



NATA LIGHTING CO.,LTD  
www.nata.cn  
Email:info@nata.cn  
Tel:+86 0750-377 0000(10 lines) Fax:+86 0750-377 1111  
Address:380JinOu Road,Gaoxin Zone,Jiang Men City,Guangdong,China

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## Nata

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LumCAT: 4-2221-A	
Luminaire: BJB 47.319.2021	
Report No: NT2017051013	Voltage(V): 218.3000
Test No: GC2017051013	Current(A): 0.1030
LampCAT: CLU036	Power (W): 20.5000
Lamp flux(lm): 2279.0	PF: 0.9070
Number of Lamps: 1	Ballast type: DC
Length(feet)(ft.):0.328	Width(feet)(ft.):0.328
Phm Type: C	Height(feet)(ft.):0

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## Photometric Results

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Lumens(lm): 2062.76  
Efficiency(%): 90.51%  
Lumens(lm)/Power(W): 101.96  
Central intensity(cd): 4901.121  
Maximum intensity(cd): 4901.121  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=35.7  
                                  [C90/270]Total=35.7  
Field angle(10%Imax): [C0/180]Total=66.8  
                                  [C90/270]Total=66.8  
Maximum s/h(1/2): C0\_180=0.60 C90\_270=0.60  
Maximum s/h(1/4): C0\_180=0.57 C90\_270=0.57  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 91.71%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 97.533%

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Equipment: gms1980  
Temperature(°C): 25.0

Date: 2017/5/10  
Humidity(%): 60.0%

Operator: NT07  
Distance(feet): 24.34

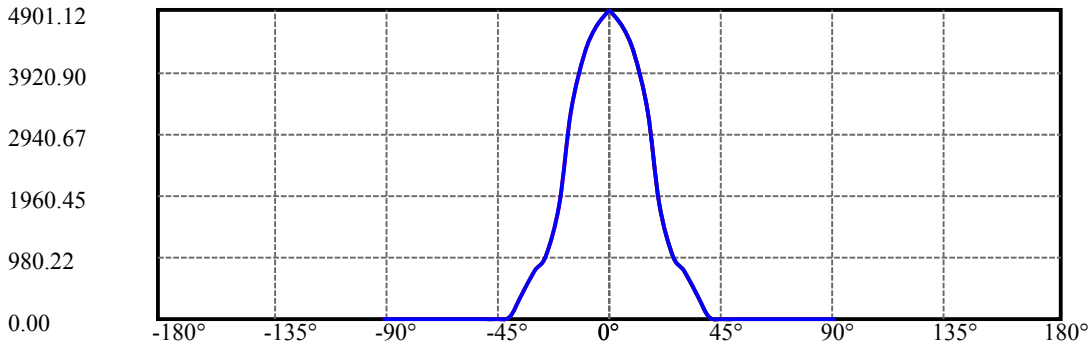
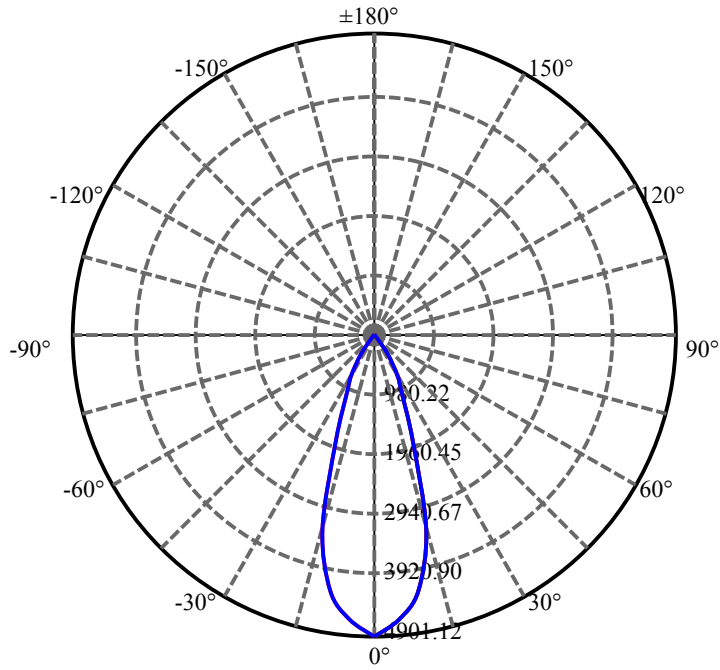
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4901.121	29.310	29.31	1.286%	1.421%
5.0	4641.874	221.758	251.067	9.730%	12.171%
10.0	4213.879	401.090	652.157	17.599%	31.616%
15.0	3277.095	464.916	1117.073	20.400%	54.154%
20.0	1816.028	340.458	1457.532	14.939%	70.659%
25.0	999.184	231.464	1688.996	10.156%	81.880%
30.0	757.631	207.643	1896.639	9.111%	91.947%
35.0	365.292	114.847	2011.486	5.039%	97.514%
40.0	26.916	9.483	2020.969	.416%	97.974%
45.0	11.851	4.593	2025.563	.202%	98.197%
50.0	10.378	4.358	2029.92	.191%	98.408%
55.0	9.566	4.295	2034.216	.188%	98.616%
60.0	9.098	4.319	2038.534	.190%	98.826%
65.0	8.740	4.342	2042.876	.191%	99.036%
70.0	8.506	4.381	2047.258	.192%	99.249%
75.0	8.327	4.409	2051.667	.193%	99.462%
80.0	8.210	4.432	2056.099	.194%	99.677%
85.0	8.135	4.442	2060.541	.195%	99.892%
90.0	8.093	2.218	2062.759	.097%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1896.64	83.22%	91.95%
0-40	2020.97	88.68%	97.97%
0-60	2038.53	89.45%	98.83%
0-90	2060.54	90.41%	99.89%
0-120	2060.54	90.41%	99.89%
0-180	2062.76	90.51%	100.00%
60-90	26.33	1.16%	1.28%
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%
0-24.16	1650.21	72.41%	80.00%

ZONAL LUMEN SUMMARY

0-10	652.16
10-20	805.37
20-30	439.11
30-40	124.33
40-50	8.95
50-60	8.61
60-70	8.72
70-80	8.84
80-90	4.44
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: —————

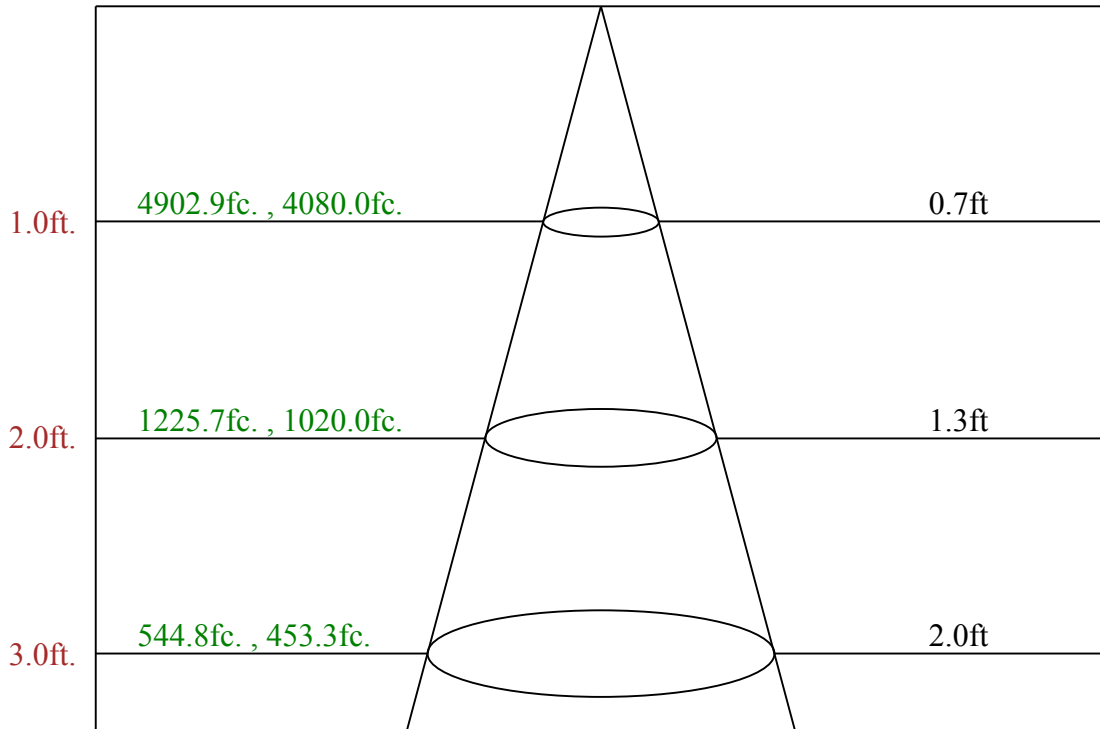
C90/C270: —————

Field angle(10%Imax):C0/180Left:33.4 Right:33.4

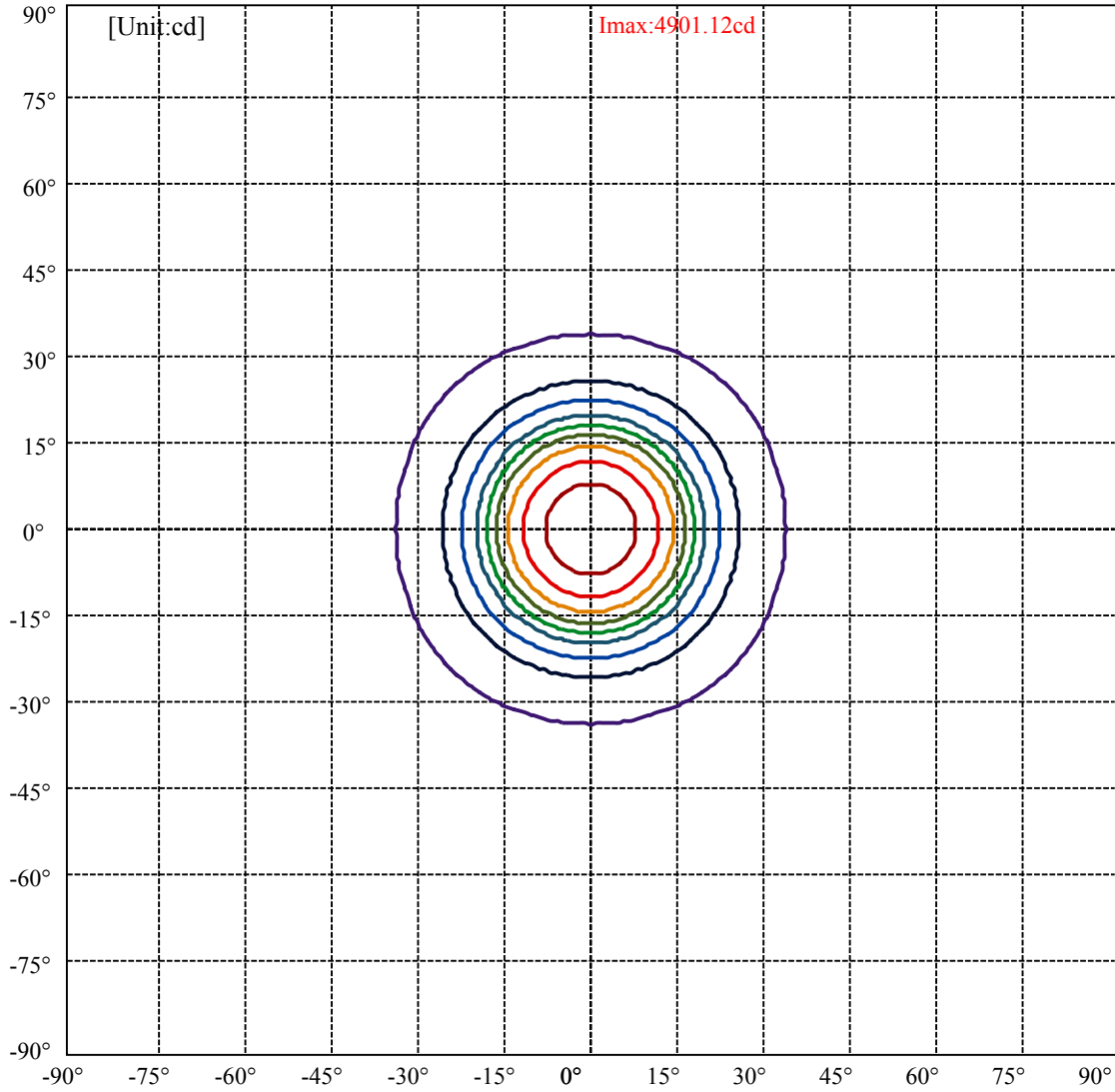
:C90/270Left:33.4 Right:33.4

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

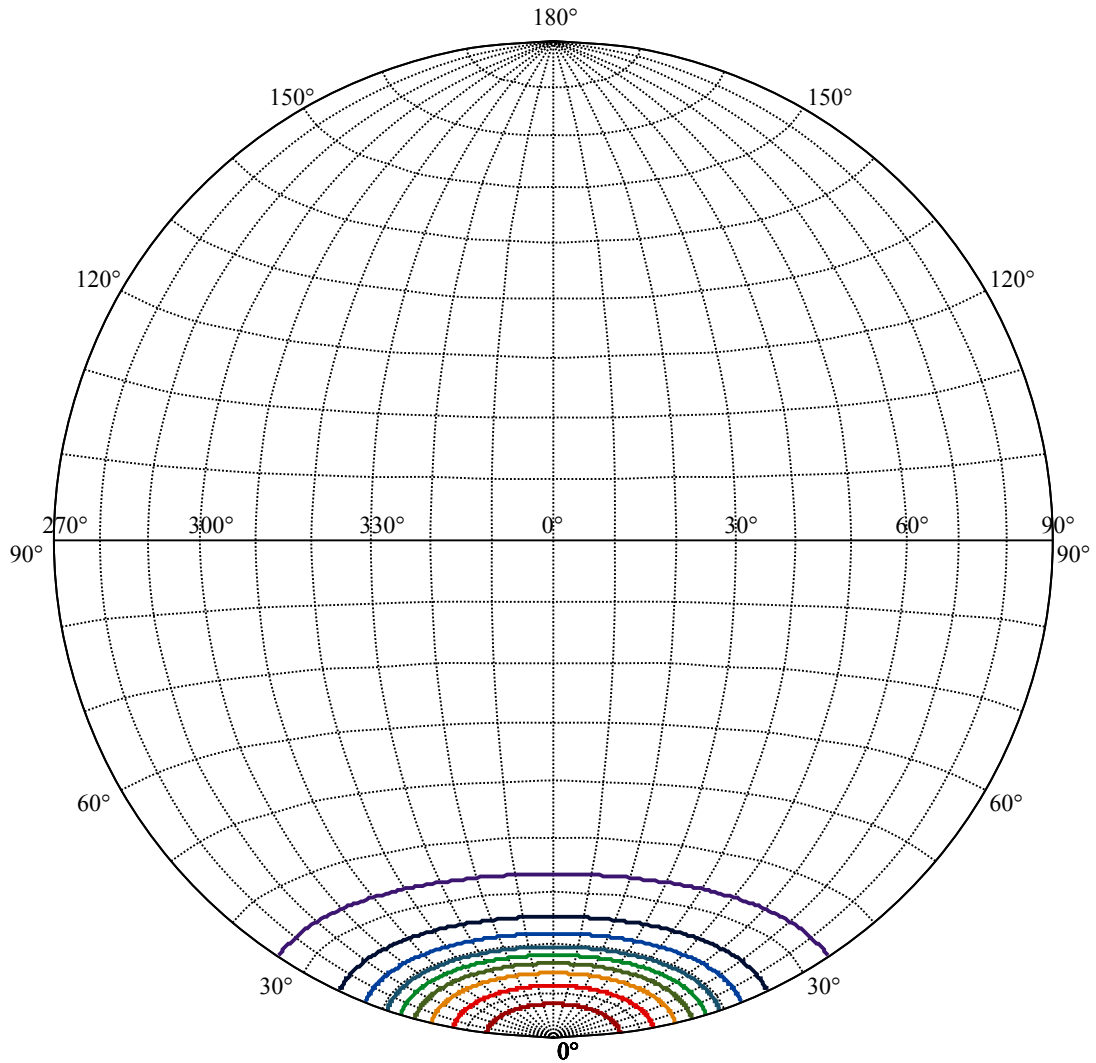
:C90/270Left:17.8 Right:17.8



Max , Ave      Beam angle of C0 plane 36.54



(10%Imax) 490.112	—
(20%Imax) 980.224	—
(30%Imax) 1470.34	—
(40%Imax) 1960.45	—
(50%Imax) 2450.56	—
(60%Imax) 2940.67	—
(70%Imax) 3430.78	—
(80%Imax) 3920.9	—
(90%Imax) 4411.01	—



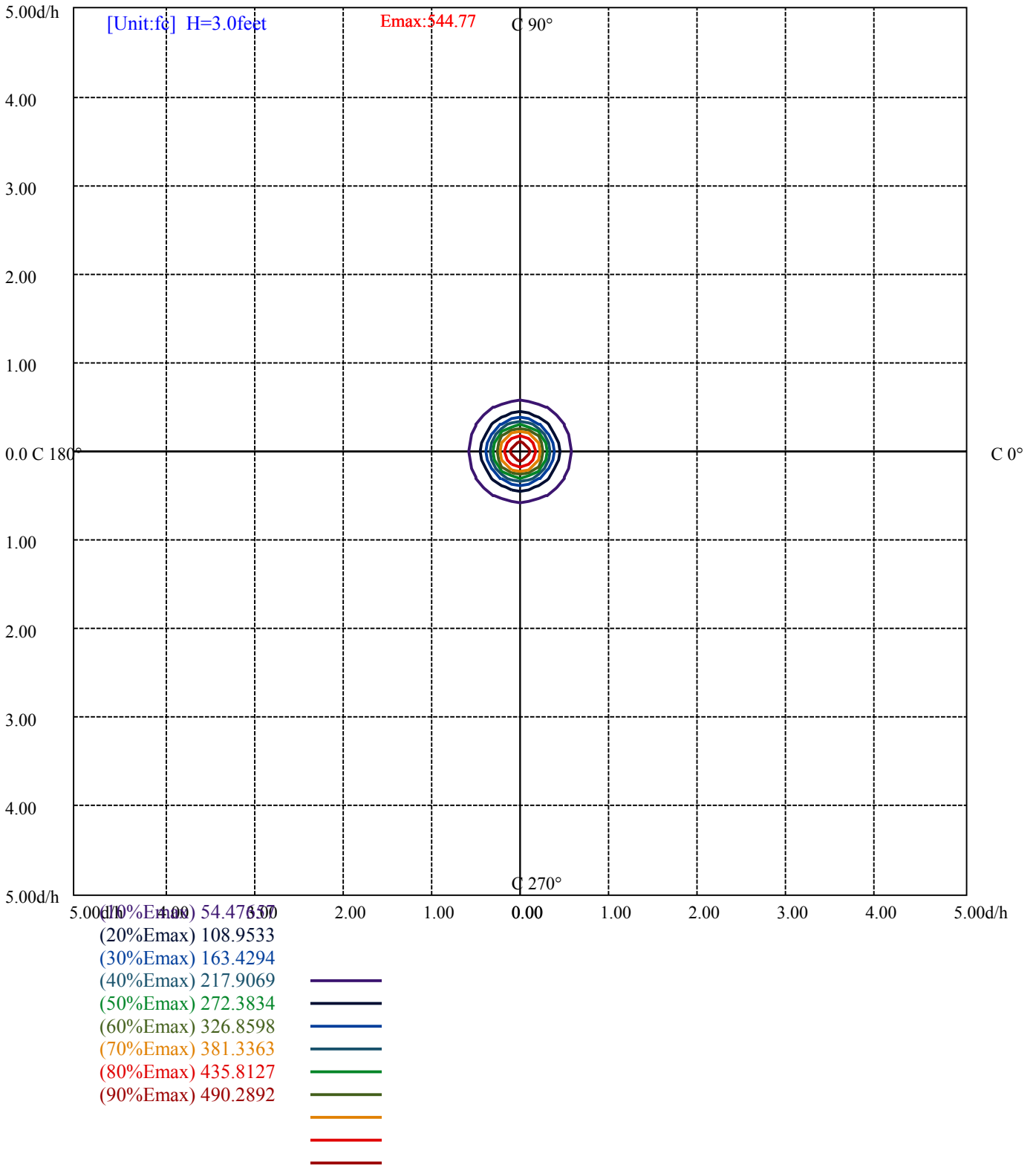
House

[Unit:cd]

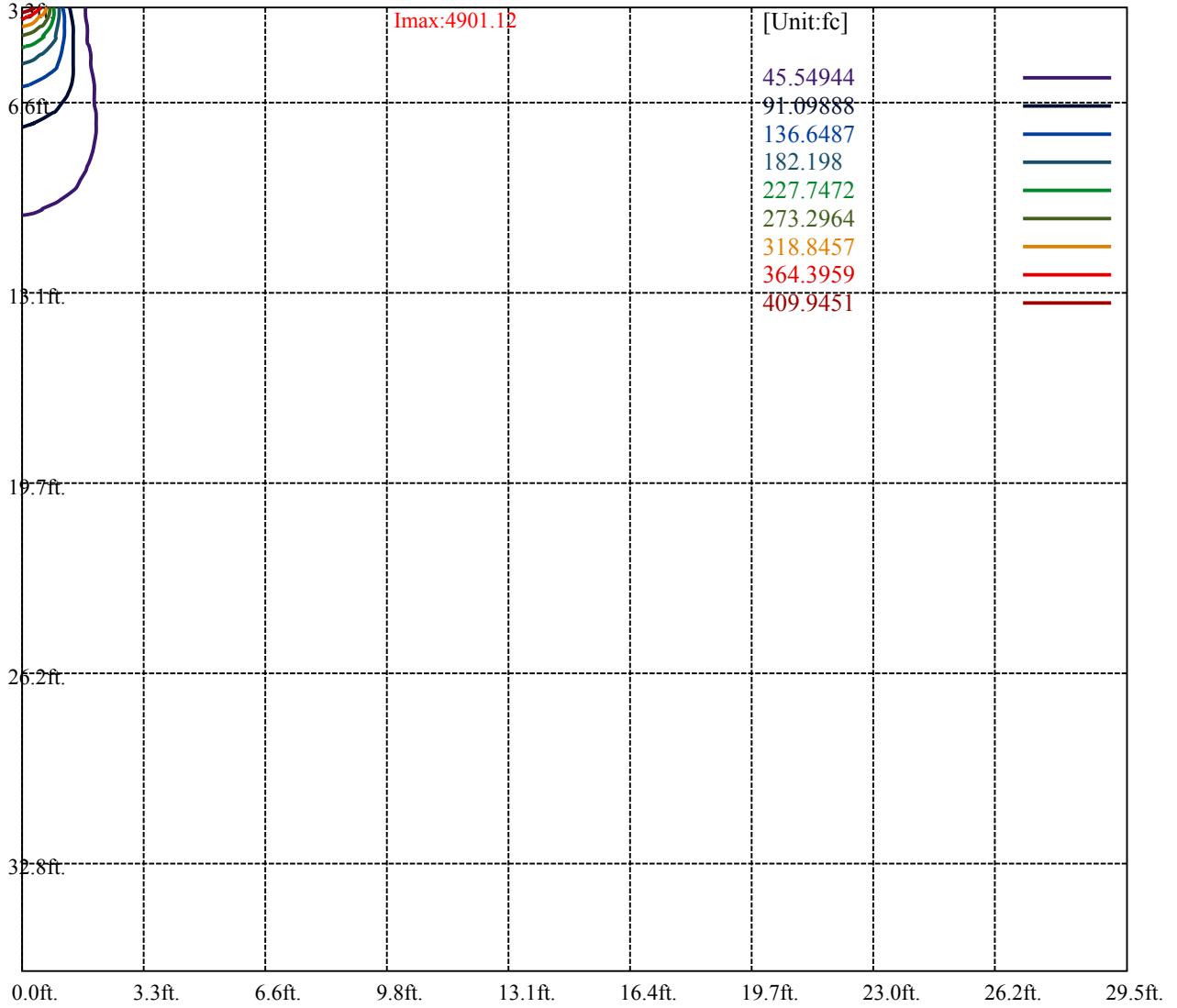
Road

Imax:4901.12

(10%Imax)	490.112	—
(20%Imax)	980.224	—
(30%Imax)	1470.34	—
(40%Imax)	1960.45	—
(50%Imax)	2450.56	—
(60%Imax)	2940.67	—
(70%Imax)	3430.78	—
(80%Imax)	3920.9	—
(90%Imax)	4411.01	—







Luminance Table

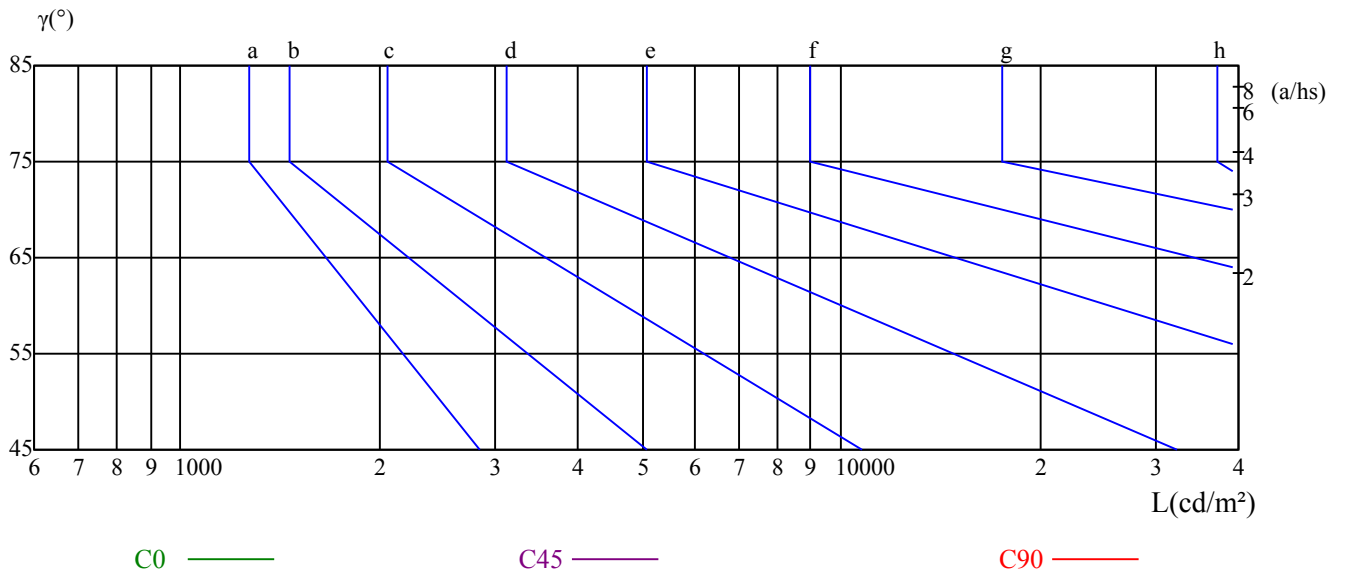
$\gamma$	45	50	55	60	65	70	75	80	85
C0	223	185	162	148	138	132	127	125	124
C45	164	135	118	108	100	95	91	89	88
C90	223	185	162	148	138	132	127	125	124

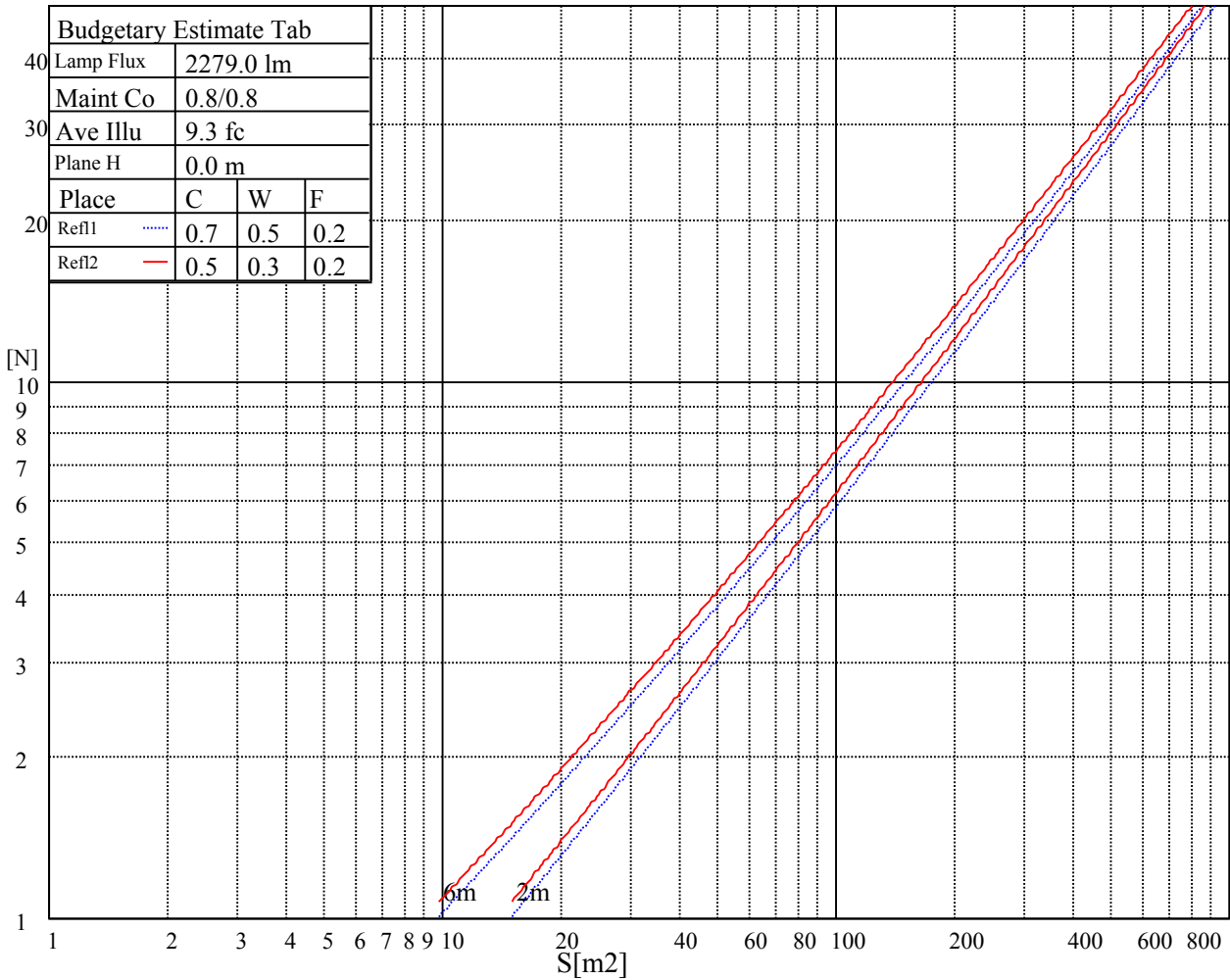
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
2068	2068	2068	3217	3217	3217	9333	9333	9333

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	1.07	1.07	1.07	1.02	1.02	1.02	0.98	0.98	0.98	0.94	0.94	0.94	0.92
1	1.01	0.99	0.97	0.99	0.97	0.95	0.96	0.94	0.92	0.92	0.91	0.90	0.89	0.88	0.87	0.85
2	0.96	0.93	0.90	0.94	0.91	0.89	0.91	0.89	0.87	0.89	0.87	0.85	0.86	0.85	0.83	0.82
3	0.91	0.87	0.84	0.90	0.87	0.84	0.88	0.85	0.82	0.86	0.83	0.81	0.84	0.82	0.80	0.79
4	0.87	0.83	0.80	0.86	0.82	0.79	0.84	0.81	0.78	0.83	0.80	0.78	0.81	0.79	0.77	0.76
5	0.84	0.79	0.76	0.83	0.79	0.76	0.81	0.78	0.75	0.80	0.77	0.75	0.79	0.76	0.74	0.73
6	0.80	0.76	0.73	0.80	0.76	0.73	0.78	0.75	0.72	0.77	0.74	0.72	0.76	0.73	0.71	0.70
7	0.77	0.73	0.70	0.77	0.73	0.70	0.76	0.72	0.70	0.75	0.72	0.69	0.74	0.71	0.69	0.68
8	0.75	0.70	0.67	0.74	0.70	0.67	0.73	0.70	0.67	0.72	0.69	0.67	0.72	0.69	0.67	0.66
9	0.72	0.68	0.65	0.72	0.68	0.65	0.71	0.67	0.65	0.70	0.67	0.65	0.70	0.67	0.64	0.63
10	0.70	0.66	0.63	0.70	0.66	0.63	0.69	0.65	0.63	0.68	0.65	0.63	0.68	0.65	0.62	0.62

Intensity data(cd)

C/ $\gamma$ ( $^{\circ}$ )	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	4904.42	4719.43	4346.70	3616.65	2228.13	1112.14	795.56	521.93	34.47
45.0	4859.83	4812.48	4483.79	3807.15	2455.52	1192.52	825.85	582.50	59.19
90.0	4918.74	4712.83	4242.65	3394.78	1888.99	992.23	768.15	398.17	21.75
135.0	4921.49	4699.61	4289.44	3421.20	1906.05	995.42	766.39	421.73	24.45
180.0	4904.42	4568.58	4086.84	2904.78	1460.65	894.50	720.85	193.96	17.89
225.0	4859.83	4466.18	3960.76	2695.56	1081.80	866.75	690.96	144.30	16.52
270.0	4918.74	4570.23	4167.77	3166.29	1729.32	975.05	749.87	324.28	20.48
315.0	4921.49	4585.65	4133.08	3210.34	1777.77	964.86	743.43	335.46	20.59
360.0	4904.42	4719.43	4346.70	3616.65	2228.13	1112.14	795.56	521.93	34.47
C/ $\gamma$ ( $^{\circ}$ )	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	12.33	10.63	9.69	9.19	8.81	8.59	8.37	8.26	8.20
45.0	12.72	10.63	9.69	9.25	8.86	8.59	8.42	8.26	8.15
90.0	12.00	10.46	9.58	9.08	8.75	8.48	8.26	8.20	8.09
135.0	11.84	10.41	9.58	9.14	8.70	8.53	8.31	8.20	8.15
180.0	11.18	10.02	9.41	8.97	8.70	8.42	8.31	8.20	8.15
225.0	11.12	9.97	9.30	8.92	8.64	8.42	8.31	8.20	8.15
270.0	12.00	10.52	9.74	9.14	8.75	8.53	8.31	8.20	8.09
315.0	11.62	10.41	9.52	9.08	8.70	8.48	8.31	8.15	8.09
360.0	12.33	10.63	9.69	9.19	8.81	8.59	8.37	8.26	8.20
C/ $\gamma$ ( $^{\circ}$ )	90.0								
0.0	8.20								
45.0	8.09								
90.0	8.09								
135.0	8.04								
180.0	8.09								
225.0	8.15								
270.0	8.04								
315.0	8.04								
360.0	8.20								