

# IES Indoor Report

Photometric Filename: COBLG15WCCT-4K-2019-08-29.IES

## Indoor Luminaire Photometric Data

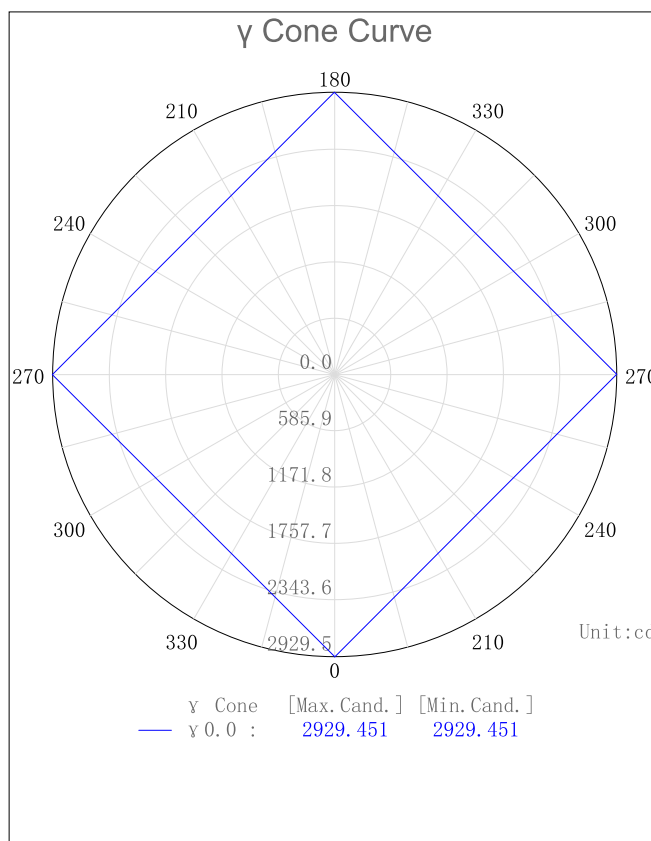
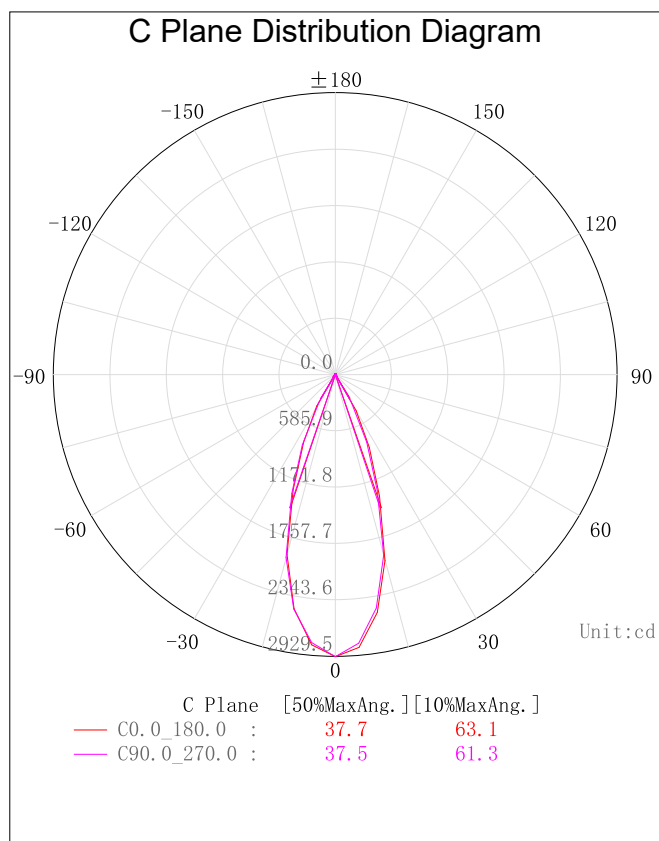
### Description Information

Lum. Name: COBLG15WCCT-4K	Lum. Catalog: LED DOWNLIGHT	Test ID:
Lamp Name: 4000K	Lamp Catalog: COB	Test Date: 2019/08/29
Manufacture:	ShldAngle(°):	Test Machine: GON-2000
Test Lab:	Frequency(Hz):	Lamp CCT(K): Ra:
Lum. Size (W*L*H): 0.095m*0.095m*0.092m	Lum. Area(m2): 0.018	Lum. W(kg): 2.000
Test System: C, γ	Test Step: C=90.0 γ=5.0	Temp. (°C): 25
		Humidity(%):

### Character Parameter

Lamp Speciality Parameter		Luminaire Speciality Parameter	
Rated Flux(lm): 1273.860	Luminaire Flux: 1273.8581m	Field Angle(10%Imax): 63.1	
Rated Power(W):	Luminaire Efficiency: 100.00%	Down Lumens&Percent: 1264.1151m 99.24%	
Rated Voltage(V):	Luminaire EER(lm/W): 87.852	Up Lumens&Percent: 9.7441m 0.76%	
Tested Power(W): 14.500	Max. Cand. (cd): 2929.451	S/MH: C0_a180=0.621 C90_270=0.618	
Lamps' Inside: 1	Max Cand@Ang. (°): C=0.0 γ=0.0	CIE Type: Semi-Direct	
Tested Electric: U=239.7V, I=0.063A, PF=0.000	Beam Angle(50%Imax): 37.7	ErP Φ use(90°): 1235.7331m	
Lamp Size(W*L*H): 0.095m*0.095m*0.092m	Left=-18.6 Right=19.1	IRF: 478.293%	

### Lighting Distribution Diagram



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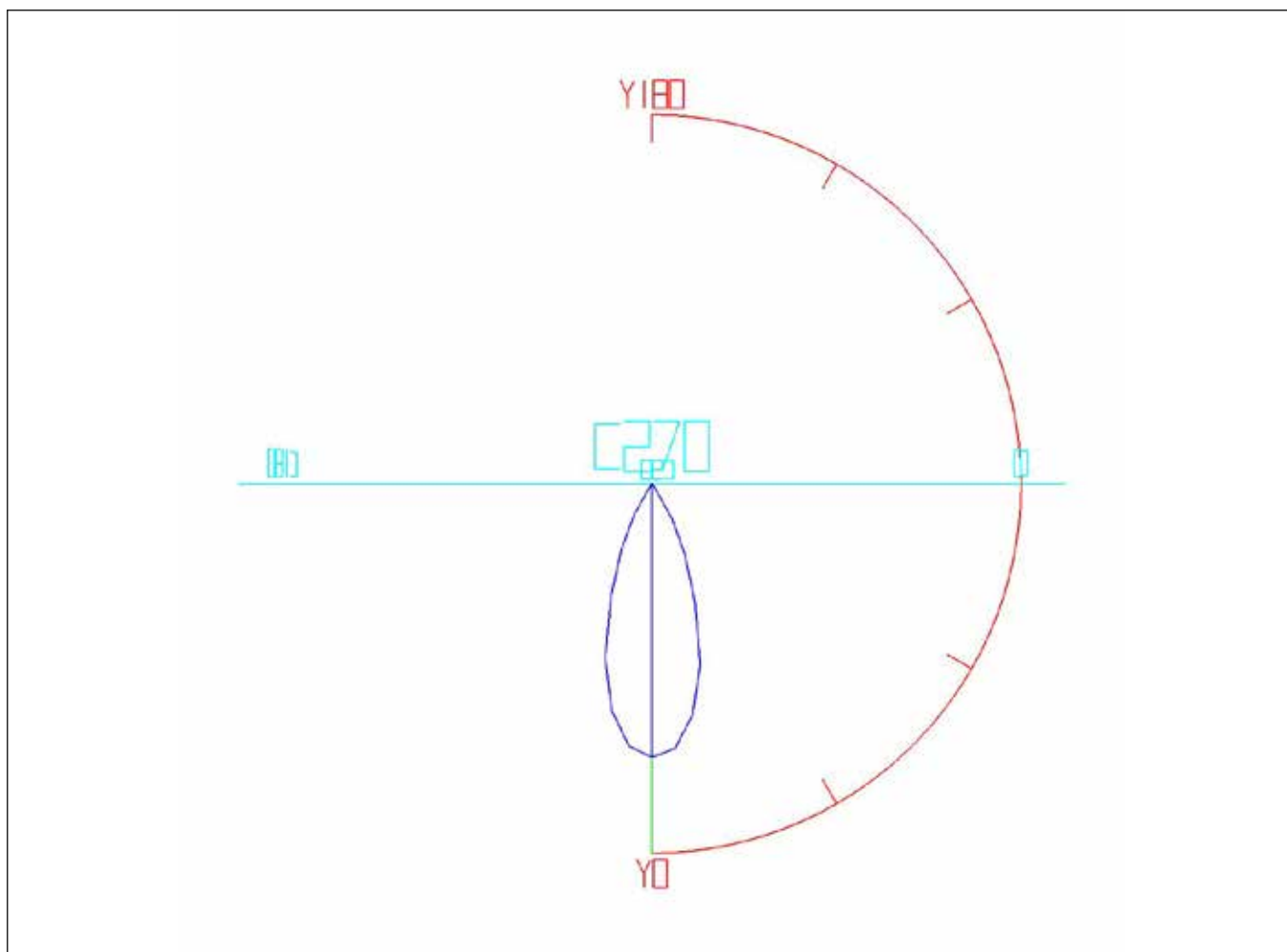
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## 3D Light Intensity Distribution Modal

Lum. Name: COBLG15WCCT-4K	Lum. Catalog: LED DOWNLIGHT	Test ID:
Lamp Name: 4000K	Lamp Catalog: COB	Test Lab:
Manufacture:	Test Machine:GON-2000	Test Date: 2019/08/29

### 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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## Zonal Flux Tabulation

Zone ( y )	Zone Flux (lm)	Sums Flux (lm)	Zone%Lamp	Sums%Lamp
0.0-5.0	68.68	68.68	5.39	5.39
5.0-10.0	189.38	258.05	14.87	20.26
10.0-15.0	263.39	521.44	20.68	40.93
15.0-20.0	269.27	790.70	21.14	62.07
20.0-25.0	220.64	1011.35	17.32	79.39
25.0-30.0	147.66	1159.01	11.59	90.98
30.0-35.0	61.04	1220.05	4.79	95.78
35.0-40.0	12.87	1232.92	1.01	96.79
40.0-45.0	9.91	1242.83	0.78	97.56
45.0-50.0	7.70	1250.54	0.60	98.17
50.0-55.0	5.95	1256.48	0.47	98.64
55.0-60.0	4.24	1260.73	0.33	98.97
60.0-65.0	2.27	1263.00	0.18	99.15
65.0-70.0	0.82	1263.82	0.06	99.21
70.0-75.0	0.26	1264.08	0.02	99.23
75.0-80.0	0.03	1264.11	0.00	99.23
80.0-85.0	0.00	1264.11	0.00	99.23
85.0-90.0	0.00	1264.11	0.00	99.23
90.0-95.0	0.00	1264.11	0.00	99.23
95.0-100.0	0.00	1264.11	0.00	99.23
100.0-105.0	0.00	1264.11	0.00	99.23
105.0-110.0	0.00	1264.11	0.00	99.23
110.0-115.0	0.00	1264.11	0.00	99.23
115.0-120.0	0.00	1264.11	0.00	99.23
120.0-125.0	0.00	1264.11	0.00	99.23
125.0-130.0	0.15	1264.27	0.01	99.25
130.0-135.0	0.57	1264.84	0.05	99.29
135.0-140.0	1.04	1265.88	0.08	99.37
140.0-145.0	1.37	1267.25	0.11	99.48
145.0-150.0	1.53	1268.77	0.12	99.60
150.0-155.0	1.51	1270.28	0.12	99.72
155.0-160.0	1.32	1271.60	0.10	99.82
160.0-165.0	1.02	1272.62	0.08	99.90
165.0-170.0	0.70	1273.32	0.05	99.96
170.0-175.0	0.40	1273.72	0.03	99.99
175.0-180.0	0.13	1273.86	0.01	100.00

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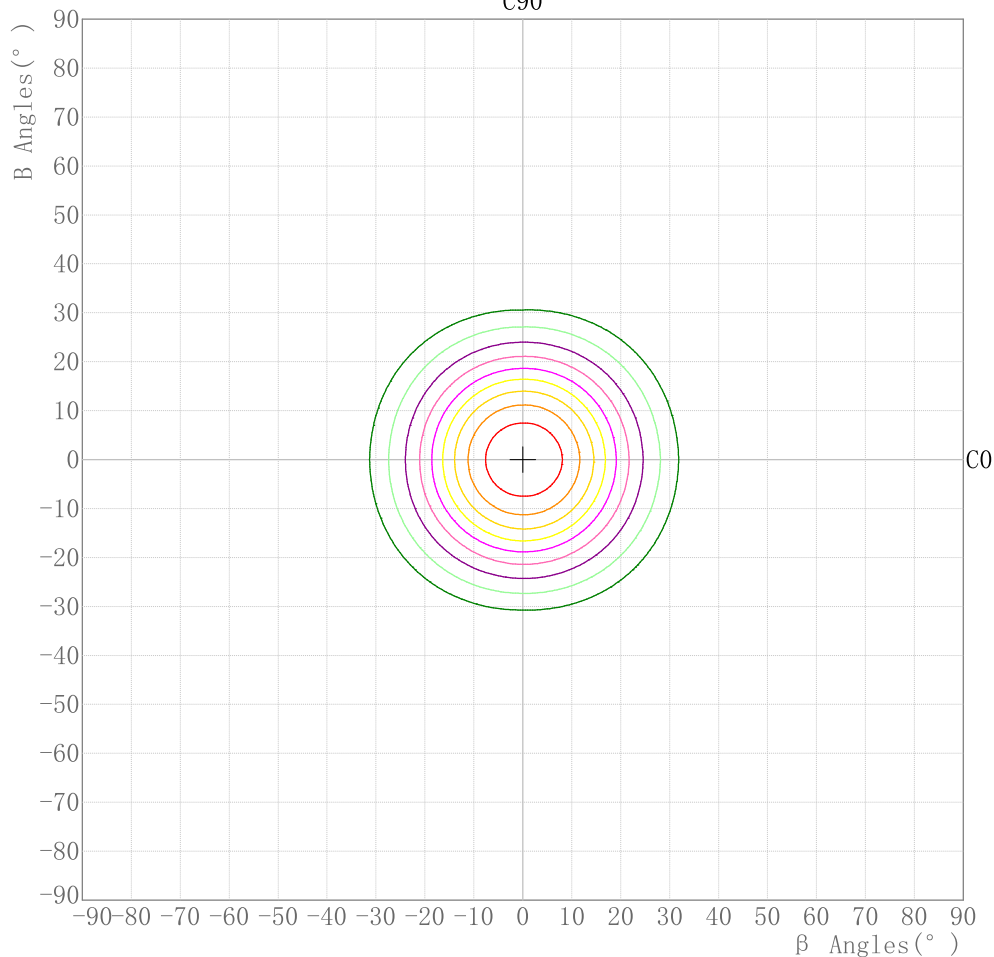
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## Rectangle ISO Lighting Intensity Diagram

Lum. Name: COBLG15WCCT-4K	Lum. Catalog: LED DOWNLIGHT	Test ID:
Lamp Name: 4000K	Lamp Catalog: COB	Test Lab:
Manufacture:	Test Machine:GON-2000	Test Date: 2019/08/29

### ISO Lighting Intensity Curve

C90



Maximum Light Intensity(cd): 2929.45

Maximum Cand.@Angle: H=0.0°,V=0.0°

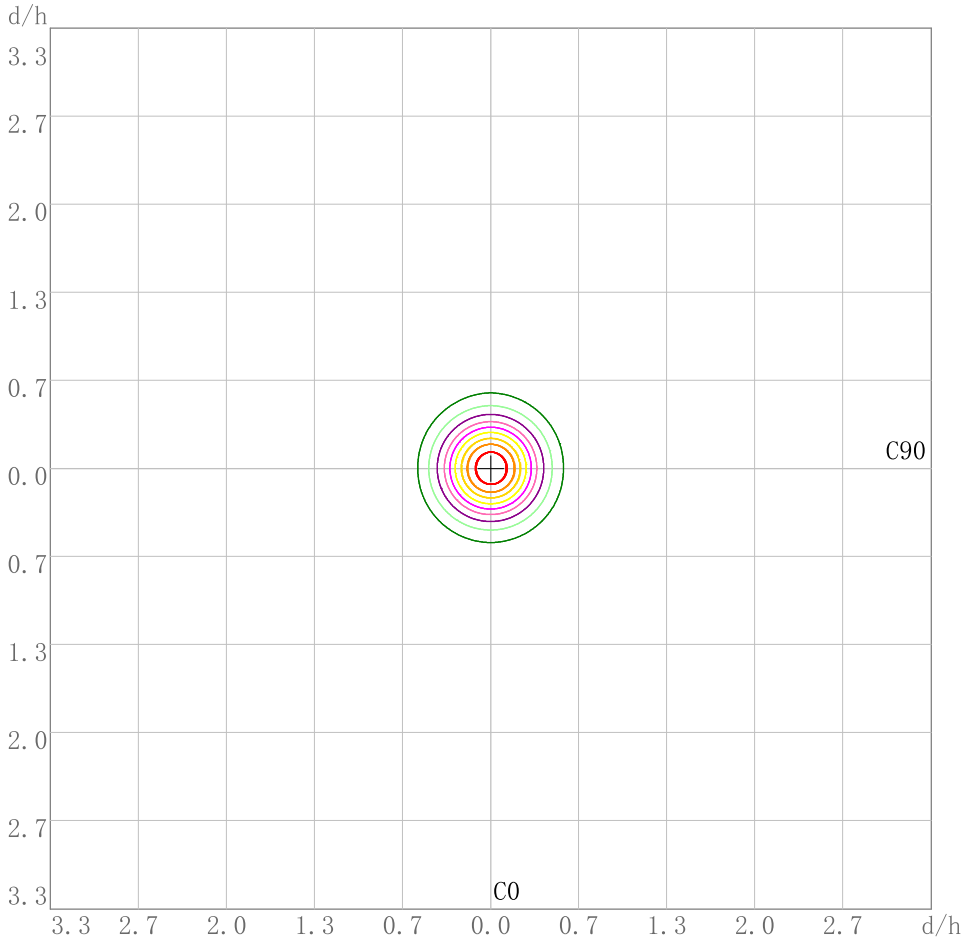
**IES Indoor Report**

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**Plane ISO-Illuminance Diagram**

Lum. Name: COBLG15WCCT-4K	Lum. Catalog: LED DOWNLIGHT	Test ID:
Lamp Name: 4000K	Lamp Catalog: COB	Test Lab:
Manufacture:	Test Machine:GON-2000	Test Date: 2019/08/29

**Plane ISO-Illuminance Curve**



- Curves:**  
 unit:lx  
 [EMax] =325.495
- [EMax\*90%]=292.945
  - [EMax\*80%]=260.396
  - [EMax\*70%]=227.846
  - [EMax\*60%]=195.297
  - [EMax\*50%]=162.747
  - [EMax\*40%]=130.198
  - [EMax\*30%]=97.648
  - [EMax\*20%]=65.099
  - [EMax\*10%]=32.549

Working Plane Luminaire Mounting Height(m): 3.00  
 Working Plane Maximum Illuminance(lx): 325.49  
 Working Plane Maximum Illuminance Position(d/h):H0.0 V0.0

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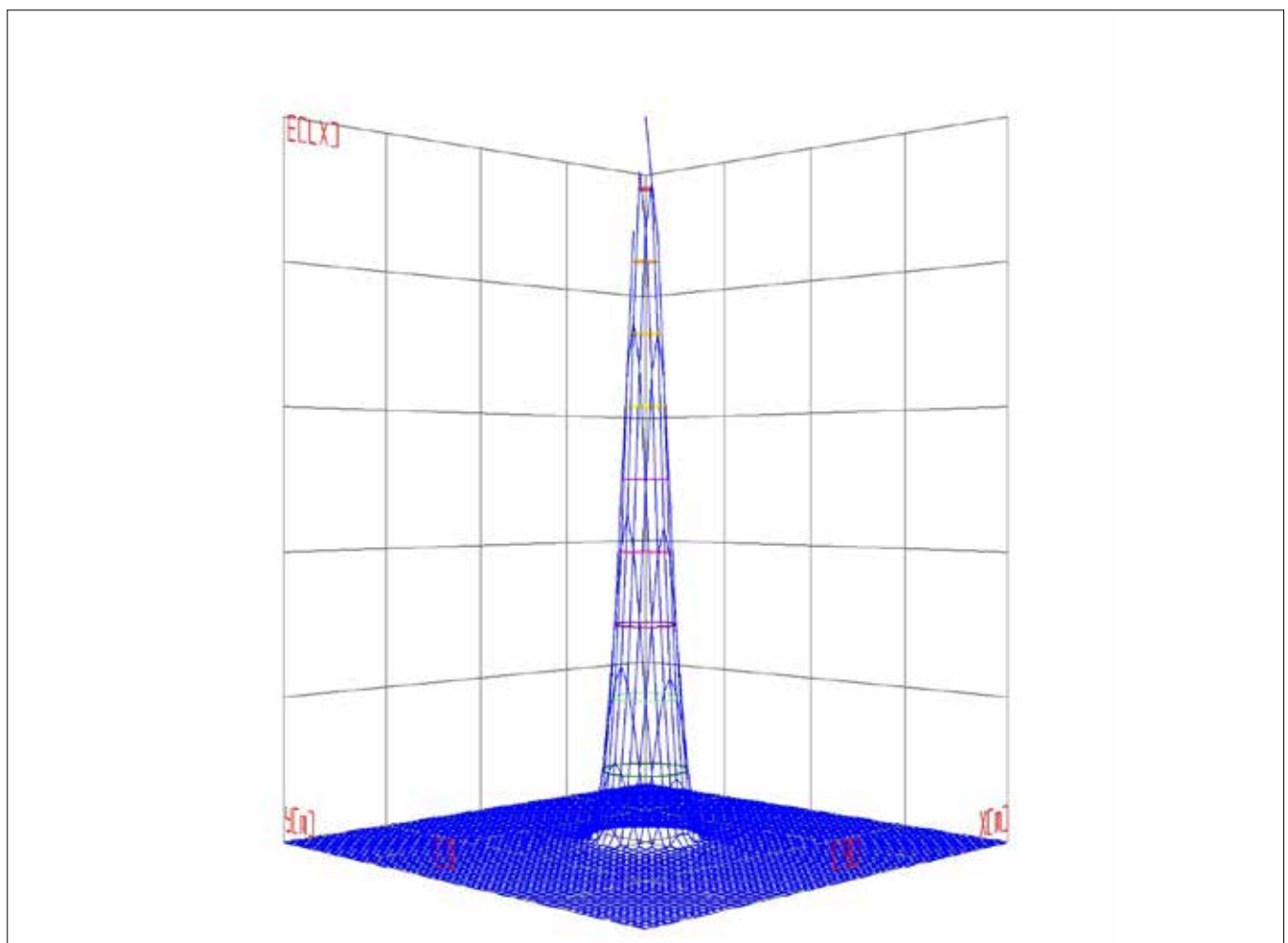
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## 3D Plane ISO Illuminance Diagram

Lum. Name: COBLG15WCCT-4K	Lum. Catalog: LED DOWNLIGHT	Test ID:
Lamp Name: 4000K	Lamp Catalog: COB	Test Lab:
Manufacture:	Test Machine: GON-2000	Test Date: 2019/08/29

### 3D Plane Illuminance Modal



Curves: 3D Model — 90% — 80% — 70% — 60% — 50% — 40% — 30% — 20% — 10% —  
View Angles(deg): 0    Height(m): 3.0    Distance(m): 10.0

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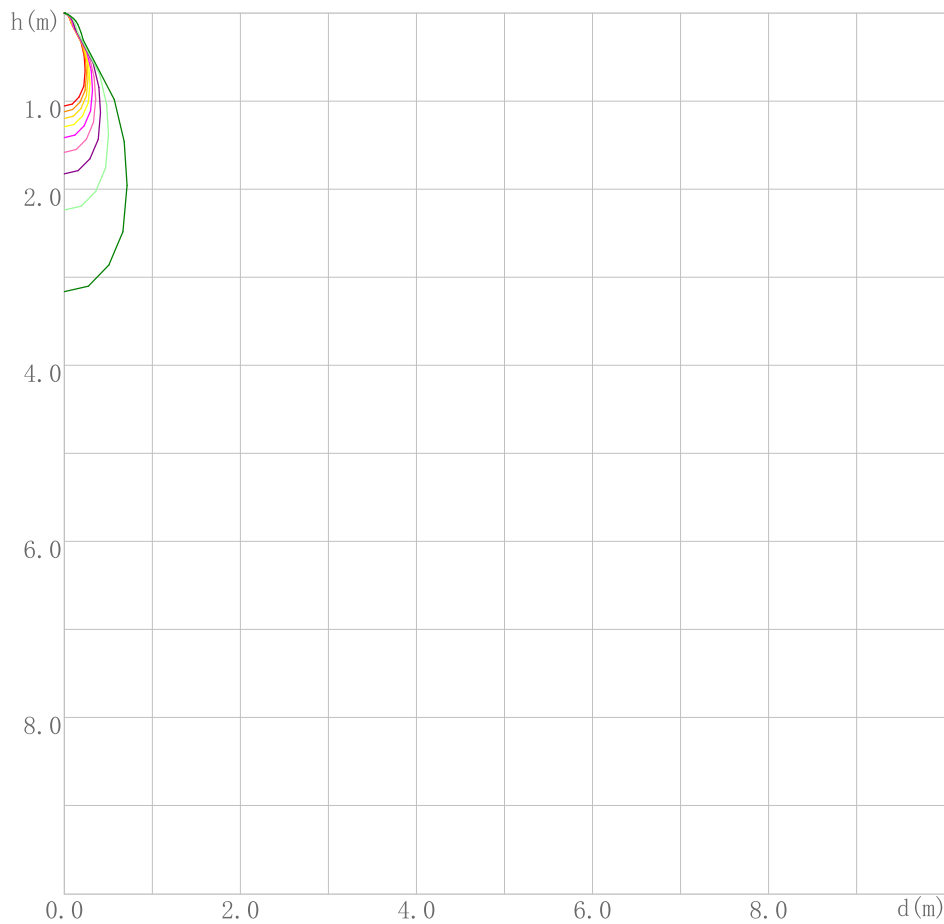
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## Space ISO Illuminance Diagram

Lum. Name: COBLG15WCCT-4K	Lum. Catalog: LED DOWNLIGHT	Test ID:
Lamp Name: 4000K	Lamp Catalog: COB	Test Lab:
Manufacture:	Test Machine:GON-2000	Test Date: 2019/08/29

### Space ISO Illuminance Curve

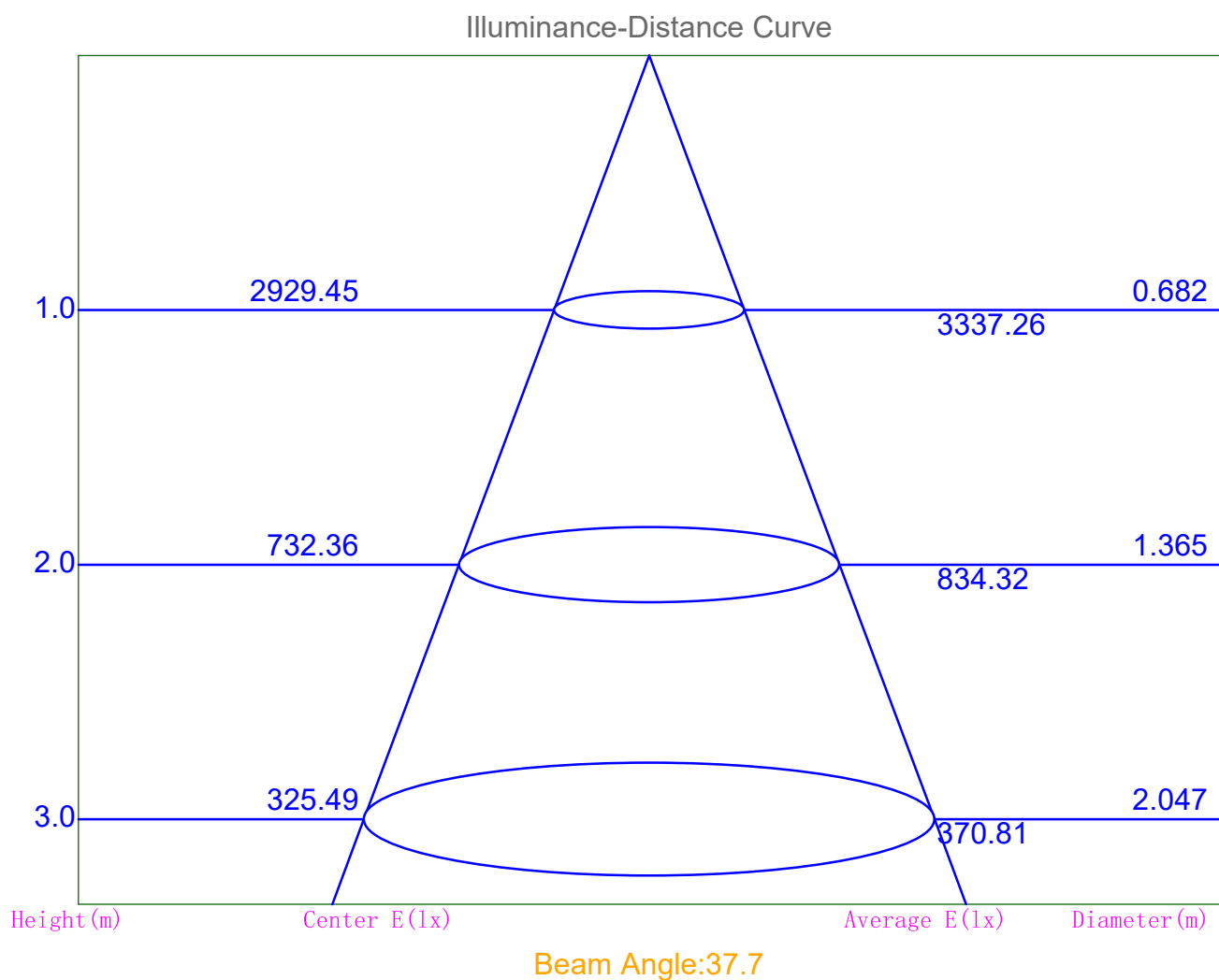


- Curves:  
unit:lx  
[EMax] =2929.451
- [EMax\*90%]=2636.506
  - [EMax\*80%]=2343.561
  - [EMax\*70%]=2050.616
  - [EMax\*60%]=1757.671
  - [EMax\*50%]=1464.725
  - [EMax\*40%]=1171.780
  - [EMax\*30%]=878.835
  - [EMax\*20%]=585.890
  - [EMax\*10%]=292.945

Space Plane Maximum Illuminance and @Angle:2929.45,0.0deg  
Plane Maximum Lighting Intensity and @Angle:2929.451cd,0deg

**Illuminance-Distance Diagram**

Lum. Name: COBLG15WCCT-4K	Lum. Catalog: LED DOWNLIGHT	Test ID:
Lamp Name: 4000K	Lamp Catalog: COB	Test Lab:
Manufacture:	Test Machine:GON-2000	Test Date: 2019/08/29





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## Indoor Luminance Limiting Curves

Lum. Name: COBLG15WCCT-4K	Lum. Catalog: LED DOWNLIGHT	Test ID:
Lamp Name: 4000K	Lamp Catalog: COB	Test Lab:
Manufacture:	Test Machine: GON-2000	Test Date: 2019/08/29

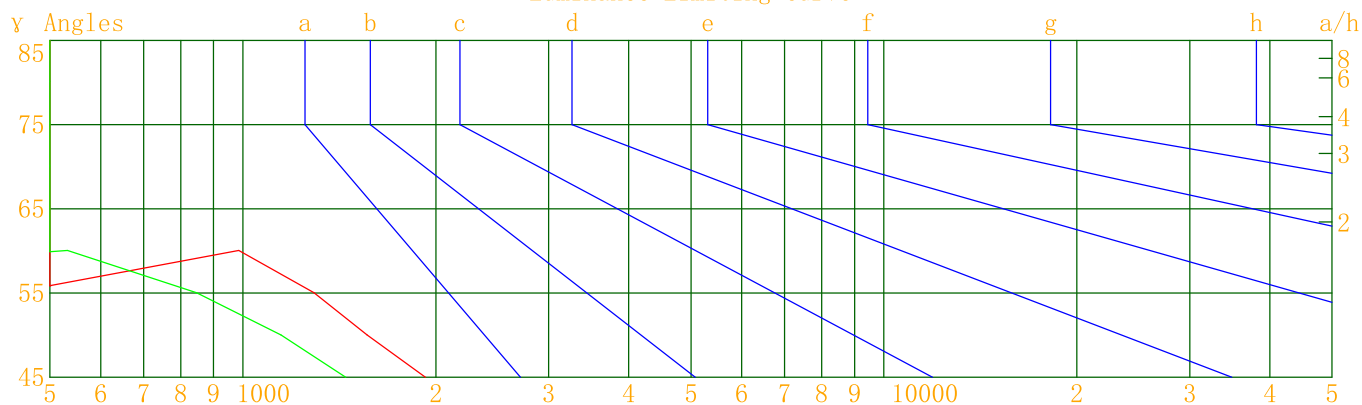
Glare Grade Table

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	1926	1562	1291	986	439	243	26	0	0
C90	1446	1147	847	533	111	0	0	0	0

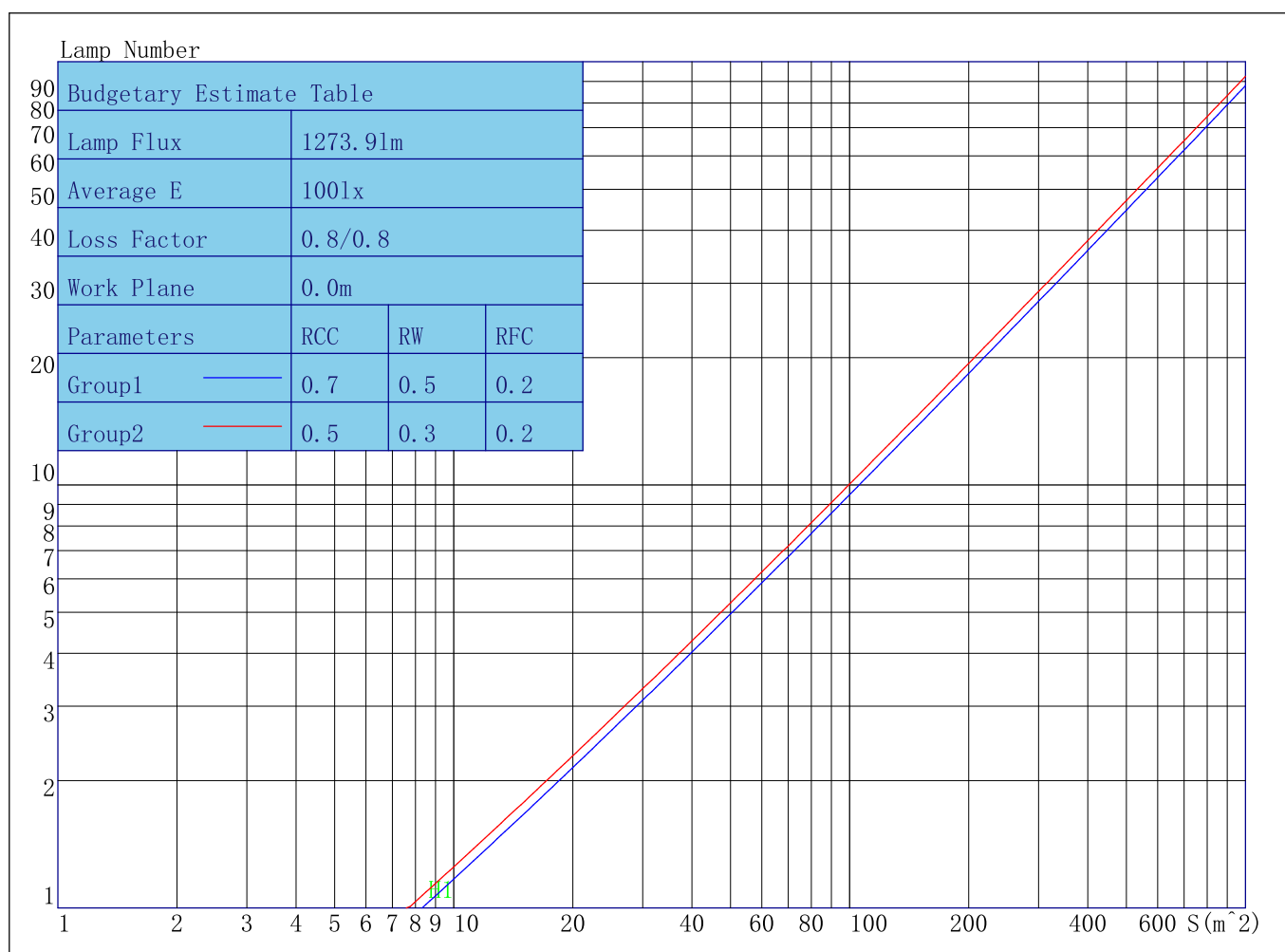
Luminance Limiting Curve



Luminous Size: Length(m)=0.095 Width(m)=0.095 Height(m)=0.092 Area(m<sup>2</sup>)=0.017765  
 Luminous Type: Without Luminous Side  
 Luminous Curves: C0-C180 Color: — C90-C270 Color: —

**Indoor Budgetary Estimate Table**

Lum. Name: COBLG15WCCT-4K	Lum. Catalog: LED DOWNLIGHT	Test ID:
Lamp Name: 4000K	Lamp Catalog: COB	Test Lab:
Manufacture:	Test Machine:GON-2000	Test Date: 2019/08/29



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

**Indoor Coefficient of Utilization Table**

Lum. Name: COBLG15WCCT-4K	Lum. Catalog: LED DOWNLIGHT	Test ID:
Lamp Name: 4000K	Lamp Catalog: COB	Test Lab:
Manufacture:	Test Machine:GON-2000	Test Date: 2019/08/29

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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	101	101	101	99
1	114	112	110	108	112	110	108	106	105	104	103	102	100	99	98	97	96	95
2	110	106	102	99	108	104	101	98	101	98	96	98	96	94	95	93	92	90
3	105	100	96	93	103	99	95	92	96	93	90	94	91	89	91	89	87	86
4	101	95	90	87	100	94	90	86	92	88	85	90	87	84	88	85	83	82
5	97	91	86	82	96	90	85	82	88	84	81	86	83	80	85	82	80	78
6	94	86	82	78	92	86	81	78	84	80	77	83	79	77	82	79	76	75
7	90	83	78	74	89	82	77	74	81	77	74	80	76	73	79	75	73	72
8	87	79	74	71	86	79	74	71	78	74	71	77	73	70	76	72	70	69
9	84	76	71	68	83	76	71	68	75	71	68	74	70	67	73	70	67	66
10	81	73	68	65	80	73	68	65	72	68	65	71	67	65	71	67	65	63

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## Unified Glare Rating Table

Lum. Name: COBLG15WCCT-4K	Lum. Catalog: LED DOWNLIGHT	Test ID:
Lamp Name: 4000K	Lamp Catalog: COB	Test Lab:
Manufacture:	Test Machine:GON-2000	Test Date: 2019/08/29

## 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	19.1	20.7	19.9	21.4	22.0	18.5	20.0	19.2	20.7	21.3
	Y=3H	18.8	20.4	19.6	21.0	21.7	18.1	19.7	18.9	20.3	21.0
	Y=4H	18.7	20.2	19.5	20.9	21.5	18.0	19.5	18.8	20.2	20.8
	Y=6H	18.5	20.0	19.3	20.7	21.3	17.8	19.3	18.6	20.0	20.6
	Y=8H	18.4	19.9	19.2	20.6	21.2	17.7	19.2	18.5	19.9	20.5
	Y=12H	18.3	19.9	19.1	20.5	21.2	17.6	19.1	18.4	19.8	20.5
X=4H	Y=2H	18.7	20.2	19.4	20.8	21.5	18.0	19.5	18.8	20.2	20.8
	Y=3H	18.3	19.8	19.1	20.5	21.1	17.6	19.1	18.4	19.8	20.4
	Y=4H	16.0	17.0	17.0	17.9	18.8	15.3	16.3	16.3	17.2	18.1
	Y=6H	15.9	16.9	16.9	17.8	18.6	15.2	16.2	16.2	17.1	17.9
	Y=8H	15.8	16.8	16.8	17.7	18.5	15.1	16.1	16.1	17.0	17.8
	Y=12H	14.8	15.6	15.9	16.6	17.5	14.1	14.9	15.2	15.9	16.8
X=8H	Y=4H	15.8	16.8	16.8	17.7	18.5	15.1	16.1	16.1	17.0	17.8
	Y=6H	14.7	15.5	15.8	16.5	17.4	14.0	14.8	15.1	15.8	16.7
	Y=8H	14.2	14.8	15.3	15.9	16.9	13.5	14.1	14.6	15.2	16.2
	Y=12H	14.1	14.7	15.2	15.8	16.8	13.4	14.0	14.5	15.1	16.1
X=12H	Y=4H	14.8	15.6	15.9	16.6	17.5	14.1	14.9	15.2	15.9	16.8
	Y=6H	14.2	14.8	15.3	15.9	16.9	13.5	14.1	14.6	15.2	16.2
	Y=8H	14.1	14.7	15.2	15.8	16.8	13.4	14.0	14.5	15.1	16.1
Variations with the objver position at spacings											
S=1.0H	-19.7/-29.7					-20.7/-29.9					
S=1.5H	-27.1/-70.4					-26.4/-69.7					
S=2.0H	-27.1/-71.5					-26.4/-70.9					

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## Candela Tabulation

V/H	C0.0	C90.0	C180.0	C270.0
Υ 0.0	2929.45	2929.45	2929.45	2929.45
Υ 5.0	2844.30	2803.46	2818.28	2795.16
Υ 10.0	2510.59	2462.94	2468.95	2471.64
Υ 15.0	2001.59	1944.22	1934.80	1965.82
Υ 20.0	1347.09	1282.47	1278.29	1314.62
Υ 25.0	835.46	775.74	776.81	804.38
Υ 30.0	435.58	325.88	379.78	333.75
Υ 35.0	49.84	37.73	45.49	50.02
Υ 40.0	33.82	25.93	31.50	34.29
Υ 45.0	24.20	18.17	21.99	24.23
Υ 50.0	17.84	13.10	15.58	17.39
Υ 55.0	13.15	8.63	11.10	12.61
Υ 60.0	8.75	4.73	7.25	7.22
Υ 65.0	3.30	0.83	1.83	3.50
Υ 70.0	1.48	0.00	0.28	1.75
Υ 75.0	0.12	0.00	0.00	0.35
Υ 80.0	0.00	0.00	0.00	0.00
Υ 85.0	0.00	0.00	0.00	0.00
Υ 90.0	0.00	0.00	0.00	0.00
Υ 95.0	0.00	0.00	0.00	0.00
Υ 100.0	0.00	0.00	0.00	0.00
Υ 105.0	0.00	0.00	0.00	0.00
Υ 110.0	0.00	0.00	0.00	0.00
Υ 115.0	0.00	0.00	0.00	0.00
Υ 120.0	0.00	0.00	0.00	0.00
Υ 125.0	0.00	0.00	0.00	0.00
Υ 130.0	0.54	0.45	1.00	0.82
Υ 135.0	2.06	1.94	2.40	2.17
Υ 140.0	3.47	3.27	3.75	3.35
Υ 145.0	4.80	4.61	4.96	4.55
Υ 150.0	5.94	5.56	5.77	5.36
Υ 155.0	6.58	6.22	6.30	5.85
Υ 160.0	6.81	6.38	6.33	5.92
Υ 165.0	6.51	6.05	6.08	5.56
Υ 170.0	6.05	5.72	5.72	5.33
Υ 175.0	5.72	5.55	5.60	5.36
Υ 180.0	5.63	5.63	5.63	5.63