
AFX

Client:

LumCAT: ELZP42LAJD4BK

Luminaire: LED Lamp

Report No:

Ballast type:

Test No:

Voltage(V): 120.000

LampCAT:

Current(A): 0.202

Lamp flux(lm): 2112.8

Power (W): 23.940

Number of Lamps: 1

PF: 0.986

Length(mm): 1040

Width(mm): 15

Phm Type: C

Height(mm): 10

Photometric Results

Lumens(lm): 2112.83, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 88.26

Central intensity(cd): 566.346, Maximum intensity(cd): 574.373

Angle of maximum intensity: C=90.0 γ =10.0

Beam Angle(50%Imax): [C0/180]Total=109.4

[C90/270]Total=137.5

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

[C90/270]Total=237.7

Maximum s/h(1/2): C0_180=1.24 C90_270=1.41

Maximum s/h(1/4): C0_180=1.36 C90_270=1.55

Up flux rate of lamp(%): 10.65%

Down flux rate of lamp(%): 89.35%

Up flux rate of LUM(%): 10.65%

Down flux rate of LUM(%): 89.35%

CIE Type : Semidirect lighting

Output flux ratio in π solid angle : 62.182%

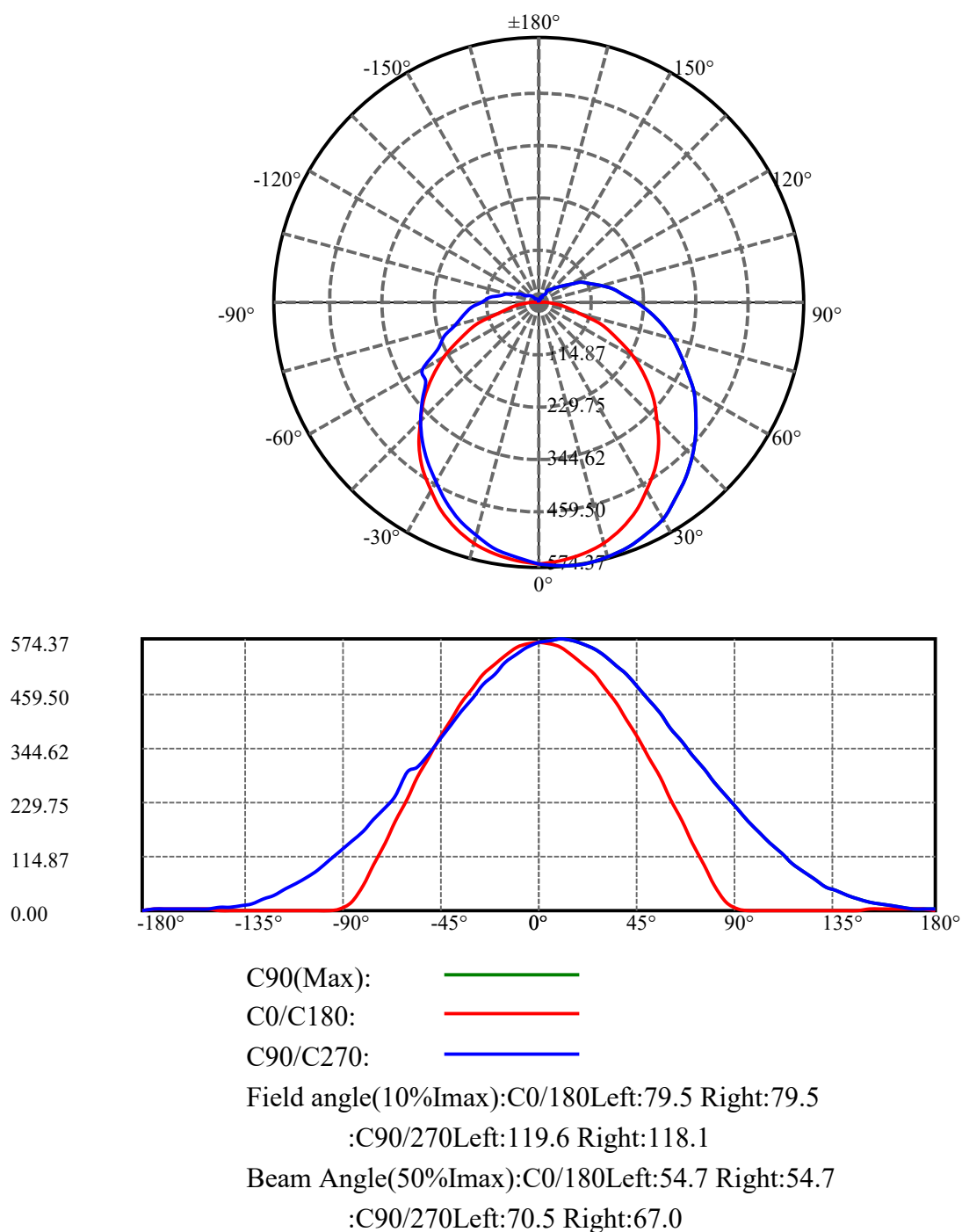
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	566.346	0.000	0	0.00%	0.00%
5.0	563.396	13.506	13.506	0.64%	0.64%
10.0	556.068	40.047	53.552	1.90%	2.53%
15.0	543.881	65.248	118.801	3.09%	5.62%
20.0	527.467	88.294	207.095	4.18%	9.80%
25.0	506.233	108.416	315.511	5.13%	14.93%
30.0	481.896	125.049	440.56	5.92%	20.85%
35.0	453.858	137.796	578.356	6.52%	27.37%
40.0	424.359	146.524	724.879	6.93%	34.31%
45.0	390.526	150.882	875.762	7.14%	41.45%
50.0	356.207	150.888	1026.65	7.14%	48.59%
55.0	320.429	147.123	1173.773	6.96%	55.55%
60.0	285.356	140.026	1313.799	6.63%	62.18%
65.0	248.800	129.854	1443.653	6.15%	68.33%
70.0	213.508	117.059	1560.712	5.54%	73.87%
75.0	180.536	102.997	1663.709	4.87%	78.74%
80.0	150.334	88.531	1752.24	4.19%	82.93%
85.0	122.895	74.243	1826.483	3.51%	86.45%
90.0	100.762	61.239	1887.722	2.90%	89.35%
95.0	83.002	50.316	1938.038	2.38%	91.73%
100.0	68.574	41.187	1979.225	1.95%	93.68%
105.0	55.453	33.186	2012.412	1.57%	95.25%
110.0	44.765	26.196	2038.607	1.24%	96.49%
115.0	35.497	20.323	2058.93	0.96%	97.45%
120.0	28.024	15.442	2074.372	0.73%	98.18%
125.0	21.485	11.444	2085.816	0.54%	98.72%
130.0	16.478	8.254	2094.07	0.39%	99.11%
135.0	12.517	5.859	2099.929	0.28%	99.39%
140.0	9.640	4.103	2104.032	0.19%	99.58%
145.0	7.660	2.886	2106.918	0.14%	99.72%
150.0	6.240	2.047	2108.965	0.10%	99.82%
155.0	5.158	1.442	2110.408	0.07%	99.89%
160.0	4.410	1.003	2111.411	0.05%	99.93%
165.0	3.738	0.672	2112.083	0.03%	99.96%
170.0	3.514	0.430	2112.513	0.02%	99.98%
175.0	3.589	0.254	2112.767	0.01%	100.00%
180.0	1.794	0.064	2112.831	0.00%	100.00%

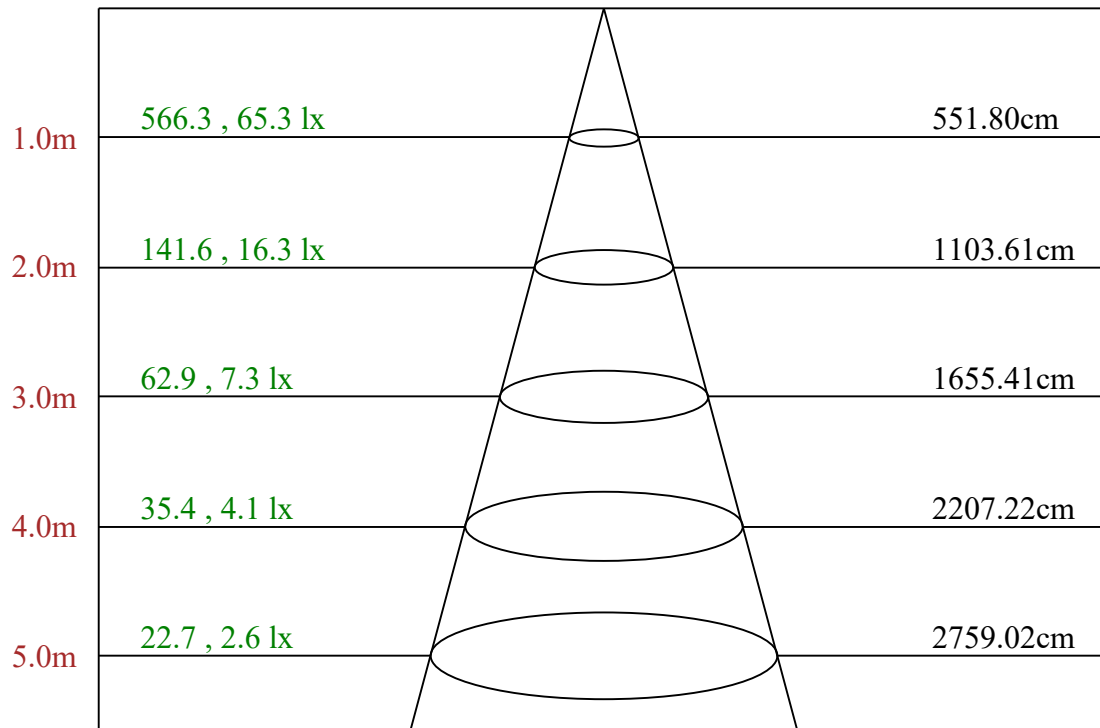
ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	440.56	20.85%	20.85%
0-40	724.88	34.31%	34.31%
0-60	1313.80	62.18%	62.18%
0-90	1887.72	89.35%	89.35%
0-120	2074.37	98.18%	98.18%
0-180	2112.83	100.00%	100.00%
60-90	573.92	27.16%	27.16%
90-120	186.65	8.83%	8.83%
90-130	206.35	9.77%	9.77%
90-150	221.24	10.47%	10.47%
90-180	225.04	10.65%	10.65%
0-76.50	1690.27	80.00%	80.00%

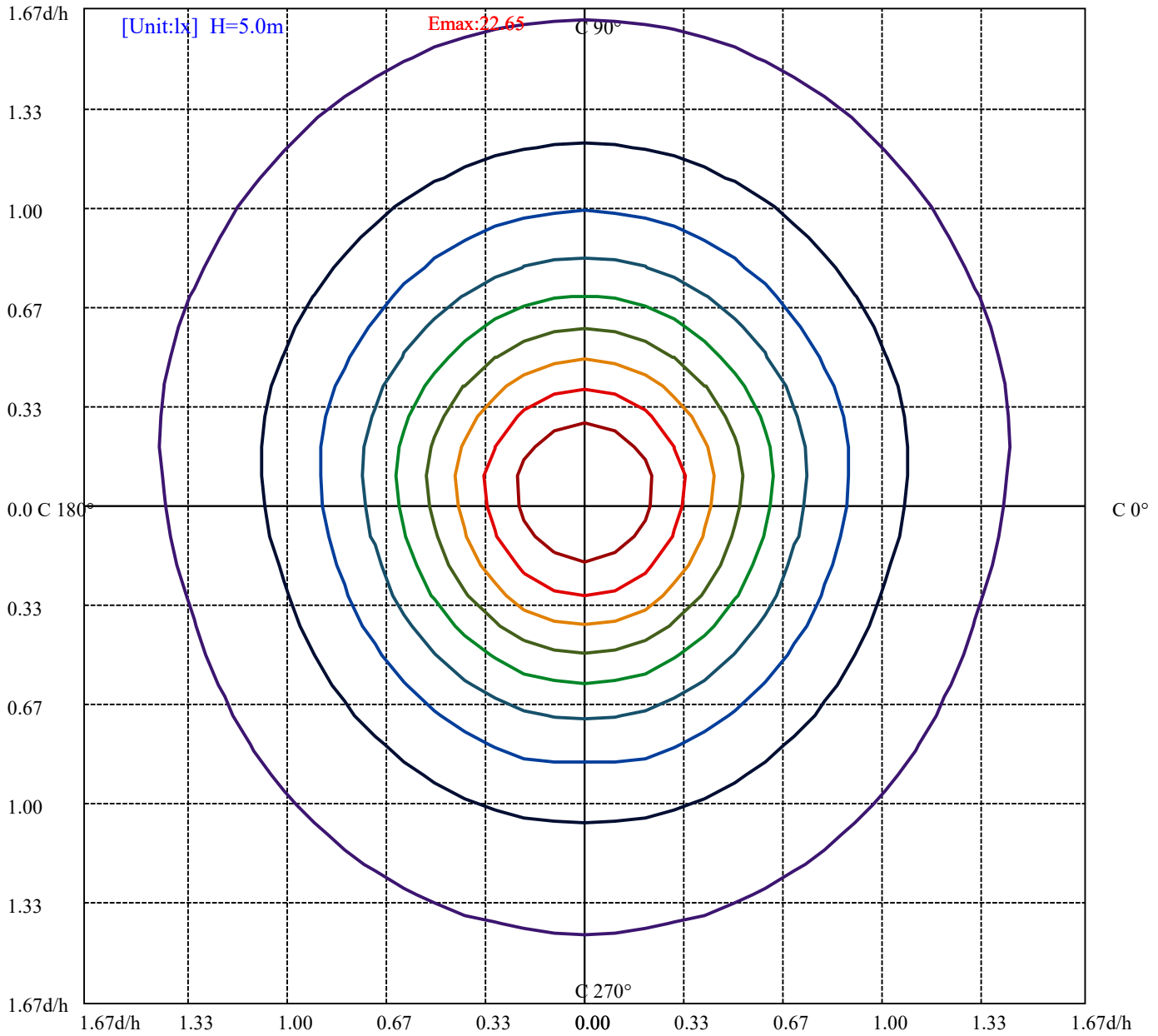
ZONAL LUMEN SUMMARY

0-10	53.55
10-20	153.54
20-30	233.46
30-40	284.32
40-50	301.77
50-60	287.15
60-70	246.91
70-80	191.53
80-90	135.48
90-100	91.50
100-110	59.38
110-120	35.77
120-130	19.70
130-140	9.96
140-150	4.93
150-160	2.45
160-170	1.10
170-180	0.25

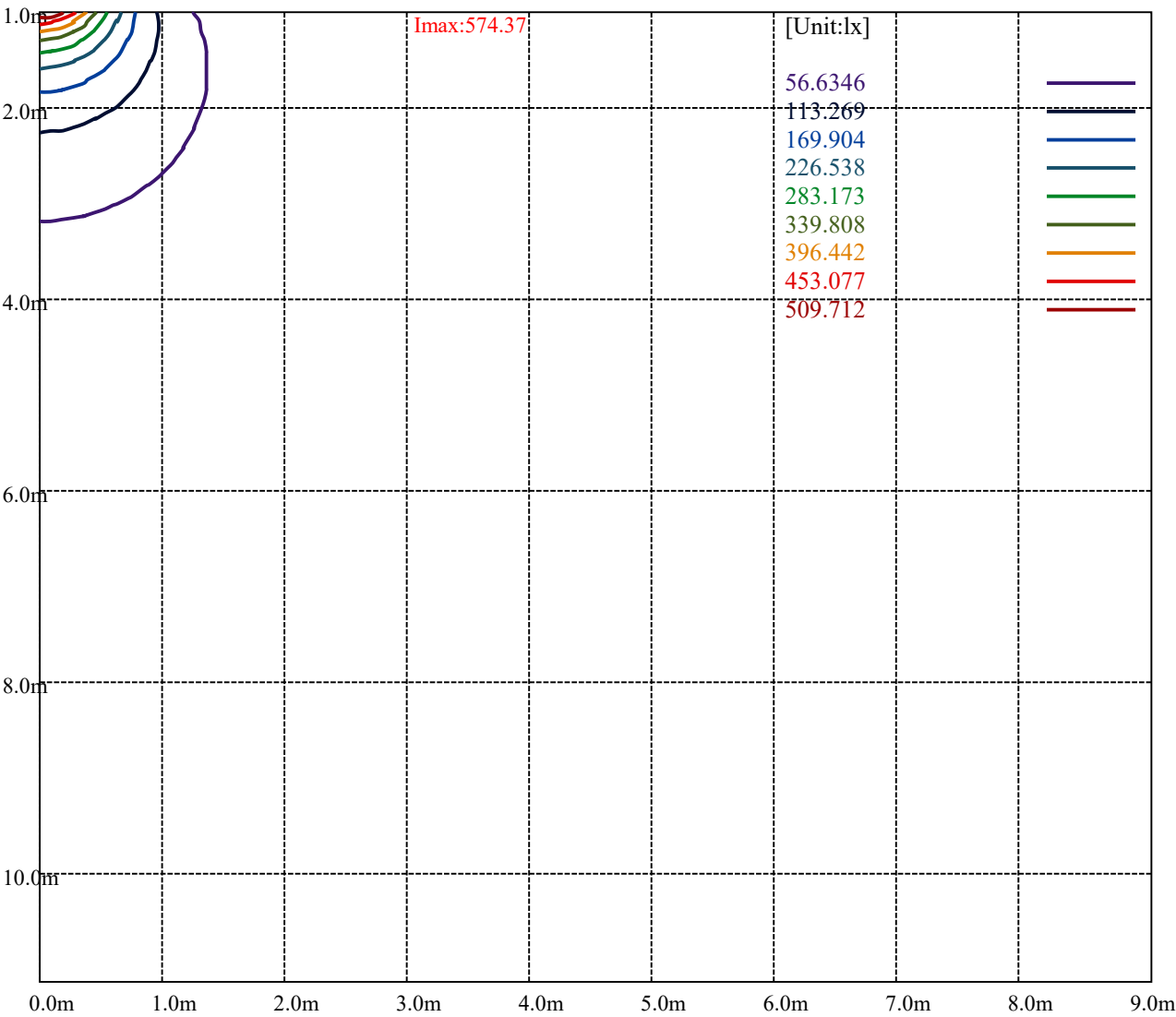




Max , Ave Beam angle of C90 plane 140.15



(10%Emax) 2.265384	
(20%Emax) 4.53076	
(30%Emax) 6.79616	
(40%Emax) 9.06152	
(50%Emax) 11.32692	
(60%Emax) 13.59232	
(70%Emax) 15.85768	
(80%Emax) 18.12308	
(90%Emax) 20.38848	



Luminance Table

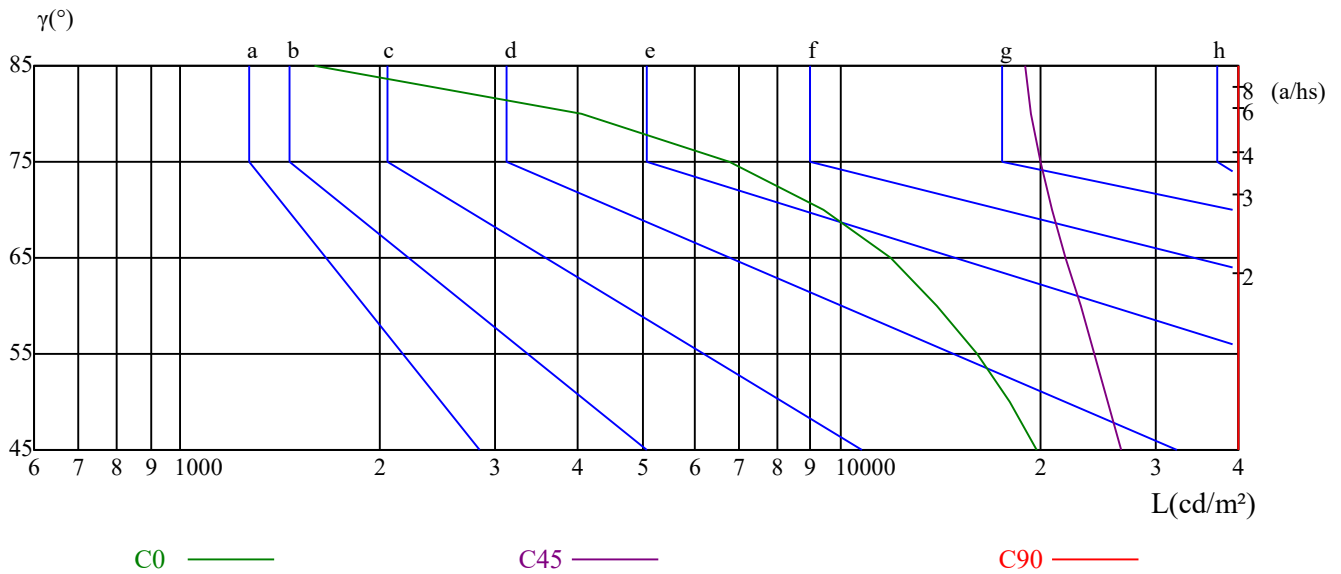
γ	45	50	55	60	65	70	75	80	85
C0	19834	18038	16033	14014	11869	9430	6797	4057	1596
C45	26496	25397	24171	23138	21960	20925	20070	19368	18996
C90	42284	43880	45918	48812	53019	59932	71437	94289	159575

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
28837	45454	38132	23709	60636	46574	13754	142019	98628

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	0.98	0.98	0.98	0.92	0.92	0.92	0.89
1	0.98	0.93	0.88	0.95	0.90	0.86	0.89	0.85	0.81	0.83	0.80	0.77	0.77	0.75	0.73	0.70
2	0.84	0.77	0.70	0.82	0.75	0.69	0.76	0.70	0.65	0.71	0.67	0.62	0.67	0.63	0.59	0.56
3	0.74	0.65	0.58	0.71	0.63	0.56	0.67	0.60	0.54	0.62	0.57	0.52	0.58	0.54	0.49	0.47
4	0.65	0.55	0.48	0.63	0.54	0.47	0.59	0.51	0.46	0.55	0.49	0.44	0.52	0.46	0.42	0.39
5	0.58	0.48	0.41	0.56	0.47	0.40	0.52	0.45	0.39	0.49	0.43	0.38	0.46	0.41	0.36	0.34
6	0.52	0.42	0.36	0.50	0.41	0.35	0.47	0.40	0.34	0.45	0.38	0.33	0.42	0.36	0.32	0.29
7	0.47	0.38	0.31	0.45	0.37	0.31	0.43	0.35	0.30	0.41	0.34	0.29	0.38	0.32	0.28	0.26
8	0.43	0.34	0.28	0.41	0.33	0.27	0.39	0.32	0.27	0.37	0.31	0.26	0.35	0.29	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	0.32	0.27	0.23	0.21
10	0.36	0.28	0.23	0.35	0.27	0.22	0.33	0.26	0.22	0.32	0.25	0.21	0.30	0.24	0.20	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	566.35	564.57	558.33	545.87	528.95	506.68	481.75	448.80	416.75
15.0	566.35	568.14	562.76	551.99	539.42	518.78	493.65	464.92	431.72
30.0	566.35	569.94	567.25	560.05	545.67	528.59	505.22	480.05	449.48
45.0	566.35	569.94	569.04	563.65	551.96	536.68	516.90	490.83	462.97
60.0	566.35	570.85	571.75	567.25	557.34	544.74	526.73	504.22	480.81
75.0	566.35	572.65	573.55	569.95	561.84	550.14	535.73	515.92	492.51
90.0	566.35	572.59	574.37	571.70	564.56	552.97	538.70	518.18	497.67
105.0	566.35	571.72	573.52	570.83	563.66	550.22	534.98	516.16	492.86
120.0	566.35	571.72	572.62	568.14	560.07	545.74	526.92	506.31	480.32
135.0	566.35	566.35	565.45	559.21	547.62	533.35	513.73	489.64	462.00
150.0	566.35	569.94	567.24	559.17	532.24	527.75	505.31	478.39	447.87
165.0	566.35	567.25	563.63	553.66	538.26	517.41	493.85	463.95	429.52
180.0	566.35	561.00	551.21	534.29	513.81	488.87	458.60	425.65	389.14
195.0	566.35	560.06	548.40	531.34	509.80	482.88	454.15	420.95	384.15
210.0	566.35	559.15	546.57	528.59	507.91	480.05	449.48	416.22	382.96
225.0	566.35	557.36	543.87	525.89	503.42	476.45	448.58	418.02	382.96
240.0	566.35	555.54	542.04	524.93	502.42	477.21	449.30	419.58	388.07
255.0	566.35	555.54	541.14	523.13	501.52	477.21	452.00	421.38	392.57
270.0	566.35	554.75	541.37	522.64	501.24	477.16	449.51	420.97	391.54
285.0	566.35	555.59	540.36	523.33	501.83	475.84	449.85	420.28	414.01
300.0	566.35	556.49	541.25	523.33	517.96	475.84	446.27	418.49	386.23
315.0	566.35	552.08	537.81	519.97	497.67	470.91	441.48	409.37	376.37
330.0	566.35	558.27	544.81	525.96	503.52	475.69	445.18	410.17	373.38
345.0	566.35	560.00	547.32	528.29	506.54	478.45	447.64	414.11	378.77
360.0	566.35	564.57	558.33	545.87	528.95	506.68	481.75	448.80	416.75
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	379.35	339.27	296.53	251.12	207.48	159.40	111.31	65.90	27.60
15.0	395.81	356.32	315.93	271.06	226.18	181.30	139.12	96.93	66.42
30.0	415.32	378.46	339.81	298.46	258.00	219.35	182.49	148.33	118.66
45.0	432.40	400.94	364.98	330.82	294.86	259.80	227.44	196.87	168.11
60.0	452.90	423.18	392.57	360.16	327.74	295.33	266.52	236.80	208.89
75.0	466.40	439.39	409.68	381.77	352.05	321.44	291.73	263.81	233.20
90.0	470.91	445.05	416.51	387.08	356.75	328.21	298.78	269.35	240.81
105.0	467.77	438.20	411.32	379.95	350.38	319.02	290.34	259.87	233.89
120.0	454.33	423.86	392.50	360.24	327.08	295.72	265.25	233.89	206.11
135.0	431.67	398.67	363.00	329.11	291.65	256.86	223.86	192.65	165.89
150.0	411.97	375.17	336.58	296.19	257.59	216.31	180.41	146.30	116.68
165.0	395.99	357.93	316.25	274.56	231.07	184.86	139.55	97.86	63.43
180.0	349.96	309.89	263.58	219.95	172.75	125.56	80.14	39.18	9.80
195.0	344.65	302.47	259.39	217.20	174.12	131.94	94.24	62.83	37.70
210.0	347.00	306.55	267.89	228.34	191.48	157.32	125.85	97.09	72.82
225.0	348.80	314.64	279.58	245.42	213.05	181.59	154.62	127.65	105.18
240.0	355.65	324.14	290.83	261.11	231.40	202.59	176.48	151.27	129.66
255.0	361.96	331.34	299.83	271.02	243.11	214.29	189.08	181.88	144.06
270.0	361.21	331.78	301.46	292.54	242.59	216.73	190.86	167.67	145.38
285.0	358.45	328.88	298.41	267.94	239.26	211.48	185.50	161.30	138.90
300.0	353.97	320.81	288.55	256.29	225.82	198.04	171.16	146.96	123.66
315.0	343.38	306.81	272.92	239.02	206.03	174.81	146.27	121.30	97.22
330.0	335.68	297.08	257.59	219.00	184.00	147.20	116.68	88.86	65.52
345.0	337.09	298.12	254.63	210.23	166.73	125.05	85.18	53.46	29.90
360.0	379.35	339.27	296.53	251.12	207.48	159.40	111.31	65.90	27.60

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	4.45	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
15.0	41.29	26.03	16.16	9.87	7.18	5.39	4.49	3.59	2.69
30.0	93.49	72.82	56.63	43.15	32.36	24.27	18.88	14.38	10.79
45.0	142.94	120.46	98.89	80.91	65.62	53.04	41.35	31.46	25.17
60.0	180.98	159.37	134.16	114.35	95.44	78.33	63.03	50.42	39.62
75.0	207.09	182.78	158.47	135.06	115.25	96.34	79.23	63.03	49.52
90.0	213.16	188.19	163.21	140.92	119.51	100.78	82.95	66.89	51.73
105.0	206.11	179.22	156.82	134.42	114.70	94.09	77.96	61.83	48.39
120.0	180.12	155.03	133.52	112.01	93.20	77.07	61.83	48.39	38.53
135.0	140.92	116.84	96.32	78.49	63.32	49.95	39.24	30.32	23.19
150.0	90.65	70.01	52.95	40.39	30.52	22.44	17.05	13.46	10.77
165.0	39.87	22.65	13.59	9.06	6.34	4.53	3.62	2.72	2.72
180.0	1.78	1.78	1.78	1.78	1.78	1.78	0.89	0.89	0.89
195.0	20.64	11.67	6.28	4.49	3.59	2.69	1.80	1.80	0.90
210.0	53.94	37.76	26.97	17.98	11.69	8.09	6.29	4.49	3.60
225.0	84.50	66.52	51.24	38.66	28.77	19.78	17.98	9.89	7.19
240.0	107.15	89.14	83.74	56.72	44.12	31.51	23.41	17.11	11.71
255.0	120.65	101.74	84.64	68.43	54.02	41.42	29.71	21.61	15.31
270.0	123.97	105.24	86.51	71.35	56.19	44.59	32.11	23.19	16.05
285.0	120.08	98.57	82.44	66.31	51.97	40.33	28.68	20.61	15.23
300.0	103.95	84.24	67.21	52.87	41.22	28.68	21.51	15.23	10.75
315.0	78.49	60.65	46.38	34.78	24.08	16.95	12.49	8.92	6.24
330.0	46.67	32.31	22.44	14.36	9.87	7.18	5.39	3.59	2.69
345.0	15.40	8.16	4.53	3.62	2.72	1.81	1.81	0.91	0.91
360.0	4.45	0.89	0.89	0.89	0.89	0.89	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	1.78	2.67	2.67	3.56	3.56	3.56	3.56	3.56
15.0	2.69	2.69	2.69	3.59	3.59	3.59	3.59	3.59	3.59
30.0	8.99	7.19	6.29	5.39	5.39	4.49	3.60	3.60	3.60
45.0	18.88	14.38	11.69	8.99	8.09	6.29	4.49	3.60	3.60
60.0	30.61	23.41	18.01	13.51	10.80	8.10	5.40	4.50	3.60
75.0	37.82	28.81	22.51	16.21	12.61	9.00	6.30	4.50	3.60
90.0	41.03	31.22	24.08	17.84	13.38	9.81	7.14	4.46	3.57
105.0	37.64	28.68	21.51	16.13	12.55	8.96	6.27	4.48	3.58
120.0	29.57	22.40	17.03	13.44	9.86	7.17	5.38	4.48	3.58
135.0	17.84	14.27	10.70	8.92	7.14	6.24	4.46	3.57	3.57
150.0	8.08	6.28	6.28	5.39	4.49	4.49	3.59	3.59	3.59
165.0	1.81	1.81	2.72	2.72	3.62	3.62	3.62	3.62	3.62
180.0	0.89	0.89	0.89	1.78	1.78	2.67	2.67	2.67	3.56
195.0	0.90	0.90	1.80	1.80	1.80	1.80	2.69	3.59	3.59
210.0	2.70	2.70	1.80	1.80	1.80	2.70	2.70	2.70	3.60
225.0	5.39	3.60	2.70	2.70	1.80	1.80	2.70	3.60	3.60
240.0	8.10	6.30	4.50	3.60	2.70	2.70	2.70	2.70	3.60
255.0	10.80	7.20	5.40	4.50	3.60	2.70	2.70	2.70	3.60
270.0	11.59	8.03	5.35	4.46	3.57	2.68	2.68	2.68	3.57
285.0	9.86	7.17	5.38	4.48	3.58	2.69	2.69	3.58	3.58
300.0	7.17	5.38	4.48	3.58	2.69	2.69	2.69	2.69	3.58
315.0	4.46	3.57	2.68	2.68	1.78	2.68	2.68	2.68	3.57
330.0	1.80	1.80	1.80	1.80	1.80	2.69	2.69	3.59	3.59
345.0	0.91	0.91	0.91	1.81	1.81	2.72	2.72	3.62	3.62
360.0	0.89	1.78	2.67	2.67	3.56	3.56	3.56	3.56	3.56

Intensity data(cd)

C/ $\gamma(^{\circ})$	180.0
0.0	3.56
15.0	3.59
30.0	3.60
45.0	3.60
60.0	3.60
75.0	3.60
90.0	3.57
105.0	3.58
120.0	3.58
135.0	3.57
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	3.56