



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: 1676-A	
Luminaire: 92.70.064.00+92.70.147.00	
Report No: 200605-B007	Voltage(V): 34.0400
Test No: 200605-C007	Current(A): 0.3000
LampCAT: LUMINUS CXM-9-AC40	Power (W): 10.2000
Lamp flux(lm): 1130.9	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): 907.24
Efficiency(%): 80.22%
Lumens(lm)/Power(W): 88.95
Central intensity(cd): 3584.391
Maximum intensity(cd): 3584.391
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=22.2
 [C90/270]Total=22.2
Field angle(10%Imax): [C0/180]Total=49.8
 [C90/270]Total=49.8
Maximum s/h(1/2): C0_180=0.38 C90_270=0.38
Maximum s/h(1/4): C0_180=0.39 C90_270=0.39
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 80.22%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.220%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	3584.391	0.000	0	.000%	.000%
1.0	3566.883	3.422	3.422	.303%	.377%
2.0	3516.750	10.167	13.589	.899%	1.498%
3.0	3422.180	16.596	30.184	1.467%	3.327%
4.0	3292.523	22.476	52.661	1.987%	5.804%
5.0	3134.742	27.650	80.311	2.445%	8.852%
6.0	2910.023	31.767	112.077	2.809%	12.354%
7.0	2689.453	34.756	146.833	3.073%	16.185%
8.0	2478.586	36.987	183.82	3.270%	20.261%
9.0	2247.047	38.299	222.119	3.386%	24.483%
10.0	2015.578	38.575	260.694	3.411%	28.735%
11.0	1816.594	38.291	298.985	3.386%	32.955%
12.0	1600.798	37.357	336.342	3.303%	37.073%
13.0	1354.310	35.070	371.412	3.101%	40.939%
14.0	1215.225	32.890	404.302	2.908%	44.564%
15.0	1034.866	30.890	435.192	2.731%	47.969%
16.0	896.948	28.306	463.498	2.503%	51.089%
17.0	766.765	25.908	489.407	2.291%	53.944%
18.0	673.629	23.749	513.156	2.100%	56.562%
19.0	594.485	22.063	535.218	1.951%	58.994%
20.0	535.261	20.677	555.896	1.828%	61.273%
21.0	486.626	19.622	575.518	1.735%	63.436%
22.0	444.987	18.721	594.239	1.655%	65.499%
23.0	414.197	18.028	612.267	1.594%	67.487%
24.0	383.365	17.438	629.705	1.542%	69.409%
25.0	356.386	16.820	646.525	1.487%	71.263%
26.0	333.267	16.279	662.804	1.439%	73.057%
27.0	311.463	15.773	678.578	1.395%	74.796%
28.0	285.736	15.120	693.698	1.337%	76.462%
29.0	264.656	14.400	708.098	1.273%	78.049%
30.0	240.180	13.630	721.728	1.205%	79.552%
31.0	218.327	12.760	734.488	1.128%	80.958%
32.0	197.923	11.925	746.413	1.054%	82.273%
33.0	181.477	11.177	757.59	.988%	83.505%
34.0	165.558	10.502	768.092	.929%	84.662%
35.0	150.645	9.820	777.912	.868%	85.745%
36.0	138.579	9.209	787.121	.814%	86.760%
37.0	126.084	8.632	795.753	.763%	87.711%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	115.073	8.050	803.803	.712%	88.598%
39.0	103.388	7.457	811.259	.659%	89.420%
40.0	93.073	6.852	818.111	.606%	90.176%
41.0	84.473	6.322	824.433	.559%	90.872%
42.0	76.261	5.840	830.273	.516%	91.516%
43.0	68.428	5.360	835.633	.474%	92.107%
44.0	62.269	4.933	840.566	.436%	92.651%
45.0	56.531	4.566	845.131	.404%	93.154%
46.0	50.302	4.178	849.309	.369%	93.614%
47.0	45.661	3.817	853.126	.337%	94.035%
48.0	41.618	3.528	856.654	.312%	94.424%
49.0	37.680	3.256	859.911	.288%	94.783%
50.0	34.362	3.004	862.914	.266%	95.114%
51.0	31.725	2.796	865.711	.247%	95.422%
52.0	29.159	2.613	868.323	.231%	95.710%
53.0	26.515	2.422	870.745	.214%	95.977%
54.0	23.948	2.224	872.969	.197%	96.222%
55.0	21.473	2.028	874.997	.179%	96.446%
56.0	19.167	1.836	876.833	.162%	96.648%
57.0	16.495	1.631	878.464	.144%	96.828%
58.0	13.760	1.399	879.863	.124%	96.982%
59.0	11.355	1.174	881.037	.104%	97.112%
60.0	9.534	0.987	882.024	.087%	97.220%
61.0	8.395	0.856	882.879	.076%	97.315%
62.0	7.903	0.785	883.665	.069%	97.401%
63.0	7.706	0.759	884.424	.067%	97.485%
64.0	7.643	0.753	885.177	.067%	97.568%
65.0	7.629	0.756	885.933	.067%	97.651%
66.0	7.636	0.762	886.695	.067%	97.735%
67.0	7.657	0.769	887.464	.068%	97.820%
68.0	7.685	0.777	888.241	.069%	97.906%
69.0	7.734	0.787	889.027	.070%	97.992%
70.0	7.812	0.798	889.826	.071%	98.080%
71.0	7.924	0.813	890.639	.072%	98.170%
72.0	8.051	0.831	891.47	.073%	98.261%
73.0	8.170	0.848	892.318	.075%	98.355%
74.0	8.269	0.864	893.182	.076%	98.450%
75.0	8.585	0.890	894.073	.079%	98.548%

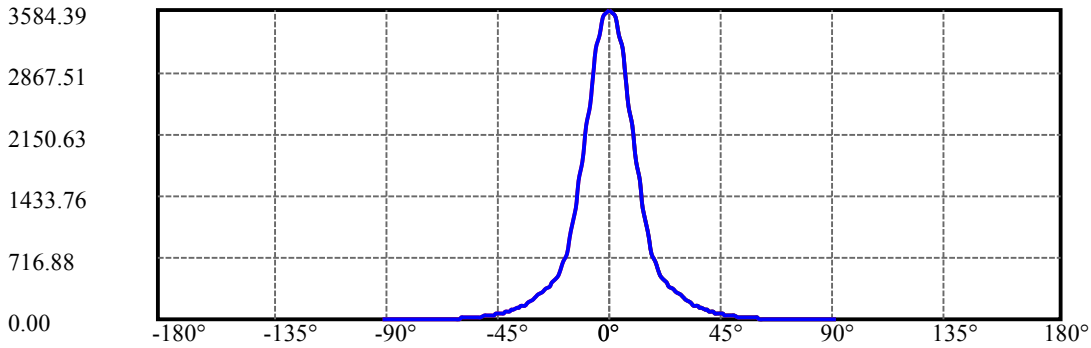
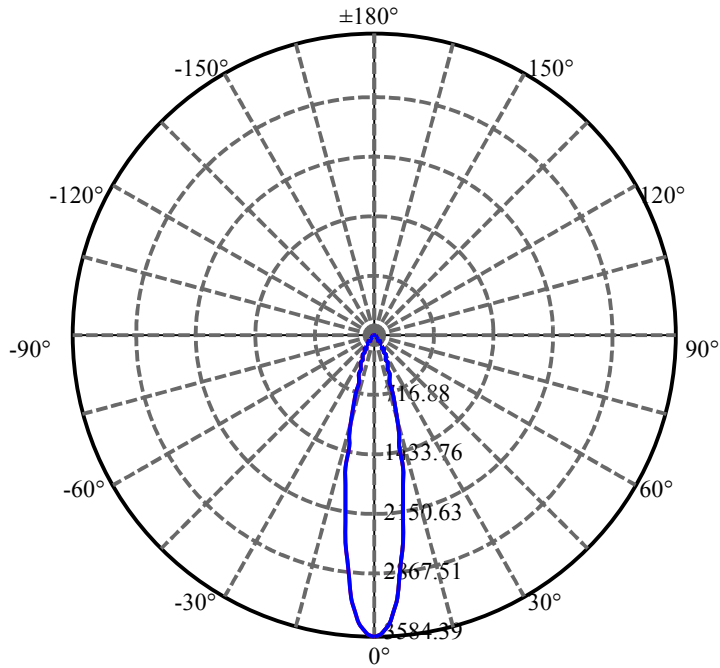
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	8.888	0.928	895	.082%	98.651%
77.0	9.260	0.968	895.968	.086%	98.757%
78.0	9.584	1.009	896.977	.089%	98.868%
79.0	9.977	1.051	898.028	.093%	98.984%
80.0	10.076	1.081	899.109	.096%	99.103%
81.0	9.970	1.084	900.193	.096%	99.223%
82.0	9.696	1.066	901.259	.094%	99.340%
83.0	9.520	1.045	902.304	.092%	99.456%
84.0	9.267	1.024	903.327	.091%	99.568%
85.0	8.374	0.963	904.29	.085%	99.675%
86.0	7.073	0.844	905.135	.075%	99.768%
87.0	5.548	0.691	905.825	.061%	99.844%
88.0	4.627	0.557	906.383	.049%	99.905%
89.0	3.705	0.457	906.839	.040%	99.956%
90.0	3.649	0.403	907.243	.036%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	721.73	63.82%	79.55%
0-40	818.11	72.34%	90.18%
0-60	882.02	77.99%	97.22%
0-90	906.84	80.19%	99.96%
0-120	906.84	80.19%	99.96%
0-180	907.24	80.22%	100.00%
60-90	25.80	2.28%	2.84%
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%
0-30.32	725.79	64.18%	80.00%

ZONAL LUMEN SUMMARY

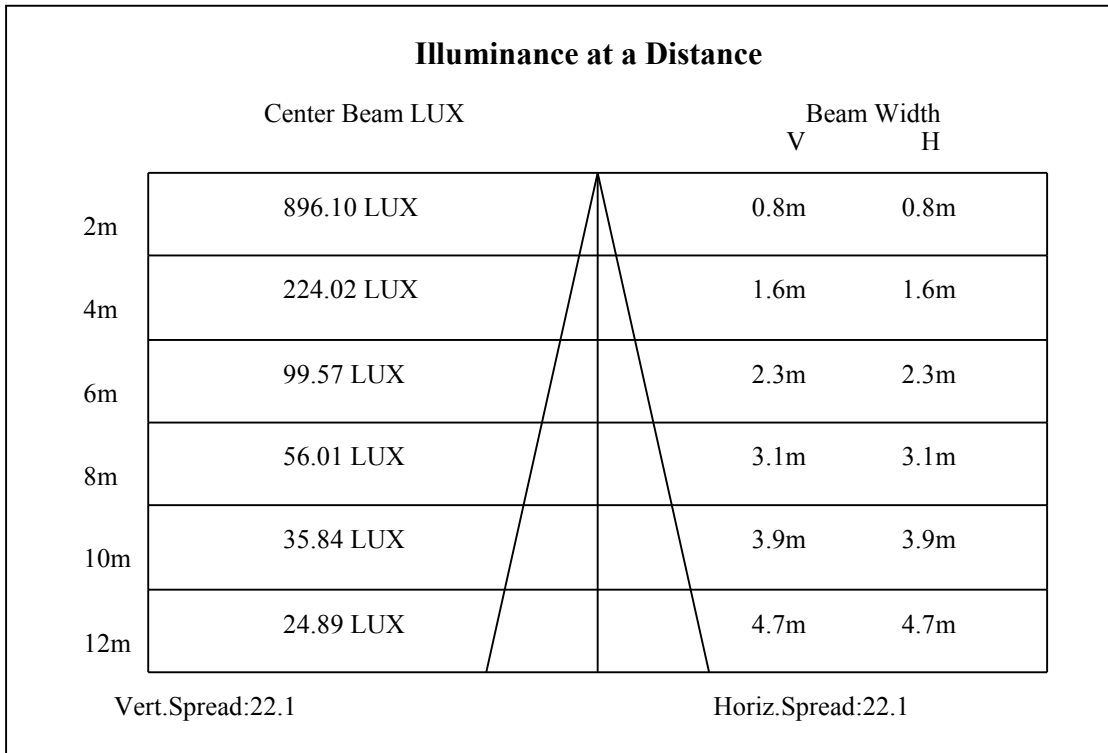
0-10	260.69
10-20	295.20
20-30	165.83
30-40	96.38
40-50	44.80
50-60	19.11
60-70	7.80
70-80	9.28
80-90	7.73
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

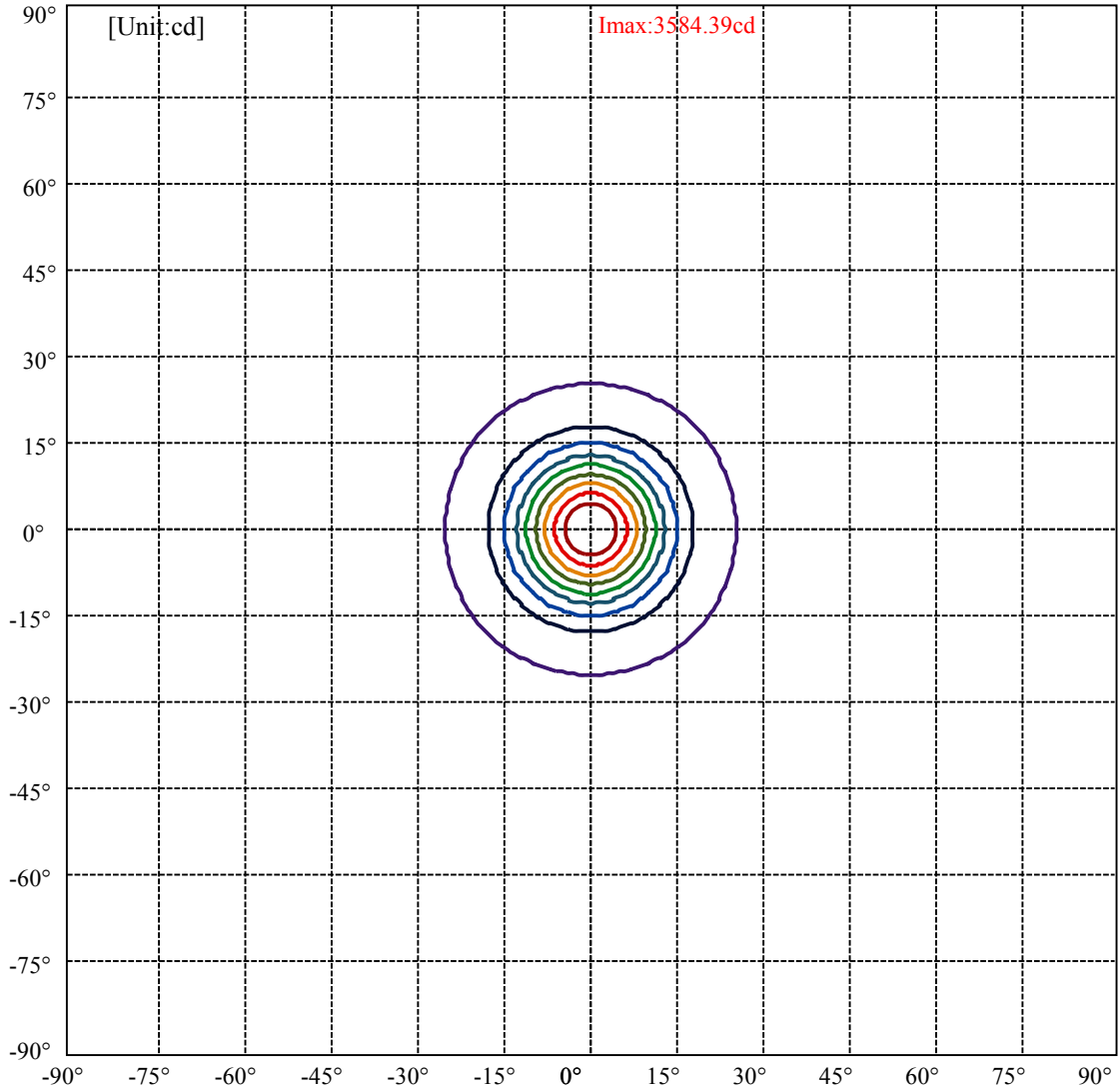


C0(Max): —————
 C0/C180: —————
 C90/C270: —————

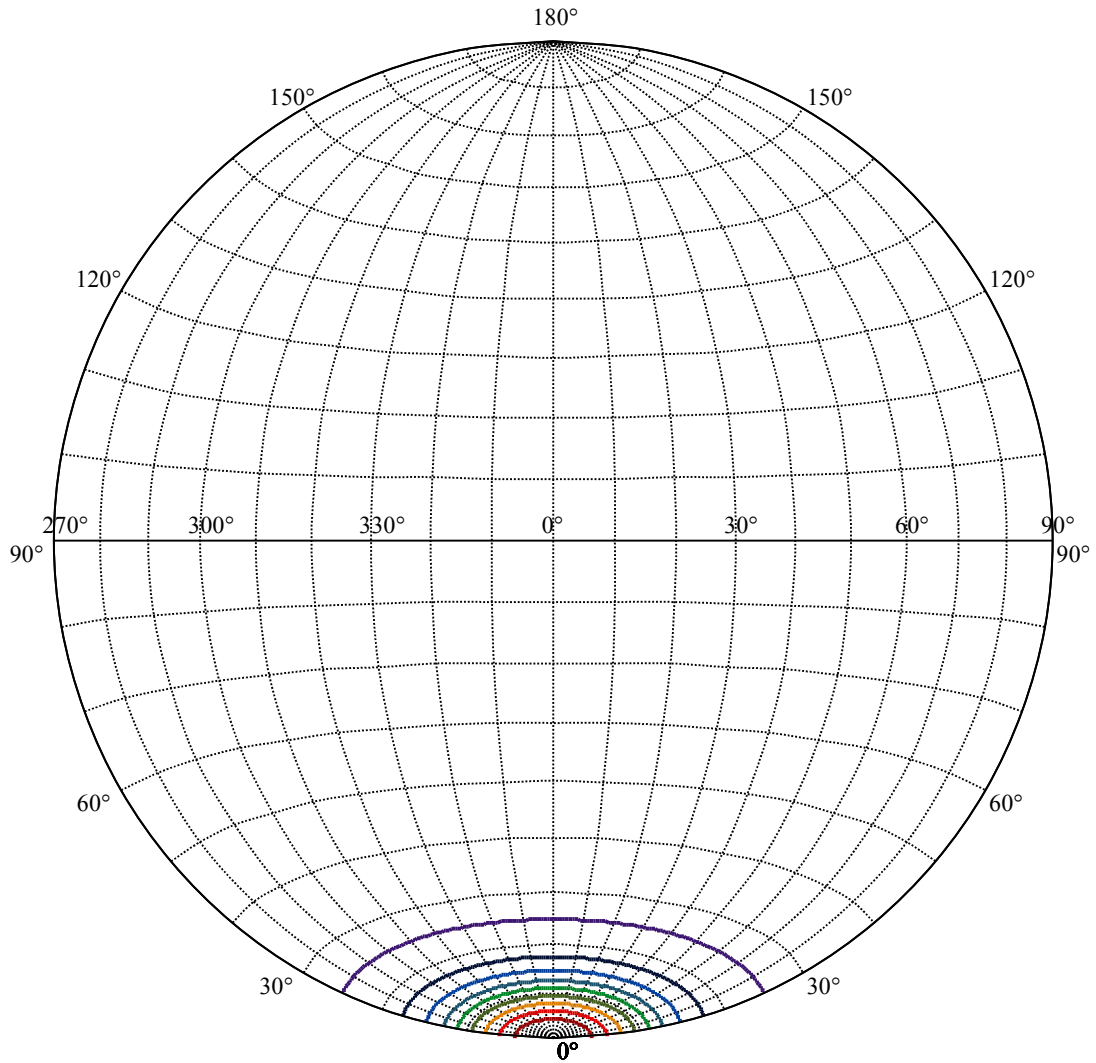
Field angle(10%Imax):C0/180Left:24.9 Right:24.9
 :C90/270Left:24.9 Right:24.9

Beam Angle(50%Imax):C0/180Left:11.1 Right:11.1
 :C90/270Left:11.1 Right:11.1





(10%Imax) 358.439	—
(20%Imax) 716.878	—
(30%Imax) 1075.32	—
(40%Imax) 1433.76	—
(50%Imax) 1792.2	—
(60%Imax) 2150.63	—
(70%Imax) 2509.07	—
(80%Imax) 2867.51	—
(90%Imax) 3225.95	—



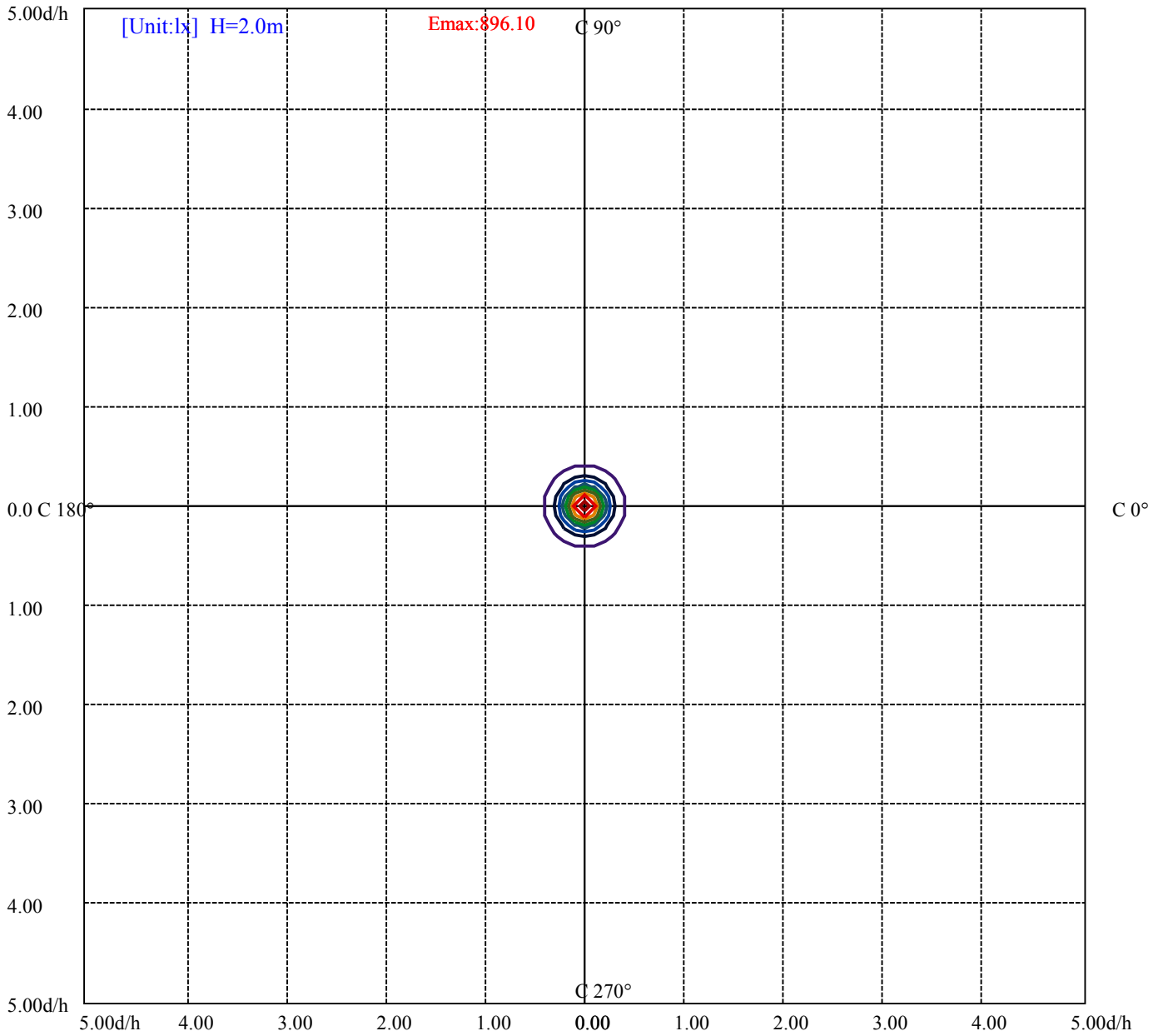
House

[Unit:cd]

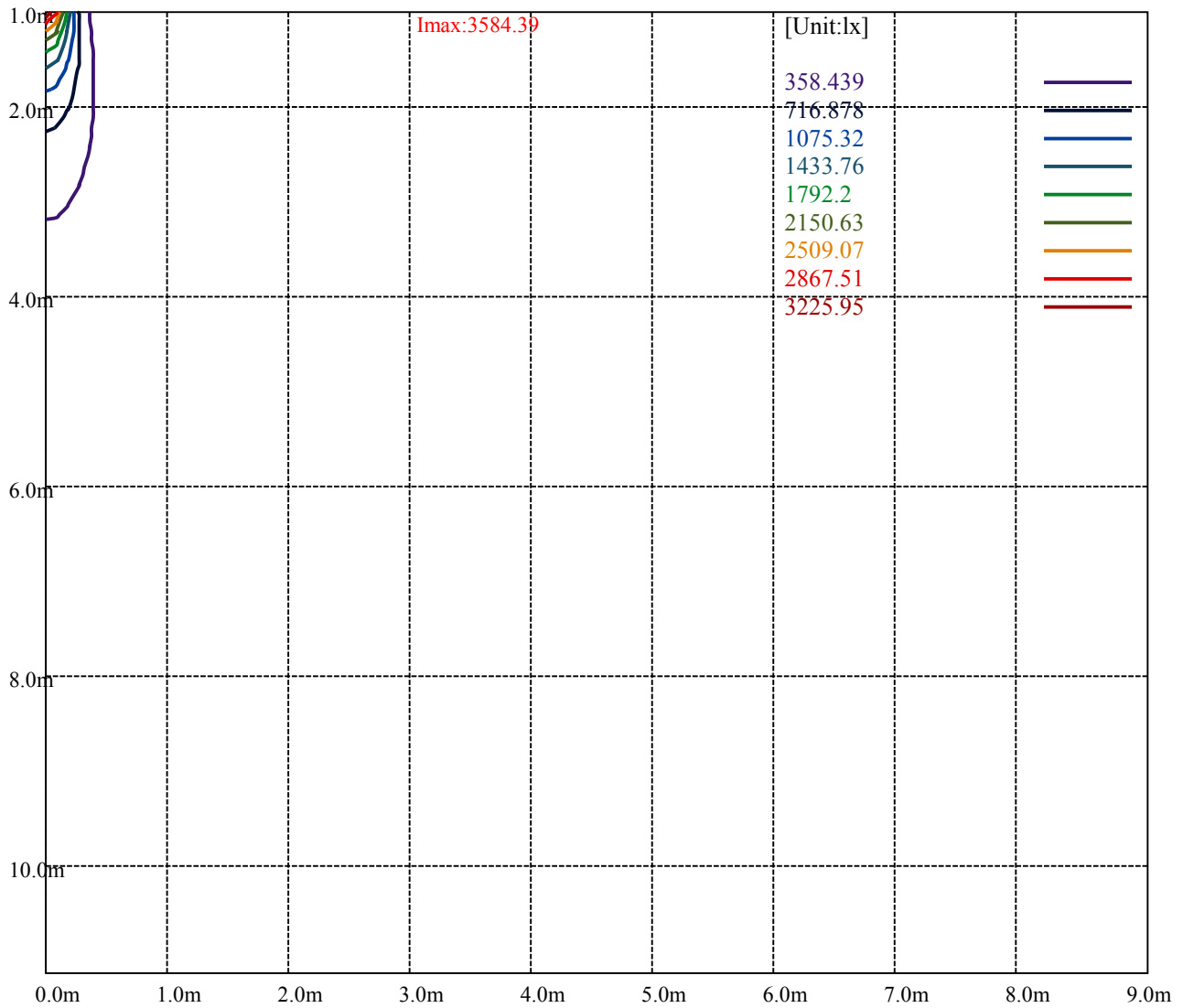
Road

Imax:3584.39

(10%Imax) 358.439	—
(20%Imax) 716.878	—
(30%Imax) 1075.32	—
(40%Imax) 1433.76	—
(50%Imax) 1792.2	—
(60%Imax) 2150.63	—
(70%Imax) 2509.07	—
(80%Imax) 2867.51	—
(90%Imax) 3225.95	—



- (10%Emax) 89.60975
- (20%Emax) 179.2195
- (30%Emax) 268.83
- (40%Emax) 358.44
- (50%Emax) 448.0475
- (60%Emax) 537.6575
- (70%Emax) 627.2675
- (80%Emax) 716.8775
- (90%Emax) 806.4875



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

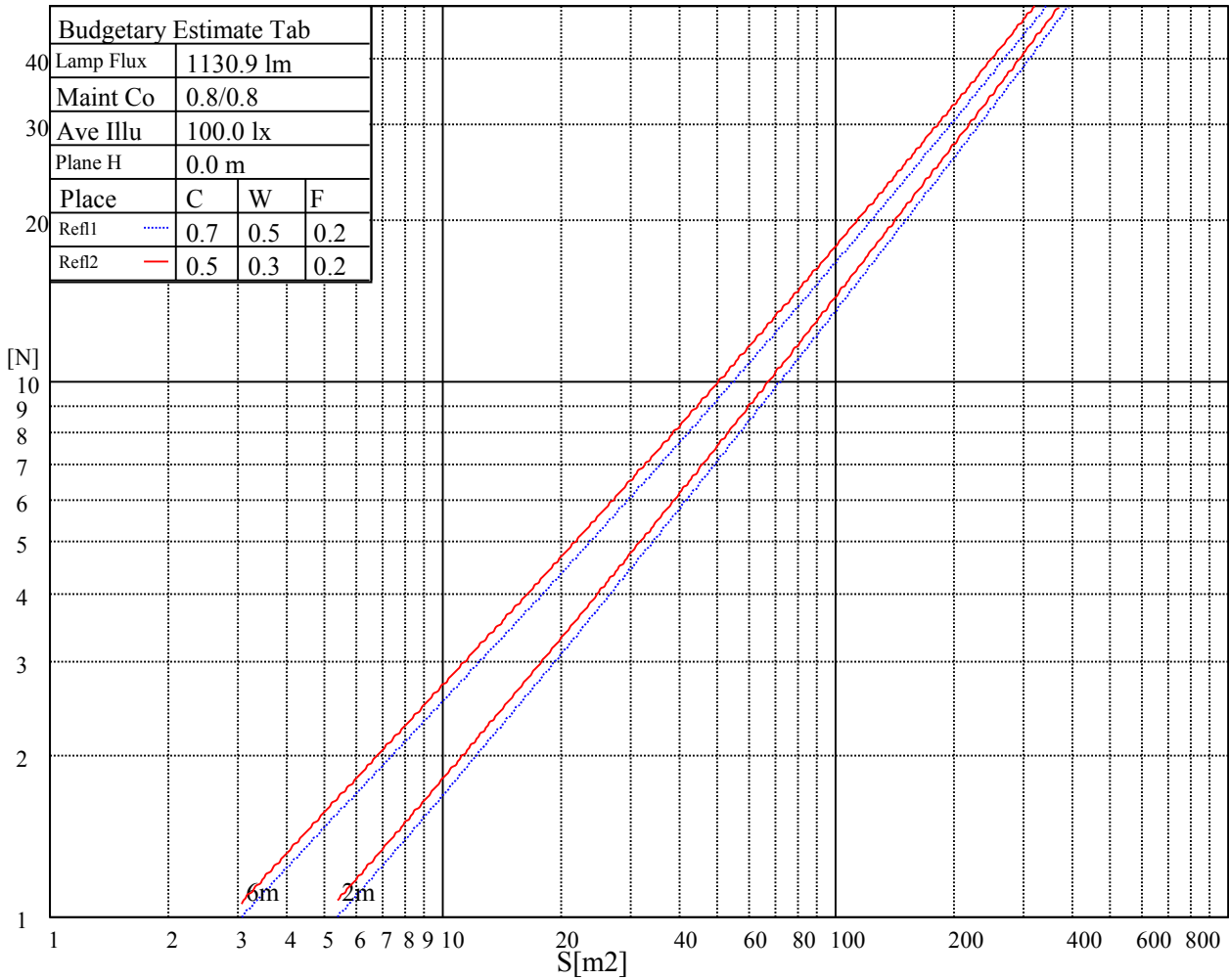
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

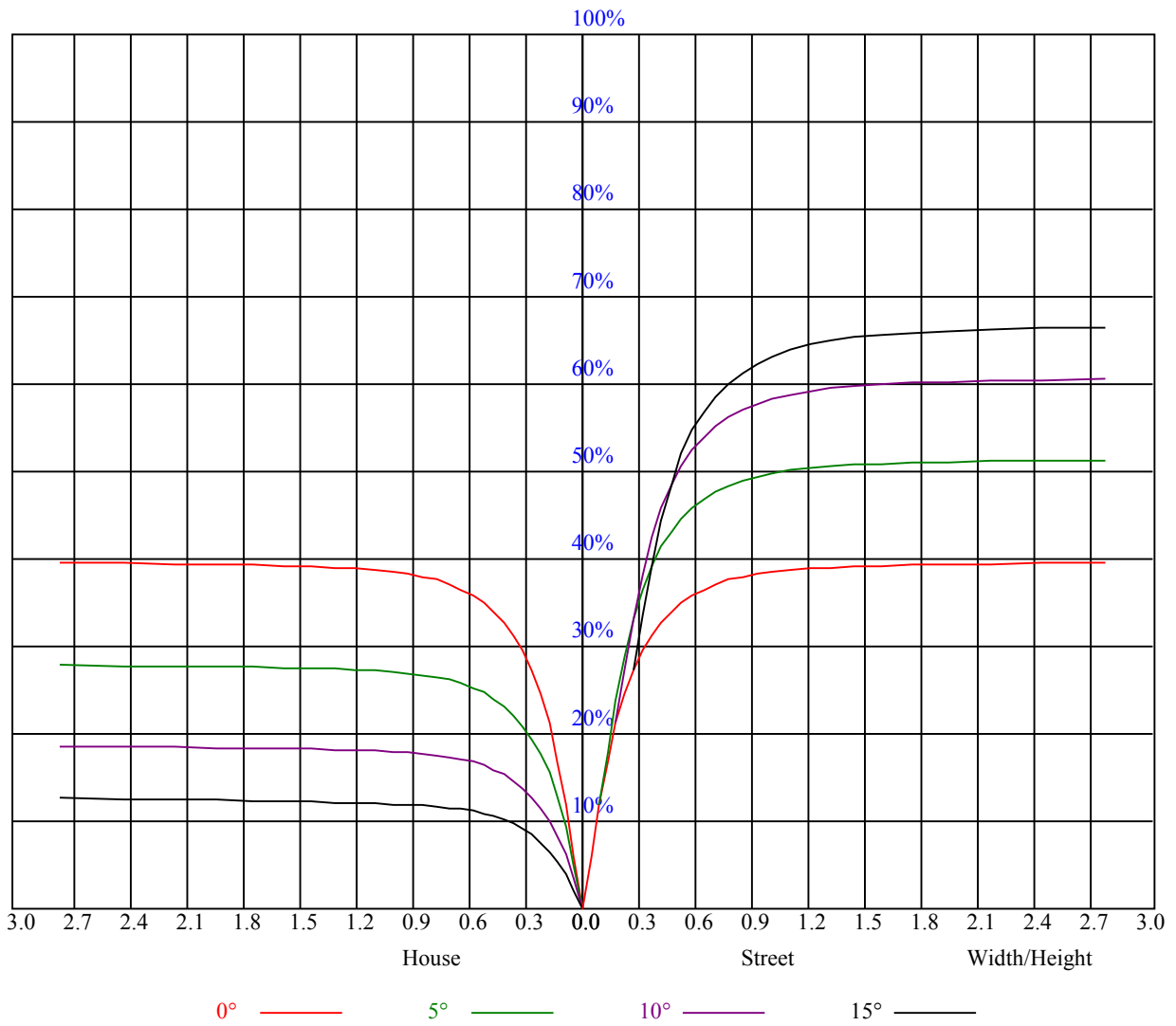
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	0.96	0.96	0.96	0.93	0.93	0.93	0.89	0.89	0.89	0.85	0.85	0.85	0.82	0.82	0.82	0.80
1	0.89	0.87	0.85	0.87	0.86	0.84	0.84	0.83	0.81	0.81	0.80	0.79	0.78	0.78	0.77	0.75
2	0.84	0.81	0.78	0.82	0.80	0.77	0.80	0.78	0.76	0.77	0.76	0.74	0.75	0.74	0.72	0.71
3	0.79	0.75	0.73	0.78	0.75	0.72	0.76	0.73	0.71	0.74	0.72	0.70	0.72	0.70	0.69	0.67
4	0.75	0.71	0.68	0.74	0.70	0.68	0.72	0.69	0.67	0.71	0.68	0.66	0.69	0.67	0.65	0.64
5	0.71	0.67	0.64	0.71	0.67	0.64	0.69	0.66	0.63	0.68	0.65	0.63	0.67	0.64	0.62	0.61
6	0.68	0.64	0.61	0.67	0.64	0.61	0.66	0.63	0.60	0.65	0.62	0.60	0.64	0.62	0.60	0.59
7	0.65	0.61	0.58	0.65	0.61	0.58	0.64	0.60	0.58	0.63	0.60	0.57	0.62	0.59	0.57	0.56
8	0.63	0.59	0.56	0.62	0.58	0.56	0.61	0.58	0.55	0.61	0.57	0.55	0.60	0.57	0.55	0.54
9	0.60	0.56	0.54	0.60	0.56	0.53	0.59	0.56	0.53	0.59	0.55	0.53	0.58	0.55	0.53	0.52
10	0.58	0.54	0.52	0.58	0.54	0.52	0.57	0.54	0.51	0.57	0.53	0.51	0.56	0.53	0.51	0.50



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	3547.69	3612.94	3638.25	3620.81	3567.38	3479.06	3307.50	3126.94	2919.94
45.0	3611.81	3611.25	3580.88	3516.19	3407.63	3267.56	3061.69	2818.13	2597.63
90.0	3572.44	3538.69	3479.06	3358.13	3219.19	3039.19	2789.44	2577.38	2364.75
135.0	3601.69	3532.50	3442.50	3340.13	3159.56	2976.19	2773.13	2503.69	2298.94
180.0	3555.56	3457.69	3337.88	3144.38	2945.81	2736.00	2450.25	2227.50	2025.56
225.0	3611.81	3572.44	3492.56	3368.81	3224.25	3039.75	2771.44	2547.56	2327.06
270.0	3572.44	3588.19	3557.81	3490.88	3376.13	3228.75	3035.25	2813.06	2599.31
315.0	3601.69	3621.38	3605.06	3538.13	3440.25	3311.44	3091.50	2901.38	2695.50
360.0	3547.69	3612.94	3638.25	3620.81	3567.38	3479.06	3307.50	3126.94	2919.94
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	2684.81	2455.31	2248.31	2052.56	1807.31	1613.81	1423.13	1212.75	1025.44
45.0	2359.13	2120.06	1911.38	1707.19	1464.75	1278.00	1108.69	934.88	792.56
90.0	2103.19	1895.63	1696.50	1459.13	1121.18	1099.41	946.63	805.84	693.73
135.0	2089.69	1834.31	1636.31	1442.25	1208.81	1040.63	896.63	766.13	664.88
180.0	1825.88	1589.06	1404.00	1106.94	1030.56	890.21	775.18	672.47	591.41
225.0	2086.88	1859.06	1662.75	1454.06	1103.63	1083.99	899.44	789.75	680.29
270.0	2358.56	2131.31	1936.13	1742.06	1505.25	1319.63	1144.69	969.19	821.25
315.0	2468.25	2239.88	2037.38	1842.19	1593.00	1396.13	1084.56	1024.59	864.56
360.0	2684.81	2455.31	2248.31	2052.56	1807.31	1613.81	1423.13	1212.75	1025.44
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	888.19	762.19	667.13	601.31	540.56	495.00	451.69	416.81	389.25
45.0	695.25	609.75	547.31	502.31	459.00	428.06	398.25	371.81	348.19
90.0	616.16	548.72	503.55	458.16	421.71	395.10	367.03	339.47	315.79
135.0	595.69	537.19	488.81	449.44	414.56	389.25	363.38	339.75	318.94
180.0	534.94	483.81	445.28	408.54	378.73	355.61	331.65	307.58	286.54
225.0	589.16	539.21	493.59	447.81	416.76	390.38	360.68	338.57	317.19
270.0	716.06	623.25	554.06	504.56	458.44	425.25	394.31	366.19	343.69
315.0	753.58	651.77	582.36	520.88	470.14	434.93	399.94	370.91	346.56
360.0	888.19	762.19	667.13	601.31	540.56	495.00	451.69	416.81	389.25
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	367.31	336.94	313.88	294.19	271.52	240.41	220.33	199.86	182.08
45.0	325.69	296.44	284.63	250.59	227.59	207.00	190.80	176.01	159.13
90.0	292.89	264.94	242.94	221.79	201.38	181.52	166.39	151.93	139.28
135.0	298.13	286.88	245.14	224.66	201.38	184.28	167.68	152.16	138.60
180.0	265.50	240.47	219.26	200.25	180.56	163.69	150.64	137.59	125.66
225.0	295.54	269.27	248.51	226.63	208.35	190.01	172.74	158.68	144.34
270.0	321.19	292.50	284.63	247.16	222.69	204.86	188.66	171.79	156.32
315.0	325.46	298.46	278.27	256.16	233.16	211.61	194.57	176.46	159.75
360.0	367.31	336.94	313.88	294.19	271.52	240.41	220.33	199.86	182.08
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	167.96	153.51	141.69	129.21	117.11	107.78	97.43	87.98	80.66
45.0	147.26	136.07	123.24	111.49	101.42	91.63	83.42	76.84	70.09
90.0	128.87	116.33	106.88	95.57	85.44	77.63	70.48	62.44	57.15
135.0	127.52	114.58	103.56	92.93	83.25	75.32	67.39	60.13	54.23
180.0	114.47	102.77	93.04	83.31	74.53	67.56	61.14	54.00	48.99
225.0	131.57	120.09	109.24	96.47	87.36	79.20	70.88	63.28	57.21
270.0	144.11	131.29	119.87	108.11	97.03	87.69	78.64	70.65	63.90
315.0	146.87	134.04	123.08	110.03	98.44	88.99	80.72	72.11	65.93
360.0	167.96	153.51	141.69	129.21	117.11	107.78	97.43	87.98	80.66

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	73.63	65.25	58.61	52.54	46.58	41.63	38.14	35.16	32.29
45.0	63.79	56.76	50.46	45.51	40.73	36.84	34.03	31.89	28.63
90.0	52.09	46.58	42.75	39.32	35.83	32.68	30.04	26.89	23.46
135.0	48.99	43.31	39.49	36.23	33.19	30.77	28.86	27.00	25.20
180.0	44.55	39.83	36.45	33.58	30.38	28.01	25.76	23.06	21.09
225.0	50.91	45.51	41.40	37.97	34.71	31.73	29.08	26.83	24.64
270.0	57.88	51.08	46.69	42.75	39.49	36.68	34.59	32.23	29.25
315.0	60.41	54.11	49.44	45.06	40.56	36.56	33.30	30.21	27.56
360.0	73.63	65.25	58.61	52.54	46.58	41.63	38.14	35.16	32.29
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	29.76	26.66	24.02	21.38	18.73	16.20	12.99	10.13	8.78
45.0	25.88	23.68	20.64	17.78	15.36	11.70	9.39	8.38	8.16
90.0	20.59	18.06	16.43	14.18	11.19	9.34	8.21	7.76	7.59
135.0	23.29	21.21	18.79	15.47	11.81	9.68	8.21	7.65	7.37
180.0	18.51	15.36	12.99	9.90	7.99	7.31	7.37	7.48	7.54
225.0	22.05	20.14	18.11	15.53	12.66	10.58	9.34	8.49	8.04
270.0	26.61	24.08	21.43	18.73	15.92	12.49	10.07	8.66	7.93
315.0	24.92	22.61	20.93	19.01	16.43	13.56	10.69	8.61	7.82
360.0	29.76	26.66	24.02	21.38	18.73	16.20	12.99	10.13	8.78
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	8.04	7.93	7.88	7.82	7.76	7.71	7.71	7.65	7.59
45.0	8.10	8.16	8.16	8.21	8.27	8.38	8.49	8.72	9.00
90.0	7.59	7.65	7.71	7.71	7.71	7.76	7.76	7.88	7.99
135.0	7.26	7.20	7.26	7.26	7.37	7.43	7.54	7.65	7.76
180.0	7.65	7.65	7.71	7.65	7.65	7.65	7.71	7.88	8.21
225.0	7.71	7.48	7.37	7.43	7.54	7.59	7.71	7.76	7.82
270.0	7.71	7.59	7.54	7.59	7.54	7.54	7.54	7.59	7.71
315.0	7.59	7.48	7.43	7.43	7.43	7.43	7.43	7.37	7.31
360.0	8.04	7.93	7.88	7.82	7.76	7.71	7.71	7.65	7.59
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	7.54	7.48	7.54	7.76	7.93	8.21	8.49	8.83	9.17
45.0	9.00	8.78	8.66	8.78	8.94	9.17	9.28	9.34	9.51
90.0	8.10	8.21	7.93	8.83	9.56	9.79	10.07	10.46	10.41
135.0	7.82	8.04	8.16	8.38	9.11	10.74	12.15	13.22	12.49
180.0	8.89	9.62	10.13	10.52	10.41	10.01	9.23	8.83	8.83
225.0	7.88	7.93	7.99	8.04	8.21	8.49	8.83	9.39	9.84
270.0	7.93	8.04	8.44	8.94	9.34	9.84	10.18	10.18	10.13
315.0	7.26	7.26	7.31	7.43	7.59	7.82	8.44	9.56	10.24
360.0	7.54	7.48	7.54	7.76	7.93	8.21	8.49	8.83	9.17
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	9.39	9.56	9.73	9.84	9.79	9.56	8.89	8.27	4.11
45.0	9.56	9.39	9.11	8.89	8.55	7.82	4.84	3.88	3.88
90.0	10.24	9.62	10.07	9.23	7.82	5.06	3.66	3.60	3.54
135.0	10.63	9.45	9.23	9.06	8.72	3.83	3.71	3.66	3.54
180.0	8.89	8.78	8.33	7.65	4.61	3.83	3.77	3.66	3.54
225.0	10.24	10.46	10.58	10.80	9.28	8.83	4.05	3.77	3.66
270.0	9.90	9.84	9.68	9.56	9.17	8.72	7.09	4.05	3.66
315.0	10.91	10.46	9.45	9.11	9.06	8.94	8.38	6.13	3.71
360.0	9.39	9.56	9.73	9.84	9.79	9.56	8.89	8.27	4.11

Intensity data(cd)

C/γ(°)	90.0
0.0	3.99
45.0	3.83
90.0	3.60
135.0	3.49
180.0	3.49
225.0	3.60
270.0	3.54
315.0	3.66
360.0	3.99