

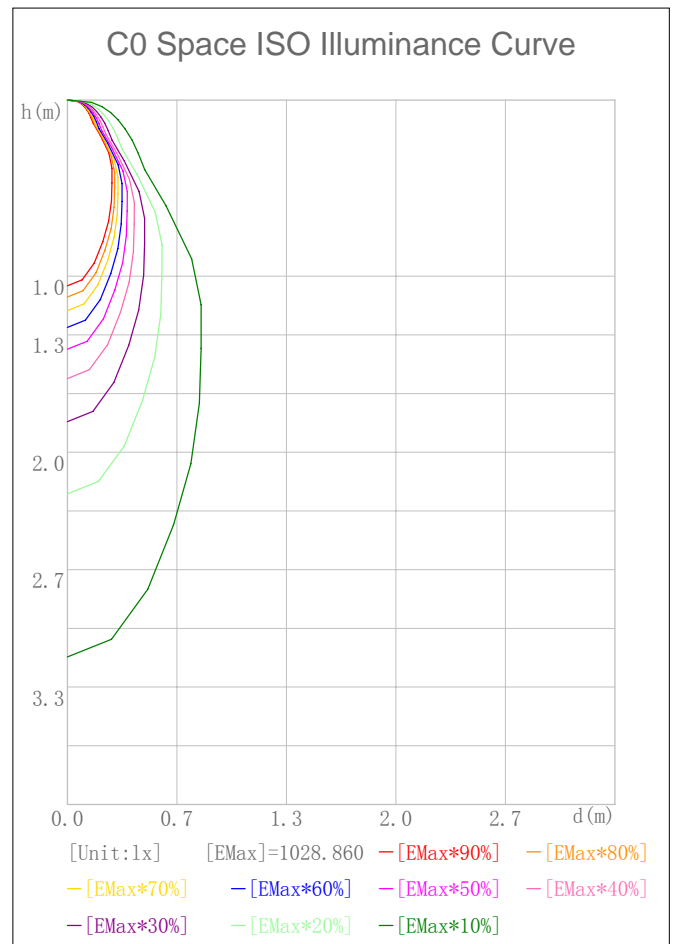
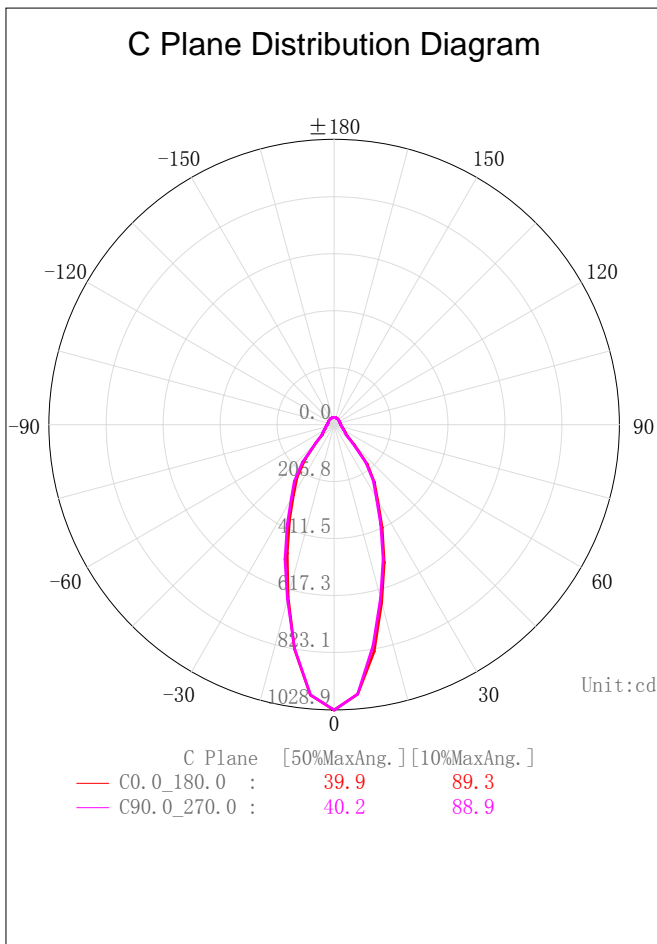
### Indoor Luminaire Photometric Data

#### Description Information

Luminary Name: DC9W-2700K, Ra90, Reflector 40°		Lum. Catalog: 9001m	Test ID: 01
Lamp Name: CL2-9MR		Lamp Catalog: lamps and lanterns	Test Date: 2017/06/02
LED Chip: Citizen CLU028-1202C4-27XH5M3		Shld. Ang(°):	Test Machine:GON-2000
Test Lab:		Frequency (Hz):	Lamp CCT(K): 2700K 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

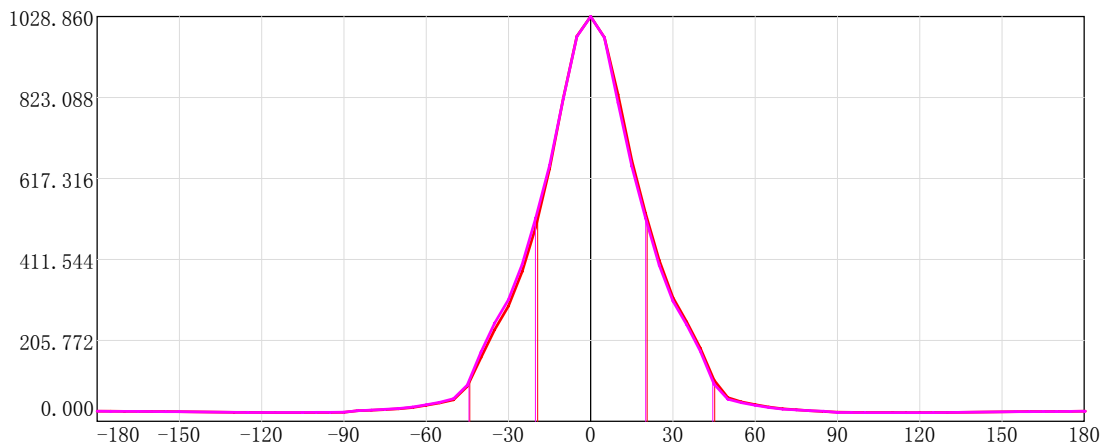
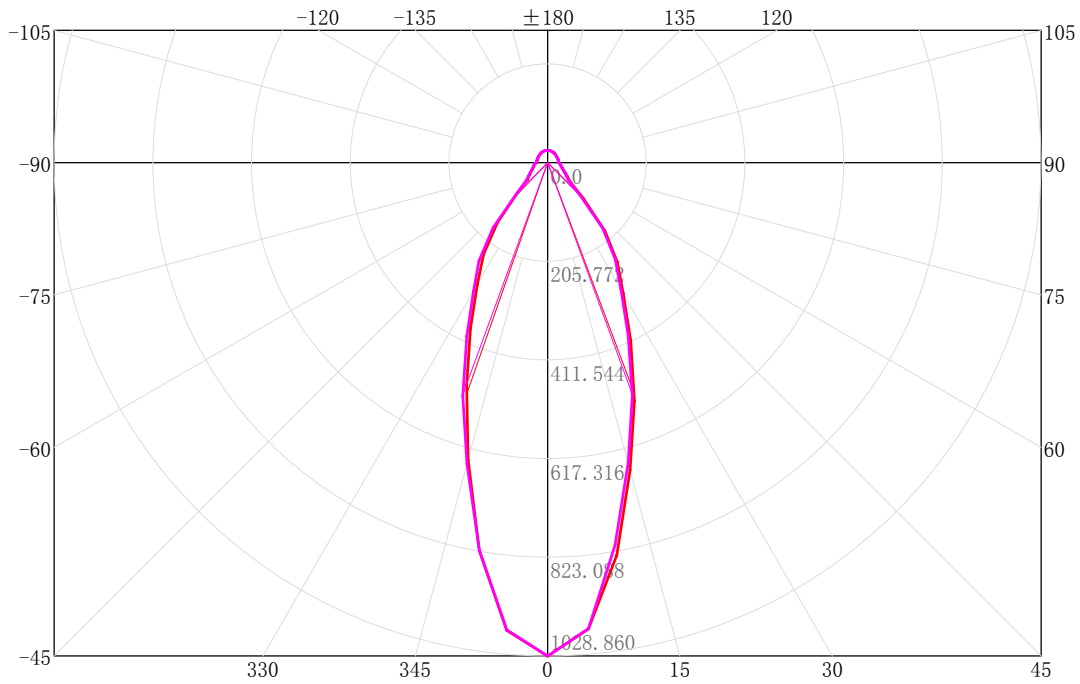
Lamp Speciality Parameter	Luminaire Speciality Parameter	
Rated Flux(lm): 776.000	Luminary Flux(lm): 974.718	Field Angle(10%Imax): 89.3(°)
Rated Power(W): 9W	Luminary Efficiency: 125.61%	Down Lumens&Percent: 828.499lm 85.00%
Rated Voltage(V): 36V 250mA	Luminary EER(lm/W): 34.177	Up Lumens&Percent: 146.219lm 15.00%
Tested Power(W): 28.520	Max. Candela(cd): 1028.860	S/MH: C0_a180=0.621 C90_270=0.621
Lamps' Inside: 1	Max Cand@Ang. (°): C=0.0 γ=0.0	CIE Type: General Diffuse
Tested Electrics (V, A, pf): 220.0, 0.173, 0.747	Beam Angle (50%Imax): 39.9(°)	ErP φ use(90°): 653.887lm
Lamp Size (W*L*H): 0.000m*0.000m*0.000m	Left=-19.3°, Right=20.6°	IRF(%): 300.932



**2D Plane Light Intensity Distribution Curve**

Lum. Name: DC9W-2700K, Ra90, Reflector 40°	Lum. Catalog: 900lm	Test ID: 01
Lamp Name:CL2-9MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1202C4-27XH5M3	Test Machine:GON-2000	Test Date: 2017/06/02

**C Plane Distribution Diagram**

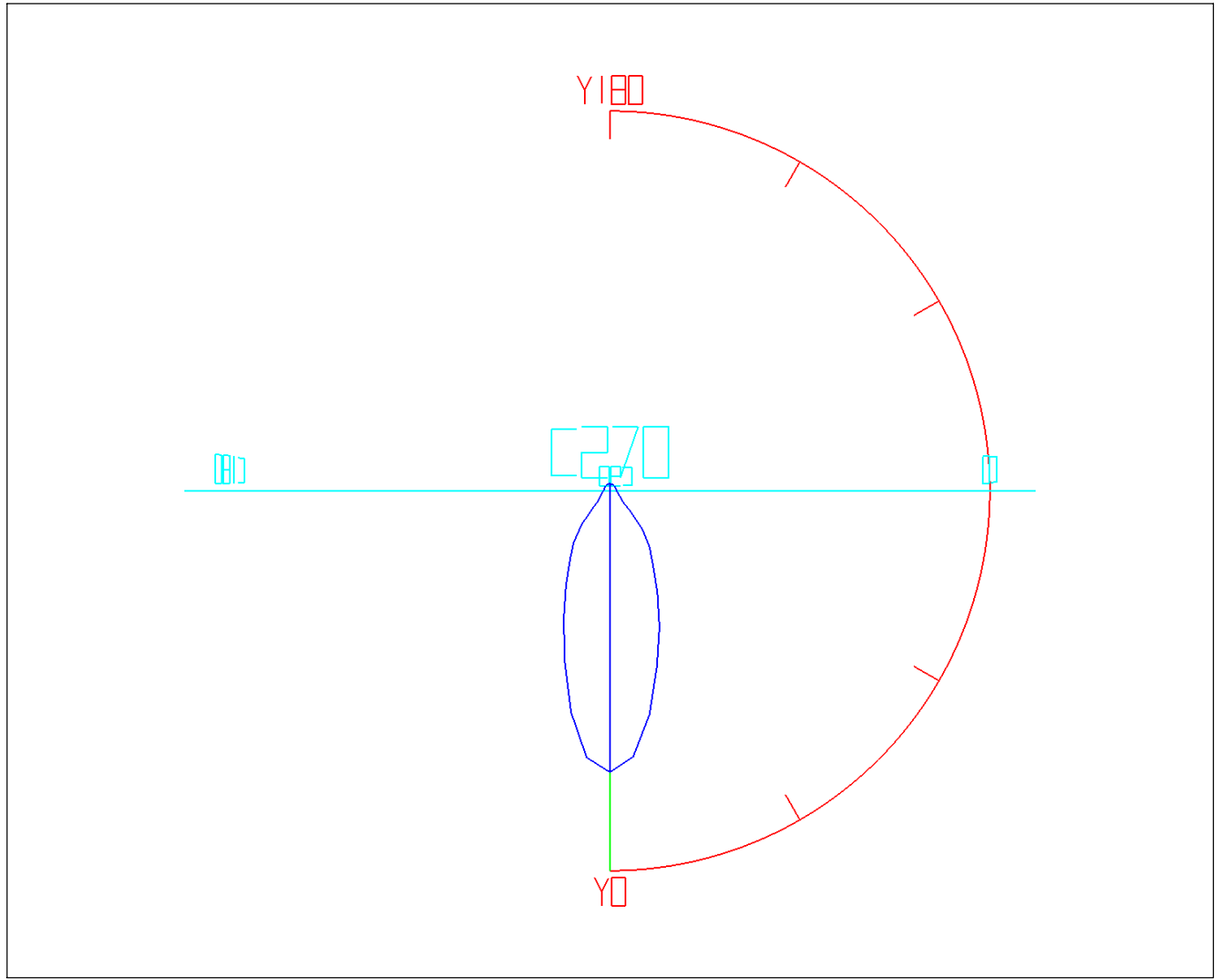


C Plane	[50%MaxAng.]	[10%MaxAng.]	Unit:cd
C0.0_180.0	: 39.9	89.3	
C90.0_270.0	: 40.2	88.9	

**3D Light Intensity Distribution Modal**

Lum. Name: DC9W-2700K, Ra90, Reflector 40°	Lum. Catalog: 900lm	Test ID: 01
Lamp Name: CL2-9MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1202C4-27XH5M3	Test Machine:GON-2000	Test Date: 2017/06/02

**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**

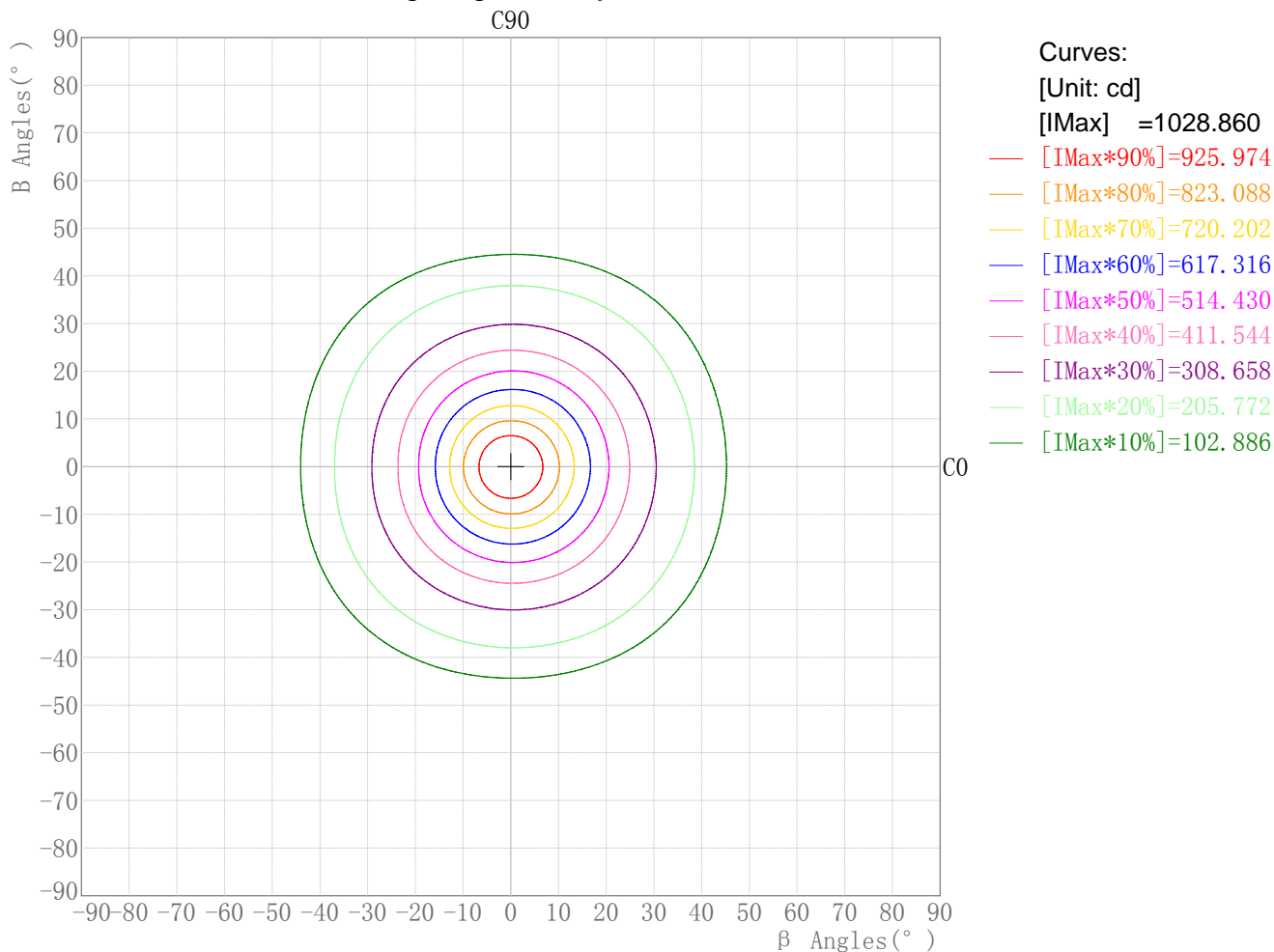
Zone(γ)	Zone Flux (lm)	Sums Flux (lm)	Zone%Lamp	Sums%Lamp
0.0-5.0	23.98	23.98	3.09	3.09
5.0-10.0	64.30	88.28	8.29	11.38
10.0-15.0	87.28	175.56	11.25	22.62
15.0-20.0	96.00	271.56	12.37	35.00
20.0-25.0	95.53	367.09	12.31	47.31
25.0-30.0	88.88	455.97	11.45	58.76
30.0-35.0	81.12	537.09	10.45	69.21
35.0-40.0	70.26	607.36	9.05	78.27
40.0-45.0	50.20	657.55	6.47	84.74
45.0-50.0	30.85	688.41	3.98	88.71
50.0-55.0	23.00	711.40	2.96	91.68
55.0-60.0	20.81	732.21	2.68	94.36
60.0-65.0	18.90	751.11	2.44	96.79
65.0-70.0	17.28	768.39	2.23	99.02
70.0-75.0	16.24	784.63	2.09	101.11
75.0-80.0	15.49	800.12	2.00	103.11
80.0-85.0	14.78	814.90	1.90	105.01
85.0-90.0	13.60	828.50	1.75	106.77
90.0-95.0	12.64	841.14	1.63	108.39
95.0-100.0	12.40	853.54	1.60	109.99
100.0-105.0	12.11	865.65	1.56	111.55
105.0-110.0	11.77	877.42	1.52	113.07
110.0-115.0	11.39	888.81	1.47	114.54
115.0-120.0	10.98	899.79	1.41	115.95
120.0-125.0	10.51	910.30	1.35	117.31
125.0-130.0	9.98	920.28	1.29	118.59
130.0-135.0	9.39	929.66	1.21	119.80
135.0-140.0	8.73	938.40	1.13	120.93
140.0-145.0	8.01	946.40	1.03	121.96
145.0-150.0	7.18	953.58	0.93	122.88
150.0-155.0	6.25	959.83	0.81	123.69
155.0-160.0	5.24	965.08	0.68	124.37
160.0-165.0	4.16	969.24	0.54	124.90
165.0-170.0	3.02	972.27	0.39	125.29
170.0-175.0	1.84	974.10	0.24	125.53
175.0-180.0	0.62	974.72	0.08	125.61

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**Rectangle ISO Lighting Intensity Diagram**

Lum. Name: DC9W-2700K, Ra90, Reflector 40°	Lum. Catalog:900lm	Test ID: 01
Lamp Name: CL2-9MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1202C4-27XH5M3	Test Machine:GON-2000	Test Date: 2017/06/02

**ISO Lighting Intensity Curve**

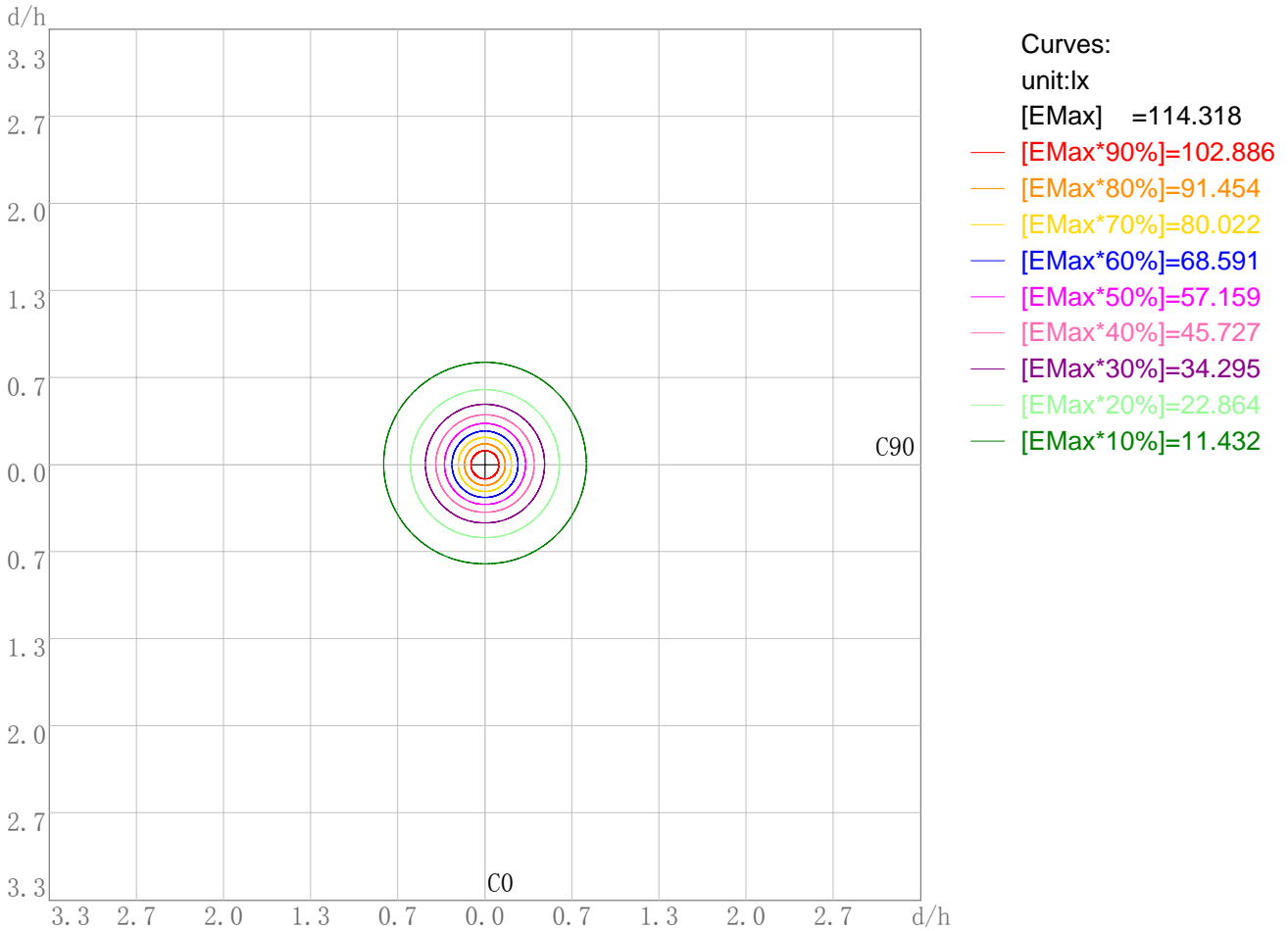


Maximum Light Intensity(cd): 1028.86  
 Maximum Cand.@Angle: H=0.0°,V=0.0°

**Plane ISO-Illuminance Diagram**

Lum. Name: DC9W-2700K, Ra90, Reflector 40°	Lum. Catalog: 900lm	Test ID: 01
Lamp Name: CL2-9MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1202C4-27XH5M3	Test Machine:GON-2000	Test Date: 2017/06/02

**Plane ISO-Illuminance Curve**

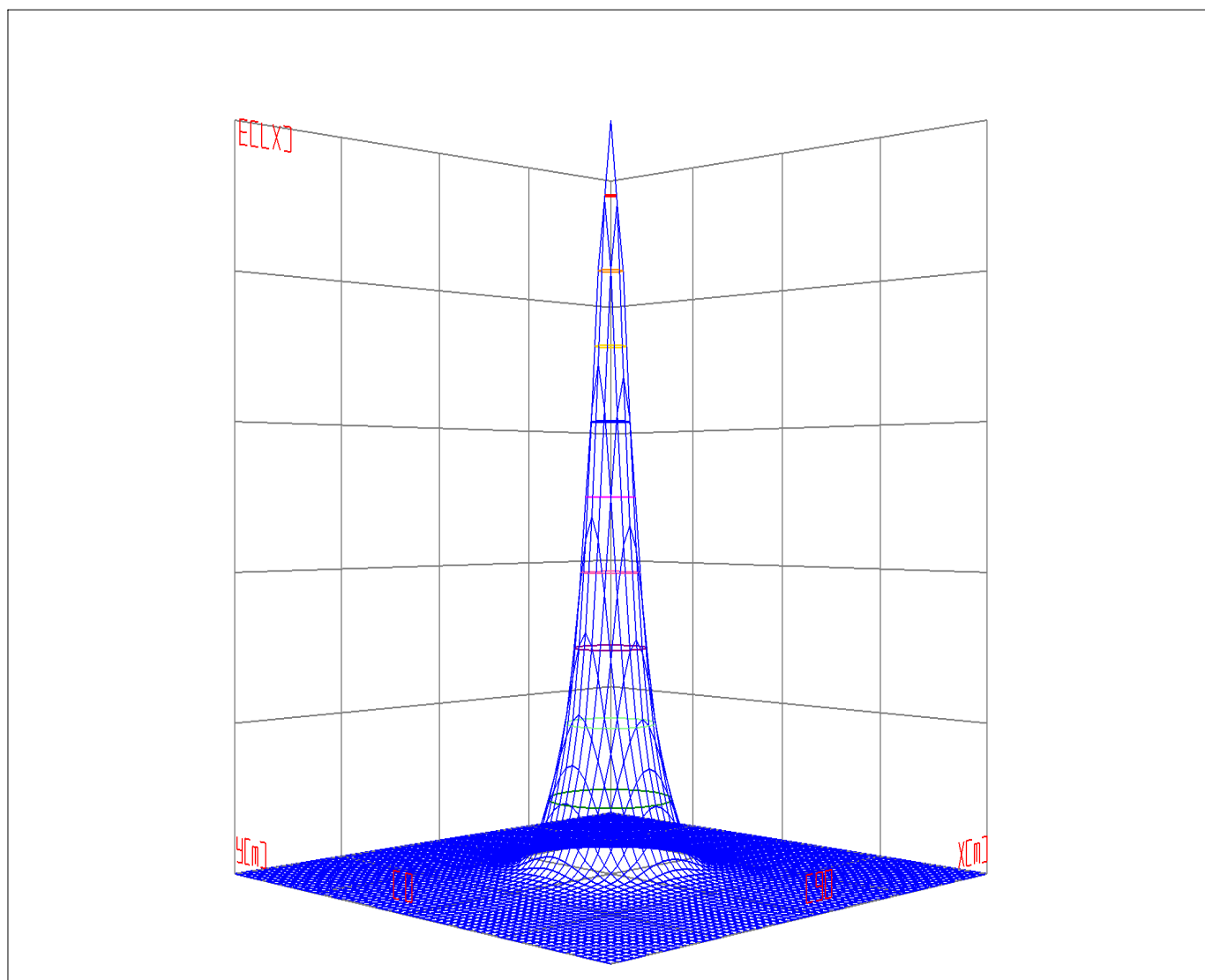


Working Plane Luminaire Mounting Height(m): 3.00  
 Working Plane Maximum Illuminance(lx): 114.32  
 Working Plane Maximum Illuminance Position(d/h):H0.0 V0.0

**3D Plane ISO Illuminance Diagram**

Lum. Name: DC9W-2700K, Ra90, Reflector 40°	Lum. Catalog: 900lm	Test ID: 01
Lamp Name: CL2-9MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1202C4-27XH5M3	Test Machine:GON-2000	Test Date: 2017/06/02

**3D Plane Illuminance Modal**

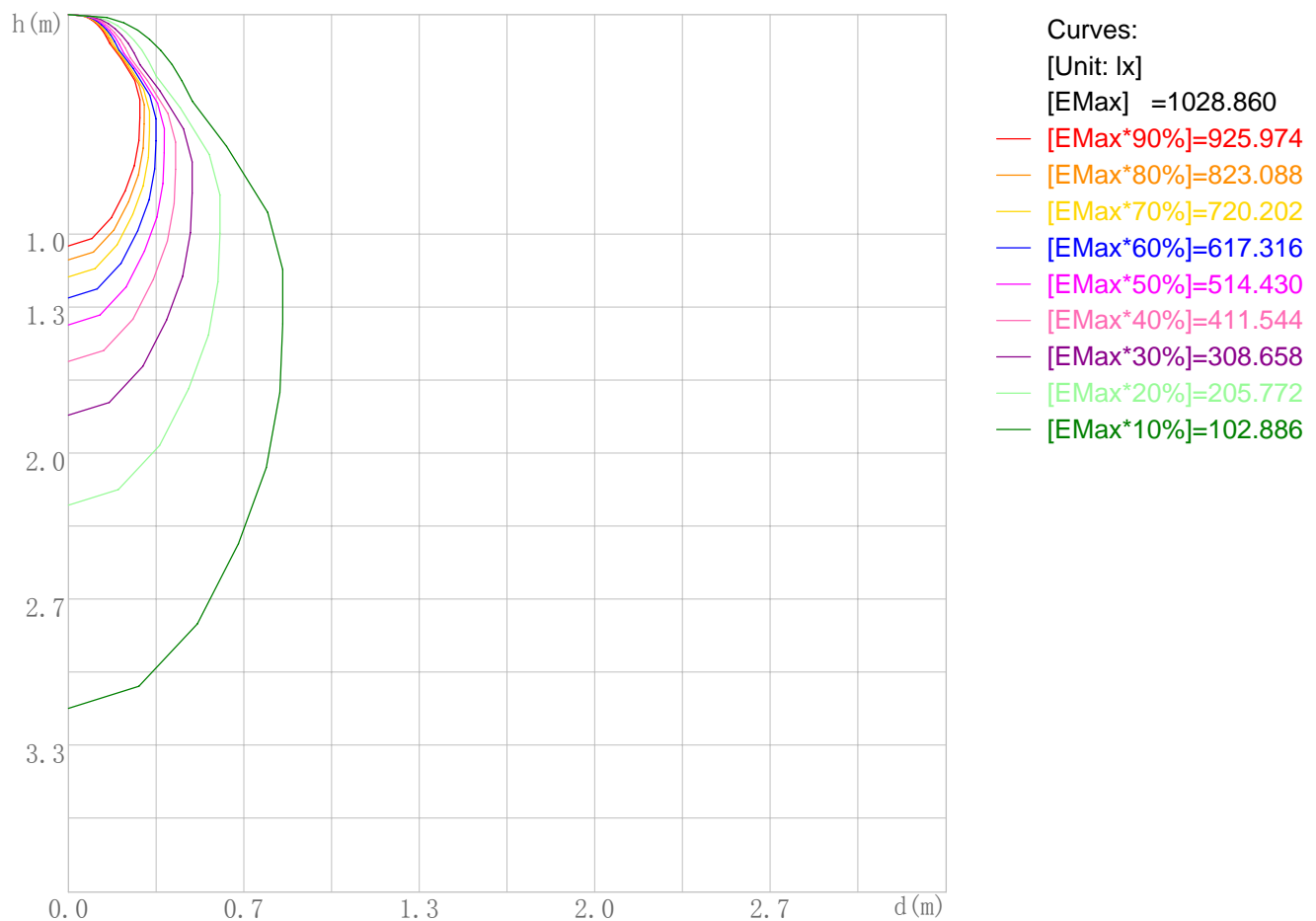


Curves: 3D Model — 90% — 80% — 70% — 60% — 50% — 40% — 30% — 20% — 10% —  
 View Angles(deg): 0    Height(m): 3.0    Distance(m): 10.0

**Space ISO Illuminance Diagram**

Lum. Name: DC9W-2700K, Ra90, Reflector 40°	Lum. Catalog: 900lm	Test ID: 01
Lamp Name: CL2-9MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1202C4-27XH5M3	Test Machine:GON-2000	Test Date: 2017/06/02

Space ISO Illuminance Curve



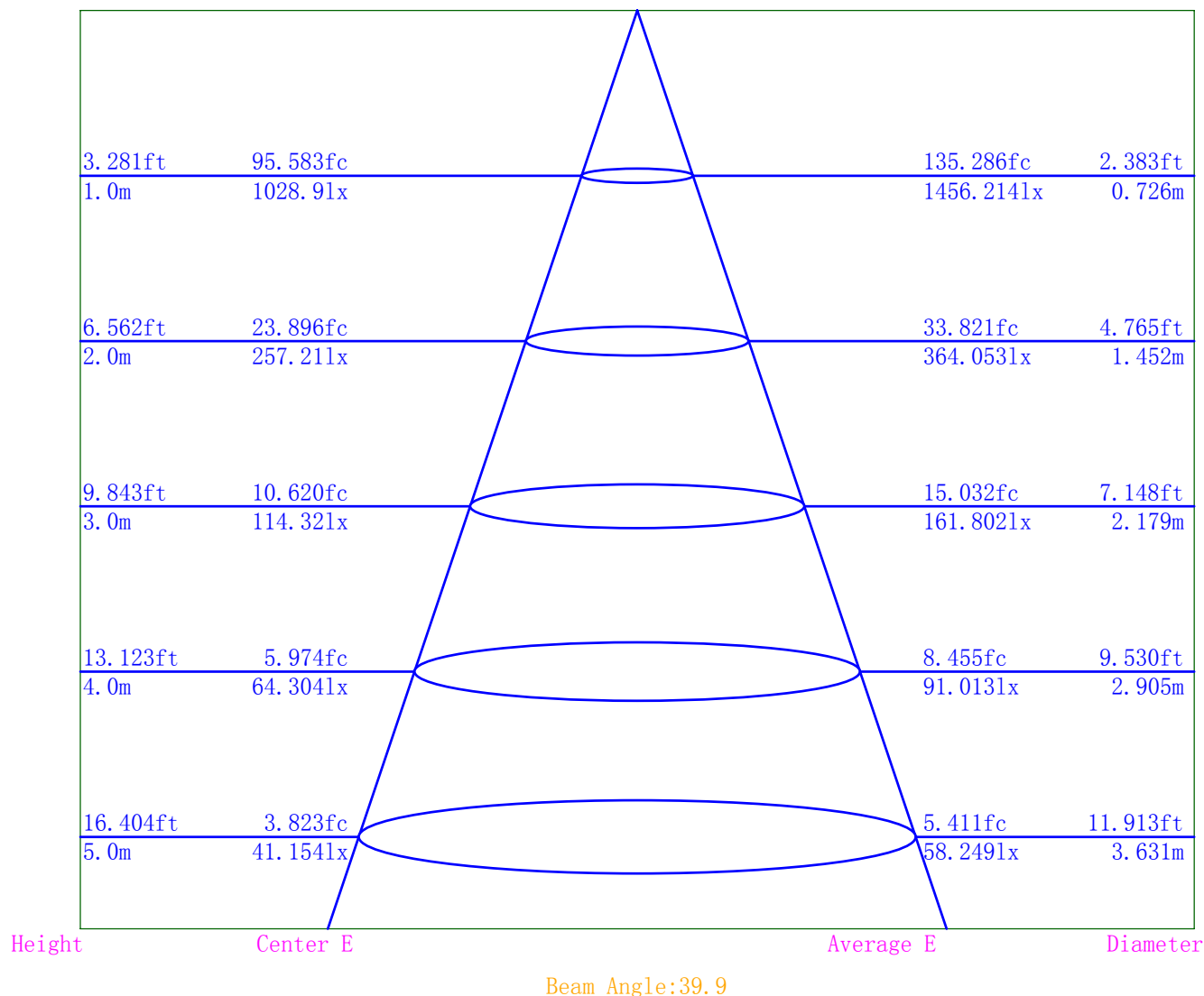
Space Plane Maximum Illuminance and @Angle:1028.86lx,0.0deg  
 Plane Maximum Lighting Intensity and @Angle:1028.860cd,0deg



**Illuminance-Distance Diagram**

Lum. Name: DC9W-2700K, Ra90, Reflector 40°	Lum. Catalog: 900lm	Test ID: 01
Lamp Name: CL2-9MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1202C4-27XH5M3	Test Machine:GON-2000	Test Date: 2017/06/02

**Illuminance-Distance Curve**



**Indoor Luminance Limiting Curves**

Lum. Name: DC9W-2700K, Ra90, Reflector 40°	Lum. Catalog: 900lm	Test ID: 01
Lamp Name: CL2-9MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1202C4-27XH5M3	Test Machine:GON-2000	Test Date: 2017/06/02

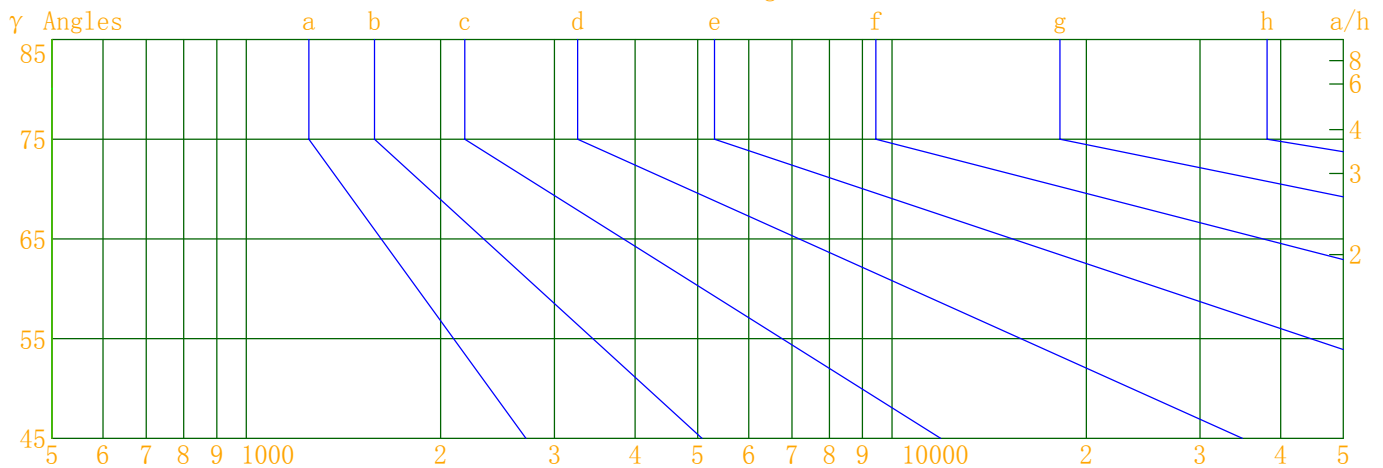
Glare Grade Table

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

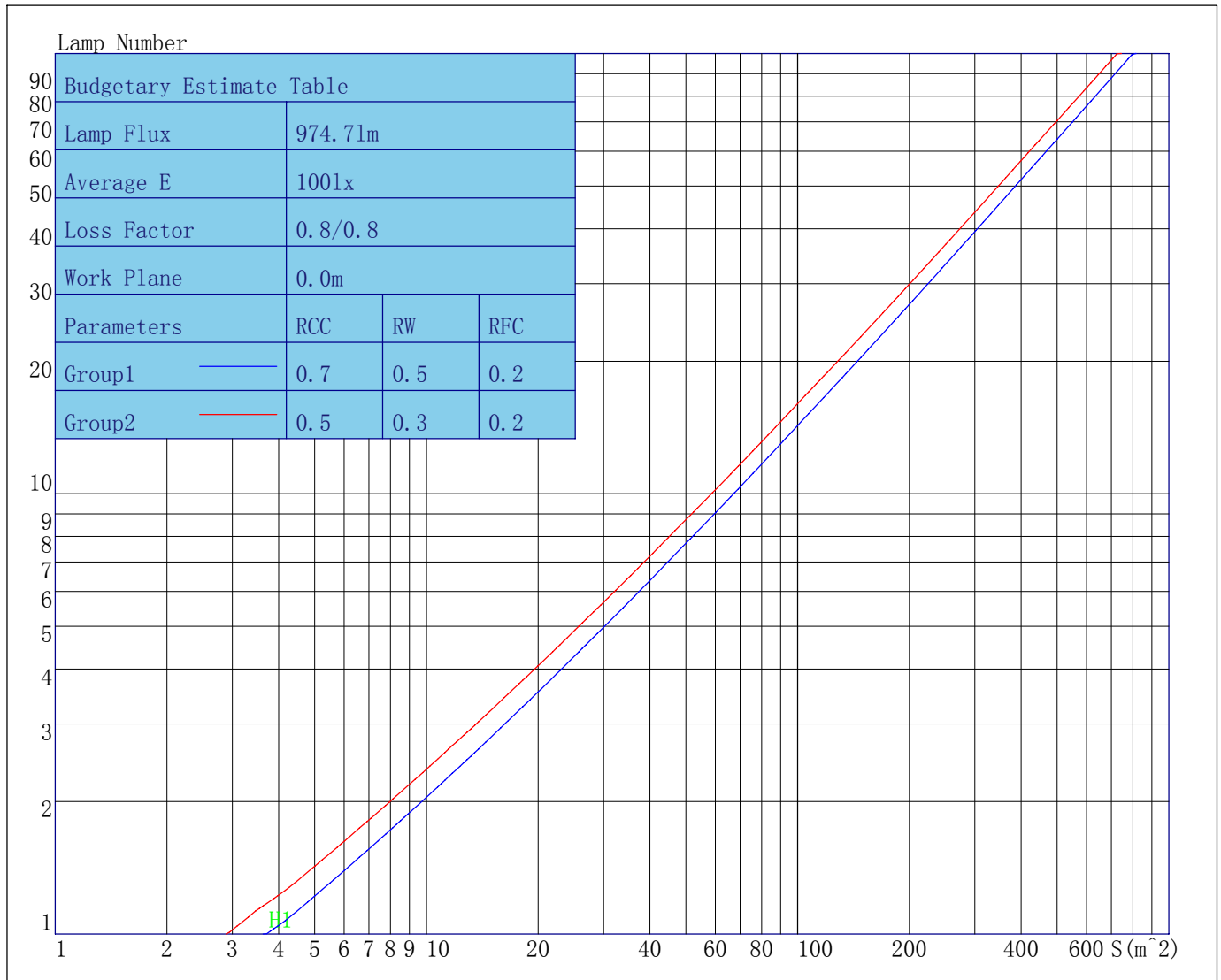
Luminance Limiting Curve



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-2700K, Ra90, Reflector 40°	Lum. Catalog: 900lm	Test ID: 01
Lamp Name: CL2-9MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1202C4-27XH5M3	Test Machine:GON-2000	Test Date: 2017/06/02



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-2700K, Ra90, Reflector 40°	Lum. Catalog: 900lm	Test ID: 01
Lamp Name: CL2-9MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1202C4-27XH5M3	Test Machine:GON-2000	Test Date: 2017/06/02

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	145	145	145	145	139	139	139	139	129	129	129	120	120	120	111	111	111	107
1	134	130	125	121	129	125	121	117	116	113	110	108	106	104	101	99	97	94
2	125	117	110	105	121	113	107	102	106	101	97	99	95	92	93	90	87	84
3	117	107	99	92	113	103	96	90	97	91	86	92	87	83	86	82	79	76
4	110	98	89	83	106	95	87	81	90	83	78	85	80	75	80	76	72	69
5	103	90	81	75	99	88	80	74	83	76	71	79	73	69	75	70	66	64
6	97	84	75	68	94	82	73	67	78	71	65	74	68	63	71	65	62	59
7	91	78	69	63	88	76	68	62	73	66	60	69	63	59	66	61	57	55
8	86	73	64	58	84	71	63	57	68	61	56	65	59	55	63	57	53	51
9	82	68	60	54	79	67	59	53	64	57	52	62	56	51	59	54	50	48
10	78	64	56	51	76	63	55	50	61	54	49	58	52	48	56	51	47	45

**Unified Glare Rating Table**

Lum. Name: DC9W-2700K, Ra90, Reflector 40°	Lum. Catalog: 900lm	Test ID: 01
Lamp Name: CL2-9MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1202C4-27XH5M3	Test Machine:GON-2000	Test Date: 2017/06/02

**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	-3.0	-1.7	-2.4	-1.1	-0.5	-3.0	-1.7	-2.4	-1.1	-0.5
Y=3H	-3.2	-2.0	-2.6	-1.4	-0.7	-3.2	-2.0	-2.6	-1.4	-0.7
Y=4H	-3.3	-2.2	-2.6	-1.5	-0.8	-3.3	-2.2	-2.6	-1.5	-0.8
Y=6H	-3.4	-2.3	-2.7	-1.7	-1.0	-3.4	-2.3	-2.7	-1.7	-1.0
Y=8H	-3.4	-2.4	-2.8	-1.8	-1.0	-3.4	-2.4	-2.8	-1.8	-1.0
Y=12H	-3.5	-2.5	-2.8	-1.9	-1.1	-3.5	-2.5	-2.8	-1.9	-1.1
X=4H Y=2H	-3.3	-2.2	-2.6	-1.5	-0.8	-3.3	-2.2	-2.6	-1.5	-0.8
Y=3H	-3.5	-2.5	-2.8	-1.8	-1.1	-3.5	-2.5	-2.8	-1.8	-1.1
Y=4H	-3.6	-2.7	-2.9	-2.0	-1.3	-3.6	-2.7	-2.9	-2.0	-1.3
Y=6H	-3.7	-2.9	-3.0	-2.2	-1.4	-3.7	-2.9	-3.0	-2.2	-1.4
Y=8H	-3.8	-3.0	-3.1	-2.3	-1.5	-3.8	-3.0	-3.1	-2.3	-1.5
Y=12H	-3.8	-3.1	-3.1	-2.4	-1.6	-3.8	-3.1	-3.1	-2.4	-1.6
X=8H Y=4H	-3.8	-3.0	-3.1	-2.3	-1.5	-3.8	-3.0	-3.1	-2.3	-1.5
Y=6H	-3.9	-3.2	-3.2	-2.4	-1.5	-3.9	-3.2	-3.2	-2.4	-1.5
Y=8H	-4.0	-3.3	-3.3	-2.6	-1.8	-4.0	-3.3	-3.3	-2.6	-1.8
Y=12H	-4.0	-3.4	-3.3	-2.7	-1.8	-4.0	-3.4	-3.3	-2.7	-1.8
X=12H Y=4H	-3.8	-3.1	-3.1	-2.4	-1.6	-3.8	-3.1	-3.1	-2.4	-1.6
Y=6H	-4.0	-3.3	-3.3	-2.6	-1.7	-4.0	-3.3	-3.3	-2.6	-1.7
Y=8H	-4.0	-3.4	-3.3	-2.7	-1.8	-4.0	-3.4	-3.3	-2.7	-1.8
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				

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	1028.86	1028.86	1028.86	1028.86
γ 5.0	975.70	975.28	978.86	977.92
γ 10.0	830.81	809.73	821.22	820.29
γ 15.0	663.67	648.07	641.23	650.31
γ 20.0	528.80	516.33	494.04	517.18
γ 25.0	409.81	397.45	380.59	399.10
γ 30.0	314.74	305.64	292.81	309.22
γ 35.0	253.03	245.53	232.88	249.61
γ 40.0	186.10	178.49	162.33	176.58
γ 45.0	104.97	94.74	88.99	92.22
γ 50.0	60.51	56.72	54.82	57.81
γ 55.0	49.66	47.47	47.18	48.89
γ 60.0	42.57	40.90	40.94	42.47
γ 65.0	36.51	35.33	35.54	36.69
γ 70.0	32.27	31.45	32.16	33.10
γ 75.0	29.49	29.15	30.07	30.81
γ 80.0	27.19	27.43	28.57	28.84
γ 85.0	25.26	26.01	27.23	27.07
γ 90.0	23.42	22.97	23.10	23.56
γ 95.0	23.00	22.68	22.81	23.18
γ 100.0	22.78	22.43	22.63	22.98
γ 105.0	22.68	22.32	22.52	22.73
γ 110.0	22.59	22.23	22.43	22.64
γ 115.0	22.53	22.33	22.53	22.67
γ 120.0	22.56	22.43	22.77	22.80
γ 125.0	22.81	22.53	22.98	22.94
γ 130.0	22.97	22.85	23.23	23.23
γ 135.0	23.30	23.18	23.55	23.51
γ 140.0	23.69	23.57	23.97	23.94
γ 145.0	24.13	23.99	24.36	24.31
γ 150.0	24.50	24.35	24.67	24.69
γ 155.0	24.81	24.60	25.05	24.92
γ 160.0	25.13	24.97	25.32	25.16
γ 165.0	25.32	25.22	25.56	25.43
γ 170.0	25.57	25.39	25.74	25.61
γ 175.0	25.70	25.58	25.90	25.76
γ 180.0	25.83	25.83	25.83	25.83

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