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Nata

LumCAT: 1-1006-M
Luminaire: BJB 47.360.1020
Report No: 210720-B004
Test No: 210720-C004
LampCAT: Fortimo LED SLM 1204 G7N
Lamp flux(lm): 2455.6
Number of Lamps: 1
Length(mm): 570
Phm Type: C

Voltage(V): 36.3600
Current(A): 0.5110
Power (W): 18.5790
PF: 0.0000
Ballast type: DC
Width(mm): 45
Height(mm): 20

Photometric Results

Lumens(lm): 1765.81
Efficiency(%): 71.91%
Lumens(lm)/Power(W): 95.04
Central intensity(cd): 8883.070
Maximum intensity(cd): 8883.070
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=25.0
[C90/270]Total=25.0
Field angle(10%Imax): [C0/180]Total=42.9
[C90/270]Total=42.9
Maximum s/h(1/2): C0_180=0.43 C90_270=0.43
Maximum s/h(1/4): C0_180=0.41 C90_270=0.41
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 71.91%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.530%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	8883.070	0.000	0	.000%	.000%
1.0	8849.883	8.485	8.485	.346%	.481%
2.0	8760.938	25.277	33.762	1.029%	1.912%
3.0	8591.273	41.501	75.262	1.690%	4.262%
4.0	8377.664	56.800	132.063	2.313%	7.479%
5.0	8123.414	70.987	203.05	2.891%	11.499%
6.0	7786.969	83.613	286.663	3.405%	16.234%
7.0	7363.266	94.037	380.7	3.830%	21.560%
8.0	6944.133	102.395	483.095	4.170%	27.358%
9.0	6434.016	108.423	591.518	4.415%	33.498%
10.0	5842.477	111.098	702.616	4.524%	39.790%
11.0	5308.453	111.421	814.037	4.537%	46.100%
12.0	4755.586	110.014	924.051	4.480%	52.330%
13.0	4109.203	105.203	1029.254	4.284%	58.288%
14.0	3586.289	98.502	1127.755	4.011%	63.866%
15.0	3117.797	92.037	1219.792	3.748%	69.078%
16.0	2640.445	84.374	1304.166	3.436%	73.857%
17.0	2236.992	75.955	1380.121	3.093%	78.158%
18.0	1881.070	67.898	1448.019	2.765%	82.003%
19.0	1538.438	59.492	1507.511	2.423%	85.372%
20.0	1213.805	50.374	1557.885	2.051%	88.225%
21.0	995.020	42.414	1600.299	1.727%	90.627%
22.0	749.138	35.050	1635.349	1.427%	92.612%
23.0	550.195	27.264	1662.612	1.110%	94.156%
24.0	369.366	20.105	1682.717	.819%	95.294%
25.0	244.680	13.962	1696.679	.569%	96.085%
26.0	132.912	8.913	1705.592	.363%	96.590%
27.0	61.179	4.748	1710.341	.193%	96.859%
28.0	35.220	2.441	1712.781	.099%	96.997%
29.0	25.390	1.586	1714.367	.065%	97.087%
30.0	20.440	1.237	1715.604	.050%	97.157%
31.0	17.796	1.064	1716.668	.043%	97.217%
32.0	16.270	0.976	1717.644	.040%	97.272%
33.0	15.131	0.925	1718.57	.038%	97.325%
34.0	14.055	0.883	1719.453	.036%	97.375%
35.0	13.233	0.847	1720.3	.035%	97.423%
36.0	12.551	0.821	1721.121	.033%	97.469%
37.0	11.967	0.800	1721.921	.033%	97.515%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	11.475	0.782	1722.703	.032%	97.559%
39.0	11.074	0.770	1723.473	.031%	97.602%
40.0	10.737	0.761	1724.234	.031%	97.645%
41.0	10.463	0.755	1724.989	.031%	97.688%
42.0	10.245	0.752	1725.741	.031%	97.731%
43.0	10.041	0.751	1726.492	.031%	97.773%
44.0	9.879	0.752	1727.244	.031%	97.816%
45.0	9.752	0.754	1727.999	.031%	97.859%
46.0	9.605	0.757	1728.756	.031%	97.902%
47.0	9.492	0.760	1729.515	.031%	97.945%
48.0	9.415	0.764	1730.279	.031%	97.988%
49.0	9.316	0.769	1731.049	.031%	98.031%
50.0	9.239	0.774	1731.822	.032%	98.075%
51.0	9.176	0.779	1732.601	.032%	98.119%
52.0	9.098	0.784	1733.386	.032%	98.164%
53.0	9.049	0.789	1734.175	.032%	98.208%
54.0	9.000	0.796	1734.971	.032%	98.254%
55.0	8.951	0.801	1735.772	.033%	98.299%
56.0	8.895	0.806	1736.578	.033%	98.345%
57.0	8.845	0.811	1737.389	.033%	98.391%
58.0	8.803	0.816	1738.205	.033%	98.437%
59.0	8.768	0.821	1739.027	.033%	98.483%
60.0	8.733	0.827	1739.854	.034%	98.530%
61.0	8.712	0.832	1740.686	.034%	98.577%
62.0	8.677	0.838	1741.524	.034%	98.625%
63.0	8.655	0.843	1742.367	.034%	98.672%
64.0	8.620	0.848	1743.215	.035%	98.720%
65.0	8.599	0.852	1744.067	.035%	98.769%
66.0	8.571	0.857	1744.924	.035%	98.817%
67.0	8.550	0.861	1745.785	.035%	98.866%
68.0	8.536	0.866	1746.65	.035%	98.915%
69.0	8.515	0.870	1747.52	.035%	98.964%
70.0	8.494	0.874	1748.393	.036%	99.014%
71.0	8.473	0.877	1749.27	.036%	99.063%
72.0	8.466	0.881	1750.151	.036%	99.113%
73.0	8.445	0.884	1751.035	.036%	99.163%
74.0	8.423	0.887	1751.922	.036%	99.214%
75.0	8.381	0.888	1752.81	.036%	99.264%

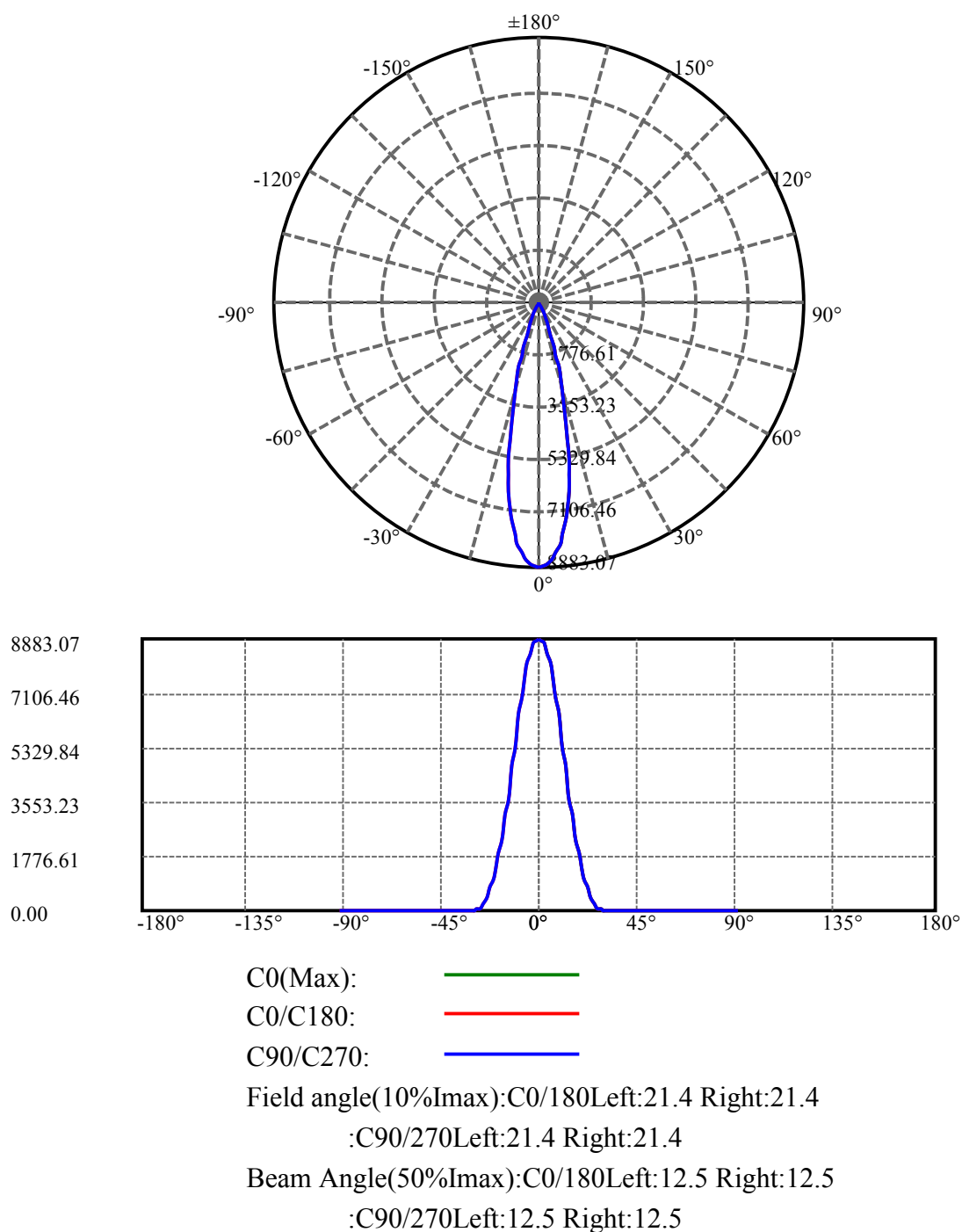
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	8.332	0.887	1753.697	.036%	99.314%
77.0	8.297	0.887	1754.584	.036%	99.364%
78.0	8.241	0.885	1755.469	.036%	99.414%
79.0	8.170	0.882	1756.351	.036%	99.464%
80.0	8.100	0.877	1757.228	.036%	99.514%
81.0	8.009	0.871	1758.099	.035%	99.563%
82.0	7.959	0.866	1758.965	.035%	99.612%
83.0	7.924	0.863	1759.828	.035%	99.661%
84.0	7.903	0.862	1760.691	.035%	99.710%
85.0	7.868	0.861	1761.551	.035%	99.759%
86.0	7.826	0.858	1762.409	.035%	99.807%
87.0	7.770	0.854	1763.263	.035%	99.856%
88.0	7.741	0.850	1764.112	.035%	99.904%
89.0	7.741	0.849	1764.961	.035%	99.952%
90.0	7.741	0.849	1765.81	.035%	100.000%

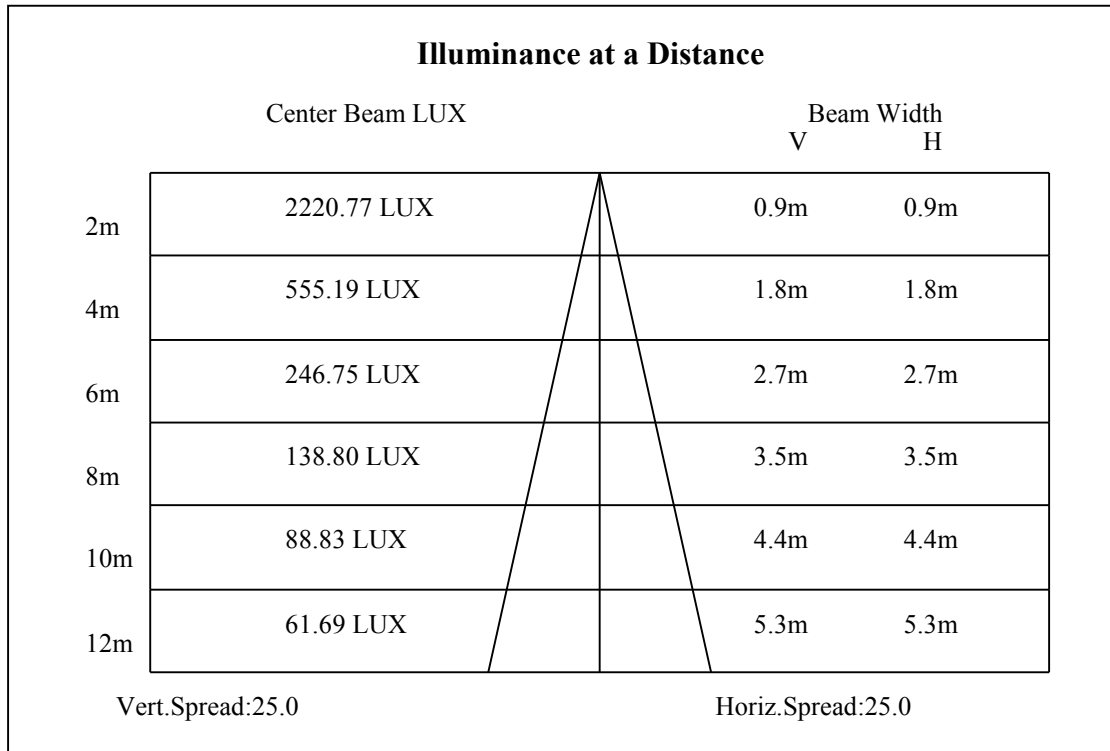
ZONAL LUMEN SUMMARY

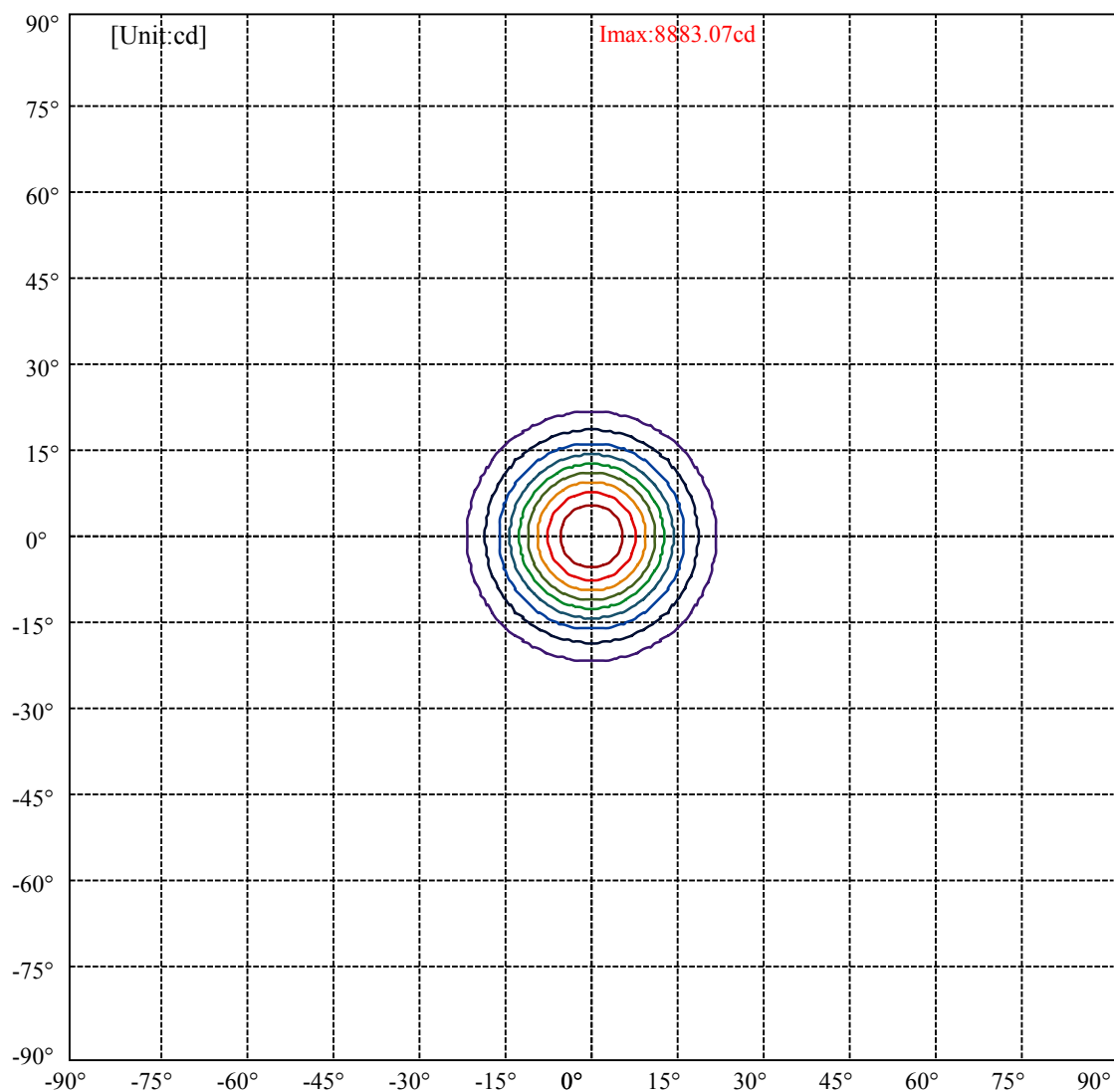
Zone	Lumens	%Lamp	%Fixt
0-30	1715.60	69.87%	97.16%
0-40	1724.23	70.22%	97.65%
0-60	1739.85	70.85%	98.53%
0-90	1764.96	71.88%	99.95%
0-120	1764.96	71.88%	99.95%
0-180	1765.81	71.91%	100.00%
60-90	25.93	1.06%	1.47%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-17.48	1412.65	57.53%	80.00%

ZONAL LUMEN SUMMARY

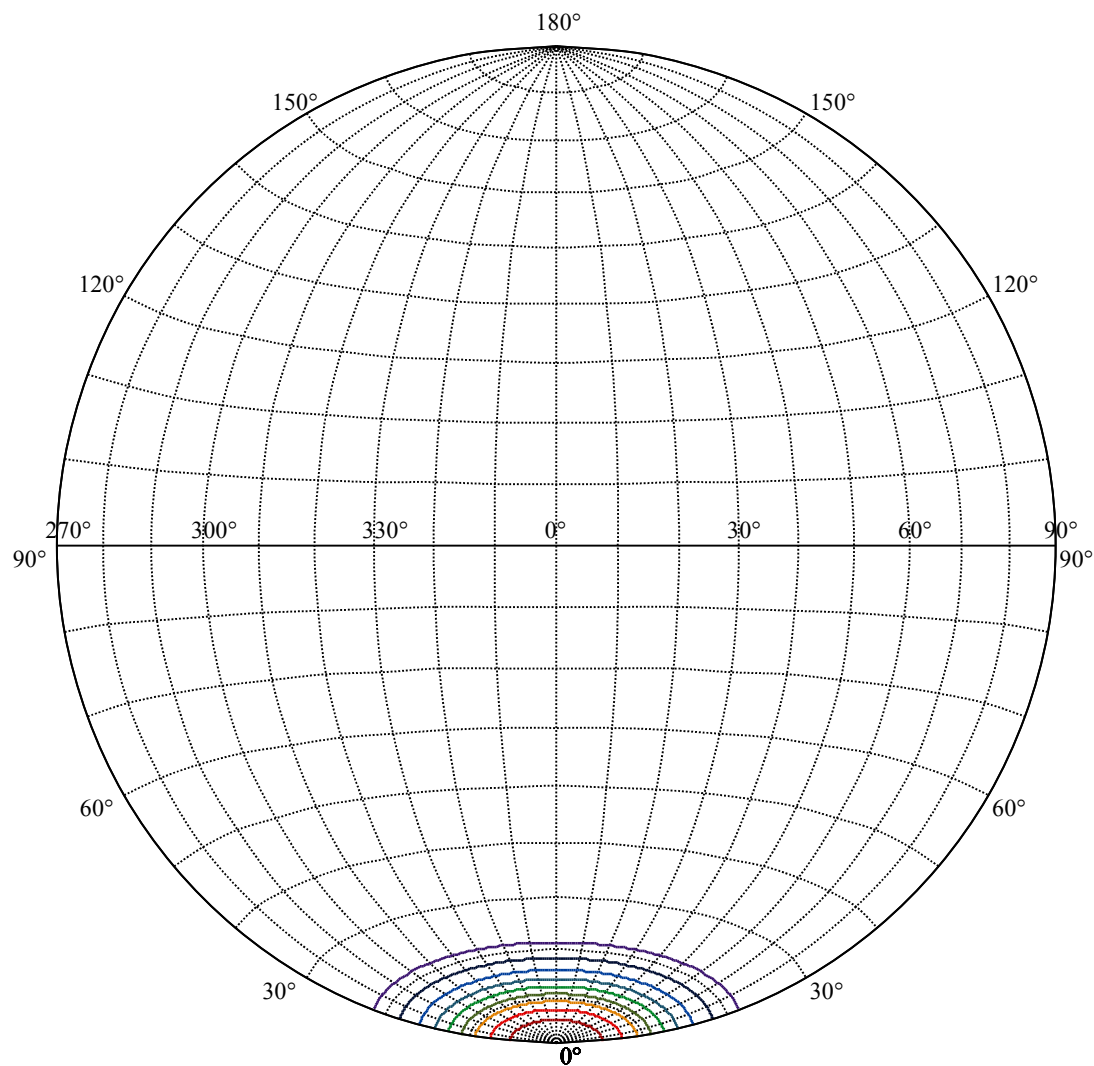
0-10	702.62
10-20	855.27
20-30	157.72
30-40	8.63
40-50	7.59
50-60	8.03
60-70	8.54
70-80	8.83
80-90	7.73
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00







(10%Imax) 888.307	—
(20%Imax) 1776.61	—
(30%Imax) 2664.92	—
(40%Imax) 3553.23	—
(50%Imax) 4441.54	—
(60%Imax) 5329.84	—
(70%Imax) 6218.15	—
(80%Imax) 7106.46	—
(90%Imax) 7994.76	—

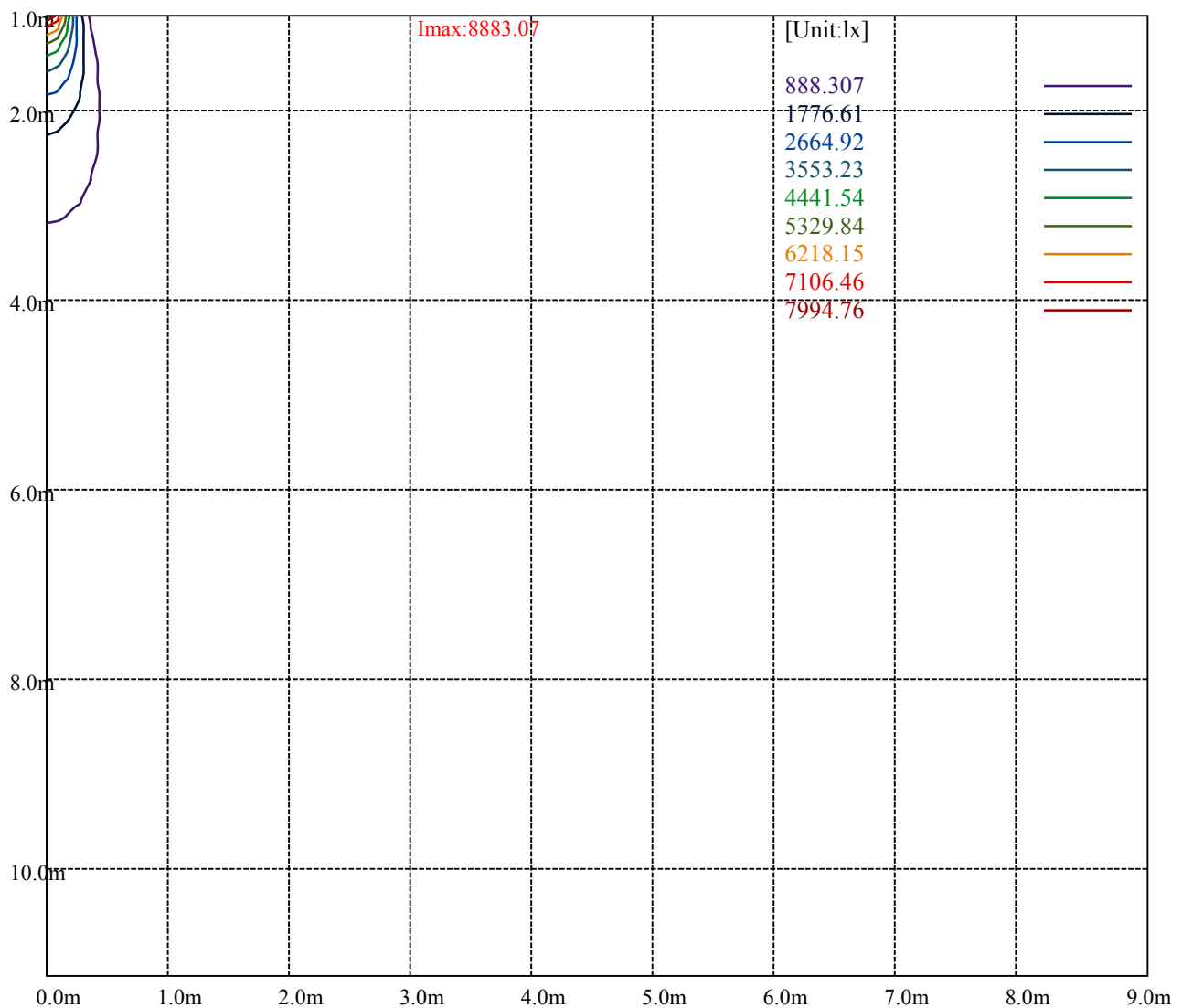


House

[Unit:cd]

Road

	Imax:8883.07	
(10%Imax)	888.307	—
(20%Imax)	1776.61	—
(30%Imax)	2664.92	—
(40%Imax)	3553.23	—
(50%Imax)	4441.54	—
(60%Imax)	5329.84	—
(70%Imax)	6218.15	—
(80%Imax)	7106.46	—
(90%Imax)	7994.76	—



Luminance Table

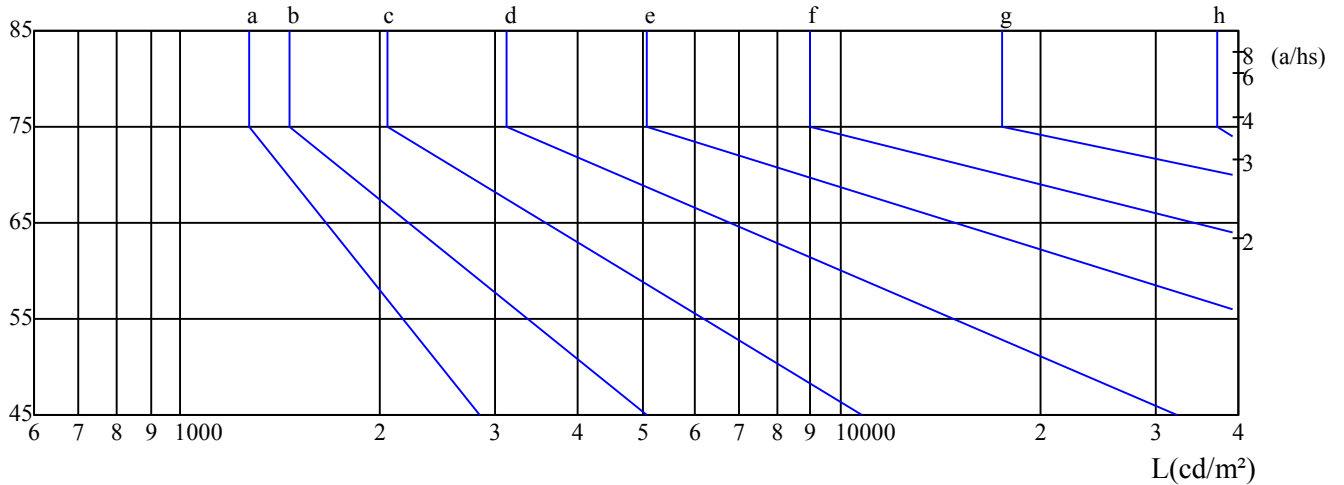
γ	45	50	55	60	65	70	75	80	85
C0	372	366	372	385	406	436	475	517	579
C45	402	399	410	429	459	501	557	622	722
C90	519	538	579	642	738	883	1116	1517	2512

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
793	793	793	1262	1262	1262	3519	3519	3519

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

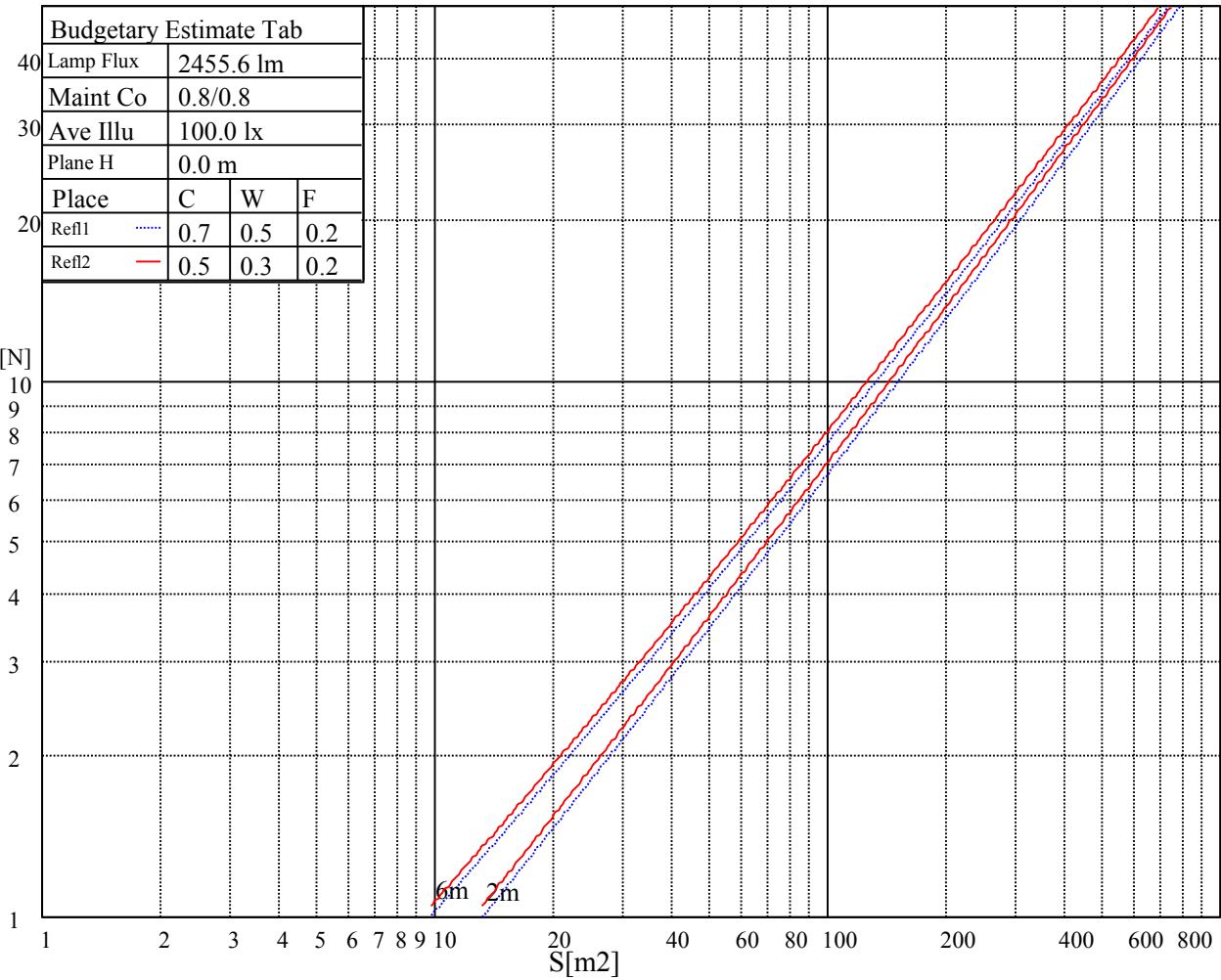
Luminance Limiting Curve

 $\gamma(^{\circ})$ 

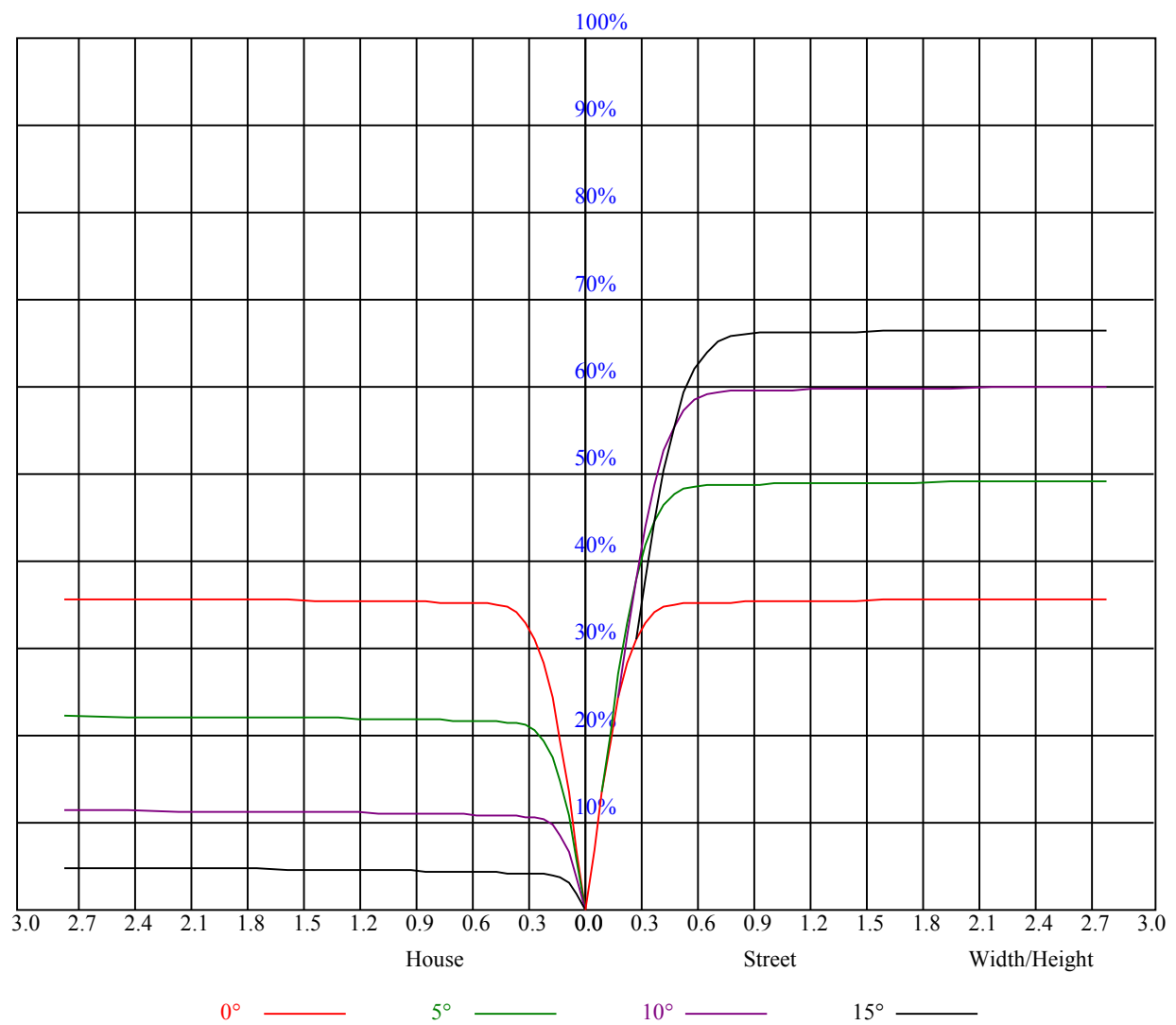
C0 ———

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	0.86	0.86	0.86	0.84	0.84	0.84	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	0.80	0.78	0.77	0.77	0.76	0.75	0.74	0.73	0.73	0.72	0.71	0.71	0.69
2	0.78	0.75	0.74	0.76	0.74	0.73	0.74	0.73	0.71	0.72	0.71	0.70	0.70	0.69	0.68	0.67
3	0.74	0.72	0.70	0.74	0.71	0.69	0.72	0.70	0.68	0.70	0.69	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	0.68	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	0.66	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	0.60
7	0.66	0.63	0.61	0.65	0.62	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	0.60	0.59	0.62	0.60	0.59	0.62	0.60	0.58	0.58
9	0.62	0.59	0.58	0.62	0.59	0.58	0.61	0.59	0.57	0.61	0.59	0.57	0.60	0.58	0.57	0.56
10	0.61	0.58	0.56	0.60	0.58	0.56	0.60	0.58	0.56	0.60	0.57	0.56	0.59	0.57	0.56	0.55



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	8886.94	8884.13	8802.56	8687.25	8480.81	8227.13	7960.50	7596.00	7217.44
45.0	8872.88	8809.88	8713.13	8532.56	8316.56	8075.25	7724.81	7306.88	6891.75
90.0	8876.81	8832.38	8739.00	8549.44	8339.63	8082.00	7716.38	7278.19	6832.13
135.0	8895.38	8879.06	8808.19	8684.44	8451.00	8219.25	7925.63	7464.38	7061.63
180.0	8888.63	8819.44	8702.44	8462.25	8222.63	7926.75	7580.25	7062.19	6600.94
225.0	8872.88	8868.94	8785.69	8632.69	8453.25	8215.88	7820.44	7465.50	7051.50
270.0	8876.81	8876.25	8797.50	8667.00	8462.81	8195.63	7890.75	7486.31	7081.31
315.0	8894.25	8829.00	8739.00	8514.56	8294.63	8045.44	7677.00	7246.69	6816.38
360.0	8886.94	8884.13	8802.56	8687.25	8480.81	8227.13	7960.50	7596.00	7217.44
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	6736.50	6203.81	5696.44	5239.13	4502.25	3971.25	3537.00	2920.50	2509.88
45.0	6435.56	5791.50	5262.19	4705.31	4029.75	3513.94	3045.38	2569.50	2143.13
90.0	6286.50	5698.69	5162.63	4543.31	4004.44	3438.00	2920.50	2506.50	2129.63
135.0	6604.88	5960.81	5409.00	4857.19	4168.13	3650.06	3178.69	2709.56	2279.25
180.0	6034.50	5424.75	4870.13	4324.50	3741.75	3213.56	2787.75	2359.69	2021.06
225.0	6463.13	5955.75	5416.88	4794.75	4183.31	3665.81	3147.75	2722.50	2284.88
270.0	6571.13	6004.69	5483.25	4952.25	4278.94	3764.81	3289.50	2750.63	2356.88
315.0	6339.94	5699.81	5167.13	4628.25	3965.06	3472.88	3035.81	2584.69	2171.25
360.0	6736.50	6203.81	5696.44	5239.13	4502.25	3971.25	3537.00	2920.50	2509.88
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	2141.44	1771.31	1446.75	1182.38	908.44	666.56	482.63	306.56	289.69
45.0	1799.44	1456.88	1184.63	909.00	668.81	484.88	312.75	295.31	92.59
90.0	1711.13	1415.25	1120.95	887.01	651.26	471.04	318.54	171.06	89.83
135.0	1941.75	1598.06	1291.50	1039.50	785.81	579.94	389.25	294.75	123.24
180.0	1668.94	1257.19	1101.09	841.16	603.34	428.23	277.54	145.01	72.17
225.0	1918.13	1617.19	1111.67	1018.69	797.01	592.99	380.14	238.22	132.86
270.0	2018.81	1671.75	1355.06	1101.94	841.50	631.13	432.56	296.44	148.84
315.0	1848.94	1519.88	1098.79	980.49	736.93	546.81	361.52	210.09	114.08
360.0	2141.44	1771.31	1446.75	1182.38	908.44	666.56	482.63	306.56	289.69
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	92.76	49.11	33.02	24.69	19.46	17.61	16.20	14.79	13.89
45.0	52.54	33.36	23.18	18.90	17.21	15.64	14.74	13.84	13.05
90.0	48.15	29.70	22.33	19.29	17.44	16.03	15.02	14.01	13.33
135.0	58.05	31.78	24.24	19.74	17.44	16.14	14.96	13.95	13.11
180.0	38.64	25.09	19.41	17.27	15.69	14.51	13.61	12.77	12.15
225.0	68.12	36.45	26.38	20.48	18.06	16.54	15.30	14.18	13.22
270.0	70.43	42.24	29.25	22.56	19.01	17.27	15.98	14.74	13.84
315.0	60.75	34.03	25.31	20.59	18.06	16.43	15.24	14.18	13.28
360.0	92.76	49.11	33.02	24.69	19.46	17.61	16.20	14.79	13.89
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	13.16	12.43	11.81	11.36	10.91	10.63	10.35	10.07	9.90
45.0	12.43	11.93	11.48	11.14	10.86	10.58	10.41	10.24	10.07
90.0	12.66	12.09	11.64	11.31	10.97	10.74	10.52	10.29	10.18
135.0	12.49	11.93	11.48	11.08	10.74	10.52	10.29	10.13	9.96
180.0	11.59	11.08	10.74	10.41	10.13	9.90	9.73	9.56	9.39
225.0	12.49	11.87	11.42	10.91	10.58	10.29	10.07	9.90	9.73
270.0	13.05	12.49	11.81	11.36	11.08	10.69	10.41	10.24	10.01
315.0	12.54	11.93	11.42	11.03	10.63	10.35	10.18	9.90	9.79
360.0	13.16	12.43	11.81	11.36	10.91	10.63	10.35	10.07	9.90

Intensity data(cd)										Appendix Page: 17 Total:18	
C/ γ (°)	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	53.0		
0.0	9.73	9.56	9.45	9.34	9.23	9.11	9.06	8.94	8.89		
45.0	9.96	9.84	9.73	9.62	9.56	9.45	9.39	9.34	9.28		
90.0	10.07	9.90	9.79	9.73	9.62	9.56	9.51	9.45	9.39		
135.0	9.84	9.68	9.56	9.51	9.39	9.34	9.28	9.17	9.06		
180.0	9.28	9.17	9.06	9.00	8.89	8.83	8.78	8.66	8.66		
225.0	9.56	9.45	9.34	9.23	9.17	9.11	9.00	9.00	8.94		
270.0	9.90	9.73	9.62	9.56	9.45	9.34	9.28	9.23	9.17		
315.0	9.68	9.51	9.39	9.34	9.23	9.17	9.11	9.00	9.00		
360.0	9.73	9.56	9.45	9.34	9.23	9.11	9.06	8.94	8.89		
C/ γ (°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0		
0.0	8.83	8.72	8.66	8.61	8.61	8.55	8.49	8.44	8.38		
45.0	9.23	9.17	9.11	9.06	9.00	9.00	8.94	8.94	8.89		
90.0	9.34	9.28	9.23	9.23	9.17	9.11	9.11	9.11	9.06		
135.0	9.06	9.00	8.94	8.89	8.83	8.78	8.72	8.72	8.72		
180.0	8.61	8.55	8.49	8.44	8.38	8.33	8.33	8.27	8.27		
225.0	8.89	8.89	8.83	8.78	8.72	8.72	8.66	8.66	8.61		
270.0	9.17	9.11	9.06	9.00	9.00	9.00	8.94	8.94	8.94		
315.0	8.89	8.89	8.83	8.78	8.72	8.66	8.66	8.61	8.55		
360.0	8.83	8.72	8.66	8.61	8.61	8.55	8.49	8.44	8.38		
C/ γ (°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0		
0.0	8.38	8.33	8.27	8.27	8.21	8.21	8.16	8.16	8.10		
45.0	8.83	8.78	8.78	8.72	8.72	8.66	8.61	8.61	8.55		
90.0	9.06	9.00	9.06	9.00	9.00	9.00	9.00	8.94	8.94		
135.0	8.66	8.61	8.61	8.55	8.55	8.49	8.49	8.44	8.44		
180.0	8.21	8.21	8.16	8.16	8.10	8.10	8.10	8.10	8.04		
225.0	8.61	8.61	8.55	8.55	8.49	8.49	8.49	8.44	8.44		
270.0	8.94	8.94	8.89	8.89	8.94	8.94	8.94	8.94	8.94		
315.0	8.55	8.49	8.49	8.44	8.38	8.38	8.33	8.33	8.33		
360.0	8.38	8.33	8.27	8.27	8.21	8.21	8.16	8.16	8.10		
C/ γ (°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0		
0.0	8.10	8.04	8.10	7.99	7.99	7.99	7.93	7.88	7.88		
45.0	8.55	8.55	8.49	8.44	8.38	8.38	8.38	8.27	8.21		
90.0	8.94	8.89	8.83	8.72	8.55	8.38	8.10	7.99	7.99		
135.0	8.38	8.38	8.33	8.33	8.27	8.21	8.21	8.16	8.04		
180.0	8.04	7.99	7.99	7.99	7.93	7.93	7.88	7.88	7.82		
225.0	8.44	8.44	8.44	8.38	8.38	8.33	8.33	8.33	8.27		
270.0	9.00	9.00	9.00	9.00	9.00	9.00	8.94	8.78	8.49		
315.0	8.27	8.27	8.21	8.21	8.16	8.16	8.16	8.10	8.10		
360.0	8.10	8.04	8.10	7.99	7.99	7.99	7.93	7.88	7.88		
C/ γ (°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0		
0.0	7.82	7.82	7.82	7.82	7.82	7.76	7.71	7.71	7.71		
45.0	8.16	8.10	8.04	8.10	8.10	7.93	7.88	7.82	7.82		
90.0	7.99	7.99	7.99	7.99	7.82	7.82	7.76	7.76	7.76		
135.0	7.93	7.88	7.88	7.88	7.82	7.76	7.71	7.71	7.71		
180.0	7.82	7.82	7.76	7.76	7.71	7.71	7.65	7.65	7.65		
225.0	8.21	8.16	8.10	7.99	7.99	7.99	7.88	7.82	7.82		
270.0	8.10	7.93	7.93	7.88	7.88	7.88	7.82	7.76	7.76		
315.0	8.04	7.99	7.88	7.82	7.82	7.76	7.76	7.71	7.71		
360.0	7.82	7.82	7.82	7.82	7.82	7.76	7.71	7.71	7.71		

Intensity data(cd)

Appendix Page: 18 Total:18

C/ $\gamma(^{\circ})$	90.0
0.0	7.65
45.0	7.82
90.0	7.76
135.0	7.71
180.0	7.71
225.0	7.82
270.0	7.76
315.0	7.71
360.0	7.65