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Nata

LumCAT: 1656-S	
Luminaire: 92.70.124.00	
Report No: NATA0100	Voltage(V): 36.0000
Test No: GC2018072820	Current(A): 0.3000
LampCAT: BRIDGELUX V6HD	Power (W): 10.8000
Lamp flux(lm): 1105.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 47	Width(mm): 47
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 1014.44
Efficiency(%): 91.80%
Lumens(lm)/Power(W): 94.85
Central intensity(cd): 10596.840
Maximum intensity(cd): 10596.840
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=12.0
[C90/270]Total=12.0
Field angle(10%Imax): [C0/180]Total=25.9
[C90/270]Total=25.9
Maximum s/h(1/2): C0_180=0.21 C90_270=0.21
Maximum s/h(1/4): C0_180=0.22 C90_270=0.22
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 92.71%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.551%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	10596.843	10.141	10.141	.918%	1.000%
2.0	9725.300	74.437	84.577	6.736%	8.337%
4.0	7604.528	116.338	200.916	10.528%	19.806%
6.0	5283.281	121.117	322.032	10.961%	31.745%
8.0	3438.892	104.964	426.996	9.499%	42.092%
10.0	2090.134	79.599	506.595	7.204%	49.938%
12.0	1272.353	58.017	564.612	5.250%	55.657%
14.0	817.340	43.365	607.977	3.924%	59.932%
16.0	598.181	36.161	644.138	3.272%	63.497%
18.0	486.155	32.947	677.085	2.982%	66.745%
20.0	432.936	32.474	709.559	2.939%	69.946%
22.0	405.656	33.327	742.887	3.016%	73.231%
24.0	388.010	34.612	777.498	3.132%	76.643%
26.0	374.810	36.035	813.533	3.261%	80.195%
28.0	363.180	37.393	850.926	3.384%	83.881%
30.0	351.005	38.490	889.416	3.483%	87.676%
32.0	319.671	37.152	926.568	3.362%	91.338%
34.0	247.616	30.367	956.935	2.748%	94.331%
36.0	139.128	17.935	974.87	1.623%	96.099%
38.0	53.377	7.207	982.077	.652%	96.810%
40.0	20.378	2.873	984.95	.260%	97.093%
42.0	13.695	2.010	986.96	.182%	97.291%
44.0	10.337	1.575	988.534	.143%	97.446%
46.0	8.768	1.383	989.918	.125%	97.583%
48.0	8.362	1.363	991.28	.123%	97.717%
50.0	7.997	1.344	992.624	.122%	97.849%
52.0	7.811	1.350	993.974	.122%	97.982%
54.0	7.701	1.366	995.34	.124%	98.117%
56.0	7.515	1.366	996.707	.124%	98.252%
58.0	7.212	1.341	998.048	.121%	98.384%
60.0	6.820	1.295	999.343	.117%	98.512%
62.0	6.338	1.227	1000.571	.111%	98.633%
64.0	5.822	1.148	1001.718	.104%	98.746%
66.0	5.402	1.082	1002.801	.098%	98.853%
68.0	5.148	1.047	1003.848	.095%	98.956%
70.0	5.038	1.038	1004.886	.094%	99.058%
72.0	4.941	1.031	1005.916	.093%	99.160%
74.0	4.893	1.032	1006.948	.093%	99.261%

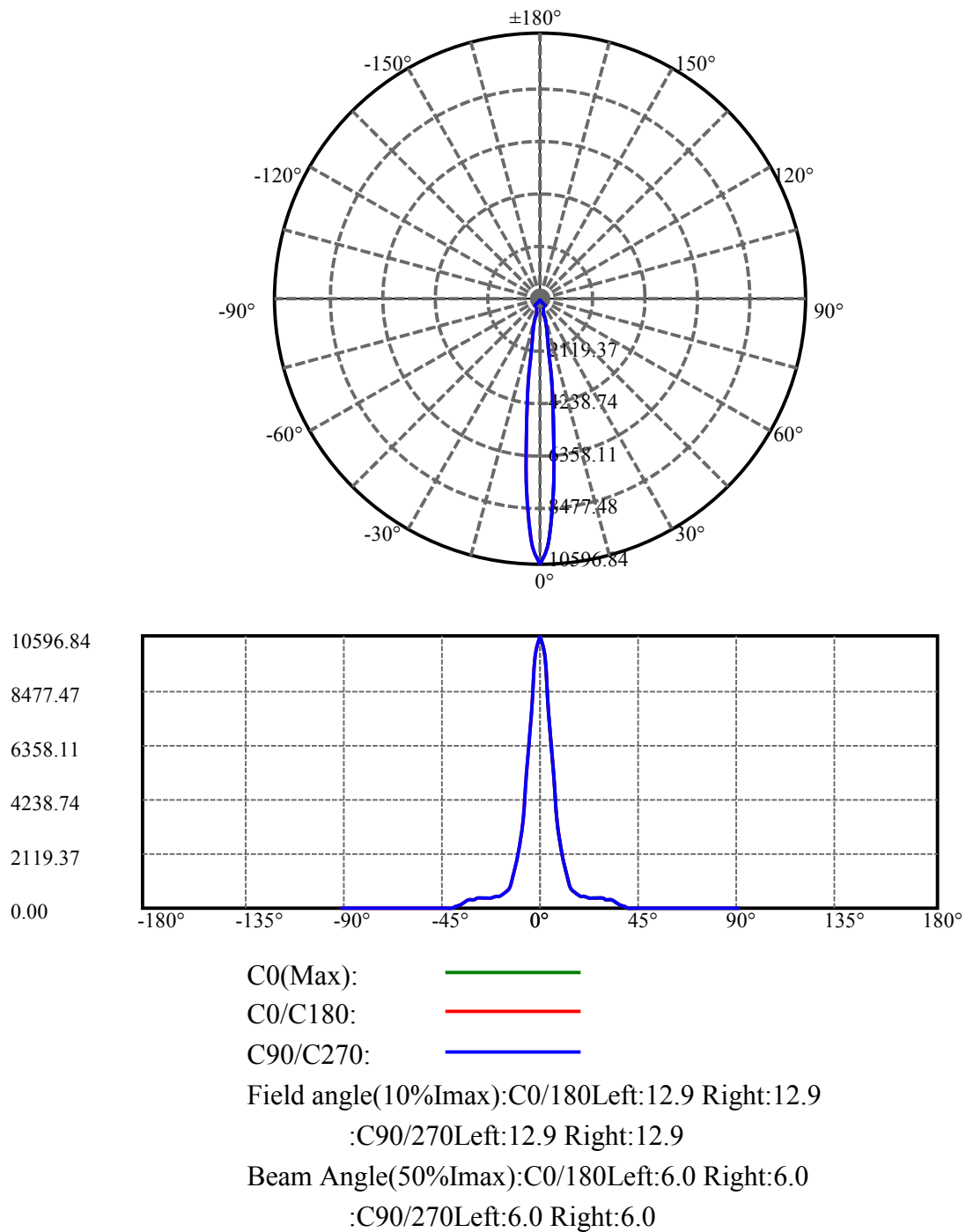
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	4.824	1.027	1007.975	.093%	99.363%
78.0	4.769	1.023	1008.998	.093%	99.463%
80.0	4.700	1.015	1010.013	.092%	99.564%
82.0	4.625	1.004	1011.017	.091%	99.663%
84.0	4.556	0.994	1012.011	.090%	99.761%
86.0	4.515	0.988	1012.999	.089%	99.858%
88.0	4.405	0.965	1013.964	.087%	99.953%
90.0	4.343	0.476	1014.44	.043%	100.000%

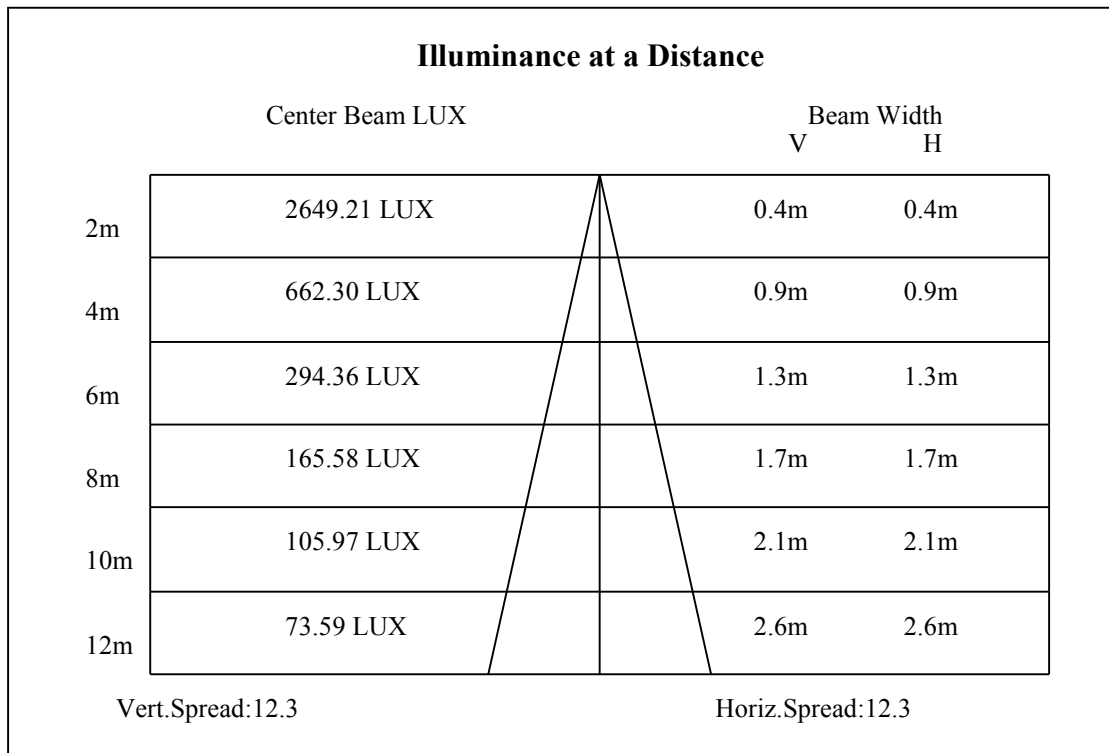
ZONAL LUMEN SUMMARY

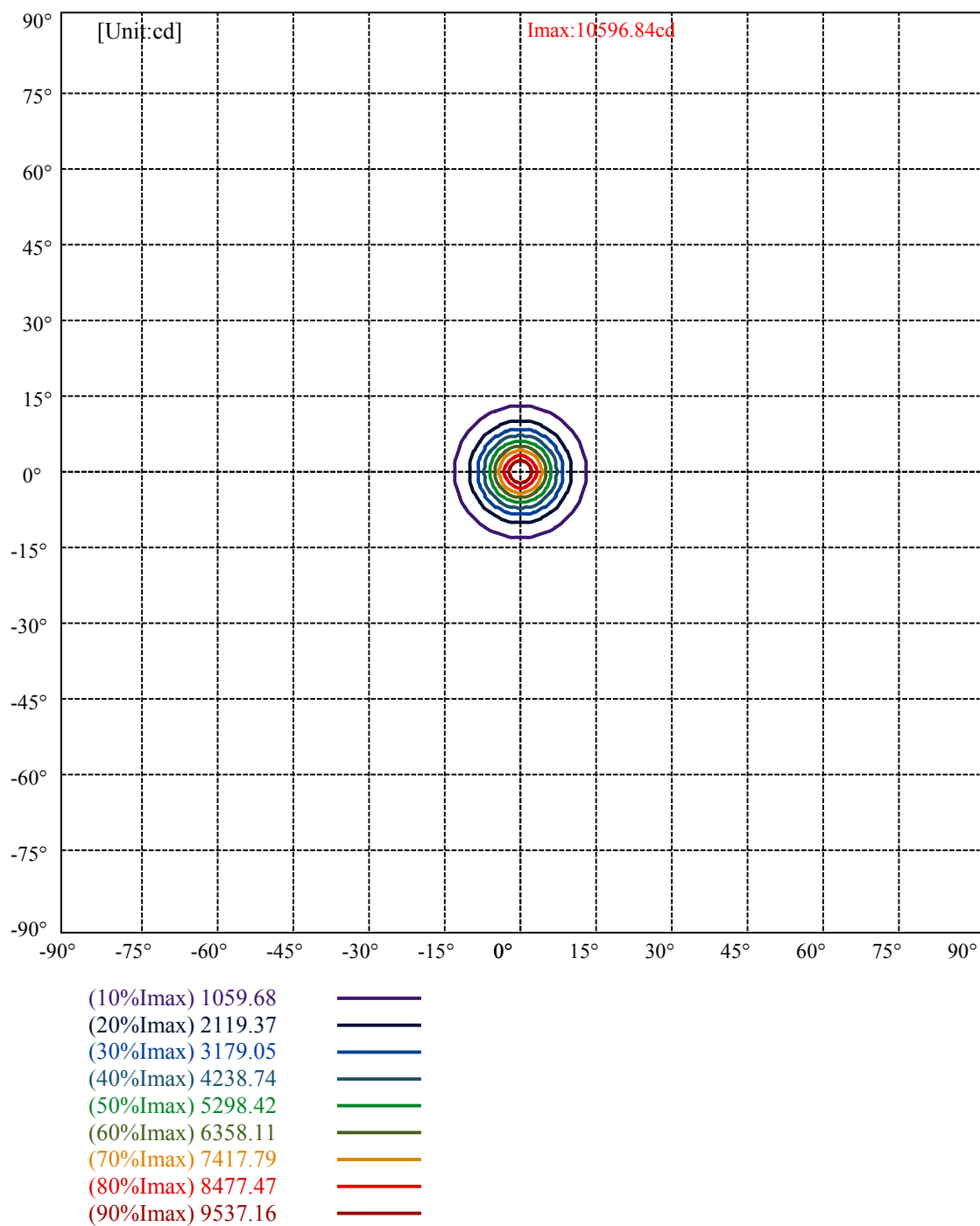
Zone	Lumens	%Lamp	%Fixt
0-30	889.42	80.49%	87.68%
0-40	984.95	89.14%	97.09%
0-60	999.34	90.44%	98.51%
0-90	1013.96	91.76%	99.95%
0-120	1013.96	91.76%	99.95%
0-180	1014.44	91.80%	100.00%
60-90	15.92	1.44%	1.57%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-25.89	811.55	73.44%	80.00%

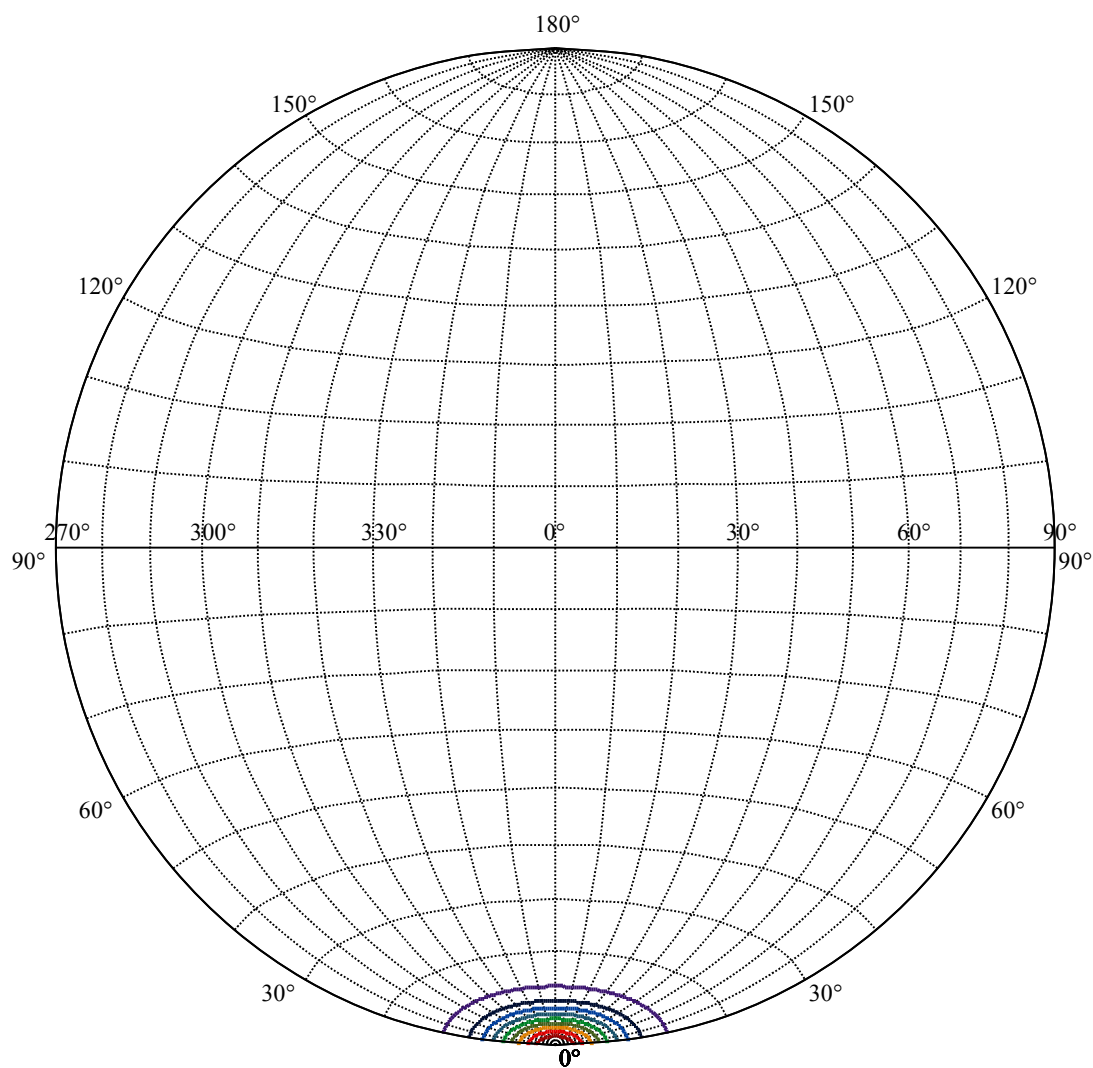
ZONAL LUMEN SUMMARY

0-10	506.60
10-20	202.96
20-30	179.86
30-40	95.53
40-50	7.67
50-60	6.72
60-70	5.54
70-80	5.13
80-90	3.95
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









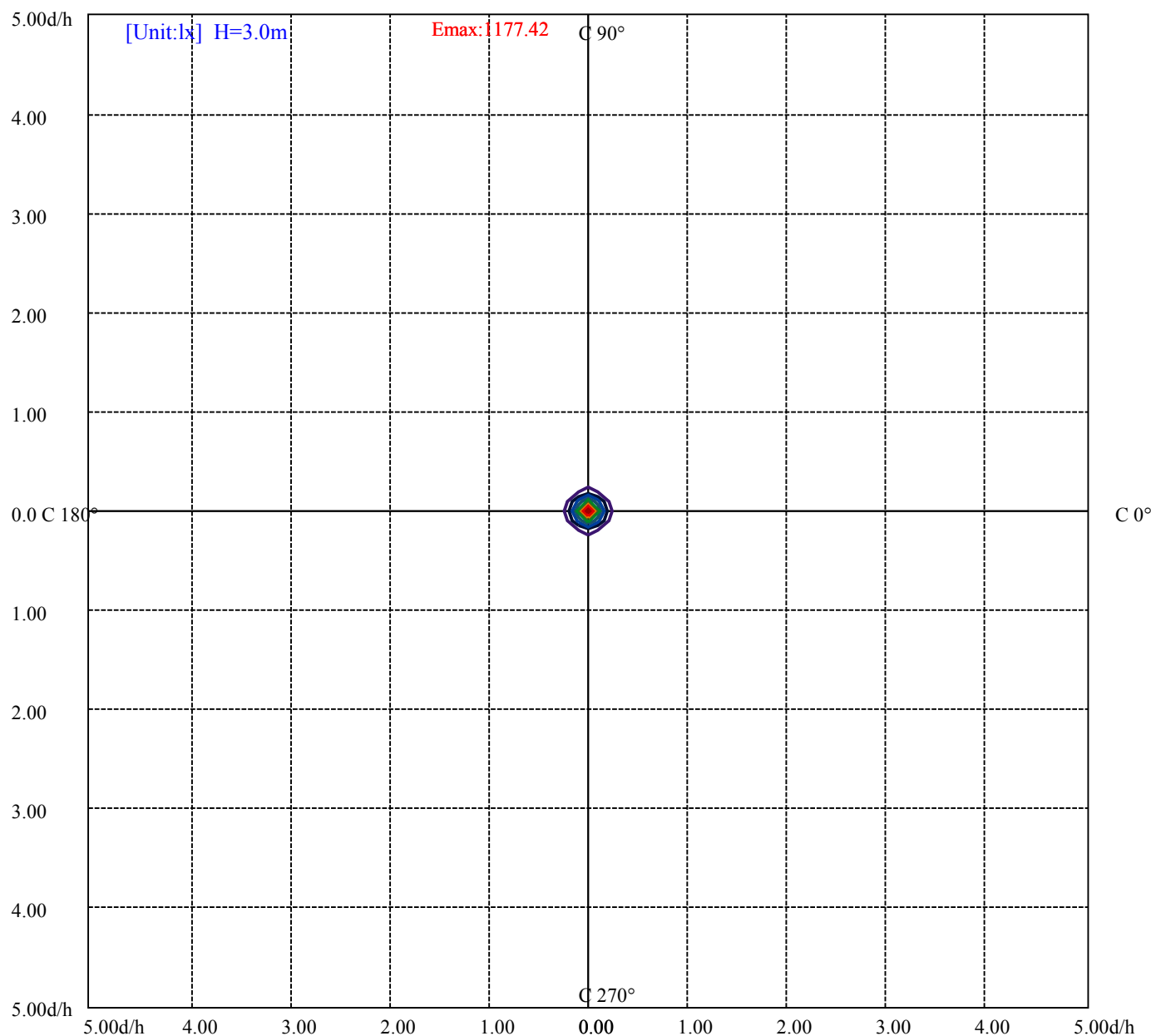
House

[Unit:cd]

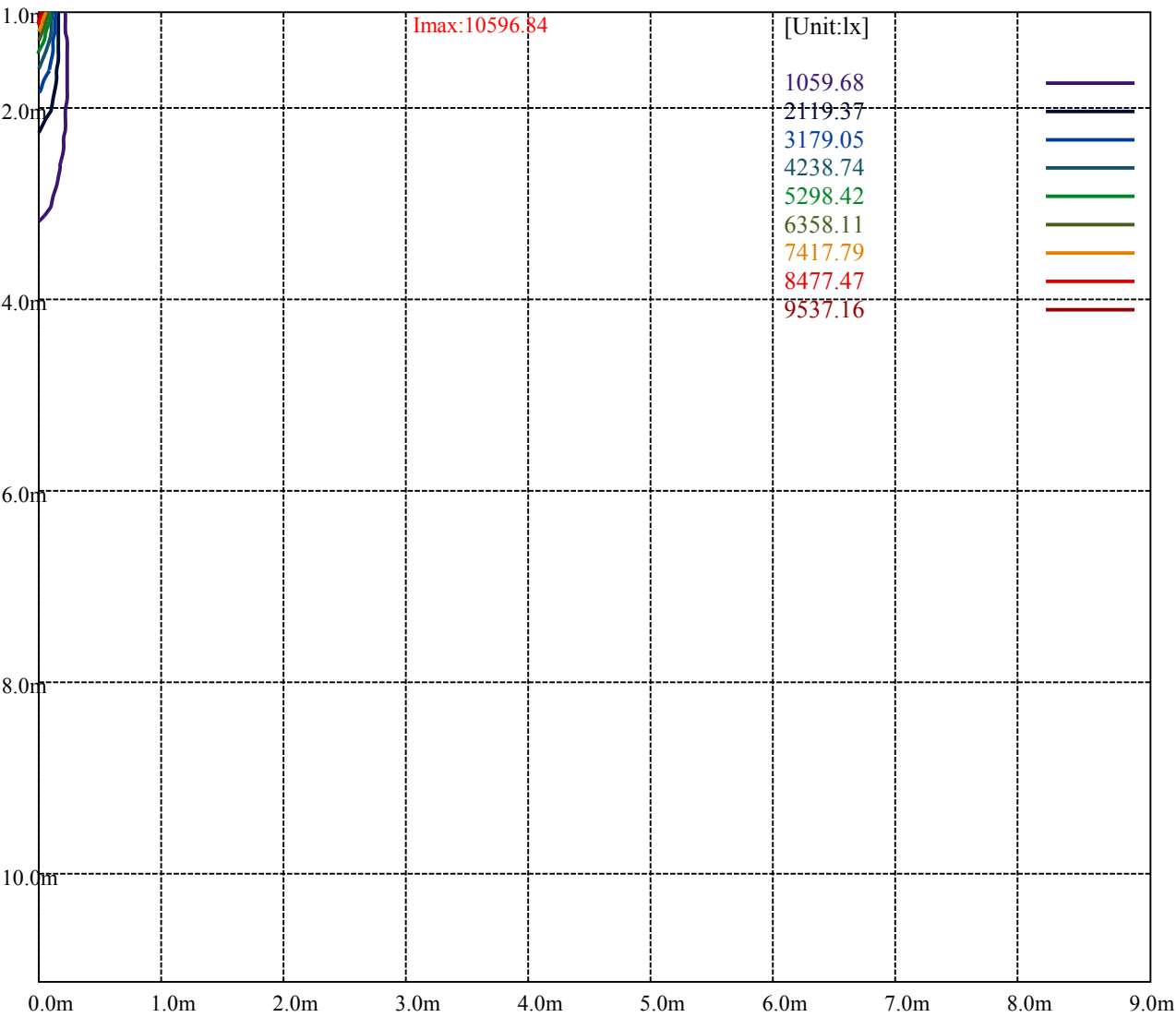
Road

Imax:10596.84

(10%Imax)	1059.68	—
(20%Imax)	2119.37	—
(30%Imax)	3179.05	—
(40%Imax)	4238.74	—
(50%Imax)	5298.42	—
(60%Imax)	6358.11	—
(70%Imax)	7417.79	—
(80%Imax)	8477.47	—
(90%Imax)	9537.16	—



(10%Emax)	117.7422	—
(20%Emax)	235.4845	—
(30%Emax)	353.2256	—
(40%Emax)	470.9678	—
(50%Emax)	588.71	—
(60%Emax)	706.4522	—
(70%Emax)	824.1934	—
(80%Emax)	941.9355	—
(90%Emax)	1059.678	—



Luminance Table

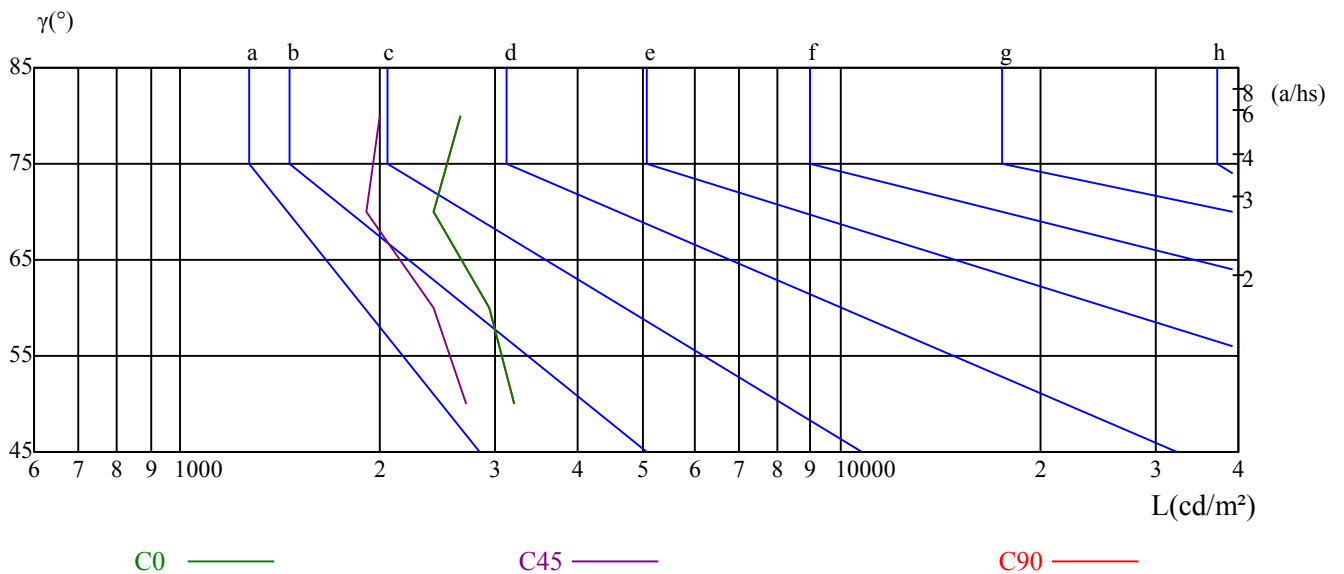
γ	45	50	55	60	65	70	75	80	85
C0	0	3199	0	2933	0	2421	0	2652	0
C45	0	2713	0	2409	0	1916	0	2002	0
C90	0	3199	0	2933	0	2421	0	2652	0

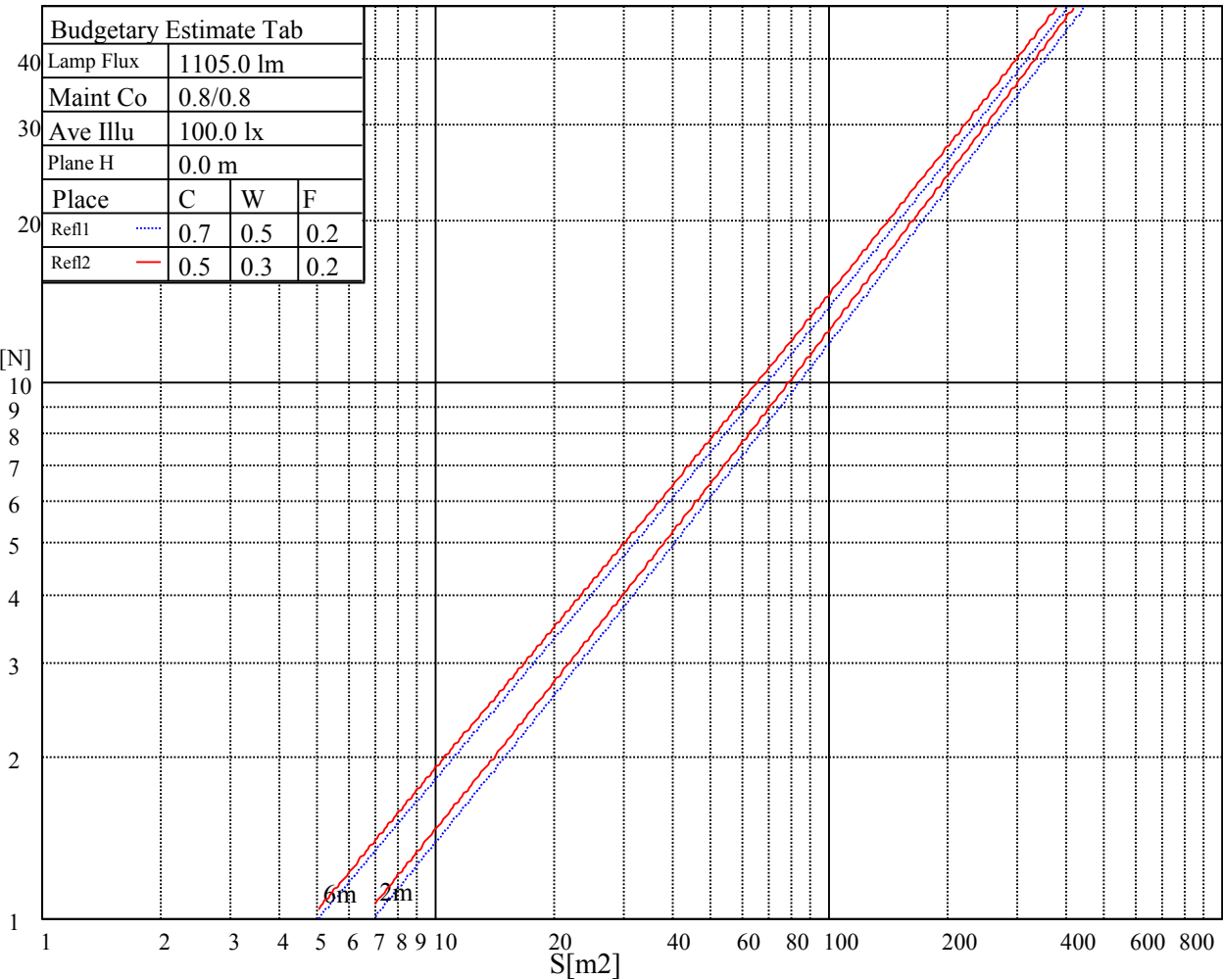
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
7394	7394	7394	10159	10159	10159	25630	25630	25630

Glare Table

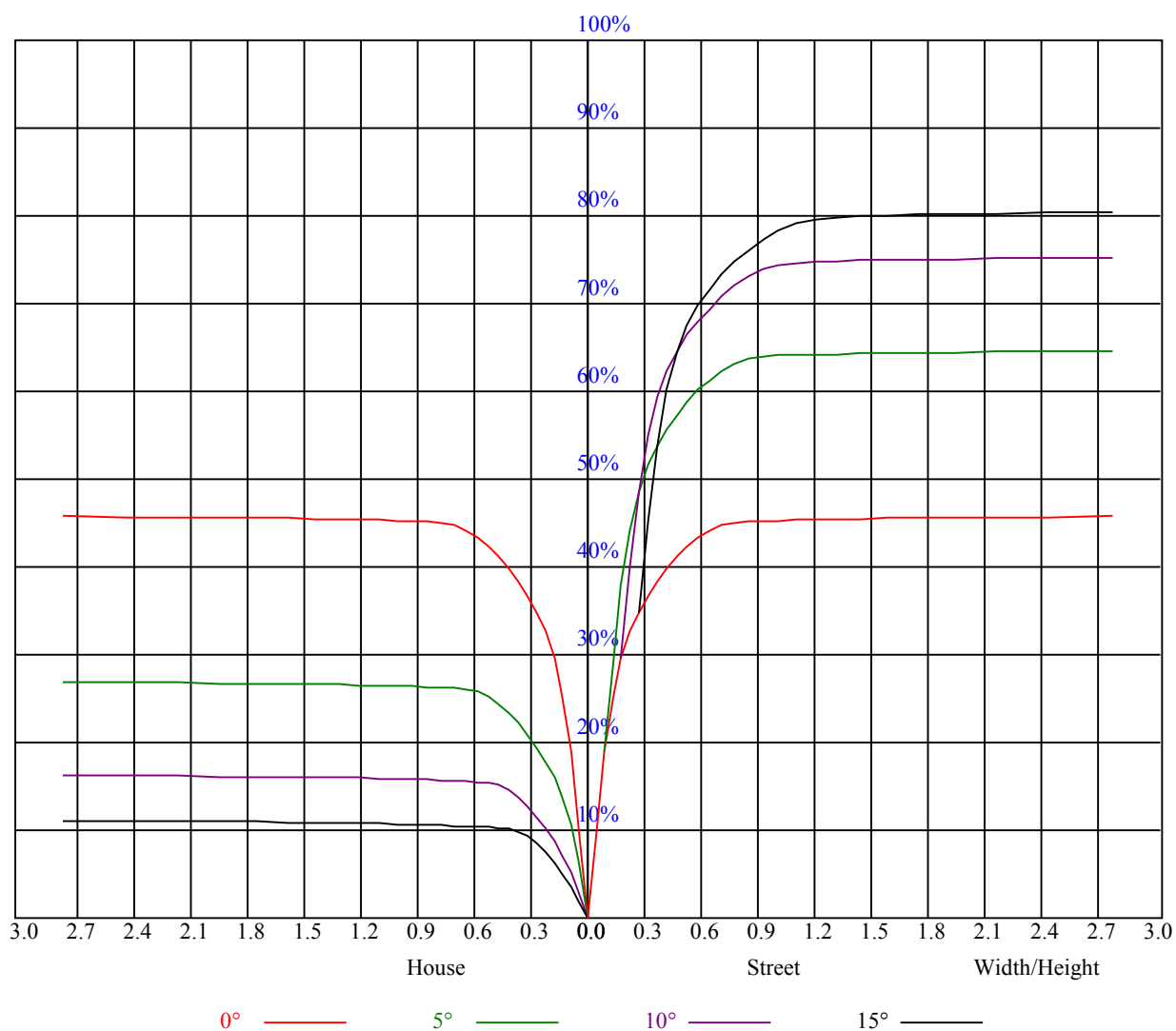
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

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	1.10	1.10	1.10	1.08	1.08	1.08	1.03	1.03	1.03	0.99	0.99	0.99	0.95	0.95	0.95	0.93
1	1.03	1.01	0.99	1.01	0.99	0.97	0.97	0.96	0.94	0.94	0.93	0.92	0.91	0.90	0.89	0.87
2	0.98	0.95	0.92	0.97	0.94	0.91	0.94	0.91	0.89	0.91	0.89	0.87	0.88	0.87	0.86	0.84
3	0.94	0.90	0.87	0.93	0.89	0.86	0.90	0.87	0.85	0.88	0.86	0.84	0.86	0.84	0.83	0.81
4	0.90	0.86	0.83	0.89	0.85	0.83	0.87	0.84	0.82	0.85	0.83	0.81	0.84	0.82	0.80	0.79
5	0.87	0.83	0.80	0.86	0.82	0.79	0.84	0.81	0.79	0.83	0.80	0.78	0.82	0.79	0.77	0.76
6	0.84	0.80	0.77	0.83	0.79	0.77	0.82	0.79	0.76	0.81	0.78	0.76	0.80	0.77	0.75	0.74
7	0.81	0.77	0.74	0.81	0.77	0.74	0.80	0.76	0.74	0.79	0.76	0.74	0.78	0.75	0.73	0.72
8	0.79	0.75	0.72	0.78	0.75	0.72	0.78	0.74	0.72	0.77	0.74	0.72	0.76	0.73	0.71	0.70
9	0.77	0.73	0.70	0.76	0.73	0.70	0.76	0.72	0.70	0.75	0.72	0.70	0.74	0.72	0.70	0.69
10	0.75	0.71	0.69	0.75	0.71	0.69	0.74	0.71	0.68	0.73	0.70	0.68	0.73	0.70	0.68	0.67



Nata 1656-S

Intensity data(cd)									
Appendix Page: 15 Total:16									
C/ γ (°)	0.0	2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0
0.0	10049.44	11517.80	10642.40	7972.17	5450.58	3452.04	2097.65	1229.41	804.92
45.0	10921.54	10807.57	8875.09	6226.88	4041.14	2780.35	1471.11	890.26	617.18
90.0	10702.41	9156.43	6610.07	4459.57	2753.37	1614.25	991.84	674.50	521.77
135.0	10713.98	8429.13	6012.16	3991.59	2780.35	1585.07	991.57	687.65	552.22
180.0	10049.44	7579.06	5113.64	3253.83	2020.57	1084.50	825.46	617.51	508.94
225.0	10921.54	9071.09	6420.68	4233.84	2616.83	1548.74	971.86	674.28	531.35
270.0	10702.41	10269.12	8100.45	5655.94	3617.76	2145.55	1338.42	832.45	591.86
315.0	10713.98	10972.19	9061.73	6472.43	4230.53	2510.57	1490.93	932.66	657.21
360.0	10049.44	11517.80	10642.40	7972.17	5450.58	3452.04	2097.65	1229.41	804.92
C/ γ (°)	18.0	20.0	22.0	24.0	26.0	28.0	30.0	32.0	34.0
0.0	591.86	490.00	444.31	414.57	396.41	382.64	369.98	356.77	341.90
45.0	488.90	422.28	390.35	373.28	362.82	358.42	351.81	347.41	294.00
90.0	441.61	402.46	380.60	369.98	359.74	348.62	340.96	307.21	211.47
135.0	469.63	424.48	401.36	385.39	372.18	360.07	347.41	294.55	190.27
180.0	448.76	419.58	399.82	384.68	373.89	359.35	339.75	256.12	147.00
225.0	459.83	430.98	410.67	395.30	383.19	370.69	359.02	320.04	214.39
270.0	477.89	417.88	392.55	373.28	358.42	348.51	333.64	322.63	280.24
315.0	510.76	455.81	425.59	407.58	391.84	377.14	365.46	352.64	301.65
360.0	591.86	490.00	444.31	414.57	396.41	382.64	369.98	356.77	341.90
C/ γ (°)	36.0	38.0	40.0	42.0	44.0	46.0	48.0	50.0	52.0
0.0	284.09	132.74	42.34	16.90	13.49	9.19	7.93	7.32	7.05
45.0	180.75	67.22	21.03	17.51	12.83	10.57	10.68	10.52	10.52
90.0	97.50	28.74	17.51	13.43	10.08	9.80	9.36	9.36	9.86
135.0	83.96	18.28	14.26	9.52	6.72	6.33	6.11	5.89	5.78
180.0	38.04	15.69	12.00	7.54	6.22	5.95	5.73	5.56	5.51
225.0	83.14	24.39	16.19	12.44	9.19	8.75	8.15	7.60	7.16
270.0	154.60	52.08	19.93	16.57	12.66	11.01	10.63	9.80	9.19
315.0	190.94	87.87	19.77	15.64	11.51	8.53	8.31	7.93	7.43
360.0	284.09	132.74	42.34	16.90	13.49	9.19	7.93	7.32	7.05
C/ γ (°)	54.0	56.0	58.0	60.0	62.0	64.0	66.0	68.0	70.0
0.0	6.88	6.83	6.61	6.11	5.73	5.45	5.29	5.18	5.07
45.0	10.57	9.63	8.31	7.21	6.55	5.95	5.45	5.12	5.07
90.0	10.63	10.85	10.30	9.08	7.54	6.28	5.51	5.23	5.12
135.0	5.73	5.78	6.00	6.28	6.33	6.11	5.67	5.18	5.01
180.0	5.45	5.40	5.40	5.34	5.23	5.12	5.07	5.01	4.90
225.0	6.83	6.61	6.50	6.39	5.95	5.56	5.23	5.12	5.07
270.0	8.70	8.59	8.20	7.87	7.21	6.22	5.56	5.18	5.12
315.0	6.83	6.44	6.39	6.28	6.17	5.89	5.45	5.18	4.96
360.0	6.88	6.83	6.61	6.11	5.73	5.45	5.29	5.18	5.07
C/ γ (°)	72.0	74.0	76.0	78.0	80.0	82.0	84.0	86.0	88.0
0.0	4.90	4.90	4.79	4.73	4.68	4.57	4.57	4.51	4.51
45.0	4.96	4.90	4.84	4.73	4.68	4.62	4.57	4.51	4.46
90.0	5.07	5.07	4.96	4.90	4.79	4.68	4.51	4.40	4.35
135.0	4.90	4.79	4.73	4.68	4.62	4.57	4.51	4.68	4.35
180.0	4.84	4.79	4.73	4.68	4.62	4.57	4.57	4.46	4.29
225.0	5.07	5.01	4.90	4.90	4.84	4.73	4.62	4.51	4.40
270.0	5.01	4.96	4.96	4.90	4.79	4.73	4.57	4.51	4.40
315.0	4.79	4.73	4.68	4.62	4.57	4.51	4.51	4.51	4.46
360.0	4.90	4.90	4.79	4.73	4.68	4.57	4.57	4.51	4.51

Intensity data(cd)

Appendix Page: 16 Total:16

C/γ(°)	90.0
0.0	4.46
45.0	4.40
90.0	4.29
135.0	4.29
180.0	4.29
225.0	4.29
270.0	4.29
315.0	4.40
360.0	4.46