

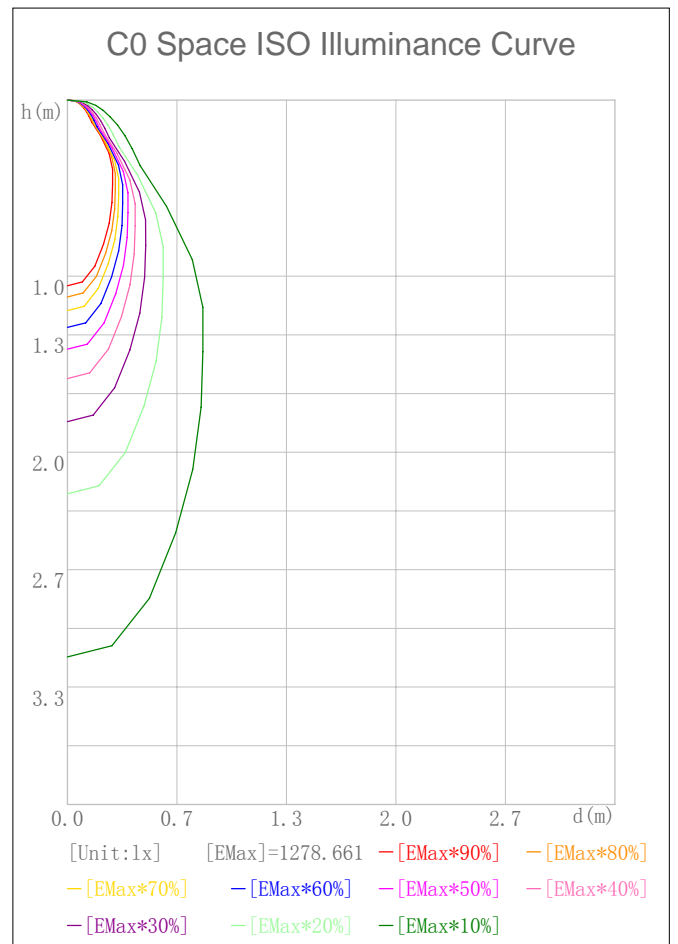
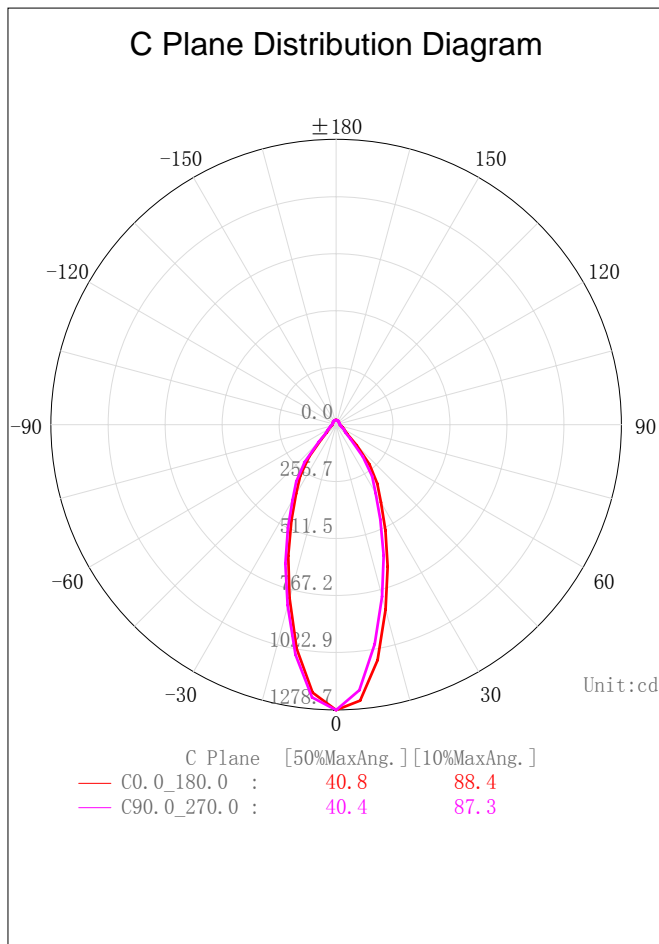
### Indoor Luminaire Photometric Data

#### Description Information

Luminary Name: DC9W-3000K, Ra90, Reflector 40°		Lum. Catalog: 1000LM	Test ID: 01
Lamp Name: CL2-9MR		Lamp Catalog: lamps and lanterns	Test Date: 2017/04/14
LED Chip: Citizen CLU028-1202C4-30XH5M3		Shld. Ang(°):	Test Machine:GON-2000
Test Lab:		Frequency (Hz):	Lamp CCT(K): 3000K Ra:90
Lum. Size (W*L*H): 0.000m*0.000m*0.000m		Lum. Area (m2): 0.000	Lum. W (kg): 0.000
Test System: C, γ	Test Step: C=90.0 γ=5.0	Temp. (°C): 25	Humidity(%): 50.0

#### Character Parameter

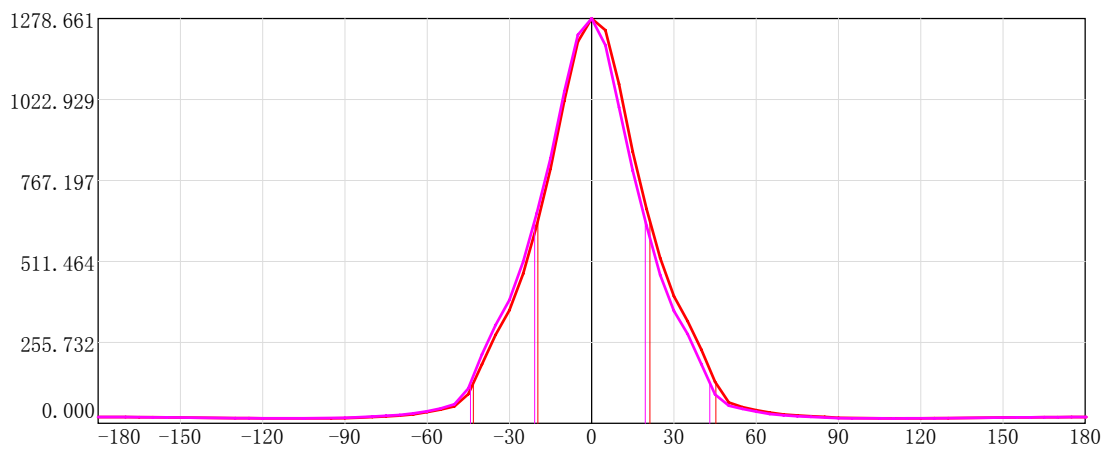
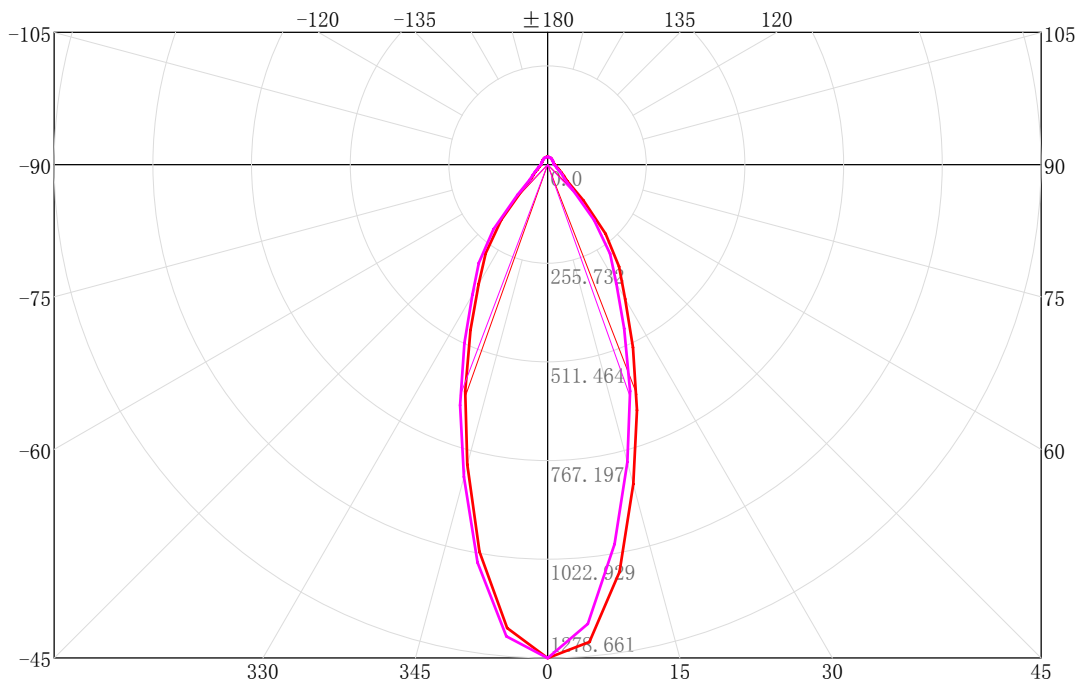
Lamp Speciality Parameter	Luminaire Speciality Parameter	
Rated Flux(lm): 777.000	Luminary Flux(lm): 1074.507	Field Angle(10%Imax): 88.4(°)
Rated Power(W): 9W	Luminary Efficiency: 138.29%	Down Lumens&Percent: 967.278lm 90.02%
Rated Voltage(V): 36V 250mA	Luminary EER(lm/W): 37.623	Up Lumens&Percent: 107.229lm 9.98%
Tested Power(W): 28.560	Max. Candela(cd): 1278.661	S/MH: C0_a180=0.635 C90_270=0.627
Lamps' Inside: 1	Max Cand@Ang. (°): C=0.0 γ=0.0	CIE Type: Semi-Direct
Tested Electrics (V, A, pf): 220.3, 0.174, 0.742	Beam Angle (50%Imax): 40.8(°)	ErP φ use(90°): 801.021lm
Lamp Size (W*L*H): 0.000m*0.000m*0.000m	Left=-19.6°, Right=21.2°	IRF(%): 303.241



**2D Plane Light Intensity Distribution Curve**

Lum. Name: DC9W-3000K, Ra90, Reflector 40°	Lum. Catalog: 1000LM	Test ID: 01
Lamp Name: CL2-9MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1202C4-30XH5M3	Test Machine:GON-2000	Test Date: 2017/04/14

**C Plane Distribution Diagram**

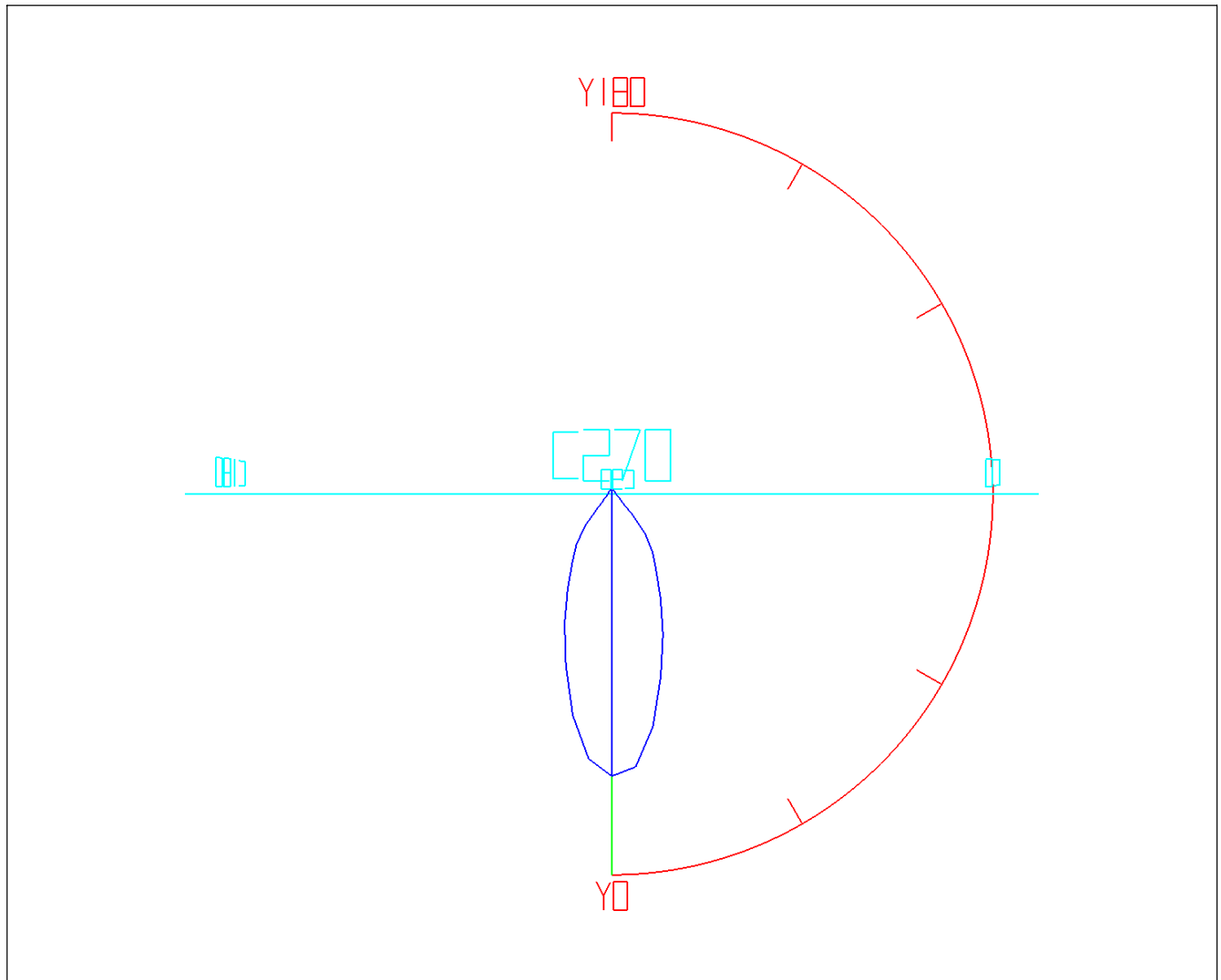


C Plane	[50%MaxAng.]	[10%MaxAng.]	Unit:cd
— C0.0_180.0 :	40.8	88.4	
— C90.0_270.0 :	40.4	87.3	

**3D Light Intensity Distribution Modal**

Lum. Name: DC9W-3000K, Ra90, Reflector 40°	Lum. Catalog: 1000LM	Test ID: 01
Lamp Name: CL2-9MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1202C4-30XH5M3	Test Machine:GON-2000	Test Date: 2017/04/14

**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	29.84	29.84	3.84	3.84
5.0-10.0	80.52	110.36	10.36	14.20
10.0-15.0	110.21	220.57	14.18	28.39
15.0-20.0	121.29	341.86	15.61	44.00
20.0-25.0	119.69	461.55	15.40	59.40
25.0-30.0	110.05	571.60	14.16	73.56
30.0-35.0	99.36	670.96	12.79	86.35
35.0-40.0	84.30	755.26	10.85	97.20
40.0-45.0	57.96	813.22	7.46	104.66
45.0-50.0	33.50	846.72	4.31	108.97
50.0-55.0	23.18	869.90	2.98	111.96
55.0-60.0	19.81	889.71	2.55	114.51
60.0-65.0	16.93	906.64	2.18	116.68
65.0-70.0	14.63	921.26	1.88	118.57
70.0-75.0	13.08	934.35	1.68	120.25
75.0-80.0	11.97	946.32	1.54	121.79
80.0-85.0	11.00	957.32	1.42	123.21
85.0-90.0	9.96	967.28	1.28	124.49
90.0-95.0	9.25	976.53	1.19	125.68
95.0-100.0	8.97	985.50	1.15	126.83
100.0-105.0	8.69	994.19	1.12	127.95
105.0-110.0	8.42	1002.61	1.08	129.04
110.0-115.0	8.16	1010.77	1.05	130.09
115.0-120.0	7.88	1018.65	1.01	131.10
120.0-125.0	7.57	1026.22	0.97	132.07
125.0-130.0	7.22	1033.44	0.93	133.00
130.0-135.0	6.86	1040.30	0.88	133.89
135.0-140.0	6.46	1046.76	0.83	134.72
140.0-145.0	5.99	1052.75	0.77	135.49
145.0-150.0	5.43	1058.18	0.70	136.19
150.0-155.0	4.78	1062.96	0.62	136.80
155.0-160.0	4.04	1067.00	0.52	137.32
160.0-165.0	3.23	1070.23	0.42	137.74
165.0-170.0	2.36	1072.59	0.30	138.04
170.0-175.0	1.44	1074.02	0.18	138.23
175.0-180.0	0.48	1074.51	0.06	138.29

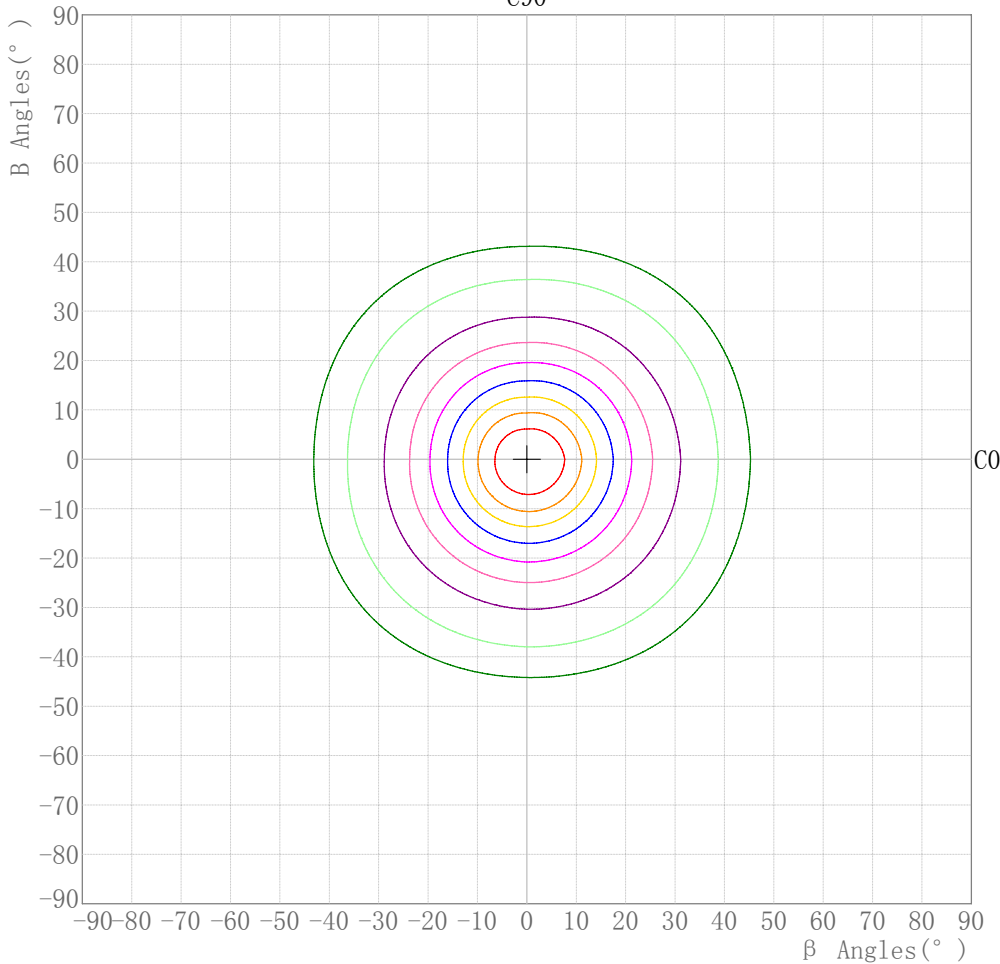
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**Rectangle ISO Lighting Intensity Diagram**

Lum. Name: DC9W-3000K, Ra90, Reflector 40°	Lum. Catalog: 1000LM	Test ID: 01
Lamp Name: CL2-9MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1202C4-30XH5M3	Test Machine:GON-2000	Test Date: 2017/04/14

**ISO Lighting Intensity Curve**

C90



Curves:

[Unit: cd]

[IMax] =1278.661

- [IMax\*90%]=1150.795
- [IMax\*80%]=1022.929
- [IMax\*70%]=895.063
- [IMax\*60%]=767.197
- [IMax\*50%]=639.331
- [IMax\*40%]=511.464
- [IMax\*30%]=383.598
- [IMax\*20%]=255.732
- [IMax\*10%]=127.866

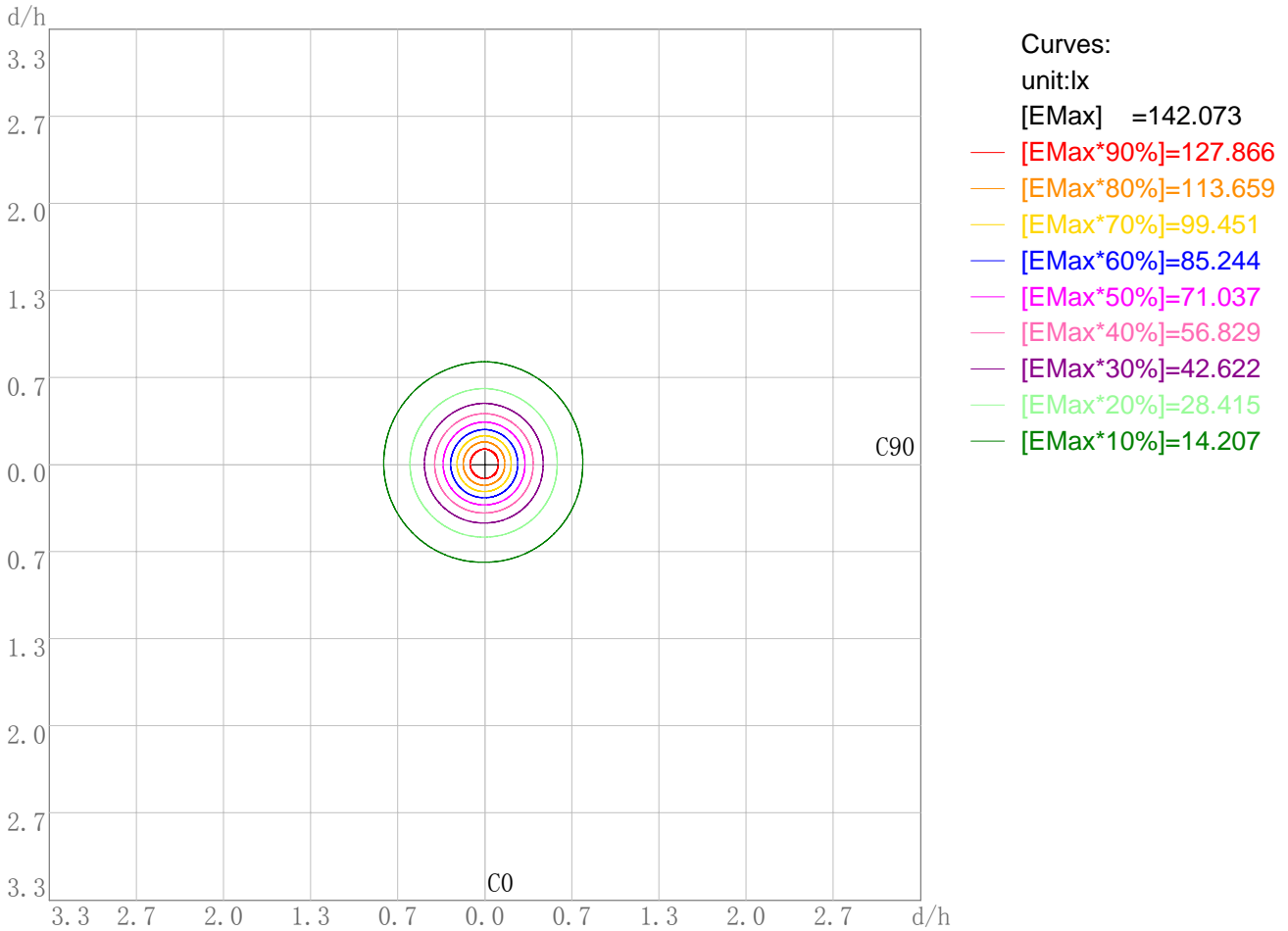
Maximum Light Intensity(cd): 1278.66

Maximum Cand.@Angle: H=0.0°,V=0.0°

**Plane ISO-Illuminance Diagram**

Lum. Name: DC9W-3000K, Ra90, Reflector 40°	Lum. Catalog: 1000LM	Test ID: 01
Lamp Name: CL2-9MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1202C4-30XH5M3	Test Machine:GON-2000	Test Date: 2017/04/14

**Plane ISO-Illuminance Curve**

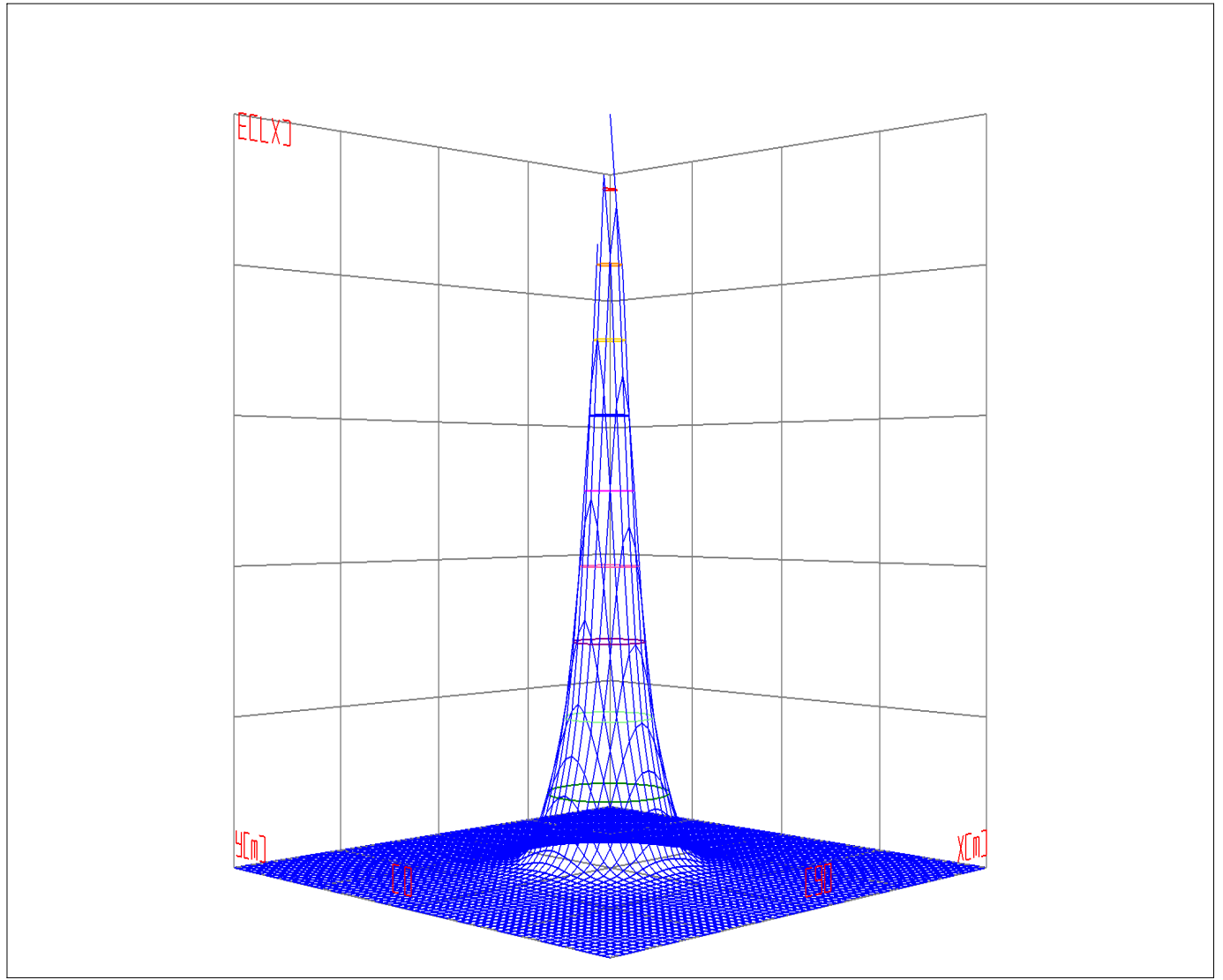


Working Plane Luminaire Mounting Height(m): 3.00  
 Working Plane Maximum Illuminance(lx): 142.07  
 Working Plane Maximum Illuminance Position(d/h):H0.0 V0.0

**3D Plane ISO Illuminance Diagram**

Lum. Name: DC9W-3000K, Ra90, Reflector 40°	Lum. Catalog: 1000LM	Test ID: 01
Lamp Name: CL2-9MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1202C4-30XH5M3	Test Machine:GON-2000	Test Date: 2017/04/14

**3D Plane Illuminance Modal**

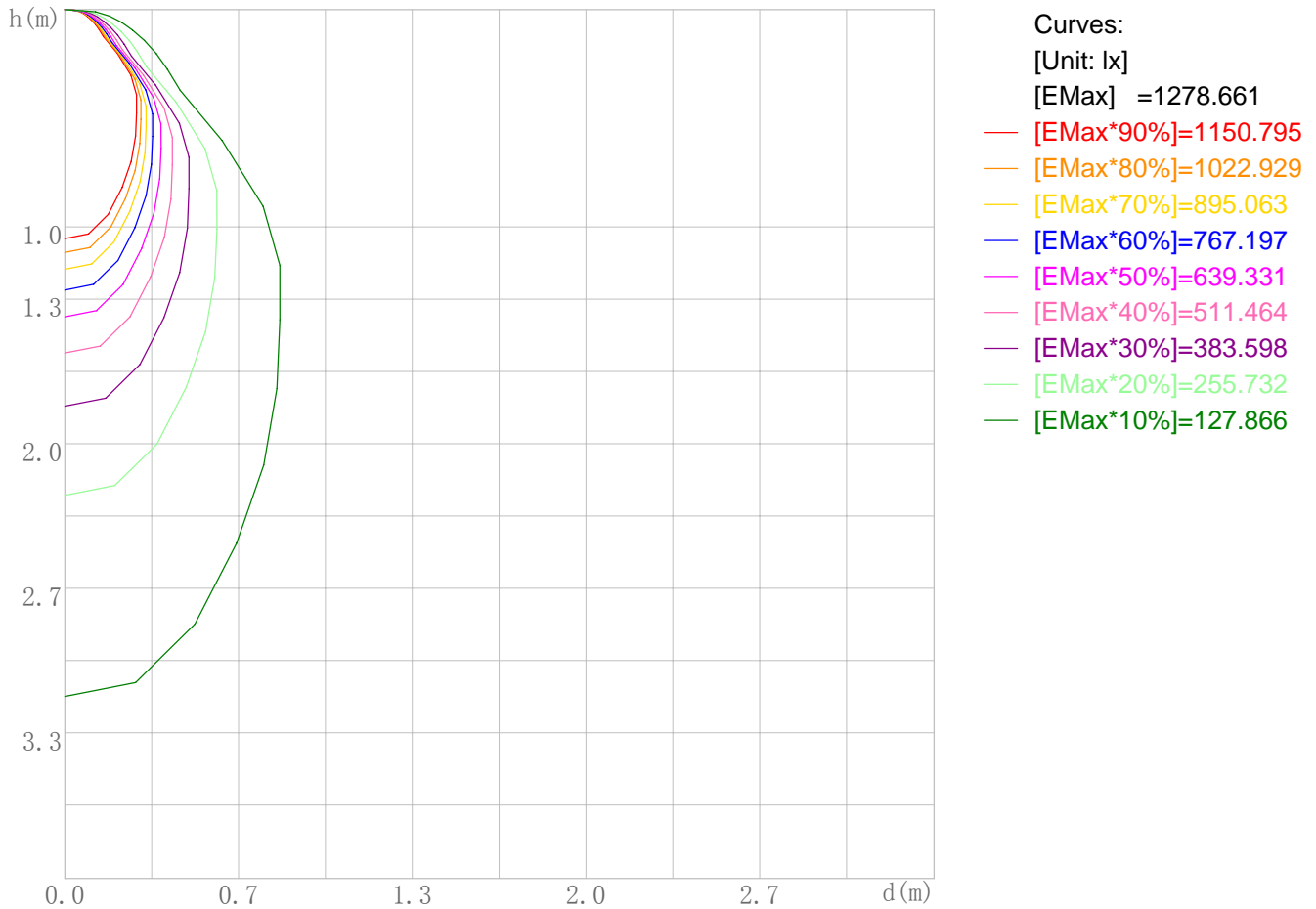


Curves: 3D Model — 90% — 80% — 70% — 60% — 50% — 40% — 30% — 20% — 10% —  
 View Angles(deg): 0    Height(m): 3.0    Distance(m): 10.0

**Space ISO Illuminance Diagram**

Lum. Name: DC9W-3000K, Ra90, Reflector 40°	Lum. Catalog: 1000LM	Test ID: 01
Lamp Name: CL2-9MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1202C4-30XH5M3	Test Machine:GON-2000	Test Date: 2017/04/14

Space ISO Illuminance Curve



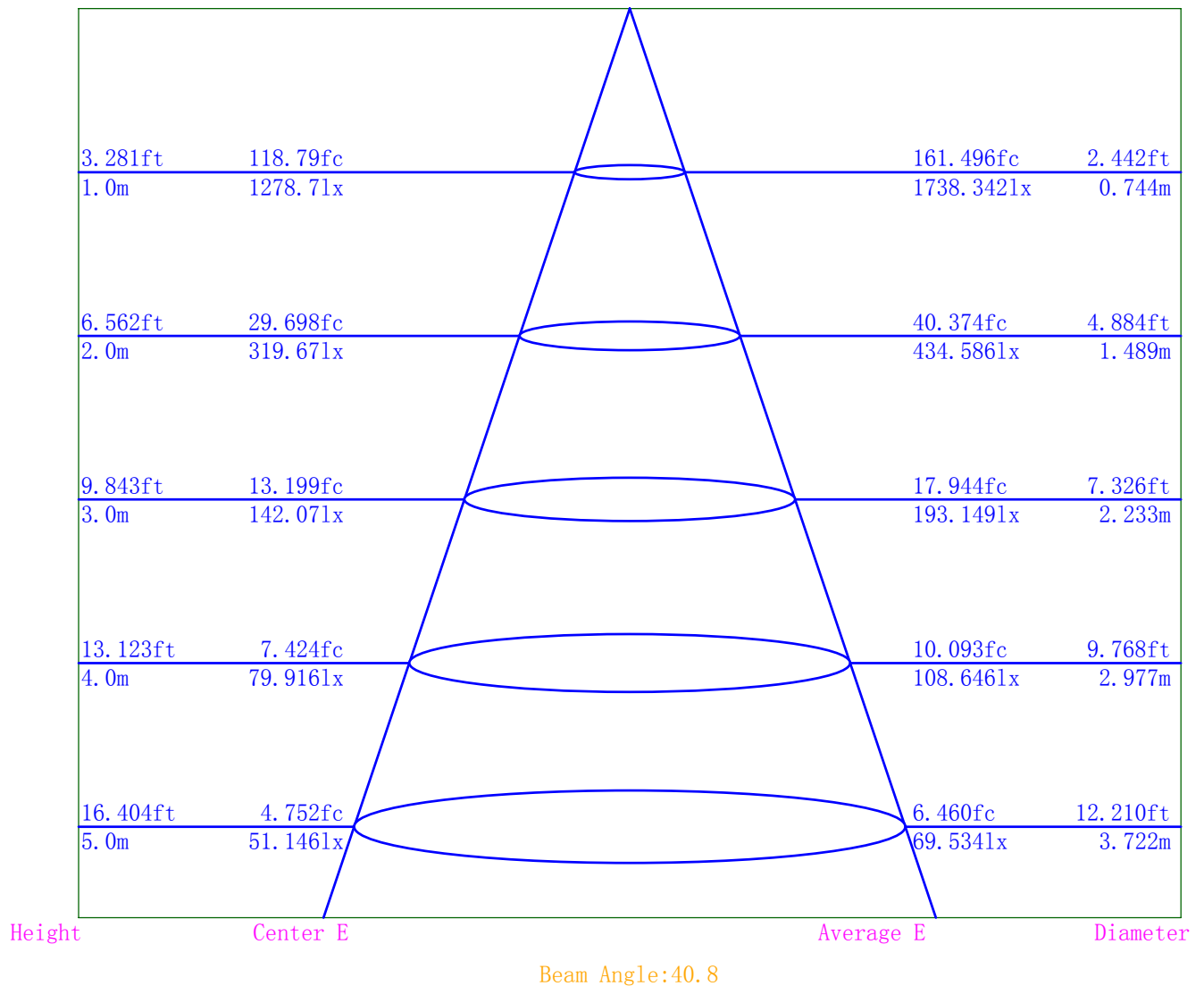
Space Plane Maximum Illuminance and @Angle:1278.66lx,0.0deg  
 Plane Maximum Lighting Intensity and @Angle:1278.661cd,0deg



**Illuminance-Distance Diagram**

Lum. Name: DC9W-3000K, Ra90, Reflector 40°	Lum. Catalog: 1000LM	Test ID: 01
Lamp Name: CL2-9MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1202C4-30XH5M3	Test Machine:GON-2000	Test Date: 2017/04/14

**Illuminance-Distance Curve**



### Indoor Luminance Limiting Curves

Lum. Name: DC9W-3000K, Ra90, Reflector 40°	Lum. Catalog: 1000LM	Test ID: 01
Lamp Name: CL2-9MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1202C4-30XH5M3	Test Machine:GON-2000	Test Date: 2017/04/14

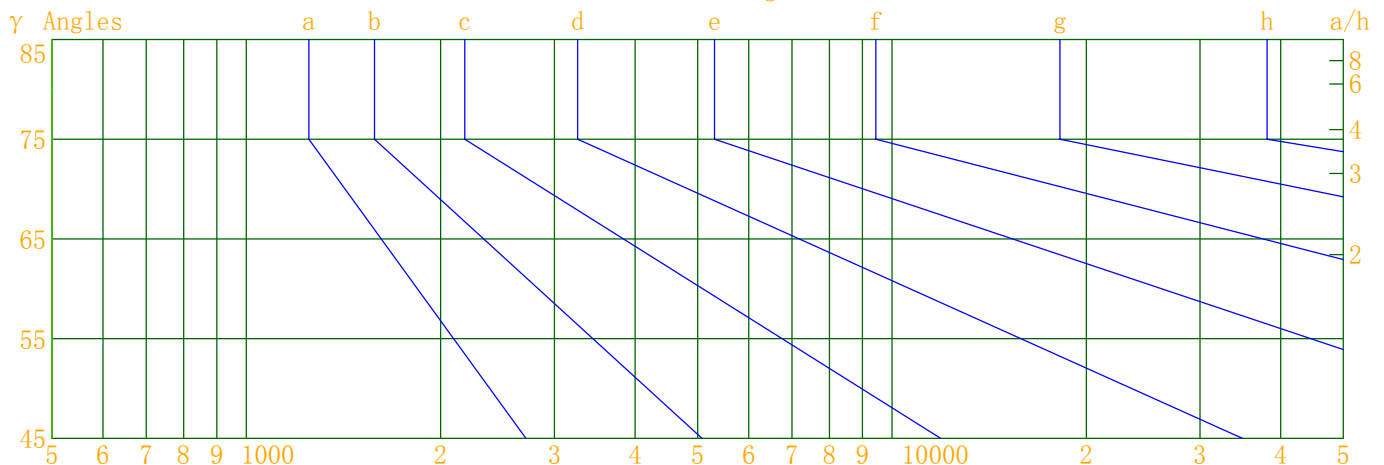
Glare Grade Table

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

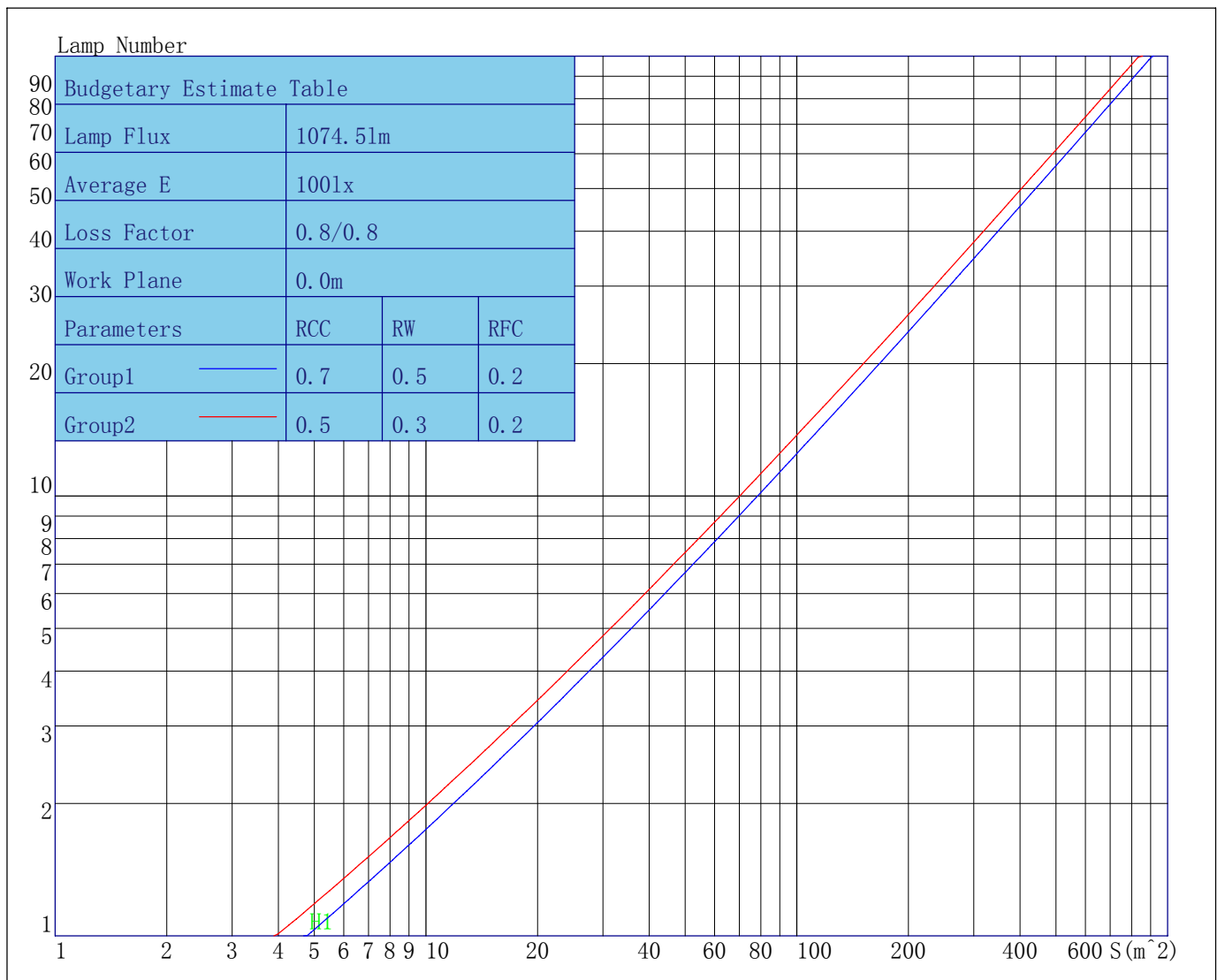
Luminance Limiting Curve



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

**Indoor Budgetary Estimate Table**

Lum. Name: DC9W-3000K, Ra90, Reflector 40°	Lum. Catalog: 1000LM	Test ID: 01
Lamp Name: CL2-9MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1202C4-30XH5M3	Test Machine:GON-2000	Test Date: 2017/04/14



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: DC9W-3000K, Ra90, Reflector 40°	Lum. Catalog: 1000LM	Test ID: 01
Lamp Name: CL2-9MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1202C4-30XH5M3	Test Machine:GON-2000	Test Date: 2017/04/14

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	161	161	161	161	156	156	156	156	146	146	146	137	137	137	128	128	128	124			
1	151	146	141	137	146	142	138	134	133	130	127	126	123	121	119	117	115	112			
2	141	133	126	120	137	129	123	118	123	118	113	116	112	109	110	107	104	101			
3	133	122	114	107	129	119	112	105	113	107	102	108	103	99	103	99	95	92			
4	125	113	104	97	121	110	102	95	105	98	93	101	95	90	96	92	88	85			
5	118	104	95	88	114	102	94	87	98	91	85	94	88	83	91	85	81	78			
6	111	97	88	81	108	95	86	80	92	84	78	88	82	77	85	80	75	73			
7	105	91	81	75	102	89	80	74	86	78	73	83	76	71	80	75	70	68			
8	100	85	76	70	97	84	75	69	81	73	68	78	72	67	76	70	66	63			
9	95	80	71	65	92	79	70	64	76	69	63	74	67	63	72	66	62	59			
10	90	75	67	61	88	74	66	60	72	65	60	70	63	59	68	62	58	56			

### Unified Glare Rating Table

Lum. Name: DC9W-3000K, Ra90, Reflector 40°	Lum. Catalog: 1000LM	Test ID: 01
Lamp Name: CL2-9MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1202C4-30XH5M3	Test Machine:GON-2000	Test Date: 2017/04/14

### 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	-2.8	-1.5	-2.3	-1.0	-0.4	-2.8	-1.5	-2.3	-1.0	-0.4
Y=3H	-3.0	-1.8	-2.5	-1.2	-0.7	-3.0	-1.8	-2.5	-1.2	-0.7
Y=4H	-3.2	-1.9	-2.6	-1.4	-0.8	-3.2	-1.9	-2.6	-1.4	-0.8
Y=6H	-3.3	-2.1	-2.7	-1.5	-0.9	-3.3	-2.1	-2.7	-1.5	-0.9
Y=8H	-3.3	-2.2	-2.7	-1.6	-1.0	-3.3	-2.2	-2.7	-1.6	-1.0
Y=12H	-3.4	-2.3	-2.8	-1.7	-1.0	-3.4	-2.3	-2.8	-1.7	-1.0
X=4H Y=2H	-3.2	-1.9	-2.6	-1.4	-0.8	-3.2	-1.9	-2.6	-1.4	-0.8
Y=3H	-3.4	-2.3	-2.8	-1.7	-1.1	-3.4	-2.3	-2.8	-1.7	-1.1
Y=4H	-3.5	-2.4	-2.9	-1.9	-1.2	-3.5	-2.4	-2.9	-1.9	-1.2
Y=6H	-3.6	-2.6	-3.0	-2.0	-1.4	-3.6	-2.6	-3.0	-2.0	-1.4
Y=8H	-3.7	-2.7	-3.1	-2.1	-1.4	-3.7	-2.7	-3.1	-2.1	-1.4
Y=12H	-3.7	-2.8	-3.1	-2.2	-1.5	-3.7	-2.8	-3.1	-2.2	-1.5
X=8H Y=4H	-3.7	-2.7	-3.1	-2.1	-1.4	-3.7	-2.7	-3.1	-2.1	-1.4
Y=6H	-3.8	-2.9	-3.2	-2.3	-1.4	-3.8	-2.9	-3.2	-2.3	-1.4
Y=8H	-3.9	-3.1	-3.3	-2.4	-1.7	-3.9	-3.1	-3.3	-2.4	-1.7
Y=12H	-4.0	-3.2	-3.3	-2.5	-1.8	-4.0	-3.2	-3.3	-2.5	-1.8
X=12H Y=4H	-3.7	-2.8	-3.1	-2.2	-1.5	-3.7	-2.8	-3.1	-2.2	-1.5
Y=6H	-3.9	-3.0	-3.3	-2.4	-1.7	-3.9	-3.0	-3.3	-2.4	-1.7
Y=8H	-4.0	-3.2	-3.3	-2.5	-1.8	-4.0	-3.2	-3.3	-2.5	-1.8
Variations with the observer 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	1278.66	1278.66	1278.66	1278.66
γ 5.0	1241.57	1194.48	1205.28	1226.94
γ 10.0	1071.49	998.38	1018.50	1047.09
γ 15.0	856.97	797.64	804.16	837.67
γ 20.0	677.25	624.36	625.06	663.58
γ 25.0	522.67	468.78	472.71	510.39
γ 30.0	401.67	355.50	357.19	389.45
γ 35.0	322.42	281.91	279.90	310.85
γ 40.0	233.63	187.41	186.85	218.19
γ 45.0	131.54	91.68	92.42	110.30
γ 50.0	66.38	56.16	54.01	60.76
γ 55.0	51.45	46.02	44.18	47.45
γ 60.0	41.83	37.35	35.94	38.51
γ 65.0	34.25	30.07	28.97	31.68
γ 70.0	28.47	25.62	24.98	27.00
γ 75.0	25.05	22.71	22.36	24.03
γ 80.0	22.50	20.51	20.30	21.51
γ 85.0	20.49	18.70	18.43	19.48
γ 90.0	17.45	16.73	16.70	17.53
γ 95.0	16.95	16.33	16.36	17.04
γ 100.0	16.62	16.08	16.09	16.60
γ 105.0	16.25	15.94	15.99	16.37
γ 110.0	16.19	15.90	15.95	16.28
γ 115.0	16.20	15.99	16.11	16.30
γ 120.0	16.27	16.08	16.34	16.42
γ 125.0	16.43	16.34	16.51	16.54
γ 130.0	16.66	16.65	16.92	16.84
γ 135.0	17.04	17.12	17.33	17.26
γ 140.0	17.50	17.65	17.91	17.74
γ 145.0	18.05	18.10	18.38	18.23
γ 150.0	18.50	18.59	18.86	18.75
γ 155.0	18.97	19.05	19.31	19.09
γ 160.0	19.37	19.25	19.69	19.42
γ 165.0	19.70	19.63	19.91	19.72
γ 170.0	19.96	19.85	20.17	19.99
γ 175.0	20.20	20.09	20.30	20.07
γ 180.0	20.31	20.31	20.31	20.31

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