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Nata

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LumCAT: 1546-E  
Luminaire: 92.70.064.00  
Report No: NT2017090507  
Test No: GC2017090507  
LampCAT: CITIZEN CLU028  
Lamp flux(lm): 1463.0  
Number of Lamps: 1  
Length(mm): 21  
Phm Type: C

Voltage(V): 0.0000  
Current(A): 0.0000  
Power (W): 0.0000  
PF: 0.0000  
Ballast type: DC  
Width(mm): 21  
Height(mm): 0

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Photometric Results

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Lumens(lm): 1277.64  
Efficiency(%): 87.33%  
Lumens(lm)/Power(W): 0.00  
Central intensity(cd): 1475.649  
Maximum intensity(cd): 1475.649  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=50.4  
                                  [C90/270]Total=50.4  
Field angle(10%Imax): [C0/180]Total=92.8  
                                  [C90/270]Total=92.8  
Maximum s/h(1/2): C0\_180=0.76 C90\_270=0.76  
Maximum s/h(1/4): C0\_180=0.83 C90\_270=0.83  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 87.33%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 97.019%

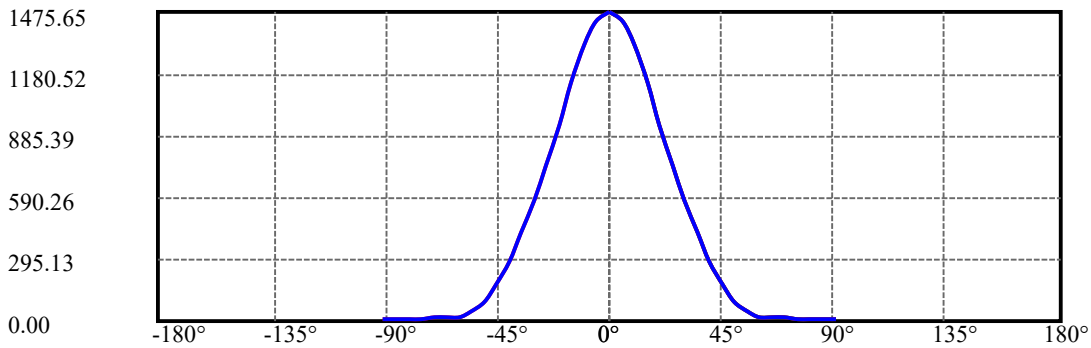
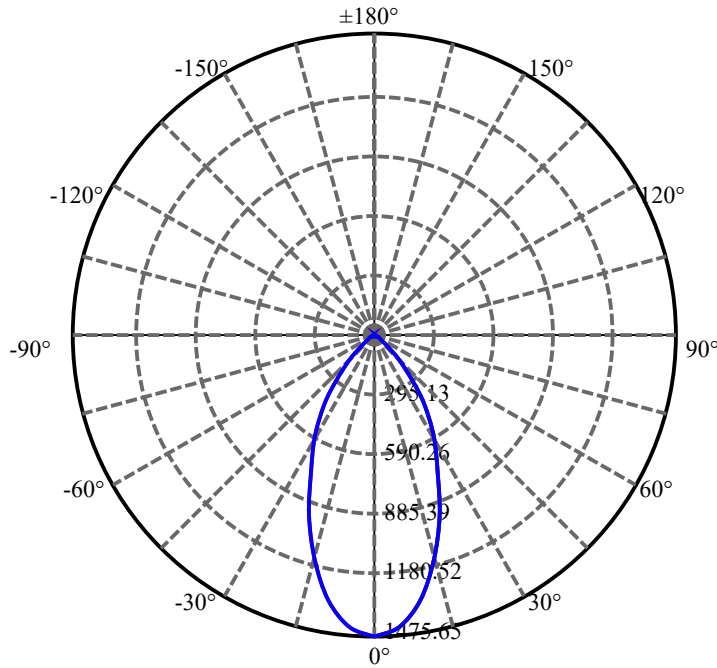
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1475.649	0.000	0	.000%	.000%
5.0	1433.944	34.783	34.783	2.378%	2.722%
10.0	1315.917	98.371	133.155	6.724%	10.422%
15.0	1133.962	145.325	278.48	9.933%	21.796%
20.0	937.913	170.752	449.231	11.671%	35.161%
25.0	744.748	176.480	625.711	12.063%	48.974%
30.0	580.226	167.677	793.388	11.461%	62.098%
35.0	418.683	147.096	940.484	10.054%	73.611%
40.0	288.647	118.013	1058.497	8.066%	82.848%
45.0	170.090	84.939	1143.436	5.806%	89.496%
50.0	88.317	52.215	1195.651	3.569%	93.583%
55.0	43.261	28.609	1224.26	1.956%	95.822%
60.0	22.903	15.294	1239.554	1.045%	97.019%
65.0	15.581	9.356	1248.91	.639%	97.751%
70.0	13.799	7.439	1256.349	.508%	98.333%
75.0	12.147	6.782	1263.13	.464%	98.864%
80.0	10.433	6.042	1269.172	.413%	99.337%
85.0	7.956	4.997	1274.169	.342%	99.728%
90.0	4.728	3.473	1277.642	.237%	100.000%

## ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	793.39	54.23%	62.10%
0-40	1058.50	72.35%	82.85%
0-60	1239.55	84.73%	97.02%
0-90	1274.17	87.09%	99.73%
0-120	1274.17	87.09%	99.73%
0-180	1277.64	87.33%	100.00%
60-90	49.91	3.41%	3.91%
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%
0-38.46	1022.11	69.86%	80.00%

## ZONAL LUMEN SUMMARY

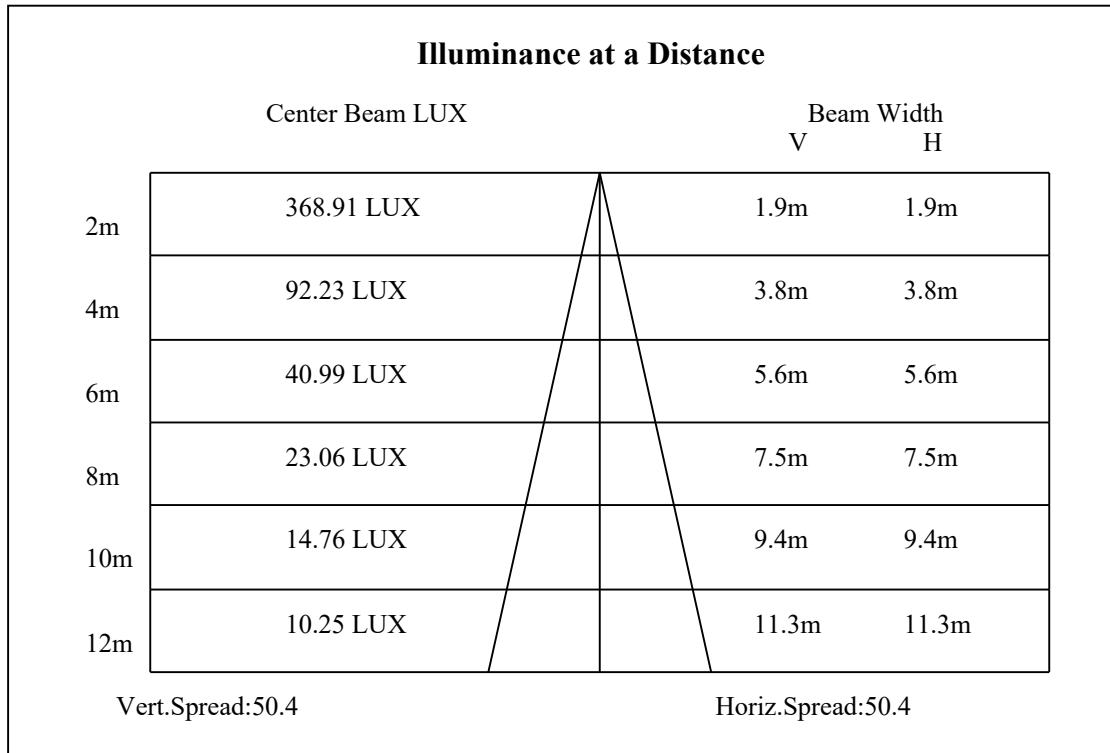
0-10	133.15
10-20	316.08
20-30	344.16
30-40	265.11
40-50	137.15
50-60	43.90
60-70	16.79
70-80	12.82
80-90	5.00
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

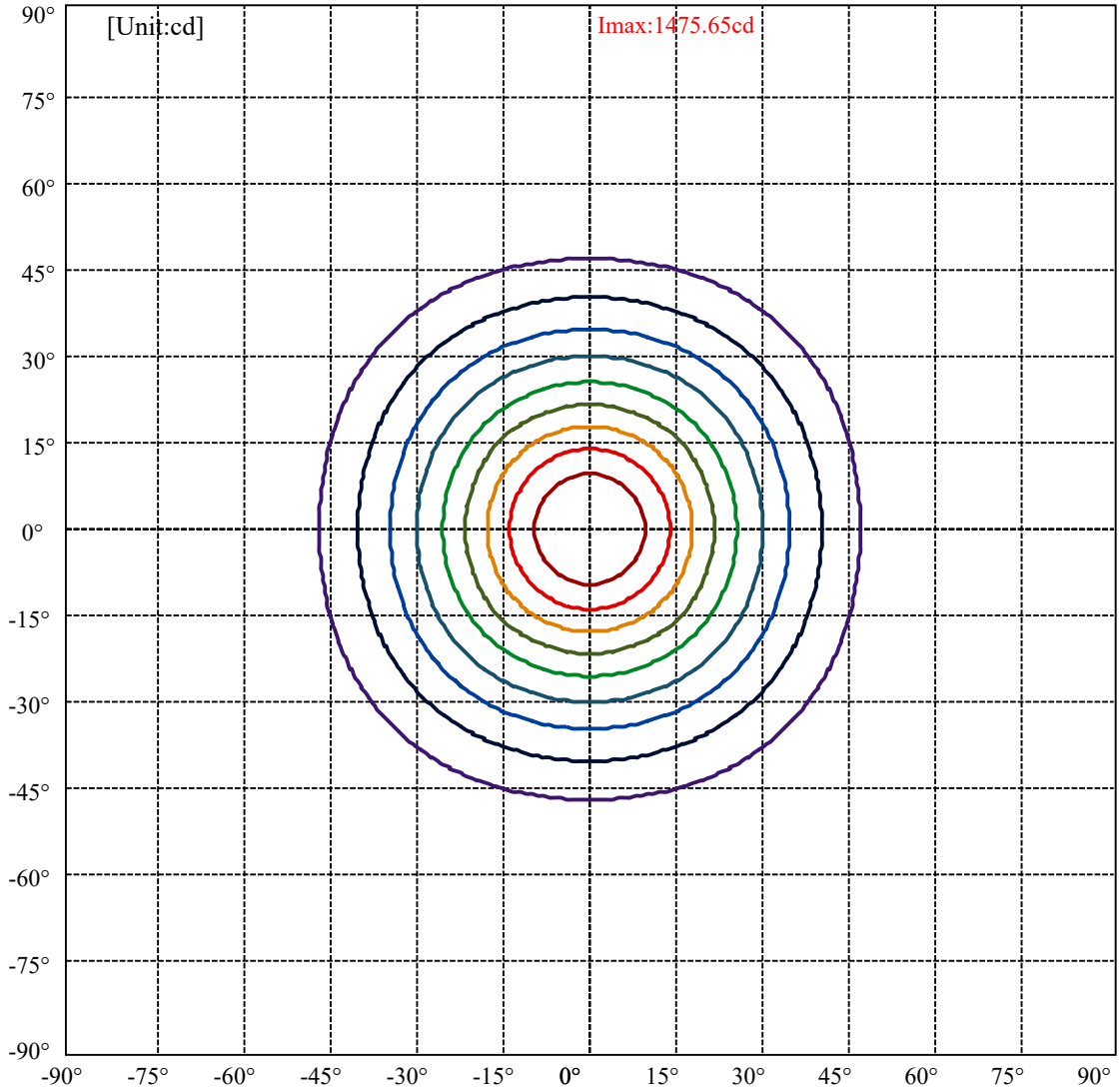


C0(Max): —————  
C0/C180: —————  
C90/C270: —————

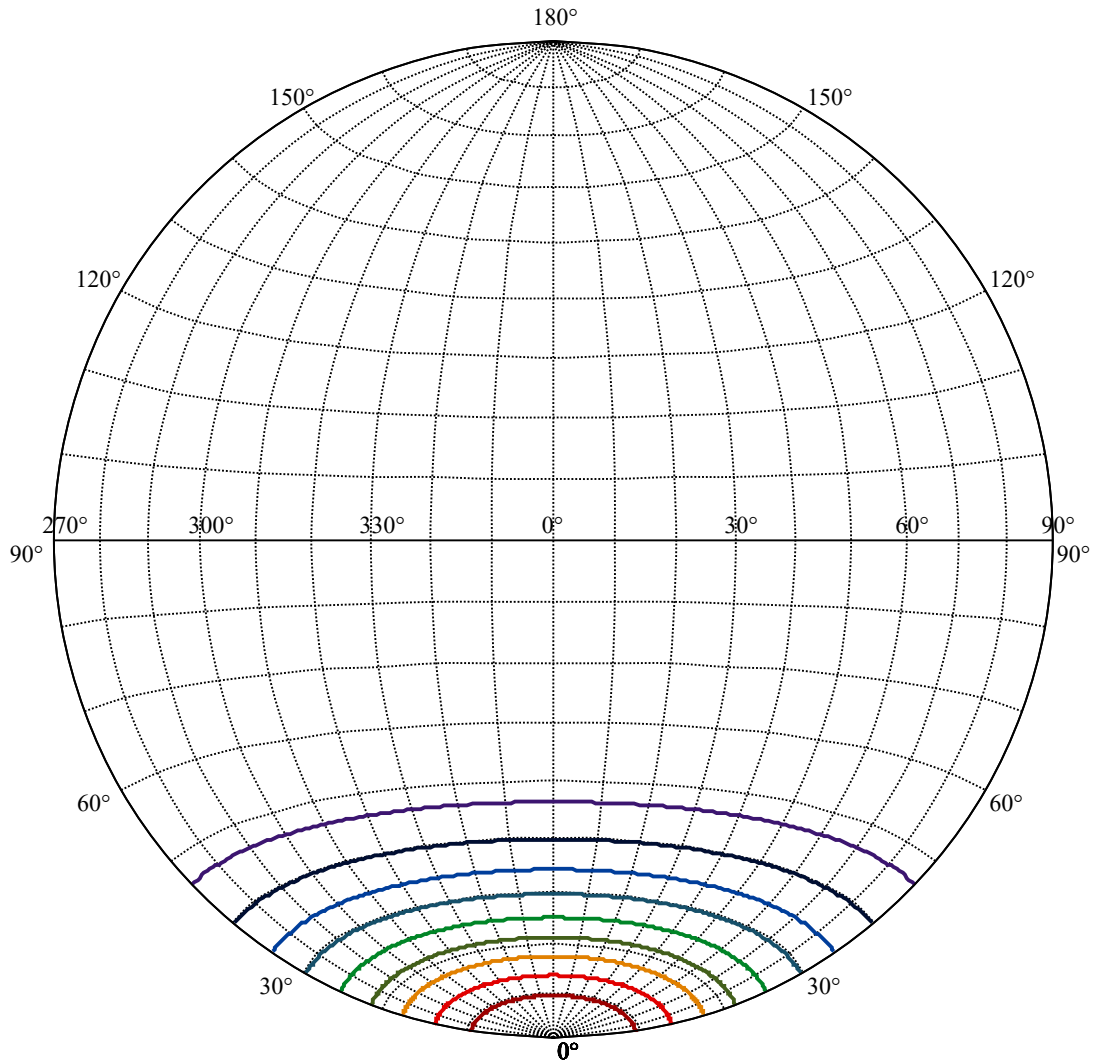
Field angle(10%Imax):C0/180Left:46.4 Right:46.4  
:C90/270Left:46.4 Right:46.4

Beam Angle(50%Imax):C0/180Left:25.2 Right:25.2  
:C90/270Left:25.2 Right:25.2





(10%Imax) 147.565	—
(20%Imax) 295.13	—
(30%Imax) 442.695	—
(40%Imax) 590.26	—
(50%Imax) 737.825	—
(60%Imax) 885.389	—
(70%Imax) 1032.95	—
(80%Imax) 1180.52	—
(90%Imax) 1328.08	—



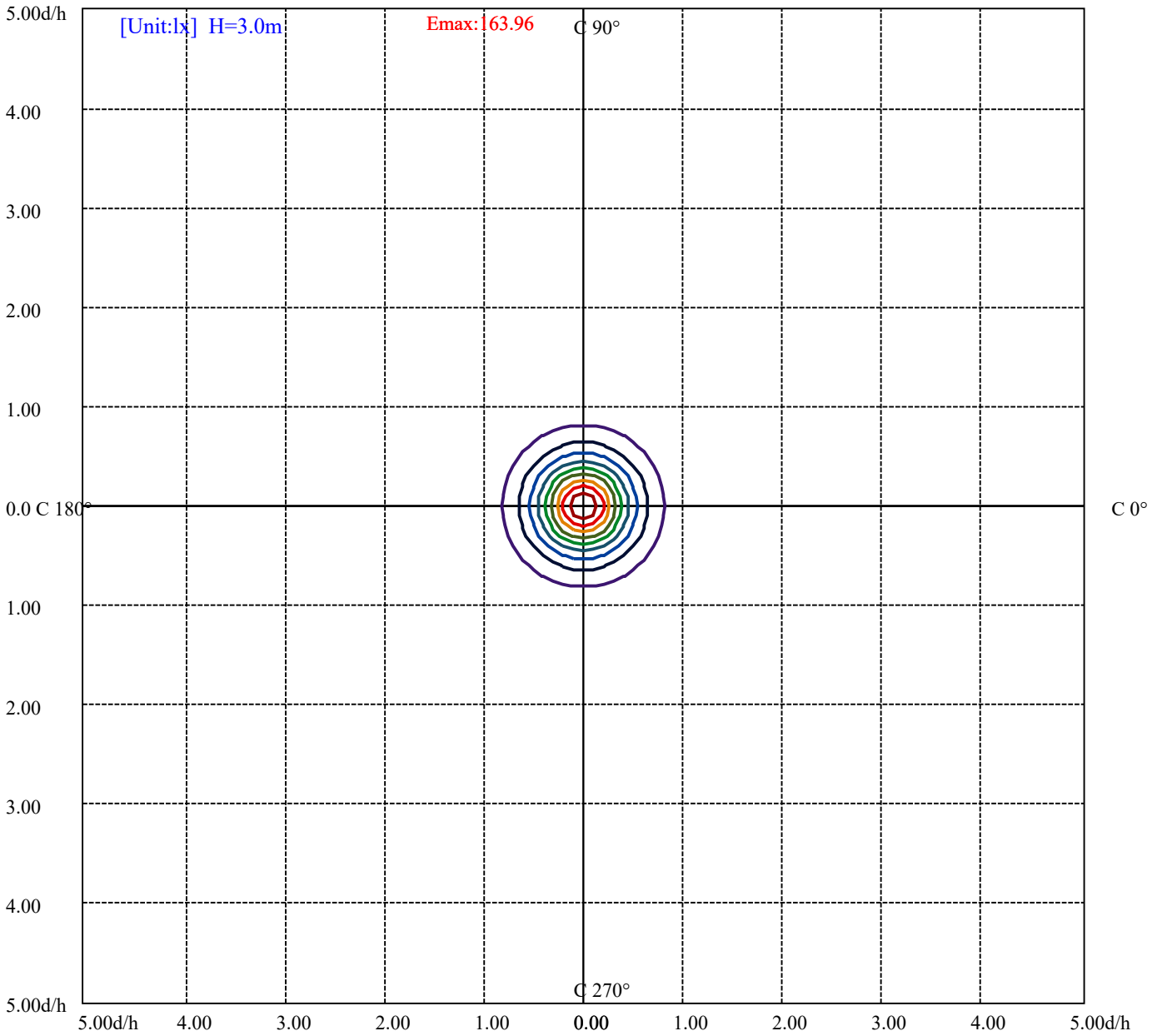
House

[Unit:cd]

Road

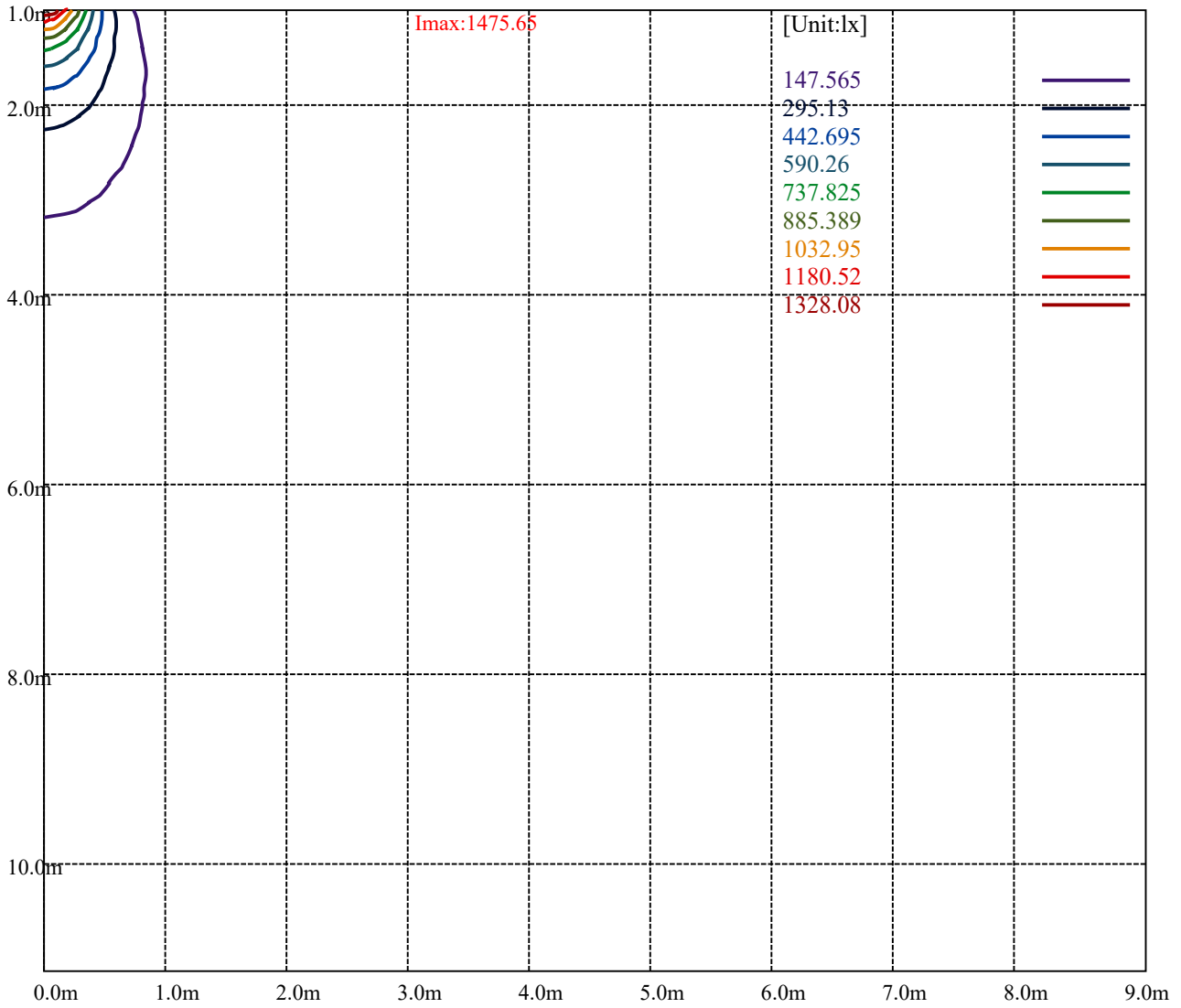
**Imax:1475.65**

(10%Imax) 147.565	—
(20%Imax) 295.13	—
(30%Imax) 442.695	—
(40%Imax) 590.26	—
(50%Imax) 737.825	—
(60%Imax) 885.389	—
(70%Imax) 1032.95	—
(80%Imax) 1180.52	—
(90%Imax) 1328.08	—



- (10%Emax) 16.39611
- (20%Emax) 32.79222
- (30%Emax) 49.18822
- (40%Emax) 65.58433
- (50%Emax) 81.98044
- (60%Emax) 98.37656
- (70%Emax) 114.7722
- (80%Emax) 131.1689
- (90%Emax) 147.5644





Luminance Table

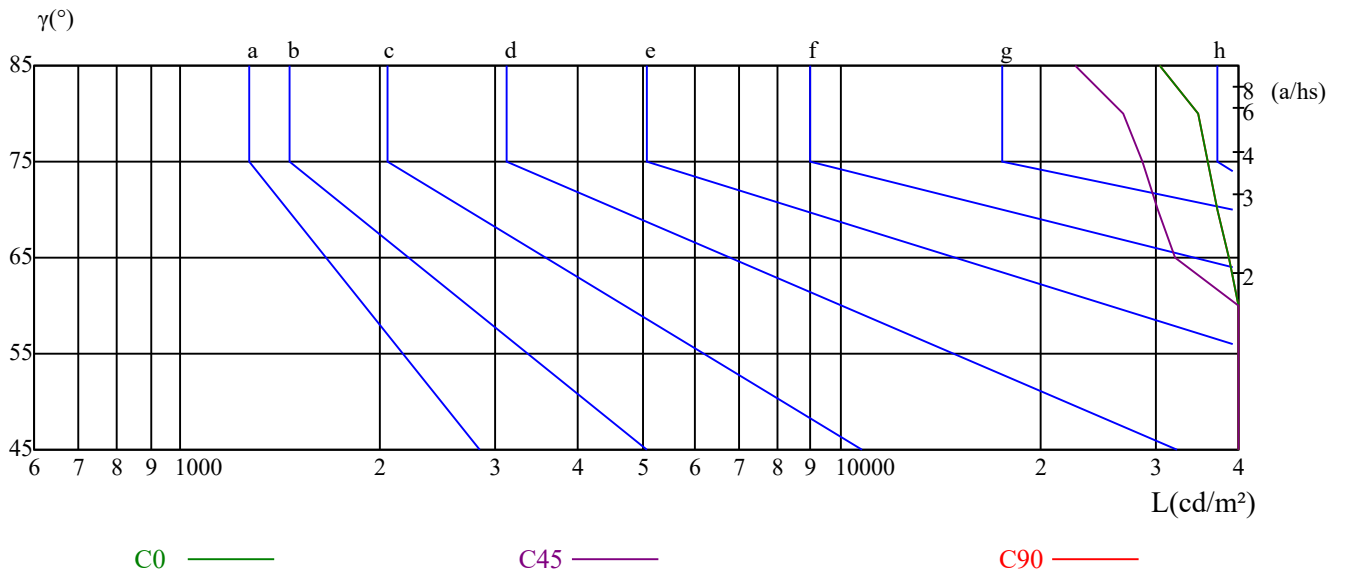
$\gamma$	45	50	55	60	65	70	75	80	85
C0	341681	184133	94492	52953	38573	37066	35962	34696	30441
C45	302522	160739	81245	44782	32025	30134	28527	26721	22593
C90	341681	184133	94492	52953	38573	37066	35962	34696	30441

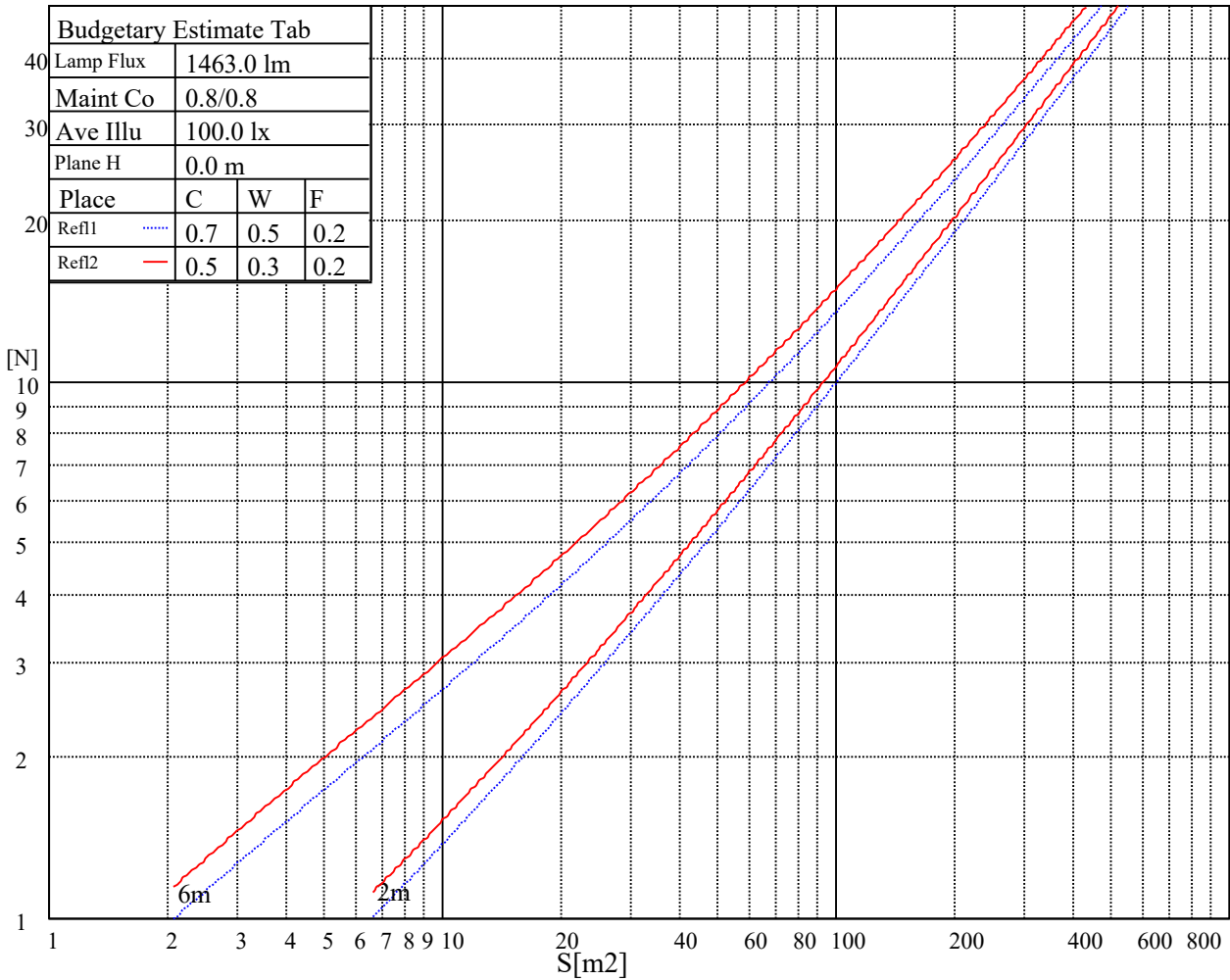
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
76173	76173	76173	96966	96966	96966	188597	188597	188597

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	1.04	1.04	1.04	1.02	1.02	1.02	0.97	0.97	0.97	0.93	0.93	0.93	0.89	0.89	0.89	0.87
1	0.96	0.93	0.91	0.94	0.92	0.90	0.90	0.88	0.87	0.87	0.86	0.84	0.84	0.83	0.82	0.80
2	0.88	0.84	0.81	0.87	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	0.73	0.80	0.76	0.72	0.78	0.74	0.71	0.76	0.73	0.70	0.74	0.71	0.69	0.68
4	0.76	0.70	0.66	0.75	0.70	0.66	0.73	0.69	0.65	0.71	0.67	0.64	0.69	0.66	0.64	0.62
5	0.70	0.65	0.61	0.70	0.64	0.61	0.68	0.63	0.60	0.66	0.63	0.59	0.65	0.62	0.59	0.58
6	0.66	0.60	0.56	0.65	0.60	0.56	0.64	0.59	0.55	0.62	0.58	0.55	0.61	0.58	0.55	0.53
7	0.62	0.56	0.52	0.61	0.56	0.52	0.60	0.55	0.51	0.59	0.54	0.51	0.58	0.54	0.51	0.50
8	0.58	0.52	0.48	0.57	0.52	0.48	0.56	0.51	0.48	0.55	0.51	0.48	0.54	0.51	0.48	0.46
9	0.54	0.49	0.45	0.54	0.49	0.45	0.53	0.48	0.45	0.52	0.48	0.45	0.51	0.47	0.45	0.43
10	0.51	0.46	0.42	0.51	0.46	0.42	0.50	0.45	0.42	0.49	0.45	0.42	0.49	0.45	0.42	0.41

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	1471.66	1434.22	1318.60	1158.39	948.62	746.56	587.45	422.83	289.05
45.0	1476.06	1467.80	1373.11	1204.63	1007.53	806.58	628.74	454.77	314.37
90.0	1484.32	1482.12	1367.60	1204.63	1000.98	803.77	637.28	468.14	329.07
135.0	1470.56	1471.11	1372.01	1215.65	1020.75	818.14	642.51	478.44	335.29
180.0	1471.66	1410.54	1298.78	1097.55	912.39	725.81	565.04	393.87	268.79
225.0	1476.06	1403.94	1277.31	1076.96	877.16	688.92	530.19	371.41	249.63
270.0	1484.32	1412.75	1270.15	1077.45	877.60	698.67	540.10	393.10	280.24
315.0	1470.56	1389.07	1249.78	1036.44	858.27	669.54	510.48	366.90	242.74
360.0	1471.66	1434.22	1318.60	1158.39	948.62	746.56	587.45	422.83	289.05
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	180.25	90.13	44.54	19.27	15.75	14.15	12.50	10.96	8.42
45.0	196.00	108.46	51.70	33.25	18.66	16.13	14.48	12.55	10.08
90.0	196.28	110.50	57.37	34.85	19.88	17.29	15.20	13.27	10.19
135.0	199.30	112.98	53.57	34.47	18.50	16.41	14.59	12.72	8.70
180.0	152.45	75.65	39.81	17.51	14.48	12.88	11.29	9.91	6.22
225.0	145.07	66.62	30.89	14.98	12.77	11.18	9.80	7.60	6.83
270.0	157.68	77.41	37.49	14.31	11.84	10.52	8.86	7.65	6.28
315.0	133.68	64.80	30.72	14.59	12.77	11.84	10.46	8.81	6.94
360.0	180.25	90.13	44.54	19.27	15.75	14.15	12.50	10.96	8.42
C/γ(°)	90.0								
0.0	4.90								
45.0	4.62								
90.0	4.62								
135.0	4.73								
180.0	4.79								
225.0	4.73								
270.0	4.68								
315.0	4.73								
360.0	4.90								