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LumCAT: 6740-A

Luminaire:

Report No: NATA0100

Test No:

LampCAT: PHILIPS DLM 2000LM

Lamp flux(lm): 1598.0

Number of Lamps: 1

Length(mm): 160

Phm Type: C

Voltage(V): 217.5000

Current(A): 0.1380

Power (W): 29.6000

PF: 0.9860

Ballast type:

Width(mm): 160

Height(mm): 0

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### Photometric Results

Lumens(lm): 1477.86

Efficiency(%): 92.48%

Lumens(lm)/Power(W): 49.94

Central intensity(cd): 1387.238

Maximum intensity(cd): 1387.238

Angle of maximum intensity: C=0.0  $\gamma$ =0.0

Beam Angle(50%Imax): [C0/180]Total=58.8

[C90/270]Total=58.8

Field angle(10%Imax): [C0/180]Total=100.9

[C90/270]Total=100.9

Maximum s/h(1/2): C0\_180=0.93 C90\_270=0.93

Maximum s/h(1/4): C0\_180=0.88 C90\_270=0.88

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 92.50%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 98.717%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1387.238	0.332	0.332	.021%	.022%
1.0	1385.999	2.653	2.984	.166%	.202%
2.0	1382.879	5.292	8.277	.331%	.560%
3.0	1375.814	7.896	16.173	.494%	1.094%
4.0	1365.720	10.447	26.62	.654%	1.801%
5.0	1355.718	12.957	39.578	.811%	2.678%
6.0	1347.597	15.447	55.025	.967%	3.723%
7.0	1342.137	17.937	72.961	1.122%	4.937%
8.0	1338.192	20.423	93.385	1.278%	6.319%
9.0	1332.548	22.860	116.244	1.431%	7.866%
10.0	1316.857	25.076	141.32	1.569%	9.563%
11.0	1299.698	27.195	168.516	1.702%	11.403%
12.0	1284.787	29.293	197.808	1.833%	13.385%
13.0	1278.364	31.535	229.343	1.973%	15.519%
14.0	1275.198	33.830	263.174	2.117%	17.808%
15.0	1269.646	36.036	299.209	2.255%	20.246%
16.0	1257.442	38.008	337.217	2.378%	22.818%
17.0	1239.365	39.736	376.954	2.487%	25.507%
18.0	1213.902	41.136	418.089	2.574%	28.290%
19.0	1188.227	42.422	460.511	2.655%	31.161%
20.0	1157.148	43.400	503.912	2.716%	34.097%
21.0	1121.040	44.056	547.967	2.757%	37.078%
22.0	1079.229	44.334	592.302	2.774%	40.078%
23.0	1037.864	44.470	636.772	2.783%	43.087%
24.0	983.739	43.878	680.65	2.746%	46.056%
25.0	930.375	43.118	723.768	2.698%	48.974%
26.0	879.687	42.288	766.056	2.646%	51.836%
27.0	823.483	40.997	807.053	2.566%	54.610%
28.0	762.958	39.279	846.332	2.458%	57.267%
29.0	712.879	37.900	884.232	2.372%	59.832%
30.0	664.375	36.428	920.66	2.280%	62.297%
31.0	613.819	34.668	955.329	2.169%	64.643%
32.0	570.637	33.161	988.489	2.075%	66.887%
33.0	530.340	31.675	1020.164	1.982%	69.030%
34.0	490.511	30.079	1050.243	1.882%	71.065%
35.0	461.451	29.025	1079.268	1.816%	73.029%
36.0	438.717	28.278	1107.546	1.770%	74.943%
37.0	420.934	27.780	1135.326	1.738%	76.822%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	407.853	27.536	1162.862	1.723%	78.686%
39.0	392.974	27.120	1189.981	1.697%	80.521%
40.0	375.723	26.484	1216.466	1.657%	82.313%
41.0	358.981	25.827	1242.292	1.616%	84.060%
42.0	339.065	24.880	1267.172	1.557%	85.744%
43.0	316.772	23.691	1290.863	1.483%	87.347%
44.0	295.111	22.481	1313.344	1.407%	88.868%
45.0	272.557	21.135	1334.478	1.323%	90.298%
46.0	248.382	19.593	1354.071	1.226%	91.624%
47.0	222.969	17.882	1371.954	1.119%	92.834%
48.0	202.107	16.471	1388.424	1.031%	93.948%
49.0	174.377	14.432	1402.856	.903%	94.925%
50.0	149.074	12.523	1415.379	.784%	95.772%
51.0	126.744	10.801	1426.181	.676%	96.503%
52.0	103.575	8.950	1435.131	.560%	97.109%
53.0	81.979	7.180	1442.31	.449%	97.595%
54.0	62.585	5.552	1447.863	.347%	97.970%
55.0	44.655	4.011	1451.874	.251%	98.242%
56.0	30.900	2.809	1454.683	.176%	98.432%
57.0	20.050	1.844	1456.527	.115%	98.557%
58.0	12.649	1.176	1457.704	.074%	98.636%
59.0	8.726	0.820	1458.524	.051%	98.692%
60.0	6.749	0.641	1459.165	.040%	98.735%
61.0	6.387	0.613	1459.778	.038%	98.777%
62.0	6.322	0.612	1460.39	.038%	98.818%
63.0	6.286	0.614	1461.004	.038%	98.860%
64.0	6.244	0.615	1461.619	.039%	98.901%
65.0	6.203	0.616	1462.236	.039%	98.943%
66.0	6.157	0.617	1462.853	.039%	98.985%
67.0	6.116	0.617	1463.47	.039%	99.026%
68.0	6.093	0.620	1464.09	.039%	99.068%
69.0	6.070	0.621	1464.711	.039%	99.110%
70.0	6.038	0.622	1465.333	.039%	99.152%
71.0	6.010	0.623	1465.956	.039%	99.195%
72.0	6.010	0.627	1466.583	.039%	99.237%
73.0	5.997	0.629	1467.212	.039%	99.280%
74.0	5.997	0.632	1467.844	.040%	99.322%
75.0	5.987	0.634	1468.478	.040%	99.365%

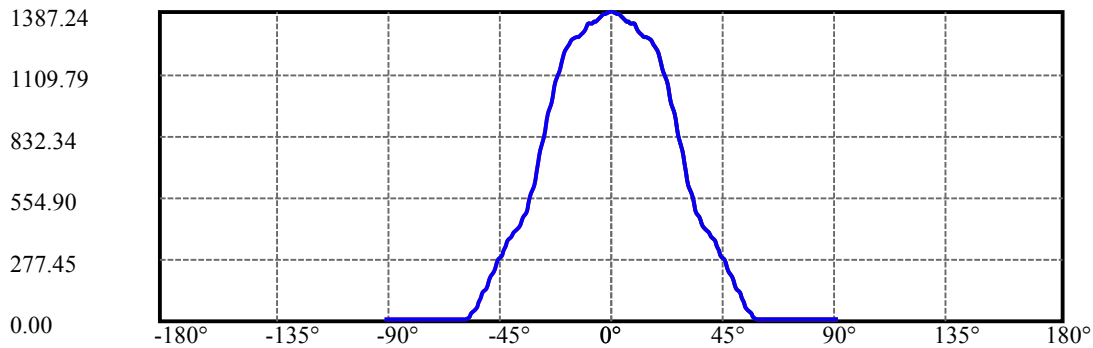
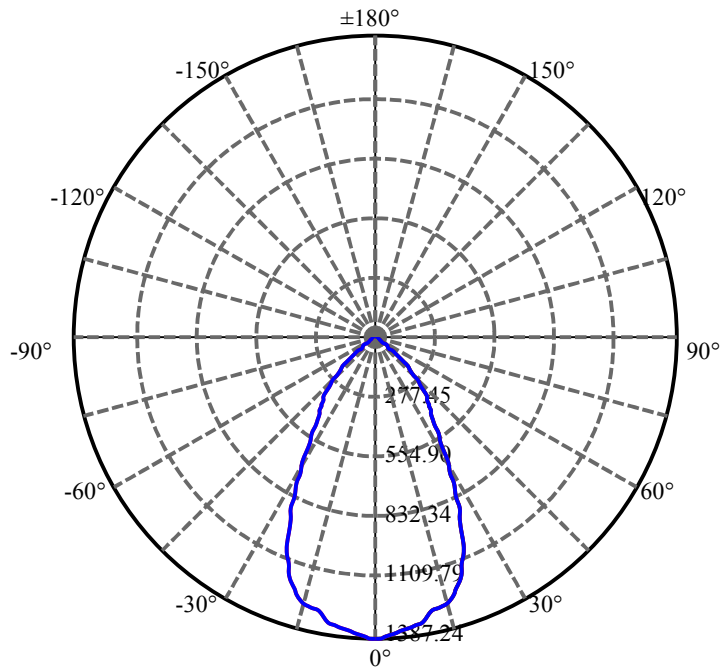
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	5.987	0.637	1469.115	.040%	99.408%
77.0	5.983	0.639	1469.755	.040%	99.452%
78.0	5.987	0.642	1470.397	.040%	99.495%
79.0	5.987	0.645	1471.041	.040%	99.539%
80.0	5.992	0.647	1471.689	.040%	99.582%
81.0	5.987	0.648	1472.337	.041%	99.626%
82.0	5.983	0.650	1472.987	.041%	99.670%
83.0	5.978	0.651	1473.637	.041%	99.714%
84.0	5.969	0.651	1474.288	.041%	99.758%
85.0	5.978	0.653	1474.941	.041%	99.803%
86.0	5.955	0.651	1475.593	.041%	99.847%
87.0	5.942	0.651	1476.244	.041%	99.891%
88.0	5.905	0.647	1476.891	.040%	99.935%
89.0	5.891	0.646	1477.537	.040%	99.978%
90.0	5.873	0.322	1477.859	.020%	100.000%

## ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	920.66	57.61%	62.30%
0-40	1216.47	76.12%	82.31%
0-60	1459.17	91.31%	98.74%
0-90	1477.54	92.46%	99.98%
0-120	1477.54	92.46%	99.98%
0-180	1477.86	92.48%	100.00%
60-90	19.01	1.19%	1.29%
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%
0-38.72	1182.29	73.99%	80.00%

## ZONAL LUMEN SUMMARY

0-10	141.32
10-20	362.59
20-30	416.75
30-40	295.81
40-50	198.91
50-60	43.79
60-70	6.17
70-80	6.36
80-90	5.85
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



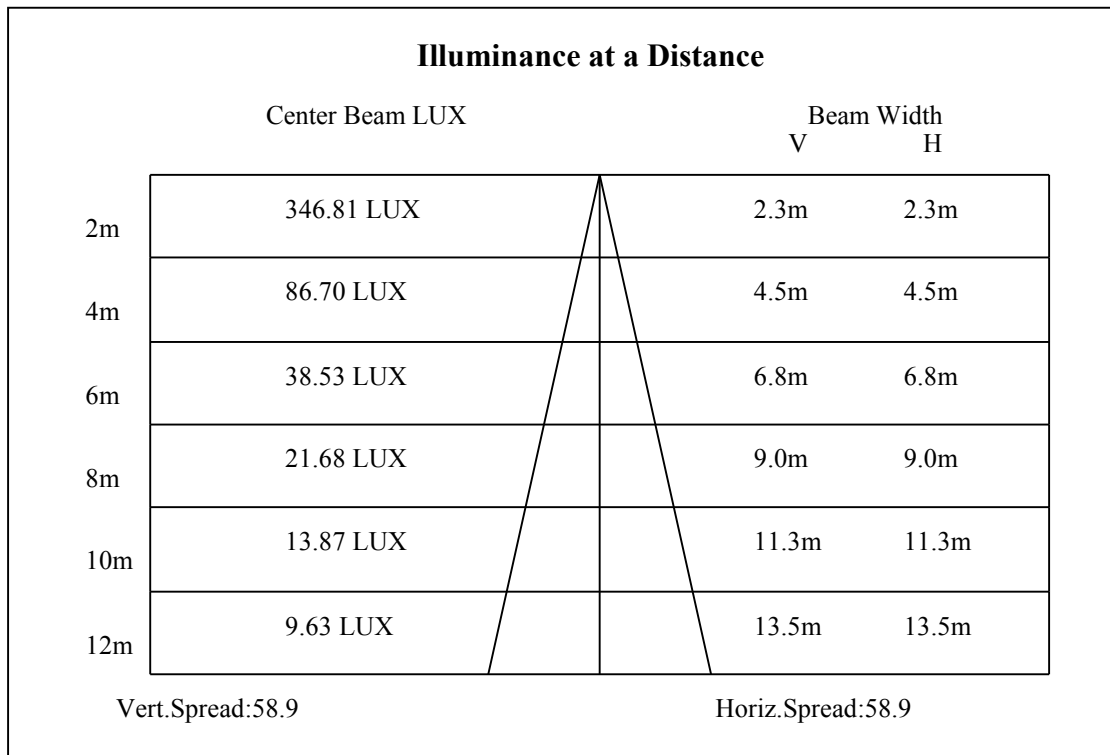
C0(Max): —————

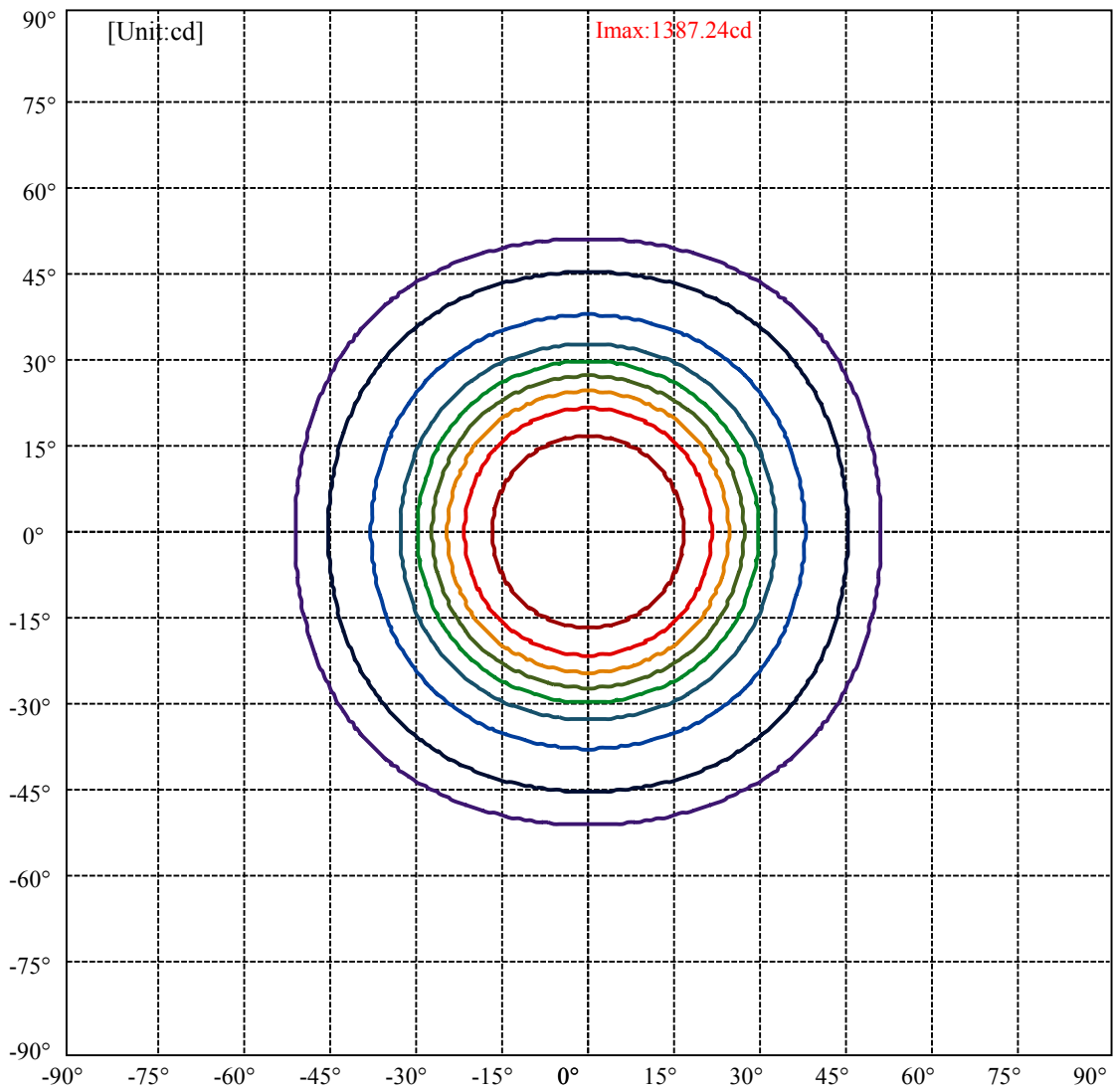
C0/C180: —————

C90/C270: —————

Field angle(10%Imax):C0/180Left:50.5 Right:50.5  
:C90/270Left:50.5 Right:50.5

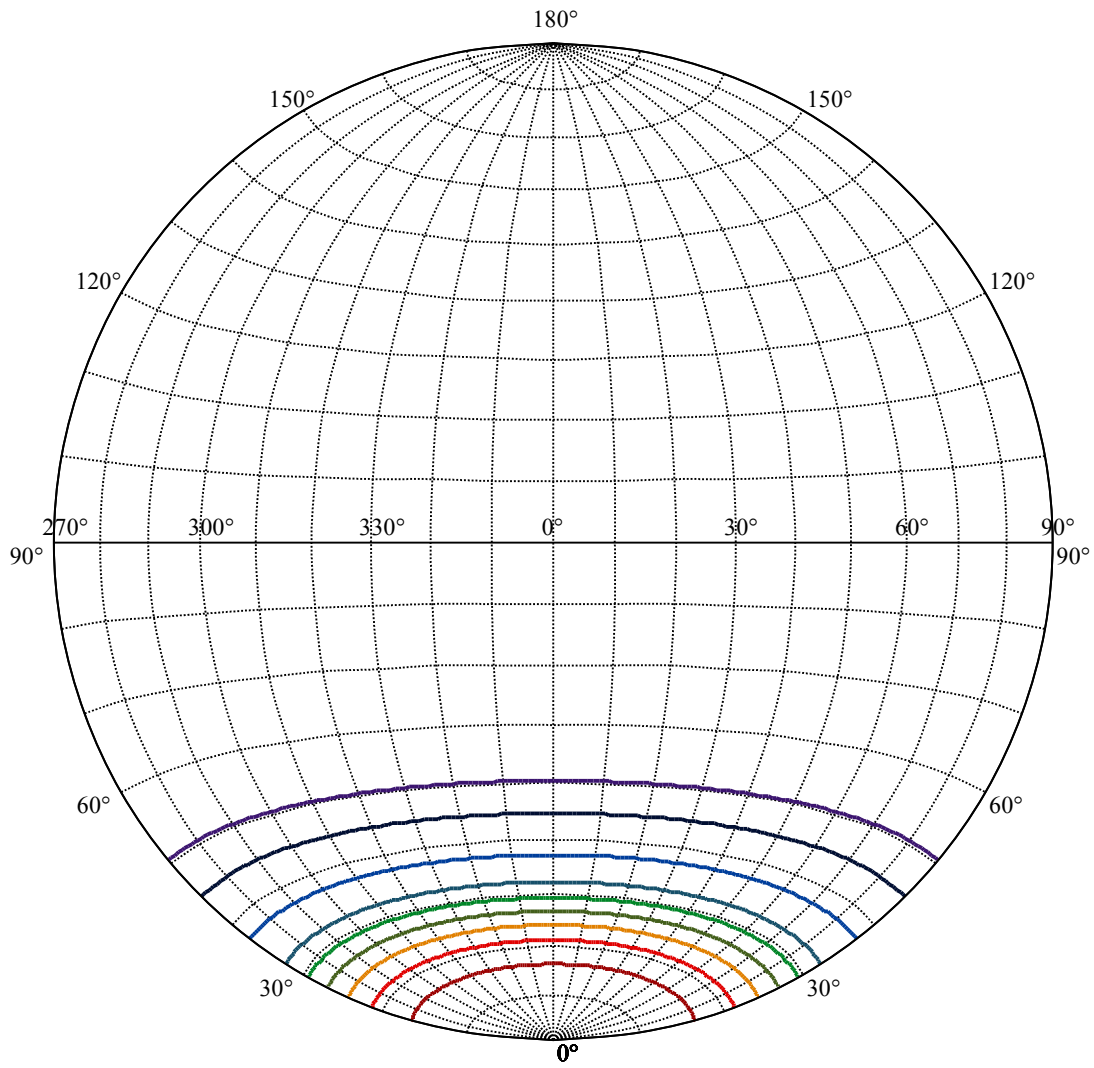
Beam Angle(50%Imax):C0/180Left:29.4 Right:29.4  
:C90/270Left:29.4 Right:29.4





(10%Imax) 138.724	—
(20%Imax) 277.448	—
(30%Imax) 416.171	—
(40%Imax) 554.895	—
(50%Imax) 693.619	—
(60%Imax) 832.343	—
(70%Imax) 971.066	—
(80%Imax) 1109.79	—
(90%Imax) 1248.51	—














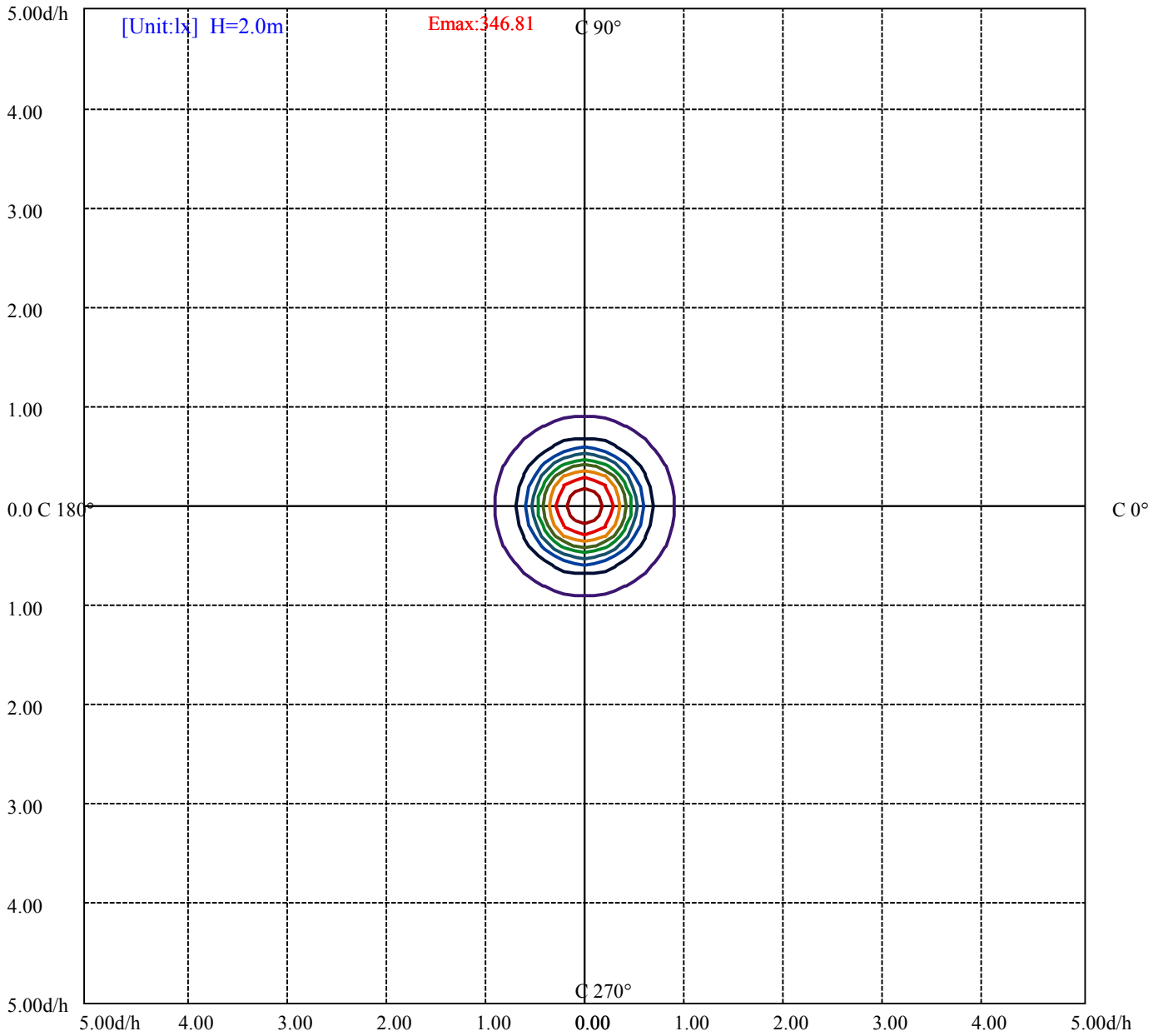
House

[Unit:cd]

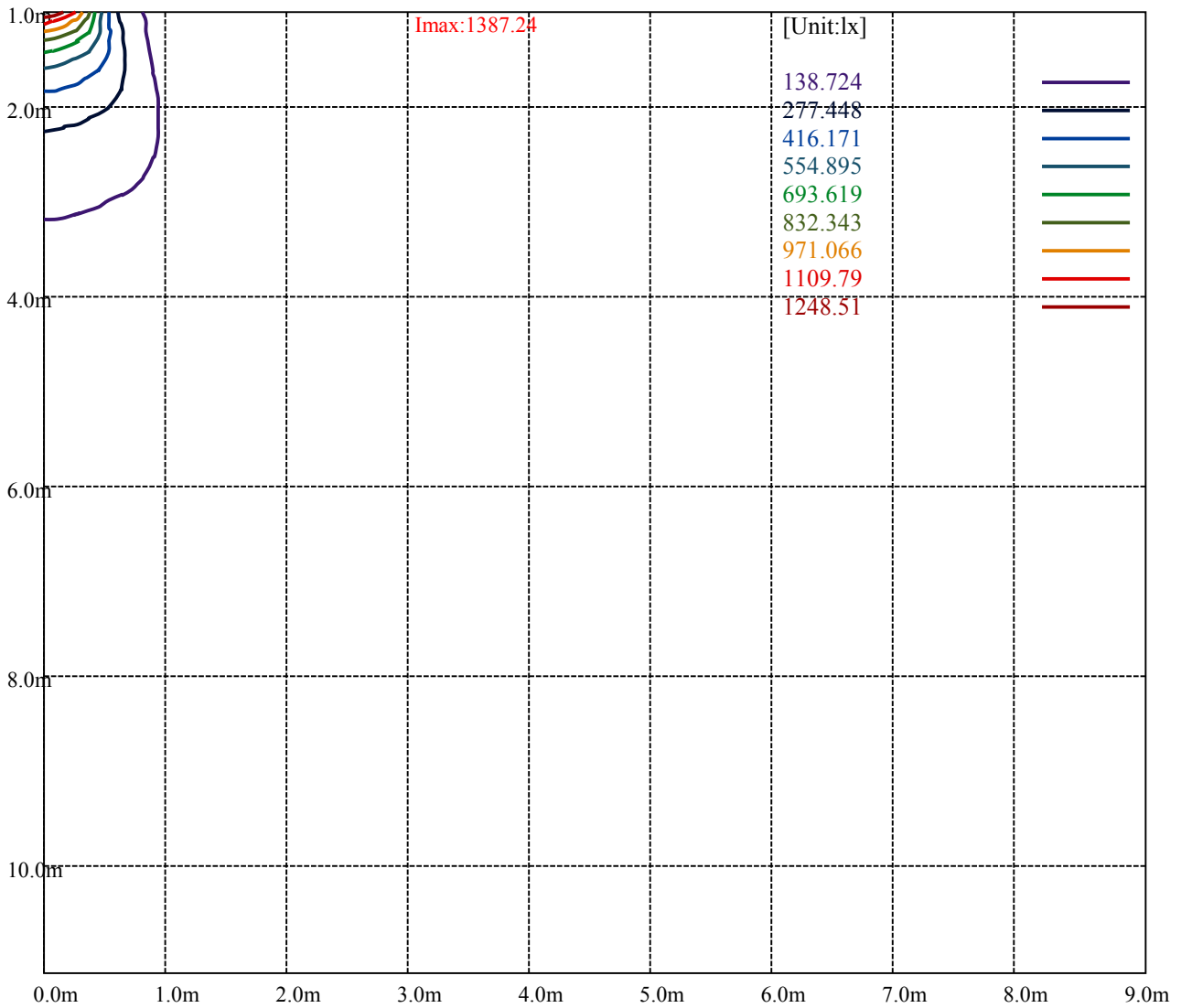
Road

**Imax:1387.24**

(10%Imax) 138.724	
(20%Imax) 277.448	
(30%Imax) 416.171	
(40%Imax) 554.895	
(50%Imax) 693.619	
(60%Imax) 832.343	
(70%Imax) 971.066	
(80%Imax) 1109.79	
(90%Imax) 1248.51	



- (10%Emax) 34.681
- (20%Emax) 69.36175
- (30%Emax) 104.0427
- (40%Emax) 138.7238
- (50%Emax) 173.4048
- (60%Emax) 208.0855
- (70%Emax) 242.7665
- (80%Emax) 277.4475
- (90%Emax) 312.1275



Luminance Table

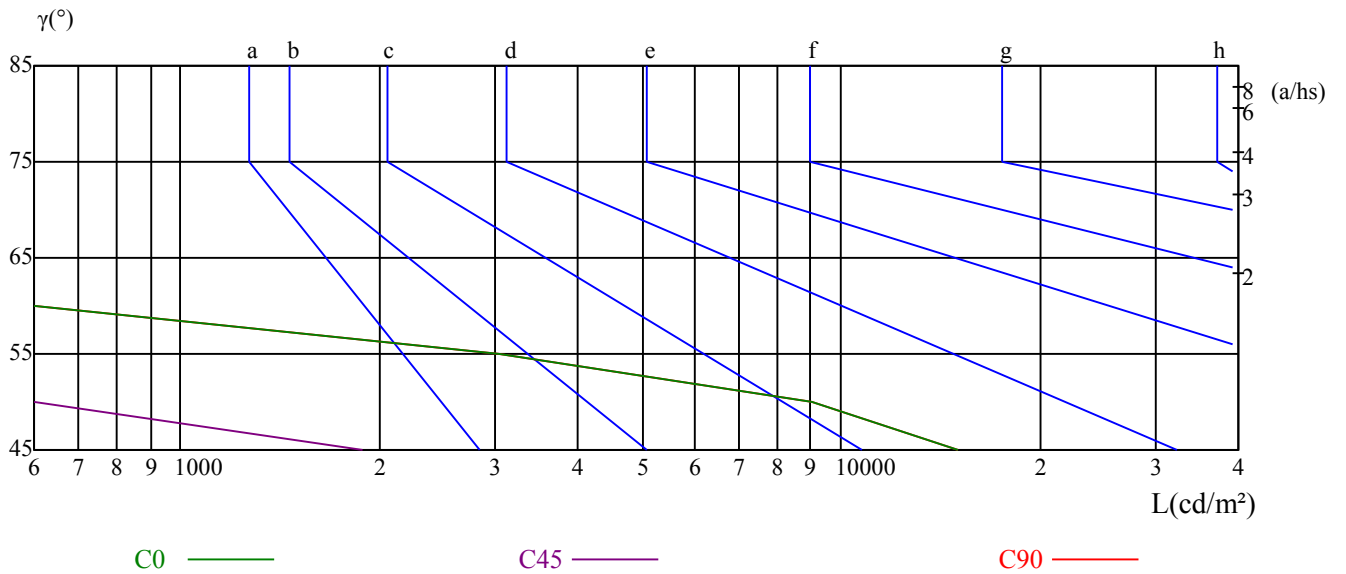
$\gamma$	45	50	55	60	65	70	75	80	85
C0	15057	9059	3041	527	573	690	904	1348	2679
C45	1892	593	621	689	819	1082	1467	1993	3664
C90	15057	9059	3041	527	573	690	904	1348	2679

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
573	573	819	904	904	1467	2679	2679	3664

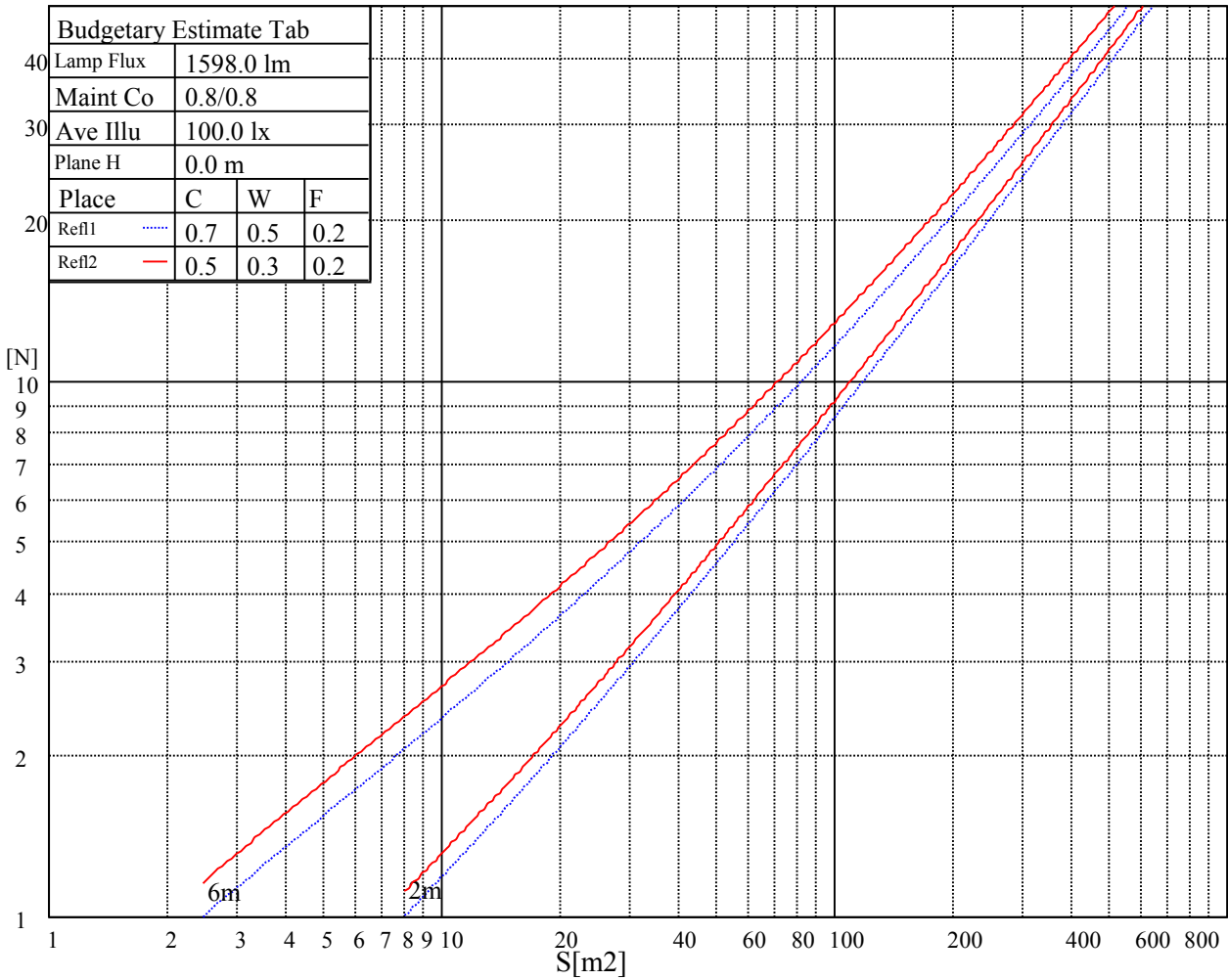
Glare Table

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

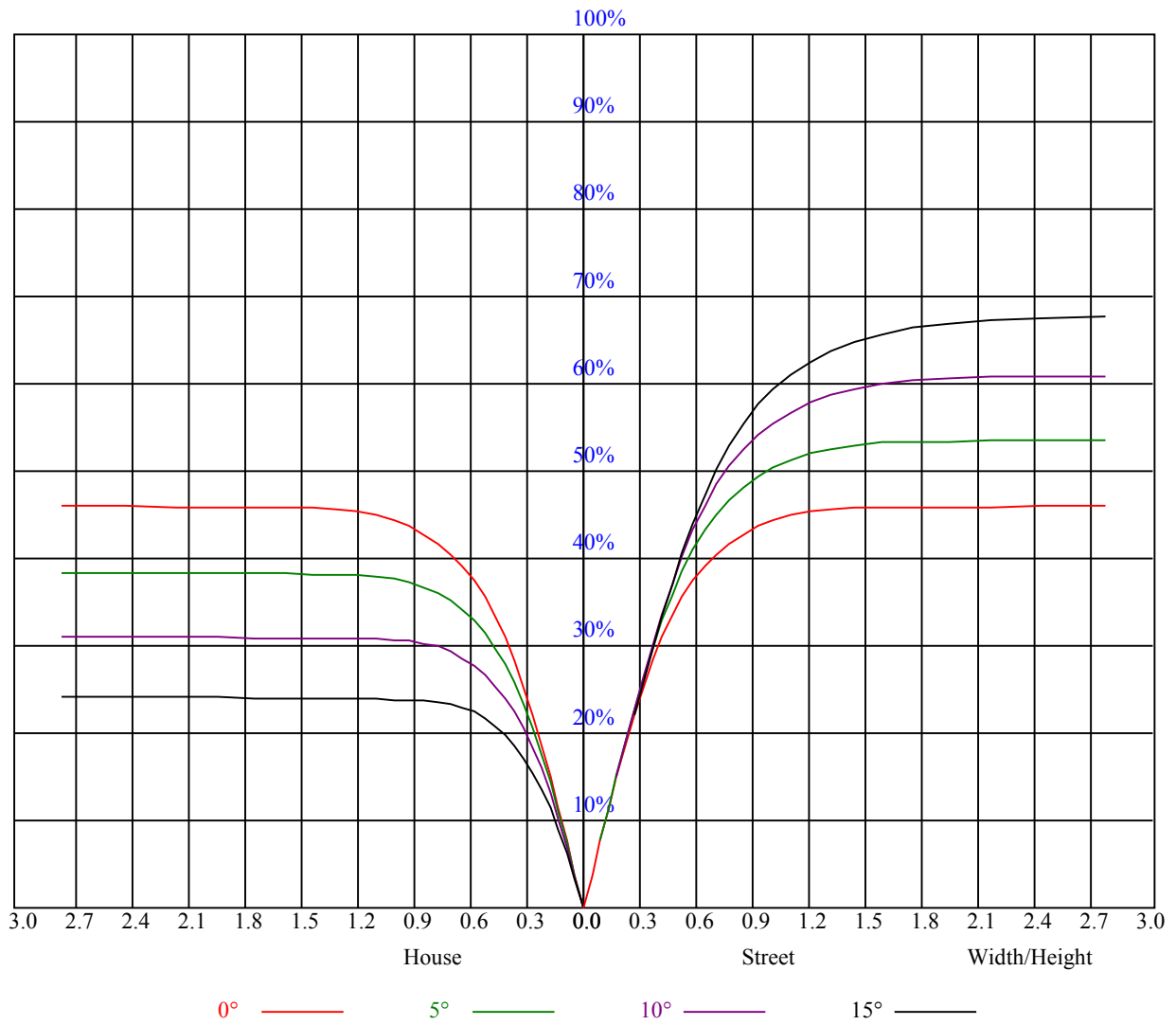
Luminance Limiting Curve



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	5.33	6.46	5.70	6.77	7.09	5.63	6.75	5.99	7.06	7.38
	3H	5.59	6.58	5.97	6.91	7.28	5.82	6.81	6.20	7.14	7.50
	4H	5.93	6.85	6.34	7.20	7.59	6.10	7.01	6.50	7.36	7.75
	6H	6.58	7.42	7.00	7.79	8.19	6.63	7.47	7.05	7.84	8.24
	8H	7.07	7.86	7.51	8.25	8.66	7.05	7.84	7.49	8.23	8.64
	12H	8.08	8.84	8.52	9.22	9.65	7.95	8.70	8.38	9.09	9.52
4H	2H	5.18	6.10	5.59	6.45	6.84	5.46	6.38	5.87	6.73	7.12
	3H	5.64	6.38	6.05	6.78	7.19	5.84	6.58	6.25	6.98	7.39
	4H	6.19	6.85	6.63	7.27	7.72	6.30	6.96	6.74	7.39	7.83
	6H	7.16	7.72	7.62	8.17	8.64	7.15	7.72	7.62	8.17	8.64
	8H	7.86	8.39	8.34	8.84	9.31	7.77	8.30	8.25	8.75	9.23
	12H	9.03	9.50	9.52	9.98	10.46	8.84	9.30	9.33	9.79	10.27
8H	4H	6.39	6.92	6.87	7.37	7.84	6.50	7.02	6.97	7.47	7.95
	6H	7.67	8.10	8.18	8.60	9.08	7.64	8.07	8.15	8.57	9.06
	8H	8.61	9.00	9.14	9.52	10.01	8.50	8.88	9.03	9.40	9.90
	12H	10.02	10.36	10.54	10.86	11.44	9.81	10.15	10.33	10.65	11.23
12H	4H	6.46	6.92	6.95	7.40	7.88	6.56	7.02	7.05	7.51	7.99
	6H	8.24	8.24	8.38	8.71	9.25	8.22	8.21	8.36	8.68	9.23
	8H	8.92	9.26	9.44	9.76	10.34	8.82	9.16	9.34	9.65	10.23
Variation with the observer position at spacings:											
S = 1.0H		1.8/-7.5					1.8/-7.5				
S = 1.5H		3.7/-10.4					3.7/-10.4				
S = 2.0H		5.8/-8.9					5.8/-8.9				
Standard tables:		BK0					BK0				
Uncorrected UGR		-1.2					-1.2				



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	1.10	1.10	1.10	1.08	1.08	1.08	1.03	1.03	1.03	0.98	0.98	0.98	0.94	0.94	0.94	0.92
1	1.02	0.99	0.97	1.00	0.97	0.95	0.96	0.94	0.92	0.92	0.91	0.90	0.89	0.88	0.87	0.85
2	0.94	0.90	0.86	0.92	0.89	0.85	0.89	0.86	0.84	0.86	0.84	0.82	0.84	0.82	0.80	0.78
3	0.87	0.82	0.78	0.86	0.81	0.77	0.83	0.79	0.76	0.81	0.77	0.75	0.79	0.76	0.74	0.72
4	0.81	0.75	0.71	0.79	0.74	0.70	0.77	0.73	0.69	0.75	0.72	0.69	0.74	0.71	0.68	0.66
5	0.75	0.69	0.65	0.74	0.68	0.64	0.72	0.67	0.64	0.71	0.67	0.63	0.69	0.66	0.63	0.61
6	0.70	0.64	0.60	0.69	0.63	0.59	0.68	0.63	0.59	0.66	0.62	0.58	0.65	0.61	0.58	0.57
7	0.65	0.59	0.55	0.65	0.59	0.55	0.63	0.58	0.55	0.62	0.58	0.54	0.61	0.57	0.54	0.53
8	0.61	0.55	0.51	0.61	0.55	0.51	0.59	0.54	0.51	0.59	0.54	0.51	0.58	0.53	0.50	0.49
9	0.57	0.52	0.48	0.57	0.51	0.48	0.56	0.51	0.47	0.55	0.51	0.47	0.54	0.50	0.47	0.46
10	0.54	0.48	0.45	0.54	0.48	0.45	0.53	0.48	0.44	0.52	0.48	0.44	0.51	0.47	0.44	0.43





## Intensity data(cd)

C/ $\gamma$ (°)	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0
0.0	1385.22	1388.52	1390.17	1389.62	1385.22	1375.86	1367.05	1362.10	1358.79
30.0	1387.97	1387.97	1385.77	1379.16	1368.70	1360.44	1355.49	1352.74	1350.53
60.0	1387.97	1385.77	1380.81	1365.95	1358.79	1352.74	1347.23	1344.48	1341.17
90.0	1387.97	1385.77	1380.26	1370.90	1357.14	1348.33	1341.72	1337.87	1334.02
120.0	1386.32	1381.37	1374.21	1360.44	1346.68	1337.87	1332.36	1326.31	1320.80
150.0	1387.97	1383.57	1376.41	1368.70	1351.08	1339.52	1331.26	1323.01	1318.05
180.0	1385.22	1380.26	1373.11	1360.44	1344.48	1334.57	1327.41	1321.35	1314.20
210.0	1387.97	1384.67	1381.37	1374.76	1362.65	1349.43	1339.52	1331.26	1326.31
240.0	1387.97	1387.97	1385.77	1381.92	1374.21	1362.10	1351.08	1341.72	1337.32
270.0	1387.97	1387.97	1386.87	1382.47	1374.76	1363.20	1352.74	1348.33	1346.13
300.0	1386.32	1388.52	1389.62	1387.97	1383.57	1372.56	1362.65	1357.14	1354.39
330.0	1387.97	1389.62	1390.17	1387.42	1381.37	1372.01	1362.65	1359.34	1356.59
360.0	1385.22	1388.52	1390.17	1389.62	1385.22	1375.86	1367.05	1362.10	1358.79
C/ $\gamma$ (°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	1355.49	1352.74	1340.07	1320.25	1313.10	1311.99	1317.50	1320.25	1315.30
30.0	1346.13	1327.96	1311.99	1303.18	1302.63	1308.14	1307.04	1295.48	1278.41
60.0	1333.47	1303.74	1293.83	1289.42	1288.87	1285.02	1273.45	1257.49	1234.92
90.0	1327.41	1303.18	1283.36	1274.01	1271.25	1265.20	1253.63	1234.36	1211.79
120.0	1311.44	1277.86	1262.44	1256.94	1253.08	1242.07	1225.56	1202.98	1179.31
150.0	1310.34	1291.62	1262.99	1247.03	1238.77	1231.06	1217.85	1196.93	1172.15
180.0	1303.74	1276.21	1254.18	1244.83	1237.12	1226.11	1209.04	1186.47	1159.49
210.0	1320.25	1308.69	1287.22	1265.20	1254.74	1251.98	1244.83	1228.31	1208.49
240.0	1333.47	1325.76	1313.65	1289.42	1275.11	1271.25	1267.95	1258.04	1239.87
270.0	1342.83	1335.12	1315.30	1296.03	1289.42	1291.07	1289.97	1281.16	1261.89
300.0	1352.19	1349.98	1342.28	1315.85	1305.39	1304.84	1309.24	1308.69	1300.98
330.0	1353.84	1349.43	1329.06	1315.30	1310.89	1313.65	1319.70	1319.15	1309.79
360.0	1355.49	1352.74	1340.07	1320.25	1313.10	1311.99	1317.50	1320.25	1315.30
C/ $\gamma$ (°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1300.98	1284.47	1262.44	1237.12	1211.24	1182.61	1140.22	1101.68	1057.08
30.0	1255.29	1233.81	1206.29	1174.35	1141.87	1100.58	1052.13	1000.37	939.26
60.0	1209.59	1183.16	1153.43	1097.22	1067.60	1023.77	965.08	897.31	838.29
90.0	1187.57	1157.84	1123.70	1087.91	1041.12	992.12	928.25	858.88	807.68
120.0	1147.93	1094.63	1070.74	1022.23	967.01	912.61	858.49	799.09	754.44
150.0	1145.17	1111.59	1071.95	1030.11	976.15	922.19	863.28	809.33	767.49
180.0	1098.38	1089.68	1051.41	1000.48	943.56	890.21	836.86	788.41	746.62
210.0	1182.61	1151.78	1094.25	1075.36	1027.41	977.53	922.41	855.14	809.44
240.0	1220.60	1194.72	1165.54	1135.81	1097.82	1058.18	1004.78	941.46	880.35
270.0	1239.32	1217.30	1191.97	1155.63	1096.34	1081.64	1026.58	974.39	914.21
300.0	1286.67	1265.75	1241.52	1213.99	1185.91	1150.68	1114.89	1068.09	1018.54
330.0	1292.72	1274.01	1252.53	1222.25	1194.72	1162.24	1091.88	1070.35	1022.84
360.0	1300.98	1284.47	1262.44	1237.12	1211.24	1182.61	1140.22	1101.68	1057.08
C/ $\gamma$ (°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	996.52	924.40	857.78	791.71	727.30	675.54	624.34	583.05	537.35
30.0	858.33	803.82	747.12	690.41	637.00	594.61	556.07	503.22	469.08
60.0	785.60	720.19	670.09	625.06	578.48	533.50	494.68	455.76	437.26
90.0	759.23	702.52	655.17	613.88	567.08	531.84	490.00	452.01	436.60
120.0	710.23	656.27	616.36	578.53	532.23	494.41	458.07	433.02	424.10
150.0	725.64	675.54	632.60	594.61	550.01	514.78	478.99	441.55	425.04
180.0	704.45	651.48	611.90	574.07	536.47	488.46	451.79	432.85	417.27
210.0	766.00	711.49	669.38	629.24	582.61	545.77	508.23	461.37	439.35
240.0	825.85	765.28	719.04	674.99	622.69	584.15	547.26	505.42	464.13
270.0	839.00	785.71	734.84	673.23	633.86	587.84	543.85	505.47	464.07
300.0	944.77	877.05	818.69	763.08	696.46	649.11	606.17	554.97	512.58
330.0	966.18	881.73	821.61	763.69	701.64	647.63	604.63	557.45	510.59
360.0	996.52	924.40	857.78	791.71	727.30	675.54	624.34	583.05	537.35

## Intensity data(cd)

C/ $\gamma$ (°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	490.00	454.77	437.70	426.69	417.88	406.87	389.80	373.28	355.11
30.0	442.65	431.09	422.28	411.82	396.96	381.54	361.17	339.15	318.23
60.0	428.94	419.36	407.64	391.67	372.62	354.12	334.58	308.70	287.28
90.0	428.34	416.78	402.46	384.29	364.47	346.30	322.63	298.41	279.14
120.0	410.28	391.84	377.36	357.21	332.87	314.87	293.73	263.55	244.01
150.0	411.82	395.86	378.24	358.42	335.84	314.92	291.25	280.24	241.59
180.0	403.12	387.43	368.33	347.52	327.59	304.08	282.60	257.99	232.89
210.0	425.81	410.06	397.18	380.94	356.77	340.19	320.26	291.08	271.98
240.0	442.10	431.09	420.63	405.22	387.60	369.98	349.61	327.04	306.66
270.0	439.18	429.72	422.01	408.02	394.04	378.07	358.20	336.89	317.12
300.0	472.38	443.20	431.64	423.93	412.92	400.26	383.19	364.47	345.75
330.0	469.96	440.01	428.78	419.97	409.12	396.57	381.76	360.45	341.57
360.0	490.00	454.77	437.70	426.69	417.88	406.87	389.80	373.28	355.11
C/ $\gamma$ (°)	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	53.0
0.0	333.09	309.42	287.94	279.69	237.18	210.32	186.42	160.16	134.83
30.0	294.55	279.14	244.95	221.60	192.48	169.52	146.73	121.51	96.35
60.0	265.32	237.35	214.55	191.71	166.16	140.72	118.21	93.60	73.06
90.0	252.76	229.81	201.45	178.71	155.70	127.95	106.37	85.61	61.06
120.0	221.66	196.33	170.84	148.43	123.71	100.15	79.83	58.52	41.84
150.0	220.17	191.10	168.80	146.28	121.78	98.39	78.40	57.42	38.32
180.0	210.32	184.93	159.77	137.70	116.11	90.40	70.80	52.36	34.02
210.0	249.57	224.02	198.20	175.52	150.36	125.14	103.67	81.32	62.87
240.0	284.64	264.71	231.90	208.88	183.12	157.13	134.34	109.89	86.93
270.0	293.34	268.34	245.22	222.26	196.44	170.40	144.96	123.05	101.91
300.0	323.73	300.61	279.14	264.05	224.80	200.79	176.95	150.96	126.24
330.0	321.53	294.83	272.86	250.45	224.69	197.98	174.25	148.49	126.30
360.0	333.09	309.42	287.94	279.69	237.18	210.32	186.42	160.16	134.83
C/ $\gamma$ (°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	112.87	89.30	69.48	49.06	31.11	18.11	8.59	6.44	6.33
30.0	75.59	54.40	35.68	21.97	10.79	6.83	6.44	6.33	6.28
60.0	52.14	33.86	20.32	9.86	6.66	6.50	6.44	6.39	6.28
90.0	43.88	28.90	15.58	7.87	6.66	6.55	6.50	6.44	6.44
120.0	25.71	13.54	7.54	6.50	6.39	6.39	6.33	6.28	6.28
150.0	24.39	12.61	7.21	6.33	6.28	6.22	6.17	6.17	6.11
180.0	19.32	10.46	6.61	6.28	6.22	6.17	6.17	6.06	6.06
210.0	43.77	27.20	15.75	8.53	6.61	6.55	6.44	6.33	6.28
240.0	67.66	47.90	32.59	18.44	9.08	6.88	6.72	6.61	6.50
270.0	78.95	57.59	40.74	23.01	12.44	7.38	6.72	6.61	6.55
300.0	104.66	81.32	59.85	42.78	26.15	14.59	7.43	6.61	6.50
330.0	102.07	78.79	59.46	39.97	23.40	12.55	7.05	6.39	6.28
360.0	112.87	89.30	69.48	49.06	31.11	18.11	8.59	6.44	6.33
C/ $\gamma$ (°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	6.28	6.22	6.17	6.11	6.00	6.00	5.95	5.89	5.89
30.0	6.22	6.17	6.11	6.06	6.00	6.00	6.00	5.95	5.95
60.0	6.28	6.17	6.17	6.06	6.00	6.06	6.00	6.00	5.95
90.0	6.39	6.39	6.33	6.28	6.28	6.22	6.17	6.17	6.17
120.0	6.22	6.22	6.28	6.22	6.22	6.17	6.17	6.11	6.11
150.0	6.11	6.06	6.06	6.06	6.00	5.95	5.95	5.95	5.89
180.0	6.06	6.06	6.00	5.95	5.95	5.95	5.95	5.89	5.84
210.0	6.28	6.22	6.22	6.11	6.11	6.11	6.06	6.00	6.00
240.0	6.44	6.39	6.28	6.28	6.22	6.22	6.17	6.11	6.11
270.0	6.50	6.44	6.44	6.39	6.33	6.28	6.28	6.22	6.17
300.0	6.44	6.44	6.33	6.33	6.28	6.22	6.22	6.22	6.17
330.0	6.22	6.17	6.06	6.06	6.00	5.95	5.95	5.95	5.89
360.0	6.28	6.22	6.17	6.11	6.00	6.00	5.95	5.89	5.89

## 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	5.95	5.84	5.84	5.78	5.78	5.78	5.78	5.73	5.73
30.0	5.95	5.95	5.95	5.95	5.95	5.95	5.89	5.89	5.89
60.0	5.95	5.89	5.89	5.89	5.95	5.95	5.95	5.95	5.95
90.0	6.17	6.17	6.17	6.17	6.11	6.11	6.11	6.11	6.11
120.0	6.06	6.11	6.11	6.06	6.06	6.06	6.11	6.11	6.11
150.0	5.89	5.89	5.89	5.84	5.89	5.89	5.89	5.89	5.89
180.0	5.78	5.78	5.78	5.84	5.78	5.78	5.78	5.78	5.78
210.0	6.06	6.00	6.06	6.06	6.00	5.95	6.00	6.00	6.00
240.0	6.11	6.11	6.06	6.06	6.11	6.11	6.11	6.17	6.17
270.0	6.22	6.22	6.22	6.28	6.28	6.28	6.28	6.28	6.28
300.0	6.17	6.17	6.17	6.11	6.11	6.11	6.11	6.11	6.17
330.0	5.84	5.84	5.84	5.84	5.84	5.84	5.84	5.84	5.84
360.0	5.95	5.84	5.84	5.78	5.78	5.78	5.78	5.73	5.73
C/ $\gamma$ (°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	5.73	5.73	5.73	5.73	5.73	5.67	5.67	5.67	5.67
30.0	5.89	5.89	5.84	5.84	5.89	5.84	5.84	5.78	5.78
60.0	5.89	5.89	5.89	5.89	5.89	5.84	5.78	5.78	5.78
90.0	6.11	6.11	6.11	6.11	6.11	6.11	6.06	6.00	5.95
120.0	6.11	6.11	6.06	6.06	6.06	6.00	6.06	6.00	5.95
150.0	5.89	5.84	5.89	5.89	5.89	5.95	5.89	5.84	5.84
180.0	5.78	5.78	5.78	5.73	5.78	5.78	5.78	5.78	5.78
210.0	6.00	6.00	6.00	6.00	6.00	5.95	5.95	5.89	5.89
240.0	6.11	6.11	6.11	6.11	6.11	6.11	6.06	6.00	6.00
270.0	6.28	6.28	6.22	6.22	6.22	6.17	6.22	6.17	6.11
300.0	6.22	6.22	6.22	6.22	6.17	6.17	6.17	6.11	6.11
330.0	5.84	5.84	5.89	5.84	5.89	5.89	5.84	5.84	5.84
360.0	5.73	5.73	5.73	5.73	5.73	5.67	5.67	5.67	5.67
C/ $\gamma$ (°)	90.0								
0.0	5.67								
30.0	5.78								
60.0	5.78								
90.0	5.89								
120.0	5.89								
150.0	5.84								
180.0	5.78								
210.0	5.95								
240.0	5.95								
270.0	6.00								
300.0	6.06								
330.0	5.89								
360.0	5.67								