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Nata

LumCAT: 4-2273-M	
Luminaire: 92.70.131.00	
Report No: NATA0100	Voltage(V): 34.1000
Test No: GC2018071909	Current(A): 0.3000
LampCAT: BRIDGELUX V9 HD	Power (W): 10.2300
Lamp flux(lm): 1166.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 100	Width(mm): 100
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 1057.72
Efficiency(%): 90.71%
Lumens(lm)/Power(W): 105.85
Central intensity(cd): 26418.810
Maximum intensity(cd): 26418.810
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=7.6
[C90/270]Total=7.6
Field angle(10%Imax): [C0/180]Total=15.2
[C90/270]Total=15.2
Maximum s/h(1/2): C0_180=0.13 C90_270=0.13
Maximum s/h(1/4): C0_180=0.14 C90_270=0.14
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 92.87%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 96.417%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	26418.814	25.282	25.282	2.168%	2.390%
2.0	21506.406	164.608	189.89	14.117%	17.953%
4.0	12279.298	187.855	377.745	16.111%	35.713%
6.0	5205.651	119.337	497.082	10.235%	46.996%
8.0	2022.339	61.727	558.809	5.294%	52.832%
10.0	886.491	33.761	592.57	2.895%	56.024%
12.0	601.629	27.433	620.003	2.353%	58.617%
14.0	504.840	26.785	646.788	2.297%	61.149%
16.0	470.113	28.419	675.207	2.437%	63.836%
18.0	440.837	29.876	705.083	2.562%	66.661%
20.0	416.116	31.213	736.296	2.677%	69.612%
22.0	398.959	32.777	769.073	2.811%	72.711%
24.0	386.028	34.435	803.507	2.953%	75.966%
26.0	376.847	36.230	839.738	3.107%	79.392%
28.0	366.861	37.773	877.51	3.240%	82.963%
30.0	355.582	38.992	916.502	3.344%	86.649%
32.0	345.217	40.121	956.623	3.441%	90.442%
34.0	323.690	39.697	996.32	3.405%	94.195%
36.0	215.862	27.827	1024.146	2.387%	96.826%
38.0	66.852	9.027	1033.173	.774%	97.680%
40.0	11.748	1.656	1034.829	.142%	97.836%
42.0	8.747	1.284	1036.113	.110%	97.958%
44.0	6.621	1.009	1037.121	.087%	98.053%
46.0	5.464	0.862	1037.983	.074%	98.134%
48.0	5.265	0.858	1038.841	.074%	98.216%
50.0	5.093	0.856	1039.697	.073%	98.296%
52.0	4.955	0.856	1040.553	.073%	98.377%
54.0	4.859	0.862	1041.415	.074%	98.459%
56.0	4.755	0.865	1042.28	.074%	98.541%
58.0	4.700	0.874	1043.154	.075%	98.623%
60.0	4.645	0.882	1044.037	.076%	98.707%
62.0	4.597	0.890	1044.927	.076%	98.791%
64.0	4.556	0.898	1045.825	.077%	98.876%
66.0	4.522	0.906	1046.731	.078%	98.961%
68.0	4.501	0.915	1047.646	.078%	99.048%
70.0	4.480	0.923	1048.569	.079%	99.135%
72.0	4.480	0.934	1049.504	.080%	99.224%
74.0	4.466	0.942	1050.445	.081%	99.313%

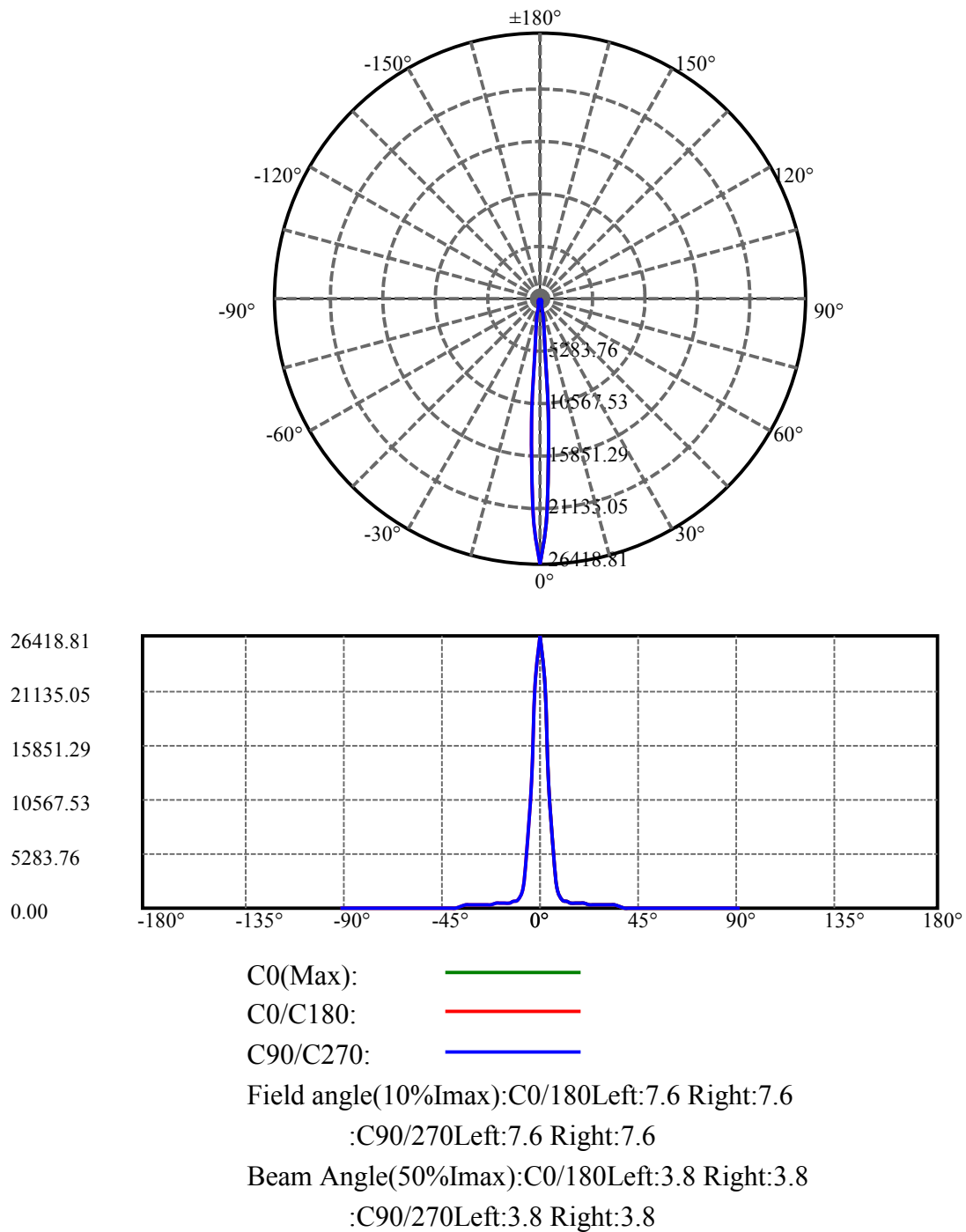
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	4.466	0.950	1051.396	.082%	99.402%
78.0	4.494	0.964	1052.36	.083%	99.494%
80.0	4.542	0.981	1053.341	.084%	99.586%
82.0	4.515	0.980	1054.321	.084%	99.679%
84.0	4.487	0.979	1055.3	.084%	99.772%
86.0	4.446	0.973	1056.273	.083%	99.864%
88.0	4.391	0.962	1057.235	.083%	99.955%
90.0	4.384	0.481	1057.716	.041%	100.000%

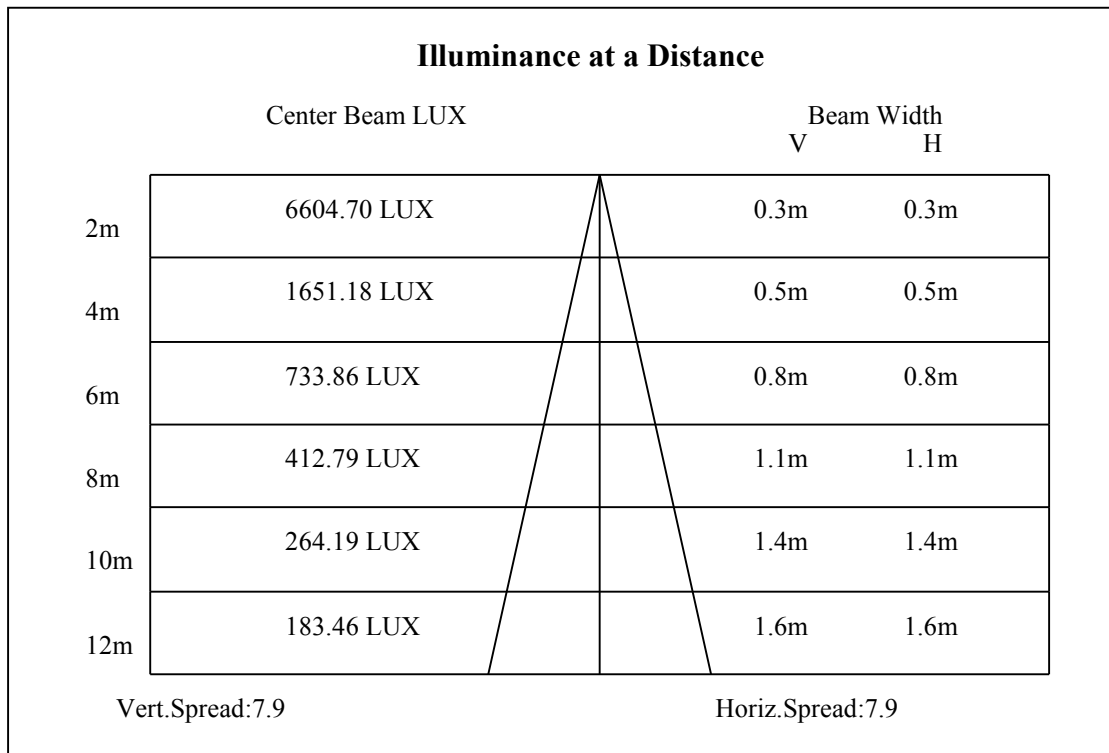
ZONAL LUMEN SUMMARY

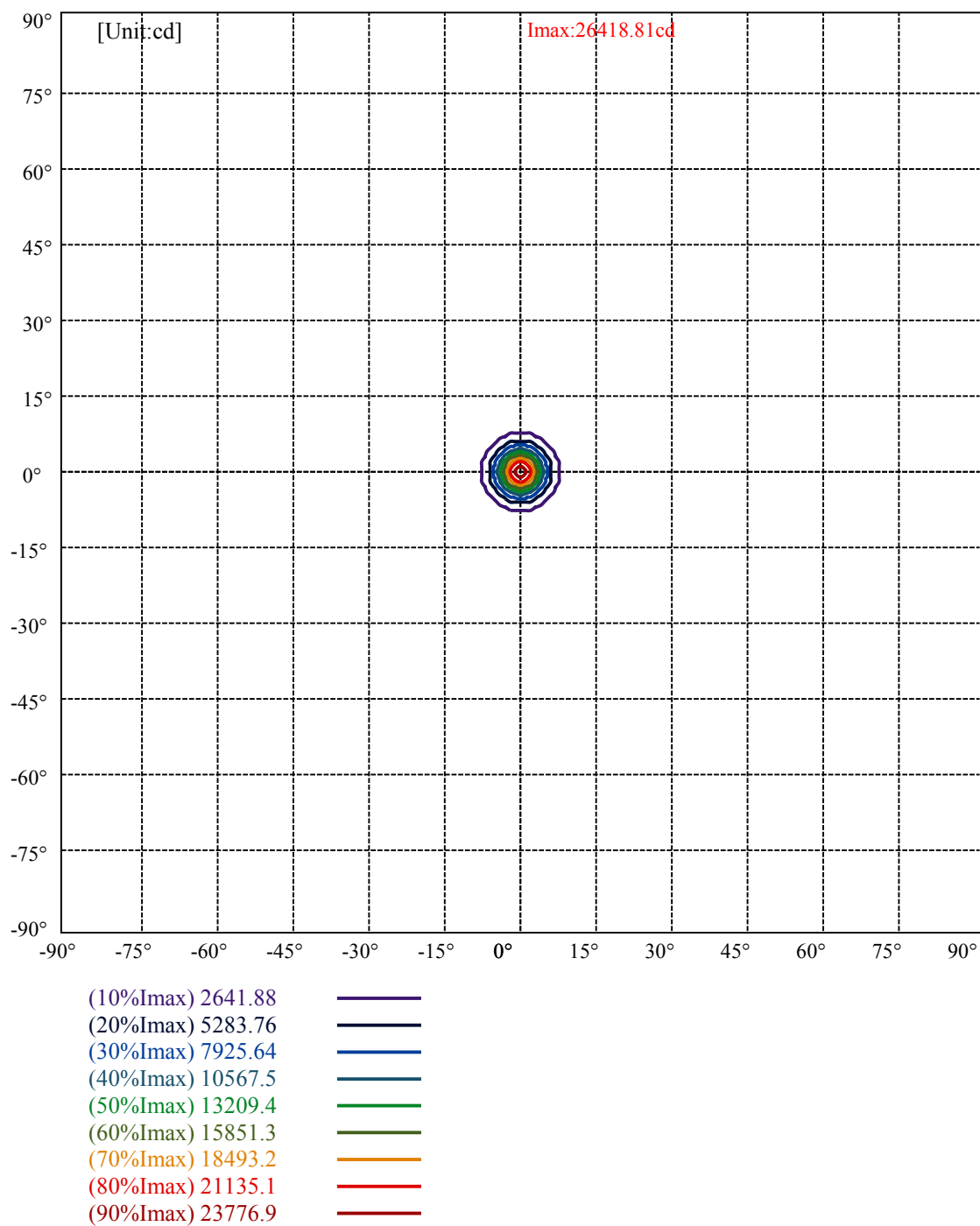
Zone	Lumens	%Lamp	%Fixt
0-30	916.50	78.60%	86.65%
0-40	1034.83	88.75%	97.84%
0-60	1044.04	89.54%	98.71%
0-90	1057.24	90.67%	99.95%
0-120	1057.24	90.67%	99.95%
0-180	1057.72	90.71%	100.00%
60-90	14.08	1.21%	1.33%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-26.34	846.17	72.57%	80.00%

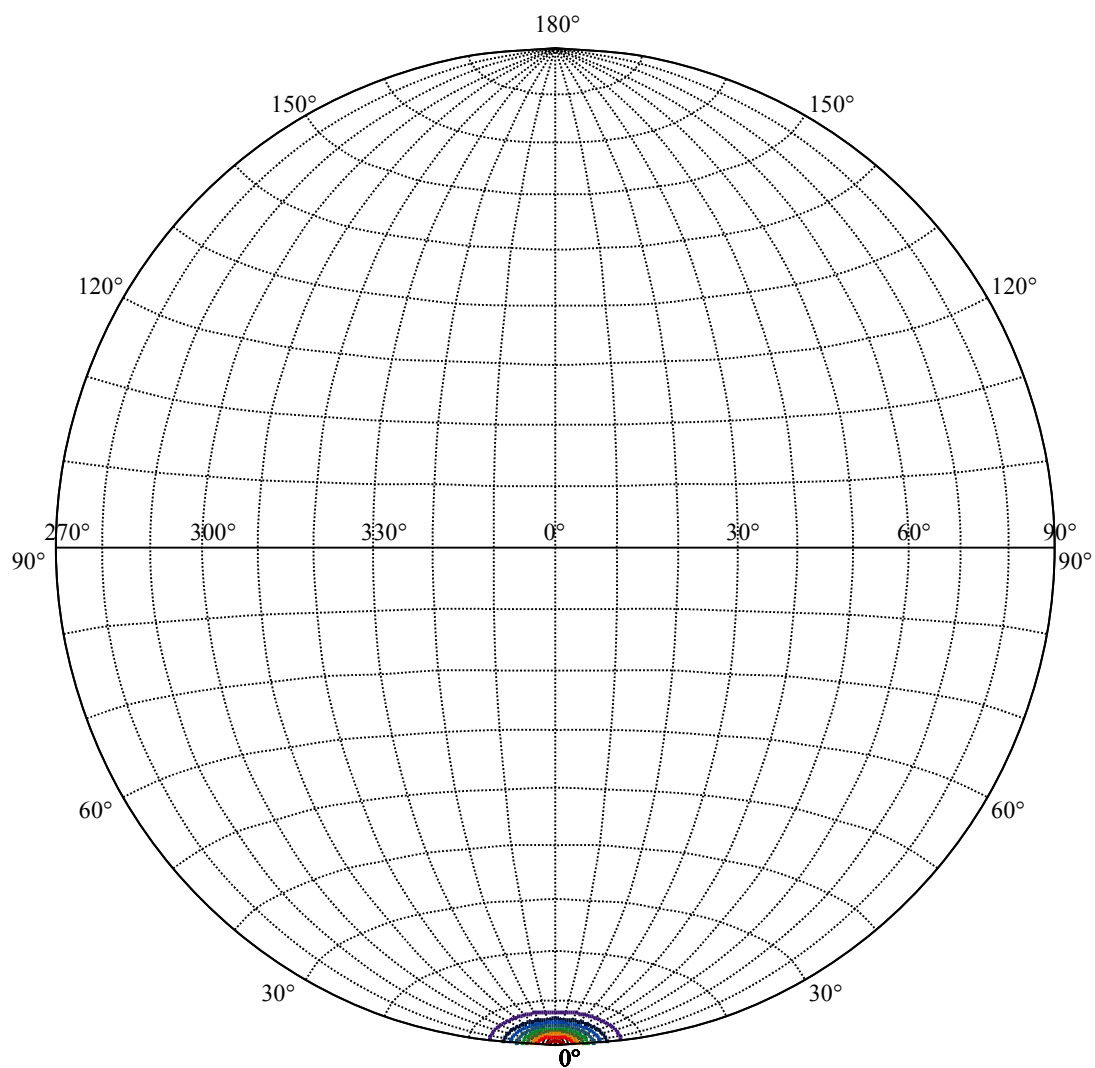
ZONAL LUMEN SUMMARY

0-10	592.57
10-20	143.73
20-30	180.21
30-40	118.33
40-50	4.87
50-60	4.34
60-70	4.53
70-80	4.77
80-90	3.89
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









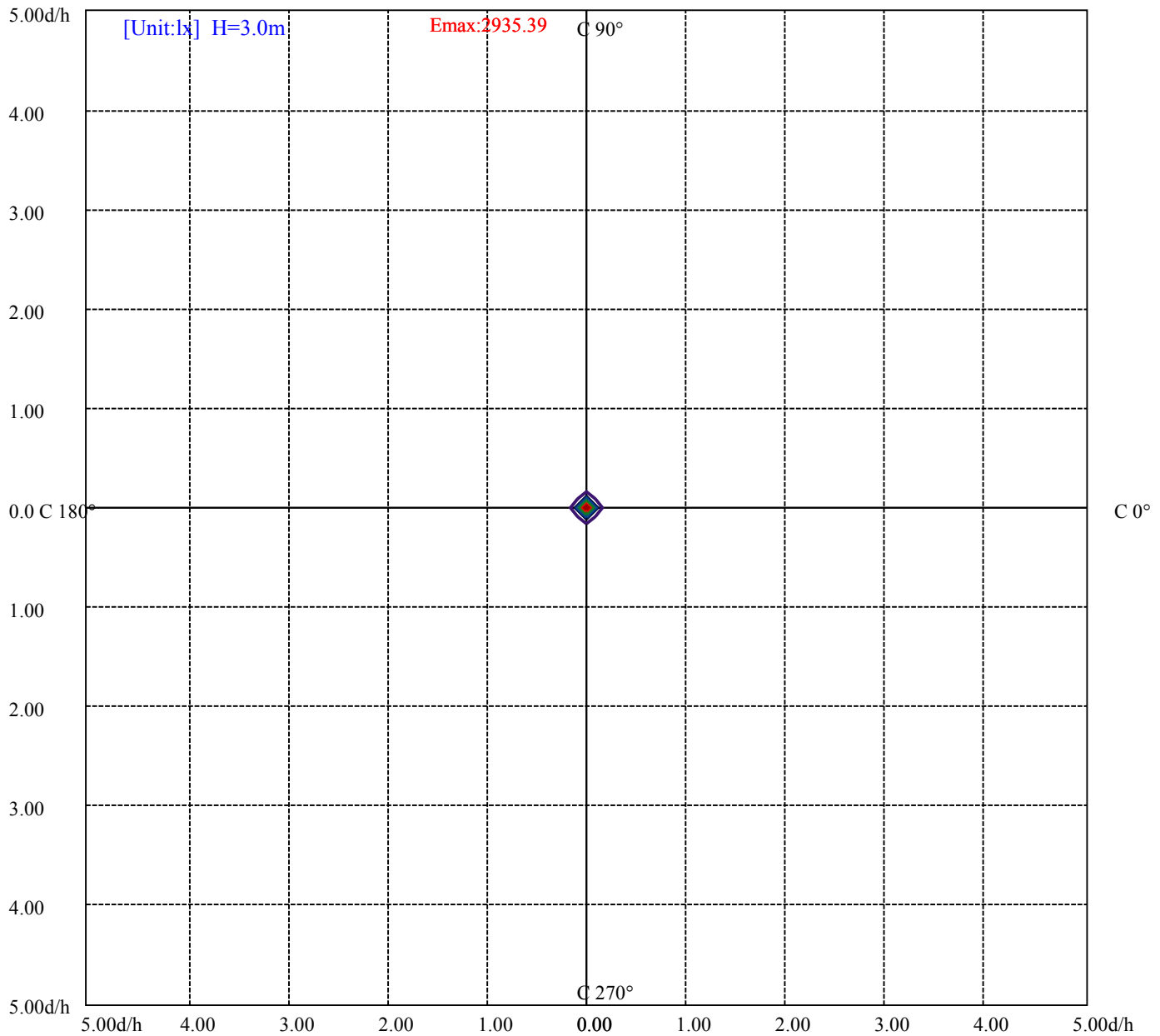
House

[Unit:cd]

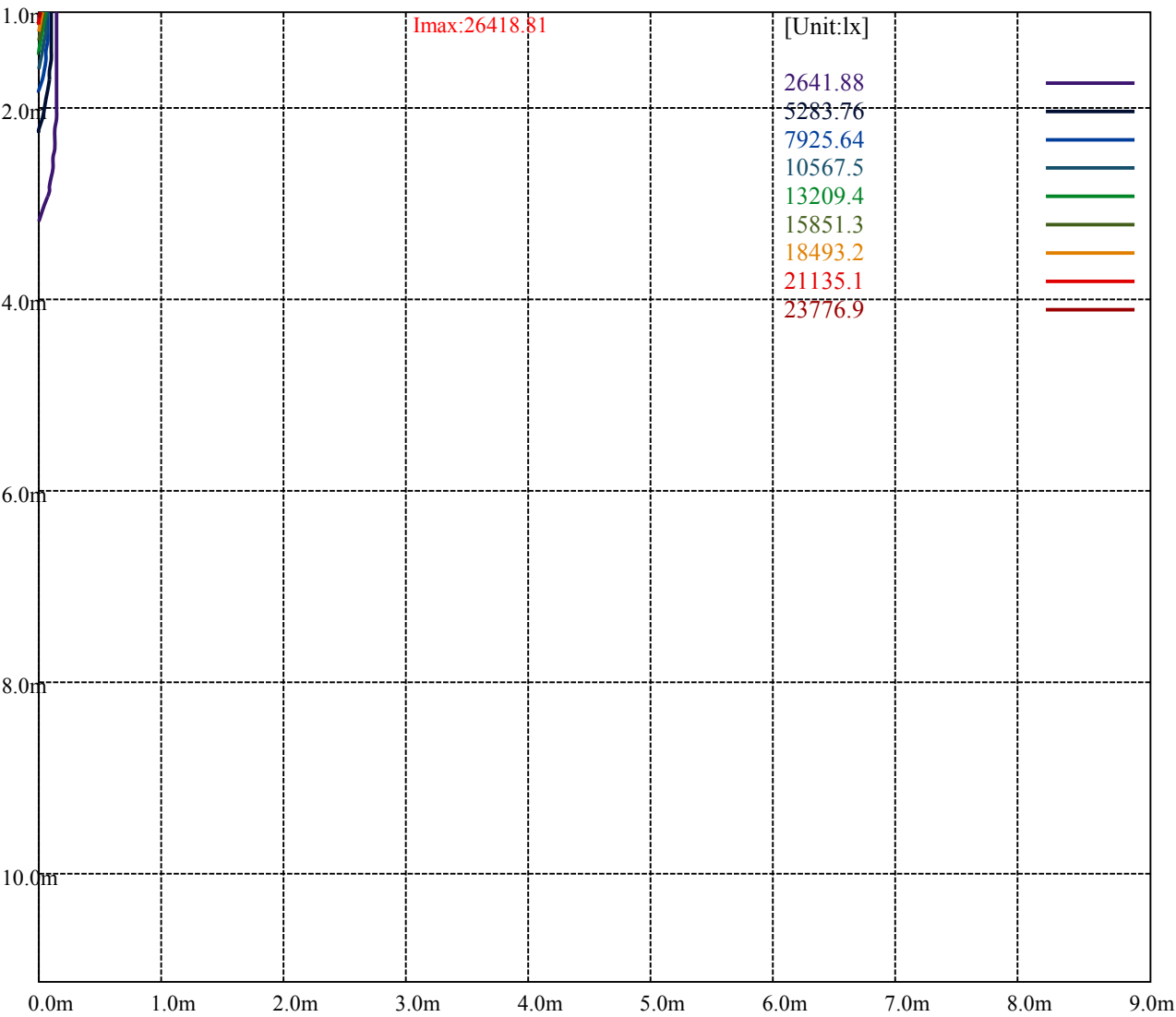
Road

Imax:26418.81

(10%Imax)	2641.88	—
(20%Imax)	5283.76	—
(30%Imax)	7925.64	—
(40%Imax)	10567.5	—
(50%Imax)	13209.4	—
(60%Imax)	15851.3	—
(70%Imax)	18493.2	—
(80%Imax)	21135.1	—
(90%Imax)	23776.9	—



(10%Emax) 293.5378	—
(20%Emax) 587.0767	—
(30%Emax) 880.6144	—
(40%Emax) 1174.156	—
(50%Emax) 1467.689	—
(60%Emax) 1761.233	—
(70%Emax) 2054.767	—
(80%Emax) 2348.311	—
(90%Emax) 2641.844	—



Luminance Table

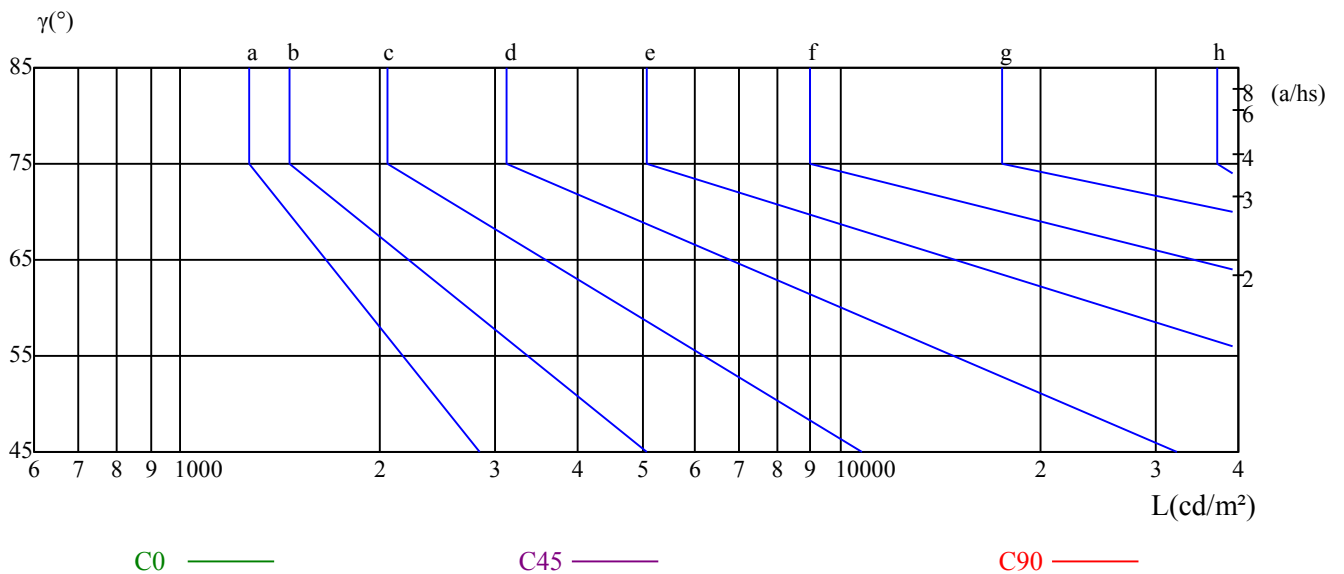
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

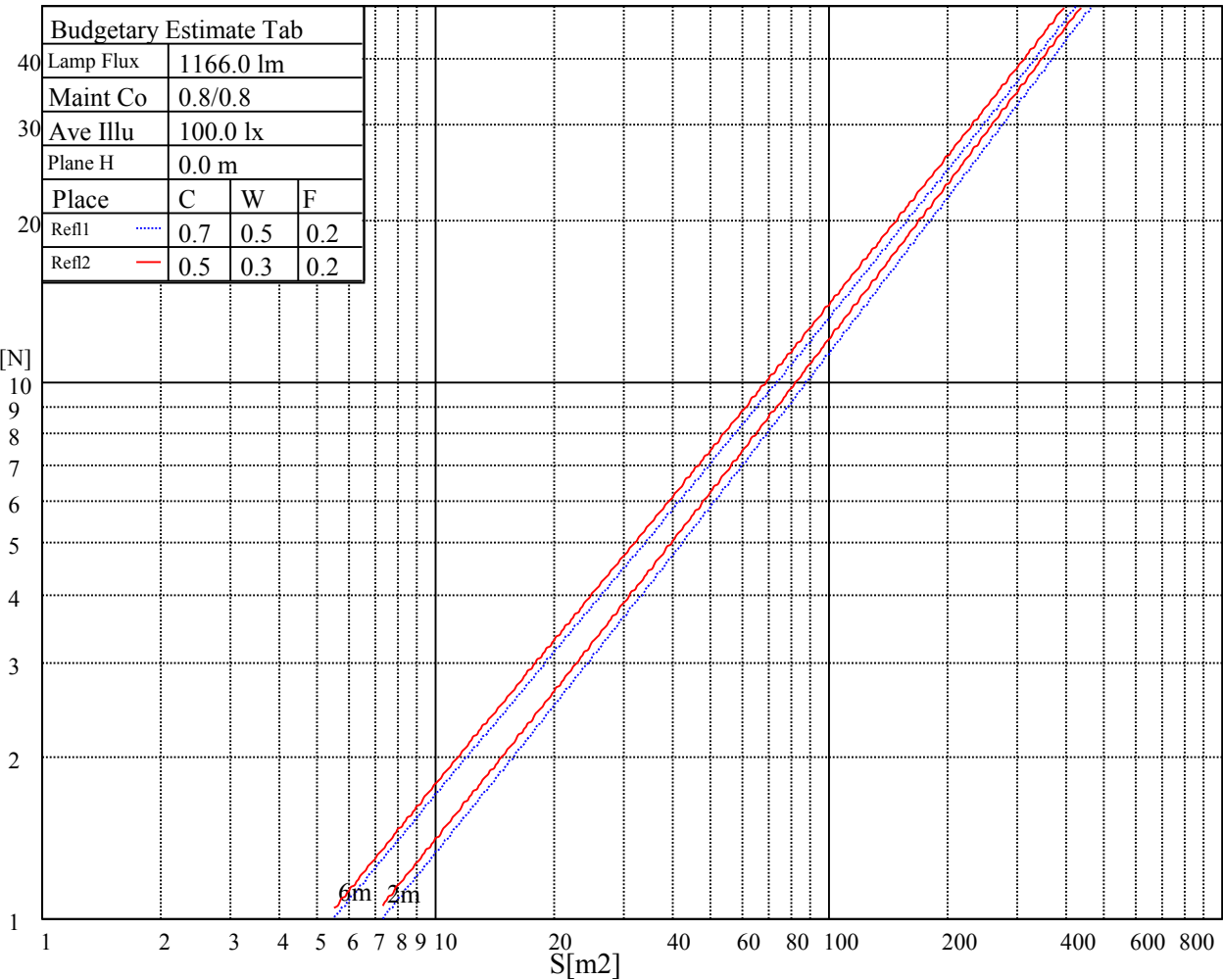
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

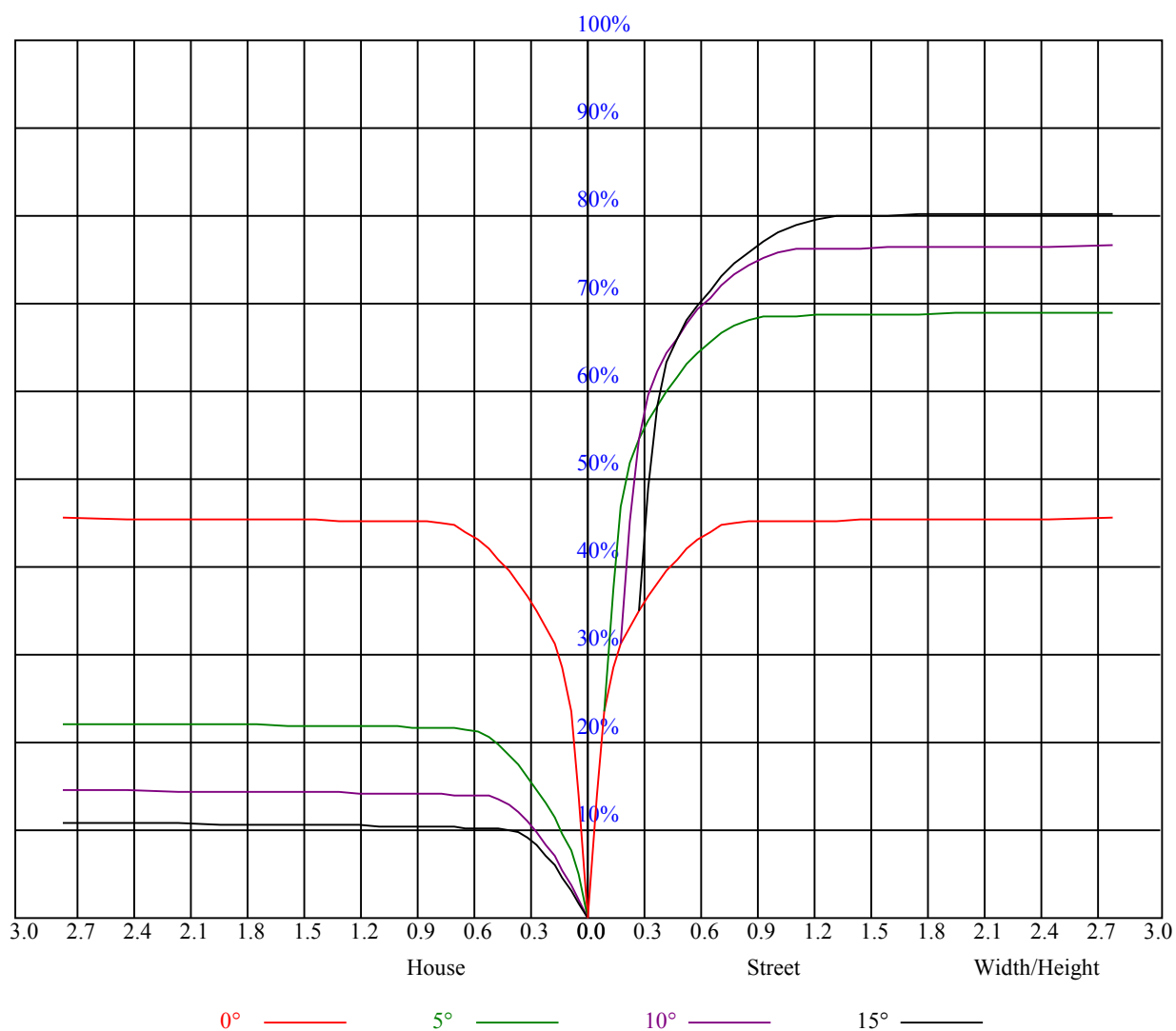
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

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 RHOFC=20 CU															
0	1.11	1.11	1.11	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	1.02	0.99	0.97	1.00	0.97	0.95	0.96	0.94	0.92	0.92	0.91	0.90	0.89	0.88	0.87	0.85
2	0.97	0.93	0.90	0.95	0.92	0.89	0.92	0.90	0.88	0.90	0.87	0.86	0.87	0.85	0.84	0.82
3	0.93	0.89	0.86	0.91	0.88	0.85	0.89	0.86	0.84	0.87	0.84	0.82	0.85	0.83	0.81	0.80
4	0.89	0.85	0.82	0.88	0.84	0.81	0.86	0.83	0.80	0.84	0.82	0.79	0.83	0.80	0.79	0.77
5	0.86	0.82	0.79	0.85	0.81	0.78	0.84	0.80	0.78	0.82	0.79	0.77	0.81	0.78	0.76	0.75
6	0.83	0.79	0.76	0.82	0.79	0.76	0.81	0.78	0.75	0.80	0.77	0.75	0.79	0.76	0.74	0.73
7	0.81	0.76	0.74	0.80	0.76	0.73	0.79	0.76	0.73	0.78	0.75	0.73	0.77	0.74	0.72	0.71
8	0.78	0.74	0.72	0.78	0.74	0.71	0.77	0.74	0.71	0.76	0.73	0.71	0.75	0.73	0.71	0.70
9	0.76	0.72	0.70	0.76	0.72	0.70	0.75	0.72	0.70	0.75	0.71	0.69	0.74	0.71	0.69	0.68
10	0.75	0.71	0.68	0.74	0.71	0.68	0.74	0.70	0.68	0.73	0.70	0.68	0.72	0.70	0.68	0.67



Intensity data(cd)

C/γ(°)	0.0	2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0
0.0	27186.85	22694.25	13169.49	4949.57	2155.46	838.51	607.82	505.97	476.24
45.0	26674.83	16858.27	7641.83	2829.90	1142.97	692.06	530.19	487.80	465.78
90.0	24791.90	13312.64	6263.77	2321.73	1031.04	622.85	511.53	480.09	452.51
135.0	27021.68	18999.96	10416.67	3705.30	1494.78	817.04	557.17	492.20	469.08
180.0	27186.85	20910.42	10983.75	4350.56	1655.00	827.83	558.55	486.59	460.88
225.0	26674.83	26828.98	17772.21	7664.95	2987.36	1096.39	688.15	515.60	474.75
270.0	24791.90	28139.33	21015.03	9838.58	3617.21	1322.45	737.76	558.27	488.35
315.0	27021.68	24307.40	10971.64	5984.63	2094.90	874.79	621.86	512.19	473.32
360.0	27186.85	22694.25	13169.49	4949.57	2155.46	838.51	607.82	505.97	476.24
C/γ(°)	18.0	20.0	22.0	24.0	26.0	28.0	30.0	32.0	34.0
0.0	450.36	418.98	403.01	392.00	382.64	373.28	361.72	350.71	341.90
45.0	428.34	408.52	397.51	385.95	377.14	365.57	355.11	343.55	301.71
90.0	418.81	399.82	388.70	378.95	371.25	357.81	347.41	338.05	269.28
135.0	436.05	404.66	392.00	381.54	372.18	363.92	351.26	341.35	329.24
180.0	429.00	405.22	389.41	378.84	370.42	361.39	348.40	338.38	329.46
225.0	449.81	423.16	400.70	385.01	374.66	365.68	355.11	344.93	334.80
270.0	464.68	442.65	417.88	395.86	385.39	375.48	366.13	354.56	343.00
315.0	449.65	425.92	402.46	390.07	381.10	371.74	359.52	350.21	340.14
360.0	450.36	418.98	403.01	392.00	382.64	373.28	361.72	350.71	341.90
C/γ(°)	36.0	38.0	40.0	42.0	44.0	46.0	48.0	50.0	52.0
0.0	281.89	57.04	11.40	9.19	6.72	5.51	5.34	5.18	5.01
45.0	117.44	11.56	9.74	7.49	5.45	5.29	5.12	4.96	4.84
90.0	77.02	9.80	8.20	6.66	5.45	5.23	5.12	4.96	4.84
135.0	176.24	21.69	9.47	7.87	5.73	5.51	5.29	5.12	5.01
180.0	199.63	49.06	9.74	7.98	5.67	5.45	5.23	5.07	4.96
225.0	301.38	142.43	12.17	10.08	7.82	5.51	5.29	5.12	4.96
270.0	327.59	161.26	21.75	11.45	9.19	5.62	5.40	5.18	5.01
315.0	245.72	81.98	11.51	9.25	6.94	5.62	5.34	5.18	5.01
360.0	281.89	57.04	11.40	9.19	6.72	5.51	5.34	5.18	5.01
C/γ(°)	54.0	56.0	58.0	60.0	62.0	64.0	66.0	68.0	70.0
0.0	4.84	4.79	4.73	4.68	4.62	4.57	4.57	4.51	4.46
45.0	4.79	4.73	4.68	4.57	4.57	4.51	4.51	4.46	4.46
90.0	4.79	4.68	4.68	4.62	4.57	4.51	4.51	4.51	4.51
135.0	4.90	4.79	4.73	4.68	4.62	4.62	4.57	4.51	4.51
180.0	4.84	4.73	4.68	4.62	4.57	4.57	4.51	4.51	4.51
225.0	4.84	4.73	4.68	4.62	4.57	4.51	4.46	4.46	4.40
270.0	4.96	4.79	4.73	4.68	4.62	4.57	4.51	4.51	4.51
315.0	4.90	4.79	4.68	4.68	4.62	4.57	4.51	4.51	4.46
360.0	4.84	4.79	4.73	4.68	4.62	4.57	4.57	4.51	4.46
C/γ(°)	72.0	74.0	76.0	78.0	80.0	82.0	84.0	86.0	88.0
0.0	4.46	4.46	4.46	4.46	4.46	4.46	4.57	4.51	4.40
45.0	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.40	4.40
90.0	4.51	4.46	4.46	4.51	4.51	4.62	4.51	4.40	4.35
135.0	4.51	4.51	4.62	4.79	4.84	4.57	4.51	4.51	4.40
180.0	4.46	4.46	4.46	4.46	4.68	4.57	4.51	4.46	4.40
225.0	4.46	4.40	4.40	4.40	4.46	4.46	4.40	4.40	4.35
270.0	4.51	4.51	4.46	4.46	4.51	4.57	4.51	4.46	4.40
315.0	4.46	4.46	4.40	4.40	4.40	4.40	4.40	4.40	4.40
360.0	4.46	4.46	4.46	4.46	4.46	4.46	4.57	4.51	4.40

Intensity data(cd)

Appendix Page: 16 Total:16

C/ $\gamma(^{\circ})$	90.0
0.0	4.40
45.0	4.35
90.0	4.35
135.0	4.40
180.0	4.40
225.0	4.35
270.0	4.40
315.0	4.40
360.0	4.40