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Nata

Client:
LumCAT: 2-1678-M4
Luminaire: 92.70.125.00+92.70.152.00

Report No: 200915-B006	Voltage(V): 17.5000
Test No: 200915-C006	Current(A): 0.3430
LampCAT: Vesta DW LES6 Gen2 PD	Power (W): 6.0020
Lamp flux(lm): 573.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 0	Width(mm): 0
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 484.16, Efficiency(%): 84.50% , Luminous Efficacy(lm/W): 80.67
Central intensity(cd): 3999.586, Maximum intensity(cd): 3999.586
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=11.4
[C90/270]Total=11.4
Field angle(10%Imax): [C0/180]Total=29.8
[C90/270]Total=29.8
Maximum s/h(1/2): C0_180=0.20 C90_270=0.20
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(%): 84.50%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.574%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	3999.586	0.000	0	.000%	.000%
1.0	3906.563	3.783	3.783	.660%	.781%
2.0	3668.344	10.872	14.655	1.897%	3.027%
3.0	3284.227	16.628	31.283	2.902%	6.461%
4.0	2837.320	20.491	51.774	3.576%	10.694%
5.0	2379.938	22.444	74.219	3.917%	15.329%
6.0	1871.789	22.344	96.563	3.899%	19.944%
7.0	1484.100	20.830	117.392	3.635%	24.247%
8.0	1218.769	19.344	136.736	3.376%	28.242%
9.0	952.052	17.593	154.33	3.070%	31.876%
10.0	775.287	15.632	169.962	2.728%	35.104%
11.0	655.917	14.301	184.262	2.496%	38.058%
12.0	563.583	13.331	197.593	2.327%	40.812%
13.0	488.595	12.487	210.08	2.179%	43.391%
14.0	436.732	11.844	221.924	2.067%	45.837%
15.0	395.944	11.431	233.355	1.995%	48.198%
16.0	360.330	11.082	244.437	1.934%	50.487%
17.0	331.186	10.769	255.205	1.879%	52.711%
18.0	307.962	10.538	265.744	1.839%	54.888%
19.0	289.920	10.402	276.146	1.815%	57.036%
20.0	273.073	10.304	286.45	1.798%	59.164%
21.0	258.961	10.216	296.666	1.783%	61.274%
22.0	243.935	10.106	306.772	1.764%	63.362%
23.0	233.726	10.023	316.795	1.749%	65.432%
24.0	224.128	10.010	326.805	1.747%	67.499%
25.0	215.641	9.999	336.804	1.745%	69.565%
26.0	208.645	10.015	346.82	1.748%	71.633%
27.0	201.755	10.041	356.86	1.752%	73.707%
28.0	194.646	10.036	366.896	1.751%	75.780%
29.0	188.290	10.019	376.915	1.748%	77.849%
30.0	182.363	10.008	386.922	1.747%	79.916%
31.0	175.563	9.961	396.883	1.738%	81.974%
32.0	168.792	9.865	406.748	1.722%	84.011%
33.0	161.557	9.732	416.481	1.698%	86.021%
34.0	150.075	9.431	425.911	1.646%	87.969%
35.0	135.387	8.865	434.777	1.547%	89.800%
36.0	119.060	8.102	442.878	1.414%	91.474%
37.0	99.436	7.126	450.005	1.244%	92.946%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	79.474	5.972	455.976	1.042%	94.179%
39.0	60.005	4.761	460.737	.831%	95.162%
40.0	43.313	3.603	464.34	.629%	95.907%
41.0	31.971	2.681	467.021	.468%	96.460%
42.0	23.358	2.010	469.031	.351%	96.876%
43.0	17.409	1.510	470.542	.264%	97.187%
44.0	13.570	1.169	471.711	.204%	97.429%
45.0	10.631	0.930	472.641	.162%	97.621%
46.0	8.114	0.733	473.374	.128%	97.772%
47.0	6.349	0.575	473.949	.100%	97.891%
48.0	4.978	0.458	474.407	.080%	97.986%
49.0	3.839	0.362	474.769	.063%	98.061%
50.0	3.136	0.291	475.06	.051%	98.121%
51.0	2.784	0.250	475.311	.044%	98.172%
52.0	2.559	0.229	475.54	.040%	98.220%
53.0	2.482	0.219	475.759	.038%	98.265%
54.0	2.405	0.215	475.975	.038%	98.310%
55.0	2.355	0.212	476.187	.037%	98.353%
56.0	2.334	0.212	476.399	.037%	98.397%
57.0	2.320	0.213	476.612	.037%	98.441%
58.0	2.292	0.213	476.825	.037%	98.485%
59.0	2.285	0.214	477.039	.037%	98.529%
60.0	2.250	0.214	477.253	.037%	98.574%
61.0	2.236	0.214	477.467	.037%	98.618%
62.0	2.236	0.215	477.683	.038%	98.662%
63.0	2.236	0.217	477.9	.038%	98.707%
64.0	2.215	0.218	478.119	.038%	98.752%
65.0	2.201	0.219	478.337	.038%	98.798%
66.0	2.194	0.219	478.557	.038%	98.843%
67.0	2.208	0.221	478.778	.039%	98.889%
68.0	2.194	0.223	479.001	.039%	98.935%
69.0	2.194	0.224	479.225	.039%	98.981%
70.0	2.194	0.225	479.45	.039%	99.027%
71.0	2.187	0.226	479.676	.040%	99.074%
72.0	2.180	0.227	479.903	.040%	99.121%
73.0	2.187	0.228	480.132	.040%	99.168%
74.0	2.194	0.230	480.362	.040%	99.216%
75.0	2.180	0.231	480.593	.040%	99.263%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	2.180	0.231	480.825	.040%	99.311%
77.0	2.194	0.233	481.058	.041%	99.359%
78.0	2.201	0.235	481.293	.041%	99.408%
79.0	2.201	0.236	481.53	.041%	99.457%
80.0	2.201	0.237	481.767	.041%	99.506%
81.0	2.222	0.239	482.006	.042%	99.555%
82.0	2.236	0.242	482.248	.042%	99.605%
83.0	2.243	0.243	482.491	.042%	99.656%
84.0	2.243	0.244	482.736	.043%	99.706%
85.0	2.236	0.244	482.98	.043%	99.756%
86.0	2.180	0.241	483.221	.042%	99.806%
87.0	2.102	0.234	483.456	.041%	99.855%
88.0	2.130	0.232	483.688	.040%	99.903%
89.0	2.095	0.232	483.919	.040%	99.950%
90.0	2.278	0.240	484.159	.042%	100.000%

Zonal flux distribution table

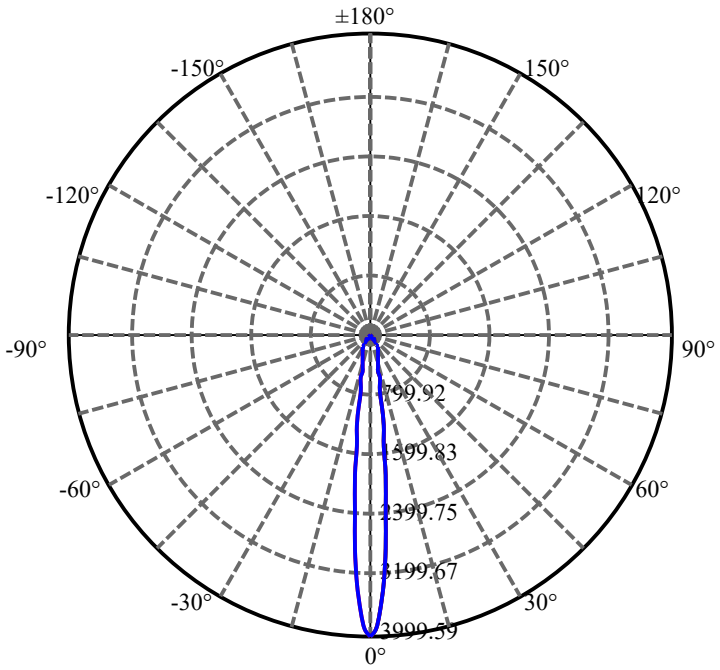
ZONAL LUMEN SUMMARY

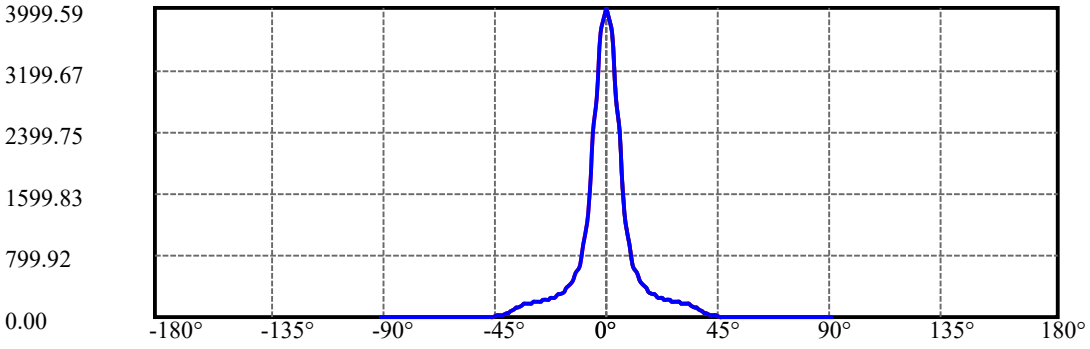
Zone	Lumens	%Lamp	%Fixt
0-30	386.92	67.53%	79.92%
0-40	464.34	81.04%	95.91%
0-60	477.25	83.29%	98.57%
0-90	483.92	84.45%	99.95%
0-120	483.92	84.45%	99.95%
0-180	484.16	84.50%	100.00%
60-90	6.88	1.20%	1.42%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-30.04	387.33	67.60%	80.00%

ZONAL LUMEN SUMMARY

0-10	169.96
10-20	116.49
20-30	100.47
30-40	77.42
40-50	10.72
50-60	2.19
60-70	2.20
70-80	2.32
80-90	2.15
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

Light Distribution Curve [Unit:cd]





C0(Max):

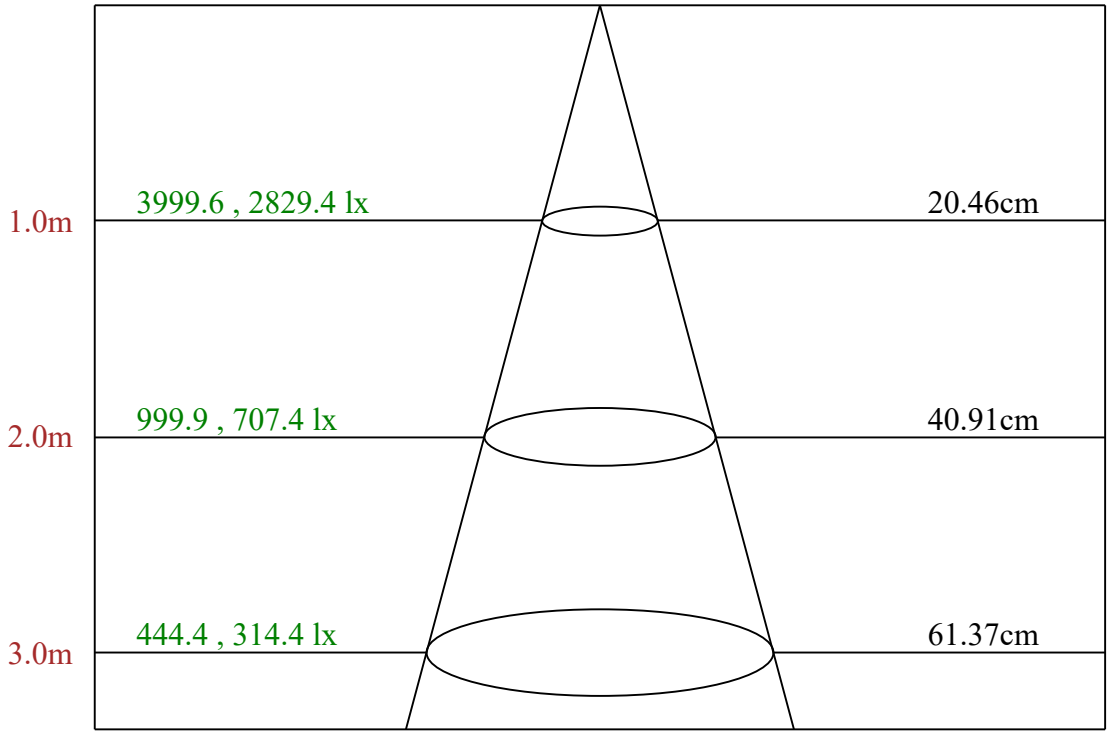
C0/C180:

C90/C270:

Field angle(10%Imax):C0/180Left:14.9 Right:14.9
:C90/270Left:14.9 Right:14.9

Beam Angle(50%Imax):C0/180Left:5.7 Right:5.7
:C90/270Left:5.7 Right:5.7

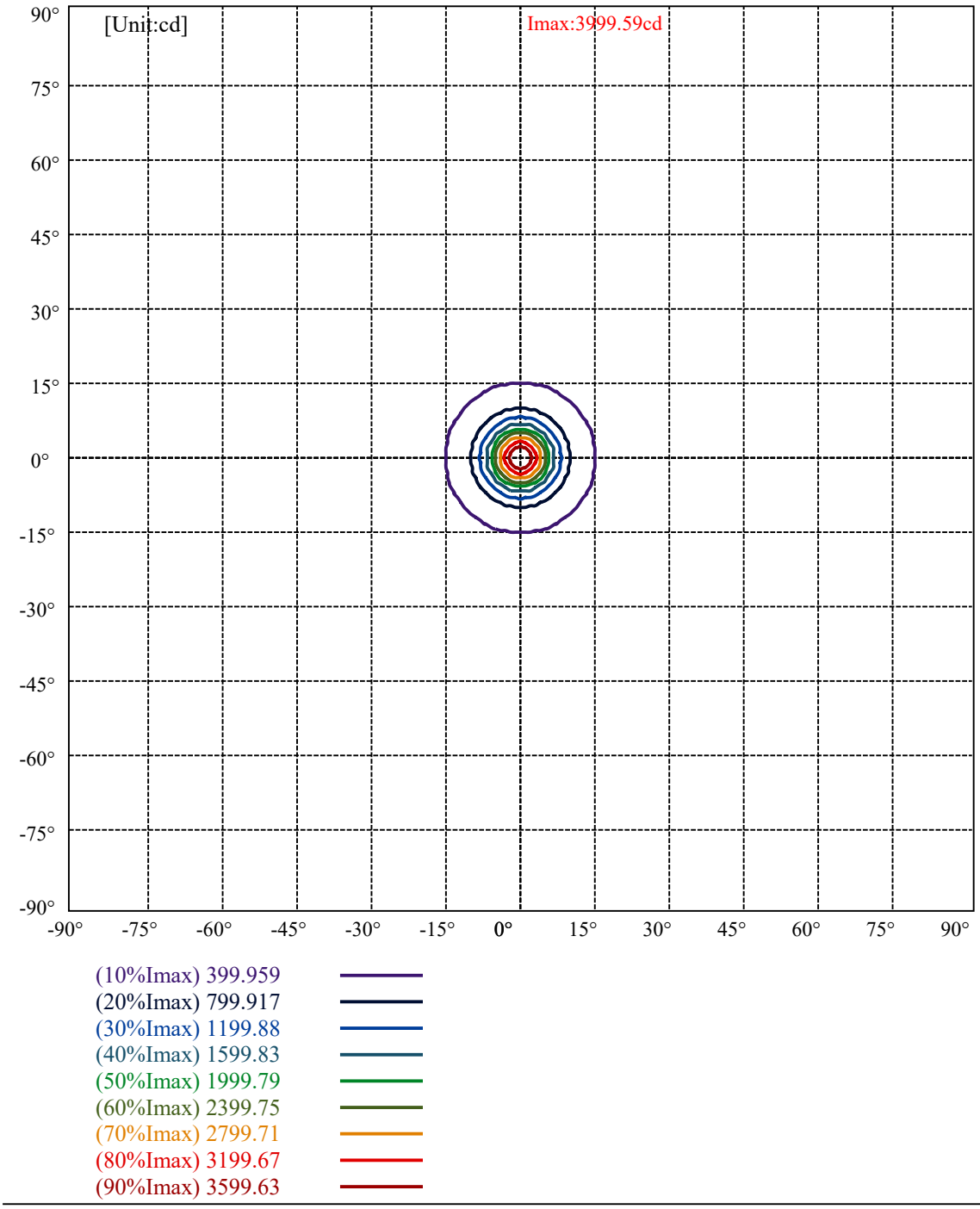
Lux distance Curve



Max , Ave

Beam angle of C0 plane 11.68

ISO-Intensity(V-H)



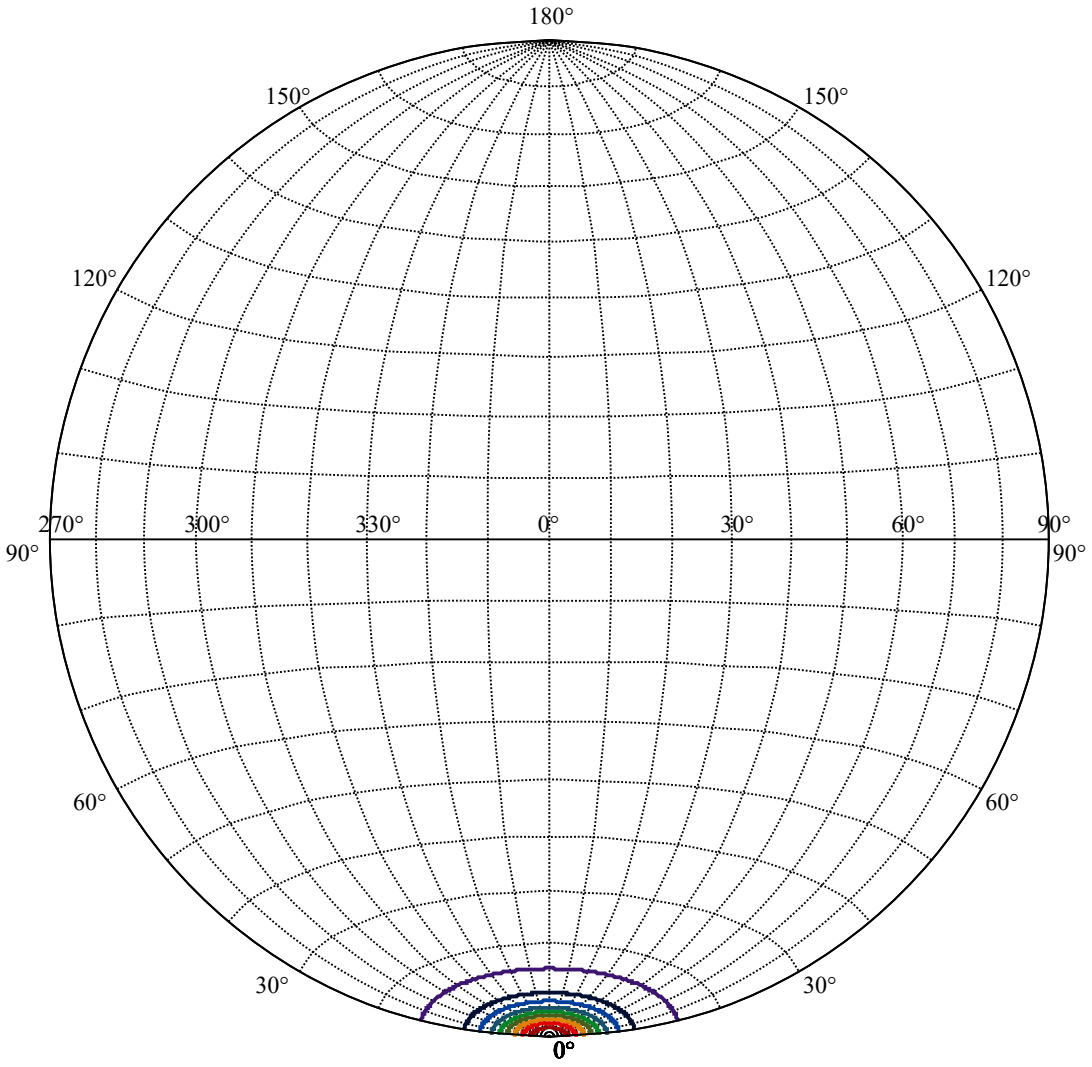
(10%Imax) 399.959
(20%Imax) 799.917
(30%Imax) 1199.88
(40%Imax) 1599.83
(50%Imax) 1999.79
(60%Imax) 2399.75
(70%Imax) 2799.71
(80%Imax) 3199.67
(90%Imax) 3599.63

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2020/9/15
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web



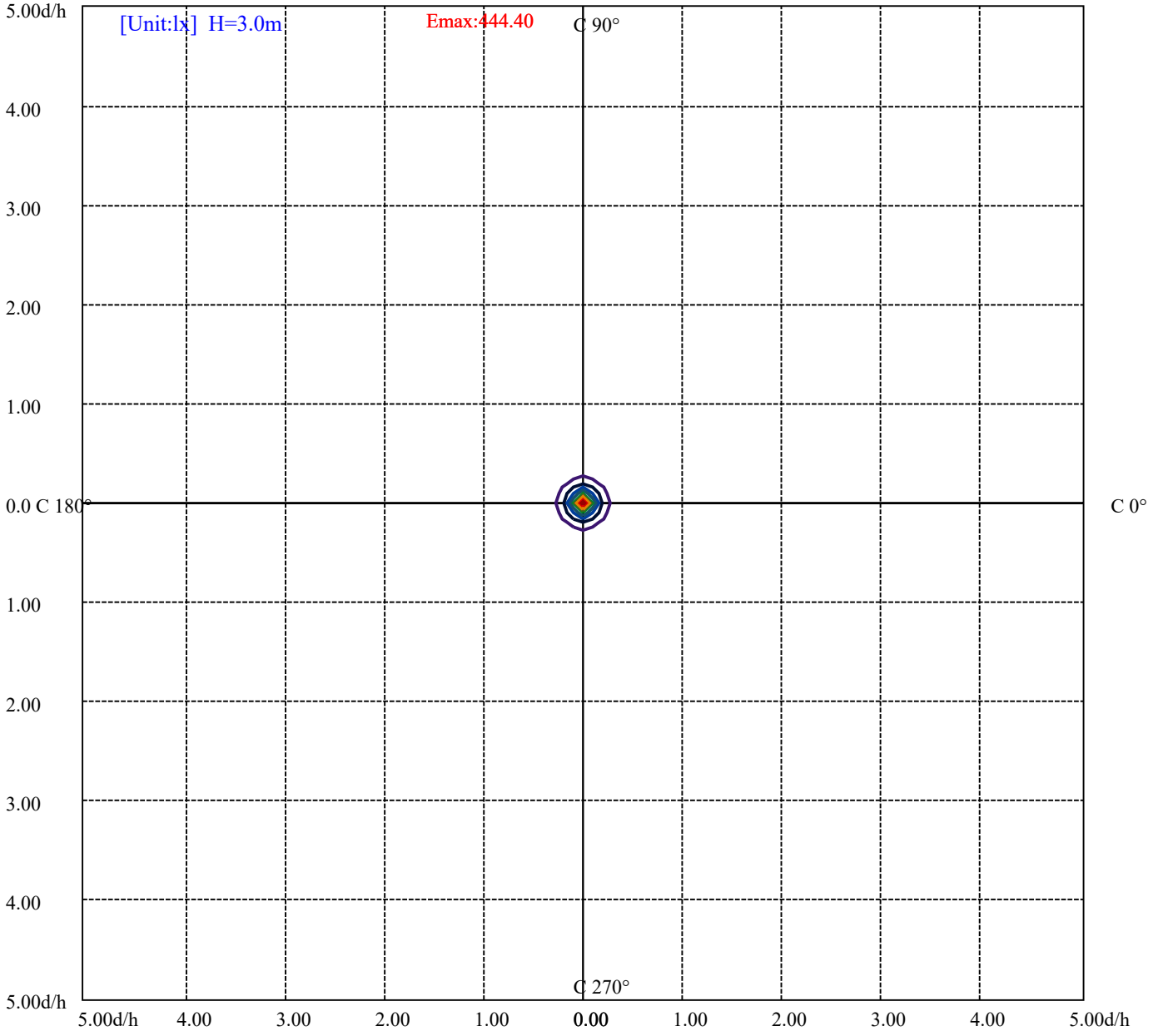
House [Unit:cd] Road

Imax:3999.59

(10%Imax) 399.959
(20%Imax) 799.917
(30%Imax) 1199.88
(40%Imax) 1599.83
(50%Imax) 1999.79
(60%Imax) 2399.75
(70%Imax) 2799.71
(80%Imax) 3199.67
(90%Imax) 3599.63

Equipment: GMS1980 Date: 2020/9/15 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

ISO illuminance diagram



Equipment: GMS1980 Date: 2020/9/15 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

Luminance Limitting Curve(no luminous side)

Luminance Table

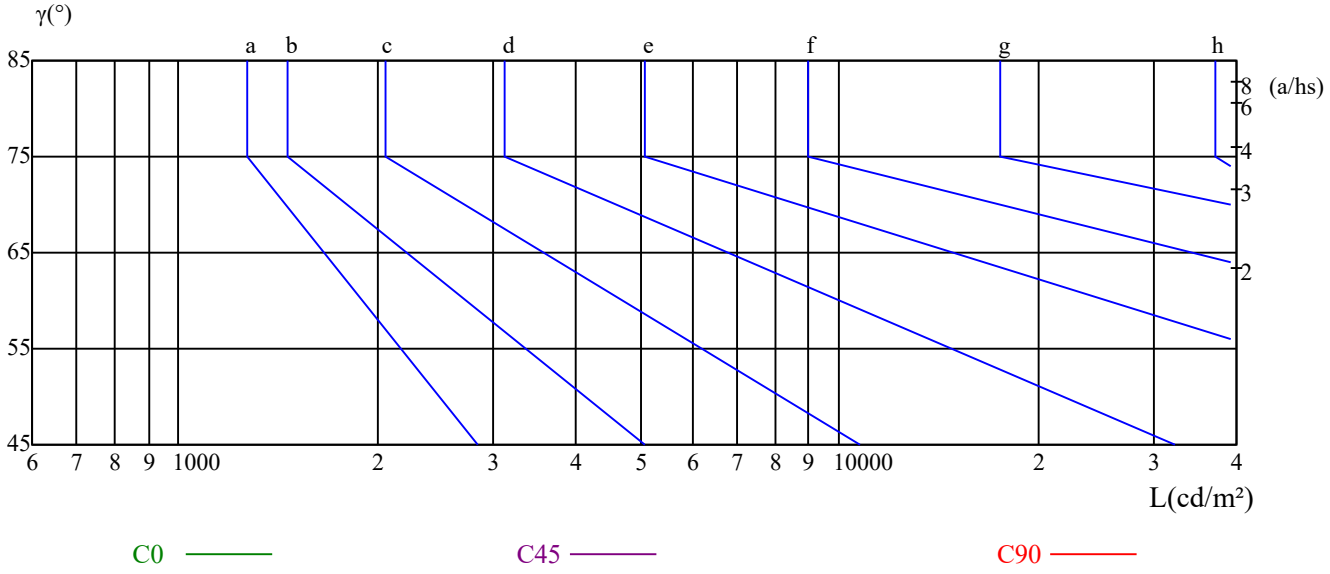
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

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

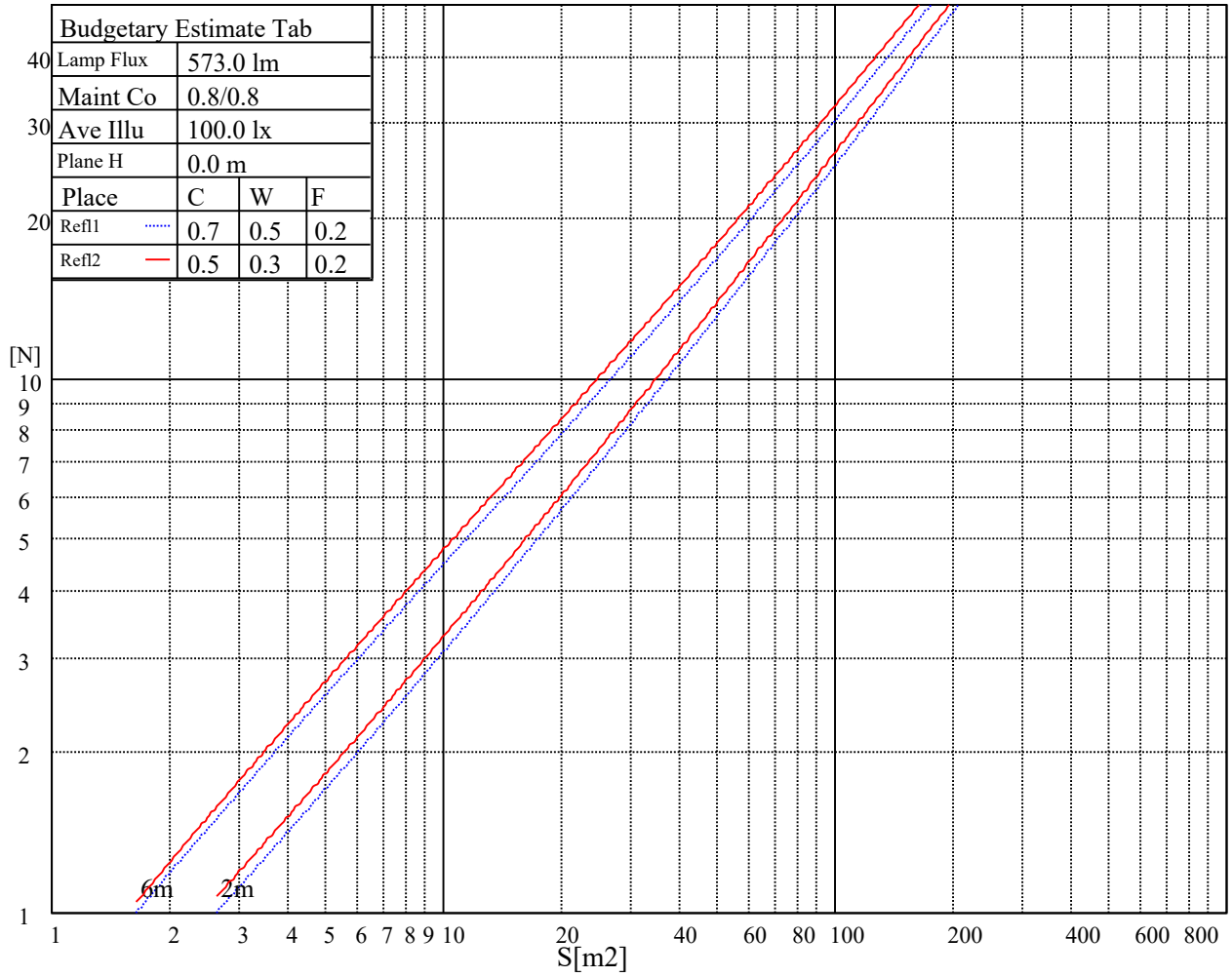
Glare Table

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 Limitting Curve



Budgetary Estimate Table



Equipment: GMS1980 Date: 2020/9/15 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

Utilization factor table for indoor luminaire

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	COEFFCIENTS OF UTILIZATION RHOFC=20 CU															
0	1.01	1.01	1.01	0.98	0.98	0.98	0.94	0.94	0.94	0.90	0.90	0.90	0.86	0.86	0.86	0.84
1	0.94	0.93	0.91	0.93	0.91	0.89	0.89	0.88	0.87	0.86	0.85	0.84	0.83	0.82	0.82	0.80
2	0.89	0.86	0.84	0.88	0.85	0.83	0.85	0.83	0.81	0.83	0.81	0.79	0.80	0.79	0.78	0.76
3	0.85	0.81	0.78	0.83	0.80	0.78	0.81	0.79	0.76	0.79	0.77	0.75	0.77	0.76	0.74	0.73
4	0.80	0.77	0.74	0.79	0.76	0.73	0.78	0.75	0.72	0.76	0.74	0.71	0.75	0.72	0.71	0.70
5	0.77	0.73	0.70	0.76	0.72	0.69	0.75	0.71	0.69	0.73	0.70	0.68	0.72	0.70	0.68	0.67
6	0.73	0.69	0.66	0.73	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.65	0.70	0.67	0.65	0.64
7	0.71	0.66	0.64	0.70	0.66	0.63	0.69	0.66	0.63	0.68	0.65	0.63	0.67	0.65	0.62	0.61
8	0.68	0.64	0.61	0.67	0.64	0.61	0.67	0.63	0.61	0.66	0.63	0.60	0.65	0.62	0.60	0.59
9	0.65	0.61	0.59	0.65	0.61	0.59	0.64	0.61	0.58	0.64	0.60	0.58	0.63	0.60	0.58	0.57
10	0.63	0.59	0.57	0.63	0.59	0.57	0.62	0.59	0.56	0.62	0.59	0.56	0.61	0.58	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	3958.31	4093.31	4047.19	3801.94	3443.06	2995.88	2388.94	1947.38	1568.81
45.0	4017.94	3967.88	3719.25	3368.81	2884.50	2374.88	1938.94	1514.25	1220.06
90.0	3963.38	3636.56	3186.56	2732.63	2217.38	1802.25	1284.19	1081.41	873.79
135.0	4061.81	3781.69	3336.19	2814.75	2345.06	1866.94	1462.50	1169.44	946.13
180.0	3958.31	3600.56	3258.56	2748.38	2230.88	1805.63	1283.63	1117.07	891.90
225.0	4011.75	3890.81	3631.50	3162.94	2718.56	2243.25	1713.94	1119.26	1090.46
270.0	3963.38	4092.19	4047.75	3802.50	3449.25	3006.56	2436.19	2003.06	1615.50
315.0	4061.81	4189.50	4119.75	3841.88	3409.88	2944.13	2466.00	1920.94	1543.50
360.0	3958.31	4093.31	4047.19	3801.94	3443.06	2995.88	2388.94	1947.38	1568.81

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	1190.81	964.13	790.31	649.69	554.63	492.19	437.06	397.69	360.00
45.0	971.44	788.63	668.25	585.56	493.88	442.13	406.69	359.44	332.44
90.0	727.54	601.88	532.07	477.90	429.02	389.48	358.82	330.58	306.51
135.0	749.25	636.19	554.63	484.88	430.88	392.63	357.19	328.50	307.13
180.0	748.35	631.74	548.21	490.78	438.13	395.89	363.38	337.95	310.89
225.0	888.64	709.54	613.74	542.98	479.25	428.40	390.99	355.67	327.04
270.0	1221.75	978.75	797.63	655.31	554.06	488.25	432.56	392.63	356.06
315.0	1118.64	891.45	742.50	621.56	528.92	464.91	420.86	380.19	349.43
360.0	1190.81	964.13	790.31	649.69	554.63	492.19	437.06	397.69	360.00

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	330.75	309.38	289.13	285.19	256.44	244.52	231.98	223.26	215.49
45.0	311.63	289.13	285.19	256.84	244.35	234.00	224.38	215.27	208.35
90.0	288.23	270.79	256.95	243.96	232.65	223.99	215.16	207.34	200.81
135.0	286.88	284.63	255.32	241.99	232.76	222.86	214.20	207.45	201.21
180.0	292.39	276.53	260.78	247.78	237.49	227.64	218.53	211.39	203.85
225.0	306.34	286.71	271.63	257.57	244.52	235.01	225.17	216.79	209.93
270.0	326.81	304.88	285.75	274.95	254.03	242.89	233.49	222.98	215.44
315.0	320.68	297.34	279.84	263.42	249.24	238.89	230.12	220.67	214.09
360.0	330.75	309.38	289.13	285.19	256.44	244.52	231.98	223.26	215.49

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	207.51	200.03	193.95	187.26	180.28	174.49	168.08	161.49	151.93
45.0	200.76	194.01	187.48	180.96	173.59	167.63	160.54	150.41	135.28
90.0	194.79	187.20	181.07	175.39	168.08	159.53	150.13	132.92	116.61
135.0	193.84	187.59	181.74	175.67	168.58	160.20	150.58	133.71	117.06
180.0	197.21	189.39	181.80	176.01	170.04	161.94	153.39	139.44	117.17
225.0	203.18	195.41	188.55	182.53	176.34	170.10	163.69	153.45	136.63
270.0	208.80	201.09	195.69	190.29	182.93	177.53	172.29	164.31	152.44
315.0	207.96	202.44	196.03	190.80	184.67	178.93	173.76	164.87	155.98
360.0	207.51	200.03	193.95	187.26	180.28	174.49	168.08	161.49	151.93

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	137.19	122.23	104.51	80.61	62.44	46.58	32.12	24.58	18.96
45.0	120.49	101.08	79.09	61.14	43.88	31.84	23.12	17.49	13.78
90.0	97.82	73.80	57.99	41.18	27.96	21.71	16.59	11.98	9.96
135.0	98.66	77.79	56.98	41.85	29.59	22.05	16.20	12.38	9.84
180.0	97.37	76.78	55.18	38.14	27.90	20.03	15.36	11.70	9.11
225.0	118.13	94.67	73.35	52.37	36.28	26.89	20.48	15.02	11.93
270.0	140.63	122.40	103.28	80.49	58.72	43.09	30.71	22.50	17.49
315.0	142.20	126.73	105.41	84.26	59.74	43.59	32.29	23.63	17.49
360.0	137.19	122.23	104.51	80.61	62.44	46.58	32.12	24.58	18.96

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	14.34	10.91	8.66	6.53	5.01	3.66	2.87	2.64	2.59
45.0	10.97	8.27	6.47	4.95	3.54	2.87	2.64	2.53	2.42
90.0	8.04	5.79	4.61	3.60	2.93	2.76	2.64	2.42	2.42
135.0	7.71	5.96	4.73	3.83	2.98	2.76	2.70	2.42	2.42
180.0	7.31	5.74	4.44	3.54	2.98	2.70	2.59	2.42	2.36
225.0	9.45	7.31	5.68	4.50	3.49	2.87	2.70	2.59	2.42
270.0	13.73	10.35	8.27	6.58	5.01	3.83	3.15	2.76	2.64
315.0	13.50	10.58	7.93	6.30	4.78	3.66	2.98	2.70	2.59
360.0	14.34	10.91	8.66	6.53	5.01	3.66	2.87	2.64	2.59

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	2.42	2.36	2.36	2.31	2.31	2.31	2.25	2.19	2.19
45.0	2.36	2.36	2.31	2.31	2.31	2.31	2.25	2.25	2.25
90.0	2.36	2.31	2.31	2.31	2.31	2.25	2.25	2.25	2.25
135.0	2.36	2.36	2.36	2.31	2.31	2.25	2.25	2.25	2.25
180.0	2.36	2.31	2.31	2.31	2.25	2.31	2.25	2.25	2.25
225.0	2.36	2.36	2.31	2.31	2.25	2.25	2.25	2.19	2.19
270.0	2.53	2.42	2.36	2.36	2.31	2.31	2.25	2.25	2.25
315.0	2.48	2.36	2.36	2.36	2.31	2.31	2.25	2.25	2.25
360.0	2.42	2.36	2.36	2.31	2.31	2.31	2.25	2.19	2.19

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	2.25	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19
45.0	2.25	2.25	2.19	2.19	2.25	2.25	2.19	2.19	2.19
90.0	2.25	2.25	2.19	2.19	2.19	2.19	2.19	2.19	2.19
135.0	2.25	2.25	2.25	2.19	2.25	2.19	2.19	2.19	2.19
180.0	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19
225.0	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19
270.0	2.25	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19
315.0	2.25	2.19	2.19	2.19	2.19	2.14	2.19	2.19	2.14
360.0	2.25	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	2.14	2.14	2.19	2.14	2.14	2.14	2.19	2.14	2.14
45.0	2.25	2.25	2.25	2.25	2.25	2.31	2.25	2.25	2.25
90.0	2.19	2.19	2.19	2.19	2.19	2.25	2.25	2.25	2.25
135.0	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.25	2.25
180.0	2.19	2.19	2.19	2.19	2.19	2.19	2.25	2.25	2.25
225.0	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19
270.0	2.14	2.19	2.19	2.14	2.14	2.14	2.14	2.14	2.14
315.0	2.14	2.14	2.14	2.14	2.14	2.14	2.14	2.14	2.14
360.0	2.14	2.14	2.19	2.14	2.14	2.14	2.19	2.14	2.14

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	2.19	2.19	2.14	2.19	2.19	2.08	2.14	2.14	2.14
45.0	2.31	2.31	2.31	2.25	2.14	2.08	2.08	2.08	2.08
90.0	2.31	2.36	2.36	2.36	2.31	2.08	2.08	2.14	2.08
135.0	2.25	2.25	2.31	2.31	2.36	2.42	2.08	2.14	2.08
180.0	2.25	2.31	2.31	2.36	2.42	2.36	2.14	2.14	2.08
225.0	2.19	2.19	2.25	2.19	2.19	2.14	2.08	2.14	2.08
270.0	2.14	2.14	2.14	2.14	2.14	2.14	2.08	2.14	2.08
315.0	2.14	2.14	2.14	2.14	2.14	2.14	2.14	2.14	2.14
360.0	2.19	2.19	2.14	2.19	2.19	2.08	2.14	2.14	2.14

Intensity data(cd)

C/γ(°)	90.0
0.0	2.14
45.0	2.08
90.0	2.14
135.0	2.14
180.0	3.32
225.0	2.14
270.0	2.14
315.0	2.14
360.0	2.14