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**HX-DA614S-40090**

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LumCAT: HX-DA614S-40090	Luminaire: HX-DA614S
Report No:	Voltage(V): 230.400
Test No:	Current(A): 0.060
LampCAT: 2835 12C7B 40090	Power (W): 13.300
Lamp flux(lm): 1675.0	PF: 0.950
Number of Lamps: 1	Ballast type: OSRAM OTFIT 15/220-240/350CS
Length(mm): -105	Width(mm): -105
Phm Type: C	Height(mm): 0

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**Photometric Results**

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Lumens(lm): 1112.73  
Efficiency(%): 66.43%  
Lumens(lm)/Power(W): 83.66  
Central intensity(cd): 482.547  
Maximum intensity(cd): 487.515  
Angle of maximum intensity: C=30.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [H]Left=50.4 Right=46.5  
[V]Left=51.3 Right=45.5  
Field angle(10%Imax): [H]Left=74.7 Right=71.1  
[V]Left=75.6 Right=70.2  
Maximum s/h: C0\_180=1.18 C90\_270=1.20  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 66.43%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 86.195%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	484.256	.000	.000	.000%	.000%
1.0	484.181	.463	.463	.028%	.028%
2.0	483.829	1.389	1.853	.083%	.111%
3.0	483.283	2.313	4.166	.138%	.249%
4.0	482.490	3.233	7.399	.193%	.442%
5.0	481.499	4.147	11.546	.248%	.689%
6.0	480.243	5.054	16.600	.302%	.991%
7.0	478.803	5.953	22.553	.355%	1.346%
8.0	477.099	6.841	29.394	.408%	1.755%
9.0	475.205	7.718	37.112	.461%	2.216%
10.0	473.038	8.581	45.693	.512%	2.728%
11.0	470.589	9.429	55.122	.563%	3.291%
12.0	467.999	10.260	65.382	.613%	3.903%
13.0	465.128	11.074	76.456	.661%	4.565%
14.0	462.067	11.868	88.324	.709%	5.273%
15.0	458.776	12.642	100.965	.755%	6.028%
16.0	455.315	13.394	114.359	.800%	6.827%
17.0	451.602	14.123	128.483	.843%	7.671%
18.0	447.602	14.826	143.308	.885%	8.556%
19.0	443.396	15.502	158.810	.925%	9.481%
20.0	439.018	16.151	174.961	.964%	10.445%
21.0	434.261	16.769	191.729	1.001%	11.447%
22.0	429.566	17.359	209.088	1.036%	12.483%
23.0	424.409	17.919	227.007	1.070%	13.553%
24.0	418.939	18.439	245.446	1.101%	14.653%
25.0	413.222	18.922	264.367	1.130%	15.783%
26.0	407.527	19.374	283.741	1.157%	16.940%
27.0	401.524	19.794	303.535	1.182%	18.121%
28.0	395.401	20.176	323.711	1.205%	19.326%
29.0	389.160	20.526	344.237	1.225%	20.551%
30.0	382.563	20.836	365.074	1.244%	21.795%
31.0	375.996	21.110	386.183	1.260%	23.056%
32.0	369.191	21.349	407.532	1.275%	24.330%
33.0	362.324	21.551	429.083	1.287%	25.617%
34.0	355.198	21.714	450.797	1.296%	26.913%
35.0	348.102	21.842	472.639	1.304%	28.217%
36.0	340.655	21.930	494.569	1.309%	29.527%
37.0	333.458	21.986	516.555	1.313%	30.839%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	326.072	22.014	538.569	1.314%	32.153%
39.0	318.417	21.998	560.567	1.313%	33.467%
40.0	310.810	21.945	582.513	1.310%	34.777%
41.0	302.759	21.849	604.361	1.304%	36.081%
42.0	295.047	21.719	626.081	1.297%	37.378%
43.0	286.952	21.559	647.640	1.287%	38.665%
44.0	279.134	21.366	669.005	1.276%	39.941%
45.0	270.999	21.142	690.148	1.262%	41.203%
46.0	262.943	20.881	711.029	1.247%	42.449%
47.0	254.689	20.588	731.616	1.229%	43.679%
48.0	246.546	20.263	751.879	1.210%	44.888%
49.0	238.367	19.913	771.792	1.189%	46.077%
50.0	229.989	19.527	791.320	1.166%	47.243%
51.0	221.537	19.103	810.423	1.141%	48.383%
52.0	213.028	18.648	829.070	1.113%	49.497%
53.0	204.642	18.169	847.239	1.085%	50.581%
54.0	196.252	17.670	864.909	1.055%	51.636%
55.0	187.967	17.151	882.060	1.024%	52.660%
56.0	179.414	16.601	898.661	.991%	53.651%
57.0	171.199	16.031	914.691	.957%	54.608%
58.0	162.523	15.432	930.124	.921%	55.530%
59.0	154.251	14.809	944.933	.884%	56.414%
60.0	145.962	14.183	959.116	.847%	57.261%
61.0	137.647	13.534	972.651	.808%	58.069%
62.0	129.560	12.876	985.526	.769%	58.837%
63.0	121.394	12.205	997.732	.729%	59.566%
64.0	113.286	11.516	1009.247	.688%	60.254%
65.0	105.217	10.814	1020.061	.646%	60.899%
66.0	97.359	10.107	1030.168	.603%	61.503%
67.0	89.458	9.394	1039.562	.561%	62.063%
68.0	81.953	8.683	1048.245	.518%	62.582%
69.0	74.461	7.979	1056.224	.476%	63.058%
70.0	67.057	7.268	1063.492	.434%	63.492%
71.0	59.944	6.564	1070.057	.392%	63.884%
72.0	53.245	5.885	1075.942	.351%	64.235%
73.0	46.770	5.230	1081.172	.312%	64.548%
74.0	40.613	4.594	1085.766	.274%	64.822%
75.0	35.116	4.001	1089.767	.239%	65.061%

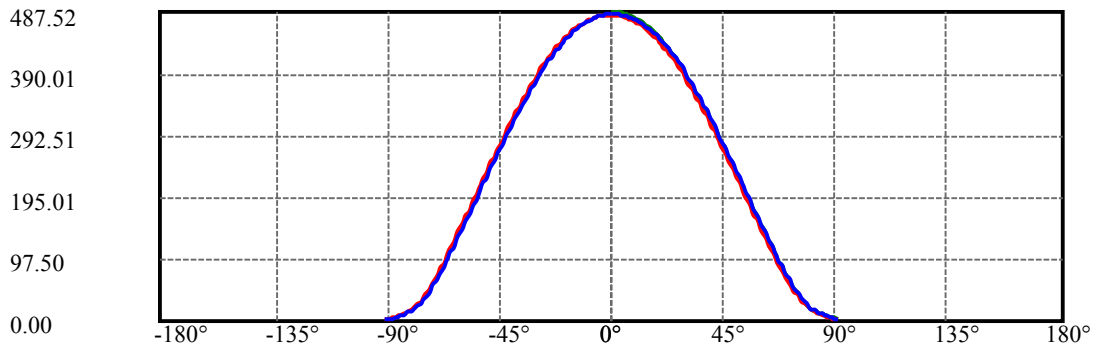
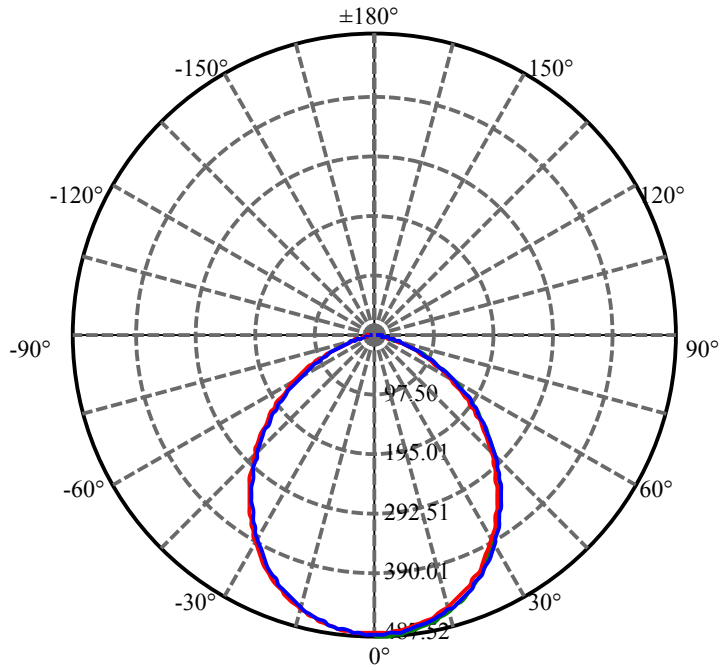
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	30.064	3.460	1093.227	.207%	65.267%
77.0	25.797	2.978	1096.206	.178%	65.445%
78.0	22.084	2.563	1098.769	.153%	65.598%
79.0	19.300	2.224	1100.992	.133%	65.731%
80.0	17.023	1.958	1102.951	.117%	65.848%
81.0	15.195	1.742	1104.693	.104%	65.952%
82.0	13.574	1.560	1106.253	.093%	66.045%
83.0	11.888	1.384	1107.637	.083%	66.128%
84.0	10.315	1.210	1108.847	.072%	66.200%
85.0	8.721	1.039	1109.886	.062%	66.262%
86.0	7.210	.871	1110.757	.052%	66.314%
87.0	5.783	.711	1111.468	.042%	66.356%
88.0	4.365	.556	1112.024	.033%	66.389%
89.0	3.092	.409	1112.432	.024%	66.414%
90.0	2.361	.299	1112.731	.018%	66.432%

## ZONAL LUMEN SUMMARY

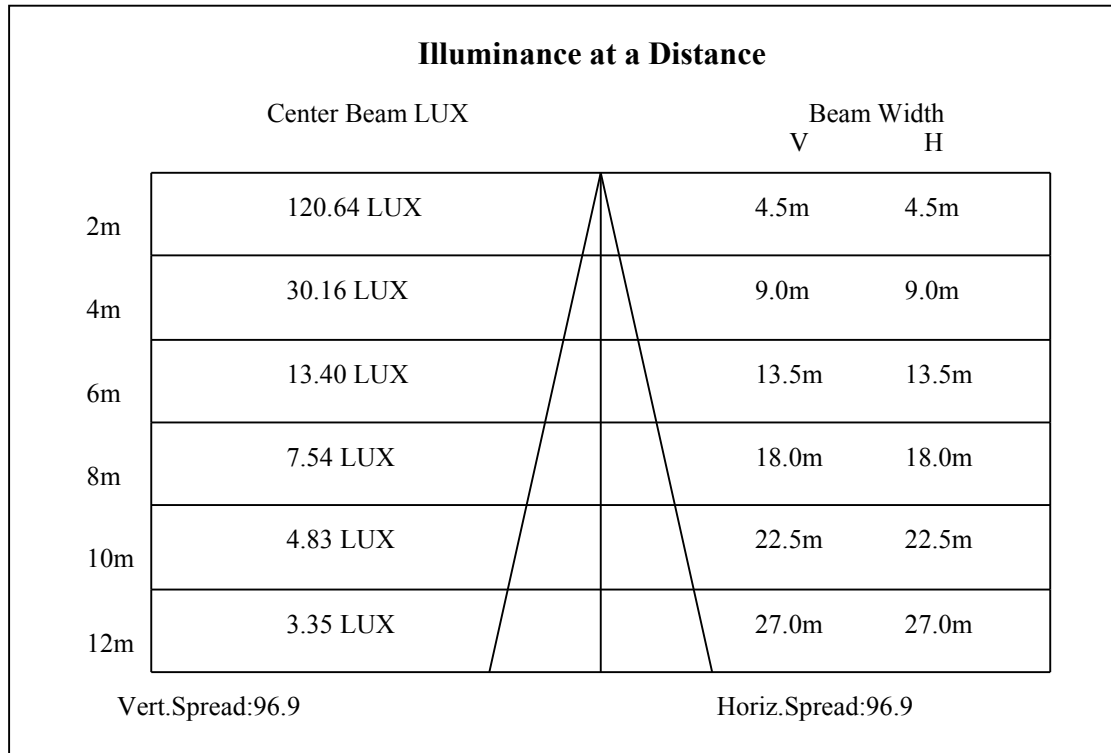
Zone	Lumens	%Lamp	%Fixt
0-30	365.07	21.80%	32.81%
0-40	582.51	34.78%	52.35%
0-60	959.12	57.26%	86.19%
0-90	1112.43	66.41%	99.97%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-180	1112.73	66.43%	100.00%

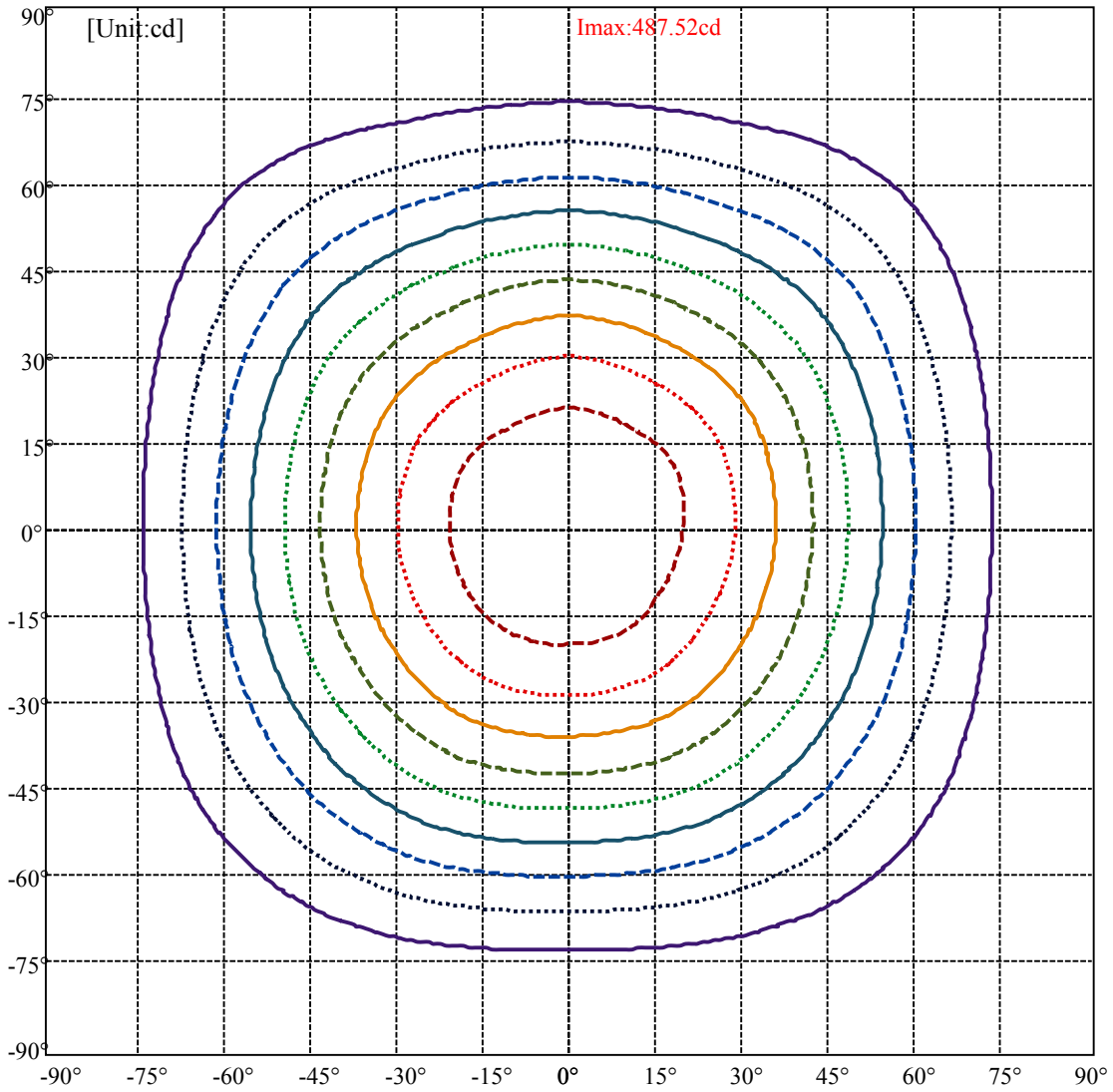
## ZONAL LUMEN SUMMARY

0-10	45.69
10-20	129.27
20-30	190.11
30-40	217.44
40-50	208.81
50-60	167.80
60-70	104.38
70-80	39.46
80-90	9.48
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



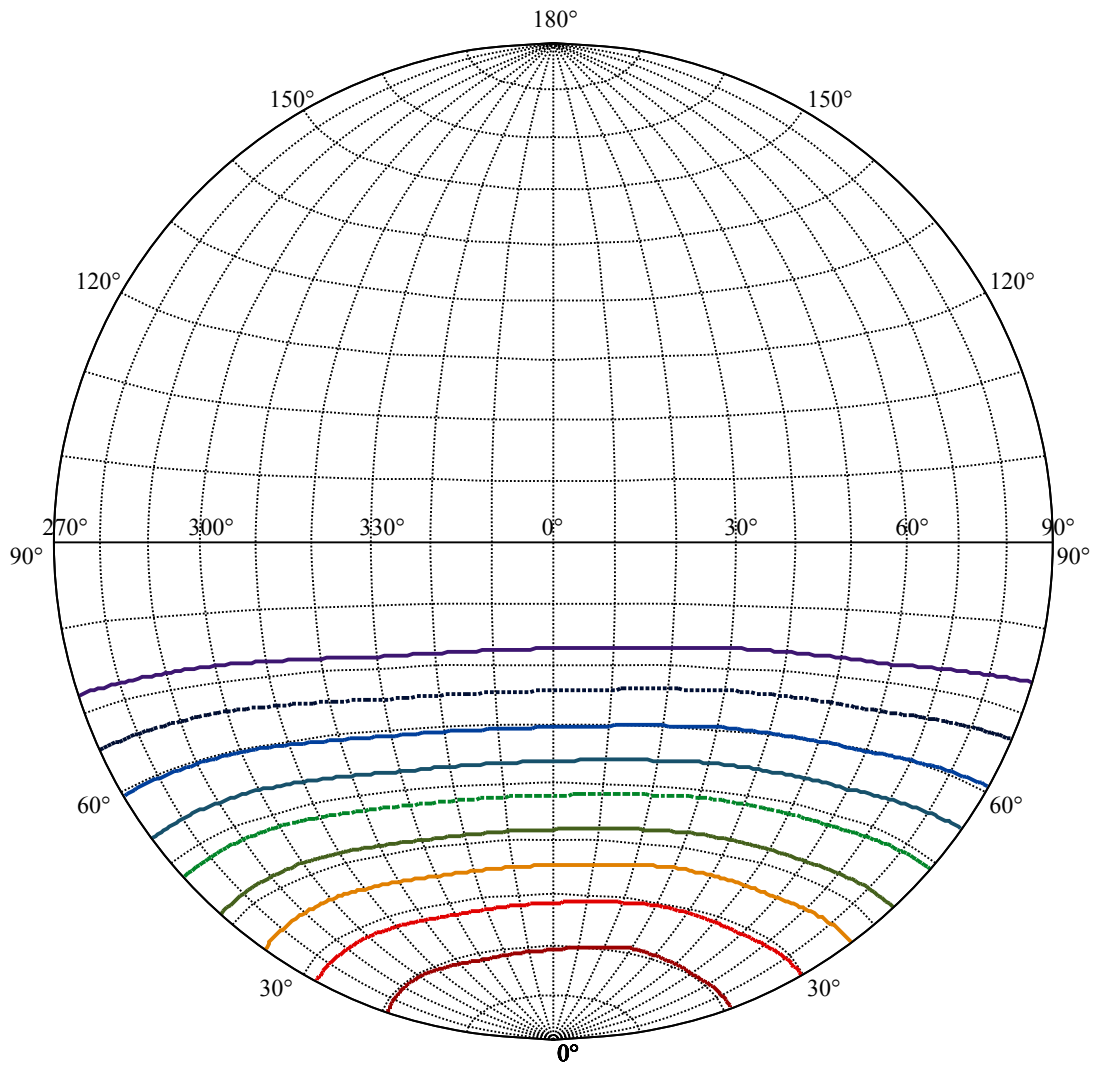
C30(Max): —  
C0/C180: —  
C90/C270: —





- (10%Imax) 48.6465
- (20%Imax) 97.293
- (30%Imax) 145.94
- (40%Imax) 194.586
- (50%Imax) 243.233
- (60%Imax) 291.879
- (70%Imax) 340.526
- (80%Imax) 389.172
- (90%Imax) 437.819



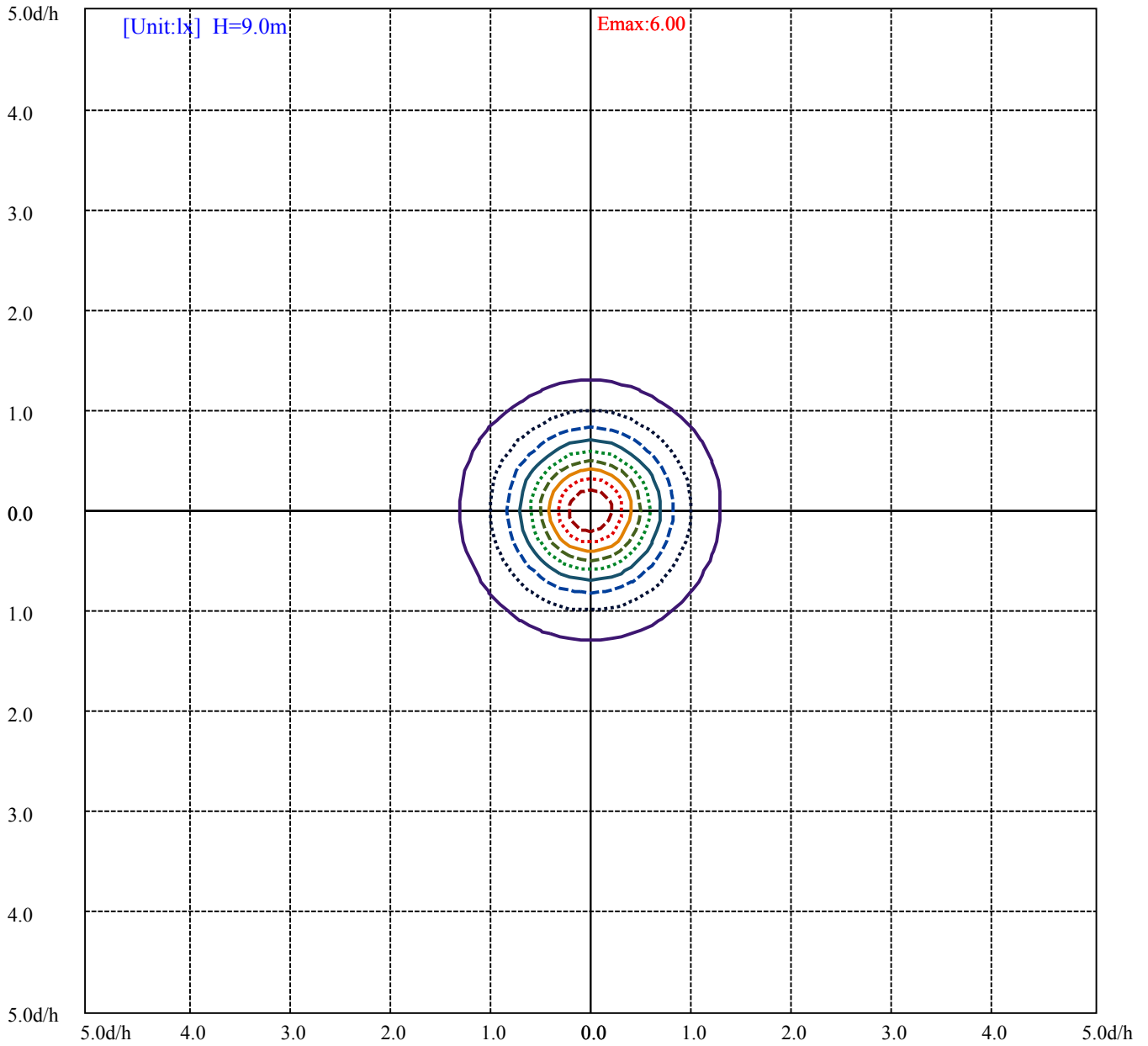


House

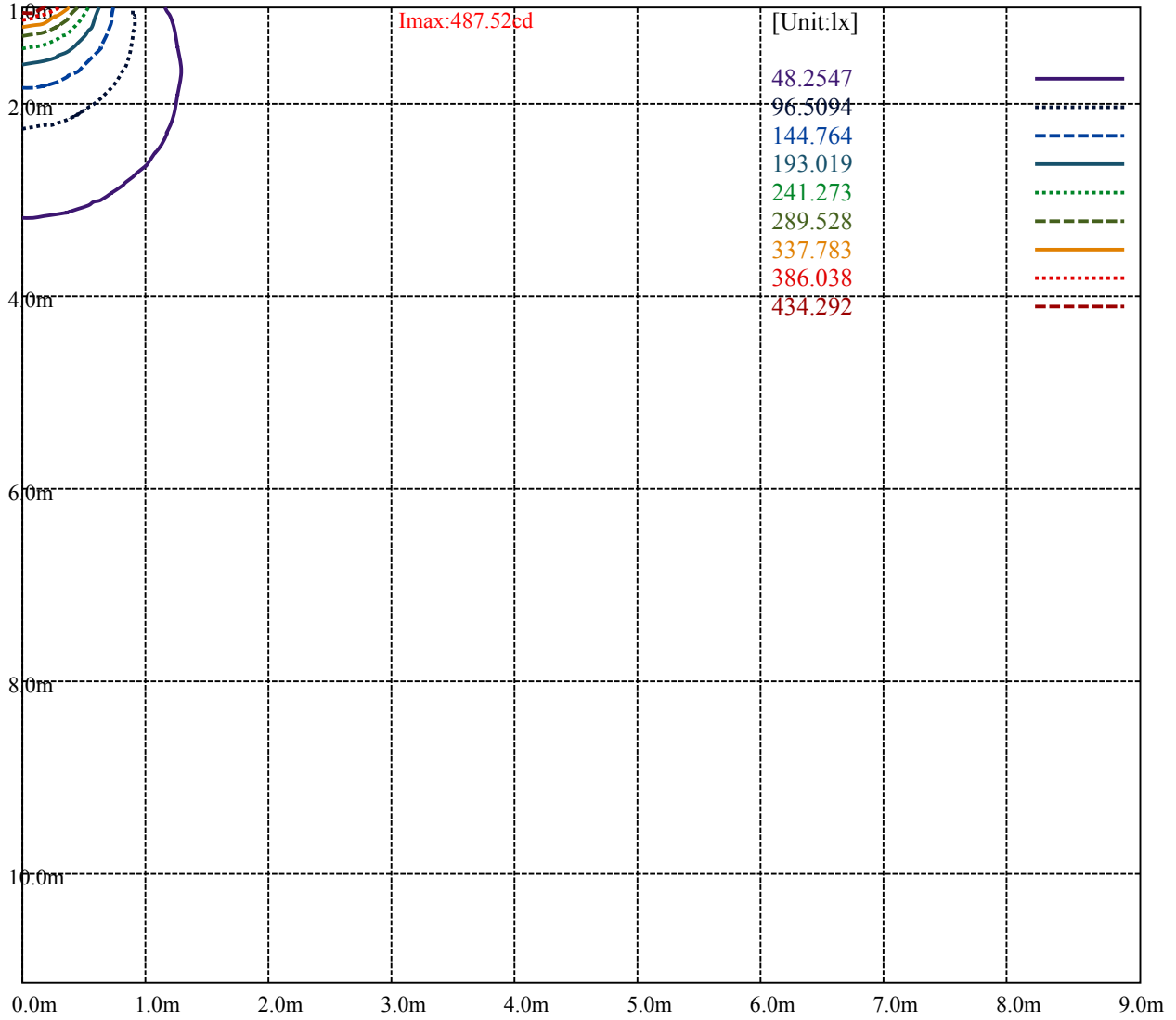
Road

**Imax:487.52cd**

(10%Imax) 48.7515	—
(20%Imax) 97.503	⋯
(30%Imax) 146.255	- - -
(40%Imax) 195.006	—
(50%Imax) 243.758	⋯
(60%Imax) 292.509	- - -
(70%Imax) 341.261	—
(80%Imax) 390.012	⋯
(90%Imax) 438.764	- - -



- (10%Emax) 0.6004679
- (20%Emax) 1.200935
- (30%Emax) 1.801407
- (40%Emax) 2.401864
- (50%Emax) 3.002333
- (60%Emax) 3.602803
- (70%Emax) 4.203271
- (80%Emax) 4.803741
- (90%Emax) 5.40421

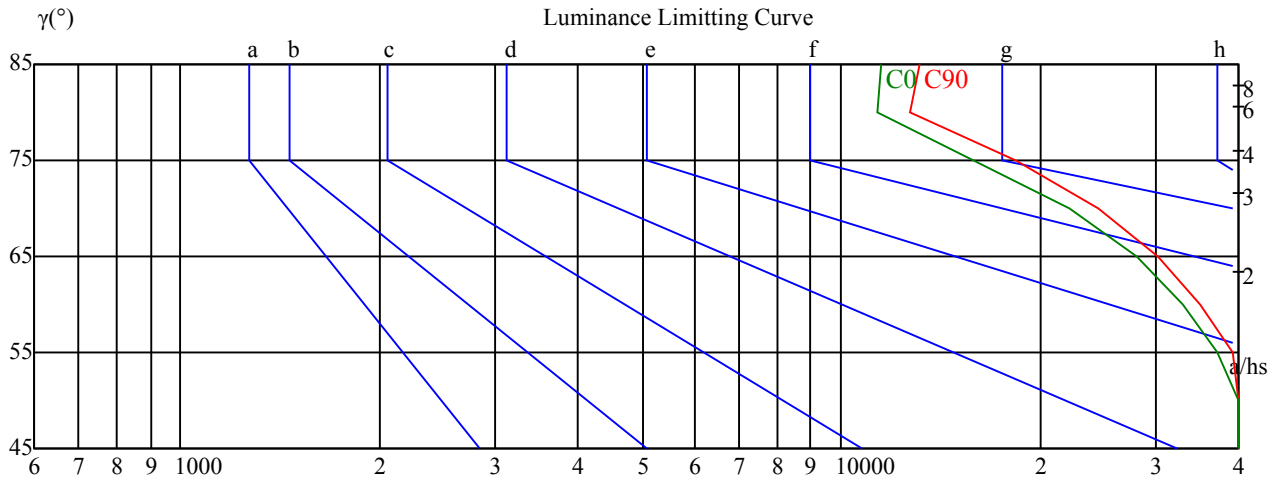


Luminance Table

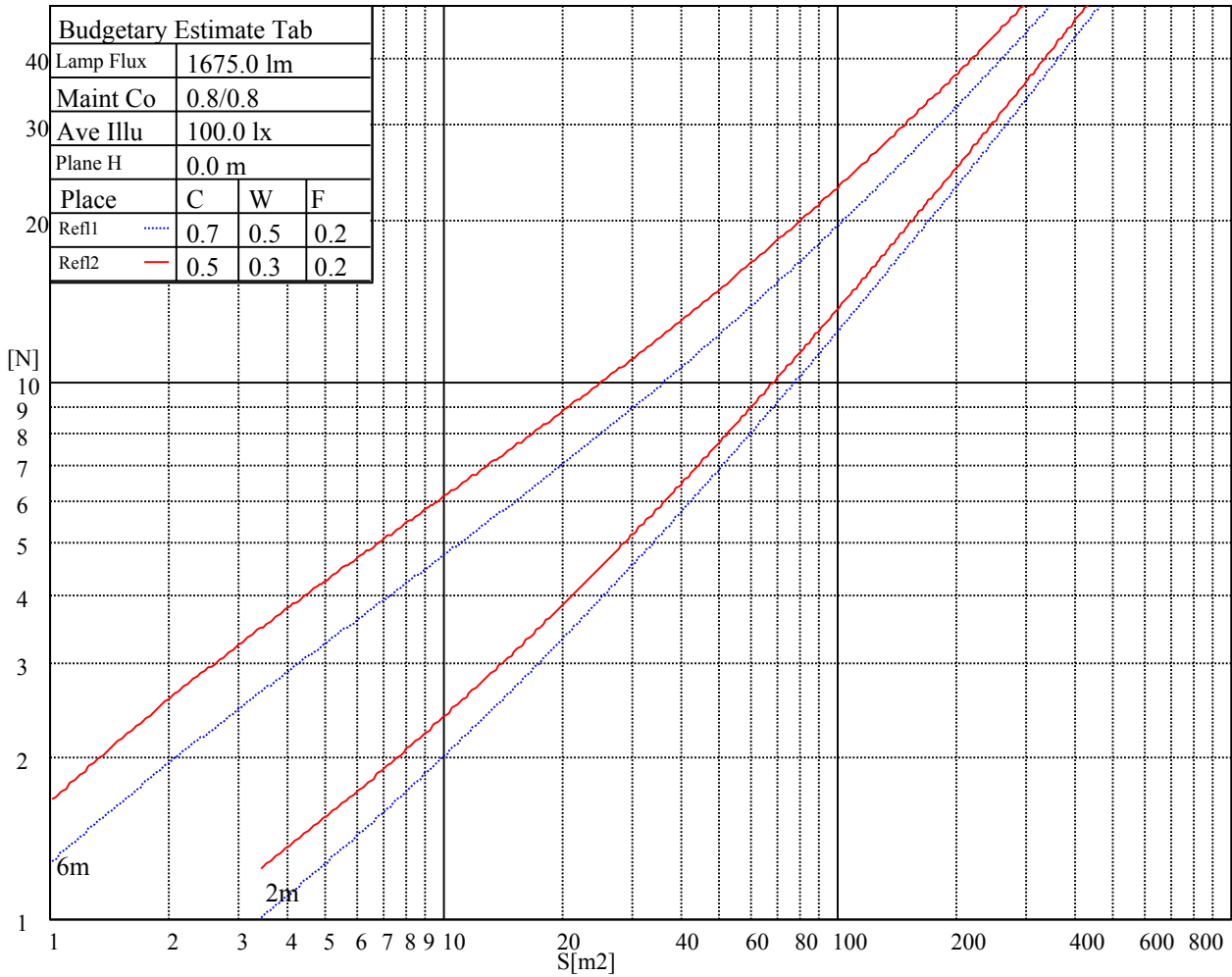
$\gamma$	45	50	55	60	65	70	75	80	85
C0	43687	40604	37150	32924	28062	22183	15848	11389	11485
C45	0	0	0	0	0	0	0	0	0
C90	45146	42275	39076	34950	30128	24521	18442	12724	13166

Glare Table

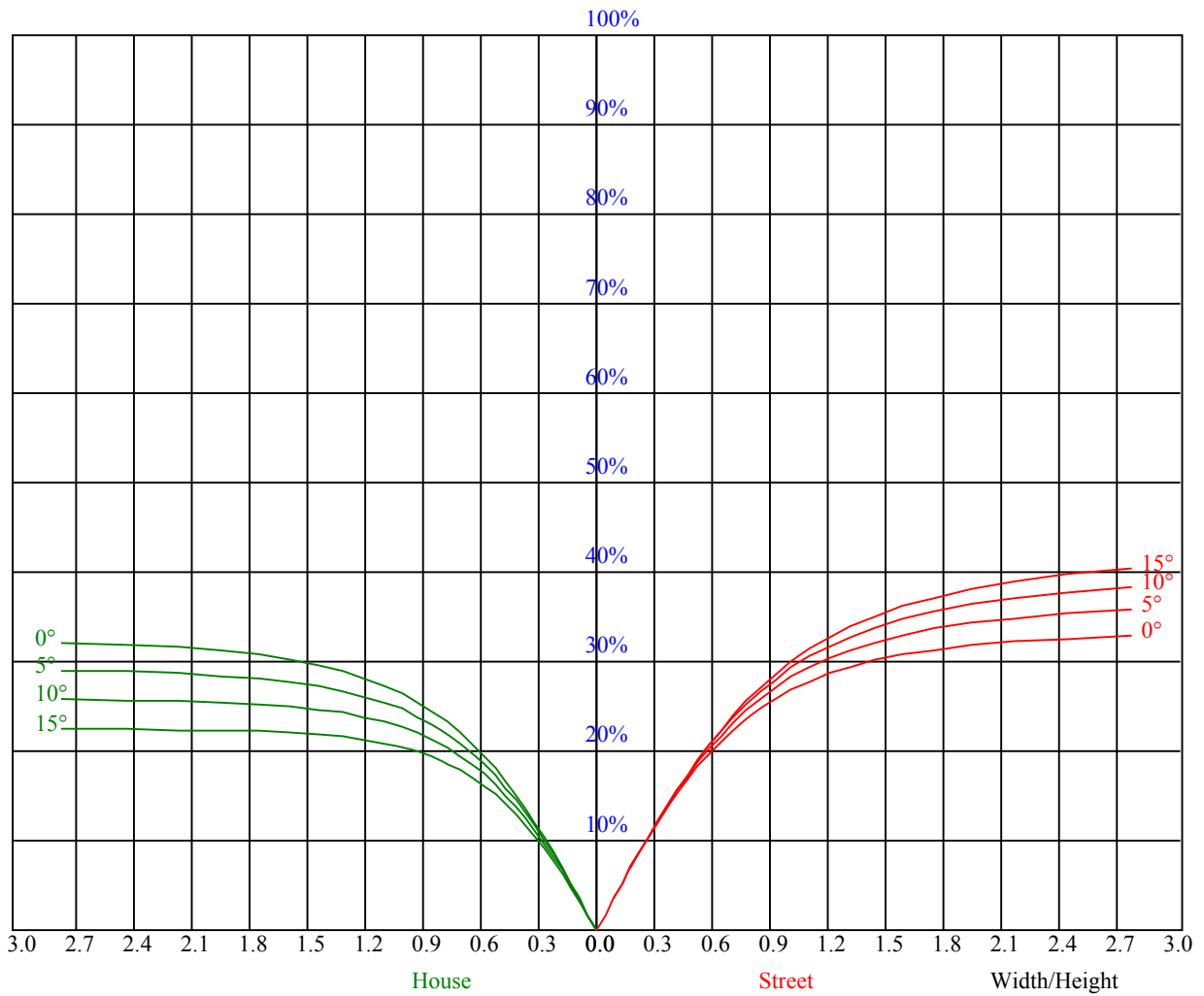
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h



Illuminatin assessment according UGR											
Rf of Ceiling	70	70	50	50	30	70	70	50	50	30	
Rf of Wall	50	30	50	30	30	50	30	50	30	30	
Rf of Floor	20	20	20	20	20	20	20	20	20	20	
Room dimensions		Viewed crosswise					Viewed endwise				
X	Y										
2H	2H	23.3	24.5	23.5	24.8	25.0	23.3	24.6	23.6	24.8	25.0
	3H	24.2	25.3	24.5	25.6	25.9	24.3	25.4	24.6	25.7	25.9
	4H	24.3	25.2	24.6	25.5	25.9	24.4	25.3	24.7	25.7	26.0
	6H	24.4	25.4	24.8	25.7	26.0	24.6	25.5	24.9	25.8	26.2
	8H	24.5	25.4	24.8	25.7	26.1	24.6	25.6	25.0	25.9	26.2
	12H	24.3	25.1	24.8	25.4	25.8	24.5	25.2	24.9	25.6	26.0
4H	2H	23.6	24.5	24.0	24.9	25.2	23.6	24.6	24.0	24.9	25.2
	3H	24.7	25.4	25.1	25.8	26.2	24.7	25.4	25.1	25.8	26.2
	4H	25.0	25.7	25.4	26.1	26.5	25.1	25.8	25.5	26.2	26.6
	6H	25.2	25.9	25.6	26.3	26.7	25.3	26.0	25.7	26.4	26.8
	8H	25.1	25.5	25.6	26.0	26.5	25.2	25.6	25.7	26.1	26.6
	12H	25.2	25.6	25.7	26.1	26.6	25.3	25.7	25.8	26.2	26.7
8H	4H	25.0	25.4	25.5	25.9	26.4	25.1	25.5	25.6	26.0	26.5
	6H	25.3	25.7	25.8	26.2	26.7	25.4	25.8	25.9	26.2	26.7
	8H	25.4	25.8	25.9	26.3	26.8	25.5	25.9	26.0	26.3	26.9
	12H	25.5	25.9	26.0	26.4	26.9	25.6	26.0	26.1	26.5	27.0
12H	4H	25.0	25.4	25.5	25.9	26.4	25.1	25.5	25.6	26.0	26.5
	6H	25.3	25.7	25.8	26.2	26.7	25.4	25.8	25.9	26.3	26.8
	8H	25.5	25.9	26.0	26.3	26.8	25.5	25.9	26.0	26.4	26.9
Variation with the observer position at spacings:											
S = 1.0H		0.5/-0.5					0.4/-0.4				
S = 1.5H		0.7/-1.2					0.7/-1.0				
S = 2.0H		1.8/-1.7					1.8/-1.6				
Standard tables:		BK3					BK2				
Uncorrected UGR		6.3					5.7				
According 1000lm											



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 RHOF=20 CU															
0	0.79	0.79	0.79	0.77	0.77	0.77	0.74	0.74	0.74	0.71	0.71	0.71	0.68	0.68	0.68	0.66
1	0.70	0.68	0.66	0.69	0.67	0.65	0.66	0.64	0.63	0.64	0.62	0.61	0.61	0.60	0.59	0.57
2	0.62	0.58	0.55	0.61	0.57	0.54	0.59	0.56	0.53	0.57	0.54	0.52	0.55	0.52	0.51	0.49
3	0.55	0.50	0.46	0.54	0.50	0.46	0.52	0.48	0.45	0.51	0.47	0.44	0.49	0.46	0.44	0.42
4	0.49	0.44	0.40	0.49	0.43	0.40	0.47	0.43	0.39	0.45	0.42	0.39	0.44	0.41	0.38	0.37
5	0.44	0.39	0.35	0.44	0.38	0.35	0.42	0.38	0.34	0.41	0.37	0.34	0.40	0.36	0.33	0.32
6	0.40	0.35	0.31	0.40	0.34	0.30	0.38	0.34	0.30	0.37	0.33	0.30	0.36	0.33	0.30	0.28
7	0.37	0.31	0.27	0.36	0.31	0.27	0.35	0.30	0.27	0.34	0.30	0.27	0.33	0.29	0.27	0.25
8	0.34	0.28	0.24	0.33	0.28	0.24	0.32	0.28	0.24	0.31	0.27	0.24	0.31	0.27	0.24	0.23
9	0.31	0.26	0.22	0.30	0.25	0.22	0.30	0.25	0.22	0.29	0.25	0.22	0.28	0.25	0.22	0.21
10	0.29	0.23	0.20	0.28	0.23	0.20	0.28	0.23	0.20	0.27	0.23	0.20	0.26	0.23	0.20	0.19





## Intensity data(cd)

Page: 17 Total:19

C/γ(°)	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0
0.0	482.55	482.34	481.81	481.28	480.38	479.16	477.90	476.15	474.41
30.0	487.52	487.46	487.20	486.72	486.09	485.03	483.87	482.55	481.01
60.0	485.24	485.14	484.61	484.03	483.34	482.28	481.07	479.59	478.00
90.0	483.76	483.87	483.76	483.23	482.49	481.70	480.59	479.27	477.79
120.0	483.76	483.60	483.29	482.86	481.97	481.12	479.85	478.37	476.63
150.0	482.71	482.86	482.71	482.39	481.86	481.12	480.12	479.06	477.58
180.0	482.55	482.65	482.49	482.12	481.33	480.59	479.38	478.21	476.52
210.0	487.52	487.46	486.99	486.30	485.51	484.45	483.23	481.65	479.75
240.0	485.24	485.19	484.98	484.45	483.76	482.60	481.38	479.90	478.32
270.0	483.76	483.66	483.23	482.60	481.60	480.64	479.16	477.42	475.57
300.0	483.76	483.60	483.23	482.49	481.65	480.59	479.27	477.90	476.05
330.0	482.71	482.34	481.65	480.91	479.90	478.69	477.10	475.57	473.56
360.0	482.55	482.34	481.81	481.28	480.38	479.16	477.90	476.15	474.41
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	472.50	470.44	467.96	465.16	461.99	458.92	455.43	452.05	447.98
30.0	479.11	476.89	474.51	472.13	469.23	466.43	463.10	459.93	456.17
60.0	475.94	473.56	471.03	468.59	465.58	462.73	459.34	455.70	452.26
90.0	475.94	474.04	471.87	469.65	466.85	463.73	460.56	457.55	453.90
120.0	475.04	472.77	470.23	467.85	464.95	462.15	458.87	455.64	451.95
150.0	476.05	474.09	471.77	469.39	467.01	464.05	461.14	457.76	454.59
180.0	474.67	472.45	470.34	467.54	465.05	462.04	459.24	455.75	452.16
210.0	477.63	475.46	472.93	469.97	467.11	463.68	460.45	456.70	452.74
240.0	476.31	474.30	471.87	469.02	466.32	462.94	459.87	456.23	452.69
270.0	473.61	471.24	468.81	466.00	463.15	459.77	456.07	452.69	448.67
300.0	474.14	472.13	469.55	467.06	463.89	461.09	457.55	453.64	450.10
330.0	471.50	469.07	466.22	463.63	460.40	457.28	453.69	450.15	446.03
360.0	472.50	470.44	467.96	465.16	461.99	458.92	455.43	452.05	447.98
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	444.23	440.00	435.56	430.91	426.63	422.03	416.59	410.72	405.22
30.0	452.21	448.46	444.07	438.78	433.98	429.11	423.40	417.43	411.20
60.0	448.19	444.33	439.95	435.30	429.91	424.25	418.33	413.10	407.65
90.0	450.57	446.40	442.59	438.10	433.34	429.11	424.04	419.07	413.47
120.0	447.88	443.59	439.21	434.19	429.43	423.77	418.75	412.83	406.81
150.0	450.78	446.87	443.01	438.31	433.87	428.80	423.25	417.54	412.36
180.0	448.09	444.28	439.89	435.77	431.54	426.58	420.87	415.32	410.19
210.0	448.51	443.54	439.00	433.76	429.11	423.56	417.80	411.72	406.17
240.0	448.51	444.28	439.31	434.82	430.28	424.78	419.12	413.79	407.81
270.0	444.81	440.48	435.88	431.07	426.63	421.34	416.32	410.40	405.01
300.0	445.87	441.43	437.15	432.07	427.47	421.92	416.85	410.83	404.64
330.0	441.59	437.09	432.60	428.06	422.61	417.64	411.94	405.91	399.78
360.0	444.23	440.00	435.56	430.91	426.63	422.03	416.59	410.72	405.22
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	398.93	392.38	386.41	379.48	373.51	366.32	358.98	352.26	344.60
30.0	405.65	399.15	393.33	386.51	380.33	373.25	365.95	359.45	351.95
60.0	401.42	395.55	389.00	382.02	375.15	368.70	361.57	354.96	347.46
90.0	407.39	401.95	395.60	388.89	382.50	375.52	369.02	361.57	353.96
120.0	401.26	394.81	388.94	382.07	375.20	368.91	361.57	354.11	347.46
150.0	406.07	400.63	394.86	388.26	381.44	374.57	368.33	361.20	354.64
180.0	404.85	398.67	391.90	385.09	378.90	371.87	365.32	357.87	351.15
210.0	400.41	393.97	387.36	381.28	374.41	367.22	360.72	353.22	346.61
240.0	401.52	395.82	389.31	383.50	376.84	370.08	363.73	356.55	349.99
270.0	398.46	391.85	385.67	378.74	372.51	365.21	358.55	351.10	343.54
300.0	398.30	392.54	385.93	379.96	373.19	367.01	359.82	352.32	345.61
330.0	394.02	387.52	381.60	374.94	367.96	361.62	354.33	347.77	340.27
360.0	398.93	392.38	386.41	379.48	373.51	366.32	358.98	352.26	344.60

## Intensity data(cd)

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	336.73	329.59	322.67	314.74	306.65	298.51	291.43	283.34	275.95
30.0	345.08	337.41	329.59	322.56	314.47	306.23	298.72	290.32	282.92
60.0	339.84	333.08	325.36	318.39	310.14	302.64	294.34	286.04	277.58
90.0	347.14	339.37	332.34	324.36	317.28	309.08	300.57	292.07	284.67
120.0	339.84	333.13	325.36	317.54	310.30	301.90	294.34	285.99	278.64
150.0	347.24	339.63	332.81	324.94	317.96	309.88	302.42	294.23	285.93
180.0	343.65	336.09	329.27	321.29	314.05	305.65	297.35	289.00	281.60
210.0	338.95	332.02	324.36	316.48	309.30	301.10	293.92	285.67	277.27
240.0	342.33	335.51	327.74	320.18	312.25	305.23	297.24	290.27	281.92
270.0	335.67	328.80	321.87	313.89	305.86	297.67	290.27	281.92	274.41
300.0	337.89	331.02	323.30	316.32	308.29	300.26	292.28	285.04	276.74
330.0	333.50	325.84	318.17	310.30	303.16	294.97	287.68	279.54	271.98
360.0	336.73	329.59	322.67	314.74	306.65	298.51	291.43	283.34	275.95
C/γ(°)	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	53.0
0.0	267.49	258.98	251.21	242.54	234.77	226.00	218.18	209.56	200.89
30.0	274.68	266.38	258.82	250.21	242.59	233.93	225.15	217.17	208.45
60.0	270.13	261.52	253.85	245.34	237.68	228.75	219.66	211.68	202.80
90.0	276.42	269.02	260.46	251.84	244.18	235.30	227.43	218.39	210.57
120.0	270.24	261.78	253.38	245.77	237.36	229.59	220.56	212.57	203.75
150.0	277.58	270.03	261.36	253.75	245.03	237.20	228.32	219.39	211.46
180.0	273.20	265.80	257.39	249.94	241.48	232.82	224.78	215.85	208.13
210.0	268.92	261.36	252.80	245.03	236.31	228.48	219.71	210.99	203.06
240.0	274.41	266.06	257.50	249.84	241.11	233.35	224.52	215.75	208.08
270.0	266.06	258.56	250.10	241.38	233.66	224.89	217.07	208.45	199.57
300.0	269.23	260.83	252.11	244.34	235.57	227.69	218.97	211.31	202.59
330.0	263.63	255.02	247.30	238.58	230.65	221.88	214.11	205.23	196.35
360.0	267.49	258.98	251.21	242.54	234.77	226.00	218.18	209.56	200.89
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	193.34	184.51	176.63	167.86	159.14	150.31	142.54	133.82	126.21
30.0	200.74	192.17	183.56	175.84	167.23	158.51	150.79	142.17	134.51
60.0	195.03	186.31	177.43	169.61	161.04	152.43	144.92	136.31	128.70
90.0	201.79	194.08	185.41	176.63	167.70	160.04	151.32	143.55	134.88
120.0	195.19	187.36	178.59	170.77	161.99	153.64	145.13	137.58	129.86
150.0	202.59	194.87	186.25	177.53	169.61	160.94	152.27	144.45	135.78
180.0	199.52	191.75	182.87	174.04	165.38	157.87	150.26	141.59	132.87
210.0	194.13	186.25	177.27	168.50	159.72	151.90	142.91	134.99	127.22
240.0	199.52	190.64	182.77	174.84	165.80	157.08	148.20	140.27	131.45
270.0	191.64	182.82	173.99	166.17	157.50	149.63	140.85	132.08	124.47
300.0	194.02	185.25	177.43	169.61	160.78	152.06	144.39	135.67	127.06
330.0	187.52	179.59	170.77	163.00	154.38	146.61	137.95	129.28	121.72
360.0	193.34	184.51	176.63	167.86	159.14	150.31	142.54	133.82	126.21
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	118.76	110.52	102.69	94.66	87.63	79.76	73.04	65.70	58.77
30.0	126.05	118.50	110.09	101.90	93.60	86.41	79.33	71.51	64.74
60.0	119.98	111.47	104.12	95.77	88.53	80.49	73.62	66.17	59.04
90.0	127.27	118.71	110.25	103.06	94.98	87.89	80.18	72.62	65.33
120.0	121.19	113.63	105.34	96.93	88.63	81.50	73.47	66.70	59.35
150.0	128.12	119.55	111.04	103.70	96.35	88.37	82.08	72.51	65.80
180.0	124.15	116.49	107.98	100.53	92.23	84.99	77.01	69.50	62.05
210.0	118.50	109.78	101.21	93.66	85.15	77.75	69.71	61.84	55.02
240.0	123.73	115.06	107.71	99.42	91.01	83.67	75.47	68.44	60.73
270.0	116.01	108.45	100.21	92.92	84.83	77.01	69.34	62.79	56.34
300.0	119.61	111.26	104.12	95.98	87.84	80.60	72.78	65.91	58.30
330.0	113.37	106.02	97.83	89.80	82.71	75.00	67.49	60.99	53.86
360.0	118.76	110.52	102.69	94.66	87.63	79.76	73.04	65.70	58.77

## Intensity data(cd)

C/ $\gamma$ (°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	52.80	46.35	41.01	35.52	30.65	26.69	22.89	19.93	17.12
30.0	57.40	50.58	44.03	38.48	32.87	28.49	24.26	20.61	17.97
60.0	52.17	46.30	39.96	34.88	29.70	25.69	21.93	19.03	16.75
90.0	59.04	52.48	46.83	41.33	35.68	30.55	25.85	22.30	19.13
120.0	52.96	46.03	39.38	33.98	28.65	24.68	20.93	18.39	16.60
150.0	58.35	52.06	45.19	39.38	33.61	28.43	24.10	20.98	18.39
180.0	55.71	49.63	42.92	36.73	31.76	26.95	22.73	19.71	17.02
210.0	47.88	41.81	35.57	30.65	26.00	21.88	19.34	17.65	15.75
240.0	53.38	46.51	40.70	34.72	30.02	25.58	22.20	19.08	17.18
270.0	49.47	43.02	37.68	32.19	27.27	23.63	20.19	17.76	15.59
300.0	51.90	44.98	38.58	32.82	28.43	24.31	21.09	18.60	17.02
330.0	47.88	41.49	35.52	30.71	26.11	22.67	19.50	17.55	15.75
360.0	52.80	46.35	41.01	35.52	30.65	26.69	22.89	19.93	17.12
C/ $\gamma$ (°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	14.96	13.37	11.84	10.09	8.67	7.19	5.87	4.44	3.17
30.0	16.33	14.90	13.32	11.63	10.20	8.72	7.35	5.87	4.55
60.0	15.27	13.74	12.21	10.83	9.20	7.72	6.34	4.92	3.54
90.0	16.70	14.75	13.16	11.57	9.94	8.46	6.92	5.60	4.23
120.0	15.17	13.69	11.89	10.41	8.83	7.40	5.97	4.60	3.17
150.0	16.60	14.80	13.05	11.57	9.88	8.35	6.82	5.23	3.86
180.0	15.01	13.42	11.73	10.31	8.72	6.98	5.60	4.23	2.91
210.0	13.95	12.26	10.52	8.98	7.40	5.81	4.39	3.01	2.11
240.0	15.22	13.69	11.79	10.09	8.40	6.82	5.39	3.81	2.54
270.0	13.85	12.21	10.57	8.98	7.29	5.87	4.39	3.07	2.01
300.0	15.22	13.58	11.73	10.09	8.51	6.98	5.55	4.12	2.85
330.0	14.06	12.47	10.83	9.20	7.61	6.24	4.81	3.49	2.17
360.0	14.96	13.37	11.84	10.09	8.67	7.19	5.87	4.44	3.17
C/ $\gamma$ (°)	90.0								
0.0	2.11								
30.0	3.17								
60.0	2.96								
90.0	2.80								
120.0	2.48								
150.0	2.38								
180.0	2.22								
210.0	2.06								
240.0	2.01								
270.0	2.06								
300.0	2.06								
330.0	2.01								
360.0	2.11								