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## Nata

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LumCAT: 2-1317-E	
Luminaire: 92.70.074.00	
Report No: NT2016030204	Voltage(V):
Test No: GC2016030204	Current(A):
LampCAT: CXA1820 3000K	Power (W): 24.3000
Lamp flux(lm): 2200.0	PF:
Number of Lamps: 1	Ballast type:
Length(mm): 58	Width(mm): 58
Phm Type: C	Height(mm): 0

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## Photometric Results

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Lumens(lm): 1881.97  
Efficiency(%): 85.54%  
Lumens(lm)/Power(W): 77.45  
Central intensity(cd): 6269.410  
Maximum intensity(cd): 6269.410  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=23.8  
                                  [C90/270]Total=23.8  
Field angle(10%Imax): [C0/180]Total=61.6  
                                  [C90/270]Total=61.6  
Maximum s/h(1/2): C0\_180=0.40 C90\_270=0.40  
Maximum s/h(1/4): C0\_180=0.47 C90\_270=0.47  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 85.54%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 98.474%

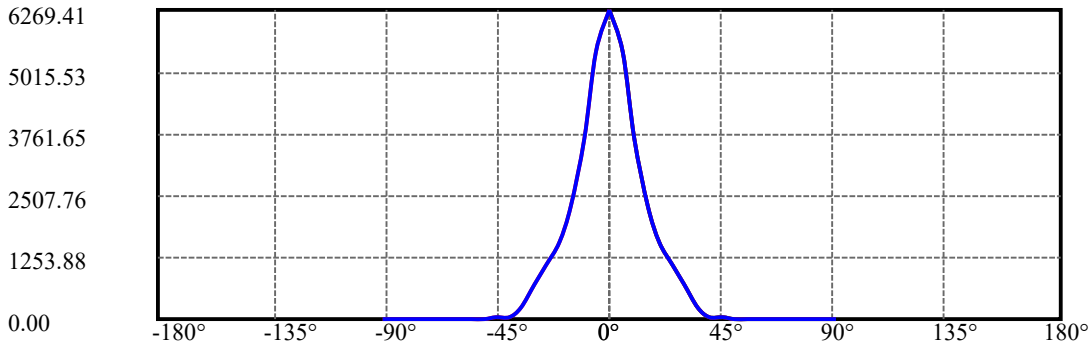
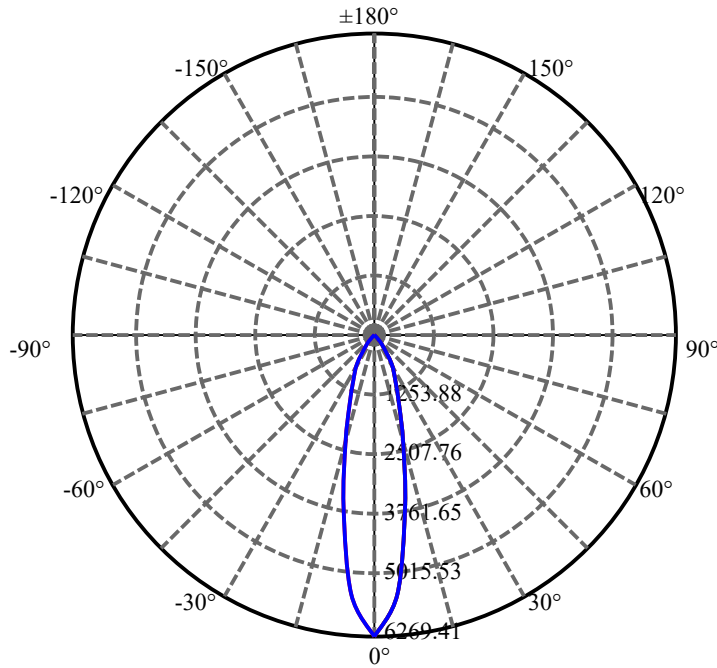
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	6269.410	0.000	0	.000%	.000%
5.0	5399.691	139.501	139.501	6.341%	7.412%
10.0	3652.614	323.829	463.33	14.720%	24.619%
15.0	2302.631	353.261	816.591	16.057%	43.390%
20.0	1558.131	318.181	1134.772	14.463%	60.297%
25.0	1076.222	276.295	1411.067	12.559%	74.978%
30.0	698.817	224.633	1635.7	10.211%	86.914%
35.0	250.610	139.810	1775.51	6.355%	94.343%
40.0	36.389	47.884	1823.393	2.177%	96.887%
45.0	21.620	10.741	1834.134	.488%	97.458%
50.0	15.395	7.479	1841.614	.340%	97.855%
55.0	12.598	6.087	1847.7	.277%	98.179%
60.0	11.442	5.557	1853.257	.253%	98.474%
65.0	10.626	5.365	1858.621	.244%	98.759%
70.0	9.989	5.220	1863.841	.237%	99.037%
75.0	9.312	5.045	1868.886	.229%	99.305%
80.0	8.190	4.683	1873.569	.213%	99.553%
85.0	7.557	4.279	1877.848	.194%	99.781%
90.0	7.509	4.125	1881.973	.188%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1635.70	74.35%	86.91%
0-40	1823.39	82.88%	96.89%
0-60	1853.26	84.24%	98.47%
0-90	1877.85	85.36%	99.78%
0-120	1877.85	85.36%	99.78%
0-180	1881.97	85.54%	100.00%
60-90	30.15	1.37%	1.60%
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%
0-27.10	1505.58	68.44%	80.00%

ZONAL LUMEN SUMMARY

0-10	463.33
10-20	671.44
20-30	500.93
30-40	187.69
40-50	18.22
50-60	11.64
60-70	10.58
70-80	9.73
80-90	4.28
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: —————

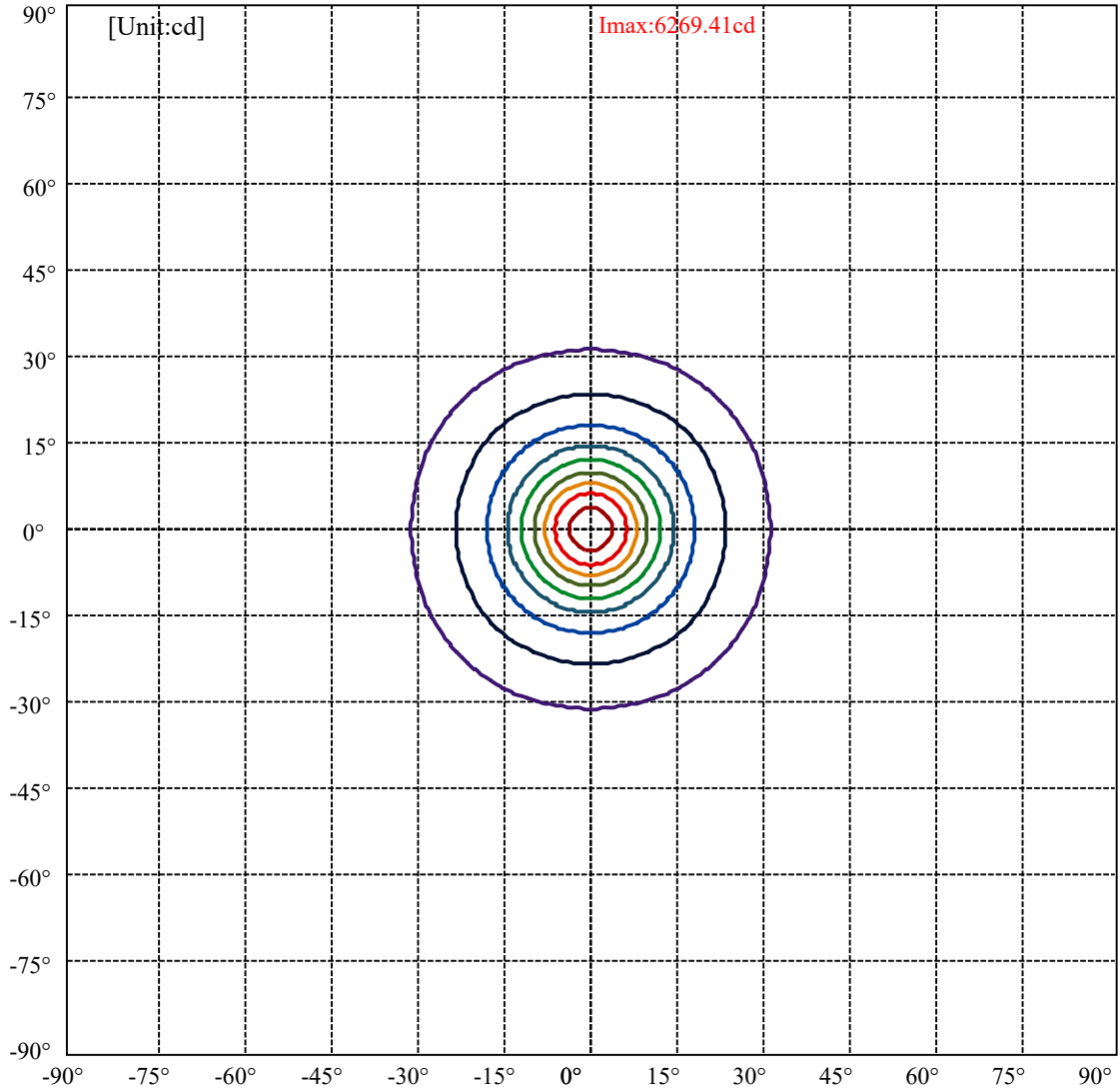
Field angle(10%Imax):C0/180Left:30.8 Right:30.8

:C90/270Left:30.8 Right:30.8

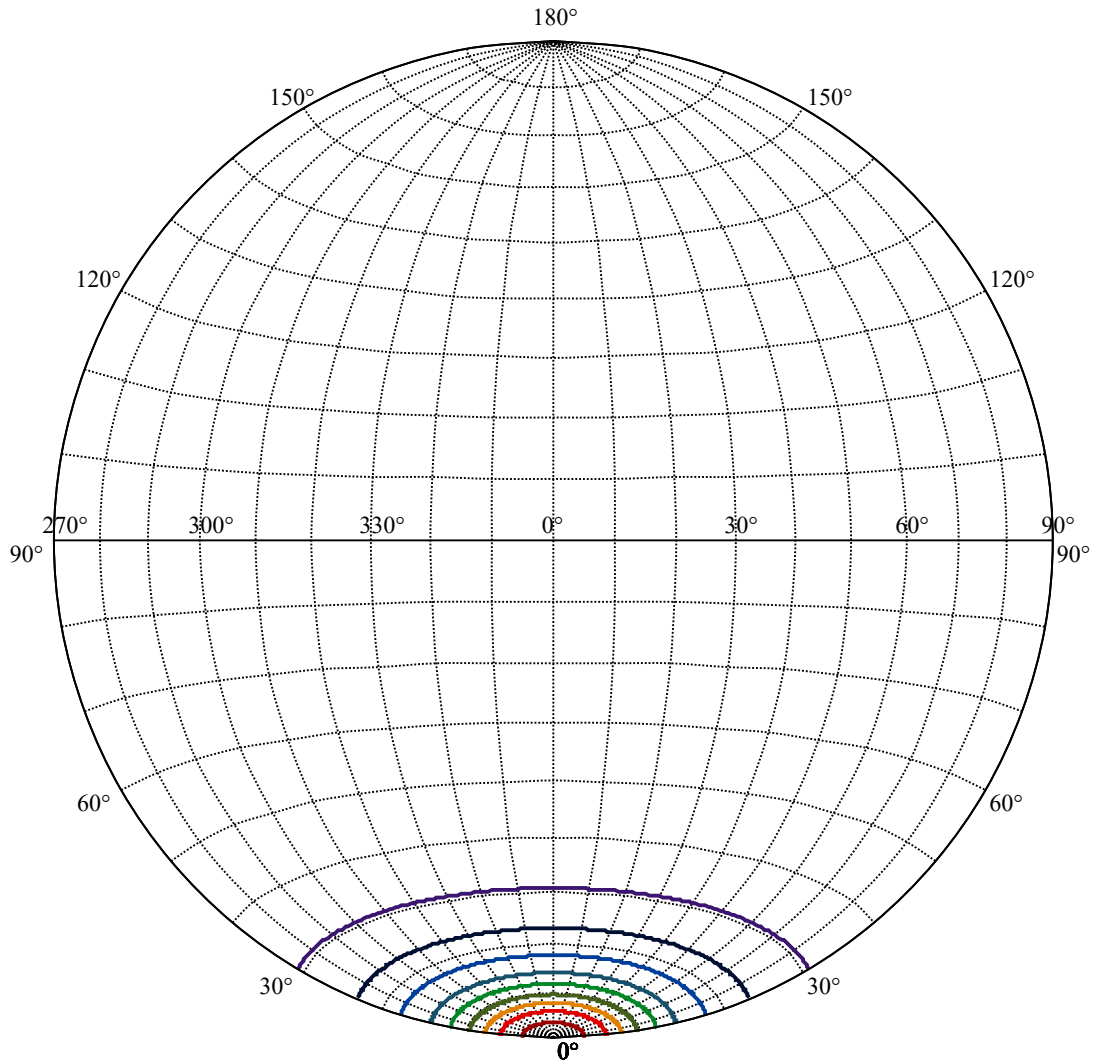
Beam Angle(50%Imax):C0/180Left:11.9 Right:11.9

:C90/270Left:11.9 Right:11.9





(10%Imax) 626.941	—
(20%Imax) 1253.88	—
(30%Imax) 1880.82	—
(40%Imax) 2507.76	—
(50%Imax) 3134.71	—
(60%Imax) 3761.65	—
(70%Imax) 4388.59	—
(80%Imax) 5015.53	—
(90%Imax) 5642.47	—



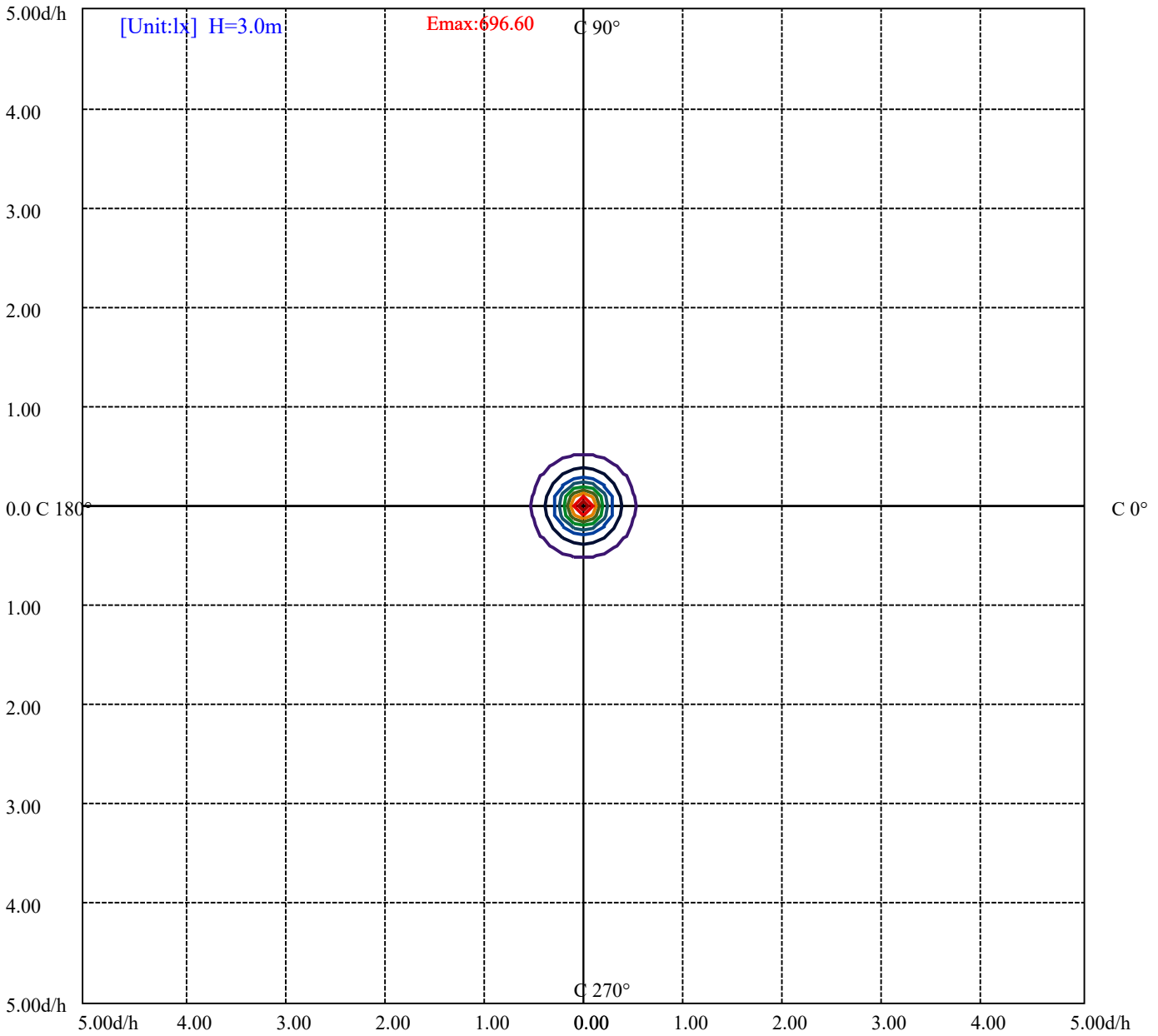
House

[Unit:cd]

Road

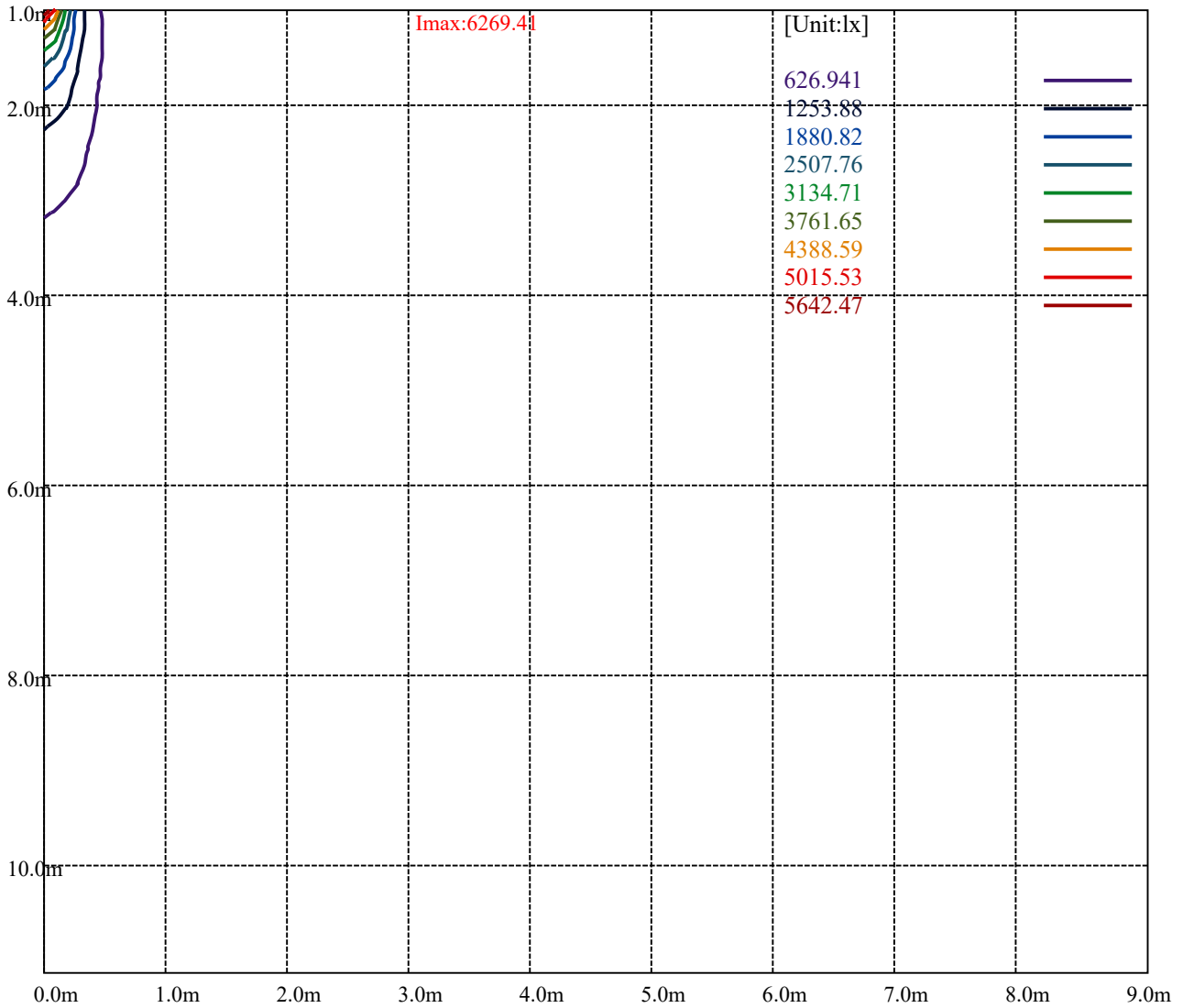
**Imax:6269.41**

(10%Imax) 626.941	—
(20%Imax) 1253.88	—
(30%Imax) 1880.82	—
(40%Imax) 2507.76	—
(50%Imax) 3134.71	—
(60%Imax) 3761.65	—
(70%Imax) 4388.59	—
(80%Imax) 5015.53	—
(90%Imax) 5642.47	—



- (10%Emax) 69.65977
- (20%Emax) 139.32
- (30%Emax) 208.98
- (40%Emax) 278.6389
- (50%Emax) 348.2989
- (60%Emax) 417.9589
- (70%Emax) 487.6189
- (80%Emax) 557.2789
- (90%Emax) 626.9389





Luminance Table

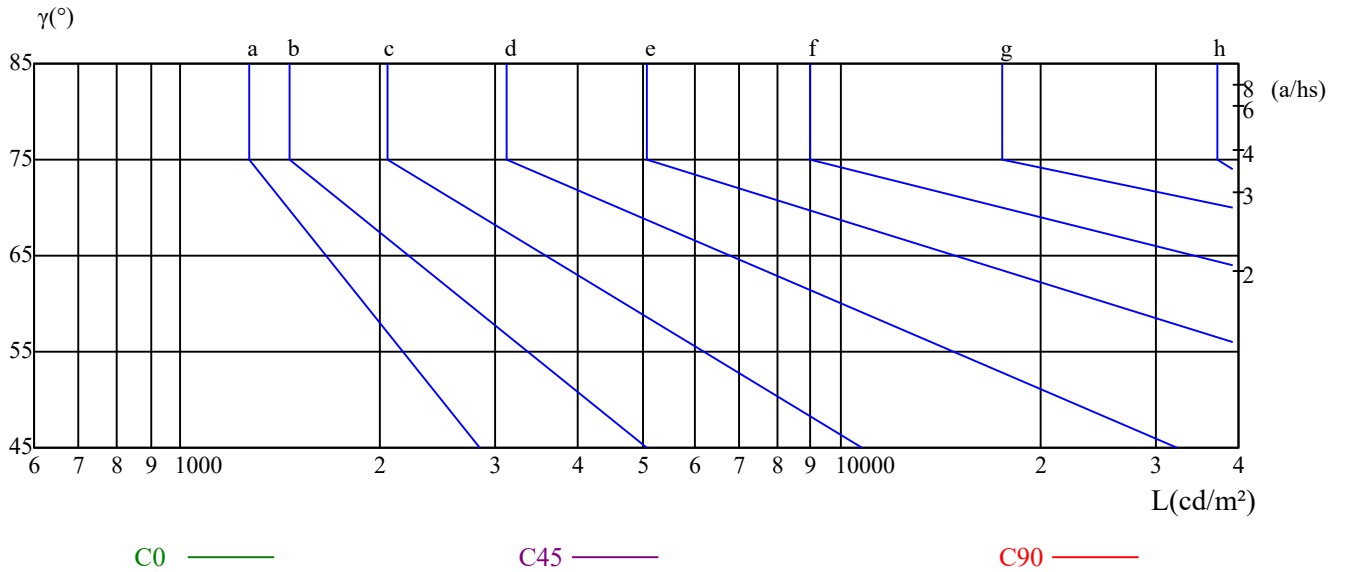
$\gamma$	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

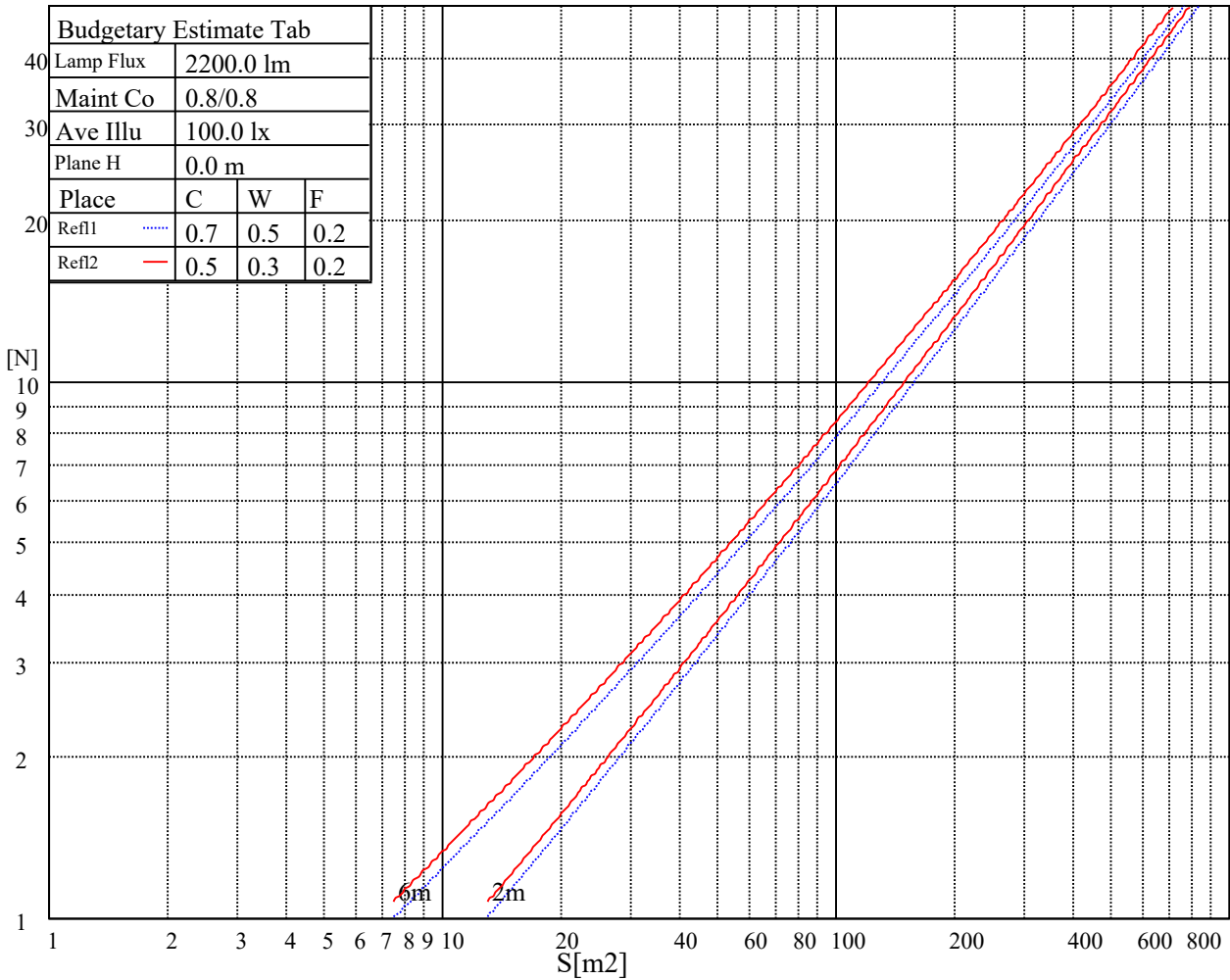
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

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	1.02	1.02	1.02	0.99	0.99	0.99	0.95	0.95	0.95	0.91	0.91	0.91	0.87	0.87	0.87	0.86
1	0.96	0.94	0.92	0.94	0.92	0.90	0.90	0.89	0.88	0.87	0.86	0.85	0.84	0.83	0.83	0.81
2	0.90	0.87	0.85	0.89	0.86	0.84	0.86	0.84	0.82	0.83	0.82	0.80	0.81	0.80	0.78	0.77
3	0.85	0.82	0.79	0.84	0.81	0.78	0.82	0.79	0.77	0.80	0.78	0.76	0.78	0.76	0.75	0.73
4	0.81	0.77	0.74	0.80	0.76	0.74	0.78	0.75	0.73	0.77	0.74	0.72	0.75	0.73	0.71	0.70
5	0.77	0.73	0.70	0.76	0.73	0.70	0.75	0.72	0.69	0.74	0.71	0.69	0.72	0.70	0.68	0.67
6	0.74	0.70	0.67	0.73	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.65	0.70	0.67	0.65	0.64
7	0.71	0.66	0.63	0.70	0.66	0.63	0.69	0.66	0.63	0.68	0.65	0.63	0.67	0.64	0.62	0.61
8	0.68	0.64	0.61	0.67	0.63	0.61	0.66	0.63	0.60	0.66	0.62	0.60	0.65	0.62	0.60	0.59
9	0.65	0.61	0.58	0.65	0.61	0.58	0.64	0.60	0.58	0.63	0.60	0.58	0.63	0.60	0.58	0.57
10	0.63	0.59	0.56	0.62	0.58	0.56	0.62	0.58	0.56	0.61	0.58	0.56	0.61	0.58	0.55	0.54

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	6290.19	5499.58	3634.27	2287.59	1505.79	1086.10	698.89	210.76	37.82
22.5	6221.92	5718.71	4066.47	2451.11	1620.31	1179.86	806.58	316.02	43.38
45.0	6266.52	5446.73	3727.32	2290.35	1509.65	1088.08	736.60	262.73	38.32
67.5	6154.21	5833.23	4117.12	2468.73	1694.09	1179.31	820.34	330.34	44.71
90.0	6238.44	5587.67	3582.52	2343.75	1563.05	1084.23	748.33	277.43	38.15
112.5	6363.42	5350.38	3534.07	2220.98	1527.27	1090.12	677.25	191.43	33.25
135.0	6332.59	5597.03	3804.40	2347.05	1656.10	1164.99	757.03	282.99	40.03
157.5	6287.99	5169.80	3414.60	2176.38	1493.13	1050.20	641.41	184.16	32.92
180.0	6290.19	5367.45	3616.66	2240.80	1577.37	1090.12	699.22	313.27	36.39
202.5	6221.92	5002.98	3227.41	2115.82	1424.86	980.61	577.87	154.27	30.50
225.0	6266.52	5203.93	3518.10	2251.81	1528.92	1017.44	673.34	278.04	33.42
247.5	6154.21	4930.85	3213.64	2085.54	1406.69	937.61	556.68	126.13	29.51
270.0	6238.44	5125.20	3556.09	2258.96	1517.91	991.57	651.87	285.19	32.98
292.5	6363.42	5568.40	3863.86	2500.11	1681.42	1097.27	713.53	281.89	36.28
315.0	6332.59	5367.45	3559.40	2315.12	1558.65	1058.90	648.62	221.66	33.86
337.5	6287.99	5625.66	4005.90	2488.00	1664.91	1123.15	773.54	293.45	40.69
360.0	6290.19	5499.58	3634.27	2287.59	1505.79	1086.10	698.89	210.76	37.82
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	22.13	15.53	12.66	11.56	10.68	10.02	9.42	8.31	7.54
22.5	23.73	16.63	12.99	11.84	10.90	10.24	9.58	8.75	7.60
45.0	22.74	15.91	12.83	11.56	10.85	10.13	9.53	8.53	7.54
67.5	23.51	16.74	13.10	11.78	10.85	10.19	9.53	8.70	7.60
90.0	22.24	15.80	12.72	11.45	10.63	9.97	9.31	8.09	7.54
112.5	21.09	14.87	12.55	11.51	10.74	10.08	9.31	8.04	7.65
135.0	22.52	15.80	12.72	11.62	10.79	10.08	9.42	8.20	7.65
157.5	21.36	15.14	12.55	11.34	10.57	9.97	9.25	7.98	7.60
180.0	21.69	15.53	12.77	11.56	10.68	10.08	9.47	8.42	7.60
202.5	20.04	14.70	12.39	11.29	10.52	9.91	9.31	7.87	7.49
225.0	20.76	15.25	12.50	11.40	10.63	10.02	9.36	8.20	7.49
247.5	19.60	14.21	12.11	11.07	10.30	9.69	9.03	7.76	7.43
270.0	20.48	14.65	12.17	11.07	10.30	9.69	8.92	7.87	7.43
292.5	20.70	15.09	12.44	11.29	10.52	10.02	9.25	7.98	7.60
315.0	20.37	14.26	12.28	11.18	10.41	9.75	9.03	7.93	7.54
337.5	22.96	16.24	12.77	11.56	10.68	10.02	9.31	8.37	7.60
360.0	22.13	15.53	12.66	11.56	10.68	10.02	9.42	8.31	7.54
C/γ(°)	90.0								
0.0	7.54								
22.5	7.49								
45.0	7.43								
67.5	7.43								
90.0	7.43								
112.5	7.60								
135.0	7.60								
157.5	7.54								
180.0	7.54								
202.5	7.49								
225.0	7.49								
247.5	7.43								
270.0	7.38								
292.5	7.60								
315.0	7.60								
337.5	7.54								
360.0	7.54								