
AFX

Client:

LumCAT: ELZP42LAJD4SN

Luminaire: LED Lamp

Report No:

Ballast type:

Test No:

Voltage(V): 119.980

LampCAT:

Current(A): 0.204

Lamp flux(lm): 2445.5

Power (W): 24.160

Number of Lamps: 1

PF: 0.986

Length(mm): 1040

Width(mm): 15

Phm Type: C

Height(mm): 10

Photometric Results

Lumens(lm): 2445.54, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 101.22

Central intensity(cd): 665.410, Maximum intensity(cd): 668.102

Angle of maximum intensity: C=75.0 γ =5.0

Beam Angle(50%Imax): [C0/180]Total=108.8

[C90/270]Total=134.3

Field angle(10%Imax): [C0/180]Total=158.6

[C90/270]Total=237.8

Maximum s/h(1/2): C0_180=1.23 C90_270=1.34

Maximum s/h(1/4): C0_180=1.35 C90_270=1.49

Up flux rate of lamp(%): 10.47%

Down flux rate of lamp(%): 89.53%

Up flux rate of LUM(%): 10.47%

Down flux rate of LUM(%): 89.53%

CIE Type : Semidirect lighting

Output flux ratio in π solid angle : 62.720%

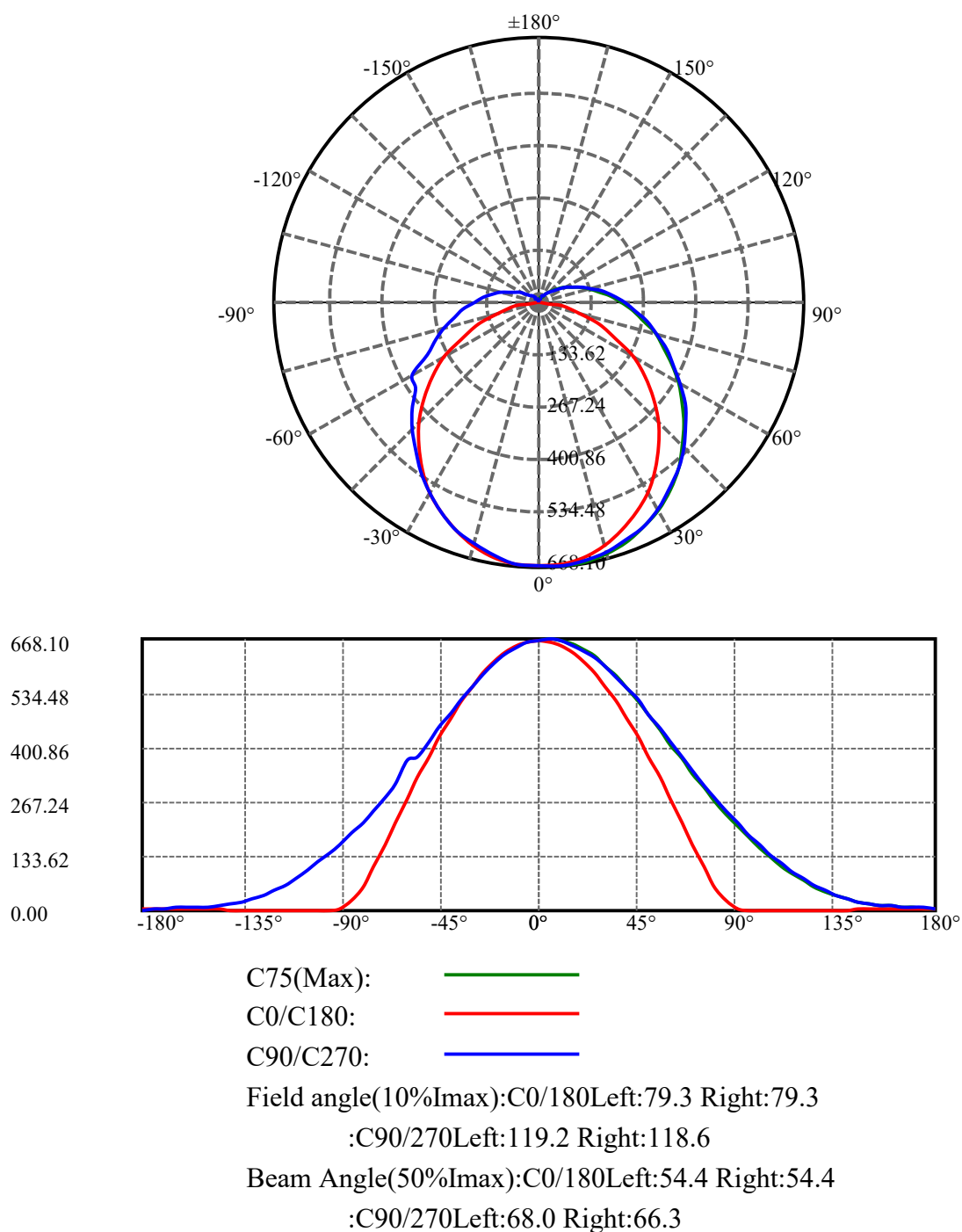
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	665.410	0.000	0	0.00%	0.00%
5.0	662.345	15.873	15.873	0.65%	0.65%
10.0	653.448	47.070	62.943	1.92%	2.57%
15.0	638.682	76.648	139.591	3.13%	5.71%
20.0	618.898	103.642	243.234	4.24%	9.95%
25.0	593.706	127.180	370.413	5.20%	15.15%
30.0	564.358	146.554	516.967	5.99%	21.14%
35.0	531.233	161.333	678.301	6.60%	27.74%
40.0	495.149	171.244	849.545	7.00%	34.74%
45.0	455.075	175.942	1025.486	7.19%	41.93%
50.0	413.651	175.539	1201.025	7.18%	49.11%
55.0	371.401	170.696	1371.721	6.98%	56.09%
60.0	329.973	162.121	1533.842	6.63%	62.72%
65.0	286.311	149.820	1683.662	6.13%	68.85%
70.0	244.661	134.445	1818.107	5.50%	74.34%
75.0	205.633	117.700	1935.807	4.81%	79.16%
80.0	170.569	100.661	2036.468	4.12%	83.27%
85.0	138.864	84.080	2120.548	3.44%	86.71%
90.0	113.370	69.064	2189.612	2.82%	89.53%
95.0	92.848	56.464	2246.076	2.31%	91.84%
100.0	76.139	45.918	2291.994	1.88%	93.72%
105.0	61.938	36.946	2328.939	1.51%	95.23%
110.0	50.019	29.264	2358.203	1.20%	96.43%
115.0	40.007	22.795	2380.998	0.93%	97.36%
120.0	32.162	17.544	2398.543	0.72%	98.08%
125.0	25.027	13.219	2411.762	0.54%	98.62%
130.0	19.387	9.657	2421.419	0.39%	99.01%
135.0	14.943	6.937	2428.356	0.28%	99.30%
140.0	11.992	4.987	2433.343	0.20%	99.50%
145.0	10.013	3.671	2437.015	0.15%	99.65%
150.0	8.707	2.757	2439.771	0.11%	99.76%
155.0	7.661	2.071	2441.843	0.08%	99.85%
160.0	6.727	1.509	2443.352	0.06%	99.91%
165.0	6.092	1.056	2444.408	0.04%	99.95%
170.0	5.233	0.672	2445.08	0.03%	99.98%
175.0	5.121	0.370	2445.45	0.02%	100.00%
180.0	2.692	0.093	2445.544	0.00%	100.00%

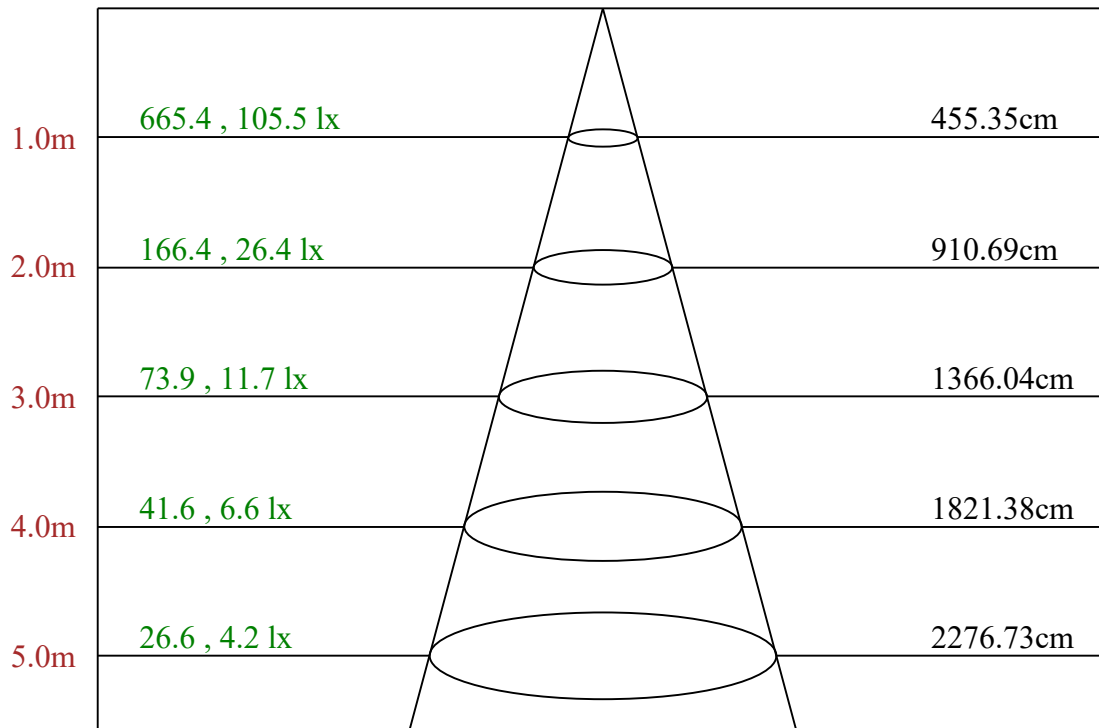
ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	516.97	21.14%	21.14%
0-40	849.54	34.74%	34.74%
0-60	1533.84	62.72%	62.72%
0-90	2189.61	89.53%	89.53%
0-120	2398.54	98.08%	98.08%
0-180	2445.54	100.00%	100.00%
60-90	655.77	26.81%	26.81%
90-120	208.93	8.54%	8.54%
90-130	231.81	9.48%	9.48%
90-150	250.16	10.23%	10.23%
90-180	255.84	10.46%	10.46%
0-76.02	1956.44	80.00%	80.00%

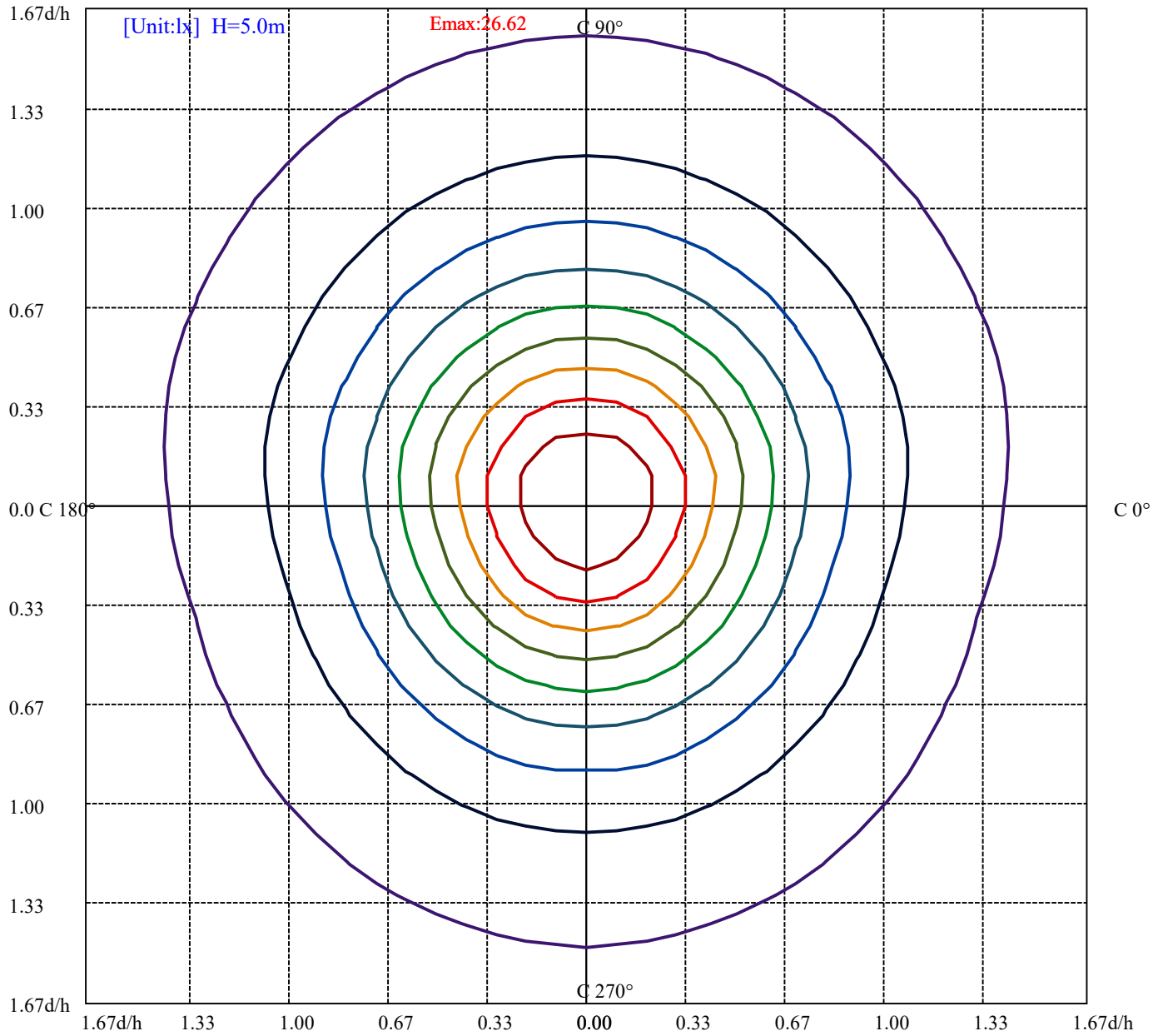
ZONAL LUMEN SUMMARY

0-10	62.94
10-20	180.29
20-30	273.73
30-40	332.58
40-50	351.48
50-60	332.82
60-70	284.27
70-80	218.36
80-90	153.14
90-100	102.38
100-110	66.21
110-120	40.34
120-130	22.88
130-140	11.92
140-150	6.43
150-160	3.58
160-170	1.73
170-180	0.37

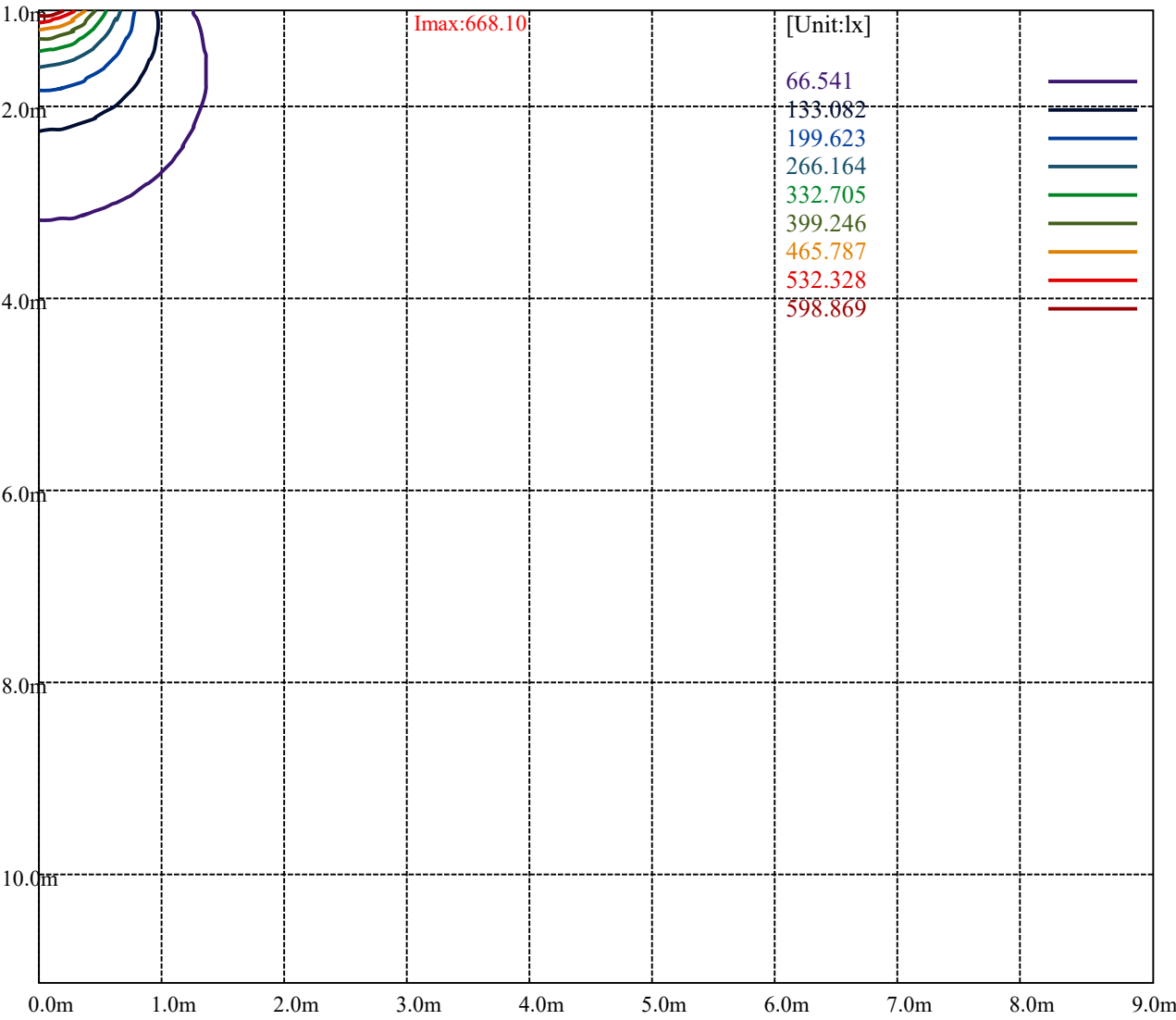




Max , Ave Beam angle of C75 plane 132.58



(10%Emax) 2.66164	—
(20%Emax) 5.32328	—
(30%Emax) 7.98492	—
(40%Emax) 10.64656	—
(50%Emax) 13.3082	—
(60%Emax) 15.96984	—
(70%Emax) 18.63148	—
(80%Emax) 21.29312	—
(90%Emax) 23.95476	—



Luminance Table

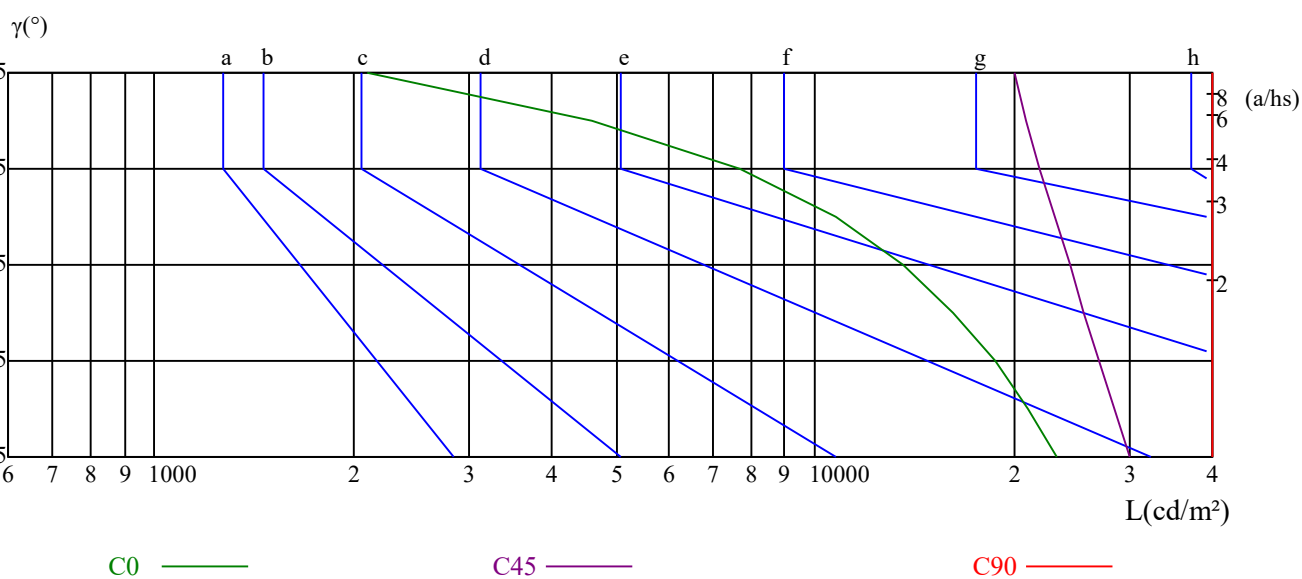
γ	45	50	55	60	65	70	75	80	85
C0	23198	20971	18715	16235	13577	10759	7674	4586	2096
C45	29952	28513	27032	25615	24427	23074	21859	20822	20086
C90	46515	47554	49628	52149	56148	62627	73888	96613	162765

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
32988	52158	44434	26767	68687	53581	18065	160617	112191

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	1.05	1.05	1.05	0.99	0.99	0.99	0.92	0.92	0.92	0.90
1	0.98	0.93	0.89	0.95	0.90	0.86	0.89	0.85	0.82	0.83	0.80	0.77	0.78	0.75	0.73	0.70
2	0.85	0.77	0.71	0.82	0.75	0.69	0.76	0.71	0.66	0.72	0.67	0.63	0.67	0.63	0.60	0.57
3	0.74	0.65	0.58	0.71	0.63	0.57	0.67	0.60	0.54	0.63	0.57	0.52	0.59	0.54	0.50	0.47
4	0.65	0.56	0.49	0.63	0.54	0.48	0.59	0.52	0.46	0.55	0.49	0.44	0.52	0.47	0.42	0.40
5	0.58	0.48	0.42	0.56	0.47	0.41	0.53	0.45	0.39	0.50	0.43	0.38	0.47	0.41	0.37	0.34
6	0.52	0.43	0.36	0.50	0.42	0.35	0.47	0.40	0.34	0.45	0.38	0.33	0.42	0.37	0.32	0.30
7	0.47	0.38	0.32	0.46	0.37	0.31	0.43	0.36	0.30	0.41	0.34	0.29	0.39	0.33	0.28	0.26
8	0.43	0.34	0.28	0.42	0.33	0.28	0.39	0.32	0.27	0.37	0.31	0.26	0.35	0.30	0.25	0.23
9	0.39	0.31	0.25	0.38	0.30	0.25	0.36	0.29	0.24	0.34	0.28	0.23	0.33	0.27	0.23	0.21
10	0.36	0.28	0.23	0.35	0.28	0.22	0.33	0.27	0.22	0.32	0.26	0.21	0.30	0.25	0.21	0.19

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	665.41	667.20	663.62	650.23	632.36	606.46	577.88	543.05	504.64
15.0	665.41	668.11	662.71	652.80	636.60	613.19	584.37	551.96	514.14
30.0	665.41	667.20	662.72	651.98	634.96	613.47	586.60	553.46	517.64
45.0	665.41	667.21	665.41	656.42	642.03	621.35	596.17	567.40	535.03
60.0	665.41	668.11	666.31	660.91	646.50	627.59	603.28	574.47	544.75
75.0	665.41	669.01	667.21	659.12	646.53	629.44	606.96	579.09	551.21
90.0	665.41	668.09	662.73	651.12	640.40	624.32	601.10	574.31	546.62
105.0	665.41	667.20	661.84	653.80	640.40	621.64	597.53	573.41	543.05
120.0	665.41	665.41	661.84	652.01	636.83	616.29	592.17	563.59	531.43
135.0	665.41	664.51	659.12	648.35	632.18	609.73	582.80	552.26	516.34
150.0	665.41	666.31	660.00	647.38	610.41	605.00	575.25	540.08	502.21
165.0	665.41	664.51	655.52	642.03	621.35	596.17	565.60	528.73	483.77
180.0	665.41	656.48	641.29	619.86	593.96	561.80	524.29	484.99	440.33
195.0	665.41	658.21	643.80	622.19	596.08	560.96	525.85	485.33	439.40
210.0	665.41	654.66	638.54	617.94	589.29	559.73	523.01	486.30	441.52
225.0	665.41	654.62	641.13	620.45	596.17	566.50	532.33	495.46	456.80
240.0	665.41	657.31	643.80	624.89	600.58	572.67	542.95	507.84	471.82
255.0	665.41	656.42	644.73	626.74	604.26	578.19	547.61	517.04	480.17
270.0	665.41	660.05	648.44	628.79	610.03	582.35	551.98	519.82	484.99
285.0	665.41	660.05	644.87	627.90	606.46	579.67	551.98	519.82	511.79
300.0	665.41	658.26	645.76	627.90	621.64	577.88	548.41	516.25	477.84
315.0	665.41	658.23	646.55	628.59	604.35	575.61	545.98	510.06	471.44
330.0	665.41	660.00	647.38	629.34	606.80	576.15	541.89	504.02	460.74
345.0	665.41	659.12	647.43	627.64	603.37	572.79	538.62	500.86	455.90
360.0	665.41	667.20	663.62	650.23	632.36	606.46	577.88	543.05	504.64
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	460.87	414.43	366.20	313.50	259.02	202.75	149.16	92.00	45.55
15.0	471.82	425.00	376.38	327.75	272.83	221.50	171.98	123.36	81.94
30.0	478.24	435.25	394.05	348.38	301.81	254.34	213.15	170.16	136.13
45.0	496.36	457.69	416.33	374.97	335.40	294.94	254.47	217.61	184.34
60.0	509.64	475.42	436.70	400.69	361.97	323.25	287.23	253.02	218.80
75.0	517.94	483.77	448.70	411.83	377.67	339.90	306.63	272.46	240.99
90.0	518.04	482.31	450.16	413.54	377.81	342.98	309.04	275.99	245.62
105.0	510.00	475.17	439.44	402.82	366.20	333.15	298.32	266.16	235.80
120.0	495.71	459.98	422.47	386.74	346.55	309.04	273.31	238.48	209.00
135.0	480.42	440.01	397.81	355.60	316.99	274.78	237.07	201.15	168.82
150.0	460.74	414.75	371.48	326.39	280.41	233.52	191.15	154.18	117.21
165.0	443.31	399.25	348.89	298.54	247.28	195.13	147.47	101.61	62.94
180.0	392.10	340.30	287.60	232.22	175.95	122.36	66.99	26.80	3.57
195.0	393.48	343.96	290.84	240.41	189.09	138.66	95.44	60.33	35.12
210.0	399.43	352.86	307.18	262.40	217.62	179.11	137.92	108.36	82.39
225.0	418.13	373.17	333.60	290.44	254.47	217.61	183.44	153.76	126.79
240.0	434.00	395.28	357.47	319.65	282.73	247.62	218.80	186.39	162.08
255.0	445.11	410.94	373.17	339.00	303.93	271.56	239.19	231.99	183.44
270.0	451.05	415.32	377.81	369.77	309.93	275.99	245.62	217.04	191.14
285.0	450.16	412.64	376.92	340.30	304.57	272.42	241.16	210.79	183.10
300.0	441.22	401.93	365.31	326.90	290.28	254.55	221.51	192.03	162.56
315.0	430.14	387.93	345.73	303.52	264.91	224.50	190.37	158.94	130.21
330.0	415.66	371.48	320.98	277.71	230.82	187.54	148.77	113.61	86.56
345.0	408.24	358.78	308.43	256.27	203.22	154.66	107.01	67.44	38.67
360.0	460.87	414.43	366.20	313.50	259.02	202.75	149.16	92.00	45.55

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	9.82	0.89	0.89	0.89	0.00	0.00	0.89	0.89	0.89
15.0	50.42	30.61	18.01	10.81	8.10	5.40	5.40	4.50	4.50
30.0	104.78	79.71	60.00	43.88	33.14	24.18	18.81	14.33	11.64
45.0	152.86	126.79	104.31	81.83	65.64	51.25	40.46	30.57	24.28
60.0	190.89	162.98	137.76	114.35	93.64	76.54	61.23	48.62	36.92
75.0	211.31	184.34	156.46	133.98	111.50	91.72	74.63	60.25	46.76
90.0	216.15	187.57	161.66	137.55	116.11	94.68	77.71	62.52	49.12
105.0	205.43	176.85	152.73	129.51	108.07	88.42	71.45	58.06	45.55
120.0	180.42	152.73	128.62	107.18	87.53	71.45	57.16	44.66	34.83
135.0	140.98	114.94	94.29	75.43	59.27	46.70	36.82	27.84	21.55
150.0	91.07	67.62	50.49	36.97	27.95	20.74	16.23	12.62	9.92
165.0	36.87	20.68	11.69	8.09	5.40	4.50	4.50	4.50	4.50
180.0	1.79	1.79	1.79	1.79	1.79	1.79	1.79	1.79	0.89
195.0	20.71	12.61	9.00	7.20	5.40	5.40	4.50	4.50	3.60
210.0	61.79	45.67	34.03	25.08	18.81	14.33	11.64	8.96	8.06
225.0	103.41	82.73	66.54	52.15	40.46	31.47	29.67	17.98	13.49
240.0	135.96	114.35	93.64	77.44	61.23	48.62	37.82	28.81	21.61
255.0	157.36	133.98	112.40	92.62	76.43	61.15	47.66	36.87	26.98
270.0	163.45	141.12	118.79	99.14	80.39	64.31	51.80	39.30	29.47
285.0	158.09	133.98	112.54	92.89	75.03	60.74	47.34	35.73	26.80
300.0	137.55	113.43	94.68	76.81	60.74	48.23	36.62	27.69	20.54
315.0	105.96	84.41	66.45	51.19	40.41	30.53	23.35	17.06	13.47
330.0	63.11	46.89	33.36	24.34	18.03	13.52	10.82	9.02	7.21
345.0	20.68	11.69	7.19	5.40	5.40	4.50	3.60	3.60	2.70
360.0	9.82	0.89	0.89	0.89	0.00	0.00	0.89	0.89	0.89
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	0.89	1.79	2.68	3.57	3.57	4.47	4.47	4.47	4.47
15.0	4.50	4.50	4.50	4.50	5.40	5.40	5.40	4.50	4.50
30.0	8.96	8.96	8.06	8.06	8.06	6.27	6.27	5.37	5.37
45.0	17.98	14.39	12.59	10.79	9.89	8.99	7.19	6.29	5.40
60.0	28.81	21.61	17.11	14.41	11.71	9.90	9.00	6.30	5.40
75.0	35.97	27.88	21.58	17.08	13.49	10.79	9.89	7.19	5.40
90.0	37.51	29.47	22.33	17.86	14.29	11.61	9.82	7.15	6.25
105.0	34.83	26.80	21.44	16.08	13.40	10.72	9.82	7.15	6.25
120.0	26.80	21.44	16.97	13.40	11.61	9.82	8.93	7.15	6.25
135.0	17.06	13.47	11.67	10.78	9.88	8.98	7.18	6.29	5.39
150.0	9.02	8.11	8.11	8.11	7.21	6.31	6.31	5.41	5.41
165.0	3.60	3.60	4.50	4.50	5.40	5.40	5.40	4.50	5.40
180.0	0.89	0.89	1.79	2.68	2.68	3.57	3.57	4.47	5.36
195.0	3.60	2.70	2.70	2.70	2.70	2.70	3.60	4.50	4.50
210.0	6.27	6.27	5.37	5.37	5.37	4.48	3.58	4.48	5.37
225.0	10.79	8.99	8.09	7.19	6.29	5.40	4.50	4.50	5.40
240.0	16.21	12.61	9.90	9.00	7.20	6.30	5.40	4.50	4.50
255.0	19.78	15.29	11.69	9.89	8.09	7.19	6.29	4.50	4.50
270.0	21.44	16.08	12.50	9.82	8.93	7.15	6.25	4.47	4.47
285.0	19.65	15.18	11.61	9.82	8.04	7.15	6.25	4.47	4.47
300.0	15.18	11.61	9.82	8.04	7.15	6.25	5.36	4.47	4.47
315.0	9.88	8.08	7.18	7.18	6.29	5.39	4.49	4.49	4.49
330.0	6.31	5.41	5.41	5.41	4.51	3.61	3.61	4.51	5.41
345.0	2.70	2.70	2.70	2.70	2.70	3.60	3.60	4.50	4.50
360.0	0.89	1.79	2.68	3.57	3.57	4.47	4.47	4.47	4.47

Intensity data(cd)

Appendix Page: 12 Total:12

C/ γ (°)	180.0
0.0	5.36
15.0	5.40
30.0	5.37
45.0	5.40
60.0	5.40
75.0	5.40
90.0	5.36
105.0	5.36
120.0	5.36
135.0	5.39
150.0	5.41
165.0	5.40
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	5.36