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NATA

LumCAT: 3-2056-A
Luminaire: 99.02.73.173+92.76.365.00
Report No: NATA0100 Voltage(V): 49.9000
Test No: GC2018101106 Current(A): 0.5000
LampCAT: CITIZEN CLU048 Power (W): 24.9500
Lamp flux(lm): 3977.0 PF: 0.0000
Number of Lamps: 1 Ballast type: DC
Length(mm): 78 Width(mm): 78
Phm Type: C Height(mm): 0

Photometric Results

Lumens(lm): 3558.24
Efficiency(%): 89.47%
Lumens(lm)/Power(W): 142.61
Central intensity(cd): 5310.563
Maximum intensity(cd): 5310.563
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=49.2
 [C90/270]Total=49.2
Field angle(10%Imax): [C0/180]Total=77.0
 [C90/270]Total=77.0
Maximum s/h(1/2): C0_180=0.75 C90_270=0.75
Maximum s/h(1/4): C0_180=0.80 C90_270=0.80
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 90.18%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.811%

Equipment:
Temperature(°C): 25.0

Date: 2018/10/11
Humidity(%): 60.0%

Operator: NT07
Distance(m): 7.50

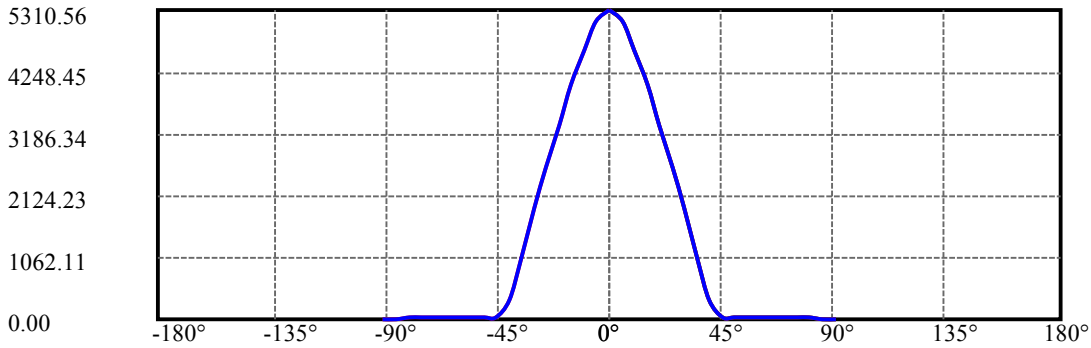
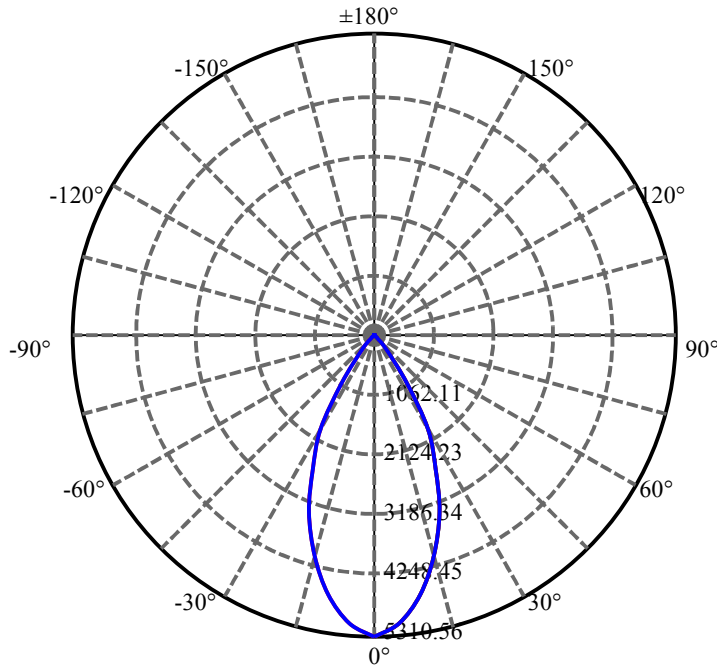
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	5310.563	31.758	31.758	.799%	.893%
5.0	5109.398	244.093	275.851	6.138%	7.752%
10.0	4633.523	441.033	716.884	11.090%	20.147%
15.0	4020.820	570.427	1287.311	14.343%	36.178%
20.0	3324.445	623.247	1910.559	15.671%	53.694%
25.0	2599.172	602.106	2512.664	15.140%	70.615%
30.0	1917.563	525.544	3038.208	13.215%	85.385%
35.0	1013.196	318.548	3356.756	8.010%	94.338%
40.0	326.904	115.180	3471.936	2.896%	97.575%
45.0	31.556	12.231	3484.166	.308%	97.918%
50.0	18.661	7.836	3492.002	.197%	98.138%
55.0	17.852	8.016	3500.018	.202%	98.364%
60.0	17.023	8.081	3508.099	.203%	98.591%
65.0	17.852	8.869	3516.967	.223%	98.840%
70.0	18.352	9.453	3526.42	.238%	99.106%
75.0	18.021	9.541	3535.961	.240%	99.374%
80.0	17.276	9.326	3545.287	.234%	99.636%
85.0	16.284	8.892	3554.179	.224%	99.886%
90.0	14.815	4.060	3558.239	.102%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	3038.21	76.39%	85.39%
0-40	3471.94	87.30%	97.57%
0-60	3508.10	88.21%	98.59%
0-90	3554.18	89.37%	99.89%
0-120	3554.18	89.37%	99.89%
0-180	3558.24	89.47%	100.00%
60-90	54.16	1.36%	1.52%
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%
0-28.18	2846.59	71.58%	80.00%

ZONAL LUMEN SUMMARY

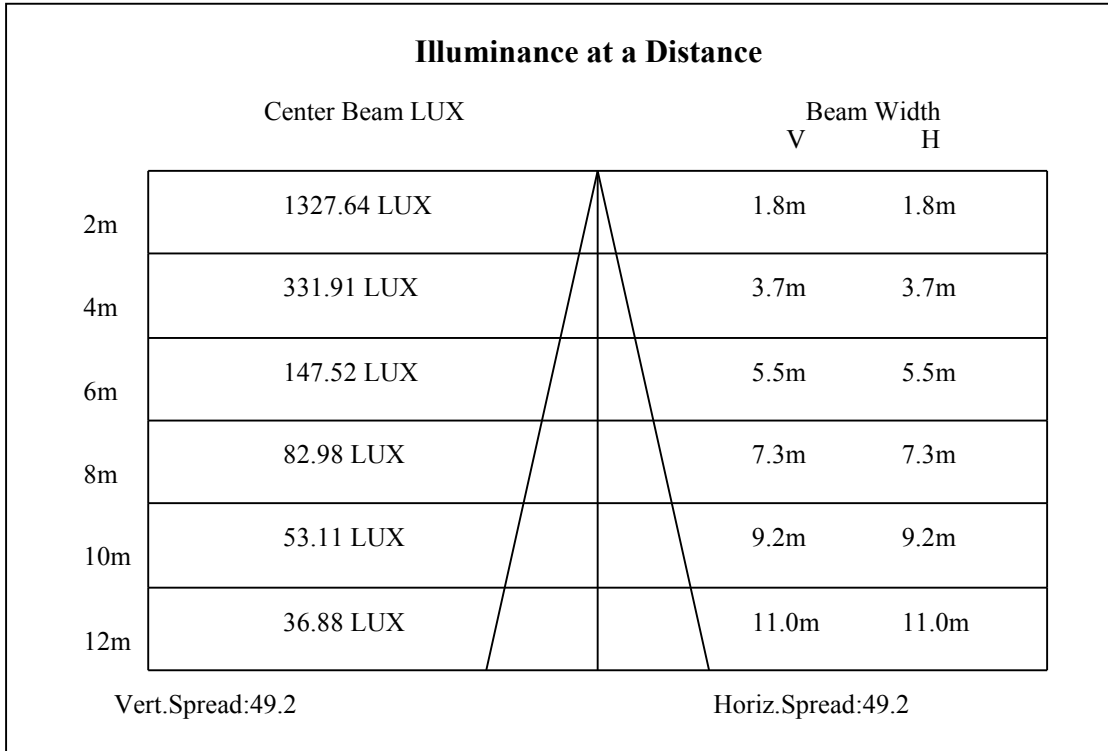
0-10	716.88
10-20	1193.67
20-30	1127.65
30-40	433.73
40-50	20.07
50-60	16.10
60-70	18.32
70-80	18.87
80-90	8.89
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

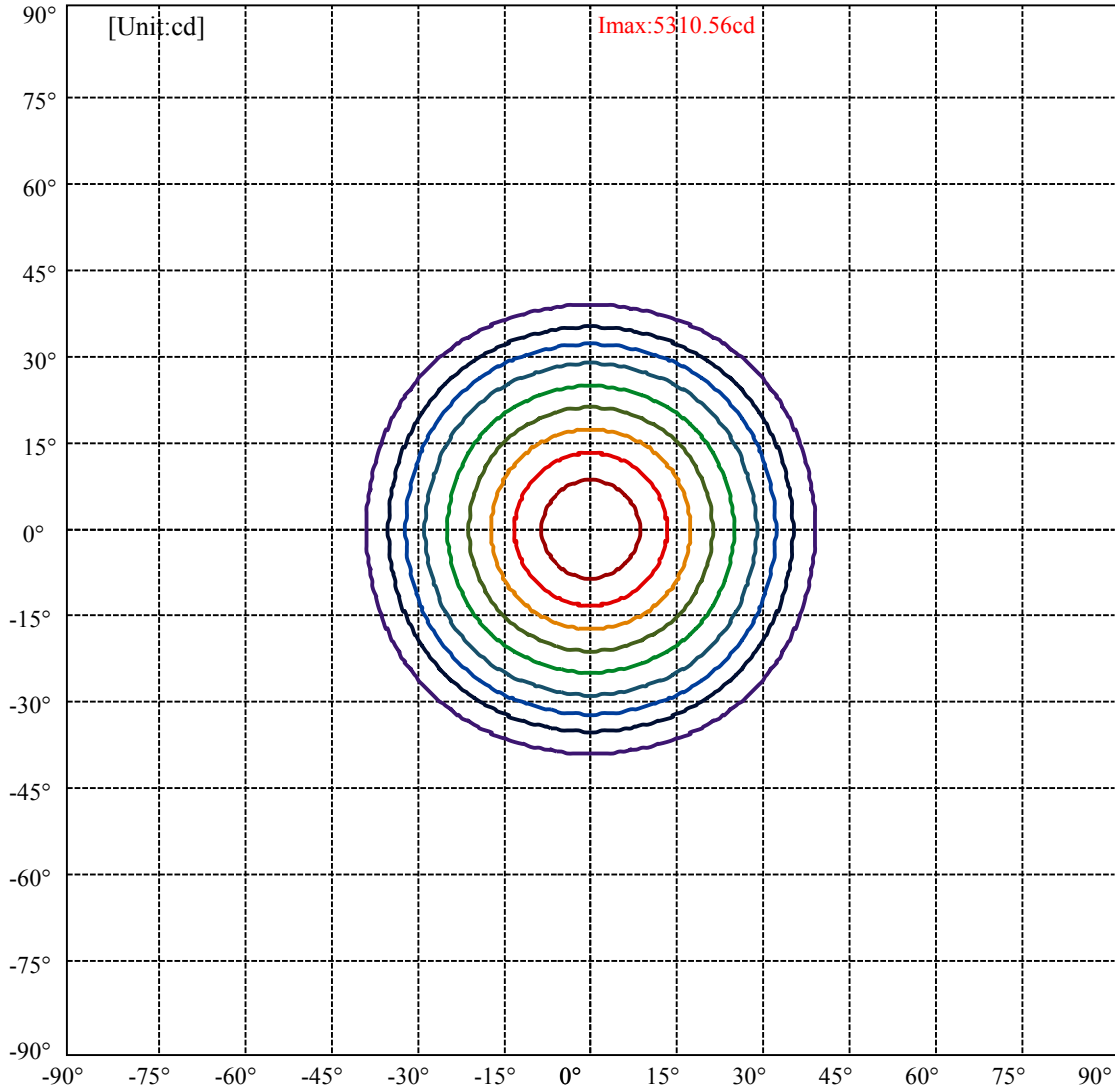


C0(Max): ———
C0/C180: ———
C90/C270: ———

Field angle(10%Imax):C0/180Left:38.5 Right:38.5
:C90/270Left:38.5 Right:38.5

Beam Angle(50%Imax):C0/180Left:24.6 Right:24.6
:C90/270Left:24.6 Right:24.6



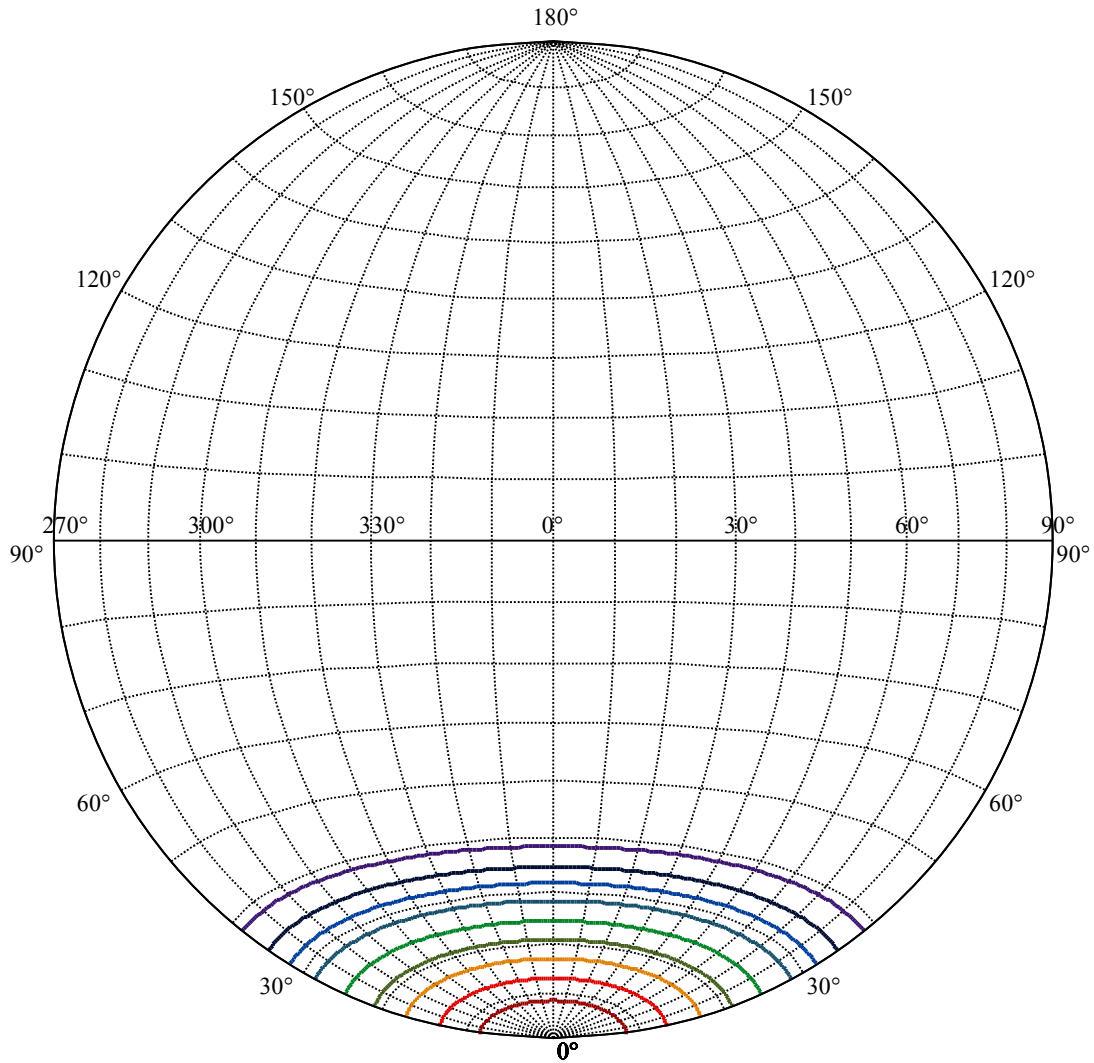


(10%Imax) 531.056	—
(20%Imax) 1062.11	—
(30%Imax) 1593.17	—
(40%Imax) 2124.23	—
(50%Imax) 2655.28	—
(60%Imax) 3186.34	—
(70%Imax) 3717.39	—
(80%Imax) 4248.45	—
(90%Imax) 4779.51	—

Equipment:
Temperature(°C): 25.0

Date: 2018/10/11
Humidity(%): 60.0%

Operator: NT07
Distance(m): 7.50



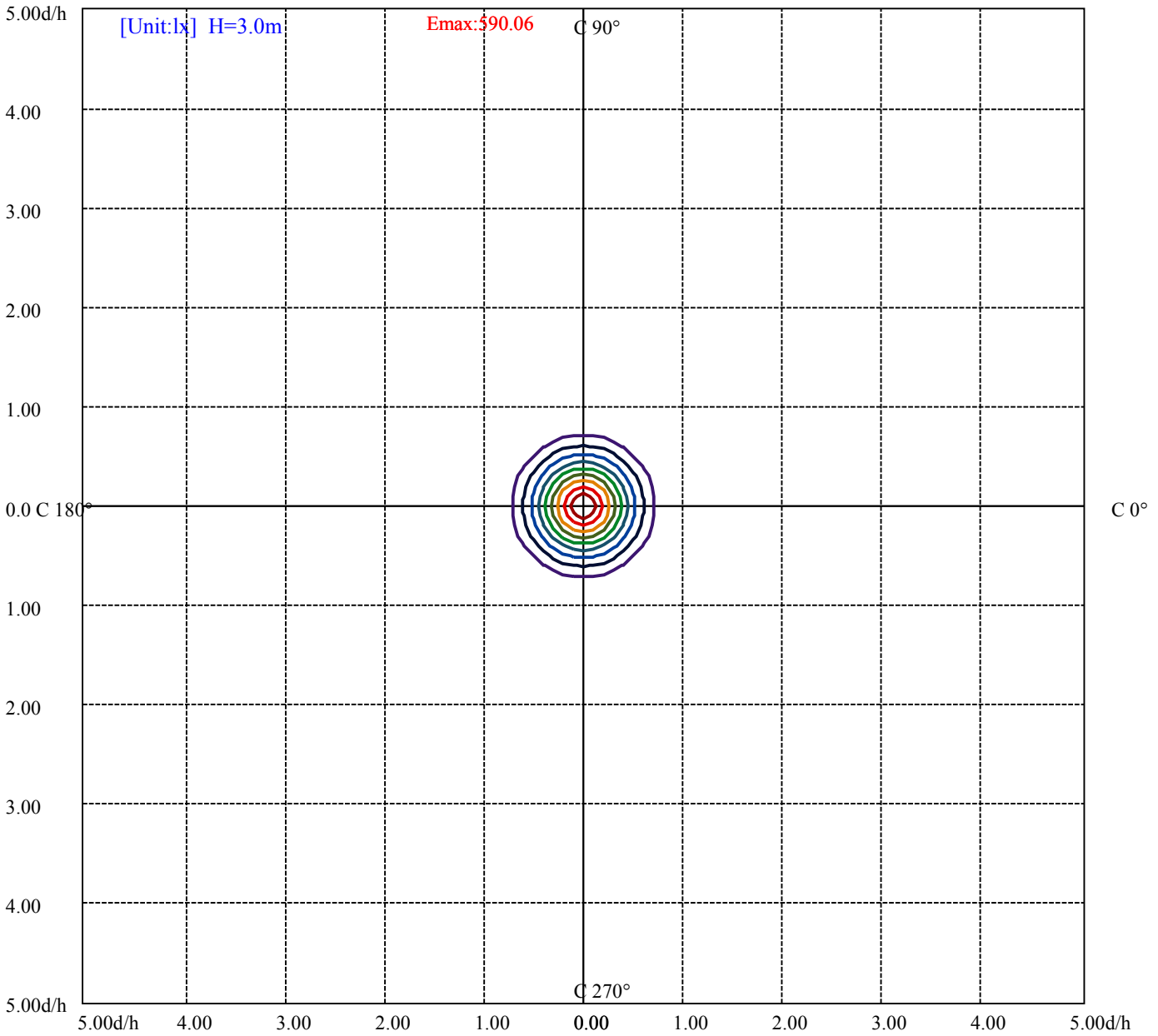
House

[Unit:cd]

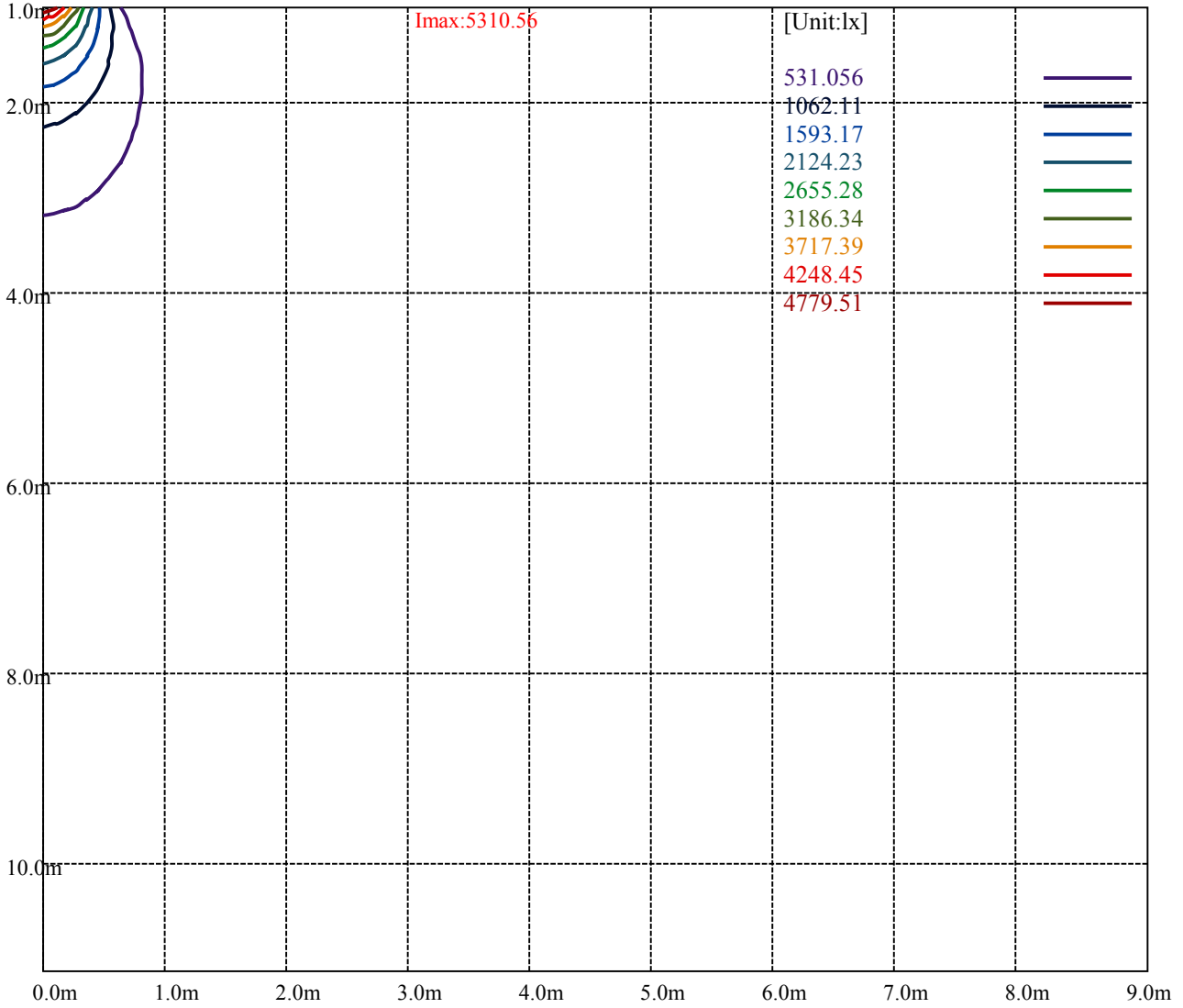
Road

Imax:5310.56

(10%Imax) 531.056	—
(20%Imax) 1062.11	—
(30%Imax) 1593.17	—
(40%Imax) 2124.23	—
(50%Imax) 2655.28	—
(60%Imax) 3186.34	—
(70%Imax) 3717.39	—
(80%Imax) 4248.45	—
(90%Imax) 4779.51	—



- (10%Emax) 59.00623
- (20%Emax) 118.0122
- (30%Emax) 177.0189
- (40%Emax) 236.0244
- (50%Emax) 295.0311
- (60%Emax) 354.0367
- (70%Emax) 413.0433
- (80%Emax) 472.05
- (90%Emax) 531.0555



Luminance Table

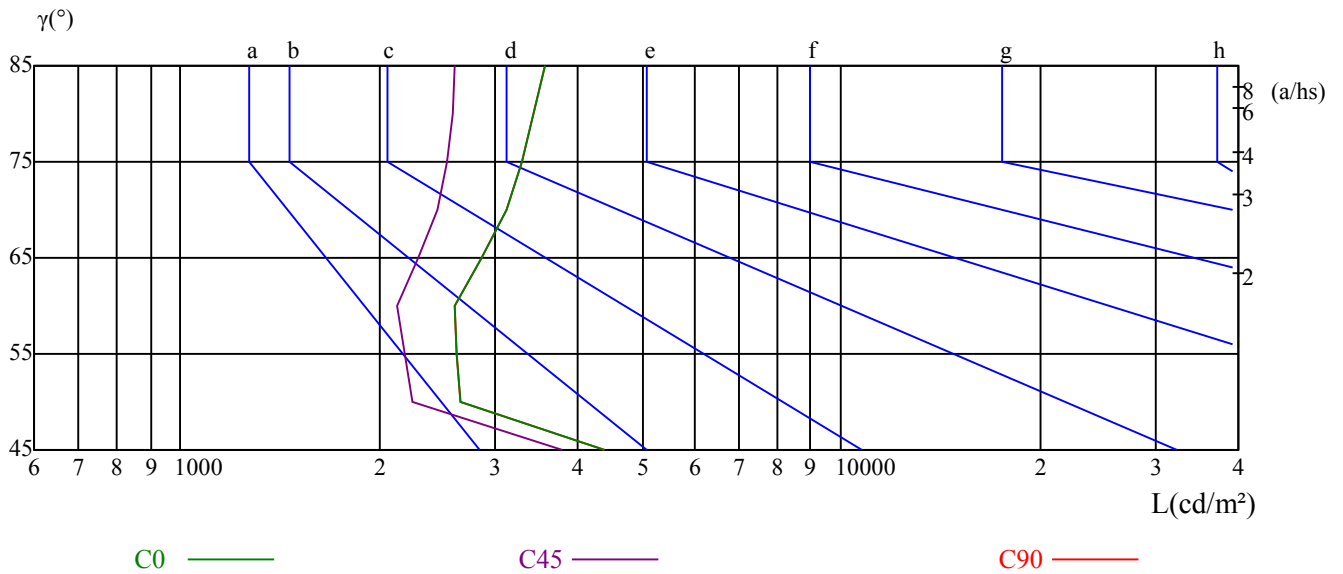
γ	45	50	55	60	65	70	75	80	85
C0	4401	2659	2621	2597	2858	3115	3281	3420	3563
C45	3776	2247	2180	2125	2298	2456	2533	2576	2608
C90	4401	2659	2621	2597	2858	3115	3281	3420	3563

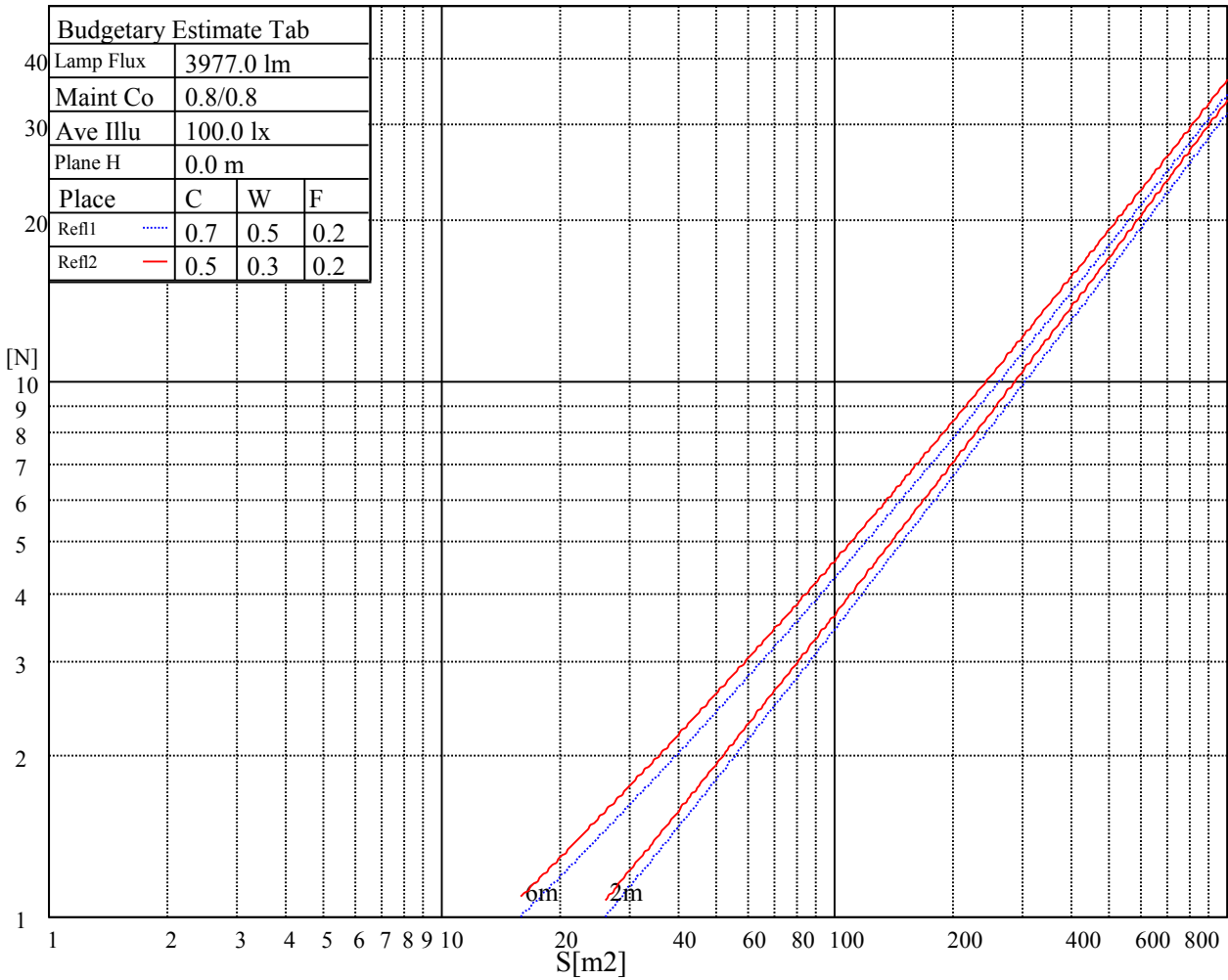
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
6943	6943	6943	11444	11444	11444	30710	30710	30710

Glare Table

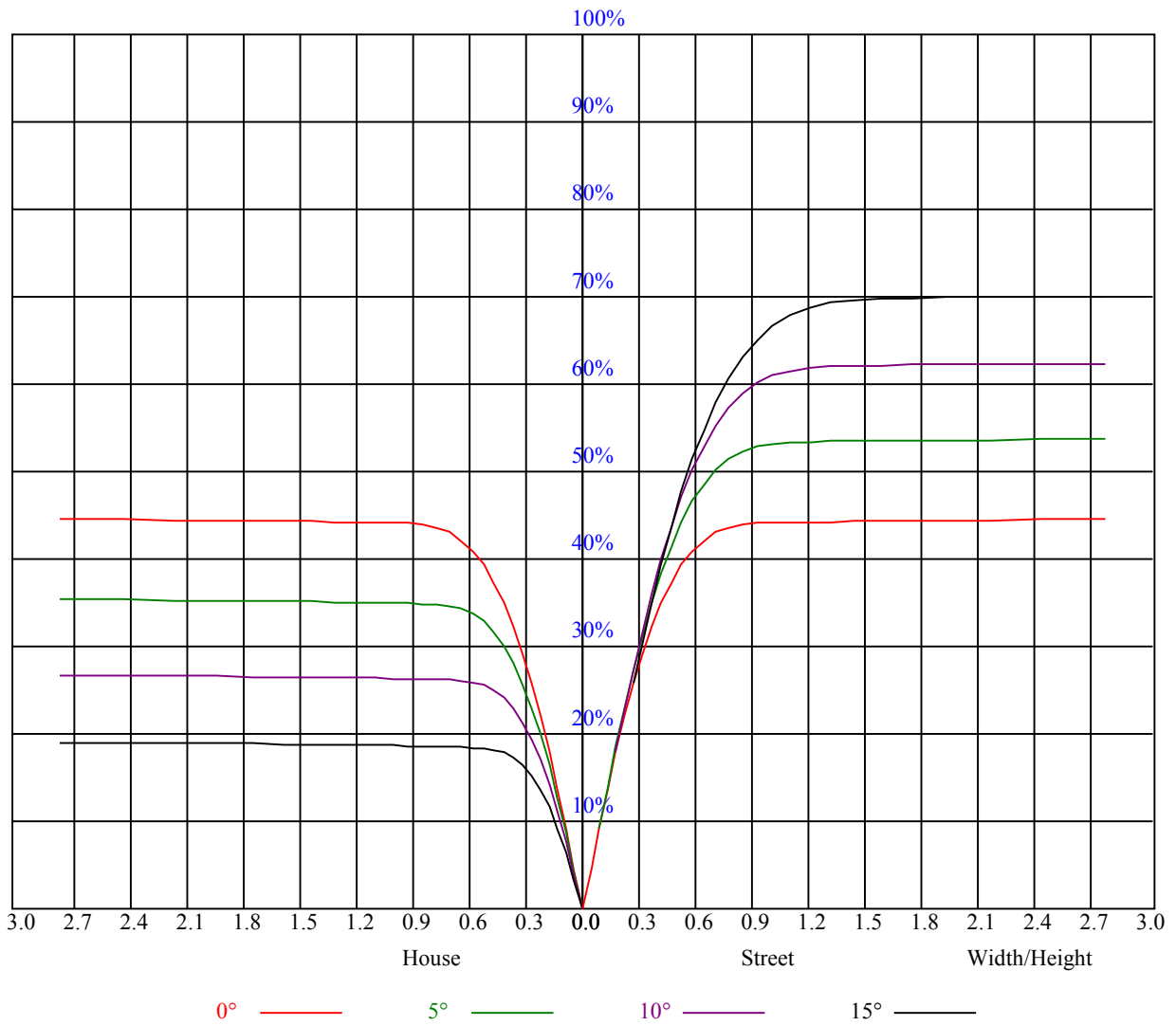
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.07	1.07	1.07	1.05	1.05	1.05	1.00	1.00	1.00	0.96	0.96	0.96	0.92	0.92	0.92	0.90
1	0.99	0.97	0.95	0.98	0.95	0.94	0.94	0.92	0.91	0.90	0.89	0.88	0.87	0.86	0.85	0.84
2	0.93	0.90	0.87	0.92	0.89	0.86	0.89	0.86	0.84	0.86	0.84	0.82	0.84	0.82	0.81	0.79
3	0.88	0.84	0.81	0.87	0.83	0.80	0.85	0.81	0.79	0.82	0.80	0.78	0.80	0.78	0.76	0.75
4	0.83	0.79	0.75	0.82	0.78	0.75	0.81	0.77	0.74	0.79	0.76	0.73	0.77	0.75	0.72	0.71
5	0.79	0.74	0.71	0.78	0.74	0.71	0.77	0.73	0.70	0.75	0.72	0.69	0.74	0.71	0.69	0.68
6	0.75	0.70	0.67	0.75	0.70	0.67	0.73	0.69	0.66	0.72	0.69	0.66	0.71	0.68	0.65	0.64
7	0.72	0.67	0.63	0.71	0.67	0.63	0.70	0.66	0.63	0.69	0.65	0.63	0.68	0.65	0.62	0.61
8	0.68	0.64	0.60	0.68	0.63	0.60	0.67	0.63	0.60	0.66	0.62	0.60	0.65	0.62	0.60	0.58
9	0.65	0.61	0.58	0.65	0.61	0.57	0.64	0.60	0.57	0.63	0.60	0.57	0.63	0.59	0.57	0.56
10	0.63	0.58	0.55	0.62	0.58	0.55	0.62	0.58	0.55	0.61	0.57	0.55	0.60	0.57	0.54	0.53



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	5317.88	5049.00	4548.38	3962.25	3240.56	2512.69	1856.81	909.00	286.31
45.0	5313.94	5099.06	4668.75	4021.31	3313.69	2572.31	1911.38	984.94	291.94
90.0	5311.69	5107.50	4587.75	3999.38	3279.94	2541.94	1875.38	963.23	269.27
135.0	5298.75	5212.13	4798.69	4185.00	3569.06	2785.50	2140.88	1273.50	501.19
180.0	5317.88	5182.31	4704.19	4095.56	3366.00	2700.00	2025.56	1114.09	409.39
225.0	5313.94	5114.25	4640.06	4024.13	3334.50	2626.31	1939.50	1017.84	337.28
270.0	5311.69	5106.38	4663.13	4051.69	3362.63	2647.69	1955.81	1050.19	357.75
315.0	5298.75	5004.56	4457.25	3827.25	3129.19	2406.94	1635.19	792.79	162.11
360.0	5317.88	5049.00	4548.38	3962.25	3240.56	2512.69	1856.81	909.00	286.31
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	24.13	19.18	18.68	17.27	20.98	21.09	19.91	18.06	16.43
45.0	25.14	18.56	18.06	17.38	17.78	19.52	19.18	18.00	16.43
90.0	24.47	18.17	17.49	16.71	17.44	17.66	17.38	16.76	15.98
135.0	49.61	19.86	17.66	16.93	16.37	17.21	17.21	16.99	16.43
180.0	41.91	18.17	17.21	16.71	16.20	16.43	16.59	16.43	15.86
225.0	32.01	18.28	17.33	16.82	16.20	16.59	16.82	16.71	16.09
270.0	34.82	18.68	18.34	17.04	17.16	17.72	17.72	17.33	16.43
315.0	20.36	18.39	18.06	17.33	20.70	20.59	19.35	17.94	16.65
360.0	24.13	19.18	18.68	17.27	20.98	21.09	19.91	18.06	16.43
C/ γ (°)	90.0								
0.0	14.74								
45.0	14.85								
90.0	14.85								
135.0	14.79								
180.0	14.74								
225.0	14.85								
270.0	14.85								
315.0	14.85								
360.0	14.74								