

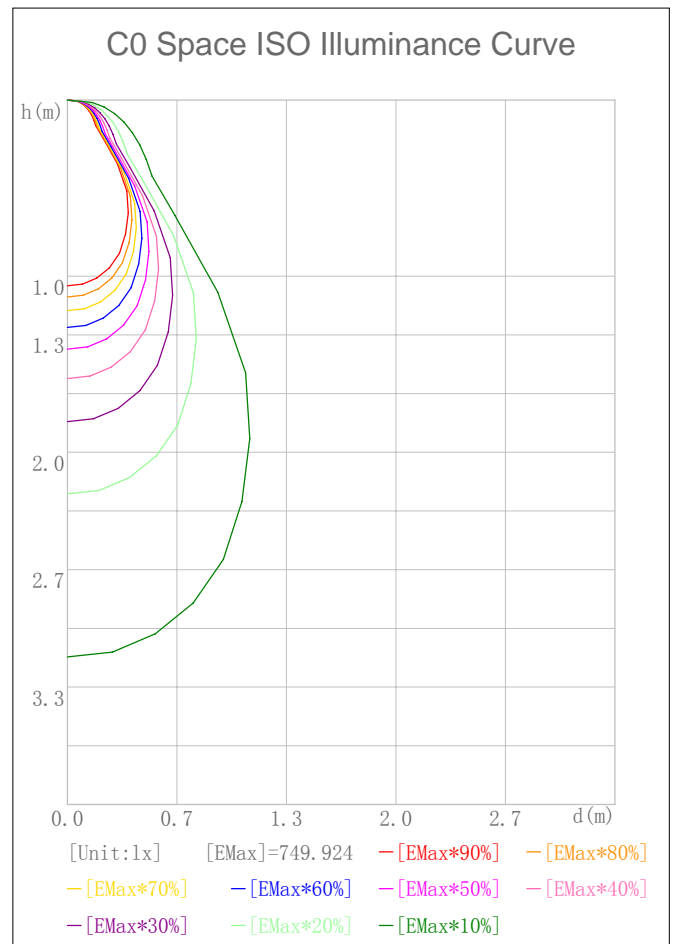
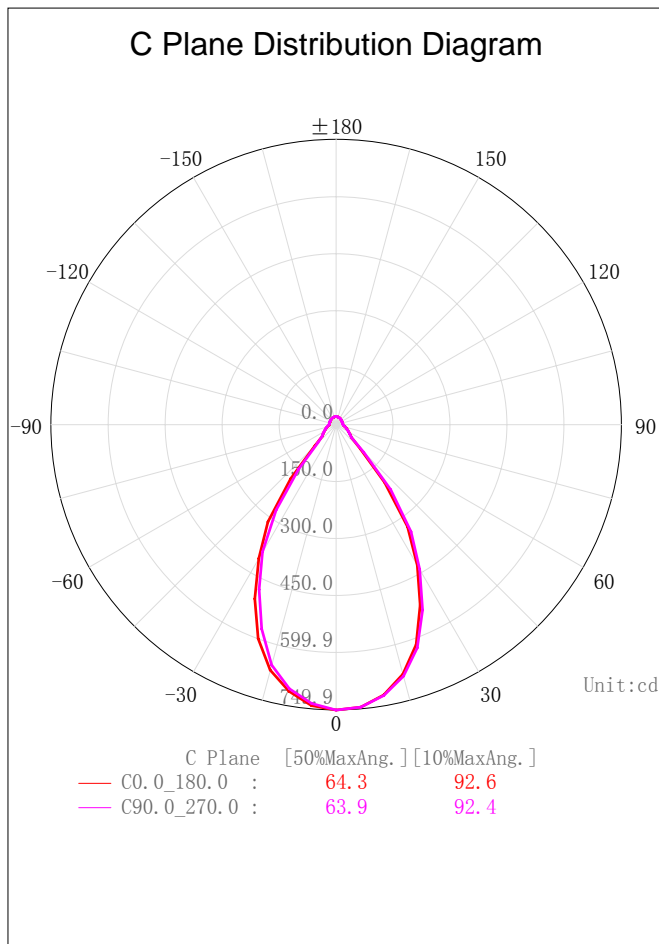
Indoor Luminaire Photometric Data

Description Information

Luminary Name: DC9W-3500K, Ra90, Reflector 60°		Lum. Catalog: 900LM	Test ID: 01
Lamp Name: CL2-9MR		Lamp Catalog: lamps and lanterns	Test Date: 2017/06/13
LED Chip: Citizen CLU028-1202C4-35XH5M3		Shld. Ang(°):	Test Machine:GON-2000
Test Lab:		Frequency (Hz):	Lamp CCT(K): 3500K 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

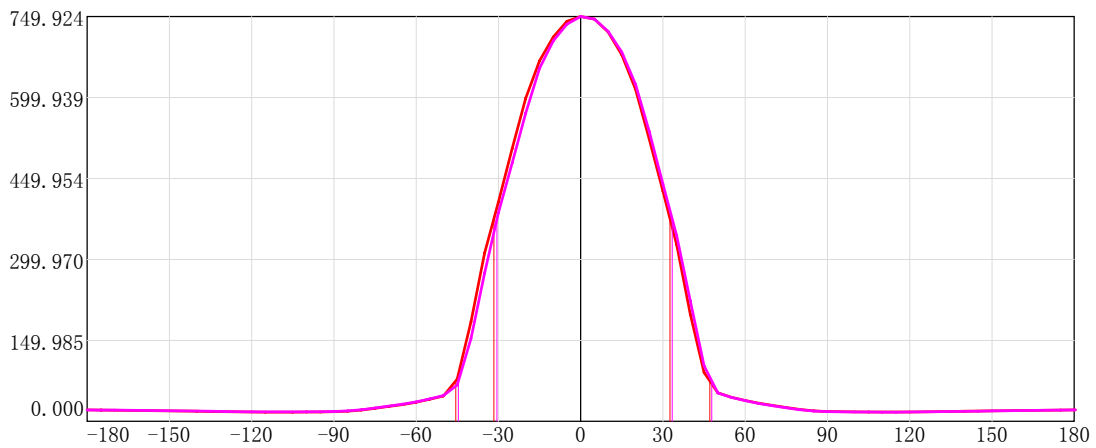
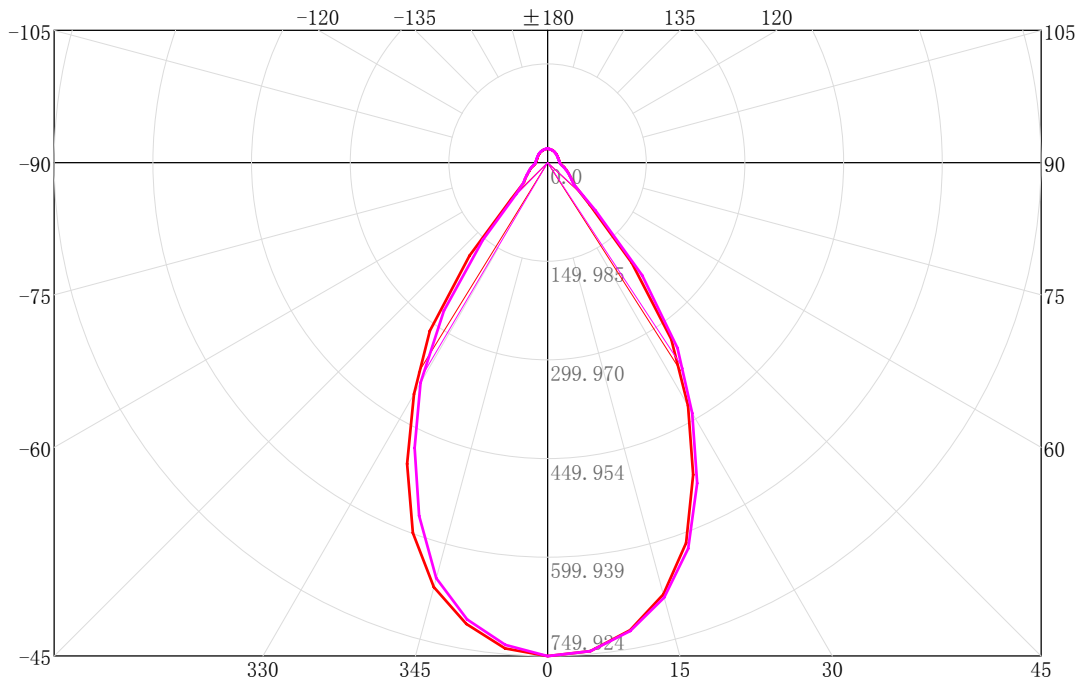
Lamp Speciality Parameter	Luminaire Speciality Parameter	
Rated Flux(lm): 880.000	Luminary Flux(lm): 995.116	Field Angle(10%Imax): 92.6(°)
Rated Power(W): 9W	Luminary Efficiency: 113.08%	Down Lumens&Percent: 880.167lm 88.45%
Rated Voltage(V): 36V 250mA	Luminary EER(lm/W): 33.917	Up Lumens&Percent: 114.949lm 11.55%
Tested Power(W): 29.340	Max. Candela(cd): 749.924	S/MH: C0_a180=0.948 C90_270=0.939
Lamps' Inside: 1	Max Cand@Ang. (°): C=0.0 γ=0.0	CIE Type: General Diffuse
Tested Electrics (V, A, pf): 220.2, 0.178, 0.744	Beam Angle (50%Imax): 64.3(°)	ErP φ use(90°): 739.320lm
Lamp Size (W*L*H): 0.000m*0.000m*0.000m	Left=-31.7°, Right=32.6°	IRF(%): 201.605



2D Plane Light Intensity Distribution Curve

Lum. Name: DC9W-3500K, Ra90, Reflector 60°	Lum. Catalog: 900LM	Test ID: 01
Lamp Name: CL2-9MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1202C4-35XH5M3	Test Machine:GON-2000	Test Date: 2017/06/13

C Plane Distribution Diagram



C Plane [50%MaxAng.] [10%MaxAng.]

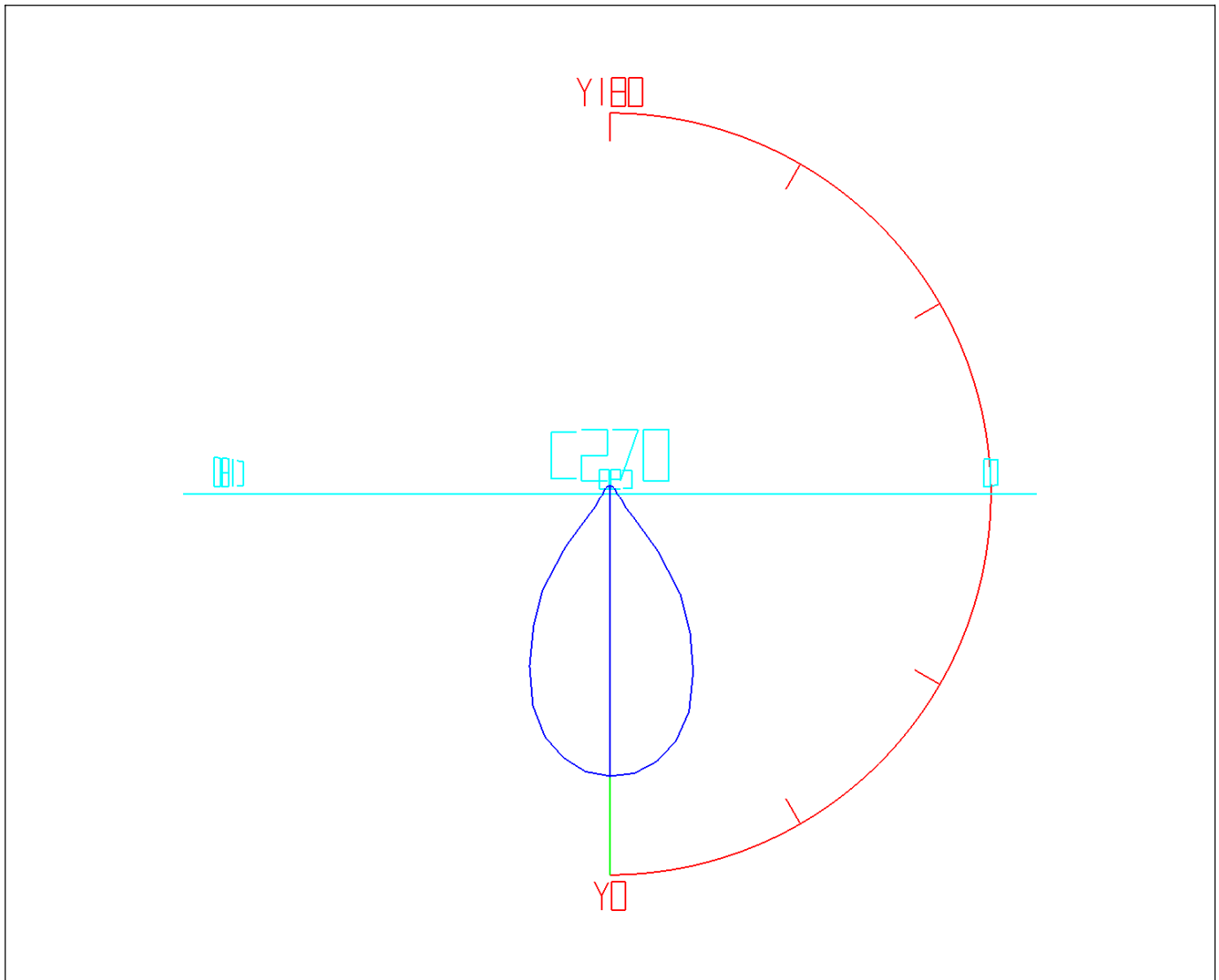
— C0.0_180.0 :	64.3	92.6
— C90.0_270.0 :	63.9	92.4

Unit:cd

3D Light Intensity Distribution Modal

Lum. Name: DC9W-3500K, Ra90, Reflector 60°	Lum. Catalog: 900LM	Test ID: 01
Lamp Name: CL2-9MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1202C4-35XH5M3	Test Machine:GON-2000	Test Date: 2017/06/13

3D Light Intensity Distribution Modal



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

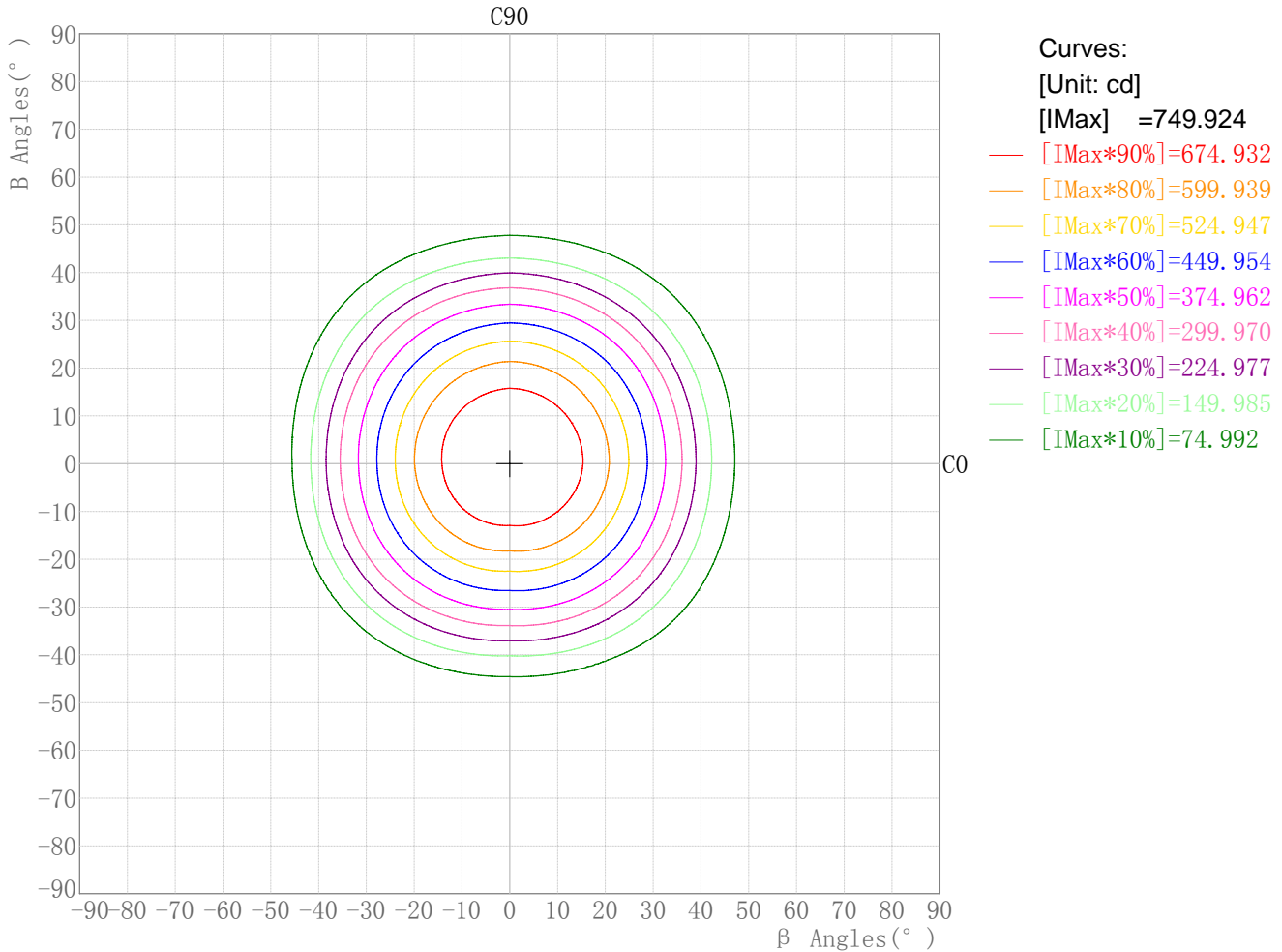
Zonal Flux Tabulation

Zone(γ)	Zone Flux (lm)	Sums Flux (lm)	Zone%Lamp	Sums%Lamp
0.0-5.0	17.83	17.83	2.03	2.03
5.0-10.0	52.12	69.96	5.92	7.95
10.0-15.0	82.25	152.21	9.35	17.30
15.0-20.0	104.96	257.17	11.93	29.22
20.0-25.0	116.77	373.94	13.27	42.49
25.0-30.0	117.15	491.09	13.31	55.81
30.0-35.0	107.35	598.44	12.20	68.00
35.0-40.0	84.14	682.59	9.56	77.57
40.0-45.0	50.91	733.50	5.79	83.35
45.0-50.0	27.33	760.82	3.11	86.46
50.0-55.0	20.28	781.11	2.31	88.76
55.0-60.0	18.58	799.69	2.11	90.87
60.0-65.0	16.99	816.68	1.93	92.80
65.0-70.0	15.52	832.20	1.76	94.57
70.0-75.0	14.06	846.26	1.60	96.17
75.0-80.0	12.48	858.73	1.42	97.58
80.0-85.0	11.13	869.86	1.26	98.85
85.0-90.0	10.30	880.17	1.17	100.02
90.0-95.0	9.91	890.08	1.13	101.15
95.0-100.0	9.66	899.74	1.10	102.24
100.0-105.0	9.38	909.12	1.07	103.31
105.0-110.0	9.11	918.23	1.03	104.34
110.0-115.0	8.83	927.05	1.00	105.35
115.0-120.0	8.52	935.58	0.97	106.32
120.0-125.0	8.19	943.76	0.93	107.25
125.0-130.0	7.82	951.59	0.89	108.13
130.0-135.0	7.42	959.00	0.84	108.98
135.0-140.0	6.94	965.94	0.79	109.77
140.0-145.0	6.37	972.31	0.72	110.49
145.0-150.0	5.73	978.05	0.65	111.14
150.0-155.0	5.01	983.06	0.57	111.71
155.0-160.0	4.22	987.28	0.48	112.19
160.0-165.0	3.37	990.65	0.38	112.57
165.0-170.0	2.46	993.11	0.28	112.85
170.0-175.0	1.50	994.61	0.17	113.02
175.0-180.0	0.51	995.12	0.06	113.08

Rectangle ISO Lighting Intensity Diagram

Lum. Name: DC9W-3500K, Ra90, Reflector 60°	Lum. Catalog: 900LM	Test ID:
Lamp Name: CL2-9MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1202C4-35XH5M3	Test Machine:GON-2000	Test Date: 2017/06/13

ISO Lighting Intensity Curve

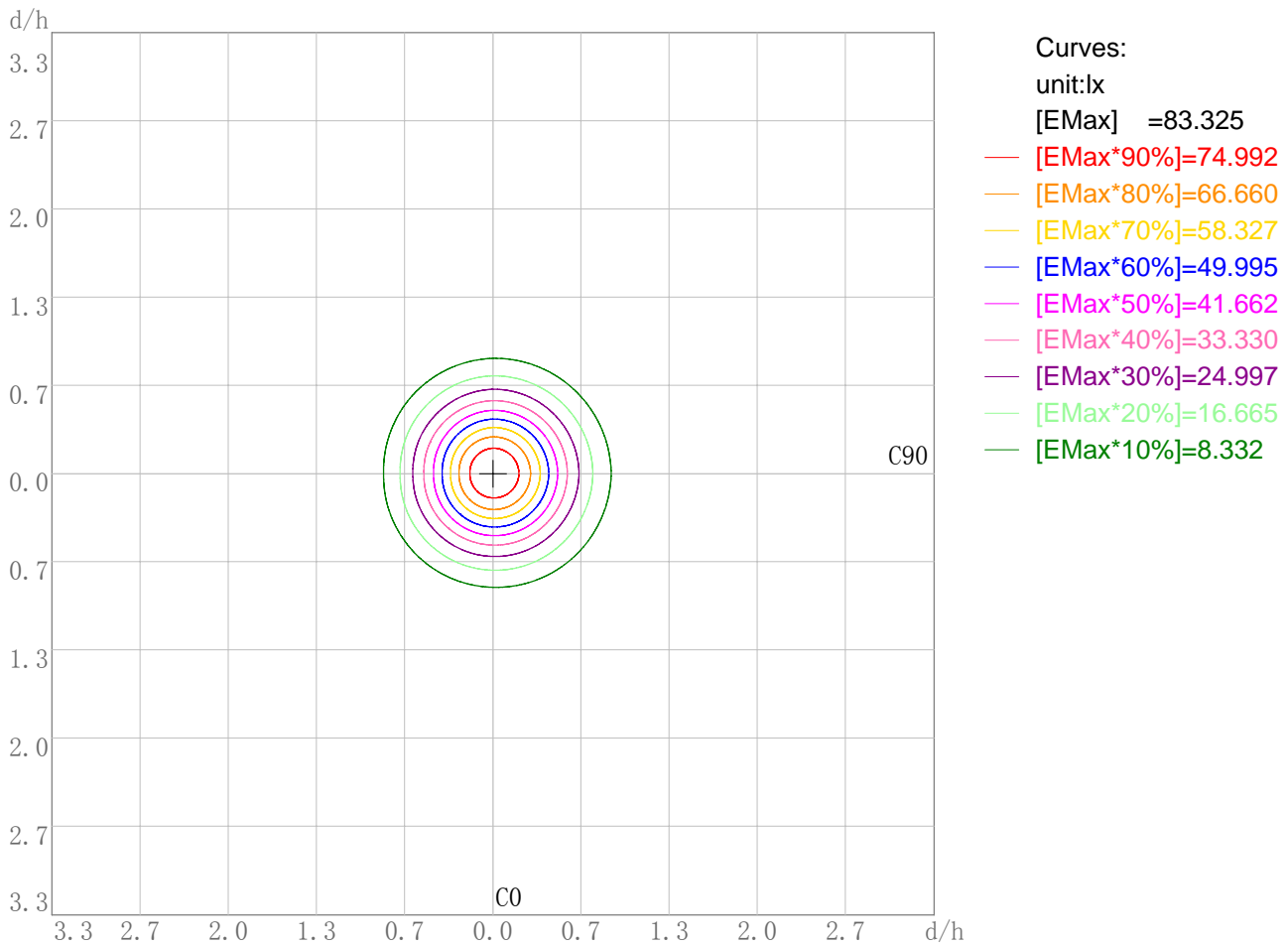


Maximum Light Intensity(cd): 749.92
 Maximum Cand.@Angle: H=0.0°,V=0.0°

Plane ISO-Illuminance Diagram

Lum. Name: DC9W-3500K, Ra90, Reflector 60°	Lum. Catalog: 900LM	Test ID:
Lamp Name: CL2-9MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1202C4-35XH5M3	Test Machine:GON-2000	Test Date: 2017/06/13

Plane ISO-Illuminance Curve

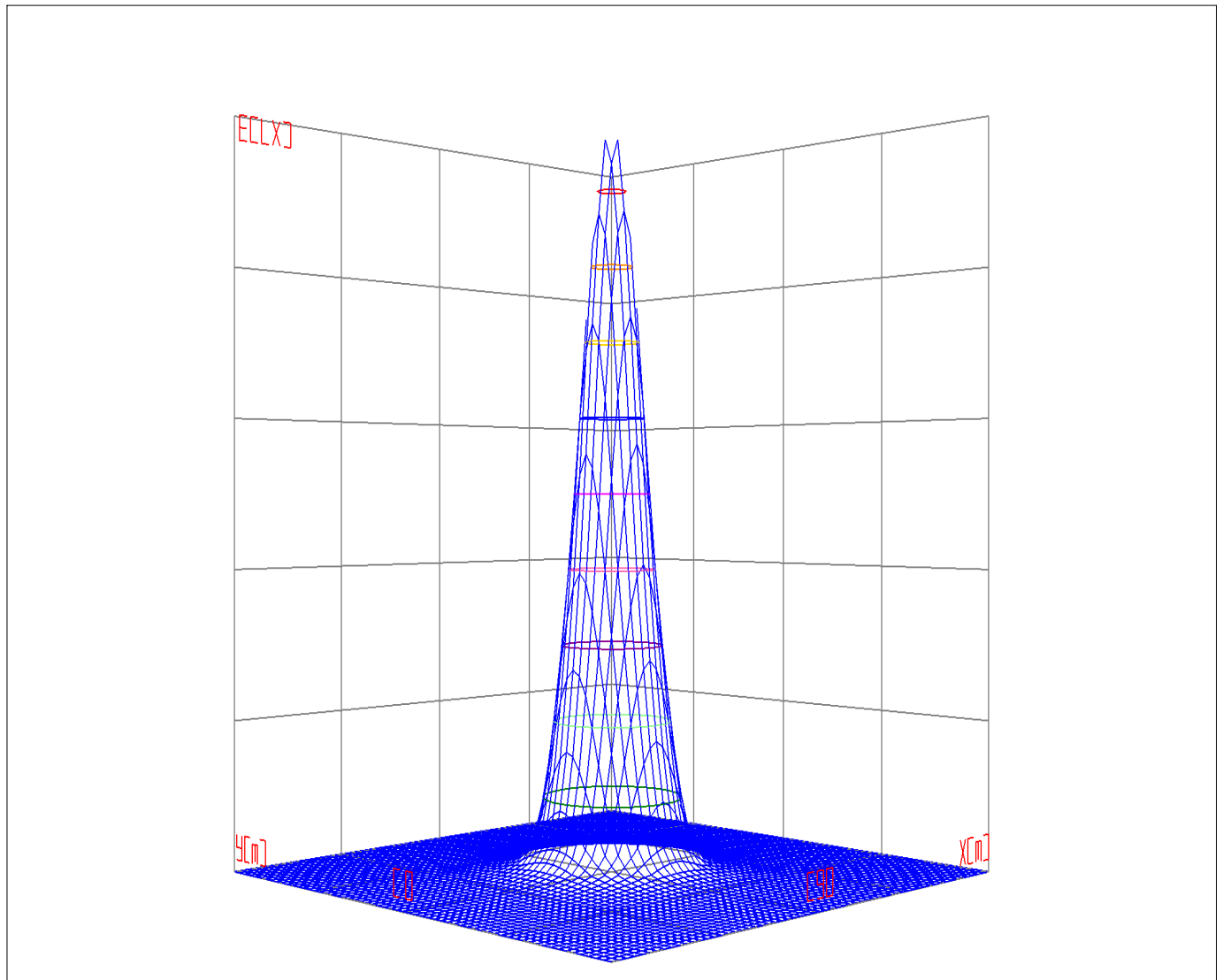


Working Plane Luminaire Mounting Height(m): 3.00
 Working Plane Maximum Illuminance(lx): 83.32
 Working Plane Maximum Illuminance Position(d/h):H0.0 V0.0

3D Plane ISO Illuminance Diagram

Lum. Name: DC9W-3500K, Ra90, Reflector 60°	Lum. Catalog: 900LM	Test ID:
Lamp Name: CL2-9MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1202C4-35XH5M3	Test Machine:GON-2000	Test Date: 2017/06/13

3D Plane Illuminance Modal

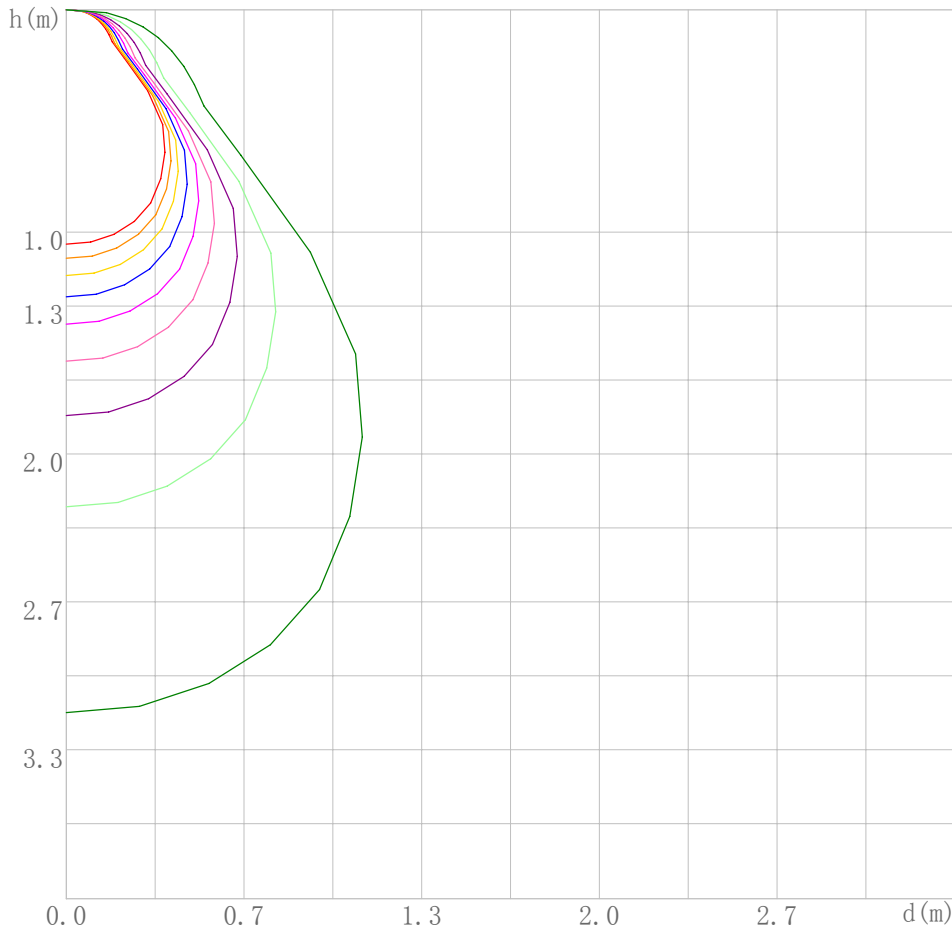


Curves: 3D Model — 90% — 80% — 70% — 60% — 50% — 40% — 30% — 20% — 10% —
 View Angles(deg): 0 Height(m): 3.0 Distance(m): 10.0

Space ISO Illuminance Diagram

Lum. Name: DC9W-3500K, Ra90, Reflector 60°	Lum. Catalog: 900LM	Test ID:
Lamp Name: CL2-9MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1202C4-35XH5M3	Test Machine:GON-2000	Test Date: 2017/06/13

Space ISO Illuminance Curve



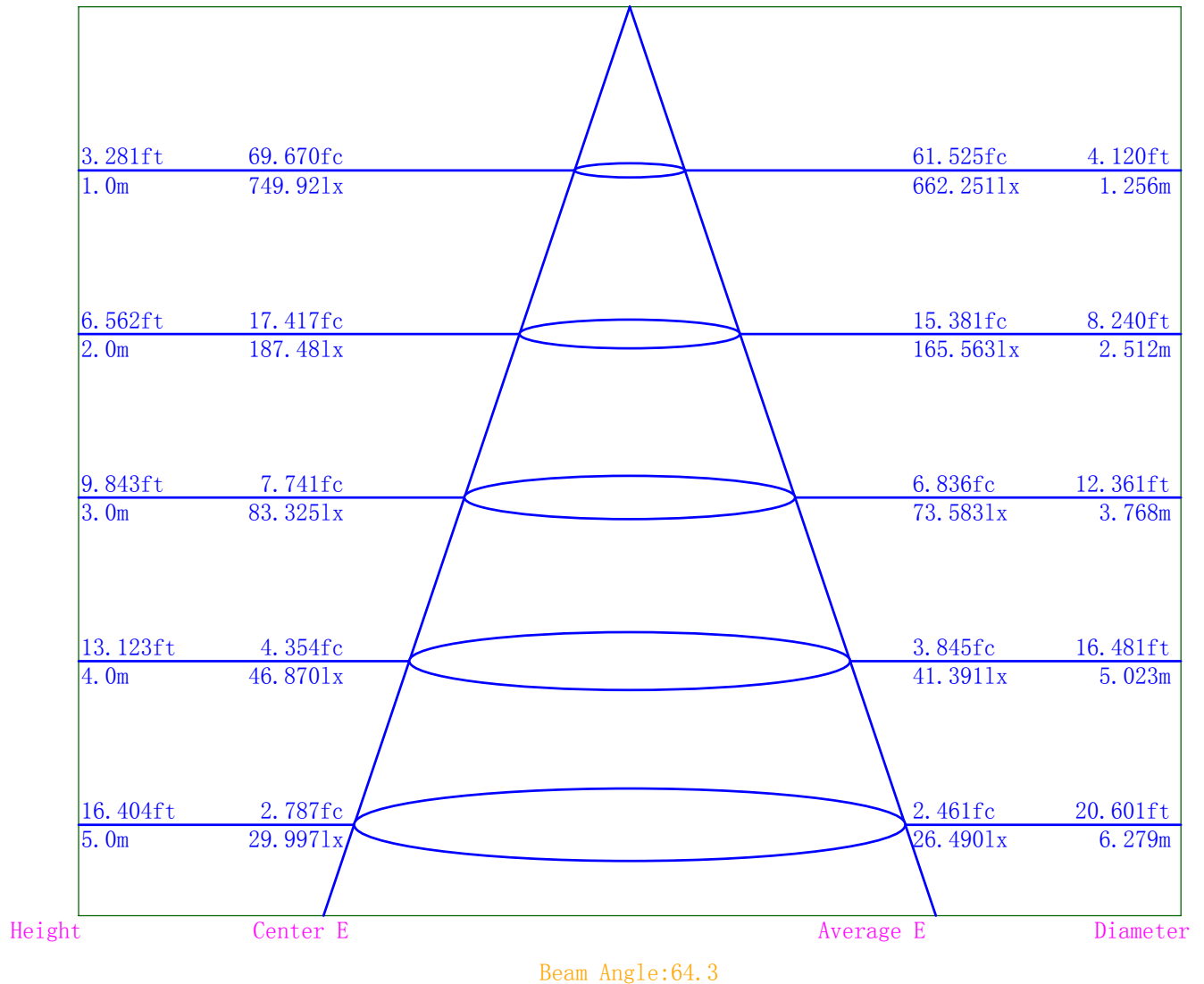
- Curves:
 [Unit: lx]
 [EMax] =749.924
- [EMax*90%]=674.932
 - [EMax*80%]=599.939
 - [EMax*70%]=524.947
 - [EMax*60%]=449.954
 - [EMax*50%]=374.962
 - [EMax*40%]=299.970
 - [EMax*30%]=224.977
 - [EMax*20%]=149.985
 - [EMax*10%]=74.992

Space Plane Maximum Illuminance and @Angle:749.92lx,0.0deg
 Plane Maximum Lighting Intensity and @Angle:749.924cd,0deg

Illuminance-Distance Diagram

Lum. Name: DC9W-3500K, Ra90, Reflector 60°	Lum. Catalog: 900LM	Test ID:
Lamp Name: CL2-9MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1202C4-35XH5M3	Test Machine:GON-2000	Test Date: 2017/06/13

Illuminance-Distance Curve



Indoor Luminance Limiting Curves

Lum. Name: DC9W-3500K, Ra90, Reflector 60°	Lum. Catalog: 900LM	Test ID:
Lamp Name: CL2-9MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1202C4-35XH5M3	Test Machine:GON-2000	Test Date: 2017/06/13

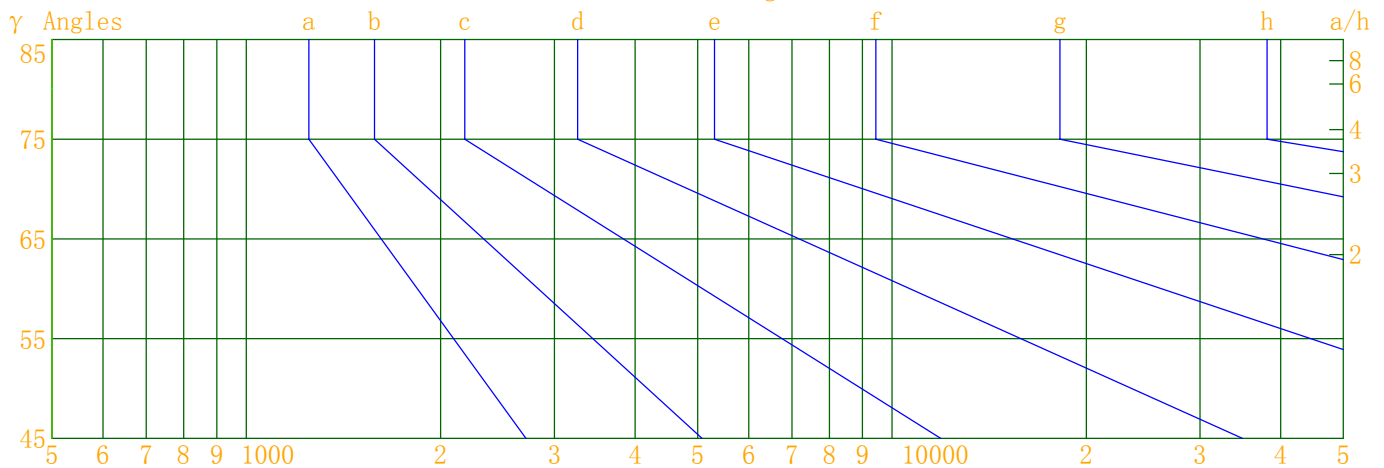
Glare Grade Table

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

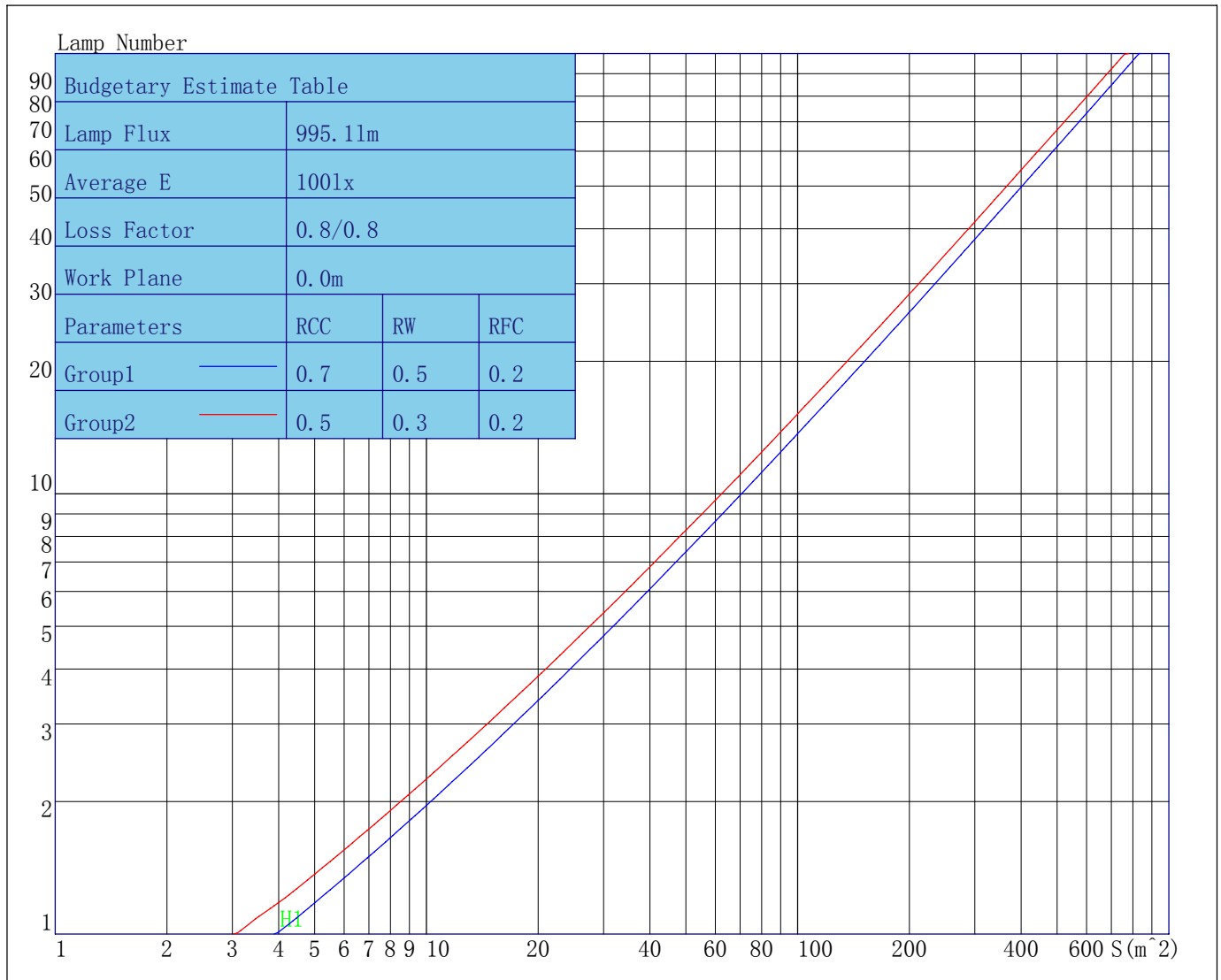
Luminance Limiting Curve



Luminous Size: Length(m)=0.000 Width(m)=0.000 Height(m)=0.000 Area(m²)=0.000000
 Luminous Type: Without Luminous Side
 Luminous Curves: C0-C180 Color: — C90-C270 Color: —

Indoor Budgetary Estimate Table

Lum. Name: DC9W-3500K, Ra90, Reflector 60°	Lum. Catalog: 900LM	Test ID:
Lamp Name: CL2-9MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1202C4-35XH5M3	Test Machine:GON-2000	Test Date: 2017/06/13



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: DC9W-3500K, Ra90, Reflector 60°	Lum. Catalog: 900LM	Test ID:
Lamp Name: CL2-9MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1202C4-35XH5M3	Test Machine:GON-2000	Test Date: 2017/06/13

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	0
RCR	Coefficient of Utilization (%)																	
0	132	132	132	132	127	127	127	127	118	118	118	111	111	111	103	103	103	100
1	123	118	114	111	118	115	111	108	107	105	102	101	99	97	95	93	92	89
2	115	107	101	96	111	104	99	94	98	94	90	93	89	86	88	85	83	80
3	107	98	91	85	104	95	89	84	90	85	81	86	81	78	82	78	75	72
4	100	90	82	76	97	88	81	75	83	78	73	80	75	71	76	72	68	66
5	94	83	75	69	91	81	74	68	77	71	66	74	69	65	71	66	63	61
6	89	77	69	63	86	75	68	62	72	66	61	69	64	59	66	62	58	56
7	84	71	63	58	81	70	62	57	67	61	56	65	59	55	62	57	54	52
8	79	66	59	53	77	65	58	53	63	56	52	61	55	51	58	54	50	48
9	75	62	55	49	73	61	54	49	59	53	48	57	51	47	55	50	46	45
10	71	58	51	46	69	57	50	46	55	49	45	54	48	44	52	47	43	42

Unified Glare Rating Table

Lum. Name: DC9W-3500K, Ra90, Reflector 60°	Lum. Catalog: 900LM	Test ID:
Lamp Name: CL2-9MR	Lamp Catalog: lamps and lanterns	Test Lab:
LED Chip: Citizen CLU028-1202C4-35XH5M3	Test Machine:GON-2000	Test Date: 2017/06/13

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	-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	-1.9	-0.8	-0.2	-2.4	-1.4	-1.9	-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	-0.5	-2.6	-1.7	-2.0	-1.1	-0.5
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	-2.9	-2.0	-2.2	-1.4	-0.7	-2.9	-2.0	-2.2	-1.4	-0.7
Y=6H	-3.0	-2.2	-2.3	-1.6	-0.9	-3.0	-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	-1.1	-3.1	-2.4	-2.4	-1.8	-1.1
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	-1.1	-3.1	-2.4	-2.4	-1.8	-1.1
Y=6H	-3.2	-2.6	-2.5	-2.0	-1.2	-3.2	-2.6	-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				

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	749.92	749.92	749.92	749.92
γ 5.0	745.32	745.21	741.00	735.66
γ 10.0	721.53	722.68	711.89	704.93
γ 15.0	679.14	684.26	667.94	653.80
γ 20.0	615.14	624.22	598.82	571.14
γ 25.0	523.34	537.48	505.11	478.32
γ 30.0	426.63	439.49	406.08	386.28
γ 35.0	327.19	343.74	311.97	274.67
γ 40.0	198.54	223.24	184.56	153.42
γ 45.0	90.81	103.12	78.43	67.68
γ 50.0	52.93	52.71	47.19	48.12
γ 55.0	44.89	44.35	41.14	41.85
γ 60.0	38.84	38.60	35.71	36.13
γ 65.0	33.70	33.32	31.25	31.97
γ 70.0	29.56	28.97	27.94	28.51
γ 75.0	25.73	25.05	24.43	24.92
γ 80.0	22.09	21.61	21.11	21.60
γ 85.0	19.70	19.28	18.95	19.50
γ 90.0	18.46	18.14	18.00	18.48
γ 95.0	18.03	17.85	17.61	18.20
γ 100.0	17.76	17.56	17.36	17.82
γ 105.0	17.49	17.35	17.23	17.70
γ 110.0	17.44	17.29	17.21	17.67
γ 115.0	17.47	17.30	17.31	17.76
γ 120.0	17.54	17.46	17.52	17.89
γ 125.0	17.75	17.64	17.75	18.11
γ 130.0	18.09	17.98	18.10	18.49
γ 135.0	18.42	18.35	18.50	18.90
γ 140.0	18.87	18.69	18.89	19.20
γ 145.0	19.18	19.09	19.31	19.59
γ 150.0	19.57	19.52	19.63	19.87
γ 155.0	19.91	19.80	19.93	20.19
γ 160.0	20.19	20.18	20.25	20.55
γ 165.0	20.54	20.44	20.56	20.75
γ 170.0	20.86	20.78	20.85	21.03
γ 175.0	21.12	21.08	21.05	21.19
γ 180.0	21.25	21.25	21.25	21.25
