
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): 2232.7

Power (W): 24.190

Number of Lamps: 1

PF: 0.986

Length(mm): 1040

Width(mm): 15

Phm Type: C

Height(mm): 10

Photometric Results

Lumens(lm): 2232.65, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 92.30

Central intensity(cd): 607.467, Maximum intensity(cd): 610.158

Angle of maximum intensity: C=75.0 γ =5.0

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

[C90/270]Total=134.4

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

[C90/270]Total=238.0

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 : 62.717%

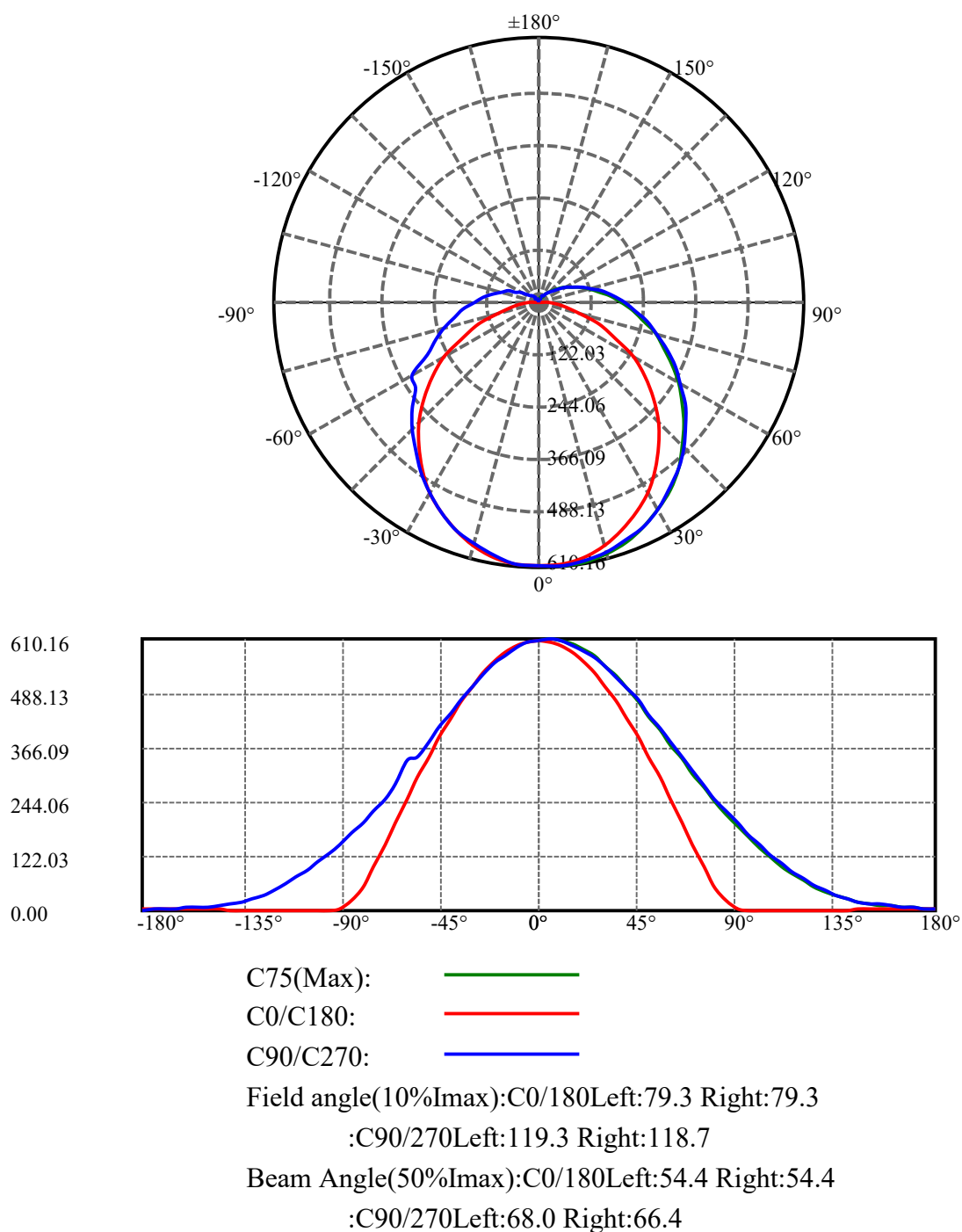
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	607.467	0.000	0	0.00%	0.00%
5.0	604.812	14.492	14.492	0.65%	0.65%
10.0	596.663	42.981	57.473	1.93%	2.57%
15.0	583.132	69.985	127.458	3.13%	5.71%
20.0	564.880	94.612	222.07	4.24%	9.95%
25.0	542.005	116.092	338.162	5.20%	15.15%
30.0	515.274	133.800	471.961	5.99%	21.14%
35.0	485.027	147.301	619.263	6.60%	27.74%
40.0	452.047	156.344	775.606	7.00%	34.74%
45.0	415.411	160.617	936.223	7.19%	41.93%
50.0	377.538	160.227	1096.45	7.18%	49.11%
55.0	339.027	155.805	1252.255	6.98%	56.09%
60.0	301.263	148.001	1400.257	6.63%	62.72%
65.0	261.412	136.787	1537.044	6.13%	68.84%
70.0	223.464	122.774	1659.818	5.50%	74.34%
75.0	187.687	107.468	1767.286	4.81%	79.16%
80.0	155.650	91.867	1859.154	4.11%	83.27%
85.0	126.713	76.725	1935.879	3.44%	86.71%
90.0	103.537	63.044	1998.923	2.82%	89.53%
95.0	84.734	51.550	2050.473	2.31%	91.84%
100.0	69.485	41.905	2092.378	1.88%	93.72%
105.0	56.555	33.725	2126.103	1.51%	95.23%
110.0	45.682	26.723	2152.826	1.20%	96.42%
115.0	36.568	20.826	2173.652	0.93%	97.36%
120.0	29.321	16.018	2189.67	0.72%	98.07%
125.0	22.859	12.061	2201.731	0.54%	98.61%
130.0	17.742	8.828	2210.559	0.40%	99.01%
135.0	13.709	6.355	2216.915	0.28%	99.30%
140.0	10.946	4.565	2221.48	0.20%	99.50%
145.0	9.153	3.353	2224.833	0.15%	99.65%
150.0	7.810	2.498	2227.331	0.11%	99.76%
155.0	7.138	1.892	2229.222	0.08%	99.85%
160.0	6.166	1.395	2230.618	0.06%	99.91%
165.0	5.606	0.970	2231.588	0.04%	99.95%
170.0	5.046	0.632	2232.22	0.03%	99.98%
175.0	4.747	0.350	2232.57	0.02%	100.00%
180.0	2.243	0.084	2232.654	0.00%	100.00%

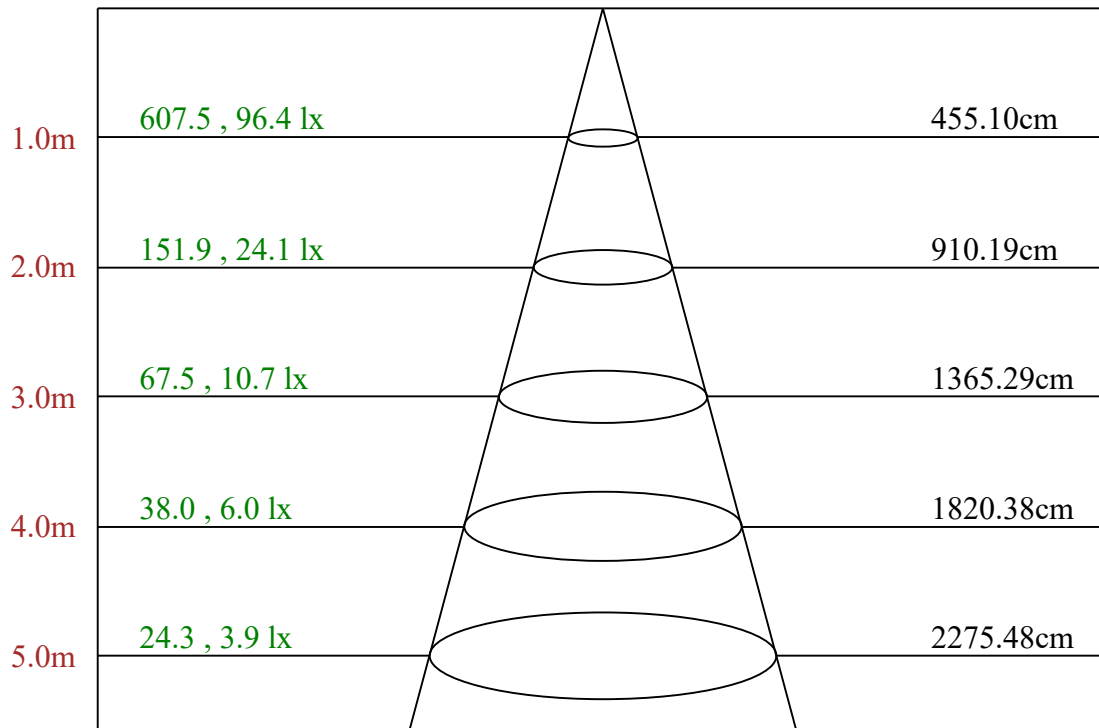
ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	471.96	21.14%	21.14%
0-40	775.61	34.74%	34.74%
0-60	1400.26	62.72%	62.72%
0-90	1998.92	89.53%	89.53%
0-120	2189.67	98.07%	98.07%
0-180	2232.65	100.00%	100.00%
60-90	598.67	26.81%	26.81%
90-120	190.75	8.54%	8.54%
90-130	211.64	9.48%	9.48%
90-150	228.41	10.23%	10.23%
90-180	233.65	10.47%	10.46%
0-76.03	1786.12	80.00%	80.00%

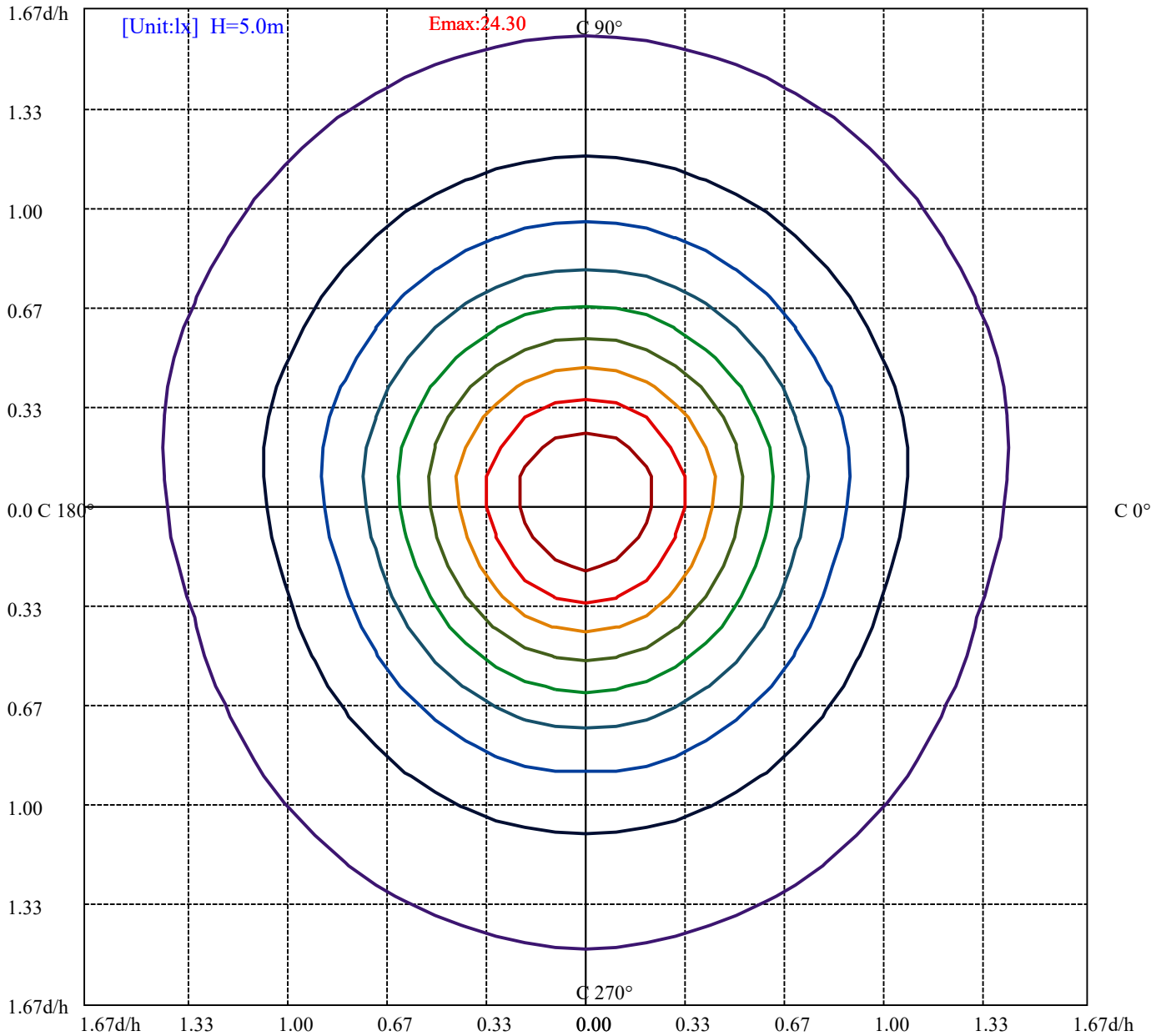
ZONAL LUMEN SUMMARY

0-10	57.47
10-20	164.60
20-30	249.89
30-40	303.65
40-50	320.84
50-60	303.81
60-70	259.56
70-80	199.34
80-90	139.77
90-100	93.46
100-110	60.45
110-120	36.84
120-130	20.89
130-140	10.92
140-150	5.85
150-160	3.29
160-170	1.60
170-180	0.35

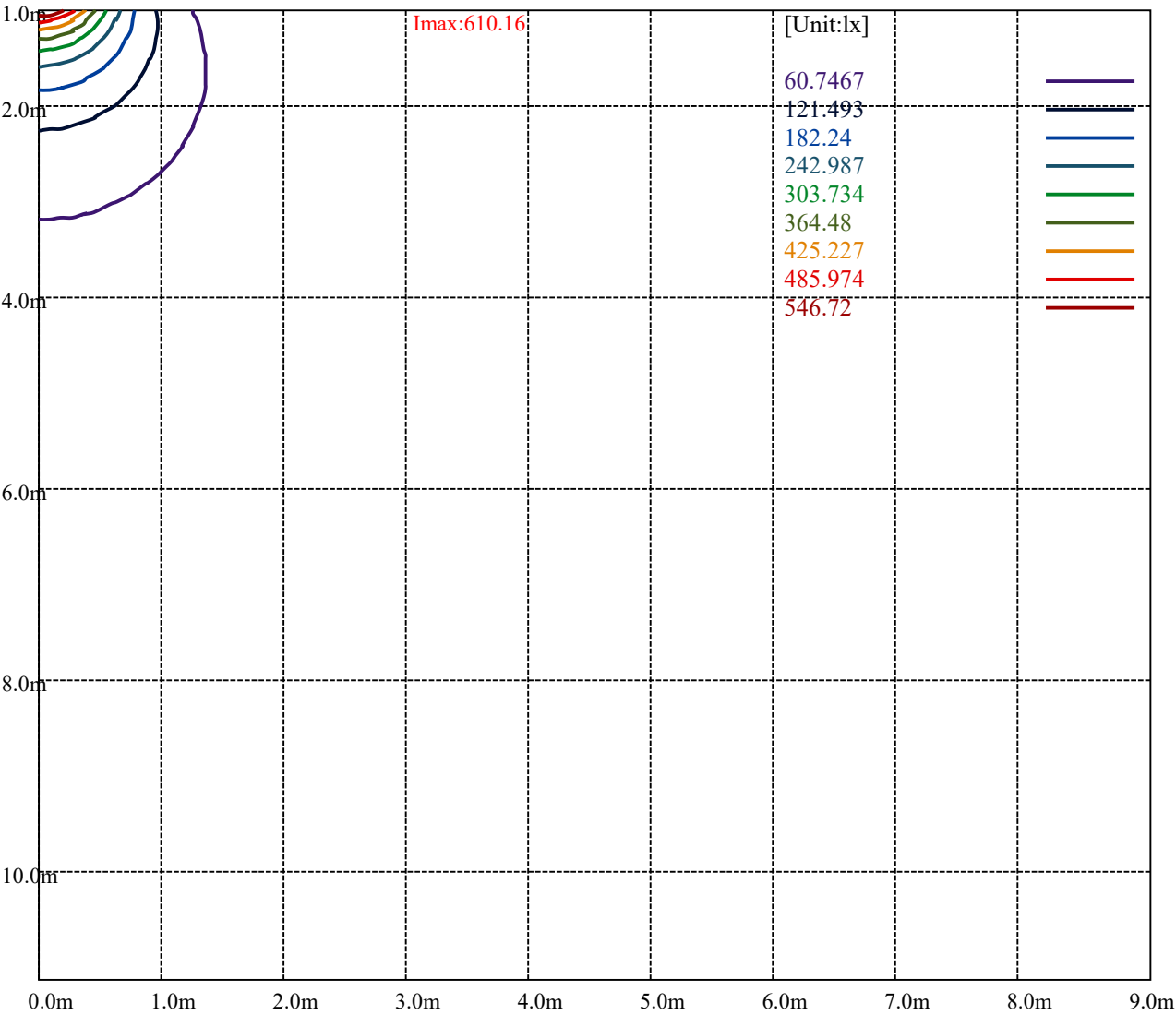




Max , Ave Beam angle of C75 plane 132.55



(10%Emax) 2.429868	—
(20%Emax) 4.85972	—
(30%Emax) 7.2896	—
(40%Emax) 9.71948	—
(50%Emax) 12.14936	—
(60%Emax) 14.5792	—
(70%Emax) 17.00908	—
(80%Emax) 19.43896	—
(90%Emax) 21.8688	—



Luminance Table

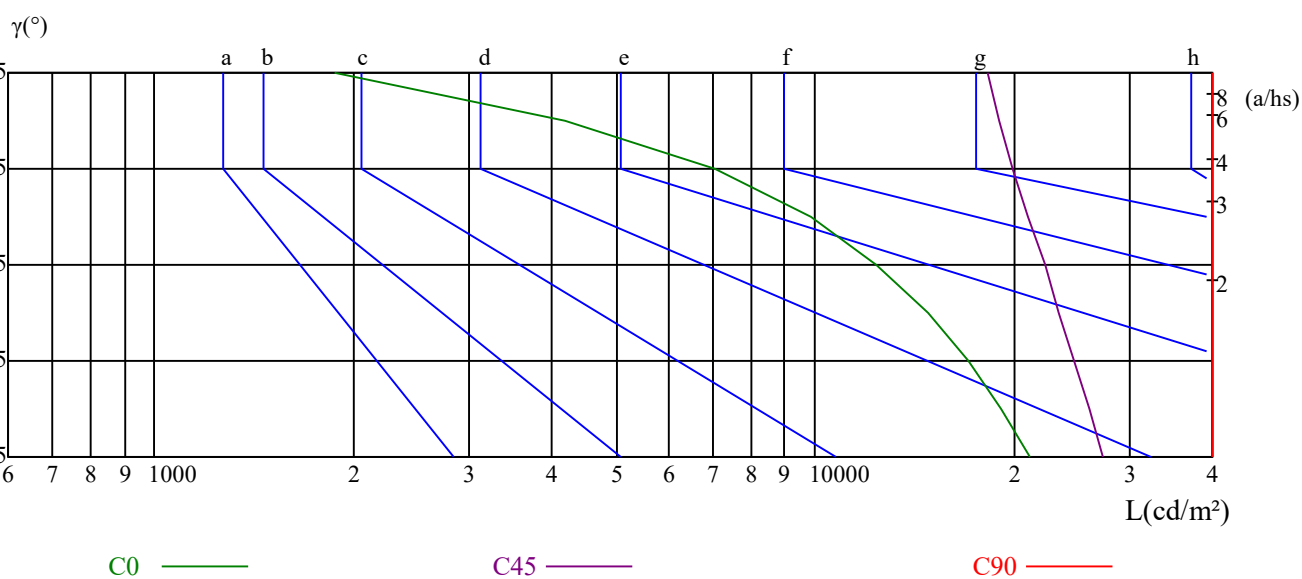
γ	45	50	55	60	65	70	75	80	85
C0	21186	19138	17082	14830	12409	9845	7041	4173	1867
C45	27363	26031	24676	23411	22308	21074	19982	19036	18298
C90	42513	43423	45304	47653	51379	57256	67495	88188	148587

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
30149	47696	40584	24559	62726	48965	16098	146520	102282

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	607.47	609.25	605.68	594.07	577.09	553.87	527.96	495.80	460.96
15.0	607.47	609.27	604.77	595.77	580.47	559.77	533.67	503.97	469.77
30.0	607.47	609.26	605.68	594.92	580.59	560.88	535.79	505.33	473.07
45.0	607.47	610.17	607.47	600.27	586.77	567.87	545.37	518.37	488.67
60.0	607.47	609.27	607.47	602.97	589.47	572.37	550.77	524.67	496.77
75.0	607.47	611.06	609.26	602.08	589.49	574.22	553.55	528.39	502.33
90.0	607.47	610.15	605.68	594.96	585.13	569.95	549.40	524.39	499.37
105.0	607.47	609.25	604.79	596.75	584.24	567.27	545.83	524.39	495.80
120.0	607.47	607.47	604.79	595.85	581.56	562.80	540.47	514.56	485.08
135.0	607.47	606.57	601.19	591.32	576.96	555.42	531.20	503.38	471.08
150.0	607.47	608.37	602.96	590.34	557.00	551.59	524.55	493.00	457.85
165.0	607.47	607.47	599.37	586.77	567.87	544.47	516.57	483.27	441.88
180.0	607.47	599.43	586.03	565.48	542.25	512.77	478.83	443.09	402.00
195.0	607.47	600.27	586.77	567.87	543.57	512.07	480.57	442.78	400.48
210.0	607.47	598.51	583.28	564.46	538.48	511.60	477.55	443.50	403.19
225.0	607.47	598.47	585.87	566.97	544.47	517.47	485.97	452.68	417.58
240.0	607.47	600.27	587.67	570.57	548.07	522.87	494.97	463.47	431.08
255.0	607.47	599.38	588.60	571.52	550.85	527.49	499.63	471.78	438.53
270.0	607.47	603.00	592.28	573.52	556.55	531.53	503.84	474.36	443.09
285.0	607.47	603.00	588.71	572.63	553.87	529.75	503.84	475.25	467.21
300.0	607.47	601.21	589.60	573.52	567.27	527.96	501.16	470.79	436.84
315.0	607.47	600.29	589.52	573.37	550.94	524.92	498.00	464.80	429.80
330.0	607.47	602.06	590.34	575.02	553.39	525.45	494.81	460.56	420.00
345.0	607.47	602.07	592.17	574.17	550.77	523.77	492.27	458.08	416.68
360.0	607.47	609.25	605.68	594.07	577.09	553.87	527.96	495.80	460.96
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	420.76	377.88	334.11	286.76	236.73	185.81	136.68	83.97	41.09
15.0	430.18	387.88	343.78	298.78	248.39	202.49	156.59	112.49	74.70
30.0	436.34	397.81	360.18	318.07	275.06	232.06	194.43	155.90	123.64
45.0	453.58	417.58	380.68	342.88	305.98	269.99	233.09	198.89	168.29
60.0	464.37	433.78	398.68	366.28	330.28	295.18	261.89	230.39	199.79
75.0	471.78	441.22	408.87	376.52	344.17	310.02	279.47	248.92	220.16
90.0	473.47	440.41	410.93	377.88	345.72	313.56	282.29	251.92	224.23
105.0	465.43	433.27	401.11	367.16	335.00	304.63	272.47	242.99	215.29
120.0	452.92	419.87	385.92	352.87	316.24	282.29	249.24	217.97	191.17
135.0	438.78	401.99	362.51	324.82	289.83	250.34	216.25	183.95	153.44
150.0	420.90	378.54	338.88	298.33	255.97	213.60	174.85	140.60	107.25
165.0	404.98	364.48	318.58	272.69	225.89	178.19	134.99	92.69	57.60
180.0	358.23	310.88	262.64	211.72	160.80	111.67	61.64	24.12	2.68
195.0	359.08	313.18	264.59	219.59	171.89	126.89	87.30	54.90	32.40
210.0	364.66	322.55	280.44	239.22	198.91	163.07	126.33	99.45	75.26
225.0	381.58	341.08	305.08	265.49	232.19	198.89	167.39	140.39	116.09
240.0	395.98	360.88	326.68	291.58	258.29	225.89	198.89	170.09	147.59
255.0	406.18	374.72	340.58	309.13	277.67	248.02	218.36	212.07	167.14
270.0	411.83	378.77	345.72	337.68	283.19	251.92	224.23	197.43	174.20
285.0	410.93	376.99	343.93	310.88	278.72	249.24	219.76	192.07	167.95
300.0	402.89	367.16	333.21	298.37	264.43	232.27	201.89	175.09	148.29
315.0	393.01	353.53	314.95	276.37	242.27	204.58	174.07	144.46	118.44
330.0	379.44	338.88	292.92	253.26	210.90	171.24	135.19	103.65	79.31
345.0	372.58	327.58	281.68	233.99	185.39	141.29	97.19	61.20	35.10
360.0	420.76	377.88	334.11	286.76	236.73	185.81	136.68	83.97	41.09

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	8.93	0.89	0.89	0.89	0.00	0.00	0.89	0.89	0.89
15.0	45.90	27.90	16.20	9.90	7.20	5.40	4.50	4.50	4.50
30.0	95.87	72.57	54.65	40.32	29.57	22.40	17.02	13.44	10.75
45.0	140.39	116.09	95.39	74.70	60.30	46.80	36.90	27.90	21.60
60.0	173.69	148.49	125.99	104.39	85.50	70.20	55.80	44.10	34.20
75.0	193.20	168.04	142.88	122.21	102.44	83.57	68.30	54.82	43.13
90.0	197.43	171.52	147.40	125.96	106.31	86.65	71.47	57.17	44.67
105.0	187.60	161.69	139.36	117.92	98.27	80.40	65.21	52.71	41.99
120.0	164.37	139.36	117.03	97.37	80.40	65.21	51.81	41.09	32.16
135.0	128.31	104.98	86.14	69.09	53.84	42.17	33.20	26.02	19.74
150.0	83.82	62.19	45.97	34.25	25.24	18.93	14.42	11.72	9.01
165.0	33.30	18.90	10.80	7.20	5.40	4.50	3.60	3.60	3.60
180.0	1.79	1.79	1.79	1.79	1.79	1.79	1.79	0.89	0.89
195.0	18.90	11.70	8.10	6.30	5.40	4.50	4.50	3.60	3.60
210.0	56.45	41.21	30.46	23.30	17.02	13.44	10.75	8.06	7.17
225.0	94.49	75.60	61.20	47.70	36.90	28.80	27.00	16.20	12.60
240.0	124.19	104.39	85.50	70.20	55.80	44.10	34.20	26.10	19.80
255.0	143.78	122.21	102.44	84.47	69.19	55.71	44.03	33.25	25.16
270.0	149.19	128.64	108.09	90.23	74.15	58.96	47.35	35.73	26.80
285.0	143.83	122.39	102.73	84.87	68.79	55.39	42.88	33.05	24.12
300.0	125.96	103.63	86.65	69.68	55.39	43.77	33.95	25.91	18.76
315.0	96.91	76.27	60.12	46.66	36.79	27.82	20.64	16.15	11.66
330.0	57.68	42.36	30.64	22.53	16.22	12.62	9.91	8.11	6.31
345.0	18.90	10.80	7.20	5.40	4.50	4.50	3.60	3.60	2.70
360.0	8.93	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	2.68	3.57	3.57	4.47	4.47	4.47
15.0	3.60	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50
30.0	8.96	8.06	7.17	7.17	7.17	6.27	5.38	5.38	4.48
45.0	17.10	13.50	11.70	9.90	9.00	8.10	6.30	5.40	5.40
60.0	26.10	19.80	16.20	12.60	10.80	9.00	8.10	6.30	5.40
75.0	33.25	25.16	19.77	15.28	12.58	9.88	8.99	7.19	5.39
90.0	34.84	26.80	20.55	16.08	13.40	10.72	8.93	7.15	5.36
105.0	32.16	24.12	19.65	15.19	12.51	9.83	8.93	7.15	5.36
120.0	24.12	19.65	15.19	12.51	10.72	8.93	8.04	6.25	5.36
135.0	15.25	12.56	10.77	9.87	8.97	8.08	7.18	6.28	5.38
150.0	8.11	7.21	7.21	7.21	7.21	6.31	6.31	5.41	4.51
165.0	3.60	3.60	3.60	4.50	4.50	4.50	4.50	4.50	4.50
180.0	0.89	0.89	1.79	1.79	2.68	2.68	3.57	4.47	4.47
195.0	2.70	2.70	2.70	2.70	2.70	2.70	3.60	4.50	4.50
210.0	6.27	5.38	4.48	4.48	4.48	4.48	3.58	4.48	4.48
225.0	9.90	8.10	7.20	6.30	6.30	5.40	4.50	4.50	4.50
240.0	14.40	11.70	9.00	8.10	7.20	6.30	5.40	4.50	4.50
255.0	17.97	13.48	10.78	8.99	8.09	6.29	5.39	4.49	4.49
270.0	19.65	14.29	11.61	8.93	8.04	7.15	5.36	4.47	4.47
285.0	17.87	13.40	10.72	8.93	7.15	6.25	5.36	4.47	4.47
300.0	14.29	10.72	8.93	7.15	7.15	6.25	4.47	3.57	4.47
315.0	8.97	8.08	7.18	6.28	5.38	4.49	4.49	3.59	4.49
330.0	5.41	4.51	4.51	4.51	4.51	3.61	3.61	4.51	4.51
345.0	2.70	2.70	1.80	1.80	2.70	2.70	3.60	3.60	4.50
360.0	0.89	1.79	2.68	2.68	3.57	3.57	4.47	4.47	4.47

Intensity data(cd)

C/ γ (°)	180.0
0.0	4.47
15.0	4.50
30.0	4.48
45.0	4.50
60.0	4.50
75.0	4.49
90.0	4.47
105.0	4.47
120.0	4.47
135.0	4.49
150.0	4.51
165.0	4.50
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	4.47