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## NATA

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LumCAT: 2-1120-A3  
Luminaire: TE 2213407-1+92.76.365.00  
Report No: NT2017050805      Voltage(V): 48.5000  
Test No: GC2017050805      Current(A): 0.7000  
LampCAT: S19      Power (W): 33.9500  
Lamp flux(lm): 3580.0      PF: 0.0000  
Number of Lamps: 1      Ballast type: DC  
Length(mm): 71      Width(mm): 71  
Phm Type: C      Height(mm): 0

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## Photometric Results

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Lumens(lm): 3490.90  
Efficiency(%): 97.51%  
Lumens(lm)/Power(W): 102.82  
Central intensity(cd): 17813.210  
Maximum intensity(cd): 17813.210  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=17.9  
                                  [C90/270]Total=17.9  
Field angle(10%Imax): [C0/180]Total=39.4  
                                  [C90/270]Total=39.4  
Maximum s/h(1/2): C0\_180=0.31 C90\_270=0.31  
Maximum s/h(1/4): C0\_180=0.32 C90\_270=0.32  
Up flux rate of lamp(%): 1.99%  
Down flux rate of lamp(%): 95.53%  
Up flux rate of LUM(%): 2.04%  
Down flux rate of LUM(%): 97.96%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 96.569%

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Equipment: GMS1980  
Temperature(°C): 23.0

Date: 2017.05.08  
Humidity(%): 68.0%

Operator: NT07  
Distance(m): 7.48

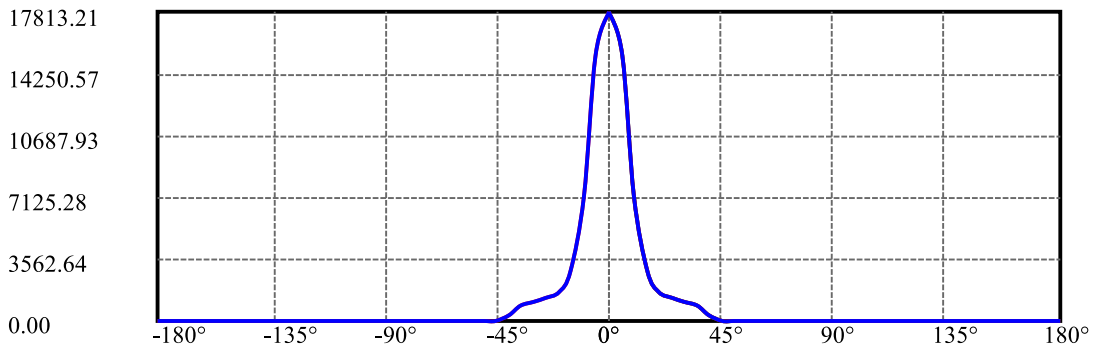
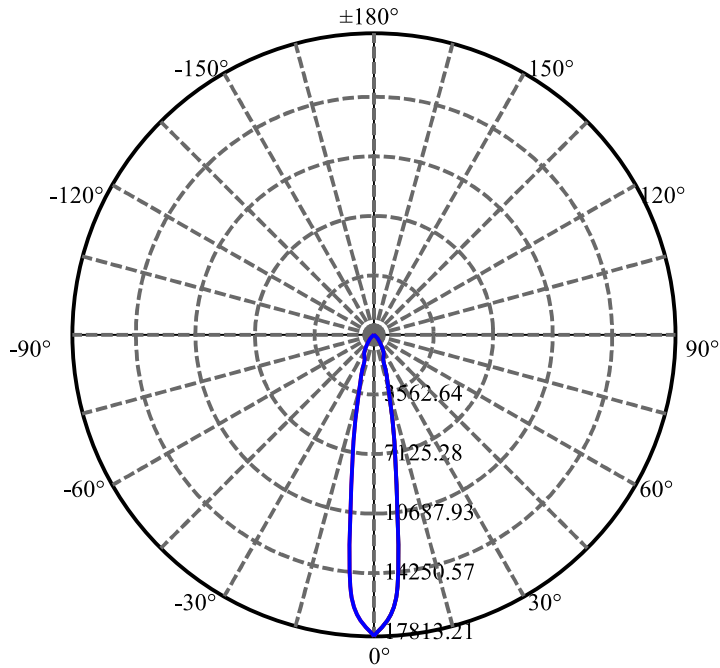
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	17813.209	0.000	0	.000%	.000%
5.0	15316.422	396.055	396.055	11.063%	11.345%
10.0	7175.849	804.619	1200.675	22.475%	34.394%
15.0	2864.171	595.567	1796.242	16.636%	51.455%
20.0	1714.460	377.344	2173.585	10.540%	62.264%
25.0	1354.349	321.861	2495.447	8.991%	71.484%
30.0	1160.824	318.297	2813.744	8.891%	80.602%
35.0	832.325	293.505	3107.249	8.198%	89.010%
40.0	298.202	188.620	3295.869	5.269%	94.413%
45.0	17.652	58.483	3354.352	1.634%	96.088%
50.0	12.484	6.089	3360.442	.170%	96.263%
55.0	11.708	5.260	3365.702	.147%	96.413%
60.0	11.799	5.433	3371.135	.152%	96.569%
65.0	12.288	5.856	3376.991	.164%	96.737%
70.0	15.142	6.945	3383.936	.194%	96.936%
75.0	20.883	9.416	3393.352	.263%	97.206%
80.0	22.163	11.518	3404.87	.322%	97.535%
85.0	11.071	9.031	3413.901	.252%	97.794%
90.0	10.463	5.896	3419.797	.165%	97.963%
95.0	10.176	5.651	3425.448	.158%	98.125%
100.0	10.120	5.515	3430.963	.154%	98.283%
105.0	9.812	5.333	3436.296	.149%	98.436%
110.0	9.798	5.126	3441.422	.143%	98.583%
115.0	9.735	4.946	3446.368	.138%	98.724%
120.0	9.651	4.713	3451.081	.132%	98.859%
125.0	9.637	4.459	3455.54	.125%	98.987%
130.0	9.770	4.220	3459.76	.118%	99.108%
135.0	9.917	3.978	3463.738	.111%	99.222%
140.0	10.022	3.692	3467.43	.103%	99.328%
145.0	10.756	3.467	3470.897	.097%	99.427%
150.0	13.134	3.518	3474.415	.098%	99.528%
155.0	17.387	3.862	3478.277	.108%	99.638%
160.0	21.702	4.100	3482.377	.115%	99.756%
165.0	23.247	3.704	3486.081	.103%	99.862%
170.0	22.618	2.721	3488.802	.076%	99.940%
175.0	21.765	1.588	3490.39	.044%	99.985%
180.0	21.261	0.514	3490.904	.014%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	2813.74	78.60%	80.60%
0-40	3295.87	92.06%	94.41%
0-60	3371.13	94.17%	96.57%
0-90	3419.80	95.53%	97.96%
0-120	3451.08	96.40%	98.86%
0-180	3490.90	97.51%	100.00%
60-90	54.10	1.51%	1.55%
90-120	37.18	1.04%	1.07%
90-130	45.86	1.28%	1.31%
90-150	60.51	1.69%	1.73%
90-180	76.49	2.14%	2.19%
0-29.67	2792.72	78.01%	80.00%

ZONAL LUMEN SUMMARY

0-10	1200.67
10-20	972.91
20-30	640.16
30-40	482.13
40-50	64.57
50-60	10.69
60-70	12.80
70-80	20.93
80-90	14.93
90-100	11.17
100-110	10.46
110-120	9.66
120-130	8.68
130-140	7.67
140-150	6.98
150-160	7.96
160-170	6.43
170-180	1.59



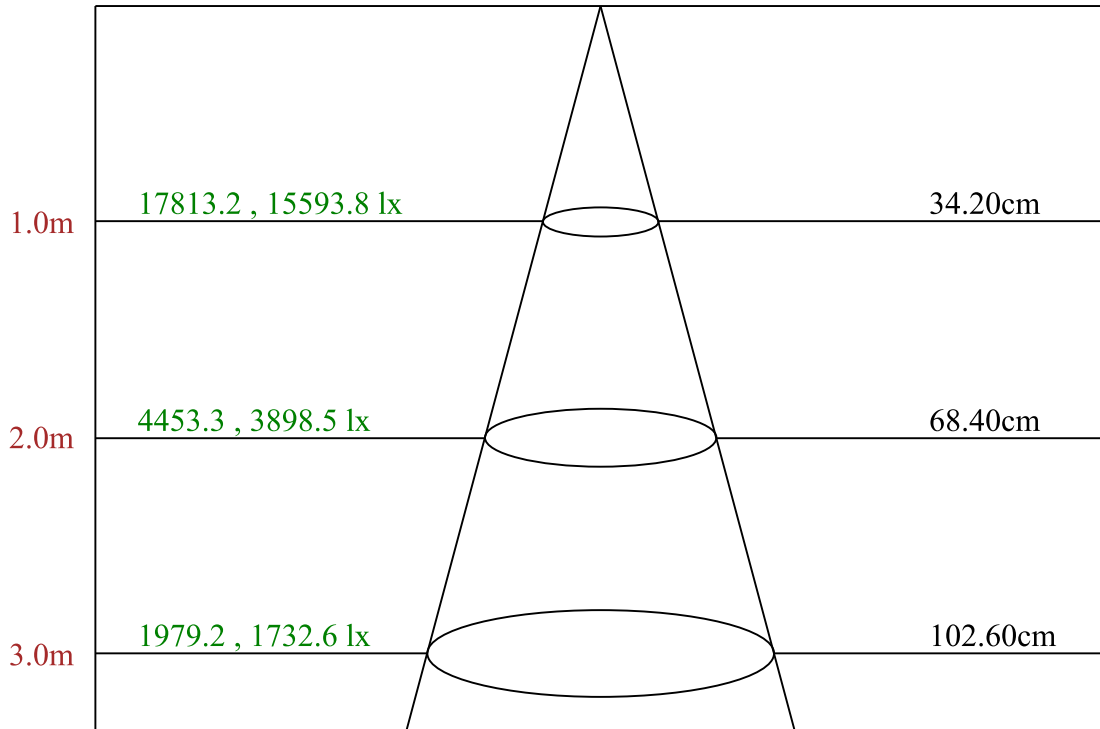
C0(Max): —————

C0/C180: —————

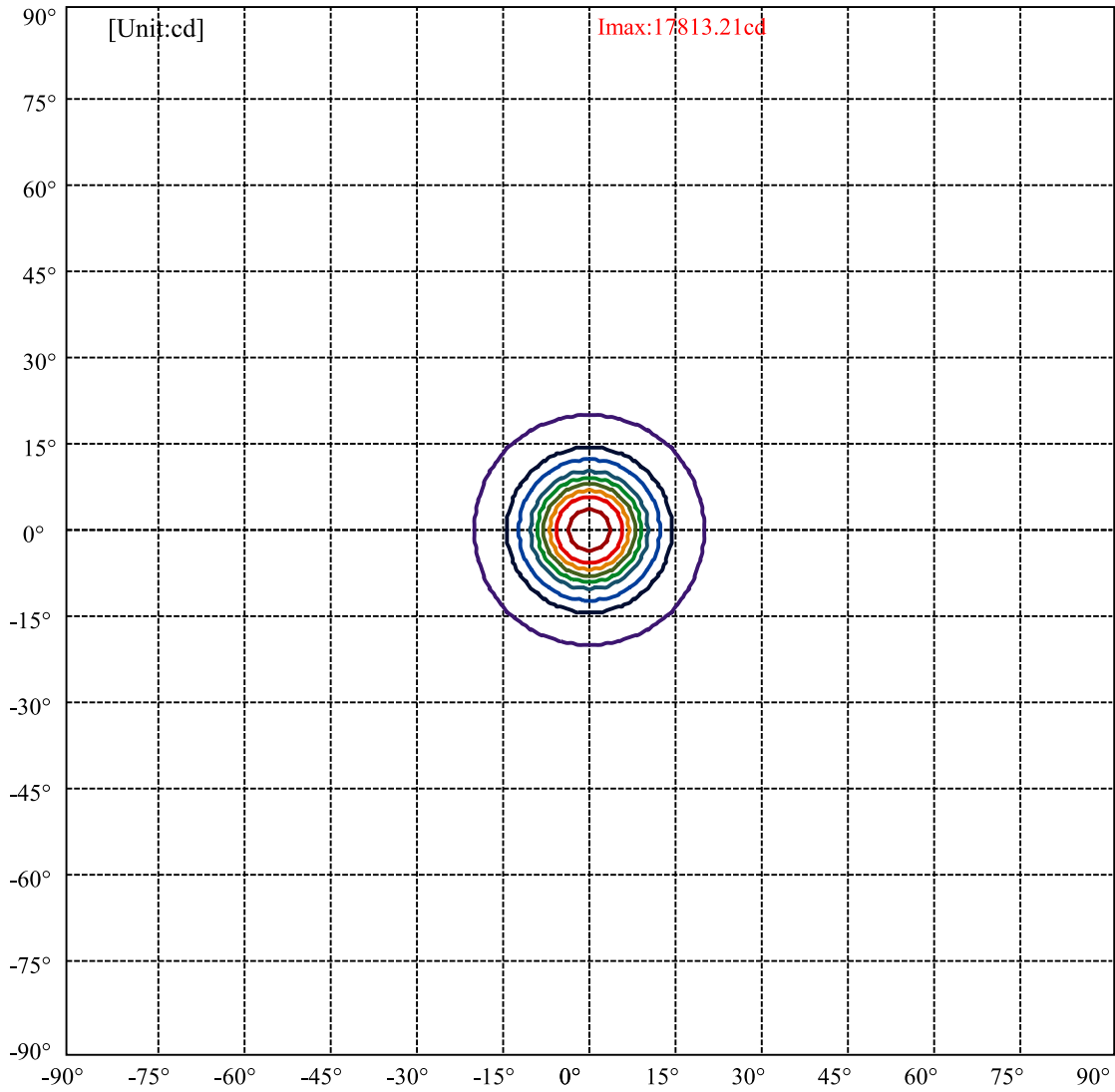
C90/C270: —————

Field angle(10%Imax):C0/180Left:19.7 Right:19.7  
:C90/270Left:19.7 Right:19.7

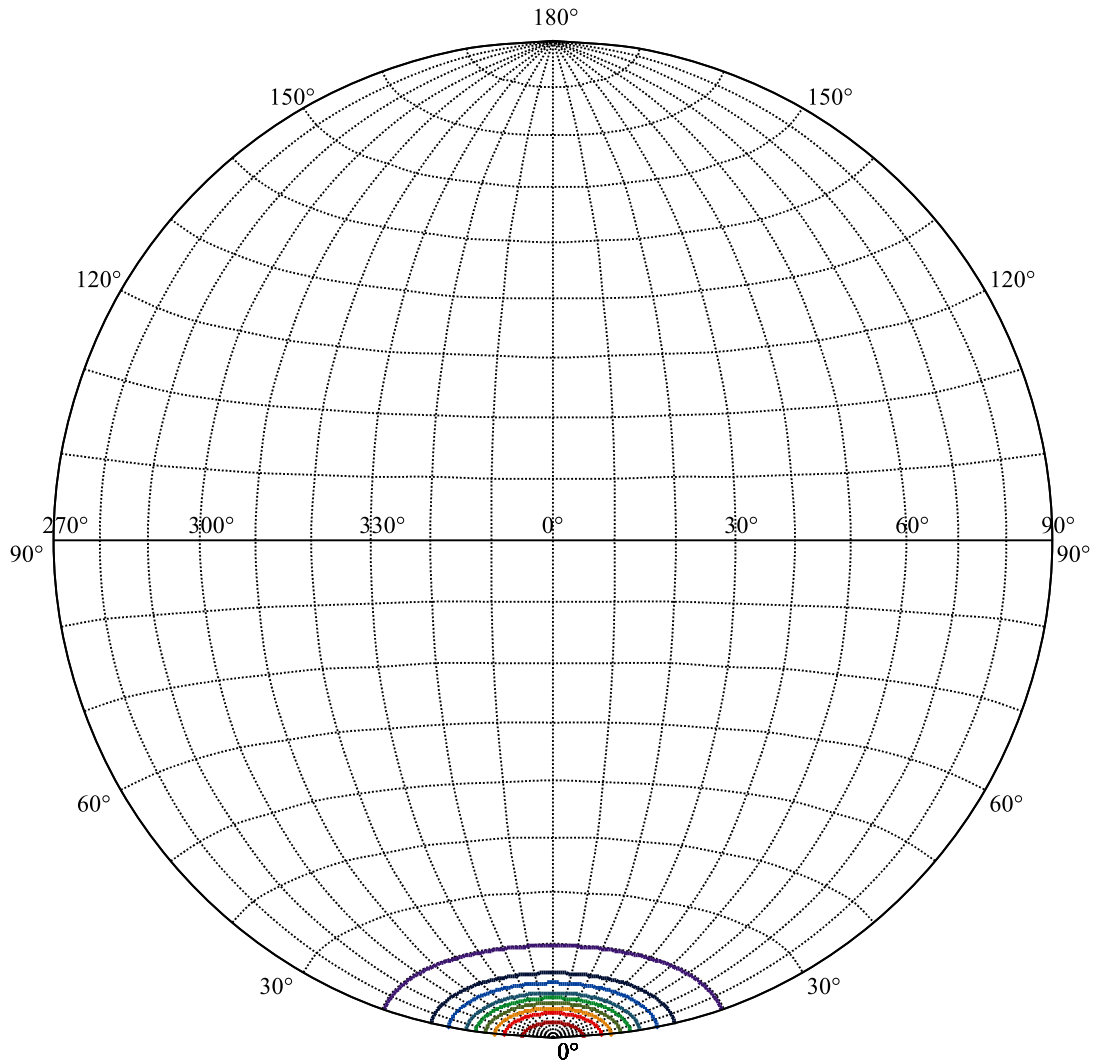
Beam Angle(50%Imax):C0/180Left:8.9 Right:8.9  
:C90/270Left:8.9 Right:8.9



Max , Ave      Beam angle of C0 plane 19.41



(10%Imax) 1781.32	—
(20%Imax) 3562.64	—
(30%Imax) 5343.96	—
(40%Imax) 7125.28	—
(50%Imax) 8906.6	—
(60%Imax) 10687.9	—
(70%Imax) 12469.2	—
(80%Imax) 14250.6	—
(90%Imax) 16031.9	—



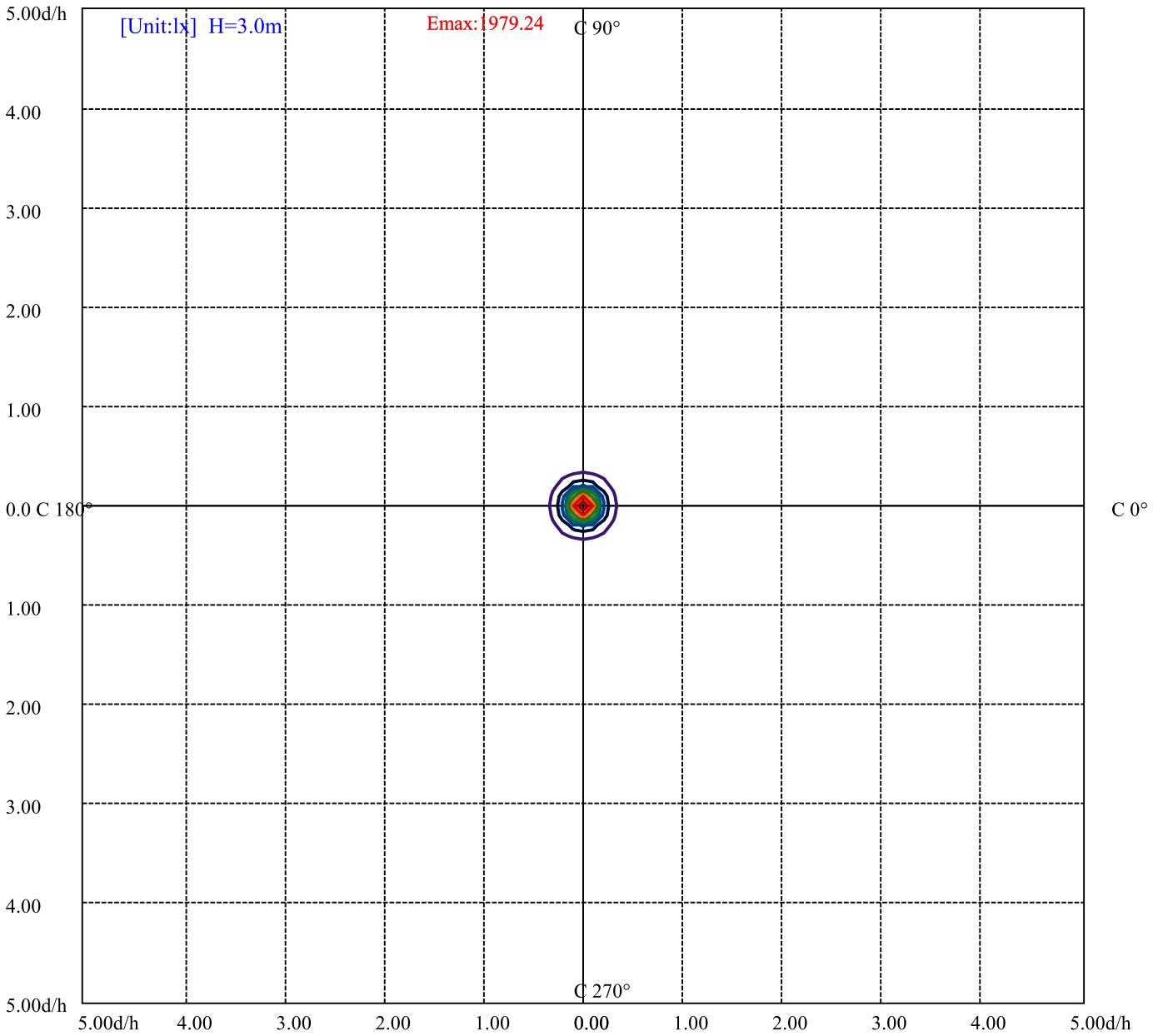
House

[Unit:cd]

Road

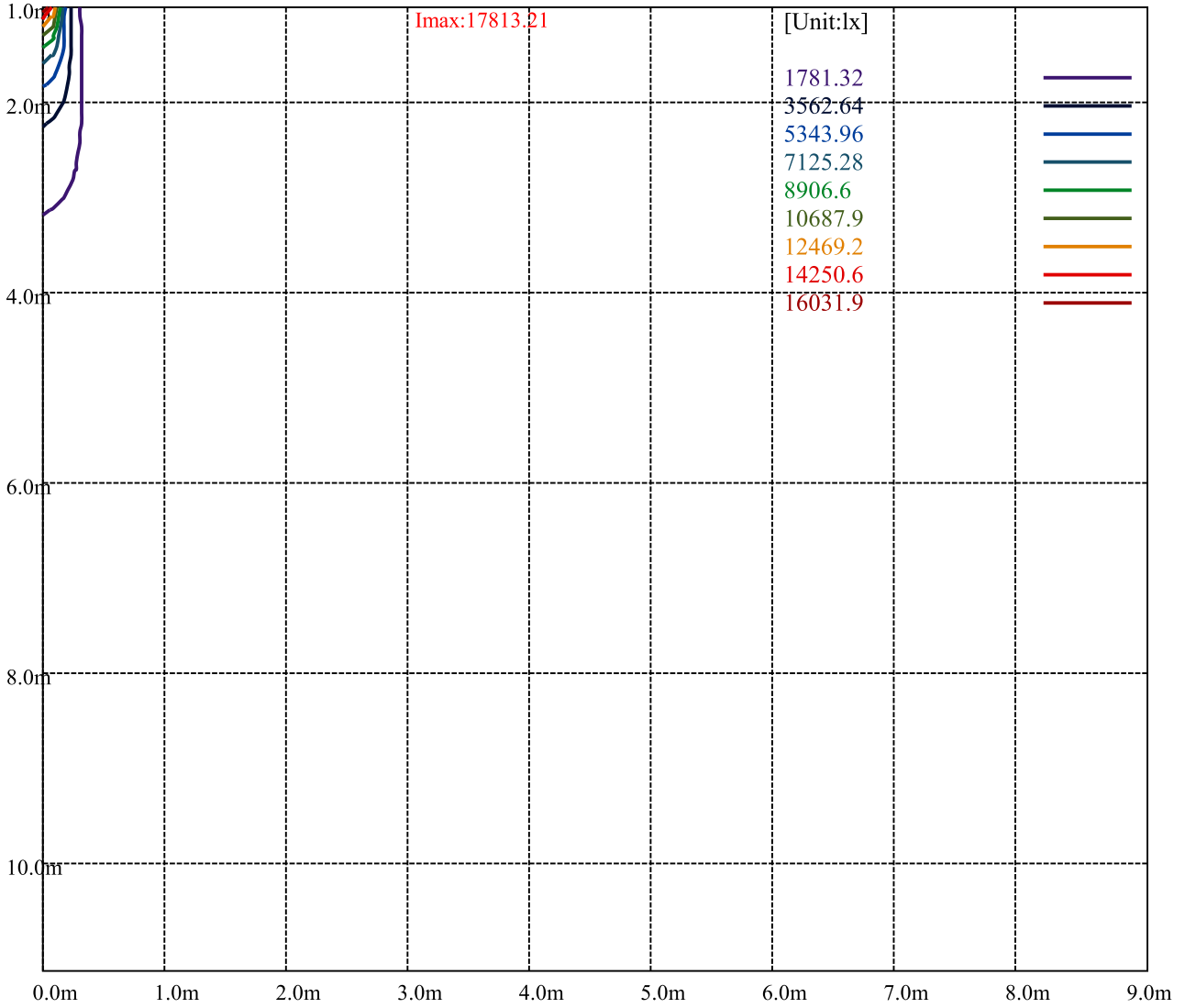
**Imax:17813.21**

(10%Imax) 1781.32	—
(20%Imax) 3562.64	—
(30%Imax) 5343.96	—
(40%Imax) 7125.28	—
(50%Imax) 8906.6	—
(60%Imax) 10687.9	—
(70%Imax) 12469.2	—
(80%Imax) 14250.6	—
(90%Imax) 16031.9	—



- (10%Emax) 197.9233
- (20%Emax) 395.8478
- (30%Emax) 593.7711
- (40%Emax) 791.6945
- (50%Emax) 989.6189
- (60%Emax) 1187.544
- (70%Emax) 1385.467
- (80%Emax) 1583.389
- (90%Emax) 1781.311





Luminance Table

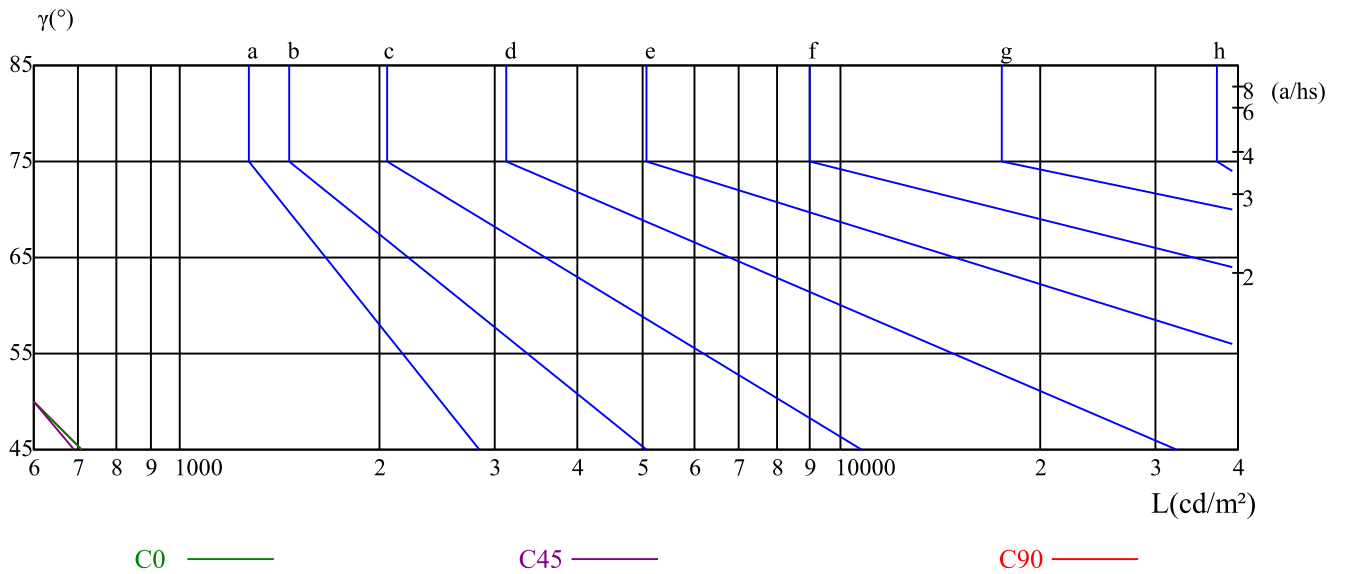
$\gamma$	45	50	55	60	65	70	75	80	85
C0	711	545	563	636	761	1112	1900	2675	2008
C45	689	526	539	605	716	1032	1730	2361	1670
C90	711	545	563	636	761	1112	1900	2675	2008

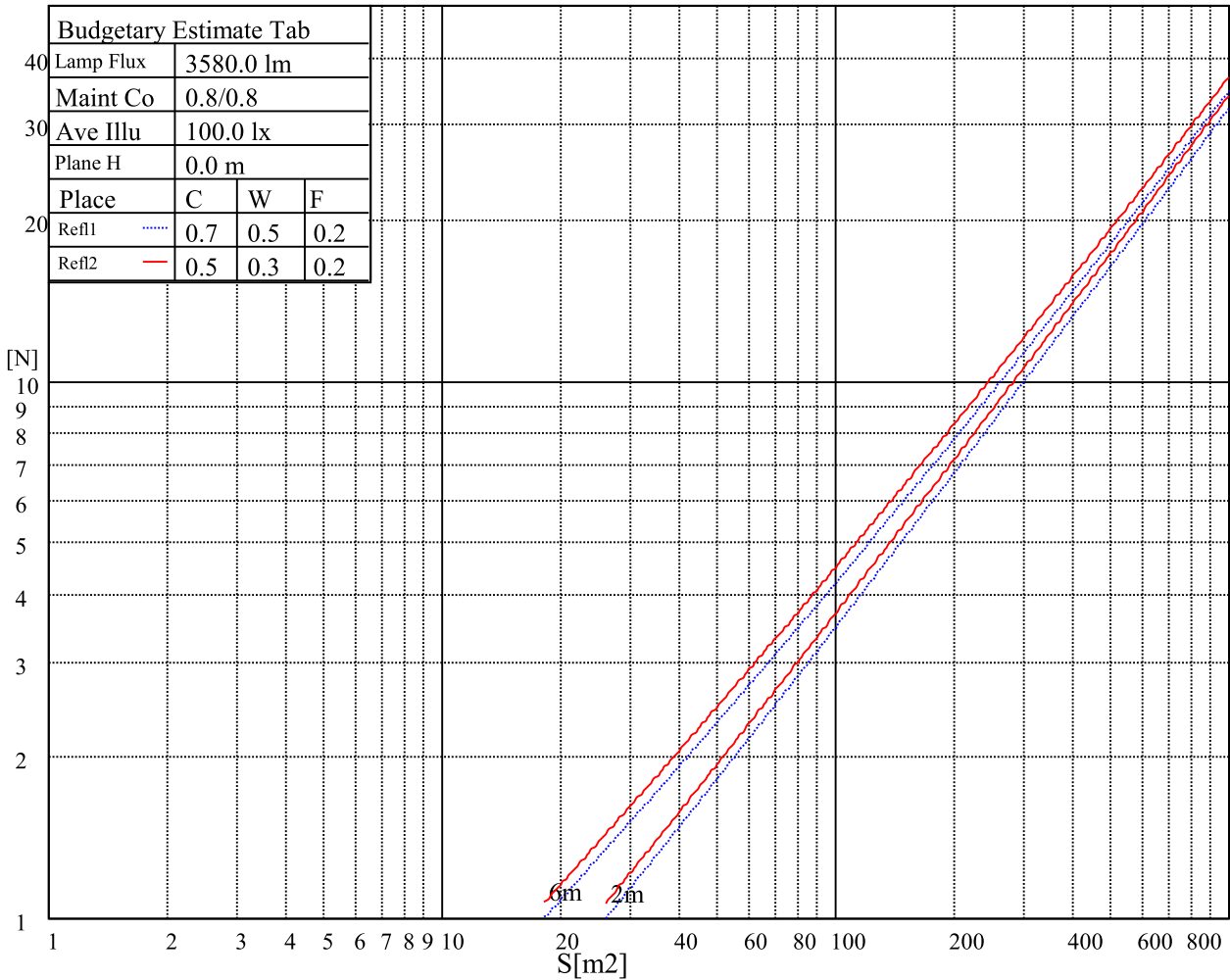
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
897	897	897	2490	2490	2490	3921	3921	3921

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	1.16	1.16	1.16	1.13	1.13	1.13	1.07	1.07	1.07	1.02	1.02	1.02	0.98	0.98	0.98	0.96
1	1.09	1.06	1.04	1.06	1.04	1.03	1.02	1.00	0.99	0.98	0.97	0.96	0.94	0.94	0.93	0.91
2	1.02	0.99	0.96	1.01	0.98	0.95	0.97	0.95	0.93	0.94	0.92	0.90	0.91	0.90	0.88	0.87
3	0.97	0.93	0.90	0.96	0.92	0.89	0.93	0.90	0.87	0.91	0.88	0.86	0.88	0.86	0.84	0.83
4	0.93	0.88	0.85	0.91	0.87	0.84	0.89	0.86	0.83	0.87	0.84	0.82	0.85	0.83	0.81	0.79
5	0.89	0.84	0.80	0.88	0.83	0.80	0.86	0.82	0.79	0.84	0.81	0.78	0.82	0.80	0.78	0.76
6	0.85	0.80	0.77	0.84	0.80	0.76	0.82	0.79	0.76	0.81	0.78	0.75	0.80	0.77	0.75	0.73
7	0.81	0.77	0.74	0.81	0.76	0.73	0.79	0.76	0.73	0.78	0.75	0.72	0.77	0.74	0.72	0.71
8	0.78	0.74	0.71	0.78	0.74	0.70	0.77	0.73	0.70	0.76	0.72	0.70	0.75	0.72	0.69	0.68
9	0.76	0.71	0.68	0.75	0.71	0.68	0.74	0.70	0.68	0.73	0.70	0.67	0.72	0.69	0.67	0.66
10	0.73	0.69	0.66	0.73	0.69	0.66	0.72	0.68	0.65	0.71	0.68	0.65	0.70	0.67	0.65	0.64

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	17663.54	14603.05	6316.80	2920.61	1665.64	1322.11	1155.94	739.10	299.33
45.0	17881.75	16578.10	8868.14	3122.03	1836.85	1389.25	1213.56	901.36	378.78
90.0	17909.72	15403.15	5989.49	2759.47	1646.62	1336.66	1100.66	802.22	235.61
135.0	17797.82	16410.25	8616.36	3077.27	1817.27	1388.13	1215.24	908.07	382.14
180.0	17663.54	16248.00	7921.46	3052.09	1769.15	1375.82	1192.86	925.36	337.10
225.0	17881.75	13305.01	5726.52	2568.68	1614.17	1328.26	1099.93	761.26	194.99
270.0	17909.72	16421.44	8045.67	2909.42	1763.00	1371.34	1200.70	862.20	369.27
315.0	17797.82	13562.38	5922.35	2503.78	1602.98	1323.23	1107.71	759.02	188.38
360.0	17663.54	14603.05	6316.80	2920.61	1665.64	1322.11	1155.94	739.10	299.33
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	16.28	11.75	11.58	11.86	12.98	17.23	23.95	21.82	11.30
45.0	18.80	13.26	12.09	12.42	13.88	22.04	31.78	33.57	11.64
90.0	16.45	12.37	11.81	11.86	12.70	17.46	24.51	23.33	11.30
135.0	19.36	12.76	12.09	11.92	12.09	15.11	22.21	24.51	11.36
180.0	19.97	13.37	11.86	11.86	11.97	12.09	16.39	21.37	11.13
225.0	16.17	11.58	11.36	11.41	11.41	11.75	15.33	16.73	10.46
270.0	18.13	12.48	11.41	11.41	11.47	11.75	14.32	16.51	10.80
315.0	16.06	12.31	11.47	11.64	11.81	13.71	18.58	19.47	10.57
360.0	16.28	11.75	11.58	11.86	12.98	17.23	23.95	21.82	11.30
C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	10.57	10.24	10.13	9.85	9.85	9.79	9.74	9.74	9.90
45.0	10.85	10.41	10.24	9.68	9.62	9.62	9.57	9.57	9.62
90.0	10.57	10.29	10.18	9.68	9.68	9.62	9.57	9.57	9.68
135.0	10.69	10.29	10.18	9.74	9.74	9.62	9.57	9.51	9.62
180.0	10.52	10.13	10.07	9.85	9.79	9.68	9.57	9.46	9.57
225.0	10.07	9.96	9.96	9.85	9.85	9.79	9.68	9.74	9.90
270.0	10.24	10.02	10.13	9.96	10.02	9.90	9.79	9.79	9.90
315.0	10.18	10.07	10.07	9.90	9.85	9.85	9.74	9.74	9.96
360.0	10.57	10.24	10.13	9.85	9.85	9.79	9.74	9.74	9.90
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	10.18	10.29	11.08	13.48	18.07	22.49	23.78	22.55	21.09
45.0	9.74	9.79	10.69	12.87	17.18	21.43	23.16	23.05	22.72
90.0	9.74	9.90	10.80	13.43	17.57	21.21	22.27	21.88	21.54
135.0	9.68	9.74	10.24	12.03	15.55	19.58	21.15	21.09	20.65
180.0	9.57	9.62	10.07	11.86	15.33	19.19	20.76	20.65	20.37
225.0	10.13	10.29	11.25	14.55	19.58	24.39	25.85	24.67	23.33
270.0	10.13	10.24	10.85	13.09	17.46	22.55	24.84	24.17	22.77
315.0	10.18	10.29	11.08	13.76	18.35	22.77	24.17	22.88	21.65
360.0	10.18	10.29	11.08	13.48	18.07	22.49	23.78	22.55	21.09
C/γ(°)	180.0								
0.0	20.25								
45.0	22.60								
90.0	21.60								
135.0	20.59								
180.0	20.25								
225.0	22.60								
270.0	21.60								
315.0	20.59								
360.0	20.25								