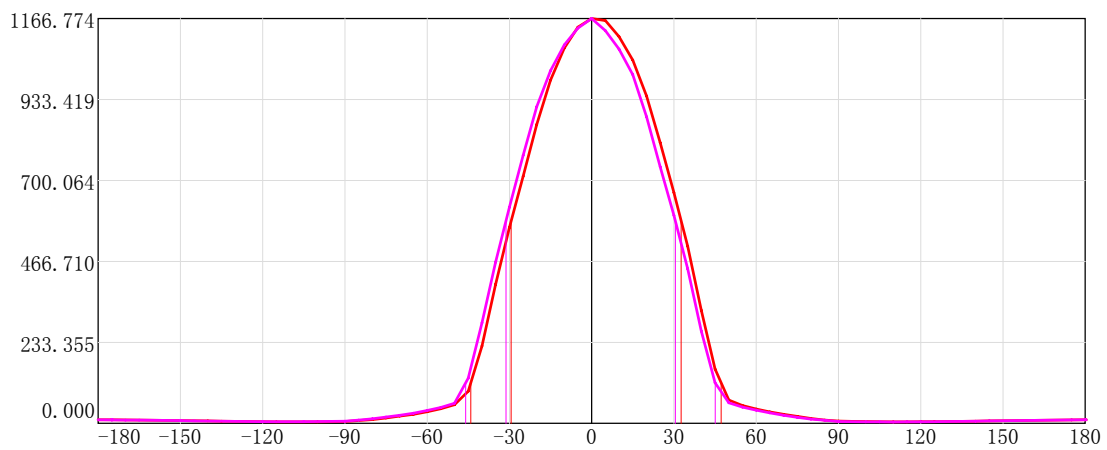
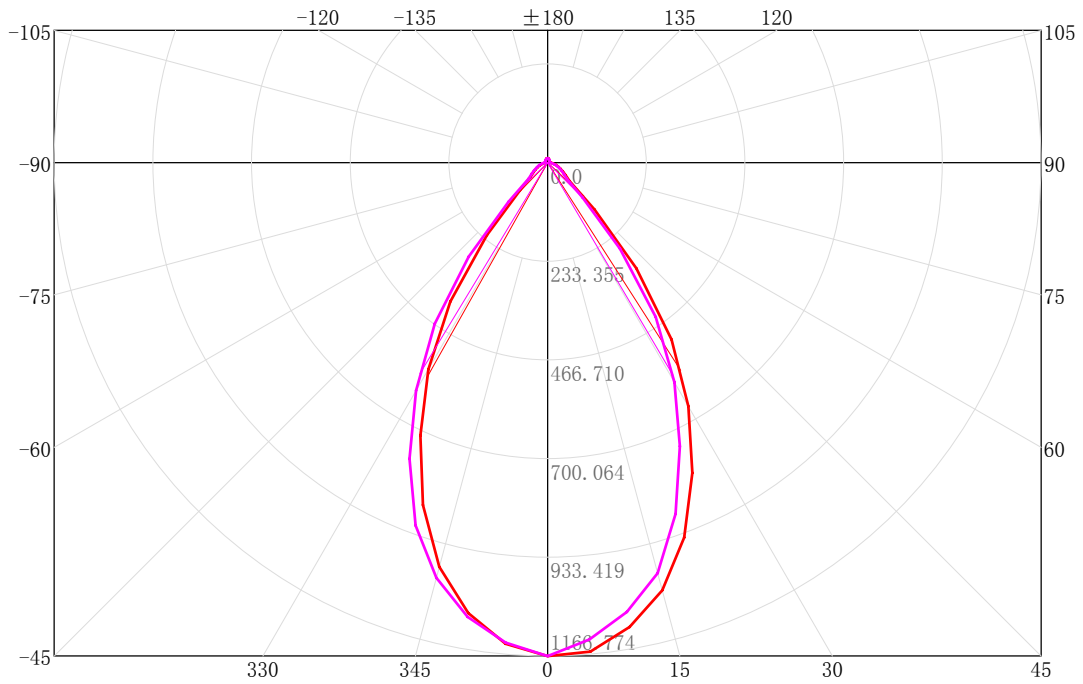


2D Plane Light Intensity Distribution Curve

Lum. Name: DC13W-3000K, Ra90, Reflector 60°	Lum. Catalog: 1200LM	Test ID: 01
Lamp Name: CL2-13MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1203C4-30XH5M3	Test Machine:GON-2000	Test Date: 2017/04/13

C Plane Distribution Diagram



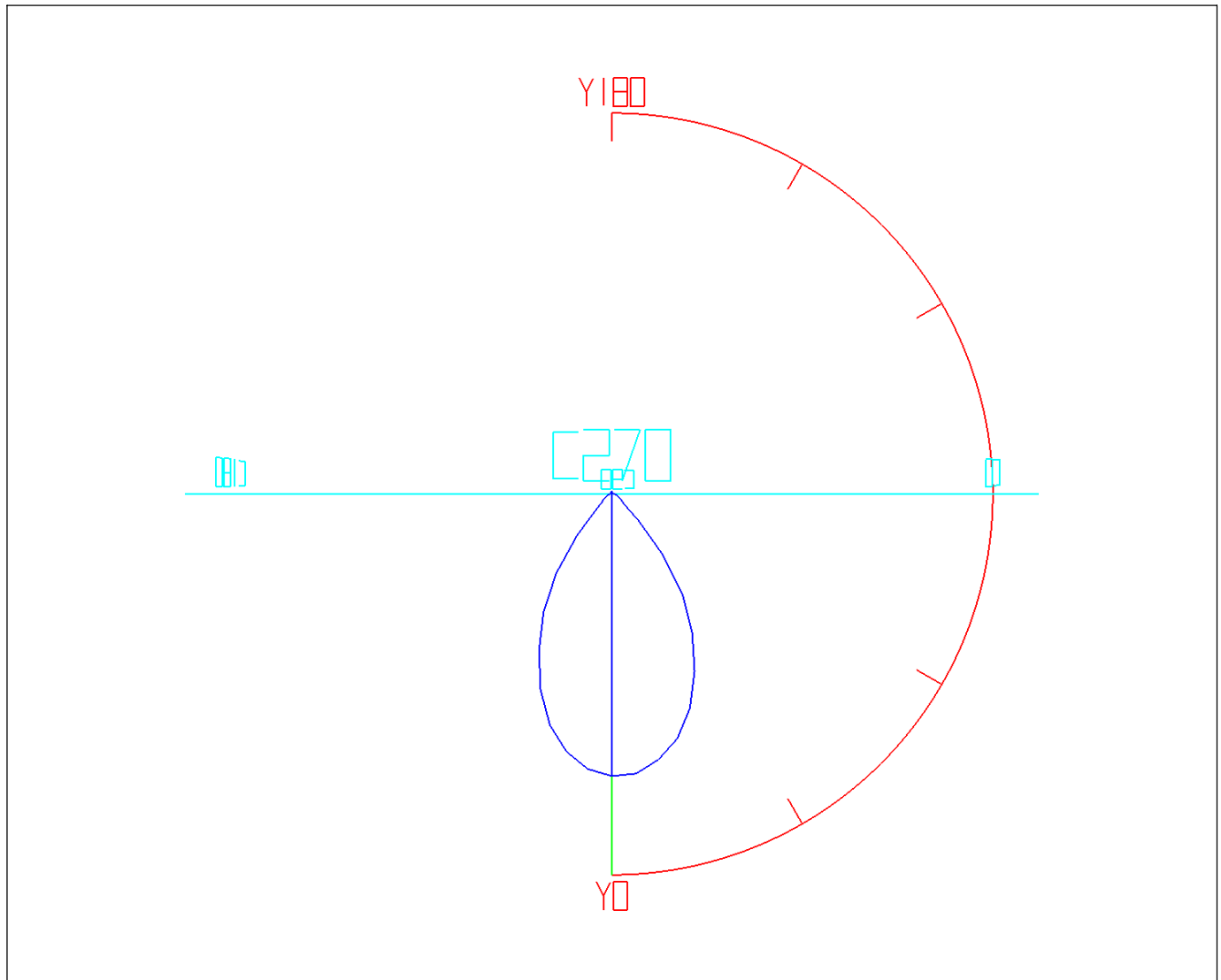
C Plane [50%MaxAng.] [10%MaxAng.]
 — C0.0_180.0 : 62.0 91.3
 — C90.0_270.0 : 61.8 91.0

Unit:cd

3D Light Intensity Distribution Modal

Lum. Name: DC13W-3000K, Ra90, Reflector 60°	Lum. Catalog: 1200LM	Test ID: 01
Lamp Name: CL2-13MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1203C4-30XH5M3	Test Machine:GON-2000	Test Date: 2017/04/13

3D Light Intensity Distribution Modal



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

Zonal Flux Tabulation

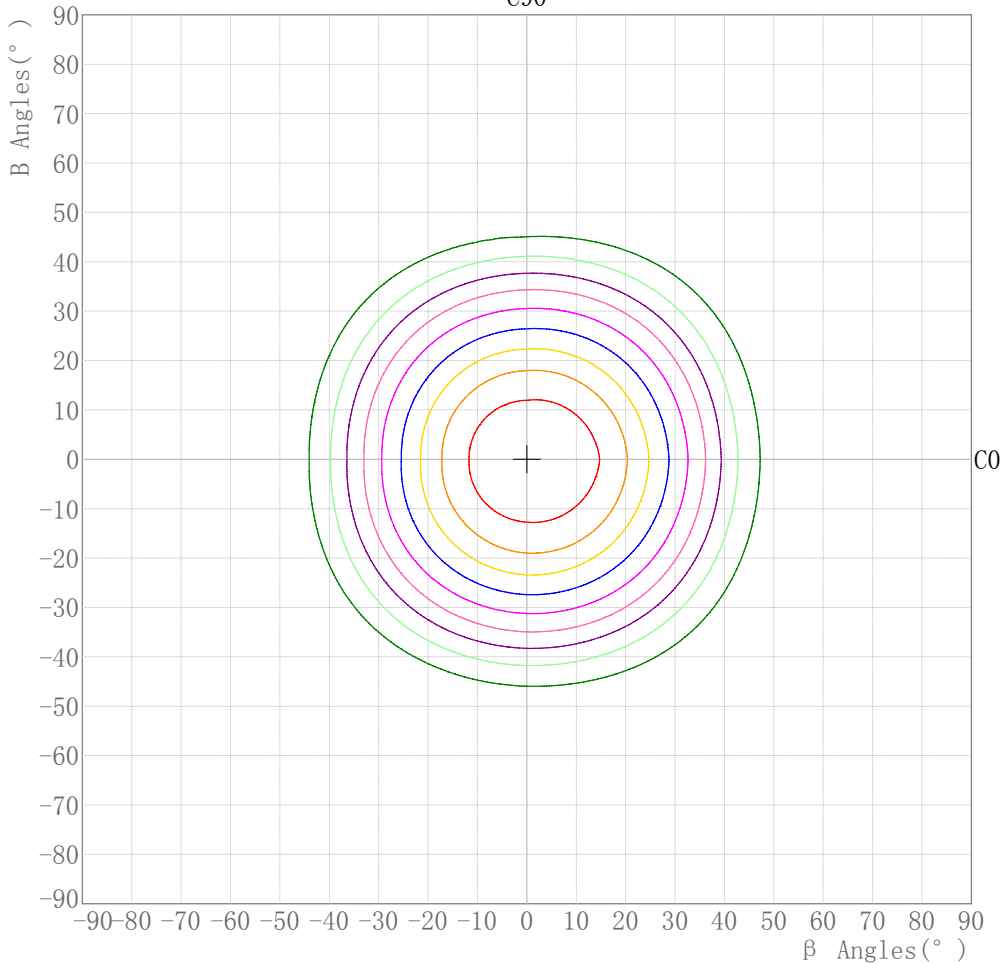
Zone (γ)	Zone Flux (lm)	Sums Flux (lm)	Zone%Lamp	Sums%Lamp
0.0-5.0	27.62	27.62	2.30	2.30
5.0-10.0	79.95	107.57	6.65	8.94
10.0-15.0	124.92	232.48	10.38	19.33
15.0-20.0	157.80	390.28	13.12	32.44
20.0-25.0	173.99	564.27	14.46	46.91
25.0-30.0	173.54	737.81	14.43	61.33
30.0-35.0	157.31	895.12	13.08	74.41
35.0-40.0	122.09	1017.21	10.15	84.56
40.0-45.0	74.18	1091.40	6.17	90.72
45.0-50.0	37.18	1128.58	3.09	93.81
50.0-55.0	23.16	1151.73	1.92	95.74
55.0-60.0	19.52	1171.26	1.62	97.36
60.0-65.0	16.41	1187.67	1.36	98.73
65.0-70.0	13.56	1201.23	1.13	99.85
70.0-75.0	10.89	1212.13	0.91	100.76
75.0-80.0	8.23	1220.35	0.68	101.44
80.0-85.0	5.98	1226.33	0.50	101.94
85.0-90.0	4.20	1230.53	0.35	102.29
90.0-95.0	3.17	1233.70	0.26	102.55
95.0-100.0	2.86	1236.56	0.24	102.79
100.0-105.0	2.63	1239.19	0.22	103.01
105.0-110.0	2.48	1241.66	0.21	103.21
110.0-115.0	2.39	1244.05	0.20	103.41
115.0-120.0	2.36	1246.41	0.20	103.61
120.0-125.0	2.37	1248.79	0.20	103.81
125.0-130.0	2.41	1251.20	0.20	104.01
130.0-135.0	2.44	1253.64	0.20	104.21
135.0-140.0	2.45	1256.09	0.20	104.41
140.0-145.0	2.40	1258.49	0.20	104.61
145.0-150.0	2.28	1260.77	0.19	104.80
150.0-155.0	2.09	1262.86	0.17	104.98
155.0-160.0	1.84	1264.70	0.15	105.13
160.0-165.0	1.53	1266.22	0.13	105.26
165.0-170.0	1.16	1267.38	0.10	105.35
170.0-175.0	0.72	1268.10	0.06	105.41
175.0-180.0	0.25	1268.35	0.02	105.43

Rectangle ISO Lighting Intensity Diagram

Lum. Name: DC13W-3000K, Ra90, Reflector 60°	Lum. Catalog: 1200LM	Test ID:
Lamp Name: CL2-13MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1203C4-30XH5M3	Test Machine:GON-2000	Test Date: 2017/04/13

ISO Lighting Intensity Curve

C90



Curves:

[Unit: cd]

[IMax] =1166.774

- [IMax*90%]=1050.097
- [IMax*80%]=933.419
- [IMax*70%]=816.742
- [IMax*60%]=700.064
- [IMax*50%]=583.387
- [IMax*40%]=466.710
- [IMax*30%]=350.032
- [IMax*20%]=233.355
- [IMax*10%]=116.677

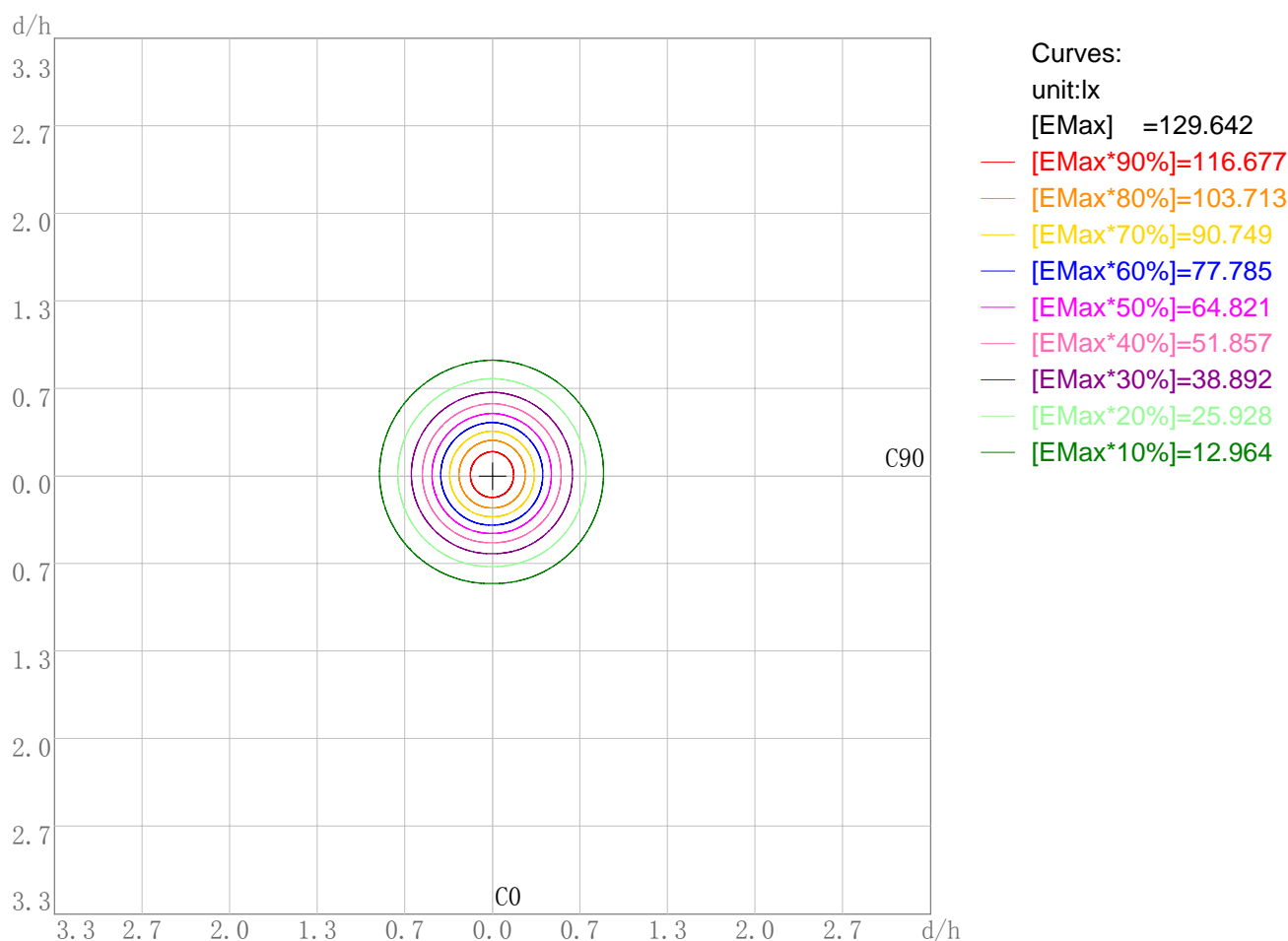
Maximum Light Intensity(cd): 1166.77

Maximum Cand.@Angle: H=0.0°,V=0.0°

Plane ISO-Illuminance Diagram

Lum. Name: DC13W-3000K, Ra90, Reflector 60°	Lum. Catalog: 1200LM	Test ID:
Lamp Name: CL2-13MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1203C4-30XH5M3	Test Machine:GON-2000	Test Date: 2017/04/13

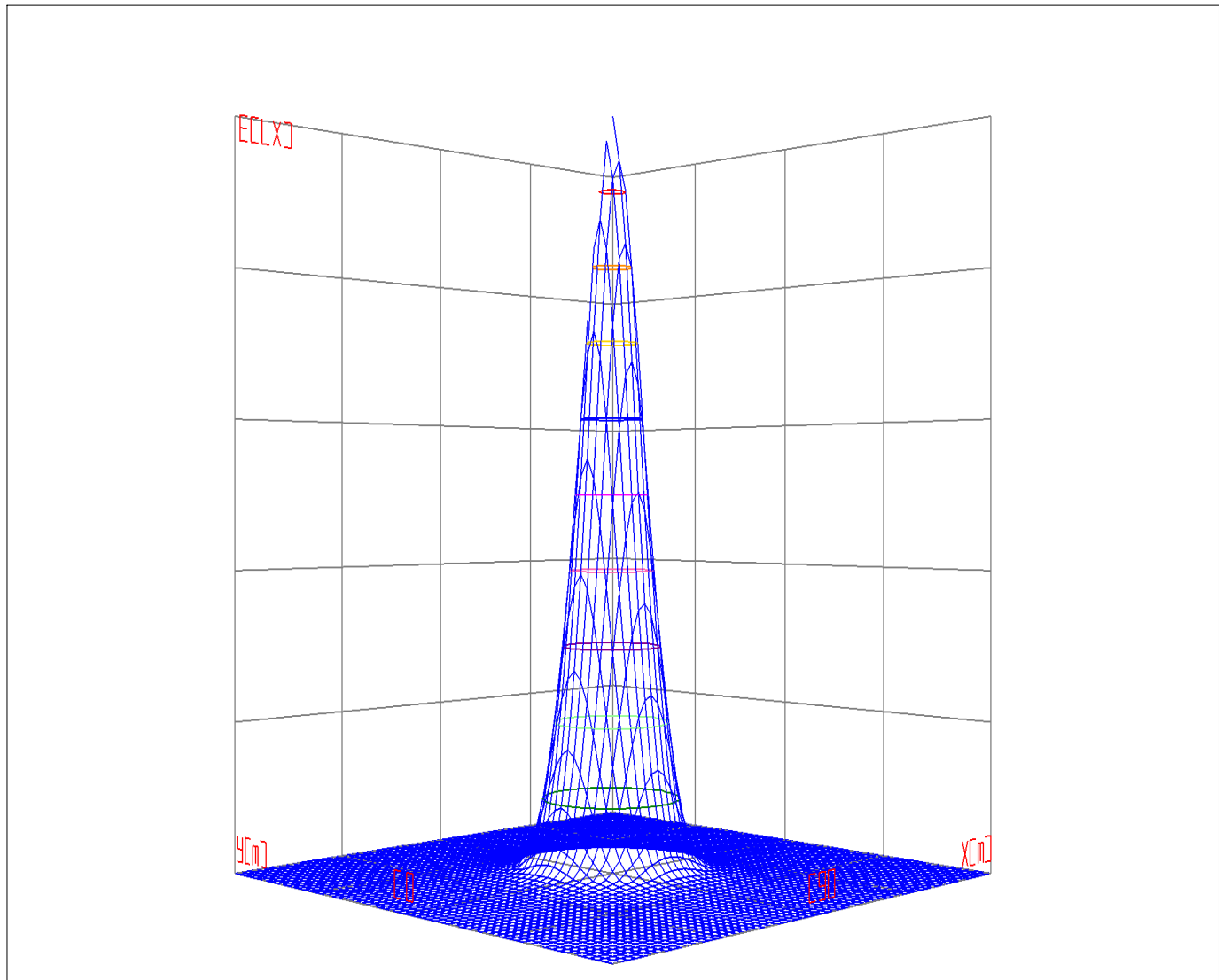
Plane ISO-Illuminance Curve



3D Plane ISO Illuminance Diagram

Lum. Name: DC13W-3000K, Ra90, Reflector 60°	Lum. Catalog: 1200LM	Test ID:
Lamp Name: CL2-13MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1203C4-30XH5M3	Test Machine:GON-2000	Test Date: 2017/04/13

3D Plane Illuminance Modal

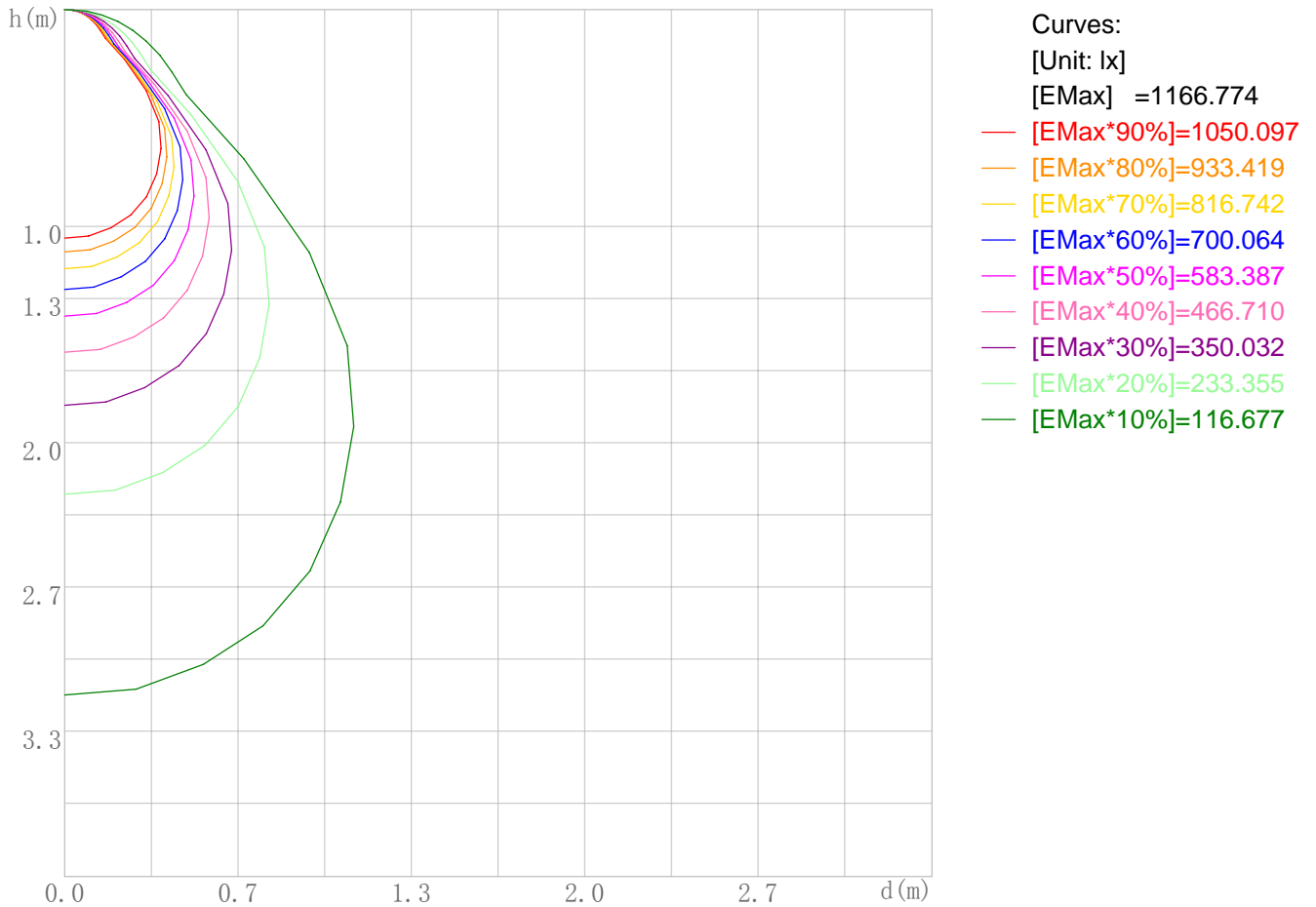


Curves: 3D Model — 90% — 80% — 70% — 60% — 50% — 40% — 30% — 20% — 10% —
 View Angles(deg): 0 Height(m): 3.0 Distance(m): 10.0

Space ISO Illuminance Diagram

Lum. Name: DC13W-3000K, Ra90, Reflector 60°	Lum. Catalog: 1200LM	Test ID:
Lamp Name: CL2-13MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1203C4-30XH5M3	Test Machine:GON-2000	Test Date: 2017/04/13

Space ISO Illuminance Curve

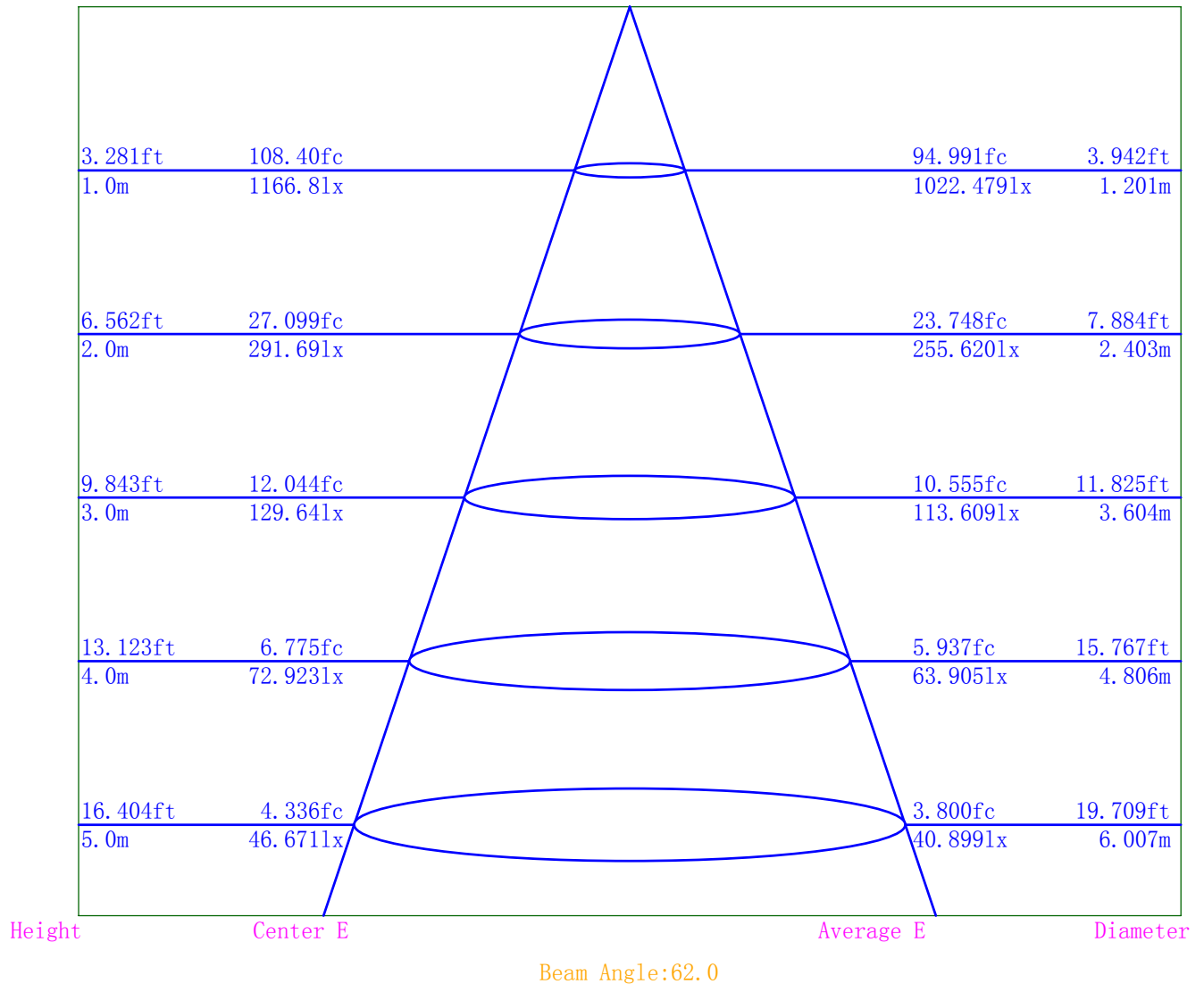


Space Plane Maximum Illuminance and @Angle:1166.77lx,0.0deg
 Plane Maximum Lighting Intensity and @Angle:1166.774cd,0deg

Illuminance-Distance Diagram

Lum. Name: DC13W-3000K, Ra90, Reflector 60°	Lum. Catalog: 1200LM	Test ID:
Lamp Name: CL2-13MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1203C4-30XH5M3	Test Machine:GON-2000	Test Date: 2017/04/13

Illuminance-Distance Curve



Indoor Luminance Limiting Curves

Lum. Name: DC13W-3000K, Ra90, Reflector 60°	Lum. Catalog: 1200LM	Test ID:
Lamp Name: CL2-13MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1203C4-30XH5M3	Test Machine:GON-2000	Test Date: 2017/04/13

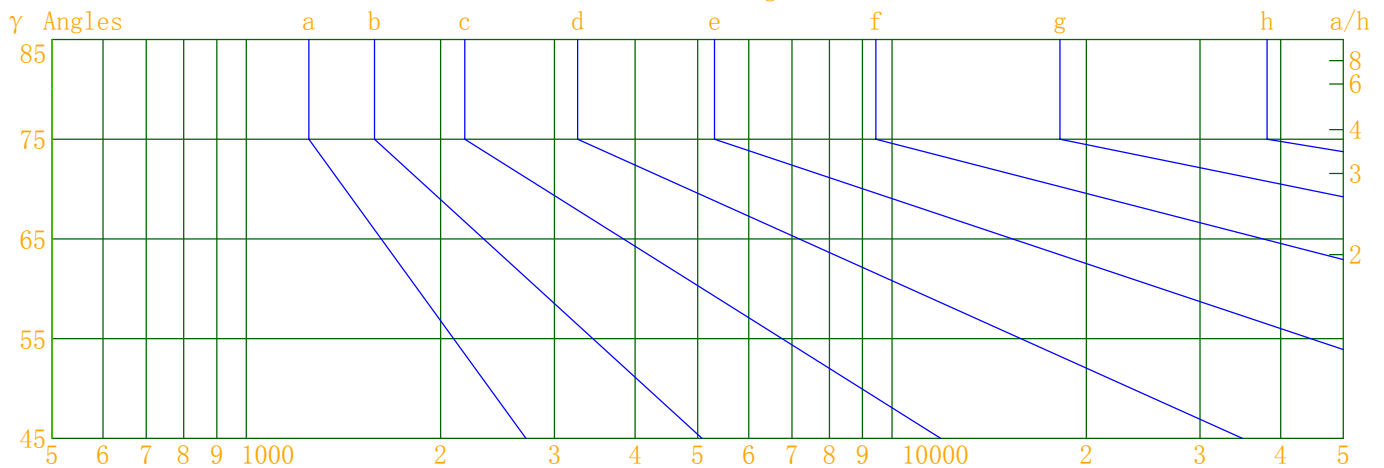
Glare Grade Table

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	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

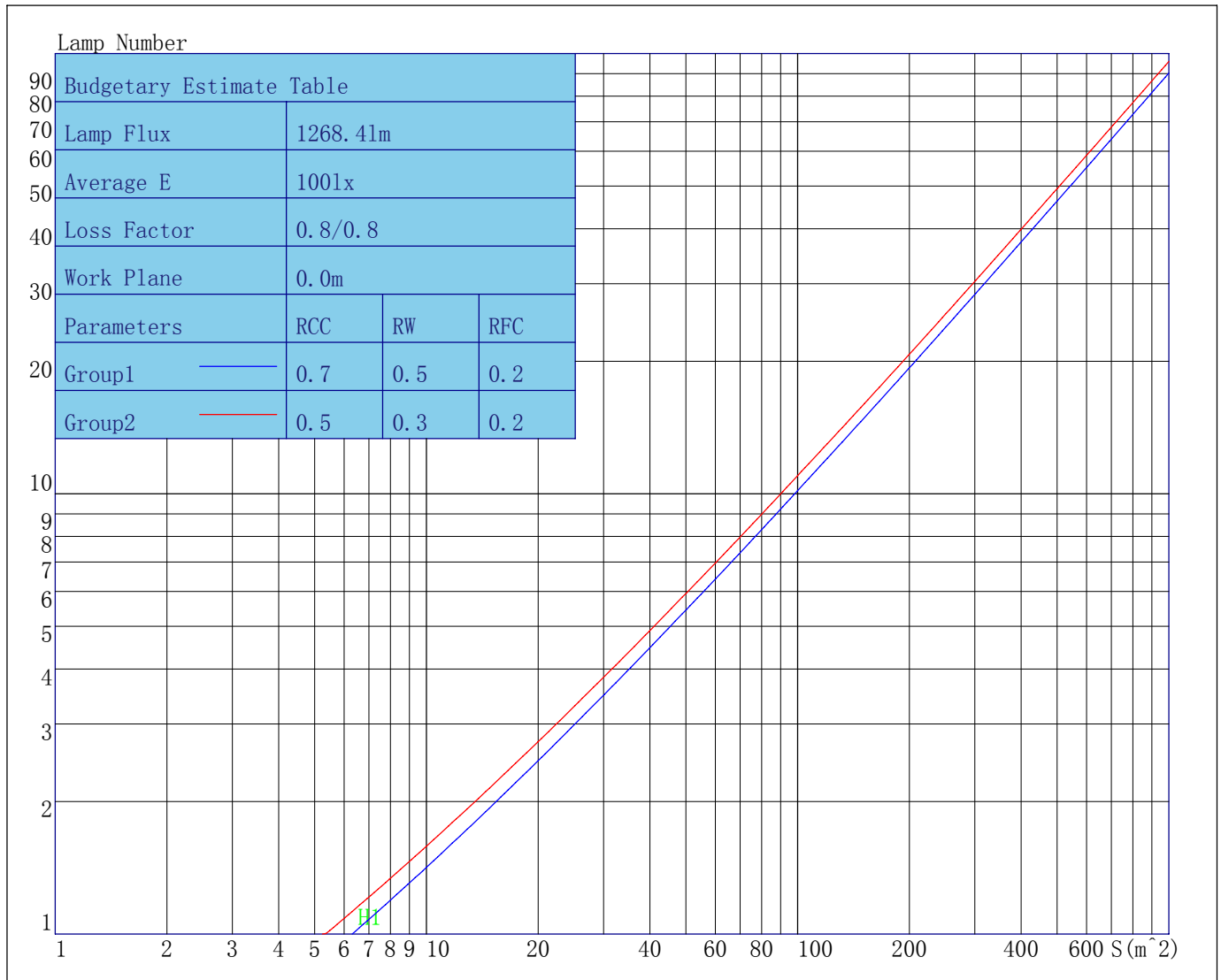
Luminance Limiting Curve



Luminous Size: Length(m)=0.000 Width(m)=0.000 Height(m)=0.000 Area(m^2)=0.000000
 Luminous Type: Without Luminous Side
 Luminous Curves: C0-C180 Color: — C90-C270 Color: —

Indoor Budgetary Estimate Table

Lum. Name: DC13W-3000K, Ra90, Reflector 60°	Lum. Catalog: 1200LM	Test ID:
Lamp Name: CL2-13MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1203C4-30XH5M3	Test Machine:GON-2000	Test Date: 2017/04/13



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

Indoor Coefficient of Utilization Table

Lum. Name: DC13W-3000K, Ra90, Reflector 60°	Lum. Catalog: 1200LM	Test ID:
Lamp Name: CL2-13MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1203C4-30XH5M3	Test Machine:GON-2000	Test Date: 2017/04/13

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	50	30	10	0
RCR	Coefficient of Utilization (%)																				
0	125	125	125	125	121	121	121	121	115	115	115	110	110	110	105	105	105	102			
1	118	114	111	108	115	112	109	106	107	104	102	102	100	99	98	97	95	93			
2	111	105	100	96	108	103	98	94	99	95	92	95	92	89	92	89	87	85			
3	104	96	90	86	102	95	89	85	91	87	83	88	84	81	86	82	80	78			
4	98	89	83	77	96	88	82	77	85	80	76	82	78	74	80	76	73	71			
5	93	83	76	71	90	81	75	70	79	73	69	77	72	68	75	71	67	66			
6	87	77	70	65	85	76	69	64	74	68	64	72	67	63	70	66	62	61			
7	83	72	65	60	81	71	64	60	69	63	59	68	62	58	66	61	58	56			
8	78	67	60	55	77	66	60	55	65	59	55	63	58	54	62	57	54	52			
9	74	63	56	52	73	62	56	51	61	55	51	60	54	51	59	54	50	49			
10	70	59	53	48	69	59	52	48	58	52	48	56	51	47	55	51	47	46			

Unified Glare Rating Table

Lum. Name: DC13W-3000K, Ra90, Reflector 60°	Lum. Catalog: 1200LM	Test ID:
Lamp Name: CL2-13MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1203C4-30XH5M3	Test Machine:GON-2000	Test Date: 2017/04/13

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	Vewed crosswise					Vewed endwise				
X=2H Y=2H	-0.7	0.5	-0.2	0.9	1.3	-0.7	0.5	-0.2	0.9	1.3
Y=3H	-0.9	0.2	-0.4	0.6	1.0	-0.9	0.2	-0.4	0.6	1.0
Y=4H	-1.0	0.0	-0.5	0.5	0.9	-1.0	0.0	-0.5	0.5	0.9
Y=6H	-1.1	-0.1	-0.6	0.3	0.8	-1.1	-0.1	-0.6	0.3	0.8
Y=8H	-1.1	-0.2	-0.6	0.2	0.7	-1.1	-0.2	-0.6	0.2	0.7
Y=12H	-1.2	-0.3	-0.7	0.1	0.6	-1.2	-0.3	-0.7	0.1	0.6
X=4H Y=2H	-1.0	0.0	-0.5	0.5	0.9	-1.0	0.0	-0.5	0.5	0.9
Y=3H	-1.2	-0.3	-0.7	0.2	0.6	-1.2	-0.3	-0.7	0.2	0.6
Y=4H	-1.3	-0.5	-0.8	-0.0	0.5	-1.3	-0.5	-0.8	-0.0	0.5
Y=6H	-1.4	-0.7	-0.9	-0.2	0.3	-1.4	-0.7	-0.9	-0.2	0.3
Y=8H	-1.4	-0.8	-0.9	-0.3	0.2	-1.4	-0.8	-0.9	-0.3	0.2
Y=12H	-1.5	-0.9	-1.0	-0.4	0.2	-1.5	-0.9	-1.0	-0.4	0.2
X=8H Y=4H	-1.4	-0.8	-0.9	-0.3	0.2	-1.4	-0.8	-0.9	-0.3	0.2
Y=6H	-1.6	-1.0	-1.0	-0.5	0.2	-1.6	-1.0	-1.0	-0.5	0.2
Y=8H	-1.6	-1.1	-1.1	-0.6	-0.0	-1.6	-1.1	-1.1	-0.6	-0.0
Y=12H	-1.7	-1.2	-1.1	-0.7	-0.1	-1.7	-1.2	-1.1	-0.7	-0.1
X=12H Y=4H	-1.5	-0.9	-1.0	-0.4	0.2	-1.5	-0.9	-1.0	-0.4	0.2
Y=6H	-1.6	-1.1	-1.1	-0.6	0.0	-1.6	-1.1	-1.1	-0.6	0.0
Y=8H	-1.7	-1.2	-1.1	-0.7	-0.1	-1.7	-1.2	-1.1	-0.7	-0.1
Variations with the objerver position at spacings										
S=1.0H	0.0/0.0					0.0/0.0				
S=1.5H	0.0/0.0					0.0/0.0				
S=2.0H	0.0/0.0					0.0/0.0				
Reduced UGR Table:										
Nordic Standard Table:	BKO					BKO				
Correction Value	0.0					0.0				

to the CIE Pub.117, data has been corrected, refers to the lamp's lumens 8.2flm.

Candela Tabulation

V/H	C0.0	C90.0	C180.0	C270.0
γ 0.0	1166.77	1166.77	1166.77	1166.77
γ 5.0	1160.67	1131.76	1141.80	1139.26
γ 10.0	1114.84	1078.77	1081.57	1090.78
γ 15.0	1046.84	1004.86	989.27	1016.34
γ 20.0	943.34	883.82	861.66	912.86
γ 25.0	809.45	739.84	712.11	772.43
γ 30.0	664.96	599.69	564.11	622.50
γ 35.0	510.51	445.45	400.96	465.00
γ 40.0	326.20	265.90	223.08	290.06
γ 45.0	156.75	117.35	92.76	130.48
γ 50.0	67.29	59.37	53.88	58.17
γ 55.0	51.71	47.22	42.37	45.99
γ 60.0	41.70	38.28	33.45	37.14
γ 65.0	33.10	30.49	26.38	29.50
γ 70.0	26.34	23.66	21.07	23.74
γ 75.0	20.20	17.41	15.79	18.47
γ 80.0	14.29	12.26	11.19	13.39
γ 85.0	9.68	9.00	8.43	9.81
γ 90.0	6.74	5.48	5.60	6.61
γ 95.0	5.86	5.00	5.12	5.88
γ 100.0	5.34	4.63	4.81	5.39
γ 105.0	5.00	4.41	4.64	5.08
γ 110.0	4.80	4.34	4.64	4.97
γ 115.0	4.74	4.43	4.81	5.01
γ 120.0	4.89	4.68	5.10	5.19
γ 125.0	5.16	5.05	5.52	5.51
γ 130.0	5.56	5.53	6.05	5.95
γ 135.0	6.07	6.08	6.66	6.47
γ 140.0	6.64	6.68	7.29	7.04
γ 145.0	7.22	7.27	7.87	7.59
γ 150.0	7.75	7.79	8.39	8.08
γ 155.0	8.28	8.30	8.89	8.56
γ 160.0	8.78	8.83	9.40	9.02
γ 165.0	9.39	9.33	9.86	9.49
γ 170.0	9.87	9.80	10.26	9.89
γ 175.0	10.27	10.19	10.55	10.20
γ 180.0	10.50	10.50	10.50	10.50
