
Nata

Client:

LumCAT: 4-2413-L

Luminaire: 92.70.129.00

Report No: NT2018011017

Test No:

LampCAT: CREE CXA1820

Lamp flux(lm): 2182.0

Number of Lamps: 1

Length(mm): 102

Phm Type: C

Voltage(V): 37.1000

Current(A): 0.6500

Power (W): 24.1150

PF: 0.0000

Ballast type: DC

Width(mm): 102

Height(mm): 0

Photometric Results

Lumens(lm): 2129.36, Efficiency(%): 97.59% , Luminous Efficacy(lm/W): 88.30

Central intensity(cd): 5122.447, Maximum intensity(cd): 5122.447

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=34.8

[C90/270]Total=34.8

Field angle(10%Imax): [C0/180]Total=67.0

[C90/270]Total=67.0

Maximum s/h(1/2): C0_180=0.57 C90_270=0.57

Maximum s/h(1/4): C0_180=0.58 C90_270=0.58

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 98.90%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 97.237%

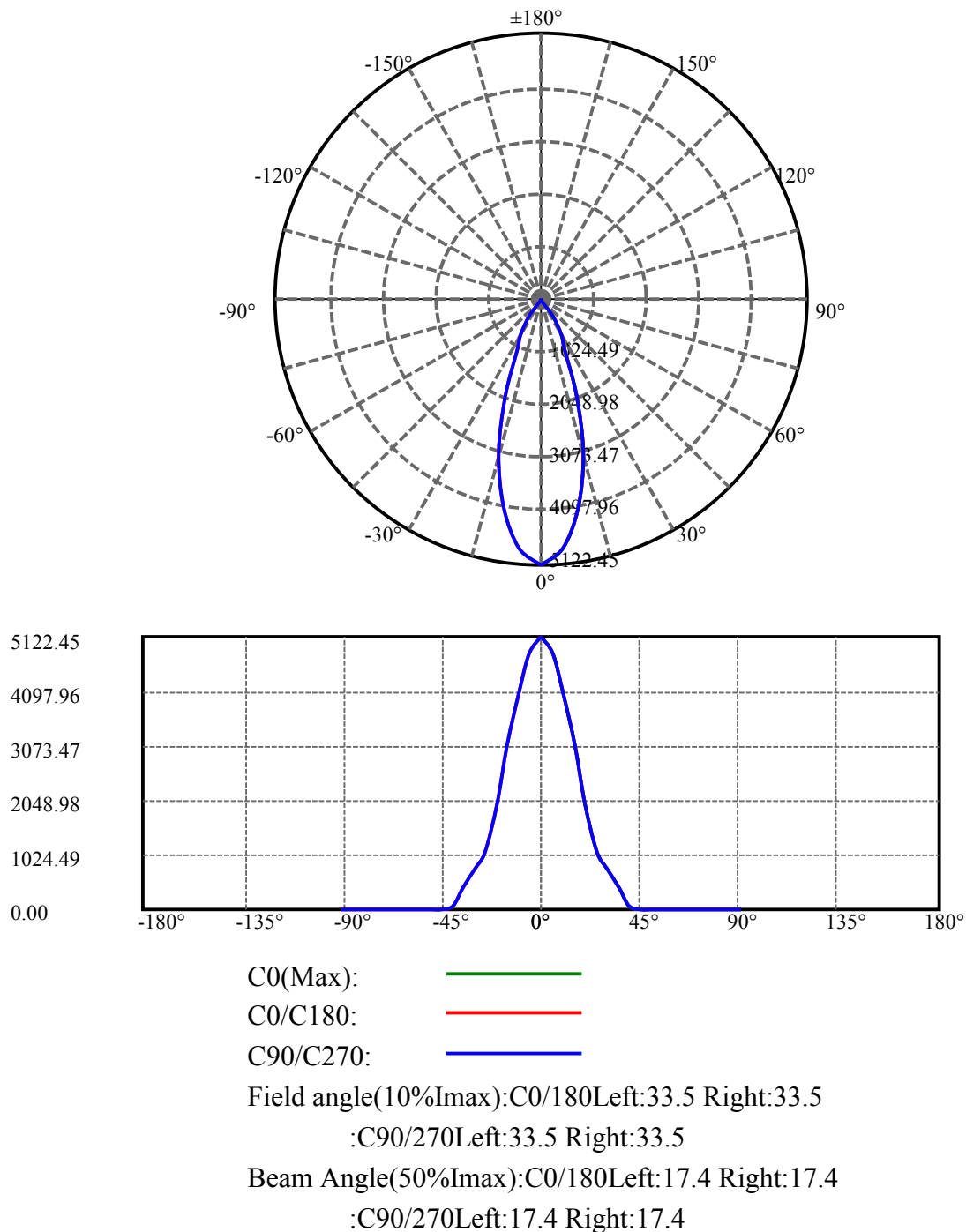
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	5122.447	30.633	30.633	1.404%	1.439%
5.0	4812.273	229.898	260.532	10.536%	12.235%
10.0	4062.956	386.725	647.256	17.723%	30.397%
15.0	3089.972	438.369	1085.625	20.090%	50.984%
20.0	1979.119	371.033	1456.659	17.004%	68.408%
25.0	1096.152	253.927	1710.586	11.637%	80.333%
30.0	778.752	213.432	1924.017	9.781%	90.357%
35.0	402.111	126.423	2050.441	5.794%	96.294%
40.0	70.224	24.743	2075.183	1.134%	97.456%
45.0	15.553	6.028	2081.212	.276%	97.739%
50.0	13.007	5.462	2086.673	.250%	97.995%
55.0	12.560	5.639	2092.313	.258%	98.260%
60.0	12.684	6.021	2098.334	.276%	98.543%
65.0	12.333	6.127	2104.46	.281%	98.831%
70.0	11.362	5.852	2110.313	.268%	99.106%
75.0	10.302	5.455	2115.767	.250%	99.362%
80.0	10.068	5.435	2121.202	.249%	99.617%
85.0	9.972	5.445	2126.648	.250%	99.873%
90.0	9.883	2.709	2129.356	.124%	100.000%

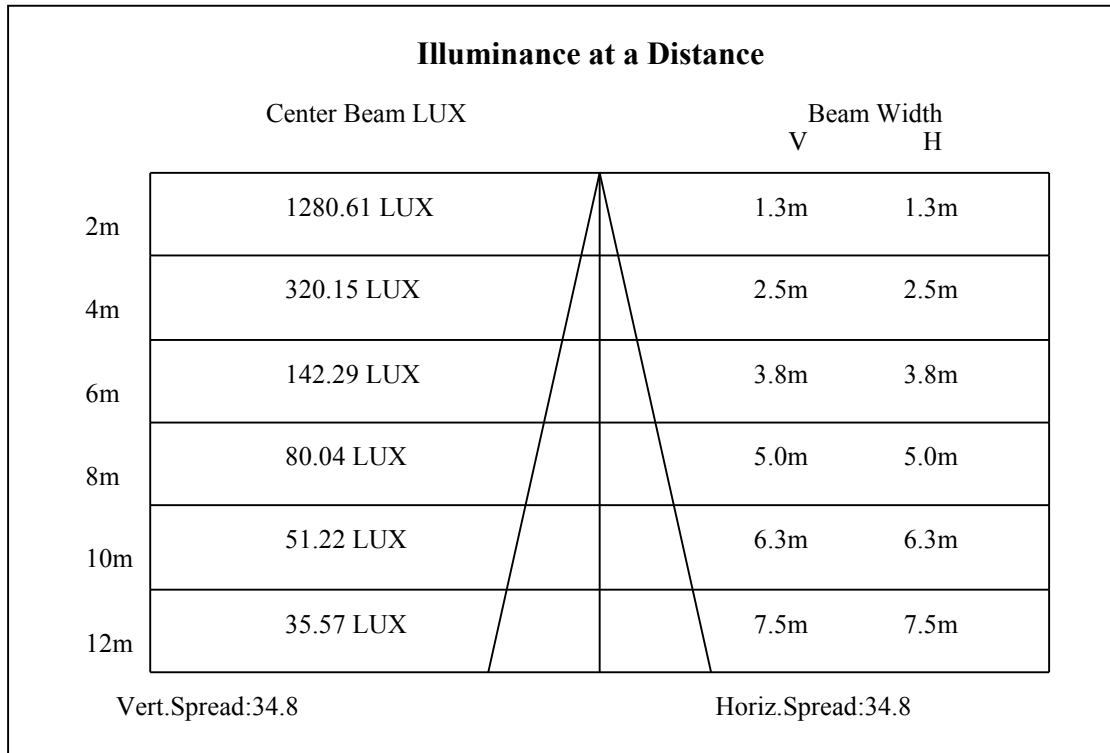
ZONAL LUMEN SUMMARY

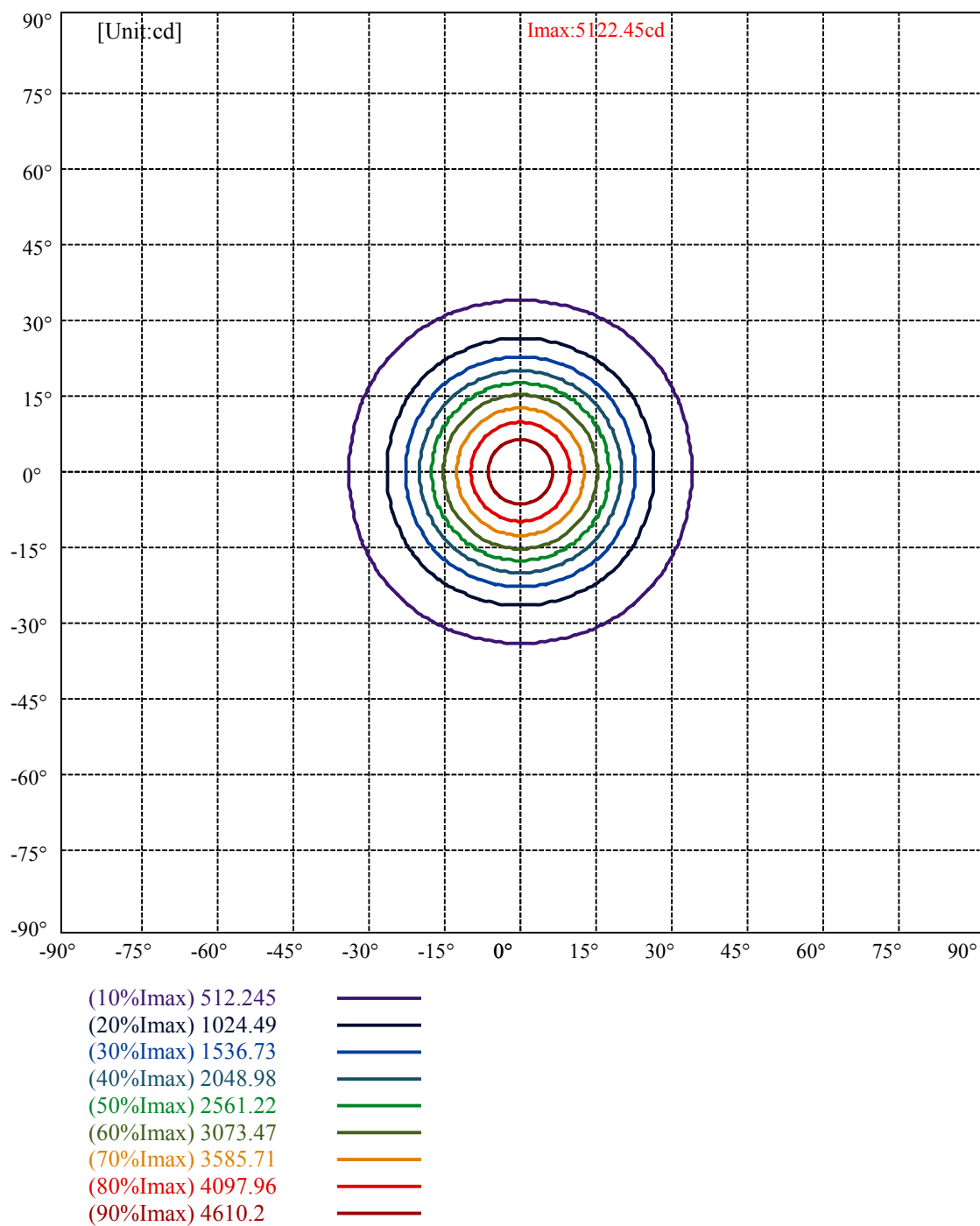
Zone	Lumens	%Lamp	%Fixt
0-30	1924.02	88.18%	90.36%
0-40	2075.18	95.10%	97.46%
0-60	2098.33	96.17%	98.54%
0-90	2126.65	97.46%	99.87%
0-120	2126.65	97.46%	99.87%
0-180	2129.36	97.59%	100.00%
60-90	34.34	1.57%	1.61%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-24.86	1703.49	78.07%	80.00%

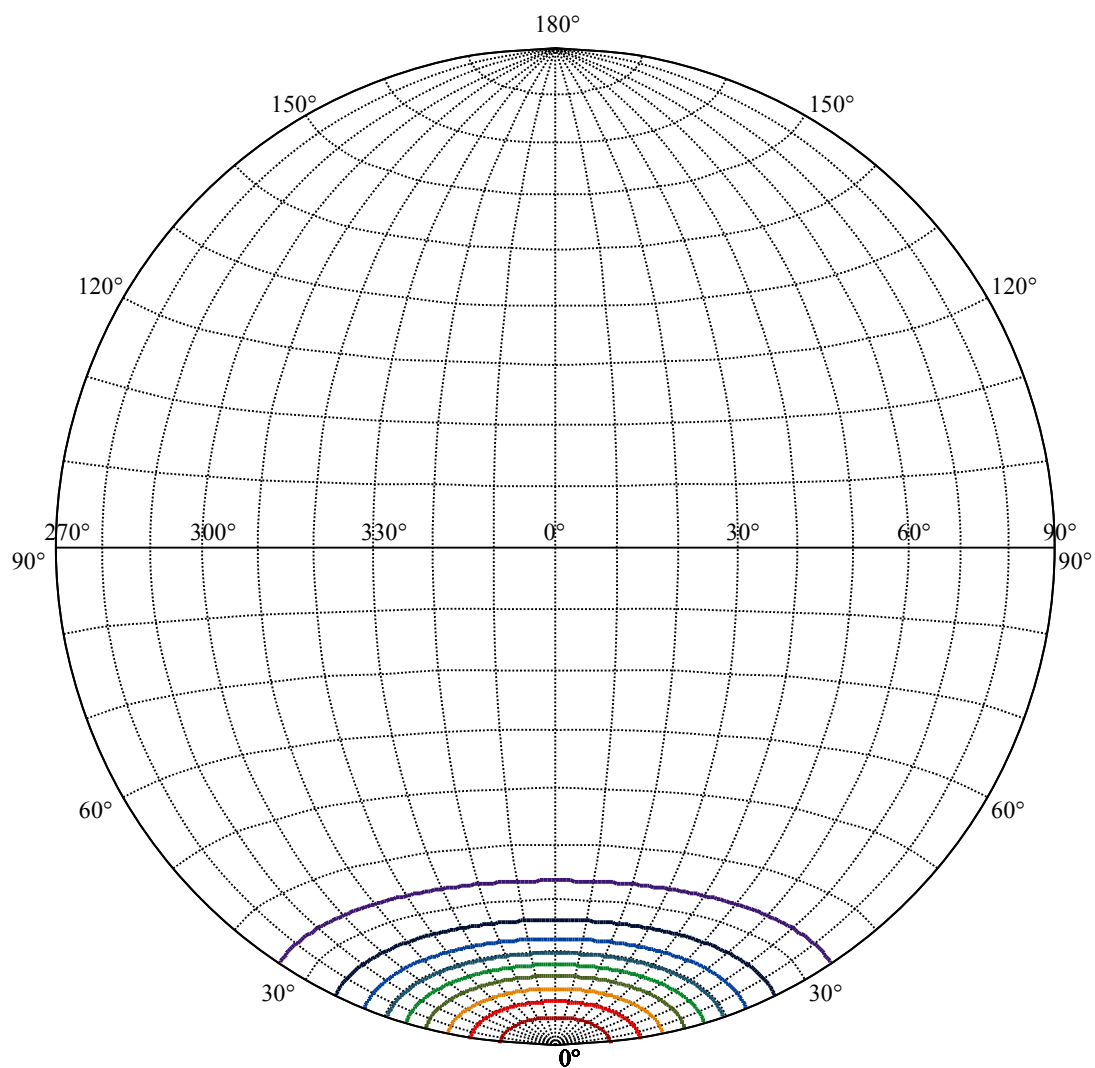
ZONAL LUMEN SUMMARY

0-10	647.26
10-20	809.40
20-30	467.36
30-40	151.17
40-50	11.49
50-60	11.66
60-70	11.98
70-80	10.89
80-90	5.45
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









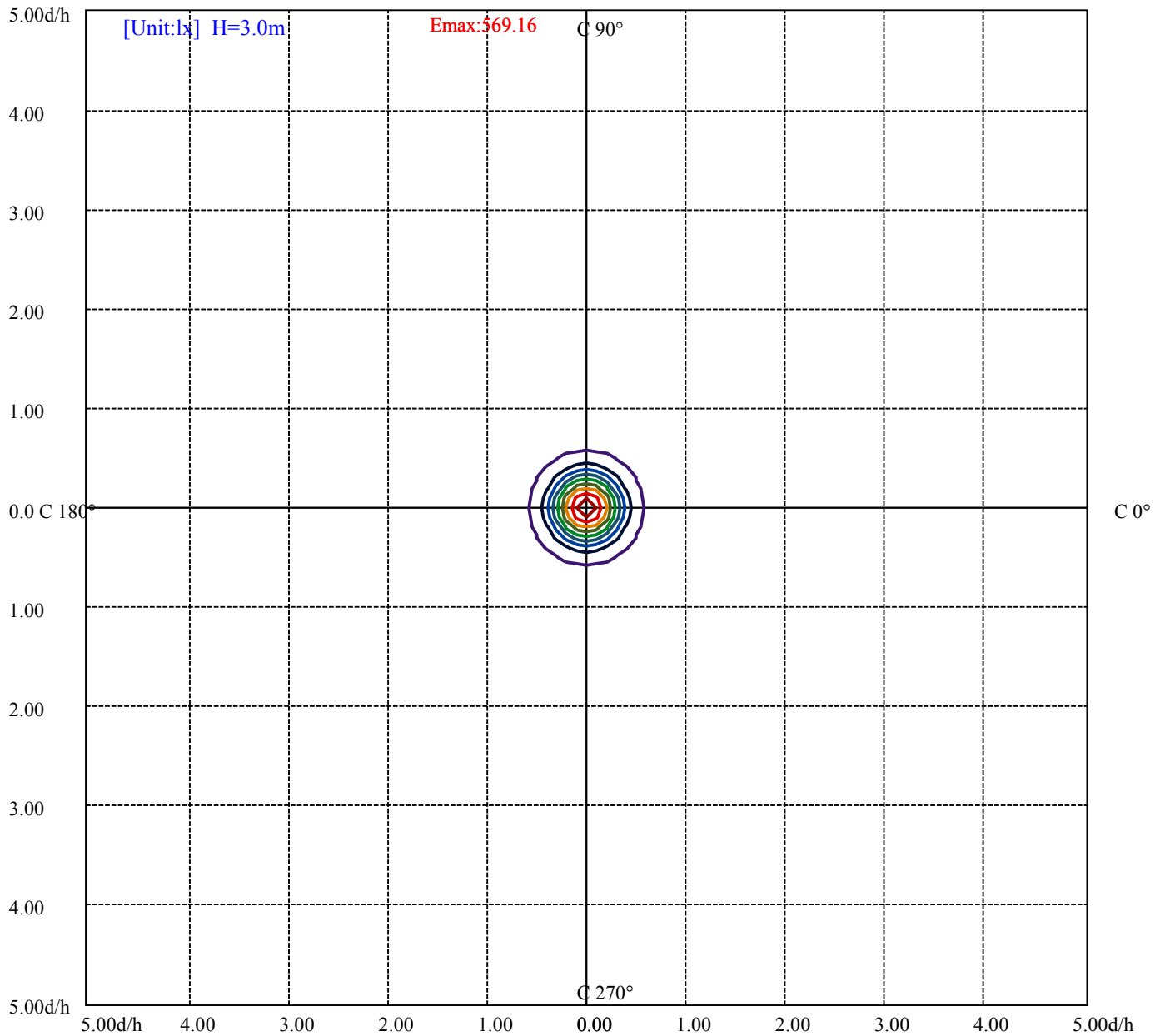
House

[Unit:cd]

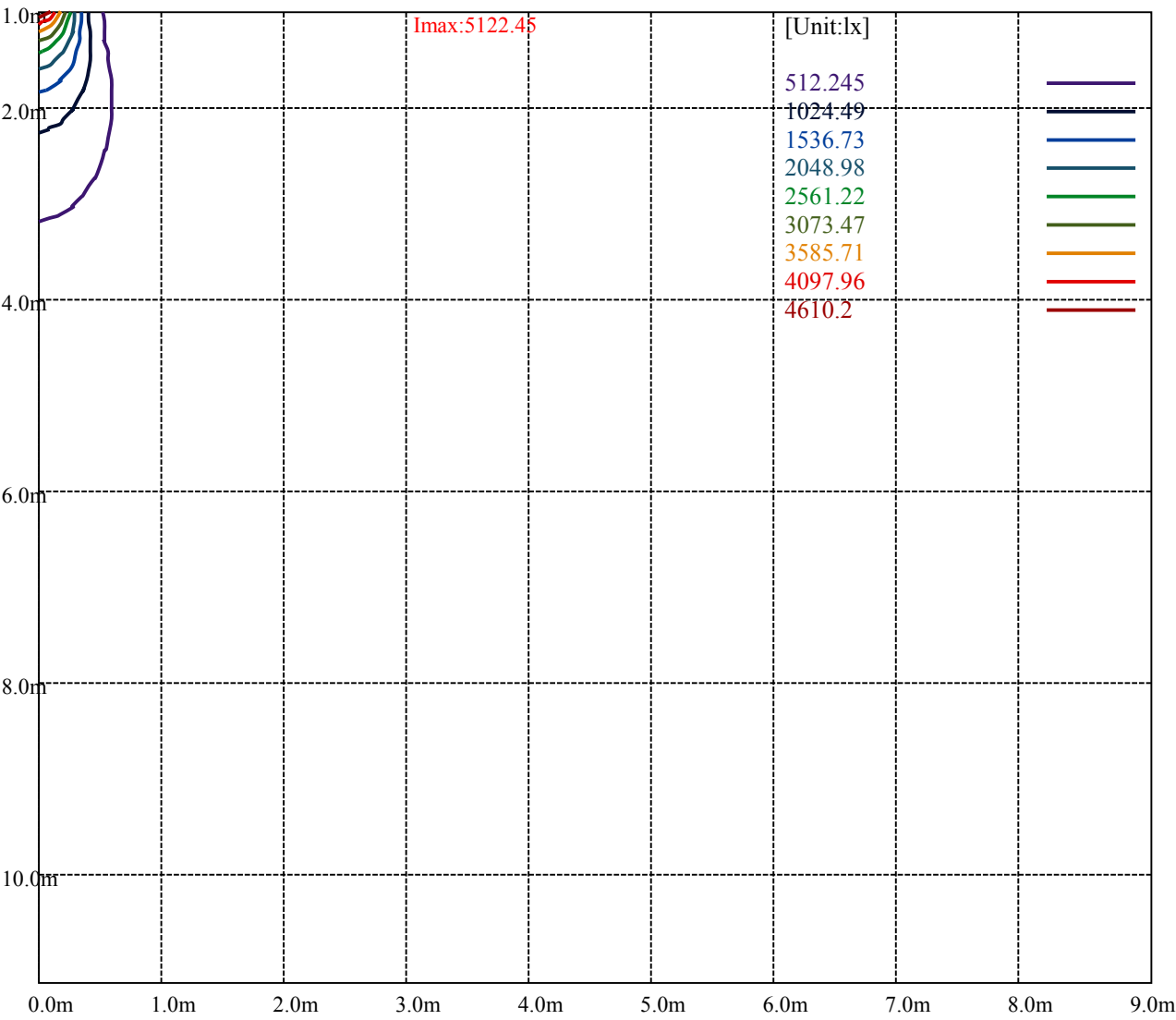
Road

Imax:5122.45

(10%Imax)	512.245	—
(20%Imax)	1024.49	—
(30%Imax)	1536.73	—
(40%Imax)	2048.98	—
(50%Imax)	2561.22	—
(60%Imax)	3073.47	—
(70%Imax)	3585.71	—
(80%Imax)	4097.96	—
(90%Imax)	4610.2	—



(10%Emax)	56.916	—
(20%Emax)	113.8322	—
(30%Emax)	170.7478	—
(40%Emax)	227.6644	—
(50%Emax)	284.58	—
(60%Emax)	341.4955	—
(70%Emax)	398.4122	—
(80%Emax)	455.3278	—
(90%Emax)	512.2433	—



Luminance Table

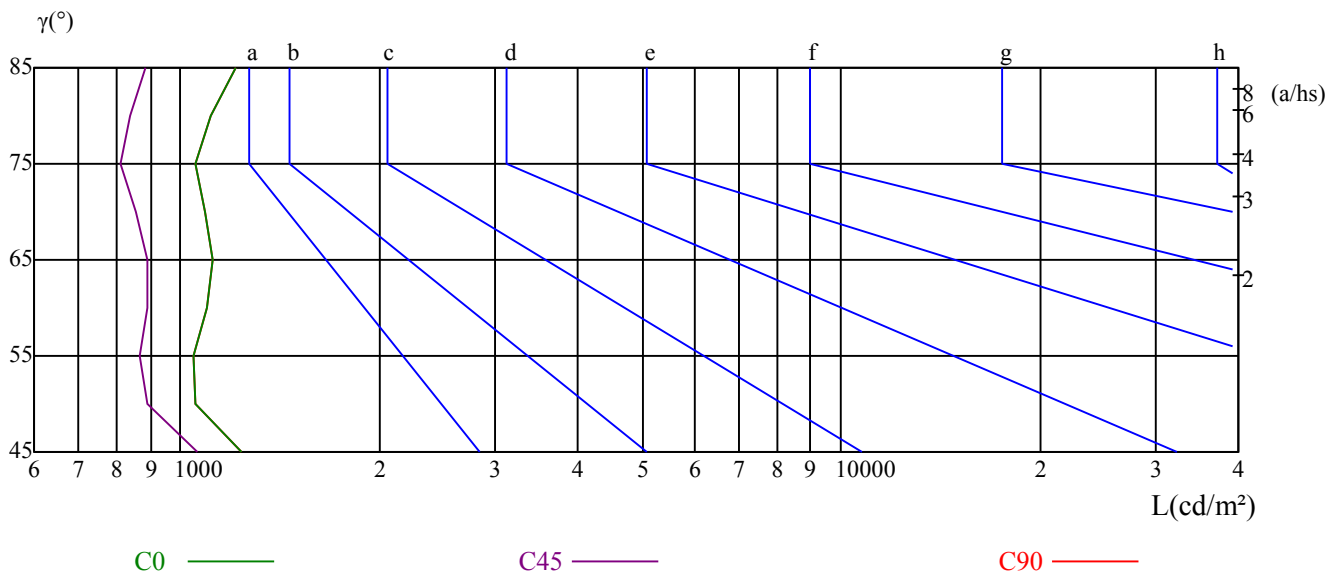
γ	45	50	55	60	65	70	75	80	85
C0	1239	1056	1048	1097	1116	1086	1053	1114	1213
C45	1058	888	868	893	893	853	810	837	886
C90	1239	1056	1048	1097	1116	1086	1053	1114	1213

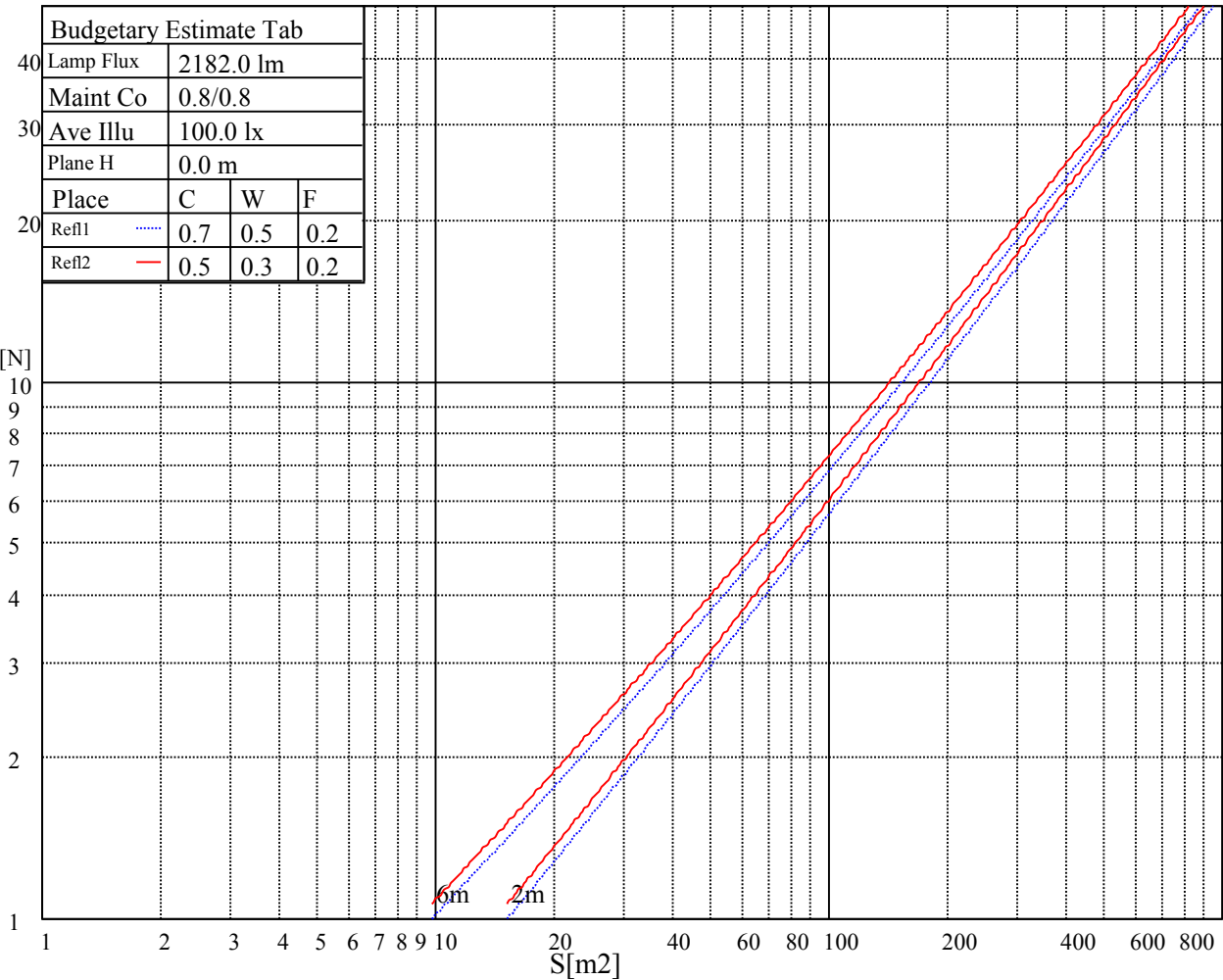
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
2805	2805	2805	3826	3826	3826	10997	10997	10997

Glare Table

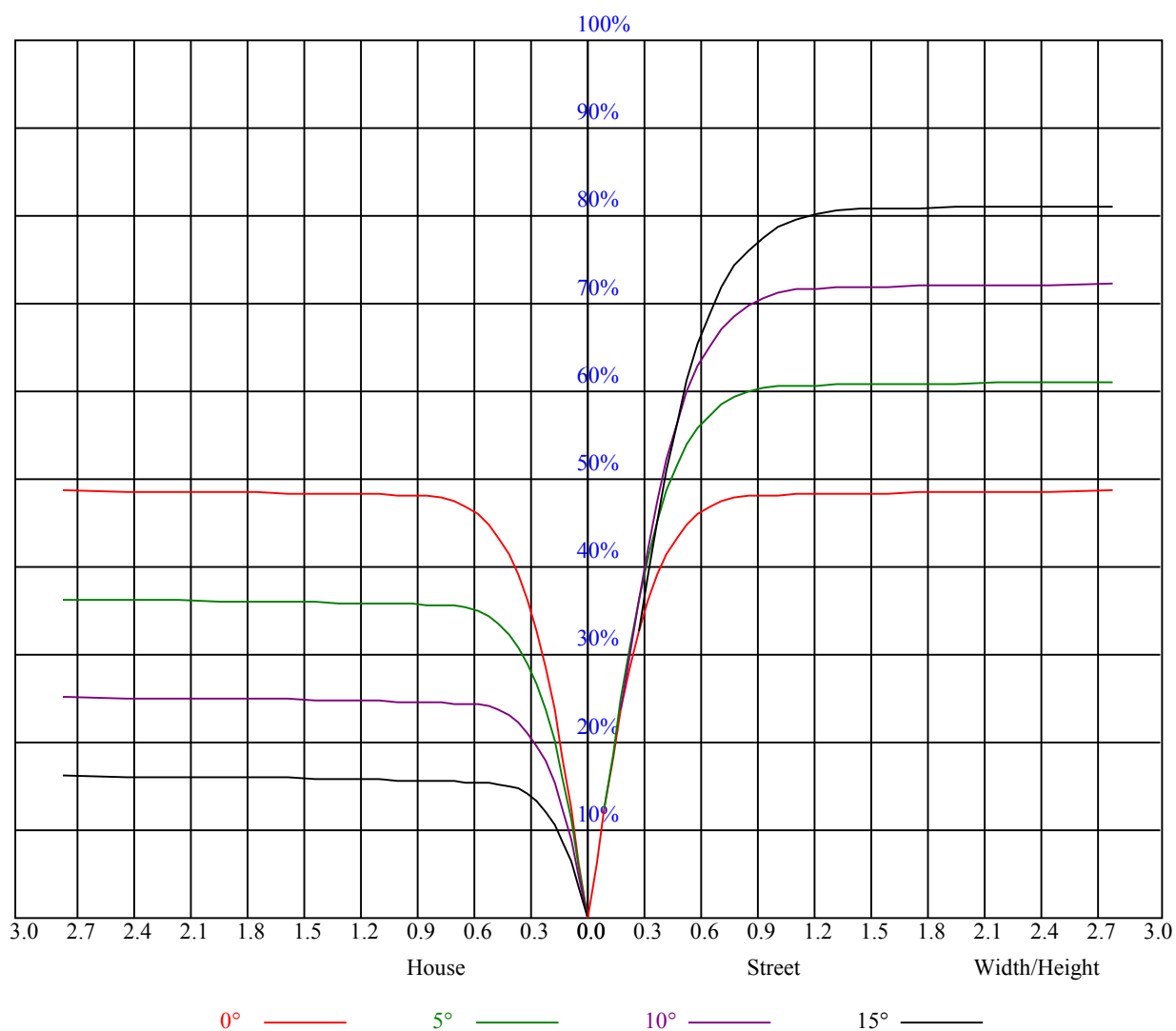
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

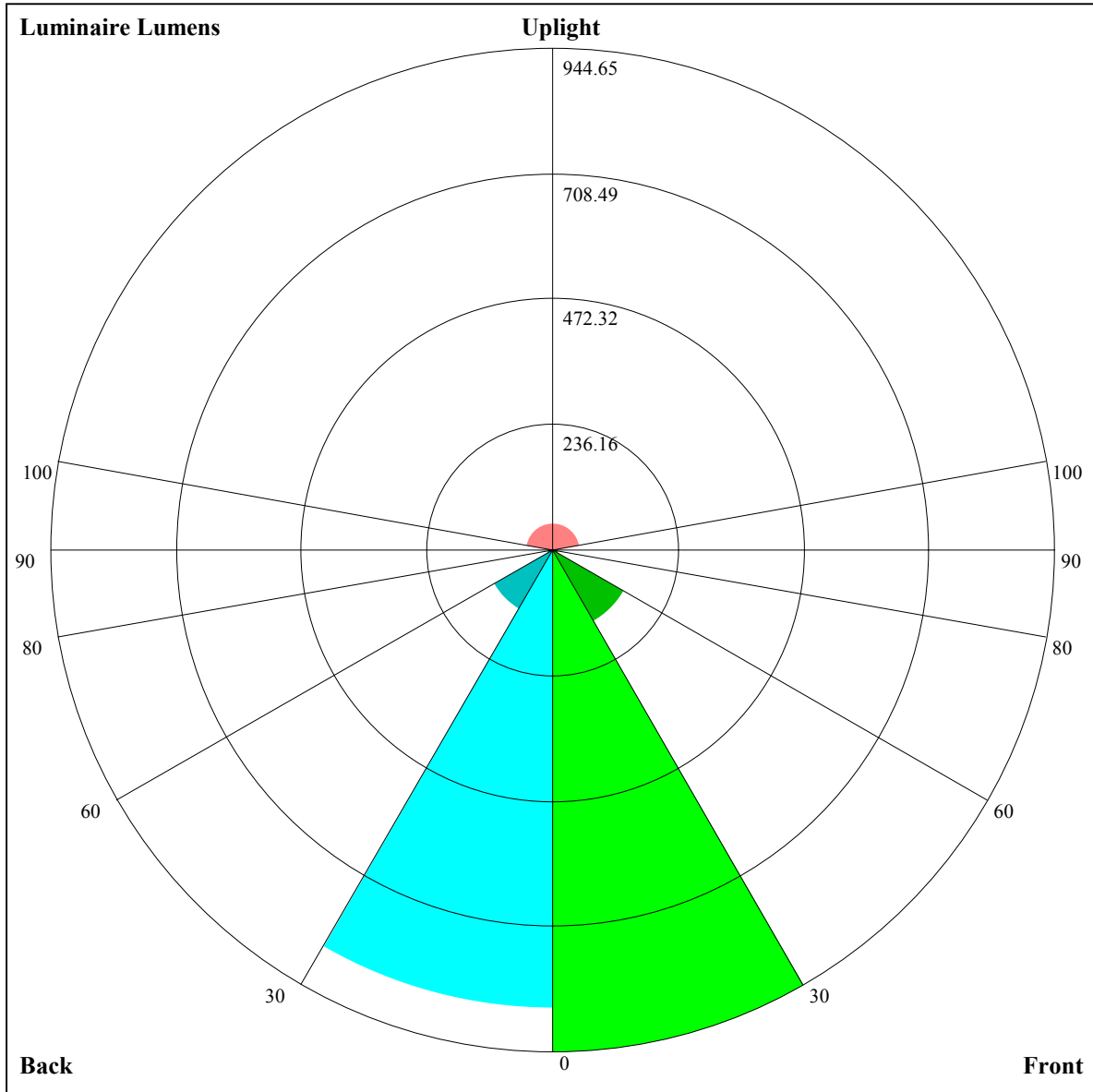
Luminance Limiting Curve





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	1.18	1.18	1.18	1.15	1.15	1.15	1.10	1.10	1.10	1.05	1.05	1.05	1.01	1.01	1.01	0.99
1	1.09	1.06	1.04	1.07	1.05	1.02	1.03	1.01	0.99	0.99	0.98	0.96	0.96	0.95	0.94	0.92
2	1.03	0.99	0.96	1.01	0.98	0.95	0.98	0.96	0.93	0.95	0.93	0.91	0.93	0.91	0.89	0.88
3	0.98	0.94	0.90	0.97	0.93	0.90	0.94	0.91	0.88	0.92	0.89	0.87	0.90	0.87	0.85	0.84
4	0.94	0.89	0.85	0.92	0.88	0.85	0.90	0.87	0.84	0.88	0.85	0.83	0.87	0.84	0.82	0.81
5	0.89	0.85	0.81	0.89	0.84	0.81	0.87	0.83	0.80	0.85	0.82	0.79	0.84	0.81	0.79	0.78
6	0.86	0.81	0.78	0.85	0.81	0.77	0.84	0.80	0.77	0.82	0.79	0.76	0.81	0.78	0.76	0.75
7	0.83	0.78	0.74	0.82	0.77	0.74	0.81	0.77	0.74	0.80	0.76	0.73	0.79	0.76	0.73	0.72
8	0.80	0.75	0.72	0.79	0.75	0.71	0.78	0.74	0.71	0.77	0.74	0.71	0.76	0.73	0.71	0.69
9	0.77	0.72	0.69	0.76	0.72	0.69	0.76	0.71	0.69	0.75	0.71	0.68	0.74	0.71	0.68	0.67
10	0.74	0.70	0.67	0.74	0.69	0.67	0.73	0.69	0.66	0.72	0.69	0.66	0.72	0.68	0.66	0.65





Luminaire Lumens:

FL=944.65,FM=156.48,FH=11.67,FVH=5.45

BL=864.09,BM=127.93,BH=11.49,BVH=5.43

UL=10.78,UH=51.31

BUG Rating:B2-U2-G0

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	5107.58	5129.05	4505.82	3512.05	2505.62	1481.02	953.58	673.89	125.31
45.0	5147.77	4766.23	3954.70	3007.18	1879.63	1069.20	765.28	325.93	22.63
90.0	5074.00	4404.51	3629.87	2450.01	1086.10	797.93	658.97	69.04	15.09
135.0	5160.44	4490.95	3731.17	2780.90	1581.77	915.59	703.07	286.84	20.43
180.0	5107.58	4483.79	3578.12	2632.25	1774.47	1058.95	741.72	184.99	29.62
225.0	5147.77	4834.50	4019.12	3133.81	2207.21	1078.06	812.74	439.24	29.90
270.0	5074.00	5144.47	4516.28	3627.12	2572.24	1296.58	809.33	653.52	283.54
315.0	5160.44	5244.67	4568.58	3576.46	2225.93	1071.89	785.32	583.43	35.29
360.0	5107.58	5129.05	4505.82	3512.05	2505.62	1481.02	953.58	673.89	125.31

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	21.25	14.92	13.49	13.49	12.94	11.95	10.52	10.19	10.08
45.0	14.04	12.72	12.99	13.05	12.33	11.01	10.08	9.91	9.86
90.0	12.55	11.84	11.73	11.78	11.45	10.57	10.13	9.97	9.97
135.0	13.87	12.55	12.61	12.77	12.17	10.96	10.30	10.13	10.02
180.0	16.96	13.87	13.49	13.27	12.50	11.12	10.24	10.08	9.97
225.0	15.47	12.77	11.89	12.00	12.00	11.23	10.13	9.97	9.86
270.0	15.36	12.72	12.22	12.61	12.77	12.22	10.63	10.13	9.97
315.0	14.92	12.66	12.06	12.50	12.50	11.84	10.41	10.19	10.08
360.0	21.25	14.92	13.49	13.49	12.94	11.95	10.52	10.19	10.08

C/γ(°)	90.0
0.0	9.97
45.0	9.74
90.0	9.80
135.0	9.97
180.0	9.97
225.0	9.74
270.0	9.91
315.0	9.97
360.0	9.97