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## NATA

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LumCAT: 1547-E	
Luminaire: 92.70.051.00	
Report No: NATA0100	Voltage(V): 10.2200
Test No: GC2019010804	Current(A): 0.6010
LampCAT: BRIDGELUX V6	Power (W): 6.1400
Lamp flux(lm): 519.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 21	Width(mm): 21
Phm Type: C	Height(mm): 0

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## Photometric Results

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Lumens(lm): 447.12  
Efficiency(%): 86.15%  
Lumens(lm)/Power(W): 73.20  
Central intensity(cd): 465.230  
Maximum intensity(cd): 465.230  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=57.0  
                                  [C90/270]Total=57.0  
Field angle(10%Imax): [C0/180]Total=93.3  
                                  [C90/270]Total=93.3  
Maximum s/h(1/2): C0\_180=0.80 C90\_270=0.80  
Maximum s/h(1/4): C0\_180=0.93 C90\_270=0.93  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 86.60%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 97.684%

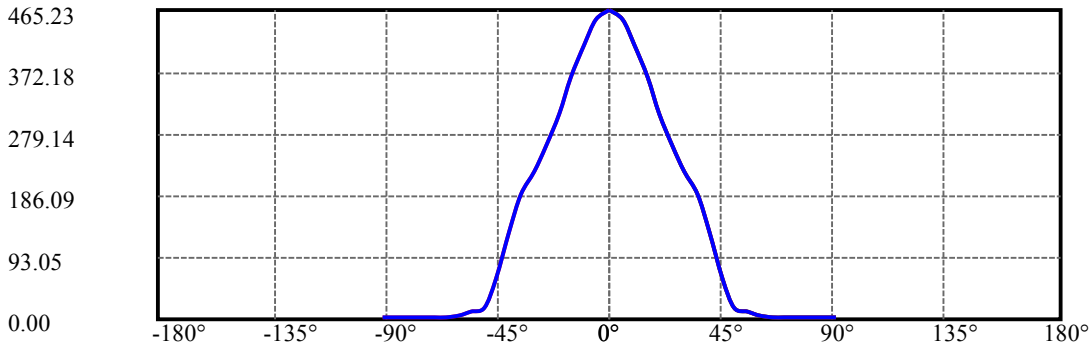
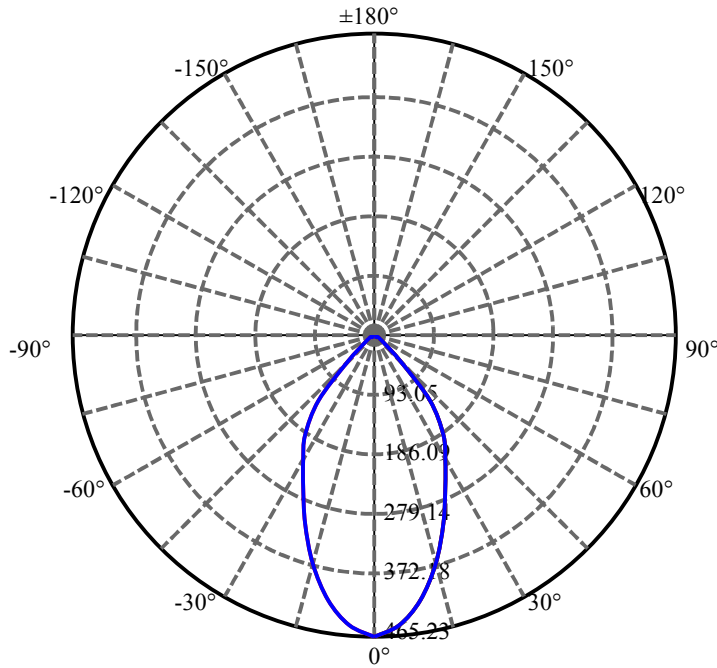
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	465.230	2.782	2.782	.536%	.622%
5.0	450.098	21.503	24.285	4.143%	5.431%
10.0	414.007	39.406	63.691	7.593%	14.245%
15.0	363.614	51.585	115.277	9.939%	25.782%
20.0	309.009	57.931	173.208	11.162%	38.739%
25.0	258.968	59.991	233.199	11.559%	52.156%
30.0	221.070	60.588	293.787	11.674%	65.707%
35.0	187.727	59.021	352.808	11.372%	78.907%
40.0	131.583	46.361	399.169	8.933%	89.276%
45.0	60.159	23.317	422.487	4.493%	94.491%
50.0	18.710	7.856	430.343	1.514%	96.248%
55.0	12.347	5.544	435.887	1.068%	97.488%
60.0	6.701	3.181	439.068	.613%	98.199%
65.0	4.008	1.991	441.059	.384%	98.644%
70.0	3.284	1.691	442.75	.326%	99.023%
75.0	2.777	1.470	444.221	.283%	99.352%
80.0	2.398	1.294	445.515	.249%	99.641%
85.0	2.088	1.140	446.655	.220%	99.896%
90.0	1.695	0.464	447.12	.089%	100.000%

## ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	293.79	56.61%	65.71%
0-40	399.17	76.91%	89.28%
0-60	439.07	84.60%	98.20%
0-90	446.66	86.06%	99.90%
0-120	446.66	86.06%	99.90%
0-180	447.12	86.15%	100.00%
60-90	10.77	2.07%	2.41%
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%
0-35.53	357.70	68.92%	80.00%

## ZONAL LUMEN SUMMARY

0-10	63.69
10-20	109.52
20-30	120.58
30-40	105.38
40-50	31.17
50-60	8.72
60-70	3.68
70-80	2.76
80-90	1.14
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: ———

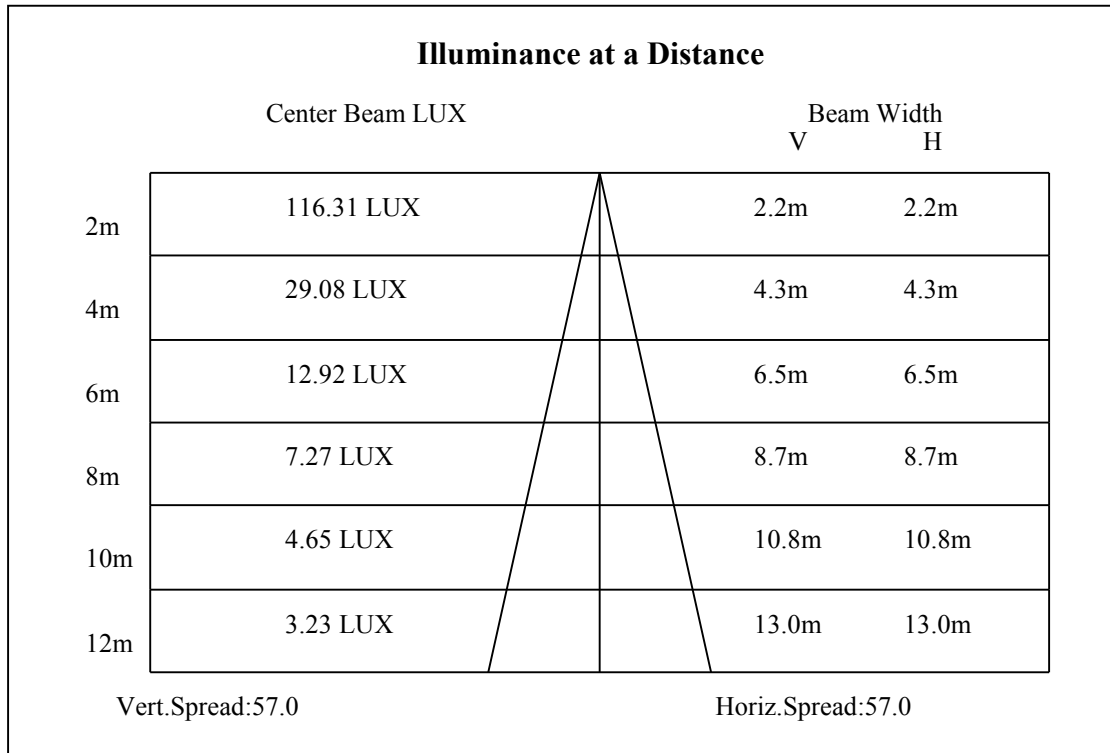
C90/C270: ———

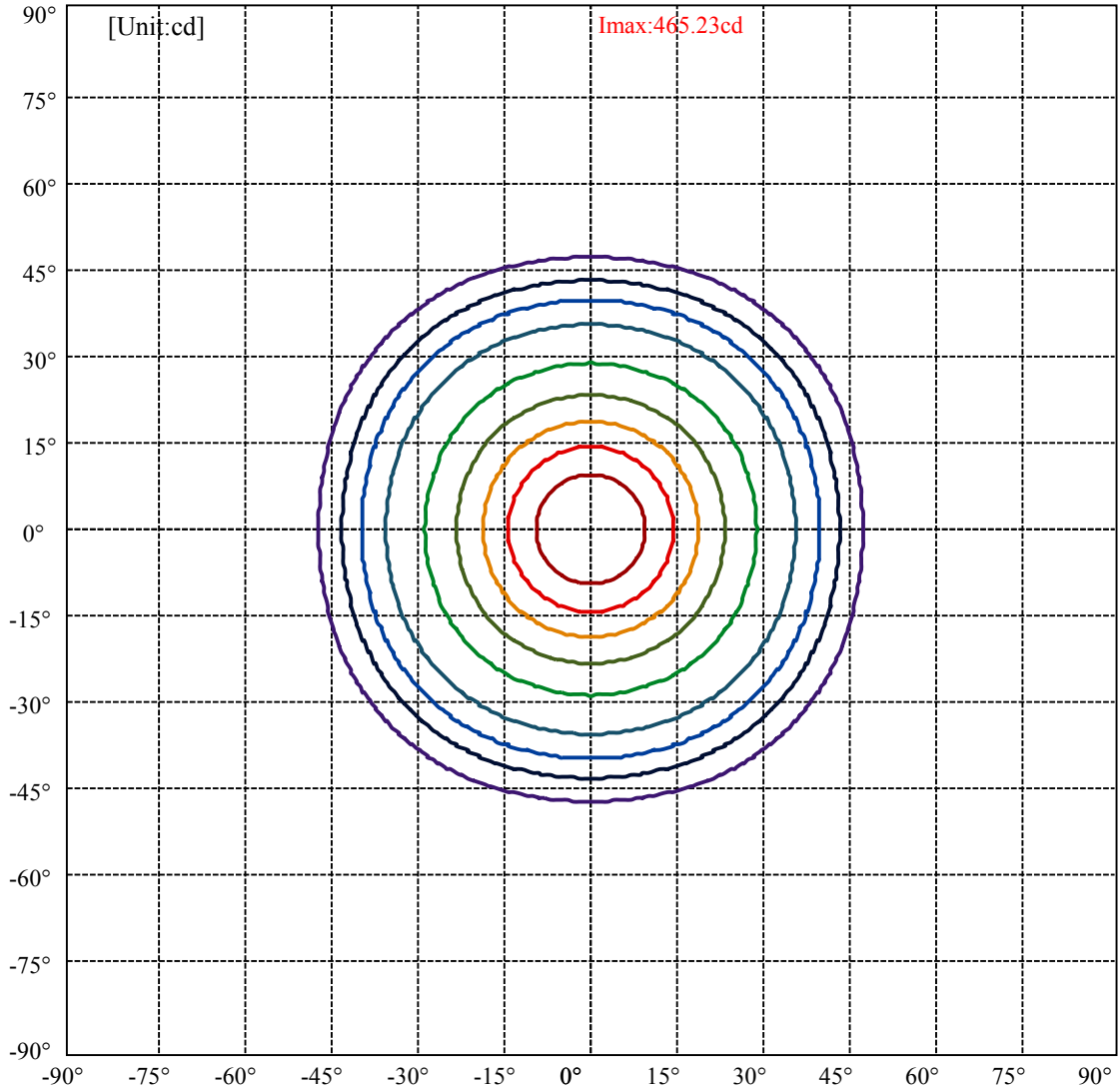
Field angle(10%Imax):C0/180Left:46.6 Right:46.6

:C90/270Left:46.6 Right:46.6

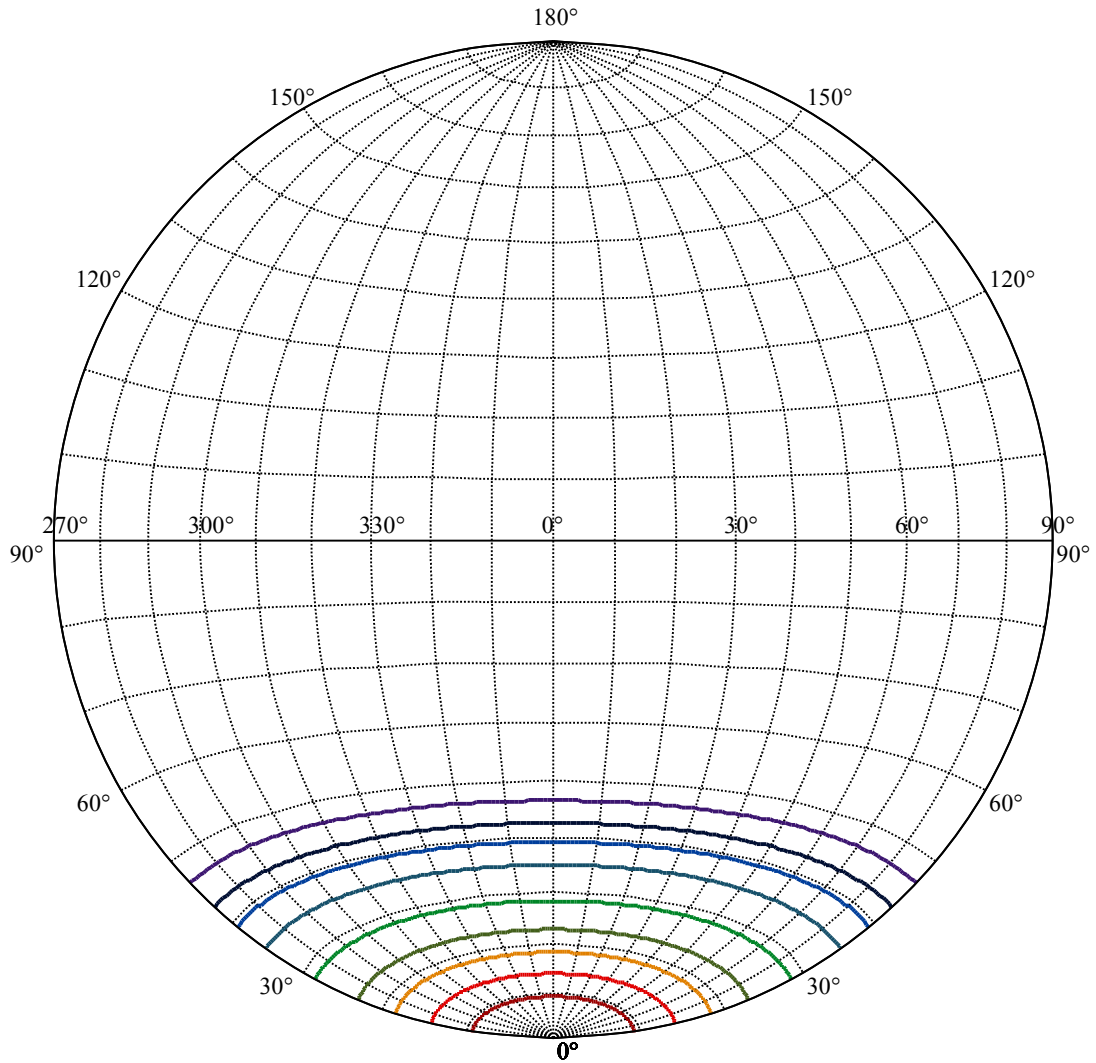
Beam Angle(50%Imax):C0/180Left:28.5 Right:28.5

:C90/270Left:28.5 Right:28.5





(10%Imax) 46.523	—
(20%Imax) 93.0459	—
(30%Imax) 139.569	—
(40%Imax) 186.092	—
(50%Imax) 232.615	—
(60%Imax) 279.138	—
(70%Imax) 325.661	—
(80%Imax) 372.184	—
(90%Imax) 418.707	—



House

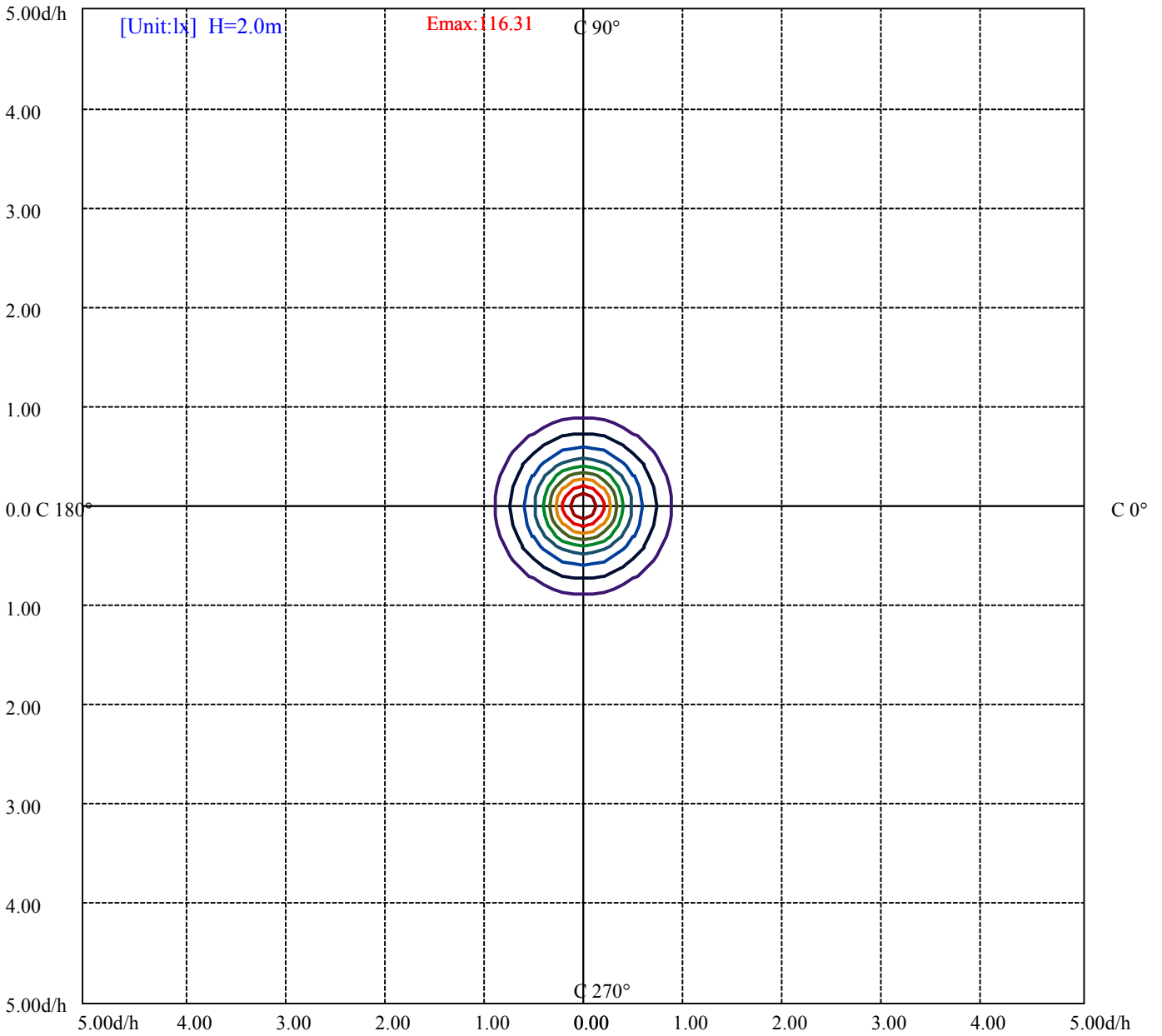
[Unit:cd]

Road

**Imax:465.23**

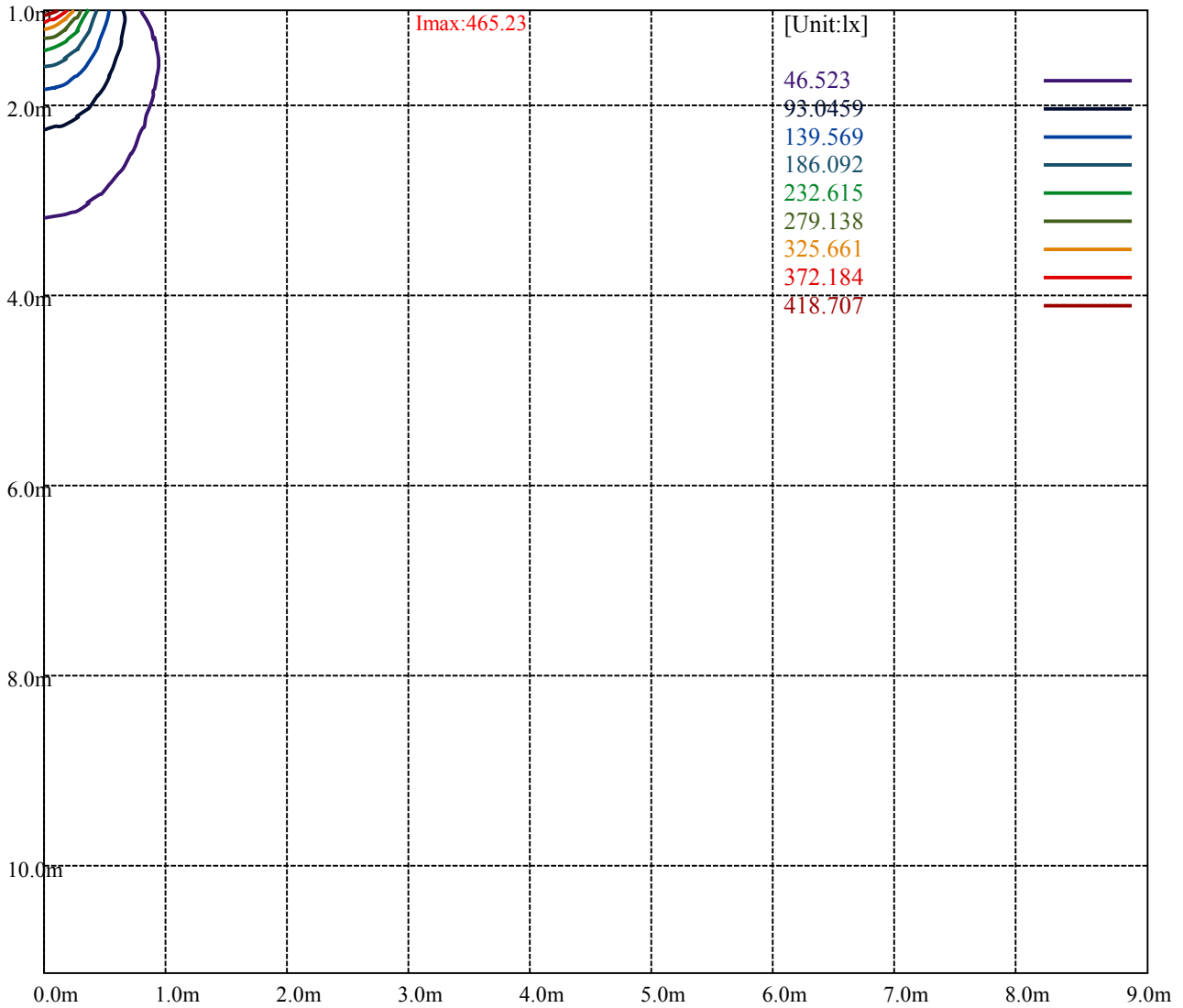
- (10%Imax) 46.523
- (20%Imax) 93.0459
- (30%Imax) 139.569
- (40%Imax) 186.092
- (50%Imax) 232.615
- (60%Imax) 279.138
- (70%Imax) 325.661
- (80%Imax) 372.184
- (90%Imax) 418.707





- (10%Emax) 11.63072
- (20%Emax) 23.26145
- (30%Emax) 34.89225
- (40%Emax) 46.523
- (50%Emax) 58.15375
- (60%Emax) 69.7845
- (70%Emax) 81.415
- (80%Emax) 93.04575
- (90%Emax) 104.6765





Luminance Table

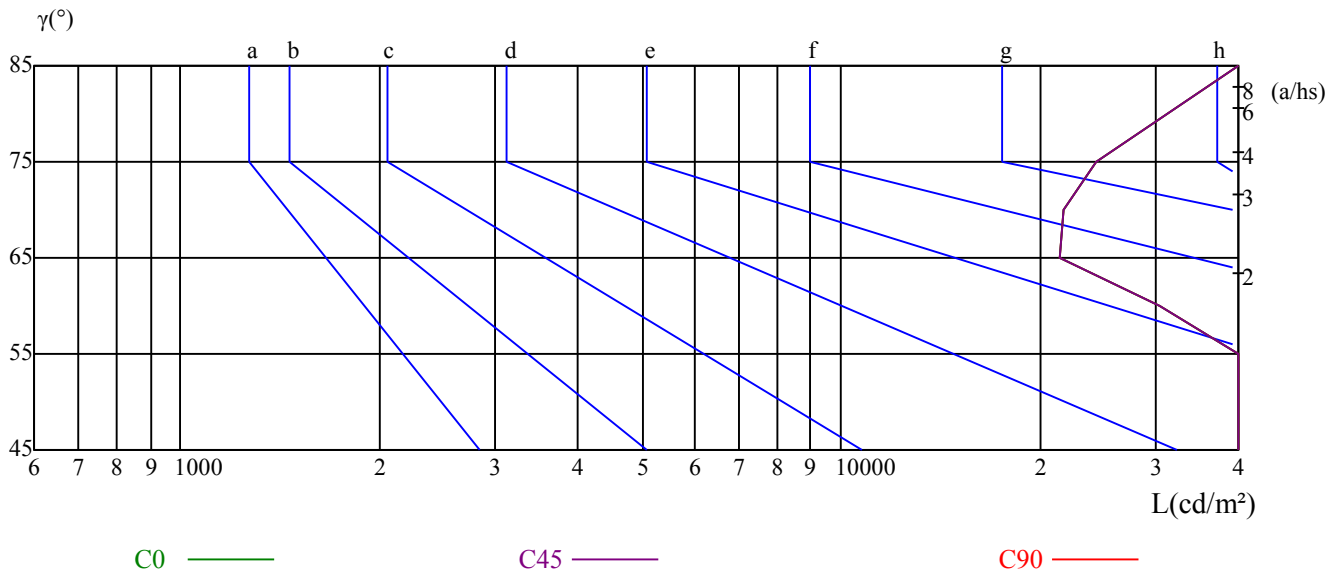
$\gamma$	45	50	55	60	65	70	75	80	85
C0	192921	66004	48812	30389	21504	21770	24333	31310	54332
C45	192921	66004	48812	30389	21504	21770	24333	31310	54332
C90	192921	66004	48812	30389	21504	21770	24333	31310	54332

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
21504	21504	21504	24333	24333	24333	54332	54332	54332

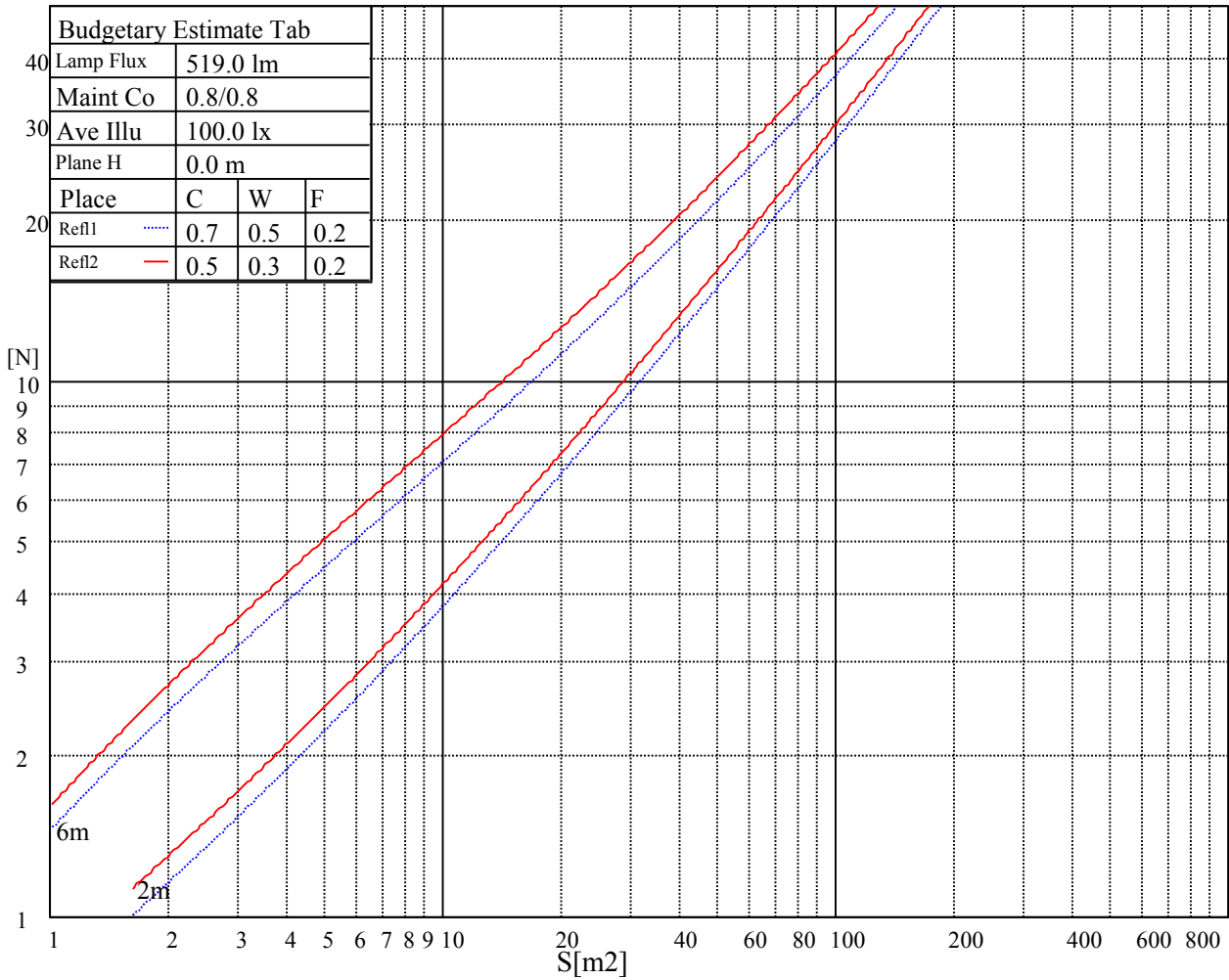
Glare Table

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

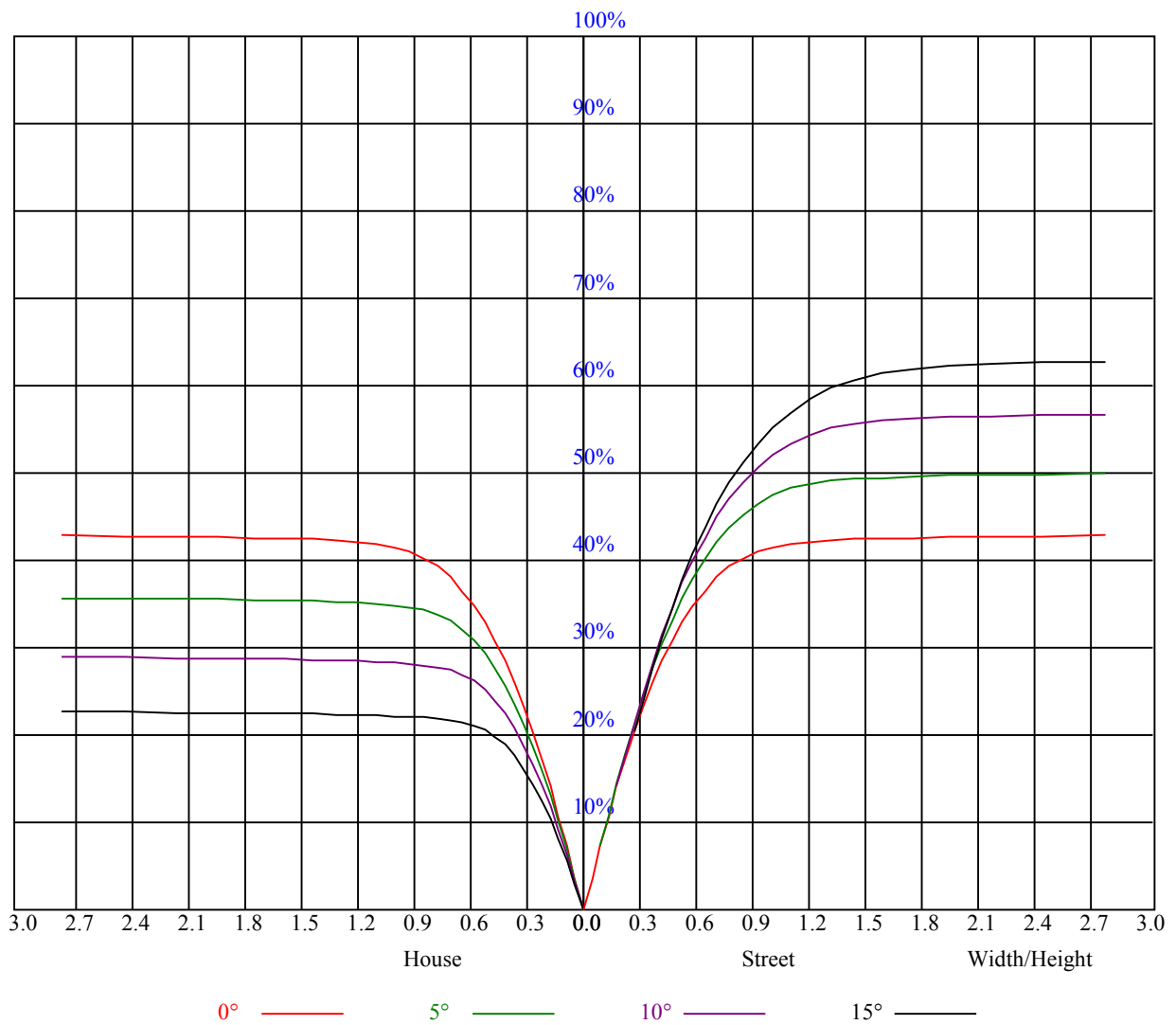
Luminance Limiting Curve



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	21.28	22.36	21.64	22.67	22.99	21.35	22.44	21.72	22.75	23.07
	3H	21.94	22.89	22.32	23.23	23.59	21.98	22.93	22.36	23.27	23.63
	4H	22.39	23.28	22.80	23.63	24.02	22.40	23.29	22.81	23.64	24.03
	6H	22.99	23.80	23.41	24.18	24.57	22.98	23.79	23.40	24.16	24.56
	8H	23.37	24.13	23.80	24.52	24.93	23.35	24.12	23.79	24.51	24.92
	12H	24.10	24.82	24.53	25.21	25.64	24.10	24.83	24.54	25.22	25.65
4H	2H	21.30	22.18	21.71	22.54	22.93	21.37	22.26	21.78	22.61	23.00
	3H	22.22	22.94	22.64	23.35	23.76	22.25	22.97	22.67	23.38	23.78
	4H	22.86	23.51	23.30	23.93	24.38	22.87	23.51	23.30	23.93	24.38
	6H	23.63	24.18	24.10	24.63	25.10	23.62	24.17	24.08	24.62	25.09
	8H	24.17	24.68	24.64	25.13	25.60	24.15	24.66	24.62	25.11	25.59
	12H	25.01	25.46	25.50	25.94	26.42	25.02	25.46	25.51	25.95	26.43
8H	4H	23.09	23.60	23.56	24.05	24.53	23.09	23.61	23.57	24.06	24.53
	6H	24.12	24.54	24.63	25.04	25.52	24.11	24.52	24.61	25.02	25.51
	8H	24.85	25.22	25.38	25.74	26.23	24.83	25.20	25.36	25.72	26.22
	12H	26.03	26.35	26.55	26.85	27.43	26.03	26.36	26.55	26.86	27.44
12H	4H	23.14	23.58	23.63	24.07	24.55	23.14	23.59	23.63	24.07	24.55
	6H	24.62	24.64	24.80	25.11	25.65	24.61	24.62	24.78	25.09	25.64
	8H	25.10	25.43	25.62	25.93	26.51	25.09	25.42	25.61	25.91	26.49
Variation with the observer position at spacings:											
S = 1.0H	2.9/-6.6					2.9/-6.6					
S = 1.5H	5.0/-6.9					5.0/-6.9					
S = 2.0H	6.8/-6.3					6.8/-6.3					
Standard tables:	BK1					BK1					
Uncorrected UGR	9.0					9.0					



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	0.88	0.88	0.88	0.87
1	0.95	0.92	0.90	0.93	0.91	0.89	0.89	0.88	0.86	0.86	0.85	0.84	0.83	0.82	0.81	0.79
2	0.88	0.84	0.81	0.86	0.83	0.80	0.84	0.81	0.78	0.81	0.79	0.77	0.79	0.77	0.75	0.74
3	0.82	0.77	0.74	0.81	0.76	0.73	0.78	0.75	0.72	0.76	0.73	0.71	0.74	0.72	0.70	0.68
4	0.76	0.71	0.67	0.75	0.71	0.67	0.73	0.69	0.66	0.72	0.68	0.65	0.70	0.67	0.65	0.63
5	0.71	0.66	0.62	0.71	0.66	0.62	0.69	0.65	0.61	0.68	0.64	0.61	0.66	0.63	0.60	0.59
6	0.67	0.62	0.58	0.66	0.61	0.58	0.65	0.60	0.57	0.64	0.60	0.57	0.63	0.59	0.56	0.55
7	0.63	0.58	0.54	0.62	0.57	0.54	0.61	0.57	0.53	0.60	0.56	0.53	0.59	0.56	0.53	0.52
8	0.59	0.54	0.50	0.59	0.54	0.50	0.58	0.53	0.50	0.57	0.53	0.50	0.56	0.52	0.50	0.48
9	0.56	0.51	0.47	0.56	0.51	0.47	0.55	0.50	0.47	0.54	0.50	0.47	0.53	0.49	0.47	0.45
10	0.53	0.48	0.45	0.53	0.48	0.44	0.52	0.47	0.44	0.51	0.47	0.44	0.51	0.47	0.44	0.43



NATA 1547-E

Intensity data(cd)

C/ $\gamma$ (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	465.58	449.27	411.53	354.32	302.85	259.20	224.44	194.96	142.82
45.0	465.47	443.36	401.63	347.29	292.28	242.33	207.45	173.76	114.08
90.0	464.91	440.49	397.29	347.74	287.49	241.99	207.28	167.01	98.49
135.0	464.96	449.78	416.42	368.38	312.92	265.28	226.52	193.44	139.44
180.0	465.58	452.64	417.09	370.35	317.14	265.22	229.39	196.26	135.39
225.0	465.47	457.20	426.04	379.29	327.15	272.81	227.19	191.31	139.05
270.0	464.91	458.83	429.47	383.01	327.71	271.29	226.41	193.44	147.94
315.0	464.96	449.21	412.59	358.54	304.54	253.63	219.88	191.64	135.45
360.0	465.58	449.27	411.53	354.32	302.85	259.20	224.44	194.96	142.82
C/ $\gamma$ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	63.79	19.74	15.02	9.11	4.28	3.43	2.93	2.48	2.19
45.0	53.04	16.03	11.19	5.18	3.99	3.32	2.76	2.42	2.08
90.0	38.70	14.91	10.13	4.78	3.71	3.15	2.64	2.31	1.97
135.0	60.36	16.48	10.24	4.84	3.77	3.15	2.70	2.31	1.97
180.0	57.26	17.38	11.19	4.78	3.77	3.09	2.59	2.25	2.03
225.0	65.08	21.09	13.95	5.79	4.05	3.26	2.76	2.42	2.14
270.0	79.54	25.54	14.18	10.07	4.39	3.54	2.98	2.53	2.14
315.0	63.51	18.51	12.88	9.06	4.11	3.32	2.87	2.48	2.19
360.0	63.79	19.74	15.02	9.11	4.28	3.43	2.93	2.48	2.19
C/ $\gamma$ (°)	90.0								
0.0	1.86								
45.0	1.69								
90.0	1.63								
135.0	1.63								
180.0	1.58								
225.0	1.63								
270.0	1.74								
315.0	1.80								
360.0	1.86								