cd): 5253.750

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=23.4

[C90/270]Total=23.4

Field angle(10%Imax): [C0/180]Total=39.6

[C90/270]Total=39.6

Maximum s/h(1/2): C0_180=0.40 C90_270=0.40

Maximum s/h(1/4): C0_180=0.38 C90_270=0.38

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 91.38%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 95.145%

Equipment:
Temperature(°C): -1.0

Date: 2019/7/23
Humidity(%): -1.0%

Operator:
Distance(m): 1.00

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	5253.750	0.000	0	.000%	.000%
1.0	5252.343	5.027	5.027	.453%	.496%
2.0	5207.414	15.013	20.04	1.354%	1.977%
3.0	5099.203	24.650	44.69	2.223%	4.410%
4.0	4946.273	33.625	78.315	3.032%	7.728%
5.0	4754.883	41.734	120.049	3.763%	11.846%
6.0	4533.609	48.813	168.863	4.402%	16.663%
7.0	4275.774	54.680	223.542	4.931%	22.059%
8.0	3984.469	59.117	282.659	5.331%	27.892%
9.0	3630.445	61.715	344.374	5.565%	33.982%
10.0	3260.109	62.357	406.731	5.623%	40.135%
11.0	2886.680	61.419	468.15	5.538%	46.196%
12.0	2521.195	59.116	527.266	5.331%	52.029%
13.0	2147.203	55.402	582.668	4.996%	57.496%
14.0	1806.047	50.601	633.269	4.563%	62.490%
15.0	1504.266	45.445	678.715	4.098%	66.974%
16.0	1226.145	40.008	718.723	3.608%	70.922%
17.0	1000.533	34.675	753.398	3.127%	74.344%
18.0	796.191	29.624	783.022	2.671%	77.267%
19.0	632.355	24.854	807.876	2.241%	79.719%
20.0	490.029	20.543	828.419	1.852%	81.746%
21.0	376.587	16.641	845.06	1.501%	83.388%
22.0	305.655	13.710	858.77	1.236%	84.741%
23.0	244.955	11.553	870.323	1.042%	85.881%
24.0	180.337	9.298	879.621	.838%	86.799%
25.0	138.804	7.257	886.878	.654%	87.515%
26.0	109.737	5.867	892.745	.529%	88.094%
27.0	85.873	4.786	897.53	.432%	88.566%
28.0	70.221	3.952	901.482	.356%	88.956%
29.0	58.774	3.375	904.857	.304%	89.289%
30.0	50.829	2.959	907.816	.267%	89.581%
31.0	44.810	2.661	910.478	.240%	89.844%
32.0	40.008	2.430	912.908	.219%	90.084%
33.0	36.506	2.254	915.162	.203%	90.306%
34.0	33.834	2.129	917.291	.192%	90.516%
35.0	31.521	2.030	919.32	.183%	90.716%
36.0	29.637	1.947	921.268	.176%	90.909%
37.0	28.364	1.892	923.159	.171%	91.095%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	27.345	1.859	925.019	.168%	91.279%
39.0	26.599	1.841	926.86	.166%	91.460%
40.0	26.149	1.840	928.7	.166%	91.642%
41.0	25.699	1.846	930.546	.166%	91.824%
42.0	25.256	1.851	932.397	.167%	92.007%
43.0	24.926	1.859	934.256	.168%	92.190%
44.0	24.462	1.864	936.12	.168%	92.374%
45.0	23.998	1.862	937.983	.168%	92.558%
46.0	23.498	1.857	939.84	.167%	92.741%
47.0	22.915	1.846	941.686	.166%	92.923%
48.0	22.366	1.830	943.517	.165%	93.104%
49.0	22.015	1.823	945.339	.164%	93.284%
50.0	21.424	1.811	947.15	.163%	93.463%
51.0	20.834	1.788	948.938	.161%	93.639%
52.0	20.405	1.770	950.708	.160%	93.814%
53.0	19.905	1.753	952.461	.158%	93.987%
54.0	19.519	1.738	954.199	.157%	94.158%
55.0	19.097	1.724	955.923	.155%	94.328%
56.0	18.640	1.705	957.628	.154%	94.496%
57.0	18.148	1.682	959.31	.152%	94.662%
58.0	17.691	1.657	960.967	.149%	94.826%
59.0	17.234	1.633	962.6	.147%	94.987%
60.0	16.685	1.602	964.202	.144%	95.145%
61.0	16.228	1.571	965.773	.142%	95.300%
62.0	15.785	1.543	967.316	.139%	95.452%
63.0	15.349	1.514	968.83	.137%	95.602%
64.0	14.984	1.488	970.318	.134%	95.749%
65.0	14.745	1.471	971.789	.133%	95.894%
66.0	14.505	1.459	973.249	.132%	96.038%
67.0	14.414	1.454	974.703	.131%	96.181%
68.0	14.477	1.464	976.166	.132%	96.326%
69.0	14.379	1.472	977.639	.133%	96.471%
70.0	14.351	1.476	979.114	.133%	96.617%
71.0	14.309	1.481	980.595	.134%	96.763%
72.0	14.288	1.487	982.082	.134%	96.910%
73.0	14.428	1.502	983.584	.135%	97.058%
74.0	14.555	1.524	985.108	.137%	97.208%
75.0	14.583	1.540	986.647	.139%	97.360%

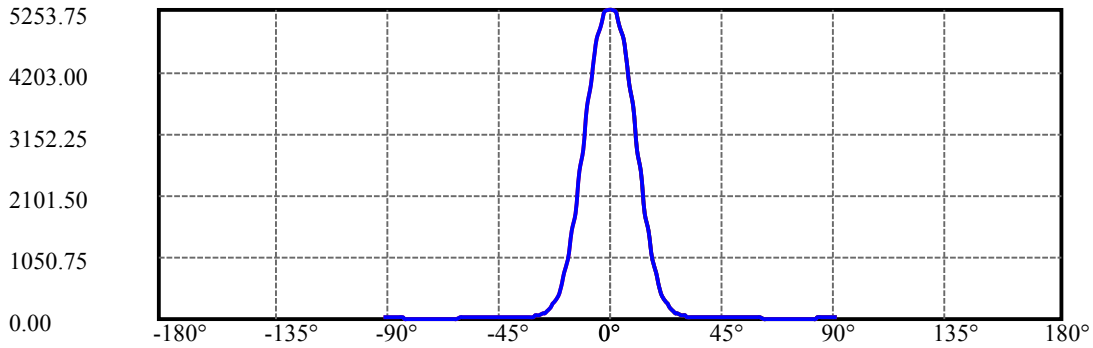
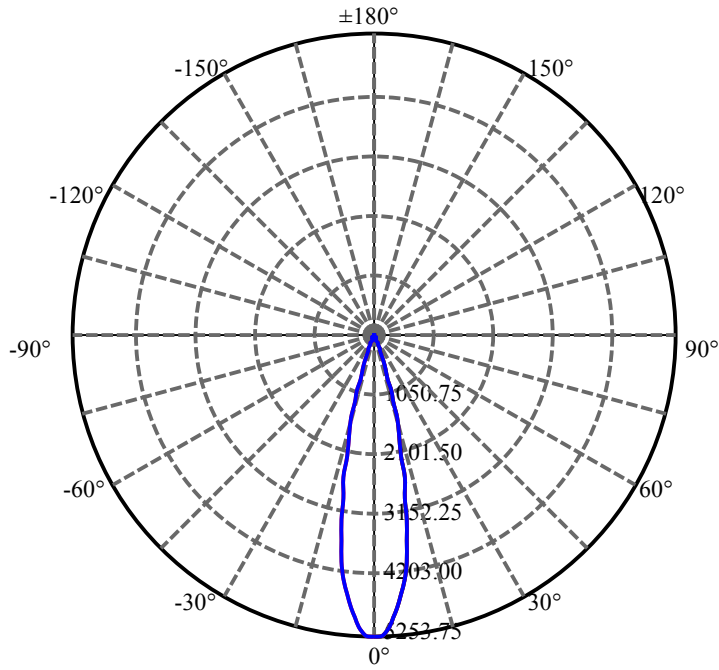
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	14.400	1.539	988.186	.139%	97.512%
77.0	14.280	1.529	989.715	.138%	97.663%
78.0	14.400	1.535	991.25	.138%	97.814%
79.0	14.618	1.559	992.809	.141%	97.968%
80.0	14.843	1.588	994.398	.143%	98.125%
81.0	15.089	1.619	996.016	.146%	98.285%
82.0	15.574	1.663	997.679	.150%	98.449%
83.0	16.580	1.748	999.427	.158%	98.621%
84.0	17.304	1.846	1001.273	.166%	98.803%
85.0	17.803	1.916	1003.189	.173%	98.992%
86.0	17.824	1.947	1005.136	.176%	99.184%
87.0	18.120	1.967	1007.104	.177%	99.379%
88.0	18.830	2.024	1009.128	.183%	99.578%
89.0	19.666	2.110	1011.238	.190%	99.787%
90.0	19.786	2.163	1013.401	.195%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	907.82	81.86%	89.58%
0-40	928.70	83.74%	91.64%
0-60	964.20	86.94%	95.15%
0-90	1011.24	91.18%	99.79%
0-120	1011.24	91.18%	99.79%
0-180	1013.40	91.38%	100.00%
60-90	48.64	4.39%	4.80%
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%
0-19.14	810.72	73.10%	80.00%

ZONAL LUMEN SUMMARY

0-10	406.73
10-20	421.69
20-30	79.40
30-40	20.88
40-50	18.45
50-60	17.05
60-70	14.91
70-80	15.28
80-90	16.84
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: —————

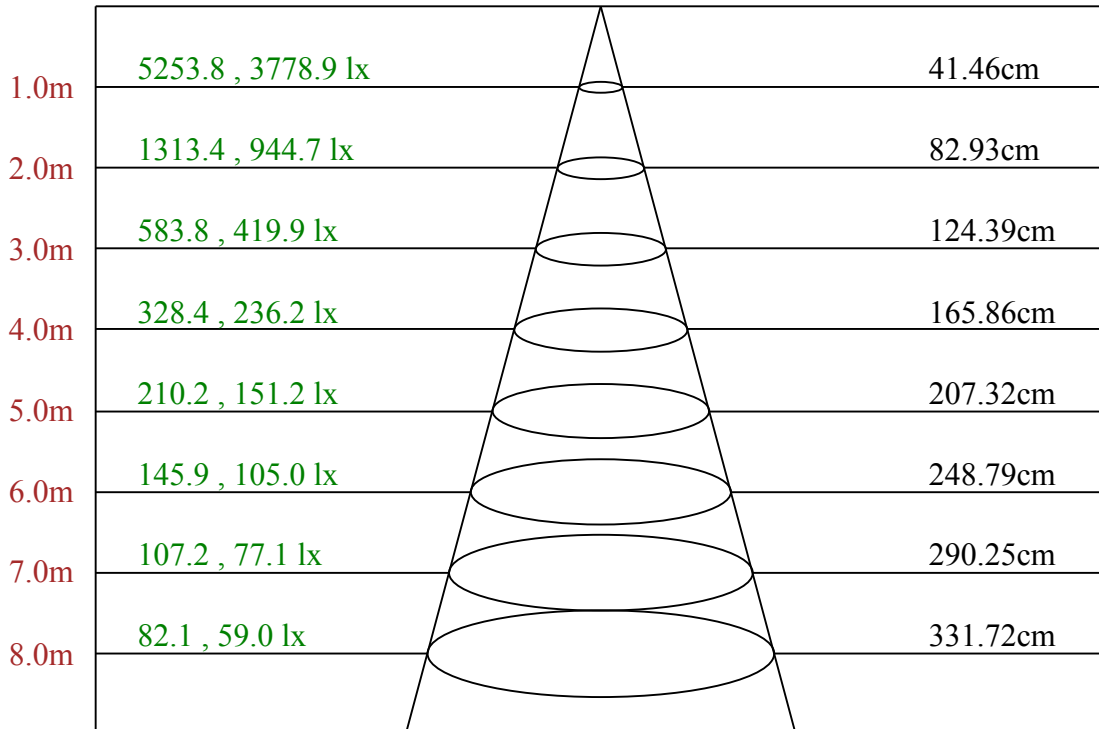
C90/C270: —————

Field angle(10%Imax):C0/180Left:19.8 Right:19.8

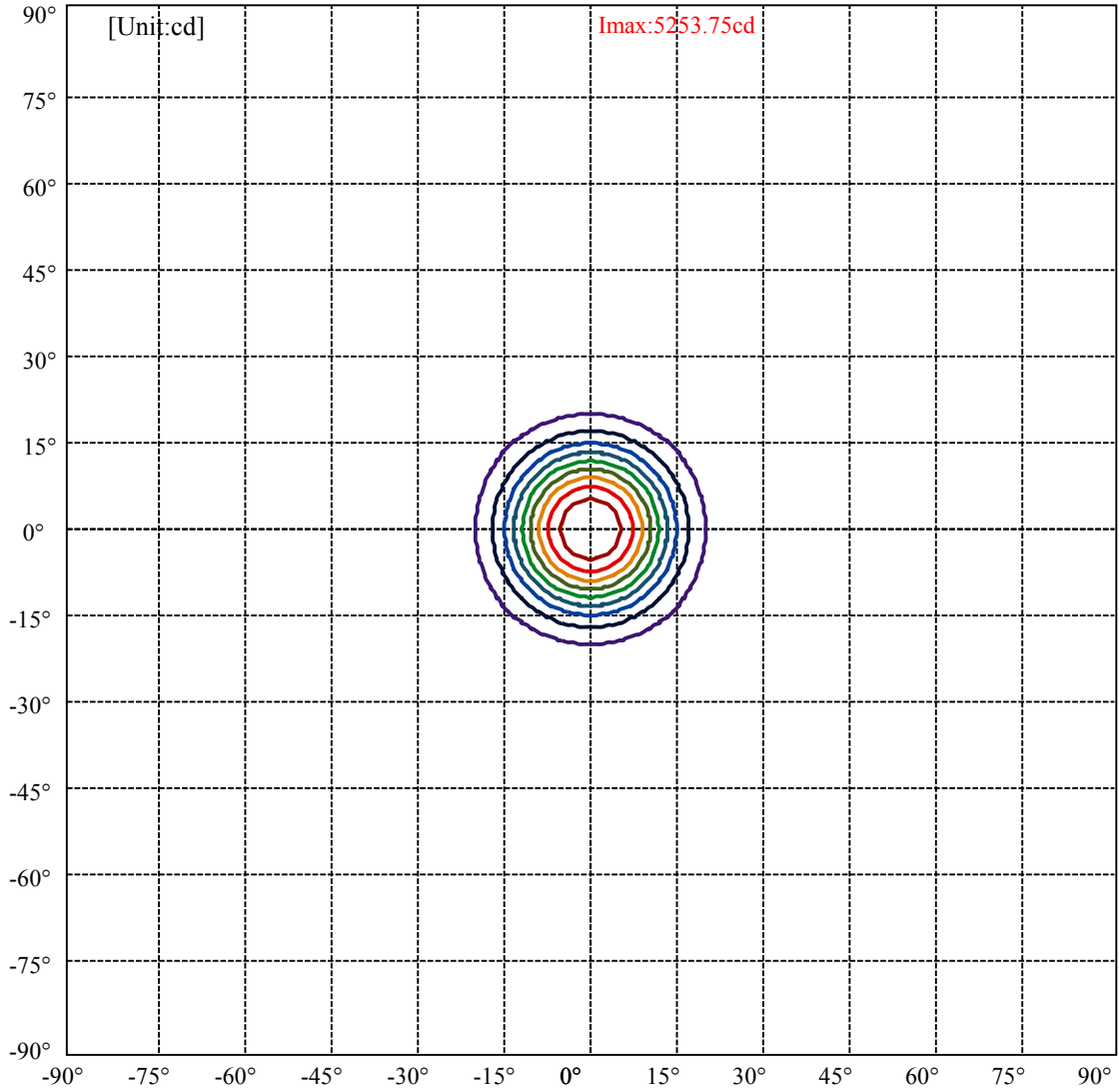
:C90/270Left:19.8 Right:19.8

Beam Angle(50%Imax):C0/180Left:11.7 Right:11.7

:C90/270Left:11.7 Right:11.7



Max , Ave Beam angle of C0 plane 23.43

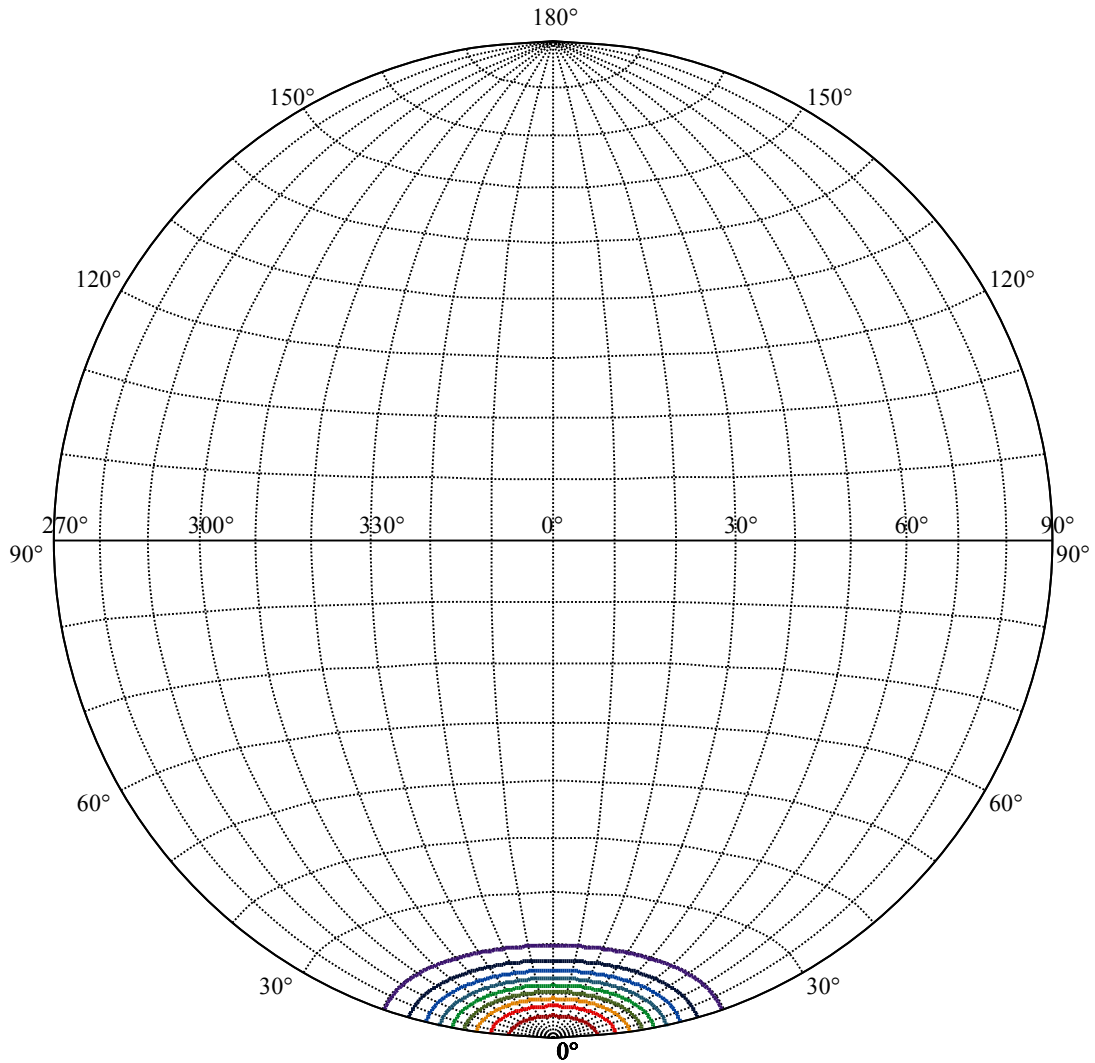


(10%Imax) 525.375	—
(20%Imax) 1050.75	—
(30%Imax) 1576.13	—
(40%Imax) 2101.5	—
(50%Imax) 2626.88	—
(60%Imax) 3152.25	—
(70%Imax) 3677.63	—
(80%Imax) 4203	—
(90%Imax) 4728.38	—

Equipment:
Temperature(°C): -1.0

Date: 2019/7/23
Humidity(%): -1.0%

Operator:
Distance(m): 1.00



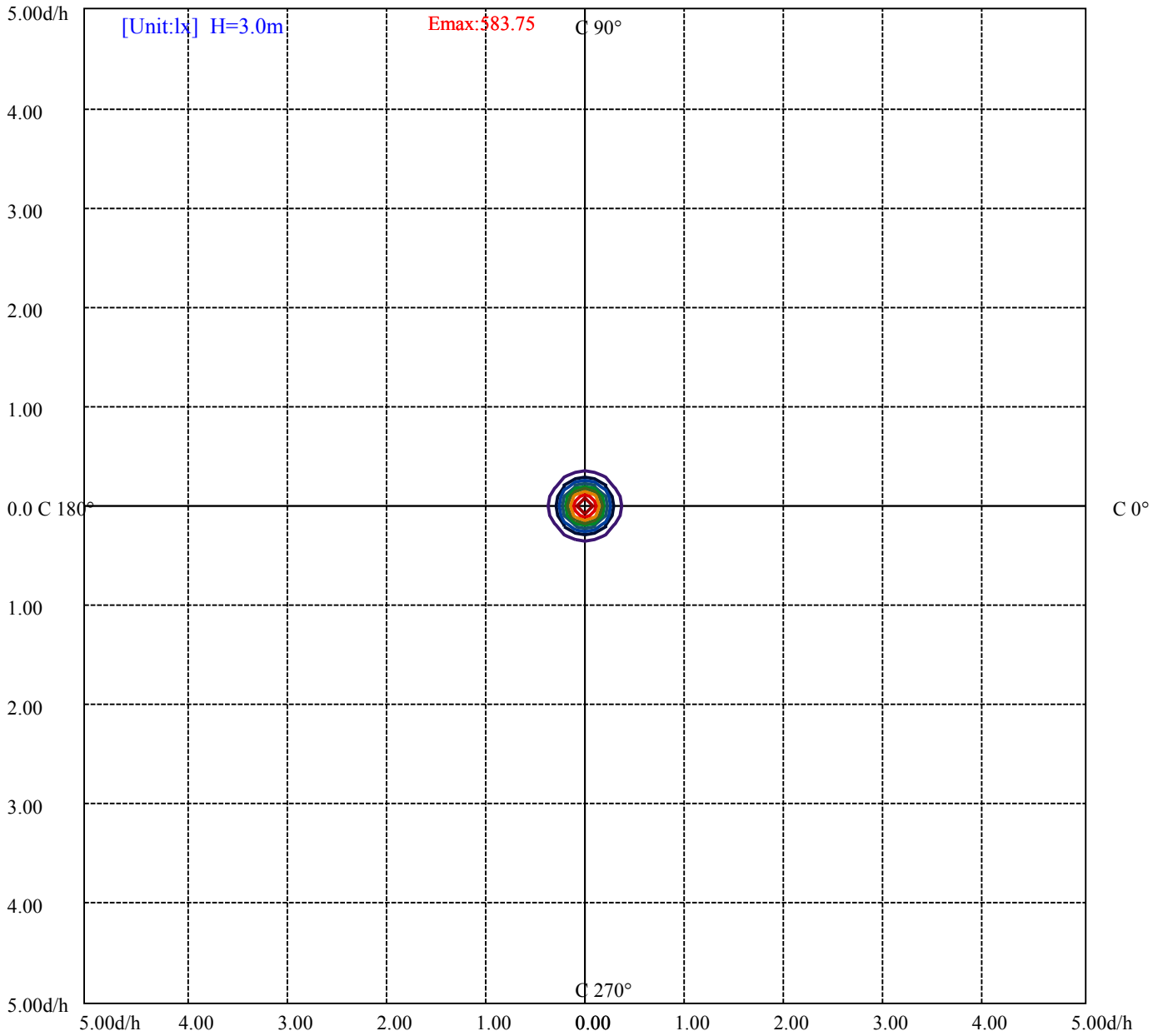
House

[Unit:cd]

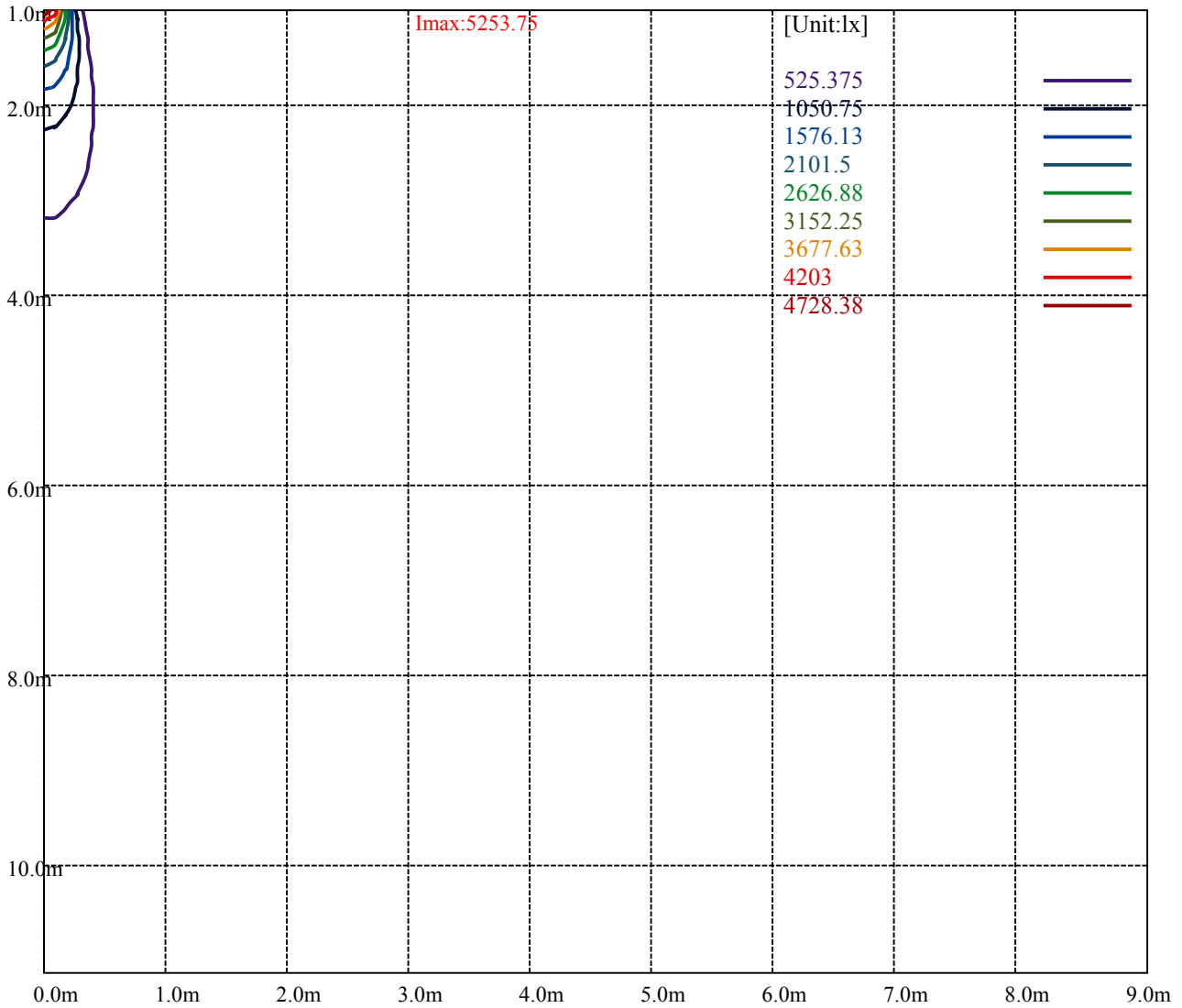
Road

Imax:5253.75

(10%Imax) 525.375	—
(20%Imax) 1050.75	—
(30%Imax) 1576.13	—
(40%Imax) 2101.5	—
(50%Imax) 2626.88	—
(60%Imax) 3152.25	—
(70%Imax) 3677.63	—
(80%Imax) 4203	—
(90%Imax) 4728.38	—



- (10%Emax) 58.375
- (20%Emax) 116.75
- (30%Emax) 175.1255
- (40%Emax) 233.5
- (50%Emax) 291.8755
- (60%Emax) 350.25
- (70%Emax) 408.6255
- (80%Emax) 467
- (90%Emax) 525.3755



Luminance Table

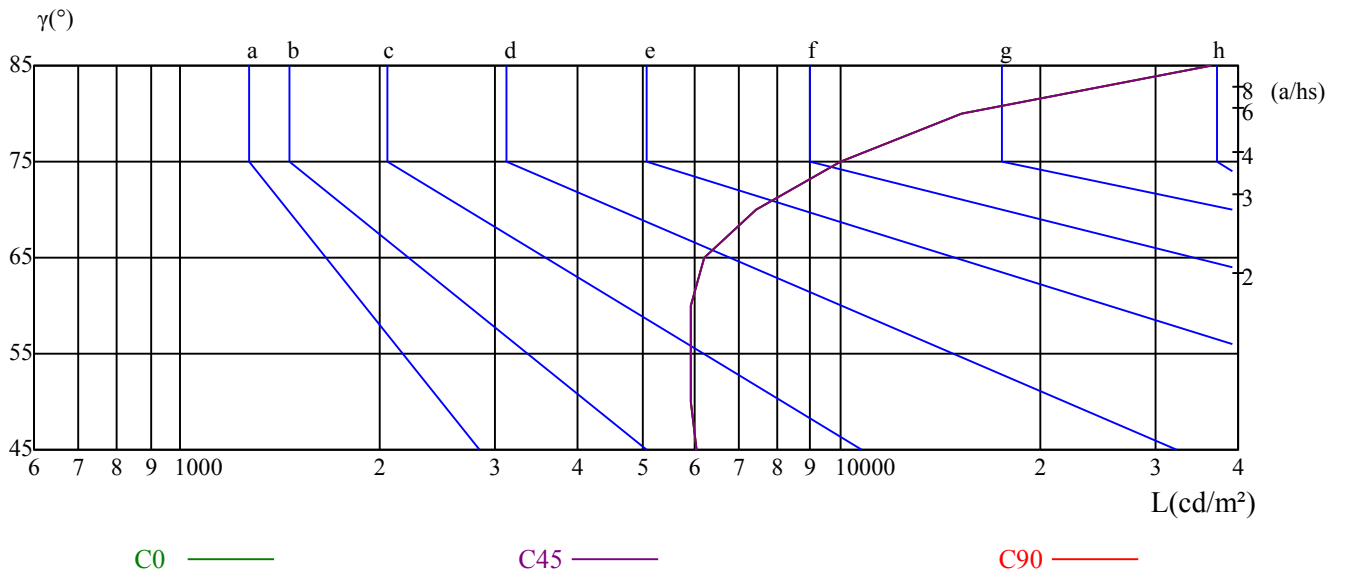
γ	45	50	55	60	65	70	75	80	85
C0	6033	5925	5919	5932	6203	7459	10017	15196	36314
C45	6033	5925	5919	5932	6203	7459	10017	15196	36314
C90	6033	5925	5919	5932	6203	7459	10017	15196	36314

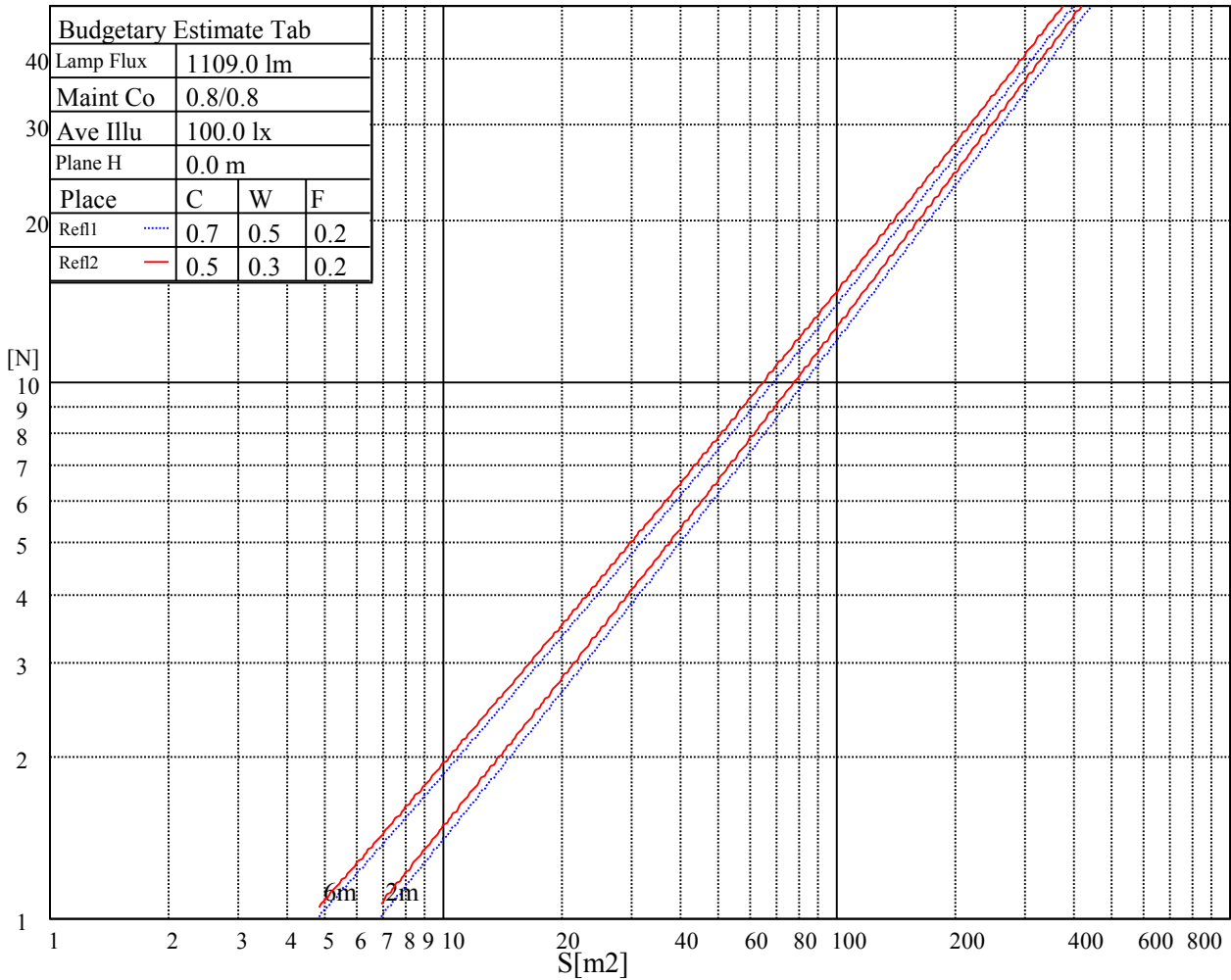
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
6203	6203	6203	10017	10017	10017	36314	36314	36314

Glare Table

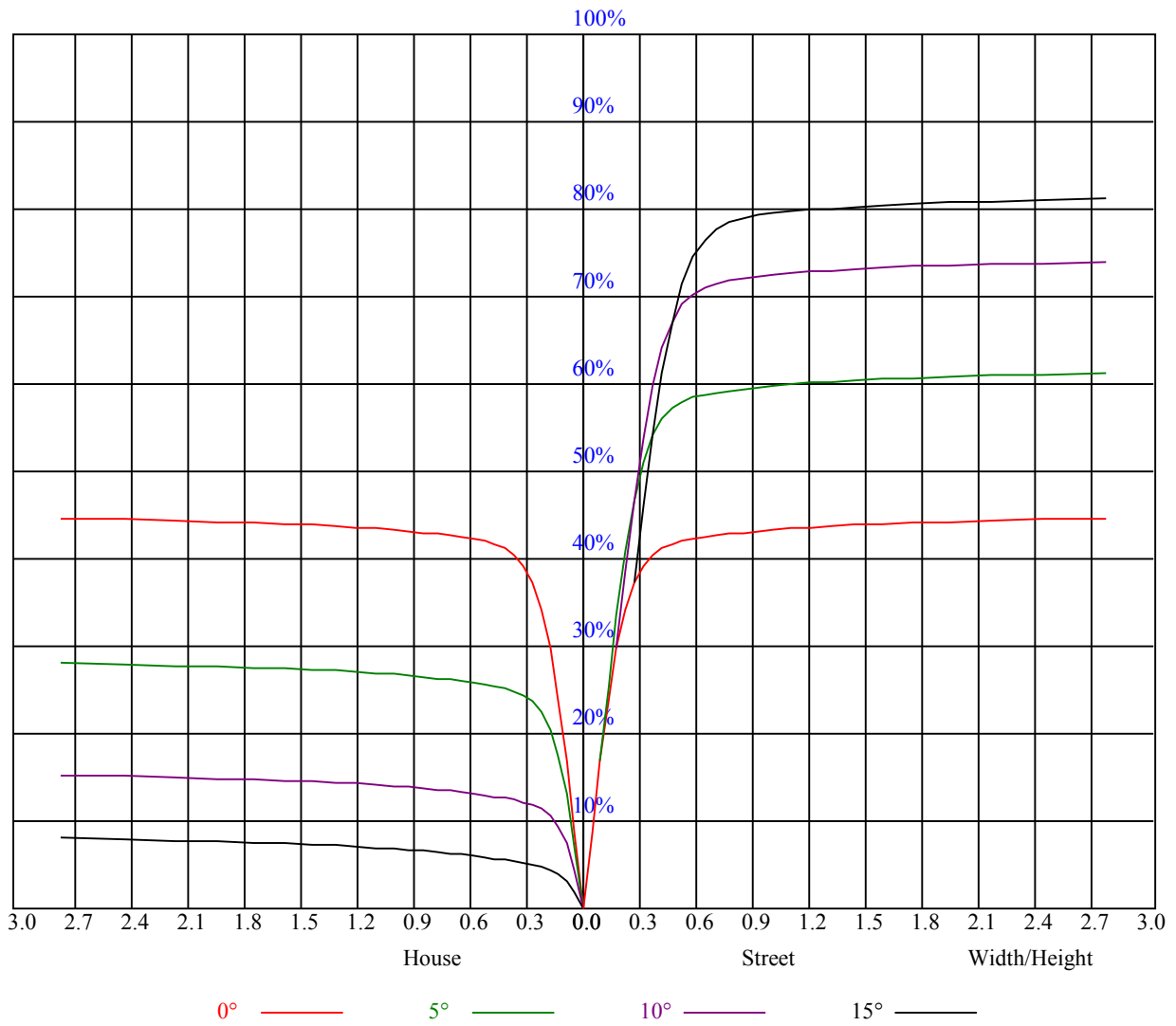
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

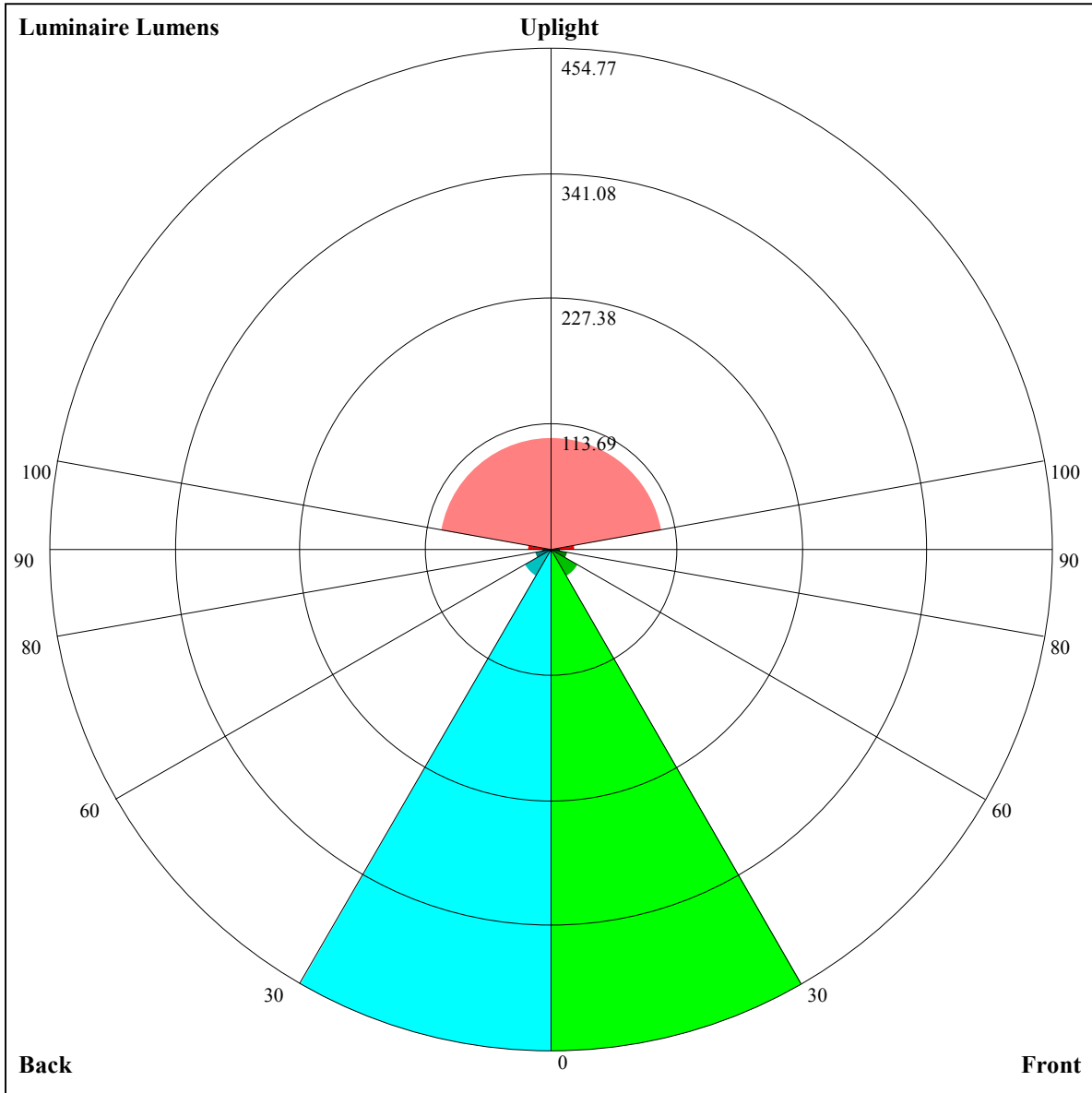
Luminance Limiting Curve





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	1.09	1.09	1.09	1.06	1.06	1.06	1.02	1.02	1.02	0.97	0.97	0.97	0.93	0.93	0.93	0.91
1	1.02	1.00	0.98	1.00	0.98	0.96	0.96	0.95	0.93	0.93	0.92	0.90	0.90	0.89	0.88	0.86
2	0.96	0.93	0.91	0.95	0.92	0.90	0.92	0.90	0.88	0.89	0.87	0.86	0.87	0.85	0.84	0.83
3	0.92	0.88	0.85	0.91	0.88	0.85	0.89	0.86	0.83	0.86	0.84	0.82	0.85	0.83	0.81	0.80
4	0.88	0.85	0.82	0.87	0.84	0.81	0.86	0.83	0.80	0.84	0.81	0.79	0.82	0.80	0.78	0.77
5	0.85	0.81	0.78	0.85	0.81	0.78	0.83	0.80	0.77	0.82	0.79	0.77	0.80	0.78	0.76	0.75
6	0.83	0.79	0.76	0.82	0.78	0.75	0.81	0.77	0.75	0.80	0.77	0.74	0.78	0.76	0.74	0.73
7	0.80	0.76	0.73	0.80	0.76	0.73	0.79	0.75	0.73	0.78	0.75	0.72	0.77	0.74	0.72	0.71
8	0.78	0.74	0.71	0.77	0.74	0.71	0.77	0.73	0.71	0.76	0.73	0.71	0.75	0.72	0.70	0.69
9	0.76	0.72	0.69	0.75	0.72	0.69	0.75	0.71	0.69	0.74	0.71	0.69	0.73	0.71	0.69	0.68
10	0.74	0.70	0.68	0.74	0.70	0.68	0.73	0.70	0.68	0.72	0.70	0.67	0.72	0.69	0.67	0.66





Luminaire Lumens:

FL=454.77,FM=28.28,FH=15.13,FVH=9.51

BL=454.77,BM=28.28,BH=15.13,BVH=9.51

UL=21.59,UH=102.73

BUG Rating:B1-U3-G0

Intensity data(cd)

C/γ(°)	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0
0.0	5253.75	5252.34	5207.41	5099.20	4946.27	4754.88	4533.61	4275.77	3984.47
45.0	5253.75	5252.34	5207.41	5099.20	4946.27	4754.88	4533.61	4275.77	3984.47
90.0	5253.75	5252.34	5207.41	5099.20	4946.27	4754.88	4533.61	4275.77	3984.47
135.0	5253.75	5252.34	5207.41	5099.20	4946.27	4754.88	4533.61	4275.77	3984.47
180.0	5253.75	5252.34	5207.41	5099.20	4946.27	4754.88	4533.61	4275.77	3984.47
225.0	5253.75	5252.34	5207.41	5099.20	4946.27	4754.88	4533.61	4275.77	3984.47
270.0	5253.75	5252.34	5207.41	5099.20	4946.27	4754.88	4533.61	4275.77	3984.47
315.0	5253.75	5252.34	5207.41	5099.20	4946.27	4754.88	4533.61	4275.77	3984.47
360.0	5253.75	5252.34	5207.41	5099.20	4946.27	4754.88	4533.61	4275.77	3984.47

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	3630.45	3260.11	2886.68	2521.20	2147.20	1806.05	1504.27	1226.15	1000.53
45.0	3630.45	3260.11	2886.68	2521.20	2147.20	1806.05	1504.27	1226.15	1000.53
90.0	3630.45	3260.11	2886.68	2521.20	2147.20	1806.05	1504.27	1226.15	1000.53
135.0	3630.45	3260.11	2886.68	2521.20	2147.20	1806.05	1504.27	1226.15	1000.53
180.0	3630.45	3260.11	2886.68	2521.20	2147.20	1806.05	1504.27	1226.15	1000.53
225.0	3630.45	3260.11	2886.68	2521.20	2147.20	1806.05	1504.27	1226.15	1000.53
270.0	3630.45	3260.11	2886.68	2521.20	2147.20	1806.05	1504.27	1226.15	1000.53
315.0	3630.45	3260.11	2886.68	2521.20	2147.20	1806.05	1504.27	1226.15	1000.53
360.0	3630.45	3260.11	2886.68	2521.20	2147.20	1806.05	1504.27	1226.15	1000.53

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	796.19	632.36	490.03	376.59	305.66	244.96	180.34	138.80	109.74
45.0	796.19	632.36	490.03	376.59	305.66	244.96	180.34	138.80	109.74
90.0	796.19	632.36	490.03	376.59	305.66	244.96	180.34	138.80	109.74
135.0	796.19	632.36	490.03	376.59	305.66	244.96	180.34	138.80	109.74
180.0	796.19	632.36	490.03	376.59	305.66	244.96	180.34	138.80	109.74
225.0	796.19	632.36	490.03	376.59	305.66	244.96	180.34	138.80	109.74
270.0	796.19	632.36	490.03	376.59	305.66	244.96	180.34	138.80	109.74
315.0	796.19	632.36	490.03	376.59	305.66	244.96	180.34	138.80	109.74
360.0	796.19	632.36	490.03	376.59	305.66	244.96	180.34	138.80	109.74

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	85.87	70.22	58.77	50.83	44.81	40.01	36.51	33.83	31.52
45.0	85.87	70.22	58.77	50.83	44.81	40.01	36.51	33.83	31.52
90.0	85.87	70.22	58.77	50.83	44.81	40.01	36.51	33.83	31.52
135.0	85.87	70.22	58.77	50.83	44.81	40.01	36.51	33.83	31.52
180.0	85.87	70.22	58.77	50.83	44.81	40.01	36.51	33.83	31.52
225.0	85.87	70.22	58.77	50.83	44.81	40.01	36.51	33.83	31.52
270.0	85.87	70.22	58.77	50.83	44.81	40.01	36.51	33.83	31.52
315.0	85.87	70.22	58.77	50.83	44.81	40.01	36.51	33.83	31.52
360.0	85.87	70.22	58.77	50.83	44.81	40.01	36.51	33.83	31.52

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	29.64	28.36	27.35	26.60	26.15	25.70	25.26	24.93	24.46
45.0	29.64	28.36	27.35	26.60	26.15	25.70	25.26	24.93	24.46
90.0	29.64	28.36	27.35	26.60	26.15	25.70	25.26	24.93	24.46
135.0	29.64	28.36	27.35	26.60	26.15	25.70	25.26	24.93	24.46
180.0	29.64	28.36	27.35	26.60	26.15	25.70	25.26	24.93	24.46
225.0	29.64	28.36	27.35	26.60	26.15	25.70	25.26	24.93	24.46
270.0	29.64	28.36	27.35	26.60	26.15	25.70	25.26	24.93	24.46
315.0	29.64	28.36	27.35	26.60	26.15	25.70	25.26	24.93	24.46
360.0	29.64	28.36	27.35	26.60	26.15	25.70	25.26	24.93	24.46

Intensity data(cd)

C/γ(°)	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	53.0
0.0	24.00	23.50	22.92	22.37	22.02	21.42	20.83	20.41	19.91
45.0	24.00	23.50	22.92	22.37	22.02	21.42	20.83	20.41	19.91
90.0	24.00	23.50	22.92	22.37	22.02	21.42	20.83	20.41	19.91
135.0	24.00	23.50	22.92	22.37	22.02	21.42	20.83	20.41	19.91
180.0	24.00	23.50	22.92	22.37	22.02	21.42	20.83	20.41	19.91
225.0	24.00	23.50	22.92	22.37	22.02	21.42	20.83	20.41	19.91
270.0	24.00	23.50	22.92	22.37	22.02	21.42	20.83	20.41	19.91
315.0	24.00	23.50	22.92	22.37	22.02	21.42	20.83	20.41	19.91
360.0	24.00	23.50	22.92	22.37	22.02	21.42	20.83	20.41	19.91
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	19.52	19.10	18.64	18.15	17.69	17.23	16.69	16.23	15.79
45.0	19.52	19.10	18.64	18.15	17.69	17.23	16.69	16.23	15.79
90.0	19.52	19.10	18.64	18.15	17.69	17.23	16.69	16.23	15.79
135.0	19.52	19.10	18.64	18.15	17.69	17.23	16.69	16.23	15.79
180.0	19.52	19.10	18.64	18.15	17.69	17.23	16.69	16.23	15.79
225.0	19.52	19.10	18.64	18.15	17.69	17.23	16.69	16.23	15.79
270.0	19.52	19.10	18.64	18.15	17.69	17.23	16.69	16.23	15.79
315.0	19.52	19.10	18.64	18.15	17.69	17.23	16.69	16.23	15.79
360.0	19.52	19.10	18.64	18.15	17.69	17.23	16.69	16.23	15.79
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	15.35	14.98	14.75	14.51	14.41	14.48	14.38	14.35	14.31
45.0	15.35	14.98	14.75	14.51	14.41	14.48	14.38	14.35	14.31
90.0	15.35	14.98	14.75	14.51	14.41	14.48	14.38	14.35	14.31
135.0	15.35	14.98	14.75	14.51	14.41	14.48	14.38	14.35	14.31
180.0	15.35	14.98	14.75	14.51	14.41	14.48	14.38	14.35	14.31
225.0	15.35	14.98	14.75	14.51	14.41	14.48	14.38	14.35	14.31
270.0	15.35	14.98	14.75	14.51	14.41	14.48	14.38	14.35	14.31
315.0	15.35	14.98	14.75	14.51	14.41	14.48	14.38	14.35	14.31
360.0	15.35	14.98	14.75	14.51	14.41	14.48	14.38	14.35	14.31
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	14.29	14.43	14.56	14.58	14.40	14.28	14.40	14.62	14.84
45.0	14.29	14.43	14.56	14.58	14.40	14.28	14.40	14.62	14.84
90.0	14.29	14.43	14.56	14.58	14.40	14.28	14.40	14.62	14.84
135.0	14.29	14.43	14.56	14.58	14.40	14.28	14.40	14.62	14.84
180.0	14.29	14.43	14.56	14.58	14.40	14.28	14.40	14.62	14.84
225.0	14.29	14.43	14.56	14.58	14.40	14.28	14.40	14.62	14.84
270.0	14.29	14.43	14.56	14.58	14.40	14.28	14.40	14.62	14.84
315.0	14.29	14.43	14.56	14.58	14.40	14.28	14.40	14.62	14.84
360.0	14.29	14.43	14.56	14.58	14.40	14.28	14.40	14.62	14.84
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	15.09	15.57	16.58	17.30	17.80	17.82	18.12	18.83	19.67
45.0	15.09	15.57	16.58	17.30	17.80	17.82	18.12	18.83	19.67
90.0	15.09	15.57	16.58	17.30	17.80	17.82	18.12	18.83	19.67
135.0	15.09	15.57	16.58	17.30	17.80	17.82	18.12	18.83	19.67
180.0	15.09	15.57	16.58	17.30	17.80	17.82	18.12	18.83	19.67
225.0	15.09	15.57	16.58	17.30	17.80	17.82	18.12	18.83	19.67
270.0	15.09	15.57	16.58	17.30	17.80	17.82	18.12	18.83	19.67
315.0	15.09	15.57	16.58	17.30	17.80	17.82	18.12	18.83	19.67
360.0	15.09	15.57	16.58	17.30	17.80	17.82	18.12	18.83	19.67

Intensity data(cd)

C/ γ (°)	90.0
0.0	19.79
45.0	19.79
90.0	19.79
135.0	19.79
180.0	19.79
225.0	19.79
270.0	19.79
315.0	19.79
360.0	19.79