



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

LumCAT: 3-1860-E	
Luminaire: 99.02.73.181	
Report No: NATA0100	Voltage(V): 35.1000
Test No: GC2019022012	Current(A): 0.7000
LampCAT: LUMILEDS LUXEON 1208	Power (W): 35.1000
Lamp flux(lm): 2998.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 82	Width(mm): 82
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 2560.36
Efficiency(%): 85.40%
Lumens(lm)/Power(W): 74.17
Central intensity(cd): 7584.891
Maximum intensity(cd): 7584.891
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=33.8
 [C90/270]Total=33.8
Field angle(10%Imax): [C0/180]Total=54.9
 [C90/270]Total=54.9
Maximum s/h(1/2): C0_180=0.55 C90_270=0.55
Maximum s/h(1/4): C0_180=0.56 C90_270=0.56
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 86.83%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.124%

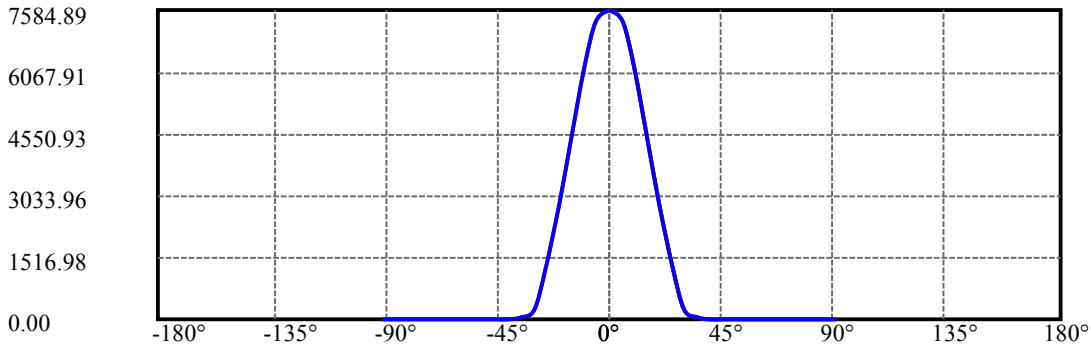
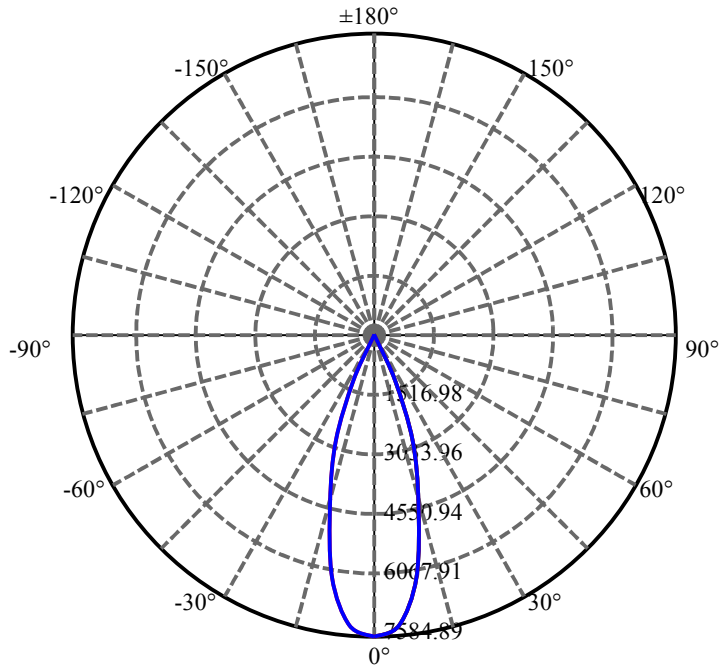
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	7584.891	45.359	45.359	1.513%	1.772%
5.0	7308.352	349.144	394.503	11.646%	15.408%
10.0	6165.703	586.870	981.374	19.575%	38.330%
15.0	4370.906	620.093	1601.467	20.684%	62.549%
20.0	2837.180	531.898	2133.365	17.742%	83.323%
25.0	1260.162	291.920	2425.285	9.737%	94.725%
30.0	238.345	65.323	2490.608	2.179%	97.276%
35.0	28.638	9.004	2499.612	.300%	97.628%
40.0	17.810	6.275	2505.887	.209%	97.873%
45.0	14.653	5.679	2511.566	.189%	98.094%
50.0	13.289	5.580	2517.146	.186%	98.312%
55.0	12.445	5.588	2522.734	.186%	98.531%
60.0	11.932	5.664	2528.399	.189%	98.752%
65.0	11.545	5.735	2534.134	.191%	98.976%
70.0	11.398	5.871	2540.005	.196%	99.205%
75.0	11.229	5.945	2545.95	.198%	99.437%
80.0	10.877	5.872	2551.822	.196%	99.667%
85.0	10.554	5.763	2557.585	.192%	99.892%
90.0	10.111	2.771	2560.356	.092%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	2490.61	83.08%	97.28%
0-40	2505.89	83.59%	97.87%
0-60	2528.40	84.34%	98.75%
0-90	2557.58	85.31%	99.89%
0-120	2557.58	85.31%	99.89%
0-180	2560.36	85.40%	100.00%
60-90	34.85	1.16%	1.36%
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%
0-19.20	2048.29	68.32%	80.00%

ZONAL LUMEN SUMMARY

0-10	981.37
10-20	1151.99
20-30	357.24
30-40	15.28
40-50	11.26
50-60	11.25
60-70	11.61
70-80	11.82
80-90	5.76
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



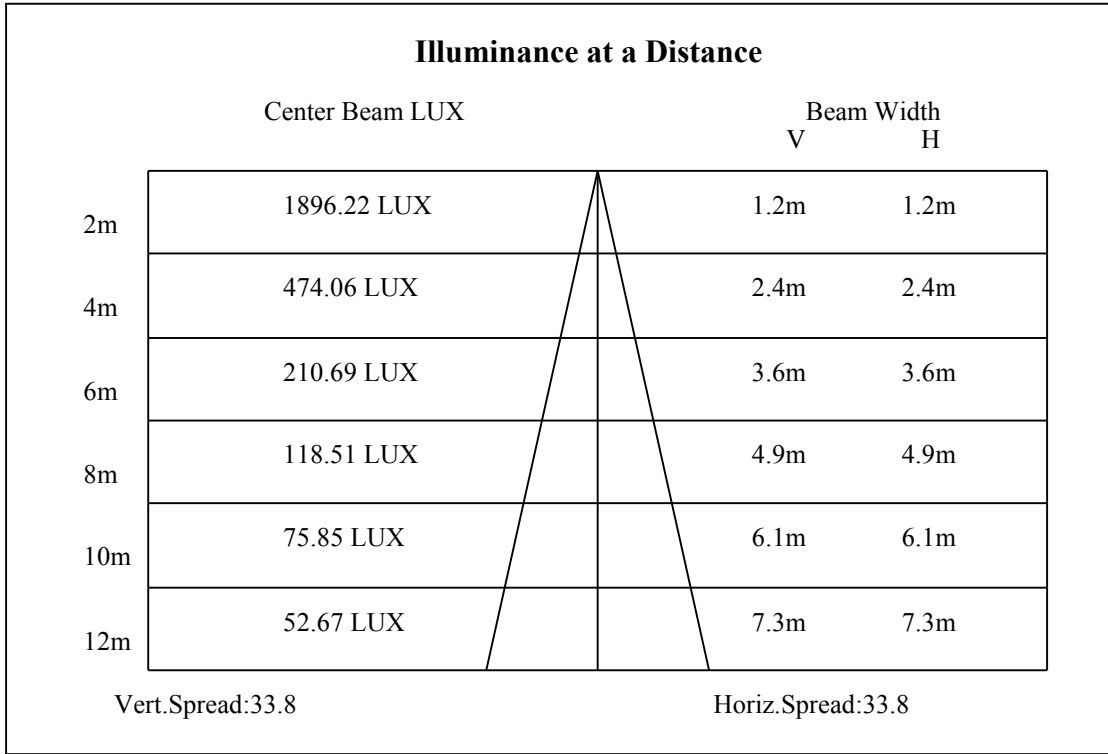
C0(Max): —————

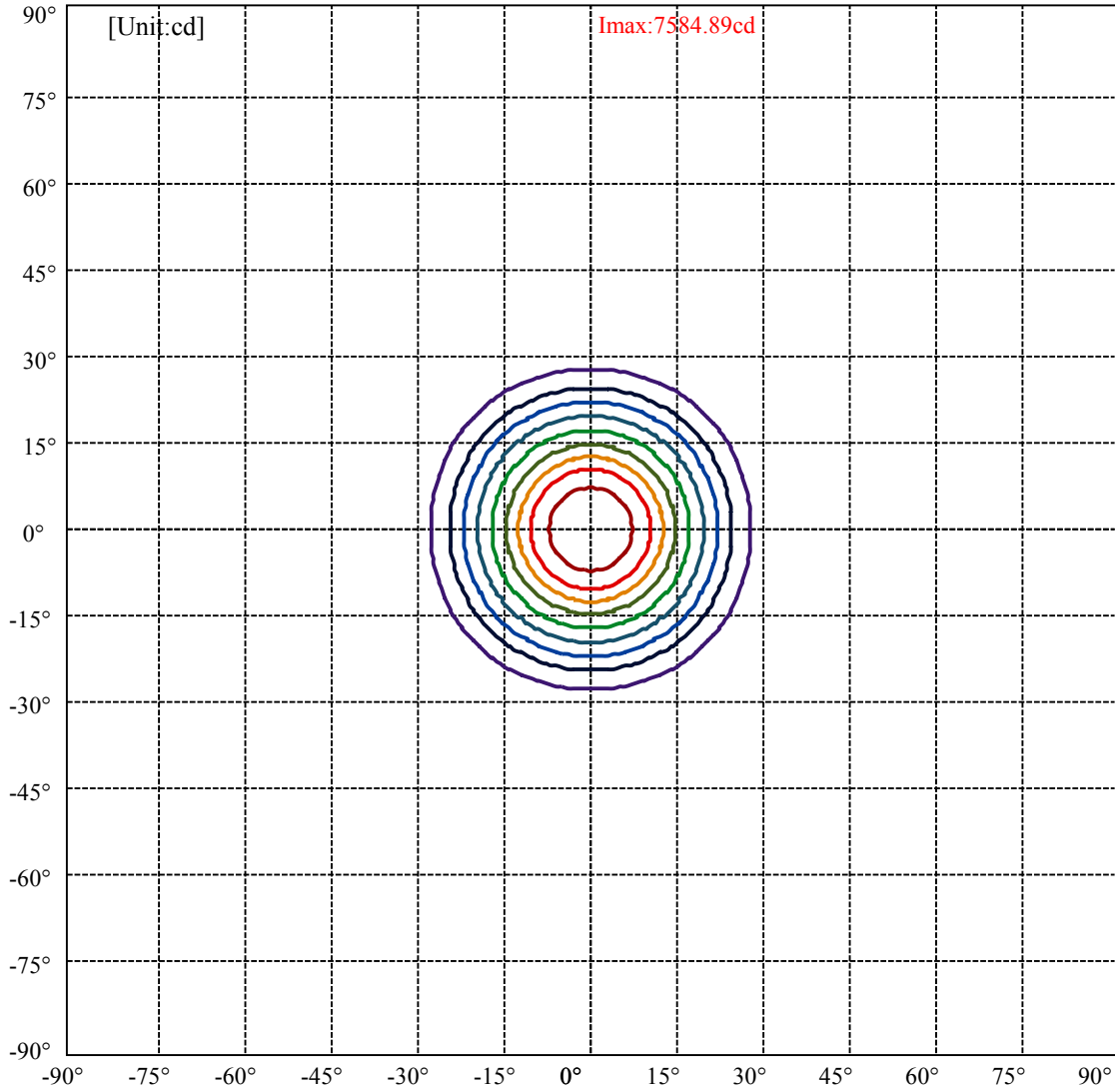
C0/C180: —————

C90/C270: —————

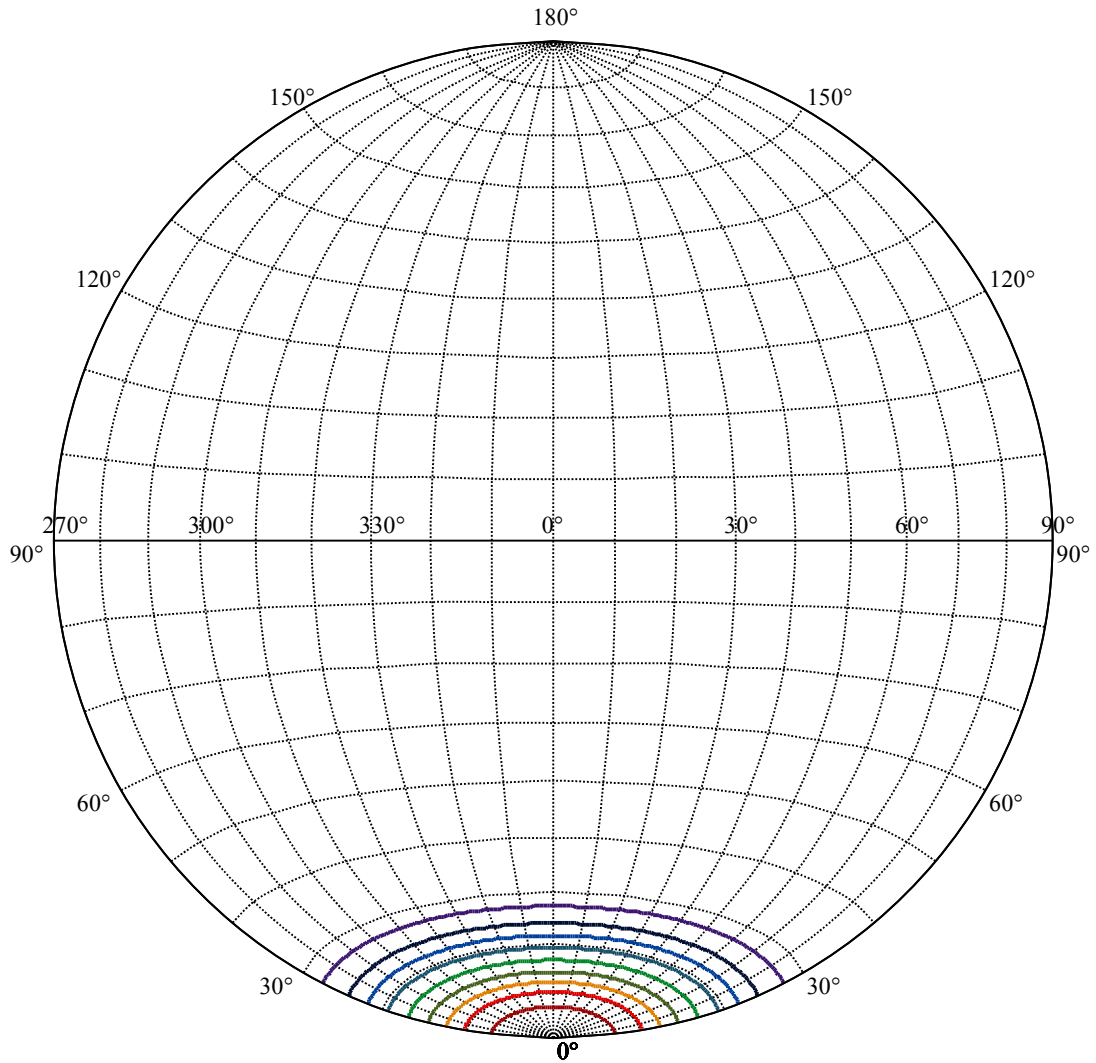
Field angle(10%Imax):C0/180Left:27.5 Right:27.5
:C90/270Left:27.5 Right:27.5

Beam Angle(50%Imax):C0/180Left:16.9 Right:16.9
:C90/270Left:16.9 Right:16.9





(10%I _{max}) 758.489	—
(20%I _{max}) 1516.98	—
(30%I _{max}) 2275.47	—
(40%I _{max}) 3033.96	—
(50%I _{max}) 3792.45	—
(60%I _{max}) 4550.93	—
(70%I _{max}) 5309.42	—
(80%I _{max}) 6067.91	—
(90%I _{max}) 6826.4	—



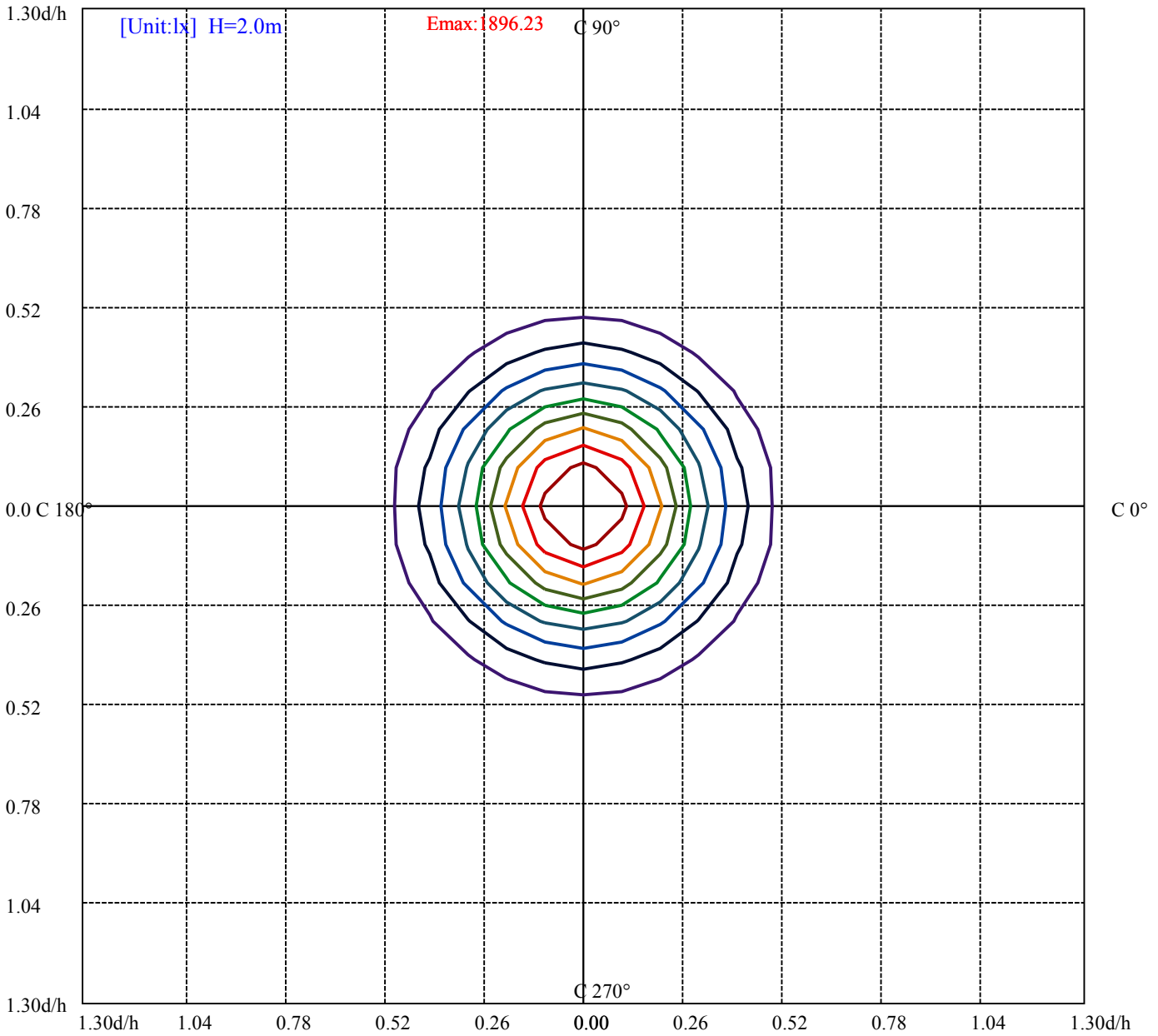
House

[Unit:cd]

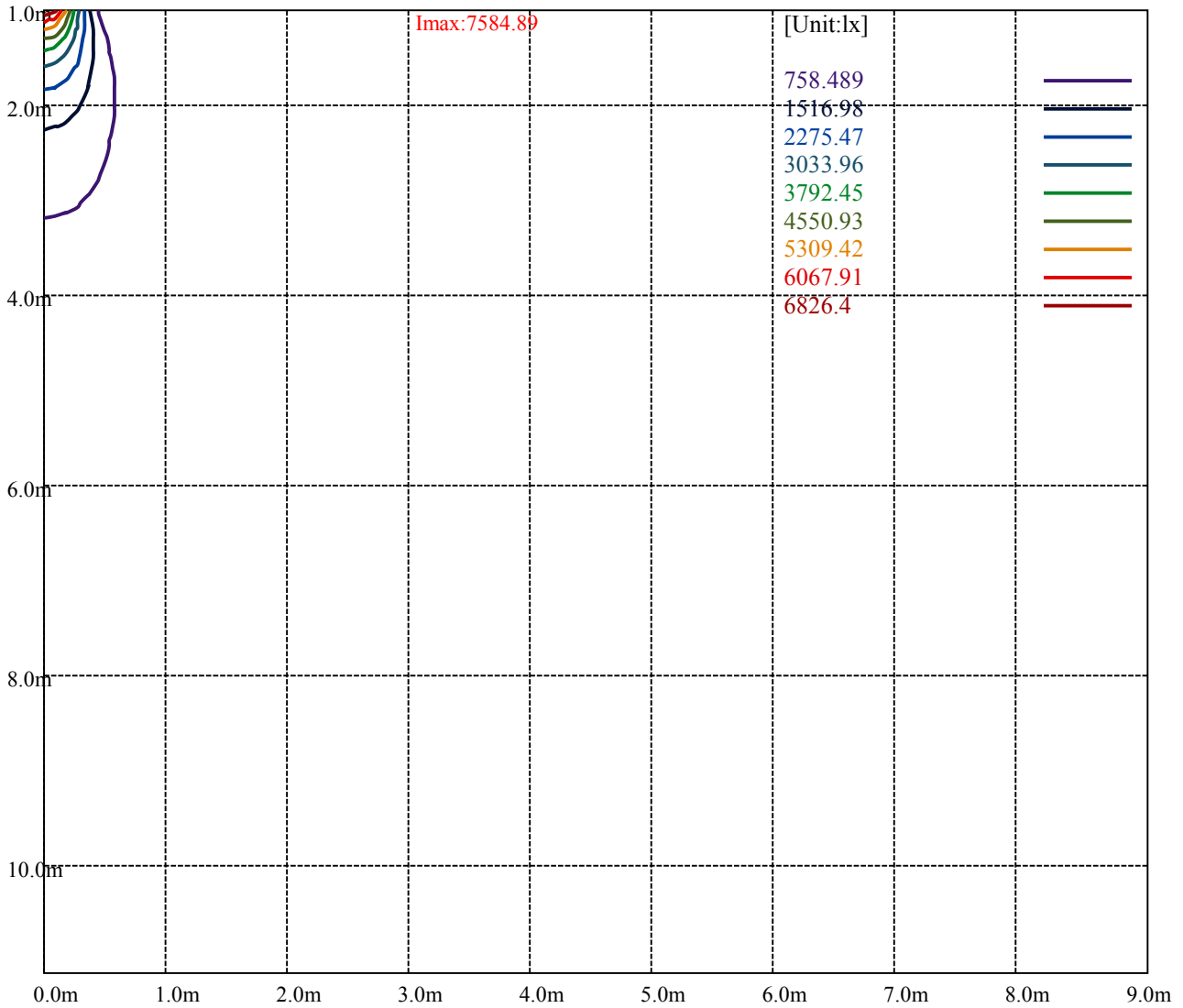
Road

Imax:7584.89

(10%Imax) 758.489	—
(20%Imax) 1516.98	—
(30%Imax) 2275.47	—
(40%Imax) 3033.96	—
(50%Imax) 3792.45	—
(60%Imax) 4550.93	—
(70%Imax) 5309.42	—
(80%Imax) 6067.91	—
(90%Imax) 6826.4	—



- (10%Emax) 189.622
- (20%Emax) 379.245
- (30%Emax) 568.865
- (40%Emax) 758.4875
- (50%Emax) 948.11
- (60%Emax) 1137.733
- (70%Emax) 1327.355
- (80%Emax) 1516.978
- (90%Emax) 1706.598



Luminance Table

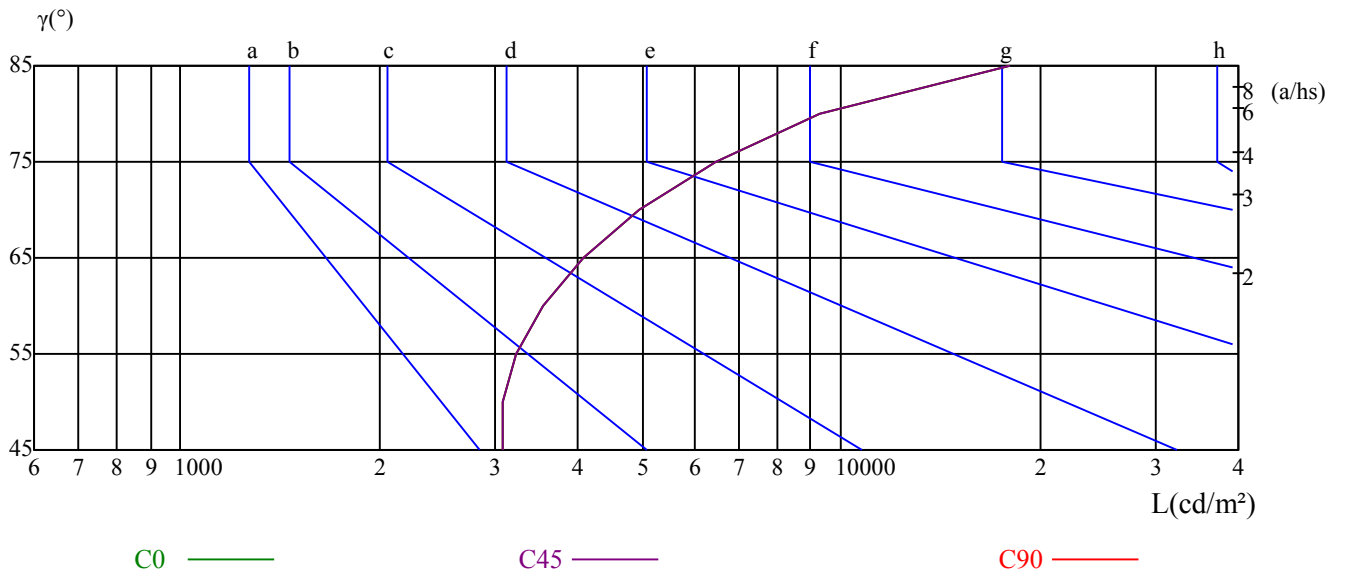
γ	45	50	55	60	65	70	75	80	85
C0	3082	3075	3227	3549	4063	4956	6452	9316	18009
C45	3082	3075	3227	3549	4063	4956	6452	9316	18009
C90	3082	3075	3227	3549	4063	4956	6452	9316	18009

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
4063	4063	4063	6452	6452	6452	18009	18009	18009

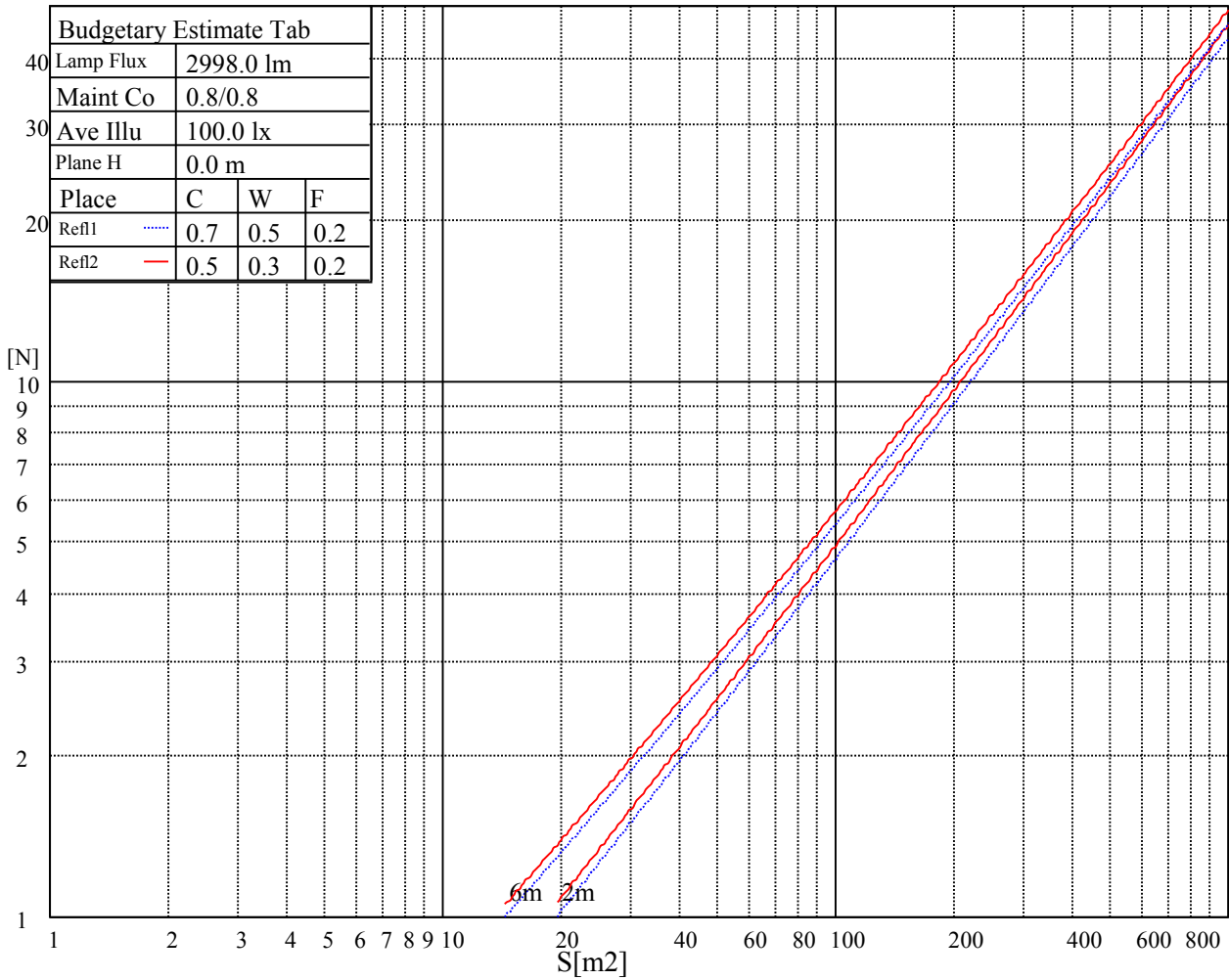
Glare Table

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

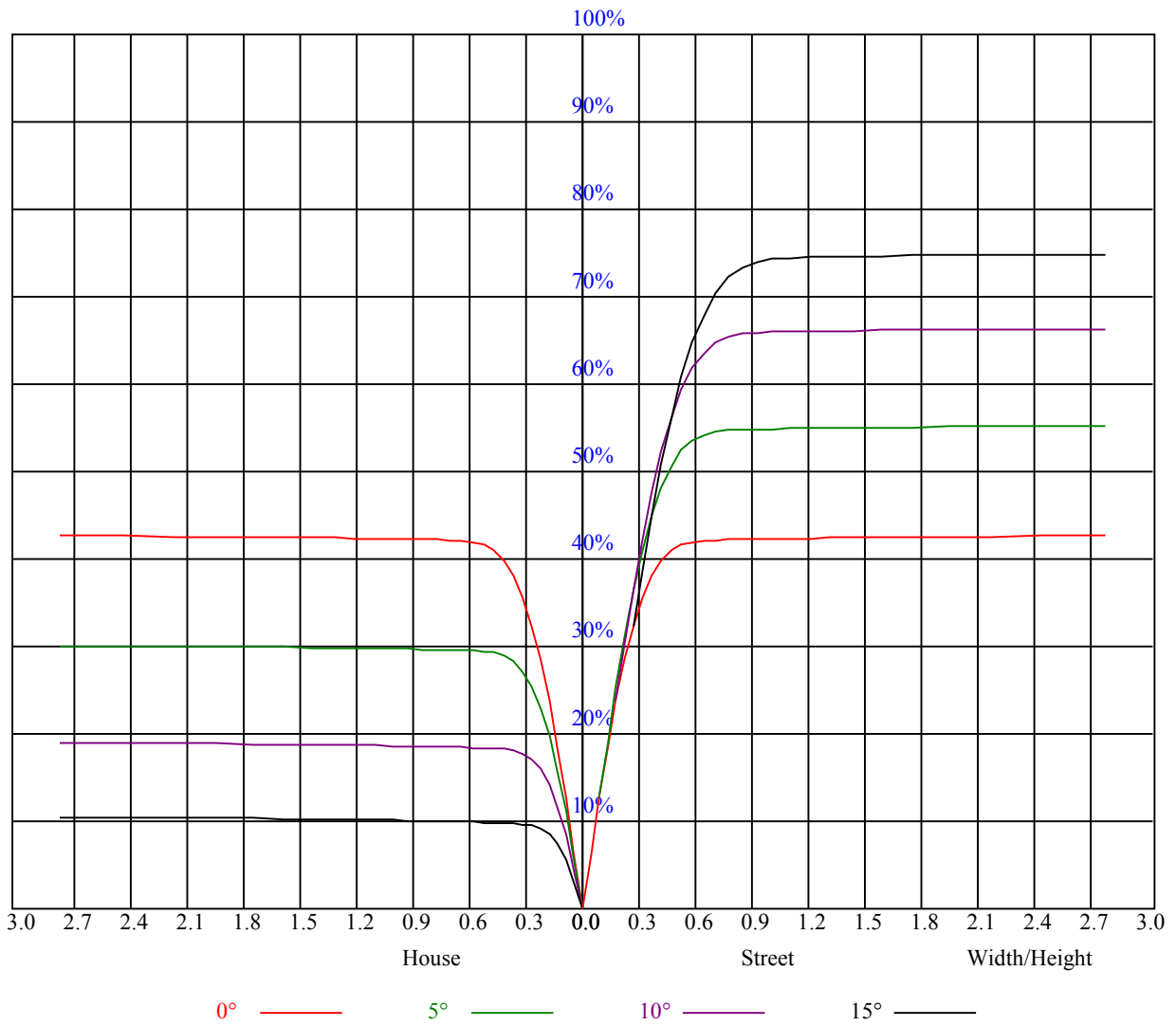
Luminance Limiting Curve



Illumination assessment according UGR											
Rf of Ceiling	70	70	50	50	30	70	70	50	50	30	
Rf of Wall	50	30	50	30	30	50	30	50	30	30	
Rf of Floor	20	20	20	20	20	20	20	20	20	20	
Room dimensions		Viewed crosswise					Viewed endwise				
X	Y										
2H	2H	1.80	2.71	2.17	3.02	3.34	1.70	2.61	2.06	2.92	3.23
	3H	5.01	5.82	5.40	6.15	6.52	4.94	5.74	5.32	6.07	6.44
	4H	6.79	7.53	7.19	7.88	8.28	6.69	7.44	7.10	7.79	8.18
	6H	8.72	9.40	9.14	9.78	10.18	8.61	9.29	9.03	9.67	10.07
	8H	9.77	10.41	10.21	10.80	11.22	9.66	10.29	10.09	10.69	11.10
	12H	11.47	12.08	11.91	12.46	12.90	11.35	11.96	11.78	12.34	12.77
4H	2H	2.69	3.44	3.10	3.79	4.18	2.62	3.37	3.03	3.72	4.11
	3H	6.17	6.79	6.59	7.20	7.60	6.10	6.71	6.52	7.12	7.53
	4H	8.11	8.66	8.55	9.08	9.53	8.03	8.57	8.46	9.00	9.45
	6H	10.17	10.63	10.64	11.08	11.56	10.06	10.52	10.53	10.97	11.45
	8H	11.32	11.76	11.80	12.21	12.68	11.20	11.64	11.68	12.09	12.57
	12H	12.92	13.30	13.42	13.79	14.27	12.81	13.18	13.30	13.67	14.15
8H	4H	8.83	9.26	9.30	9.71	10.19	8.76	9.20	9.24	9.65	10.12
	6H	11.16	11.50	11.67	12.00	12.49	11.08	11.42	11.59	11.92	12.41
	8H	12.50	12.80	13.03	13.32	13.82	12.41	12.71	12.94	13.23	13.73
	12H	14.24	14.50	14.76	15.00	15.58	14.14	14.40	14.67	14.90	15.48
12H	4H	9.02	9.40	9.52	9.89	10.36	8.97	9.34	9.46	9.83	10.31
	6H	11.66	11.77	12.00	12.24	12.79	11.59	11.70	11.93	12.17	12.72
	8H	12.93	13.19	13.46	13.69	14.27	12.85	13.11	13.38	13.61	14.19
Variation with the observer position at spacings:											
S = 1.0H		1.8/-1.7					1.8/-1.7				
S = 1.5H		1.7/-1.4					1.7/-1.4				
S = 2.0H		1.9/-1.1					1.9/-1.1				
Standard tables:		BKBF					BKBF				
Uncorrected UGR		-2.0					-2.0				



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	1.03	1.03	1.03	1.01	1.01	1.01	0.96	0.96	0.96	0.92	0.92	0.92	0.89	0.89	0.89	0.87
1	0.96	0.94	0.92	0.94	0.92	0.90	0.91	0.89	0.87	0.87	0.86	0.85	0.84	0.83	0.82	0.81
2	0.91	0.88	0.86	0.90	0.87	0.85	0.87	0.85	0.83	0.85	0.83	0.81	0.82	0.81	0.80	0.78
3	0.88	0.84	0.81	0.86	0.83	0.81	0.84	0.82	0.79	0.82	0.80	0.78	0.80	0.78	0.77	0.76
4	0.84	0.80	0.78	0.83	0.80	0.77	0.82	0.79	0.76	0.80	0.77	0.75	0.78	0.76	0.75	0.74
5	0.81	0.77	0.75	0.80	0.77	0.74	0.79	0.76	0.74	0.78	0.75	0.73	0.77	0.74	0.72	0.71
6	0.79	0.75	0.72	0.78	0.74	0.72	0.77	0.74	0.71	0.76	0.73	0.71	0.75	0.72	0.70	0.70
7	0.76	0.72	0.70	0.76	0.72	0.70	0.75	0.72	0.69	0.74	0.71	0.69	0.73	0.70	0.69	0.68
8	0.74	0.70	0.68	0.74	0.70	0.68	0.73	0.70	0.67	0.72	0.69	0.67	0.71	0.69	0.67	0.66
9	0.72	0.68	0.66	0.72	0.68	0.66	0.71	0.68	0.66	0.70	0.67	0.65	0.70	0.67	0.65	0.64
10	0.70	0.67	0.64	0.70	0.66	0.64	0.69	0.66	0.64	0.69	0.66	0.64	0.68	0.65	0.64	0.63



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	7576.31	7278.19	6137.44	4313.81	2781.00	1359.00	317.81	31.11	18.84
45.0	7608.94	7320.94	6322.50	4442.63	2836.13	1424.81	320.63	28.91	18.39
90.0	7571.25	7256.81	6123.94	4213.13	2750.06	1070.10	133.99	30.94	18.45
135.0	7583.06	7399.69	6522.75	4903.31	3243.94	1747.69	393.19	33.19	18.00
180.0	7576.31	7367.63	6291.00	4480.31	2929.50	1018.01	192.99	25.09	16.76
225.0	7608.94	7343.44	6043.50	4330.13	2807.44	1087.43	151.31	24.92	17.04
270.0	7571.25	7344.00	6179.63	4389.19	2919.38	1393.88	293.06	30.66	17.83
315.0	7583.06	7156.13	5704.88	3894.75	2430.00	980.38	103.78	24.30	17.16
360.0	7576.31	7278.19	6137.44	4313.81	2781.00	1359.00	317.81	31.11	18.84
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	14.96	13.33	12.38	11.81	11.42	11.25	11.08	10.74	10.35
45.0	14.85	13.44	12.66	12.04	11.64	11.42	11.19	10.97	10.63
90.0	14.85	13.44	12.49	12.04	11.59	11.36	11.14	10.86	10.52
135.0	14.74	13.28	12.38	11.87	11.48	11.25	11.19	10.97	10.63
180.0	14.34	13.11	12.26	11.81	11.42	11.31	11.19	10.74	10.46
225.0	14.57	13.28	12.54	12.04	11.70	11.70	11.53	11.08	10.74
270.0	14.68	13.44	12.60	12.09	11.70	11.59	11.48	11.03	10.74
315.0	14.23	12.99	12.26	11.76	11.42	11.31	11.03	10.63	10.35
360.0	14.96	13.33	12.38	11.81	11.42	11.25	11.08	10.74	10.35
C/ γ (°)	90.0								
0.0	9.96								
45.0	10.24								
90.0	10.18								
135.0	10.07								
180.0	9.96								
225.0	10.24								
270.0	10.18								
315.0	10.07								
360.0	9.96								