
Nata

LumCAT: 5-1069-N

Luminaire:

Report No: nata-0100

Voltage(V): 14.7000

Test No: GC2018081101

Current(A): 0.2000

LampCAT: CREE XP-E2

Power (W): 2.9400

Lamp flux(lm): 364.0

PF: 0.0000

Number of Lamps: 1

Ballast type: DC

Length(mm): 30

Width(mm): 135

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 253.18

Efficiency(%): 69.56%

Lumens(lm)/Power(W): 86.12

Central intensity(cd): 562.842

Maximum intensity(cd): 562.842

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=36.4

[C90/270]Total=36.4

Field angle(10%Imax): [C0/180]Total=64.1

[C90/270]Total=64.1

Maximum s/h(1/2): C0_180=0.59 C90_270=0.59

Maximum s/h(1/4): C0_180=0.60 C90_270=0.60

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 69.56%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 98.129%

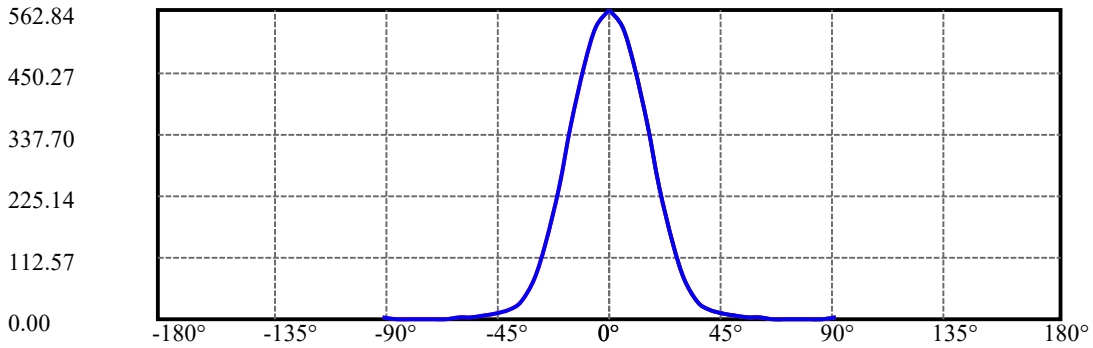
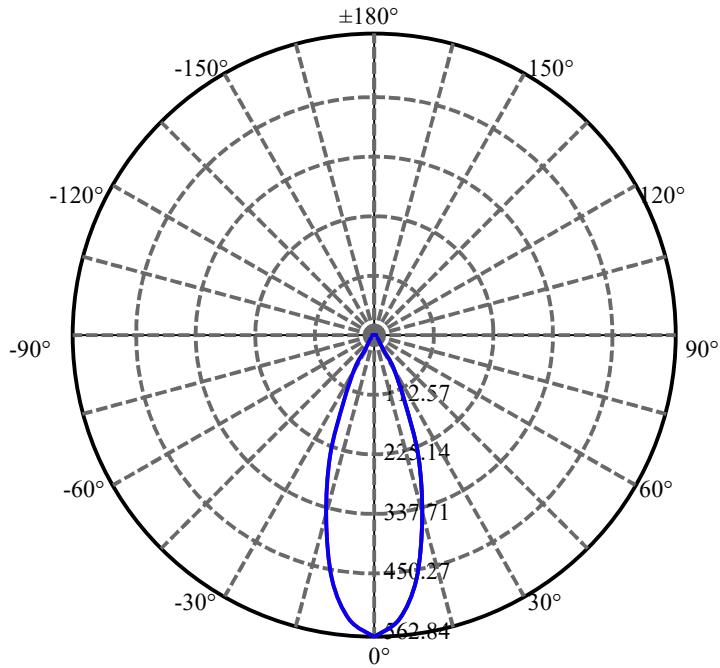
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	562.842	0.000	0	.000%	.000%
5.0	532.492	13.094	13.094	3.597%	5.172%
10.0	462.694	35.601	48.695	9.780%	19.233%
15.0	353.146	48.395	97.09	13.295%	38.348%
20.0	240.775	48.947	146.038	13.447%	57.680%
25.0	139.885	39.924	185.962	10.968%	73.449%
30.0	72.434	26.869	212.831	7.382%	84.062%
35.0	32.834	15.501	228.332	4.259%	90.184%
40.0	17.246	8.356	236.688	2.295%	93.484%
45.0	9.766	5.001	241.69	1.374%	95.460%
50.0	5.987	3.183	244.873	.874%	96.717%
55.0	3.771	2.122	246.995	.583%	97.555%
60.0	2.512	1.452	248.447	.399%	98.129%
65.0	1.610	1.002	249.449	.275%	98.525%
70.0	1.376	0.756	250.205	.208%	98.823%
75.0	1.466	0.743	250.948	.204%	99.117%
80.0	1.115	0.691	251.639	.190%	99.390%
85.0	1.370	0.675	252.314	.185%	99.656%
90.0	1.810	0.871	253.184	.239%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	212.83	58.47%	84.06%
0-40	236.69	65.02%	93.48%
0-60	248.45	68.25%	98.13%
0-90	252.31	69.32%	99.66%
0-120	252.31	69.32%	99.66%
0-180	253.18	69.56%	100.00%
60-90	5.32	1.46%	2.10%
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%
0-28.09	202.55	55.64%	80.00%

ZONAL LUMEN SUMMARY

0-10	48.70
10-20	97.34
20-30	66.79
30-40	23.86
40-50	8.18
50-60	3.57
60-70	1.76
70-80	1.43
80-90	0.68
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



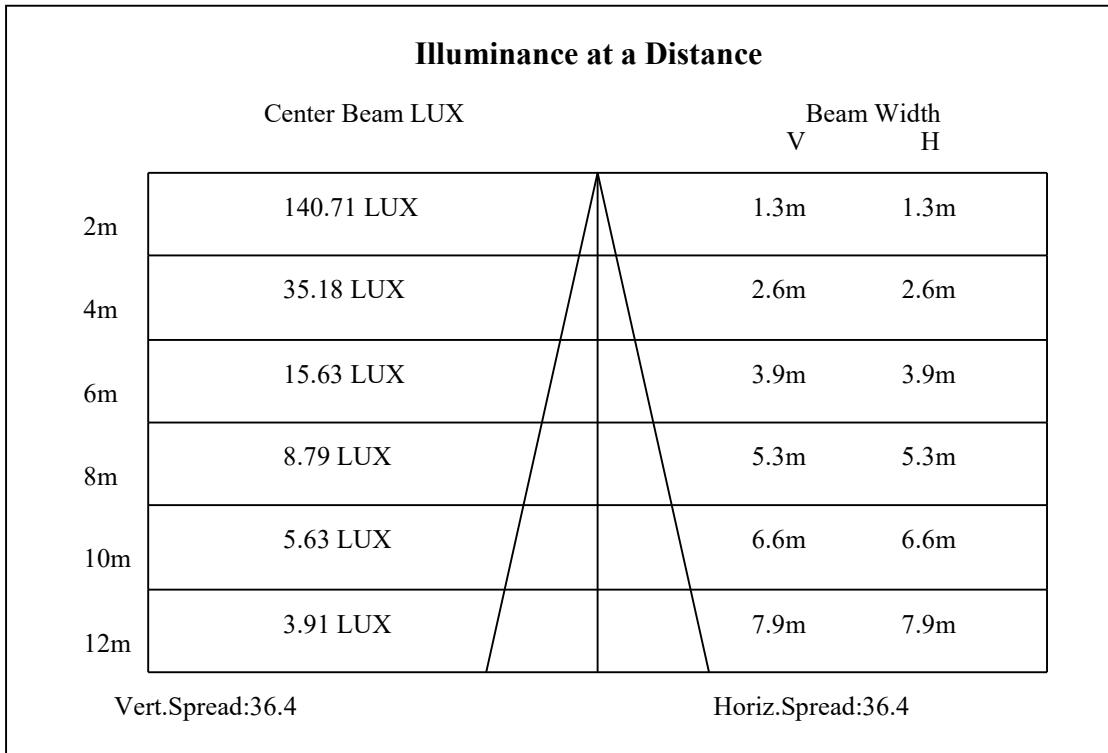
C0(Max): —————

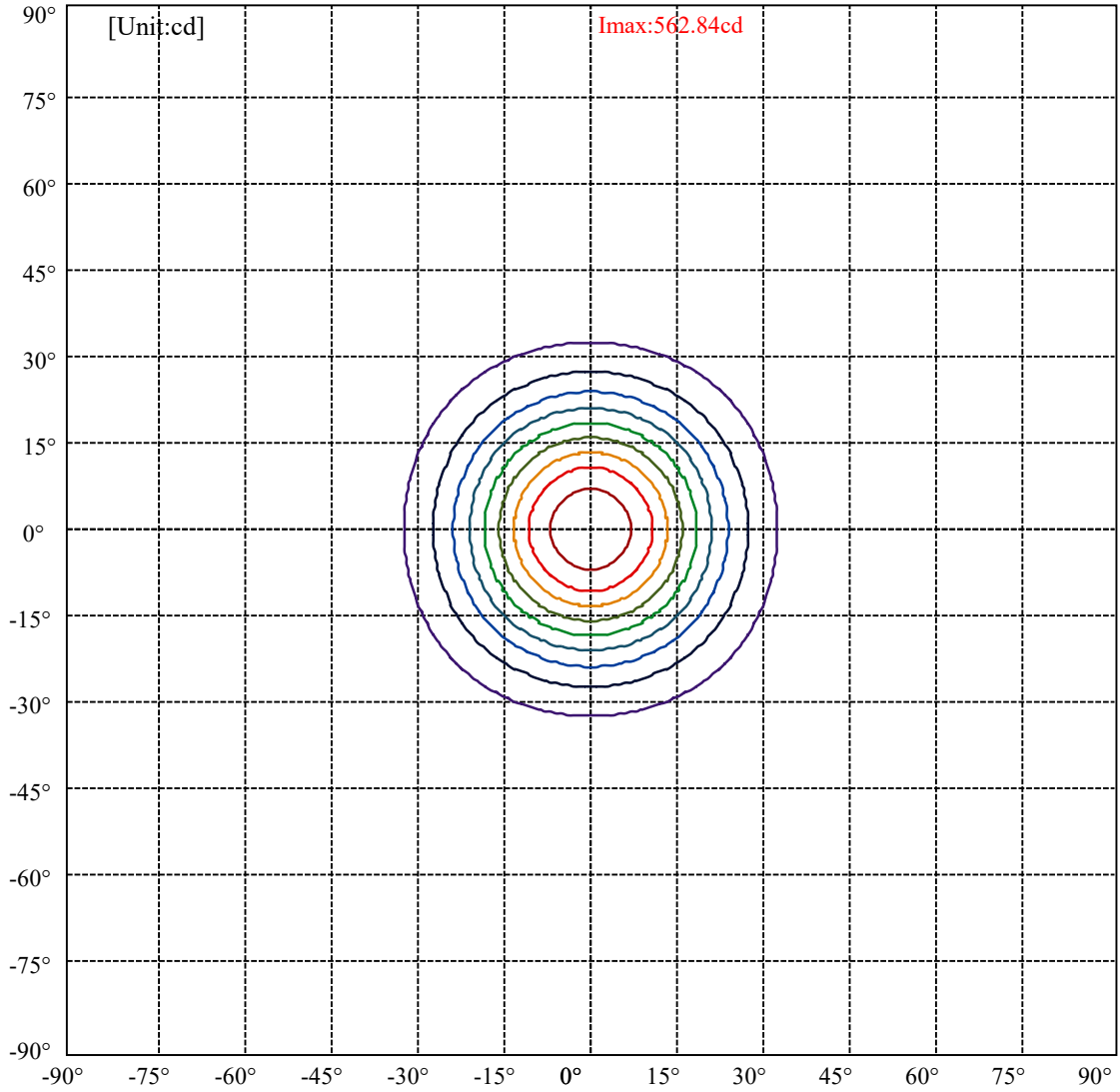
C0/C180: —————

C90/C270: —————

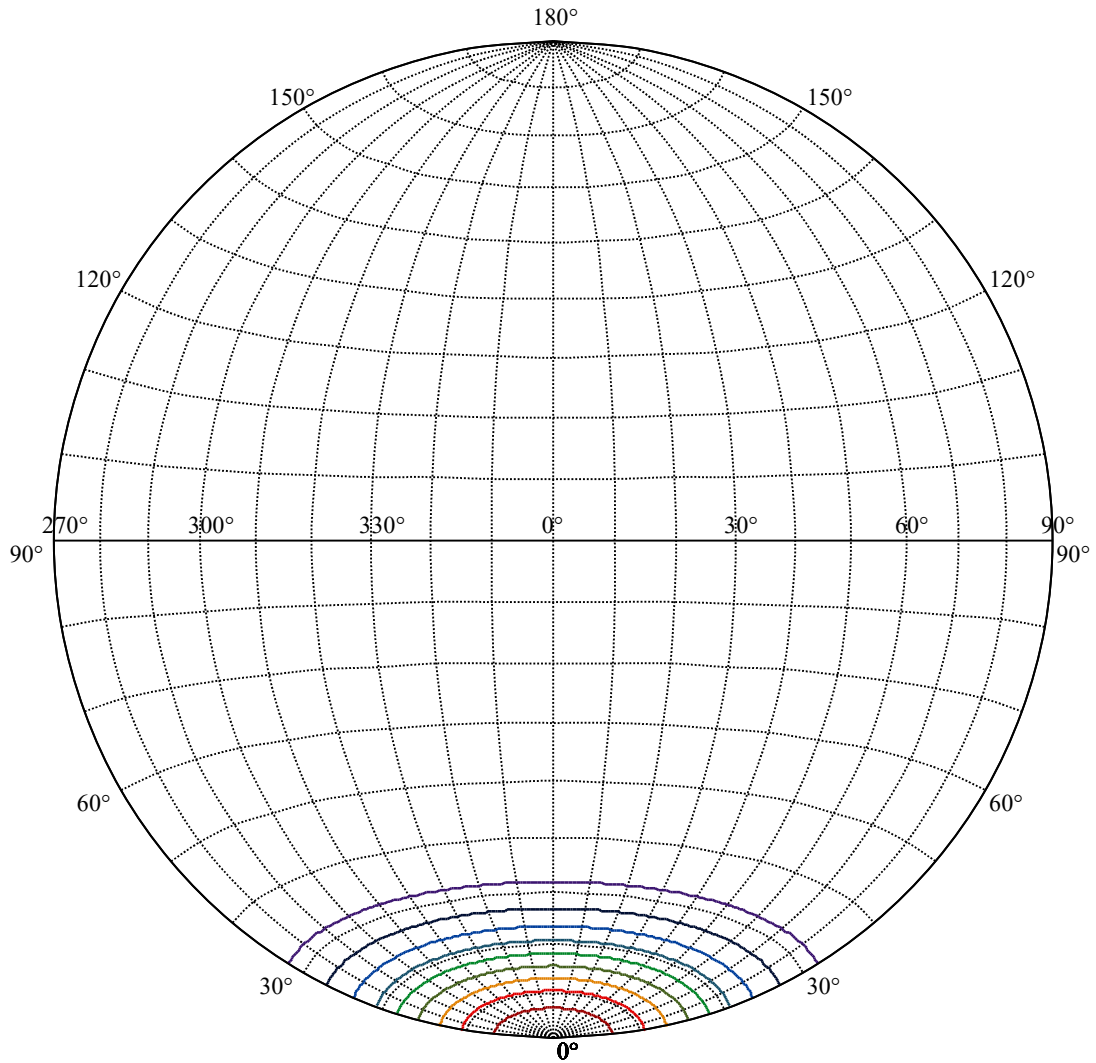
Field angle(10%Imax):C0/180Left:32.0 Right:32.0
:C90/270Left:32.0 Right:32.0

Beam Angle(50%Imax):C0/180Left:18.2 Right:18.2
:C90/270Left:18.2 Right:18.2





(10%Imax) 56.2842	—
(20%Imax) 112.568	—
(30%Imax) 168.852	—
(40%Imax) 225.137	—
(50%Imax) 281.421	—
(60%Imax) 337.705	—
(70%Imax) 393.989	—
(80%Imax) 450.273	—
(90%Imax) 506.557	—



House

[Unit:cd]

Road

Imax:562.84

(10%Imax) 56.2842

(20%Imax) 112.568

(30%Imax) 168.852

(40%Imax) 225.137

(50%Imax) 281.421

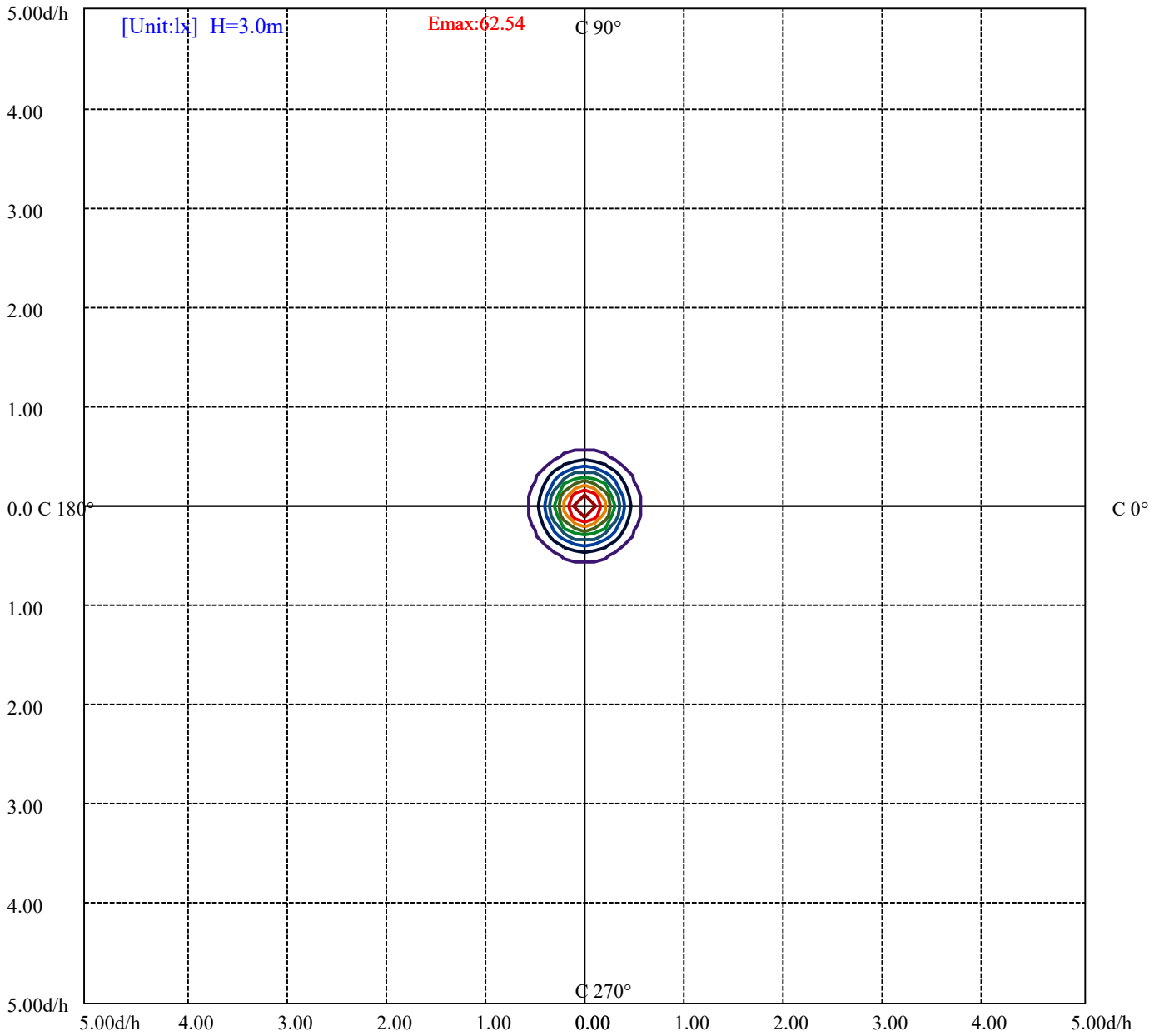
(60%Imax) 337.705

(70%Imax) 393.989

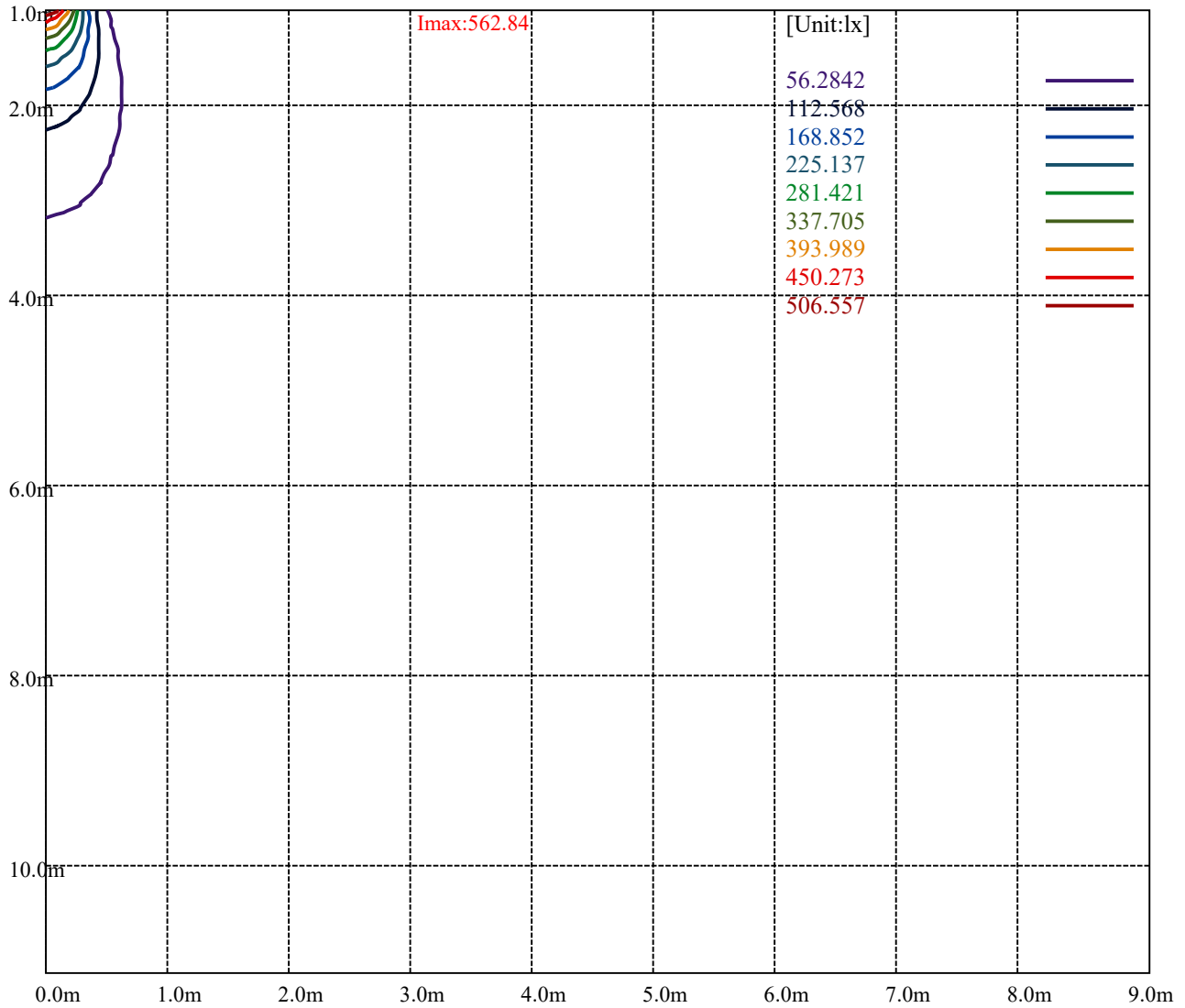
(80%Imax) 450.273

(90%Imax) 506.557





- (10%Emax) 6.253789
- (20%Emax) 12.50756
- (30%Emax) 18.76133
- (40%Emax) 25.01511
- (50%Emax) 31.26889
- (60%Emax) 37.52267
- (70%Emax) 43.77644
- (80%Emax) 50.03033
- (90%Emax) 56.28411



Luminance Table

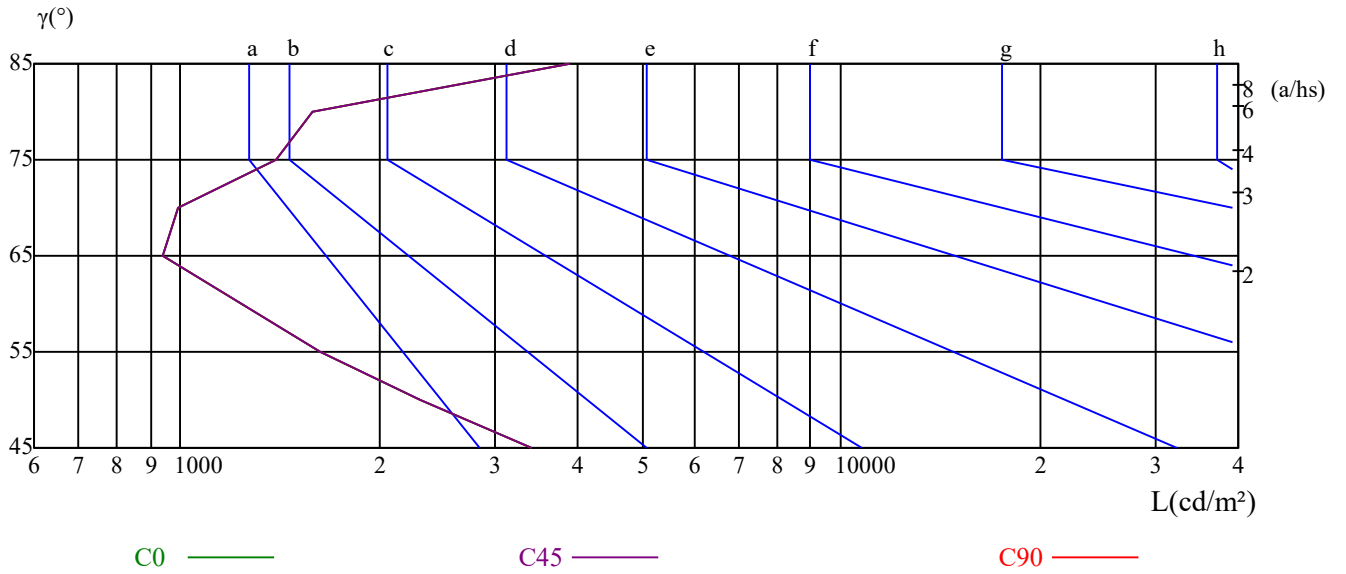
γ	45	50	55	60	65	70	75	80	85
C0	3410	2300	1623	1240	941	994	1398	1585	3880
C45	3410	2300	1623	1240	941	994	1398	1585	3880
C90	3410	2300	1623	1240	941	994	1398	1585	3880

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
941	941	941	1398	1398	1398	3880	3880	3880

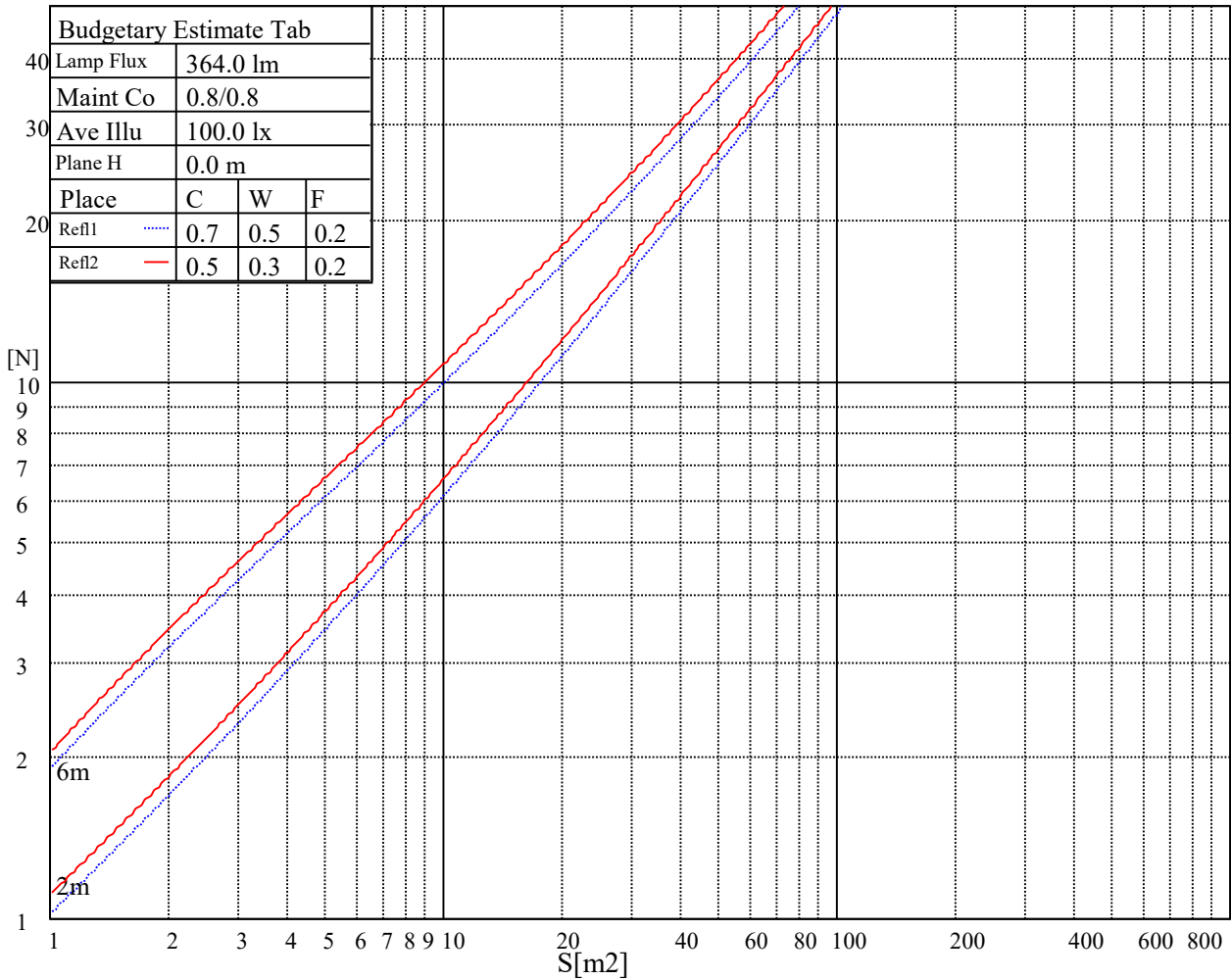
Glare Table

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

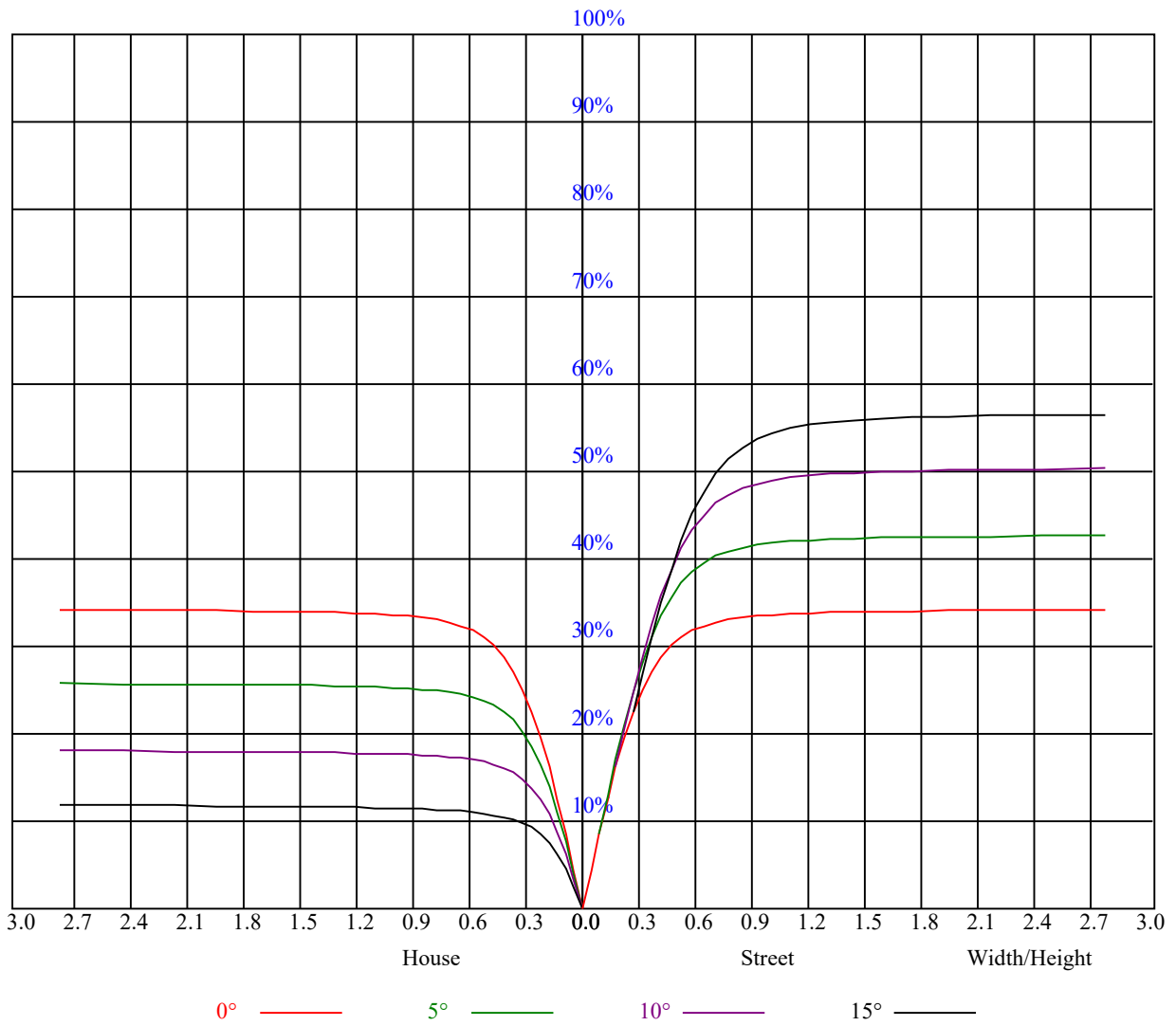
Luminance Limiting Curve



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	10.51	11.48	10.87	11.79	12.10	9.34	10.31	9.70	10.62	10.93
	3H	11.63	12.48	12.01	12.82	13.19	10.13	10.98	10.51	11.31	11.68
	4H	12.77	13.56	13.18	13.92	14.31	10.85	11.64	11.26	12.00	12.39
	6H	13.65	14.38	14.07	14.75	15.15	11.89	12.62	12.31	12.99	13.39
	8H	14.13	14.81	14.57	15.20	15.61	12.60	13.28	13.04	13.68	14.09
	12H	15.21	15.86	15.64	16.24	16.67	13.95	14.59	14.38	14.98	15.41
4H	2H	10.67	11.46	11.07	11.81	12.20	9.67	10.46	10.07	10.81	11.20
	3H	12.12	12.76	12.53	13.17	13.58	10.83	11.48	11.24	11.89	12.29
	4H	13.54	14.12	13.98	14.54	14.99	11.84	12.42	12.28	12.85	13.30
	6H	14.91	15.40	15.38	15.85	16.33	13.35	13.84	13.82	14.29	14.77
	8H	15.49	15.95	15.97	16.40	16.88	14.17	14.63	14.65	15.08	15.56
	12H	16.59	16.99	17.09	17.48	17.96	15.49	15.89	15.98	16.37	16.85
8H	4H	13.86	14.32	14.33	14.77	15.25	12.45	12.92	12.93	13.37	13.84
	6H	15.43	15.80	15.94	16.30	16.79	14.20	14.57	14.71	15.07	15.56
	8H	16.28	16.61	16.81	17.13	17.63	15.29	15.62	15.82	16.14	16.64
	12H	17.75	18.04	18.28	18.54	19.12	16.89	17.17	17.41	17.67	18.25
12H	4H	13.91	14.31	14.41	14.80	15.28	12.58	12.98	13.07	13.47	13.95
	6H	15.88	15.95	16.16	16.42	16.97	14.76	14.83	15.04	15.31	15.86
	8H	16.66	16.94	17.18	17.44	18.02	15.80	16.08	16.32	16.58	17.16
Variation with the observer position at spacings:											
S = 1.0H	3.7/-3.1					3.7/-3.1					
S = 1.5H	5.3/-2.8					5.3/-2.8					
S = 2.0H	6.5/-2.6					6.5/-2.6					
Standard tables:	BK4					BK4					
Uncorrected UGR	-5.1					-5.1					



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	0.83	0.83	0.83	0.81	0.81	0.81	0.77	0.77	0.77	0.74	0.74	0.74	0.71	0.71	0.71	0.70
1	0.77	0.76	0.74	0.76	0.74	0.73	0.73	0.72	0.71	0.70	0.70	0.69	0.68	0.67	0.67	0.65
2	0.73	0.70	0.68	0.71	0.69	0.67	0.69	0.67	0.66	0.67	0.66	0.64	0.65	0.64	0.63	0.62
3	0.68	0.65	0.63	0.68	0.65	0.62	0.66	0.63	0.61	0.64	0.62	0.60	0.63	0.61	0.59	0.58
4	0.65	0.61	0.59	0.64	0.61	0.58	0.63	0.60	0.58	0.61	0.59	0.57	0.60	0.58	0.56	0.55
5	0.61	0.58	0.55	0.61	0.57	0.55	0.60	0.57	0.55	0.59	0.56	0.54	0.57	0.55	0.54	0.53
6	0.58	0.55	0.52	0.58	0.55	0.52	0.57	0.54	0.52	0.56	0.53	0.51	0.55	0.53	0.51	0.50
7	0.56	0.52	0.50	0.55	0.52	0.49	0.54	0.51	0.49	0.54	0.51	0.49	0.53	0.51	0.49	0.48
8	0.53	0.50	0.47	0.53	0.49	0.47	0.52	0.49	0.47	0.52	0.49	0.47	0.51	0.48	0.47	0.46
9	0.51	0.47	0.45	0.51	0.47	0.45	0.50	0.47	0.45	0.50	0.47	0.45	0.49	0.46	0.45	0.44
10	0.49	0.45	0.43	0.49	0.45	0.43	0.48	0.45	0.43	0.48	0.45	0.43	0.47	0.45	0.43	0.42



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	556.29	520.17	452.34	343.88	237.18	144.36	69.32	30.01	15.58
45.0	570.77	517.75	430.16	322.69	219.01	122.61	64.03	30.72	16.74
90.0	563.17	511.69	418.92	303.14	198.64	112.70	53.46	23.89	12.83
135.0	561.13	526.72	461.59	344.71	234.43	133.18	70.86	33.09	17.73
180.0	556.29	531.46	463.41	356.44	231.68	128.39	65.85	28.35	14.37
225.0	570.77	562.51	506.24	399.38	278.70	168.53	86.16	39.97	21.86
270.0	563.17	560.03	506.46	403.34	285.91	174.80	96.02	41.57	20.04
315.0	561.13	529.59	462.42	351.59	240.65	134.50	73.78	35.07	18.83
360.0	556.29	520.17	452.34	343.88	237.18	144.36	69.32	30.01	15.58
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	8.59	5.23	3.19	1.98	1.05	1.05	1.05	1.05	1.05
45.0	9.58	5.89	3.80	2.53	1.71	1.54	1.60	1.16	2.59
90.0	7.82	5.18	3.41	2.20	1.54	1.65	1.87	1.05	1.27
135.0	9.97	5.95	3.69	2.48	1.65	1.27	1.27	1.16	1.27
180.0	8.20	5.07	3.08	1.93	1.05	1.05	1.05	1.05	1.05
225.0	11.89	6.99	4.24	2.97	2.09	1.60	1.76	1.21	1.43
270.0	11.34	7.10	4.73	3.36	2.04	1.60	1.87	1.10	1.10
315.0	10.74	6.50	4.02	2.64	1.76	1.27	1.27	1.16	1.21
360.0	8.59	5.23	3.19	1.98	1.05	1.05	1.05	1.05	1.05
C/γ(°)	90.0								
0.0	1.05								
45.0	3.47								
90.0	1.82								
135.0	1.21								
180.0	0.99								
225.0	3.30								
270.0	1.27								
315.0	1.38								
360.0	1.05								