
AFX

Client:

LumCAT: ELZP42LAJD4LB

Luminaire: LED Lamp

Report No:

Ballast type:

Test No:

Voltage(V): 119.990

LampCAT:

Current(A): 0.202

Lamp flux(lm): 2281.2

Power (W): 23.880

Number of Lamps: 1

PF: 0.986

Length(mm): 1040

Width(mm): 15

Phm Type: C

Height(mm): 10

Photometric Results

Lumens(lm): 2281.19, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 95.53

Central intensity(cd): 620.102, Maximum intensity(cd): 621.443

Angle of maximum intensity: C=90.0 γ =5.0

Beam Angle(50%Imax): [C0/180]Total=109.2

[C90/270]Total=133.4

Field angle(10%Imax): [C0/180]Total=159.0

[C90/270]Total=238.0

Maximum s/h(1/2): C0_180=1.24 C90_270=1.30

Maximum s/h(1/4): C0_180=1.36 C90_270=1.44

Up flux rate of lamp(%): 10.27%

Down flux rate of lamp(%): 89.73%

Up flux rate of LUM(%): 10.27%

Down flux rate of LUM(%): 89.73%

CIE Type : Semidirect lighting

Output flux ratio in π solid angle : 62.737%

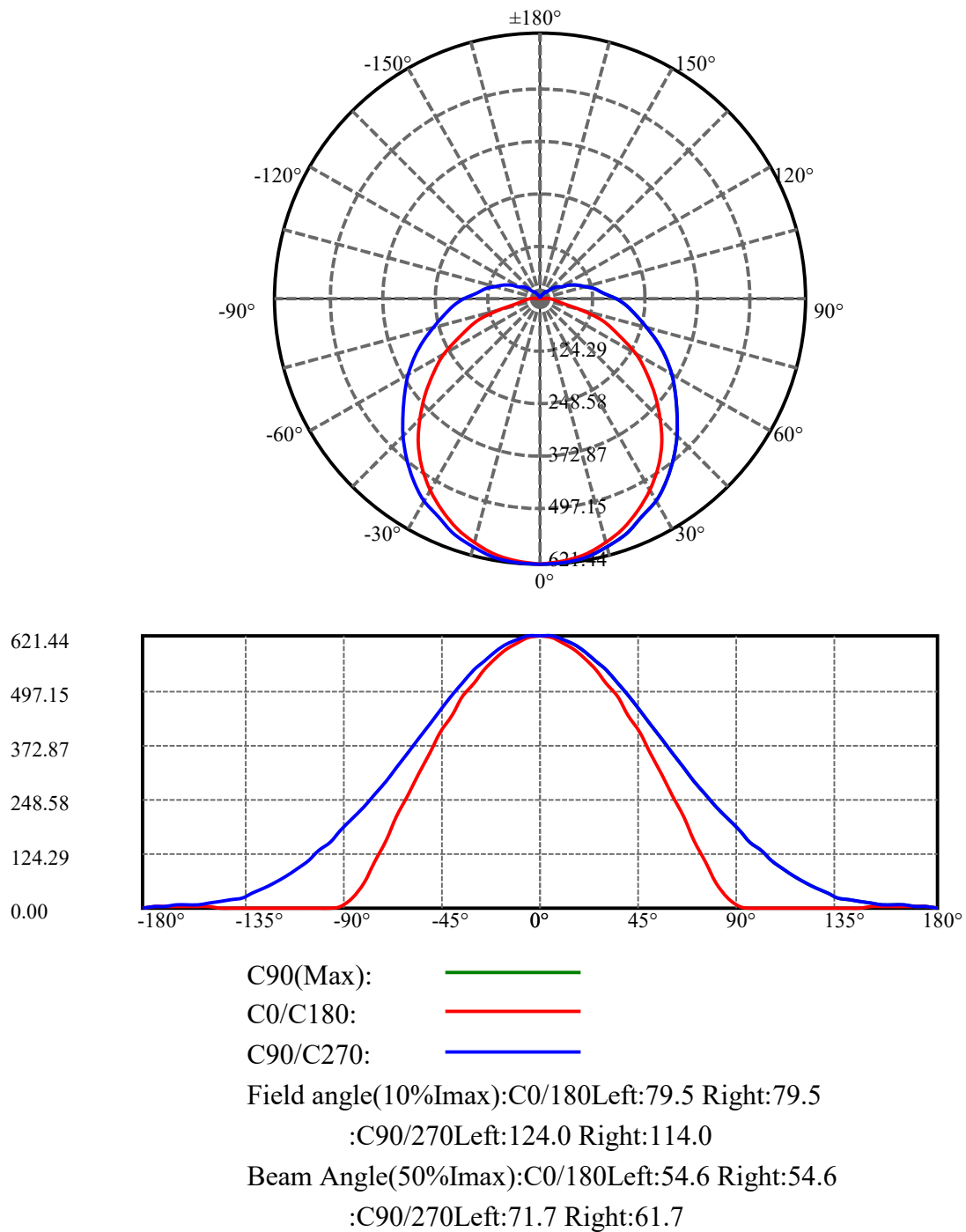
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	620.102	0.000	0	0.00%	0.00%
5.0	617.632	14.797	14.797	0.65%	0.65%
10.0	609.444	43.896	58.693	1.92%	2.57%
15.0	595.684	71.487	130.181	3.13%	5.71%
20.0	576.992	96.645	226.826	4.24%	9.94%
25.0	553.695	118.588	345.414	5.20%	15.14%
30.0	526.549	136.706	482.119	5.99%	21.13%
35.0	495.589	150.517	632.636	6.60%	27.73%
40.0	460.861	159.576	792.213	7.00%	34.73%
45.0	425.294	164.079	956.291	7.19%	41.92%
50.0	386.591	164.053	1120.344	7.19%	49.11%
55.0	347.513	159.619	1279.963	7.00%	56.11%
60.0	306.602	151.197	1431.16	6.63%	62.74%
65.0	268.271	139.753	1570.913	6.13%	68.86%
70.0	231.062	126.434	1697.347	5.54%	74.41%
75.0	193.704	111.027	1808.374	4.87%	79.27%
80.0	159.190	94.425	1902.799	4.14%	83.41%
85.0	130.814	78.801	1981.6	3.45%	86.87%
90.0	107.417	65.229	2046.829	2.86%	89.73%
95.0	87.276	53.308	2100.138	2.34%	92.06%
100.0	71.364	43.106	2143.244	1.89%	93.95%
105.0	57.735	34.543	2177.787	1.51%	95.47%
110.0	46.610	27.274	2205.061	1.20%	96.66%
115.0	36.682	21.090	2226.151	0.92%	97.59%
120.0	28.621	15.875	2242.026	0.70%	98.28%
125.0	22.054	11.714	2253.74	0.51%	98.80%
130.0	16.533	8.390	2262.13	0.37%	99.16%
135.0	12.466	5.860	2267.99	0.26%	99.42%
140.0	9.407	4.050	2272.04	0.18%	99.60%
145.0	7.616	2.840	2274.88	0.12%	99.72%
150.0	6.385	2.062	2276.942	0.09%	99.81%
155.0	5.715	1.531	2278.473	0.07%	99.88%
160.0	5.043	1.128	2279.601	0.05%	99.93%
165.0	4.372	0.776	2280.377	0.03%	99.96%
170.0	3.812	0.485	2280.863	0.02%	99.99%
175.0	3.514	0.262	2281.125	0.01%	100.00%
180.0	1.794	0.063	2281.188	0.00%	100.00%

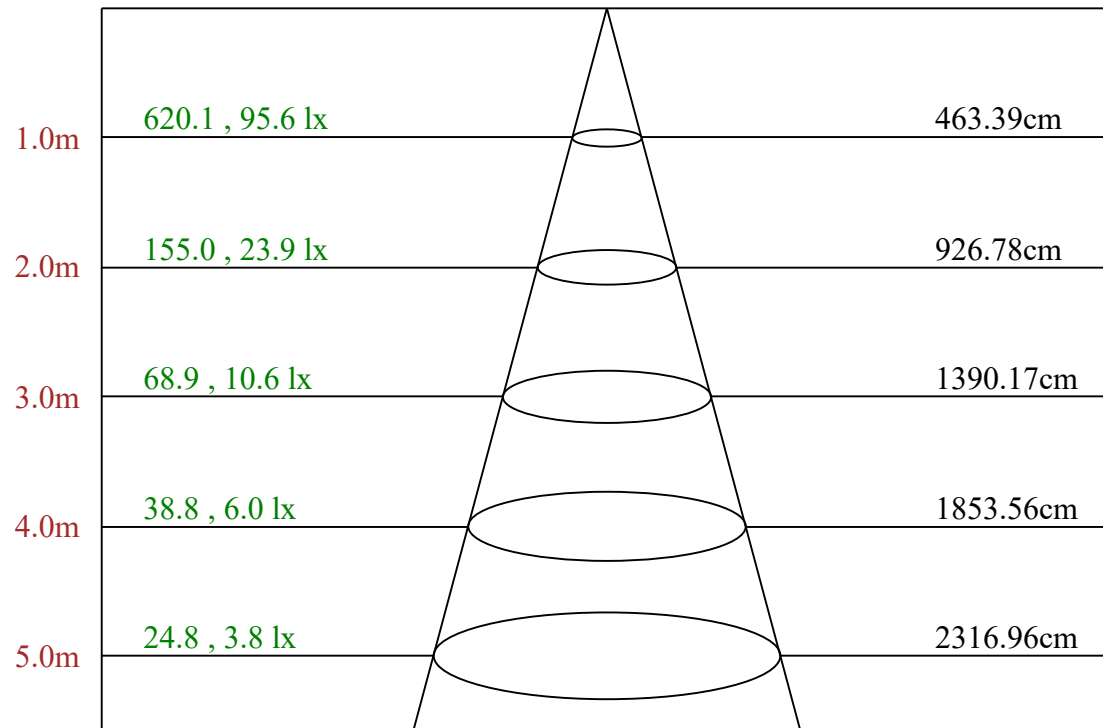
ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	482.12	21.13%	21.13%
0-40	792.21	34.73%	34.73%
0-60	1431.16	62.74%	62.74%
0-90	2046.83	89.73%	89.73%
0-120	2242.03	98.28%	98.28%
0-180	2281.19	100.00%	100.00%
60-90	615.67	26.99%	26.99%
90-120	195.20	8.56%	8.56%
90-130	215.30	9.44%	9.44%
90-150	230.11	10.09%	10.09%
90-180	234.30	10.27%	10.27%
0-75.88	1824.95	80.00%	80.00%

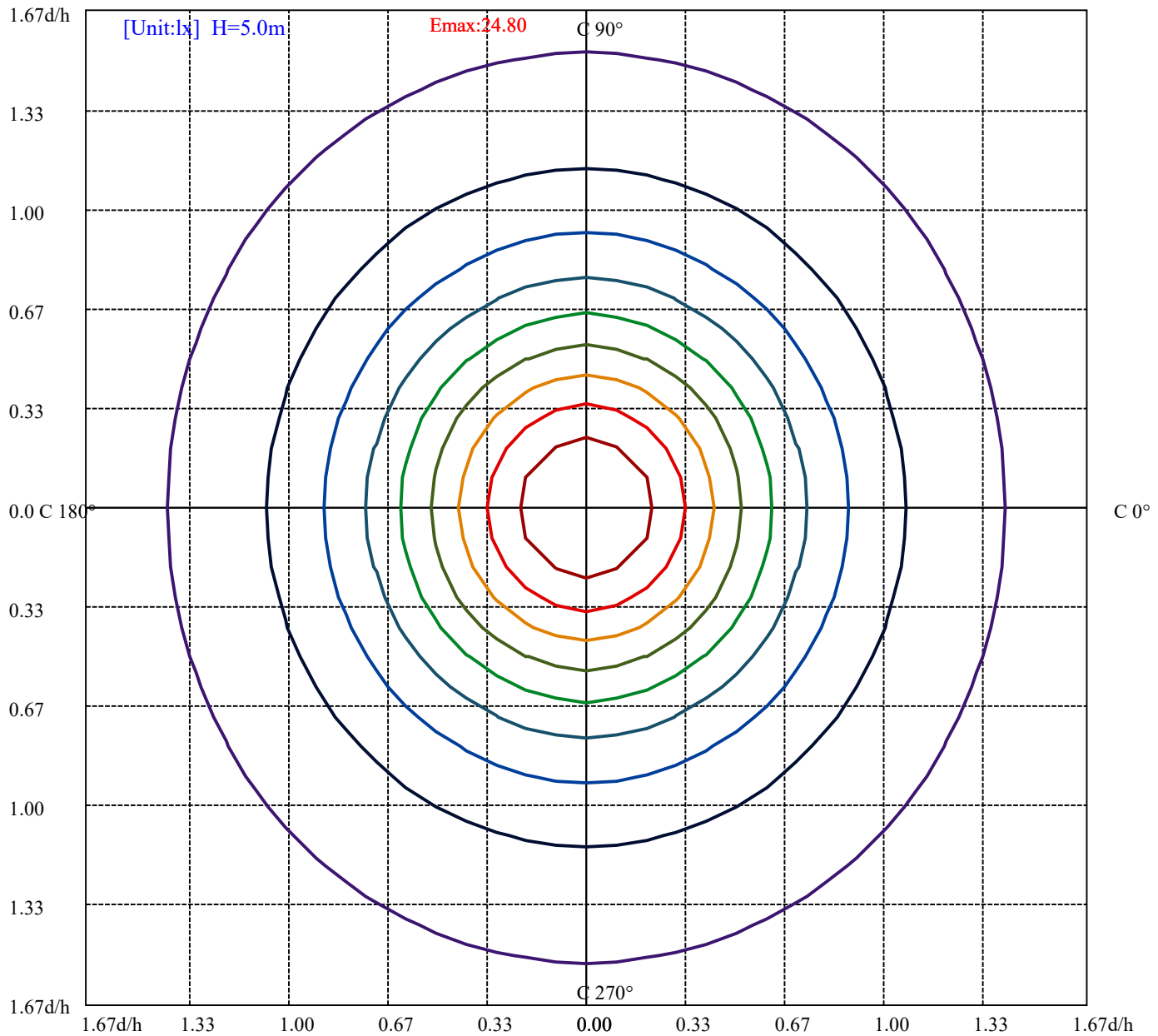
ZONAL LUMEN SUMMARY

0-10	58.69
10-20	168.13
20-30	255.29
30-40	310.09
40-50	328.13
50-60	310.82
60-70	266.19
70-80	205.45
80-90	144.03
90-100	96.41
100-110	61.82
110-120	36.97
120-130	20.10
130-140	9.91
140-150	4.90
150-160	2.66
160-170	1.26
170-180	0.26

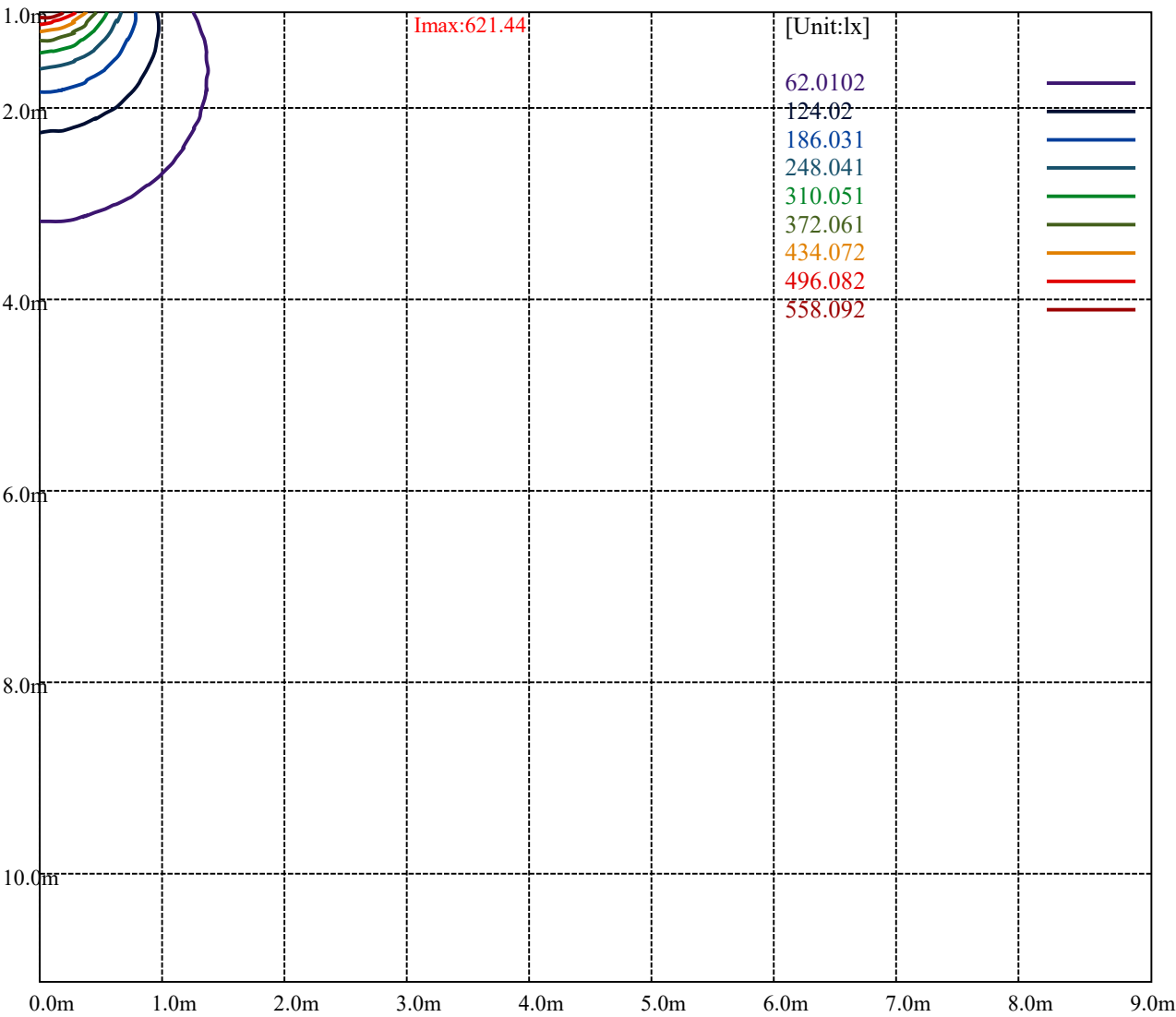




Max , Ave Beam angle of C90 plane 133.31



(10%Emax) 2.480408	—
(20%Emax) 4.9608	—
(30%Emax) 7.44124	—
(40%Emax) 9.92164	—
(50%Emax) 12.40204	—
(60%Emax) 14.88244	—
(70%Emax) 17.36288	—
(80%Emax) 19.84328	—
(90%Emax) 22.32368	—



Luminance Table

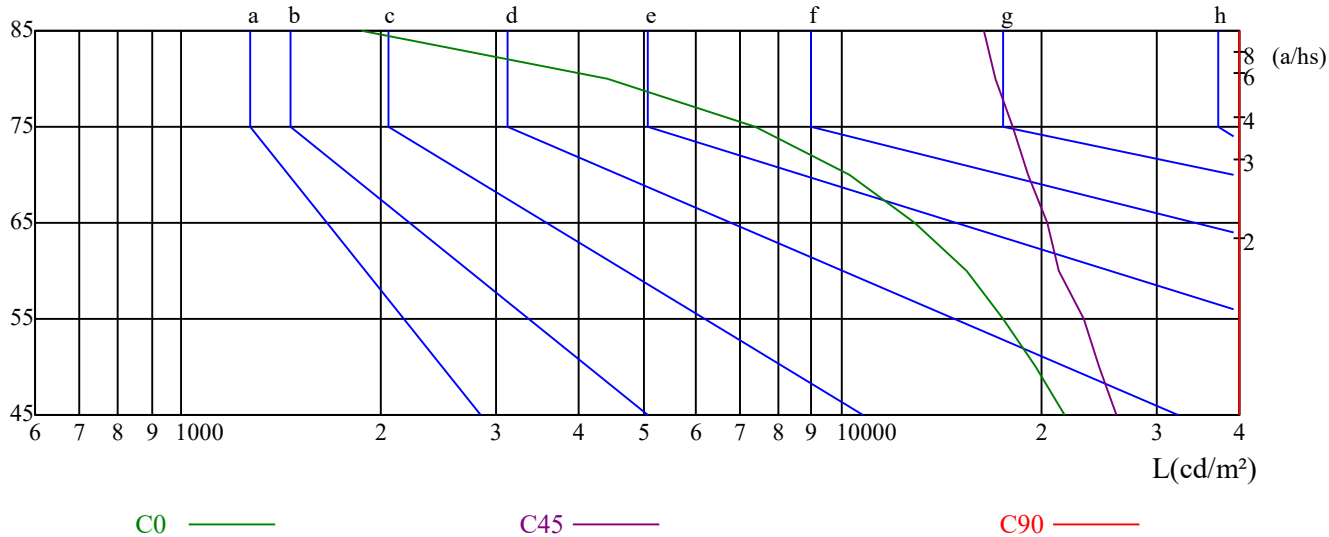
γ	45	50	55	60	65	70	75	80	85
C0	21763	19646	17520	15409	12895	10261	7413	4428	1873
C45	26087	24584	23212	21255	20429	19172	18118	17134	16409
C90	40637	41318	42752	44846	47738	52863	61847	80699	135000

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
31330	48723	41379	25856	64067	50452	16147	149837	106097

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

 $\gamma(^{\circ})$ 

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	0.93	0.93	0.93	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	0.77	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	0.41	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	620.10	619.21	612.04	599.49	581.57	555.58	528.70	494.65	457.91
15.0	620.10	619.20	612.00	598.50	580.50	554.40	525.60	492.30	457.20
30.0	620.10	617.41	609.32	596.74	579.66	552.70	523.04	493.39	457.44
45.0	620.10	618.31	611.12	596.74	578.76	555.40	527.54	495.18	460.13
60.0	620.10	616.51	606.64	595.87	576.13	556.39	529.47	498.95	467.54
75.0	620.10	617.41	609.33	596.77	579.72	558.18	533.05	504.34	473.83
90.0	620.10	619.21	610.27	598.66	582.57	562.02	538.79	510.20	478.93
105.0	620.10	616.53	608.49	595.08	562.92	556.66	531.64	504.84	472.67
120.0	620.10	616.53	607.61	593.34	576.38	552.29	528.20	496.97	438.98
135.0	620.10	616.52	608.45	593.22	573.51	552.00	524.22	491.96	456.12
150.0	620.10	618.31	608.44	594.98	574.34	548.31	518.70	483.70	448.70
165.0	620.10	615.58	608.33	592.04	573.03	546.78	518.71	483.41	446.29
180.0	620.10	614.73	603.08	584.26	561.86	533.18	500.02	466.87	425.65
195.0	620.10	615.60	605.70	588.60	567.00	539.10	507.60	473.40	434.70
210.0	620.10	615.61	605.72	591.34	569.78	545.51	516.75	482.60	447.55
225.0	620.10	619.20	610.22	595.84	578.76	554.50	524.84	493.39	459.24
240.0	620.10	617.41	610.23	596.77	578.82	559.98	533.05	505.24	474.72
255.0	620.10	619.21	612.03	600.36	596.77	561.77	541.13	513.31	485.49
270.0	620.10	623.68	618.32	605.81	588.83	568.28	545.94	519.13	491.44
285.0	620.10	618.32	612.95	602.23	585.26	567.38	543.26	516.45	488.76
300.0	620.10	618.32	612.07	599.58	582.63	562.11	537.12	510.36	477.35
315.0	620.10	617.41	610.25	596.80	579.78	555.58	529.60	500.02	466.87
330.0	620.10	618.31	608.44	593.18	571.64	547.41	518.70	485.49	451.39
345.0	620.10	614.67	605.62	590.23	567.60	543.16	511.47	477.98	441.77
360.0	620.10	619.21	612.04	599.49	581.57	555.58	528.70	494.65	457.91
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	418.48	371.88	325.28	278.69	228.51	174.74	122.77	73.48	33.16
15.0	414.90	370.80	323.10	274.50	226.80	176.40	131.40	88.20	54.00
30.0	417.90	374.76	328.92	282.19	241.75	198.61	159.97	124.92	96.16
45.0	423.29	385.54	346.00	306.46	266.01	230.07	194.12	164.46	136.60
60.0	432.55	396.65	360.75	324.86	291.65	257.55	226.14	197.43	167.81
75.0	442.42	407.42	376.01	342.81	309.60	278.19	246.78	217.17	189.35
90.0	446.76	412.81	380.64	350.26	314.52	283.25	251.97	223.38	197.47
105.0	442.29	409.23	375.28	342.22	309.16	278.78	247.50	217.13	189.43
120.0	430.95	397.94	361.35	326.56	291.76	257.86	226.63	197.18	168.63
135.0	419.38	380.84	343.21	275.10	266.14	229.40	198.04	166.67	138.90
150.0	405.62	365.24	321.27	278.19	235.12	197.43	160.63	105.89	97.82
165.0	402.84	358.48	315.94	266.15	219.07	171.09	128.55	86.90	57.03
180.0	381.74	335.14	286.75	239.26	184.60	135.31	86.03	41.22	10.75
195.0	394.20	345.60	301.50	254.70	206.10	158.40	115.20	76.50	46.80
210.0	408.01	367.57	323.53	280.39	239.05	200.41	161.77	129.41	99.76
225.0	425.98	386.44	349.59	310.95	275.00	239.95	206.70	174.35	146.49
240.0	440.62	406.52	371.52	337.42	304.22	295.24	238.71	209.09	181.27
255.0	454.08	421.78	388.57	354.47	322.17	291.65	260.25	231.53	202.81
270.0	458.38	425.32	394.94	360.98	327.92	295.75	265.38	237.68	209.98
285.0	455.69	423.53	389.57	358.30	323.45	291.29	262.69	233.21	205.51
300.0	447.01	411.32	378.31	344.40	309.61	276.59	243.58	213.24	186.48
315.0	432.82	395.18	359.34	319.91	284.06	247.32	215.96	183.70	155.03
330.0	410.11	372.42	331.14	288.96	248.58	209.09	172.30	139.10	110.38
345.0	401.03	355.77	307.79	260.71	213.64	171.09	125.83	88.72	57.94
360.0	418.48	371.88	325.28	278.69	228.51	174.74	122.77	73.48	33.16

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	6.27	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
15.0	29.70	16.20	9.00	5.40	3.60	2.70	2.70	2.70	2.70
30.0	71.00	52.12	37.75	26.06	17.97	12.58	8.99	7.19	5.39
45.0	110.54	88.97	70.10	55.72	41.34	32.35	23.37	17.08	12.58
60.0	142.69	119.35	99.61	80.77	65.51	51.15	39.49	29.61	21.54
75.0	162.43	139.10	118.46	97.82	80.77	63.72	50.25	39.49	27.82
90.0	168.88	145.64	123.31	102.75	84.88	69.69	54.50	42.89	31.27
105.0	163.51	139.39	118.84	98.29	81.31	65.23	50.93	39.31	28.59
120.0	144.54	121.34	100.82	82.09	66.92	52.64	41.04	30.34	21.41
135.0	113.80	92.30	73.48	58.25	44.81	34.05	25.09	17.92	13.44
150.0	74.48	55.64	41.28	29.61	21.54	13.46	10.77	8.08	5.38
165.0	33.49	19.92	10.86	6.34	3.62	2.72	2.72	2.72	2.72
180.0	2.69	1.79	1.79	1.79	1.79	1.79	0.90	0.90	0.90
195.0	27.90	16.20	9.90	7.20	5.40	5.40	4.50	4.50	3.60
210.0	75.49	56.62	41.34	30.56	28.76	17.08	13.48	10.78	8.09
225.0	140.20	98.86	79.98	63.81	49.43	37.75	28.76	22.47	17.08
240.0	156.15	131.92	111.28	91.53	74.48	59.23	45.77	35.00	26.92
255.0	177.68	153.46	130.12	109.48	89.74	74.48	59.23	44.87	34.10
270.0	184.96	159.05	137.60	115.26	96.50	78.63	63.44	49.14	37.53
285.0	179.60	154.58	131.35	110.80	92.93	75.06	59.87	46.46	34.85
300.0	161.49	137.40	115.10	95.47	77.62	61.56	48.18	36.58	27.66
315.0	129.93	105.74	86.03	69.00	54.66	42.12	31.36	24.19	17.92
330.0	84.36	65.51	49.36	36.79	26.92	19.74	15.26	11.67	9.87
345.0	36.21	22.63	14.48	9.96	7.24	6.34	5.43	4.53	4.53
360.0	6.27	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
C/ γ (°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	0.90	0.90	1.79	2.69	3.58	3.58	3.58	3.58	3.58
15.0	1.80	2.70	2.70	2.70	3.60	3.60	3.60	3.60	3.60
30.0	4.49	3.59	4.49	4.49	4.49	4.49	3.59	3.59	3.59
45.0	8.99	7.19	6.29	5.39	5.39	5.39	4.49	3.59	3.59
60.0	15.26	10.77	8.97	7.18	6.28	6.28	5.38	3.59	3.59
75.0	20.64	14.36	10.77	8.08	7.18	6.28	5.38	4.49	3.59
90.0	22.34	16.08	12.51	8.94	7.15	6.25	5.36	4.47	3.57
105.0	21.44	15.19	11.62	8.94	7.15	6.25	5.36	4.47	3.57
120.0	16.06	11.60	8.92	7.14	7.14	6.25	5.35	4.46	3.57
135.0	9.86	7.17	6.27	6.27	6.27	5.38	4.48	3.58	3.58
150.0	5.38	4.49	4.49	4.49	4.49	4.49	3.59	3.59	3.59
165.0	2.72	2.72	2.72	2.72	3.62	3.62	3.62	3.62	3.62
180.0	0.90	0.90	0.90	1.79	1.79	1.79	2.69	2.69	3.58
195.0	3.60	2.70	2.70	2.70	2.70	2.70	2.70	2.70	3.60
210.0	7.19	6.29	5.39	5.39	4.49	4.49	3.59	3.59	3.59
225.0	12.58	9.89	8.09	7.19	6.29	5.39	4.49	4.49	3.59
240.0	19.74	15.26	11.67	8.97	7.18	6.28	5.38	4.49	3.59
255.0	25.13	18.85	14.36	10.77	8.97	7.18	5.38	4.49	3.59
270.0	27.70	20.55	15.19	11.62	8.94	7.15	6.25	4.47	3.57
285.0	25.91	18.76	14.30	10.72	8.94	7.15	5.36	4.47	3.57
300.0	20.52	15.17	11.60	9.81	8.03	6.25	4.46	3.57	3.57
315.0	14.34	10.75	8.96	7.17	6.27	4.48	4.48	3.58	3.58
330.0	8.08	6.28	5.38	5.38	4.49	3.59	3.59	3.59	2.69
345.0	3.62	3.62	2.72	2.72	2.72	2.72	2.72	2.72	2.72
360.0	0.90	0.90	1.79	2.69	3.58	3.58	3.58	3.58	3.58

Intensity data(cd)

C/ $\gamma(^{\circ})$	180.0
0.0	3.58
15.0	3.60
30.0	3.59
45.0	3.59
60.0	3.59
75.0	3.59
90.0	3.57
105.0	3.57
120.0	3.57
135.0	3.58
150.0	3.59
165.0	3.62
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	3.58