
Nata

LumCAT: 3-2046-M	
Luminaire: 92.70.131.00	
Report No: GC2017061706	Voltage(V): 34.6000
Test No: NT-0010	Current(A): 0.5000
LampCAT: BRIDGELUX V13B	Power (W): 17.3000
Lamp flux(lm): 2479.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 84	Width(mm): 84
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 2208.19
Efficiency(%): 89.08%
Lumens(lm)/Power(W): 127.64
Central intensity(cd): 5339.232
Maximum intensity(cd): 5339.232
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=34.1
[C90/270]Total=34.1
Field angle(10%Imax): [C0/180]Total=68.4
[C90/270]Total=68.4
Maximum s/h(1/2): C0_180=0.56 C90_270=0.56
Maximum s/h(1/4): C0_180=0.57 C90_270=0.57
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 89.08%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.677%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	5339.232	0.000	0	.000%	.000%
1.0	5327.601	5.104	5.104	.206%	.231%
2.0	5297.183	15.250	20.354	.615%	.922%
3.0	5244.741	25.213	45.566	1.017%	2.064%
4.0	5174.269	34.876	80.442	1.407%	3.643%
5.0	5089.414	44.154	124.596	1.781%	5.642%
6.0	4968.634	52.858	177.454	2.132%	8.036%
7.0	4820.257	60.759	238.213	2.451%	10.788%
8.0	4665.273	67.886	306.099	2.738%	13.862%
9.0	4467.345	74.015	380.114	2.986%	17.214%
10.0	4257.167	78.954	459.068	3.185%	20.789%
11.0	4068.943	83.195	542.263	3.356%	24.557%
12.0	3854.567	86.615	628.878	3.494%	28.479%
13.0	3619.132	88.694	717.572	3.578%	32.496%
14.0	3391.061	89.730	807.302	3.620%	36.560%
15.0	3157.278	89.899	897.201	3.626%	40.631%
16.0	2917.920	89.019	986.219	3.591%	44.662%
17.0	2685.307	87.257	1073.476	3.520%	48.614%
18.0	2451.180	84.690	1158.166	3.416%	52.449%
19.0	2244.305	81.692	1239.858	3.295%	56.148%
20.0	2037.431	78.368	1318.225	3.161%	59.697%
21.0	1837.920	74.415	1392.64	3.002%	63.067%
22.0	1662.015	70.333	1462.973	2.837%	66.252%
23.0	1496.571	66.276	1529.248	2.673%	69.254%
24.0	1335.531	61.920	1591.168	2.498%	72.058%
25.0	1188.805	57.398	1648.566	2.315%	74.657%
26.0	1091.238	53.821	1702.387	2.171%	77.094%
27.0	998.758	51.132	1753.519	2.063%	79.410%
28.0	924.679	48.697	1802.216	1.964%	81.615%
29.0	866.340	46.858	1849.075	1.890%	83.737%
30.0	821.448	45.570	1894.645	1.838%	85.801%
31.0	785.056	44.707	1939.351	1.803%	87.826%
32.0	731.514	43.448	1982.799	1.753%	89.793%
33.0	649.948	40.698	2023.498	1.642%	91.636%
34.0	557.845	36.551	2060.049	1.474%	93.291%
35.0	446.934	31.205	2091.254	1.259%	94.705%
36.0	335.837	24.924	2116.177	1.005%	95.833%
37.0	243.363	18.890	2135.067	.762%	96.689%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	142.754	12.888	2147.956	.520%	97.272%
39.0	64.471	7.073	2155.029	.285%	97.593%
40.0	32.043	3.366	2158.395	.136%	97.745%
41.0	23.069	1.962	2160.357	.079%	97.834%
42.0	18.657	1.516	2161.873	.061%	97.903%
43.0	15.299	1.258	2163.131	.051%	97.960%
44.0	13.441	1.085	2164.216	.044%	98.009%
45.0	12.353	0.991	2165.207	.040%	98.054%
46.0	11.810	0.945	2166.152	.038%	98.096%
47.0	11.527	0.928	2167.08	.037%	98.139%
48.0	11.280	0.922	2168.002	.037%	98.180%
49.0	11.066	0.918	2168.92	.037%	98.222%
50.0	10.846	0.914	2169.833	.037%	98.263%
51.0	10.674	0.910	2170.744	.037%	98.304%
52.0	10.536	0.910	2171.654	.037%	98.346%
53.0	10.378	0.910	2172.564	.037%	98.387%
54.0	10.254	0.909	2173.473	.037%	98.428%
55.0	10.158	0.911	2174.384	.037%	98.469%
56.0	10.034	0.912	2175.297	.037%	98.511%
57.0	9.945	0.913	2176.21	.037%	98.552%
58.0	9.862	0.916	2177.126	.037%	98.593%
59.0	9.793	0.919	2178.045	.037%	98.635%
60.0	9.704	0.921	2178.966	.037%	98.677%
61.0	9.656	0.924	2179.89	.037%	98.719%
62.0	9.587	0.927	2180.817	.037%	98.761%
63.0	9.539	0.930	2181.747	.038%	98.803%
64.0	9.470	0.933	2182.68	.038%	98.845%
65.0	9.415	0.935	2183.615	.038%	98.887%
66.0	9.366	0.937	2184.552	.038%	98.930%
67.0	9.311	0.939	2185.491	.038%	98.972%
68.0	9.277	0.942	2186.433	.038%	99.015%
69.0	9.243	0.945	2187.377	.038%	99.058%
70.0	9.215	0.948	2188.325	.038%	99.101%
71.0	9.181	0.951	2189.276	.038%	99.144%
72.0	9.160	0.954	2190.23	.038%	99.187%
73.0	9.132	0.957	2191.186	.039%	99.230%
74.0	9.098	0.958	2192.145	.039%	99.274%
75.0	9.064	0.960	2193.104	.039%	99.317%

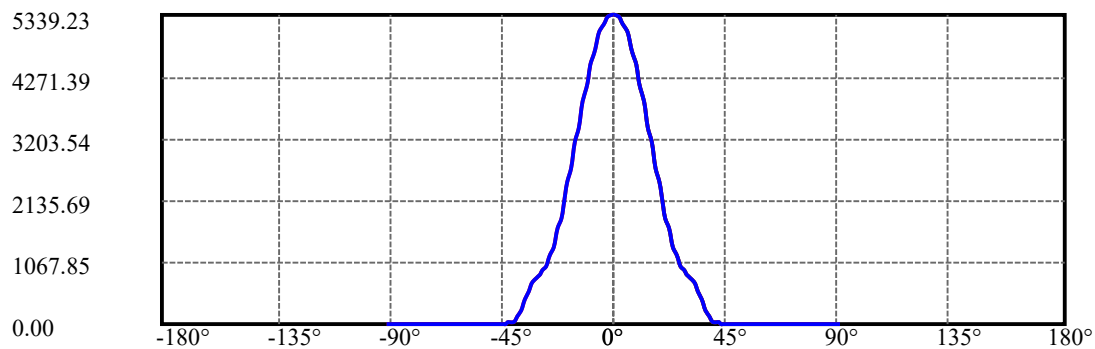
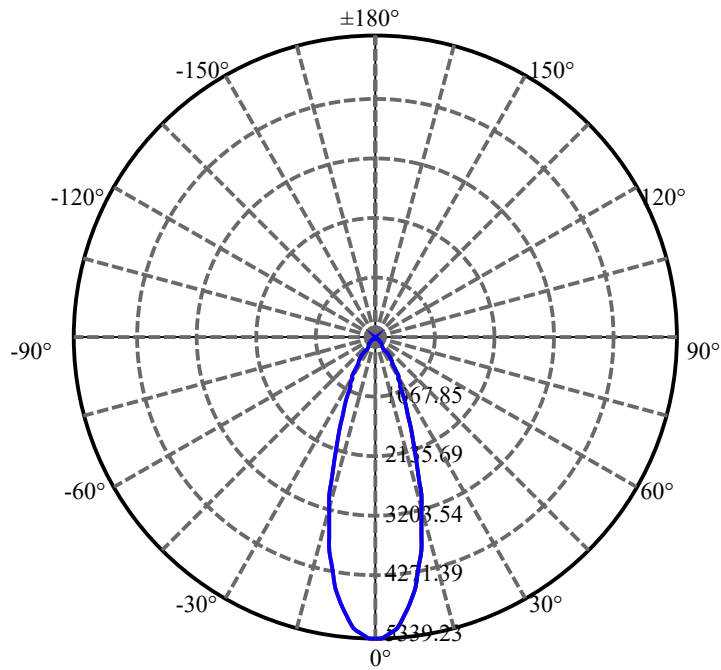
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	9.098	0.964	2194.068	.039%	99.361%
77.0	9.435	0.988	2195.057	.040%	99.405%
78.0	9.883	1.034	2196.091	.042%	99.452%
79.0	10.048	1.071	2197.162	.043%	99.501%
80.0	9.821	1.071	2198.233	.043%	99.549%
81.0	9.587	1.050	2199.282	.042%	99.597%
82.0	9.332	1.026	2200.308	.041%	99.643%
83.0	9.139	1.004	2201.312	.041%	99.689%
84.0	9.091	0.993	2202.305	.040%	99.734%
85.0	9.029	0.989	2203.294	.040%	99.779%
86.0	8.988	0.985	2204.279	.040%	99.823%
87.0	8.926	0.980	2205.26	.040%	99.868%
88.0	8.898	0.976	2206.236	.039%	99.912%
89.0	8.892	0.975	2207.211	.039%	99.956%
90.0	8.871	0.974	2208.185	.039%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1894.64	76.43%	85.80%
0-40	2158.39	87.07%	97.75%
0-60	2178.97	87.90%	98.68%
0-90	2207.21	89.04%	99.96%
0-120	2207.21	89.04%	99.96%
0-180	2208.19	89.08%	100.00%
60-90	29.17	1.18%	1.32%
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%
0-27.27	1766.55	71.26%	80.00%

ZONAL LUMEN SUMMARY

0-10	459.07
10-20	859.16
20-30	576.42
30-40	263.75
40-50	11.44
50-60	9.13
60-70	9.36
70-80	9.91
80-90	8.98
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: —————

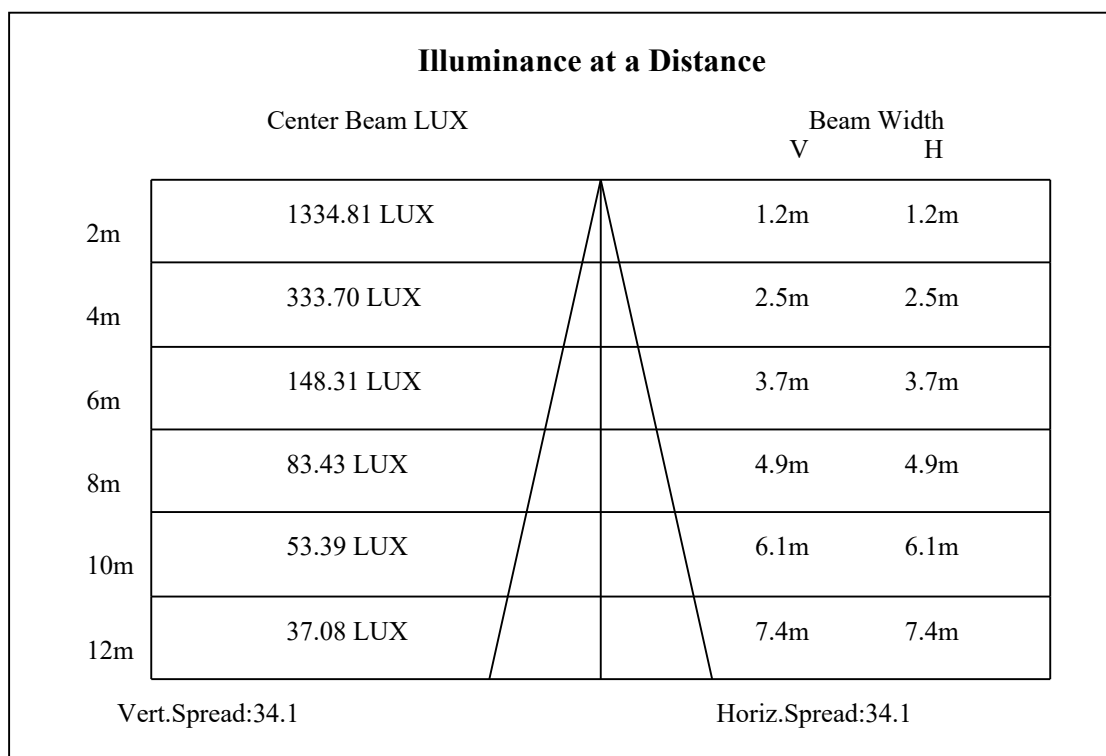
C90/C270: —————

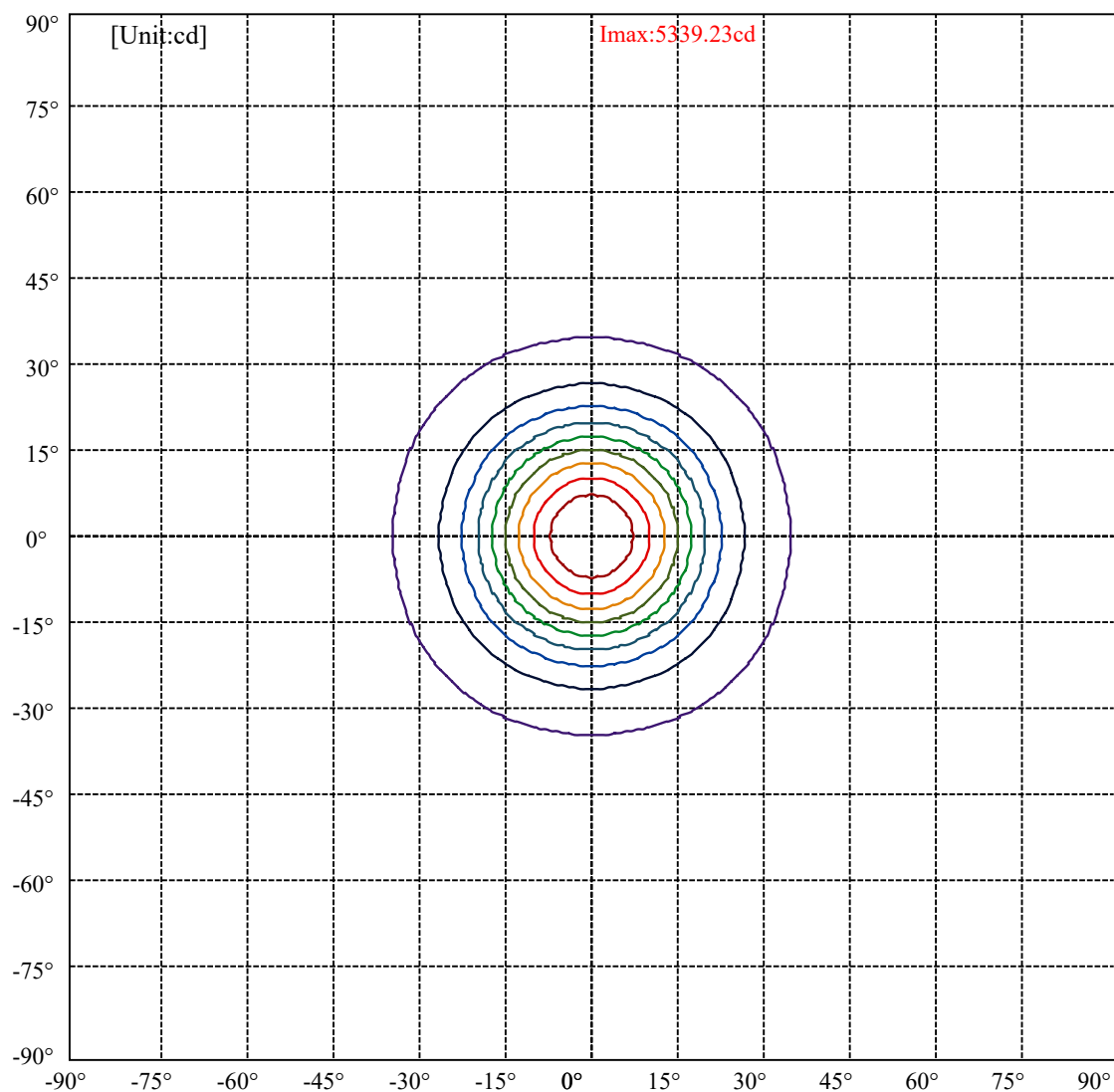
Field angle(10%Imax):C0/180Left:34.2 Right:34.2

:C90/270Left:34.2 Right:34.2

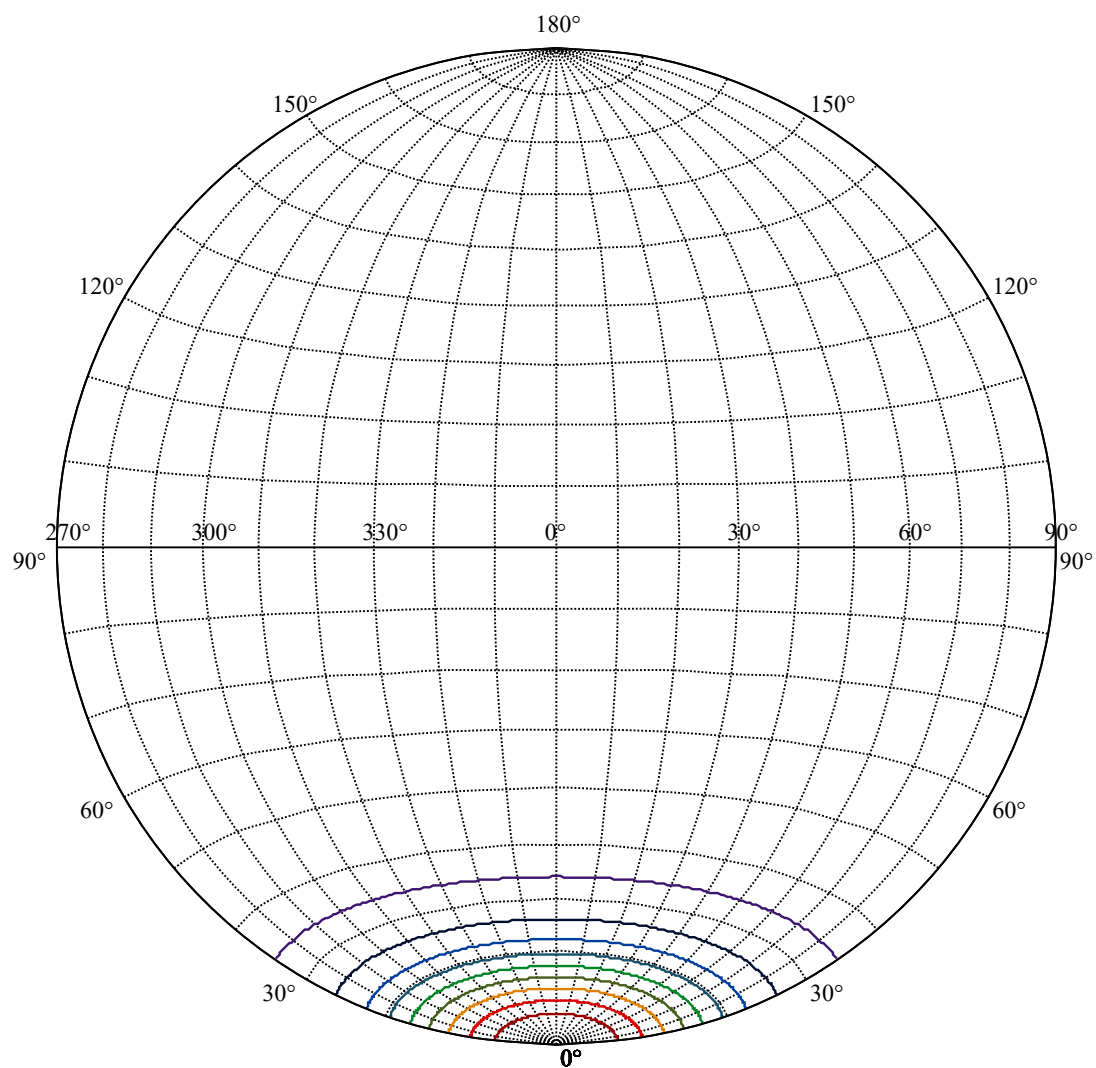
Beam Angle(50%Imax):C0/180Left:17.1 Right:17.1

:C90/270Left:17.1 Right:17.1





(10%Imax) 533.923	—
(20%Imax) 1067.85	—
(30%Imax) 1601.77	—
(40%Imax) 2135.69	—
(50%Imax) 2669.62	—
(60%Imax) 3203.54	—
(70%Imax) 3737.46	—
(80%Imax) 4271.39	—
(90%Imax) 4805.31	—



House

[Unit:cd]

Road

Imax:5339.23

(10%Imax) 533.923

(20%Imax) 1067.85

(30%Imax) 1601.77

(40%Imax) 2135.69

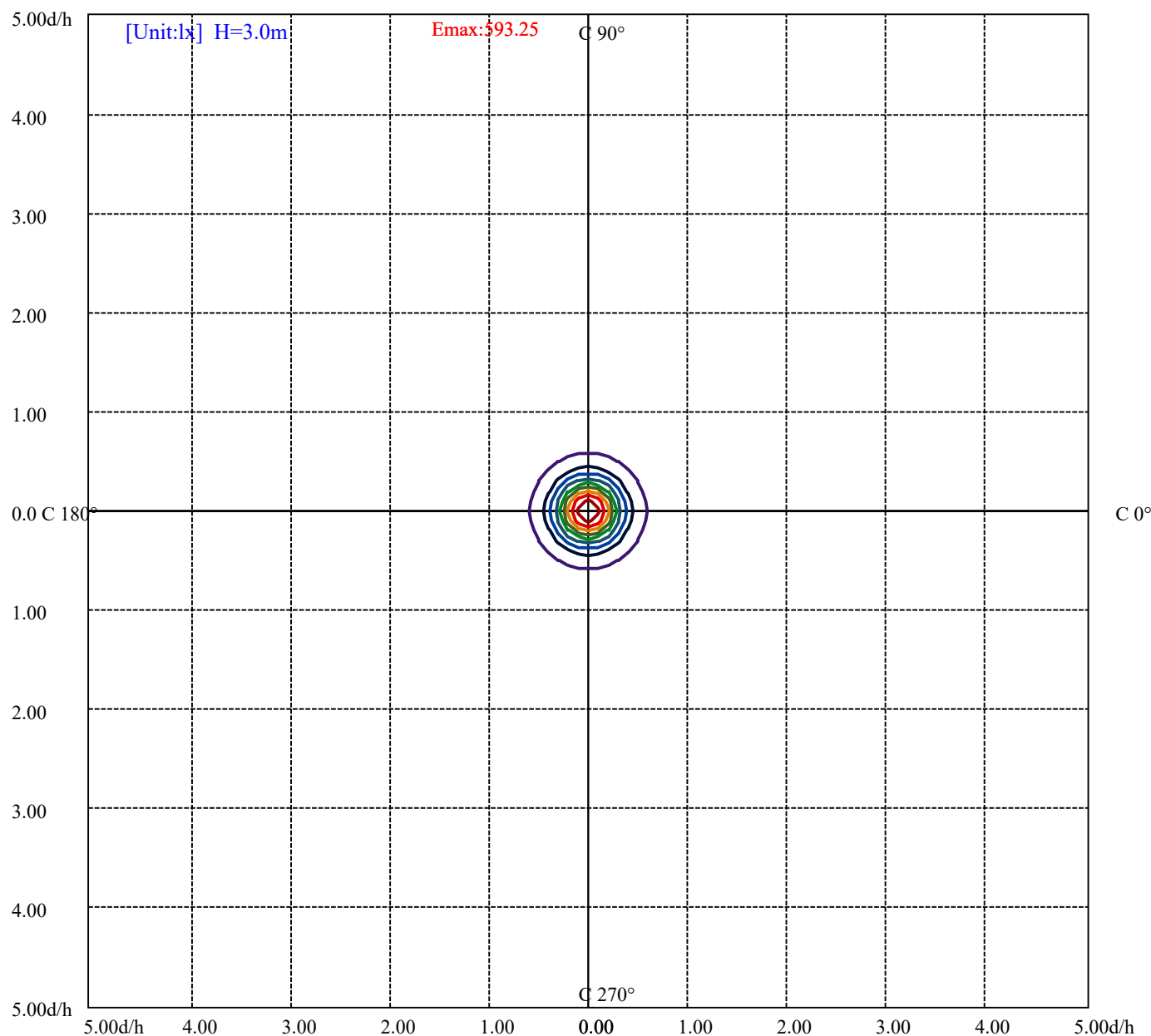
(50%Imax) 2669.62

(60%Imax) 3203.54

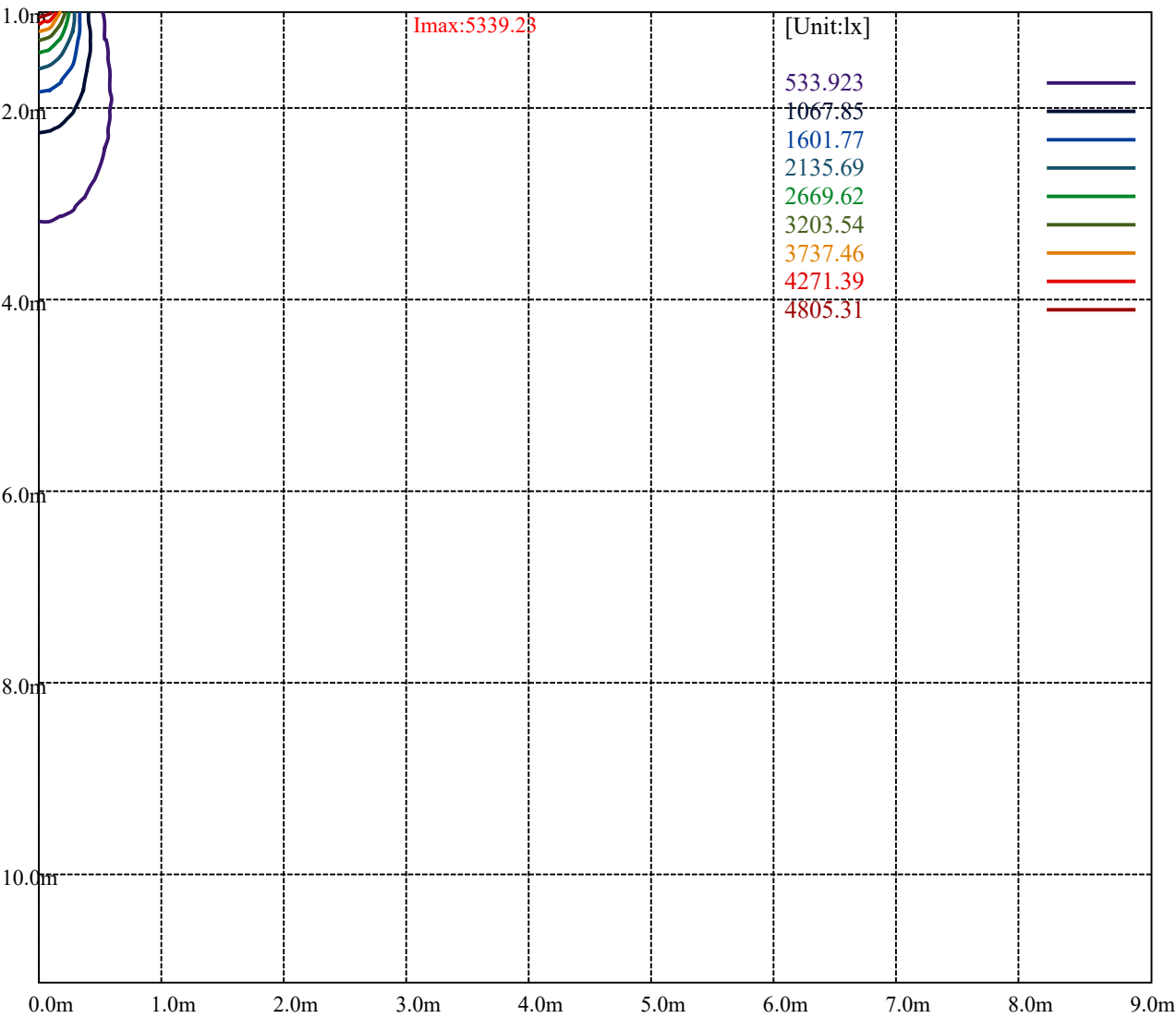
(70%Imax) 3737.46

(80%Imax) 4271.39

(90%Imax) 4805.31



(10%Emax)	59.32478	
(20%Emax)	118.65	
(30%Emax)	177.9744	
(40%Emax)	237.2989	
(50%Emax)	296.6245	
(60%Emax)	355.9489	
(70%Emax)	415.2733	
(80%Emax)	474.5978	
(90%Emax)	533.9233	



Luminance Table

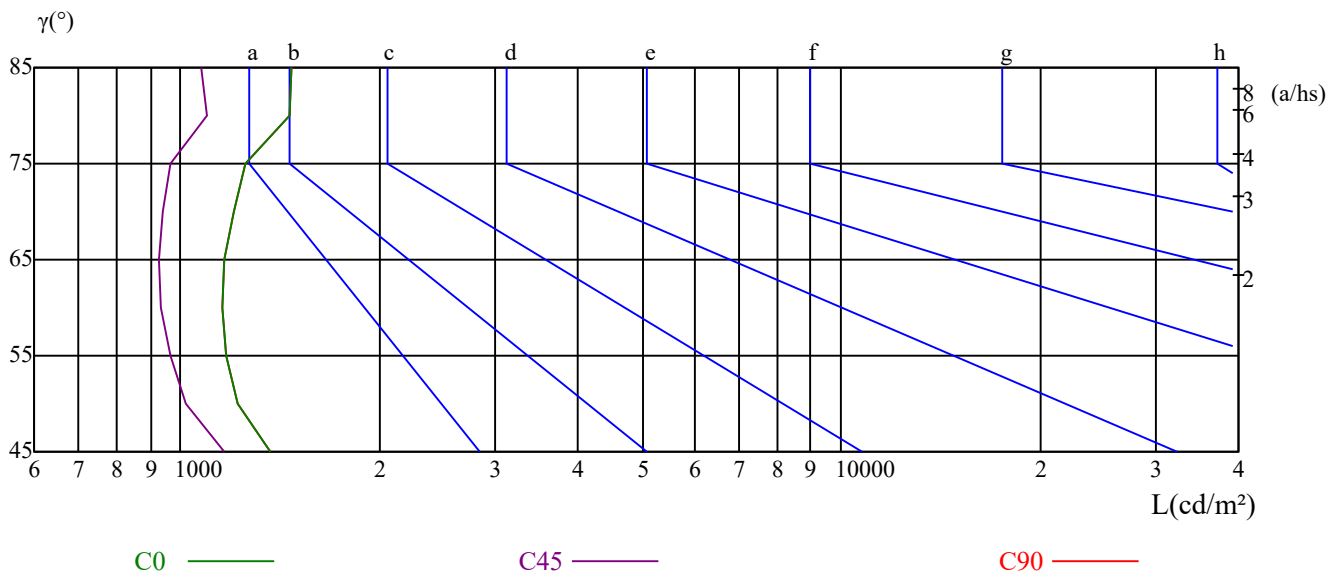
γ	45	50	55	60	65	70	75	80	85
C0	1370	1222	1172	1156	1168	1203	1258	1467	1472
C45	1162	1020	963	935	929	939	962	1097	1073
C90	1370	1222	1172	1156	1168	1203	1258	1467	1472

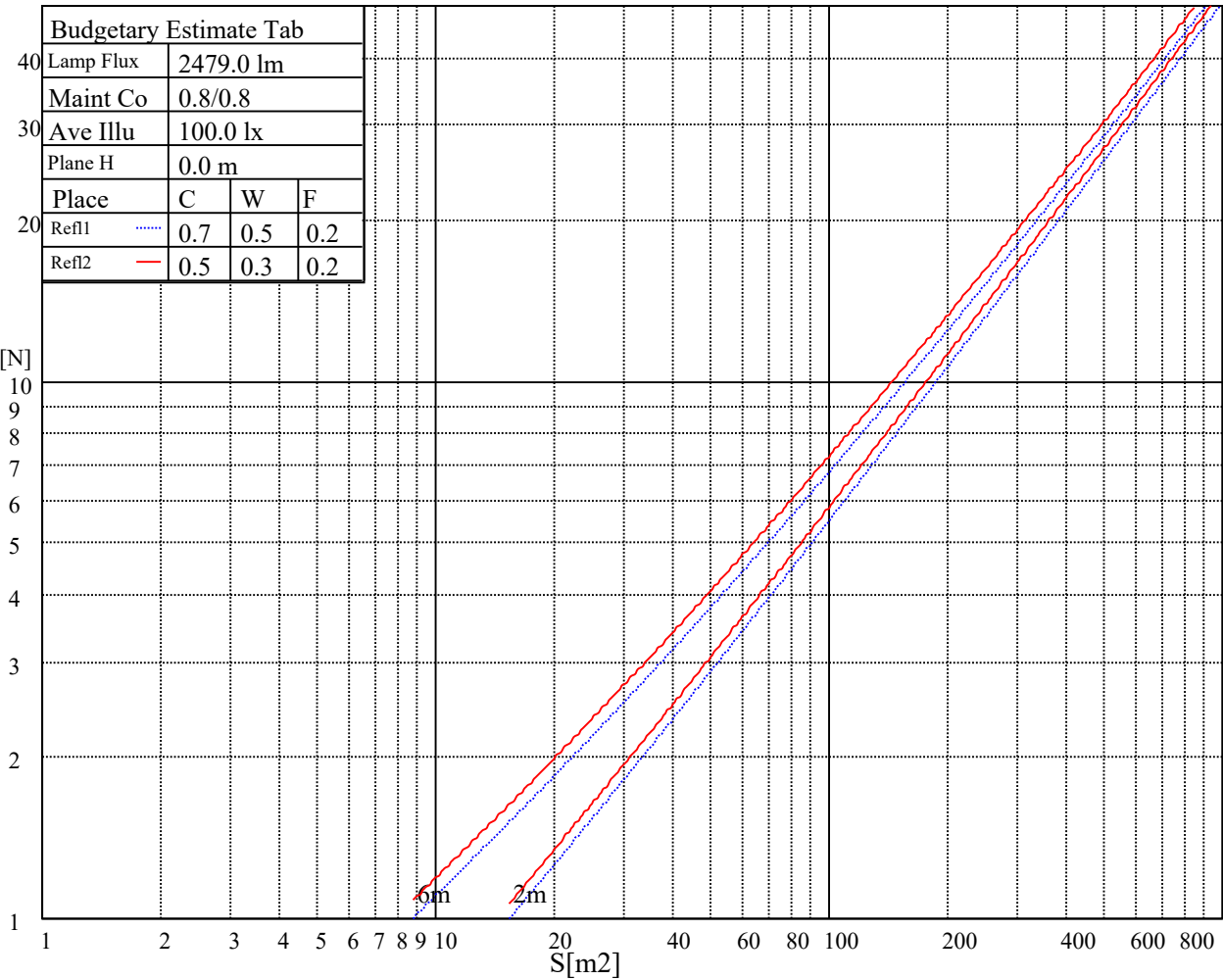
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
3083	3083	3083	4847	4847	4847	14339	14339	14339

Glare Table

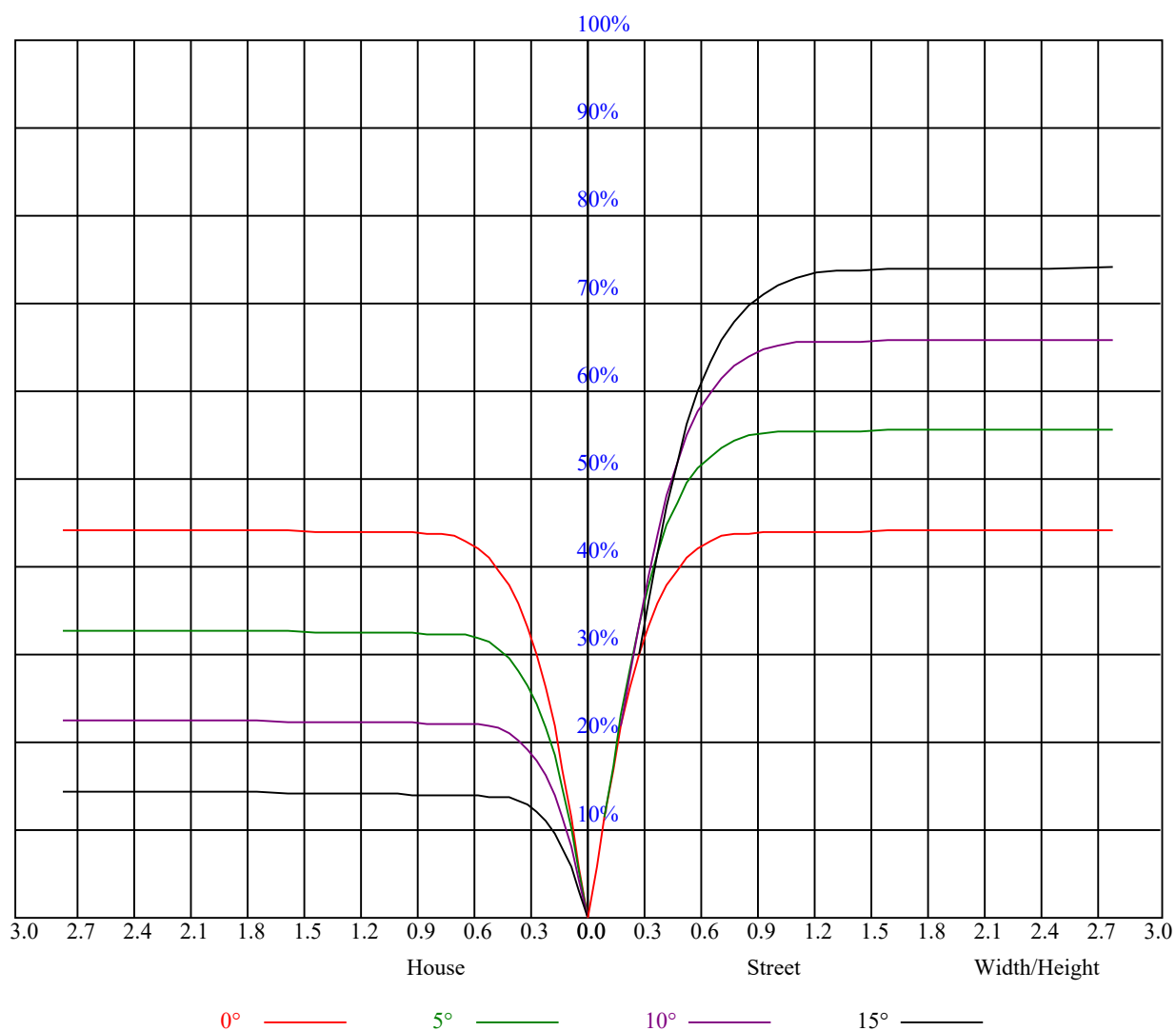
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve





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 RHOF=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	0.99	0.97	0.96	0.97	0.96	0.94	0.94	0.92	0.91	0.91	0.89	0.88	0.88	0.87	0.86	0.84
2	0.94	0.90	0.88	0.92	0.89	0.87	0.89	0.87	0.85	0.87	0.85	0.83	0.84	0.83	0.81	0.80
3	0.89	0.85	0.82	0.87	0.84	0.81	0.85	0.82	0.80	0.83	0.81	0.78	0.81	0.79	0.77	0.76
4	0.84	0.80	0.77	0.83	0.79	0.76	0.81	0.78	0.75	0.79	0.77	0.74	0.78	0.76	0.74	0.72
5	0.80	0.76	0.72	0.79	0.75	0.72	0.78	0.74	0.71	0.76	0.73	0.71	0.75	0.72	0.70	0.69
6	0.76	0.72	0.68	0.76	0.71	0.68	0.74	0.71	0.68	0.73	0.70	0.67	0.72	0.69	0.67	0.66
7	0.73	0.68	0.65	0.72	0.68	0.65	0.71	0.67	0.65	0.70	0.67	0.64	0.69	0.66	0.64	0.63
8	0.70	0.65	0.62	0.69	0.65	0.62	0.68	0.65	0.62	0.67	0.64	0.62	0.67	0.64	0.61	0.60
9	0.67	0.62	0.59	0.66	0.62	0.59	0.66	0.62	0.59	0.65	0.61	0.59	0.64	0.61	0.59	0.58
10	0.64	0.60	0.57	0.64	0.60	0.57	0.63	0.59	0.57	0.63	0.59	0.57	0.62	0.59	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	5332.76	5332.21	5309.64	5276.05	5219.90	5126.30	5024.45	4892.86	4741.46
45.0	5335.52	5321.75	5285.41	5232.01	5173.65	5081.71	4960.03	4821.29	4663.83
90.0	5335.52	5279.36	5223.75	5141.17	5029.40	4930.85	4776.14	4577.94	4421.58
135.0	5353.13	5327.81	5261.74	5183.56	5096.02	5004.08	4823.49	4672.09	4527.29
180.0	5332.76	5312.94	5267.25	5200.08	5114.19	5020.59	4906.63	4748.61	4565.28
225.0	5335.52	5324.50	5295.88	5234.21	5165.39	5078.40	4969.39	4796.51	4632.45
270.0	5335.52	5352.58	5360.84	5346.53	5302.48	5246.32	5157.13	5053.08	4923.14
315.0	5353.13	5369.65	5372.95	5344.32	5293.12	5227.05	5131.81	4999.67	4847.17
360.0	5332.76	5332.21	5309.64	5276.05	5219.90	5126.30	5024.45	4892.86	4741.46
C/ γ (°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	4522.33	4334.04	4146.30	3919.47	3676.67	3453.69	3197.13	2933.96	2705.47
45.0	4446.35	4265.22	4078.58	3856.70	3611.70	3390.37	3138.77	2887.71	2664.73
90.0	4237.14	3974.52	3804.95	3599.59	3357.34	3111.79	2900.92	2661.43	2427.99
135.0	4291.65	4108.31	3943.14	3693.18	3460.85	3249.98	3012.69	2806.22	2597.56
180.0	4392.40	4182.63	3968.47	3772.46	3569.31	3308.89	3099.12	2887.71	2654.27
225.0	4455.71	4220.62	4025.17	3822.02	3591.33	3352.93	3133.26	2885.51	2666.38
270.0	4722.19	4536.65	4341.20	4120.42	3889.73	3678.32	3427.26	3198.78	2946.07
315.0	4670.98	4435.34	4243.75	4052.70	3796.14	3582.52	3349.08	3082.06	2819.99
360.0	4522.33	4334.04	4146.30	3919.47	3676.67	3453.69	3197.13	2933.96	2705.47
C/ γ (°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	2464.88	2259.51	2041.49	1839.98	1669.86	1490.93	1326.31	1198.03	1105.53
45.0	2424.13	2224.28	2017.27	1822.92	1656.65	1477.16	1316.40	1193.62	1092.87
90.0	2234.74	2031.03	1856.50	1666.01	1488.73	1346.68	1207.39	1090.01	1001.37
135.0	2347.05	2159.86	1964.96	1776.67	1612.60	1458.44	1287.77	1172.15	1077.45
180.0	2419.73	2225.38	2020.57	1823.47	1654.44	1476.06	1333.47	1163.89	1081.58
225.0	2430.19	2205.01	2017.82	1821.82	1634.62	1476.06	1330.16	1088.02	1076.74
270.0	2697.76	2480.84	2245.20	2025.52	1847.69	1677.57	1479.92	1335.12	1204.63
315.0	2590.95	2368.53	2135.64	1926.97	1731.52	1569.66	1402.84	1269.60	1089.73
360.0	2464.88	2259.51	2041.49	1839.98	1669.86	1490.93	1326.31	1198.03	1105.53
C/ γ (°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	988.81	921.09	875.95	825.85	792.26	766.94	684.90	584.15	496.06
45.0	983.31	921.09	866.59	817.04	784.00	743.81	651.87	553.87	441.55
90.0	928.36	864.94	815.77	784.94	739.46	636.73	540.54	440.18	313.33
135.0	974.50	902.92	852.27	809.33	769.69	699.77	586.90	492.20	384.29
180.0	994.15	921.04	853.15	811.75	782.52	717.38	631.83	537.02	426.30
225.0	989.25	919.33	854.75	814.78	785.60	732.20	657.04	567.19	449.98
270.0	1086.26	989.36	920.54	862.73	818.14	787.86	744.91	668.94	567.08
315.0	1045.41	957.65	891.69	845.17	808.78	767.43	701.58	619.22	496.88
360.0	988.81	921.09	875.95	825.85	792.26	766.94	684.90	584.15	496.06
C/ γ (°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	365.02	286.29	150.91	65.96	31.00	24.61	19.27	15.80	14.26
45.0	328.69	278.03	126.30	58.97	25.49	22.08	17.84	14.15	12.50
90.0	217.69	130.43	54.34	25.00	21.47	17.18	14.15	12.72	12.11
135.0	282.44	167.32	93.43	33.25	23.95	20.37	16.08	14.26	13.16
180.0	309.80	212.24	117.66	47.18	24.67	21.03	17.12	13.65	12.28
225.0	333.15	230.91	129.66	62.10	27.42	22.74	18.77	15.03	12.99
270.0	455.87	351.81	287.94	130.98	60.56	30.56	24.22	19.88	16.19
315.0	394.04	289.87	181.80	92.33	41.79	25.99	21.80	16.90	14.04
360.0	365.02	286.29	150.91	65.96	31.00	24.61	19.27	15.80	14.26

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	12.28	11.89	11.67	11.34	11.12	10.90	10.74	10.57	10.41
45.0	11.84	11.51	11.29	11.07	10.85	10.68	10.57	10.41	10.19
90.0	11.78	11.45	11.23	11.07	10.85	10.68	10.52	10.41	10.24
135.0	11.89	11.56	11.34	11.12	10.96	10.74	10.57	10.46	10.35
180.0	11.84	11.51	11.18	11.01	10.85	10.63	10.52	10.41	10.24
225.0	12.11	11.78	11.45	11.18	11.01	10.74	10.52	10.41	10.24
270.0	14.48	12.55	12.22	11.89	11.56	11.34	11.12	10.96	10.79
315.0	12.61	12.22	11.84	11.56	11.34	11.07	10.85	10.68	10.57
360.0	12.28	11.89	11.67	11.34	11.12	10.90	10.74	10.57	10.41
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	10.30	10.24	10.08	9.97	9.91	9.86	9.74	9.74	9.69
45.0	10.13	10.02	9.97	9.86	9.80	9.69	9.63	9.52	9.47
90.0	10.13	10.08	9.97	9.91	9.80	9.69	9.63	9.58	9.52
135.0	10.24	10.13	10.02	9.97	9.86	9.91	9.69	9.69	9.58
180.0	10.13	10.08	9.91	9.86	9.80	9.74	9.69	9.63	9.52
225.0	10.08	9.97	9.91	9.80	9.74	9.63	9.58	9.47	9.47
270.0	10.63	10.46	10.30	10.19	10.08	9.97	9.86	9.86	9.74
315.0	10.41	10.30	10.13	10.02	9.91	9.86	9.80	9.74	9.69
360.0	10.30	10.24	10.08	9.97	9.91	9.86	9.74	9.74	9.69
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	9.58	9.52	9.47	9.47	9.36	9.36	9.30	9.25	9.25
45.0	9.41	9.41	9.36	9.30	9.19	9.19	9.14	9.14	9.08
90.0	9.47	9.41	9.36	9.30	9.25	9.25	9.19	9.14	9.14
135.0	9.58	9.47	9.41	9.36	9.36	9.30	9.30	9.25	9.25
180.0	9.52	9.47	9.41	9.36	9.30	9.25	9.25	9.19	9.19
225.0	9.41	9.30	9.30	9.25	9.19	9.14	9.14	9.08	9.03
270.0	9.69	9.58	9.52	9.47	9.41	9.36	9.30	9.36	9.25
315.0	9.63	9.58	9.47	9.41	9.41	9.36	9.30	9.30	9.25
360.0	9.58	9.52	9.47	9.47	9.36	9.36	9.30	9.25	9.25
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	9.25	9.19	9.19	9.14	9.19	9.14	9.25	9.25	9.14
45.0	9.08	9.08	9.03	8.97	8.97	9.03	8.97	8.97	8.92
90.0	9.14	9.08	9.03	9.03	9.14	9.08	9.03	9.03	8.97
135.0	9.19	9.19	9.14	9.14	9.08	9.08	9.03	9.08	9.08
180.0	9.08	9.08	9.08	9.03	9.08	9.25	9.52	9.36	9.08
225.0	9.08	9.03	8.97	8.97	9.08	11.01	11.51	10.90	9.86
270.0	9.19	9.14	9.14	9.08	9.08	9.14	11.23	12.88	12.83
315.0	9.25	9.25	9.19	9.14	9.14	9.74	10.52	10.90	10.68
360.0	9.25	9.19	9.19	9.14	9.19	9.14	9.25	9.25	9.14
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	9.03	9.03	9.03	8.97	8.97	8.97	8.97	8.97	8.97
45.0	8.92	8.86	8.92	8.86	8.86	8.86	8.81	8.81	8.81
90.0	8.97	8.97	8.97	8.92	8.92	9.03	8.92	8.86	8.86
135.0	9.08	9.03	9.03	9.03	9.03	9.03	8.97	8.92	8.92
180.0	9.08	9.03	8.97	9.03	8.97	8.97	8.97	8.97	8.92
225.0	9.30	9.03	8.97	8.86	8.86	8.86	8.86	8.81	8.81
270.0	12.33	11.12	9.74	9.69	9.36	9.08	8.92	8.92	8.86
315.0	9.97	9.58	9.47	9.36	9.25	9.08	8.97	8.92	8.97
360.0	9.03	9.03	9.03	8.97	8.97	8.97	8.97	8.97	8.97

Intensity data(cd)

Appendix Page: 18 Total:18

C/ γ (°)	90.0
0.0	8.97
45.0	8.81
90.0	8.81
135.0	8.86
180.0	8.97
225.0	8.75
270.0	8.86
315.0	8.92
360.0	8.97