

**IES Indoor Report**  
**Photometric Filename:KARLIN4FTCCT-4K.IES**

**Indoor Luminaire Photometric Data**

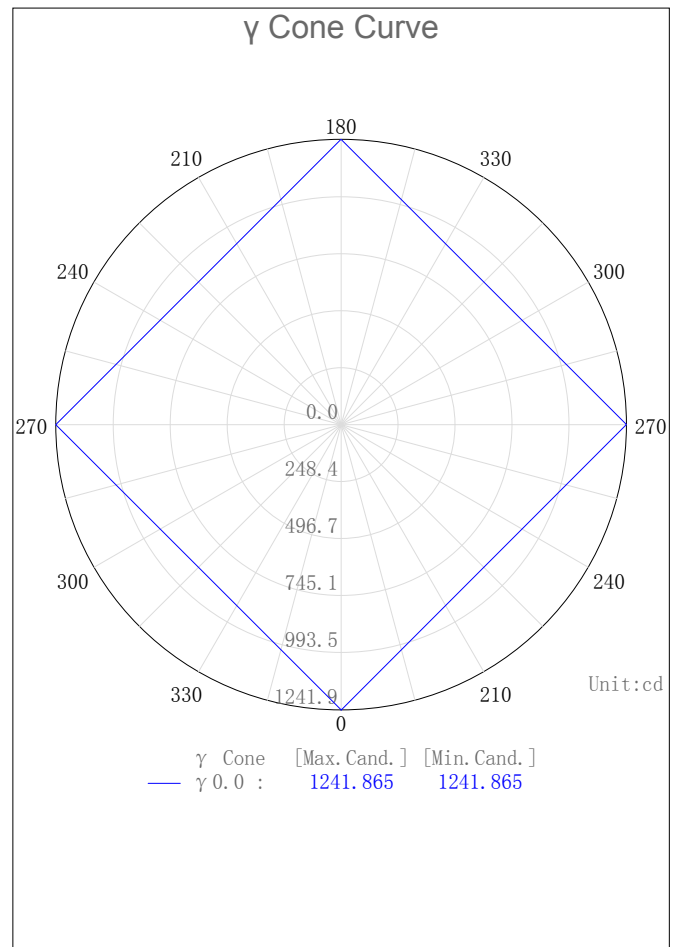
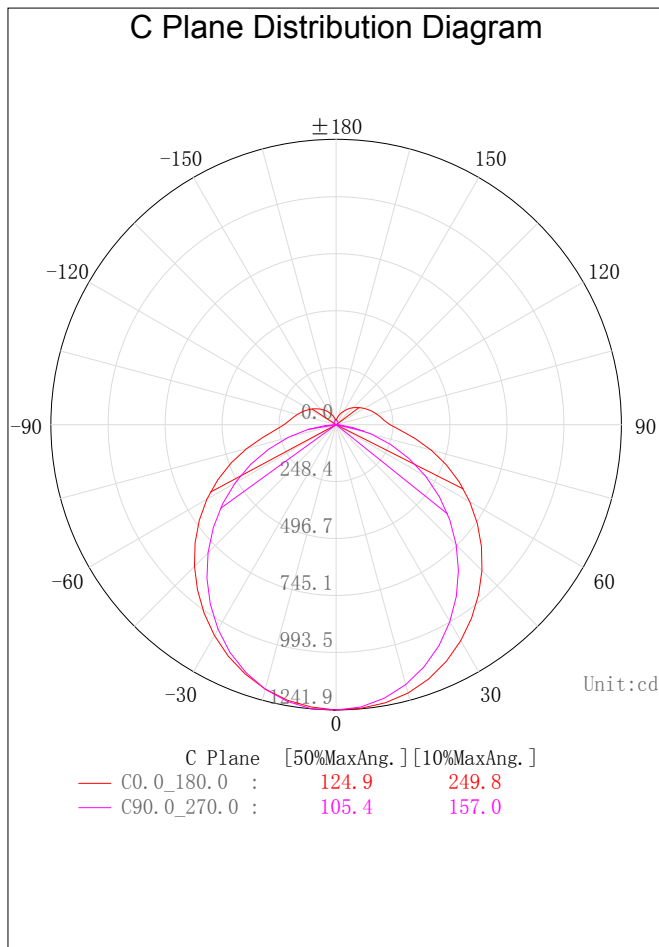
**Description Information**

Lum. Name: KARLIN4FTCCT-4K	Lum. Catalog: LED BATTEN	Test ID:
Lamp Name: 4000K	Lamp Catalog: SMD2835	Test Date: 2022/06/28
Manufacture:	ShldAngle(°):	Test Machine:GON-2000
Test Lab:	Frequency (Hz):	Lamp CCT(K): Ra:
Lum. Size (W*L*H): 0.060m*1.200m*0.065m	Lum. Area (m2): 0.150	Lum. W (kg): 2.000
Test System: C, $\gamma$	Test Step: C=90.0 $\gamma$ =5.0	Temp. (°C): 25
		Humidity(%):

**Character Parameter**

Lamp Speciality Parameter		Luminaire Speciality Parameter	
Rated Flux(lm): 4215.050	Luminaire Flux: 4215.051lm	Field Angle(10%Imax): 249.8	
Rated Power(W):	Luminaire Efficiency: 100.00%	Down Lumens&Percent: 3763.6381m 89.29%	
Rated Voltage(V):	Luminaire EER(lm/W): 129.177	Up Lumens&Percent: 451.4131m 10.71%	
Tested Power(W): 32.630	Max. Cand. (cd): 1241.865	S/MH: C0_a180=1.285 C90_270=1.212	
Lamps' Inside: 1	Max Cand@Ang. (°): C=0.0 $\gamma$ =0.0	CIE Type: General Diffuse	
Tested Electric:U=238.8V, I=0.138A, PF=0.000	Beam Angle(50%Imax): 124.9	ErP $\phi$ use(120°): 2776.551lm	
Lamp Size (W*L*H): 0.060m*1.200m*0.065m	Left=-61.7 Right=63.2	IRF: 108.265%	

**Lighting Distribution Diagram**



# IES Indoor Report

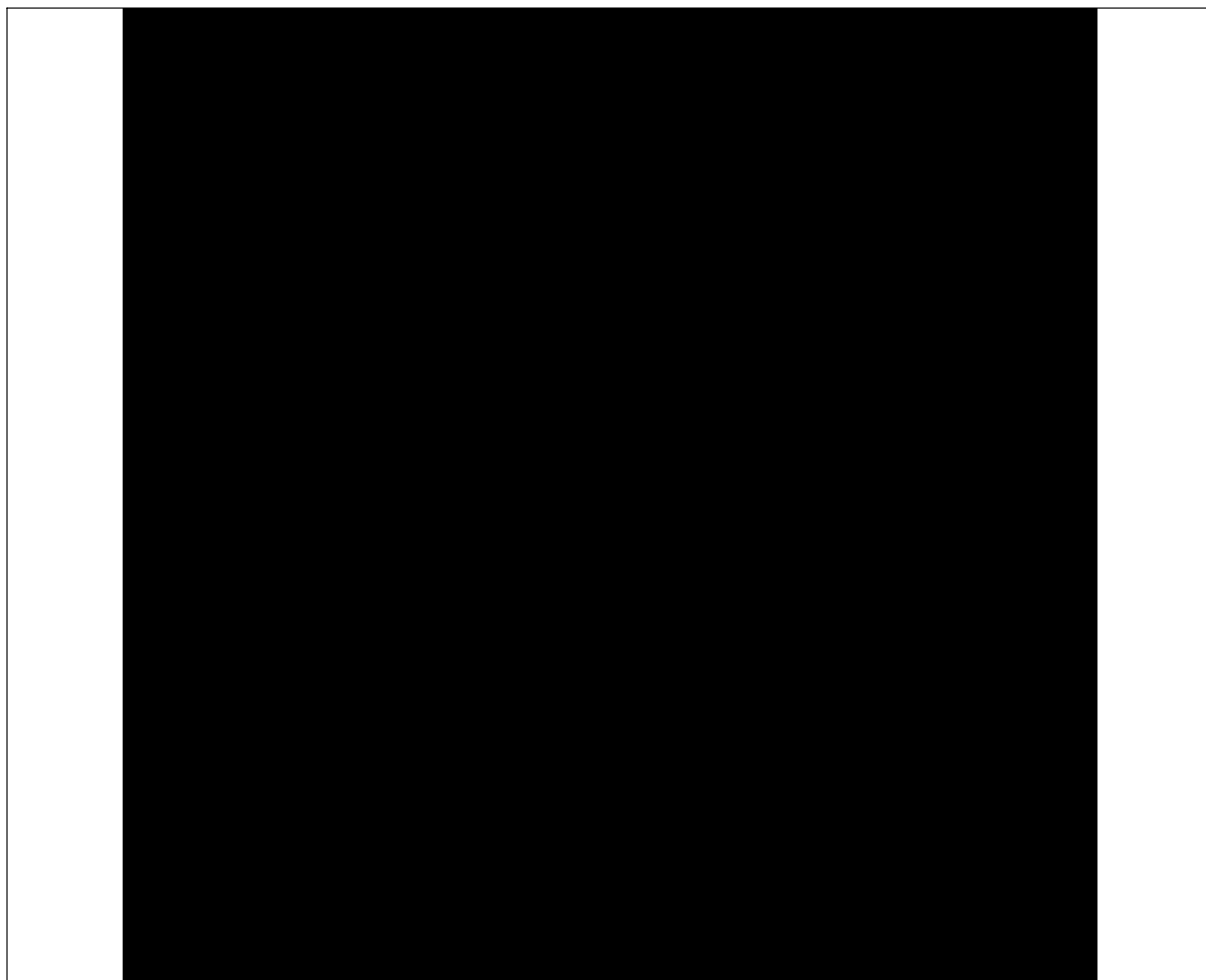
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## 3D Light Intensity Distribution Modal

Lum. Name: KARLIN4FTCCT-4K	Lum. Catalog: LED BATTEN	Test ID:
Lamp Name: 4000K	Lamp Catalog: SMD2835	Test Lab:
Manufacture:	Test Machine:GON-2000	Test Date: 2022/06/28

## 3D Light Intensity Distribution Modal



Curves: 3D Model —— Fixture —— Vert. HUD —— Hori. HUD ——  
View Angles: Orient:0 Tilt:0 Roll:0 Spin:0

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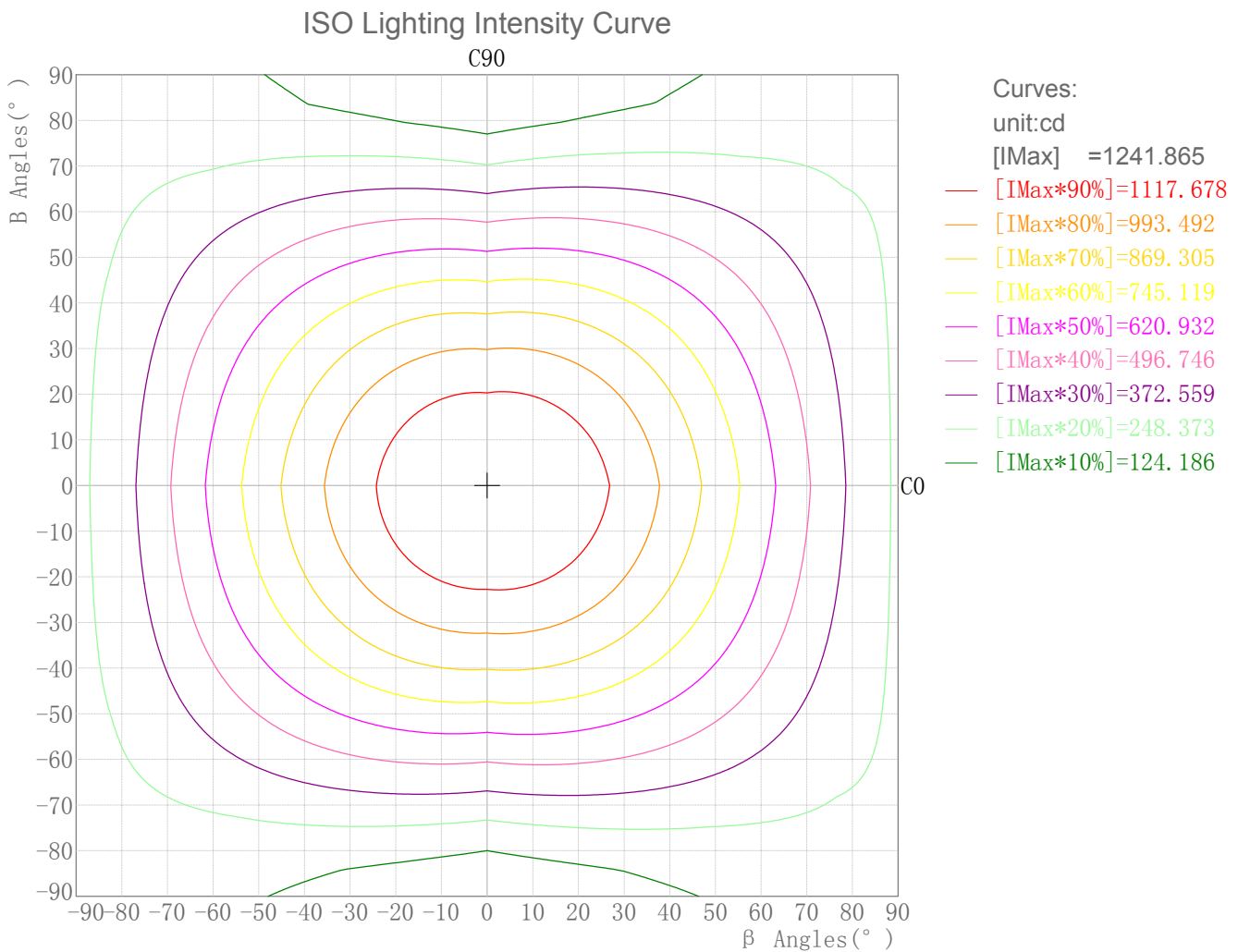
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## Zonal Flux Tabulation

Zone (γ)	Zone Flux (lm)	Sums Flux (lm)	Zone%Lamp	Sums%Lamp
0.0-5.0	29.63	29.63	0.70	0.70
5.0-10.0	87.90	117.53	2.09	2.79
10.0-15.0	143.02	260.55	3.39	6.18
15.0-20.0	192.99	453.54	4.58	10.76
20.0-25.0	236.07	689.61	5.60	16.36
25.0-30.0	270.91	960.53	6.43	22.79
30.0-35.0	296.66	1257.19	7.04	29.83
35.0-40.0	312.88	1570.06	7.42	37.25
40.0-45.0	319.44	1889.50	7.58	44.83
45.0-50.0	316.48	2205.98	7.51	52.34
50.0-55.0	304.37	2510.35	7.22	59.56
55.0-60.0	283.70	2794.05	6.73	66.29
60.0-65.0	255.28	3049.33	6.06	72.34
65.0-70.0	220.30	3269.62	5.23	77.57
70.0-75.0	180.53	3450.15	4.28	81.85
75.0-80.0	138.87	3589.02	3.29	85.15
80.0-85.0	100.63	3689.65	2.39	87.54
85.0-90.0	73.98	3763.64	1.76	89.29
90.0-95.0	61.54	3825.18	1.46	90.75
95.0-100.0	55.78	3880.96	1.32	92.07
100.0-105.0	50.93	3931.89	1.21	93.28
105.0-110.0	46.31	3978.20	1.10	94.38
110.0-115.0	41.80	4020.00	0.99	95.37
115.0-120.0	37.27	4057.27	0.88	96.26
120.0-125.0	32.60	4089.87	0.77	97.03
125.0-130.0	28.01	4117.88	0.66	97.69
130.0-135.0	23.59	4141.46	0.56	98.25
135.0-140.0	19.55	4161.01	0.46	98.72
140.0-145.0	15.86	4176.87	0.38	99.09
145.0-150.0	12.39	4189.26	0.29	99.39
150.0-155.0	9.38	4198.64	0.22	99.61
155.0-160.0	6.87	4205.52	0.16	99.77
160.0-165.0	4.68	4210.20	0.11	99.88
165.0-170.0	2.90	4213.10	0.07	99.95
170.0-175.0	1.51	4214.61	0.04	99.99
175.0-180.0	0.44	4215.05	0.01	100.00

**Rectangle ISO Lighting Intensity Diagram**

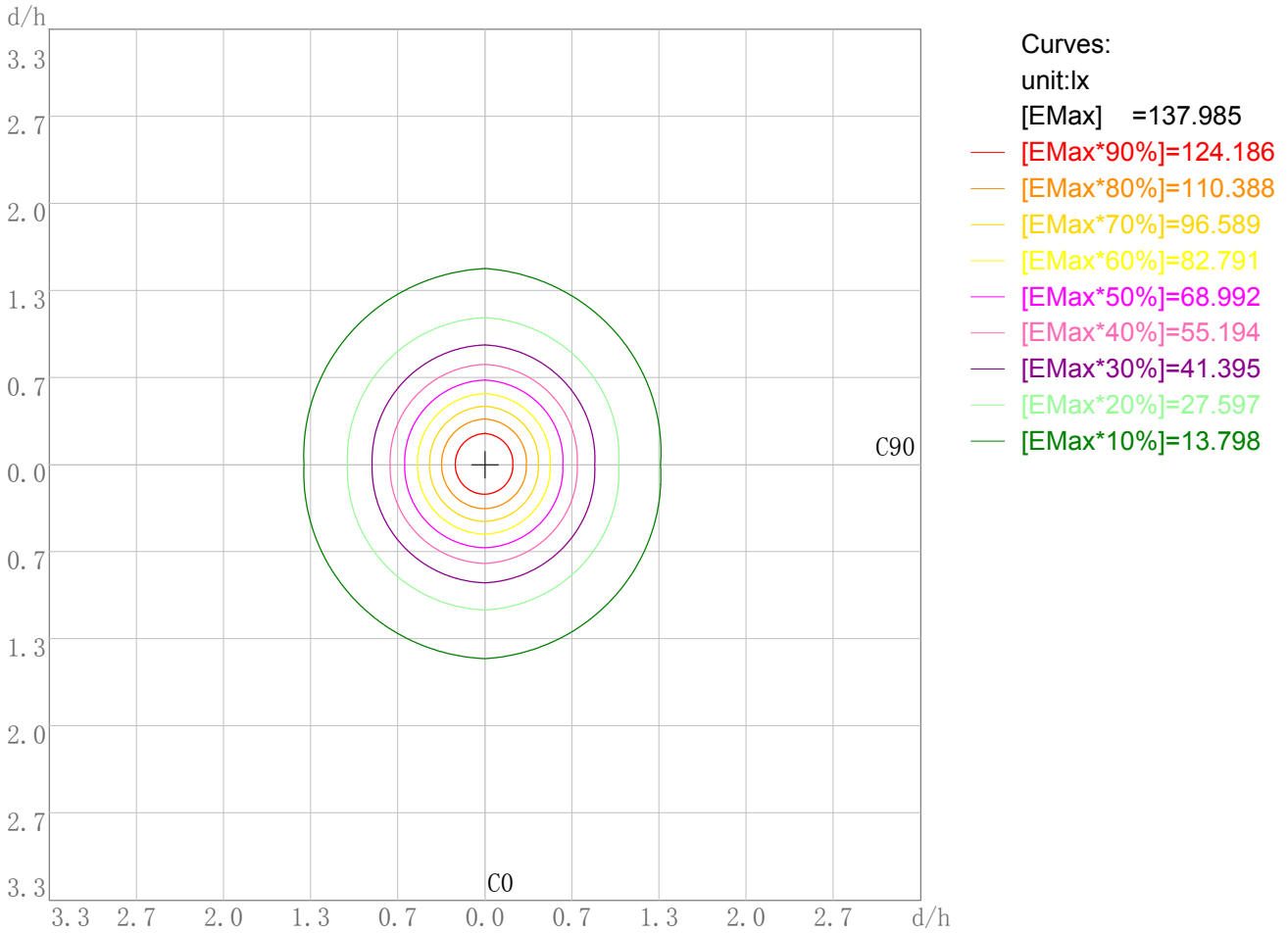
Lum. Name: KARLIN4FTCCT-4K	Lum. Catalog: LED BATTEN	Test ID:
Lamp Name: 4000K	Lamp Catalog: SMD2835	Test Lab:
Manufacture:	Test Machine:GON-2000	Test Date: 2022/06/28



**Plane ISO-Illuminance Diagram**

Lum. Name: KARLIN4FTCCT-4K	Lum. Catalog: LED BATTEN	Test ID:
Lamp Name: 4000K	Lamp Catalog: SMD2835	Test Lab:
Manufacture:	Test Machine:GON-2000	Test Date: 2022/06/28

**Plane ISO-Illuminance Curve**

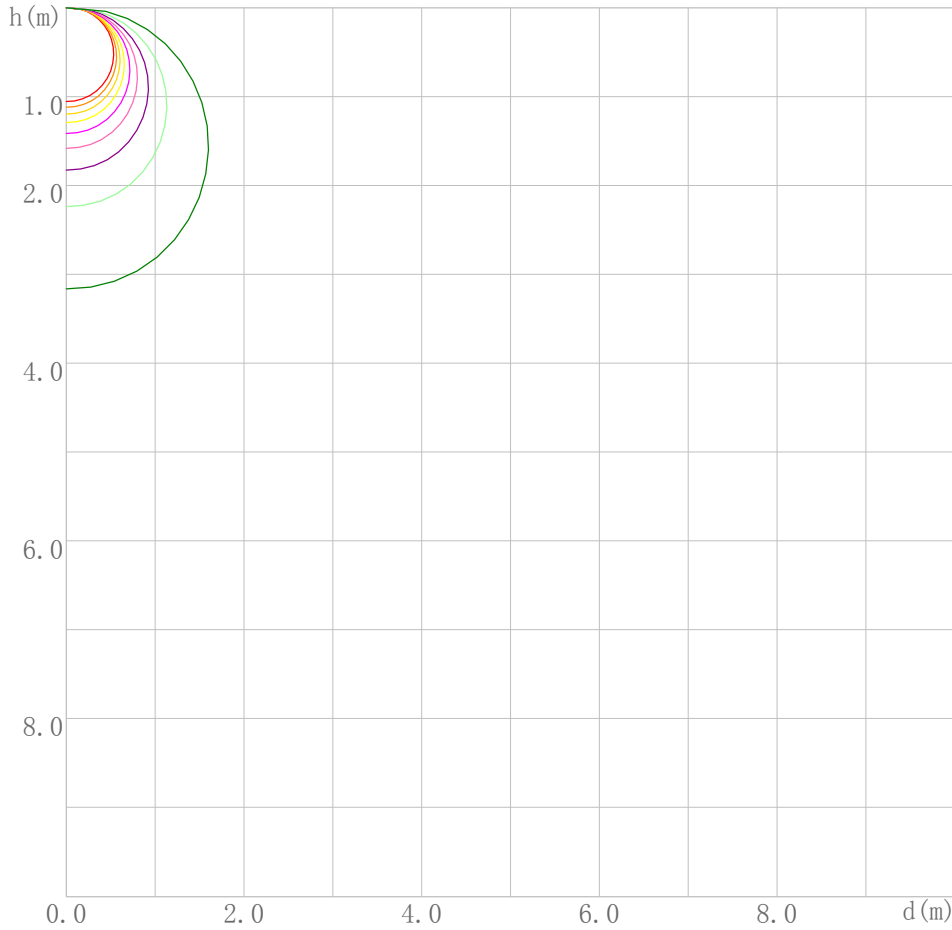


Working Plane Luminaire Mounting Height(m): 3.00  
 Working Plane Maximum Illuminance(lx): 137.99  
 Working Plane Maximum Illuminance Position(d/h):H0.0 V0.0

**Space ISO Illuminance Diagram**

Lum. Name: KARLIN4FTCCT-4K	Lum. Catalog: LED BATTEN	Test ID:
Lamp Name: 4000K	Lamp Catalog: SMD2835	Test Lab:
Manufacture:	Test Machine:GON-2000	Test Date: 2022/06/28

**Space ISO Illuminance Curve**

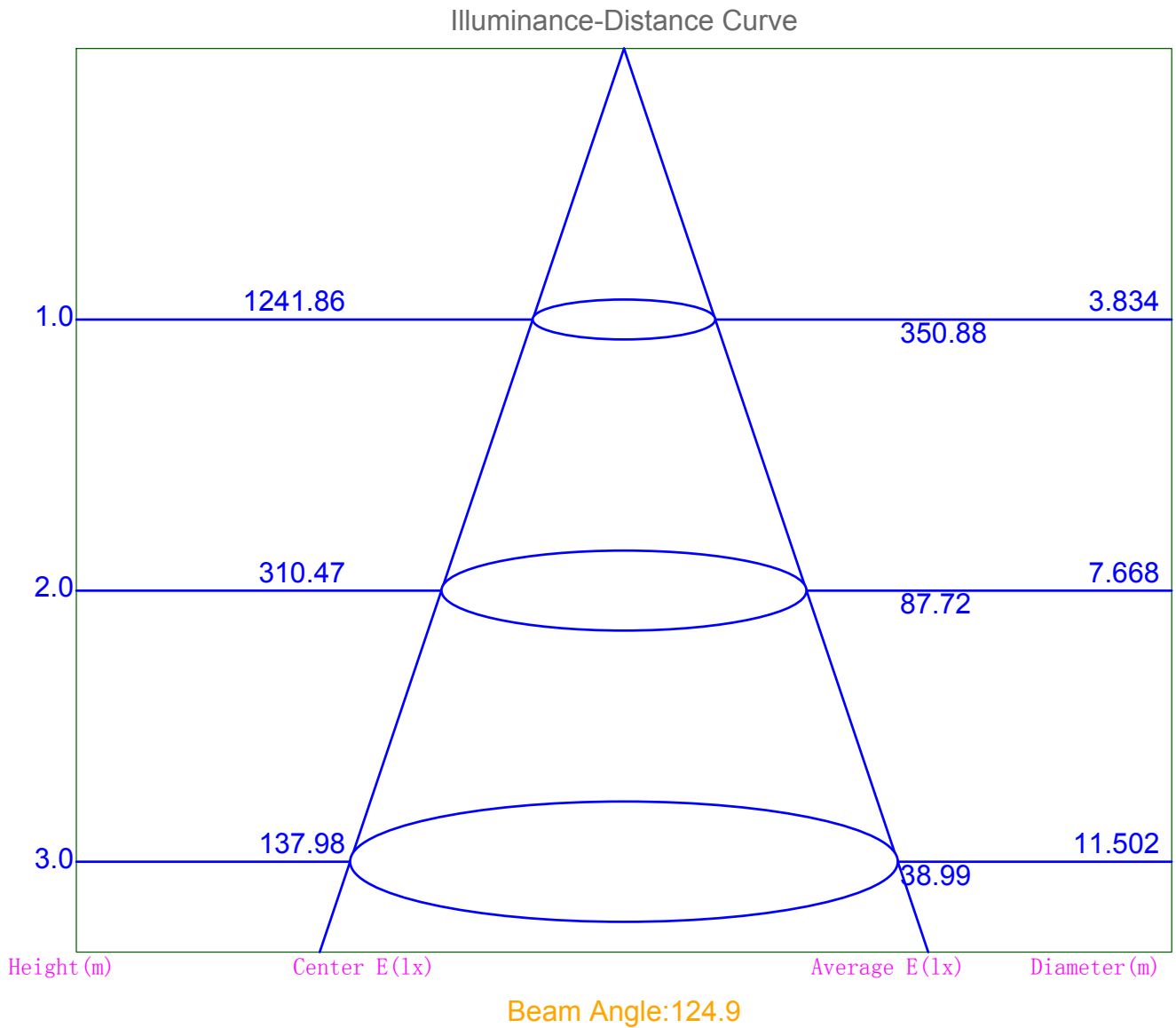


- Curves:  
unit:lx  
[EMax] =1241.865  
— [EMax\*90%]=1117.678  
— [EMax\*80%]=993.492  
— [EMax\*70%]=869.305  
— [EMax\*60%]=745.119  
— [EMax\*50%]=620.932  
— [EMax\*40%]=496.746  
— [EMax\*30%]=372.559  
— [EMax\*20%]=248.373  
— [EMax\*10%]=124.186

Space Plane Maximum Illuminance and @Angle:1241.86,0.0deg  
Plane Maximum Lighting Intensity and @Angle:1241.865cd,0deg

### Illuminance-Distance Diagram

Lum. Name: KARLIN4FTCCT-4K	Lum. Catalog: LED BATTEN	Test ID:
Lamp Name: 4000K	Lamp Catalog: SMD2835	Test Lab:
Manufacture:	Test Machine:GON-2000	Test Date: 2022/06/28



### Indoor Luminance Limiting Curves

Lum. Name: KARLIN4FTCCT-4K	Lum. Catalog: LED BATTEN	Test ID:
Lamp Name: 4000K	Lamp Catalog: SMD2835	Test Lab:
Manufacture:	Test Machine:GON-2000	Test Date: 2022/06/28

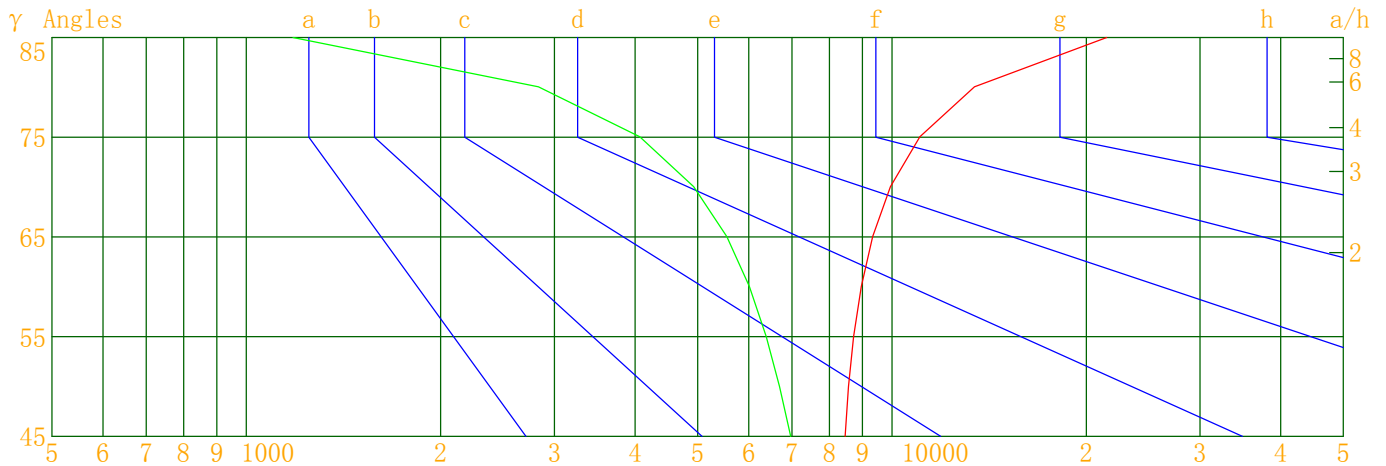
Glare Grade Table

GI	Quality	Using Illuminance							
		a	b	c	d	e	f	g	h
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	a				2000	1000	500	<=300
			b	c	d	e	f	g	h

Luminance Table

Gama (deg)	45	50	55	60	65	70	75	80	85
C0	8463	8565	8722	8963	9335	9943	11044	13424	21502
C90	6968	6697	6386	6013	5547	4930	4068	2835	1181

Luminance Limiting Curve

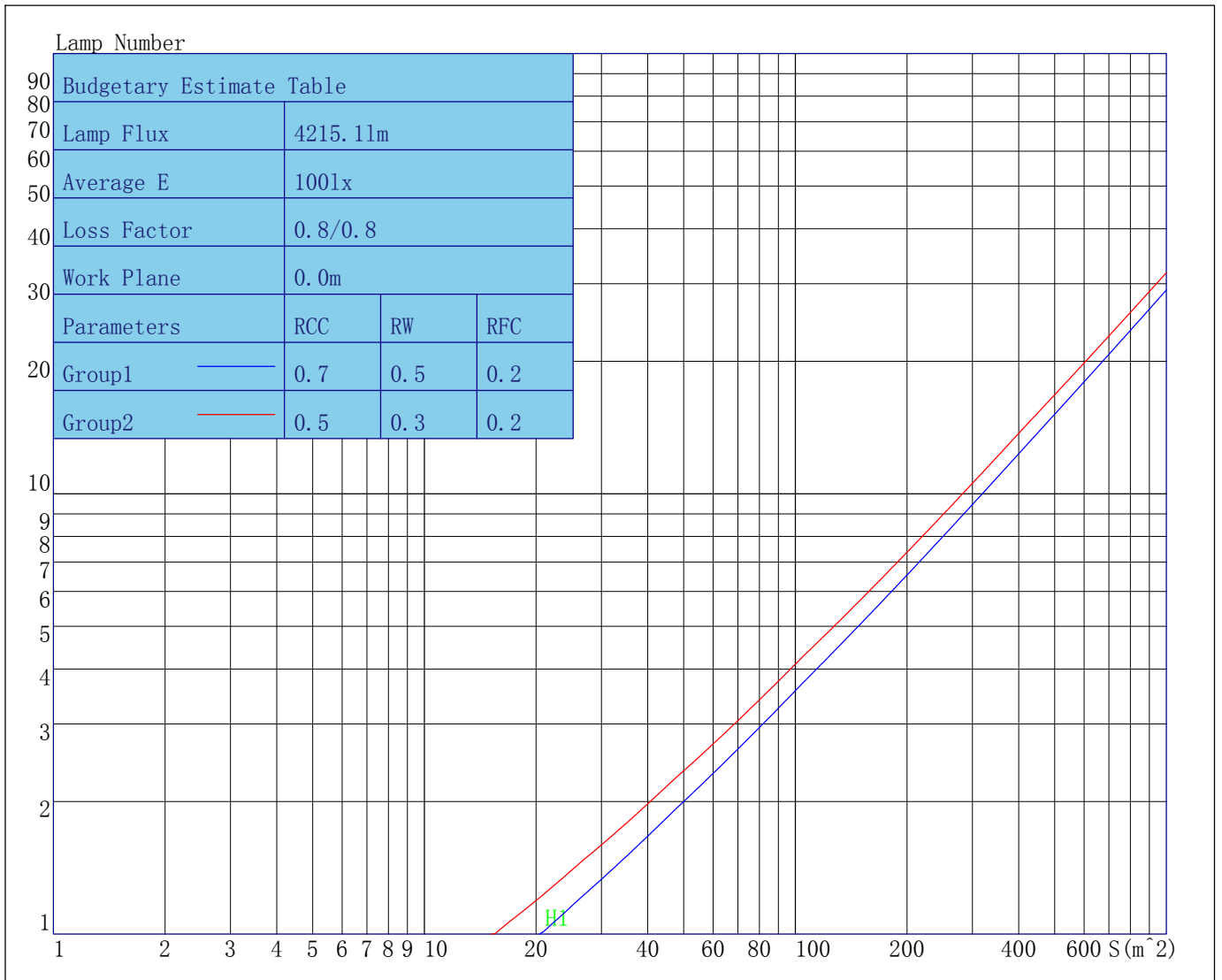


Luminous Size: Length(m)=1.200 Width(m)=0.060 Height(m)=0.065 Area(m<sup>2</sup>)=0.150000  
 Luminous Type: Without Luminous Side  
 Luminous Curves: C0-C180 Color: ——— C90-C270 Color: ———



**Indoor Budgetary Estimate Table**

Lum. Name: KARLIN4FTCCT-4K	Lum. Catalog: LED BATTEN	Test ID:
Lamp Name: 4000K	Lamp Catalog: SMD2835	Test Lab:
Manufacture:	Test Machine:GON-2000	Test Date: 2022/06/28



Parameters1: Rhocc = 0.7 Rhow = 0.5 Rhofc = 0.2 LLF = 0.8  
 Parameters2: Rhocc = 0.5 Rhow = 0.3 Rhofc = 0.2 LLF = 0.8  
 Average Illuminance(lx): 100 Cavity Height: H1(m) = 2

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## Indoor Coefficient of Utilization Table

Lum. Name: KARLIN4FTCCT-4K	Lum. Catalog: LED BATTEN	Test ID:
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Manufacture:	Test Machine:GON-2000	Test Date: 2022/06/28

Coefficients of Utilization - Zonal Cavity Method																		
Coef.	Effective Floor Cavity Reflectance RFC=0.20																	
RhoCC (%)	80				70				50			30			10			0
RhoW (%)	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR	Coefficient of Utilization (%)																	
0	116	116	116	116	113	113	113	113	105	105	105	98	98	98	92	92	92	89
1	105	100	95	91	101	97	92	88	90	87	84	85	82	79	79	77	75	72
2	95	86	79	73	91	84	77	72	78	73	68	73	69	65	69	65	62	59
3	87	76	67	60	83	73	65	59	69	62	57	64	59	54	61	56	52	50
4	79	67	58	51	76	65	56	50	61	54	48	57	51	46	54	49	45	42
5	73	60	50	44	70	58	49	43	54	47	41	51	45	40	48	43	39	36
6	67	53	44	38	64	52	43	37	49	42	36	46	40	35	44	38	34	32
7	62	48	40	33	60	47	39	33	45	37	32	42	36	31	40	34	30	28
8	58	44	36	30	56	43	35	29	41	34	28	39	32	28	37	31	27	25
9	54	40	32	27	52	39	32	26	37	30	26	36	29	25	34	28	24	22
10	50	37	29	24	49	36	29	24	35	28	23	33	27	23	31	26	22	20

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## Unified Glare Rating Table

Lum. Name: KARLIN4FTCCT-4K	Lum. Catalog: LED BATTEN	Test ID:
Lamp Name: 4000K	Lamp Catalog: SMD2835	Test Lab:
Manufacture:	Test Machine:GON-2000	Test Date: 2022/06/28

## Unified Glare Rating Table

Ceiling RCC	0.70	0.70	0.50	0.50	0.30	0.70	0.70	0.50	0.50	0.30
Wall RW	0.50	0.30	0.50	0.30	0.30	0.50	0.30	0.50	0.30	0.30
Floor RFC	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Room Size	Vewed crosswise					Vewed endwise				
X=2H Y=2H	18.5	21.8	19.7	23.0	24.3	16.6	19.9	17.8	21.1	22.4
Y=3H	24.5	27.8	25.7	29.0	30.2	20.6	23.9	21.8	25.1	26.4
Y=4H	28.3	31.2	29.5	32.5	33.7	22.8	25.8	24.1	27.0	28.3
Y=6H	31.7	34.6	33.0	35.8	37.1	24.0	26.8	25.2	28.1	29.3
Y=8H	33.6	36.4	34.8	37.7	38.9	24.3	27.1	25.5	28.3	29.6
Y=12H	35.6	38.4	36.9	39.7	40.9	24.4	27.2	25.7	28.5	29.7
X=4H Y=2H	19.7	22.6	20.9	23.8	25.1	18.9	21.9	20.2	23.1	24.4
Y=3H	25.9	28.8	27.2	30.1	31.3	23.3	26.2	24.5	27.5	28.7
Y=4H	28.2	30.1	29.8	31.6	33.1	24.1	26.0	25.7	27.5	29.0
Y=6H	32.3	34.0	33.9	35.5	37.0	25.9	27.6	27.5	29.1	30.6
Y=8H	34.6	36.2	36.1	37.7	39.2	26.6	28.2	28.1	29.7	31.2
Y=12H	36.2	37.6	37.9	39.2	40.8	26.0	27.4	27.7	29.0	30.6
X=8H Y=4H	28.6	30.2	30.1	31.7	33.2	25.3	26.9	26.8	28.4	29.9
Y=6H	32.1	33.2	33.8	34.9	36.5	26.8	27.9	28.5	29.6	31.2
Y=8H	34.2	35.1	35.9	36.8	38.5	27.4	28.3	29.1	30.0	31.7
Y=12H	37.2	38.0	39.0	39.8	41.4	28.2	29.1	30.0	30.8	32.5
X=12H Y=4H	27.7	29.0	29.3	30.7	32.2	24.7	26.0	26.3	27.6	29.2
Y=6H	31.6	32.6	33.4	34.3	36.0	26.8	27.7	28.5	29.4	31.1
Y=8H	34.2	35.1	36.0	36.8	38.5	28.0	28.9	29.8	30.6	32.3
Variations with the objerver position at spacings										
S=1.0H	2.1/-2.1					2.3/-0.2				
S=1.5H	-2.1/-20.6					-0.2/-16.5				
S=2.0H	-2.1/-20.6					-0.2/-16.5				

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## Candela Tabulation

V/H	C0.0	C90.0	C180.0	C270.0
γ 0.0	1241.86	1241.86	1241.86	1241.86
γ 5.0	1239.38	1233.72	1233.89	1241.02
γ 10.0	1229.73	1209.18	1217.90	1223.33
γ 15.0	1209.37	1171.28	1191.55	1191.97
γ 20.0	1177.94	1121.27	1155.46	1148.05
γ 25.0	1136.06	1060.55	1111.09	1092.86
γ 30.0	1085.54	990.23	1059.02	1027.68
γ 35.0	1028.26	912.40	1001.15	953.96
γ 40.0	965.31	828.24	938.34	873.49
γ 45.0	897.63	739.08	871.28	787.54
γ 50.0	825.79	645.70	800.73	697.15
γ 55.0	750.39	549.43	726.64	603.49
γ 60.0	672.22	450.98	648.74	507.46
γ 65.0	591.76	351.67	567.60	409.89
γ 70.0	510.12	252.92	484.49	311.69
γ 75.0	428.75	157.93	401.64	215.06
γ 80.0	349.65	73.84	324.91	124.21
γ 85.0	281.10	15.44	263.63	48.64
γ 90.0	233.35	4.41	225.78	8.46
γ 95.0	209.98	5.61	203.49	7.89
γ 100.0	195.21	4.70	187.80	6.49
γ 105.0	181.38	5.76	173.18	6.91
γ 110.0	167.78	6.84	159.15	7.62
γ 115.0	154.34	9.23	145.61	9.76
γ 120.0	141.16	9.98	132.36	10.78
γ 125.0	128.35	10.75	119.43	11.33
γ 130.0	115.71	11.52	106.81	11.34
γ 135.0	103.60	12.21	94.76	10.99
γ 140.0	92.02	13.02	83.32	12.38
γ 145.0	79.42	13.67	72.35	14.01
γ 150.0	67.08	14.66	60.43	14.96
γ 155.0	57.02	15.56	50.99	15.87
γ 160.0	47.93	16.33	41.76	16.69
γ 165.0	37.25	17.02	32.97	17.36
γ 170.0	30.28	17.48	25.07	17.92
γ 175.0	22.66	17.86	19.28	18.22
γ 180.0	17.69	17.69	17.69	17.69