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Nata

LumCAT: 1-1060-N	
Luminaire: 92.70.246.00	
Report No: 210630-B018	Voltage(V): 36.8700
Test No: 210630-C018	Current(A): 0.3050
LampCAT: Fortimo LED SLM 1202 G7N	Power (W): 11.2450
Lamp flux(lm): 1492.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 570	Width(mm): 45
Phm Type: C	Height(mm): 20

Photometric Results

Lumens(lm): 1233.42
Efficiency(%): 82.67%
Lumens(lm)/Power(W): 109.69
Central intensity(cd): 6564.516
Maximum intensity(cd): 6564.516
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=18.3
 [C90/270]Total=18.3
Field angle(10%Imax): [C0/180]Total=46.8
 [C90/270]Total=46.8
Maximum s/h(1/2): C0_180=0.31 C90_270=0.31
Maximum s/h(1/4): C0_180=0.35 C90_270=0.35
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 82.67%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.212%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	6564.516	0.000	0	.000%	.000%
1.0	6519.516	6.260	6.26	.420%	.508%
2.0	6386.484	18.524	24.784	1.242%	2.009%
3.0	6170.836	30.033	54.817	2.013%	4.444%
4.0	5871.516	40.310	95.127	2.702%	7.712%
5.0	5426.156	48.602	143.729	3.257%	11.653%
6.0	4951.125	54.535	198.264	3.655%	16.074%
7.0	4392.281	57.994	256.259	3.887%	20.776%
8.0	3858.398	59.049	315.307	3.958%	25.564%
9.0	3341.883	58.354	373.662	3.911%	30.295%
10.0	2889.914	56.395	430.057	3.780%	34.867%
11.0	2522.461	54.081	484.138	3.625%	39.252%
12.0	2237.344	52.031	536.169	3.487%	43.470%
13.0	1989.141	50.158	586.327	3.362%	47.537%
14.0	1779.539	48.239	634.566	3.233%	51.448%
15.0	1616.836	46.627	681.193	3.125%	55.228%
16.0	1463.063	45.129	726.322	3.025%	58.887%
17.0	1324.877	43.416	769.738	2.910%	62.407%
18.0	1192.373	41.504	811.242	2.782%	65.772%
19.0	1075.486	39.456	850.698	2.644%	68.970%
20.0	976.746	37.562	888.259	2.517%	72.016%
21.0	869.984	35.461	923.72	2.377%	74.891%
22.0	781.671	33.191	956.911	2.225%	77.582%
23.0	691.657	30.914	987.825	2.072%	80.088%
24.0	608.773	28.432	1016.257	1.906%	82.393%
25.0	533.763	25.979	1042.236	1.741%	84.499%
26.0	464.154	23.556	1065.792	1.579%	86.409%
27.0	394.228	21.001	1086.793	1.408%	88.112%
28.0	339.019	18.564	1105.357	1.244%	89.617%
29.0	283.845	16.296	1121.653	1.092%	90.938%
30.0	227.651	13.810	1135.463	.926%	92.058%
31.0	178.137	11.292	1146.755	.757%	92.973%
32.0	130.823	8.851	1155.607	.593%	93.691%
33.0	97.530	6.727	1162.334	.451%	94.236%
34.0	75.621	5.240	1167.574	.351%	94.661%
35.0	62.177	4.280	1171.854	.287%	95.008%
36.0	53.128	3.671	1175.525	.246%	95.306%
37.0	47.123	3.270	1178.795	.219%	95.571%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	41.084	2.944	1181.739	.197%	95.810%
39.0	36.113	2.635	1184.374	.177%	96.023%
40.0	31.915	2.373	1186.746	.159%	96.216%
41.0	28.238	2.142	1188.888	.144%	96.389%
42.0	24.989	1.934	1190.822	.130%	96.546%
43.0	22.331	1.753	1192.575	.117%	96.688%
44.0	20.250	1.607	1194.182	.108%	96.819%
45.0	18.387	1.485	1195.667	.100%	96.939%
46.0	17.002	1.384	1197.051	.093%	97.051%
47.0	15.729	1.302	1198.353	.087%	97.157%
48.0	14.702	1.230	1199.583	.082%	97.256%
49.0	13.809	1.171	1200.754	.078%	97.351%
50.0	13.022	1.119	1201.873	.075%	97.442%
51.0	12.347	1.073	1202.946	.072%	97.529%
52.0	11.798	1.036	1203.982	.069%	97.613%
53.0	11.229	1.002	1204.984	.067%	97.694%
54.0	10.779	0.970	1205.954	.065%	97.773%
55.0	10.399	0.945	1206.899	.063%	97.850%
56.0	10.041	0.924	1207.823	.062%	97.924%
57.0	9.773	0.906	1208.729	.061%	97.998%
58.0	9.520	0.892	1209.621	.060%	98.070%
59.0	9.309	0.880	1210.501	.059%	98.142%
60.0	9.127	0.871	1211.372	.058%	98.212%
61.0	8.951	0.863	1212.235	.058%	98.282%
62.0	8.817	0.856	1213.091	.057%	98.352%
63.0	8.698	0.852	1213.943	.057%	98.421%
64.0	8.578	0.848	1214.791	.057%	98.489%
65.0	8.445	0.842	1215.633	.056%	98.558%
66.0	8.353	0.838	1216.471	.056%	98.626%
67.0	8.248	0.835	1217.306	.056%	98.693%
68.0	8.128	0.830	1218.135	.056%	98.761%
69.0	7.952	0.820	1218.956	.055%	98.827%
70.0	7.777	0.808	1219.764	.054%	98.893%
71.0	7.573	0.793	1220.557	.053%	98.957%
72.0	7.355	0.776	1221.333	.052%	99.020%
73.0	7.193	0.761	1222.094	.051%	99.081%
74.0	7.024	0.747	1222.841	.050%	99.142%
75.0	6.877	0.734	1223.576	.049%	99.202%

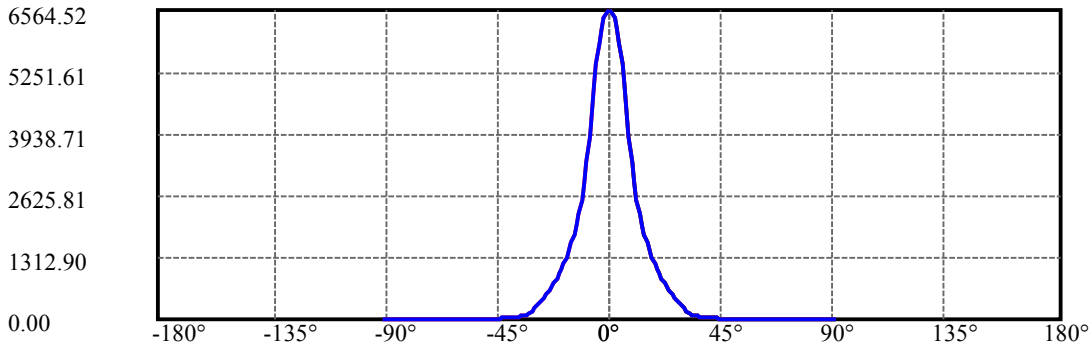
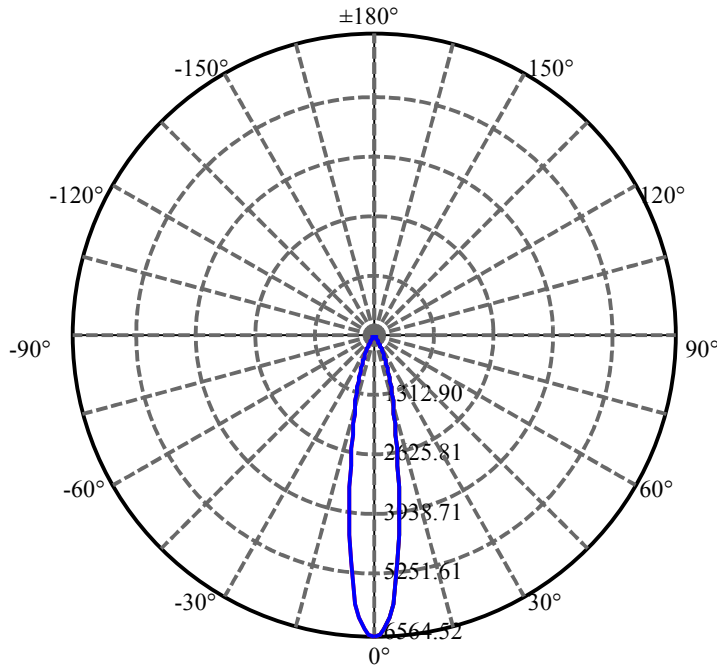
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	6.757	0.724	1224.299	.049%	99.260%
77.0	6.652	0.715	1225.014	.048%	99.318%
78.0	6.553	0.707	1225.721	.047%	99.376%
79.0	6.462	0.699	1226.42	.047%	99.432%
80.0	6.448	0.696	1227.116	.047%	99.489%
81.0	6.300	0.689	1227.806	.046%	99.545%
82.0	6.166	0.676	1228.482	.045%	99.599%
83.0	6.061	0.665	1229.146	.045%	99.653%
84.0	5.899	0.652	1229.798	.044%	99.706%
85.0	5.850	0.641	1230.439	.043%	99.758%
86.0	5.723	0.633	1231.072	.042%	99.809%
87.0	5.435	0.611	1231.683	.041%	99.859%
88.0	5.330	0.590	1232.272	.040%	99.907%
89.0	5.238	0.579	1232.852	.039%	99.954%
90.0	5.196	0.572	1233.424	.038%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1135.46	76.10%	92.06%
0-40	1186.75	79.54%	96.22%
0-60	1211.37	81.19%	98.21%
0-90	1232.85	82.63%	99.95%
0-120	1232.85	82.63%	99.95%
0-180	1233.42	82.67%	100.00%
60-90	22.35	1.50%	1.81%
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%
0-22.96	986.74	66.13%	80.00%

ZONAL LUMEN SUMMARY

0-10	430.06
10-20	458.20
20-30	247.20
30-40	51.28
40-50	15.13
50-60	9.50
60-70	8.39
70-80	7.35
80-90	5.74
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



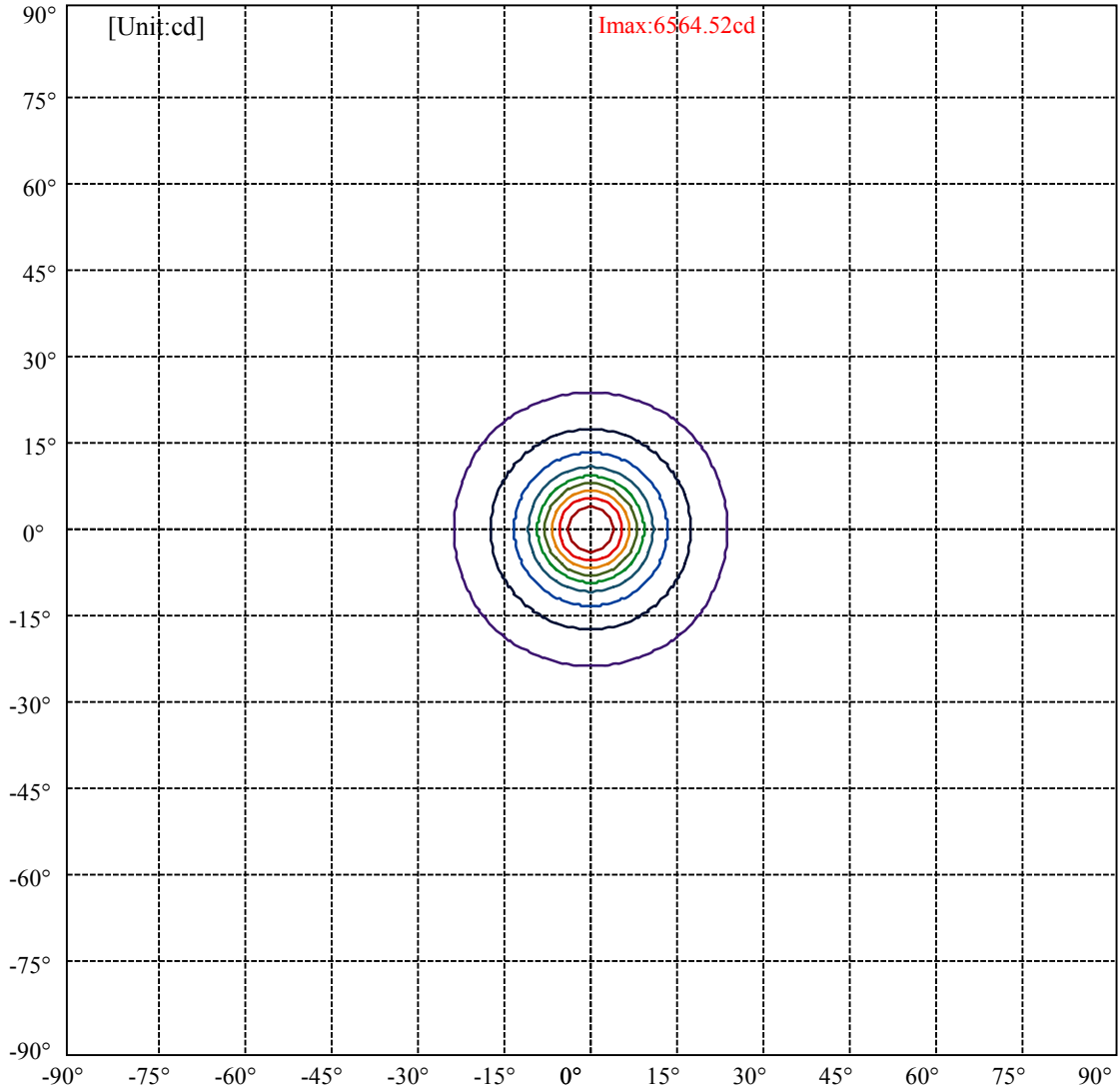
C0(Max): —————

C0/C180: —————

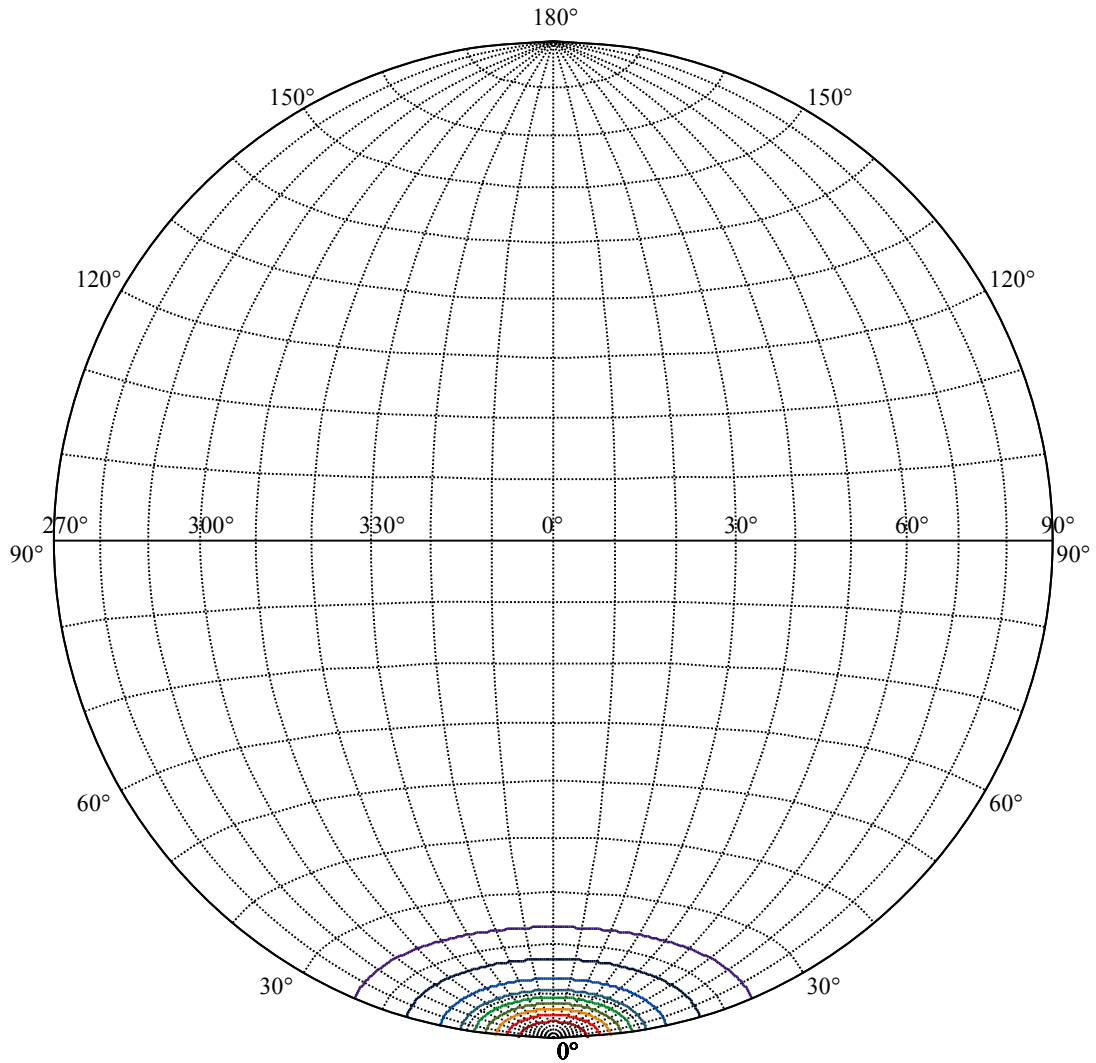
C90/C270: —————

Field angle(10%Imax):C0/180Left:23.4 Right:23.4
:C90/270Left:23.4 Right:23.4

Beam Angle(50%Imax):C0/180Left:9.1 Right:9.1
:C90/270Left:9.1 Right:9.1



(10%Imax) 656.452	—
(20%Imax) 1312.9	—
(30%Imax) 1969.35	—
(40%Imax) 2625.81	—
(50%Imax) 3282.26	—
(60%Imax) 3938.71	—
(70%Imax) 4595.16	—
(80%Imax) 5251.61	—
(90%Imax) 5908.06	—



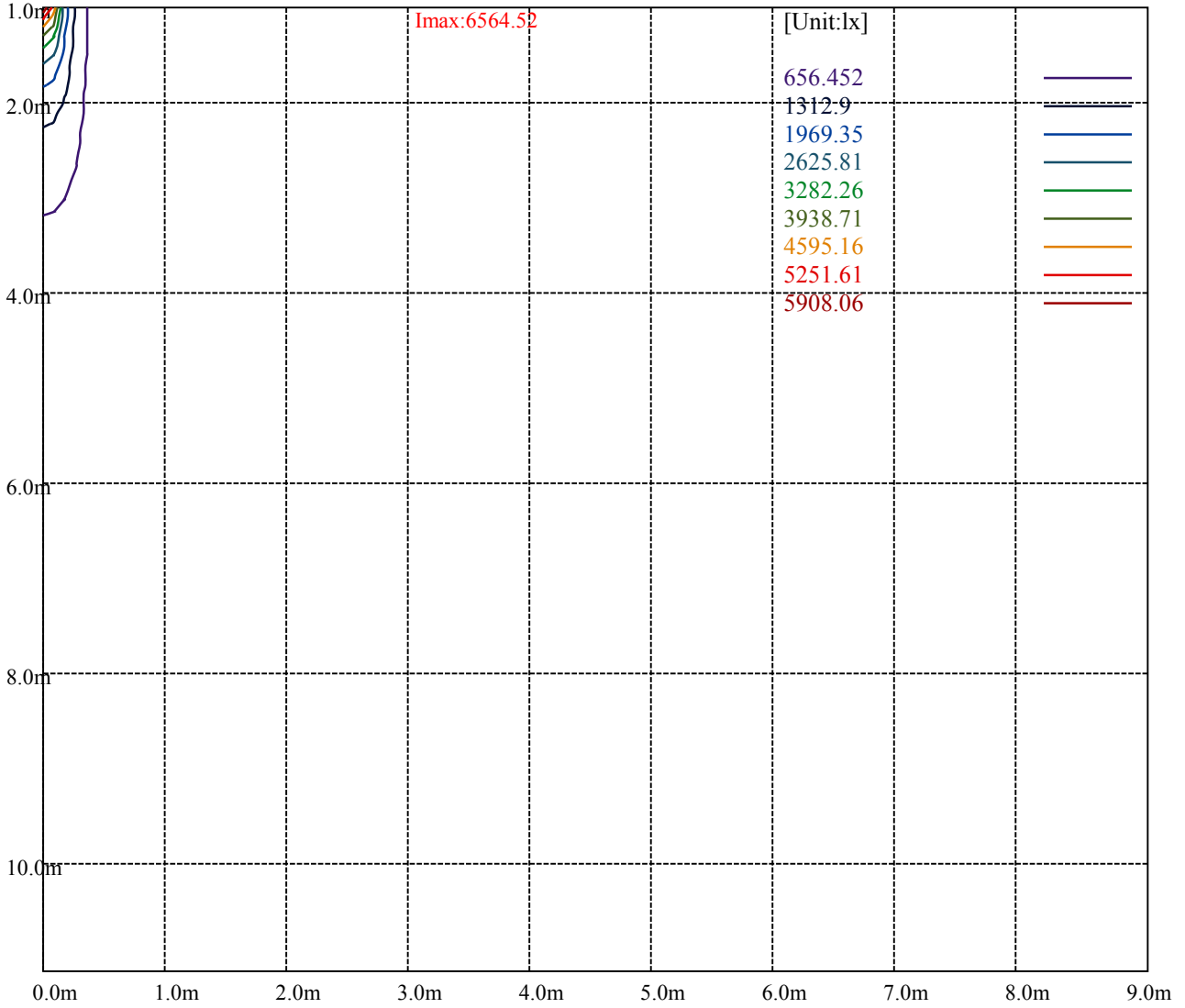
House

[Unit:cd]

Road

Imax:6564.52

(10%Imax) 656.452	—
(20%Imax) 1312.9	—
(30%Imax) 1969.35	—
(40%Imax) 2625.81	—
(50%Imax) 3282.26	—
(60%Imax) 3938.71	—
(70%Imax) 4595.16	—
(80%Imax) 5251.61	—
(90%Imax) 5908.06	—



Luminance Table

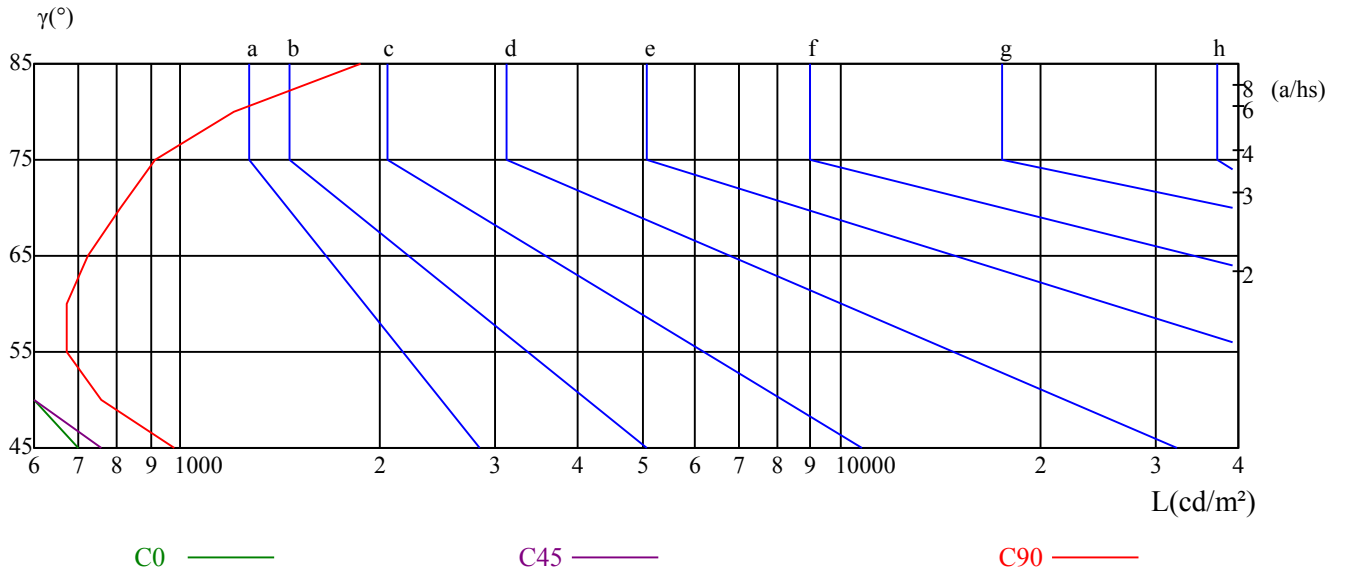
γ	45	50	55	60	65	70	75	80	85
C0	702	516	432	402	399	399	390	411	430
C45	757	562	476	448	451	459	457	495	537
C90	979	758	673	671	724	808	916	1207	1868

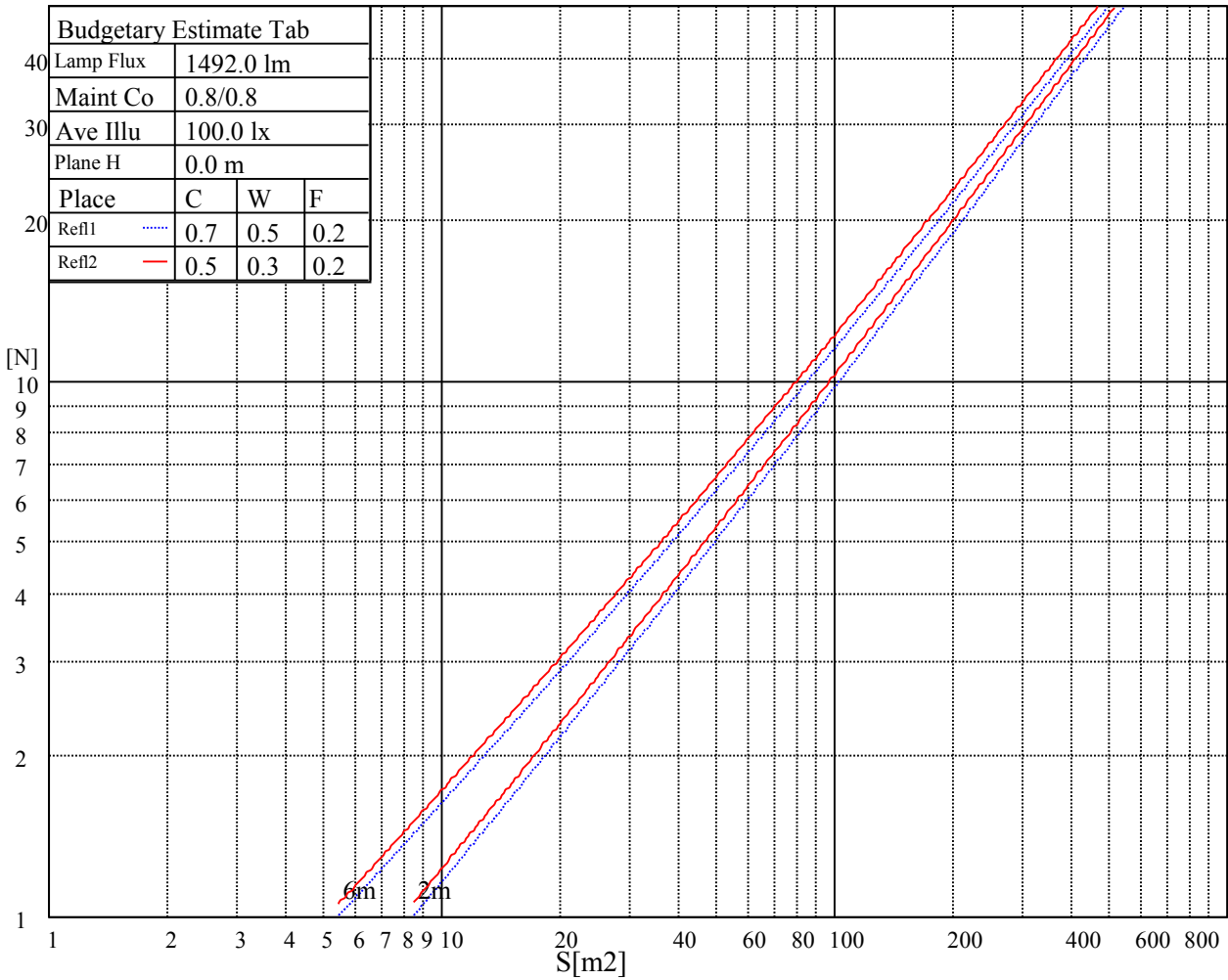
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
779	779	779	1036	1036	1036	2617	2617	2617

Glare Table

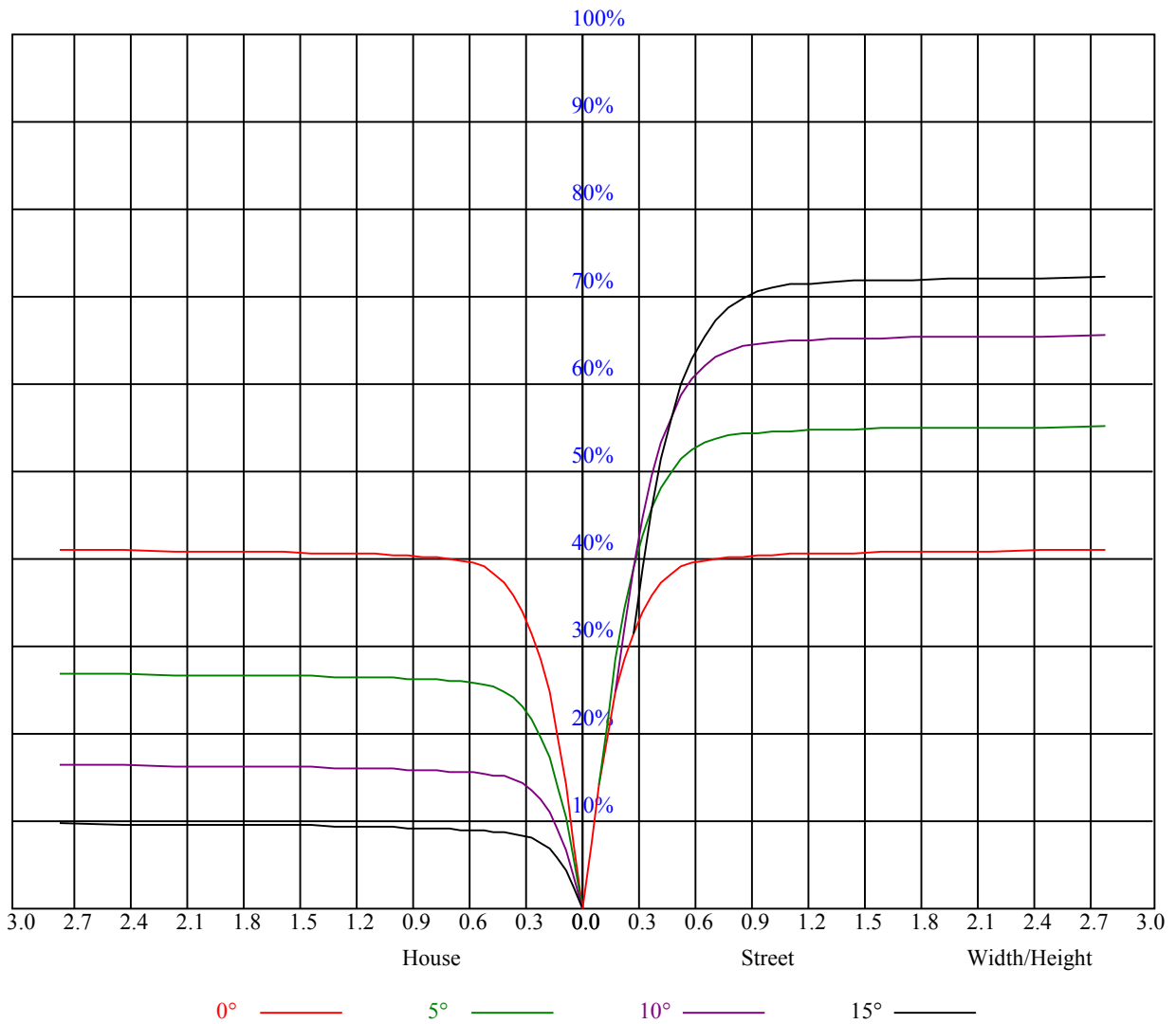
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	0.98	0.98	0.98	0.96	0.96	0.96	0.92	0.92	0.92	0.88	0.88	0.88	0.84	0.84	0.84	0.83
1	0.93	0.91	0.89	0.91	0.89	0.88	0.88	0.86	0.85	0.85	0.84	0.83	0.82	0.81	0.80	0.79
2	0.88	0.85	0.83	0.87	0.84	0.82	0.84	0.82	0.80	0.82	0.80	0.79	0.79	0.78	0.77	0.76
3	0.84	0.81	0.78	0.83	0.80	0.77	0.81	0.78	0.76	0.79	0.77	0.75	0.77	0.75	0.74	0.73
4	0.80	0.77	0.74	0.79	0.76	0.74	0.78	0.75	0.73	0.76	0.74	0.72	0.75	0.73	0.71	0.70
5	0.77	0.74	0.71	0.76	0.73	0.71	0.75	0.72	0.70	0.74	0.71	0.69	0.73	0.71	0.69	0.68
6	0.74	0.71	0.68	0.74	0.70	0.68	0.73	0.70	0.67	0.72	0.69	0.67	0.71	0.68	0.67	0.66
7	0.72	0.68	0.66	0.71	0.68	0.65	0.70	0.67	0.65	0.70	0.67	0.65	0.69	0.66	0.64	0.64
8	0.69	0.66	0.63	0.69	0.66	0.63	0.68	0.65	0.63	0.68	0.65	0.63	0.67	0.64	0.63	0.62
9	0.67	0.64	0.61	0.67	0.64	0.61	0.66	0.63	0.61	0.66	0.63	0.61	0.65	0.63	0.61	0.60
10	0.65	0.62	0.60	0.65	0.62	0.59	0.64	0.61	0.59	0.64	0.61	0.59	0.63	0.61	0.59	0.58



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	6568.31	6596.44	6521.63	6351.75	6075.56	5691.38	5214.94	4617.56	4089.94
45.0	6598.69	6495.75	6186.94	5895.00	5559.19	4953.94	4416.19	3865.50	3320.44
90.0	6505.31	6318.00	6003.56	5638.50	5200.31	4640.63	4111.31	3539.25	3080.81
135.0	6585.75	6442.88	6258.38	5998.50	5591.25	5091.75	4600.69	4004.44	3516.75
180.0	6568.31	6431.06	6293.25	6005.25	5668.31	5243.63	4692.94	4100.06	3593.25
225.0	6598.69	6636.94	6580.13	6467.06	6246.00	5838.19	5492.25	4980.38	4341.94
270.0	6505.31	6609.38	6649.88	6592.50	6442.31	6131.25	5767.31	5315.06	4740.19
315.0	6585.75	6625.69	6598.13	6418.13	6189.19	5818.50	5313.38	4716.00	4183.88
360.0	6568.31	6596.44	6521.63	6351.75	6075.56	5691.38	5214.94	4617.56	4089.94
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	3521.25	3017.25	2644.31	2340.56	2038.50	1843.31	1675.13	1493.44	1364.63
45.0	2850.19	2496.94	2181.38	1963.13	1759.50	1592.44	1457.44	1319.06	1189.13
90.0	2652.19	2313.56	2074.50	1855.13	1693.13	1529.44	1380.38	1259.44	1112.46
135.0	3028.50	2617.88	2325.38	2088.00	1845.00	1682.44	1539.56	1377.56	1260.56
180.0	3083.06	2671.31	2378.25	2112.19	1914.19	1720.13	1554.75	1420.88	1297.69
225.0	3867.75	3318.19	2807.44	2510.44	2232.00	1938.94	1781.44	1625.63	1468.13
270.0	4138.31	3619.13	3104.44	2712.38	2361.38	2082.38	1882.13	1690.31	1521.56
315.0	3593.81	3065.06	2664.00	2316.94	2069.44	1847.25	1663.88	1518.19	1384.88
360.0	3521.25	3017.25	2644.31	2340.56	2038.50	1843.31	1675.13	1493.44	1364.63
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1244.25	1119.94	1008.00	913.50	814.50	717.75	645.75	563.06	490.50
45.0	1082.25	979.88	862.88	771.75	693.56	609.75	523.69	458.44	387.56
90.0	1005.08	907.26	813.94	708.02	637.09	559.52	480.38	412.09	355.50
135.0	1148.06	1041.19	919.13	824.06	726.75	641.81	563.06	489.94	422.44
180.0	1109.48	1043.44	945.34	827.27	739.41	662.57	590.91	500.96	436.05
225.0	1324.13	1111.73	1099.01	971.38	873.73	783.51	691.03	609.47	537.81
270.0	1386.00	1282.50	1133.44	1029.94	945.56	820.13	732.94	668.25	580.50
315.0	1239.75	1117.97	1032.24	913.95	822.77	738.23	642.43	567.90	502.88
360.0	1244.25	1119.94	1008.00	913.50	814.50	717.75	645.75	563.06	490.50
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	419.06	352.13	302.06	284.06	184.95	141.02	100.41	72.62	61.88
45.0	326.25	289.13	215.38	163.86	119.31	84.26	68.34	58.56	51.58
90.0	298.63	243.84	194.63	140.96	101.42	76.22	63.39	56.70	50.40
135.0	357.19	299.25	288.00	190.97	147.15	106.37	79.59	65.64	56.98
180.0	377.10	315.84	260.72	208.24	159.30	115.20	85.78	68.18	59.23
225.0	461.25	400.22	335.93	280.63	229.16	177.36	131.18	96.69	74.03
270.0	495.56	439.31	367.31	315.00	284.63	201.49	152.66	108.90	78.92
315.0	418.78	372.43	306.73	237.49	199.18	144.68	98.89	77.68	64.41
360.0	419.06	352.13	302.06	284.06	184.95	141.02	100.41	72.62	61.88
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	55.13	48.83	41.79	37.18	32.91	28.69	25.37	22.89	20.59
45.0	44.94	39.94	34.31	30.88	27.56	24.58	21.60	19.63	17.89
90.0	43.88	38.98	34.65	30.04	26.94	24.24	21.71	19.58	18.11
135.0	50.34	45.23	38.53	34.54	30.60	26.89	23.79	21.54	19.58
180.0	51.69	45.23	39.77	35.21	30.49	26.89	24.13	21.09	19.29
225.0	59.63	52.31	46.52	39.77	34.93	31.33	27.68	24.36	22.11
270.0	64.97	57.38	49.56	43.82	38.59	33.81	29.64	26.44	23.46
315.0	54.45	49.11	43.54	37.46	33.30	29.48	25.99	23.12	20.98
360.0	55.13	48.83	41.79	37.18	32.91	28.69	25.37	22.89	20.59

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	18.56	17.21	15.86	14.85	13.84	12.99	12.32	11.81	11.14
45.0	16.43	15.30	14.34	13.44	12.66	12.09	11.48	11.03	10.52
90.0	16.71	15.64	14.63	13.73	13.05	12.43	11.81	11.31	10.86
135.0	17.89	16.65	15.47	14.57	13.73	12.99	12.38	11.87	11.25
180.0	17.78	16.37	15.19	14.29	13.44	12.71	12.09	11.48	11.03
225.0	19.80	18.17	16.65	15.41	14.51	13.61	12.77	12.15	11.64
270.0	21.04	19.24	17.61	16.37	15.19	14.12	13.44	12.77	11.98
315.0	18.90	17.44	16.09	14.96	14.06	13.22	12.49	11.98	11.42
360.0	18.56	17.21	15.86	14.85	13.84	12.99	12.32	11.81	11.14
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	10.74	10.41	10.01	9.73	9.51	9.28	9.06	8.89	8.72
45.0	10.18	9.84	9.51	9.28	9.06	8.94	8.83	8.66	8.55
90.0	10.41	10.07	9.84	9.62	9.45	9.23	9.06	8.94	8.78
135.0	10.86	10.46	10.07	9.84	9.68	9.45	9.28	9.11	9.00
180.0	10.58	10.18	9.90	9.62	9.39	9.23	9.06	8.89	8.78
225.0	11.03	10.63	10.24	9.90	9.56	9.34	9.11	8.89	8.78
270.0	11.53	11.08	10.58	10.29	9.96	9.68	9.45	9.28	9.11
315.0	10.91	10.52	10.18	9.90	9.56	9.34	9.17	8.94	8.83
360.0	10.74	10.41	10.01	9.73	9.51	9.28	9.06	8.89	8.72
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	8.61	8.49	8.38	8.33	8.21	8.10	7.93	7.82	7.54
45.0	8.38	8.33	8.21	8.10	7.93	7.82	7.65	7.43	7.26
90.0	8.72	8.61	8.49	8.38	8.21	8.10	7.82	7.65	7.48
135.0	8.83	8.72	8.61	8.49	8.38	8.21	7.99	7.76	7.54
180.0	8.66	8.55	8.38	8.33	8.27	8.10	7.88	7.71	7.48
225.0	8.72	8.55	8.44	8.33	8.21	8.16	8.04	7.88	7.65
270.0	9.00	8.83	8.66	8.55	8.49	8.38	8.33	8.16	7.93
315.0	8.66	8.55	8.38	8.33	8.27	8.16	7.99	7.82	7.71
360.0	8.61	8.49	8.38	8.33	8.21	8.10	7.93	7.82	7.54
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	7.31	7.20	6.98	6.86	6.75	6.58	6.47	6.41	6.30
45.0	7.03	6.92	6.75	6.58	6.47	6.41	6.24	6.13	6.08
90.0	7.26	7.14	7.09	6.98	6.92	6.86	6.86	6.98	7.48
135.0	7.37	7.14	6.98	6.81	6.69	6.58	6.47	6.30	6.19
180.0	7.31	7.09	6.92	6.81	6.64	6.53	6.41	6.24	6.13
225.0	7.43	7.26	7.09	6.92	6.75	6.64	6.53	6.36	6.24
270.0	7.76	7.59	7.37	7.14	7.09	6.98	6.92	6.86	6.86
315.0	7.37	7.20	7.03	6.92	6.75	6.64	6.53	6.41	6.30
360.0	7.31	7.20	6.98	6.86	6.75	6.58	6.47	6.41	6.30
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	6.19	6.08	6.02	5.96	5.91	5.74	5.57	5.40	5.29
45.0	5.91	5.85	5.79	5.68	5.57	5.40	5.29	5.18	5.12
90.0	7.03	6.64	6.36	5.57	5.46	5.34	5.23	5.18	5.18
135.0	6.08	5.96	5.85	5.68	5.57	5.46	5.34	5.29	5.18
180.0	6.08	5.91	5.85	5.68	5.57	5.46	5.34	5.29	5.18
225.0	6.13	6.08	5.91	5.79	5.68	5.63	5.46	5.34	5.29
270.0	6.81	6.69	6.69	6.86	7.14	6.98	5.63	5.51	5.40
315.0	6.19	6.13	6.02	5.96	5.91	5.79	5.63	5.46	5.29
360.0	6.19	6.08	6.02	5.96	5.91	5.74	5.57	5.40	5.29

Intensity data(cd)

C/γ(°)	90.0
0.0	5.18
45.0	5.12
90.0	5.12
135.0	5.18
180.0	5.23
225.0	5.23
270.0	5.29
315.0	5.23
360.0	5.18