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## Nata

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LumCAT: 4-1761-E  
Luminaire: 92.76.233.00  
Report No: GC2016012309  
Test No: NT-0010  
LampCAT: LUMENS EDC\_57C\_30W  
Lamp flux(lm): 2370.0  
Number of Lamps: 1  
Length(mm): 100  
Phm Type: C

Voltage(V): 213.5000  
Current(A): 0.1260  
Power (W): 26.9000  
PF: 1.0000  
Ballast type: DC  
Width(mm): 100  
Height(mm): 0

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## Photometric Results

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Lumens(lm): 2118.59  
Efficiency(%): 89.39%  
Lumens(lm)/Power(W): 78.76  
Central intensity(cd): 15919.560  
Maximum intensity(cd): 15919.560  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=14.3  
                                  [C90/270]Total=14.3  
Field angle(10%Imax): [C0/180]Total=29.5  
                                  [C90/270]Total=29.5  
Maximum s/h(1/2): C0\_180=0.25 C90\_270=0.25  
Maximum s/h(1/4): C0\_180=0.25 C90\_270=0.25  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 89.39%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 98.643%

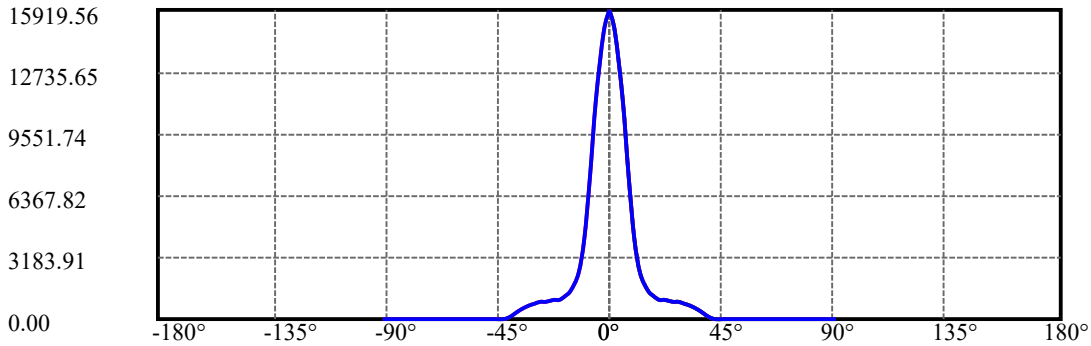
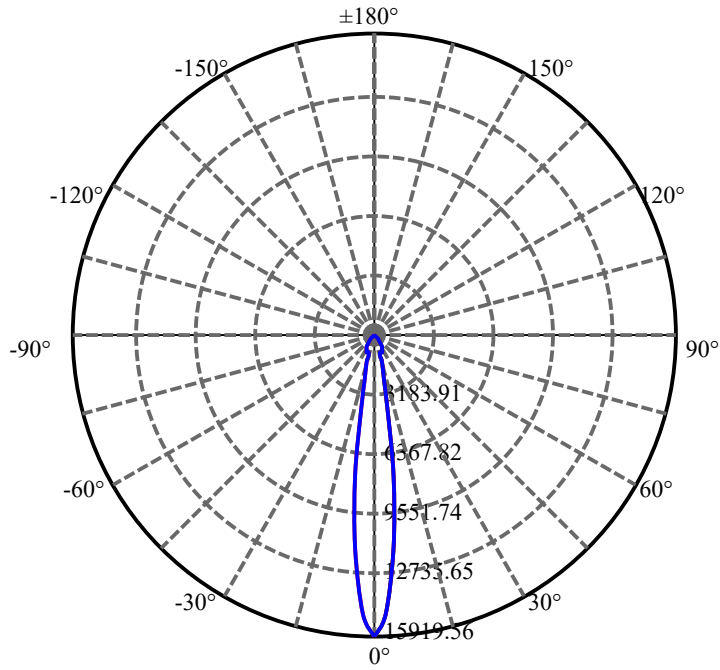
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	15919.558	0.000	0	.000%	.000%
2.5	14764.406	91.748	91.748	3.871%	4.331%
5.0	11314.193	233.785	325.533	9.864%	15.366%
7.5	7432.717	279.742	605.275	11.803%	28.570%
10.0	4112.300	240.726	846.001	10.157%	39.932%
12.5	2362.126	173.129	1019.13	7.305%	48.104%
15.0	1514.842	126.307	1145.438	5.329%	54.066%
17.5	1161.253	102.642	1248.08	4.331%	58.911%
20.0	1018.444	96.035	1344.115	4.052%	63.444%
22.5	951.536	97.865	1441.98	4.129%	68.063%
25.0	903.107	102.382	1544.363	4.320%	72.896%
27.5	863.253	107.082	1651.445	4.518%	77.950%
30.0	821.562	111.076	1762.521	4.687%	83.193%
32.5	725.747	110.024	1872.545	4.642%	88.386%
35.0	512.028	94.257	1966.802	3.977%	92.835%
37.5	288.434	64.877	2031.678	2.737%	95.898%
40.0	88.875	32.371	2064.049	1.366%	97.426%
42.5	25.987	10.381	2074.429	.438%	97.915%
45.0	10.530	3.461	2077.891	.146%	98.079%
47.5	9.594	1.992	2079.883	.084%	98.173%
50.0	9.291	1.946	2081.829	.082%	98.265%
52.5	9.074	1.963	2083.792	.083%	98.357%
55.0	8.898	1.987	2085.779	.084%	98.451%
57.5	8.764	2.013	2087.792	.085%	98.546%
60.0	8.675	2.044	2089.835	.086%	98.643%
62.5	8.596	2.075	2091.911	.088%	98.741%
65.0	8.548	2.107	2094.018	.089%	98.840%
67.5	8.523	2.142	2096.16	.090%	98.941%
70.0	8.565	2.183	2098.343	.092%	99.044%
72.5	9.631	2.362	2100.705	.100%	99.156%
75.0	11.142	2.734	2103.438	.115%	99.285%
77.5	11.046	2.954	2106.392	.125%	99.424%
80.0	9.714	2.791	2109.183	.118%	99.556%
82.5	9.033	2.540	2111.723	.107%	99.676%
85.0	8.382	2.373	2114.096	.100%	99.788%
87.5	8.224	2.271	2116.367	.096%	99.895%
90.0	8.014	2.225	2118.592	.094%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1762.52	74.37%	83.19%
0-40	2064.05	87.09%	97.43%
0-60	2089.84	88.18%	98.64%
0-90	2116.37	89.30%	99.89%
0-120	2116.37	89.30%	99.89%
0-180	2118.59	89.39%	100.00%
60-90	28.58	1.21%	1.35%
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%
0-28.48	1694.87	71.51%	80.00%

ZONAL LUMEN SUMMARY

0-10	846.00
10-20	498.11
20-30	418.41
30-40	301.53
40-50	17.78
50-60	8.01
60-70	8.51
70-80	10.84
80-90	7.18
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: —————

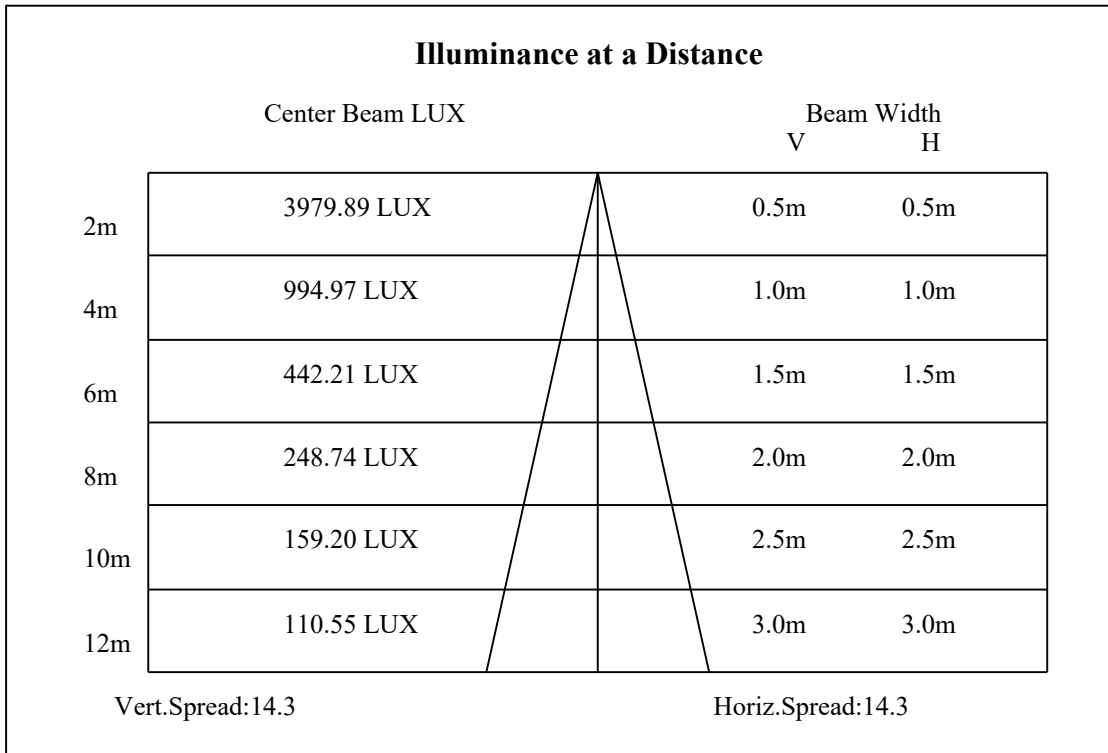
C90/C270: —————

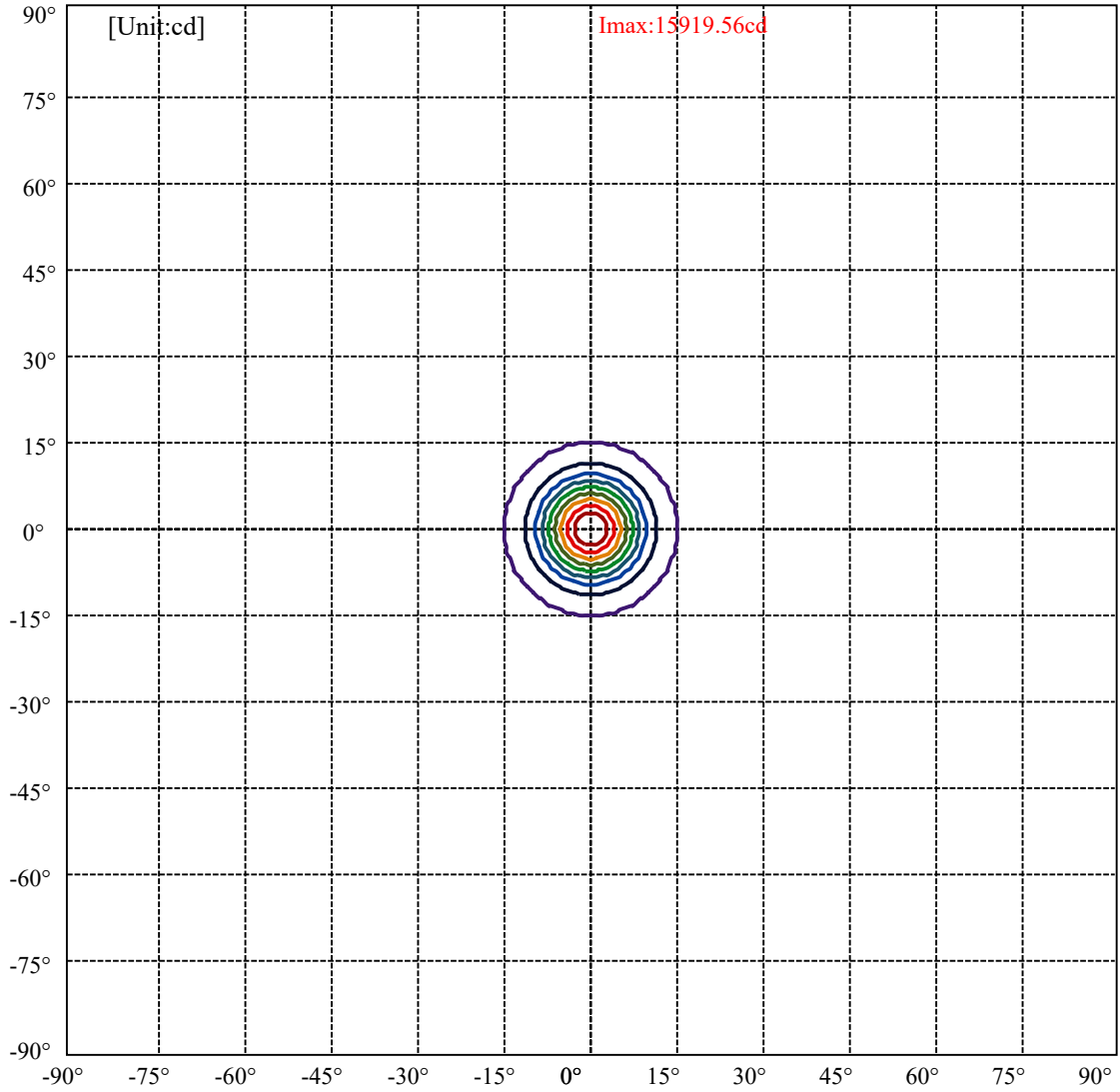
Field angle(10%Imax):C0/180Left:14.8 Right:14.8

:C90/270Left:14.8 Right:14.8

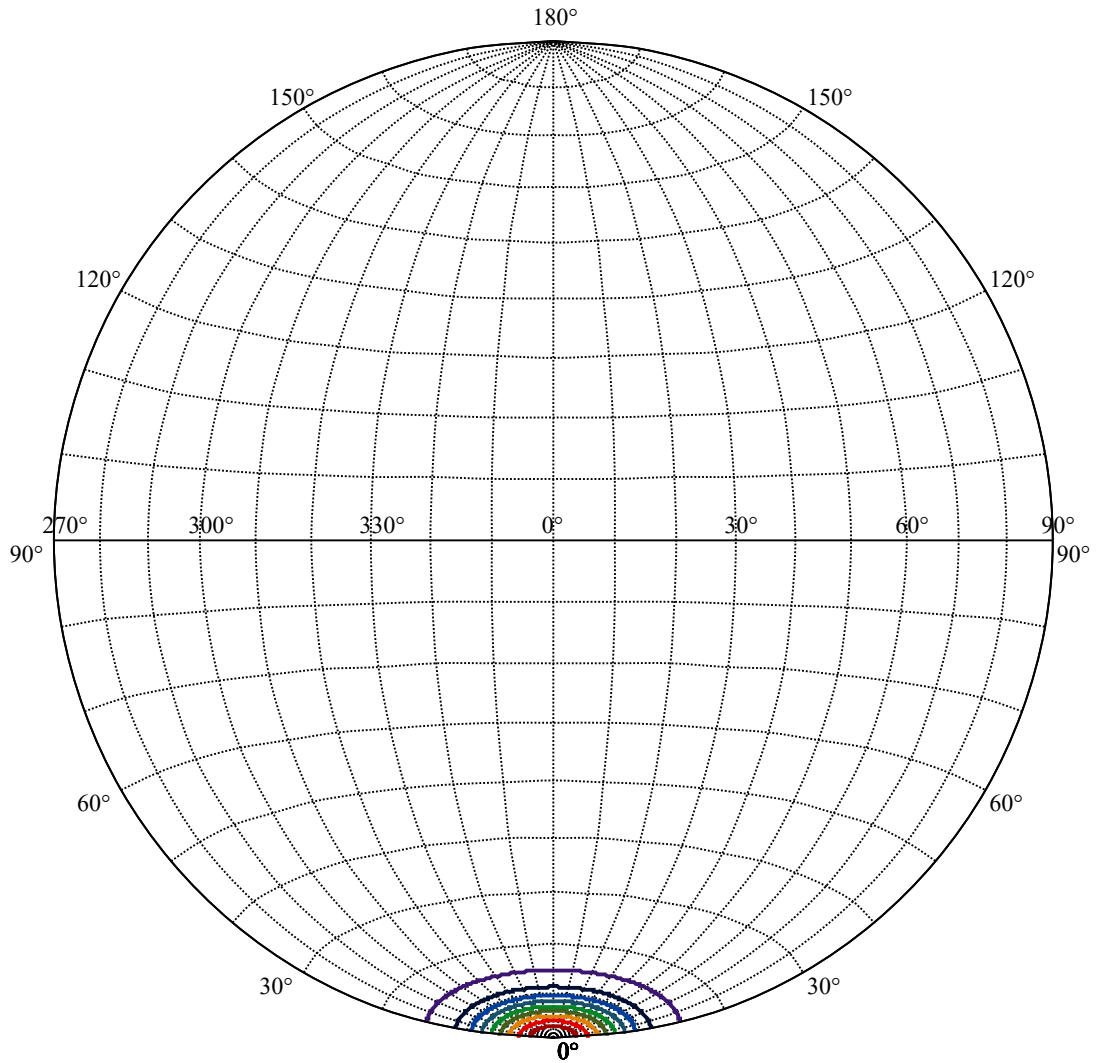
Beam Angle(50%Imax):C0/180Left:7.2 Right:7.2

:C90/270Left:7.2 Right:7.2





(10%Imax) 1591.96	—
(20%Imax) 3183.91	—
(30%Imax) 4775.87	—
(40%Imax) 6367.82	—
(50%Imax) 7959.78	—
(60%Imax) 9551.74	—
(70%Imax) 11143.7	—
(80%Imax) 12735.6	—
(90%Imax) 14327.6	—



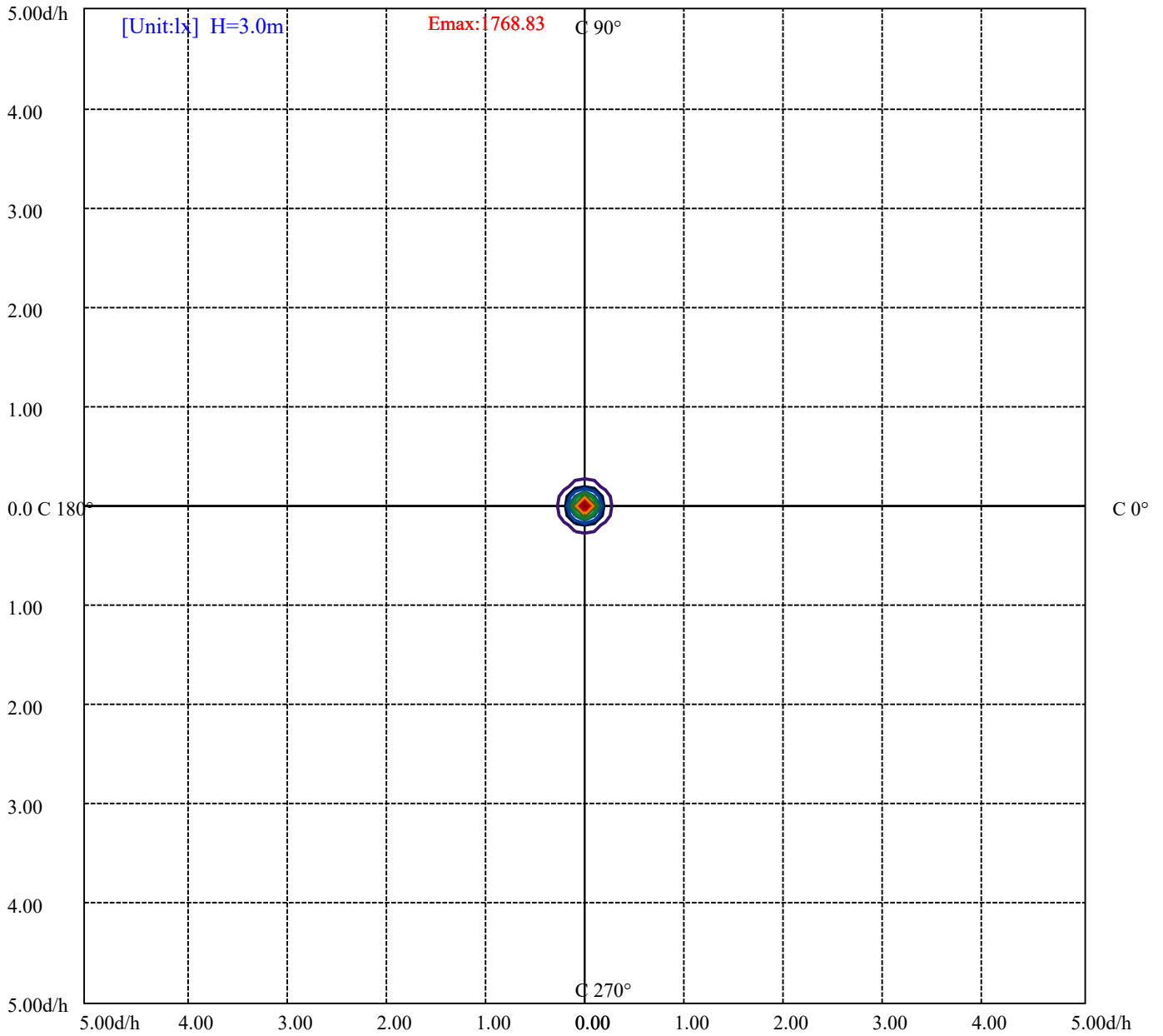
House

[Unit:cd]

Road

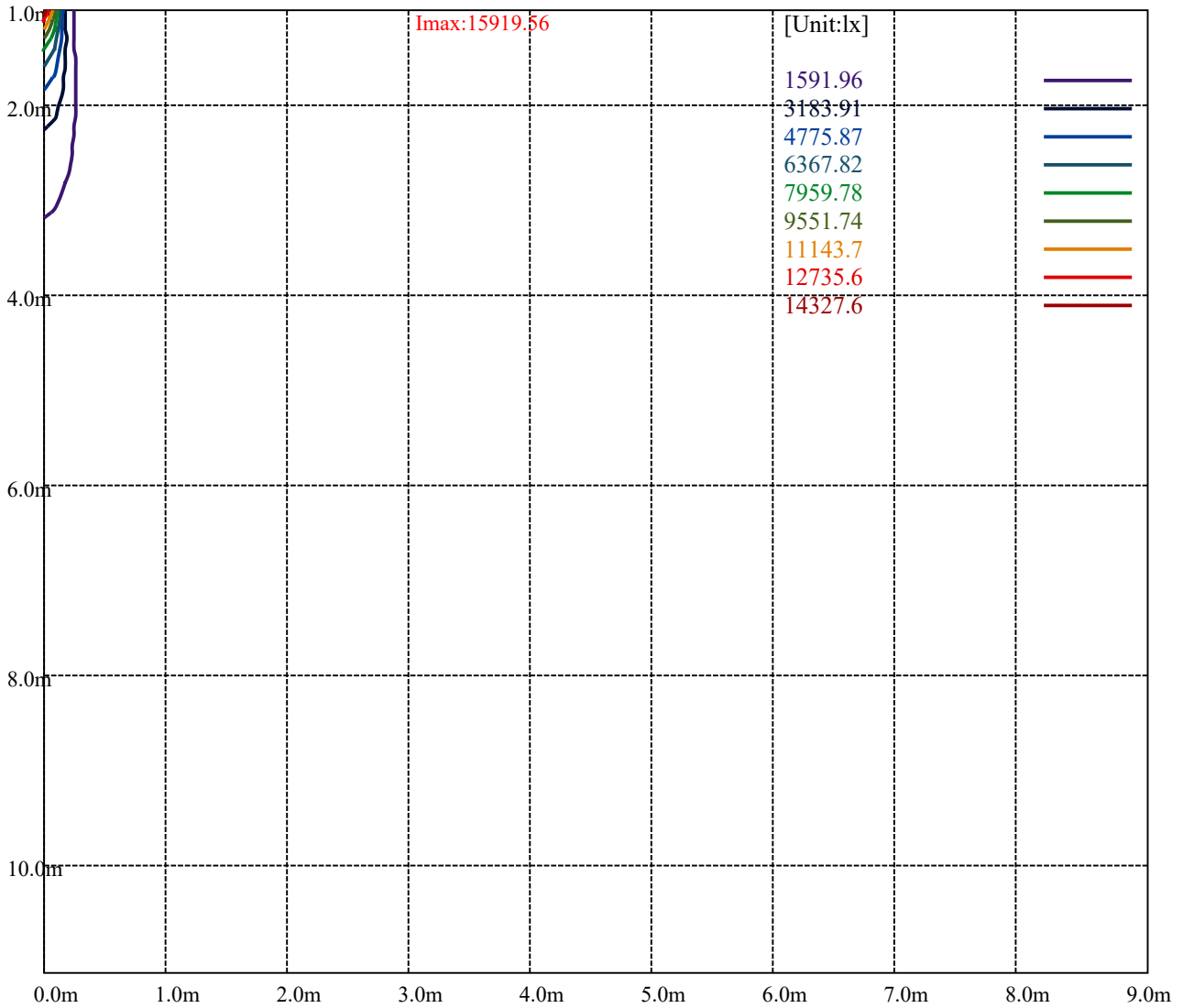
Imax:15919.56

(10%Imax)	1591.96	—
(20%Imax)	3183.91	—
(30%Imax)	4775.87	—
(40%Imax)	6367.82	—
(50%Imax)	7959.78	—
(60%Imax)	9551.74	—
(70%Imax)	11143.7	—
(80%Imax)	12735.6	—
(90%Imax)	14327.6	—



(10%Emax) 176.8833	—
(20%Emax) 353.7667	—
(30%Emax) 530.65	—
(40%Emax) 707.5333	—
(50%Emax) 884.4167	—
(60%Emax) 1061.299	—
(70%Emax) 1238.178	—
(80%Emax) 1415.067	—
(90%Emax) 1591.944	—





Luminance Table

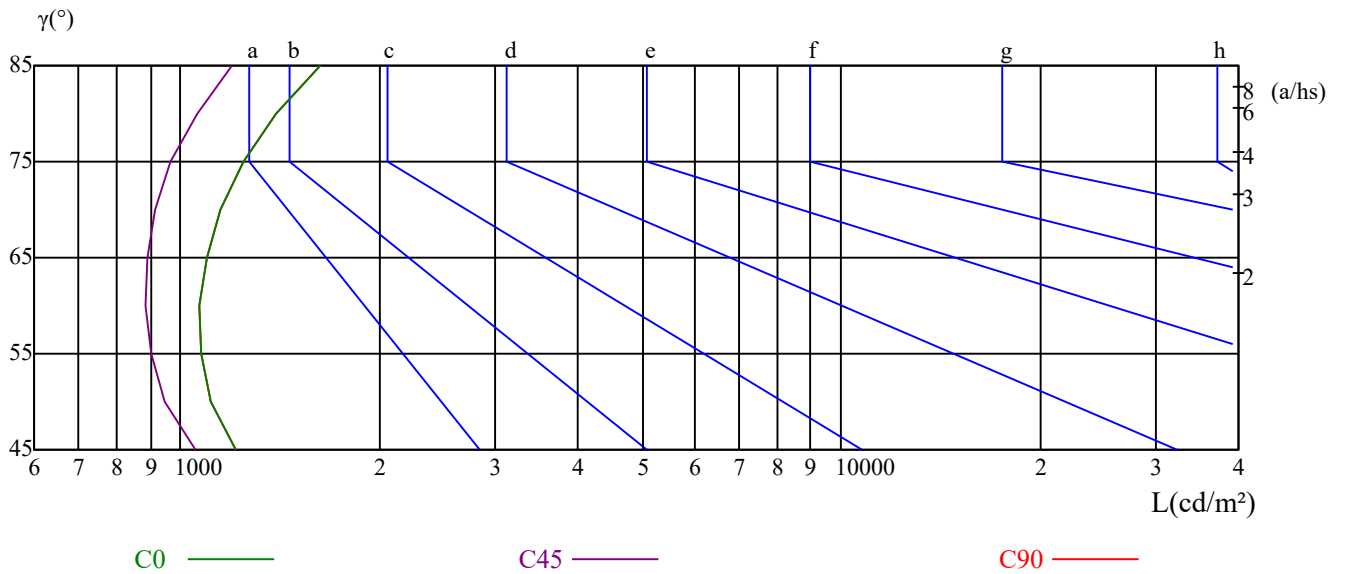
$\gamma$	45	50	55	60	65	70	75	80	85
C0	1211	1110	1073	1071	1099	1151	1243	1394	1632
C45	1050	948	903	886	893	916	968	1057	1200
C90	1211	1110	1073	1071	1099	1151	1243	1394	1632

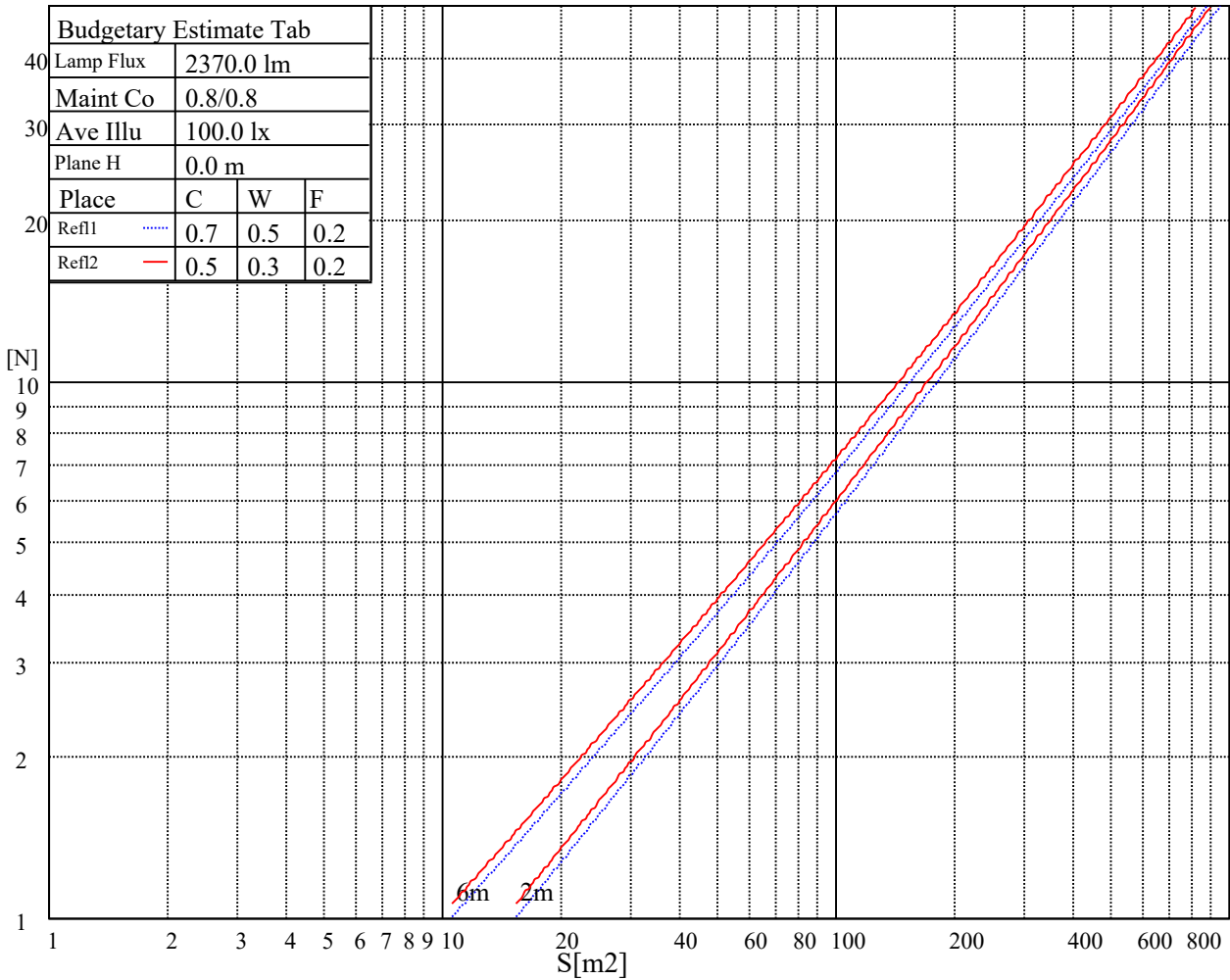
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
2479	2479	2479	3958	3958	3958	12555	12555	12555

Glare Table

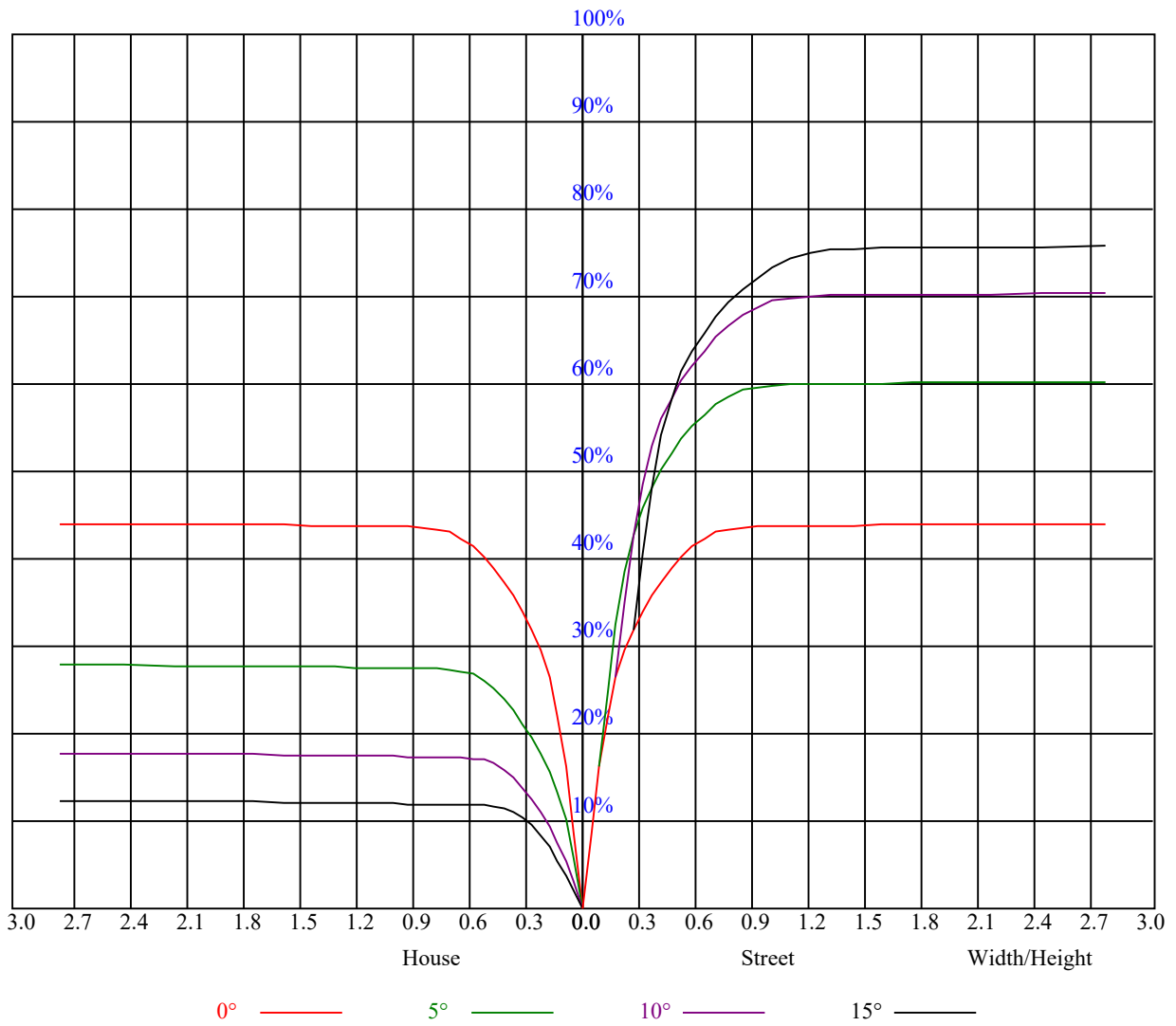
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.06	1.06	1.06	1.04	1.04	1.04	0.99	0.99	0.99	0.95	0.95	0.95	0.91	0.91	0.91	0.89
1	1.00	0.98	0.97	0.98	0.97	0.95	0.95	0.93	0.92	0.91	0.90	0.89	0.88	0.88	0.87	0.85
2	0.95	0.92	0.89	0.93	0.91	0.88	0.91	0.88	0.87	0.88	0.86	0.85	0.86	0.84	0.83	0.82
3	0.90	0.87	0.84	0.89	0.86	0.83	0.87	0.84	0.82	0.85	0.83	0.81	0.83	0.81	0.80	0.78
4	0.86	0.82	0.79	0.85	0.82	0.79	0.84	0.80	0.78	0.82	0.79	0.77	0.80	0.78	0.76	0.75
5	0.83	0.79	0.76	0.82	0.78	0.75	0.80	0.77	0.75	0.79	0.76	0.74	0.78	0.75	0.73	0.72
6	0.79	0.75	0.72	0.79	0.75	0.72	0.78	0.74	0.72	0.76	0.74	0.71	0.75	0.73	0.71	0.70
7	0.77	0.72	0.70	0.76	0.72	0.69	0.75	0.72	0.69	0.74	0.71	0.69	0.73	0.70	0.68	0.67
8	0.74	0.70	0.67	0.73	0.70	0.67	0.73	0.69	0.67	0.72	0.69	0.66	0.71	0.68	0.66	0.65
9	0.72	0.68	0.65	0.71	0.67	0.65	0.70	0.67	0.65	0.70	0.67	0.64	0.69	0.66	0.64	0.63
10	0.69	0.65	0.63	0.69	0.65	0.63	0.68	0.65	0.63	0.68	0.65	0.63	0.67	0.64	0.62	0.61



Intensity data(cd)

C/γ(°)	0.0	2.5	5.0	7.5	10.0	12.5	15.0	17.5	20.0
0.0	15911.30	15443.32	12563.87	8478.69	4822.94	2846.42	1670.96	1226.66	1043.87
22.5	15691.07	15801.19	13516.35	9530.26	5797.44	3072.15	1868.06	1334.02	1081.86
45.0	15867.25	15063.43	10962.83	7973.82	4392.95	2440.10	1602.69	1194.72	1025.43
67.5	15861.75	15063.43	12090.39	7851.04	4360.47	2785.85	1533.87	1184.81	1033.96
90.0	15911.30	14177.02	10754.72	6604.02	3449.83	1986.43	1359.34	1086.87	993.27
112.5	16043.43	14501.86	10950.72	6595.76	3677.77	2073.97	1374.21	1115.99	1003.68
135.0	15988.38	13901.74	9981.73	5866.26	3050.68	1860.91	1314.20	1071.01	970.53
157.5	16081.97	14567.92	10989.26	6612.27	3584.17	2031.58	1375.31	1106.08	998.72
180.0	15911.30	14215.56	10516.32	6355.71	3310.54	1917.61	1342.83	1087.42	985.34
202.5	15691.07	13235.56	9121.74	5431.31	2893.21	1749.14	1271.25	1065.56	983.69
225.0	15867.25	14287.14	10702.96	6496.66	3666.76	2117.47	1420.46	1136.91	1016.89
247.5	15861.75	14386.24	10876.39	6867.74	3648.04	2130.68	1465.05	1095.84	1014.30
270.0	15911.30	15278.15	12277.58	8159.36	4630.24	2912.48	1675.37	1240.42	1047.17
292.5	16043.43	15228.60	10847.76	8331.13	4568.03	2497.36	1615.91	1193.07	1022.78
315.0	15988.38	15702.09	13042.86	9370.60	5368.00	2873.94	1721.06	1246.48	1047.72
337.5	16081.97	15377.25	11831.62	8398.85	4575.74	2497.91	1626.92	1194.17	1025.87
360.0	15911.30	15443.32	12563.87	8478.69	4822.94	2846.42	1670.96	1226.66	1043.87
C/γ(°)	22.5	25.0	27.5	30.0	32.5	35.0	37.5	40.0	42.5
0.0	961.28	907.88	866.04	831.35	787.86	588.00	350.71	121.67	30.28
22.5	980.55	920.54	875.95	837.41	788.96	630.95	403.01	172.22	37.16
45.0	958.42	909.31	869.34	828.87	744.25	534.27	304.79	104.44	31.88
67.5	966.79	917.79	877.05	837.96	759.23	552.77	306.66	100.70	29.51
90.0	941.63	898.14	859.49	815.17	676.31	434.17	220.28	48.50	16.63
112.5	945.32	901.27	866.59	825.30	710.23	459.17	287.94	47.84	15.91
135.0	920.54	875.62	842.31	797.66	650.71	396.13	167.21	41.46	12.22
157.5	937.06	891.91	853.37	806.58	693.16	457.52	280.24	60.34	24.28
180.0	933.37	889.82	852.00	801.79	658.14	438.80	214.50	55.06	24.67
202.5	939.04	898.30	860.31	807.13	628.03	385.84	163.74	43.82	10.79
225.0	955.78	911.73	871.54	832.45	720.14	484.50	283.54	68.77	23.01
247.5	945.54	896.37	856.79	815.28	705.88	487.03	254.69	71.57	20.59
270.0	964.04	907.88	863.28	826.95	769.69	578.64	347.96	118.37	34.69
292.5	953.41	904.08	862.18	823.92	762.31	559.70	324.94	107.03	37.05
315.0	970.09	917.24	874.85	835.76	784.55	632.05	381.54	156.08	38.48
337.5	951.70	901.82	860.97	821.44	772.50	572.92	323.18	104.11	28.63
360.0	961.28	907.88	866.04	831.35	787.86	588.00	350.71	121.67	30.28
C/γ(°)	45.0	47.5	50.0	52.5	55.0	57.5	60.0	62.5	65.0
0.0	10.68	9.47	9.14	8.86	8.70	8.59	8.48	8.37	8.37
22.5	15.20	9.58	9.25	9.03	8.86	8.70	8.64	8.53	8.42
45.0	9.91	9.52	9.25	9.08	8.92	8.75	8.64	8.53	8.53
67.5	10.13	9.74	9.47	9.25	9.03	8.92	8.81	8.75	8.70
90.0	10.02	9.69	9.47	9.25	9.14	8.97	8.86	8.81	8.75
112.5	10.08	9.74	9.47	9.30	9.19	9.03	8.97	8.92	8.86
135.0	9.86	9.58	9.41	9.25	9.08	8.97	8.92	8.86	8.81
157.5	9.91	9.63	9.41	9.25	9.14	9.03	8.97	8.86	8.86
180.0	9.80	9.52	9.30	9.14	9.03	8.92	8.81	8.75	8.75
202.5	9.86	9.47	9.19	8.97	8.92	8.81	8.70	8.64	8.64
225.0	10.02	9.58	9.25	9.03	8.86	8.70	8.70	8.53	8.48
247.5	10.02	9.58	9.19	9.03	8.75	8.64	8.53	8.48	8.37
270.0	10.35	9.80	9.36	9.08	8.81	8.70	8.53	8.48	8.37
292.5	10.19	9.58	9.19	8.92	8.70	8.53	8.42	8.37	8.31
315.0	12.22	9.58	9.19	8.92	8.64	8.53	8.42	8.31	8.26
337.5	10.24	9.41	9.08	8.81	8.59	8.42	8.37	8.31	8.26
360.0	10.68	9.47	9.14	8.86	8.70	8.59	8.48	8.37	8.37

Intensity data(cd)

C/γ(°)	67.5	70.0	72.5	75.0	77.5	80.0	82.5	85.0	87.5
0.0	8.31	8.26	8.26	8.53	8.86	8.26	8.20	8.15	8.04
22.5	8.42	8.31	8.31	8.37	8.42	8.53	8.31	8.20	8.09
45.0	8.48	8.48	8.37	9.03	8.92	8.97	8.92	8.64	8.15
67.5	8.64	8.59	8.75	12.22	12.44	10.85	10.02	8.59	8.31
90.0	8.70	8.81	11.95	14.76	14.81	12.55	10.35	8.53	8.42
112.5	8.86	9.03	12.55	17.67	17.40	13.38	11.67	8.64	8.48
135.0	8.86	9.58	12.50	14.20	14.09	11.34	10.63	8.59	8.42
157.5	8.81	8.86	9.69	11.07	11.51	10.96	9.91	8.86	8.42
180.0	8.70	8.75	10.19	12.94	12.17	9.91	8.75	8.48	8.37
202.5	8.64	8.64	12.66	12.66	12.72	9.63	8.59	8.37	8.31
225.0	8.53	8.48	9.69	12.72	12.22	9.14	8.37	8.31	8.26
247.5	8.37	8.37	8.37	10.30	9.14	8.70	8.26	8.20	8.09
270.0	8.37	8.31	8.26	8.53	8.70	8.48	8.20	8.09	8.09
292.5	8.26	8.20	8.20	8.31	8.31	8.15	8.09	8.09	7.98
315.0	8.20	8.20	8.20	8.37	8.42	8.26	8.09	8.15	8.09
337.5	8.20	8.15	8.15	8.59	8.59	8.31	8.15	8.20	8.04
360.0	8.31	8.26	8.26	8.53	8.86	8.26	8.20	8.15	8.04
C/γ(°)	90.0								
0.0	8.04								
22.5	7.98								
45.0	7.93								
67.5	7.98								
90.0	8.04								
112.5	8.15								
135.0	8.09								
157.5	8.15								
180.0	8.09								
202.5	7.98								
225.0	7.98								
247.5	7.93								
270.0	7.98								
292.5	7.98								
315.0	7.98								
337.5	7.93								
360.0	8.04								