

## Luminaire Property

Luminaire Description: 12V-2835-60L-2700K

Luminaire Categorie:

Lamp Categorie:

Lamp Description:

Number of Lamp:

Lamp Lumens(lm): 640.04

Luminous Length(m):

Luminous Width(m):

Luminous Height(m):

Voltage: 12 V

Current: 0.527 A

Power: 6.325 W

Power Factor: 1

Test Lab:

Photometric Type: Type C

## Photometric Results

CIE Class: Direct

Measurement Flux: 640.04 lm

Efficiency: 101.1921 lm/W

Central Intensity: 234.493cd

Max. Intensity: 235.84cd

Field Angle(10%Imax): 165.6, 162.65

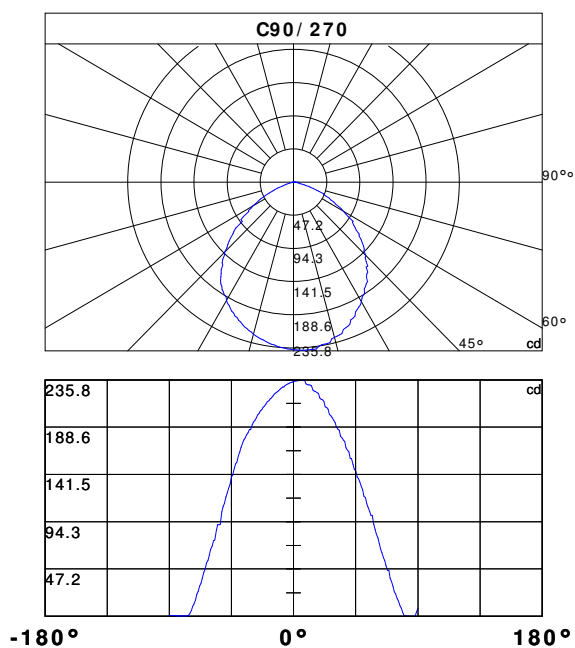
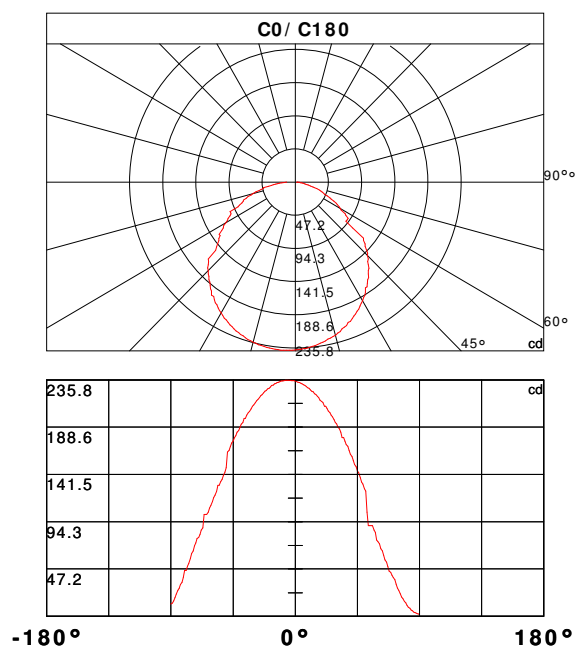
Max.Intensity Angle: C:135.0 G:4.0

Beam Angle(50%Imax): 117.1, 115.57

Luminaire Efficacy Rating(LER) : 100.00%

Upward Ratio: 0.0%

Downward Ratio: 100.0%



## Light intensity data Unit[cd]

C\ G	G0.0	G1.0	G2.0	G3.0	G4.0	G5.0	G6.0	G7.0	G8.0	G9.0
C0.0	234.5	234.2	233.6	233.0	232.7	231.8	230.9	230.3	229.2	228.0
C45.0	234.5	234.7	234.8	234.7	234.7	234.4	234.0	233.8	233.1	232.7
C90.0	234.5	234.3	234.8	235.2	235.2	235.4	235.4	235.3	235.2	231.8
C135.0	234.5	235.2	235.4	235.5	235.8	235.8	235.8	235.3	235.2	235.0
C180.0	234.5	234.9	235.1	235.2	235.3	235.5	235.5	235.2	235.1	234.8
C225.0	234.5	234.4	234.3	233.9	233.6	233.4	232.5	232.0	231.2	230.8
C270.0	234.5	233.5	233.2	232.4	231.7	231.3	230.3	228.7	228.7	227.4
C315.0	234.5	234.4	233.8	233.5	232.8	232.4	231.5	230.5	229.9	228.8
C360.0	234.5	234.2	233.6	233.0	232.7	231.8	230.9	230.3	229.2	228.0
C\ G	G10.0	G11.0	G12.0	G13.0	G14.0	G15.0	G16.0	G17.0	G18.0	G19.0
C0.0	227.3	225.9	224.4	223.7	222.0	221.1	219.3	218.3	215.4	214.3
C45.0	230.0	227.8	226.8	226.4	225.3	224.1	221.5	218.3	216.8	216.0
C90.0	230.9	230.7	230.4	229.9	225.3	224.5	224.1	223.1	222.3	217.8
C135.0	234.0	230.1	229.8	229.0	228.3	227.8	226.7	226.5	228.6	227.3
C180.0	234.6	234.0	233.4	233.1	232.1	231.7	230.7	230.1	228.7	227.4
C225.0	229.8	229.3	228.0	226.8	226.2	224.8	224.0	222.5	220.8	219.9
C270.0	226.1	224.7	224.0	222.5	221.6	219.9	217.9	216.9	215.0	214.0
C315.0	228.2	226.9	225.4	224.7	223.1	222.3	220.6	219.7	217.8	215.9
C360.0	227.3	225.9	224.4	223.7	222.0	221.1	219.3	218.3	215.4	214.3
C\ G	G20.0	G21.0	G22.0	G23.0	G24.0	G25.0	G26.0	G27.0	G28.0	G29.0
C0.0	213.3	209.7	209.7	207.2	204.6	203.2	200.5	199.1	196.2	193.2
C45.0	214.4	213.5	209.0	207.3	205.4	203.3	202.2	200.1	198.9	196.6
C90.0	216.6	216.0	214.1	208.9	208.1	206.6	201.6	199.8	197.9	195.9
C135.0	226.3	222.7	221.1	219.3	218.0	217.2	217.9	217.2	214.0	212.8
C180.0	226.7	225.2	224.4	222.8	221.1	220.2	218.2	216.2	215.1	213.0
C225.0	218.1	217.2	215.2	213.1	210.8	209.6	207.1	204.6	203.4	200.8
C270.0	211.8	209.5	208.4	205.9	204.6	202.1	200.8	198.1	195.3	193.9
C315.0	214.8	212.6	211.6	209.2	206.8	204.3	202.9	200.3	197.6	196.2
C360.0	213.3	209.7	209.7	207.2	204.6	203.2	200.5	199.1	196.2	193.2
C\ G	G30.0	G31.0	G32.0	G33.0	G34.0	G35.0	G36.0	G37.0	G38.0	G39.0
C0.0	191.7	188.6	186.8	183.6	178.4	178.4	174.7	171.1	169.4	165.3
C45.0	194.1	192.8	190.1	188.7	184.6	183.1	181.6	178.6	177.3	176.9
C90.0	193.3	188.9	186.7	185.6	179.4	178.2	175.7	174.4	168.1	165.5
C135.0	211.8	209.4	208.2	205.6	204.3	201.6	198.5	197.1	194.1	190.9
C180.0	210.7	209.5	207.1	204.5	203.3	200.5	197.5	197.5	193.1	191.5
C225.0	198.0	196.7	193.9	192.4	189.4	186.2	184.7	181.5	179.7	178.1
C270.0	190.9	186.3	186.3	183.2	181.5	177.8	176.1	172.7	168.3	163.9
C315.0	193.2	190.3	190.3	185.6	184.0	180.7	177.2	175.4	171.9	169.8
C360.0	191.7	188.6	186.8	183.6	178.4	178.4	174.7	171.1	169.4	165.3

## Light intensity data Unit[cd]

C\ G	G40.0	G41.0	G42.0	G43.0	G44.0	G45.0	G46.0	G47.0	G48.0	G49.0
C0.0	161.5	159.5	155.6	151.4	149.3	145.0	143.0	138.5	134.0	131.7
C45.0	176.8	175.2	171.6	168.0	166.2	162.4	158.5	156.5	152.5	148.3
C90.0	164.1	157.6	157.6	151.5	146.8	145.2	138.9	137.3	134.2	129.4
C135.0	189.4	186.1	182.6	181.1	177.4	173.8	171.9	168.1	164.0	160.1
C180.0	188.4	185.2	183.6	180.1	178.4	174.9	173.0	169.4	165.6	163.7
C225.0	174.7	171.2	167.6	165.5	161.9	159.9	156.0	152.1	150.1	146.0
C270.0	160.2	153.7	151.9	147.7	141.0	139.0	131.8	127.5	123.1	119.2
C315.0	166.1	162.4	160.4	156.5	154.6	150.5	148.4	144.3	140.0	137.8
C360.0	161.5	159.5	155.6	151.4	149.3	145.0	143.0	138.5	134.0	131.7
C\ G	G50.0	G51.0	G52.0	G53.0	G54.0	G55.0	G56.0	G57.0	G58.0	G59.0
C0.0	127.1	124.8	103.7	90.6	90.6	90.6	90.6	85.9	83.7	76.1
C45.0	146.2	141.5	139.4	135.0	130.4	128.5	123.5	121.2	116.4	111.5
C90.0	126.1	119.8	118.1	112.0	108.6	104.5	100.7	100.7	91.5	86.5
C135.0	157.9	156.0	151.6	147.3	145.1	140.4	138.1	133.4	116.0	112.9
C180.0	148.2	143.7	140.1	136.4	134.4	130.7	130.7	124.7	120.7	118.7
C225.0	143.9	139.6	135.4	133.2	128.8	124.4	122.1	117.5	101.3	101.3
C270.0	112.6	109.2	104.1	91.4	91.4	91.4	85.5	76.1	75.6	69.9
C315.0	133.5	131.2	126.7	122.3	119.9	115.3	110.6	108.2	103.0	103.0
C360.0	127.1	124.8	103.7	90.6	90.6	90.6	90.6	85.9	83.7	76.1
C\ G	G60.0	G61.0	G62.0	G63.0	G64.0	G65.0	G66.0	G67.0	G68.0	G69.0
C0.0	74.4	72.1	67.6	65.3	60.8	56.3	54.0	49.5	45.1	43.8
C45.0	109.0	103.9	101.4	84.0	84.0	76.0	74.6	72.2	67.6	65.3
C90.0	82.0	78.1	72.5	67.2	63.8	58.3	55.6	50.5	45.8	45.8
C135.0	107.9	103.5	101.4	89.7	89.7	89.7	87.5	82.7	75.9	75.3
C180.0	114.5	110.4	108.2	103.9	101.6	101.6	101.6	88.2	85.9	81.4
C225.0	101.3	88.8	86.7	81.9	77.4	75.3	70.7	68.5	63.8	61.4
C270.0	66.8	61.2	56.0	52.9	47.1	44.0	38.2	32.9	30.3	24.8
C315.0	103.0	85.1	78.0	75.7	71.2	66.7	66.7	59.9	57.7	55.4
C360.0	74.4	72.1	67.6	65.3	60.8	56.3	54.0	49.5	45.1	43.8
C\ G	G70.0	G71.0	G72.0	G73.0	G74.0	G75.0	G76.0	G77.0	G78.0	G79.0
C0.0	40.9	38.7	36.5	32.1	28.1	25.9	22.3	19.1	17.5	14.7
C45.0	60.2	55.5	52.4	46.3	43.0	41.5	35.3	33.4	31.6	27.3
C90.0	37.6	34.8	29.7	24.4	22.3	17.5	15.2	10.4	8.0	3.9
C135.0	68.0	68.0	63.2	58.0	55.6	53.6	48.5	46.1	41.2	36.3
C180.0	78.7	77.8	73.1	70.2	65.2	62.6	57.5	52.6	49.8	45.8
C225.0	56.8	52.3	50.1	46.8	46.8	41.4	37.2	35.0	30.8	28.7
C270.0	22.2	16.5	12.4	10.1	5.8	2.6	0.9	0.5	0.5	0.5
C315.0	48.6	46.2	40.1	38.0	35.6	33.5	30.1	26.1	24.2	20.5
C360.0	40.9	38.7	36.5	32.1	28.1	25.9	22.3	19.1	17.5	14.7

## Light intensity data Unit[cd]

C\ G	G80.0	G81.0	G82.0	G83.0	G84.0	G85.0	G86.0	G87.0	G88.0	G89.0
C0.0	13.4	11.0	8.9	7.9	6.3	5.5	3.8	3.5	3.0	2.4
C45.0	23.2	21.4	17.2	14.6	13.1	10.4	9.3	7.7	6.2	5.0
C90.0	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	4.1
C135.0	34.0	29.4	25.1	23.0	19.3	17.5	14.3	12.3	10.9	9.2
C180.0	45.8	38.5	34.0	31.7	27.8	26.0	22.2	18.8	15.4	13.1
C225.0	22.1	20.4	19.2	15.9	14.3	11.7	9.1	8.1	5.5	4.4
C270.0	0.4	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.7	0.7
C315.0	18.8	15.2	12.8	11.6	9.3	8.2	6.3	4.8	3.2	2.2
C360.0	13.4	11.0	8.9	7.9	6.3	5.5	3.8	3.5	3.0	2.4
C\ G	G90.0									
C0.0	2.0									
C45.0	4.1									
C90.0	8.0									
C135.0	8.0									
C180.0	12.3									
C225.0	0.8									
C270.0	0.8									
C315.0	2.0									
C360.0	2.0									

## Zonal Luminous Flux Data

Gamma [°]	I <sub>mean</sub> [cd]	Zonal Flux [lm]	Sum Flux [lm]	Zonal Flux [%]	Sum Flux [%]
0.0	234.49	0.00	0.00	0.00	0.00
0.0-1.0	234.45	0.22	0.22	0.04	0.04
1.0-2.0	234.38	0.67	0.90	0.11	0.14
2.0-3.0	234.17	1.12	2.02	0.18	0.32
3.0-4.0	233.96	1.57	3.58	0.24	0.56
4.0-5.0	233.76	2.01	5.60	0.31	0.87
5.0-6.0	233.23	2.45	8.05	0.38	1.26
6.0-7.0	232.65	2.89	10.94	0.45	1.71
7.0-8.0	232.19	3.33	14.27	0.52	2.23
8.0-9.0	231.16	3.76	18.02	0.59	2.82
9.0-10.0	230.12	4.17	22.20	0.65	3.47
10.0-11.0	228.68	4.58	26.78	0.72	4.18
11.0-12.0	227.79	4.99	31.77	0.78	4.96
12.0-13.0	227.02	5.40	37.17	0.84	5.81
13.0-14.0	225.48	5.79	42.96	0.90	6.71
14.0-15.0	224.53	6.18	49.14	0.97	7.68
15.0-16.0	223.10	6.56	55.70	1.02	8.70
16.0-17.0	221.93	6.93	62.63	1.08	9.79
17.0-18.0	220.67	7.30	69.93	1.14	10.93
18.0-19.0	219.08	7.65	77.58	1.20	12.12
19.0-20.0	217.74	7.99	85.57	1.25	13.37
20.0-21.0	215.79	8.32	93.90	1.30	14.67
21.0-22.0	214.18	8.64	102.54	1.35	16.02
22.0-23.0	211.71	8.94	111.47	1.40	17.42
23.0-24.0	209.93	9.22	120.69	1.44	18.86
24.0-25.0	208.31	9.51	130.20	1.49	20.34
25.0-26.0	206.42	9.79	139.99	1.53	21.87
26.0-27.0	204.43	10.05	150.04	1.57	23.44
27.0-28.0	202.30	10.30	160.34	1.61	25.05
28.0-29.0	200.29	10.53	170.87	1.65	26.70
29.0-30.0	197.98	10.75	181.63	1.68	28.38
30.0-31.0	195.31	10.94	192.57	1.71	30.09
31.0-32.0	193.68	11.14	203.72	1.74	31.83
32.0-33.0	191.15	11.34	215.05	1.77	33.60
33.0-34.0	188.10	11.48	226.53	1.79	35.39
34.0-35.0	185.82	11.61	238.14	1.81	37.21
35.0-36.0	183.27	11.75	249.90	1.84	39.04
36.0-37.0	181.05	11.88	261.78	1.86	40.90
37.0-38.0	177.75	11.98	273.75	1.87	42.77
38.0-39.0	175.23	12.05	285.80	1.88	44.65
39.0-40.0	172.63	12.13	297.94	1.90	46.55

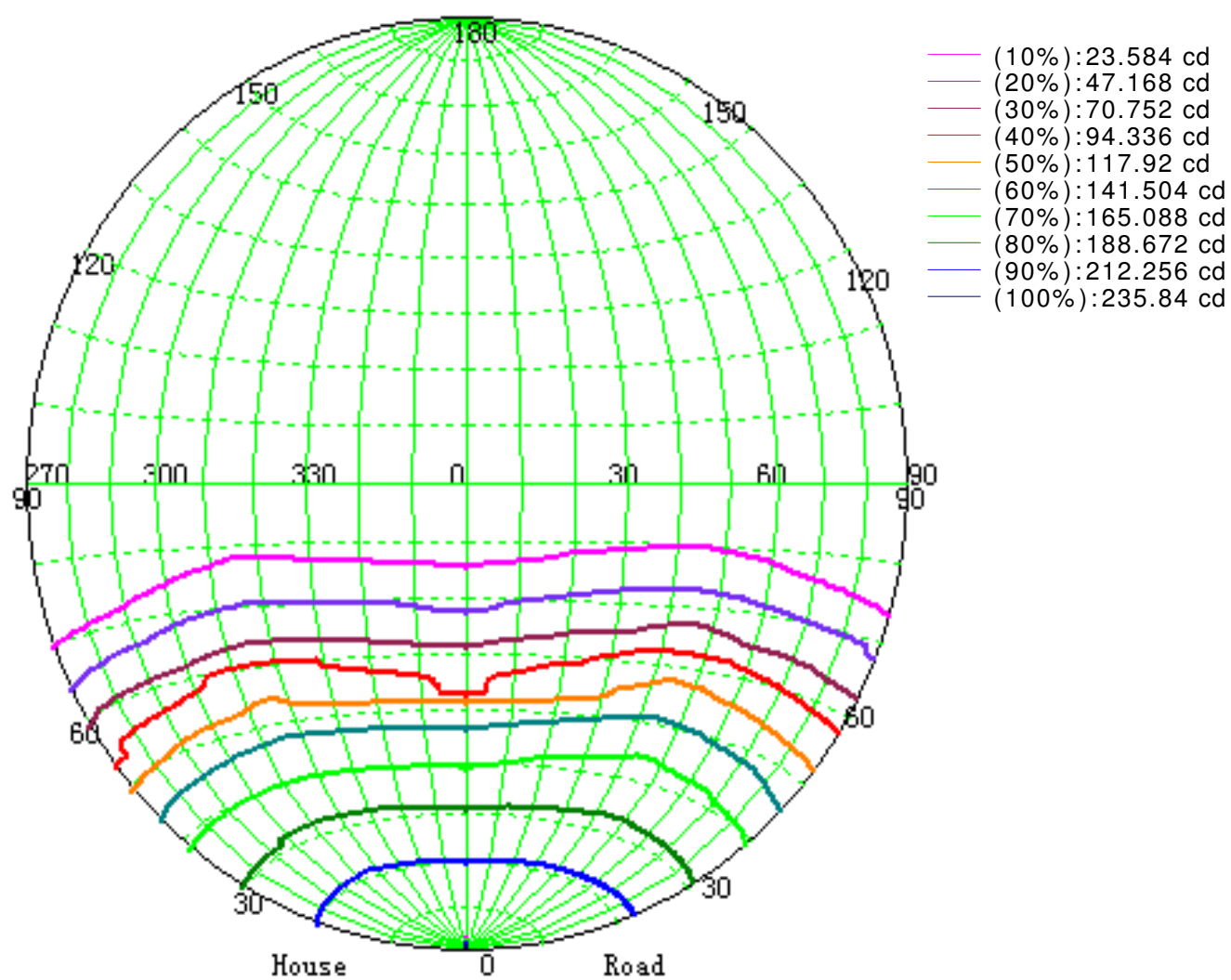
## Zonal Luminous Flux Data

Gamma [°]	I <sub>mean</sub> [cd]	Zonal Flux [lm]	Sum Flux [lm]	Zonal Flux [%]	Sum Flux [%]
40.0-41.0	168.85	12.16	310.09	1.90	48.45
41.0-42.0	166.36	12.18	322.27	1.90	50.35
42.0-43.0	162.74	12.19	334.46	1.90	52.26
43.0-44.0	159.44	12.16	346.62	1.90	54.16
44.0-45.0	156.34	12.14	358.76	1.90	56.05
45.0-46.0	152.68	12.09	370.84	1.89	57.94
46.0-47.0	149.20	12.01	382.85	1.88	59.82
47.0-48.0	145.43	11.91	394.76	1.86	61.68
48.0-49.0	142.03	11.80	406.57	1.84	63.52
49.0-50.0	136.92	11.63	418.20	1.82	65.34
50.0-51.0	133.22	11.43	429.63	1.79	67.12
51.0-52.0	127.39	11.18	440.81	1.75	68.87
52.0-53.0	121.02	10.81	451.61	1.69	70.56
53.0-54.0	118.67	10.56	462.18	1.65	72.21
54.0-55.0	115.73	10.46	472.64	1.63	73.85
55.0-56.0	112.74	10.32	482.97	1.61	75.46
56.0-57.0	108.46	10.11	493.08	1.58	77.04
57.0-58.0	101.01	9.69	502.77	1.51	78.55
58.0-59.0	97.50	9.28	512.05	1.45	80.00
59.0-60.0	94.87	9.09	521.13	1.42	81.42
60.0-61.0	87.89	8.72	529.86	1.36	82.78
61.0-62.0	83.96	8.28	538.14	1.29	84.08
62.0-63.0	77.58	7.86	545.99	1.23	85.31
63.0-64.0	74.46	7.46	553.45	1.17	86.47
64.0-65.0	71.00	7.20	560.65	1.12	87.60
65.0-66.0	68.62	6.97	567.62	1.09	88.68
66.0-67.0	63.05	6.62	574.24	1.03	89.72
67.0-68.0	59.01	6.18	580.42	0.97	90.69
68.0-69.0	56.64	5.90	586.32	0.92	91.61
69.0-70.0	51.64	5.56	591.88	0.87	92.48
70.0-71.0	48.72	5.19	597.07	0.81	93.29
71.0-72.0	44.69	4.86	601.93	0.76	94.05
72.0-73.0	40.74	4.47	606.40	0.70	94.74
73.0-74.0	37.80	4.13	610.52	0.65	95.39
74.0-75.0	34.83	3.84	614.36	0.60	95.99
75.0-76.0	30.87	3.49	617.85	0.54	96.53
76.0-77.0	27.91	3.13	620.98	0.49	97.02
77.0-78.0	25.45	2.86	623.84	0.45	97.47
78.0-79.0	22.21	2.56	626.40	0.40	97.87
79.0-80.0	19.76	2.26	628.66	0.35	98.22
80.0-81.0	17.08	1.99	630.66	0.31	98.53

## Zonal Luminous Flux Data

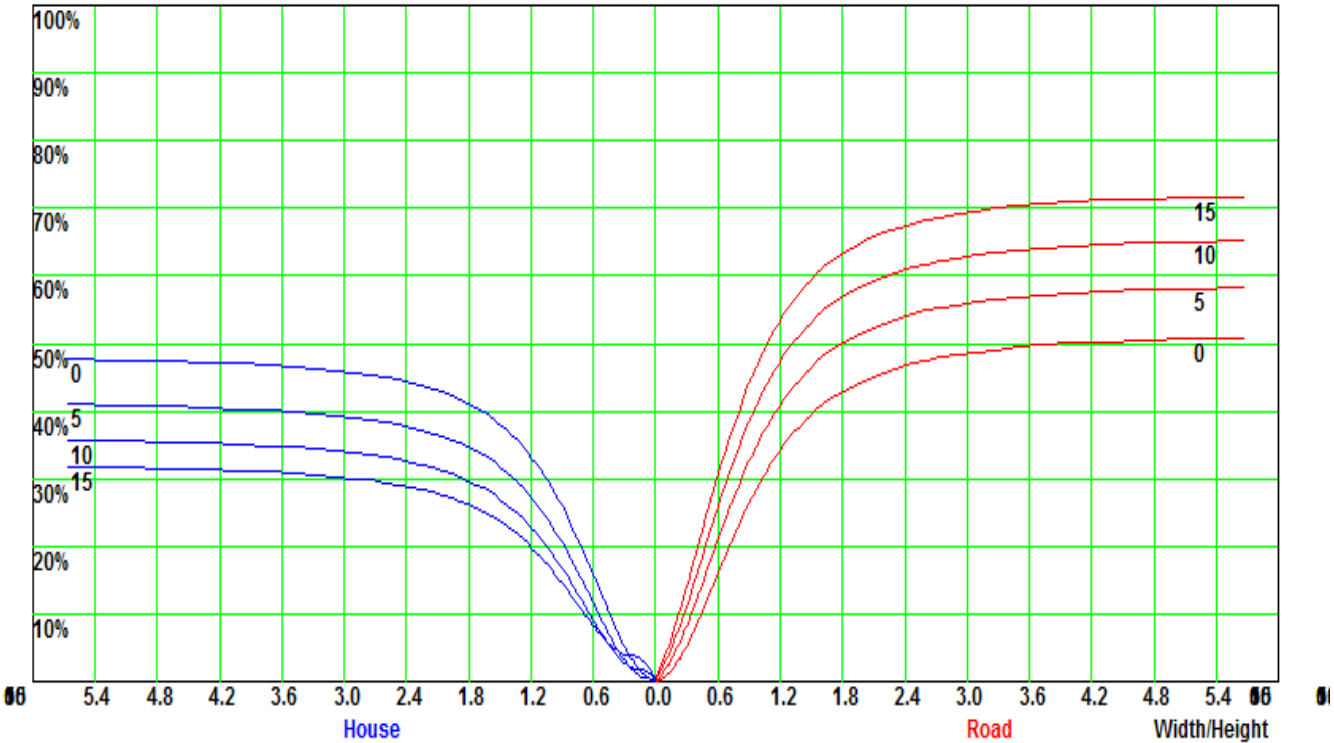
[illegible]

## Iso-Candela [cd]

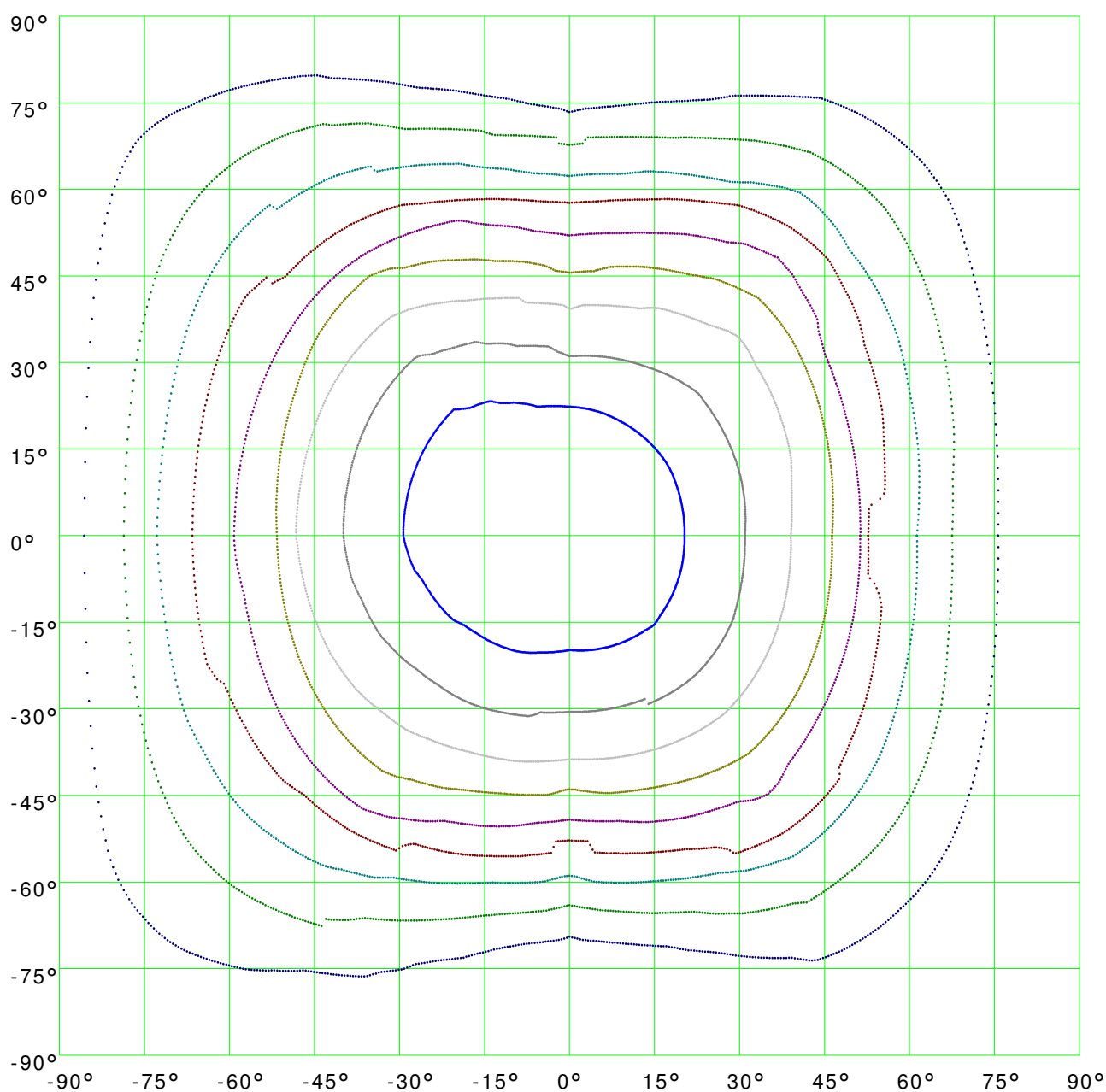




# Coefficient Utilization Curve

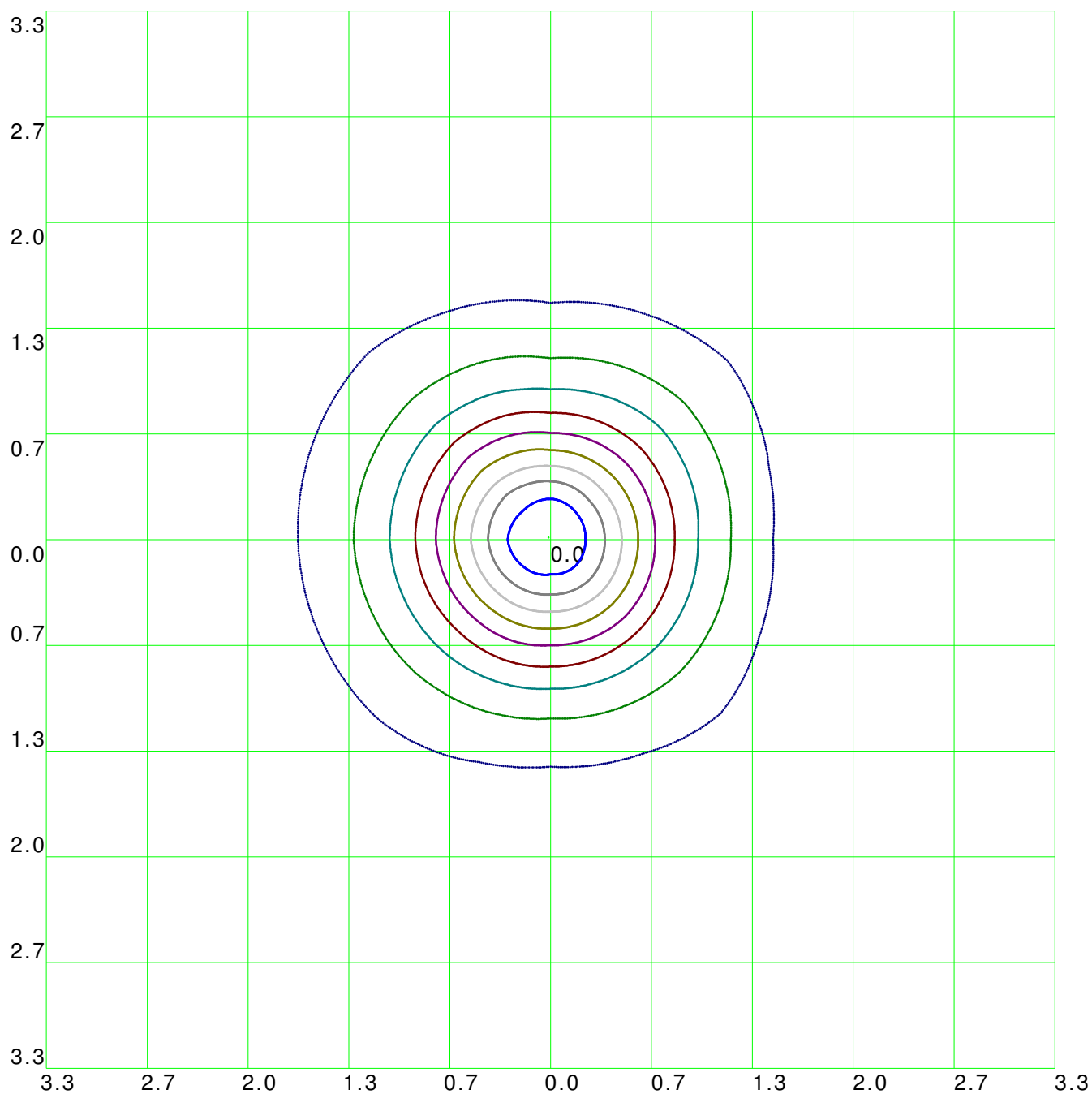


## Isocandela(rectangle)



(10%): 23.6cd	(20%): 47.2cd	(30%): 70.8cd	(40%): 94.3cd
(50%): 117.9cd	(60%): 141.5cd	(70%): 165.1cd	(80%): 188.7cd
(90%): 212.3cd	(100%): 235.8cd		

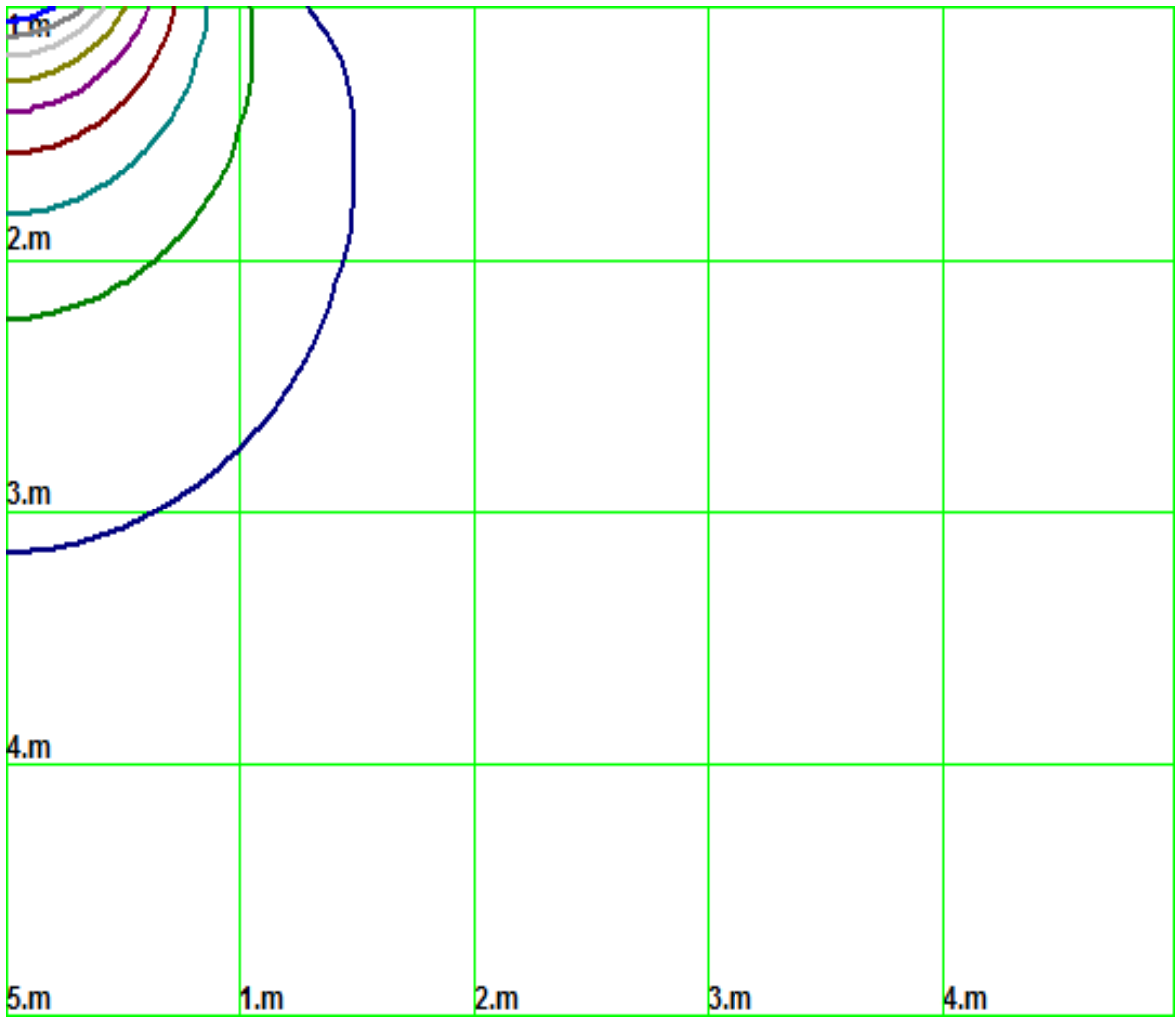
## Isolx curve



Height: 1 m

(10%): 23.6lx	(20%): 47.2lx	(30%): 70.8lx	(40%): 94.3lx
(50%): 117.9lx	(60%): 141.5lx	(70%): 165.1lx	(80%): 188.7lx
(90%): 212.3lx	(100%): 235.6lx		

# Space Isolx Curve



(10%): 23.6lx	(20%): 47.2lx	(30%): 70.8lx	(40%): 94.3lx
(50%): 117.9lx	(60%): 141.5lx	(70%): 165.1lx	(80%): 188.7lx
(90%): 212.3lx	(100%): 235.6lx		

## Luminance Limiting Curve

Diameter: 0mm

Length: 0mm

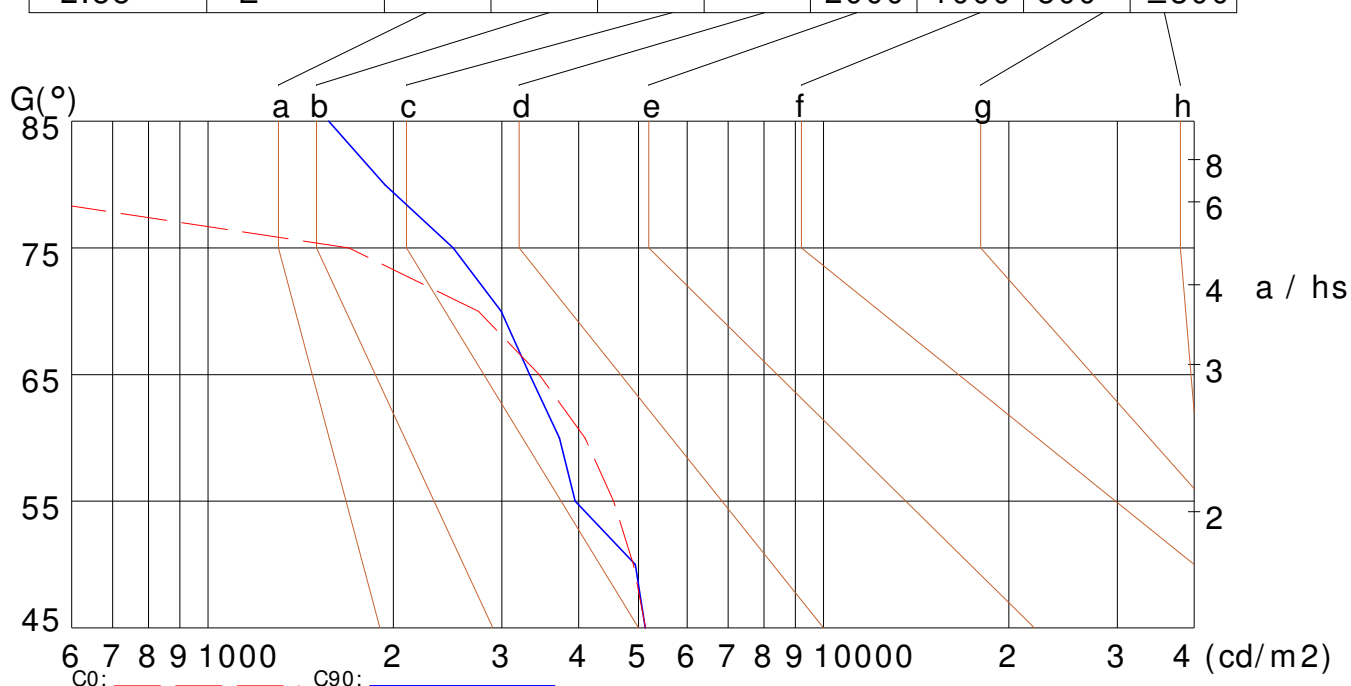
Width: 0mm

Height: 0mm

(cd/m<sup>2</sup>)

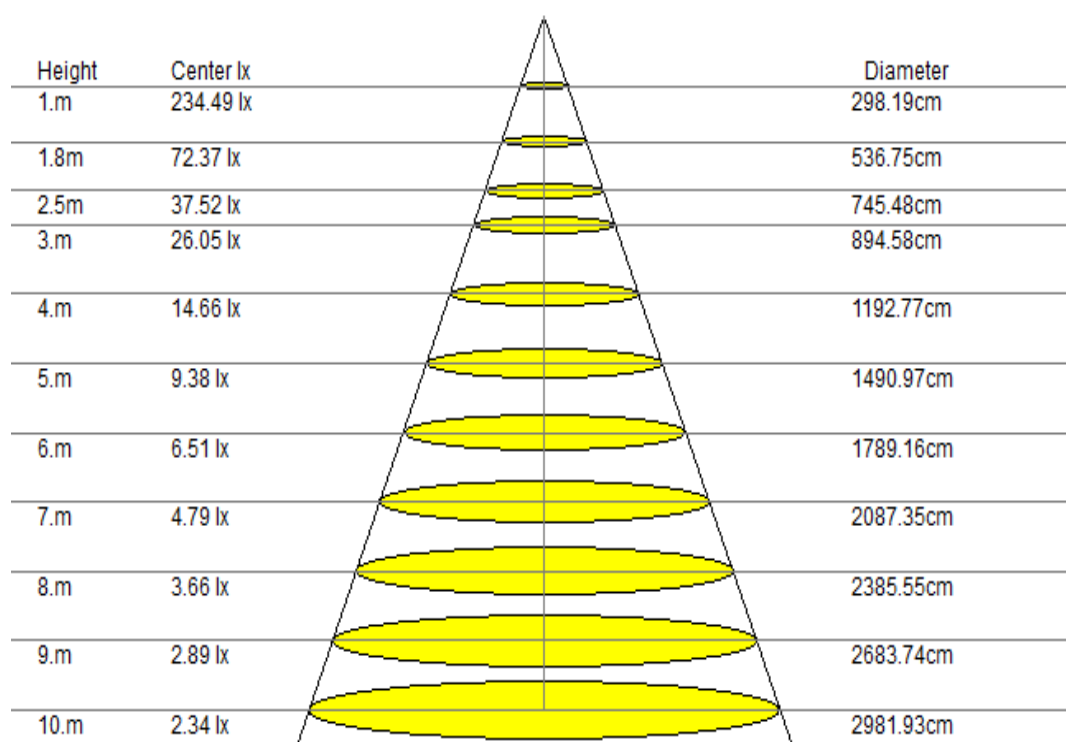
$\gamma$	45°	50°	55°	60°	65°	70°	75°	80°	85°
C0	5134	4905	4556	4098	3450	2750	1693	41	41
C90	5128	4943	3948	3721	3328	2993	2501	1936	1569

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



Lum. Limiting Curve (C0/C90)

## Lux-Distance Curve

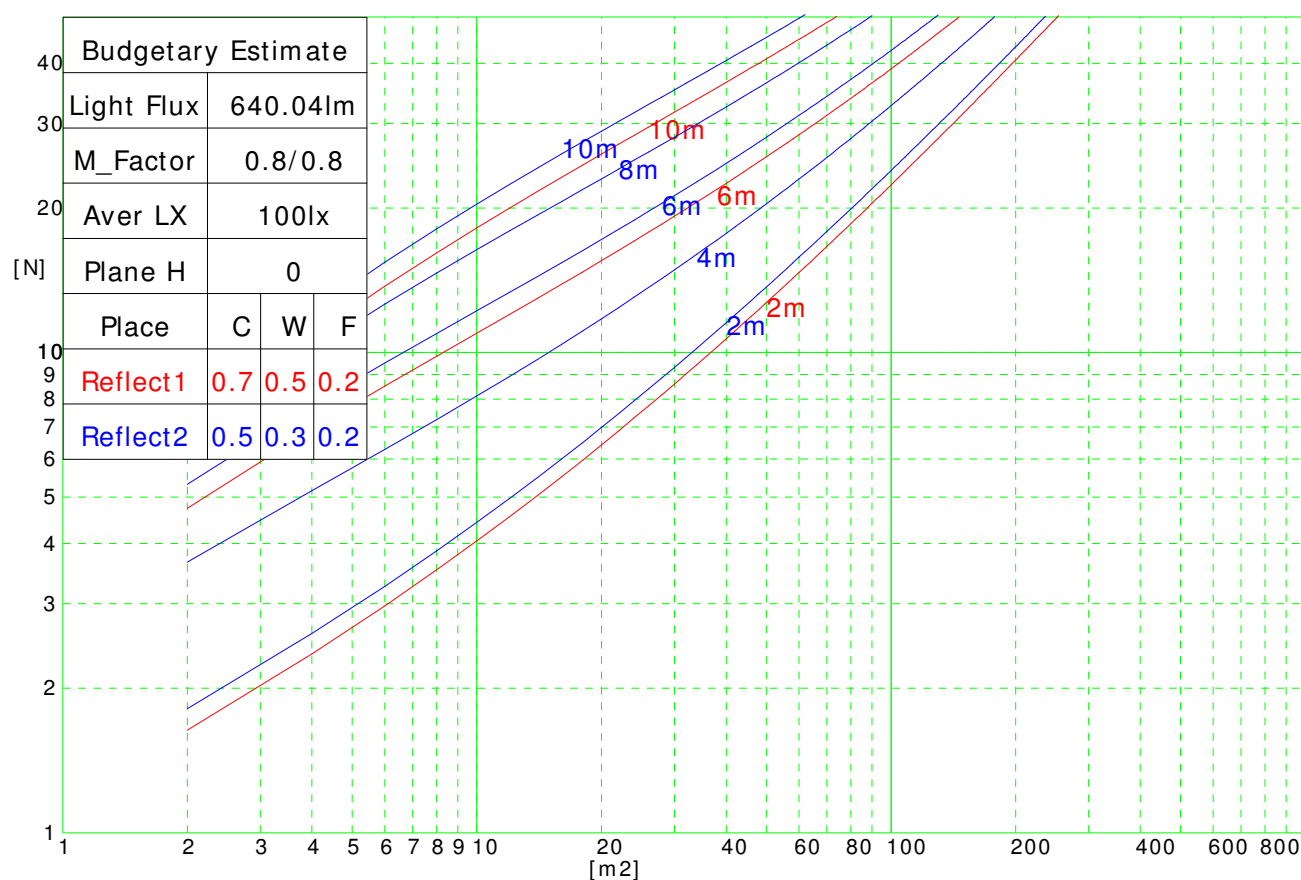


Beam Angle: 112.30°(50% I<sub>max</sub>)

## Coefficients of Utilization

RHOCC	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 FOR RHOFC= 20															
0	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1	1.05	1.03	1.02	1.04	1.02	1.00	1.00	0.98	0.96	0.95	0.93	0.91	0.89	0.86	0.84	0.79
2	0.90	0.87	0.85	0.89	0.86	0.84	0.87	0.83	0.80	0.83	0.79	0.76	0.79	0.75	0.71	0.66
3	0.77	0.74	0.72	0.77	0.73	0.71	0.76	0.71	0.68	0.73	0.69	0.65	0.70	0.65	0.61	0.56
4	0.67	0.64	0.62	0.67	0.63	0.61	0.67	0.62	0.58	0.65	0.60	0.55	0.63	0.57	0.52	0.48
5	0.58	0.55	0.54	0.59	0.55	0.53	0.59	0.54	0.50	0.58	0.53	0.48	0.57	0.51	0.46	0.42
6	0.52	0.49	0.47	0.52	0.49	0.46	0.53	0.48	0.44	0.53	0.47	0.42	0.52	0.45	0.40	0.37
7	0.46	0.43	0.42	0.47	0.43	0.41	0.48	0.43	0.39	0.48	0.42	0.38	0.48	0.41	0.36	0.32
8	0.41	0.39	0.37	0.42	0.39	0.36	0.43	0.38	0.35	0.44	0.38	0.34	0.44	0.37	0.32	0.29
9	0.37	0.35	0.33	0.38	0.35	0.33	0.40	0.35	0.32	0.40	0.34	0.30	0.41	0.34	0.29	0.26
10	0.34	0.32	0.30	0.35	0.32	0.30	0.36	0.32	0.29	0.37	0.31	0.27	0.38	0.31	0.26	0.24

# Indoor Budgetary Estimate Chart





Ceiling		70	70	50	50	30	70	70	50	50	30
Wall		50	30	50	30	30	50	30	50	30	30
Floor		20	20	20	20	20	20	20	20	20	20
Room Size		Left to light axis direction of observation					Direction of light axis parallel observation				
X	Y										
2H	2H	14.7	16.0	14.9	15.9	16.5	14.7	15.9	14.8	16.0	16.5
	3H	16.3	17.4	16.7	17.9	17.9	16.2	17.4	16.4	17.8	18.0
	4H	16.9	18.1	17.4	18.7	18.8	16.9	18.1	17.3	18.5	18.8
	6H	17.6	18.5	18.0	18.9	18.9	17.4	18.3	17.8	18.9	19.0
	8H	17.8	18.9	18.1	19.0	19.3	17.7	18.7	17.9	19.0	19.3
4H	12H	17.9	18.8	18.1	19.2	19.5	17.7	18.7	18.1	19.2	19.6
	2H	15.7	16.6	15.9	16.8	17.0	15.6	16.6	15.8	16.9	17.0
	3H	17.5	18.4	17.7	18.4	18.8	17.3	18.2	17.6	18.3	18.7
	4H	18.3	18.9	18.5	19.1	19.5	18.0	18.9	18.4	19.1	19.6
	6H	18.8	19.5	19.1	19.8	20.2	18.7	19.5	18.9	19.7	20.0
8H	8H	19.0	19.7	19.4	20.0	20.3	19.0	19.5	19.3	20.0	20.3
	12H	19.2	19.8	19.7	20.0	20.5	19.1	19.8	19.5	20.1	20.5
	4H	18.5	19.2	18.8	19.4	19.8	18.5	19.1	18.7	19.4	19.8
	6H	19.3	19.8	19.8	20.2	20.6	19.2	19.7	19.6	20.2	20.5
	8H	19.8	20.2	20.2	20.5	20.9	19.6	20.0	20.1	20.4	21.0
12H	12H	20.0	20.4	20.4	20.9	21.1	19.8	20.3	20.3	20.8	21.2
	4H	18.6	19.2	19.1	19.6	19.8	18.5	19.0	18.9	19.4	19.8
	6H	19.5	20.0	19.9	20.2	20.7	19.4	19.9	19.8	20.2	20.6
	8H	19.9	20.3	20.4	20.5	21.1	19.8	20.2	20.3	20.6	21.0