

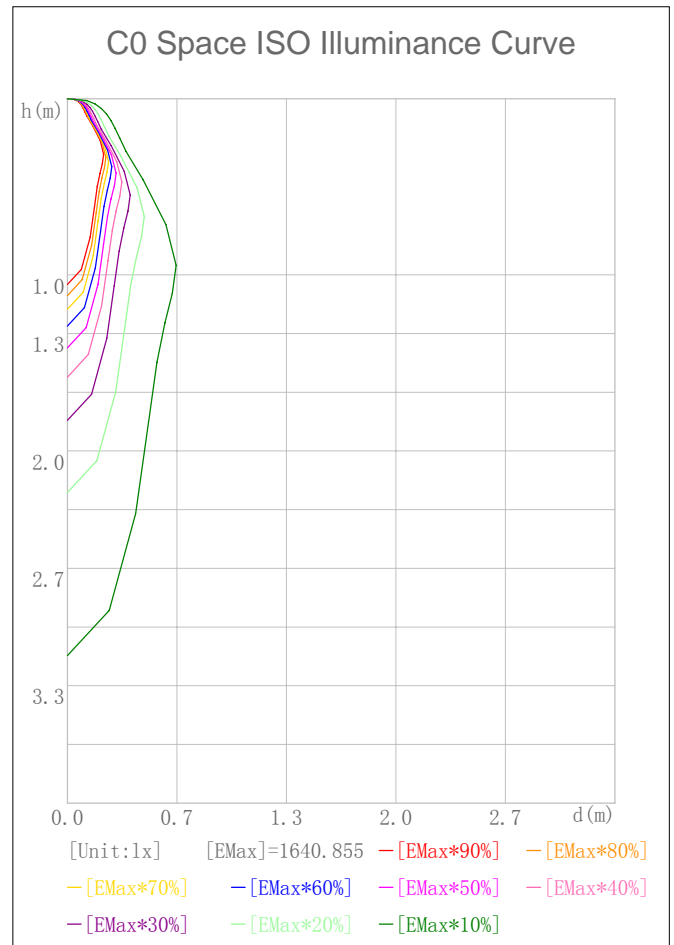
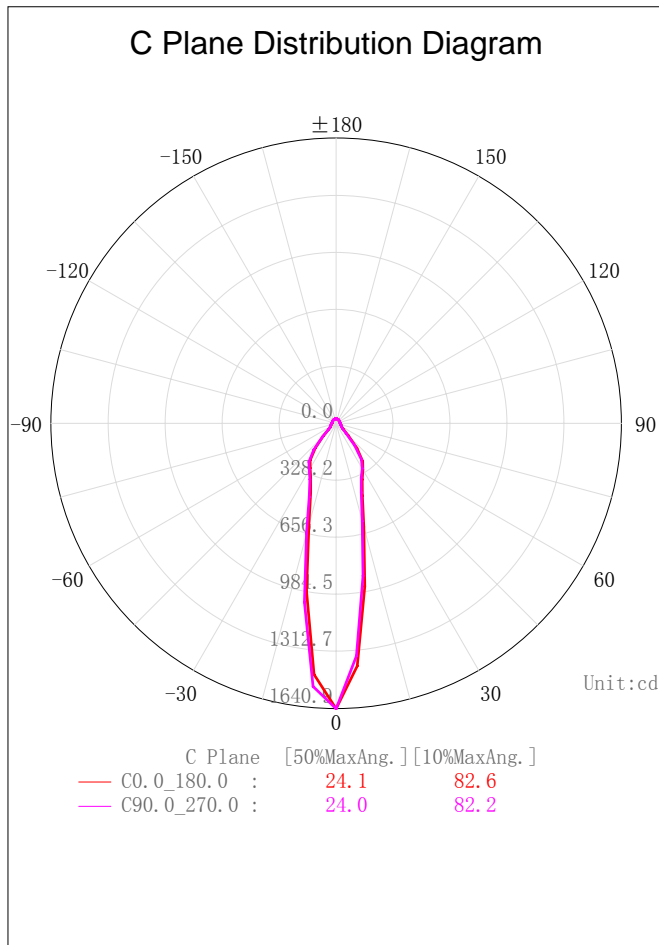
### Indoor Luminaire Photometric Data

#### Description Information

Luminary Name: DC9W-2700K, Ra90, Reflector 24°		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

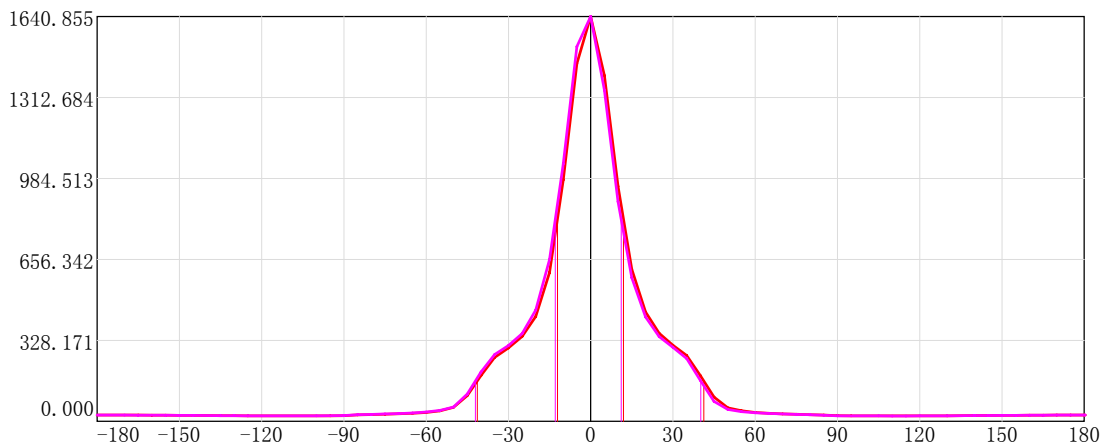
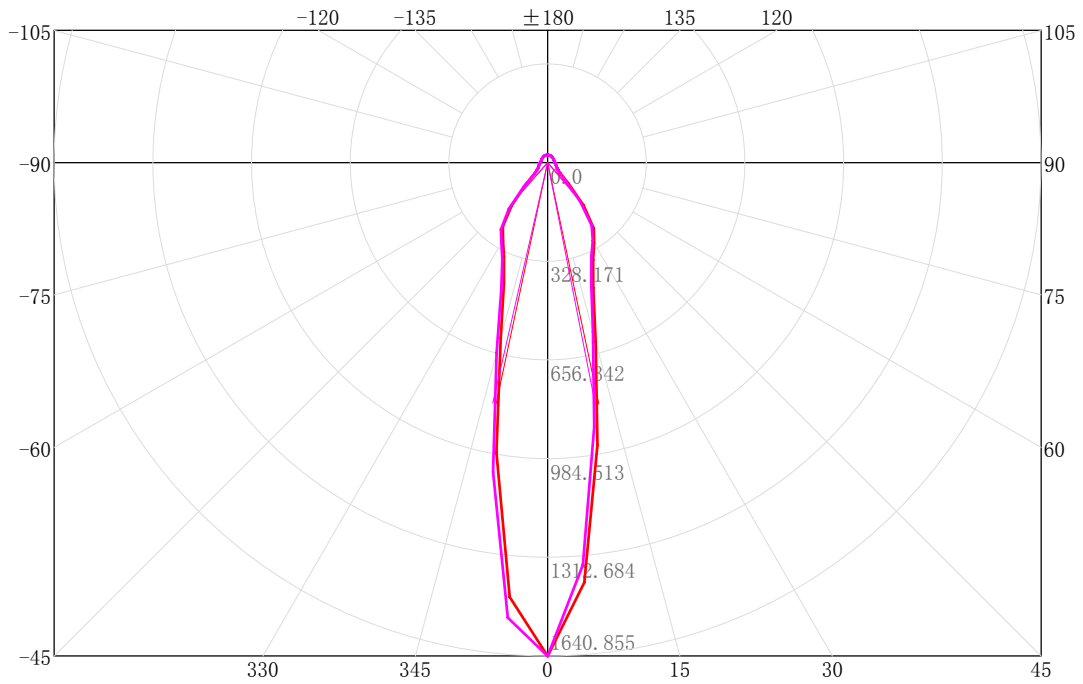
Lamp Speciality Parameter	Luminaire Speciality Parameter	
Rated Flux(lm): 776.000	Luminary Flux(lm): 988.248	Field Angle(10%Imax): 82.6(°)
Rated Power(W): 9W	Luminary Efficiency: 127.35%	Down Lumens&Percent: 841.619lm 85.16%
Rated Voltage(V): 36V 250mA	Luminary EER(lm/W): 34.663	Up Lumens&Percent: 146.630lm 14.84%
Tested Power(W): 28.510	Max. Candela(cd): 1640.855	S/MH: C0_a180=0.402 C90_270=0.400
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, 0.746	Beam Angle(50%Imax): 24.1(°)	ErP φ use(90°): 672.434lm
Lamp Size (W*L*H): 0.000m*0.000m*0.000m	Left=-12.1°, Right=12.0°	IRF(%): 471.393



**2D Plane Light Intensity Distribution Curve**

Lum. Name: DC9W-2700K, Ra90, Reflector 24°	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**

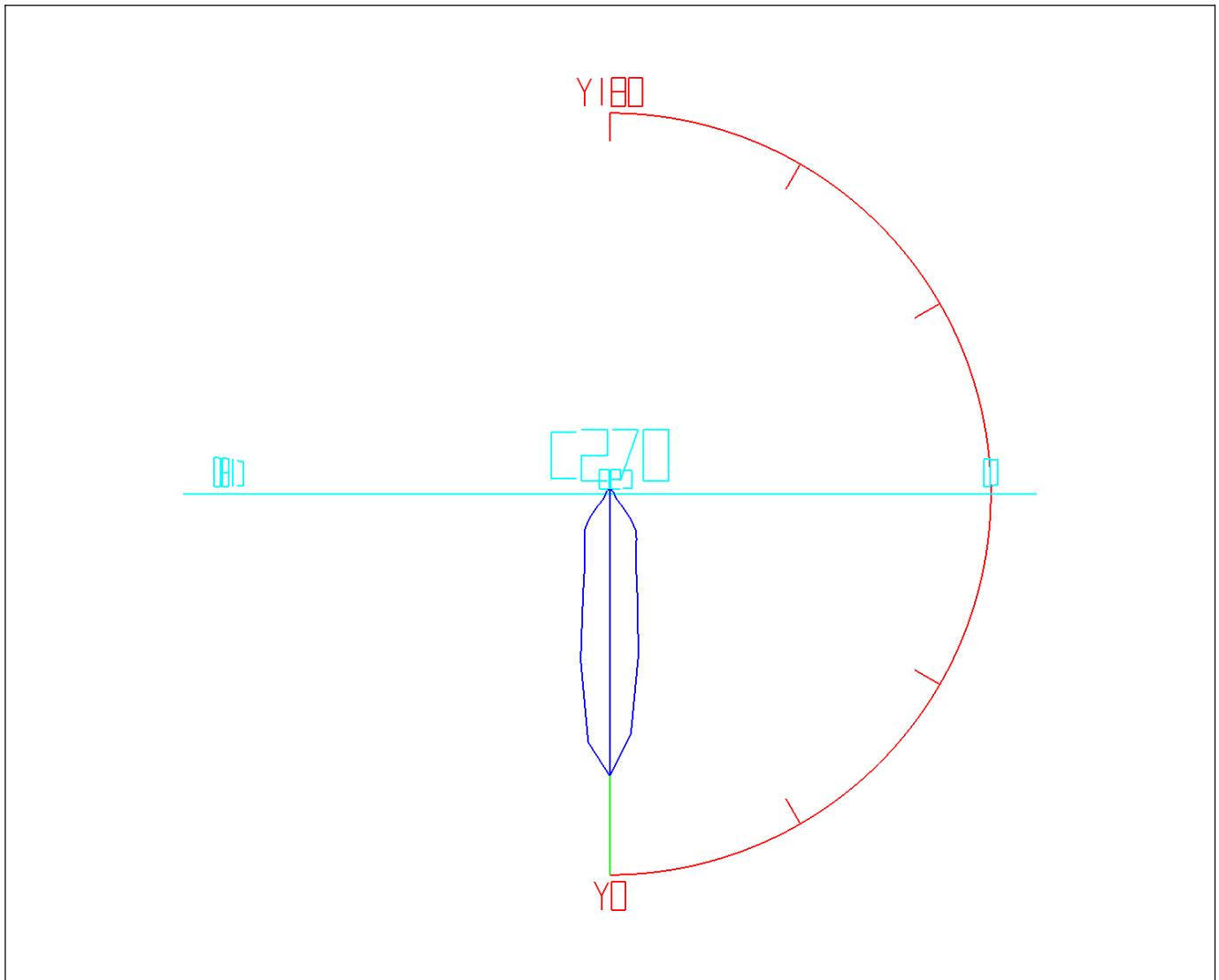


C Plane	[50%MaxAng.]	[10%MaxAng.]	Unit:cd
— C0.0_180.0 :	24.1	82.6	
— C90.0_270.0 :	24.0	82.2	

**3D Light Intensity Distribution Modal**

Lum. Name: DC9W-2700K, Ra90, Reflector 24°	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	36.69	36.69	4.73	4.73
5.0-10.0	85.68	122.37	11.04	15.77
10.0-15.0	93.81	216.18	12.09	27.86
15.0-20.0	86.56	302.74	11.16	39.01
20.0-25.0	82.46	385.20	10.63	49.64
25.0-30.0	82.72	467.92	10.66	60.30
30.0-35.0	83.43	551.35	10.75	71.05
35.0-40.0	74.75	626.10	9.63	80.68
40.0-45.0	52.50	678.60	6.76	87.45
45.0-50.0	31.00	709.60	4.00	91.44
50.0-55.0	21.18	730.78	2.73	94.17
55.0-60.0	18.30	749.08	2.36	96.53
60.0-65.0	16.95	766.04	2.18	98.72
65.0-70.0	16.25	782.29	2.09	100.81
70.0-75.0	15.74	798.03	2.03	102.84
75.0-80.0	15.26	813.29	1.97	104.81
80.0-85.0	14.71	828.00	1.90	106.70
85.0-90.0	13.62	841.62	1.76	108.46
90.0-95.0	12.69	854.31	1.64	110.09
95.0-100.0	12.41	866.72	1.60	111.69
100.0-105.0	12.12	878.84	1.56	113.25
105.0-110.0	11.79	890.63	1.52	114.77
110.0-115.0	11.42	902.04	1.47	116.24
115.0-120.0	10.99	913.04	1.42	117.66
120.0-125.0	10.51	923.54	1.35	119.01
125.0-130.0	9.97	933.52	1.29	120.30
130.0-135.0	9.39	942.91	1.21	121.51
135.0-140.0	8.76	951.67	1.13	122.64
140.0-145.0	8.05	959.72	1.04	123.67
145.0-150.0	7.23	966.95	0.93	124.61
150.0-155.0	6.30	973.25	0.81	125.42
155.0-160.0	5.29	978.54	0.68	126.10
160.0-165.0	4.20	982.74	0.54	126.64
165.0-170.0	3.04	985.79	0.39	127.03
170.0-175.0	1.84	987.63	0.24	127.27
175.0-180.0	0.62	988.25	0.08	127.35

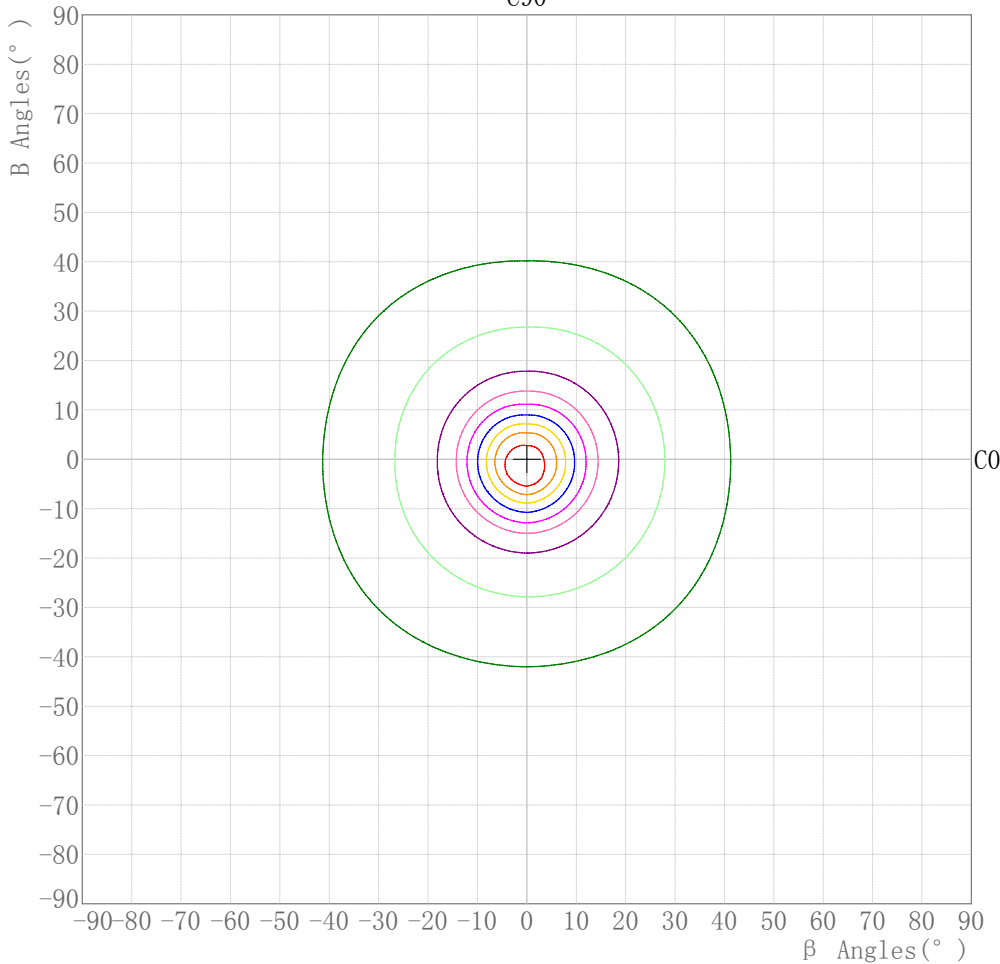
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**Rectangle ISO Lighting Intensity Diagram**

Lum. Name: DC9W-2700K, Ra90, Reflector 24°	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**

C90

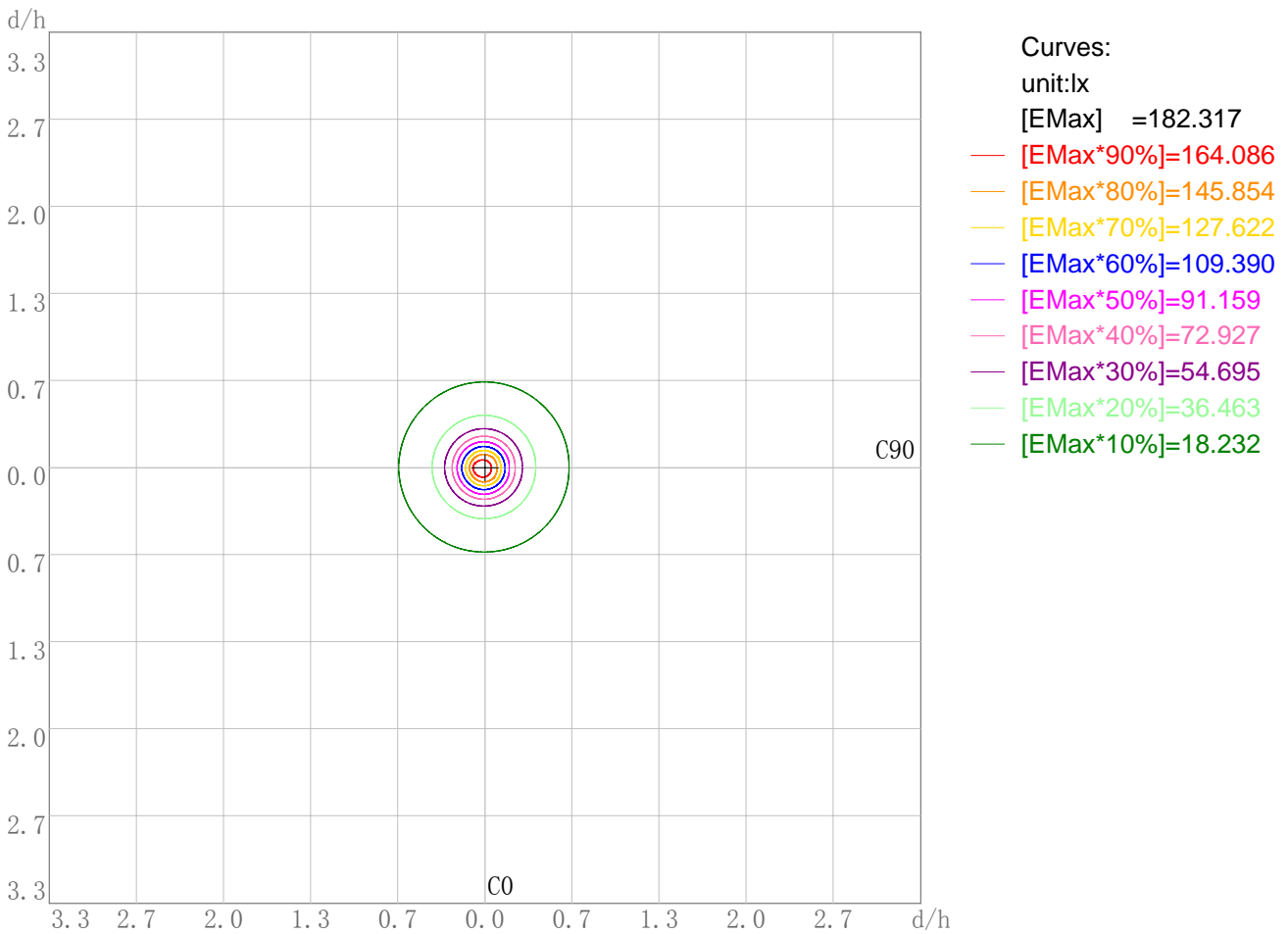


Maximum Light Intensity(cd): 1640.85  
 Maximum Cand.@Angle: H=0.0°,V=0.0°

**Plane ISO-Illuminance Diagram**

Lum. Name: DC9W-2700K, Ra90, Reflector 24°	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**

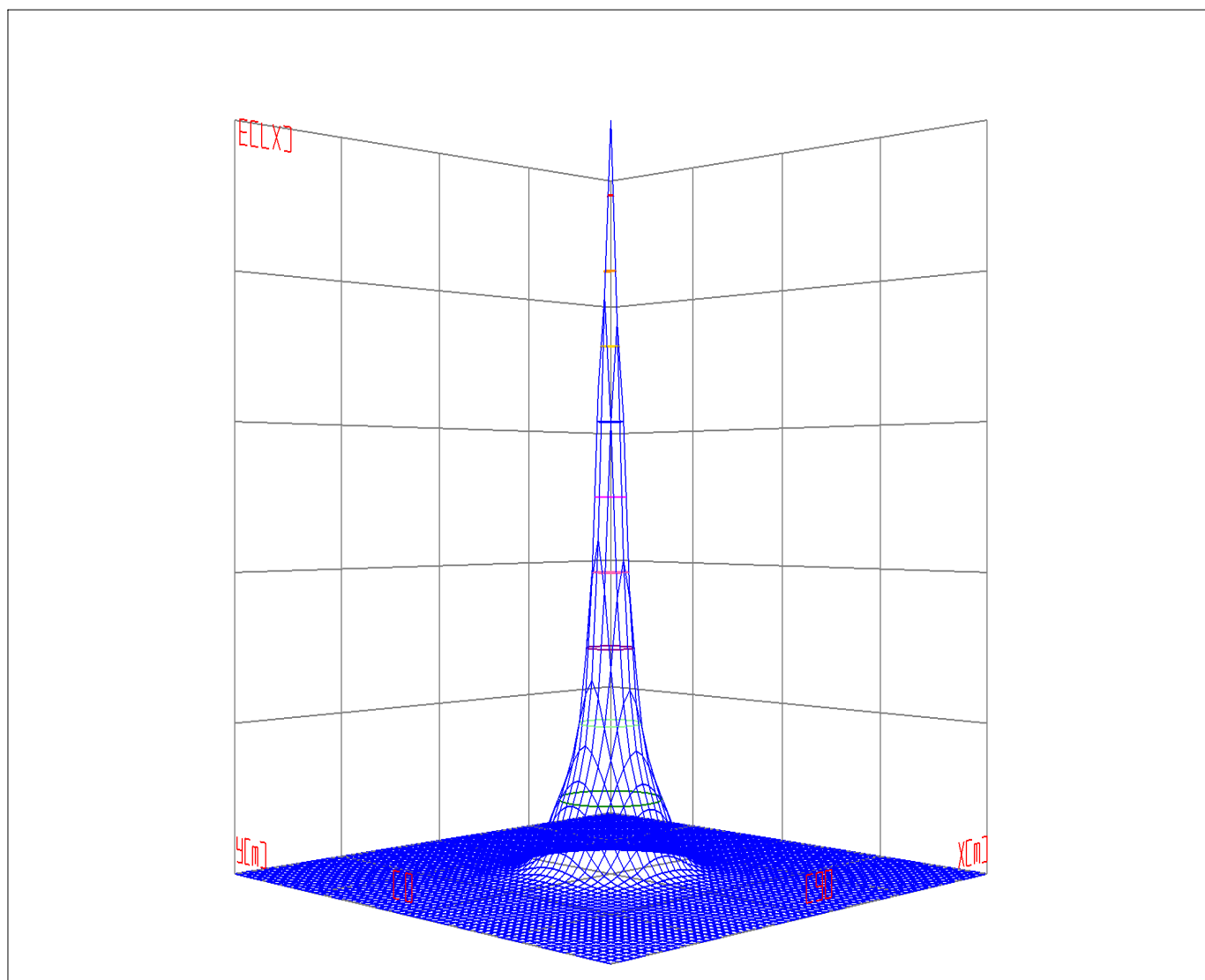


Working Plane Luminaire Mounting Height(m): 3.00  
 Working Plane Maximum Illuminance(lx): 182.32  
 Working Plane Maximum Illuminance Position(d/h):H0.0 V0.0

**3D Plane ISO Illuminance Diagram**

Lum. Name: DC9W-2700K, Ra90, Reflector 24°	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**

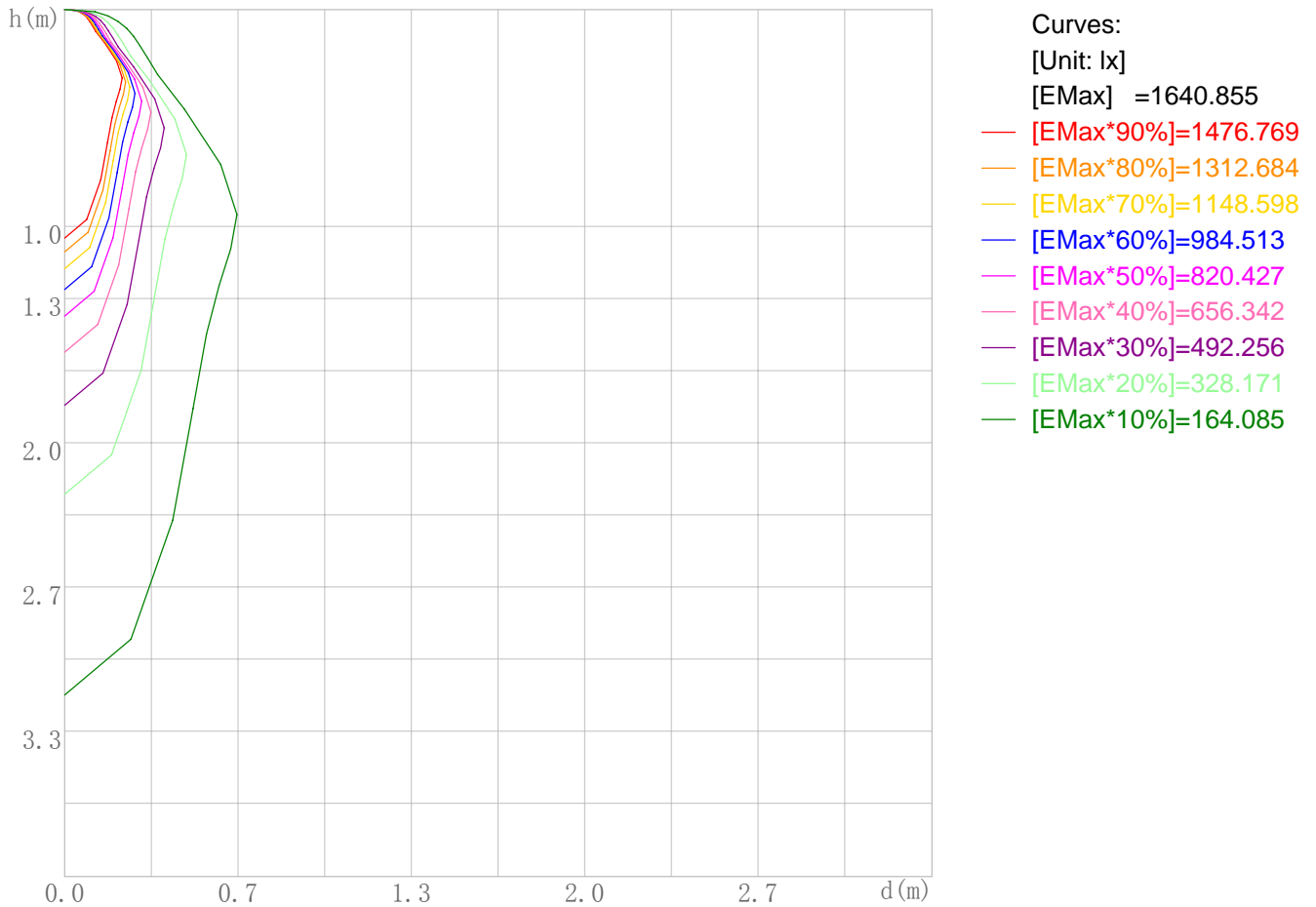


Curves: 3D Model — 90% — 80% — 70% — 60% — 50% — 40% — 30% — 20% — 10% —  
 View Angles(deg): 0    Height(m): 3.0    Distance(m): 10.0

**Space ISO Illuminance Diagram**

Lum. Name: DC9W-2700K, Ra90, Reflector 24°	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



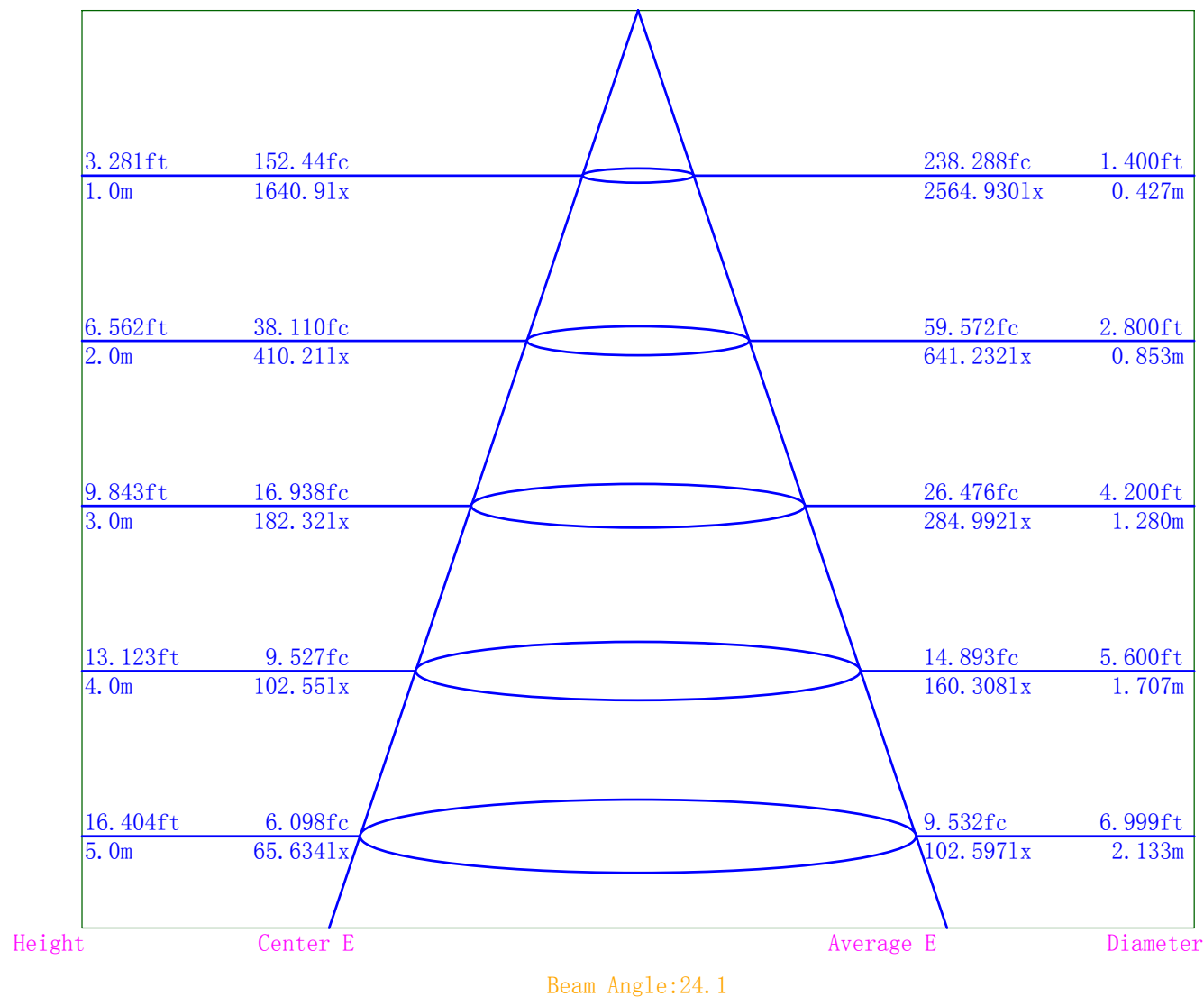
Space Plane Maximum Illuminance and @Angle:1640.85lx,0.0deg  
 Plane Maximum Lighting Intensity and @Angle:1640.855cd,0deg



**Illuminance-Distance Diagram**

Lum. Name: DC9W-2700K, Ra90, Reflector 24°	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 24°	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

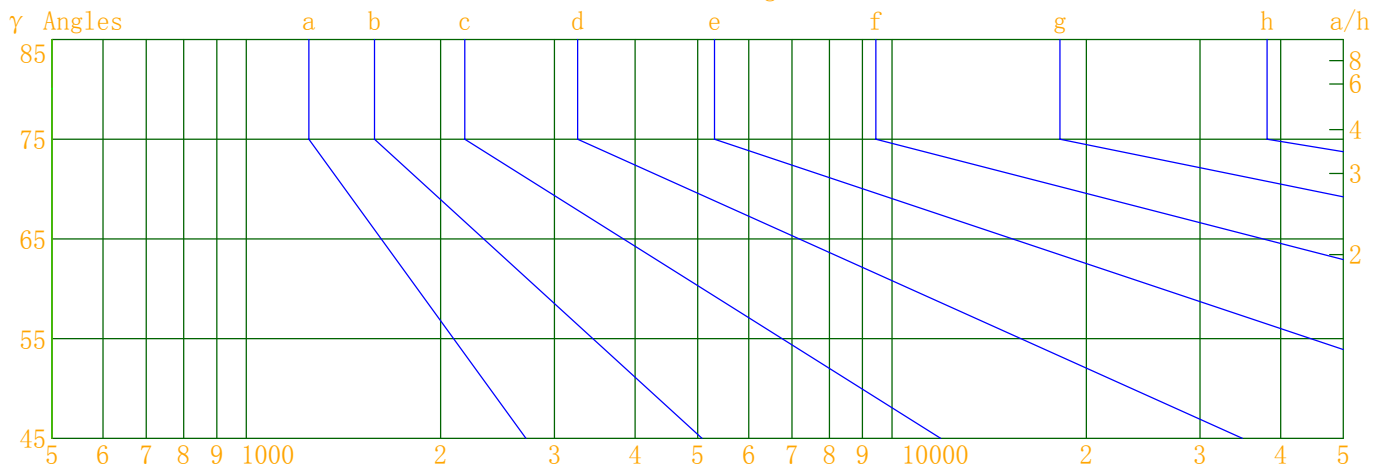
Glare Grade Table

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

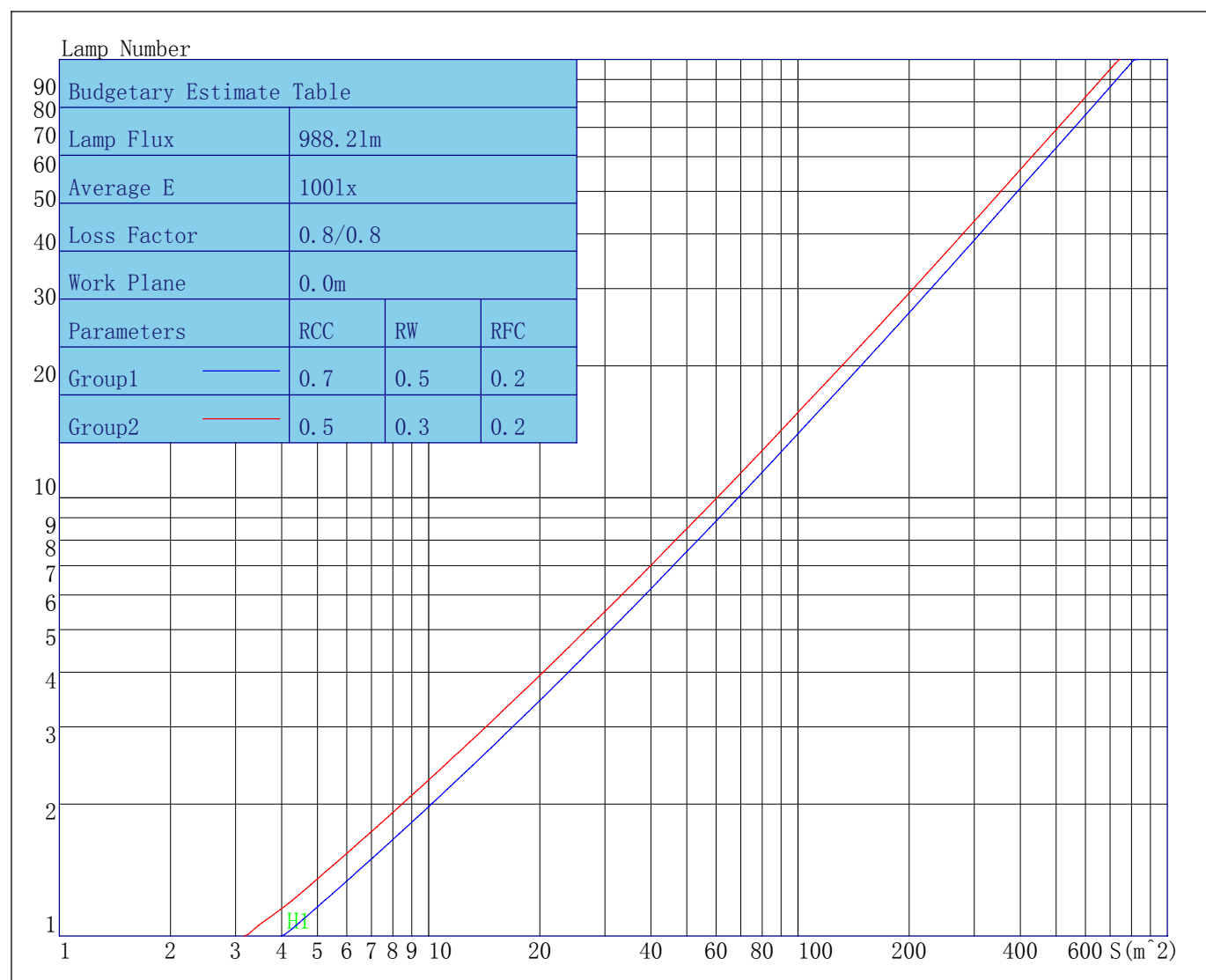
Luminance Limiting Curve



Luminous Size: Length(m)=0.000 Width(m)=0.000 Height(m)=0.000 Area(m^2)=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 24°	Lum. Catalog:	Test ID: 01
Lamp Name:	Lamp Catalog: lamps and lanterns	Test Lab:
Manufacture:	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 24°	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	50	30	10	0
RCR	Coefficient of Utilization (%)																				
0	147	147	147	147	141	141	141	141	131	131	131	121	121	121	113	113	113	108			
1	137	132	127	123	131	127	123	120	118	115	112	110	108	106	103	101	99	96			
2	128	119	113	107	123	116	110	104	108	103	99	102	98	94	95	92	90	86			
3	120	109	101	95	115	106	99	93	100	94	89	94	89	85	89	85	82	78			
4	112	101	92	85	108	98	90	84	92	86	81	88	82	78	83	79	75	72			
5	106	93	84	78	102	91	82	76	86	79	74	82	76	72	78	73	69	67			
6	100	86	78	71	96	84	76	70	80	73	68	77	71	66	73	68	64	62			
7	94	81	72	66	91	79	71	65	76	68	63	72	66	62	69	64	60	58			
8	89	76	67	61	87	74	66	61	71	64	59	68	62	58	66	60	56	54			
9	85	71	63	57	82	70	62	57	67	60	56	65	59	54	62	57	53	51			
10	81	67	59	54	78	66	58	53	64	57	52	61	55	51	59	54	50	48			

**Unified Glare Rating Table**

Lum. Name: DC9W-2700K, Ra90, Reflector 24°	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	Viewed crosswise					Viewed 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	-3.0	-2.0	-1.3	-3.6	-2.7	-3.0	-2.0	-1.3
Y=6H	-3.7	-2.9	-3.1	-2.2	-1.4	-3.7	-2.9	-3.1	-2.2	-1.4
Y=8H	-3.8	-2.9	-3.1	-2.3	-1.5	-3.8	-2.9	-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	-2.9	-3.1	-2.3	-1.5	-3.8	-2.9	-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	-3.4	-2.7	-1.8	-4.0	-3.4	-3.4	-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	-3.4	-2.7	-1.8	-4.0	-3.4	-3.4	-2.7	-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				

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

**Candela Tabulation**

V/H	C0.0	C90.0	C180.0	C270.0
γ 0.0	1640.85	1640.85	1640.85	1640.85
γ 5.0	1401.27	1342.63	1450.03	1518.97
γ 10.0	953.14	890.60	979.50	1044.45
γ 15.0	617.04	582.47	602.90	655.47
γ 20.0	443.32	423.51	425.23	451.48
γ 25.0	357.05	343.69	344.13	356.34
γ 30.0	308.42	300.20	297.46	307.45
γ 35.0	267.02	254.95	259.42	271.30
γ 40.0	186.40	166.96	185.91	200.14
γ 45.0	98.60	80.96	104.22	110.87
γ 50.0	55.38	48.34	56.81	58.54
γ 55.0	43.35	39.83	42.67	44.76
γ 60.0	36.61	35.10	36.29	38.04
γ 65.0	33.21	32.33	33.03	34.34
γ 70.0	30.77	30.28	30.93	31.89
γ 75.0	28.88	28.53	29.40	30.25
γ 80.0	27.26	27.06	28.00	28.73
γ 85.0	25.82	25.58	26.74	27.30
γ 90.0	23.35	22.92	23.26	24.02
γ 95.0	23.01	22.69	22.87	23.31
γ 100.0	22.79	22.45	22.61	22.99
γ 105.0	22.61	22.39	22.51	22.77
γ 110.0	22.54	22.31	22.56	22.70
γ 115.0	22.61	22.35	22.54	22.76
γ 120.0	22.59	22.50	22.65	22.87
γ 125.0	22.76	22.63	22.92	22.93
γ 130.0	22.93	22.92	23.16	23.20
γ 135.0	23.30	23.31	23.52	23.54
γ 140.0	23.76	23.83	24.03	23.94
γ 145.0	24.23	24.22	24.50	24.45
γ 150.0	24.62	24.64	24.93	24.89
γ 155.0	24.97	24.96	25.12	25.16
γ 160.0	25.33	25.31	25.45	25.37
γ 165.0	25.58	25.56	25.68	25.55
γ 170.0	25.73	25.66	25.85	25.71
γ 175.0	25.82	25.83	25.90	25.74
γ 180.0	25.92	25.92	25.92	25.92

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