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## Nata

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LumCAT: 1496-S	
Luminaire: 92.70.185.00	
Report No: 220525-B014	Voltage(V): 34.3400
Test No: 220525-C014	Current(A): 0.2280
LampCAT: CREE CXA1512	Power (W): 7.8290
Lamp flux(lm): 1143.1	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 43	Width(mm): 43
Phm Type: C	Height(mm): 0

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## Photometric Results

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Lumens(lm): 923.83  
Efficiency(%): 80.82%  
Lumens(lm)/Power(W): 118.00  
Central intensity(cd): 3871.988  
Maximum intensity(cd): 3871.988  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=22.3  
                                  [C90/270]Total=22.3  
Field angle(10%Imax): [C0/180]Total=52.6  
                                  [C90/270]Total=52.6  
Maximum s/h(1/2): C0\_180=0.37 C90\_270=0.37  
Maximum s/h(1/4): C0\_180=0.42 C90\_270=0.42  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 80.82%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 97.498%

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Equipment: GMS1980  
Temperature(°C): 25.0

Date: 2022/5/25  
Humidity(%): 65.0%

Operator: NT07  
Distance(m): 7.73

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	3871.988	0.000	0	.000%	.000%
1.0	3846.070	3.693	3.693	.323%	.400%
2.0	3749.793	10.902	14.595	.954%	1.580%
3.0	3615.947	17.616	32.212	1.541%	3.487%
4.0	3450.506	23.654	55.865	2.069%	6.047%
5.0	3232.109	28.748	84.614	2.515%	9.159%
6.0	3021.256	32.863	117.477	2.875%	12.716%
7.0	2797.930	36.120	153.596	3.160%	16.626%
8.0	2577.964	38.474	192.071	3.366%	20.791%
9.0	2357.700	40.001	232.071	3.499%	25.120%
10.0	2154.316	40.832	272.904	3.572%	29.540%
11.0	1961.912	41.130	314.033	3.598%	33.992%
12.0	1791.168	41.027	355.06	3.589%	38.433%
13.0	1620.872	40.492	395.552	3.542%	42.816%
14.0	1454.662	39.367	434.919	3.444%	47.078%
15.0	1314.489	38.016	472.935	3.326%	51.193%
16.0	1186.603	36.648	509.583	3.206%	55.160%
17.0	1068.359	35.116	544.698	3.072%	58.961%
18.0	968.206	33.579	578.277	2.938%	62.595%
19.0	880.885	32.170	610.447	2.814%	66.078%
20.0	789.754	30.577	641.025	2.675%	69.388%
21.0	708.871	28.777	669.801	2.518%	72.502%
22.0	642.456	27.155	696.957	2.376%	75.442%
23.0	575.779	25.562	722.519	2.236%	78.209%
24.0	514.943	23.847	746.366	2.086%	80.790%
25.0	459.418	22.155	768.521	1.938%	83.188%
26.0	402.936	20.356	788.877	1.781%	85.392%
27.0	351.198	18.450	807.327	1.614%	87.389%
28.0	300.146	16.491	823.817	1.443%	89.174%
29.0	245.965	14.288	838.105	1.250%	90.720%
30.0	193.398	11.863	849.968	1.038%	92.004%
31.0	150.988	9.584	859.552	.838%	93.042%
32.0	109.833	7.472	867.024	.654%	93.851%
33.0	77.933	5.532	872.555	.484%	94.449%
34.0	53.285	3.971	876.527	.347%	94.879%
35.0	36.203	2.779	879.306	.243%	95.180%
36.0	26.097	1.984	881.289	.174%	95.395%
37.0	20.540	1.521	882.81	.133%	95.560%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	16.641	1.241	884.051	.109%	95.694%
39.0	13.512	1.029	885.081	.090%	95.805%
40.0	11.607	0.876	885.957	.077%	95.900%
41.0	10.539	0.789	886.745	.069%	95.985%
42.0	9.949	0.744	887.49	.065%	96.066%
43.0	9.471	0.719	888.209	.063%	96.144%
44.0	9.090	0.701	888.91	.061%	96.220%
45.0	8.806	0.688	889.597	.060%	96.294%
46.0	8.634	0.682	890.279	.060%	96.368%
47.0	8.500	0.681	890.961	.060%	96.442%
48.0	8.440	0.685	891.646	.060%	96.516%
49.0	8.433	0.693	892.338	.061%	96.591%
50.0	8.425	0.703	893.041	.061%	96.667%
51.0	8.433	0.713	893.755	.062%	96.744%
52.0	8.455	0.725	894.479	.063%	96.823%
53.0	8.448	0.735	895.215	.064%	96.902%
54.0	8.500	0.747	895.961	.065%	96.983%
55.0	8.567	0.762	896.723	.067%	97.066%
56.0	8.589	0.775	897.499	.068%	97.149%
57.0	8.619	0.787	898.285	.069%	97.235%
58.0	8.657	0.799	899.084	.070%	97.321%
59.0	8.716	0.812	899.897	.071%	97.409%
60.0	8.754	0.825	900.722	.072%	97.498%
61.0	8.799	0.838	901.56	.073%	97.589%
62.0	8.806	0.848	902.408	.074%	97.681%
63.0	8.828	0.858	903.265	.075%	97.774%
64.0	8.806	0.865	904.131	.076%	97.867%
65.0	8.746	0.869	904.999	.076%	97.961%
66.0	8.664	0.869	905.868	.076%	98.055%
67.0	8.589	0.868	906.736	.076%	98.149%
68.0	8.522	0.867	907.602	.076%	98.243%
69.0	8.433	0.865	908.467	.076%	98.337%
70.0	8.373	0.863	909.331	.076%	98.430%
71.0	8.253	0.859	910.19	.075%	98.523%
72.0	8.149	0.853	911.043	.075%	98.616%
73.0	8.007	0.845	911.888	.074%	98.707%
74.0	7.917	0.837	912.725	.073%	98.798%
75.0	7.805	0.831	913.555	.073%	98.888%

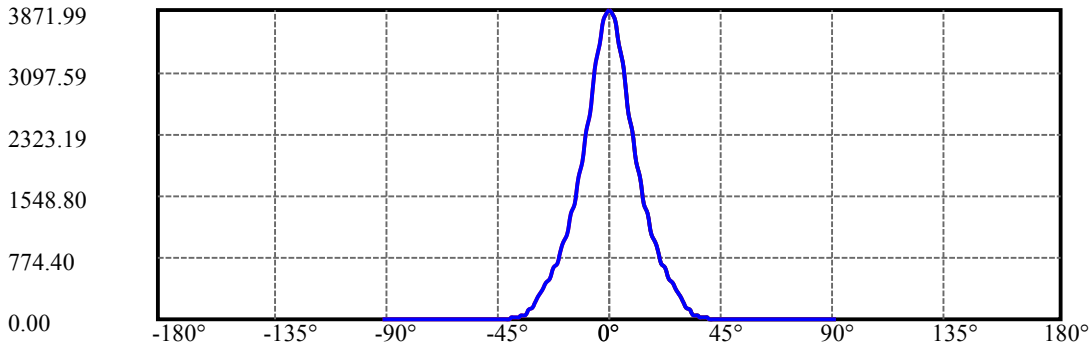
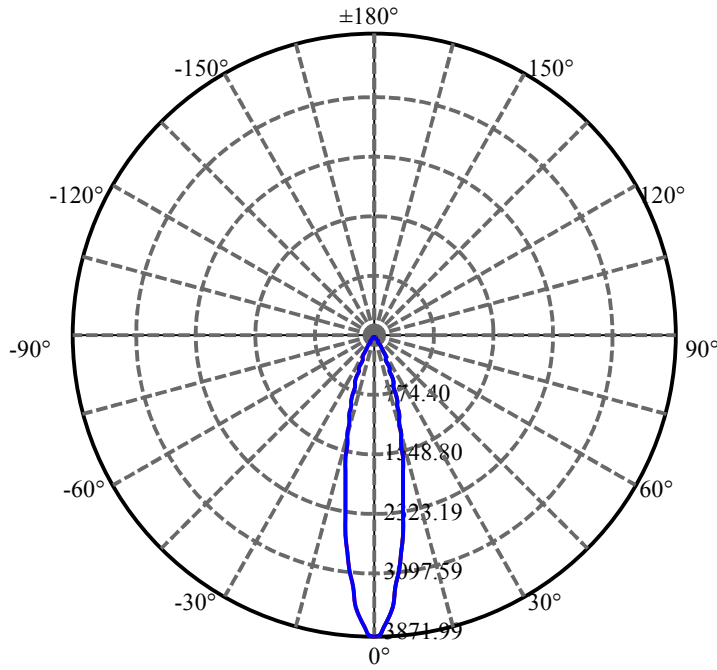
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	7.671	0.822	914.377	.072%	98.976%
77.0	7.581	0.813	915.19	.071%	99.064%
78.0	7.462	0.805	915.995	.070%	99.152%
79.0	7.357	0.796	916.792	.070%	99.238%
80.0	7.245	0.787	917.579	.069%	99.323%
81.0	7.148	0.778	918.357	.068%	99.407%
82.0	7.036	0.769	919.126	.067%	99.491%
83.0	6.894	0.757	919.884	.066%	99.572%
84.0	6.760	0.744	920.627	.065%	99.653%
85.0	6.028	0.698	921.325	.061%	99.729%
86.0	5.430	0.626	921.952	.055%	99.796%
87.0	4.287	0.532	922.483	.047%	99.854%
88.0	4.101	0.459	922.943	.040%	99.904%
89.0	4.048	0.447	923.39	.039%	99.952%
90.0	4.041	0.444	923.833	.039%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	849.97	74.36%	92.00%
0-40	885.96	77.51%	95.90%
0-60	900.72	78.80%	97.50%
0-90	923.39	80.78%	99.95%
0-120	923.39	80.78%	99.95%
0-180	923.83	80.82%	100.00%
60-90	23.49	2.06%	2.54%
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%
0-23.69	739.07	64.66%	80.00%

ZONAL LUMEN SUMMARY

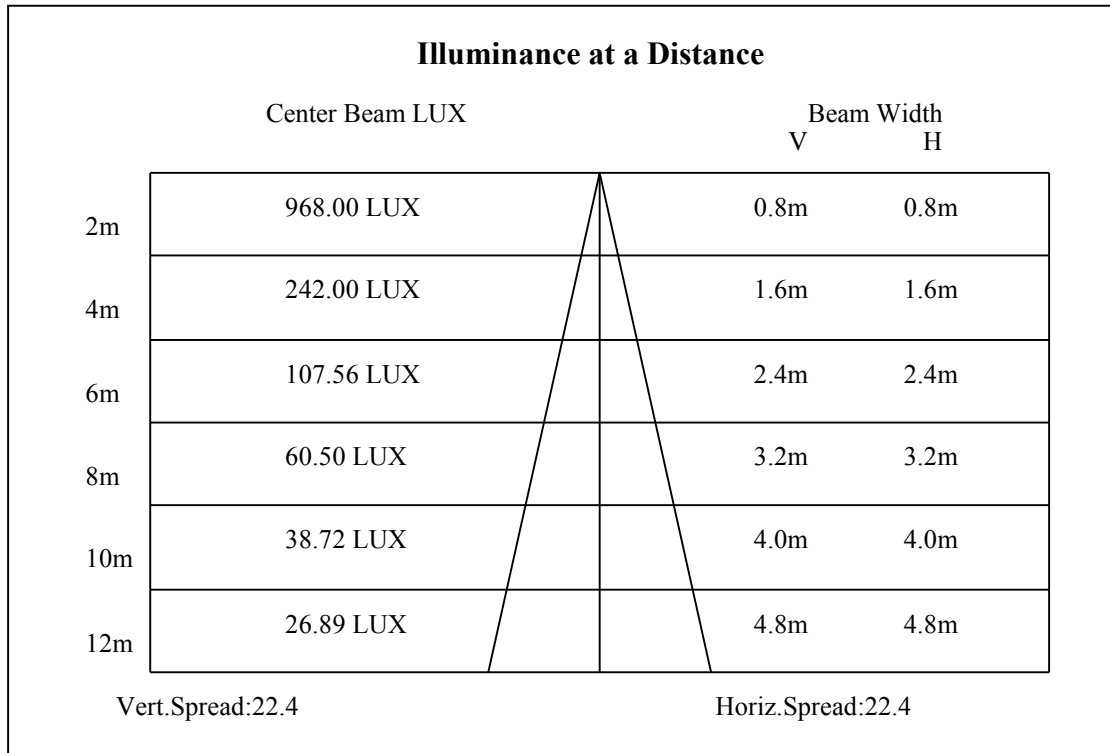
0-10	272.90
10-20	368.12
20-30	208.94
30-40	35.99
40-50	7.08
50-60	7.68
60-70	8.61
70-80	8.25
80-90	5.81
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

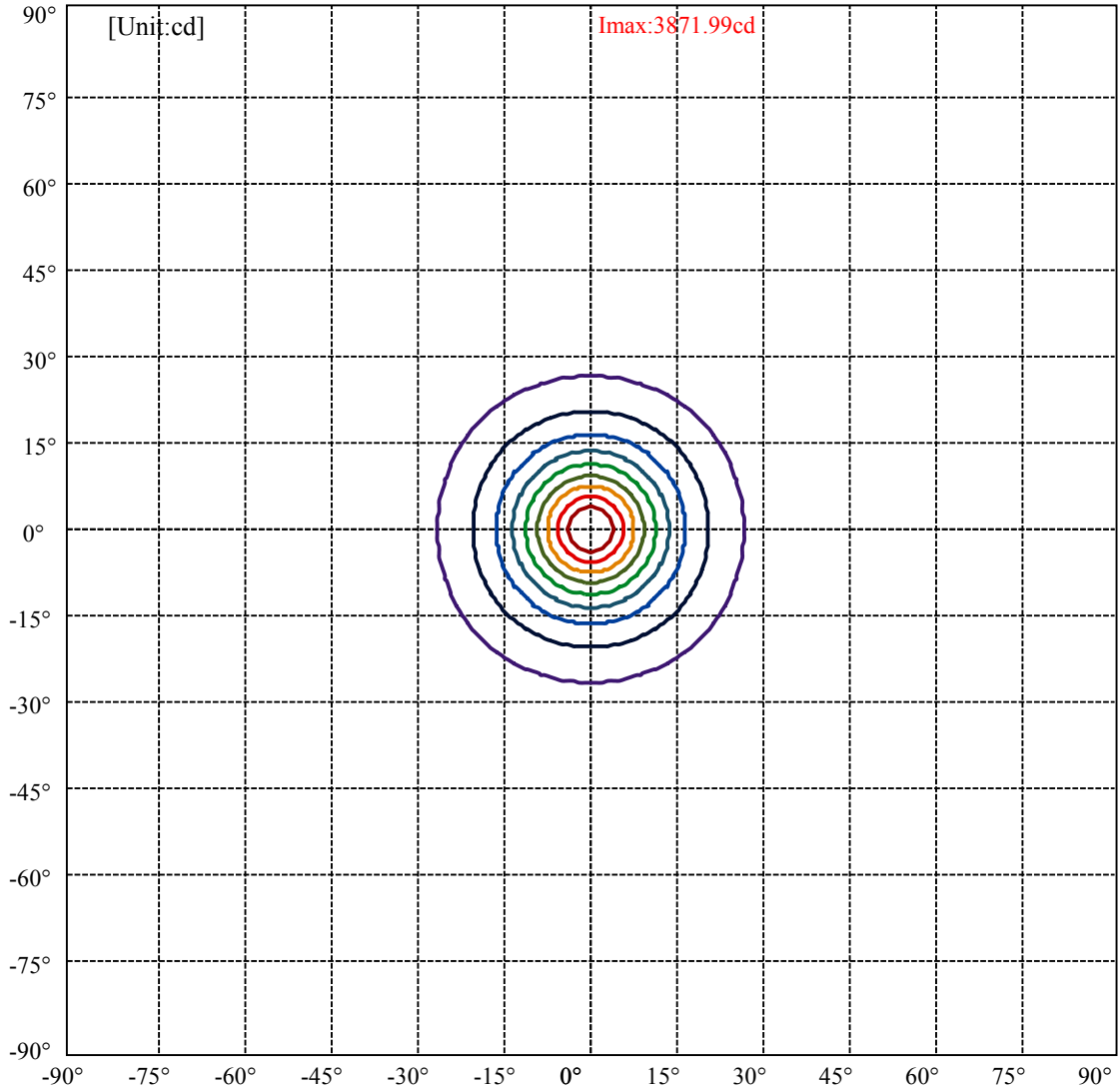


C0(Max): —————  
C0/C180: —————  
C90/C270: —————

Field angle(10%Imax):C0/180Left:26.3 Right:26.3  
:C90/270Left:26.3 Right:26.3

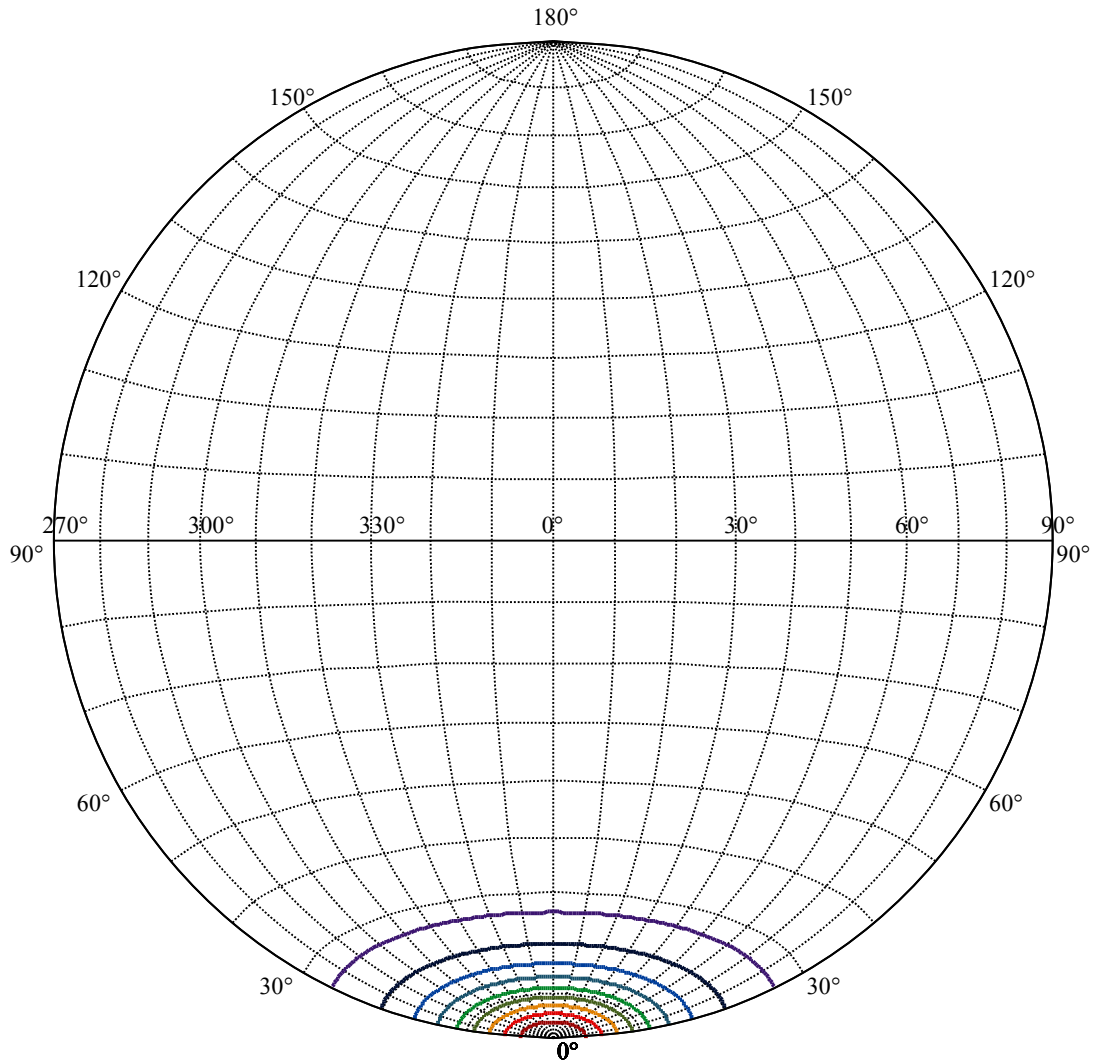
Beam Angle(50%Imax):C0/180Left:11.2 Right:11.2  
:C90/270Left:11.2 Right:11.2





(10%Imax) 387.199	—
(20%Imax) 774.398	—
(30%Imax) 1161.6	—
(40%Imax) 1548.8	—
(50%Imax) 1935.99	—
(60%Imax) 2323.19	—
(70%Imax) 2710.39	—
(80%Imax) 3097.59	—
(90%Imax) 3484.79	—





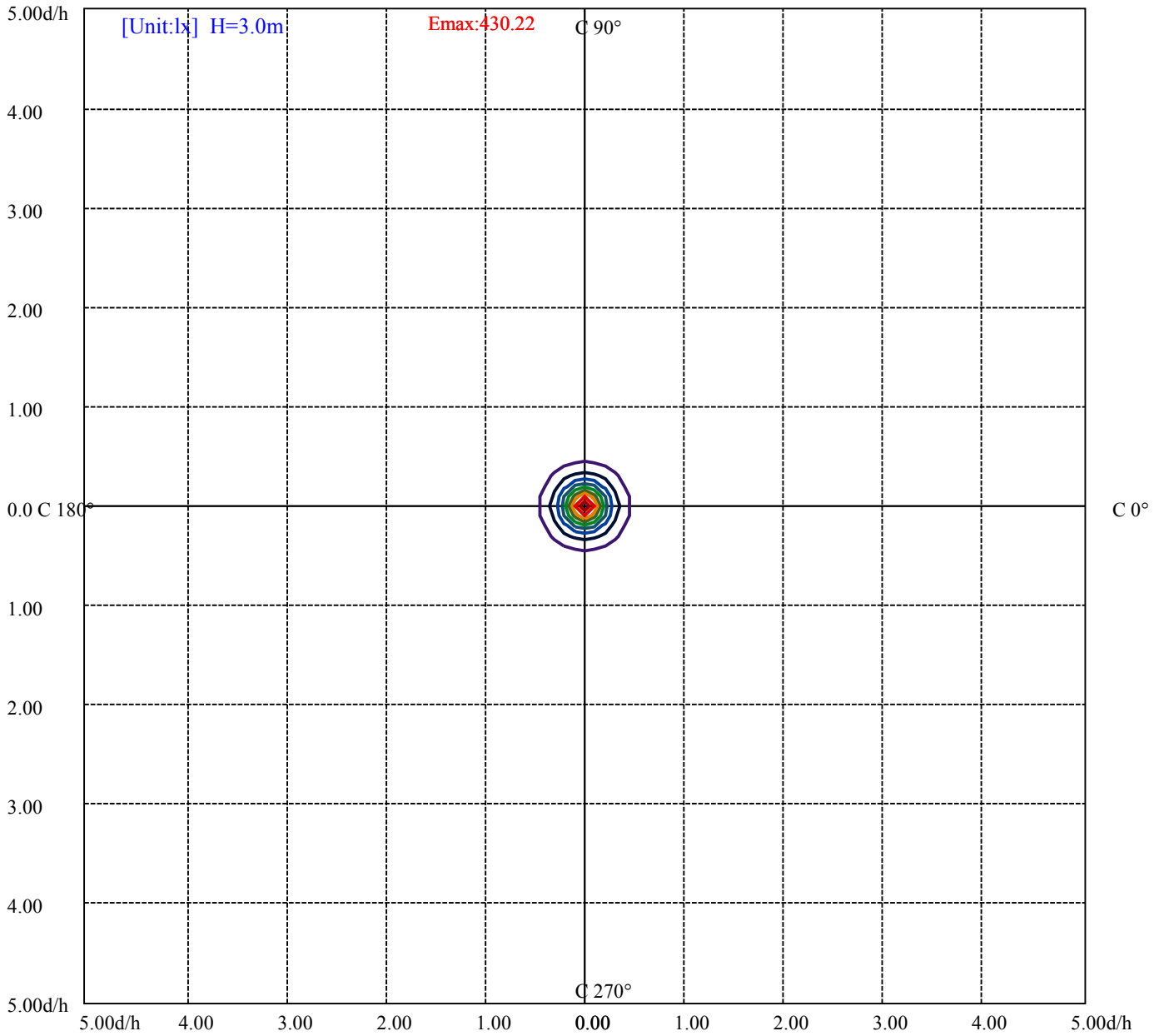
House

[Unit:cd]

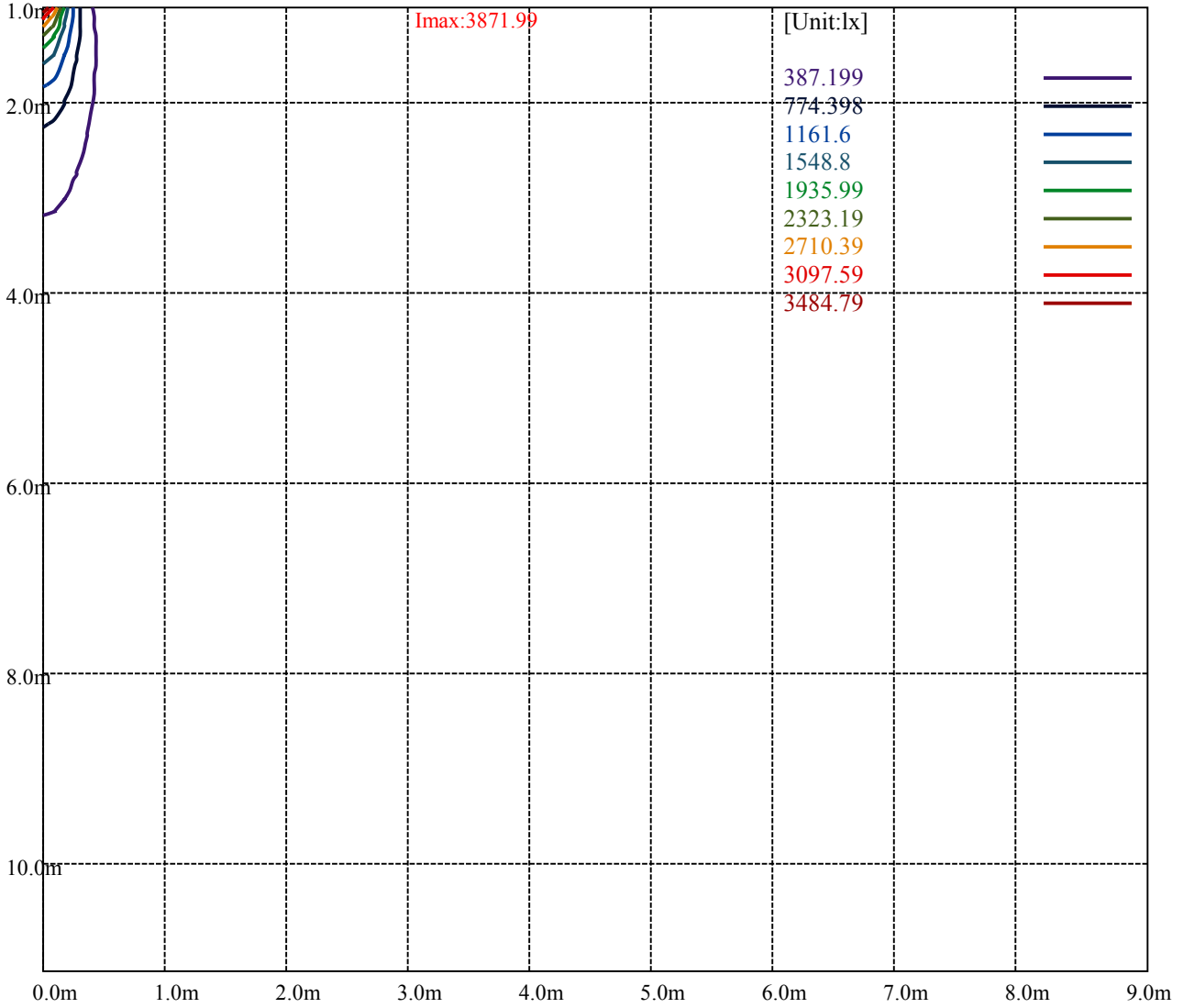
Road

**I<sub>max</sub>:3871.99**

(10%I <sub>max</sub> ) 387.199	—
(20%I <sub>max</sub> ) 774.398	—
(30%I <sub>max</sub> ) 1161.6	—
(40%I <sub>max</sub> ) 1548.8	—
(50%I <sub>max</sub> ) 1935.99	—
(60%I <sub>max</sub> ) 2323.19	—
(70%I <sub>max</sub> ) 2710.39	—
(80%I <sub>max</sub> ) 3097.59	—
(90%I <sub>max</sub> ) 3484.79	—



- (10%Emax) 43.022
- (20%Emax) 86.04411
- (30%Emax) 129.0667
- (40%Emax) 172.0878
- (50%Emax) 215.11
- (60%Emax) 258.1322
- (70%Emax) 301.1544
- (80%Emax) 344.1767
- (90%Emax) 387.1989



Luminance Table

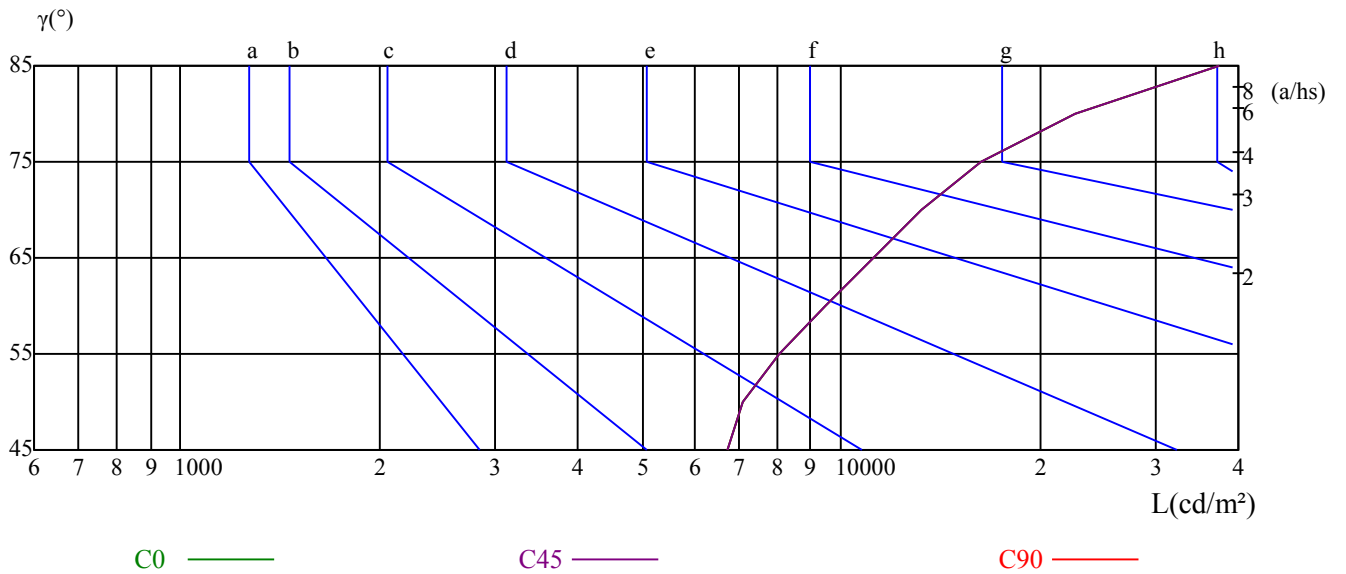
$\gamma$	45	50	55	60	65	70	75	80	85
C0	6735	7089	8078	9469	11193	13240	16310	22565	37403
C45	6735	7089	8078	9469	11193	13240	16310	22565	37403
C90	6735	7089	8078	9469	11193	13240	16310	22565	37403

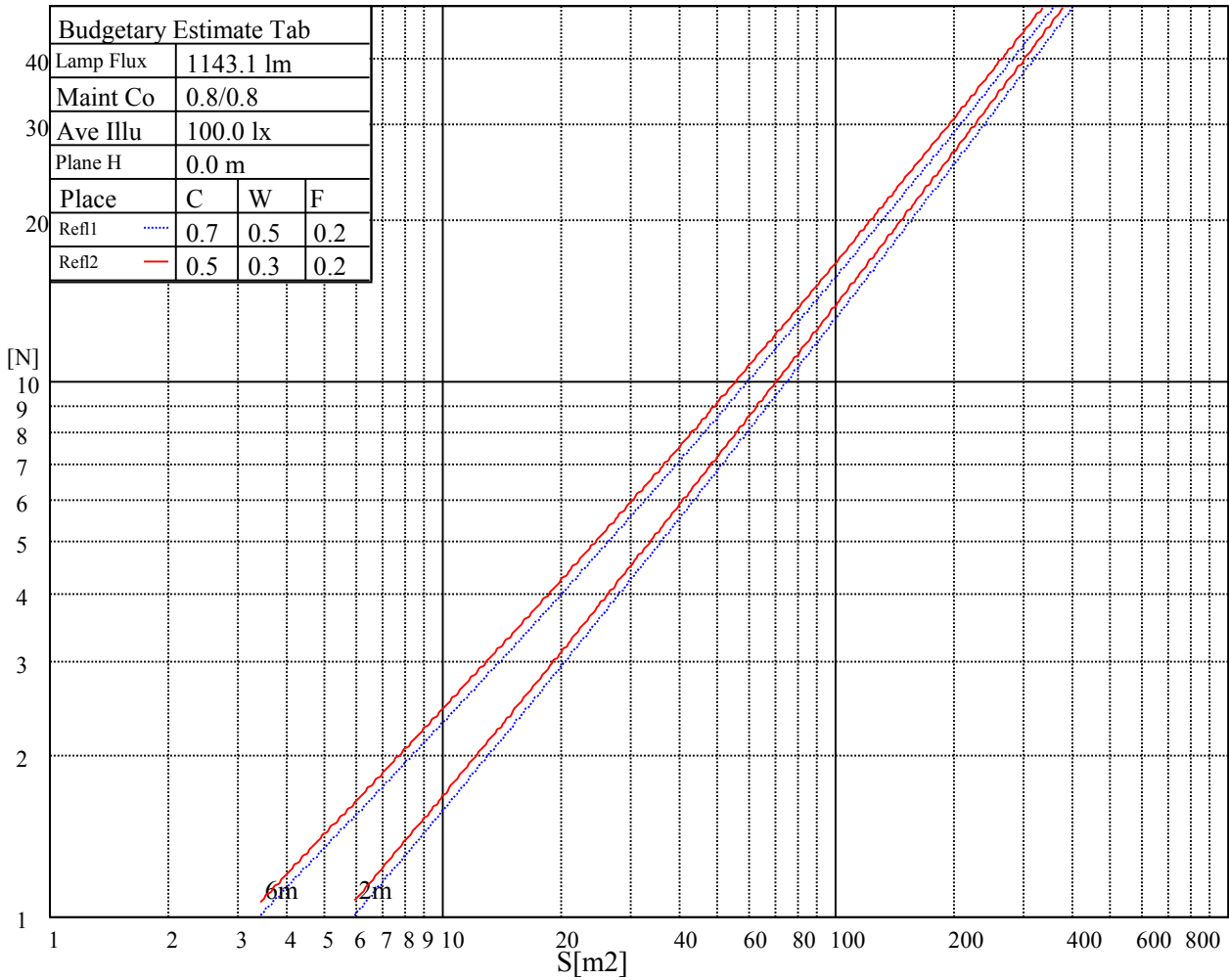
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
11193	11193	11193	16310	16310	16310	37403	37403	37403

Glare Table

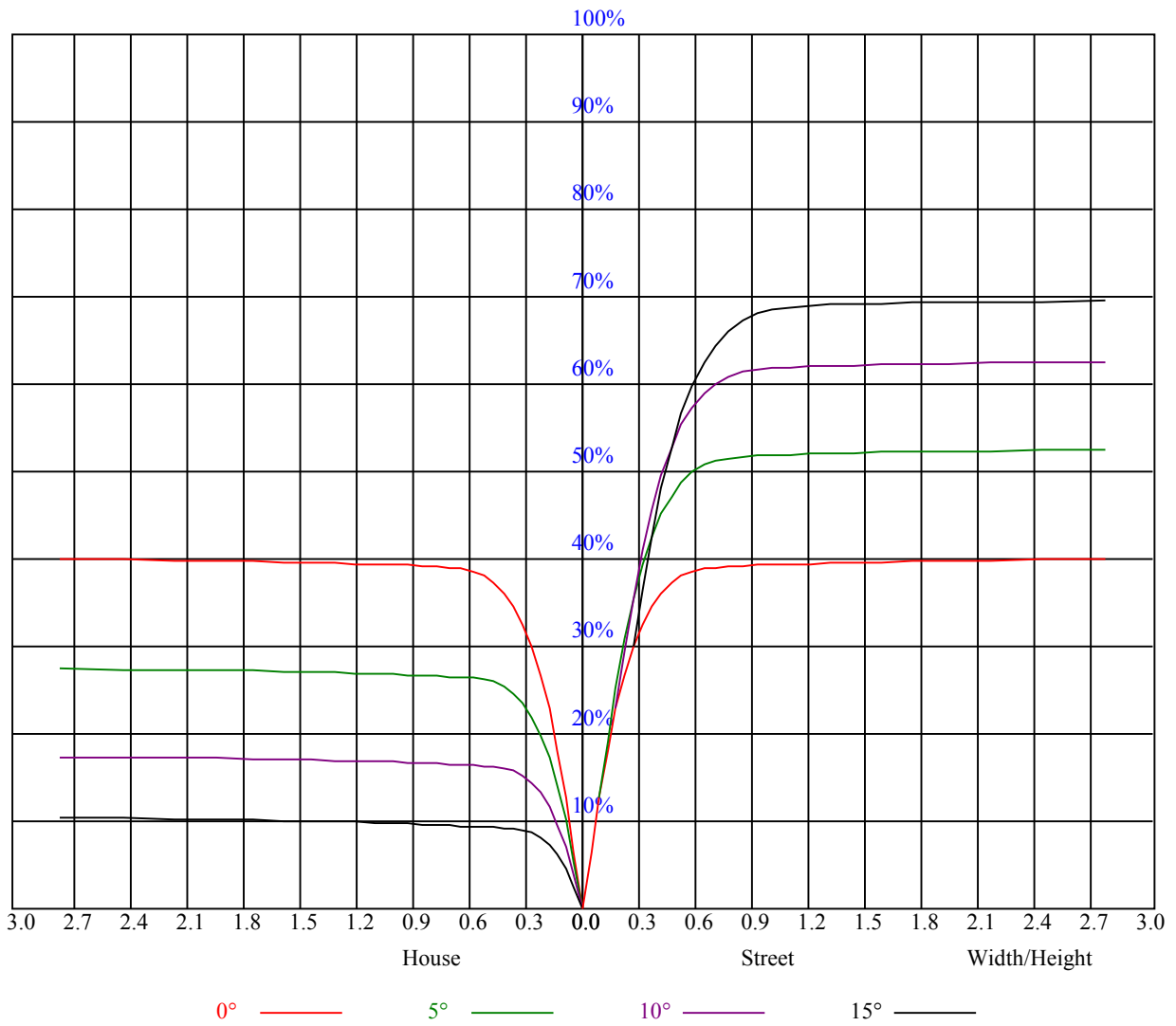
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	0.94	0.94	0.94	0.90	0.90	0.90	0.86	0.86	0.86	0.82	0.82	0.82	0.81
1	0.90	0.89	0.87	0.89	0.87	0.86	0.85	0.84	0.83	0.82	0.81	0.80	0.80	0.79	0.78	0.77
2	0.85	0.83	0.80	0.84	0.82	0.80	0.82	0.80	0.78	0.79	0.78	0.76	0.77	0.76	0.75	0.73
3	0.81	0.78	0.75	0.80	0.77	0.75	0.78	0.76	0.74	0.76	0.74	0.72	0.75	0.73	0.71	0.70
4	0.78	0.74	0.71	0.77	0.73	0.71	0.75	0.72	0.70	0.74	0.71	0.69	0.72	0.70	0.69	0.68
5	0.74	0.71	0.68	0.74	0.70	0.68	0.72	0.69	0.67	0.71	0.69	0.67	0.70	0.68	0.66	0.65
6	0.72	0.68	0.65	0.71	0.67	0.65	0.70	0.67	0.64	0.69	0.66	0.64	0.68	0.65	0.64	0.63
7	0.69	0.65	0.62	0.68	0.65	0.62	0.67	0.64	0.62	0.67	0.64	0.62	0.66	0.63	0.61	0.61
8	0.66	0.63	0.60	0.66	0.63	0.60	0.65	0.62	0.60	0.65	0.62	0.60	0.64	0.61	0.59	0.59
9	0.64	0.61	0.58	0.64	0.60	0.58	0.63	0.60	0.58	0.63	0.60	0.58	0.62	0.59	0.58	0.57
10	0.62	0.59	0.56	0.62	0.58	0.56	0.61	0.58	0.56	0.61	0.58	0.56	0.60	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	3887.52	3900.67	3845.10	3747.10	3609.67	3413.68	3185.43	2979.28	2755.80
45.0	3864.22	3768.62	3619.23	3419.66	3206.94	2963.74	2728.32	2518.58	2323.19
90.0	3840.92	3735.75	3554.10	3346.16	3105.96	2879.49	2657.21	2414.61	2192.93
135.0	3895.29	3839.72	3709.46	3561.27	3372.45	3114.32	2893.24	2678.12	2446.28
180.0	3887.52	3836.14	3688.55	3540.96	3361.70	3098.19	2878.30	2669.16	2437.92
225.0	3864.22	3899.47	3871.99	3792.52	3668.23	3512.28	3326.44	3061.14	2854.99
270.0	3840.92	3894.69	3884.54	3813.43	3708.86	3518.25	3343.17	3134.64	2921.92
315.0	3895.29	3893.50	3825.38	3706.47	3570.24	3356.92	3157.94	2927.89	2690.67
360.0	3887.52	3900.67	3845.10	3747.10	3609.67	3413.68	3185.43	2979.28	2755.80
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	2529.94	2339.33	2142.14	1970.05	1784.22	1610.34	1466.93	1334.28	1182.51
45.0	2090.16	1914.48	1753.75	1582.85	1426.30	1299.63	1179.52	1065.39	969.19
90.0	2008.29	1814.70	1637.23	1489.64	1358.18	1188.90	1092.70	990.34	886.37
135.0	2218.03	2033.39	1842.18	1682.64	1511.15	1360.57	1235.69	1110.21	994.89
180.0	2243.72	2047.73	1840.99	1701.17	1538.04	1368.34	1189.26	1148.93	1018.97
225.0	2642.87	2390.71	2190.54	2009.49	1815.29	1631.25	1488.44	1337.87	1181.43
270.0	2643.47	2433.74	2231.77	2014.87	1820.07	1651.57	1480.08	1324.72	1199.84
315.0	2485.12	2260.45	2056.69	1878.63	1713.71	1526.69	1383.28	1181.08	1113.67
360.0	2529.94	2339.33	2142.14	1970.05	1784.22	1610.34	1466.93	1334.28	1182.51
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1072.56	975.76	865.82	787.54	715.24	636.97	568.25	513.87	454.72
45.0	873.59	793.52	712.25	631.59	570.64	516.27	452.33	400.34	344.18
90.0	785.81	711.06	633.50	562.45	509.09	453.76	407.57	349.67	295.06
135.0	908.84	828.18	734.96	665.65	604.70	530.61	479.22	432.01	374.65
180.0	927.48	843.35	766.45	676.94	609.72	550.32	487.28	435.48	382.60
225.0	1087.92	992.97	894.56	807.02	729.52	663.56	602.13	540.35	484.54
270.0	1073.16	974.57	883.75	785.15	714.05	648.32	568.25	509.09	457.71
315.0	1016.28	927.66	826.74	754.62	686.68	606.43	554.51	494.52	430.04
360.0	1072.56	975.76	865.82	787.54	715.24	636.97	568.25	513.87	454.72
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	399.75	336.41	303.54	225.69	175.97	130.68	94.11	63.28	37.58
45.0	306.53	231.00	182.55	136.71	94.77	64.47	43.80	28.20	24.08
90.0	248.15	205.37	155.30	118.49	86.22	54.55	38.42	29.58	25.16
135.0	317.89	306.53	229.57	171.91	131.87	100.62	61.84	39.56	30.59
180.0	323.92	266.14	218.16	168.32	128.83	88.37	56.41	38.60	27.55
225.0	433.45	379.25	313.88	264.23	218.28	163.84	124.58	88.37	55.09
270.0	397.36	347.76	305.34	244.81	197.78	157.03	116.22	80.43	54.02
315.0	382.54	328.70	259.39	217.02	174.18	119.09	88.08	58.26	35.55
360.0	399.75	336.41	303.54	225.69	175.97	130.68	94.11	63.28	37.58
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	27.19	23.54	20.02	13.74	11.17	10.40	9.74	9.26	8.72
45.0	20.79	15.12	10.93	10.22	9.62	9.14	8.72	8.54	8.43
90.0	20.55	14.64	11.95	11.05	10.46	9.86	9.50	9.08	8.84
135.0	25.16	21.33	14.94	11.59	10.76	10.04	9.44	9.02	8.66
180.0	23.66	19.90	14.64	11.23	10.46	9.68	9.14	8.60	8.19
225.0	34.84	25.34	22.11	18.70	14.10	11.71	10.99	10.28	9.74
270.0	32.92	23.60	20.50	17.87	14.58	12.61	11.77	11.23	10.82
315.0	23.66	20.85	18.05	13.68	11.71	10.88	10.28	9.74	9.32
360.0	27.19	23.54	20.02	13.74	11.17	10.40	9.74	9.26	8.72



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	8.43	8.19	8.01	7.89	7.89	7.89	7.95	8.01	8.07
45.0	8.48	8.54	8.66	8.78	8.84	8.96	9.08	9.32	9.44
90.0	8.66	8.54	8.43	8.13	8.13	8.19	8.25	8.25	8.19
135.0	8.31	8.19	8.07	7.95	7.89	7.83	7.77	7.71	7.71
180.0	7.83	7.65	7.47	7.41	7.35	7.41	7.41	7.53	7.53
225.0	9.26	8.96	8.72	8.60	8.54	8.54	8.60	8.60	8.66
270.0	10.46	10.22	9.98	10.04	10.10	9.92	9.80	9.62	9.38
315.0	9.02	8.78	8.66	8.72	8.72	8.66	8.60	8.60	8.60
360.0	8.43	8.19	8.01	7.89	7.89	7.89	7.95	8.01	8.07
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	8.19	8.25	8.31	8.43	8.48	8.60	8.72	8.84	9.02
45.0	9.56	9.74	9.98	10.28	10.46	10.64	10.76	10.82	10.93
90.0	8.31	8.60	8.66	8.60	8.66	8.90	8.96	9.14	9.14
135.0	7.65	7.59	7.53	7.47	7.47	7.41	7.41	7.41	7.35
180.0	7.65	7.71	7.71	7.77	7.83	7.83	7.83	7.89	7.89
225.0	8.78	8.84	8.96	9.02	9.02	9.08	9.14	9.14	9.08
270.0	9.26	9.20	8.96	8.78	8.72	8.66	8.60	8.60	8.54
315.0	8.60	8.60	8.60	8.60	8.60	8.60	8.60	8.54	8.48
360.0	8.19	8.25	8.31	8.43	8.48	8.60	8.72	8.84	9.02
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	9.14	9.26	9.26	9.26	9.26	9.20	9.08	9.02	8.84
45.0	10.99	10.99	10.88	10.76	10.52	10.34	10.16	9.98	9.68
90.0	9.32	9.32	9.26	9.14	9.14	9.08	8.96	8.84	8.66
135.0	7.29	7.35	7.29	7.29	7.23	7.23	7.17	7.17	7.17
180.0	7.83	7.77	7.77	7.65	7.59	7.59	7.47	7.47	7.35
225.0	9.02	8.90	8.66	8.37	8.25	8.07	8.07	8.01	7.95
270.0	8.60	8.48	8.48	8.54	8.48	8.48	8.48	8.48	8.43
315.0	8.43	8.37	8.37	8.31	8.25	8.19	8.07	8.01	7.95
360.0	9.14	9.26	9.26	9.26	9.26	9.20	9.08	9.02	8.84
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	8.72	8.54	8.43	8.19	8.07	7.89	7.77	7.59	7.47
45.0	9.44	9.08	8.84	8.54	8.19	7.95	7.65	7.41	7.29
90.0	8.60	8.19	8.13	8.07	7.95	7.89	7.71	7.65	7.47
135.0	7.05	7.05	6.99	6.93	6.81	6.75	6.69	6.63	6.57
180.0	7.23	7.17	7.11	7.05	6.93	6.93	6.81	6.75	6.63
225.0	7.83	7.77	7.71	7.65	7.47	7.41	7.29	7.23	7.11
270.0	8.37	8.37	8.31	8.25	8.25	8.25	8.19	8.13	8.01
315.0	7.95	7.89	7.83	7.77	7.71	7.59	7.59	7.47	7.41
360.0	8.72	8.54	8.43	8.19	8.07	7.89	7.77	7.59	7.47
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	7.29	7.17	7.05	6.99	6.81	6.69	4.42	4.18	4.18
45.0	7.17	6.99	6.93	6.81	4.48	4.12	4.06	4.00	4.00
90.0	7.41	7.23	6.87	6.69	4.54	4.12	4.06	4.00	4.00
135.0	6.45	6.39	6.27	5.98	5.74	4.24	4.12	4.06	4.00
180.0	6.57	6.45	6.33	6.15	5.68	4.24	4.12	4.06	4.00
225.0	7.05	6.99	6.87	6.81	6.69	6.57	4.48	4.18	4.06
270.0	7.89	7.83	7.65	7.59	7.35	7.17	4.78	4.18	4.06
315.0	7.35	7.23	7.17	7.05	6.93	6.27	4.24	4.12	4.06
360.0	7.29	7.17	7.05	6.99	6.81	6.69	4.42	4.18	4.18

Intensity data(cd)

C/γ(°)	90.0
0.0	4.12
45.0	4.00
90.0	4.00
135.0	3.94
180.0	4.06
225.0	4.06
270.0	4.06
315.0	4.06
360.0	4.12