
Nata

LumCAT: 2-1793-N	
Luminaire: 92.70.131.00	
Report No: NT2018041205	Voltage(V): 34.6000
Test No: nata-0100	Current(A): 0.4000
LampCAT: CITIZEN CLU720	Power (W): 13.8400
Lamp flux(lm): 1758.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 69	Width(mm): 69
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 1506.60
Efficiency(%): 85.70%
Lumens(lm)/Power(W): 108.86
Central intensity(cd): 11415.260
Maximum intensity(cd): 11415.260
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=16.2
[C90/270]Total=16.2
Field angle(10%Imax): [C0/180]Total=35.2
[C90/270]Total=35.2
Maximum s/h(1/2): C0_180=0.28 C90_270=0.28
Maximum s/h(1/4): C0_180=0.29 C90_270=0.29
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 89.50%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 94.446%

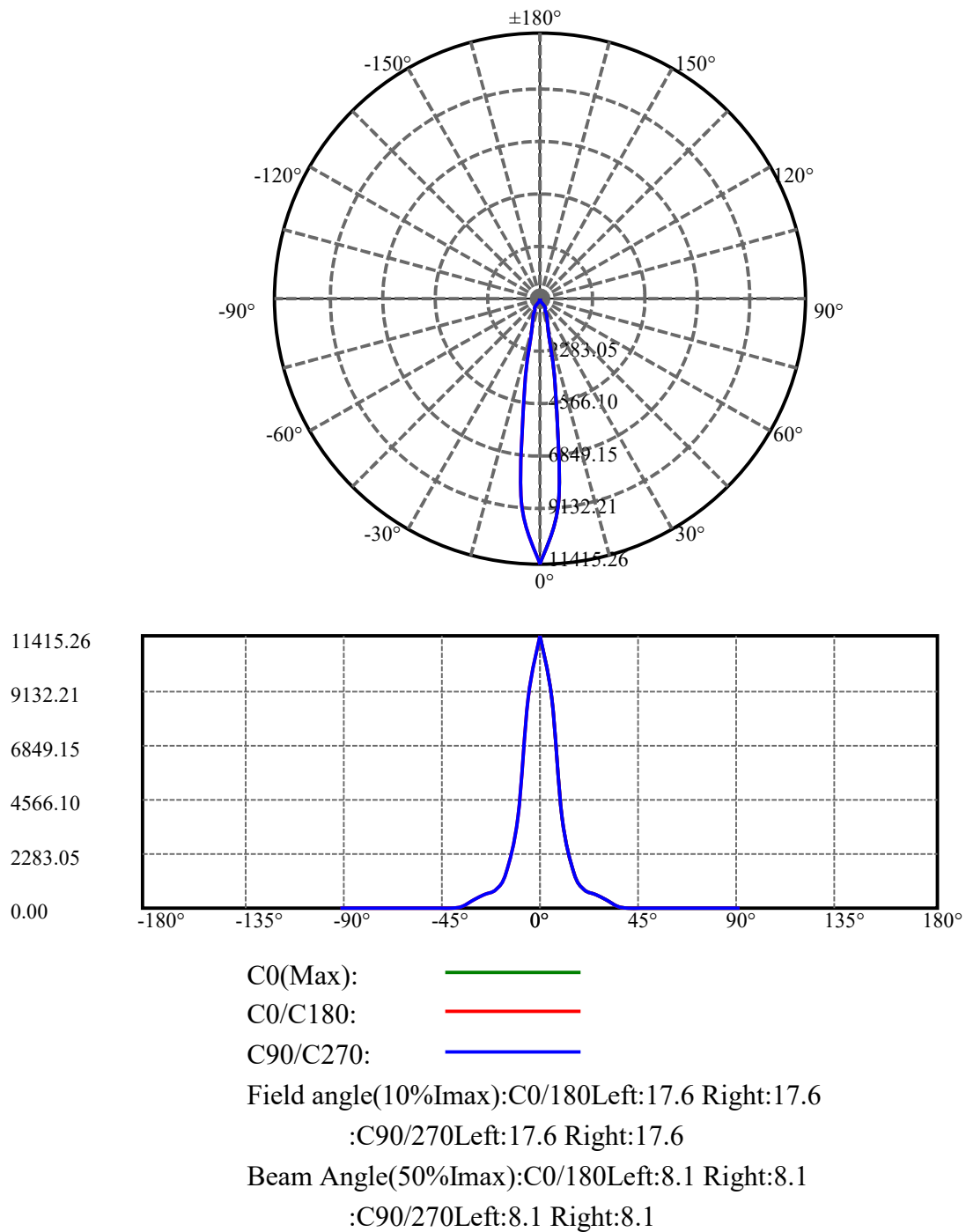
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	11415.256	68.266	68.266	3.883%	4.531%
5.0	8782.390	419.564	487.829	23.866%	32.379%
10.0	3819.951	363.595	851.424	20.682%	56.513%
15.0	1519.949	215.633	1067.057	12.266%	70.825%
20.0	789.653	148.039	1215.096	8.421%	80.651%
25.0	575.546	133.327	1348.423	7.584%	89.501%
30.0	380.846	104.378	1452.801	5.937%	96.429%
35.0	50.982	16.029	1468.83	.912%	97.493%
40.0	10.984	3.870	1472.7	.220%	97.750%
45.0	8.486	3.289	1475.989	.187%	97.968%
50.0	7.715	3.239	1479.228	.184%	98.183%
55.0	7.426	3.334	1482.562	.190%	98.404%
60.0	7.343	3.486	1486.048	.198%	98.636%
65.0	7.302	3.627	1489.676	.206%	98.876%
70.0	7.199	3.708	1493.383	.211%	99.122%
75.0	7.033	3.724	1497.107	.212%	99.370%
80.0	7.570	4.086	1501.194	.232%	99.641%
85.0	6.772	3.698	1504.892	.210%	99.886%
90.0	6.249	1.713	1506.604	.097%	100.000%

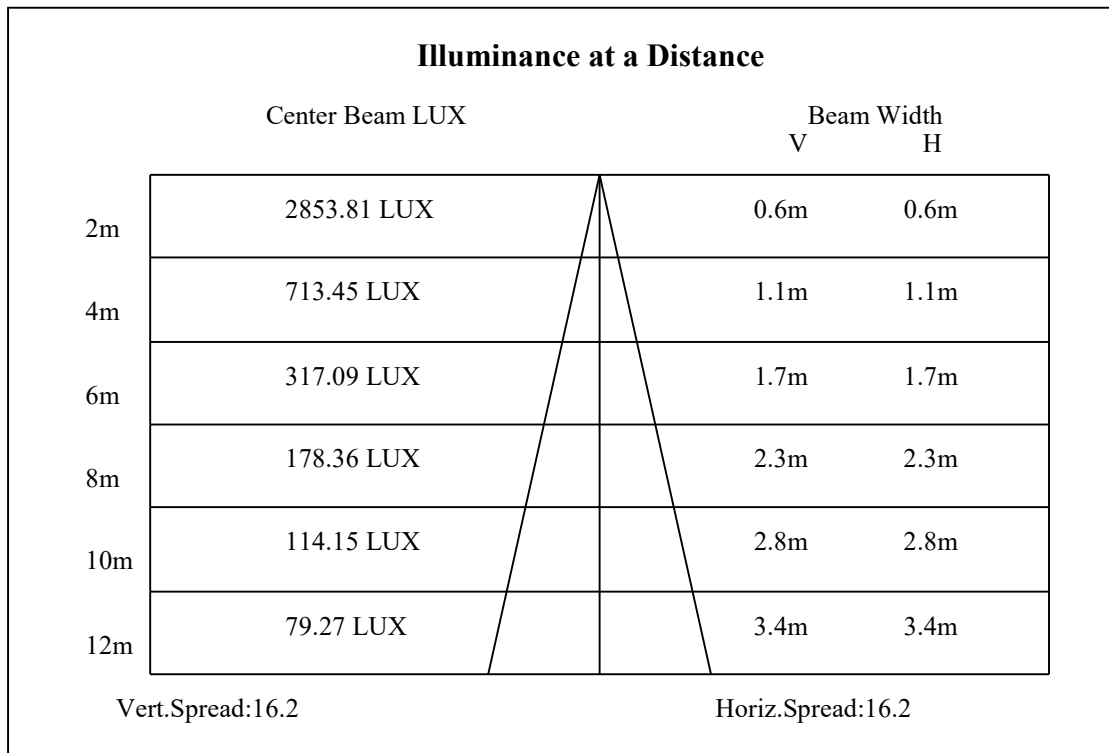
ZONAL LUMEN SUMMARY

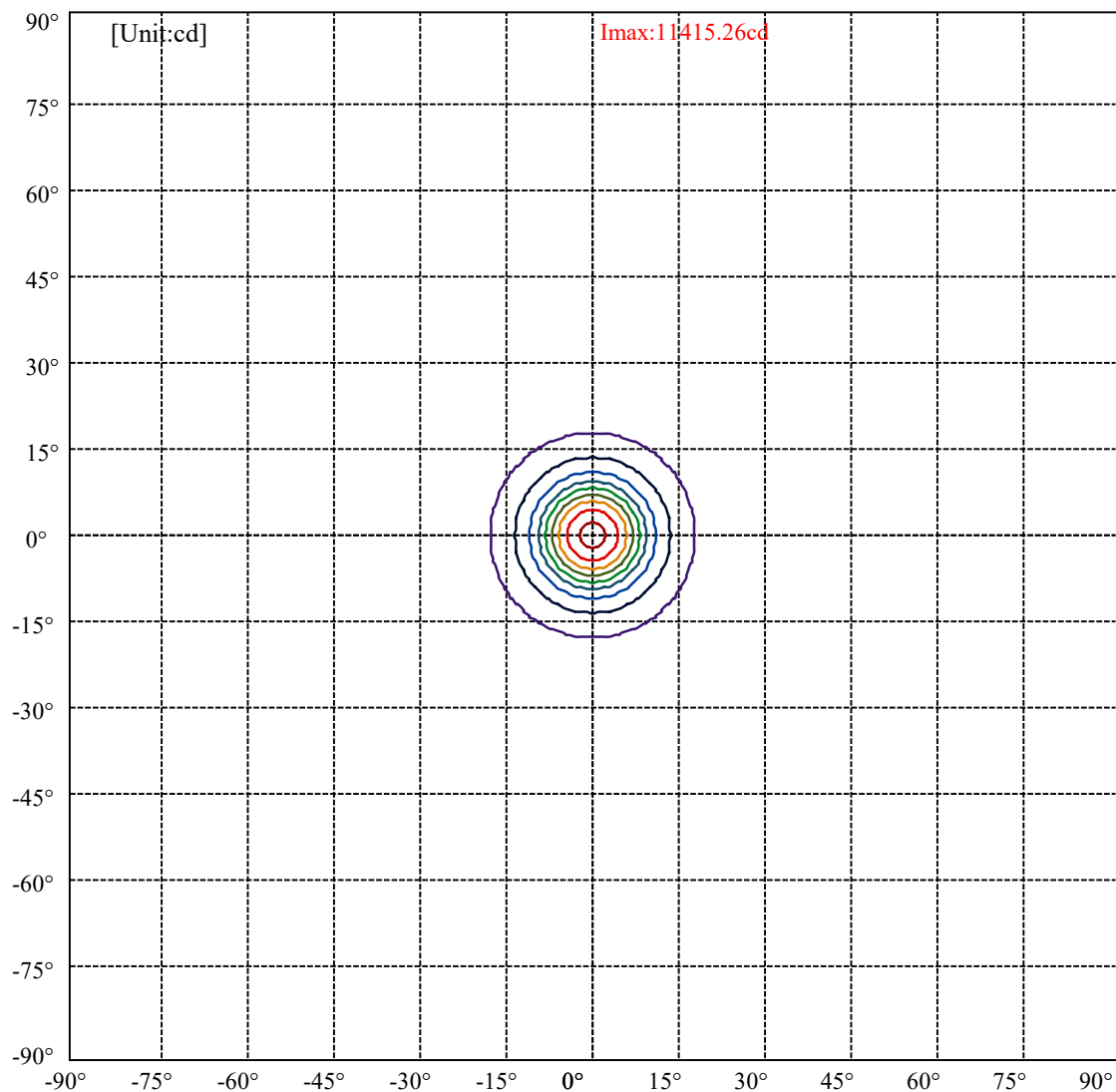
Zone	Lumens	%Lamp	%Fixt
0-30	1452.80	82.64%	96.43%
0-40	1472.70	83.77%	97.75%
0-60	1486.05	84.53%	98.64%
0-90	1504.89	85.60%	99.89%
0-120	1504.89	85.60%	99.89%
0-180	1506.60	85.70%	100.00%
60-90	22.33	1.27%	1.48%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-19.67	1205.28	68.56%	80.00%

ZONAL LUMEN SUMMARY

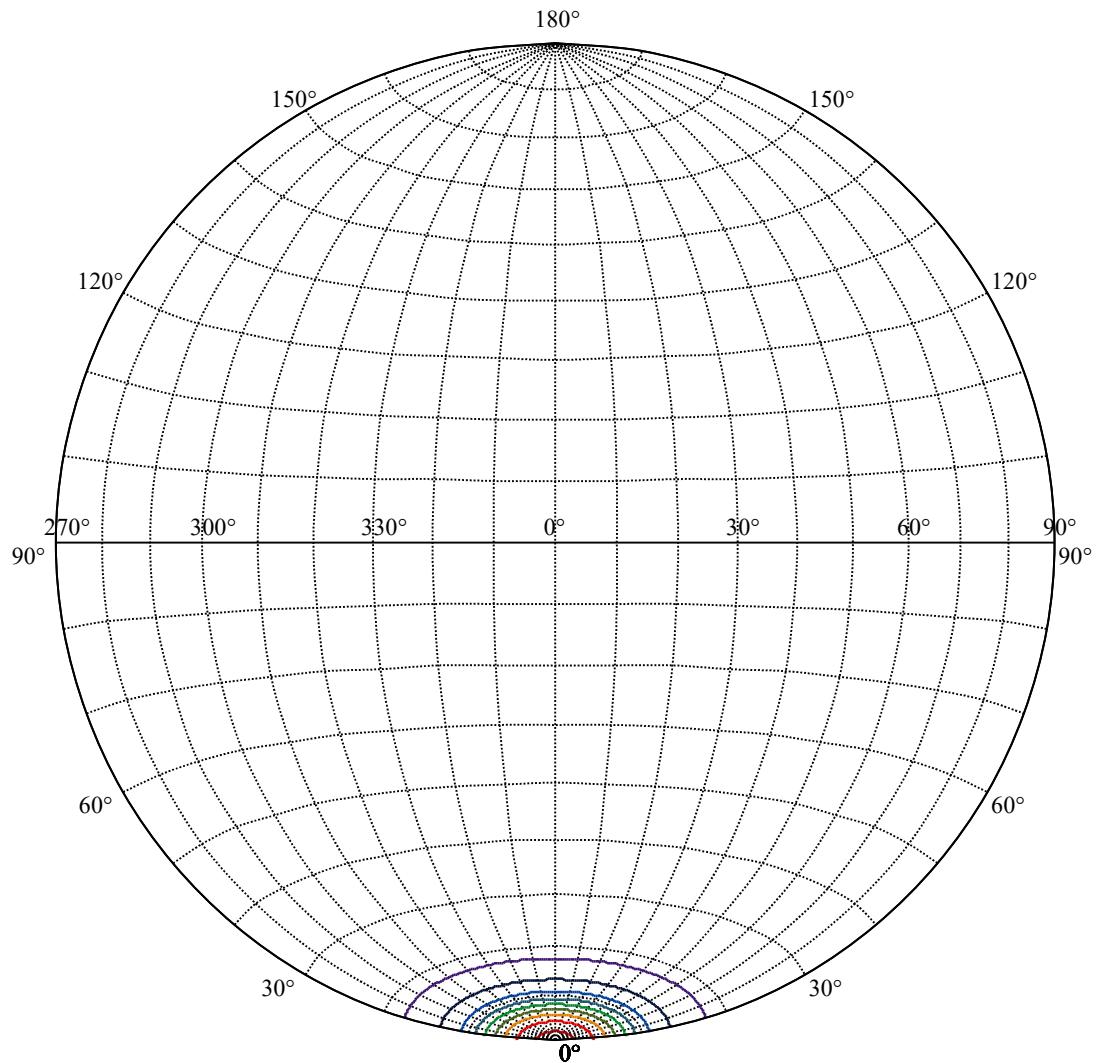
0-10	851.42
10-20	363.67
20-30	237.70
30-40	19.90
40-50	6.53
50-60	6.82
60-70	7.34
70-80	7.81
80-90	3.70
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00







(10%Imax) 1141.53	—
(20%Imax) 2283.05	—
(30%Imax) 3424.58	—
(40%Imax) 4566.1	—
(50%Imax) 5707.63	—
(60%Imax) 6849.15	—
(70%Imax) 7990.68	—
(80%Imax) 9132.21	—
(90%Imax) 10273.7	—



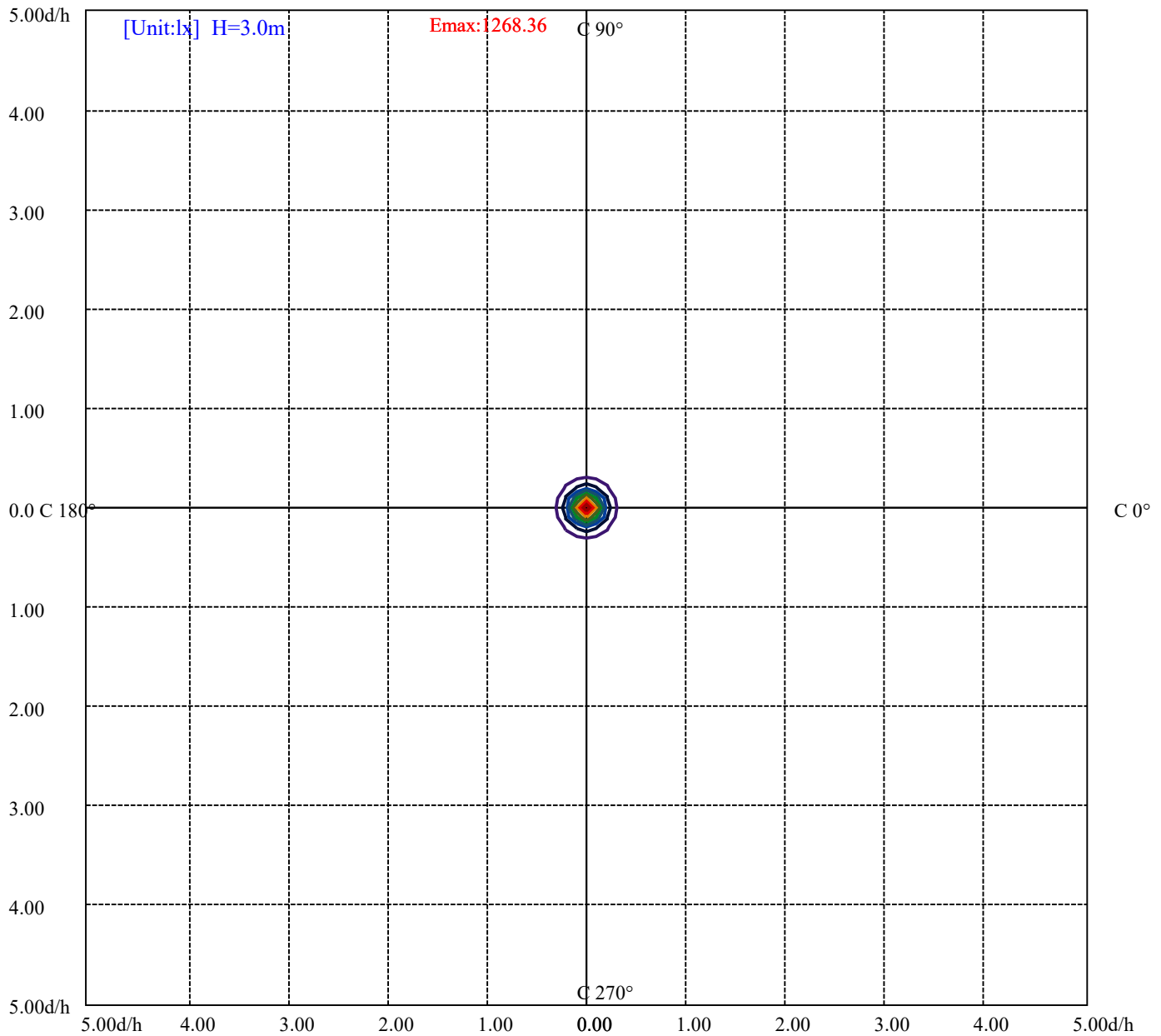
House

[Unit:cd]

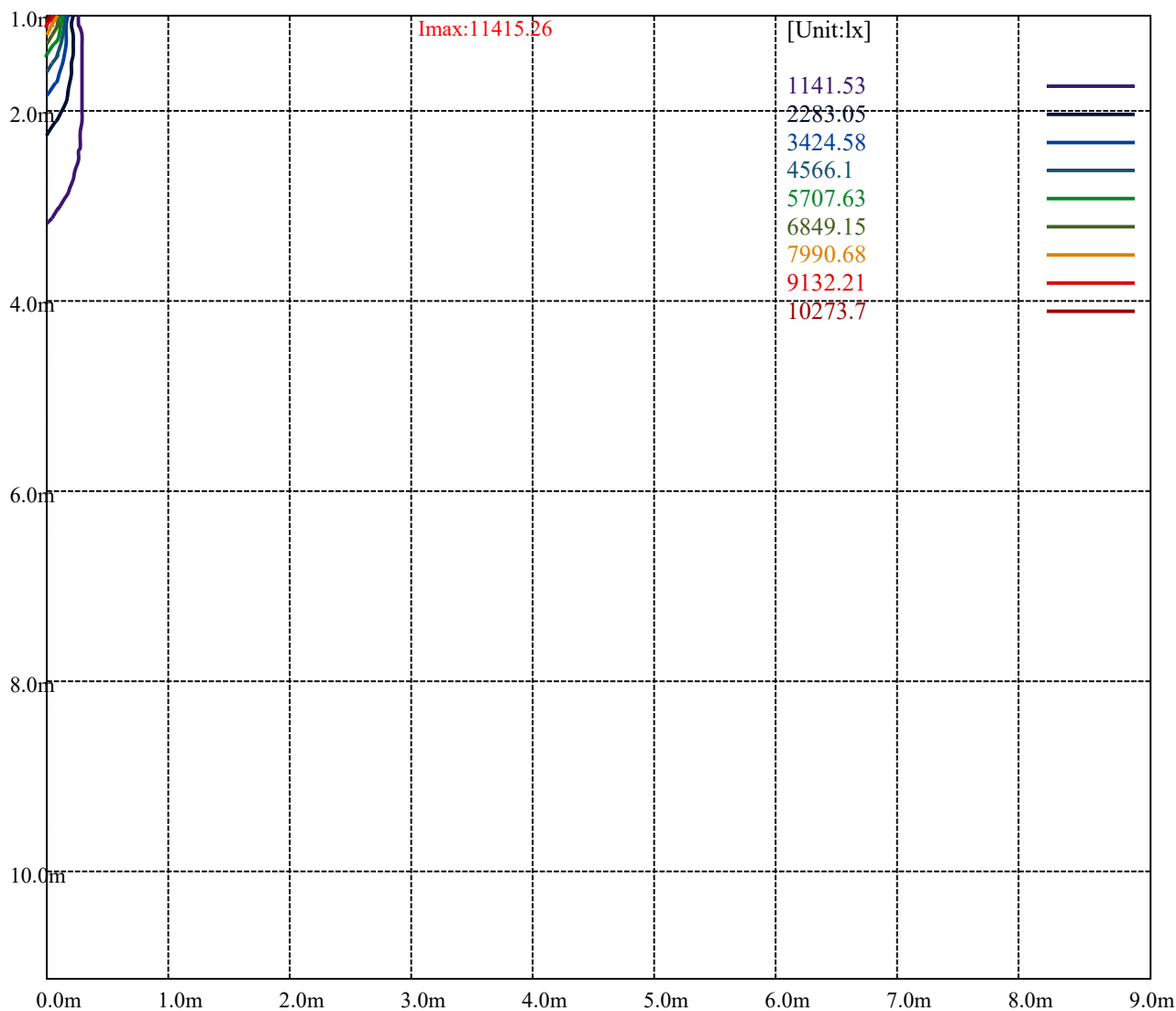
Road

Imax:11415.26

(10%Imax)	1141.53	—
(20%Imax)	2283.05	—
(30%Imax)	3424.58	—
(40%Imax)	4566.1	—
(50%Imax)	5707.63	—
(60%Imax)	6849.15	—
(70%Imax)	7990.68	—
(80%Imax)	9132.21	—
(90%Imax)	10273.7	—



(10%Emax)	126.8356	—
(20%Emax)	253.6711	—
(30%Emax)	380.5056	—
(40%Emax)	507.3411	—
(50%Emax)	634.1766	—
(60%Emax)	761.0122	—
(70%Emax)	887.8467	—
(80%Emax)	1014.682	—
(90%Emax)	1141.522	—



Luminance Table

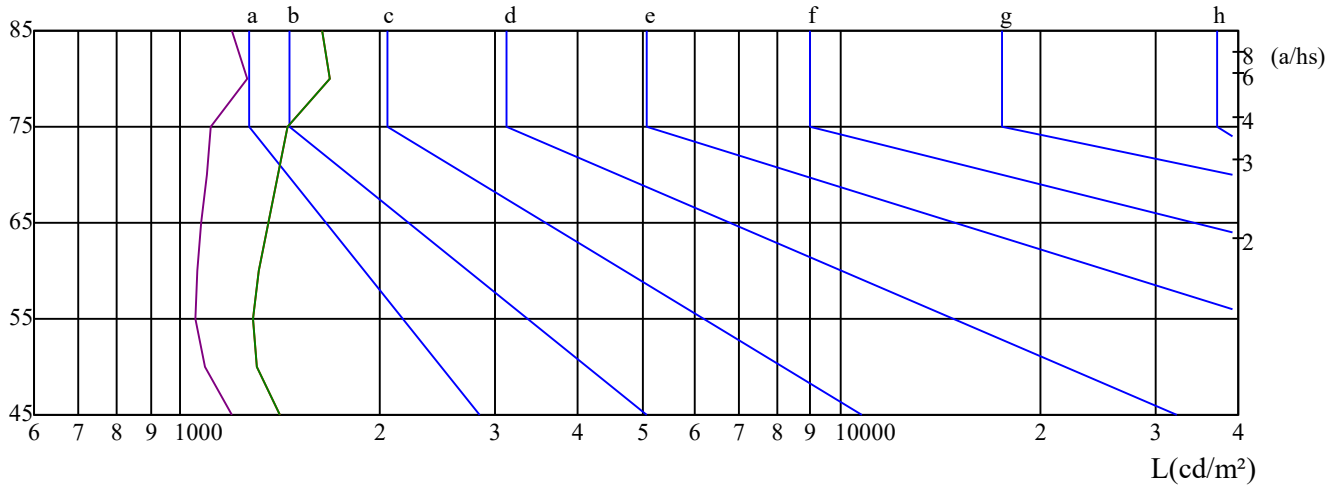
γ	45	50	55	60	65	70	75	80	85
C0	1414	1304	1284	1310	1355	1403	1456	1684	1641
C45	1196	1087	1054	1057	1076	1094	1113	1258	1196
C90	1414	1304	1284	1310	1355	1403	1456	1684	1641

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
3629	3629	3629	5708	5708	5708	16320	16320	16320

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

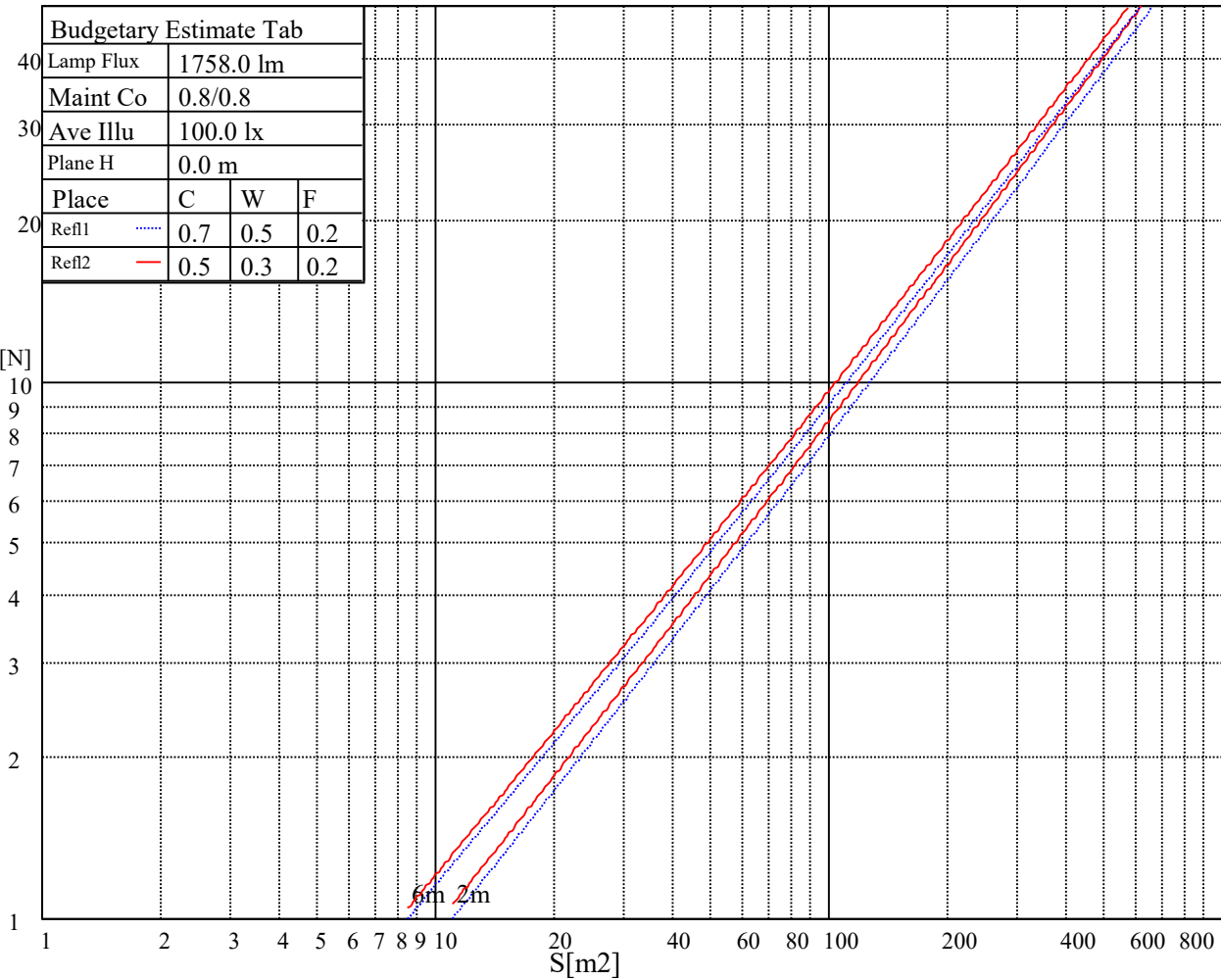
Luminance Limiting Curve

 $\gamma(^{\circ})$ 

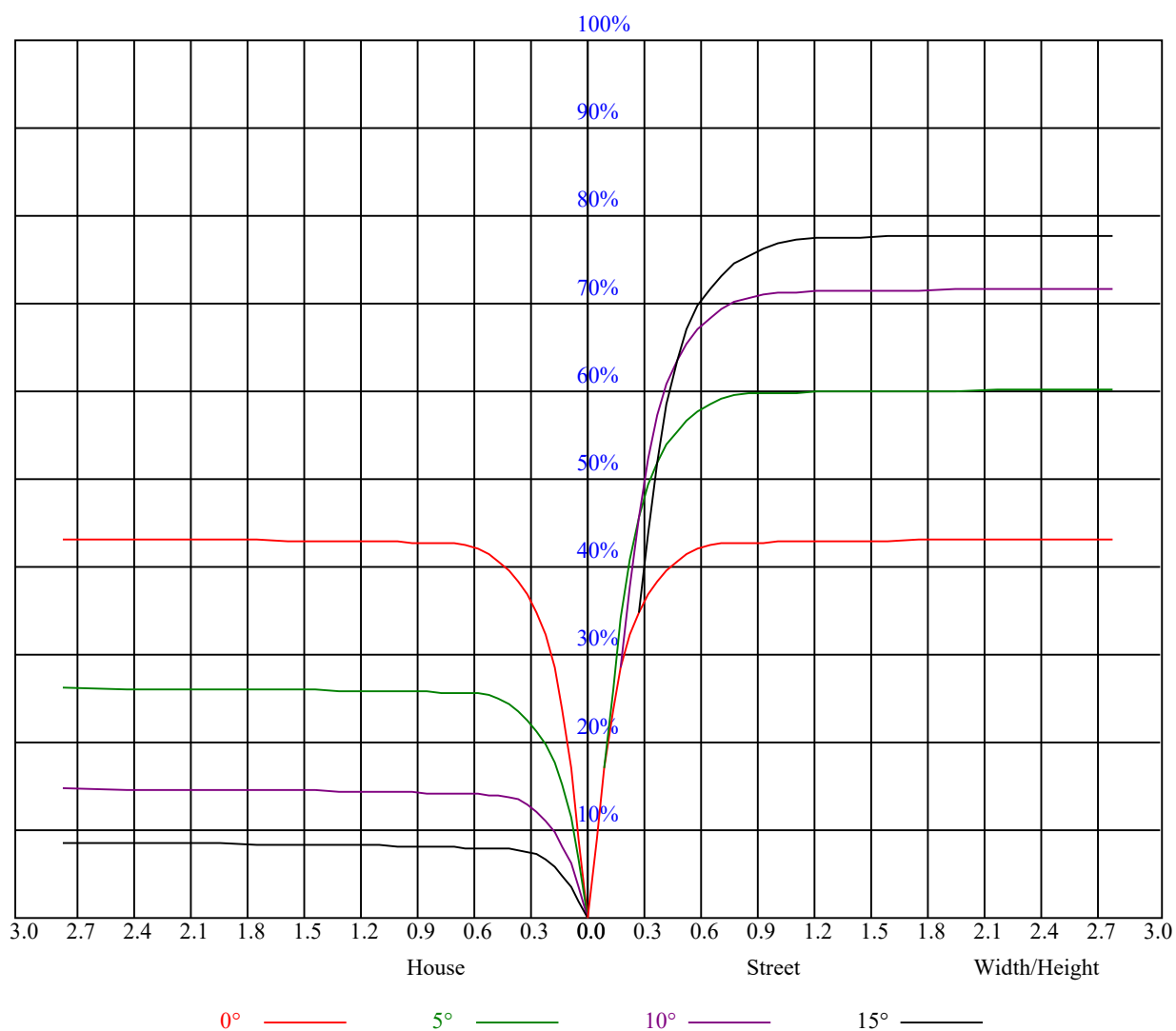
C0 ———

C45 ———

C90 ———



RHOC	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	1.04	1.04	1.04	0.99	0.99	0.99	0.95	0.95	0.95	0.91	0.91	0.91	0.90
1	0.96	0.93	0.90	0.94	0.91	0.89	0.90	0.88	0.86	0.87	0.85	0.83	0.84	0.82	0.81	0.79
2	0.92	0.88	0.85	0.90	0.87	0.84	0.87	0.84	0.82	0.85	0.82	0.80	0.82	0.80	0.79	0.77
3	0.88	0.84	0.81	0.87	0.83	0.80	0.84	0.81	0.79	0.82	0.80	0.78	0.80	0.78	0.76	0.75
4	0.85	0.81	0.78	0.84	0.80	0.77	0.82	0.79	0.76	0.80	0.78	0.75	0.79	0.76	0.75	0.73
5	0.82	0.78	0.75	0.81	0.78	0.75	0.80	0.77	0.74	0.79	0.76	0.73	0.77	0.75	0.73	0.72
6	0.80	0.76	0.73	0.79	0.75	0.73	0.78	0.75	0.72	0.77	0.74	0.72	0.76	0.73	0.71	0.70
7	0.78	0.74	0.71	0.77	0.73	0.71	0.76	0.73	0.70	0.75	0.72	0.70	0.74	0.72	0.70	0.69
8	0.76	0.72	0.69	0.75	0.72	0.69	0.74	0.71	0.69	0.74	0.71	0.69	0.73	0.70	0.68	0.67
9	0.74	0.70	0.68	0.74	0.70	0.68	0.73	0.70	0.67	0.72	0.69	0.67	0.72	0.69	0.67	0.66
10	0.72	0.69	0.66	0.72	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.66	0.70	0.68	0.66	0.65



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Intensity data(cd)

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C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	10907.77	9783.52	4784.40	1769.51	886.41	611.68	488.35	74.38	12.50
45.0	11897.69	8737.45	3683.27	1389.62	749.32	581.40	403.56	31.88	12.28
90.0	10836.75	7090.71	2574.99	1076.13	682.92	550.12	234.04	16.19	10.35
135.0	12018.81	8032.73	3132.71	1424.31	727.85	556.07	313.27	14.98	9.14
180.0	10907.77	7318.10	2911.38	1096.23	695.53	541.53	276.82	14.48	9.30
225.0	11897.69	8861.88	3684.92	1528.92	785.05	566.48	387.38	20.70	9.19
270.0	10836.75	10532.29	5252.38	2256.76	938.71	594.06	475.69	191.10	12.99
315.0	12018.81	9902.44	4535.55	1618.11	851.45	603.03	467.65	44.16	12.11
360.0	10907.77	9783.52	4784.40	1769.51	886.41	611.68	488.35	74.38	12.50
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	8.70	7.87	7.49	7.38	7.27	7.05	6.83	6.66	6.61
45.0	8.97	7.93	7.49	7.27	6.99	6.83	6.55	6.44	6.33
90.0	8.31	7.82	7.60	7.43	7.32	7.10	6.88	6.72	6.55
135.0	8.04	7.54	7.43	7.49	7.54	7.54	7.43	8.48	7.27
180.0	8.37	7.98	7.76	7.71	7.82	7.87	7.71	10.96	7.54
225.0	7.87	7.32	7.16	7.21	7.27	7.27	7.16	7.87	6.77
270.0	9.03	7.71	7.27	7.21	7.27	7.10	6.99	6.88	6.61
315.0	8.59	7.54	7.21	7.05	6.94	6.83	6.72	6.55	6.50
360.0	8.70	7.87	7.49	7.38	7.27	7.05	6.83	6.66	6.61
C/γ(°)	90.0								
0.0	6.39								
45.0	6.17								
90.0	6.17								
135.0	6.28								
180.0	6.33								
225.0	6.11								
270.0	6.22								
315.0	6.33								
360.0	6.39								