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LumCAT: Altona SN3  
Luminaire: 12 W 4000 K  
Report No: Voltage(V): 230.0200  
Test No: CH/BG6-1912067-01 Current(A): 0.1490  
LampCAT: 18W-4000K Power (W): 17.8610  
Lamp flux(lm) PF: 0.5208  
Number of Lamps: 1 Ballast type:  
Length(mm): 325 Width(mm): 325  
Phm Type: C Height(mm): 80

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### Photometric Results

Lumens(lm): 1415.35  
Lumens(lm)/Power(W): 79.24  
Central intensity(cd): 344.658  
Maximum intensity(cd): 344.658  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=121.6  
[C90/270]Total=122.4  
Field angle(10%Imax): [C0/180]Total=356.0  
[C90/270]Total=356.8  
Maximum s/h(1/2): C0\_180=1.29 C90\_270=1.29  
Maximum s/h(1/4): C0\_180=1.42 C90\_270=1.42  
Up flux rate of LUM(%): 18.58%  
Down flux rate of LUM(%): 81.42%  
CIE Type : Semidirect lighting  
Output flux ratio in  $\pi$  solid angle : 56.887%

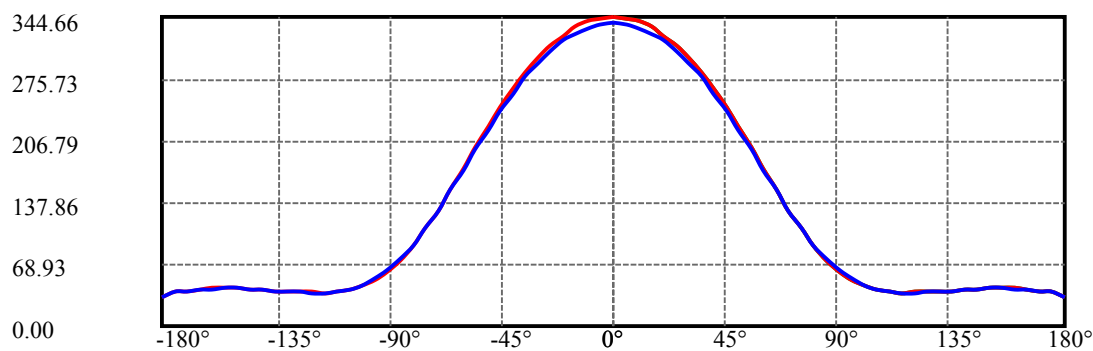
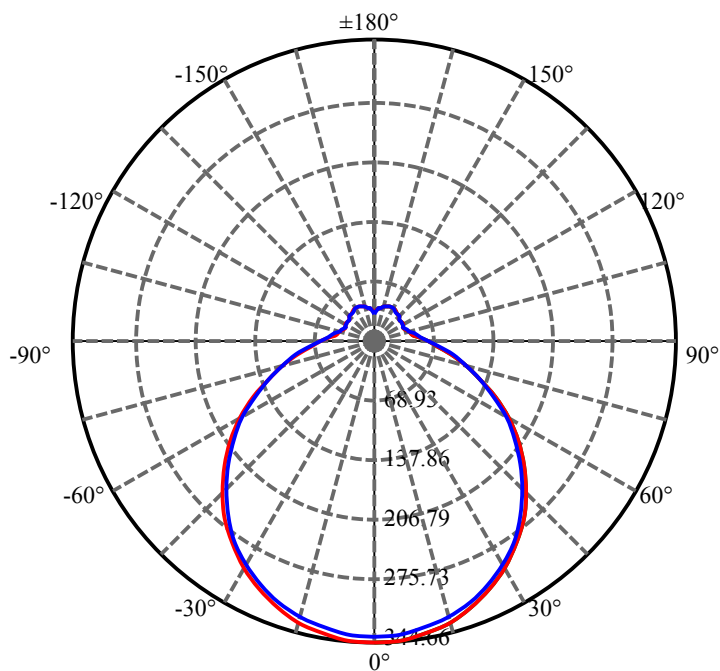
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	339.968	.000	.000	.000%	.000%
5.0	338.611	8.112	8.112	.573%	.573%
10.0	334.859	24.092	32.204	1.702%	2.275%
15.0	328.443	39.347	71.551	2.780%	5.055%
20.0	319.716	53.417	124.968	3.774%	8.829%
25.0	308.376	65.875	190.844	4.654%	13.484%
30.0	294.942	76.350	267.194	5.394%	18.878%
35.0	279.063	84.526	351.720	5.972%	24.850%
40.0	261.341	90.162	441.883	6.370%	31.221%
45.0	241.592	93.122	535.005	6.579%	37.800%
50.0	220.152	93.302	628.307	6.592%	44.392%
55.0	197.572	90.827	719.134	6.417%	50.809%
60.0	174.557	86.016	805.150	6.077%	56.887%
65.0	151.223	79.198	884.348	5.596%	62.482%
70.0	129.046	70.966	955.314	5.014%	67.496%
75.0	108.359	62.054	1017.368	4.384%	71.881%
80.0	89.950	53.062	1070.430	3.749%	75.630%
85.0	74.372	44.650	1115.080	3.155%	78.785%
90.0	61.608	37.232	1152.312	2.631%	81.415%
95.0	51.893	31.078	1183.390	2.196%	83.611%
100.0	45.126	26.362	1209.752	1.863%	85.473%
105.0	40.620	22.943	1232.695	1.621%	87.094%
110.0	38.225	20.609	1253.304	1.456%	88.551%
115.0	37.287	19.120	1272.424	1.351%	89.901%
120.0	37.253	18.121	1290.545	1.280%	91.182%
125.0	37.722	17.330	1307.875	1.224%	92.406%
130.0	38.292	16.528	1324.403	1.168%	93.574%
135.0	39.163	15.651	1340.054	1.106%	94.680%
140.0	40.117	14.679	1354.733	1.037%	95.717%
145.0	41.374	13.596	1368.329	.961%	96.677%
150.0	42.412	12.338	1380.667	.872%	97.549%
155.0	43.065	10.817	1391.484	.764%	98.314%
160.0	41.943	8.916	1400.400	.630%	98.943%
165.0	40.469	6.792	1407.192	.480%	99.423%
170.0	37.622	4.632	1411.824	.327%	99.751%
175.0	37.722	2.695	1414.520	.190%	99.941%
180.0	32.094	.835	1415.354	.059%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Fixt
0-30	267.19	18.88%
0-40	441.88	31.22%
0-60	805.15	56.89%
0-90	1152.31	81.42%
0-120	1290.54	91.18%
0-180	1415.35	100.00%
60-90	433.18	30.61%
90-120	175.46	12.40%
90-130	209.32	14.79%
90-150	265.59	18.76%
90-180	299.44	21.16%
0-87.31	1132.28	80.00%

ZONAL LUMEN SUMMARY

0-10	32.20
10-20	92.76
20-30	142.23
30-40	174.69
40-50	186.42
50-60	176.84
60-70	150.16
70-80	115.12
80-90	81.88
90-100	57.44
100-110	43.55
110-120	37.24
120-130	33.86
130-140	30.33
140-150	25.93
150-160	19.73
160-170	11.42
170-180	2.70



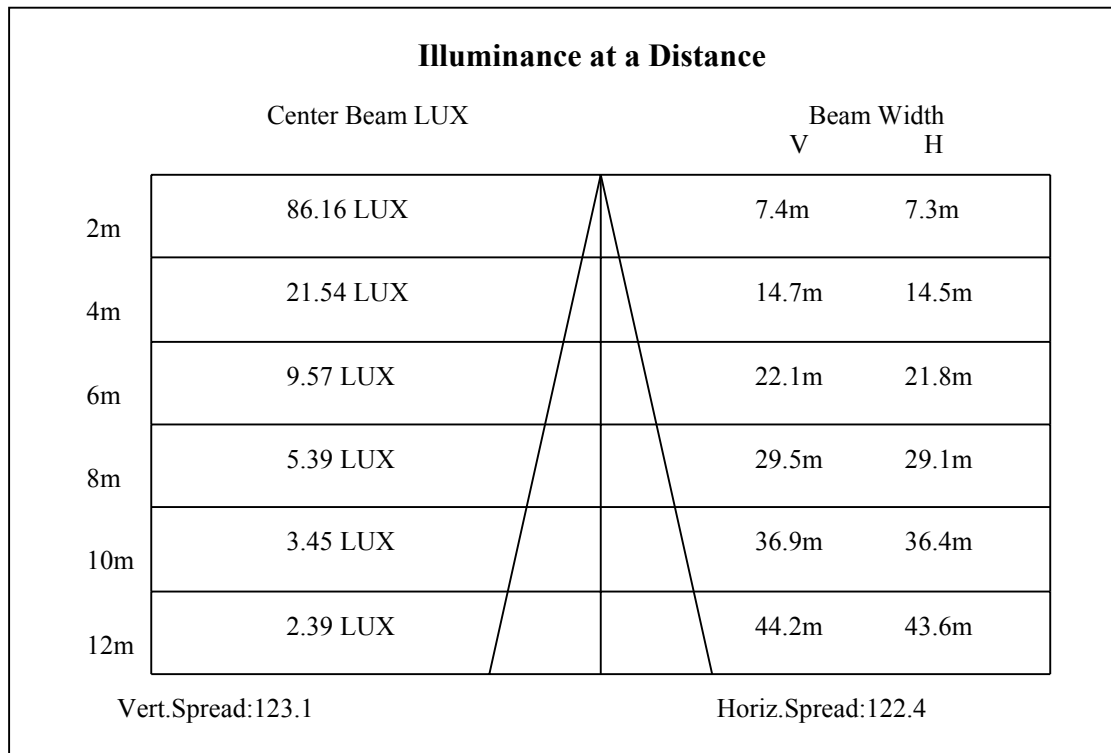
C0(Max): ———

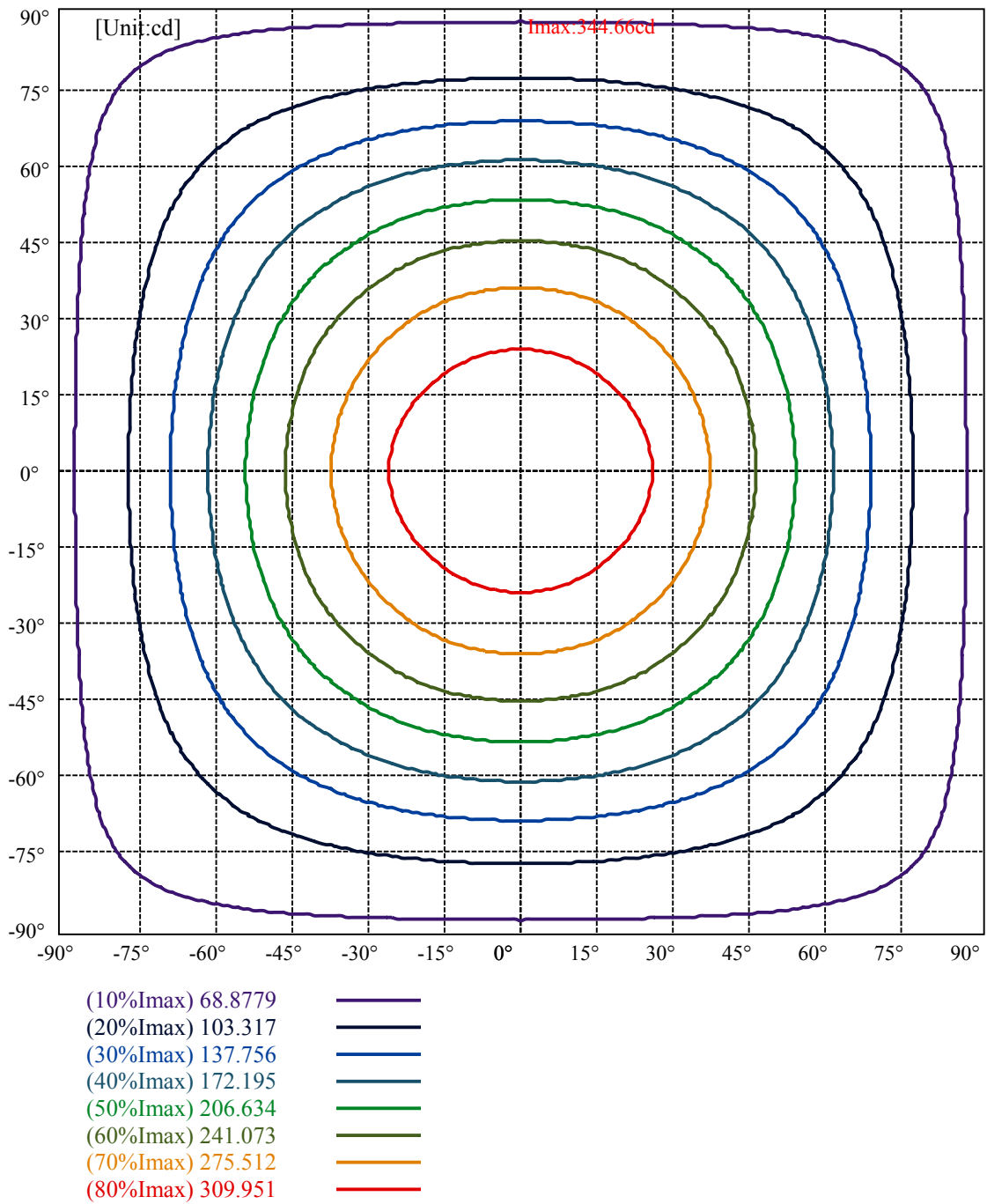
C0/C180: ———

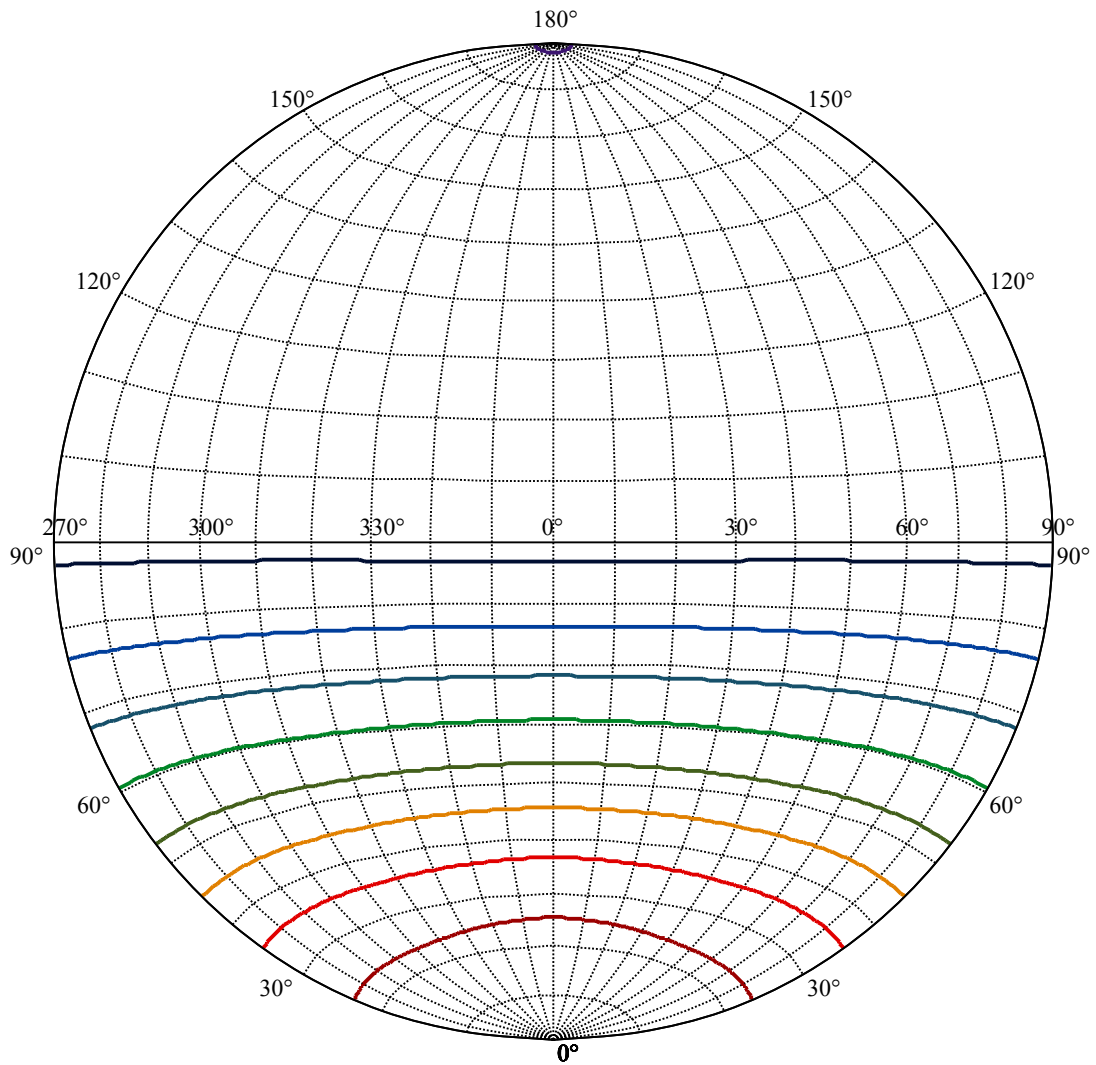
C90/C270: ———

Field angle(10%Imax):C0/180Left:178.0 Right:178.0  
:C90/270Left:178.4 Right:178.4

Beam Angle(50%Imax):C0/180Left:60.8 Right:60.8  
:C90/270Left:61.2 Right:61.2







House

[Unit:cd]

Road

**Imax:344.66**

(10%Imax) 34.4658

(20%Imax) 68.9315

(30%Imax) 103.397

(40%Imax) 137.863

(50%Imax) 172.329

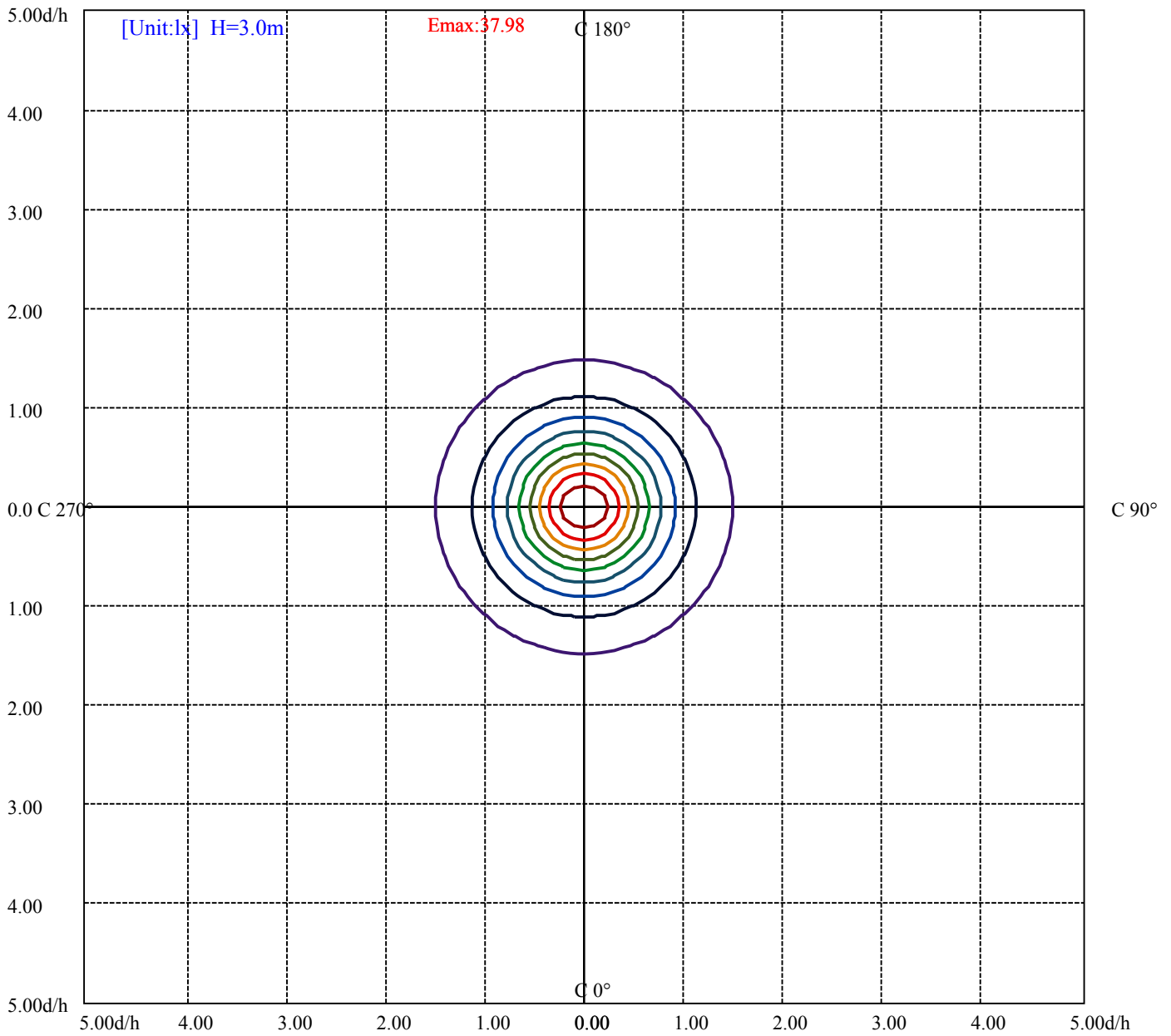
(60%Imax) 206.795

(70%Imax) 241.26

(80%Imax) 275.726

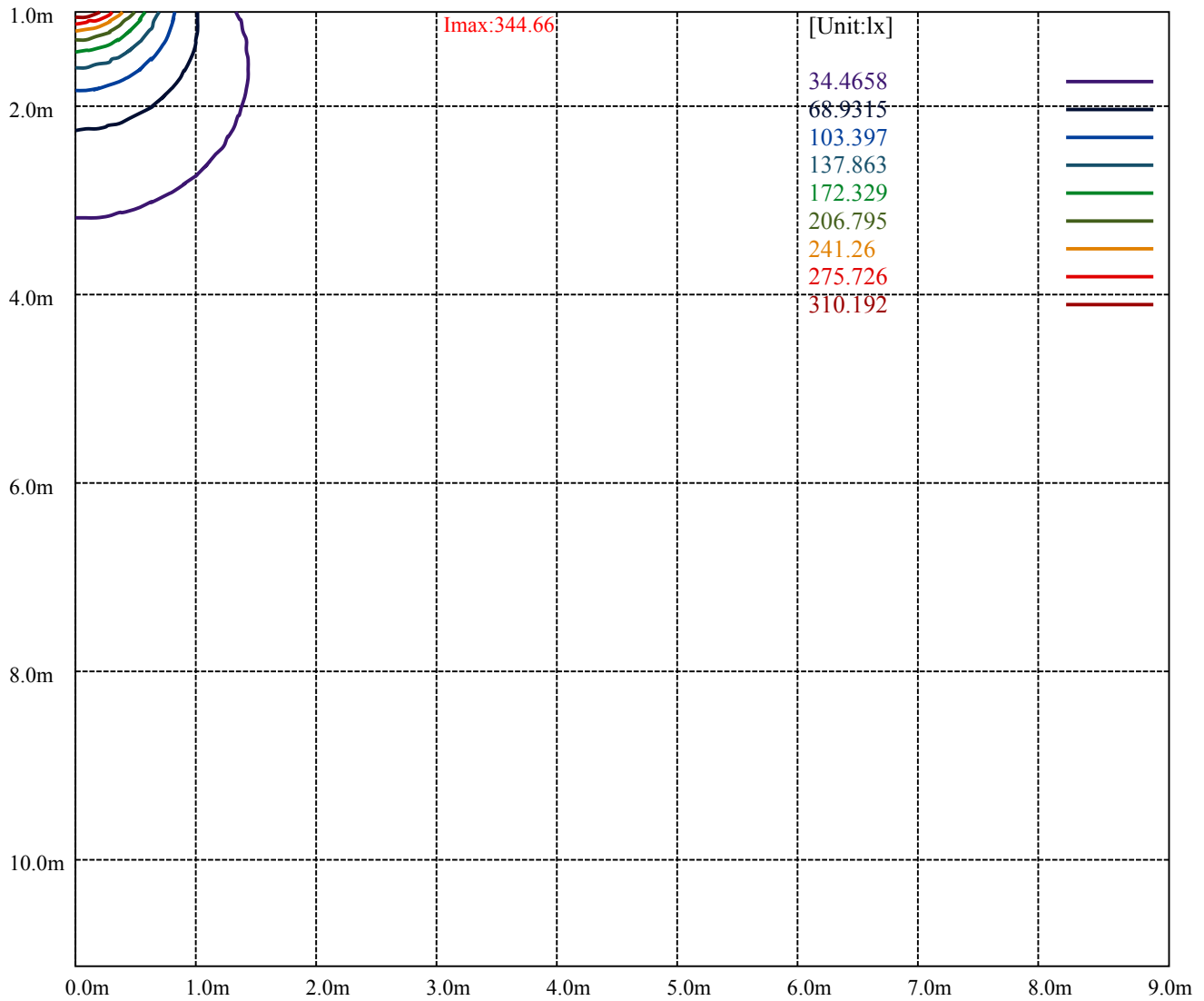
(90%Imax) 310.192





- (10%Emax) 3.798255
- (20%Emax) 7.596511
- (30%Emax) 11.39478
- (40%Emax) 15.193
- (50%Emax) 18.99133
- (60%Emax) 22.78956
- (70%Emax) 26.58778
- (80%Emax) 30.38611
- (90%Emax) 34.18433





Luminance Table

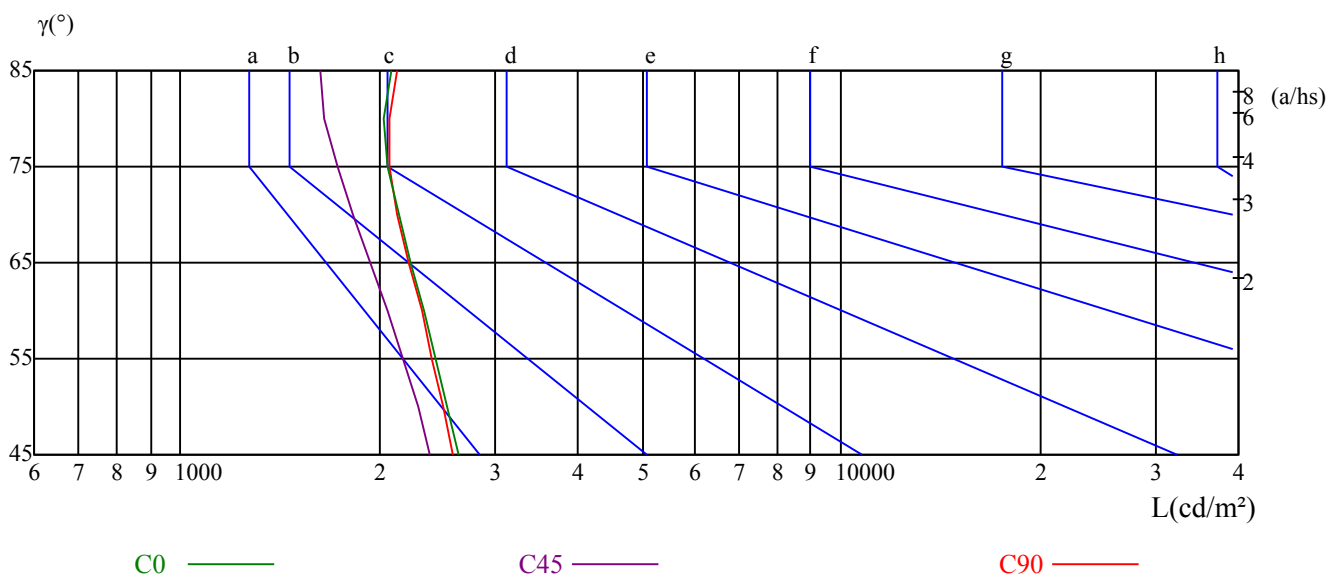
$\gamma$	45	50	55	60	65	70	75	80	85
C0	2630	2539	2440	2339	2229	2136	2064	2034	2088
C45	2391	2284	2171	2053	1935	1823	1724	1646	1628
C90	2580	2492	2402	2314	2216	2131	2068	2066	2134

L横(65)	L纵(65)	L45(65)	L横(75)	L纵(75)	L45(75)	L横(85)	L纵(85)	L45(85)
3406	3386	3379	3961	3968	3963	7962	8137	8108

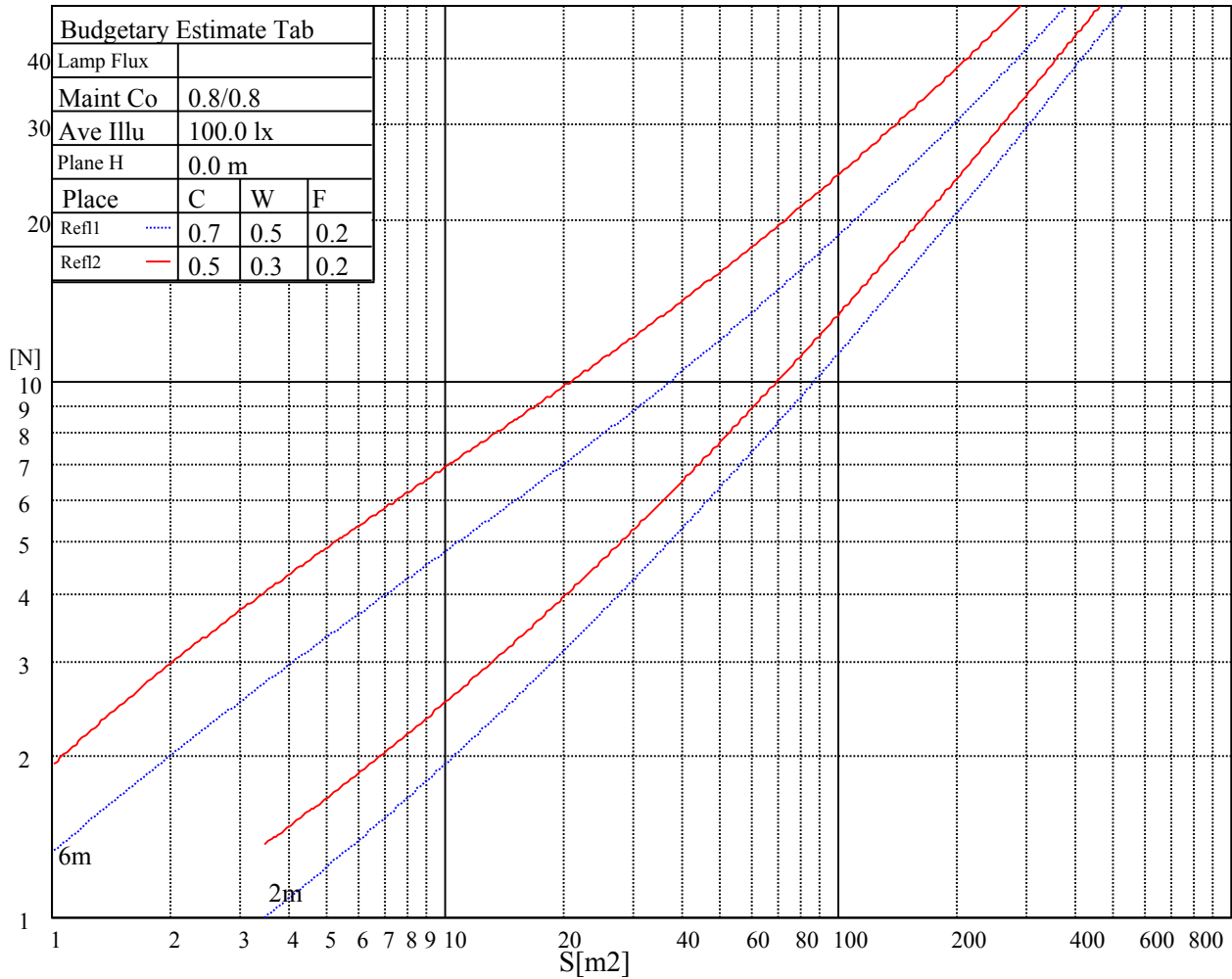
Glare Table

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

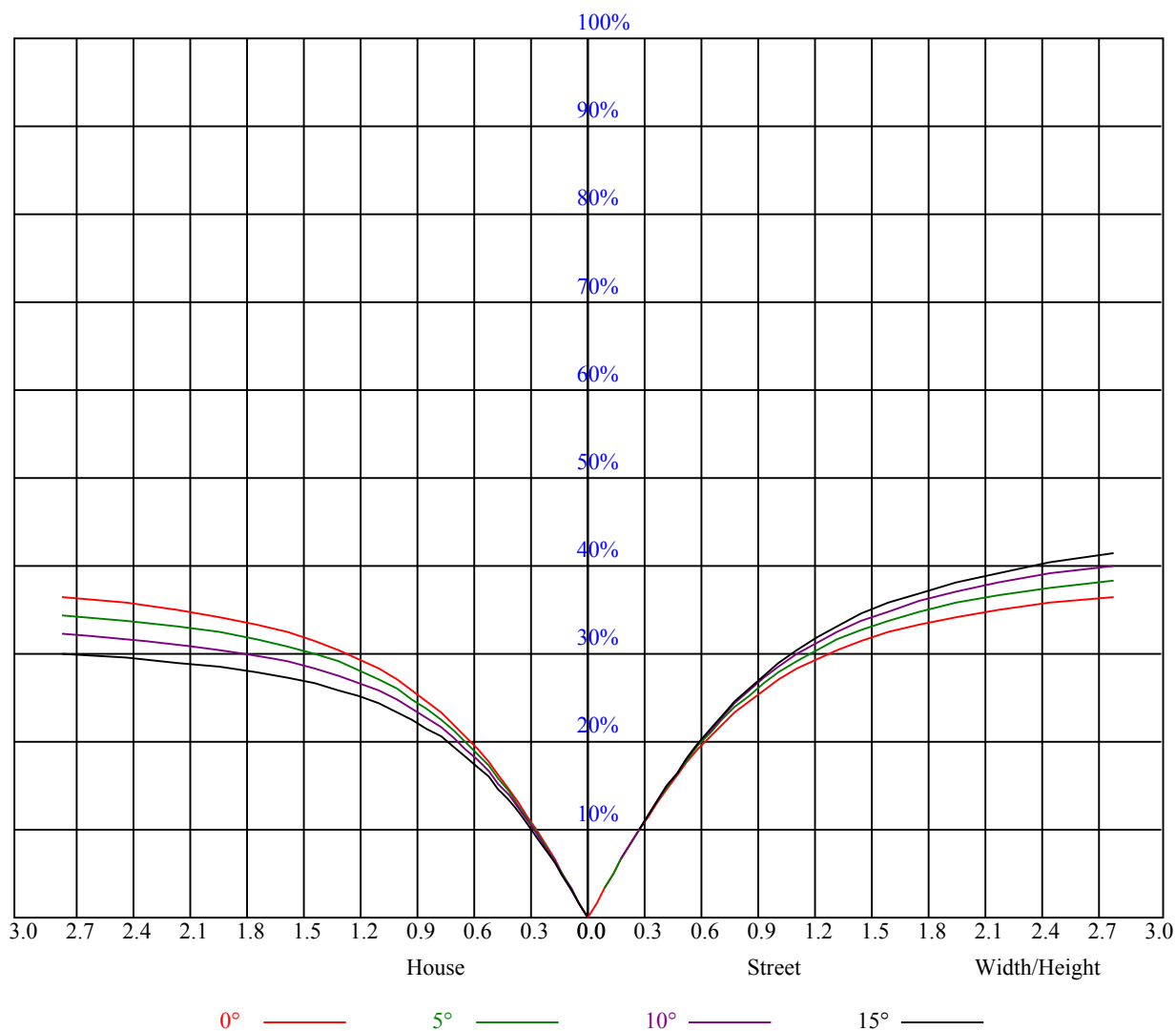
Luminance Limiting Curve



Illumination 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	12.69	14.03	13.30	14.66	15.39	12.74	14.08	13.36	14.72	15.44
	3H	14.53	15.75	15.15	16.39	17.15	14.57	15.79	15.19	16.43	17.19
	4H	15.37	16.54	16.02	17.19	17.96	15.40	16.57	16.05	17.22	17.99
	6H	16.20	17.28	16.86	17.94	18.73	16.20	17.29	16.86	17.95	18.74
	8H	16.58	17.62	17.25	18.31	19.06	16.57	17.61	17.24	18.30	19.06
	12H	17.18	18.18	17.86	18.86	19.68	17.16	18.15	17.83	18.83	19.65
4H	2H	13.20	14.36	13.84	15.02	15.78	13.24	14.40	13.89	15.06	15.83
	3H	15.29	16.29	15.95	16.98	17.77	15.32	16.32	15.98	17.01	17.80
	4H	16.30	17.21	16.98	17.91	18.73	16.32	17.23	17.00	17.93	18.75
	6H	17.11	17.97	17.85	18.69	19.51	17.11	17.97	17.85	18.69	19.51
	8H	17.65	18.41	18.35	19.13	19.97	17.64	18.40	18.34	19.12	19.96
	12H	18.30	18.99	19.02	19.73	20.58	18.26	18.96	18.98	19.70	20.54
8H	4H	16.66	17.42	17.36	18.14	18.98	16.67	17.44	17.37	18.16	19.00
	6H	17.72	19.72	18.45	19.13	19.97	17.72	19.72	18.45	19.13	19.97
	8H	18.35	18.93	19.09	19.70	20.55	18.33	18.92	19.07	19.68	20.53
	12H	19.19	19.72	19.94	21.59	21.39	19.16	19.68	19.90	21.55	21.35
12H	4H	16.72	17.41	17.44	18.15	19.00	16.73	17.43	17.46	18.17	19.02
	6H	18.76	18.44	18.60	19.18	20.07	18.76	18.44	18.60	19.17	20.07
	8H	18.55	19.07	19.29	19.83	20.74	18.53	19.06	19.28	19.81	20.72
Variation with the observer position at spacings:											
S = 1.0H	0.2/-0.8					0.2/-0.8					
S = 1.5H	0.4/-0.7					0.4/-0.7					
S = 2.0H	0.4/-0.6					0.4/-0.6					
Standard tables:	BKBF					BKBF					
Uncorrected UGR	4.6					4.6					



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	1.15	1.15	1.15	1.10	1.10	1.10	1.01	1.01	1.01	0.93	0.93	0.93	0.85	0.85	0.85	0.81
1	0.97	0.92	0.87	0.93	0.88	0.84	0.85	0.81	0.78	0.78	0.75	0.72	0.71	0.69	0.67	0.64
2	0.83	0.76	0.70	0.80	0.73	0.67	0.73	0.68	0.63	0.67	0.63	0.59	0.62	0.58	0.55	0.52
3	0.73	0.64	0.57	0.70	0.62	0.55	0.64	0.57	0.52	0.59	0.53	0.49	0.54	0.49	0.46	0.43
4	0.64	0.55	0.48	0.61	0.53	0.47	0.57	0.49	0.44	0.52	0.46	0.41	0.48	0.43	0.39	0.36
5	0.57	0.48	0.41	0.55	0.46	0.40	0.50	0.43	0.38	0.46	0.40	0.36	0.43	0.38	0.33	0.31
6	0.51	0.42	0.35	0.49	0.41	0.34	0.45	0.38	0.33	0.42	0.36	0.31	0.39	0.33	0.29	0.27
7	0.46	0.37	0.31	0.44	0.36	0.30	0.41	0.34	0.29	0.38	0.32	0.27	0.35	0.30	0.26	0.24
8	0.42	0.33	0.27	0.40	0.32	0.27	0.38	0.31	0.26	0.35	0.29	0.24	0.32	0.27	0.23	0.21
9	0.38	0.30	0.25	0.37	0.29	0.24	0.34	0.28	0.23	0.32	0.26	0.22	0.30	0.25	0.21	0.19
10	0.35	0.27	0.22	0.34	0.27	0.22	0.32	0.25	0.21	0.30	0.24	0.20	0.28	0.23	0.19	0.17



## Intensity data(cd)

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C/ $\gamma$ (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	344.66	343.32	339.50	333.00	323.69	312.09	298.83	282.55	264.86
45.0	341.84	337.39	333.70	327.30	318.56	307.30	293.67	277.96	260.30
90.0	337.42	336.35	332.53	326.17	318.06	306.80	293.60	277.79	259.90
135.0	335.95	337.39	333.70	327.30	318.56	307.30	293.67	277.96	260.30
180.0	344.66	343.32	339.50	333.00	323.69	312.09	298.83	282.55	264.86
225.0	341.84	337.39	333.70	327.30	318.56	307.30	293.67	277.96	260.30
270.0	337.42	336.35	332.53	326.17	318.06	306.80	293.60	277.79	259.90
315.0	335.95	337.39	333.70	327.30	318.56	307.30	293.67	277.96	260.30
360.0	344.66	343.32	339.50	333.00	323.69	312.09	298.83	282.55	264.86
C/ $\gamma$ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	244.76	222.92	199.80	176.22	152.03	129.38	108.28	89.38	73.30
45.0	240.74	219.43	196.92	173.84	150.85	128.88	108.34	89.82	74.64
90.0	240.13	218.83	196.65	174.34	151.16	129.05	108.48	90.79	74.91
135.0	240.74	219.43	196.92	173.84	150.85	128.88	108.34	89.82	74.64
180.0	244.76	222.92	199.80	176.22	152.03	129.38	108.28	89.38	73.30
225.0	240.74	219.43	196.92	173.84	150.85	128.88	108.34	89.82	74.64
270.0	240.13	218.83	196.65	174.34	151.16	129.05	108.48	90.79	74.91
315.0	240.74	219.43	196.92	173.84	150.85	128.88	108.34	89.82	74.64
360.0	244.76	222.92	199.80	176.22	152.03	129.38	108.28	89.38	73.30
C/ $\gamma$ (°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	60.57	50.85	44.15	39.80	37.99	37.25	37.52	37.92	38.53
45.0	61.84	52.13	45.23	40.64	38.12	37.29	37.22	37.52	38.22
90.0	62.18	52.46	45.90	41.41	38.66	37.32	37.05	37.92	38.19
135.0	61.84	52.13	45.23	40.64	38.12	37.29	37.22	37.52	38.22
180.0	60.57	50.85	44.15	39.80	37.99	37.25	37.52	37.92	38.53
225.0	61.84	52.13	45.23	40.64	38.12	37.29	37.22	37.52	38.22
270.0	62.18	52.46	45.90	41.41	38.66	37.32	37.05	37.92	38.19
315.0	61.84	52.13	45.23	40.64	38.12	37.29	37.22	37.52	38.22
360.0	60.57	50.85	44.15	39.80	37.99	37.25	37.52	37.92	38.53
C/ $\gamma$ (°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	39.33	40.40	41.74	42.88	43.48	42.81	41.14	38.26	37.86
45.0	39.16	40.03	41.31	42.35	42.95	41.81	40.23	37.32	37.52
90.0	39.00	40.00	41.14	42.08	42.88	41.34	40.27	37.59	37.99
135.0	39.16	40.03	41.31	42.35	42.95	41.81	40.23	37.32	37.52
180.0	39.33	40.40	41.74	42.88	43.48	42.81	41.14	38.26	37.86
225.0	39.16	40.03	41.31	42.35	42.95	41.81	40.23	37.32	37.52
270.0	39.00	40.00	41.14	42.08	42.88	41.34	40.27	37.59	37.99
315.0	39.16	40.03	41.31	42.35	42.95	41.81	40.23	37.32	37.52
360.0	39.33	40.40	41.74	42.88	43.48	42.81	41.14	38.26	37.86
C/ $\gamma$ (°)	180.0								
0.0	32.16								
45.0	32.23								
90.0	31.76								
135.0	32.23								
180.0	32.16								
225.0	32.23								
270.0	31.76								
315.0	32.23								
360.0	32.16								