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Nata

LumCAT: 2-2434-M	
Luminaire: 99.70.131.00	
Report No: 220816-B001	Voltage(V): 35.4500
Test No: 220816-C001	Current(A): 0.4810
LampCAT: CITIZEN CLU038	Power (W): 17.0510
Lamp flux(lm): 2249.0	PF: 1.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 43	Width(mm): 43
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 1910.33
Efficiency(%): 84.94%
Lumens(lm)/Power(W): 112.04
Central intensity(cd): 3629.690
Maximum intensity(cd): 3629.690
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=42.5
 [C90/270]Total=42.5
Field angle(10%Imax): [C0/180]Total=66.4
 [C90/270]Total=66.4
Maximum s/h(1/2): C0_180=0.68 C90_270=0.68
Maximum s/h(1/4): C0_180=0.68 C90_270=0.68
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 84.94%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.912%

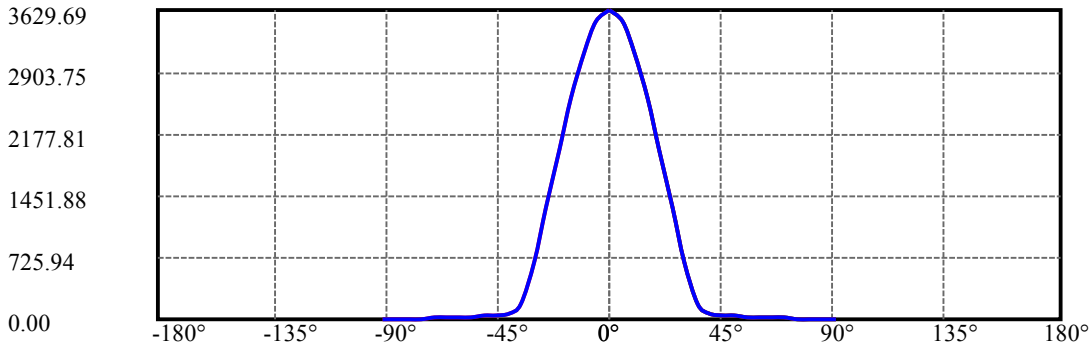
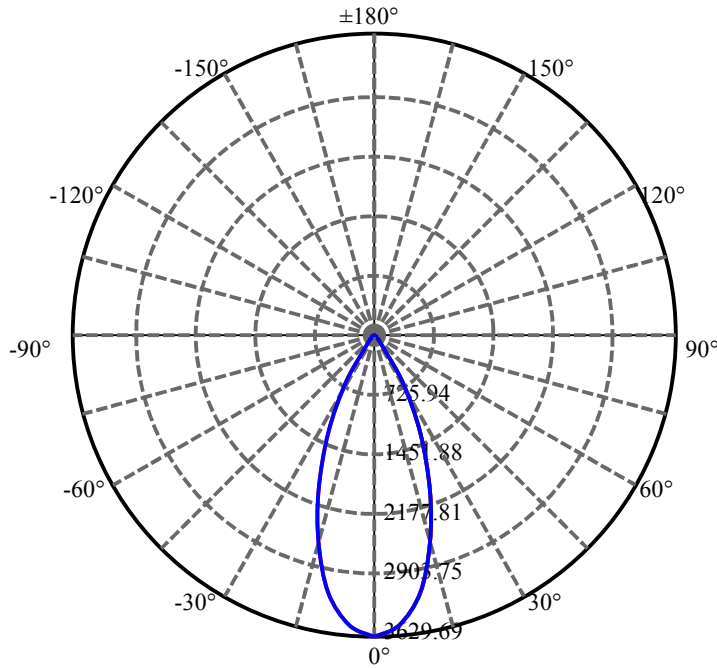
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	3629.690	0.000	0	.000%	.000%
5.0	3497.935	85.209	85.209	3.789%	4.460%
10.0	3140.090	237.463	322.672	10.559%	16.891%
15.0	2592.230	340.037	662.709	15.120%	34.691%
20.0	1991.265	377.744	1040.454	16.796%	54.465%
25.0	1296.466	344.822	1385.276	15.333%	72.515%
30.0	672.907	249.226	1634.502	11.082%	85.561%
35.0	187.400	126.686	1761.188	5.633%	92.193%
40.0	71.315	43.165	1804.353	1.919%	94.453%
45.0	49.244	22.322	1826.675	.993%	95.621%
50.0	37.562	17.540	1844.216	.780%	96.539%
55.0	28.644	14.395	1858.611	.640%	97.293%
60.0	22.489	11.819	1870.43	.526%	97.912%
65.0	16.589	9.500	1879.93	.422%	98.409%
70.0	12.496	7.364	1887.295	.327%	98.794%
75.0	11.256	6.208	1893.503	.276%	99.119%
80.0	10.845	5.914	1899.417	.263%	99.429%
85.0	10.337	5.756	1905.173	.256%	99.730%
90.0	8.485	5.154	1910.326	.229%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1634.50	72.68%	85.56%
0-40	1804.35	80.23%	94.45%
0-60	1870.43	83.17%	97.91%
0-90	1905.17	84.71%	99.73%
0-120	1905.17	84.71%	99.73%
0-180	1910.33	84.94%	100.00%
60-90	46.56	2.07%	2.44%
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%
0-27.87	1528.26	67.95%	80.00%

ZONAL LUMEN SUMMARY

0-10	322.67
10-20	717.78
20-30	594.05
30-40	169.85
40-50	39.86
50-60	26.21
60-70	16.86
70-80	12.12
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: —————

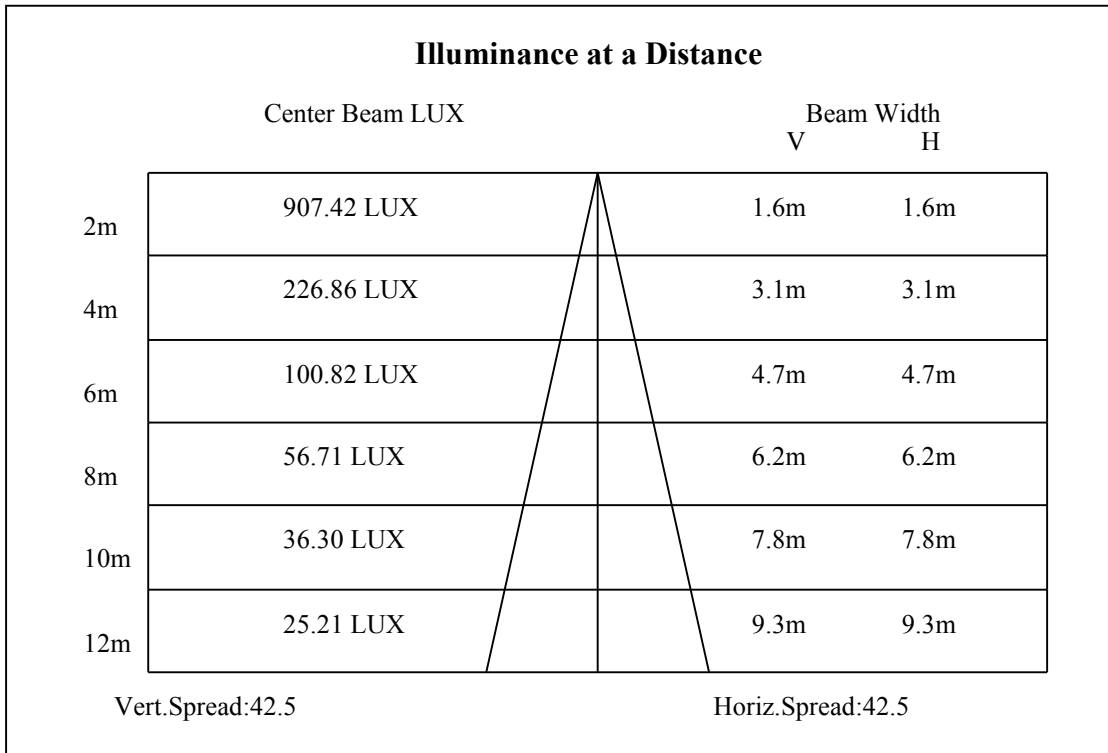
C90/C270: —————

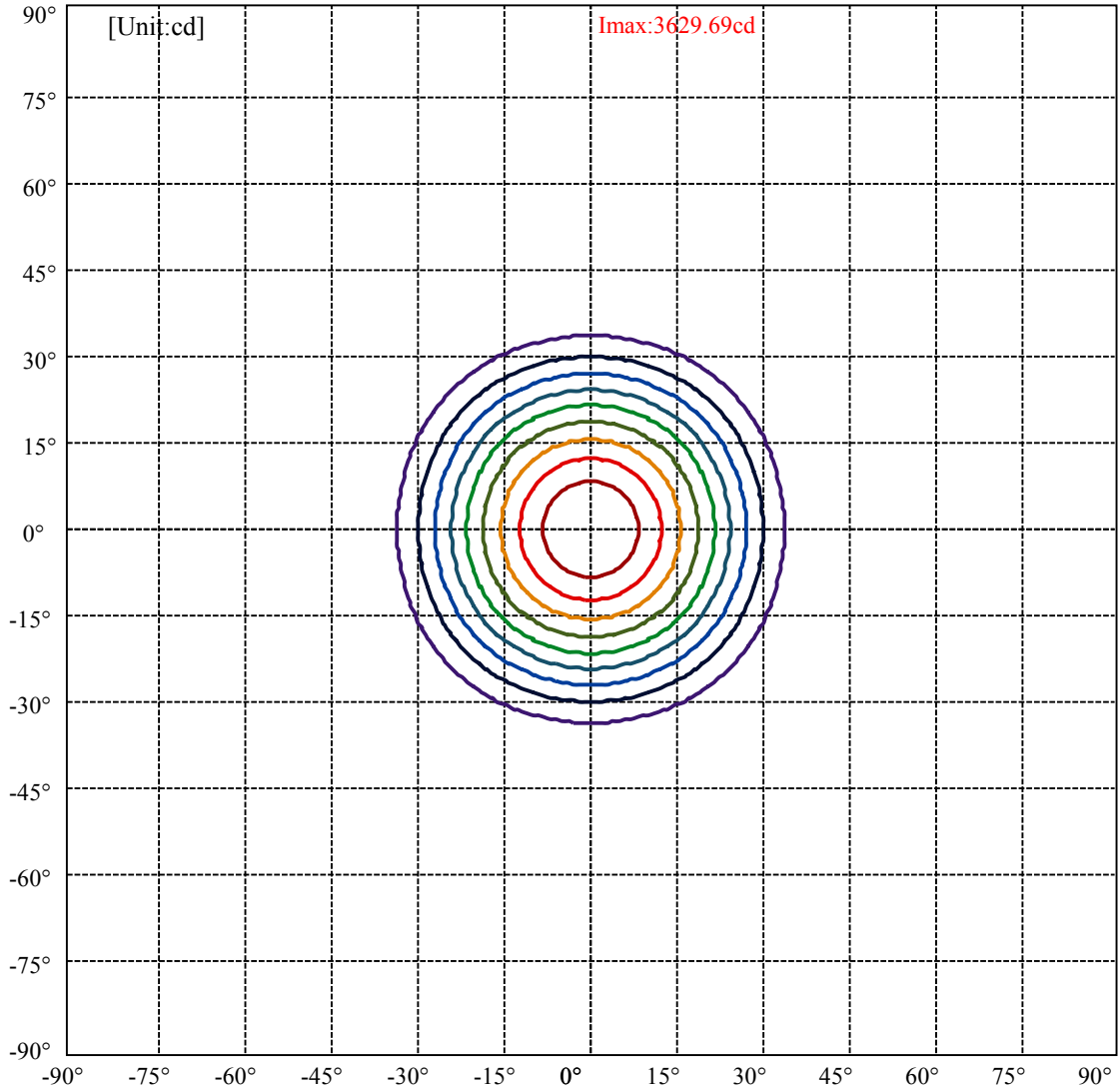
Field angle(10%Imax):C0/180Left:33.2 Right:33.2

:C90/270Left:33.2 Right:33.2

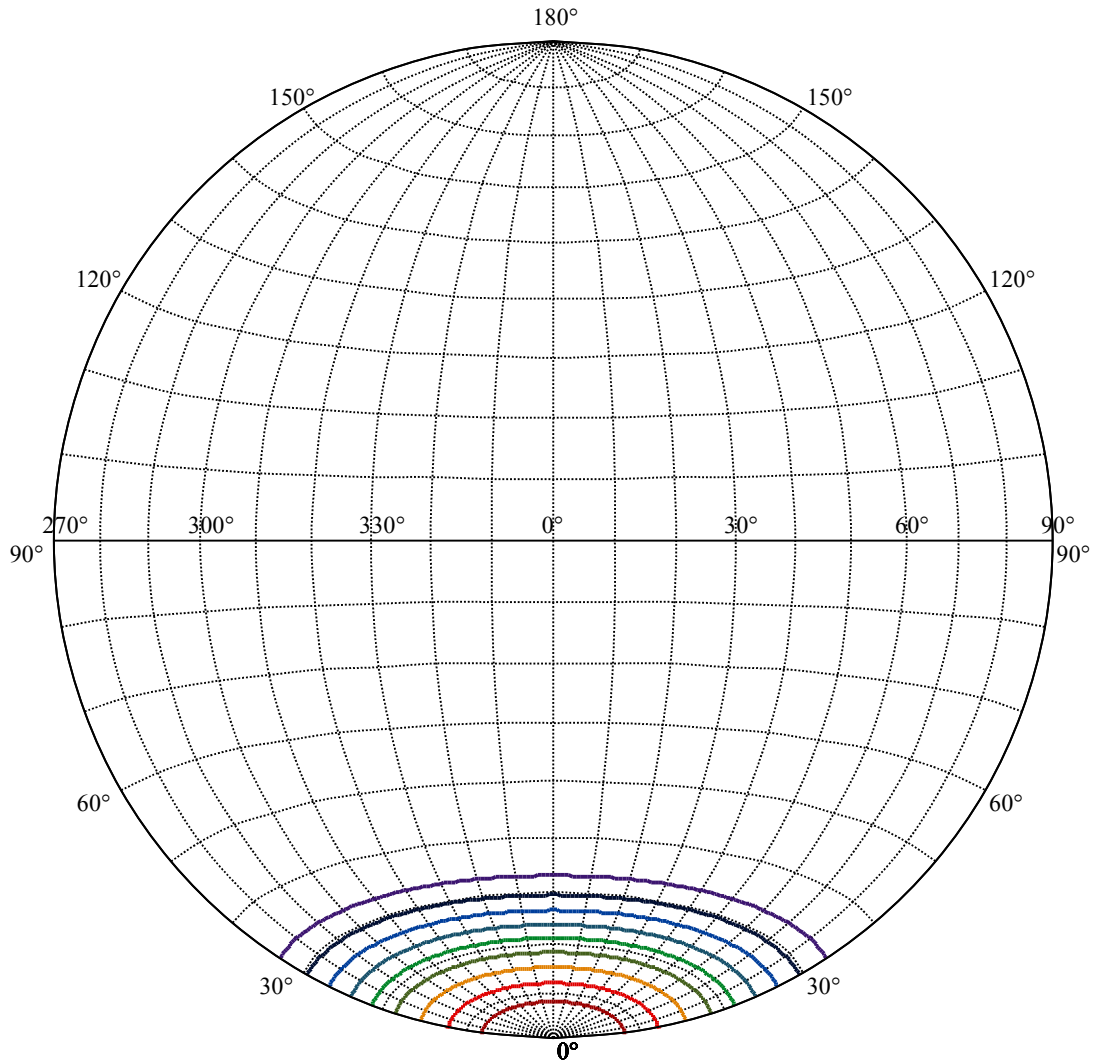
Beam Angle(50%Imax):C0/180Left:21.3 Right:21.3

:C90/270Left:21.3 Right:21.3





(10%Imax) 362.969	—
(20%Imax) 725.938	—
(30%Imax) 1088.91	—
(40%Imax) 1451.88	—
(50%Imax) 1814.84	—
(60%Imax) 2177.81	—
(70%Imax) 2540.78	—
(80%Imax) 2903.75	—
(90%Imax) 3266.72	—



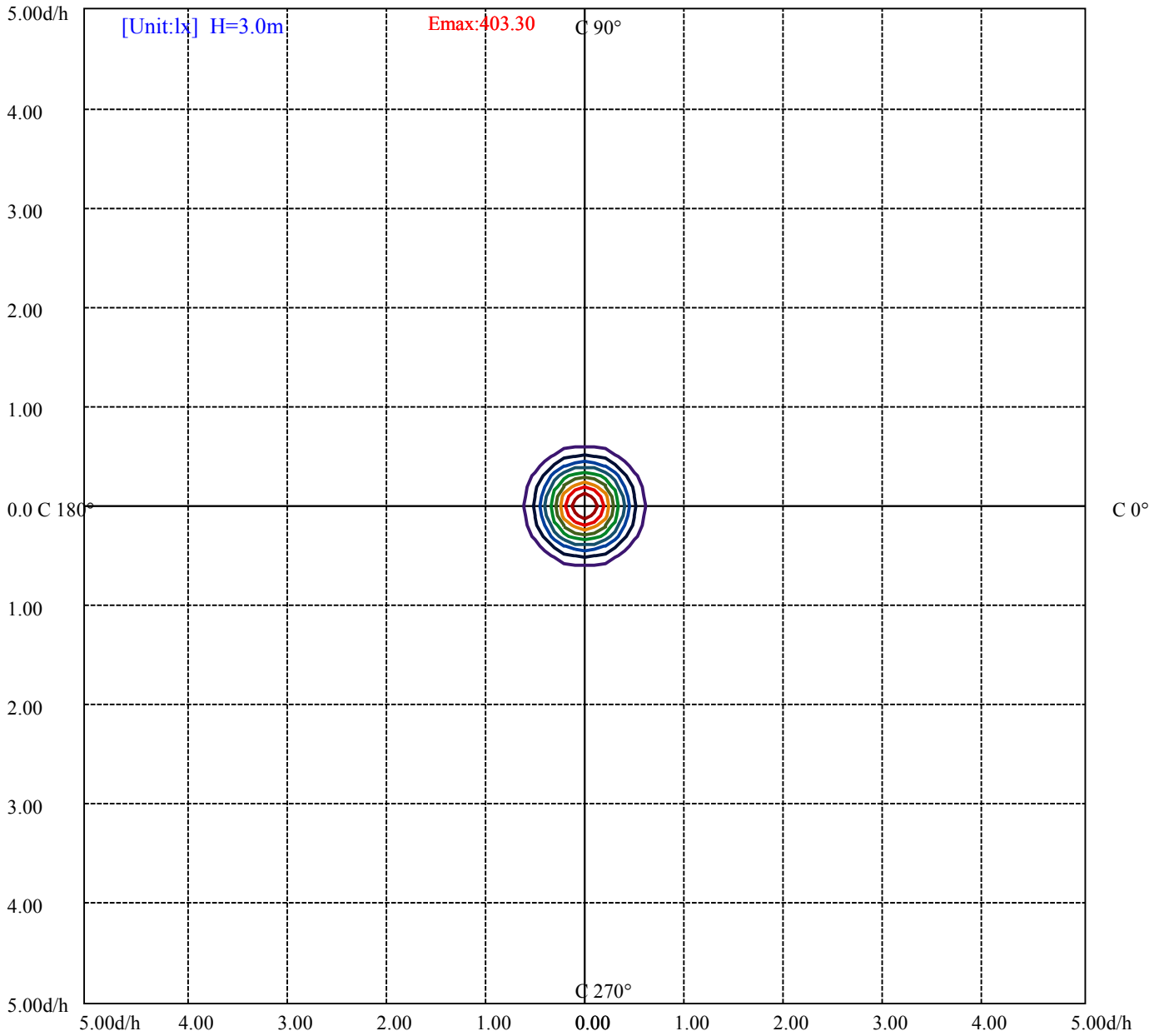
House

[Unit:cd]

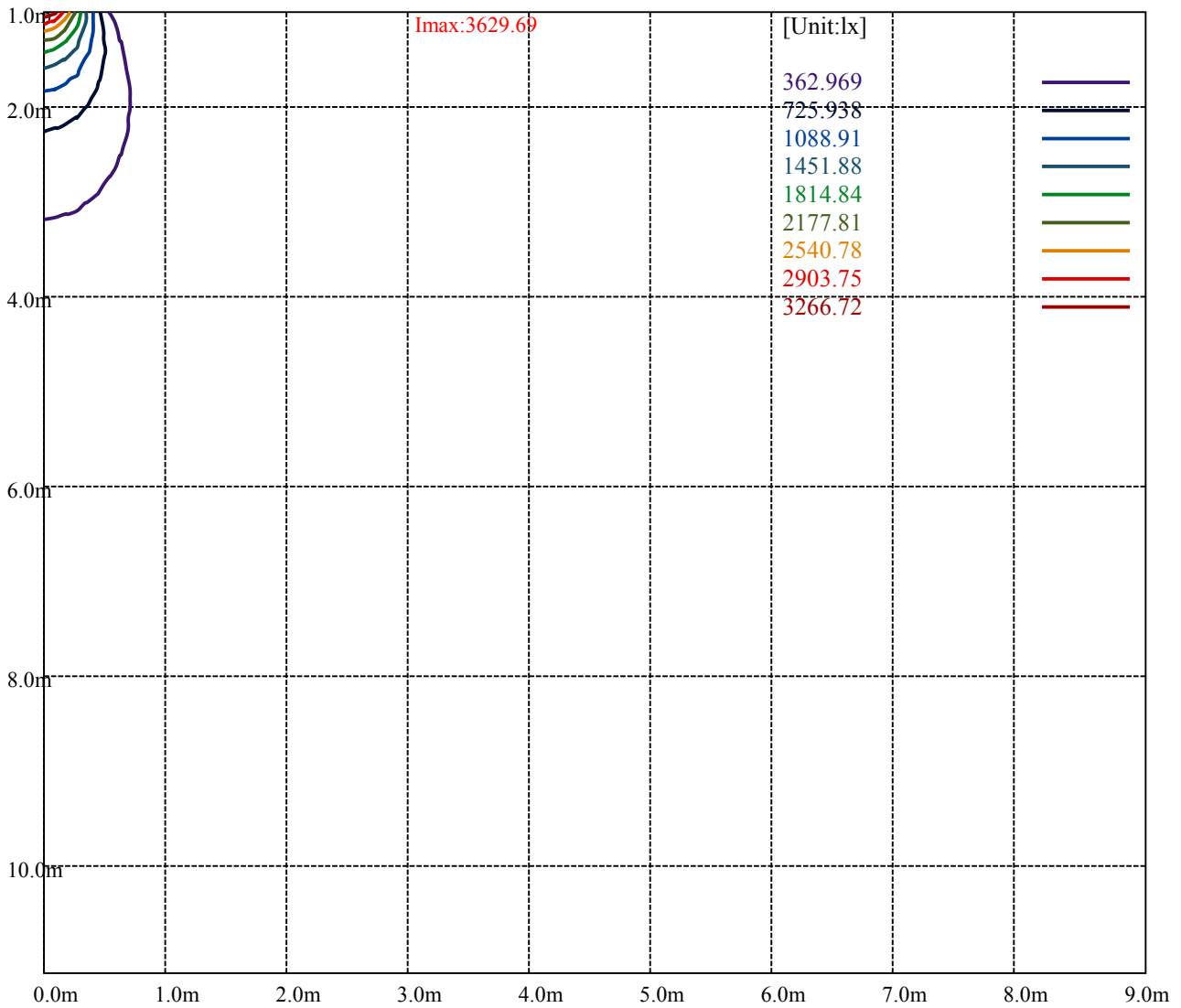
Road

Imax:3629.69

(10%Imax)	362.969	—
(20%Imax)	725.938	—
(30%Imax)	1088.91	—
(40%Imax)	1451.88	—
(50%Imax)	1814.84	—
(60%Imax)	2177.81	—
(70%Imax)	2540.78	—
(80%Imax)	2903.75	—
(90%Imax)	3266.72	—



(10%Emax) 40.32989	—
(20%Emax) 80.65967	—
(30%Emax) 120.99	—
(40%Emax) 161.3189	—
(50%Emax) 201.6489	—
(60%Emax) 241.9789	—
(70%Emax) 282.3089	—
(80%Emax) 322.6389	—
(90%Emax) 362.9689	—



Luminance Table

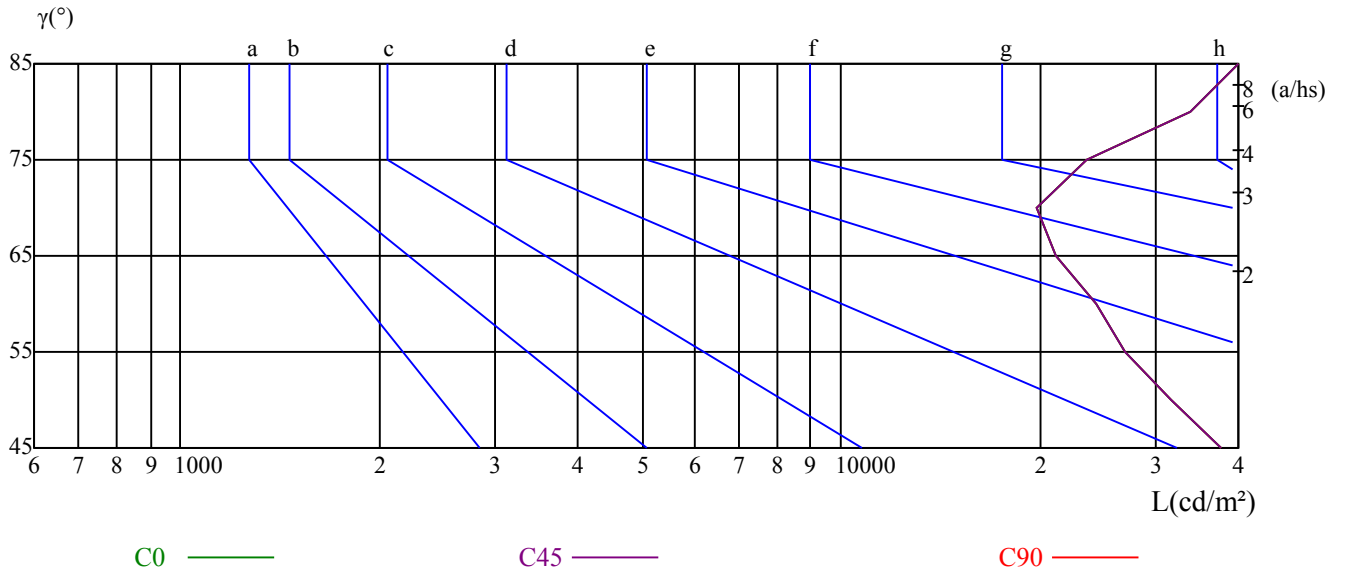
γ	45	50	55	60	65	70	75	80	85
C0	37664	31604	27009	24326	21229	19760	23521	33778	64146
C45	37664	31604	27009	24326	21229	19760	23521	33778	64146
C90	37664	31604	27009	24326	21229	19760	23521	33778	64146

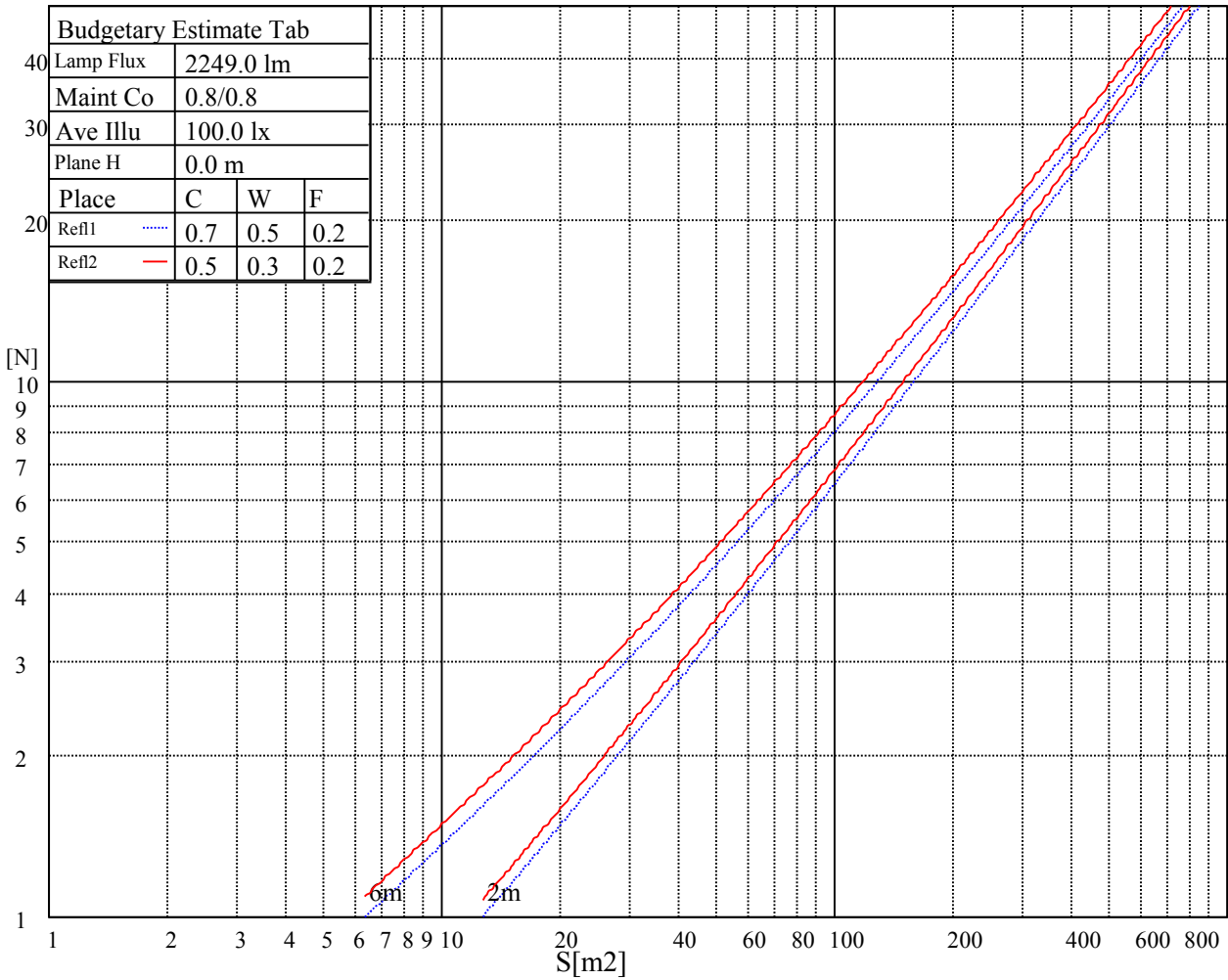
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
21229	21229	21229	23521	23521	23521	64146	64146	64146

Glare Table

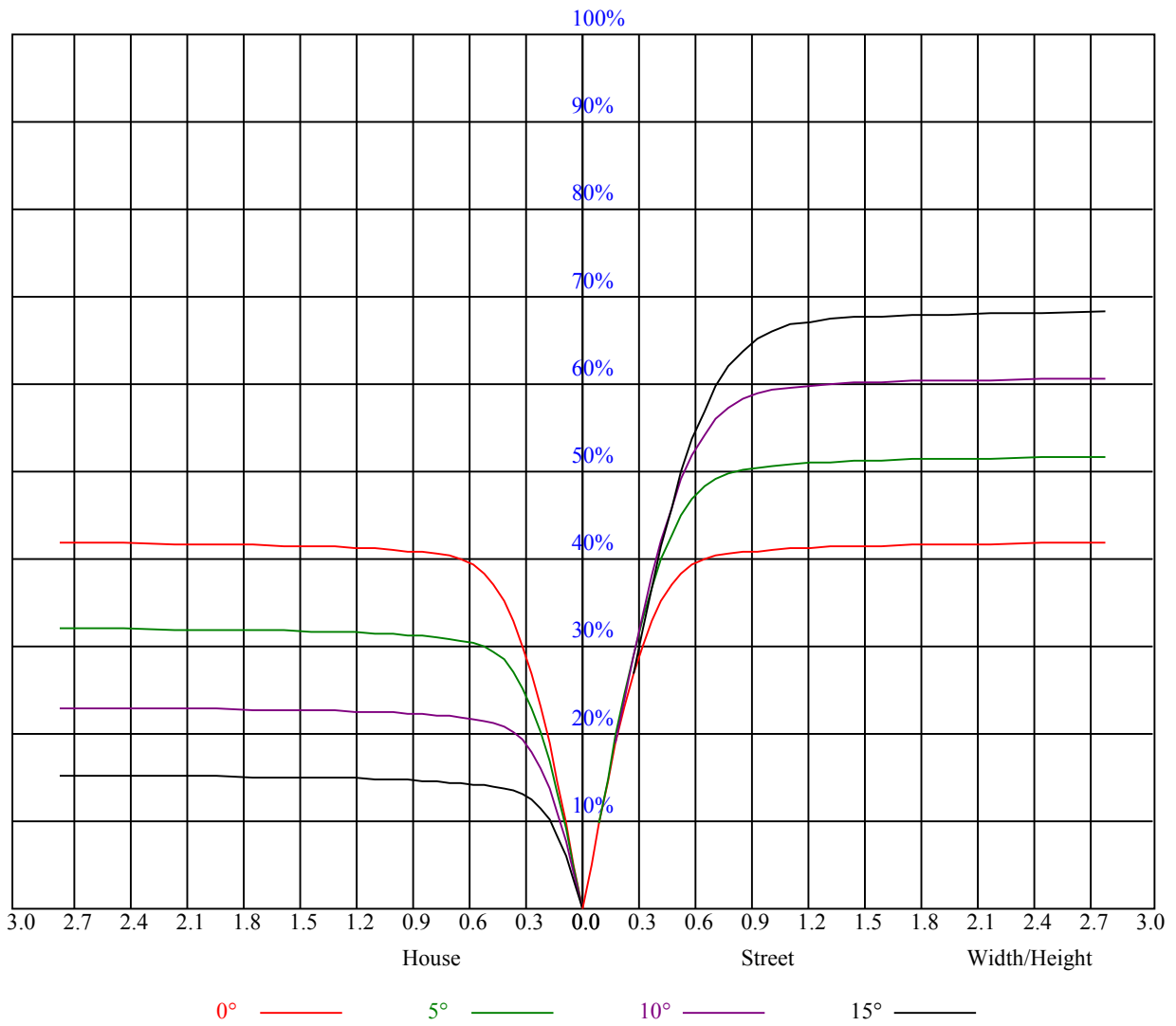
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.01	1.01	1.01	0.99	0.99	0.99	0.94	0.94	0.94	0.90	0.90	0.90	0.87	0.87	0.87	0.85
1	0.94	0.92	0.91	0.93	0.91	0.89	0.89	0.88	0.86	0.86	0.85	0.84	0.83	0.82	0.81	0.80
2	0.89	0.85	0.83	0.87	0.84	0.82	0.84	0.82	0.80	0.82	0.80	0.78	0.80	0.78	0.77	0.75
3	0.83	0.79	0.76	0.82	0.79	0.76	0.80	0.77	0.75	0.78	0.76	0.73	0.76	0.74	0.72	0.71
4	0.79	0.75	0.71	0.78	0.74	0.71	0.76	0.73	0.70	0.74	0.72	0.69	0.73	0.70	0.68	0.67
5	0.75	0.70	0.67	0.74	0.70	0.67	0.72	0.69	0.66	0.71	0.68	0.66	0.70	0.67	0.65	0.64
6	0.71	0.66	0.63	0.70	0.66	0.63	0.69	0.65	0.63	0.68	0.65	0.62	0.67	0.64	0.62	0.61
7	0.68	0.63	0.60	0.67	0.63	0.60	0.66	0.62	0.59	0.65	0.62	0.59	0.64	0.61	0.59	0.58
8	0.64	0.60	0.57	0.64	0.60	0.57	0.63	0.59	0.57	0.62	0.59	0.56	0.62	0.58	0.56	0.55
9	0.62	0.57	0.54	0.61	0.57	0.54	0.60	0.57	0.54	0.60	0.56	0.54	0.59	0.56	0.54	0.53
10	0.59	0.55	0.52	0.59	0.54	0.52	0.58	0.54	0.52	0.57	0.54	0.51	0.57	0.54	0.51	0.50



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	3615.65	3564.26	3247.57	2718.76	2150.51	1489.04	815.03	315.50	78.63
45.0	3643.73	3478.22	3085.64	2491.70	1899.54	1220.15	544.35	123.15	67.28
90.0	3628.20	3384.40	3000.19	2396.69	1751.96	1117.02	451.31	102.66	63.58
135.0	3631.18	3499.73	3114.32	2545.47	1925.84	1287.08	600.52	127.87	67.94
180.0	3615.65	3419.66	3009.16	2433.74	1846.96	1184.42	509.39	118.37	64.53
225.0	3643.73	3557.09	3226.06	2709.79	2119.44	1354.60	781.45	218.99	76.66
270.0	3628.20	3568.44	3275.06	2792.85	2200.70	1544.61	929.76	313.11	81.56
315.0	3631.18	3511.68	3162.72	2648.85	2035.18	1174.80	751.45	179.56	70.33
360.0	3615.65	3564.26	3247.57	2718.76	2150.51	1489.04	815.03	315.50	78.63
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	52.04	39.32	30.12	23.24	17.87	12.79	11.41	10.58	11.41
45.0	47.50	36.63	27.84	21.87	16.25	12.49	11.35	11.29	9.14
90.0	46.07	35.13	26.77	21.09	14.34	11.95	10.99	11.47	9.14
135.0	48.82	37.41	28.62	22.35	15.89	12.37	11.23	10.88	9.50
180.0	46.25	35.97	27.37	21.45	15.18	12.19	10.93	10.82	9.50
225.0	50.79	38.42	29.64	23.06	17.63	12.85	11.53	10.76	11.35
270.0	53.36	40.15	30.35	24.32	18.40	12.91	11.47	10.52	11.35
315.0	49.12	37.47	28.44	22.53	17.15	12.43	11.11	10.46	11.29
360.0	52.04	39.32	30.12	23.24	17.87	12.79	11.41	10.58	11.41
C/γ(°)	90.0								
0.0	8.37								
45.0	8.43								
90.0	8.48								
135.0	8.48								
180.0	8.48								
225.0	8.60								
270.0	8.54								
315.0	8.48								
360.0	8.37								