
AFX

Client:

LumCAT: EMAF06LAJD1BK

Luminaire: LED lamp

Report No:

Ballast type:

Test No:

Voltage(V): 120.000

LampCAT:

Current(A): 0.135

Lamp flux(lm): 1093.3

Power (W): 15.360

Number of Lamps: 1

PF: 0.946

Length(mm): -140

Width(mm): -140

Phm Type: C

Height(mm): 20

Photometric Results

Lumens(lm): 1093.25, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 71.18

Central intensity(cd): 363.673, Maximum intensity(cd): 363.673

Angle of maximum intensity: C=60.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=106.2

[C90/270]Total=105.0

Field angle(10%Imax): [C0/180]Total=163.6

[C90/270]Total=162.8

Maximum s/h(1/2): C0_180=1.20 C90_270=1.19

Maximum s/h(1/4): C0_180=1.31 C90_270=1.30

Up flux rate of lamp(%): 10.06%

Down flux rate of lamp(%): 89.94%

Up flux rate of LUM(%): 10.06%

Down flux rate of LUM(%): 89.94%

CIE Type : Semidirect lighting

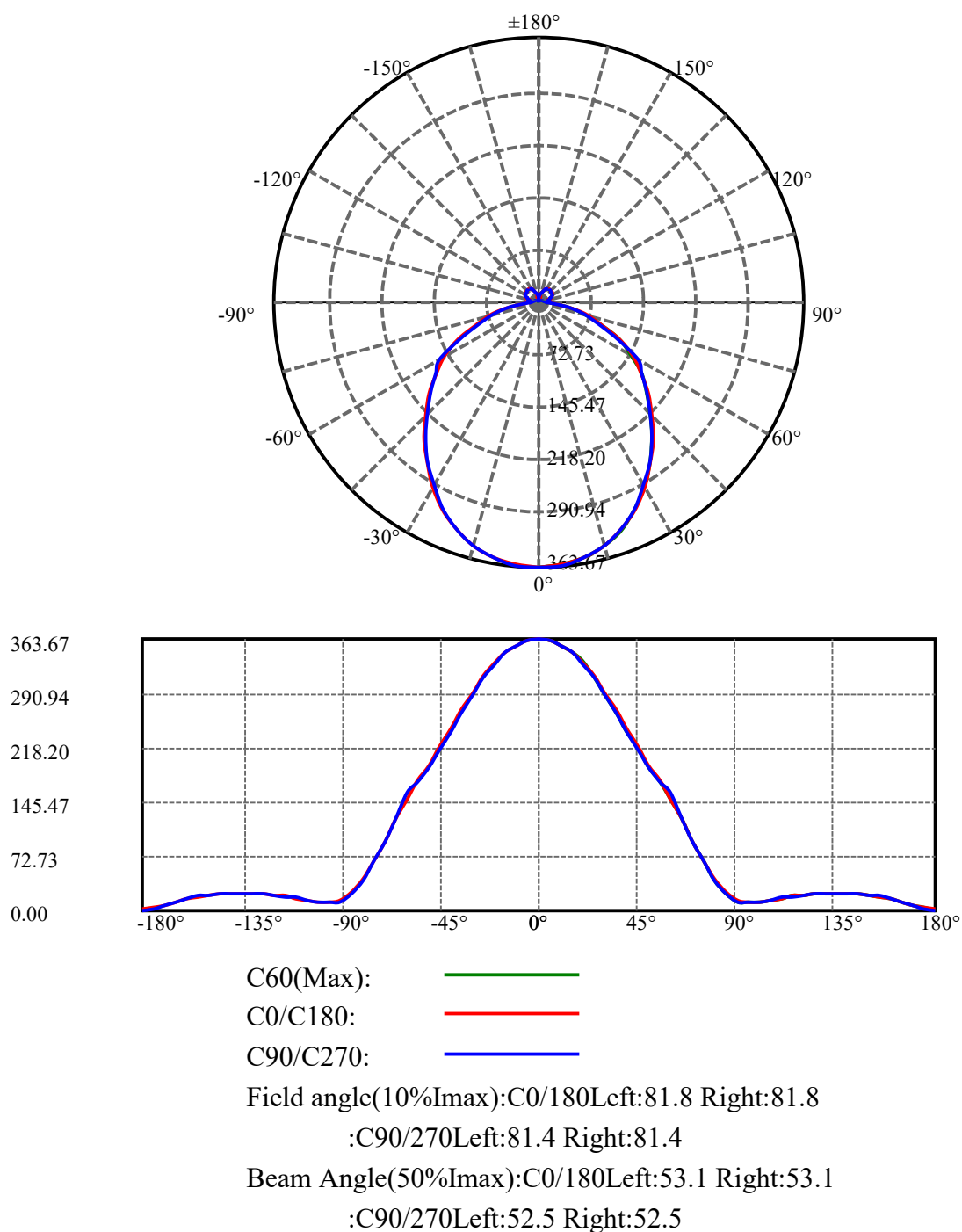
Output flux ratio in π solid angle : 69.960%

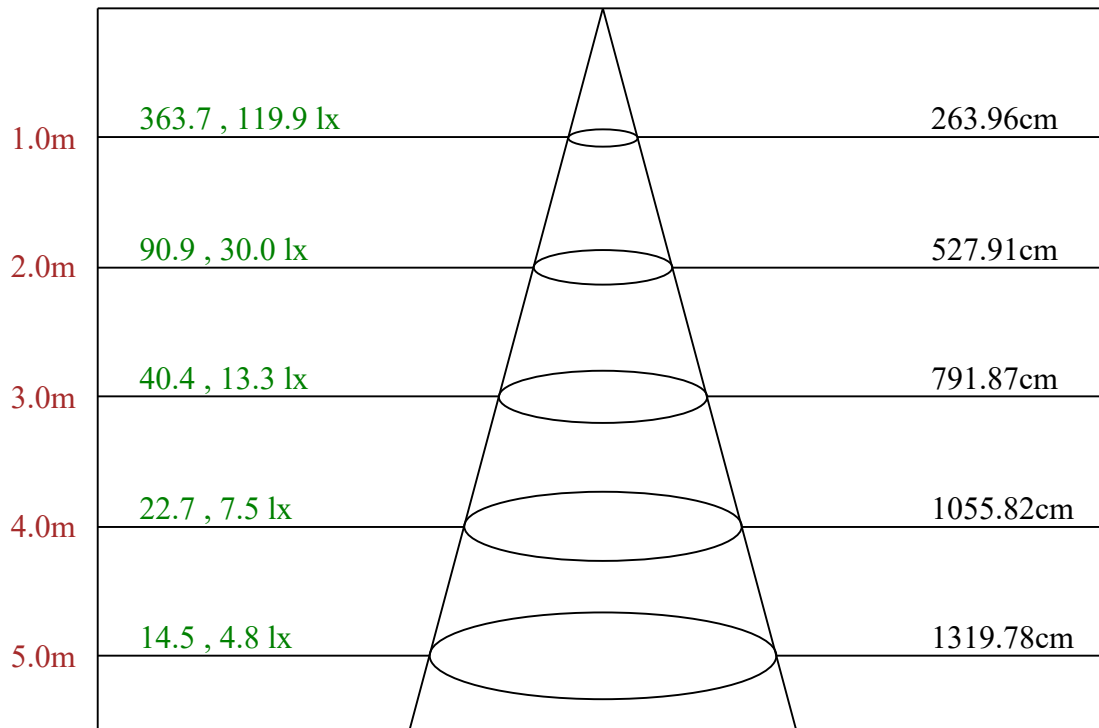
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	363.673	0.000	0	0.00%	0.00%
5.0	361.883	8.674	8.674	0.79%	0.79%
10.0	355.703	25.670	34.344	2.35%	3.14%
15.0	345.478	41.594	75.938	3.80%	6.95%
20.0	331.205	55.768	131.706	5.10%	12.05%
25.0	313.082	67.574	199.28	6.18%	18.23%
30.0	291.026	76.450	275.73	6.99%	25.22%
35.0	266.874	82.155	357.885	7.51%	32.74%
40.0	242.302	84.952	442.837	7.77%	40.51%
45.0	216.853	85.016	527.853	7.78%	48.28%
50.0	193.925	83.004	610.857	7.59%	55.88%
55.0	172.179	79.603	690.46	7.28%	63.16%
60.0	149.596	74.377	764.837	6.80%	69.96%
65.0	122.278	66.093	830.93	6.05%	76.01%
70.0	93.206	54.562	885.492	4.99%	81.00%
75.0	65.468	41.475	926.967	3.79%	84.79%
80.0	42.691	28.940	955.907	2.65%	87.44%
85.0	22.812	17.799	973.706	1.63%	89.07%
90.0	12.092	9.557	983.263	0.87%	89.94%
95.0	11.292	6.403	989.666	0.59%	90.52%
100.0	11.788	6.271	995.937	0.57%	91.10%
105.0	13.582	6.788	1002.726	0.62%	91.72%
110.0	16.635	7.898	1010.624	0.72%	92.44%
115.0	19.152	9.061	1019.685	0.83%	93.27%
120.0	20.869	9.729	1029.414	0.89%	94.16%
125.0	22.089	9.930	1039.344	0.91%	95.07%
130.0	22.739	9.747	1049.091	0.89%	95.96%
135.0	23.044	9.251	1058.342	0.85%	96.81%
140.0	23.082	8.541	1066.883	0.78%	97.59%
145.0	22.396	7.588	1074.47	0.69%	98.28%
150.0	21.099	6.405	1080.875	0.59%	98.87%
155.0	18.885	5.060	1085.935	0.46%	99.33%
160.0	15.563	3.613	1089.548	0.33%	99.66%
165.0	11.290	2.213	1091.761	0.20%	99.86%
170.0	6.789	1.072	1092.834	0.10%	99.96%
175.0	3.432	0.366	1093.199	0.03%	100.00%
180.0	1.067	0.054	1093.253	0.00%	100.00%

ZONAL LUMEN SUMMARY			
Zone	Lumens	%Lamp	%Fixt
0-30	275.73	25.22%	25.22%
0-40	442.84	40.51%	40.51%
0-60	764.84	69.96%	69.96%
0-90	983.26	89.94%	89.94%
0-120	1029.41	94.16%	94.16%
0-180	1093.25	100.00%	100.00%
60-90	218.43	19.98%	19.98%
90-120	46.15	4.22%	4.22%
90-130	65.83	6.02%	6.02%
90-150	97.61	8.93%	8.93%
90-180	109.94	10.06%	10.06%
0-69.00	874.60	80.00%	80.00%

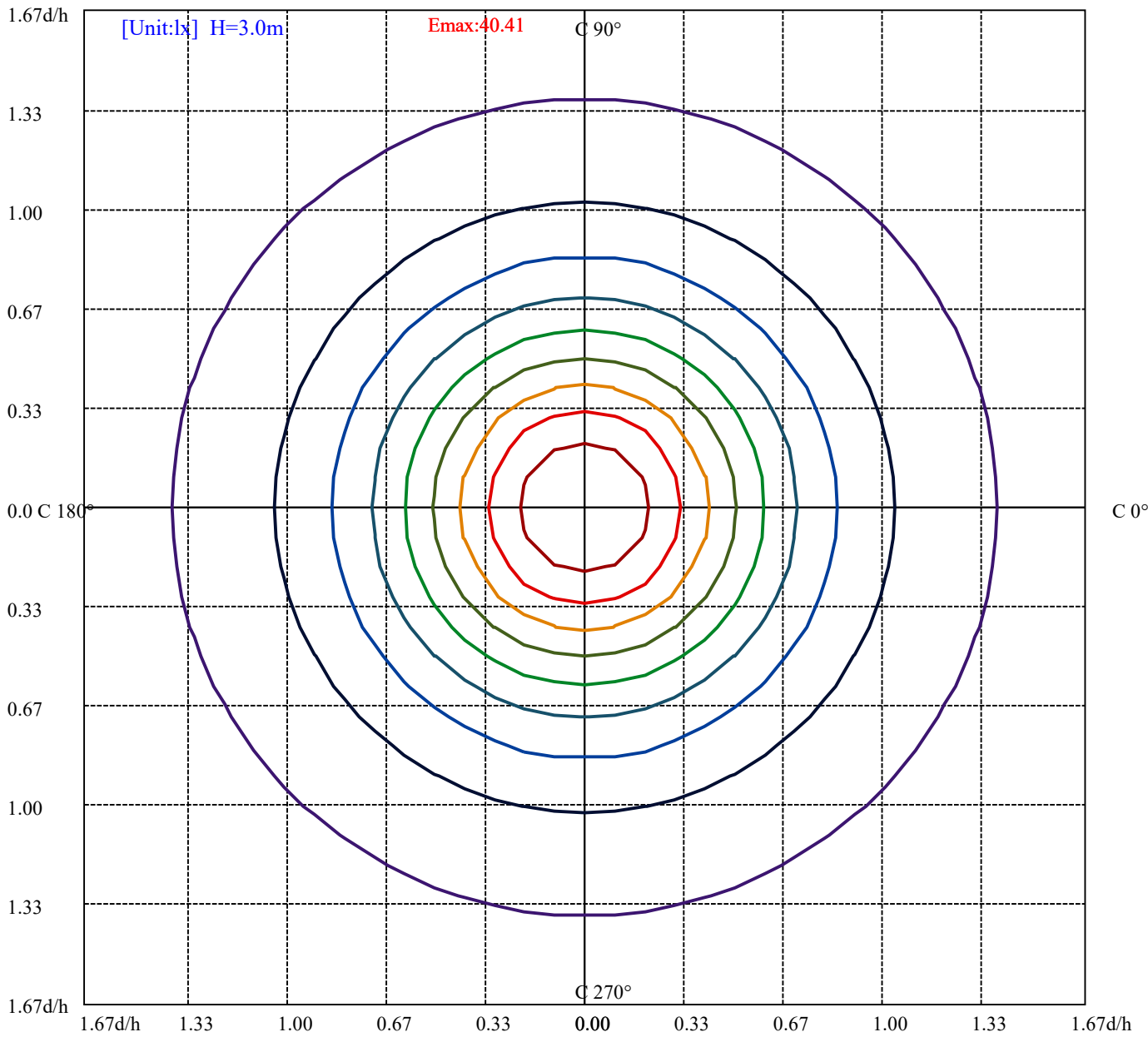
ZONAL LUMEN SUMMARY

0-10	34.34
10-20	97.36
20-30	144.02
30-40	167.11
40-50	168.02
50-60	153.98
60-70	120.65
70-80	70.42
80-90	27.36
90-100	12.67
100-110	14.69
110-120	18.79
120-130	19.68
130-140	17.79
140-150	13.99
150-160	8.67
160-170	3.29
170-180	0.37

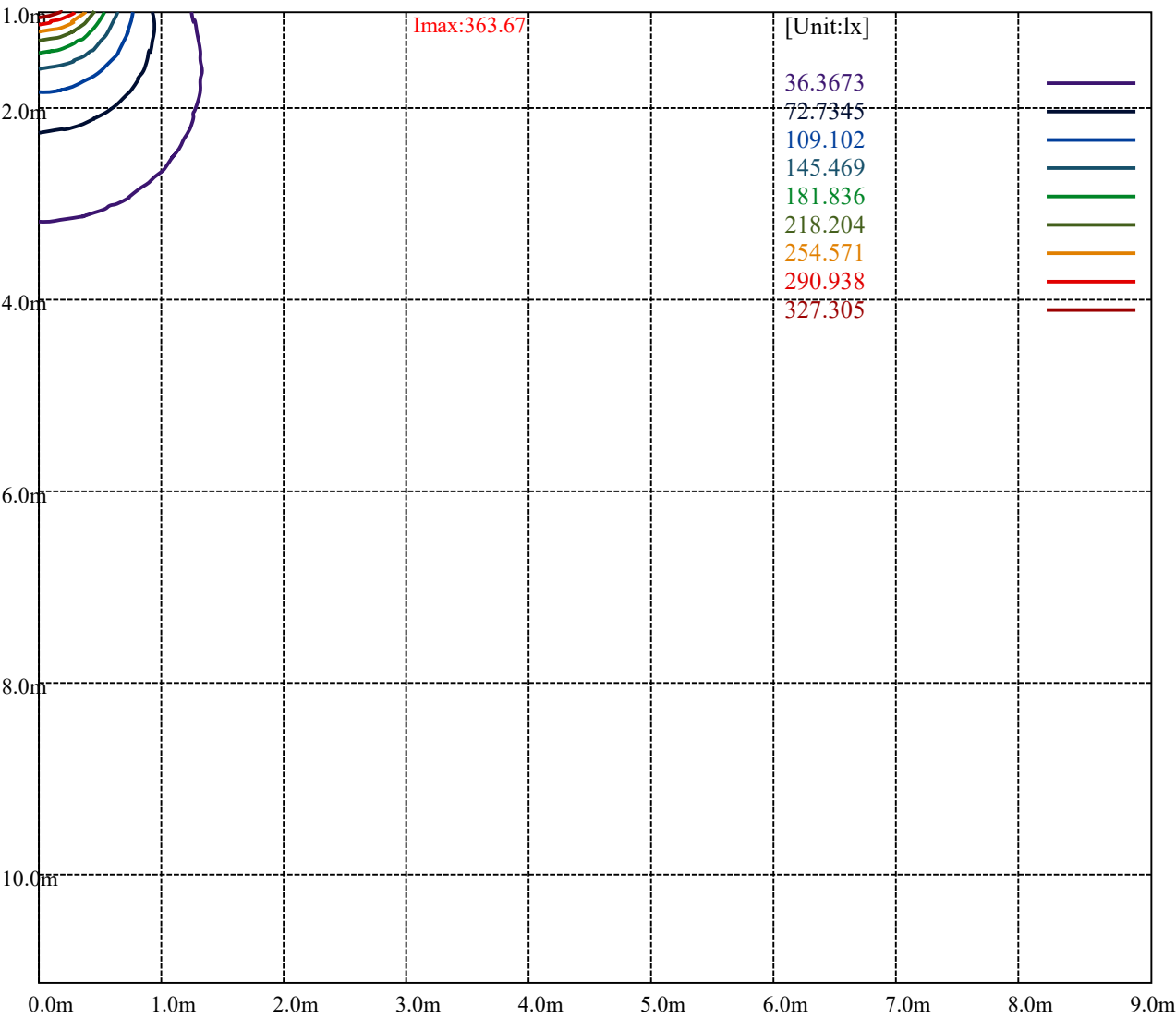




Max , Ave Beam angle of C60 plane 105.70



(10%Emax)	4.040811	
(20%Emax)	8.081611	
(30%Emax)	12.12244	
(40%Emax)	16.16322	
(50%Emax)	20.204	
(60%Emax)	24.24489	
(70%Emax)	28.28567	
(80%Emax)	32.32644	
(90%Emax)	36.36722	



Luminance Table

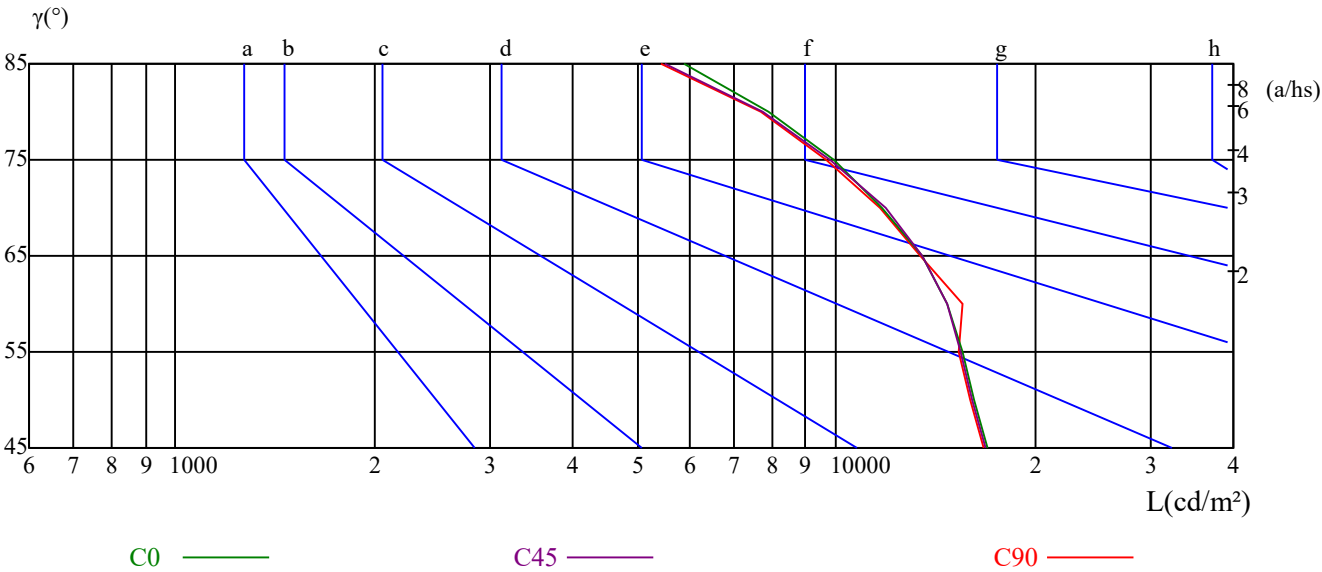
γ	45	50	55	60	65	70	75	80	85
C0	17010	16227	15577	14755	13521	11771	9916	7893	5898
C45	16885	16114	15459	14740	13523	11878	9795	7747	5508
C90	16733	15978	15400	15521	13422	11659	9655	7675	5433

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
18795	18657	18798	16648	16209	16444	18160	16728	16960

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



RHOC	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	1.17	1.17	1.17	1.13	1.13	1.13	1.06	1.06	1.06	0.99	0.99	0.99	0.93	0.93	0.93	0.90
1	1.01	0.97	0.93	0.98	0.94	0.91	0.92	0.89	0.86	0.86	0.84	0.82	0.81	0.79	0.77	0.75
2	0.88	0.81	0.76	0.85	0.79	0.74	0.80	0.75	0.71	0.76	0.71	0.68	0.71	0.68	0.65	0.62
3	0.77	0.69	0.63	0.75	0.68	0.62	0.71	0.64	0.59	0.67	0.61	0.57	0.63	0.59	0.55	0.52
4	0.69	0.60	0.53	0.67	0.59	0.52	0.63	0.56	0.51	0.59	0.54	0.49	0.56	0.51	0.47	0.45
5	0.61	0.52	0.46	0.60	0.51	0.45	0.56	0.49	0.44	0.53	0.47	0.42	0.51	0.45	0.41	0.39
6	0.55	0.46	0.40	0.54	0.45	0.39	0.51	0.44	0.38	0.48	0.42	0.37	0.46	0.40	0.36	0.34
7	0.50	0.41	0.35	0.49	0.41	0.35	0.46	0.39	0.34	0.44	0.38	0.33	0.42	0.36	0.32	0.30
8	0.46	0.37	0.32	0.45	0.37	0.31	0.42	0.35	0.30	0.40	0.34	0.30	0.39	0.33	0.29	0.27
9	0.42	0.34	0.28	0.41	0.33	0.28	0.39	0.32	0.27	0.37	0.31	0.27	0.36	0.30	0.26	0.24
10	0.39	0.31	0.26	0.38	0.30	0.25	0.36	0.29	0.25	0.35	0.29	0.24	0.33	0.28	0.24	0.22

Intensity data(cd)

C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	363.67	363.67	360.97	353.75	342.92	328.48	307.72	284.26	258.99
15.0	363.67	364.58	360.95	352.76	341.85	326.40	306.39	283.66	258.21
30.0	363.67	363.67	359.12	350.91	338.15	323.57	302.60	278.91	253.39
45.0	363.67	361.85	358.20	347.27	335.42	318.10	297.14	274.35	248.83
60.0	363.67	361.85	355.45	345.40	332.61	314.33	293.31	268.64	243.06
75.0	363.67	361.84	354.51	344.44	329.78	310.54	288.56	264.74	238.17
90.0	363.67	360.92	353.60	342.60	326.11	307.79	284.89	260.16	235.43
105.0	363.67	360.00	352.65	340.71	325.10	304.90	281.02	257.14	233.26
120.0	363.67	359.08	351.73	339.80	324.18	303.06	281.02	256.22	231.43
135.0	363.67	362.74	354.40	343.26	326.56	306.15	282.96	259.77	233.79
150.0	363.67	359.07	351.70	339.73	310.27	305.67	281.73	258.71	233.86
165.0	363.67	359.98	353.52	341.52	326.75	308.29	286.14	262.14	235.37
180.0	363.67	358.26	348.33	335.70	319.45	298.70	277.04	251.77	229.21
195.0	363.67	360.04	351.85	338.22	322.76	302.76	280.94	256.39	231.84
210.0	363.67	360.03	351.82	340.89	325.39	304.43	283.46	259.77	234.25
225.0	363.67	360.94	351.82	342.71	327.21	308.07	285.29	260.68	236.07
240.0	363.67	360.93	354.54	344.48	328.95	310.68	287.83	264.07	239.40
255.0	363.67	362.76	356.34	347.18	332.53	314.21	291.30	267.49	242.75
270.0	363.67	362.76	357.26	347.18	333.44	316.95	293.14	270.24	244.59
285.0	363.67	363.67	359.08	349.90	336.12	318.67	296.63	271.84	265.41
300.0	363.67	363.67	359.08	349.90	348.06	319.59	298.47	271.84	247.04
315.0	363.67	366.46	361.82	353.47	340.48	324.71	301.51	276.47	248.63
330.0	363.67	362.75	359.07	349.86	336.97	319.48	297.38	273.45	245.82
345.0	363.67	363.67	359.06	349.83	337.83	318.44	298.14	272.29	246.45
360.0	363.67	363.67	360.97	353.75	342.92	328.48	307.72	284.26	258.99
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	231.92	206.65	184.09	160.63	135.36	106.48	79.41	53.24	32.49
15.0	231.84	206.38	182.75	159.11	134.56	103.65	76.37	50.91	29.09
30.0	227.87	204.17	181.38	157.68	131.25	102.08	72.01	48.31	26.43
45.0	224.22	199.61	177.73	154.95	127.60	99.35	69.27	44.66	24.61
60.0	219.30	196.46	175.44	152.60	126.10	95.03	65.79	42.03	22.84
75.0	215.27	193.29	173.13	149.32	121.83	92.52	63.21	40.31	21.07
90.0	211.61	189.62	169.47	145.65	118.17	87.94	61.38	39.39	19.24
105.0	210.31	188.26	166.22	142.35	114.80	87.24	60.61	37.65	19.29
120.0	208.47	186.43	166.22	141.43	114.80	86.33	59.69	36.73	19.29
135.0	210.60	189.26	167.92	144.73	116.89	87.21	61.23	38.96	19.48
150.0	210.84	189.66	169.41	147.31	119.69	90.23	62.61	38.67	20.26
165.0	214.14	193.84	172.61	149.53	121.84	92.30	65.53	40.61	22.15
180.0	205.75	184.09	162.43	138.07	109.19	79.41	53.24	32.49	16.24
195.0	207.29	185.47	164.56	139.10	112.74	83.64	57.28	34.55	17.27
210.0	210.55	188.67	165.89	141.28	114.84	85.68	60.16	36.46	19.14
225.0	212.37	189.58	166.80	144.01	117.58	89.32	61.98	39.19	21.88
240.0	214.73	191.89	169.96	146.20	119.70	92.29	64.88	42.03	22.84
255.0	217.10	195.12	173.13	149.32	122.75	94.35	66.87	61.38	23.82
270.0	218.94	195.12	173.13	168.55	124.58	96.19	67.79	43.97	25.65
285.0	219.49	195.61	174.49	153.37	126.73	98.27	69.80	45.92	25.71
300.0	220.41	196.53	174.49	152.45	127.65	98.27	68.88	45.00	25.71
315.0	221.73	197.61	175.34	153.08	127.10	99.27	69.58	45.46	25.05
330.0	220.04	196.11	173.09	150.99	125.21	95.75	67.21	44.19	24.86
345.0	219.68	194.76	172.61	148.61	123.69	94.15	66.46	42.46	23.08
360.0	231.92	206.65	184.09	160.63	135.36	106.48	79.41	53.24	32.49

Intensity data(cd)

C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	15.34	10.83	11.73	12.63	15.34	18.95	20.76	22.56	22.56
15.0	13.64	11.82	11.82	12.73	16.37	19.09	21.82	22.73	23.64
30.0	12.76	11.85	11.85	13.67	16.41	19.14	21.88	22.79	23.70
45.0	11.85	11.85	11.85	13.67	17.32	20.05	21.88	22.79	23.70
60.0	11.88	10.97	11.88	13.71	17.36	20.10	21.93	22.84	23.76
75.0	10.99	10.99	11.91	13.74	17.40	19.24	21.07	22.90	23.82
90.0	10.99	10.99	11.91	13.74	17.40	19.24	21.07	22.90	22.90
105.0	11.02	11.02	11.94	13.78	16.53	19.29	21.12	22.04	22.96
120.0	11.02	11.02	11.02	13.78	16.53	19.29	21.12	22.04	22.96
135.0	11.13	11.13	11.13	13.92	16.70	18.55	20.41	22.27	23.19
150.0	11.05	11.05	11.05	12.89	15.65	18.41	20.26	22.10	23.02
165.0	12.00	11.08	11.08	12.92	15.69	18.46	20.31	21.23	22.15
180.0	11.73	11.73	12.63	14.44	17.15	19.85	21.66	22.56	22.56
195.0	11.82	11.82	11.82	14.55	17.27	19.09	20.91	21.82	22.73
210.0	11.85	11.85	11.85	13.67	16.41	19.14	20.96	21.88	22.79
225.0	11.85	11.85	11.85	13.67	16.41	19.14	19.14	21.88	21.88
240.0	11.88	11.88	11.88	13.71	16.45	19.19	20.10	21.93	21.93
255.0	11.91	10.99	11.91	13.74	16.49	18.32	20.15	21.07	21.99
270.0	12.82	10.99	11.91	12.82	16.49	18.32	20.15	21.07	21.99
285.0	12.86	11.02	11.94	12.86	16.53	18.37	20.20	21.12	22.04
300.0	12.86	11.02	11.94	13.78	16.53	19.29	20.20	21.12	22.04
315.0	12.99	11.13	12.06	13.92	16.70	19.48	21.34	22.27	22.27
330.0	11.97	11.05	11.97	13.81	16.57	19.33	21.18	22.10	22.10
345.0	12.00	11.08	12.00	13.85	17.54	20.31	21.23	22.15	23.08
360.0	15.34	10.83	11.73	12.63	15.34	18.95	20.76	22.56	22.56
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	23.46	23.46	22.56	21.66	20.76	18.05	14.44	9.93	5.41
15.0	23.64	23.64	23.64	21.82	20.00	17.27	13.64	9.09	4.55
30.0	23.70	23.70	23.70	21.88	20.05	17.32	12.76	8.20	4.56
45.0	23.70	23.70	22.79	21.88	20.05	16.41	12.76	8.20	4.56
60.0	23.76	23.76	22.84	21.93	19.19	16.45	11.88	7.31	3.66
75.0	23.82	23.82	22.90	21.99	19.24	15.57	10.99	6.41	2.75
90.0	23.82	22.90	22.90	21.07	19.24	15.57	10.99	5.50	2.75
105.0	22.96	22.96	22.04	20.20	18.37	14.69	10.10	5.51	2.76
120.0	22.96	22.96	22.04	20.20	17.45	13.78	9.18	5.51	2.76
135.0	23.19	23.19	23.19	21.34	17.63	13.92	9.28	4.64	2.78
150.0	23.02	23.02	23.02	21.18	18.41	13.81	10.13	5.52	2.76
165.0	23.08	23.08	22.15	21.23	17.54	14.77	10.15	6.46	2.77
180.0	22.56	22.56	21.66	18.95	16.24	12.63	9.02	4.51	2.71
195.0	22.73	22.73	21.82	20.00	18.18	17.27	10.00	5.46	2.73
210.0	22.79	22.79	21.88	20.96	18.23	15.49	10.94	6.38	2.73
225.0	22.79	22.79	21.88	20.96	19.14	15.49	10.94	6.38	2.73
240.0	22.84	22.84	21.93	21.02	19.19	15.53	11.88	7.31	3.66
255.0	22.90	22.90	21.99	21.07	19.24	15.57	11.91	7.33	3.66
270.0	21.99	22.90	21.99	21.07	19.24	15.57	11.91	7.33	3.66
285.0	22.04	22.96	22.04	21.12	19.29	15.61	11.94	7.35	3.67
300.0	22.04	22.96	22.04	21.12	19.29	15.61	11.94	7.35	3.67
315.0	23.19	23.19	22.27	21.34	19.48	15.77	12.06	7.42	3.71
330.0	23.02	22.10	22.10	21.18	19.33	15.65	11.05	7.37	3.68
345.0	23.08	23.08	22.15	21.23	18.46	15.69	11.08	6.46	3.69
360.0	23.46	23.46	22.56	21.66	20.76	18.05	14.44	9.93	5.41

Intensity data(cd)

C/ γ (°)	180.0
0.0	2.71
15.0	2.73
30.0	2.73
45.0	2.73
60.0	1.83
75.0	1.83
90.0	1.83
105.0	1.84
120.0	1.84
135.0	1.86
150.0	1.84
165.0	1.85
180.0	0.00
195.0	0.00
210.0	0.00
225.0	0.00
240.0	0.00
255.0	0.00
270.0	0.00
285.0	0.00
300.0	0.00
315.0	0.00
330.0	0.00
345.0	0.00
360.0	2.71