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Nata

LumCAT: 1-1006-M

Luminaire: BJB 47.360.1020

Report No: 210714-B015

Test No: 210714-C015

LampCAT: Fortimo LED SLM 1201 G7N

Lamp flux(lm): 1093.7

Number of Lamps: 1

Length(mm): 570

Phm Type: C

Voltage(V): 39.2600

Current(A): 0.2310

Power (W): 9.0690

PF: 0.0000

Ballast type: DC

Width(mm): 45

Height(mm): 20

Photometric Results

Lumens(lm): 784.43

Efficiency(%): 71.73%

Lumens(lm)/Power(W): 86.50

Central intensity(cd): 4208.766

Maximum intensity(cd): 4208.766

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=23.8

[C90/270]Total=23.8

Field angle(10%Imax): [C0/180]Total=42.1

[C90/270]Total=42.1

Maximum s/h(1/2): C0_180=0.40 C90_270=0.40

Maximum s/h(1/4): C0_180=0.40 C90_270=0.40

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 71.73%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 98.508%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4208.766	0.000	0	.000%	.000%
1.0	4180.711	4.014	4.014	.367%	.512%
2.0	4093.805	11.876	15.891	1.086%	2.026%
3.0	3970.547	19.287	35.178	1.764%	4.484%
4.0	3848.414	26.173	61.35	2.393%	7.821%
5.0	3720.094	32.559	93.91	2.977%	11.972%
6.0	3560.766	38.263	132.173	3.499%	16.849%
7.0	3371.484	43.028	175.201	3.934%	22.335%
8.0	3156.258	46.718	221.919	4.272%	28.290%
9.0	2894.203	49.036	270.954	4.484%	34.541%
10.0	2623.219	49.931	320.885	4.566%	40.907%
11.0	2348.648	49.679	370.564	4.543%	47.240%
12.0	2078.297	48.393	418.957	4.425%	53.409%
13.0	1814.906	46.203	465.16	4.225%	59.299%
14.0	1562.203	43.227	508.386	3.953%	64.809%
15.0	1323.991	39.623	548.009	3.623%	69.860%
16.0	1136.370	36.051	584.06	3.296%	74.456%
17.0	963.773	32.705	616.765	2.990%	78.625%
18.0	805.802	29.176	645.942	2.668%	82.345%
19.0	669.157	25.661	671.603	2.346%	85.616%
20.0	539.677	22.125	693.728	2.023%	88.437%
21.0	424.526	18.515	712.243	1.693%	90.797%
22.0	325.455	15.071	727.314	1.378%	92.718%
23.0	251.705	12.110	739.424	1.107%	94.262%
24.0	161.114	9.026	748.45	.825%	95.413%
25.0	93.628	5.792	754.242	.530%	96.151%
26.0	50.878	3.411	757.653	.312%	96.586%
27.0	26.220	1.886	759.54	.172%	96.826%
28.0	15.532	1.057	760.597	.097%	96.961%
29.0	11.060	0.696	761.292	.064%	97.050%
30.0	9.021	0.542	761.835	.050%	97.119%
31.0	7.938	0.472	762.307	.043%	97.179%
32.0	7.263	0.436	762.742	.040%	97.235%
33.0	6.743	0.413	763.155	.038%	97.287%
34.0	6.314	0.395	763.55	.036%	97.338%
35.0	5.934	0.380	763.93	.035%	97.386%
36.0	5.618	0.368	764.298	.034%	97.433%
37.0	5.365	0.358	764.656	.033%	97.479%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	5.147	0.351	765.007	.032%	97.523%
39.0	4.957	0.345	765.352	.032%	97.567%
40.0	4.830	0.341	765.693	.031%	97.611%
41.0	4.690	0.339	766.032	.031%	97.654%
42.0	4.591	0.337	766.37	.031%	97.697%
43.0	4.514	0.337	766.707	.031%	97.740%
44.0	4.444	0.338	767.045	.031%	97.783%
45.0	4.366	0.339	767.384	.031%	97.826%
46.0	4.317	0.340	767.723	.031%	97.870%
47.0	4.275	0.342	768.065	.031%	97.913%
48.0	4.226	0.344	768.408	.031%	97.957%
49.0	4.198	0.346	768.754	.032%	98.001%
50.0	4.177	0.349	769.104	.032%	98.046%
51.0	4.141	0.352	769.455	.032%	98.090%
52.0	4.106	0.354	769.809	.032%	98.136%
53.0	4.085	0.356	770.166	.033%	98.181%
54.0	4.050	0.359	770.524	.033%	98.227%
55.0	4.036	0.361	770.885	.033%	98.273%
56.0	4.022	0.364	771.249	.033%	98.319%
57.0	4.008	0.367	771.616	.034%	98.366%
58.0	3.980	0.369	771.986	.034%	98.413%
59.0	3.966	0.371	772.357	.034%	98.460%
60.0	3.945	0.374	772.731	.034%	98.508%
61.0	3.938	0.376	773.107	.034%	98.556%
62.0	3.930	0.379	773.486	.035%	98.604%
63.0	3.909	0.381	773.868	.035%	98.653%
64.0	3.895	0.383	774.251	.035%	98.702%
65.0	3.888	0.385	774.636	.035%	98.751%
66.0	3.881	0.388	775.023	.035%	98.800%
67.0	3.867	0.390	775.413	.036%	98.850%
68.0	3.860	0.391	775.804	.036%	98.900%
69.0	3.839	0.393	776.197	.036%	98.950%
70.0	3.839	0.394	776.592	.036%	99.000%
71.0	3.825	0.396	776.988	.036%	99.051%
72.0	3.811	0.397	777.385	.036%	99.101%
73.0	3.811	0.399	777.783	.036%	99.152%
74.0	3.790	0.400	778.183	.037%	99.203%
75.0	3.811	0.402	778.584	.037%	99.254%

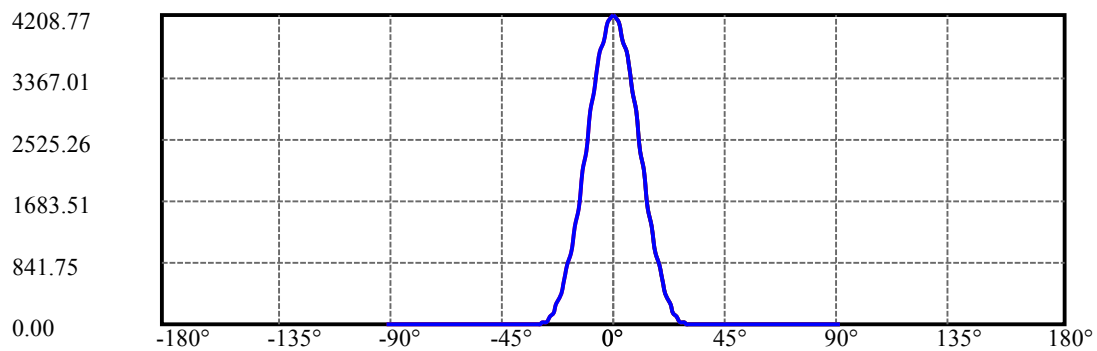
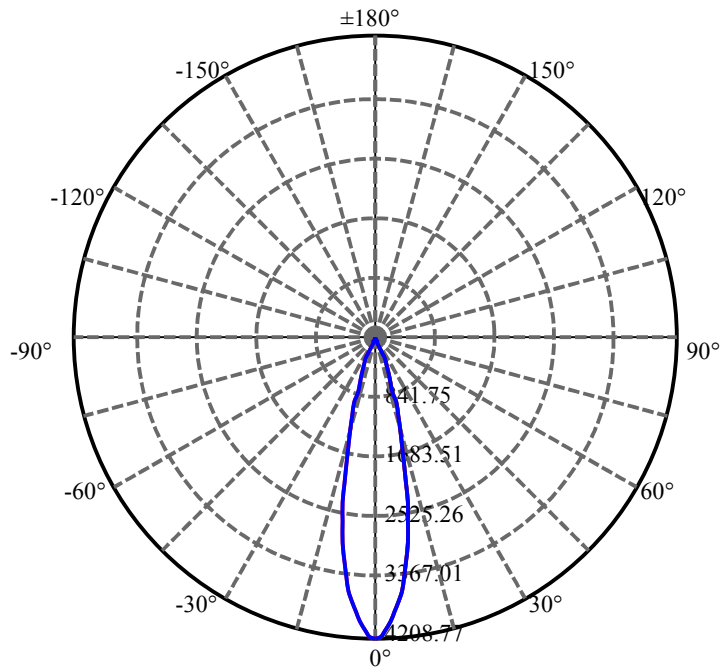
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	3.860	0.407	778.992	.037%	99.306%
77.0	3.853	0.411	779.403	.038%	99.359%
78.0	3.783	0.409	779.812	.037%	99.411%
79.0	3.705	0.402	780.214	.037%	99.462%
80.0	3.621	0.395	780.609	.036%	99.512%
81.0	3.579	0.389	780.998	.036%	99.562%
82.0	3.551	0.387	781.385	.035%	99.611%
83.0	3.558	0.386	781.771	.035%	99.661%
84.0	3.551	0.387	782.159	.035%	99.710%
85.0	3.509	0.385	782.544	.035%	99.759%
86.0	3.480	0.382	782.926	.035%	99.808%
87.0	3.459	0.380	783.306	.035%	99.856%
88.0	3.431	0.377	783.683	.035%	99.904%
89.0	3.417	0.375	784.059	.034%	99.952%
90.0	3.438	0.376	784.435	.034%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	761.83	69.66%	97.12%
0-40	765.69	70.01%	97.61%
0-60	772.73	70.66%	98.51%
0-90	784.06	71.69%	99.95%
0-120	784.06	71.69%	99.95%
0-180	784.43	71.73%	100.00%
60-90	11.70	1.07%	1.49%
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%
0-17.37	627.55	57.38%	80.00%

ZONAL LUMEN SUMMARY

0-10	320.89
10-20	372.84
20-30	68.11
30-40	3.86
40-50	3.41
50-60	3.63
60-70	3.86
70-80	4.02
80-90	3.45
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: —————

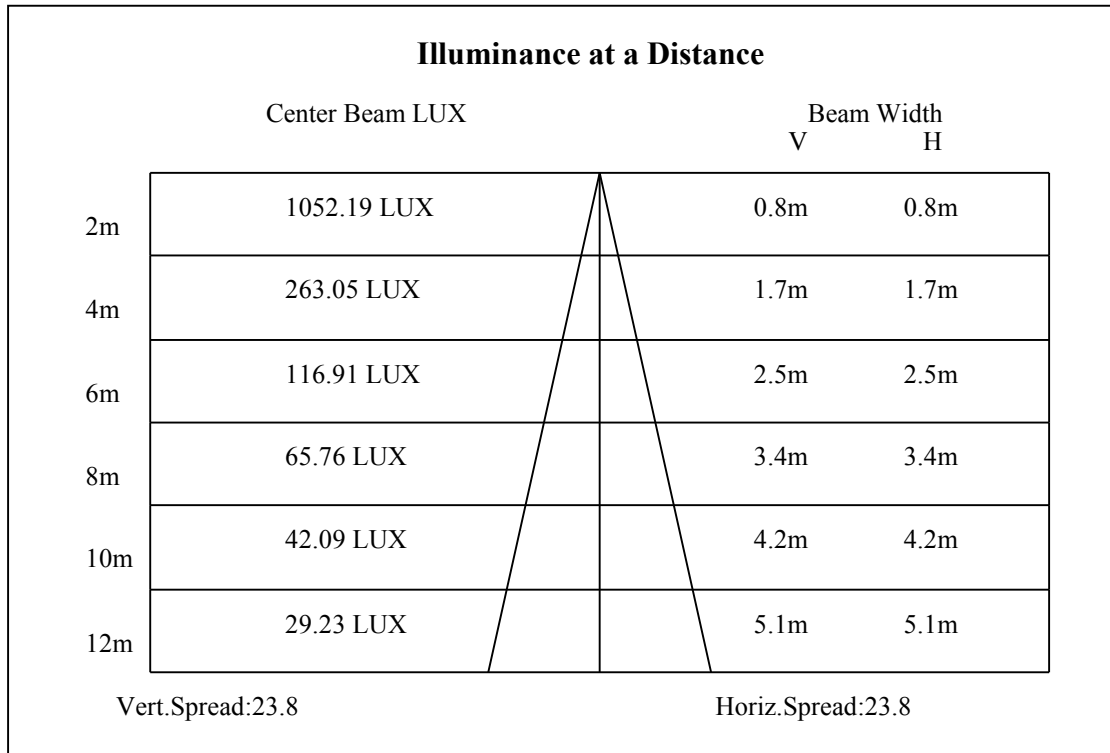
C90/C270: —————

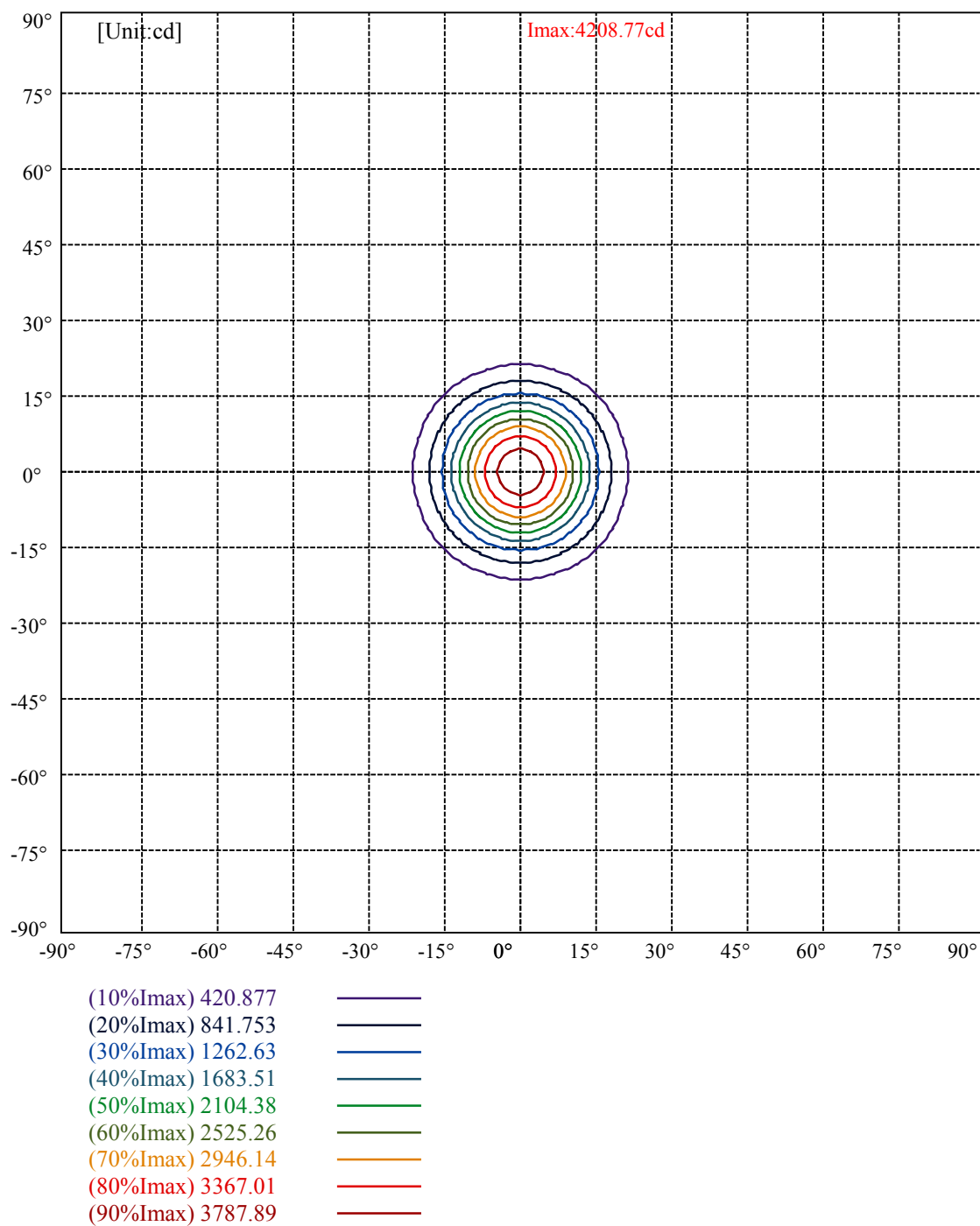
Field angle(10%Imax):C0/180Left:21.0 Right:21.0

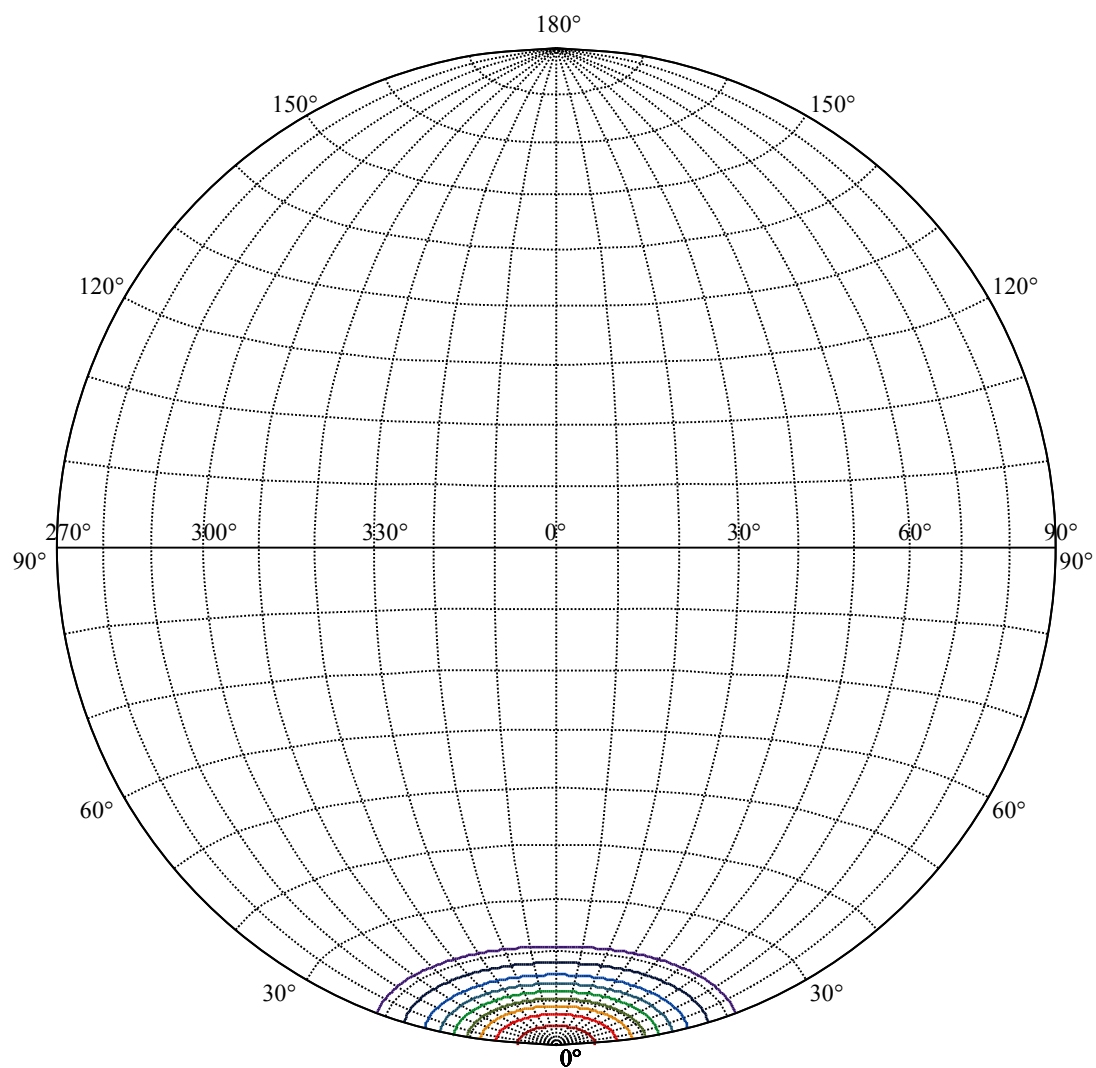
:C90/270Left:21.0 Right:21.0

Beam Angle(50%Imax):C0/180Left:11.9 Right:11.9

:C90/270Left:11.9 Right:11.9







House

[Unit:cd]

Road

Imax:4208.77

(10%Imax) 420.877

(20%Imax) 841.753

(30%Imax) 1262.63

(40%Imax) 1683.51

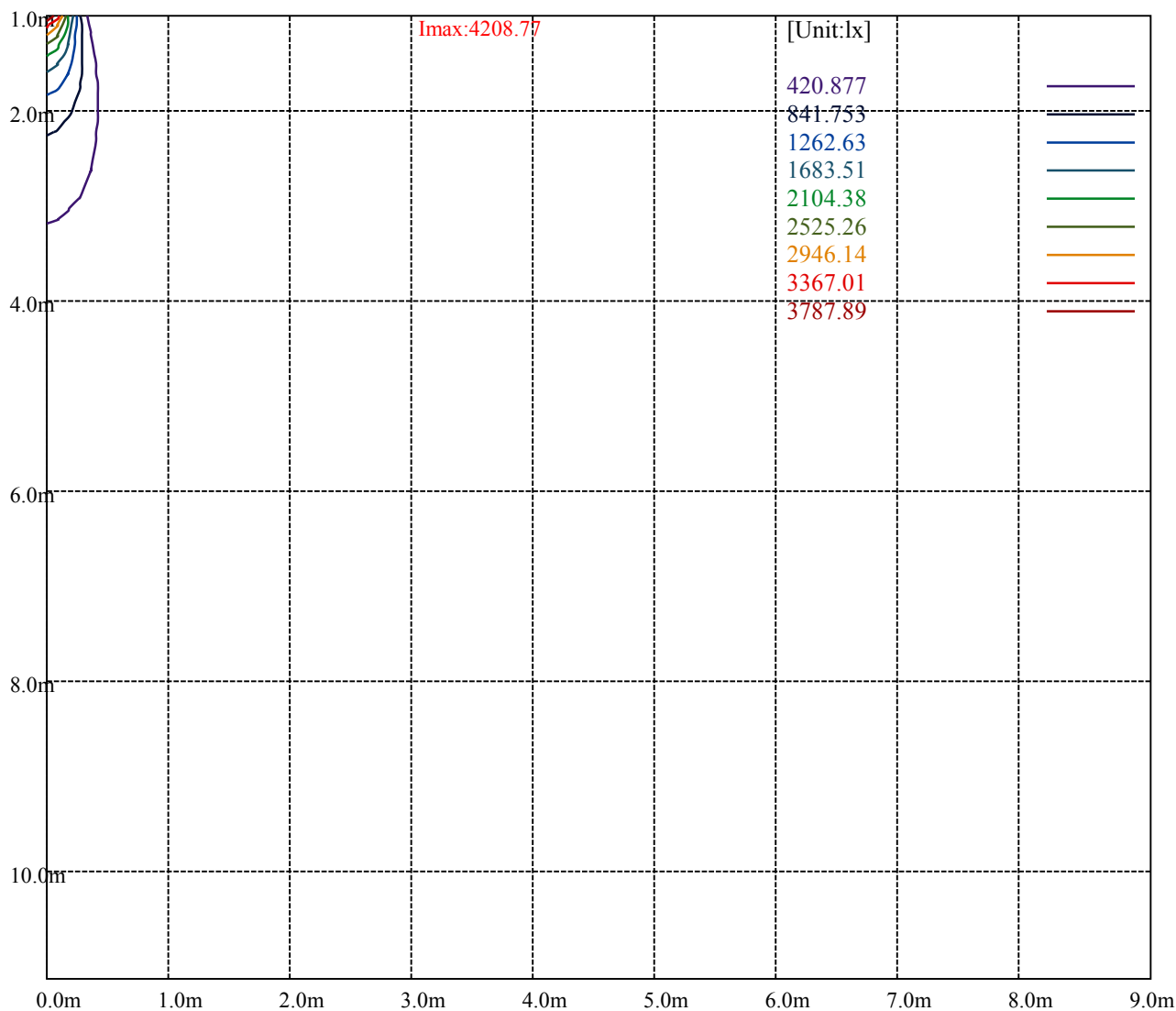
(50%Imax) 2104.38

(60%Imax) 2525.26

(70%Imax) 2946.14

(80%Imax) 3367.01

(90%Imax) 3787.89



Luminance Table

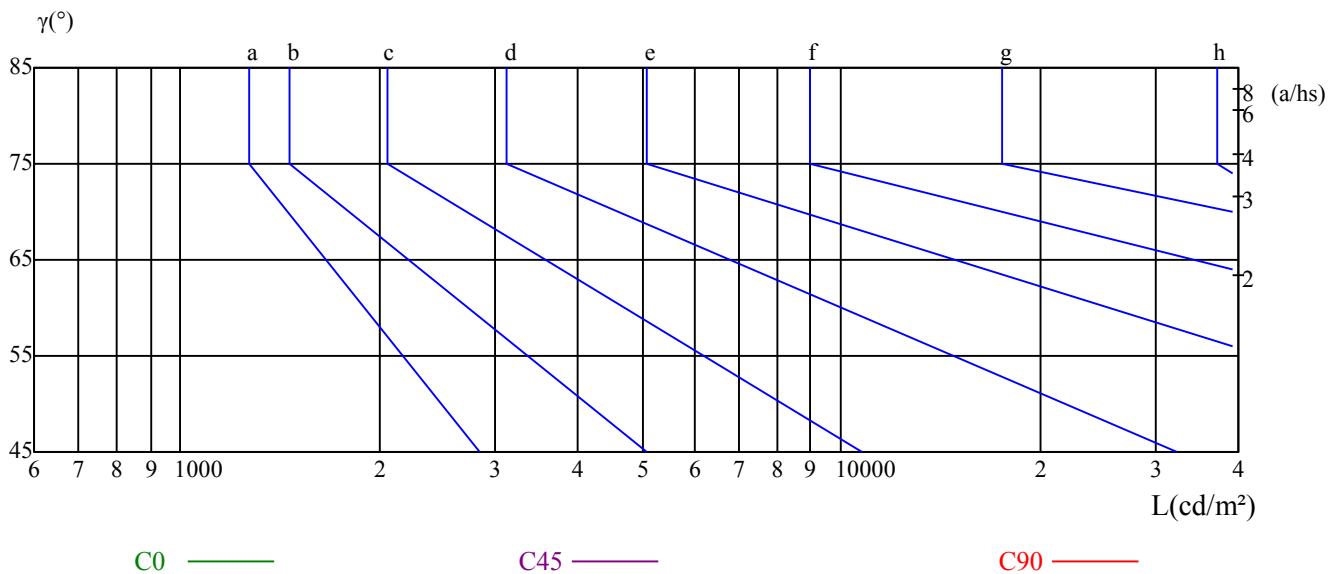
γ	45	50	55	60	65	70	75	80	85
C0	167	166	168	174	184	197	216	231	258
C45	180	180	185	194	208	227	253	278	322
C90	233	243	261	290	334	399	508	678	1120

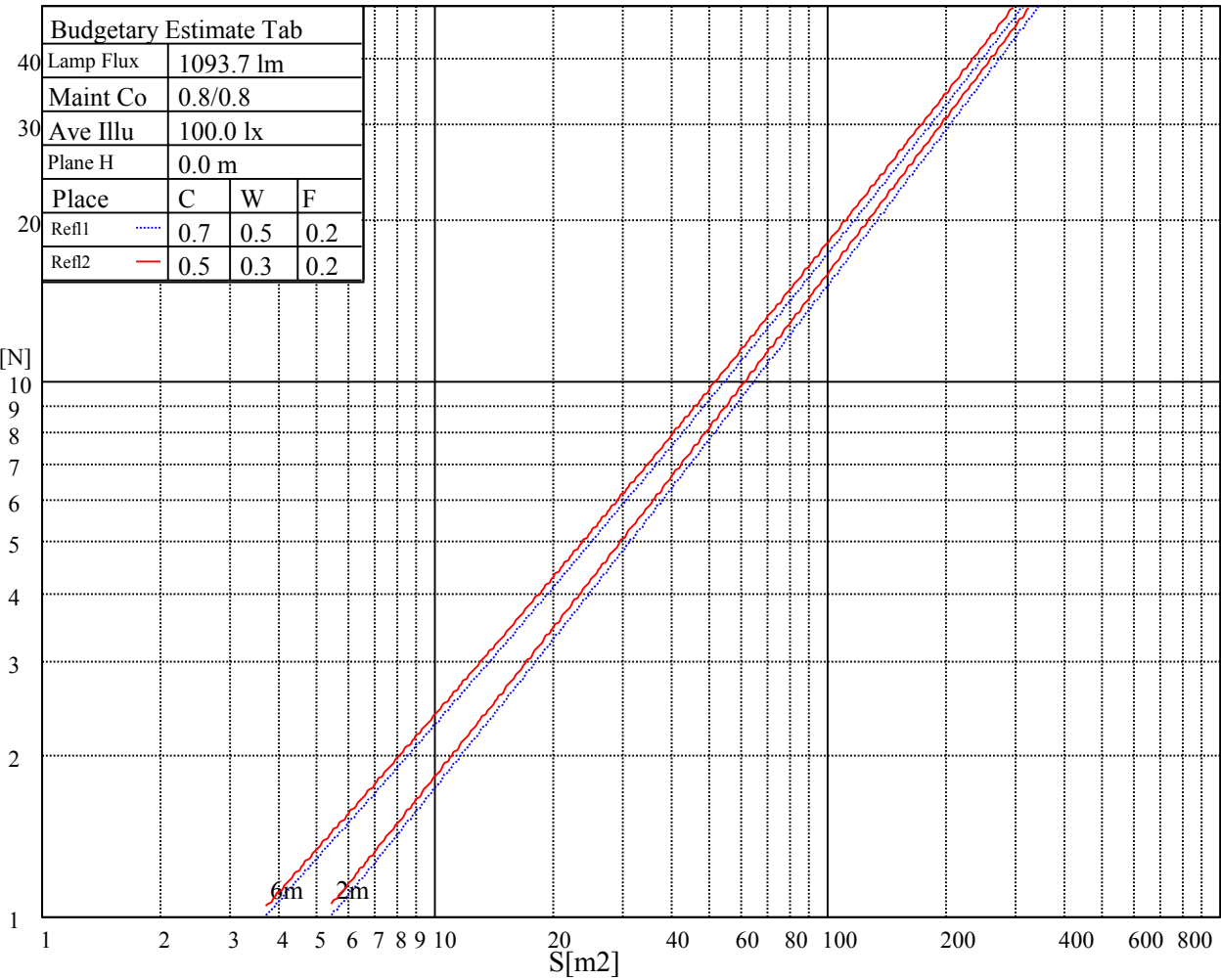
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
359	359	359	574	574	574	1569	1569	1569

Glare Table

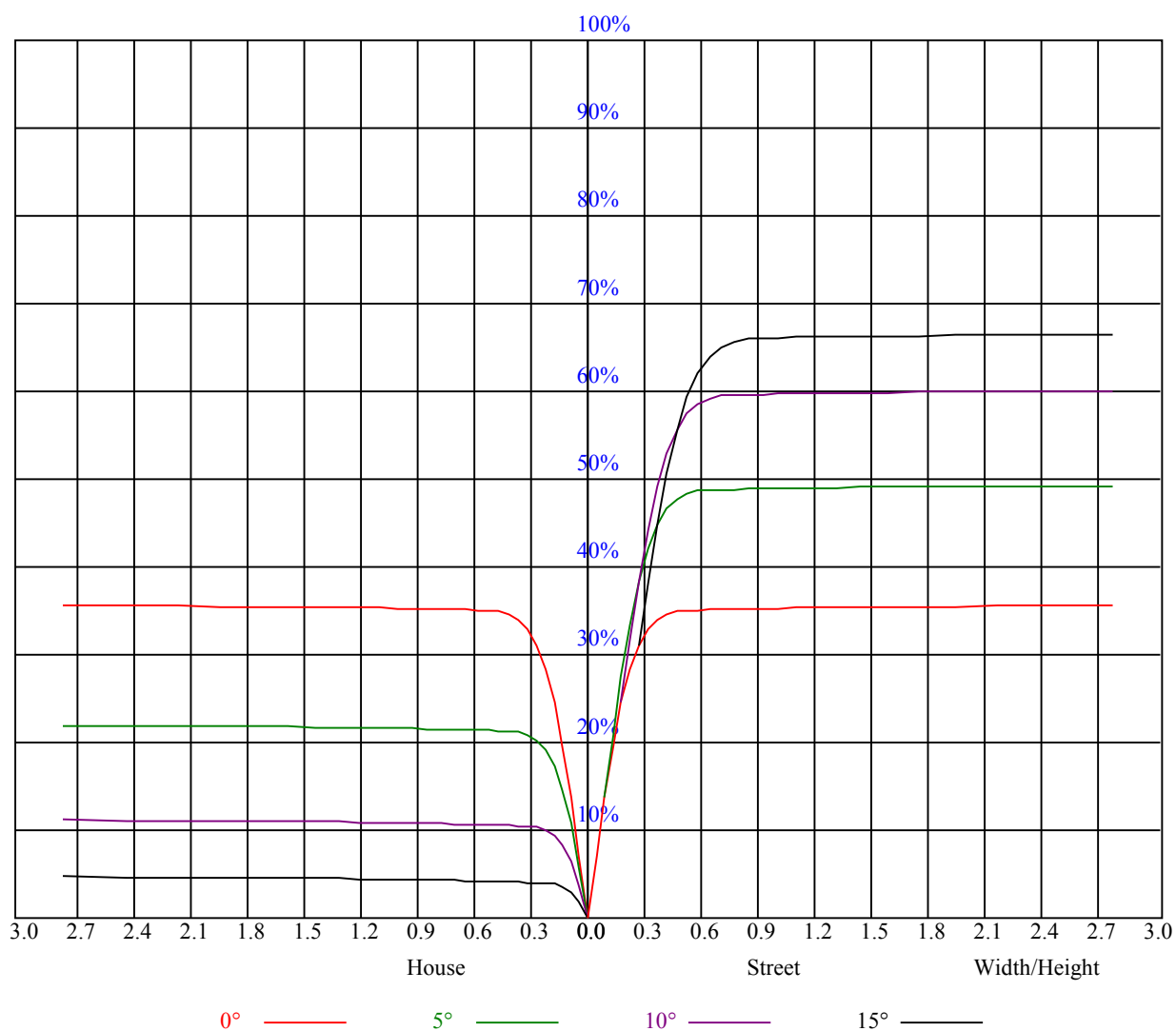
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

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	0.85	0.85	0.85	0.83	0.83	0.83	0.80	0.80	0.80	0.76	0.76	0.76	0.73	0.73	0.73	0.72
1	0.81	0.80	0.78	0.79	0.78	0.77	0.77	0.76	0.75	0.74	0.73	0.73	0.72	0.71	0.70	0.69
2	0.77	0.75	0.73	0.76	0.74	0.73	0.74	0.72	0.71	0.72	0.71	0.70	0.70	0.69	0.68	0.67
3	0.74	0.72	0.70	0.73	0.71	0.69	0.72	0.70	0.68	0.70	0.68	0.67	0.69	0.67	0.66	0.65
4	0.72	0.69	0.67	0.71	0.69	0.67	0.70	0.67	0.66	0.68	0.67	0.65	0.67	0.66	0.64	0.64
5	0.69	0.67	0.65	0.69	0.66	0.64	0.68	0.65	0.64	0.67	0.65	0.63	0.66	0.64	0.63	0.62
6	0.67	0.65	0.63	0.67	0.64	0.62	0.66	0.64	0.62	0.65	0.63	0.62	0.64	0.63	0.61	0.61
7	0.66	0.63	0.61	0.65	0.63	0.61	0.64	0.62	0.60	0.64	0.62	0.60	0.63	0.61	0.60	0.59
8	0.64	0.61	0.59	0.63	0.61	0.59	0.63	0.61	0.59	0.62	0.60	0.59	0.62	0.60	0.58	0.58
9	0.62	0.60	0.58	0.62	0.59	0.58	0.61	0.59	0.58	0.61	0.59	0.57	0.60	0.59	0.57	0.57
10	0.61	0.58	0.56	0.61	0.58	0.56	0.60	0.58	0.56	0.60	0.58	0.56	0.59	0.57	0.56	0.55



Intensity data(cd)										Appendix Page: 16 Total:18	
C/γ(°)	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0		
0.0	4176.00	4213.69	4200.75	4109.06	3973.50	3863.25	3735.00	3546.00	3366.00		
45.0	4228.31	4202.44	4092.19	3981.38	3856.50	3705.75	3561.19	3389.63	3162.94		
90.0	4215.94	4161.94	4047.75	3898.69	3805.31	3692.25	3491.44	3297.38	3075.75		
135.0	4214.81	4176.00	4086.56	3958.31	3832.88	3705.75	3558.94	3387.94	3181.50		
180.0	4176.00	4097.81	3976.88	3840.19	3729.38	3583.13	3337.31	3159.00	2925.56		
225.0	4228.31	4195.13	4119.19	3987.56	3855.94	3729.38	3591.56	3393.56	3155.06		
270.0	4215.94	4214.25	4136.06	4028.06	3890.25	3760.88	3629.25	3439.13	3238.31		
315.0	4214.81	4184.44	4091.06	3961.13	3843.56	3720.38	3581.44	3359.25	3144.94		
360.0	4176.00	4213.69	4200.75	4109.06	3973.50	3863.25	3735.00	3546.00	3366.00		
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0		
0.0	3164.06	2872.13	2614.50	2361.94	2049.75	1804.50	1577.25	1343.81	1133.44		
45.0	2892.94	2640.94	2348.44	2089.13	1813.50	1558.13	1355.63	1145.25	955.69		
90.0	2776.50	2521.69	2265.19	1981.69	1739.81	1488.94	1107.00	1085.91	925.26		
135.0	2886.19	2639.81	2386.13	2063.25	1812.38	1579.50	1344.38	1131.19	961.88		
180.0	2651.63	2361.94	2100.94	1817.44	1584.00	1348.88	1105.37	958.39	788.40		
225.0	2917.13	2638.13	2343.38	2081.25	1836.00	1546.31	1338.75	1122.08	951.86		
270.0	2974.50	2684.25	2426.06	2176.88	1871.44	1638.56	1425.38	1189.13	1019.25		
315.0	2890.69	2626.88	2304.56	2054.81	1812.38	1532.81	1338.19	1115.21	974.42		
360.0	3164.06	2872.13	2614.50	2361.94	2049.75	1804.50	1577.25	1343.81	1133.44		
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0		
0.0	966.94	817.31	670.50	560.25	430.88	338.63	291.94	147.83	100.46		
45.0	820.13	675.00	536.63	423.00	326.81	292.50	139.05	90.00	45.39		
90.0	745.76	622.52	509.85	385.54	295.20	207.62	138.83	74.36	39.49		
135.0	802.13	657.56	531.56	408.38	321.75	286.31	141.19	89.94	50.34		
180.0	634.56	517.95	400.67	297.39	206.55	139.84	90.17	42.08	24.58		
225.0	787.78	651.71	526.95	402.08	314.72	217.63	144.68	88.31	42.19		
270.0	868.50	718.88	587.25	476.44	358.88	290.81	177.92	111.66	60.64		
315.0	820.63	692.33	554.01	443.14	348.86	240.30	165.15	104.85	43.93		
360.0	966.94	817.31	670.50	560.25	430.88	338.63	291.94	147.83	100.46		
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0		
0.0	45.00	22.67	13.95	10.46	8.49	7.71	7.09	6.58	6.08		
45.0	23.01	14.68	10.58	8.38	7.48	6.92	6.41	6.08	5.74		
90.0	22.39	14.12	10.18	8.38	7.37	6.75	6.36	5.96	5.68		
135.0	23.96	15.53	11.76	8.66	7.48	6.98	6.36	5.96	5.74		
180.0	16.37	11.08	8.72	7.76	7.09	6.58	6.19	5.85	5.57		
225.0	23.96	15.64	11.14	9.51	8.61	7.82	7.26	6.81	6.30		
270.0	28.97	15.75	11.87	9.96	8.78	8.04	7.48	6.86	6.41		
315.0	26.10	14.79	10.29	9.06	8.21	7.31	6.81	6.41	5.96		
360.0	45.00	22.67	13.95	10.46	8.49	7.71	7.09	6.58	6.08		
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0		
0.0	5.74	5.40	5.12	4.89	4.73	4.56	4.44	4.33	4.28		
45.0	5.40	5.23	5.01	4.84	4.73	4.61	4.50	4.44	4.33		
90.0	5.40	5.12	4.95	4.78	4.67	4.56	4.44	4.39	4.33		
135.0	5.40	5.18	5.01	4.84	4.67	4.61	4.44	4.39	4.33		
180.0	5.34	5.12	5.01	4.84	4.78	4.61	4.56	4.50	4.44		
225.0	5.96	5.74	5.46	5.29	5.18	4.95	4.89	4.84	4.73		
270.0	6.08	5.79	5.51	5.29	5.12	5.01	4.89	4.78	4.73		
315.0	5.63	5.34	5.12	4.89	4.78	4.61	4.56	4.44	4.39		
360.0	5.74	5.40	5.12	4.89	4.73	4.56	4.44	4.33	4.28		

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	4.22	4.16	4.11	4.05	3.99	3.99	3.94	3.94	3.88
45.0	4.28	4.22	4.22	4.16	4.11	4.11	4.05	4.05	3.99
90.0	4.28	4.22	4.16	4.11	4.11	4.05	4.05	3.99	3.99
135.0	4.22	4.22	4.16	4.11	4.05	4.05	3.99	3.99	3.94
180.0	4.33	4.28	4.28	4.22	4.22	4.16	4.16	4.11	4.11
225.0	4.67	4.61	4.56	4.50	4.50	4.44	4.44	4.39	4.39
270.0	4.67	4.61	4.56	4.50	4.50	4.50	4.44	4.39	4.39
315.0	4.28	4.22	4.16	4.16	4.11	4.11	4.05	3.99	3.99
360.0	4.22	4.16	4.11	4.05	3.99	3.99	3.94	3.94	3.88
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	3.88	3.83	3.83	3.83	3.77	3.77	3.77	3.77	3.71
45.0	3.99	3.99	3.94	3.94	3.94	3.88	3.94	3.88	3.88
90.0	3.94	3.94	3.94	3.88	3.88	3.88	3.88	3.88	3.88
135.0	3.94	3.88	3.88	3.88	3.83	3.83	3.77	3.77	3.77
180.0	4.05	4.05	4.05	4.05	3.99	3.94	3.94	3.94	3.94
225.0	4.33	4.33	4.33	4.33	4.28	4.28	4.22	4.22	4.28
270.0	4.33	4.33	4.33	4.28	4.28	4.28	4.22	4.22	4.22
315.0	3.94	3.94	3.88	3.88	3.88	3.88	3.83	3.83	3.77
360.0	3.88	3.83	3.83	3.83	3.77	3.77	3.77	3.77	3.71
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	3.71	3.71	3.66	3.66	3.66	3.66	3.66	3.66	3.60
45.0	3.88	3.88	3.88	3.88	3.88	3.88	3.88	3.88	3.88
90.0	3.83	3.83	3.83	3.83	3.83	3.83	3.77	3.77	3.77
135.0	3.77	3.71	3.71	3.71	3.66	3.66	3.66	3.66	3.66
180.0	3.94	3.88	3.88	3.83	3.83	3.83	3.77	3.77	3.77
225.0	4.22	4.22	4.22	4.22	4.22	4.22	4.22	4.22	4.16
270.0	4.16	4.16	4.16	4.16	4.11	4.11	4.05	4.05	4.05
315.0	3.77	3.77	3.77	3.77	3.77	3.71	3.71	3.71	3.71
360.0	3.71	3.71	3.66	3.66	3.66	3.66	3.66	3.66	3.60
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	3.60	3.66	3.60	3.60	3.60	3.60	3.60	3.54	3.54
45.0	3.88	3.88	3.88	3.88	3.88	3.88	3.83	3.77	3.66
90.0	3.77	3.77	3.77	3.77	3.71	3.71	3.71	3.66	3.60
135.0	3.60	3.60	3.60	3.60	3.60	3.60	3.54	3.54	3.54
180.0	3.71	3.71	3.66	3.66	3.66	3.60	3.60	3.60	3.60
225.0	4.22	4.16	4.16	4.28	4.61	4.50	4.16	3.94	3.71
270.0	3.99	3.99	3.99	4.05	4.16	4.33	4.22	4.05	3.77
315.0	3.71	3.71	3.66	3.66	3.66	3.60	3.60	3.54	3.54
360.0	3.60	3.66	3.60	3.60	3.60	3.60	3.60	3.54	3.54
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	3.54	3.54	3.54	3.49	3.49	3.49	3.43	3.43	3.38
45.0	3.54	3.54	3.54	3.54	3.49	3.49	3.49	3.49	3.49
90.0	3.54	3.49	3.49	3.49	3.49	3.43	3.43	3.43	3.43
135.0	3.54	3.54	3.54	3.54	3.49	3.43	3.43	3.38	3.38
180.0	3.60	3.60	3.60	3.66	3.43	3.43	3.43	3.38	3.38
225.0	3.66	3.60	3.66	3.66	3.66	3.54	3.54	3.49	3.49
270.0	3.66	3.54	3.54	3.54	3.54	3.54	3.49	3.43	3.43
315.0	3.54	3.54	3.54	3.49	3.49	3.49	3.43	3.43	3.38
360.0	3.54	3.54	3.54	3.49	3.49	3.49	3.43	3.43	3.38

Intensity data(cd)

Appendix Page: 18 Total:18

C/γ(°)	90.0
0.0	3.43
45.0	3.49
90.0	3.43
135.0	3.43
180.0	3.38
225.0	3.49
270.0	3.43
315.0	3.43
360.0	3.43