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## Nata

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LumCAT: 1-0918-M	
Luminaire: 92.70.124.00	
Report No: 210715-B007	Voltage(V): 36.5000
Test No: 210715-C007	Current(A): 0.3050
LampCAT: Fortimo LED SLM 1202 G7N	Power (W): 11.1320
Lamp flux(lm): 1428.3	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 570	Width(mm): 45
Phm Type: C	Height(mm): 20

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## Photometric Results

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Lumens(lm): 1101.17  
Efficiency(%): 77.10%  
Lumens(lm)/Power(W): 98.92  
Central intensity(cd): 6318.281  
Maximum intensity(cd): 6318.281  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=21.8  
                                  [C90/270]Total=21.8  
Field angle(10%Imax): [C0/180]Total=41.7  
                                  [C90/270]Total=41.7  
Maximum s/h(1/2): C0\_180=0.37 C90\_270=0.37  
Maximum s/h(1/4): C0\_180=0.38 C90\_270=0.38  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 77.10%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 98.604%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	6318.281	0.000	0	.000%	.000%
1.0	6290.438	6.033	6.033	.422%	.548%
2.0	6214.711	17.949	23.982	1.257%	2.178%
3.0	6102.211	29.458	53.44	2.062%	4.853%
4.0	5956.734	40.365	93.805	2.826%	8.519%
5.0	5676.328	50.045	143.85	3.504%	13.063%
6.0	5301.422	57.691	201.541	4.039%	18.302%
7.0	4899.656	63.318	264.859	4.433%	24.052%
8.0	4440.094	66.843	331.701	4.680%	30.123%
9.0	3964.922	68.118	399.819	4.769%	36.309%
10.0	3535.664	67.878	467.697	4.752%	42.473%
11.0	3114.844	66.452	534.149	4.653%	48.507%
12.0	2746.547	64.073	598.223	4.486%	54.326%
13.0	2390.063	60.959	659.181	4.268%	59.862%
14.0	2064.727	57.021	716.202	3.992%	65.040%
15.0	1791.492	52.940	769.142	3.706%	69.848%
16.0	1536.258	48.761	817.903	3.414%	74.276%
17.0	1308.361	44.298	862.201	3.101%	78.299%
18.0	1090.005	39.544	901.745	2.769%	81.890%
19.0	941.906	35.351	937.096	2.475%	85.100%
20.0	764.634	31.234	968.331	2.187%	87.936%
21.0	611.002	26.415	994.746	1.849%	90.335%
22.0	480.888	21.942	1016.688	1.536%	92.328%
23.0	361.631	17.678	1034.366	1.238%	93.933%
24.0	252.113	13.419	1047.785	.939%	95.152%
25.0	168.982	9.575	1057.359	.670%	96.021%
26.0	93.888	6.205	1063.564	.434%	96.585%
27.0	50.091	3.522	1067.087	.247%	96.905%
28.0	26.205	1.932	1069.019	.135%	97.080%
29.0	16.847	1.126	1070.145	.079%	97.182%
30.0	12.895	0.803	1070.948	.056%	97.255%
31.0	11.447	0.677	1071.625	.047%	97.317%
32.0	10.406	0.626	1072.251	.044%	97.374%
33.0	9.591	0.589	1072.841	.041%	97.427%
34.0	8.979	0.562	1073.403	.039%	97.478%
35.0	8.395	0.540	1073.942	.038%	97.527%
36.0	7.917	0.519	1074.462	.036%	97.574%
37.0	7.559	0.505	1074.966	.035%	97.620%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	7.235	0.494	1075.46	.035%	97.665%
39.0	6.912	0.483	1075.943	.034%	97.709%
40.0	6.708	0.475	1076.418	.033%	97.752%
41.0	6.511	0.471	1076.889	.033%	97.795%
42.0	6.328	0.466	1077.355	.033%	97.837%
43.0	6.188	0.464	1077.819	.032%	97.879%
44.0	6.054	0.462	1078.281	.032%	97.921%
45.0	5.941	0.461	1078.742	.032%	97.963%
46.0	5.857	0.461	1079.203	.032%	98.005%
47.0	5.759	0.462	1079.665	.032%	98.047%
48.0	5.688	0.463	1080.128	.032%	98.089%
49.0	5.597	0.463	1080.591	.032%	98.131%
50.0	5.534	0.464	1081.055	.032%	98.173%
51.0	5.463	0.465	1081.521	.033%	98.216%
52.0	5.435	0.468	1081.988	.033%	98.258%
53.0	5.365	0.470	1082.458	.033%	98.301%
54.0	5.323	0.471	1082.929	.033%	98.343%
55.0	5.273	0.473	1083.402	.033%	98.386%
56.0	5.224	0.474	1083.876	.033%	98.429%
57.0	5.189	0.476	1084.353	.033%	98.473%
58.0	5.161	0.479	1084.831	.034%	98.516%
59.0	5.119	0.481	1085.312	.034%	98.560%
60.0	5.105	0.483	1085.795	.034%	98.604%
61.0	5.077	0.486	1086.281	.034%	98.648%
62.0	5.063	0.489	1086.769	.034%	98.692%
63.0	5.027	0.491	1087.26	.034%	98.737%
64.0	5.006	0.492	1087.752	.034%	98.781%
65.0	4.985	0.494	1088.247	.035%	98.826%
66.0	4.957	0.496	1088.743	.035%	98.871%
67.0	4.957	0.499	1089.241	.035%	98.917%
68.0	4.929	0.501	1089.742	.035%	98.962%
69.0	4.929	0.503	1090.245	.035%	99.008%
70.0	4.922	0.506	1090.751	.035%	99.054%
71.0	4.894	0.507	1091.258	.036%	99.100%
72.0	4.887	0.509	1091.767	.036%	99.146%
73.0	4.887	0.511	1092.278	.036%	99.192%
74.0	4.873	0.513	1092.791	.036%	99.239%
75.0	4.866	0.515	1093.306	.036%	99.286%

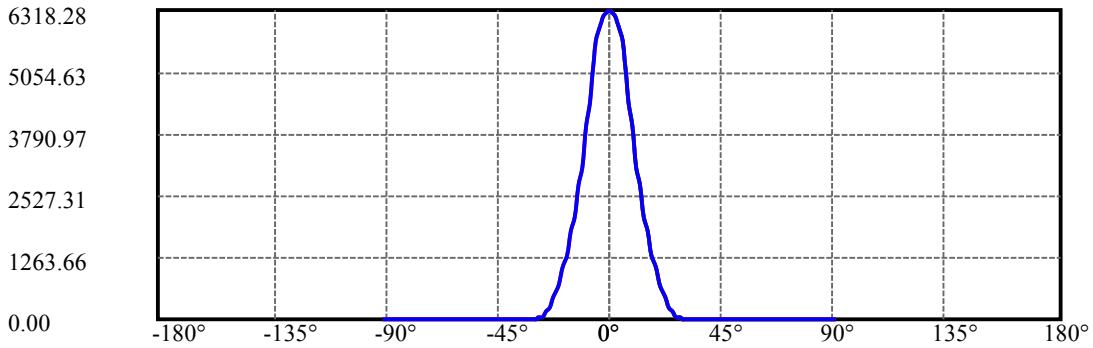
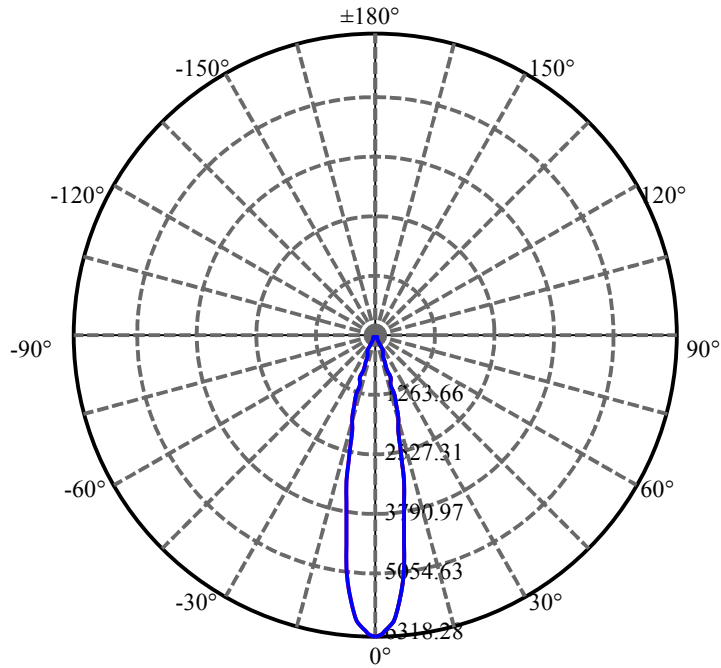
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	4.866	0.517	1093.822	.036%	99.333%
77.0	4.859	0.518	1094.341	.036%	99.380%
78.0	4.859	0.520	1094.861	.036%	99.427%
79.0	4.838	0.521	1095.382	.036%	99.474%
80.0	4.838	0.522	1095.903	.037%	99.522%
81.0	4.845	0.524	1096.427	.037%	99.569%
82.0	4.845	0.525	1096.952	.037%	99.617%
83.0	4.845	0.527	1097.479	.037%	99.665%
84.0	4.873	0.529	1098.008	.037%	99.713%
85.0	4.922	0.535	1098.543	.037%	99.761%
86.0	4.802	0.532	1099.074	.037%	99.810%
87.0	4.788	0.525	1099.599	.037%	99.857%
88.0	4.767	0.523	1100.123	.037%	99.905%
89.0	4.788	0.524	1100.647	.037%	99.952%
90.0	4.774	0.524	1101.171	.037%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1070.95	74.98%	97.26%
0-40	1076.42	75.36%	97.75%
0-60	1085.79	76.02%	98.60%
0-90	1100.65	77.06%	99.95%
0-120	1100.65	77.06%	99.95%
0-180	1101.17	77.10%	100.00%
60-90	15.33	1.07%	1.39%
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%
0-17.47	880.94	61.68%	80.00%

ZONAL LUMEN SUMMARY

0-10	467.70
10-20	500.63
20-30	102.62
30-40	5.47
40-50	4.64
50-60	4.74
60-70	4.96
70-80	5.15
80-90	4.74
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: —————

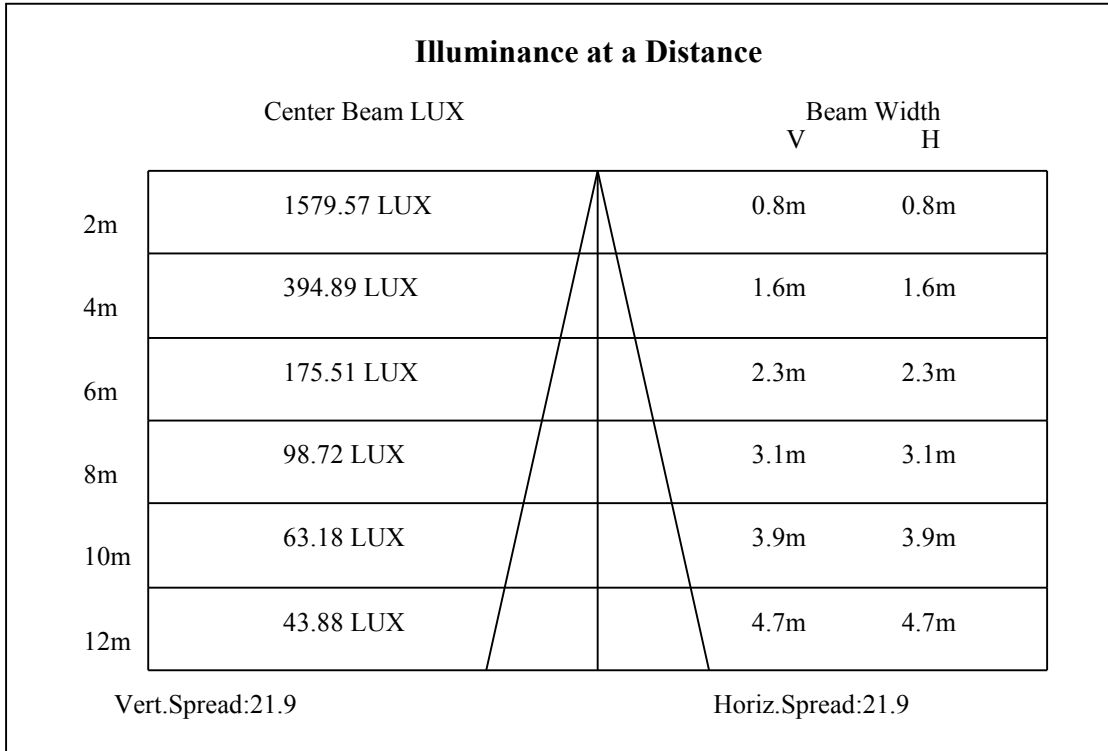
C90/C270: —————

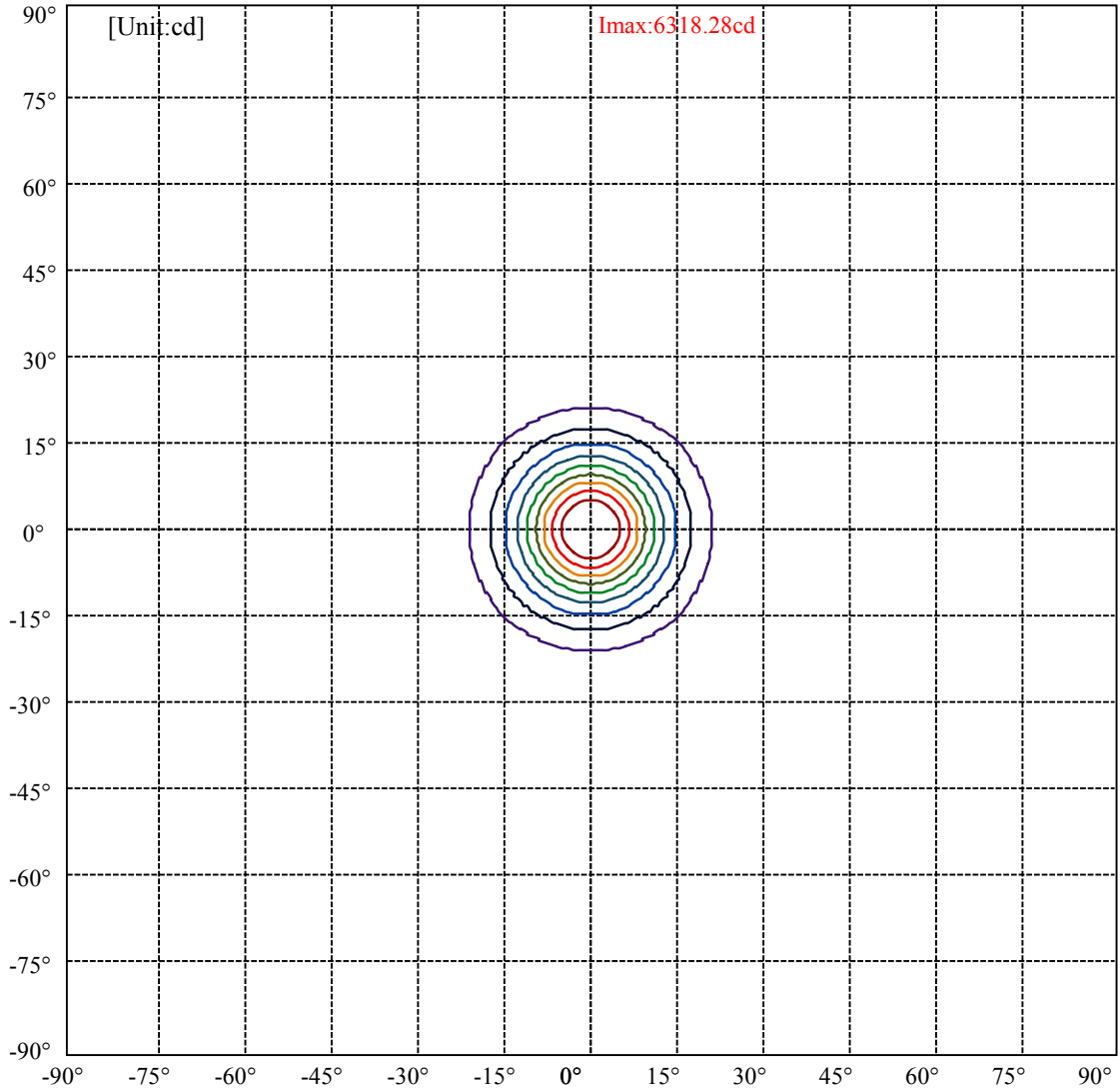
Field angle(10%Imax):C0/180Left:20.9 Right:20.9

:C90/270Left:20.9 Right:20.9

Beam Angle(50%Imax):C0/180Left:10.9 Right:10.9

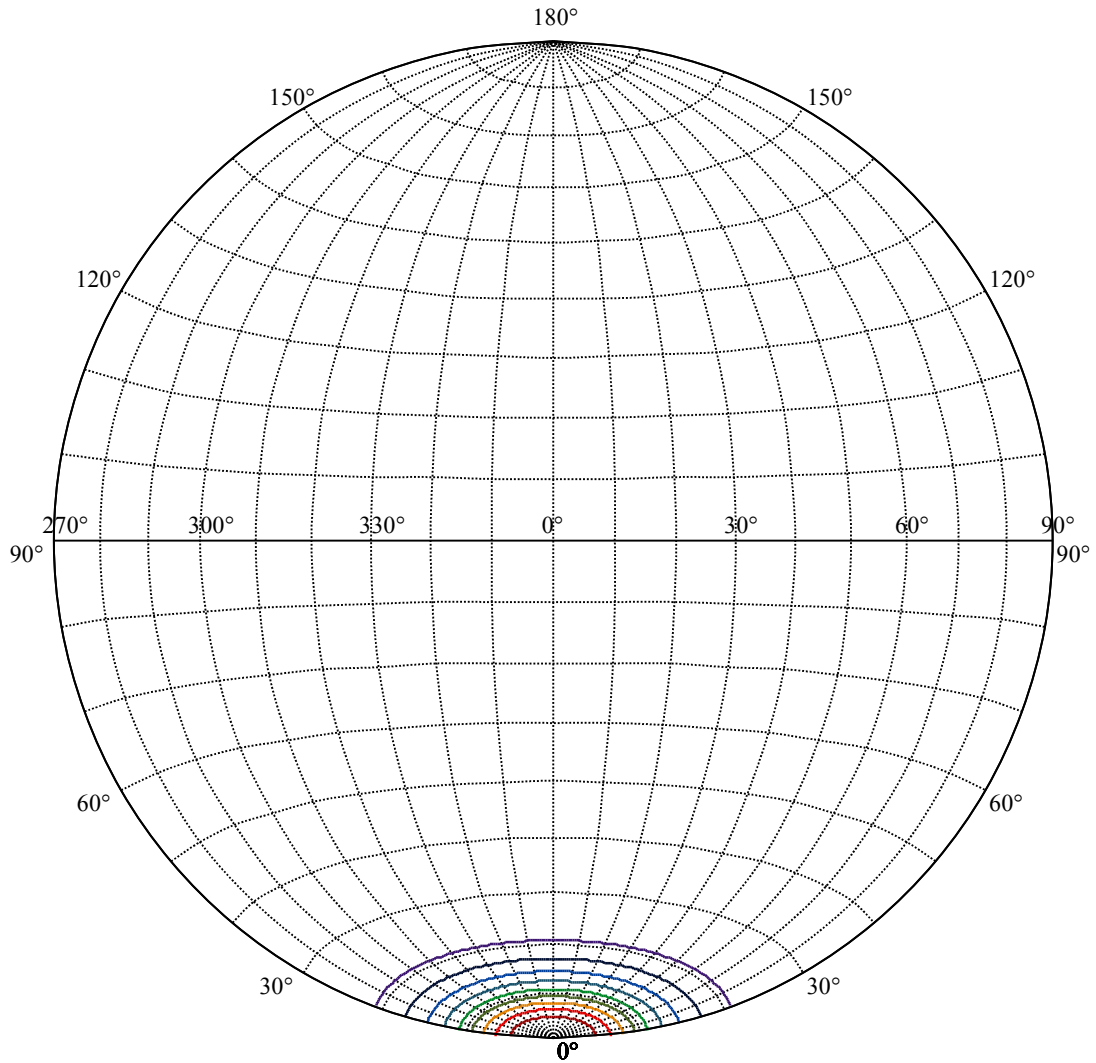
:C90/270Left:10.9 Right:10.9





(10%I <sub>max</sub> ) 631.828	—
(20%I <sub>max</sub> ) 1263.66	—
(30%I <sub>max</sub> ) 1895.48	—
(40%I <sub>max</sub> ) 2527.31	—
(50%I <sub>max</sub> ) 3159.14	—
(60%I <sub>max</sub> ) 3790.97	—
(70%I <sub>max</sub> ) 4422.8	—
(80%I <sub>max</sub> ) 5054.63	—
(90%I <sub>max</sub> ) 5686.45	—





House

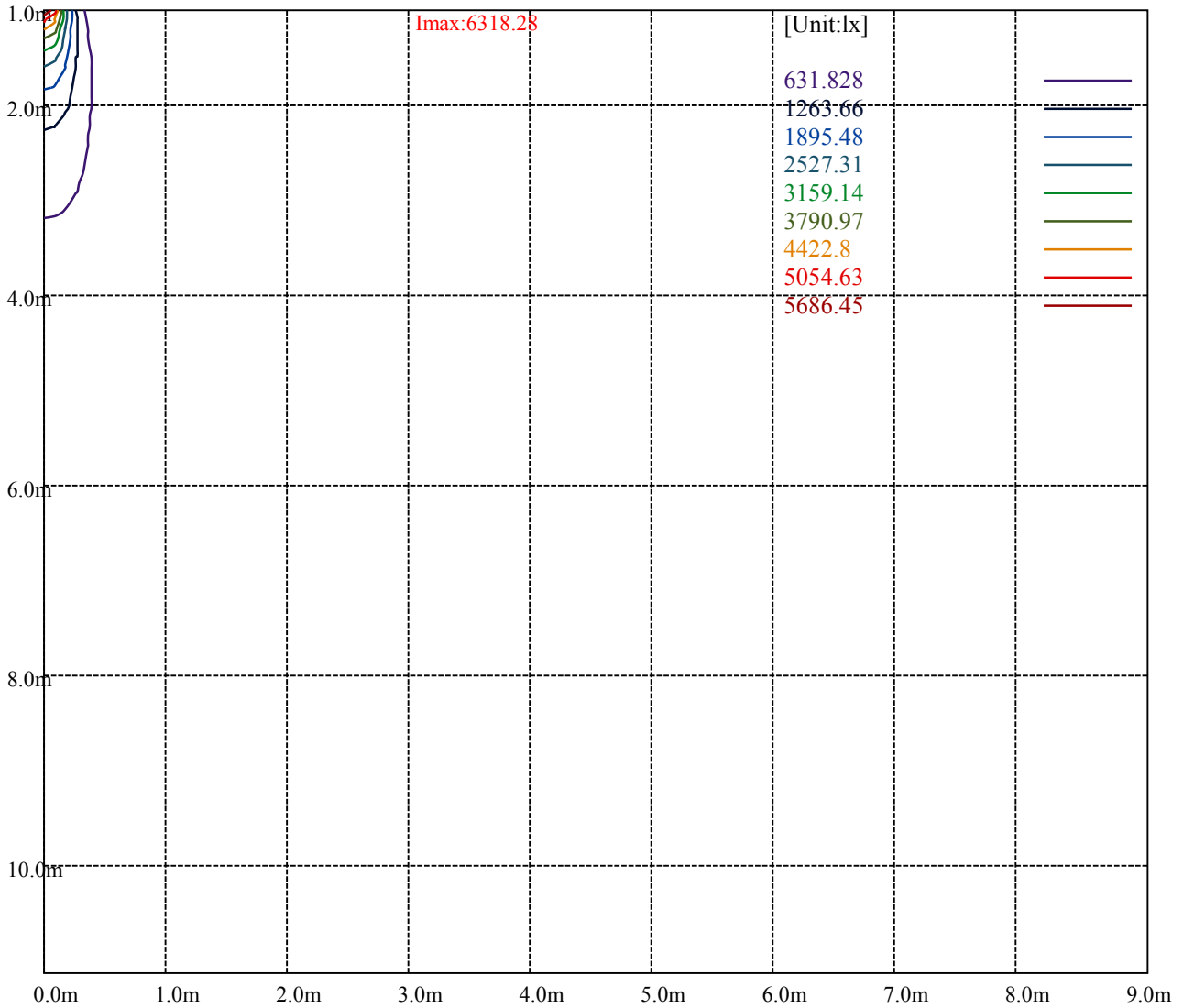
[Unit:cd]

Road

**Imax:6318.28**

(10%Imax) 631.828	—
(20%Imax) 1263.66	—
(30%Imax) 1895.48	—
(40%Imax) 2527.31	—
(50%Imax) 3159.14	—
(60%Imax) 3790.97	—
(70%Imax) 4422.8	—
(80%Imax) 5054.63	—
(90%Imax) 5686.45	—





Luminance Table

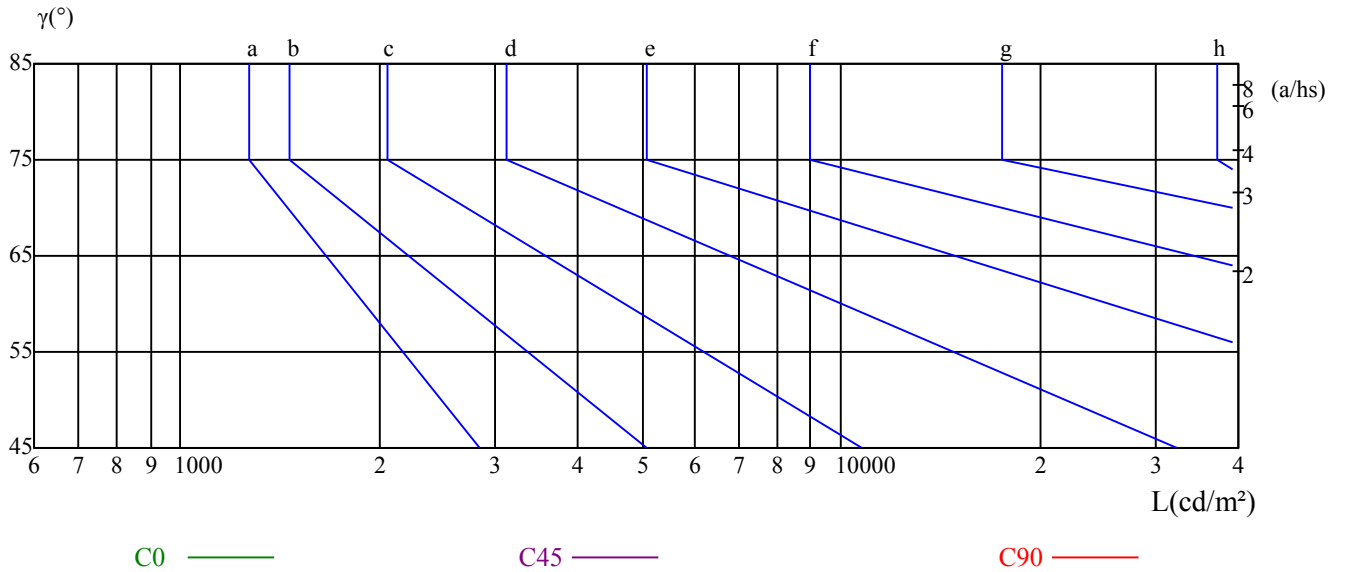
$\gamma$	45	50	55	60	65	70	75	80	85
C0	227	219	219	225	235	253	276	308	362
C45	245	239	241	251	266	290	324	372	452
C90	316	322	341	375	428	512	648	906	1571

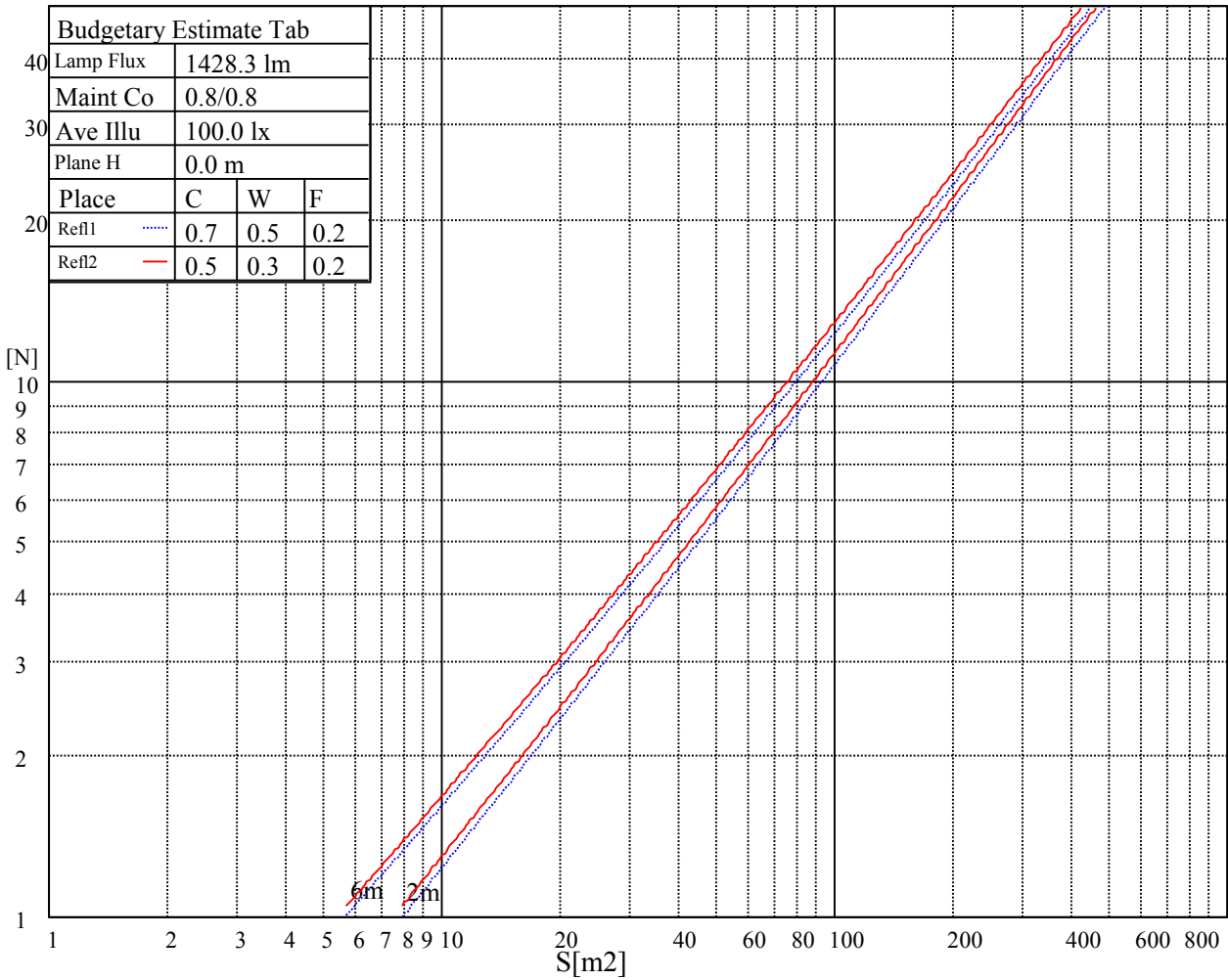
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
460	460	460	733	733	733	2202	2202	2202

Glare Table

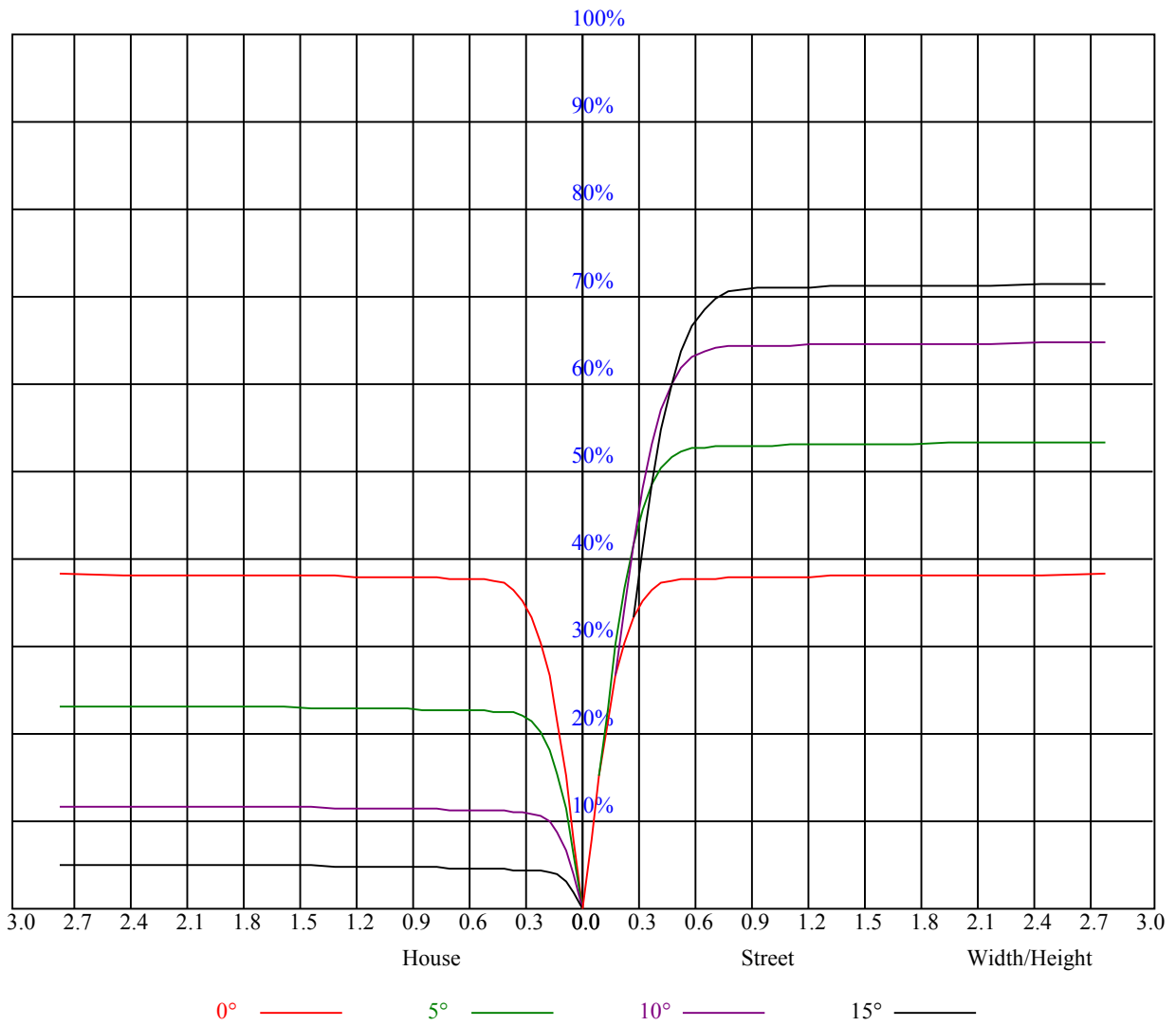
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	0.92	0.92	0.92	0.90	0.90	0.90	0.86	0.86	0.86	0.82	0.82	0.82	0.79	0.79	0.79	0.77
1	0.87	0.86	0.84	0.85	0.84	0.83	0.82	0.81	0.80	0.80	0.79	0.78	0.77	0.76	0.76	0.74
2	0.83	0.81	0.79	0.82	0.80	0.78	0.80	0.78	0.77	0.77	0.76	0.75	0.75	0.74	0.73	0.72
3	0.80	0.77	0.75	0.79	0.77	0.75	0.77	0.75	0.73	0.75	0.74	0.72	0.74	0.72	0.71	0.70
4	0.77	0.74	0.72	0.76	0.74	0.72	0.75	0.73	0.71	0.74	0.72	0.70	0.72	0.71	0.69	0.69
5	0.75	0.72	0.70	0.74	0.71	0.69	0.73	0.71	0.69	0.72	0.70	0.68	0.71	0.69	0.68	0.67
6	0.73	0.70	0.68	0.72	0.69	0.67	0.71	0.69	0.67	0.70	0.68	0.66	0.69	0.67	0.66	0.65
7	0.71	0.68	0.66	0.70	0.67	0.65	0.69	0.67	0.65	0.69	0.66	0.65	0.68	0.66	0.65	0.64
8	0.69	0.66	0.64	0.69	0.66	0.64	0.68	0.65	0.64	0.67	0.65	0.63	0.67	0.65	0.63	0.62
9	0.67	0.64	0.62	0.67	0.64	0.62	0.66	0.64	0.62	0.66	0.64	0.62	0.65	0.63	0.62	0.61
10	0.66	0.63	0.61	0.65	0.63	0.61	0.65	0.62	0.61	0.64	0.62	0.61	0.64	0.62	0.61	0.60



Intensity data(cd)

C/γ(°)	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0
0.0	6330.94	6309.00	6288.19	6199.31	6204.38	6059.81	5785.31	5406.75	5010.75
45.0	6316.88	6275.25	6203.25	6160.50	6011.44	5694.75	5348.81	4943.81	4506.19
90.0	6300.00	6237.00	6145.88	5955.19	5681.81	5299.31	4853.25	4402.69	3911.06
135.0	6325.31	6302.25	6156.56	6000.75	5811.19	5413.50	4989.38	4609.69	4052.25
180.0	6330.94	6220.13	6107.06	5913.56	5655.94	5319.00	4823.44	4377.38	3935.25
225.0	6316.88	6342.75	6212.25	6084.56	5934.94	5649.75	5298.19	4867.31	4382.44
270.0	6300.00	6318.56	6320.25	6251.63	6156.56	5973.75	5666.06	5315.63	4867.88
315.0	6325.31	6318.56	6284.25	6252.19	6197.63	6000.75	5646.94	5274.00	4854.94
360.0	6330.94	6309.00	6288.19	6199.31	6204.38	6059.81	5785.31	5406.75	5010.75
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	4506.75	4066.88	3596.06	3211.31	2800.13	2419.88	2113.88	1838.25	1529.44
45.0	3967.88	3552.19	3163.50	2751.75	2374.31	2074.50	1775.25	1508.06	1317.94
90.0	3498.75	3075.19	2680.88	2365.31	2040.19	1747.69	1513.13	1240.88	1077.24
135.0	3593.25	3253.50	2789.44	2455.88	2153.25	1812.94	1572.19	1359.56	1127.81
180.0	3467.81	3037.50	2683.69	2324.25	2003.63	1748.81	1495.13	1228.50	1091.08
225.0	3950.44	3494.25	3066.75	2715.19	2390.06	2031.75	1775.25	1543.50	1307.81
270.0	4381.31	3944.25	3487.50	3116.25	2716.88	2362.50	2081.81	1824.19	1531.69
315.0	4353.19	3861.56	3450.94	3032.44	2642.06	2319.75	2005.31	1747.13	1483.88
360.0	4506.75	4066.88	3596.06	3211.31	2800.13	2419.88	2113.88	1838.25	1529.44
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1315.69	1130.63	923.06	771.19	612.00	482.63	356.06	296.44	148.22
45.0	1091.25	911.81	757.13	583.88	463.50	344.25	288.56	140.85	80.21
90.0	903.49	752.12	571.84	453.38	341.66	222.81	141.53	83.25	38.14
135.0	961.31	806.06	623.25	499.50	374.63	294.75	161.38	92.87	43.43
180.0	905.23	751.89	610.88	450.11	338.46	233.38	133.88	78.64	39.71
225.0	1108.91	944.83	774.79	616.89	485.61	355.50	250.59	150.47	82.41
270.0	1325.81	1150.31	941.63	789.75	643.50	500.06	363.38	286.88	175.95
315.0	1108.35	1087.59	914.51	723.32	587.76	459.68	321.53	222.47	143.04
360.0	1315.69	1130.63	923.06	771.19	612.00	482.63	356.06	296.44	148.22
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	88.31	43.09	23.57	15.86	13.28	11.87	10.91	10.07	9.28
45.0	38.53	22.56	14.91	12.15	11.03	10.13	9.34	8.72	8.27
90.0	23.01	14.40	11.70	10.80	9.96	9.00	8.55	8.10	7.59
135.0	24.02	14.63	12.21	11.03	10.07	9.34	8.72	8.33	7.82
180.0	20.31	13.95	12.04	10.86	10.01	9.23	8.61	8.16	7.76
225.0	42.36	22.73	14.91	12.88	11.70	10.46	9.68	9.06	8.44
270.0	91.91	42.53	24.58	15.19	12.83	11.81	10.58	9.79	9.11
315.0	72.28	35.78	20.87	14.40	12.71	11.42	10.35	9.62	8.89
360.0	88.31	43.09	23.57	15.86	13.28	11.87	10.91	10.07	9.28
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	8.72	8.21	7.76	7.37	7.09	6.81	6.64	6.47	6.30
45.0	7.76	7.43	7.14	6.86	6.69	6.47	6.30	6.13	6.02
90.0	7.31	7.03	6.81	6.58	6.41	6.24	6.13	5.96	5.91
135.0	7.43	7.20	6.92	6.64	6.53	6.36	6.24	6.13	5.96
180.0	7.43	7.20	6.98	6.69	6.53	6.36	6.24	6.13	6.02
225.0	7.93	7.54	7.20	6.86	6.64	6.47	6.24	6.13	5.96
270.0	8.44	7.99	7.59	7.14	6.92	6.69	6.41	6.30	6.13
315.0	8.33	7.88	7.48	7.14	6.86	6.69	6.41	6.24	6.13
360.0	8.72	8.21	7.76	7.37	7.09	6.81	6.64	6.47	6.30



Intensity data(cd)

C/γ(°)	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	53.0
0.0	6.19	6.08	5.91	5.85	5.74	5.68	5.63	5.57	5.46
45.0	5.91	5.85	5.74	5.63	5.57	5.51	5.46	5.40	5.34
90.0	5.79	5.74	5.63	5.57	5.51	5.46	5.40	5.34	5.29
135.0	5.91	5.79	5.74	5.68	5.57	5.51	5.46	5.46	5.34
180.0	5.91	5.85	5.74	5.68	5.63	5.57	5.46	5.46	5.40
225.0	5.85	5.74	5.68	5.63	5.51	5.40	5.40	5.34	5.29
270.0	5.96	5.91	5.79	5.74	5.63	5.57	5.46	5.46	5.40
315.0	6.02	5.91	5.85	5.74	5.63	5.57	5.46	5.46	5.40
360.0	6.19	6.08	5.91	5.85	5.74	5.68	5.63	5.57	5.46
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	5.46	5.40	5.34	5.29	5.29	5.23	5.23	5.18	5.18
45.0	5.29	5.23	5.18	5.12	5.12	5.06	5.06	5.06	5.01
90.0	5.23	5.18	5.12	5.12	5.12	5.06	5.01	5.01	5.01
135.0	5.34	5.29	5.23	5.23	5.18	5.12	5.12	5.06	5.06
180.0	5.34	5.29	5.29	5.23	5.18	5.18	5.18	5.12	5.12
225.0	5.23	5.23	5.12	5.12	5.06	5.06	5.01	5.01	5.01
270.0	5.34	5.29	5.23	5.18	5.12	5.12	5.12	5.06	5.06
315.0	5.34	5.29	5.29	5.23	5.23	5.12	5.12	5.12	5.06
360.0	5.46	5.40	5.34	5.29	5.29	5.23	5.23	5.18	5.18
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	5.12	5.06	5.06	5.06	5.06	5.01	5.01	5.01	4.95
45.0	5.01	4.95	4.95	4.89	4.89	4.89	4.89	4.89	4.84
90.0	5.01	4.95	4.95	4.89	4.89	4.89	4.89	4.89	4.89
135.0	5.06	5.06	5.01	5.01	5.01	4.95	4.95	4.95	4.89
180.0	5.06	5.06	5.06	5.01	5.01	5.01	4.95	4.95	4.95
225.0	4.95	4.95	4.89	4.89	4.89	4.84	4.89	4.84	4.84
270.0	5.01	5.01	4.95	4.95	4.95	4.89	4.95	4.89	4.89
315.0	5.01	5.01	5.01	4.95	4.95	4.95	4.89	4.95	4.89
360.0	5.12	5.06	5.06	5.06	5.06	5.01	5.01	5.01	4.95
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	4.95	4.95	4.95	4.95	4.95	4.89	4.89	4.89	4.89
45.0	4.84	4.84	4.78	4.78	4.78	4.78	4.78	4.78	4.78
90.0	4.84	4.84	4.84	4.84	4.84	4.84	4.84	4.78	4.78
135.0	4.89	4.95	4.89	4.89	4.89	4.89	4.89	4.89	4.84
180.0	4.95	4.95	4.95	4.89	4.95	4.95	4.95	4.89	4.95
225.0	4.84	4.84	4.84	4.84	4.78	4.84	4.84	4.78	4.84
270.0	4.89	4.84	4.84	4.84	4.84	4.84	4.84	4.84	4.78
315.0	4.89	4.89	4.89	4.89	4.89	4.84	4.84	4.84	4.84
360.0	4.95	4.95	4.95	4.95	4.95	4.89	4.89	4.89	4.89
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	4.89	4.89	4.89	4.89	4.84	4.89	4.89	4.84	4.89
45.0	4.78	4.73	4.73	4.73	4.73	4.73	4.73	4.73	4.73
90.0	4.78	4.84	4.78	4.78	4.73	4.73	4.73	4.73	4.73
135.0	4.84	4.84	4.84	4.84	4.84	4.84	4.78	4.78	4.78
180.0	4.95	4.95	5.01	5.23	5.46	4.84	4.84	4.84	4.89
225.0	4.84	4.84	4.89	4.95	5.23	4.84	4.73	4.73	4.73
270.0	4.84	4.84	4.78	4.78	4.78	4.78	4.78	4.73	4.73
315.0	4.84	4.84	4.84	4.78	4.78	4.78	4.84	4.78	4.84
360.0	4.89	4.89	4.89	4.89	4.84	4.89	4.89	4.84	4.89

Intensity data(cd)

C/γ(°)	90.0
0.0	4.84
45.0	4.73
90.0	4.73
135.0	4.84
180.0	4.84
225.0	4.73
270.0	4.73
315.0	4.78
360.0	4.84