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### HX-DA616R-30090

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LumCAT: HX-DA616R-30090	Luminaire: HX-DA616R
Report No:	Voltage(V): 230.900
Test No:	Current(A): 0.099
LampCAT: 2835 12C12B 30090	Power (W): 21.700
Lamp flux(lm): 2575.0	PF: 0.944
Number of Lamps: 1	Ballast type: OSRAM OTFIT 25/220-240/600CS
Length(mm): -106	Width(mm): -106
Phm Type: C	Height(mm): 0

### Photometric Results

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Lumens(lm): 1859.23  
Efficiency(%): 72.20%  
Lumens(lm)/Power(W): 85.68  
Central intensity(cd): 776.832  
Maximum intensity(cd): 782.223  
Angle of maximum intensity: C=30.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [H]Left=51.4 Right=47.7  
[V]Left=52.6 Right=46.5  
Field angle(10%Imax): [H]Left=76.4 Right=72.9  
[V]Left=77.5 Right=71.7  
Maximum s/h: C0\_180=1.19 C90\_270=1.20  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 72.20%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 84.504%

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Equipment: GMS-1980  
Temperature(°C): 25.0

Date: 2023-9-15  
Humidity(%): 65.3%

Operator: MinLi Ke  
Distance(m): 7.27

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	778.224	.000	.000	.000%	.000%
1.0	778.008	.745	.745	.029%	.029%
2.0	777.427	2.233	2.977	.087%	.116%
3.0	776.524	3.717	6.694	.144%	.260%
4.0	775.224	5.194	11.888	.202%	.462%
5.0	773.537	6.663	18.551	.259%	.720%
6.0	771.529	8.120	26.670	.315%	1.036%
7.0	769.177	9.563	36.233	.371%	1.407%
8.0	766.499	10.991	47.224	.427%	1.834%
9.0	763.412	12.399	59.623	.482%	2.315%
10.0	760.047	13.787	73.410	.535%	2.851%
11.0	756.233	15.151	88.561	.588%	3.439%
12.0	752.207	16.489	105.050	.640%	4.080%
13.0	747.648	17.800	122.850	.691%	4.771%
14.0	742.843	19.078	141.928	.741%	5.512%
15.0	737.628	20.325	162.252	.789%	6.301%
16.0	732.198	21.537	183.789	.836%	7.137%
17.0	726.269	22.712	206.502	.882%	8.019%
18.0	720.037	23.846	230.348	.926%	8.946%
19.0	713.298	24.937	255.285	.968%	9.914%
20.0	706.379	25.984	281.269	1.009%	10.923%
21.0	698.883	26.984	308.253	1.048%	11.971%
22.0	691.307	27.936	336.190	1.085%	13.056%
23.0	683.159	28.840	365.029	1.120%	14.176%
24.0	674.729	29.688	394.718	1.153%	15.329%
25.0	666.066	30.487	425.205	1.184%	16.513%
26.0	657.191	31.236	456.440	1.213%	17.726%
27.0	647.889	31.929	488.369	1.240%	18.966%
28.0	638.366	32.565	520.934	1.265%	20.230%
29.0	628.848	33.154	554.088	1.288%	21.518%
30.0	618.727	33.684	587.773	1.308%	22.826%
31.0	608.729	34.158	621.931	1.327%	24.153%
32.0	598.383	34.582	656.513	1.343%	25.496%
33.0	587.724	34.943	691.456	1.357%	26.853%
34.0	576.810	35.242	726.699	1.369%	28.221%
35.0	565.689	35.482	762.180	1.378%	29.599%
36.0	554.423	35.665	797.845	1.385%	30.984%
37.0	543.240	35.800	833.645	1.390%	32.375%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	531.947	35.888	869.533	1.394%	33.768%
39.0	520.130	35.910	905.443	1.395%	35.163%
40.0	508.352	35.870	941.313	1.393%	36.556%
41.0	495.835	35.759	977.072	1.389%	37.945%
42.0	484.018	35.600	1012.671	1.383%	39.327%
43.0	471.651	35.401	1048.072	1.375%	40.702%
44.0	459.596	35.148	1083.220	1.365%	42.067%
45.0	447.109	34.846	1118.066	1.353%	43.420%
46.0	434.662	34.484	1152.550	1.339%	44.759%
47.0	421.894	34.067	1186.617	1.323%	46.082%
48.0	409.297	33.601	1220.218	1.305%	47.387%
49.0	396.569	33.093	1253.312	1.285%	48.672%
50.0	383.774	32.535	1285.847	1.264%	49.936%
51.0	371.146	31.940	1317.786	1.240%	51.176%
52.0	358.087	31.292	1349.078	1.215%	52.391%
53.0	345.103	30.589	1379.667	1.188%	53.579%
54.0	331.877	29.838	1409.505	1.159%	54.738%
55.0	319.188	29.062	1438.568	1.129%	55.867%
56.0	306.128	28.256	1466.824	1.097%	56.964%
57.0	293.523	27.417	1494.242	1.065%	58.029%
58.0	280.596	26.549	1520.791	1.031%	59.060%
59.0	267.815	25.639	1546.429	.996%	60.056%
60.0	255.046	24.702	1571.131	.959%	61.015%
61.0	242.071	23.723	1594.855	.921%	61.936%
62.0	229.426	22.719	1617.574	.882%	62.818%
63.0	216.626	21.694	1639.268	.842%	63.661%
64.0	204.109	20.645	1659.913	.802%	64.463%
65.0	191.385	19.573	1679.486	.760%	65.223%
66.0	179.198	18.490	1697.976	.718%	65.941%
67.0	166.535	17.384	1715.360	.675%	66.616%
68.0	154.463	16.261	1731.621	.631%	67.247%
69.0	142.042	15.126	1746.747	.587%	67.835%
70.0	130.463	13.995	1760.742	.544%	68.378%
71.0	118.558	12.871	1773.613	.500%	68.878%
72.0	107.023	11.730	1785.343	.456%	69.334%
73.0	95.893	10.611	1795.954	.412%	69.746%
74.0	84.847	9.502	1805.456	.369%	70.115%
75.0	74.426	8.415	1813.871	.327%	70.442%

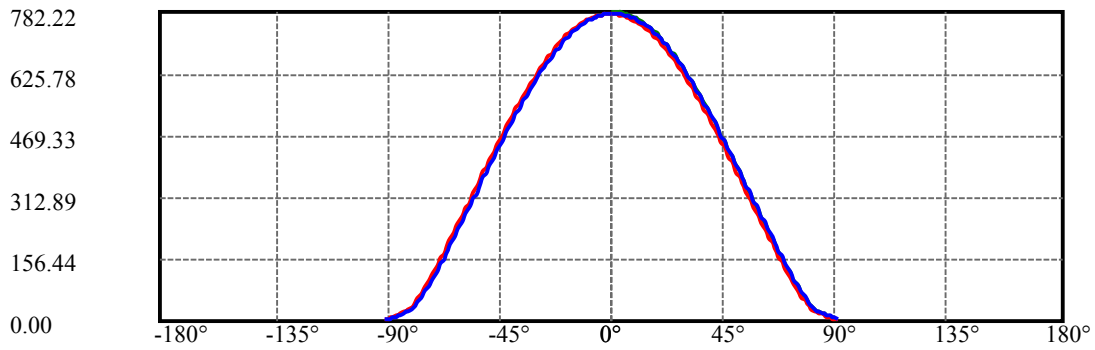
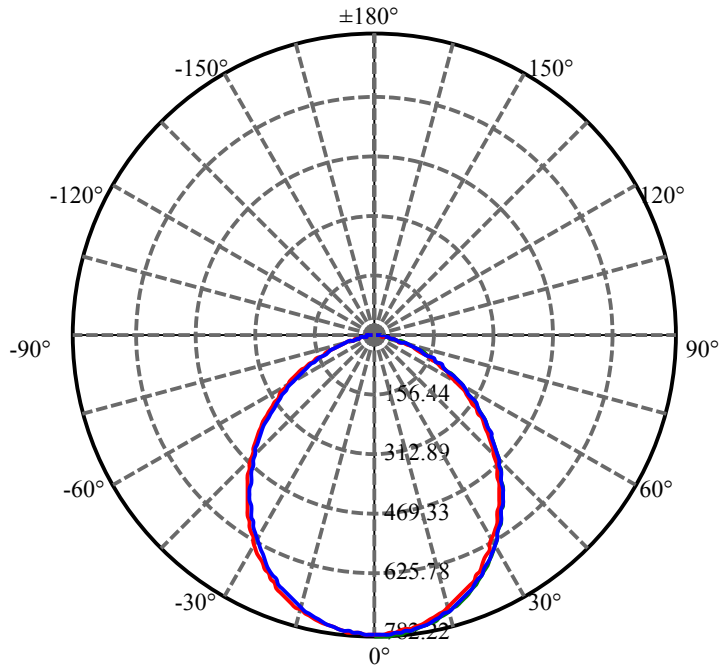
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	64.340	7.366	1821.237	.286%	70.728%
77.0	55.108	6.368	1827.606	.247%	70.975%
78.0	46.577	5.443	1833.049	.211%	71.186%
79.0	39.182	4.608	1837.657	.179%	71.365%
80.0	32.795	3.880	1841.537	.151%	71.516%
81.0	27.955	3.285	1844.822	.128%	71.644%
82.0	24.295	2.833	1847.656	.110%	71.754%
83.0	21.326	2.480	1850.136	.096%	71.850%
84.0	18.543	2.172	1852.308	.084%	71.934%
85.0	15.689	1.868	1854.176	.073%	72.007%
86.0	12.984	1.567	1855.743	.061%	72.068%
87.0	10.311	1.275	1857.018	.050%	72.117%
88.0	7.725	.988	1858.006	.038%	72.156%
89.0	5.276	.713	1858.719	.028%	72.183%
90.0	4.052	.511	1859.230	.020%	72.203%

## ZONAL LUMEN SUMMARY

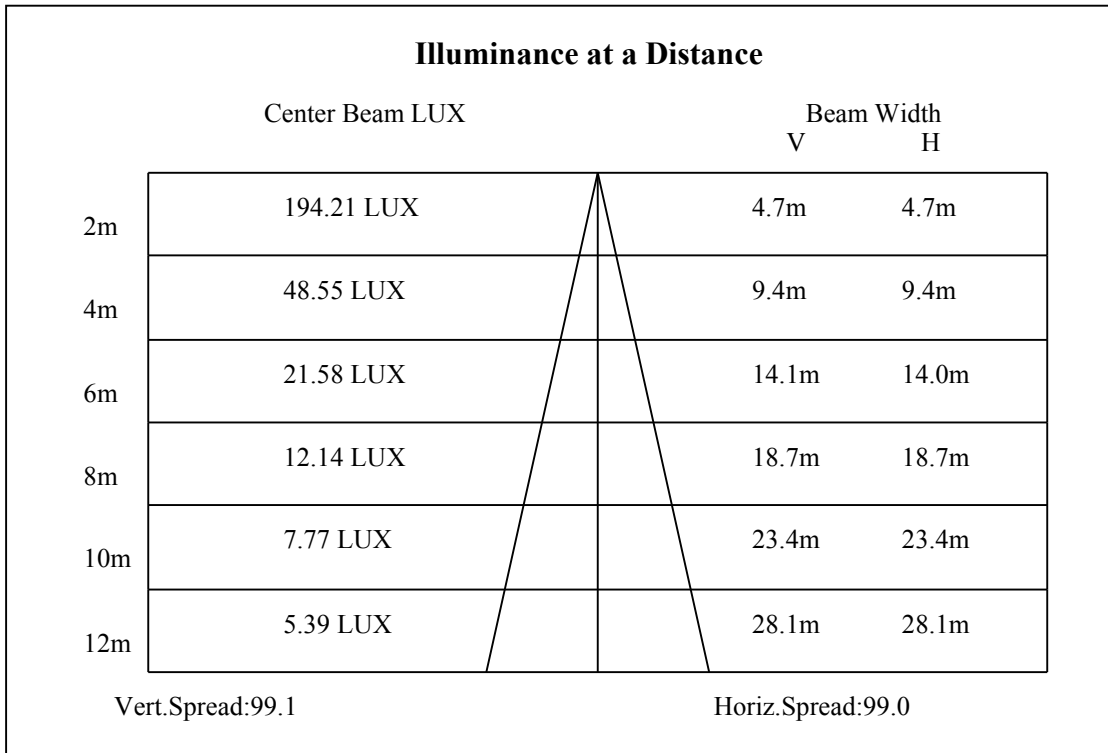
Zone	Lumens	%Lamp	%Fixt
0-30	587.77	22.83%	31.61%
0-40	941.31	36.56%	50.63%
0-60	1571.13	61.01%	84.50%
0-90	1858.72	72.18%	99.97%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-180	1859.23	72.20%	100.00%

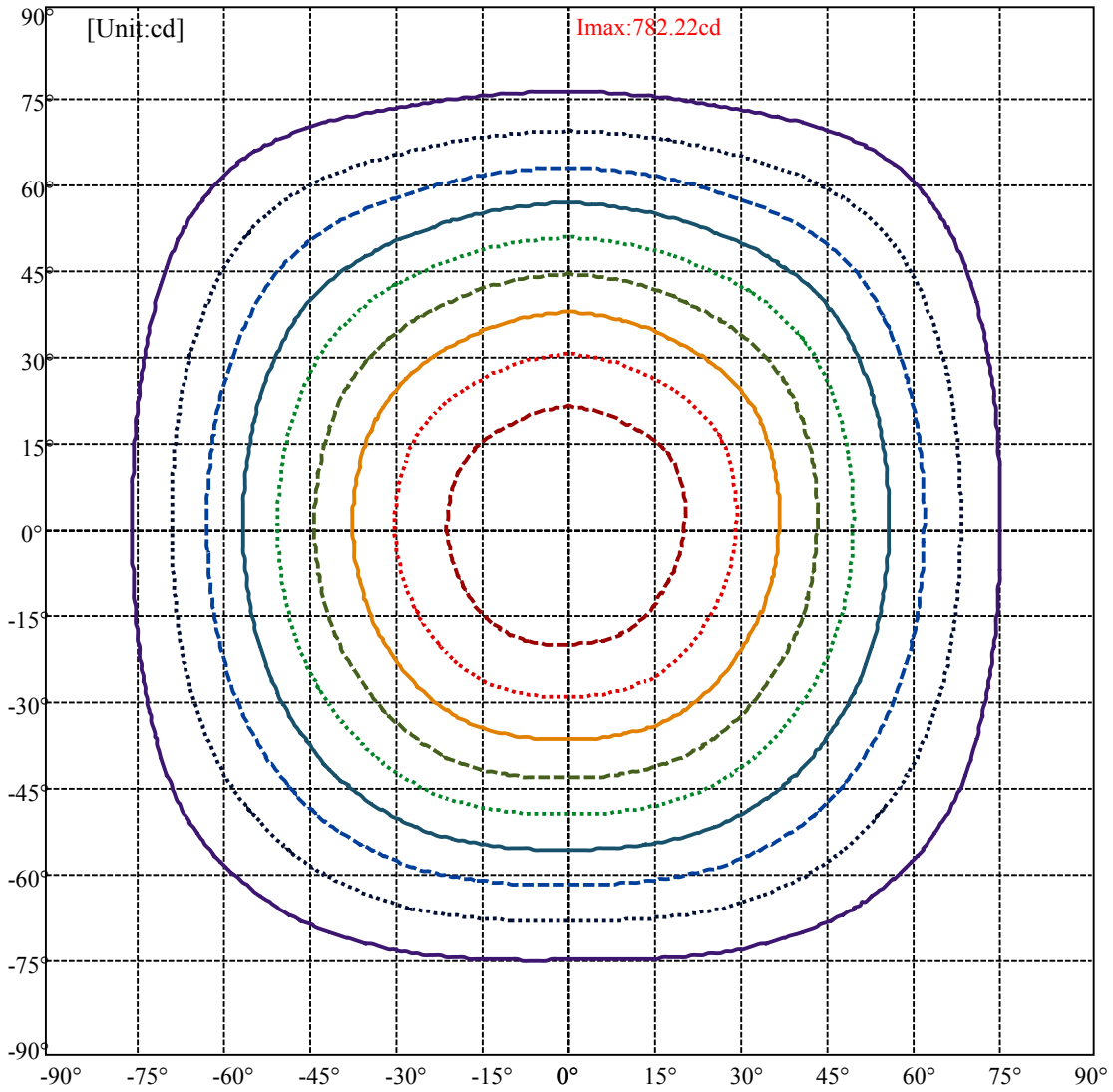
## ZONAL LUMEN SUMMARY

0-10	73.41
10-20	207.86
20-30	306.50
30-40	353.54
40-50	344.53
50-60	285.28
60-70	189.61
70-80	80.79
80-90	17.18
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



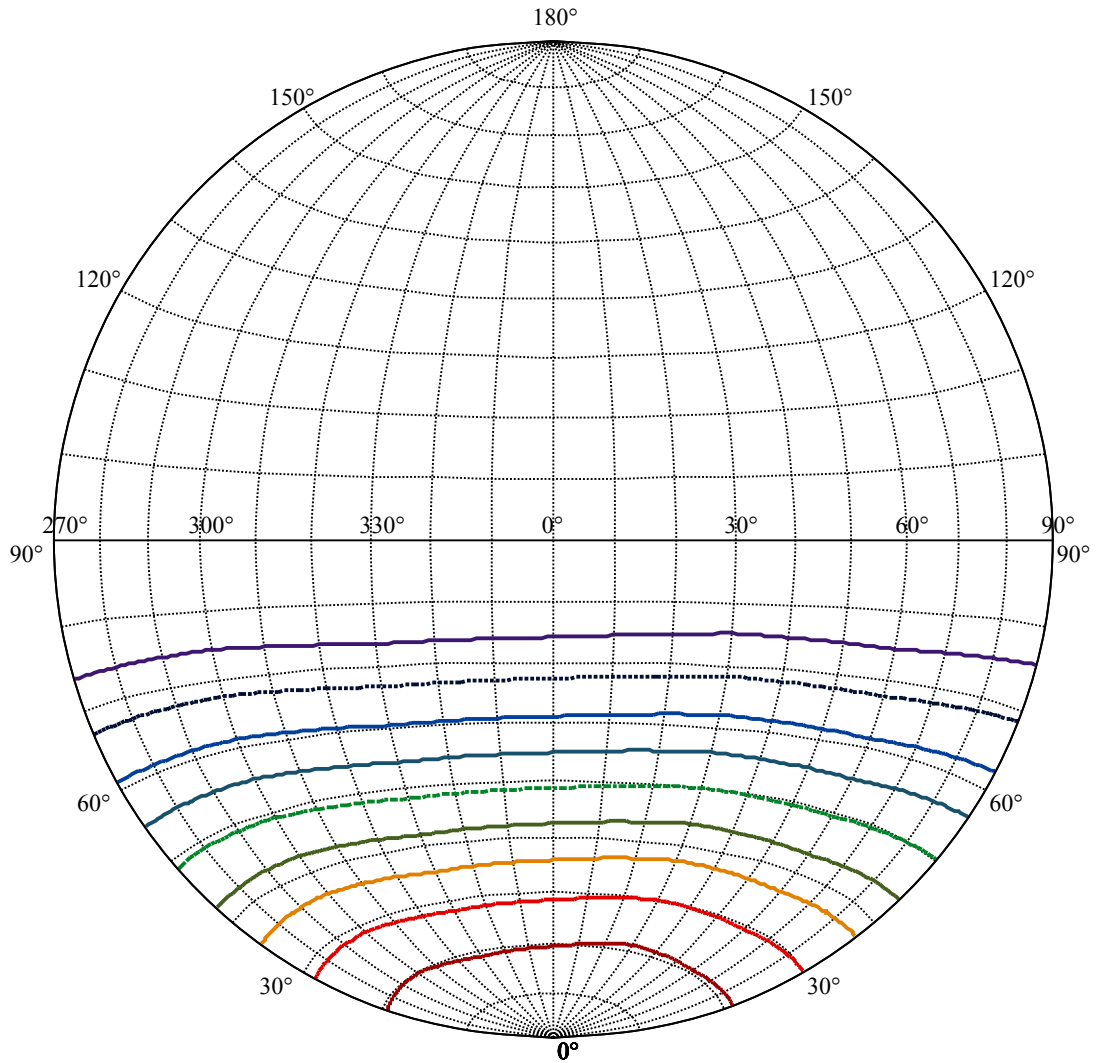
C30(Max): —  
C0/C180: —  
C90/C270: —





- (10%Imax) 78.088
- (20%Imax) 156.176
- (30%Imax) 234.264
- (40%Imax) 312.352
- (50%Imax) 390.44
- (60%Imax) 468.528
- (70%Imax) 546.616
- (80%Imax) 624.704
- (90%Imax) 702.792



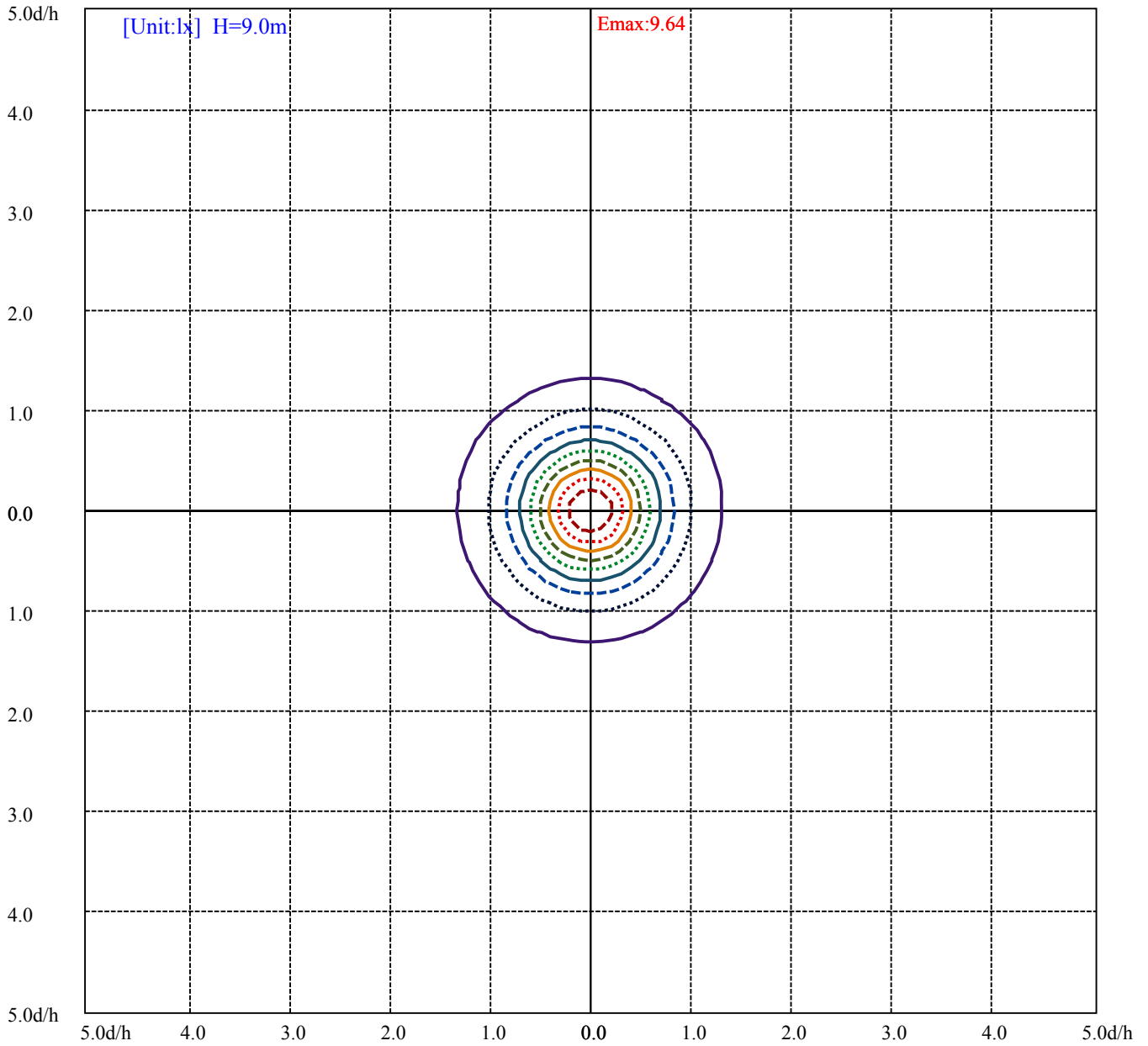


House

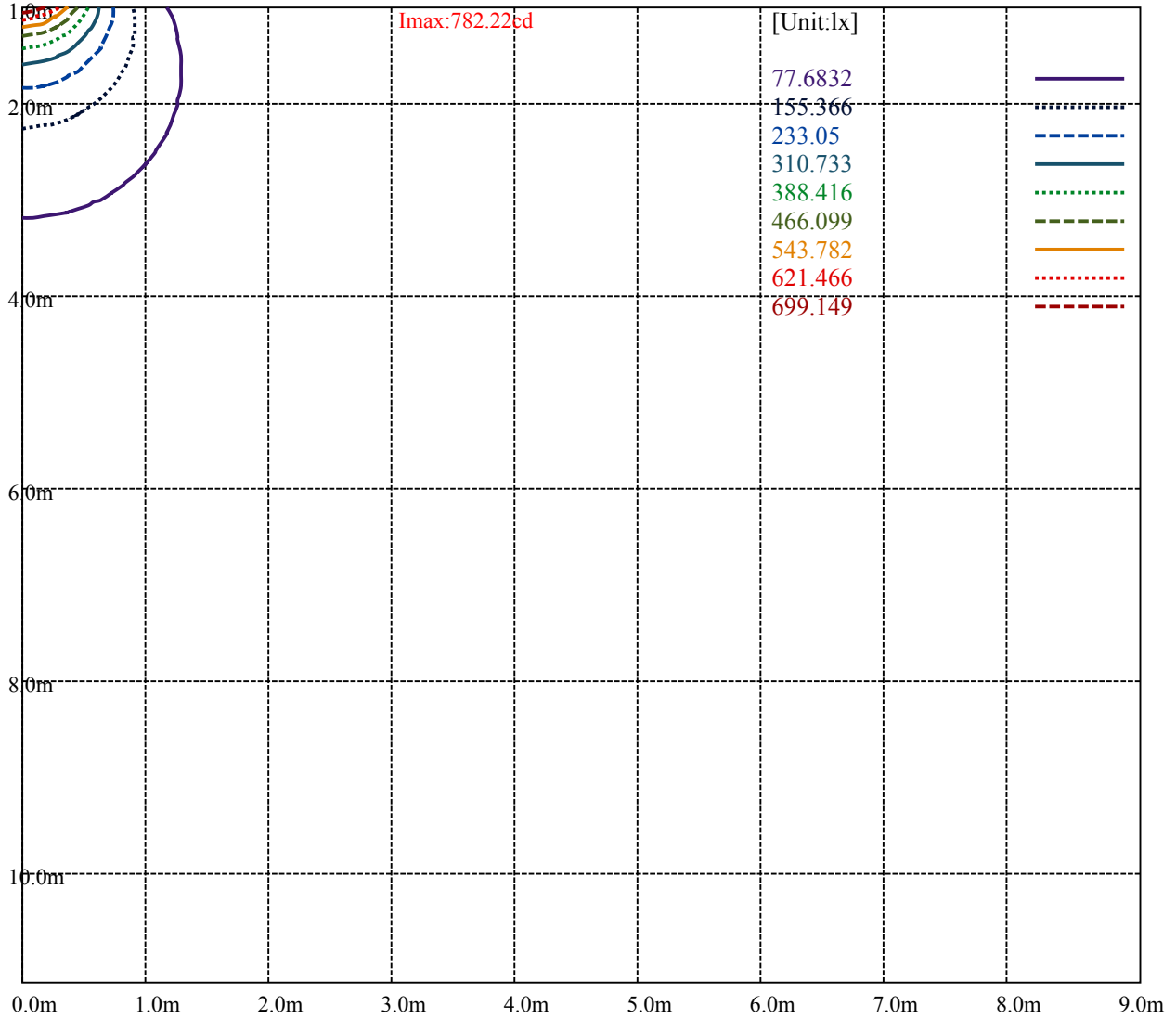
Road

I<sub>max</sub>:782.22cd

(10%I <sub>max</sub> ) 78.2223	—
(20%I <sub>max</sub> ) 156.445	·····
(30%I <sub>max</sub> ) 234.667	- - - - -
(40%I <sub>max</sub> ) 312.889	—
(50%I <sub>max</sub> ) 391.111	·····
(60%I <sub>max</sub> ) 469.334	- - - - -
(70%I <sub>max</sub> ) 547.556	—
(80%I <sub>max</sub> ) 625.778	·····
(90%I <sub>max</sub> ) 704.001	- - - - -



- (10%Emax) 0.9641086 ————
- (20%Emax) 1.928222 .....
- (30%Emax) 2.892321 - - - - -
- (40%Emax) 3.856432 ————
- (50%Emax) 4.820543 .....
- (60%Emax) 5.784655 - - - - -
- (70%Emax) 6.748753 ————
- (80%Emax) 7.712864 .....
- (90%Emax) 8.676975 - - - - -

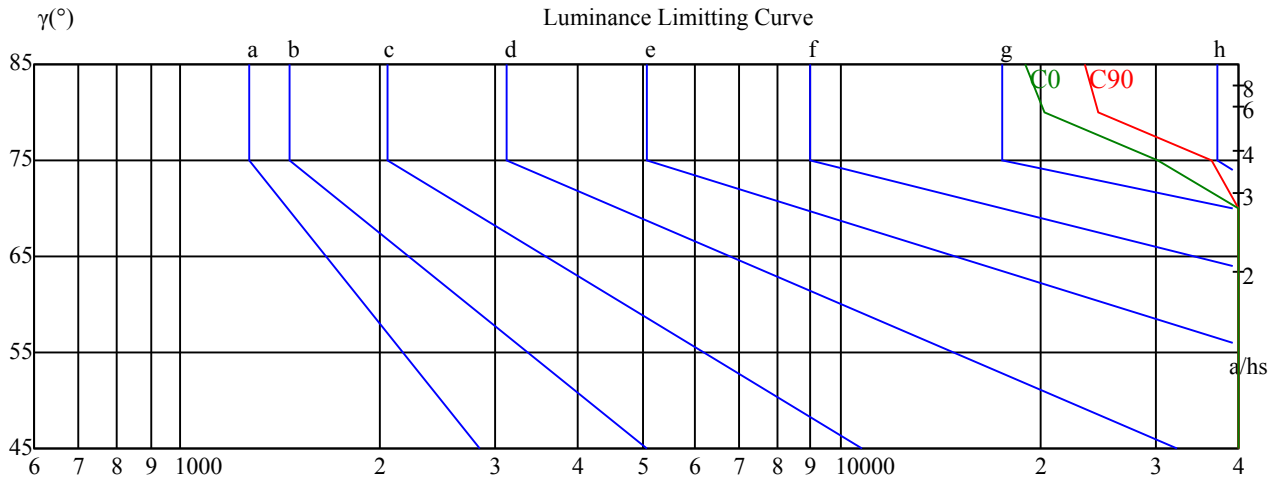


Luminance Table

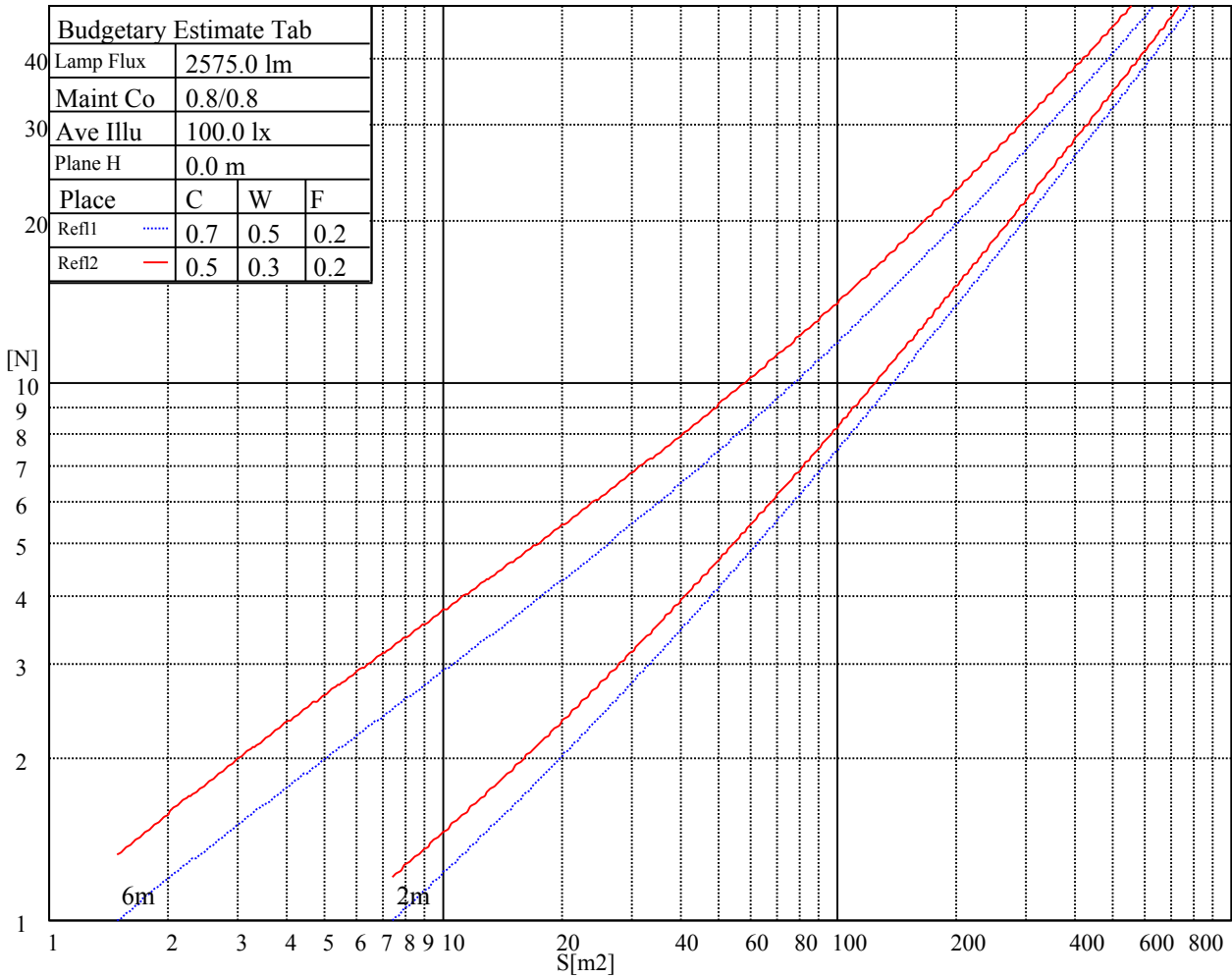
$\gamma$	45	50	55	60	65	70	75	80	85
C0	70487	66350	61523	56250	49742	41484	30268	20280	18966
C45	0	0	0	0	0	0	0	0	0
C90	72935	69378	64959	59724	53625	46492	36516	24523	23364

Glare Table

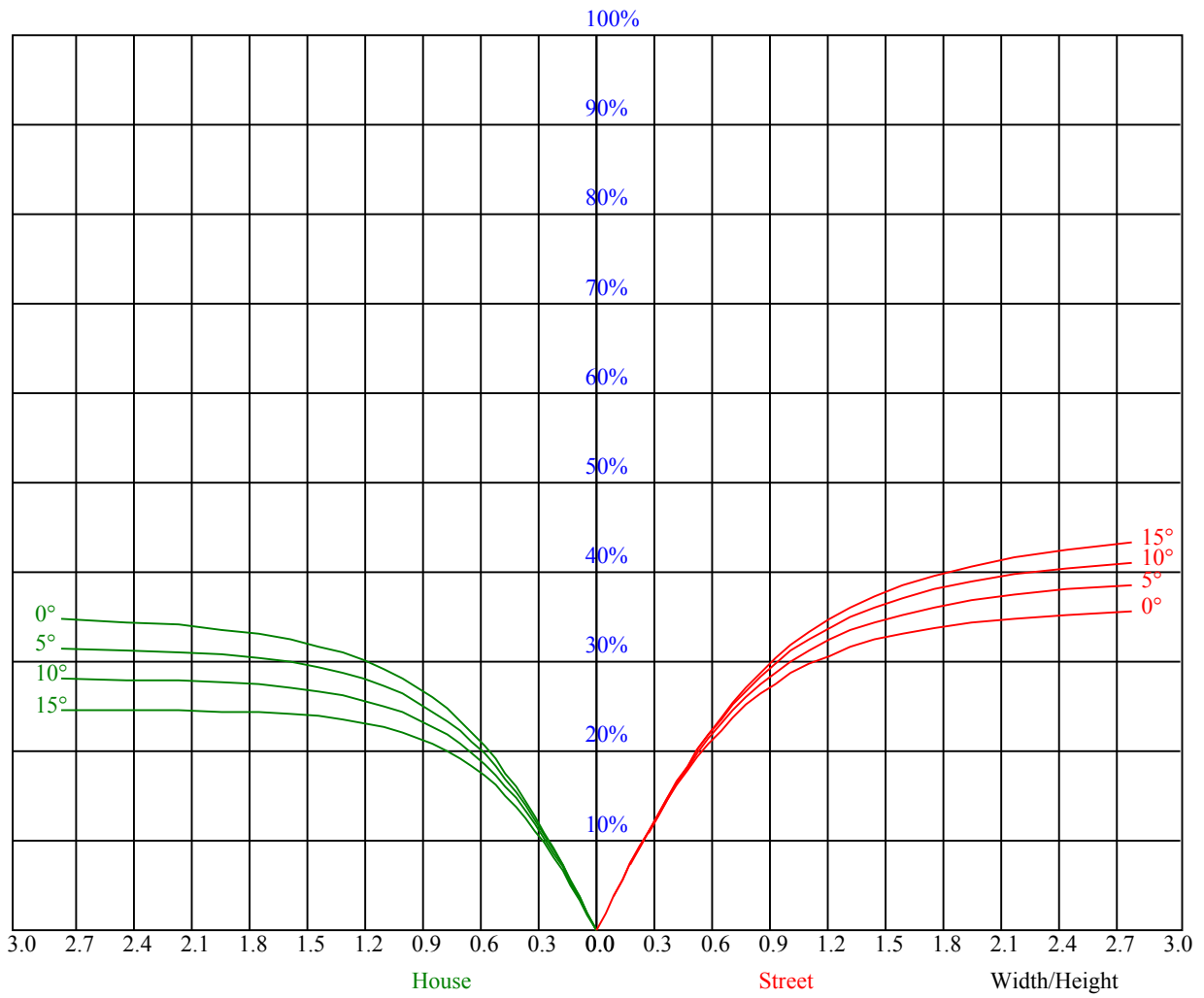
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h



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	23.6	24.9	23.9	25.1	25.4	23.6	25.0	23.9	25.2	25.4
	3H	24.7	25.9	25.0	26.1	26.4	24.8	26.0	25.1	26.3	26.5
	4H	24.9	25.8	25.2	26.2	26.5	25.0	26.0	25.4	26.3	26.7
	6H	25.0	26.0	25.4	26.3	26.7	25.3	26.2	25.6	26.6	26.9
	8H	25.1	26.1	25.5	26.4	26.7	25.3	26.3	25.7	26.6	27.0
	12H	25.0	25.7	25.4	26.1	26.5	25.2	25.9	25.6	26.3	26.7
4H	2H	24.0	25.0	24.4	25.3	25.6	24.0	25.0	24.4	25.3	25.7
	3H	25.3	26.0	25.7	26.4	26.8	25.3	26.1	25.7	26.4	26.8
	4H	25.7	26.4	26.1	26.8	27.2	25.8	26.5	26.2	26.9	27.3
	6H	26.0	26.7	26.4	27.1	27.5	26.1	26.8	26.5	27.2	27.6
	8H	25.9	26.3	26.4	26.8	27.3	26.0	26.4	26.5	26.9	27.4
	12H	25.9	26.3	26.4	26.8	27.3	26.1	26.5	26.6	27.0	27.5
8H	4H	25.8	26.2	26.3	26.7	27.2	25.9	26.3	26.4	26.8	27.3
	6H	26.1	26.5	26.6	27.0	27.5	26.2	26.6	26.7	27.1	27.6
	8H	26.2	26.6	26.7	27.1	27.6	26.3	26.7	26.8	27.2	27.7
	12H	26.3	26.7	26.8	27.2	27.7	26.4	26.8	26.9	27.3	27.8
12H	4H	25.8	26.2	26.3	26.7	27.2	25.9	26.3	26.4	26.8	27.3
	6H	26.1	26.6	26.6	27.0	27.5	26.2	26.7	26.7	27.1	27.6
	8H	26.3	26.7	26.8	27.2	27.7	26.4	26.8	26.9	27.3	27.8
Variation with the observer position at spacings:											
S = 1.0H		0.4/-0.4					0.4/-0.4				
S = 1.5H		0.7/-1.0					0.7/-0.9				
S = 2.0H		1.5/-1.4					1.5/-1.2				
Standard tables:		BK3					BK3				
Uncorrected UGR		7.1					7.3				
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	0.86	0.86	0.86	0.84	0.84	0.84	0.80	0.80	0.80	0.77	0.77	0.77	0.74	0.74	0.74	0.72
1	0.76	0.73	0.71	0.75	0.72	0.70	0.72	0.69	0.68	0.69	0.67	0.65	0.66	0.65	0.64	0.62
2	0.67	0.63	0.59	0.66	0.62	0.58	0.63	0.60	0.57	0.61	0.58	0.55	0.59	0.56	0.54	0.53
3	0.59	0.54	0.50	0.58	0.53	0.49	0.56	0.52	0.48	0.54	0.51	0.47	0.52	0.49	0.47	0.45
4	0.53	0.47	0.42	0.52	0.46	0.42	0.50	0.45	0.42	0.49	0.44	0.41	0.47	0.44	0.41	0.39
5	0.48	0.41	0.37	0.47	0.41	0.37	0.45	0.40	0.36	0.44	0.39	0.36	0.43	0.39	0.36	0.34
6	0.43	0.37	0.32	0.42	0.37	0.32	0.41	0.36	0.32	0.40	0.35	0.32	0.39	0.35	0.31	0.30
7	0.39	0.33	0.29	0.39	0.33	0.29	0.37	0.32	0.28	0.36	0.32	0.28	0.36	0.31	0.28	0.27
8	0.36	0.30	0.26	0.35	0.30	0.26	0.34	0.29	0.26	0.34	0.29	0.25	0.33	0.28	0.25	0.24
9	0.33	0.27	0.23	0.33	0.27	0.23	0.32	0.27	0.23	0.31	0.26	0.23	0.30	0.26	0.23	0.22
10	0.30	0.25	0.21	0.30	0.25	0.21	0.29	0.24	0.21	0.29	0.24	0.21	0.28	0.24	0.21	0.20





## 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	776.83	776.46	775.72	774.56	773.13	771.07	768.53	765.84	763.09
30.0	782.22	782.22	781.75	781.06	779.90	778.47	776.62	774.51	771.76
60.0	779.63	779.42	778.89	777.94	776.73	774.88	773.08	770.65	768.16
90.0	777.57	777.62	777.31	776.83	775.77	774.45	772.87	771.07	768.69
120.0	777.04	776.99	776.51	775.67	774.51	772.92	771.02	768.96	766.58
150.0	776.04	776.36	776.09	775.56	774.82	773.77	772.23	770.28	767.90
180.0	776.83	776.83	776.41	775.62	774.56	772.92	771.28	768.96	766.42
210.0	782.22	781.69	780.90	779.90	778.47	776.46	774.19	771.76	768.69
240.0	779.63	779.37	778.84	777.89	776.57	774.88	772.76	770.23	767.74
270.0	777.57	776.99	776.25	775.14	773.56	771.65	769.54	766.95	763.88
300.0	777.04	776.67	775.93	774.77	773.24	771.49	769.17	766.90	763.94
330.0	776.04	775.46	774.51	773.34	771.44	769.49	767.05	764.04	761.13
360.0	776.83	776.46	775.72	774.56	773.13	771.07	768.53	765.84	763.09
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	759.81	756.43	752.84	748.34	743.38	738.14	733.07	727.04	721.34
30.0	769.01	765.68	761.87	758.12	753.63	749.24	744.01	738.46	733.12
60.0	764.78	761.13	757.22	753.42	748.61	744.17	738.88	733.81	727.78
90.0	765.84	762.88	759.23	755.32	751.46	746.65	742.16	736.66	730.64
120.0	763.46	760.29	756.38	752.26	747.60	743.27	738.04	732.86	726.89
150.0	765.47	762.40	759.28	755.59	751.83	747.02	742.00	737.14	731.38
180.0	763.41	760.45	756.64	753.00	748.40	744.06	739.10	733.65	728.47
210.0	765.63	761.93	757.65	753.79	749.03	744.27	738.78	733.44	728.94
240.0	764.57	761.45	757.54	753.68	748.98	743.85	738.41	733.18	727.78
270.0	760.82	756.91	753.10	748.40	743.38	738.57	732.91	727.47	720.97
300.0	760.71	757.01	753.52	749.24	745.07	739.99	735.13	729.11	722.87
330.0	757.43	754.00	749.51	745.33	740.42	734.87	729.05	723.56	717.06
360.0	759.81	756.43	752.84	748.34	743.38	738.14	733.07	727.04	721.34
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	714.57	708.23	700.94	693.11	685.77	677.15	669.22	659.97	650.46
30.0	726.83	720.12	713.73	706.17	699.19	690.89	682.33	674.30	665.10
60.0	721.23	714.94	707.49	700.51	692.32	684.66	675.83	666.74	658.60
90.0	725.25	718.43	712.03	704.53	697.66	689.47	680.85	671.92	663.89
120.0	720.54	714.47	707.12	700.35	692.16	684.60	675.94	666.90	657.70
150.0	726.15	719.70	712.72	705.32	698.61	690.68	683.28	674.51	666.58
180.0	722.08	716.05	708.92	702.15	694.28	686.03	677.36	669.65	661.61
210.0	720.17	712.99	706.22	698.45	691.05	682.44	674.61	665.47	655.96
240.0	721.23	714.31	707.86	700.41	692.32	684.76	675.99	667.90	658.65
270.0	714.73	707.28	699.77	691.69	684.18	675.51	667.64	658.28	649.72
300.0	716.84	709.71	703.16	695.49	688.20	679.58	670.65	662.46	652.94
330.0	710.82	703.37	696.60	688.41	679.95	672.13	663.04	654.69	645.07
360.0	714.57	708.23	700.94	693.11	685.77	677.15	669.22	659.97	650.46
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	640.63	631.59	621.34	612.09	601.62	592.27	581.17	569.65	559.29
30.0	656.49	646.71	637.72	627.31	616.69	605.85	595.97	586.14	574.62
60.0	648.88	639.04	629.80	619.17	609.55	598.45	587.14	575.78	565.37
90.0	654.32	645.81	636.98	626.68	616.26	605.43	595.71	584.61	574.41
120.0	649.25	639.41	630.38	619.91	610.50	599.40	588.36	578.26	566.69
150.0	657.23	647.66	638.83	628.74	619.44	608.76	599.03	588.04	576.84
180.0	652.31	642.59	632.49	623.40	612.88	603.21	592.16	582.12	570.71
210.0	647.29	637.25	628.10	617.59	606.86	597.03	586.09	574.56	564.31
240.0	648.93	640.10	629.85	620.70	610.24	600.83	589.94	578.58	567.06
270.0	640.05	630.01	620.92	610.40	600.88	590.05	578.95	568.80	557.07
300.0	644.28	634.23	624.14	613.83	604.58	593.91	584.08	572.71	561.03
330.0	635.03	625.99	615.63	604.90	595.23	585.40	574.09	562.46	550.89
360.0	640.63	631.59	621.34	612.09	601.62	592.27	581.17	569.65	559.29

## Intensity data(cd)

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C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	547.34	536.67	524.25	513.10	500.52	488.04	475.62	464.42	451.47
30.0	562.94	552.37	540.21	528.00	516.95	504.16	492.69	479.90	468.44
60.0	553.69	543.17	532.60	520.23	507.49	494.54	483.18	470.13	458.60
90.0	562.94	551.20	540.53	528.42	517.48	504.75	493.38	480.70	467.96
120.0	556.28	544.49	532.76	521.98	509.45	496.55	485.24	472.40	460.88
150.0	565.37	554.85	542.96	532.33	520.07	507.34	496.08	483.50	472.24
180.0	559.18	547.71	537.25	526.47	513.94	502.63	489.84	477.26	464.37
210.0	552.52	541.85	529.64	517.32	506.28	493.70	482.44	469.55	458.02
240.0	556.65	544.81	534.08	521.82	510.77	498.46	486.14	475.04	462.15
270.0	545.28	534.77	523.93	511.67	499.25	486.67	475.41	462.62	451.21
300.0	550.57	538.68	527.74	515.16	504.11	491.74	479.48	467.11	455.64
330.0	540.32	528.32	517.43	505.06	493.91	481.44	468.70	457.18	444.18
360.0	547.34	536.67	524.25	513.10	500.52	488.04	475.62	464.42	451.47
C/γ(°)	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	53.0
0.0	439.84	426.89	413.52	401.68	388.26	376.37	362.84	351.05	337.89
30.0	455.43	442.54	429.43	417.70	404.22	392.22	378.74	365.06	352.79
60.0	445.50	433.82	420.71	407.65	395.76	382.44	370.29	356.39	342.54
90.0	455.12	443.54	430.54	418.75	405.49	393.54	380.17	366.64	354.27
120.0	447.98	434.93	423.35	410.35	398.67	385.35	373.14	359.24	345.34
150.0	459.45	448.09	435.14	422.03	408.71	396.82	384.93	371.50	359.35
180.0	452.84	439.74	428.27	415.37	403.74	390.37	376.74	364.47	350.73
210.0	444.97	431.76	418.49	406.54	393.07	381.02	367.43	355.33	341.59
240.0	450.57	437.36	424.14	410.83	398.88	385.30	373.35	361.41	348.14
270.0	438.26	426.68	413.52	400.15	388.26	374.89	362.94	349.41	335.77
300.0	444.18	431.07	419.28	405.96	392.70	379.27	367.43	354.11	342.38
330.0	431.17	419.55	406.33	394.55	381.07	367.70	355.75	342.43	330.44
360.0	439.84	426.89	413.52	401.68	388.26	376.37	362.84	351.05	337.89
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	324.73	311.41	299.41	287.26	273.62	260.19	248.20	234.83	221.40
30.0	339.05	327.11	313.73	301.84	288.47	275.05	263.15	249.52	237.63
60.0	328.96	316.96	303.48	291.48	278.11	266.48	253.27	240.01	228.11
90.0	340.69	328.80	315.58	302.21	290.32	276.84	263.52	251.53	238.26
120.0	333.40	319.97	306.55	294.55	281.18	269.50	256.39	243.18	231.34
150.0	345.82	332.39	319.18	307.34	294.07	282.18	268.81	255.33	243.55
180.0	338.68	325.10	311.73	298.30	286.46	273.30	261.62	249.68	236.15
210.0	327.79	315.69	302.05	289.85	276.26	262.57	248.88	236.73	224.73
240.0	334.82	321.35	309.19	295.50	283.34	269.66	257.61	243.92	230.39
270.0	322.24	310.19	296.66	284.67	271.19	259.24	245.77	232.24	220.29
300.0	329.17	316.06	304.12	290.74	278.75	265.22	253.27	239.79	226.37
330.0	317.17	305.23	291.85	278.53	265.37	253.54	240.06	228.11	214.90
360.0	324.73	311.41	299.41	287.26	273.62	260.19	248.20	234.83	221.40
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	209.77	196.77	185.51	172.83	160.14	148.89	136.31	125.21	113.11
30.0	224.31	211.09	197.83	186.15	173.20	161.73	150.53	137.95	125.63
60.0	214.74	202.90	189.74	178.11	165.17	152.37	139.74	128.86	116.91
90.0	226.47	213.21	200.00	188.42	175.58	164.16	151.53	140.32	127.90
120.0	217.86	206.07	192.97	181.23	168.39	155.65	143.02	132.13	120.19
150.0	230.33	218.49	205.28	193.71	180.81	167.91	155.23	143.97	131.45
180.0	222.67	209.19	197.35	183.98	172.25	159.19	146.35	135.20	122.88
210.0	211.31	199.15	185.83	172.62	159.56	148.09	135.36	124.10	111.73
240.0	218.39	205.28	193.76	180.70	167.54	154.81	143.50	130.71	119.66
270.0	207.08	195.19	182.03	169.08	157.77	145.08	132.45	121.40	109.14
300.0	213.31	201.74	189.00	177.59	164.64	153.38	140.59	128.01	117.07
330.0	203.27	190.22	177.32	165.96	153.38	142.28	129.91	117.70	107.03
360.0	209.77	196.77	185.51	172.83	160.14	148.89	136.31	125.21	113.11

## 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	102.53	90.91	79.65	69.13	60.52	51.64	44.08	36.57	31.08
30.0	113.26	102.75	91.17	81.08	70.29	60.04	51.74	43.13	36.52
60.0	106.34	94.61	83.14	73.36	62.95	54.23	45.35	38.21	31.66
90.0	115.70	103.91	93.55	83.40	72.46	62.10	52.80	45.24	37.58
120.0	109.56	97.88	87.63	76.48	65.96	57.24	48.20	40.80	33.61
150.0	120.35	108.14	97.67	86.15	75.00	65.59	55.71	47.78	39.53
180.0	110.62	99.94	89.43	78.06	67.33	57.19	48.94	40.54	34.20
210.0	99.73	89.27	77.85	68.18	58.03	49.79	41.28	34.20	28.91
240.0	107.40	96.72	85.15	74.10	64.96	55.23	47.30	39.22	32.56
270.0	98.52	87.05	75.79	66.33	56.34	48.31	40.17	33.98	28.70
300.0	105.02	94.50	83.08	72.14	63.21	53.75	45.08	38.05	31.66
330.0	95.24	85.04	74.05	64.69	55.02	46.19	38.27	32.45	27.54
360.0	102.53	90.91	79.65	69.13	60.52	51.64	44.08	36.57	31.08
C/ $\gamma$ (°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	26.53	23.41	20.45	17.49	14.59	11.89	9.41	6.82	4.44
30.0	30.55	25.85	22.83	20.14	17.60	14.90	12.10	9.62	6.98
60.0	26.95	23.73	21.19	18.60	15.64	13.11	10.52	8.03	5.50
90.0	31.24	26.64	23.31	20.61	17.97	15.06	12.53	9.72	7.35
120.0	28.33	24.74	21.72	19.29	16.23	13.64	10.94	8.46	5.87
150.0	32.77	27.85	23.84	21.09	18.50	15.70	12.79	10.20	7.66
180.0	28.86	24.79	22.30	19.40	16.65	14.01	11.26	8.67	6.03
210.0	25.58	22.83	19.66	16.91	14.01	11.26	8.51	5.97	3.49
240.0	28.17	24.31	21.62	18.60	15.54	12.74	10.15	7.35	4.86
270.0	24.95	22.20	19.34	16.54	13.42	10.78	8.09	5.55	3.44
300.0	27.38	23.73	20.98	17.97	15.01	12.47	9.67	6.98	4.39
330.0	24.15	21.46	18.66	15.86	13.11	10.25	7.77	5.34	3.33
360.0	26.53	23.41	20.45	17.49	14.59	11.89	9.41	6.82	4.44
C/ $\gamma$ (°)	90.0								
0.0	3.38								
30.0	4.55								
60.0	4.33								
90.0	4.92								
120.0	4.65								
150.0	5.13								
180.0	4.76								
210.0	3.44								
240.0	3.38								
270.0	3.33								
300.0	3.44								
330.0	3.33								
360.0	3.38								