

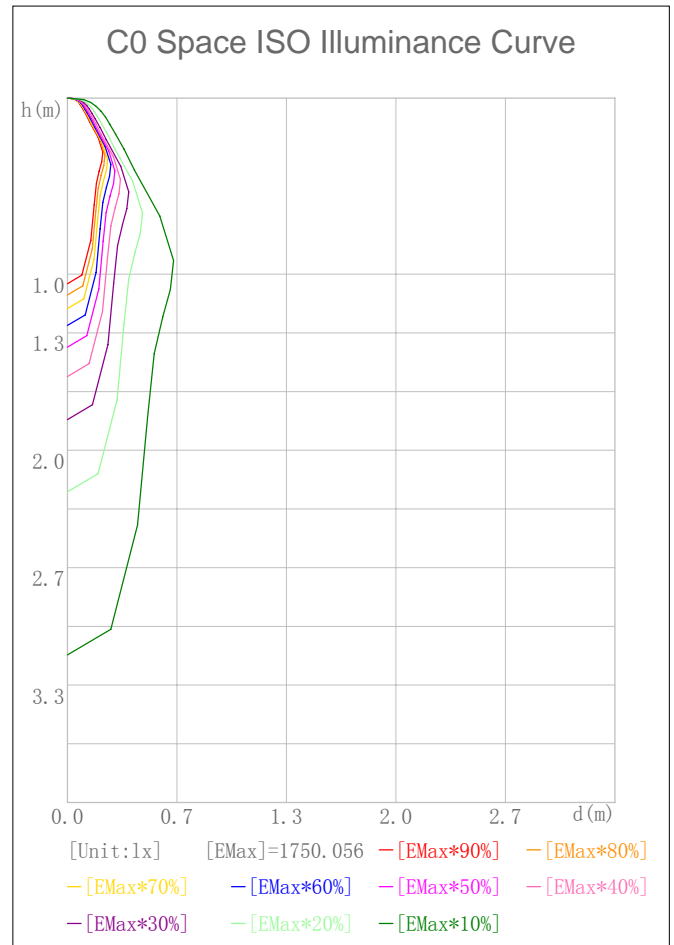
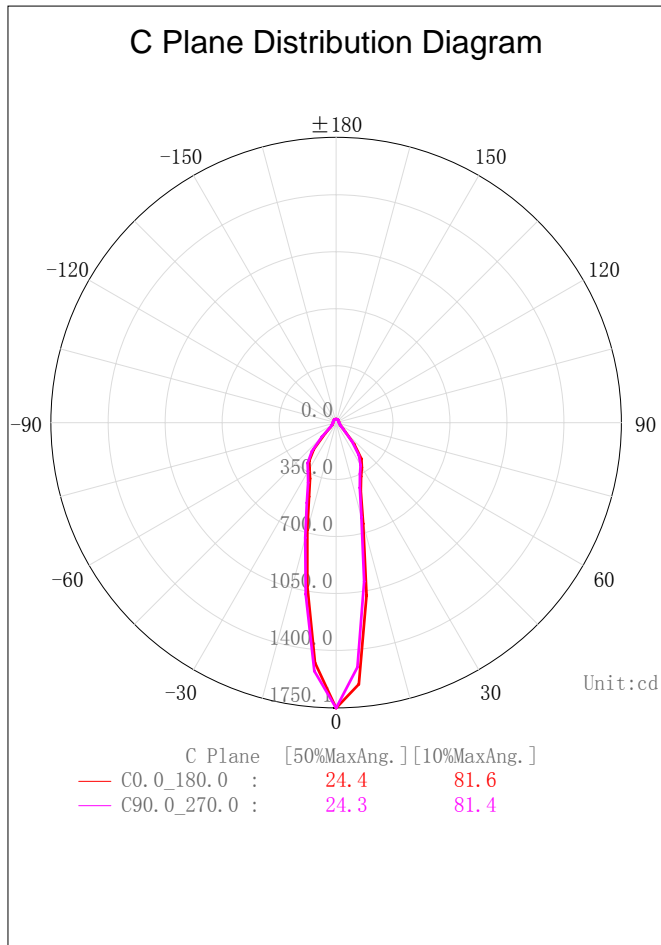
Indoor Luminaire Photometric Data

Description Information

Luminary Name: DC9W-3000K, Ra90, Reflector 24°		Lum. Catalog: 9001m	Test ID: 01
Lamp Name: CL2-9MR		Lamp Catalog: lamps and lanterns	Test Date: 2017/06/14
LED Chip: Citizen CLU028-1202C4-30XH5M3		Shld. Ang(°):	Test Machine:GON-2000
Test Lab:		Frequency (Hz):	Lamp CCT(K): 3000k Ra90
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

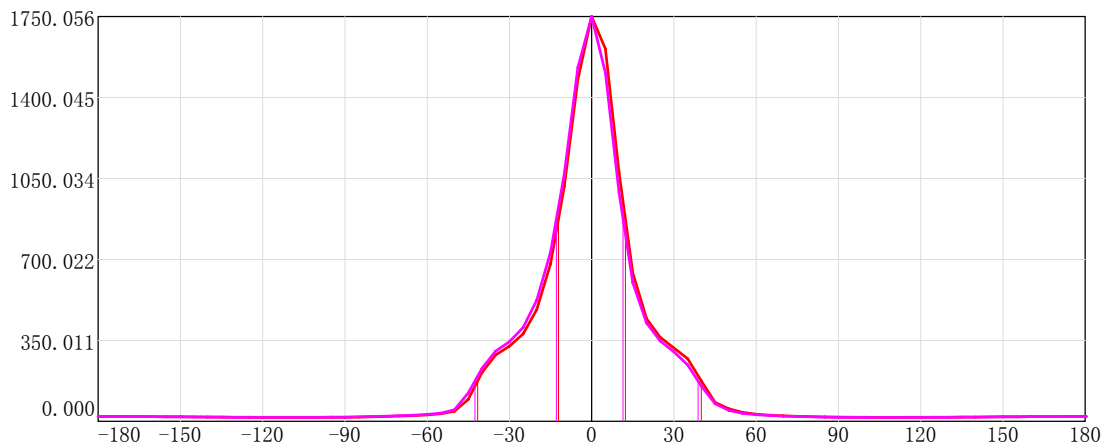
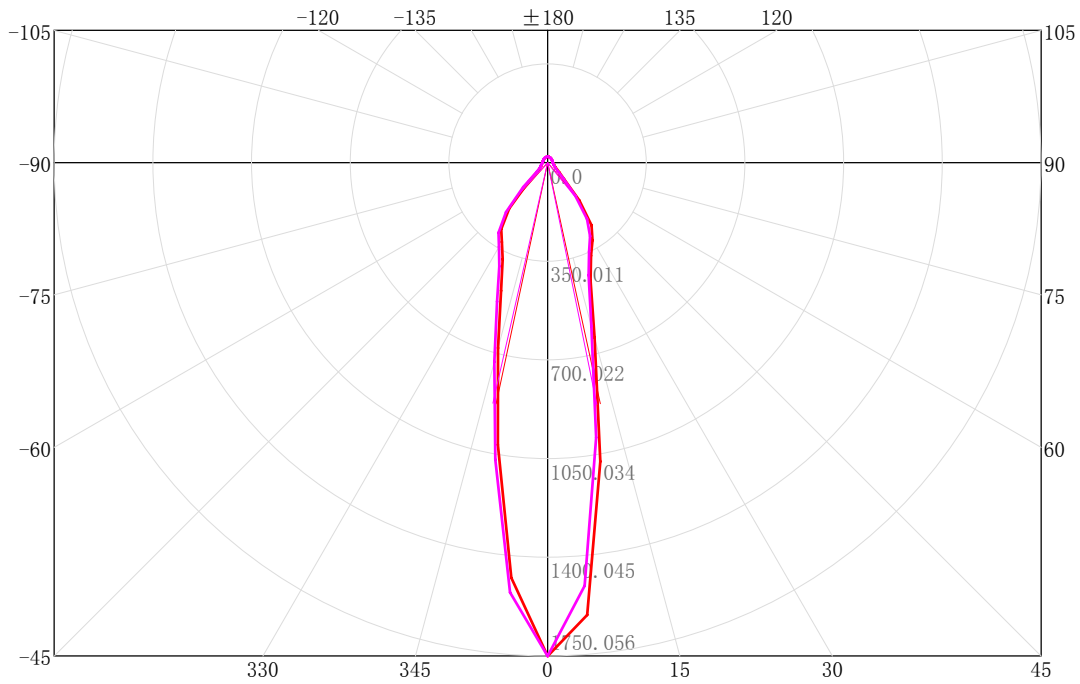
Lamp Speciality Parameter		Luminaire Speciality Parameter	
Rated Flux(lm): 882.000	Luminary Flux(lm): 970.466	Field Angle(10%Imax): 81.6(°)	
Rated Power(W): 9W	Luminary Efficiency: 110.03%	Down Lumens&Percent: 854.991lm 88.10%	
Rated Voltage(V): 36V 250mA	Luminary EER(lm/W): 33.054	Up Lumens&Percent: 115.475lm 11.90%	
Tested Power(W): 29.360	Max. Candela(cd): 1750.056	S/MH: C0_a180=0.408 C90_270=0.405	
Lamps' Inside: 1	Max Cand@Ang. (°): C=0.0 γ=0.0	CIE Type: General Diffuse	
Tested Electrics (V, A, pf): 219.9, 0.178, 0.746	Beam Angle(50%Imax): 24.4(°)	ErP φ use(90°): 713.134lm	
Lamp Size (W*L*H): 0.000m*0.000m*0.000m	Left=-12.1°, Right=12.3°	IRF(%): 479.795	



2D Plane Light Intensity Distribution Curve

Lum. Name: DC9W-3000K, Ra90, Reflector 24°	Lum. Catalog: 900LM	Test ID: 01
Lamp Name: CL2-9MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1202C4-30XH5M3	Test Machine:GON-2000	Test Date: 2017/06/14

C Plane Distribution Diagram

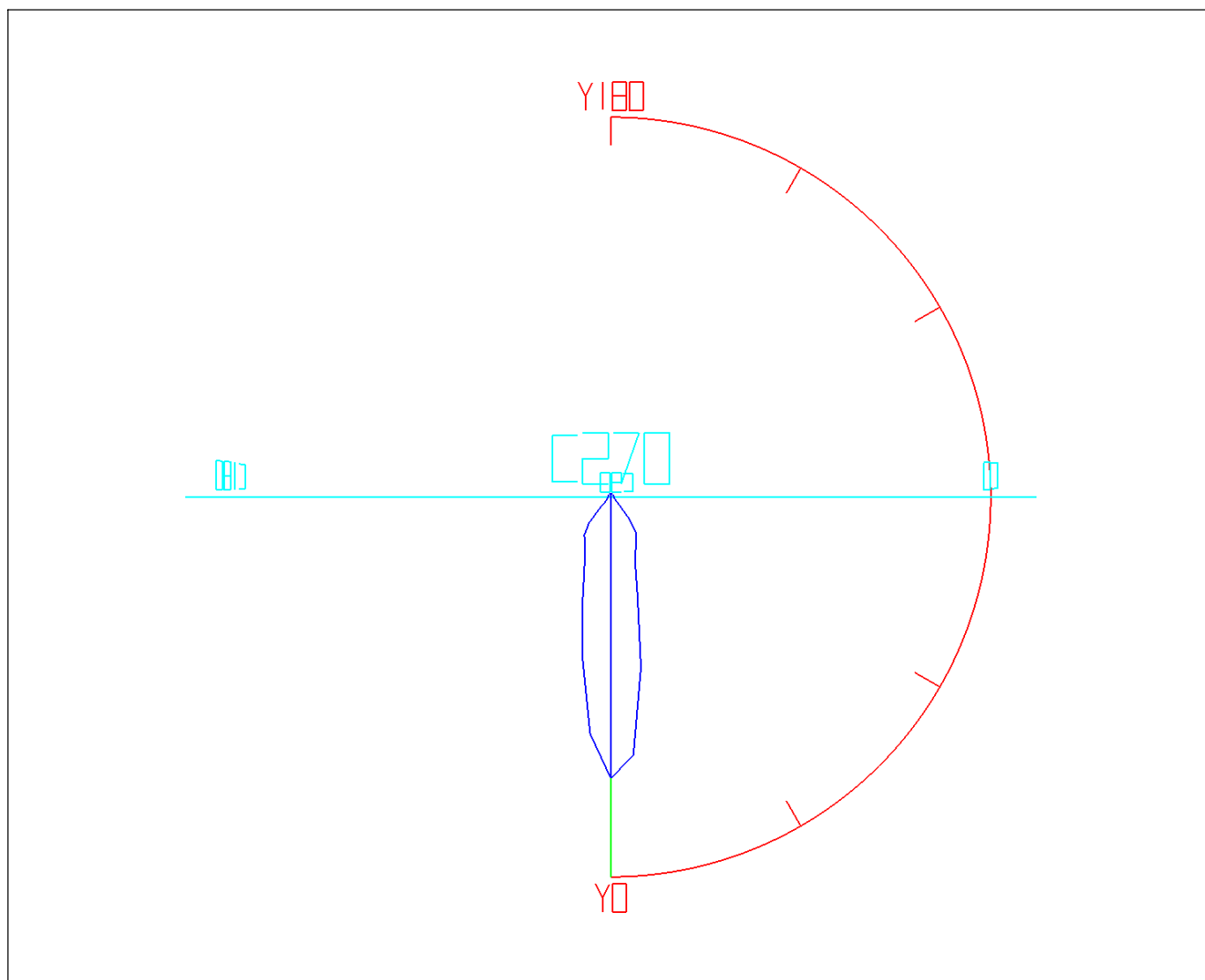


C Plane	[50%MaxAng.]	[10%MaxAng.]	Unit:cd
— C0.0_180.0 :	24.4	81.6	
— C90.0_270.0 :	24.3	81.4	

3D Light Intensity Distribution Modal

Lum. Name: DC9W-3000K, Ra90, Reflector 24°	Lum. Catalog: 900LM	Test ID: 01
Lamp Name: CL2-9MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1202C4-30XH5M3	Test Machine:GON-2000	Test Date: 2017/06/14

3D Light Intensity Distribution Modal



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

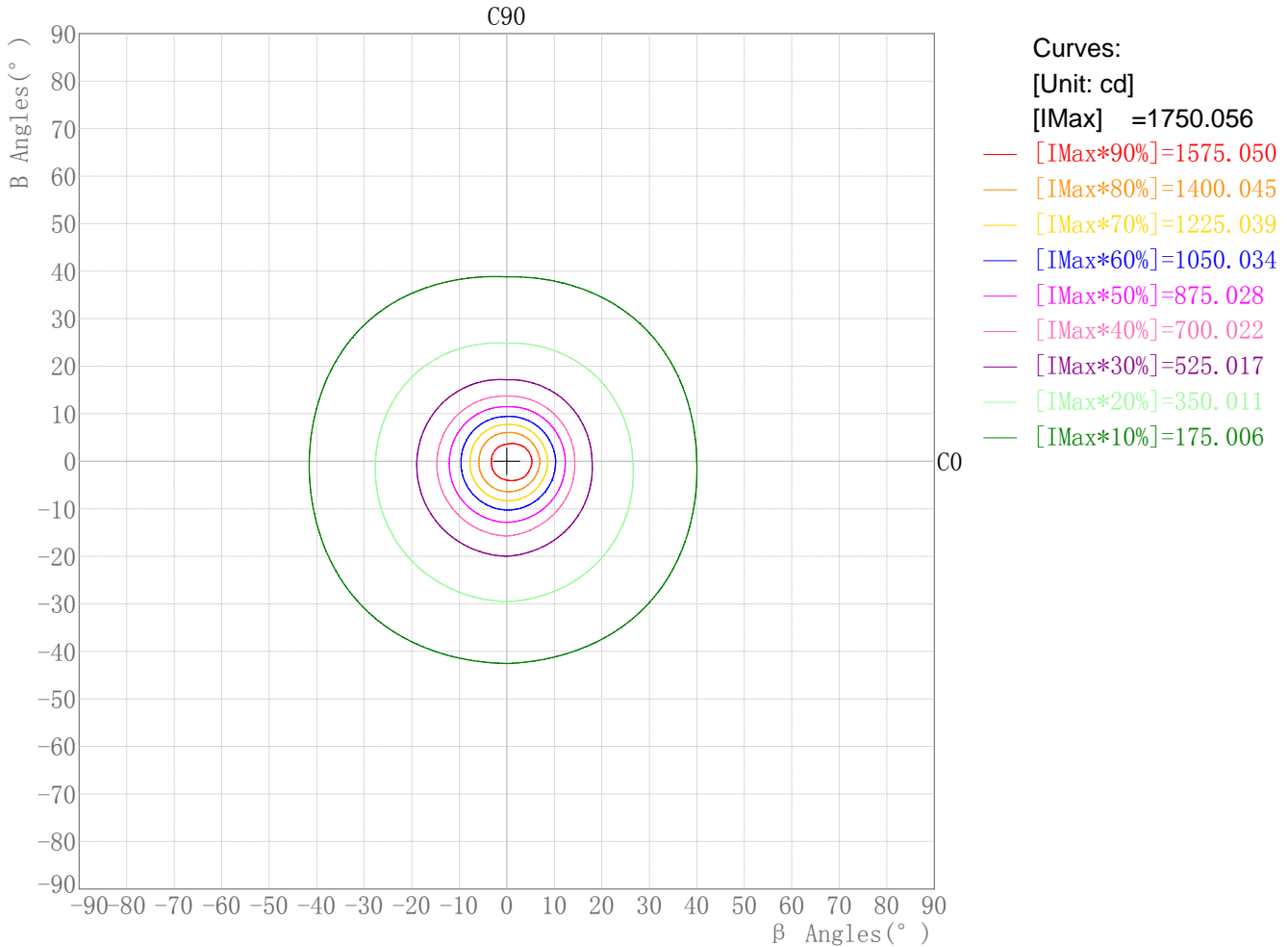
Zonal Flux Tabulation

Zone(γ)	Zone Flux (lm)	Sums Flux (lm)	Zone%Lamp	Sums%Lamp
0.0-5.0	39.23	39.23	4.45	4.45
5.0-10.0	91.91	131.13	10.42	14.87
10.0-15.0	100.91	232.04	11.44	26.31
15.0-20.0	93.34	325.38	10.58	36.89
20.0-25.0	88.45	413.83	10.03	46.92
25.0-30.0	88.09	501.91	9.99	56.91
30.0-35.0	88.14	590.06	9.99	66.90
35.0-40.0	78.21	668.26	8.87	75.77
40.0-45.0	53.10	721.37	6.02	81.79
45.0-50.0	29.09	750.45	3.30	85.09
50.0-55.0	18.59	769.05	2.11	87.19
55.0-60.0	15.18	784.23	1.72	88.92
60.0-65.0	13.56	797.79	1.54	90.45
65.0-70.0	12.66	810.44	1.44	91.89
70.0-75.0	12.00	822.45	1.36	93.25
75.0-80.0	11.43	833.88	1.30	94.54
80.0-85.0	10.83	844.71	1.23	95.77
85.0-90.0	10.28	854.99	1.17	96.94
90.0-95.0	9.92	864.91	1.12	98.06
95.0-100.0	9.69	874.60	1.10	99.16
100.0-105.0	9.43	884.03	1.07	100.23
105.0-110.0	9.17	893.21	1.04	101.27
110.0-115.0	8.89	902.09	1.01	102.28
115.0-120.0	8.56	910.65	0.97	103.25
120.0-125.0	8.20	918.85	0.93	104.18
125.0-130.0	7.80	926.65	0.88	105.06
130.0-135.0	7.39	934.04	0.84	105.90
135.0-140.0	6.94	940.98	0.79	106.69
140.0-145.0	6.42	947.39	0.73	107.41
145.0-150.0	5.79	953.19	0.66	108.07
150.0-155.0	5.08	958.27	0.58	108.65
155.0-160.0	4.29	962.56	0.49	109.13
160.0-165.0	3.41	965.97	0.39	109.52
165.0-170.0	2.48	968.45	0.28	109.80
170.0-175.0	1.51	969.96	0.17	109.97
175.0-180.0	0.51	970.47	0.06	110.03

Rectangle ISO Lighting Intensity Diagram

Lum. Name: DC9W-3000K, Ra90, Reflector 24°	Lum. Catalog: 900LM	Test ID: 01
Lamp Name: CL2-9MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1202C4-30XH5M3	Test Machine:GON-2000	Test Date: 2017/06/14

ISO Lighting Intensity Curve

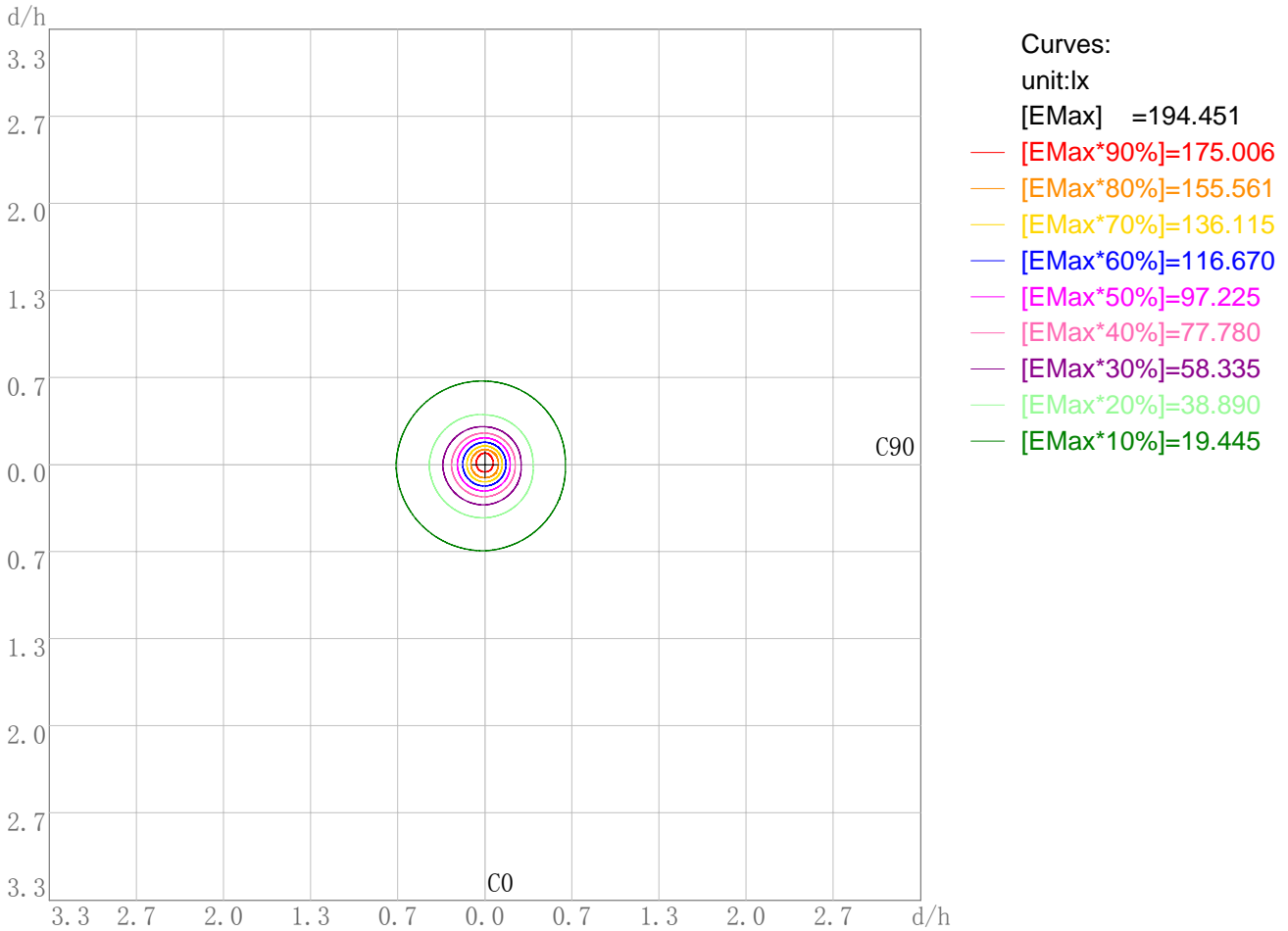


Maximum Light Intensity(cd): 1750.06
 Maximum Cand.@Angle: H=0.0°,V=0.0°

Plane ISO-Illuminance Diagram

Lum. Name: DC9W-3000K, Ra90, Reflector 24°	Lum. Catalog: 900LM	Test ID: 01
Lamp Name: CL2-9MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1202C4-30XH5M3	Test Machine:GON-2000	Test Date: 2017/06/14

Plane ISO-Illuminance Curve

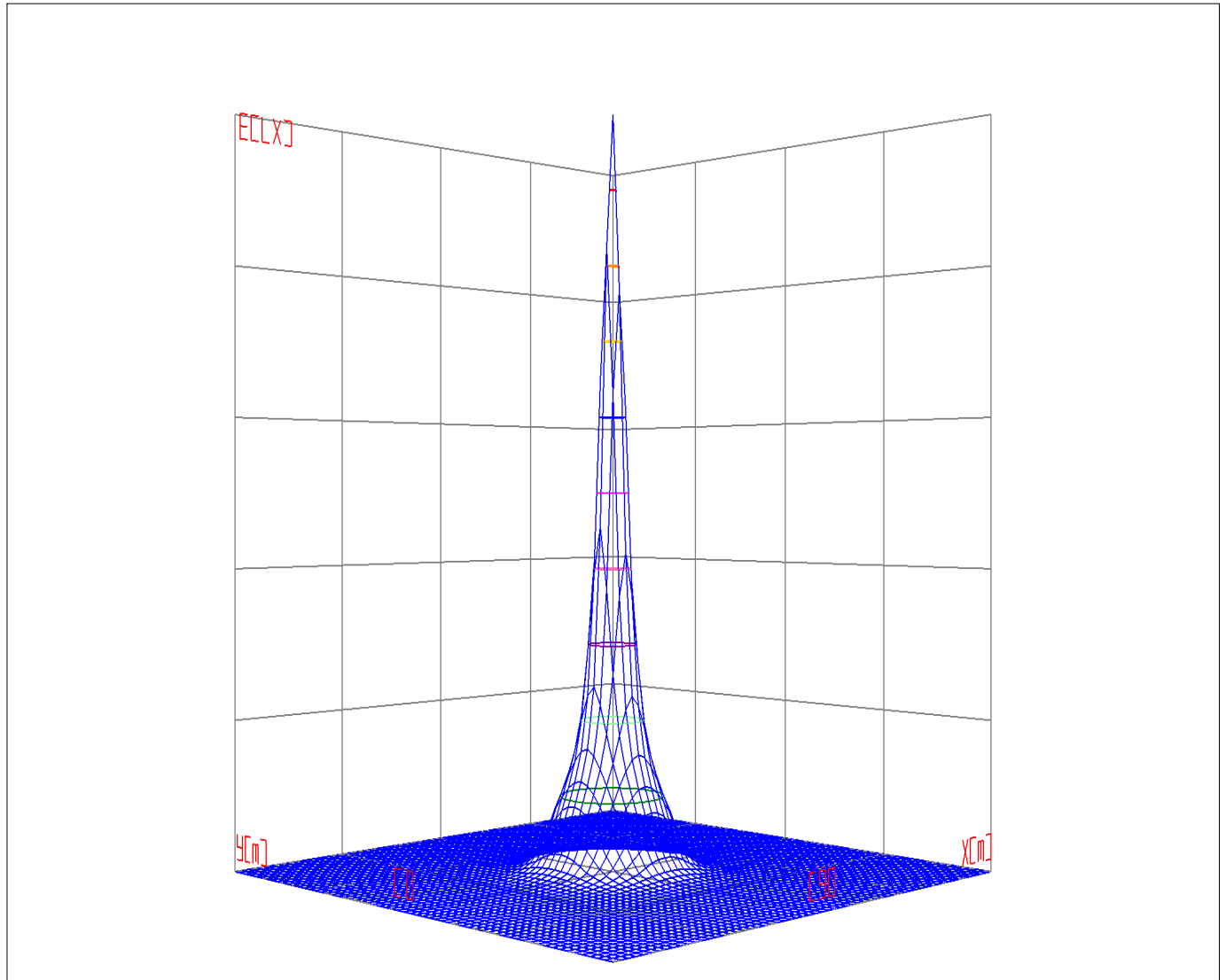


Working Plane Luminaire Mounting Height(m): 3.00
 Working Plane Maximum Illuminance(lx): 194.45
 Working Plane Maximum Illuminance Position(d/h):H0.0 V0.0

3D Plane ISO Illuminance Diagram

Lum. Name: DC9W-3000K, Ra90, Reflector 24°	Lum. Catalog: 900LM	Test ID: 01
Lamp Name: CL2-9MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1202C4-30XH5M3	Test Machine:GON-2000	Test Date: 2017/06/14

3D Plane Illuminance Modal

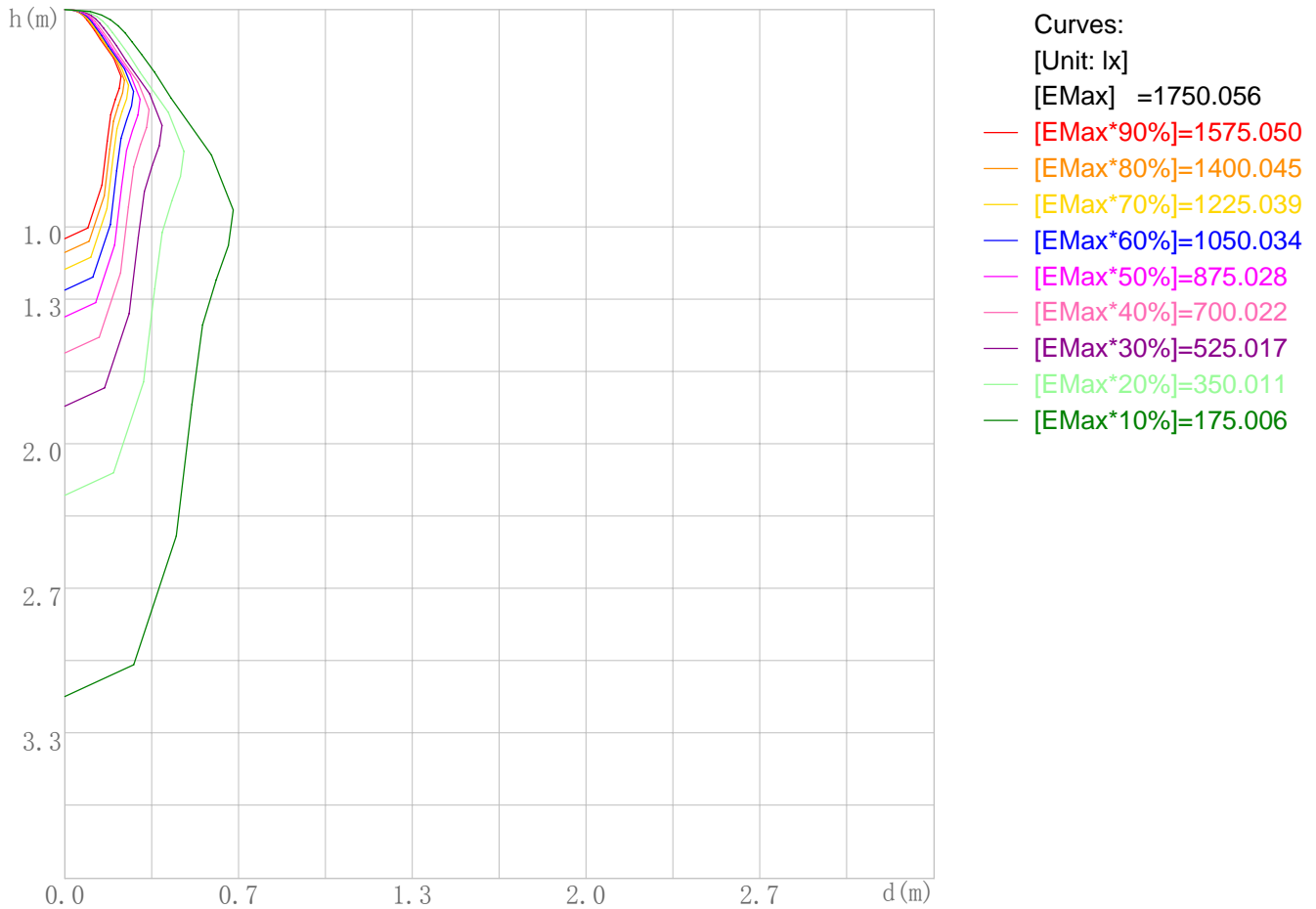


Curves: 3D Model — 90% — 80% — 70% — 60% — 50% — 40% — 30% — 20% — 10% —
 View Angles(deg): 0 Height(m): 3.0 Distance(m): 10.0

Space ISO Illuminance Diagram

Lum. Name: DC9W-3000K, Ra90, Reflector 24°	Lum. Catalog: 900LM	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: 2017/06/14

Space ISO Illuminance Curve

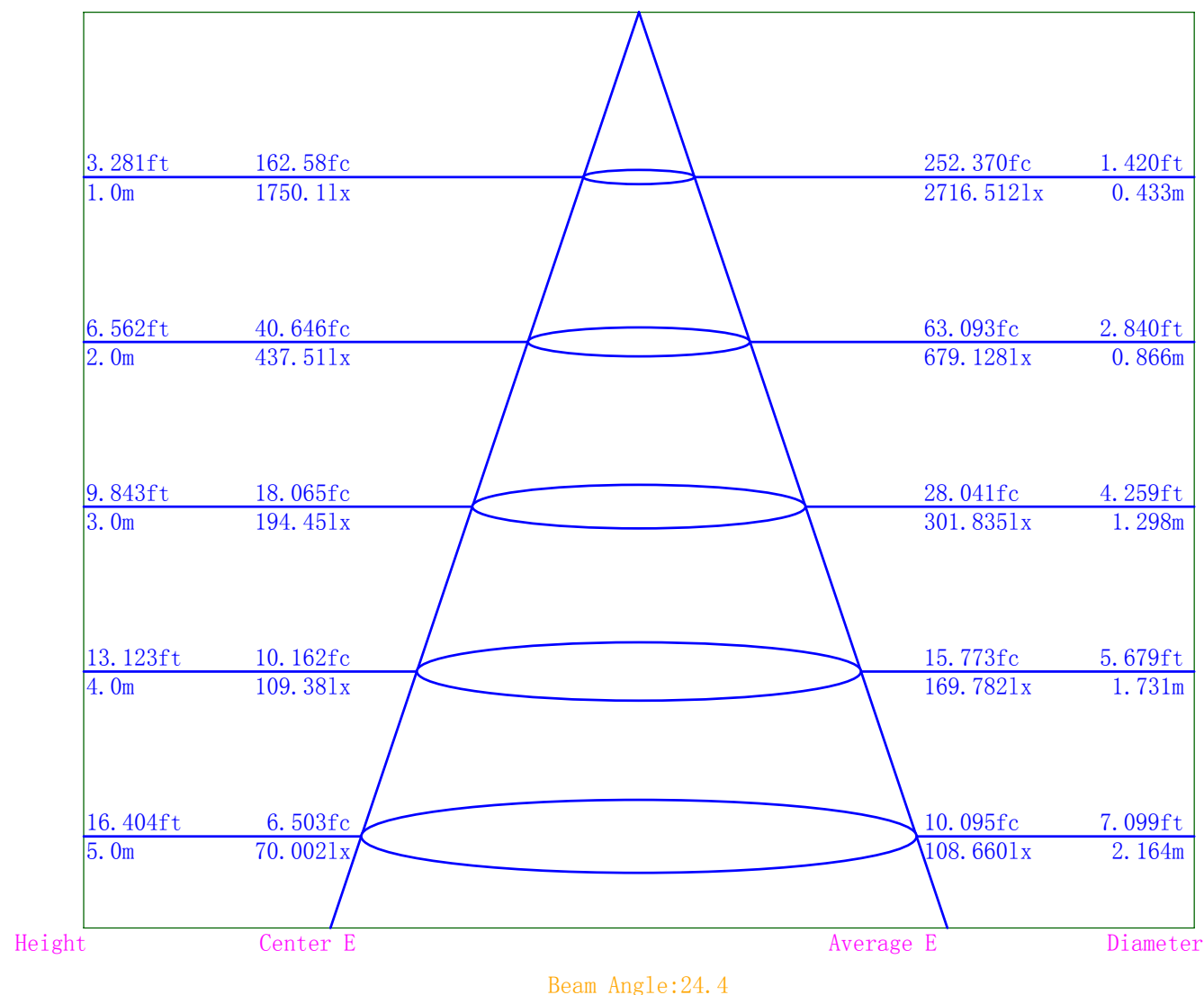


Space Plane Maximum Illuminance and @Angle:1750.06lx,0.0deg
 Plane Maximum Lighting Intensity and @Angle:1750.056cd,0deg

Illuminance-Distance Diagram

Lum. Name: DC9W-3000K, Ra90, Reflector 24°	Lum. Catalog: 900LM	Test ID: 01
Lamp Name: CL2-9MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1202C4-30XH5M3	Test Machine:GON-2000	Test Date: 2017/06/14

Illuminance-Distance Curve



Indoor Luminance Limiting Curves

Lum. Name: DC9W-3000K, Ra90, Reflector 24°	Lum. Catalog: 900LM	Test ID: 01
Lamp Name: CL2-9MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1202C4-30XH5M3	Test Machine:GON-2000	Test Date: 2017/06/14

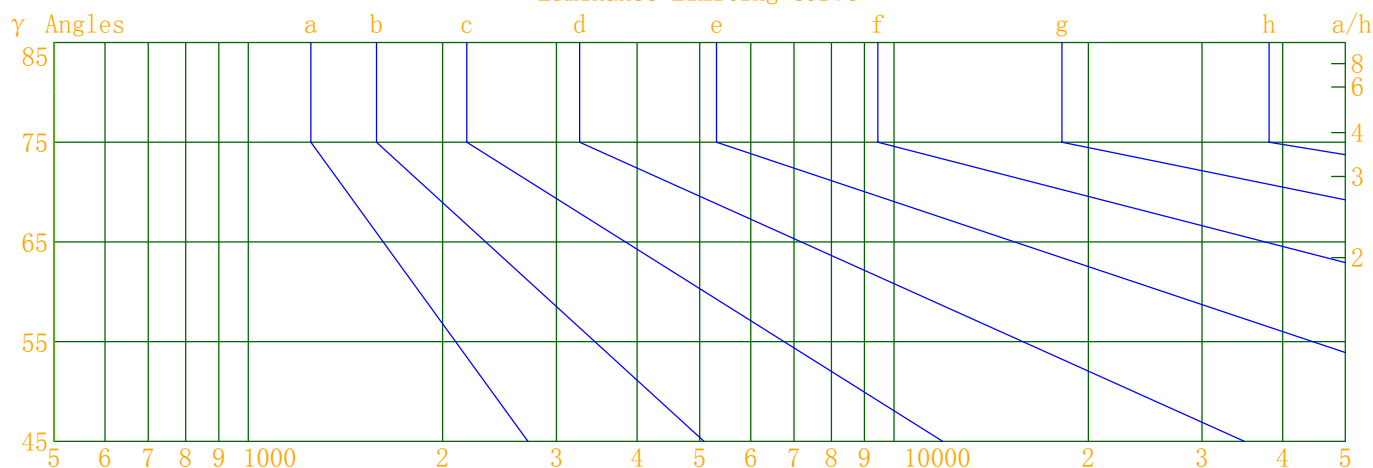
Glare Grade Table

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

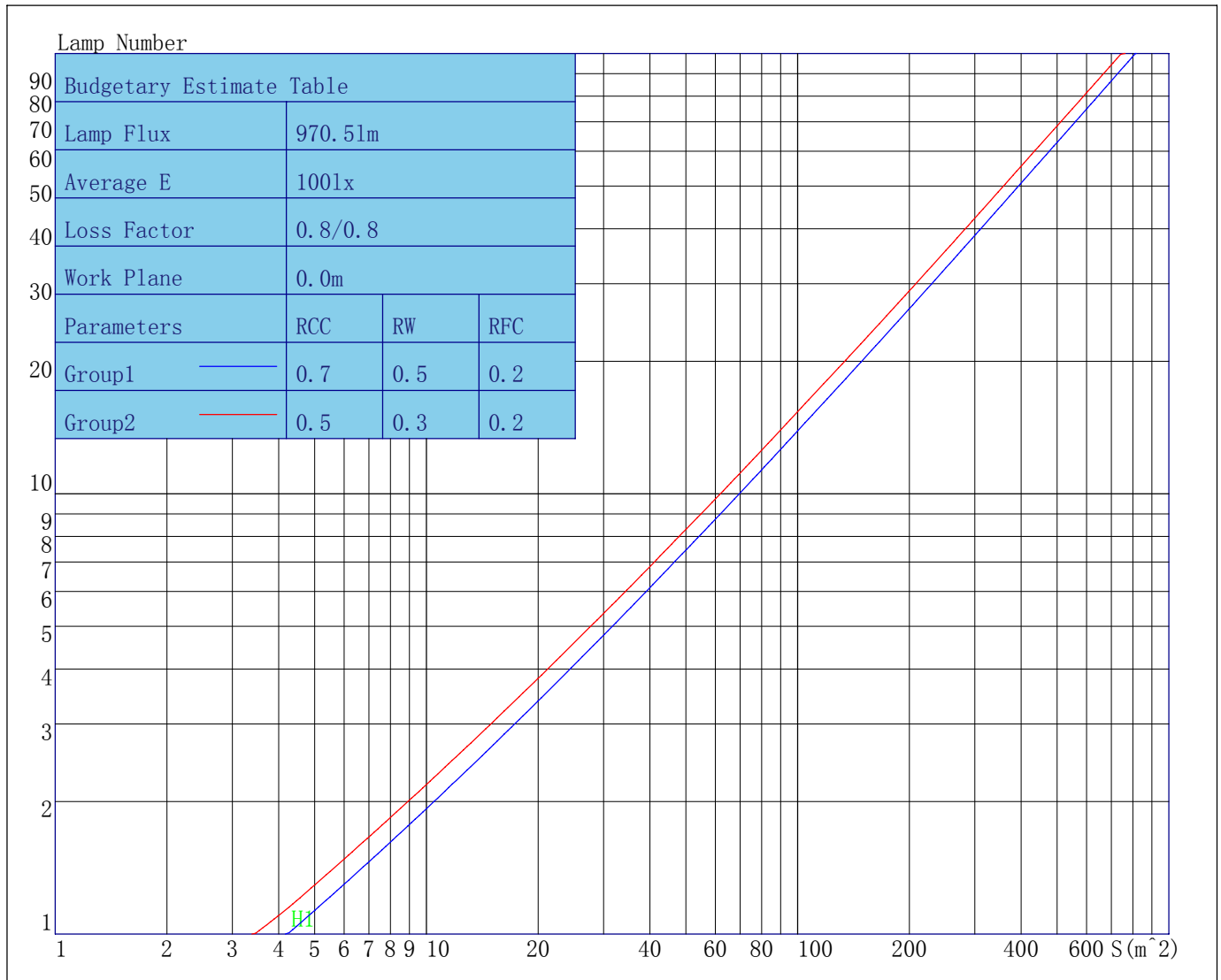
Luminance Limiting Curve



Luminous Size: Length(m)=0.000 Width(m)=0.000 Height(m)=0.000 Area(m²)=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 24°	Lum. Catalog: 900LM	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: 2017/06/14



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 24°	Lum. Catalog: 900LM	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: 2017/06/14

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	0			
RCR	Coefficient of Utilization (%)																				
0	128	128	128	128	123	123	123	123	115	115	115	107	107	107	100	100	100	97			
1	120	116	112	109	115	112	109	106	105	102	100	99	97	95	93	91	90	87			
2	112	106	100	95	108	102	97	93	97	93	89	91	88	85	86	84	82	79			
3	105	97	90	85	102	94	88	84	90	85	81	85	81	78	81	78	75	72			
4	99	90	82	77	96	87	81	76	83	78	74	79	75	71	76	72	69	67			
5	94	83	76	70	91	81	75	70	78	72	68	74	70	66	71	67	64	62			
6	89	78	70	65	86	76	69	64	73	67	63	70	65	61	67	63	60	58			
7	84	73	65	60	82	71	64	60	69	63	58	66	61	57	64	59	56	54			
8	80	68	61	56	77	67	60	56	65	59	55	63	57	54	60	56	53	51			
9	76	64	57	53	74	63	57	52	61	55	51	59	54	50	57	53	50	48			
10	72	61	54	50	70	60	53	49	58	52	48	56	51	48	55	50	47	45			

Unified Glare Rating Table

Lum. Name: DC9W-3000K, Ra90, Reflector 24°	Lum. Catalog:900LM	Test ID: 01
Lamp Name: CL2-9MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1202C4-30XH5M3	Test Machine:GON-2000	Test Date: 2017/06/14

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	Vewed crosswise					Vewed endwise				
X=2H Y=2H	-2.2	-1.1	-1.7	-0.5	0.1	-2.2	-1.1	-1.7	-0.5	0.1
Y=3H	-2.4	-1.4	-1.8	-0.8	-0.2	-2.4	-1.4	-1.8	-0.8	-0.2
Y=4H	-2.5	-1.5	-1.9	-1.0	-0.3	-2.5	-1.5	-1.9	-1.0	-0.3
Y=6H	-2.6	-1.7	-2.0	-1.1	-0.4	-2.6	-1.7	-2.0	-1.1	-0.4
Y=8H	-2.7	-1.8	-2.1	-1.2	-0.5	-2.7	-1.8	-2.1	-1.2	-0.5
Y=12H	-2.7	-1.9	-2.1	-1.3	-0.6	-2.7	-1.9	-2.1	-1.3	-0.6
X=4H Y=2H	-2.5	-1.5	-1.9	-1.0	-0.3	-2.5	-1.5	-1.9	-1.0	-0.3
Y=3H	-2.7	-1.9	-2.1	-1.3	-0.6	-2.7	-1.9	-2.1	-1.3	-0.6
Y=4H	-2.8	-2.1	-2.2	-1.4	-0.7	-2.8	-2.1	-2.2	-1.4	-0.7
Y=6H	-2.9	-2.2	-2.3	-1.6	-0.9	-2.9	-2.2	-2.3	-1.6	-0.9
Y=8H	-3.0	-2.3	-2.4	-1.7	-1.0	-3.0	-2.3	-2.4	-1.7	-1.0
Y=12H	-3.1	-2.4	-2.4	-1.8	-1.0	-3.1	-2.4	-2.4	-1.8	-1.0
X=8H Y=4H	-3.0	-2.3	-2.4	-1.7	-1.0	-3.0	-2.3	-2.4	-1.7	-1.0
Y=6H	-3.1	-2.5	-2.5	-1.9	-1.0	-3.1	-2.5	-2.5	-1.9	-1.0
Y=8H	-3.2	-2.7	-2.5	-2.0	-1.2	-3.2	-2.7	-2.5	-2.0	-1.2
Y=12H	-3.3	-2.8	-2.6	-2.1	-1.3	-3.3	-2.8	-2.6	-2.1	-1.3
X=12H Y=4H	-3.1	-2.4	-2.4	-1.8	-1.0	-3.1	-2.4	-2.4	-1.8	-1.0
Y=6H	-3.2	-2.7	-2.5	-2.0	-1.2	-3.2	-2.7	-2.5	-2.0	-1.2
Y=8H	-3.3	-2.8	-2.6	-2.1	-1.3	-3.3	-2.8	-2.6	-2.1	-1.3
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	1750.06	1750.06	1750.06	1750.06
γ 5.0	1610.42	1506.40	1478.22	1529.92
γ 10.0	1076.25	989.62	1016.29	1069.32
γ 15.0	641.72	599.79	680.46	730.92
γ 20.0	444.40	425.45	483.26	524.21
γ 25.0	364.05	347.63	378.07	406.16
γ 30.0	317.77	300.85	325.07	344.64
γ 35.0	270.98	243.87	287.38	303.74
γ 40.0	174.70	153.05	211.96	229.34
γ 45.0	82.28	76.96	95.69	123.22
γ 50.0	54.99	47.67	44.27	50.72
γ 55.0	39.26	35.54	33.44	36.17
γ 60.0	31.07	28.90	28.12	30.27
γ 65.0	27.03	25.43	25.22	27.00
γ 70.0	24.33	22.97	23.23	24.75
γ 75.0	22.33	21.39	21.68	23.05
γ 80.0	20.73	20.01	20.33	21.35
γ 85.0	19.42	18.80	18.98	19.85
γ 90.0	18.40	17.93	18.12	18.69
γ 95.0	18.02	17.68	17.77	18.33
γ 100.0	17.80	17.52	17.51	17.98
γ 105.0	17.61	17.40	17.41	17.79
γ 110.0	17.60	17.41	17.41	17.75
γ 115.0	17.65	17.45	17.38	17.74
γ 120.0	17.66	17.58	17.61	17.75
γ 125.0	17.88	17.74	17.69	17.95
γ 130.0	18.01	18.08	18.04	18.15
γ 135.0	18.47	18.49	18.42	18.58
γ 140.0	18.91	18.97	19.00	19.02
γ 145.0	19.43	19.47	19.46	19.56
γ 150.0	19.77	19.91	19.85	19.96
γ 155.0	20.22	20.25	20.36	20.27
γ 160.0	20.60	20.58	20.61	20.58
γ 165.0	20.79	20.82	20.85	20.79
γ 170.0	21.05	20.99	21.10	20.99
γ 175.0	21.18	21.18	21.11	21.14
γ 180.0	21.20	21.20	21.20	21.20
