



NATA LIGHTING CO.,LTD.
www.nata.cn
Email:info@nata.com
Tel:+86-750-3770000 Fax:+86-750-3771111
Address:380JinOu Road,GaoXin Zone,Jiang Men City,Guangdong,China

Nata

LumCAT: 1437-N	
Luminaire: 92.70.064.00	
Report No: 200406-B036	Voltage(V): 220.4000
Test No: 200406-C036	Current(A): 0.0410
LampCAT: LUMINUS CXM-9-AC40	Power (W): 8.1400
Lamp flux(lm): 734.0	PF: 0.8950
Number of Lamps: 1	Ballast type: AC
Length(mm): 0	Width(mm): 0
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 574.93
Efficiency(%): 78.33%
Lumens(lm)/Power(W): 70.63
Central intensity(cd): 980.317
Maximum intensity(cd): 980.317
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=40.2
 [C90/270]Total=40.2
Field angle(10%Imax): [C0/180]Total=73.8
 [C90/270]Total=73.8
Maximum s/h(1/2): C0_180=0.66 C90_270=0.66
Maximum s/h(1/4): C0_180=0.63 C90_270=0.63
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 78.33%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 96.264%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	980.317	0.000	0	.000%	.000%
1.0	979.563	0.938	0.938	.128%	.163%
2.0	975.851	2.807	3.744	.382%	.651%
3.0	970.920	4.656	8.4	.634%	1.461%
4.0	963.090	6.474	14.874	.882%	2.587%
5.0	952.168	8.239	23.113	1.123%	4.020%
6.0	943.531	9.962	33.076	1.357%	5.753%
7.0	936.501	11.669	44.745	1.590%	7.783%
8.0	923.050	13.308	58.054	1.813%	10.098%
9.0	906.640	14.829	72.882	2.020%	12.677%
10.0	887.470	16.236	89.118	2.212%	15.501%
11.0	863.392	17.495	106.613	2.383%	18.544%
12.0	835.254	18.569	125.182	2.530%	21.774%
13.0	805.191	19.468	144.65	2.652%	25.160%
14.0	766.867	20.122	164.772	2.741%	28.660%
15.0	731.247	20.567	185.339	2.802%	32.237%
16.0	684.351	20.742	206.081	2.826%	35.845%
17.0	637.541	20.585	226.667	2.805%	39.425%
18.0	592.321	20.278	246.944	2.763%	42.952%
19.0	539.404	19.690	266.634	2.683%	46.377%
20.0	494.404	18.922	285.556	2.578%	49.668%
21.0	444.927	18.037	303.593	2.457%	52.806%
22.0	404.950	17.079	320.671	2.327%	55.776%
23.0	359.098	16.032	336.703	2.184%	58.565%
24.0	320.287	14.854	351.557	2.024%	61.148%
25.0	285.062	13.764	365.321	1.875%	63.542%
26.0	252.672	12.693	378.014	1.729%	65.750%
27.0	230.050	11.810	389.824	1.609%	67.804%
28.0	205.990	11.040	400.864	1.504%	69.725%
29.0	191.947	10.411	411.275	1.418%	71.535%
30.0	167.400	9.702	420.977	1.322%	73.223%
31.0	153.328	8.925	429.903	1.216%	74.775%
32.0	140.776	8.426	438.329	1.148%	76.241%
33.0	130.335	7.987	446.316	1.088%	77.630%
34.0	120.753	7.599	453.914	1.035%	78.952%
35.0	111.815	7.223	461.137	.984%	80.208%
36.0	104.744	6.895	468.032	.939%	81.407%
37.0	97.093	6.583	474.615	.897%	82.552%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	90.359	6.257	480.872	.852%	83.641%
39.0	84.350	5.963	486.835	.812%	84.678%
40.0	78.126	5.667	492.502	.772%	85.664%
41.0	72.128	5.350	497.852	.729%	86.594%
42.0	66.392	5.033	502.885	.686%	87.470%
43.0	61.455	4.736	507.621	.645%	88.293%
44.0	56.374	4.447	512.068	.606%	89.067%
45.0	51.804	4.157	516.225	.566%	89.790%
46.0	47.853	3.897	520.123	.531%	90.468%
47.0	43.956	3.651	523.774	.497%	91.103%
48.0	40.261	3.404	527.179	.464%	91.695%
49.0	37.030	3.174	530.353	.432%	92.247%
50.0	34.106	2.966	533.319	.404%	92.763%
51.0	31.247	2.765	536.084	.377%	93.244%
52.0	28.503	2.564	538.648	.349%	93.690%
53.0	26.398	2.388	541.036	.325%	94.105%
54.0	24.025	2.222	543.258	.303%	94.492%
55.0	21.914	2.051	545.309	.279%	94.849%
56.0	20.098	1.898	547.207	.259%	95.179%
57.0	18.376	1.759	548.966	.240%	95.485%
58.0	16.705	1.622	550.589	.221%	95.767%
59.0	15.151	1.489	552.078	.203%	96.026%
60.0	13.747	1.365	553.443	.186%	96.263%
61.0	12.546	1.255	554.698	.171%	96.482%
62.0	11.456	1.157	555.854	.158%	96.683%
63.0	10.487	1.067	556.922	.145%	96.868%
64.0	9.675	0.989	557.911	.135%	97.041%
65.0	9.014	0.925	558.836	.126%	97.201%
66.0	8.486	0.873	559.709	.119%	97.353%
67.0	8.080	0.833	560.542	.113%	97.498%
68.0	7.738	0.801	561.343	.109%	97.638%
69.0	7.407	0.773	562.116	.105%	97.772%
70.0	7.111	0.746	562.862	.102%	97.902%
71.0	6.885	0.723	563.585	.099%	98.027%
72.0	6.630	0.703	564.288	.096%	98.150%
73.0	6.415	0.682	564.97	.093%	98.268%
74.0	6.235	0.665	565.635	.091%	98.384%
75.0	6.044	0.649	566.284	.088%	98.497%

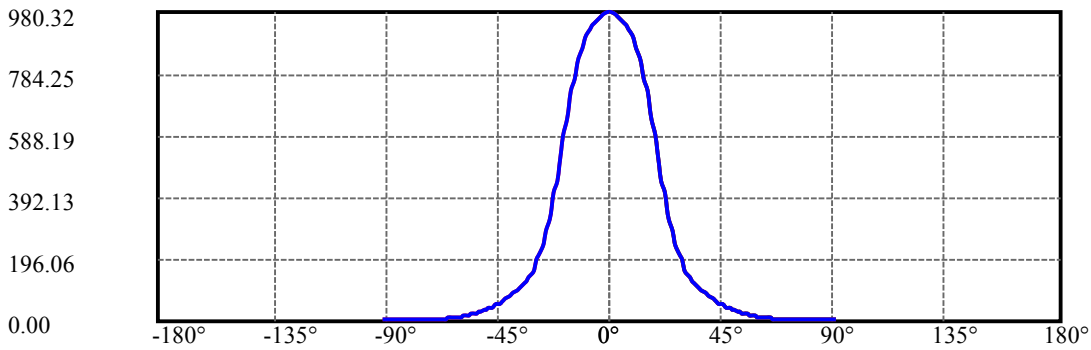
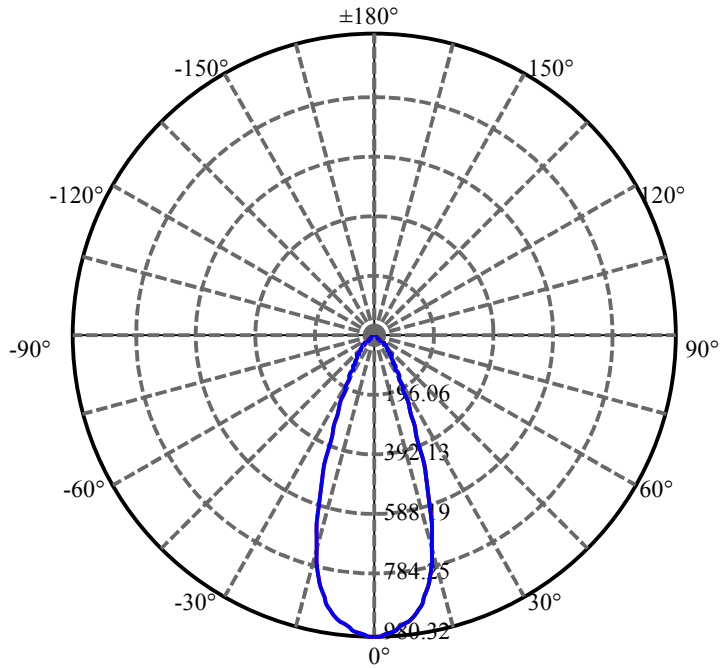
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	5.887	0.633	566.917	.086%	98.607%
77.0	5.795	0.623	567.54	.085%	98.715%
78.0	5.766	0.619	568.159	.084%	98.823%
79.0	5.696	0.616	568.775	.084%	98.930%
80.0	5.592	0.609	569.383	.083%	99.036%
81.0	5.551	0.603	569.986	.082%	99.141%
82.0	5.592	0.604	570.59	.082%	99.246%
83.0	5.621	0.610	571.2	.083%	99.352%
84.0	5.493	0.605	571.805	.082%	99.457%
85.0	5.389	0.594	572.399	.081%	99.561%
86.0	4.913	0.563	572.962	.077%	99.658%
87.0	4.629	0.522	573.484	.071%	99.749%
88.0	4.449	0.497	573.981	.068%	99.836%
89.0	4.321	0.481	574.462	.065%	99.919%
90.0	4.130	0.463	574.926	.063%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	420.98	57.35%	73.22%
0-40	492.50	67.10%	85.66%
0-60	553.44	75.40%	96.26%
0-90	574.46	78.26%	99.92%
0-120	574.46	78.26%	99.92%
0-180	574.93	78.33%	100.00%
60-90	22.38	3.05%	3.89%
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%
0-34.83	459.94	62.66%	80.00%

ZONAL LUMEN SUMMARY

0-10	89.12
10-20	196.44
20-30	135.42
30-40	71.52
40-50	40.82
50-60	20.12
60-70	9.42
70-80	6.52
80-90	5.08
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: —————

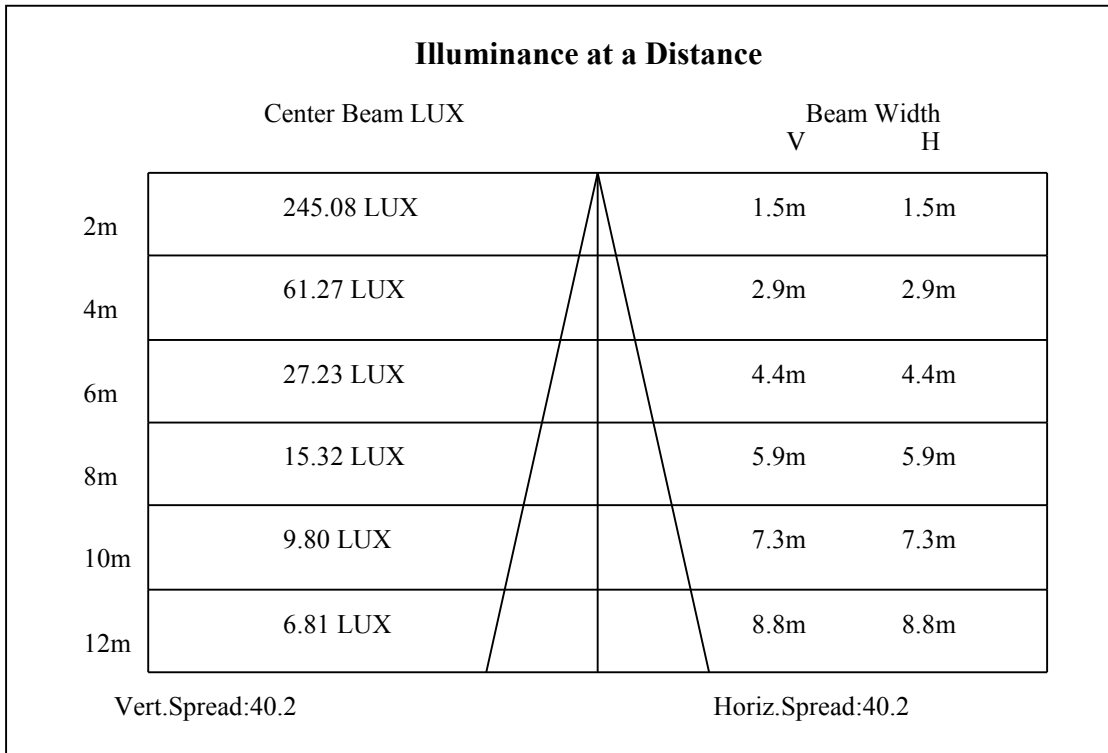
C90/C270: —————

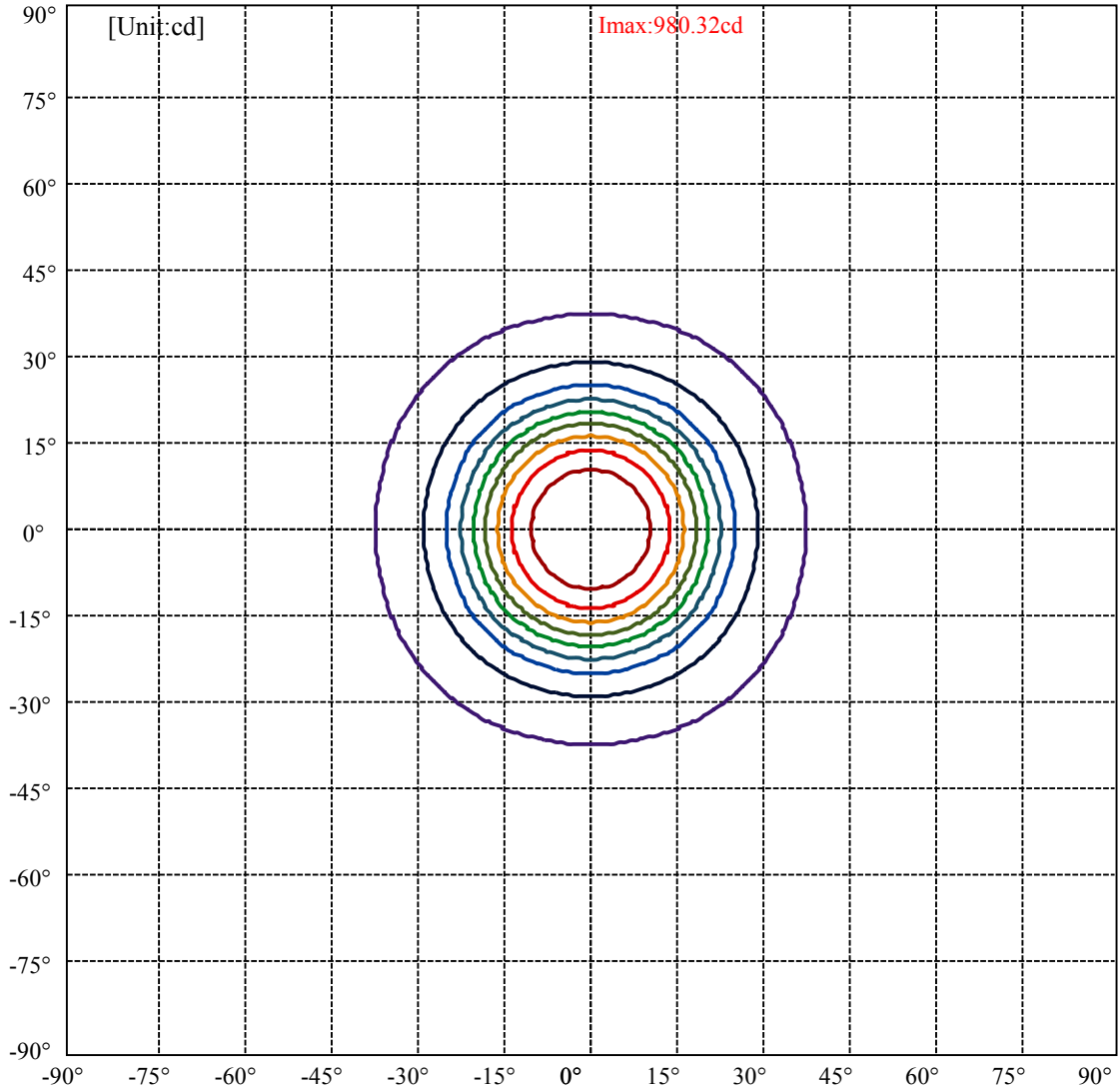
Field angle(10%Imax):C0/180Left:36.9 Right:36.9

:C90/270Left:36.9 Right:36.9

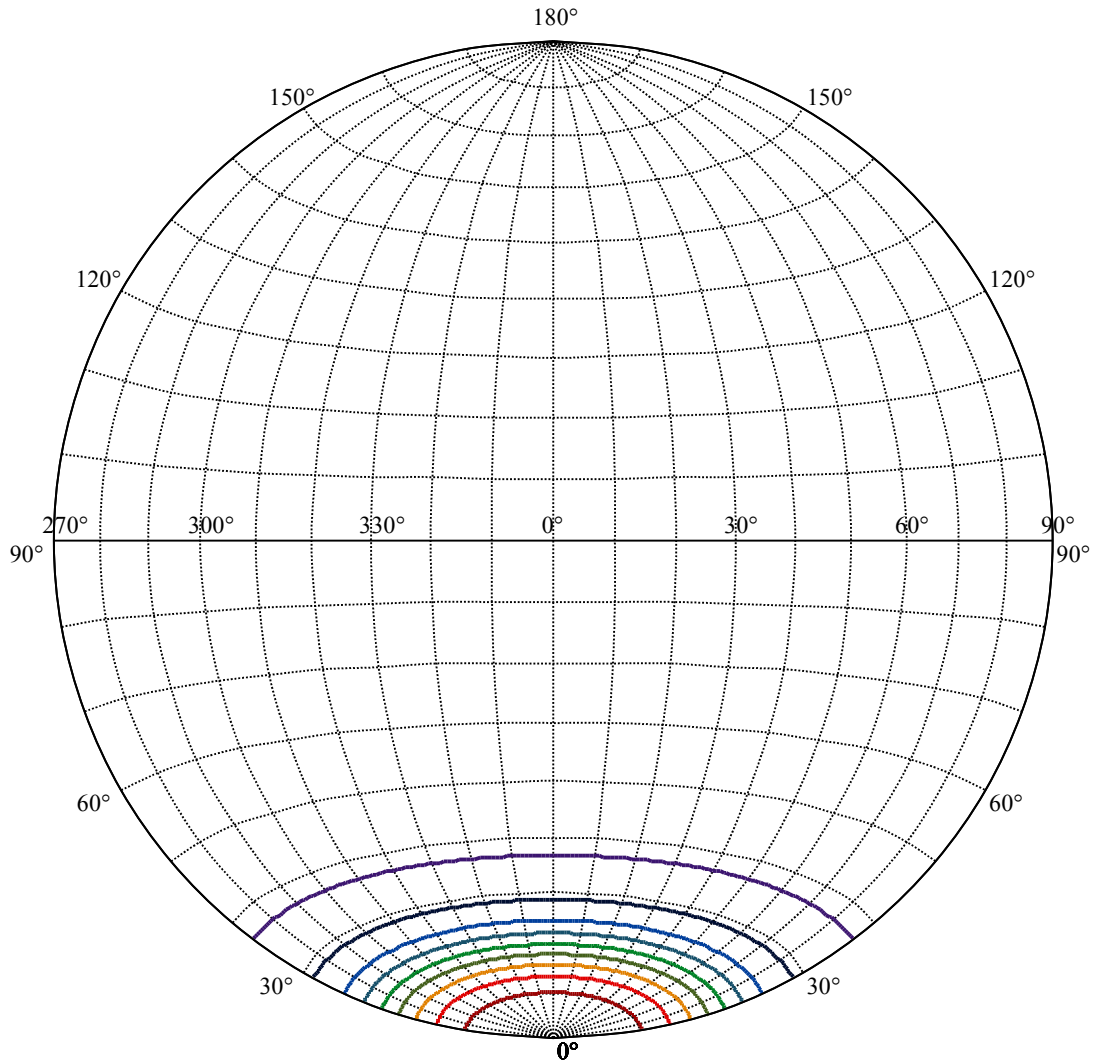
Beam Angle(50%Imax):C0/180Left:20.1 Right:20.1

:C90/270Left:20.1 Right:20.1





(10%Imax) 98.0317	—
(20%Imax) 196.063	—
(30%Imax) 294.095	—
(40%Imax) 392.127	—
(50%Imax) 490.158	—
(60%Imax) 588.19	—
(70%Imax) 686.222	—
(80%Imax) 784.254	—
(90%Imax) 882.285	—



House

[Unit:cd]

Road

Imax:980.32

(10%Imax) 98.0317

(20%Imax) 196.063

(30%Imax) 294.095

(40%Imax) 392.127

(50%Imax) 490.158

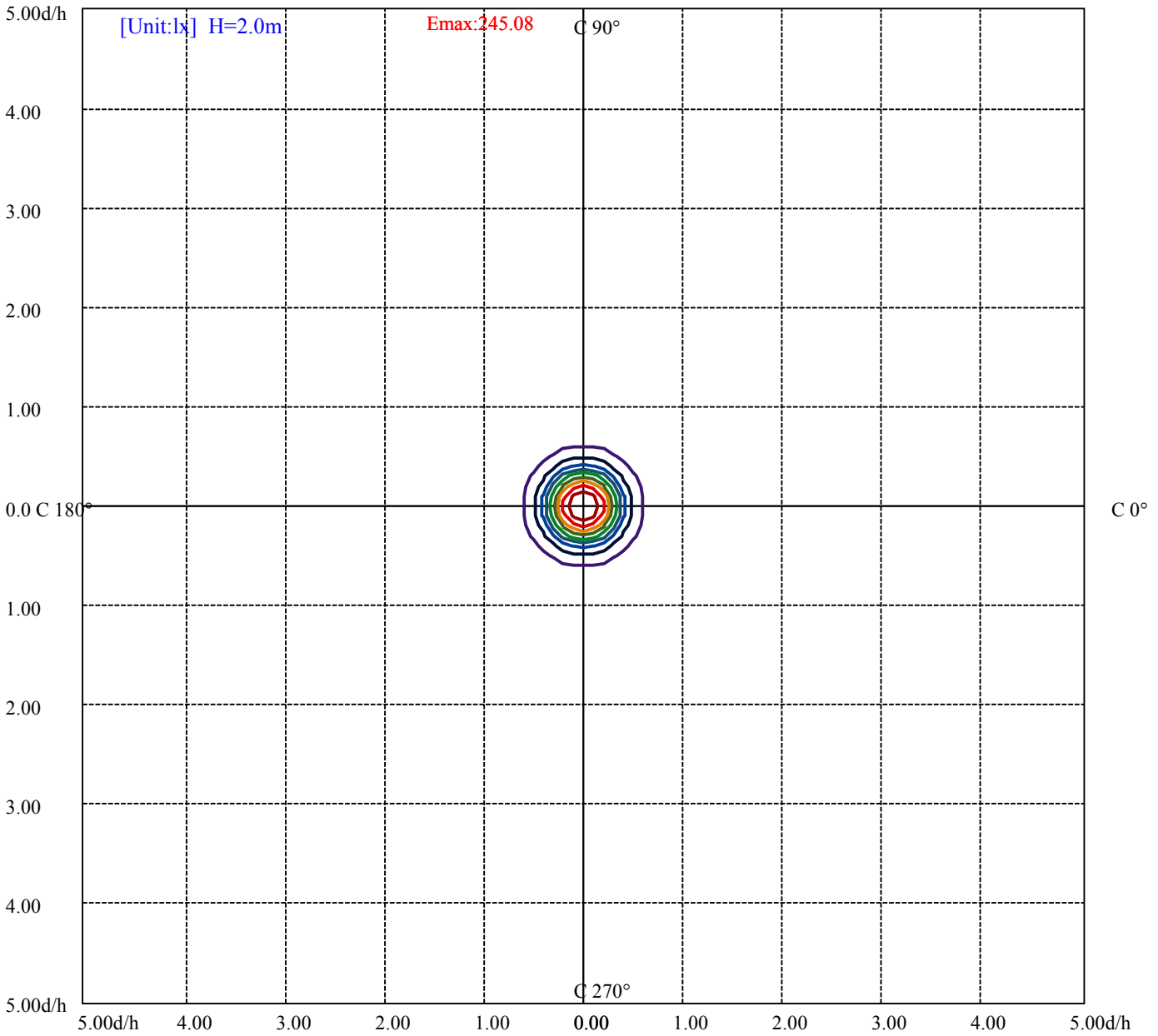
(60%Imax) 588.19

(70%Imax) 686.222

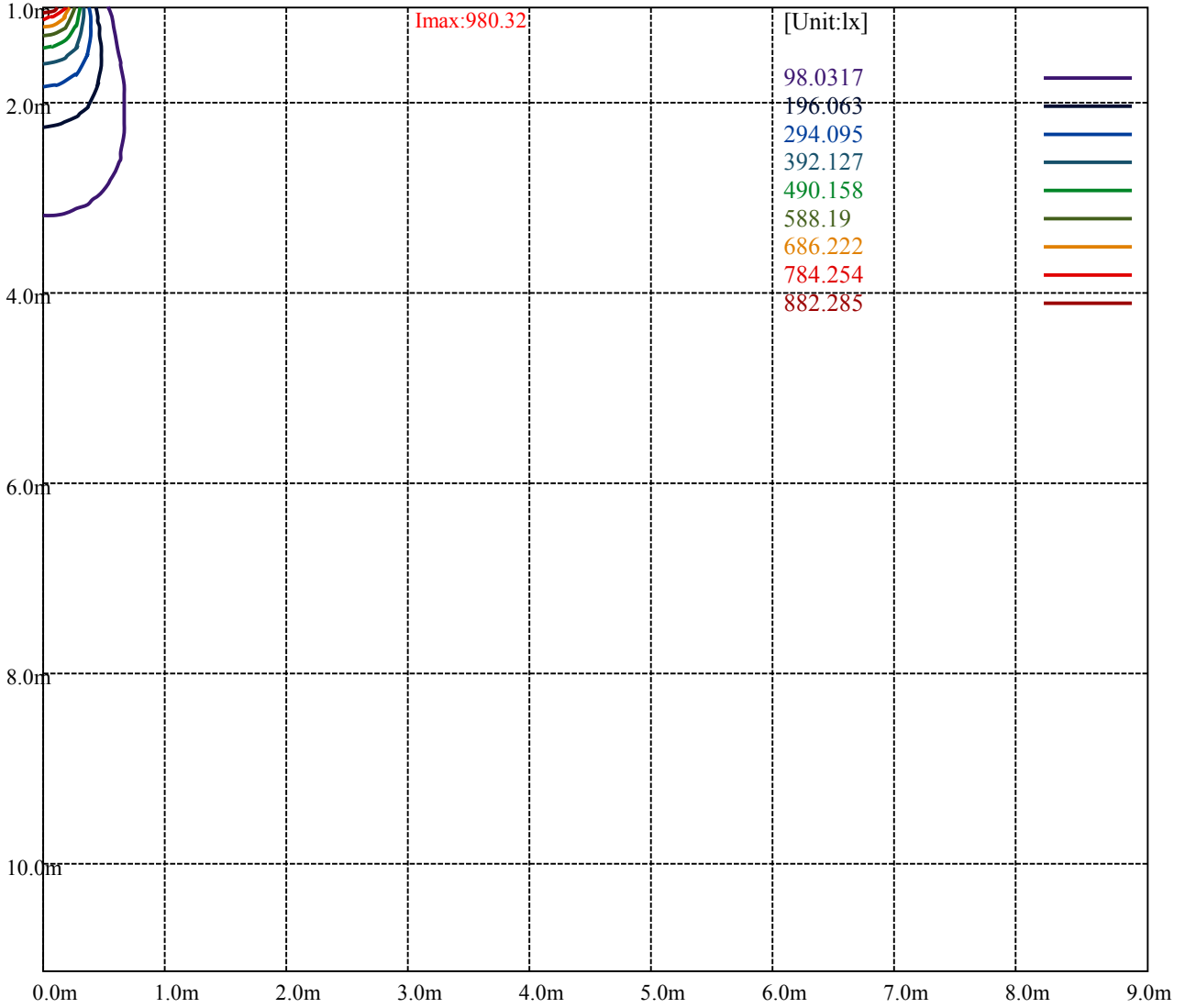
(80%Imax) 784.254

(90%Imax) 882.285





- (10%Emax) 24.50793
- (20%Emax) 49.01575
- (30%Emax) 73.52375
- (40%Emax) 98.03175
- (50%Emax) 122.5395
- (60%Emax) 147.0475
- (70%Emax) 171.5555
- (80%Emax) 196.0632
- (90%Emax) 220.5712



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

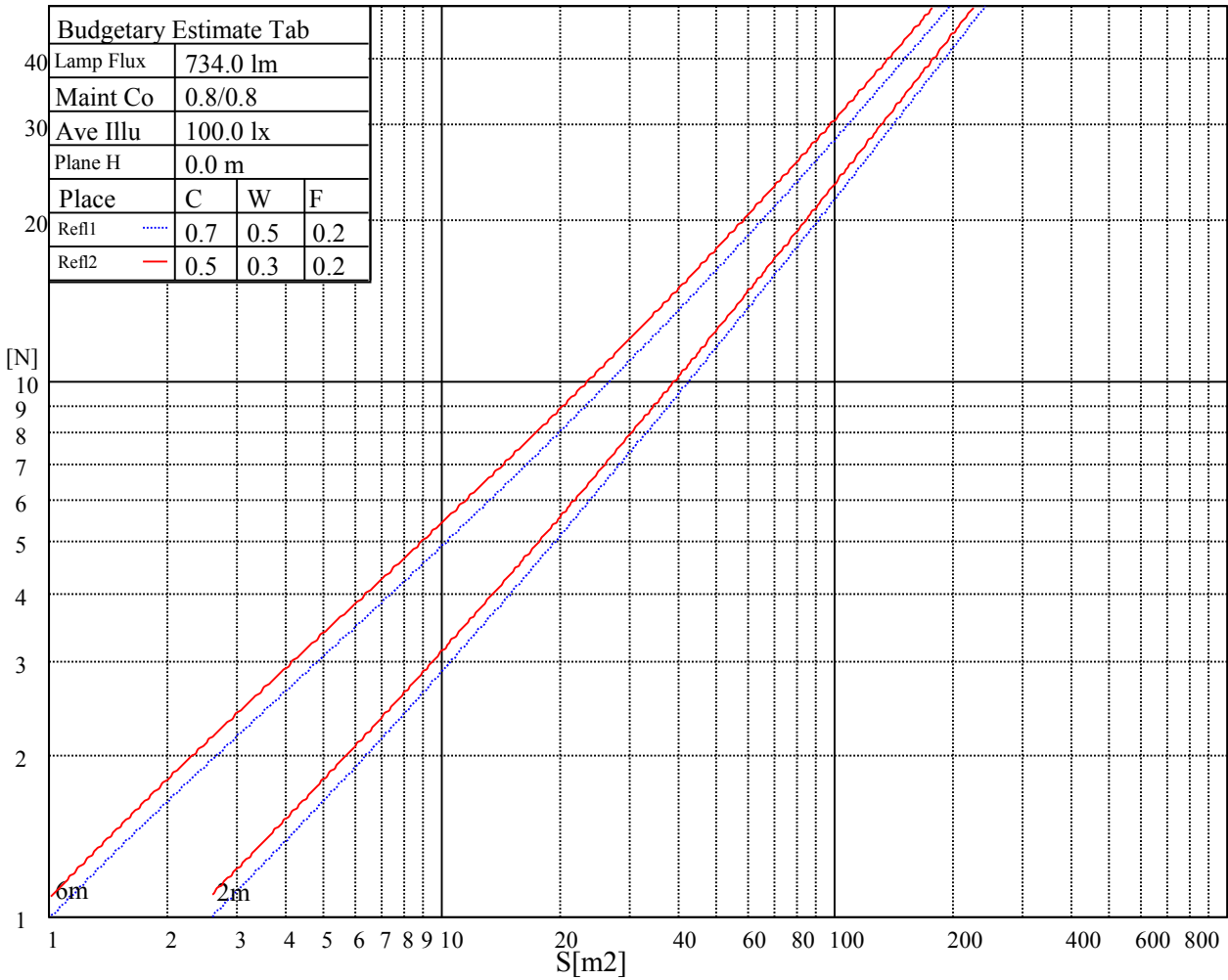
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

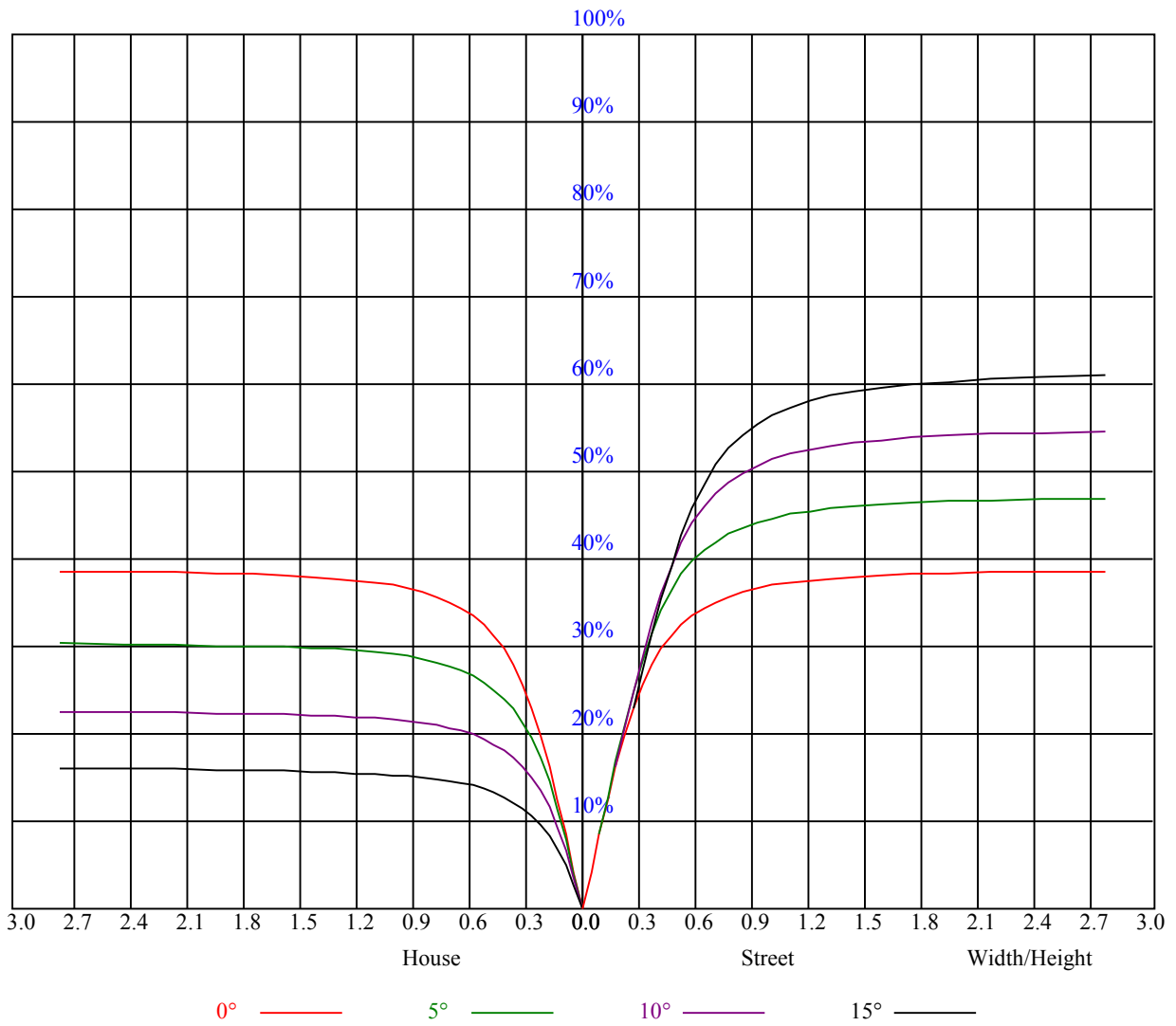
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve





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	0.93	0.93	0.93	0.91	0.91	0.91	0.87	0.87	0.87	0.83	0.83	0.83	0.80	0.80	0.80	0.78
1	0.86	0.84	0.82	0.85	0.83	0.81	0.81	0.80	0.78	0.78	0.77	0.76	0.76	0.75	0.74	0.72
2	0.80	0.77	0.74	0.79	0.76	0.73	0.76	0.74	0.72	0.74	0.72	0.70	0.72	0.70	0.69	0.67
3	0.75	0.71	0.68	0.74	0.70	0.67	0.72	0.69	0.66	0.70	0.67	0.65	0.68	0.66	0.64	0.63
4	0.70	0.66	0.62	0.69	0.65	0.62	0.68	0.64	0.61	0.66	0.63	0.61	0.64	0.62	0.60	0.59
5	0.66	0.61	0.58	0.65	0.61	0.58	0.64	0.60	0.57	0.63	0.59	0.57	0.61	0.59	0.56	0.55
6	0.62	0.58	0.54	0.62	0.57	0.54	0.60	0.57	0.54	0.59	0.56	0.53	0.58	0.55	0.53	0.52
7	0.59	0.54	0.51	0.58	0.54	0.51	0.57	0.54	0.51	0.56	0.53	0.50	0.56	0.53	0.50	0.49
8	0.56	0.51	0.48	0.55	0.51	0.48	0.55	0.51	0.48	0.54	0.50	0.48	0.53	0.50	0.48	0.47
9	0.53	0.49	0.46	0.53	0.49	0.46	0.52	0.48	0.46	0.51	0.48	0.45	0.51	0.48	0.45	0.44
10	0.51	0.46	0.44	0.50	0.46	0.43	0.50	0.46	0.43	0.49	0.46	0.43	0.49	0.45	0.43	0.42



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	978.23	971.73	963.38	953.17	942.50	923.70	923.70	914.61	898.46
45.0	983.80	981.01	975.91	969.41	961.06	954.10	945.75	936.47	923.01
90.0	981.48	978.23	972.20	965.24	956.42	949.92	918.88	918.88	910.80
135.0	977.76	982.87	984.73	981.94	975.91	970.80	963.84	955.96	946.67
180.0	978.23	982.87	985.65	987.97	984.73	977.30	972.66	967.09	960.13
225.0	983.80	984.73	981.94	978.23	973.12	961.52	953.64	948.53	925.33
270.0	981.48	981.94	980.09	974.52	966.63	956.88	946.67	935.07	922.08
315.0	977.76	973.12	962.92	956.88	944.35	923.10	923.10	915.40	897.90
360.0	978.23	971.73	963.38	953.17	942.50	923.70	923.70	914.61	898.46
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	868.30	853.45	825.56	792.38	756.10	716.75	672.57	625.93	577.40
45.0	907.70	885.42	857.58	825.56	805.14	752.71	727.19	679.86	610.25
90.0	888.16	860.78	829.65	796.70	760.78	719.62	675.96	627.09	575.59
135.0	931.83	912.34	890.53	863.61	833.45	797.26	757.35	714.19	670.11
180.0	949.92	936.47	918.83	896.09	868.25	836.70	799.11	757.81	714.19
225.0	925.33	908.44	886.16	862.03	829.74	791.13	750.62	708.35	662.55
270.0	906.30	889.60	871.04	848.30	823.24	794.01	773.59	721.62	697.02
315.0	875.58	853.26	827.79	797.35	764.82	726.77	693.59	639.95	593.22
360.0	868.30	853.45	825.56	792.38	756.10	716.75	672.57	625.93	577.40
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	527.79	478.46	430.53	384.73	342.22	304.17	270.11	240.37	214.34
45.0	579.16	528.58	477.07	426.96	380.55	337.40	298.42	263.15	238.56
90.0	522.27	470.99	422.50	379.12	354.24	314.66	279.26	248.44	222.41
135.0	620.46	570.34	528.58	467.33	429.28	383.80	334.15	304.45	271.04
180.0	668.25	618.14	566.17	513.73	464.08	414.43	368.95	326.73	289.14
225.0	611.69	559.86	507.05	458.00	429.42	364.78	338.19	298.05	251.46
270.0	653.41	590.76	562.92	515.12	467.33	420.46	375.91	335.08	298.42
315.0	555.54	498.09	460.41	414.43	372.48	333.08	297.31	264.22	236.01
360.0	527.79	478.46	430.53	384.73	342.22	304.17	270.11	240.37	214.34
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	192.71	173.78	160.97	144.78	135.59	125.24	116.19	107.89	100.42
45.0	238.56	181.99	164.36	155.13	141.48	125.61	119.49	110.63	102.74
90.0	200.28	181.39	165.29	151.74	140.05	129.51	120.00	111.23	103.20
135.0	241.81	236.70	211.27	178.42	163.39	150.35	139.02	132.81	119.77
180.0	256.66	238.56	238.56	191.79	173.64	158.51	145.15	133.32	123.25
225.0	234.29	208.54	185.89	167.24	152.62	140.14	129.37	119.40	110.63
270.0	264.55	236.70	236.70	192.16	174.24	162.23	148.77	134.94	126.68
315.0	211.55	190.25	172.53	157.96	145.61	134.62	124.69	115.82	107.84
360.0	192.71	173.78	160.97	144.78	135.59	125.24	116.19	107.89	100.42
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	93.50	87.10	81.21	75.54	69.33	63.71	58.70	54.25	49.84
45.0	95.59	88.82	82.64	76.84	71.04	65.34	60.23	55.64	51.28
90.0	95.92	89.05	82.64	76.70	70.49	64.92	59.81	56.10	51.65
135.0	114.62	106.91	99.95	93.46	87.19	81.35	74.80	68.82	63.53
180.0	114.48	106.63	99.07	92.11	85.66	79.77	73.73	67.56	62.23
225.0	102.74	95.31	88.49	81.95	76.01	69.79	64.13	60.93	54.11
270.0	117.63	109.47	101.81	94.89	88.49	81.53	74.76	68.77	63.48
315.0	103.48	93.46	87.05	83.29	76.80	70.63	64.96	59.58	54.90
360.0	93.50	87.10	81.21	75.54	69.33	63.71	58.70	54.25	49.84

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	45.80	42.09	38.65	35.41	32.58	30.95	27.15	24.83	23.43
45.0	47.33	43.67	40.05	36.71	33.74	30.86	29.19	25.75	24.45
90.0	46.82	43.76	40.05	36.75	33.69	30.77	28.03	25.61	23.34
135.0	58.65	54.11	49.88	45.94	42.18	38.93	35.92	32.95	30.39
180.0	57.35	52.81	49.37	44.59	41.62	38.19	35.08	32.25	29.56
225.0	49.65	47.15	43.25	39.58	36.19	33.22	30.49	27.84	25.34
270.0	58.47	53.18	48.07	44.08	40.32	36.94	33.87	31.09	29.33
315.0	50.35	46.08	42.32	39.03	35.92	32.99	30.25	27.70	25.34
360.0	45.80	42.09	38.65	35.41	32.58	30.95	27.15	24.83	23.43
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	20.56	19.49	17.77	16.06	14.57	13.09	11.79	10.63	9.70
45.0	22.18	20.19	18.38	16.75	15.17	13.74	12.39	11.42	10.53
90.0	21.39	19.58	17.91	16.29	14.85	13.46	12.25	11.18	10.26
135.0	27.84	25.52	23.39	21.44	20.05	18.42	16.47	15.36	13.97
180.0	27.10	24.83	22.64	20.60	18.79	17.03	15.45	13.97	12.71
225.0	23.16	21.07	19.12	17.40	15.78	14.25	12.85	11.69	10.67
270.0	26.91	23.62	22.37	20.42	18.70	17.03	15.41	14.01	12.71
315.0	23.06	21.02	19.21	18.05	15.73	14.20	13.36	12.11	11.09
360.0	20.56	19.49	17.77	16.06	14.57	13.09	11.79	10.63	9.70
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	8.91	8.21	7.66	7.33	7.05	6.73	6.50	6.17	6.03
45.0	9.65	8.91	8.26	7.80	7.38	7.01	6.73	6.45	6.17
90.0	9.56	8.91	8.58	8.03	7.80	7.52	7.33	7.10	6.87
135.0	12.85	11.88	11.00	10.26	9.70	9.33	8.91	8.54	8.31
180.0	11.51	10.39	9.51	8.82	8.17	7.93	7.42	7.15	6.91
225.0	9.79	9.14	8.54	8.03	7.70	7.29	6.96	6.68	6.45
270.0	11.42	10.44	9.61	9.00	8.54	8.12	7.75	7.42	7.19
315.0	10.21	9.51	8.96	8.63	8.31	7.98	7.66	7.38	7.15
360.0	8.91	8.21	7.66	7.33	7.05	6.73	6.50	6.17	6.03
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	5.80	5.61	5.52	5.29	5.20	5.15	5.06	5.01	4.97
45.0	5.89	5.71	5.52	5.34	5.20	4.92	4.83	4.69	4.55
90.0	6.68	6.54	6.45	6.36	6.40	6.73	7.38	7.47	6.96
135.0	8.03	7.80	7.56	7.33	7.15	6.96	6.82	6.77	6.68
180.0	6.68	6.45	6.17	5.94	5.71	5.57	5.34	5.10	5.06
225.0	6.17	5.94	5.75	5.52	5.29	5.10	4.92	4.73	4.55
270.0	6.91	6.64	6.45	6.26	6.03	5.94	5.75	5.61	5.66
315.0	6.87	6.64	6.45	6.31	6.13	5.99	6.03	6.17	6.31
360.0	5.80	5.61	5.52	5.29	5.20	5.15	5.06	5.01	4.97
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	4.97	5.06	5.01	4.50	4.41	2.46	1.86	1.86	2.13
45.0	4.32	4.27	4.27	4.27	4.32	4.32	3.99	3.62	3.34
90.0	6.68	6.54	6.26	5.94	5.52	5.20	4.87	4.64	4.45
135.0	6.68	6.87	7.15	7.52	7.52	7.24	7.01	6.77	6.54
180.0	5.06	5.01	4.97	4.32	3.94	3.39	3.48	3.85	3.94
225.0	4.41	4.36	4.22	4.13	4.08	3.90	3.57	3.11	2.69
270.0	5.94	6.36	6.54	6.54	6.73	6.50	5.94	5.38	4.87
315.0	6.36	6.26	6.54	6.73	6.59	6.31	6.31	6.36	6.59
360.0	4.97	5.06	5.01	4.50	4.41	2.46	1.86	1.86	2.13

Intensity data(cd)

C/γ(°)	90.0
0.0	2.18
45.0	3.16
90.0	4.27
135.0	6.13
180.0	3.43
225.0	2.69
270.0	4.41
315.0	6.77
360.0	2.18