

# IES Indoor Report

Photometric Filename: **NRLG10W-6K-2019-08-13.IES**

## Indoor Luminaire Photometric Data

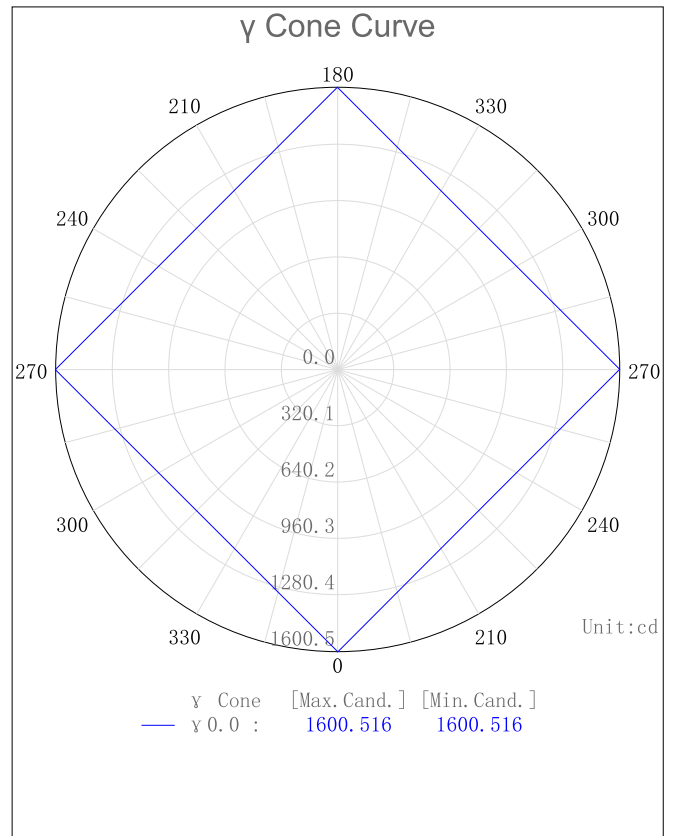
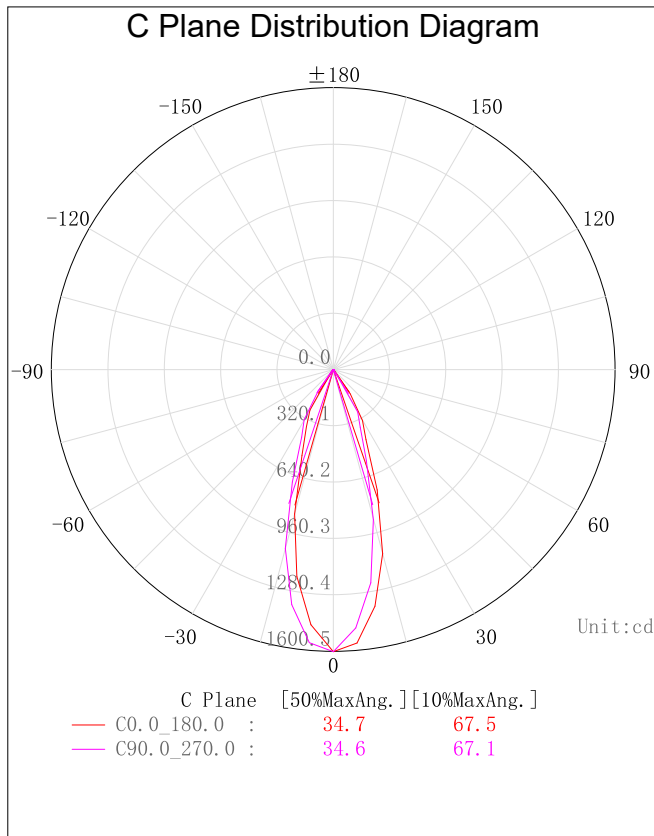
### Description Information

Lum. Name: NRLG10WCCT-6K	Lum. Catalog: LED DOWNLIGHT	Test ID:
Lamp Name: 6000K	Lamp Catalog: COB	Test Date: 2019/08/13
Manufacture:	ShldAngle(°):	Test Machine: GON-2000
Test Lab:	Frequency(Hz):	Lamp CCT(K): Ra:
Lum. Size (W*L*H): 0.085m*0.085m*0.075m	Lum. Area(m2): 0.014	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): 679.760	Luminaire Flux: 679.763lm	Field Angle(10%Imax): 67.5
Rated Power(W):	Luminaire Efficiency: 100.00%	Down Lumens&Percent: 679.763lm 100.00%
Rated Voltage(V):	Luminaire EER(lm/W): 76.369	Up Lumens&Percent: 0.000lm 0.00%
Tested Power(W): 8.901	Max. Cand. (cd): 1600.516	S/MH: CO_a180=0.572 C90_270=0.571
Lamps' Inside: 1	Max Cand@Ang. (°): C=0.0 γ=0.0	CIE Type: Semi-Direct
Tested Electric: U=240.3V, I=0.039A, PF=0.000	Beam Angle(50%Imax): 34.7	ErP Φ use(90°): 651.282lm
Lamp Size(W*L*H): 0.085m*0.085m*0.075m	Left=-15.7 Right=19.0	IRF: 456.383%

### Lighting Distribution Diagram



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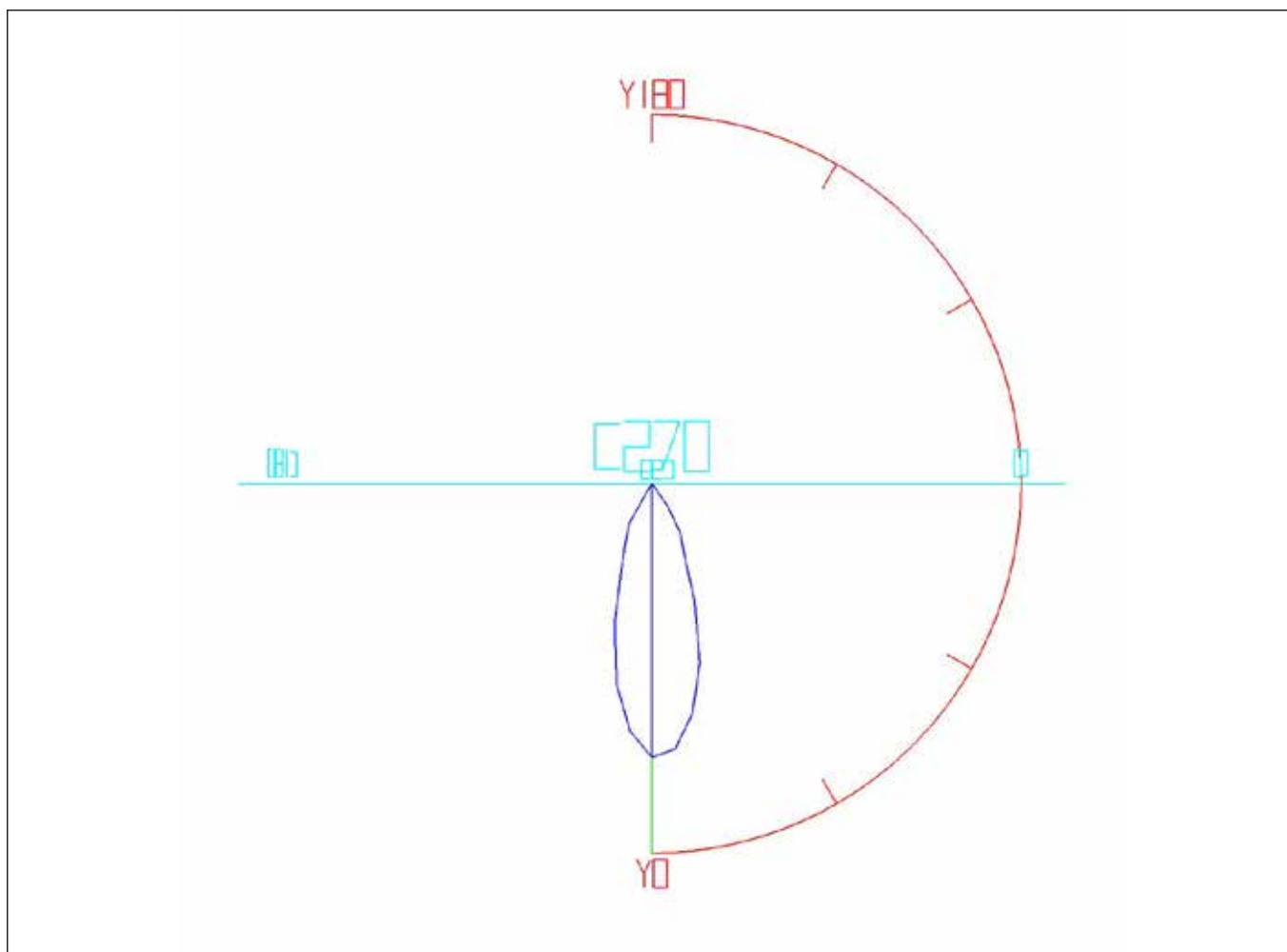
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## 3D Light Intensity Distribution Modal

Lum. Name: NRLG10WCCT-6K	Lum. Catalog: LED DOWNLIGHT	Test ID:
Lamp Name: 6000K	Lamp Catalog: COB	Test Lab:
Manufacture:	Test Machine: GON-2000	Test Date: 2019/08/13

## 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	37.19	37.19	5.47	5.47
5.0-10.0	99.99	137.18	14.71	20.18
10.0-15.0	133.56	270.74	19.65	39.83
15.0-20.0	130.66	401.40	19.22	59.05
20.0-25.0	106.42	507.83	15.66	74.71
25.0-30.0	88.23	596.06	12.98	87.69
30.0-35.0	58.58	654.63	8.62	96.30
35.0-40.0	18.45	673.08	2.71	99.02
40.0-45.0	4.01	677.10	0.59	99.61
45.0-50.0	2.02	679.12	0.30	99.91
50.0-55.0	0.59	679.71	0.09	99.99
55.0-60.0	0.05	679.76	0.01	100.00
60.0-65.0	0.00	679.76	0.00	100.00
65.0-70.0	0.00	679.76	0.00	100.00
70.0-75.0	0.00	679.76	0.00	100.00
75.0-80.0	0.00	679.76	0.00	100.00
80.0-85.0	0.00	679.76	0.00	100.00
85.0-90.0	0.00	679.76	0.00	100.00
90.0-95.0	0.00	679.76	0.00	100.00
95.0-100.0	0.00	679.76	0.00	100.00
100.0-105.0	0.00	679.76	0.00	100.00
105.0-110.0	0.00	679.76	0.00	100.00
110.0-115.0	0.00	679.76	0.00	100.00
115.0-120.0	0.00	679.76	0.00	100.00
120.0-125.0	0.00	679.76	0.00	100.00
125.0-130.0	0.00	679.76	0.00	100.00
130.0-135.0	0.00	679.76	0.00	100.00
135.0-140.0	0.00	679.76	0.00	100.00
140.0-145.0	0.00	679.76	0.00	100.00
145.0-150.0	0.00	679.76	0.00	100.00
150.0-155.0	0.00	679.76	0.00	100.00
155.0-160.0	0.00	679.76	0.00	100.00
160.0-165.0	0.00	679.76	0.00	100.00
165.0-170.0	0.00	679.76	0.00	100.00
170.0-175.0	0.00	679.76	0.00	100.00
175.0-180.0	0.00	679.76	0.00	100.00

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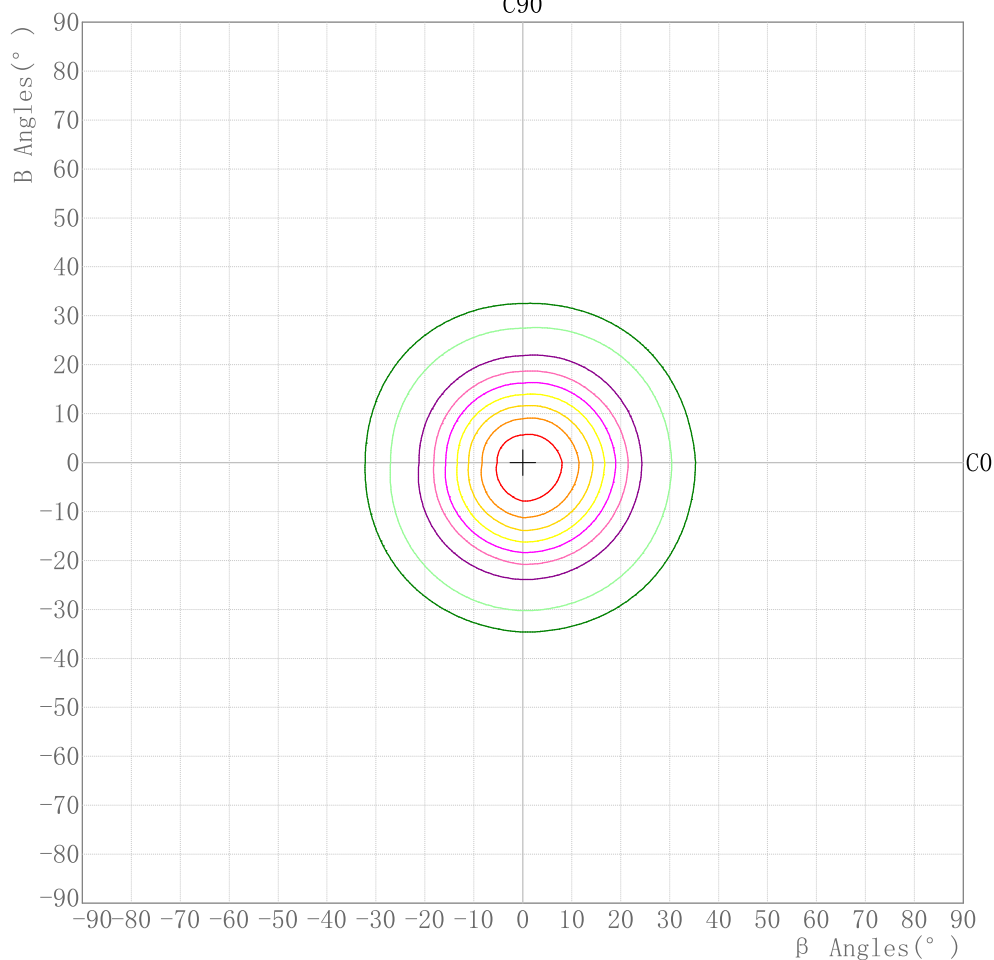
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## Rectangle ISO Lighting Intensity Diagram

Lum. Name: NRLG10WCCT-6K	Lum. Catalog: LED DOWNLIGHT	Test ID:
Lamp Name: 6000K	Lamp Catalog: COB	Test Lab:
Manufacture:	Test Machine: GON-2000	Test Date: 2019/08/13

### ISO Lighting Intensity Curve

C90



Curves:

unit:cd

[IMax] =1600.516

— [IMax\*90%]=1440.464

— [IMax\*80%]=1280.413

— [IMax\*70%]=1120.361

— [IMax\*60%]=960.310

— [IMax\*50%]=800.258

— [IMax\*40%]=640.206

— [IMax\*30%]=480.155

— [IMax\*20%]=320.103

— [IMax\*10%]=160.052

Maximum Light Intensity(cd): 1600.52

Maximum Cand.@Angle: H=0.0°,V=0.0°

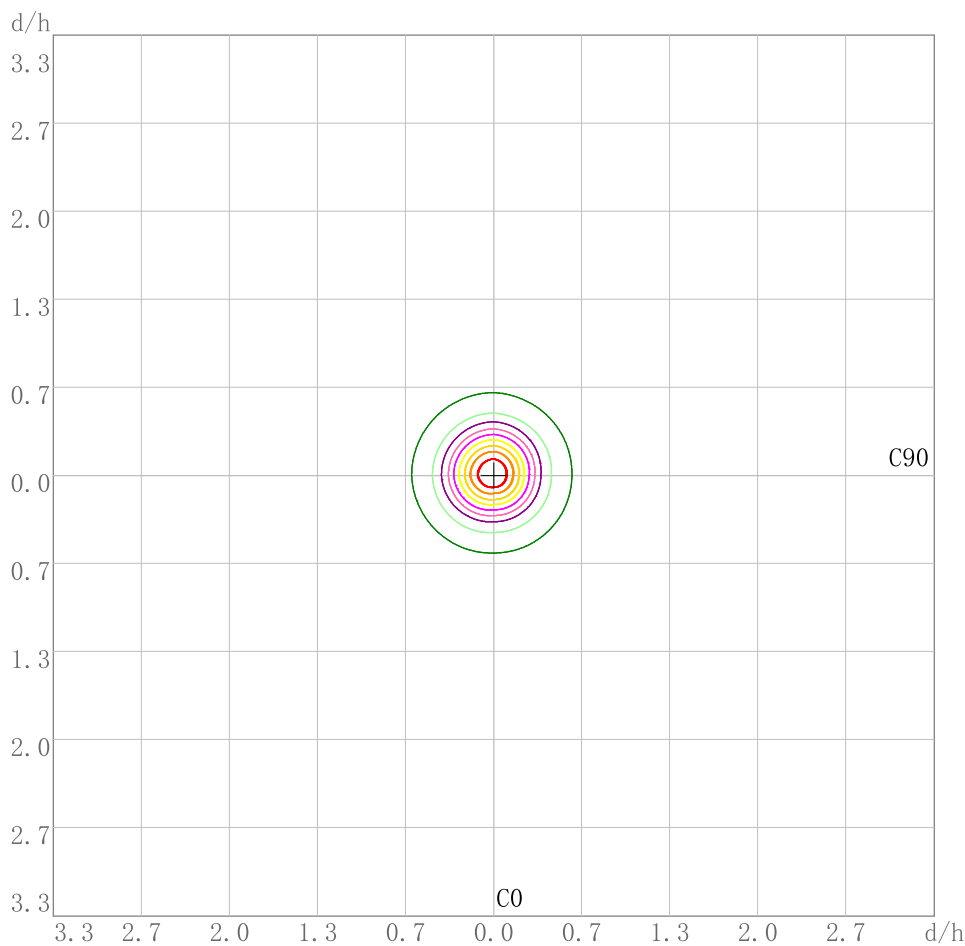
# IES Indoor Report

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## Plane ISO-Illuminance Diagram

Lum. Name: NRLG10WCCT-6K	Lum. Catalog: LED DOWNLIGHT	Test ID:
Lamp Name: 6000K	Lamp Catalog: COB	Test Lab:
Manufacture:	Test Machine: GON-2000	Test Date: 2019/08/13

### Plane ISO-Illuminance Curve



- Curves:**  
 unit: lx  
 [EMax] = 177.835
- [EMax\*90%]=160.052
  - [EMax\*80%]=142.268
  - [EMax\*70%]=124.485
  - [EMax\*60%]=106.701
  - [EMax\*50%]=88.918
  - [EMax\*40%]=71.134
  - [EMax\*30%]=53.351
  - [EMax\*20%]=35.567
  - [EMax\*10%]=17.784

Working Plane Luminaire Mounting Height(m): 3.00  
 Working Plane Maximum Illuminance(lx): 177.84  
 Working Plane Maximum Illuminance Position(d/h): H0.0 V0.0

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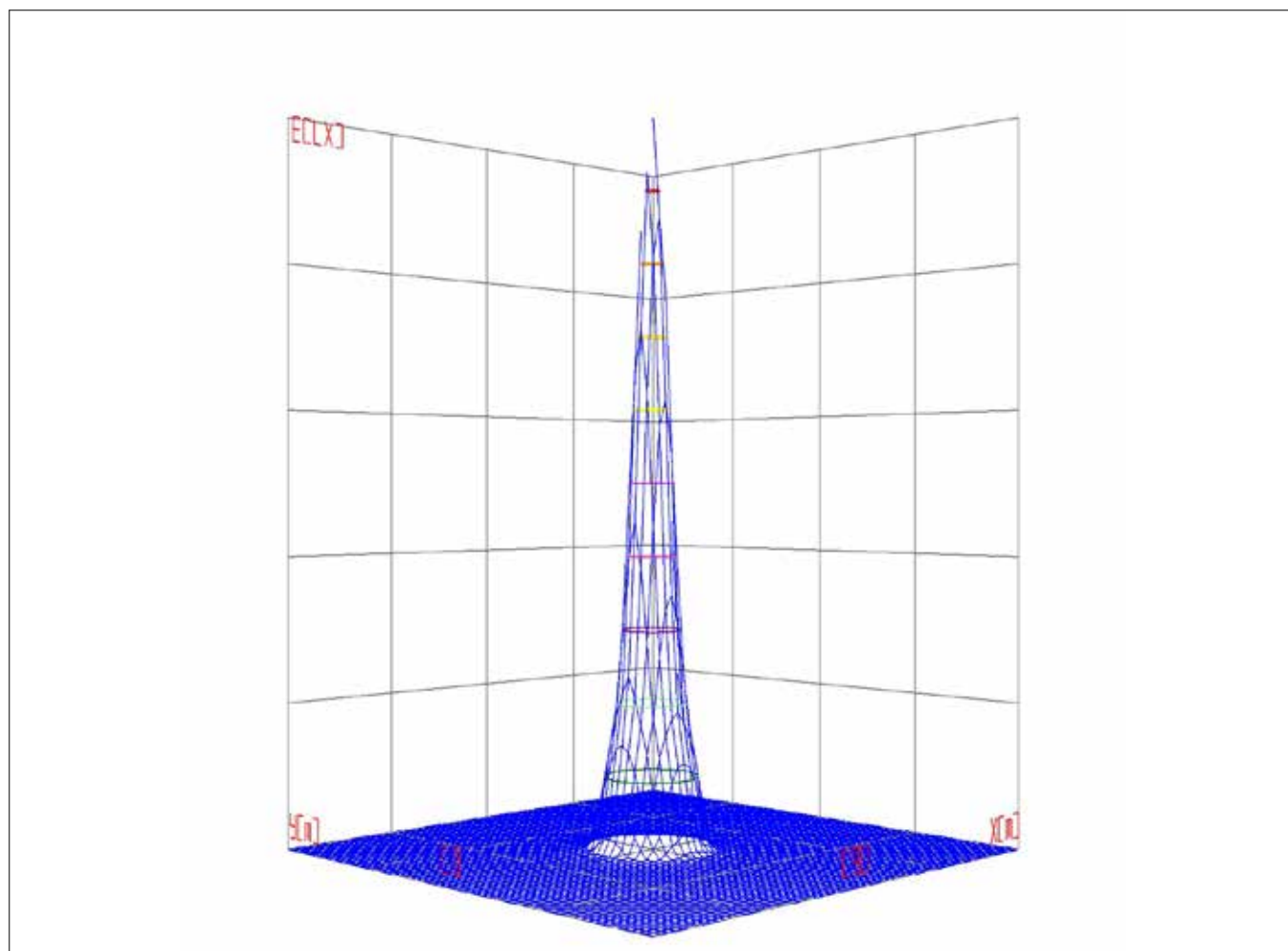
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## 3D Plane ISO Illuminance Diagram

Lum. Name: NRLG10WCCT-6K	Lum. Catalog: LED DOWNLIGHT	Test ID:
Lamp Name: 6000K	Lamp Catalog: COB	Test Lab:
Manufacture:	Test Machine: GON-2000	Test Date: 2019/08/13

### 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

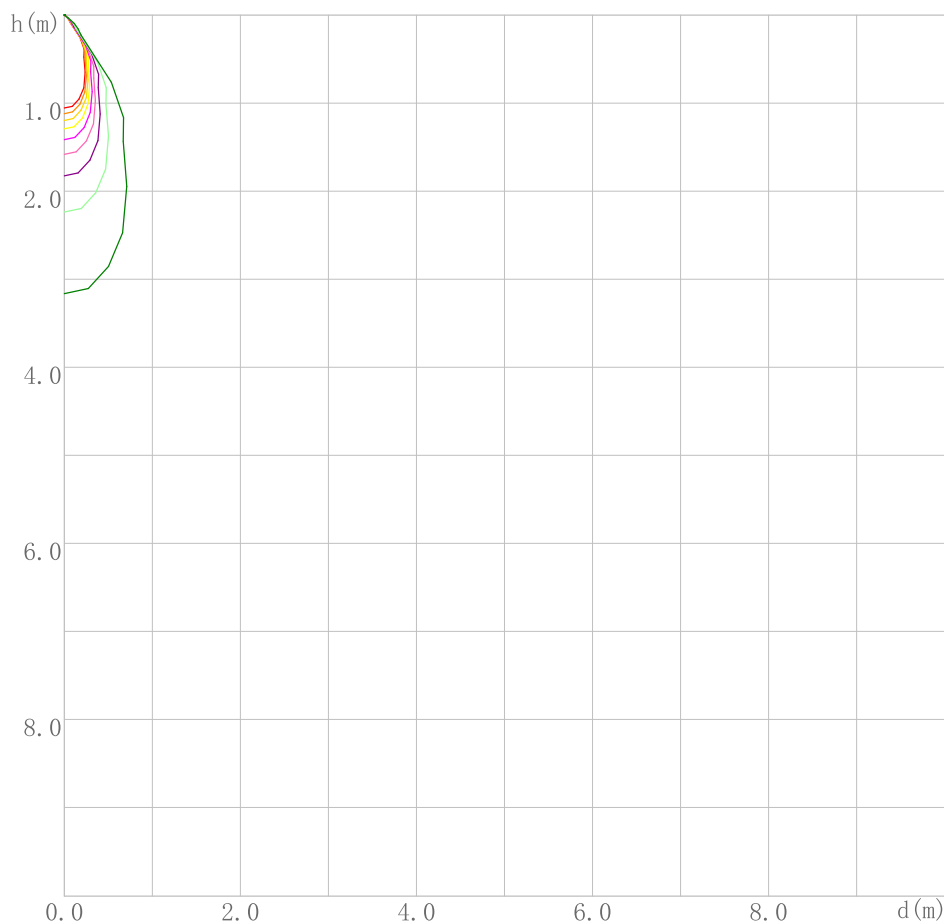
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## Space ISO Illuminance Diagram

Lum. Name: NRLG10WCCT-6K	Lum. Catalog: LED DOWNLIGHT	Test ID:
Lamp Name: 6000K	Lamp Catalog: COB	Test Lab:
Manufacture:	Test Machine:GON-2000	Test Date: 2019/08/13

### Space ISO Illuminance Curve



- Curves:  
unit:lx  
[EMax] =1600.516
- [EMax\*90%]=1440.464
  - [EMax\*80%]=1280.413
  - [EMax\*70%]=1120.361
  - [EMax\*60%]=960.310
  - [EMax\*50%]=800.258
  - [EMax\*40%]=640.206
  - [EMax\*30%]=480.155
  - [EMax\*20%]=320.103
  - [EMax\*10%]=160.052

Space Plane Maximum Illuminance and @Angle:1600.52,0.0deg  
Plane Maximum Lighting Intensity and @Angle:1600.516cd,0deg

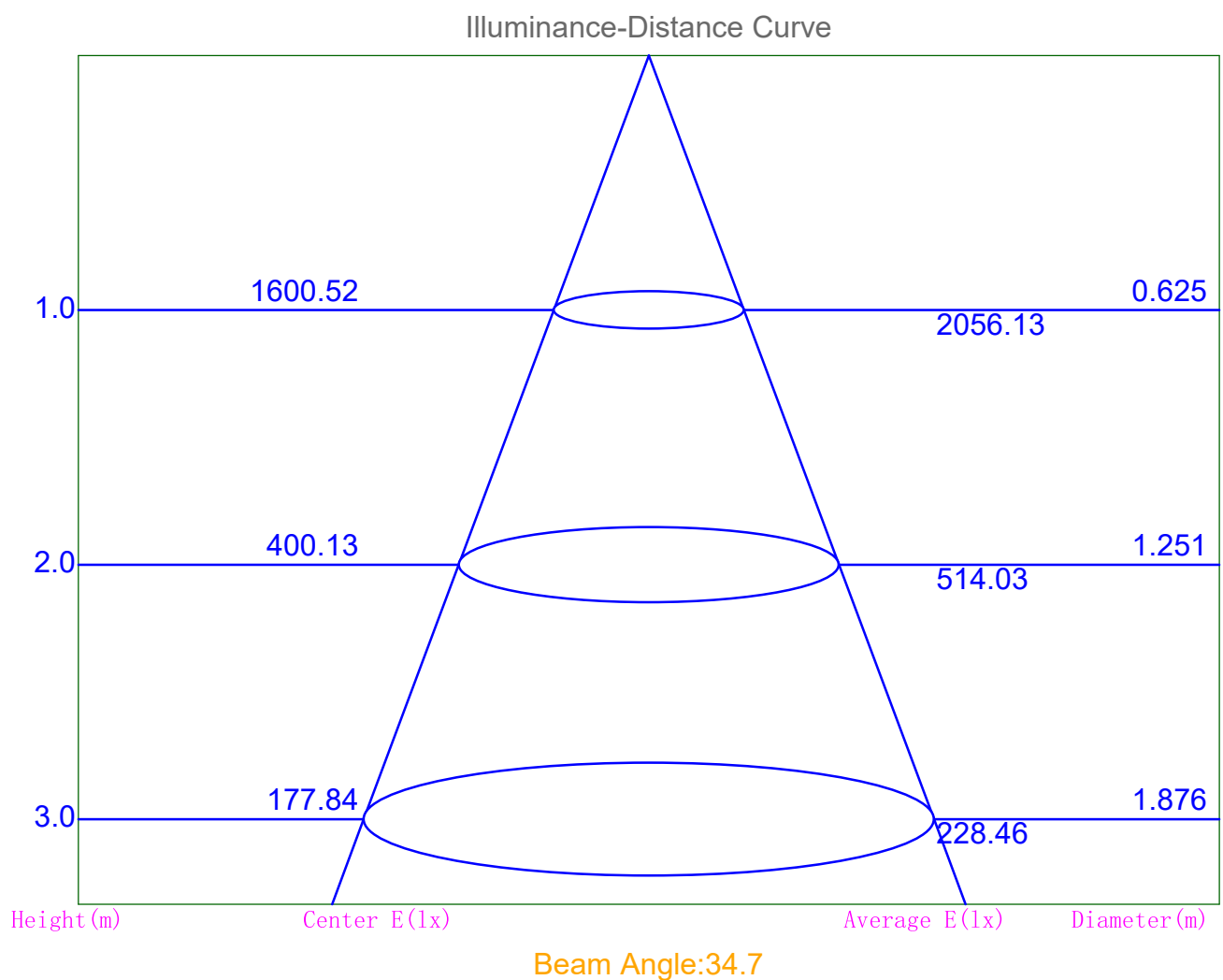
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## Illuminance-Distance Diagram

Lum. Name: NRLG10WCCT-6K	Lum. Catalog: LED DOWNLIGHT	Test ID:
Lamp Name: 6000K	Lamp Catalog: COB	Test Lab:
Manufacture:	Test Machine:GON-2000	Test Date: 2019/08/13





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## Indoor Luminance Limiting Curves

Lum. Name: NRLG10WCCT-6K	Lum. Catalog: LED DOWNLIGHT	Test ID:
Lamp Name: 6000K	Lamp Catalog: COB	Test Lab:
Manufacture:	Test Machine: GON-2000	Test Date: 2019/08/13

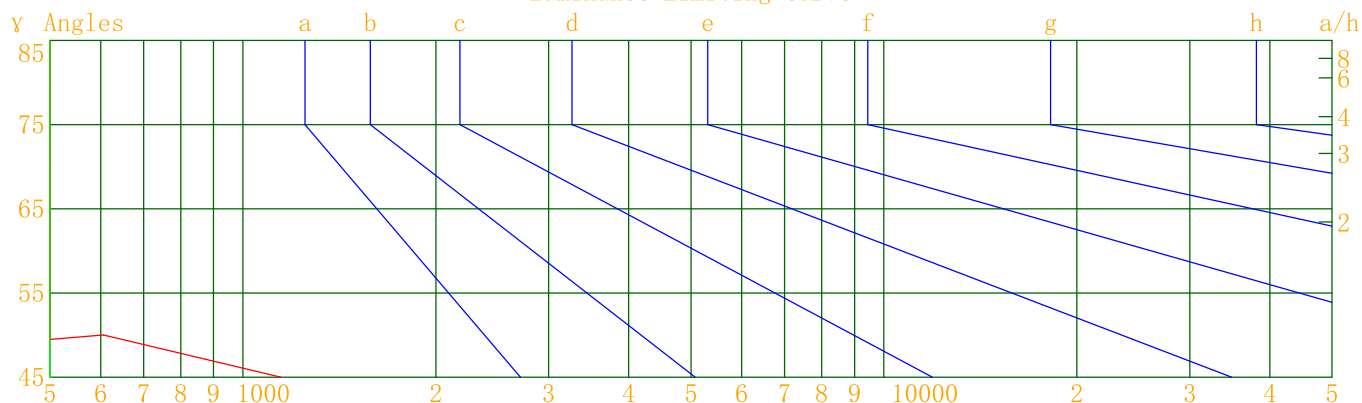
Glare Grade Table

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	1147	606	109	0	0	0	0	0	0
C90	481	54	0	0	0	0	0	0	0

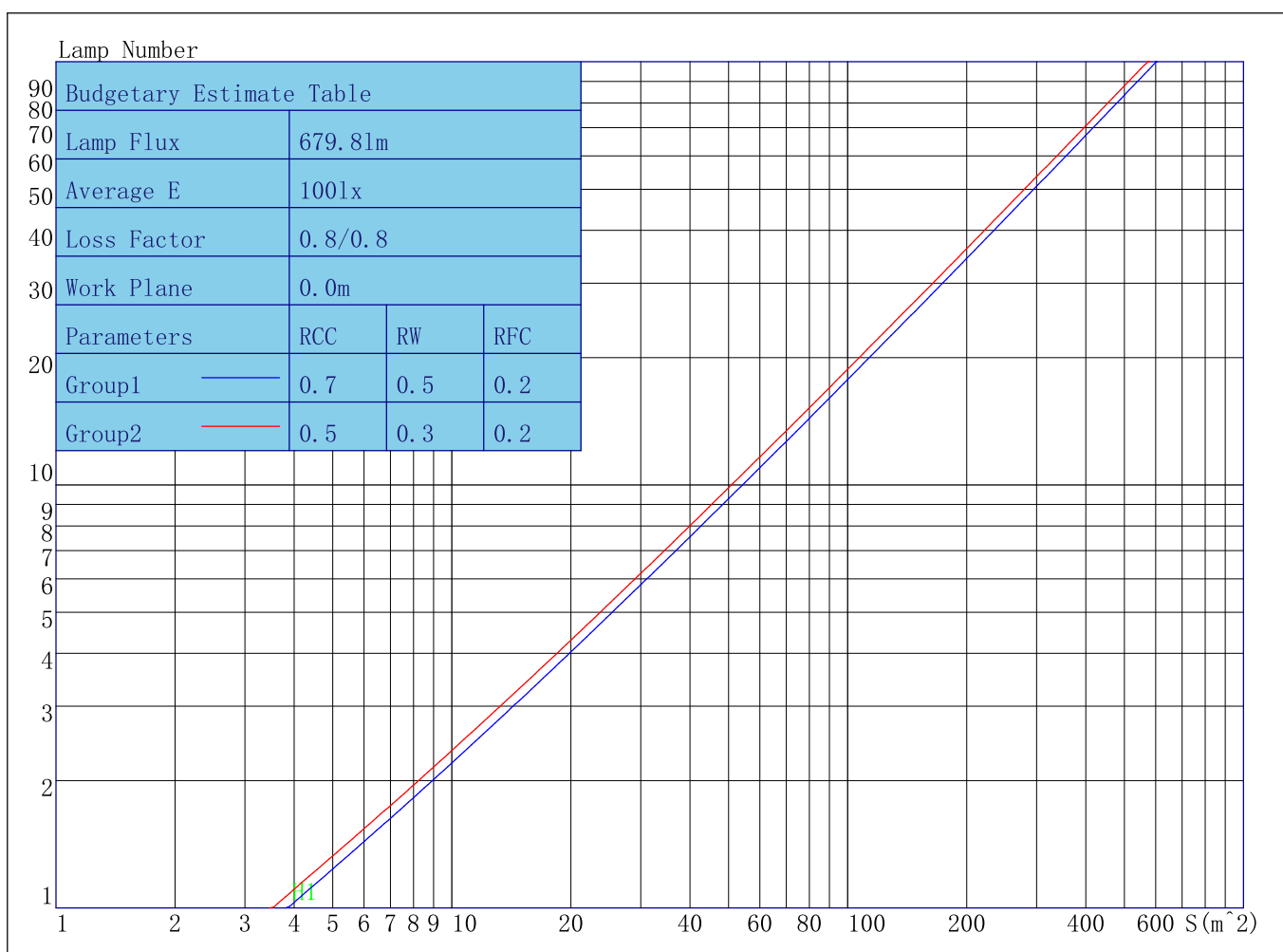
Luminance Limiting Curve



Luminous Size: Length(m)=0.085 Width(m)=0.085 Height(m)=0.075 Area(m<sup>2</sup>)=0.013600  
 Luminous Type: Without Luminous Side  
 Luminous Curves: C0-C180 Color: — C90-C270 Color: —

**Indoor Budgetary Estimate Table**

Lum. Name: NRLG10WCCT-6K	Lum. Catalog: LED DOWNLIGHT	Test ID:
Lamp Name: 6000K	Lamp Catalog: COB	Test Lab:
Manufacture:	Test Machine:GON-2000	Test Date: 2019/08/13



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: NRLG10WCCT-6K	Lum. Catalog: LED DOWNLIGHT	Test ID:
Lamp Name: 6000K	Lamp Catalog: COB	Test Lab:
Manufacture:	Test Machine: GON-2000	Test Date: 2019/08/13

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	102	102	102	100
1	114	112	110	108	112	110	108	106	106	104	103	102	101	100	99	98	97	95
2	110	106	102	99	108	104	101	98	101	98	96	98	96	94	95	94	92	91
3	105	100	96	93	104	99	95	92	96	93	90	94	91	89	92	89	88	86
4	101	95	90	87	100	94	90	86	92	88	85	90	87	84	88	86	83	82
5	97	90	85	82	96	89	85	82	88	84	81	86	83	80	85	82	79	78
6	94	86	81	78	92	85	81	77	84	80	77	83	79	76	81	78	76	75
7	90	82	77	74	89	82	77	74	80	76	73	79	76	73	78	75	72	71
8	87	79	74	70	86	78	73	70	77	73	70	76	72	70	75	72	69	68
9	83	75	71	67	83	75	70	67	74	70	67	73	69	67	73	69	66	65
10	80	72	68	64	80	72	67	64	71	67	64	71	67	64	70	66	64	63

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## Unified Glare Rating Table

Lum. Name: NRLG10WCCT-6K	Lum. Catalog: LED DOWNLIGHT	Test ID:
Lamp Name: 6000K	Lamp Catalog: COB	Test Lab:
Manufacture:	Test Machine: GON-2000	Test Date: 2019/08/13

## 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	Viewed crosswise					Viewed endwise				
X=2H Y=2H	23.4	24.9	24.1	25.5	26.1	21.9	23.4	22.6	24.0	24.6
Y=3H	23.0	24.5	23.8	25.1	25.7	21.5	23.0	22.3	23.6	24.2
Y=4H	22.9	24.3	23.6	24.9	25.5	21.4	22.8	22.1	23.4	24.0
Y=6H	22.7	24.2	23.4	24.8	25.3	21.2	22.7	21.9	23.3	23.8
Y=8H	22.6	24.1	23.3	24.7	25.3	21.1	22.6	21.8	23.2	23.8
Y=12H	22.5	24.0	23.2	24.6	25.2	21.0	22.5	21.7	23.1	23.7
X=4H Y=2H	22.9	24.3	23.6	24.9	25.5	21.4	22.8	22.1	23.4	24.0
Y=3H	22.5	24.0	23.2	24.6	25.1	21.0	22.5	21.7	23.1	23.6
Y=4H	20.1	21.2	21.1	22.0	22.8	18.6	19.7	19.6	20.5	21.3
Y=6H	20.0	21.0	20.9	21.8	22.6	18.5	19.5	19.4	20.3	21.1
Y=8H	19.9	20.9	20.8	21.7	22.5	18.4	19.4	19.3	20.2	21.0
Y=12H	18.9	19.7	20.0	20.7	21.5	17.4	18.2	18.5	19.2	20.0
X=8H Y=4H	19.9	20.9	20.8	21.7	22.5	18.4	19.4	19.3	20.2	21.0
Y=6H	18.8	19.6	19.9	20.6	21.4	17.3	18.1	18.4	19.1	19.9
Y=8H	18.3	18.9	19.4	19.9	20.8	16.8	17.4	17.9	18.4	19.3
Y=12H	18.2	18.8	19.3	19.8	20.8	16.7	17.3	17.8	18.3	19.3
X=12H Y=4H	18.9	19.7	20.0	20.7	21.5	17.4	18.2	18.5	19.2	20.0
Y=6H	18.3	18.9	19.4	19.9	20.9	16.8	17.4	17.9	18.4	19.3
Y=8H	18.2	18.8	19.3	19.8	20.8	16.7	17.3	17.8	18.3	19.3
Variations with the observer position at spacings										
S=1.0H	-30.7/-70.9					-36.9/-69.4				
S=1.5H	-66.9/-1.5					-65.4/-1.5				
S=2.0H	-66.9/-1.5					-65.4/-1.5				

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## Candela Tabulation

V/H	C0.0	C90.0	C180.0	C270.0
Υ 0.0	1600.52	1600.52	1600.52	1600.52
Υ 5.0	1558.18	1471.77	1454.29	1556.09
Υ 10.0	1364.11	1228.71	1192.01	1355.45
Υ 15.0	1083.16	883.93	848.55	1050.52
Υ 20.0	728.60	548.55	518.74	679.68
Υ 25.0	440.56	361.56	357.09	424.03
Υ 30.0	334.06	277.19	265.17	329.11
Υ 35.0	168.79	43.84	26.57	146.38
Υ 40.0	18.24	10.39	10.12	18.00
Υ 45.0	11.03	4.62	3.94	10.38
Υ 50.0	5.30	0.47	0.00	4.31
Υ 55.0	0.85	0.00	0.00	0.00
Υ 60.0	0.00	0.00	0.00	0.00
Υ 65.0	0.00	0.00	0.00	0.00
Υ 70.0	0.00	0.00	0.00	0.00
Υ 75.0	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Υ 135.0	0.00	0.00	0.00	0.00
Υ 140.0	0.00	0.00	0.00	0.00
Υ 145.0	0.00	0.00	0.00	0.00
Υ 150.0	0.00	0.00	0.00	0.00
Υ 155.0	0.00	0.00	0.00	0.00
Υ 160.0	0.00	0.00	0.00	0.00
Υ 165.0	0.00	0.00	0.00	0.00
Υ 170.0	0.00	0.00	0.00	0.00
Υ 175.0	0.00	0.00	0.00	0.00
Υ 180.0	0.00	0.00	0.00	0.00