

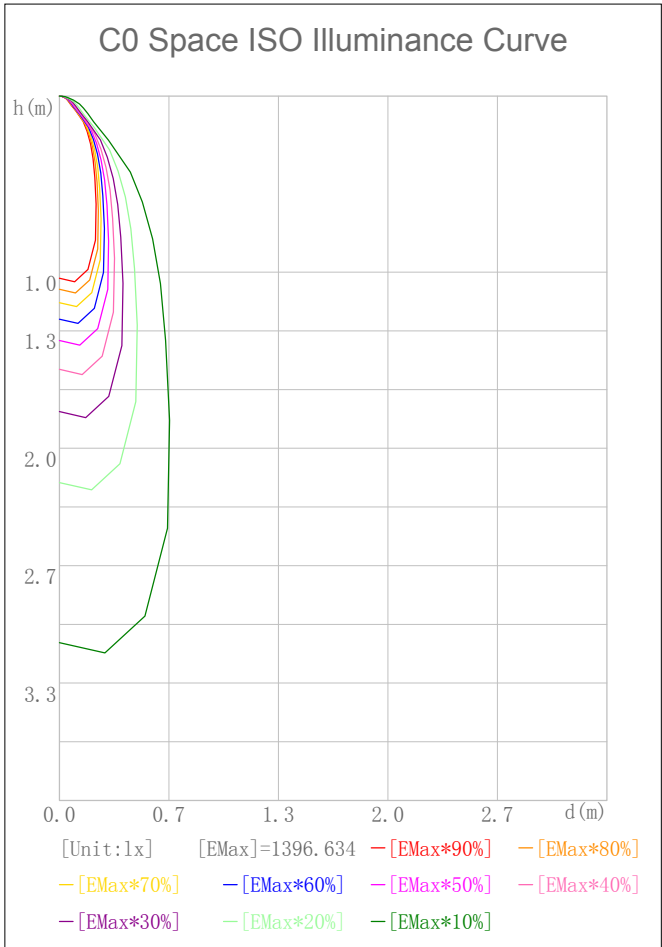
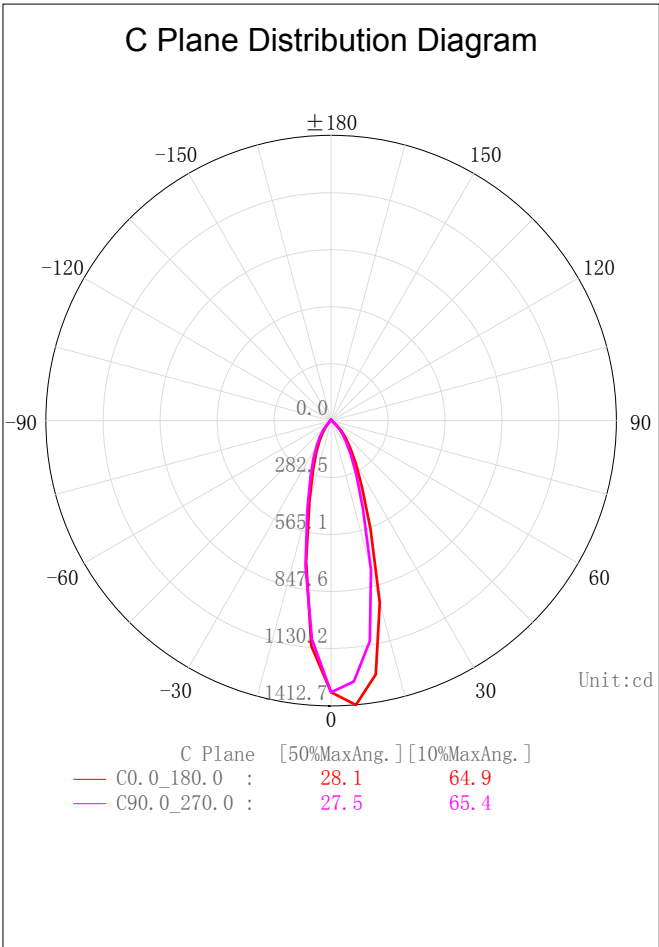
Indoor Luminaire Photometric Data

Description Information

Luminary Name:TR09-09-DW-04 1800-3000K RA90 24D		Lum. Catalog:	Test ID: 01
Lamp Name:		Lamp Catalog: LED	Test Date: 2022/08/29
Manufacture: Shenzhen Norming Lighting		Shld. Ang(°):	Test Machine:GON-2000
Test Lab: Quality Department		Frequency (Hz):	Lamp CCT(K): Ra:
Lum. Size (W*L*H):0.038m*0.038m*0.000m		Lum. Area (m2):0.001	Lum. W(kg): 0.000
Test System: C, γ	Test Step: C=90.0 γ=5.0	Temp. (°C): 25	Humidity(%): 50.0

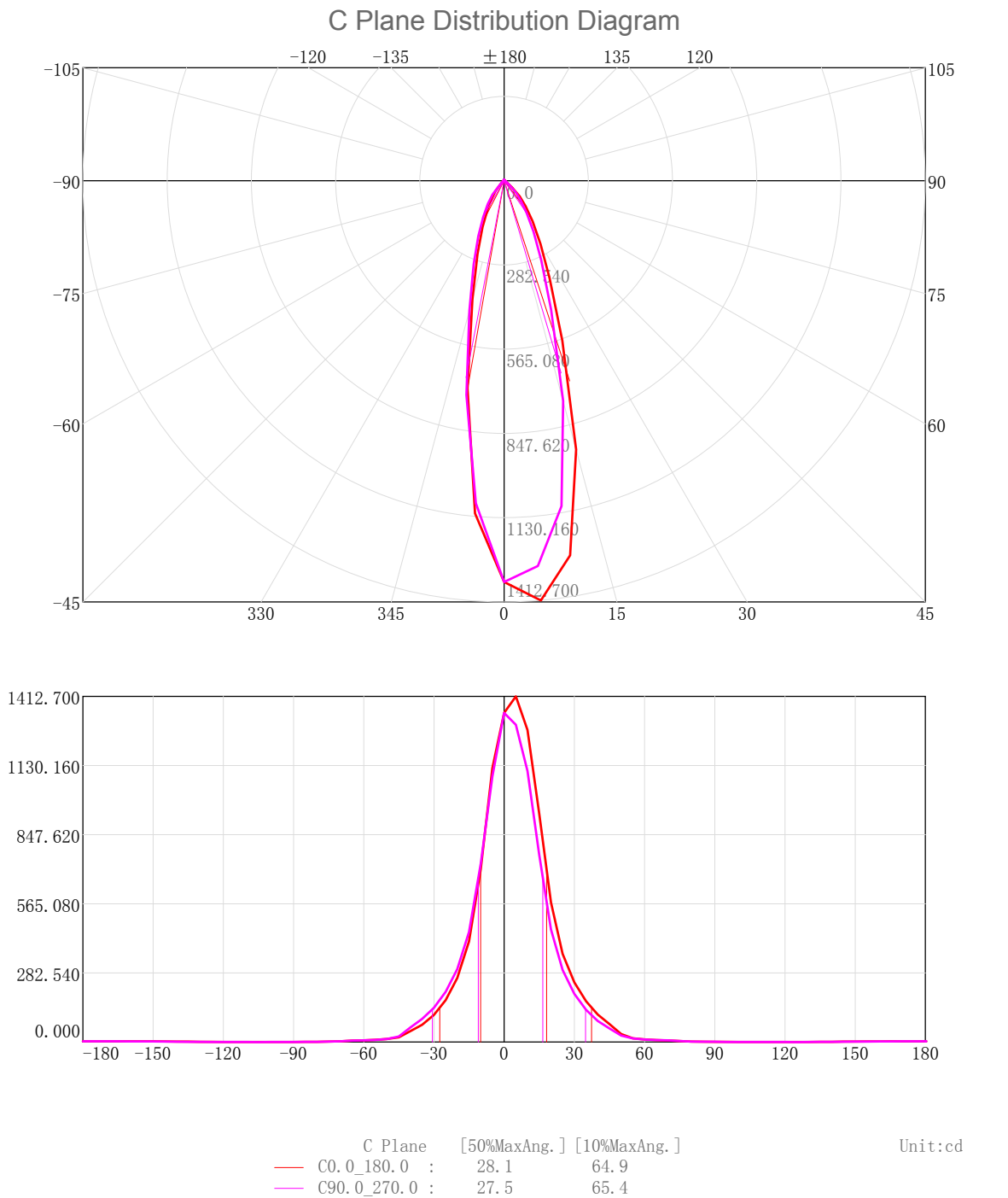
Character Parameter

Lamp Speciality Parameter		Luminaire Speciality Parameter	
Rated Flux(lm): 553.750	Luminary Flux(lm): 553.746	Field Angle(10%Imax): 64.9(°)	
Rated Power(W):	Luminary Efficiency: 100.00%	Down Lumens&Percent: 546.707lm 98.73%	
Rated Voltage(V):	Luminary EER(lm/W): 66.878	Up Lumens&Percent: 7.039lm 1.27%	
Tested Power(W): 8.280	Max. Candela(cd): 1412.700	S/MH: C0_a180=0.489 C90_270=0.457	
Lamps' Inside: 1	Max Cand@Ang. (°): C=0.0 γ=5.0	CIE Type: Semi-Direct	
Tested Electrics (V, A, pf):239.9, 0.038, 0.892	Beam Angle(50%Imax): 28.1(°)	ErP ϕ use(90°): 495.785lm	
Lamp Size (W*L*H):0.038m*0.038m*0.000m	Left=-10.0°, Right=18.1°	IRF(%): 476.913	



2D Plane Light Intensity Distribution Curve

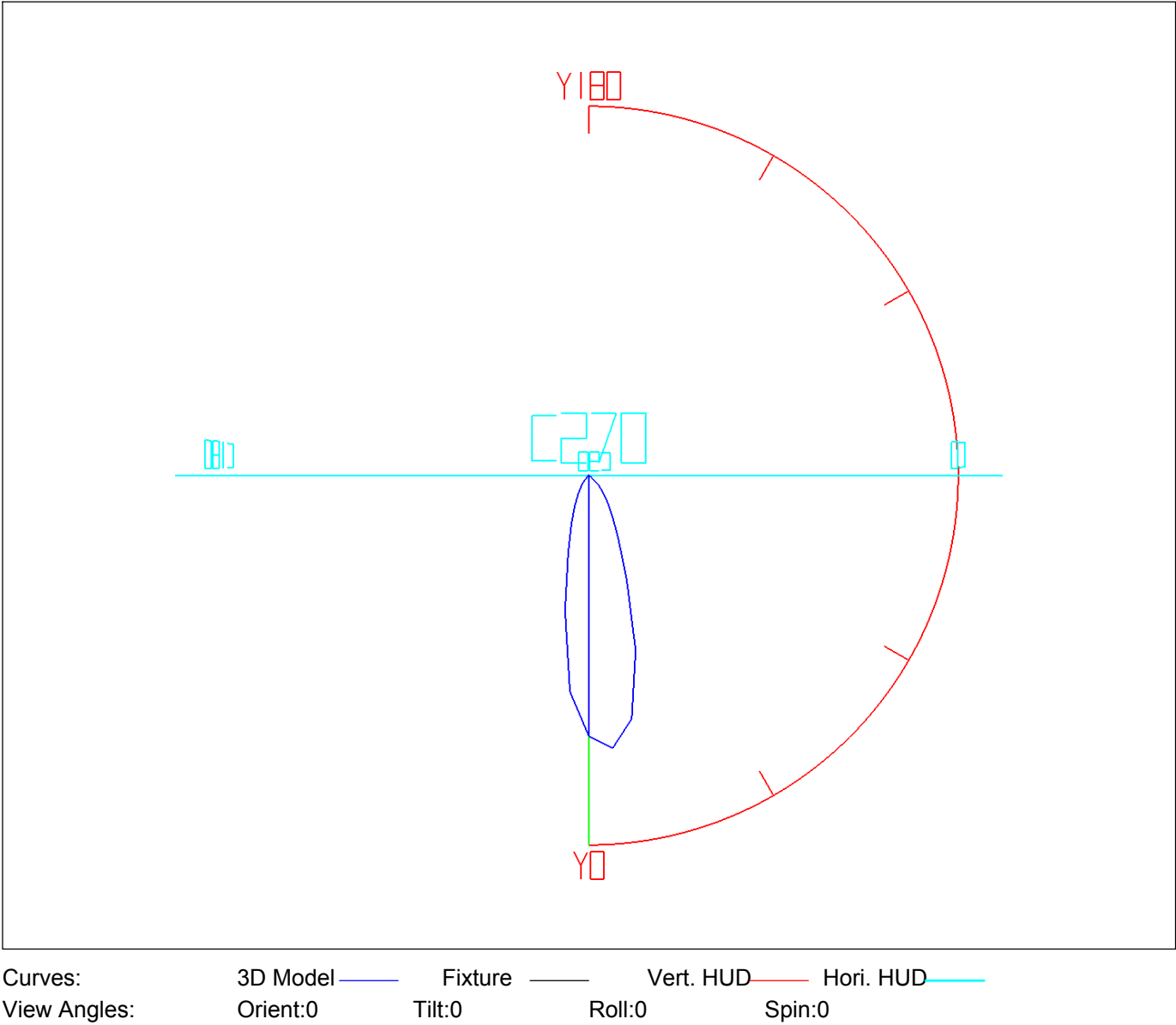
Lum. Name: TR09-09-DW-04 1800-3000K RA90 24D	Lum. Catalog:	Test ID: 01
Lamp Name:	Lamp Catalog: LED	Test Lab: Quality Department
Manufacture: Shenzhen Norming Lighting	Test Machine:GON-2000	Test Date: 2022/08/29



3D Light Intensity Distribution Modal

Lum. Name: TR09-09-DW-04 1800-3000K RA90 24D	Lum. Catelog:	Test ID: 01
Lamp Name:	Lamp Catelog: LED	Test Lab: Quality Department
Manufacture: Shenzhen Norming Lighting	Test Machine:GON-2000	Test Date: 2022/08/29

3D Light Intensity Distribution Modal

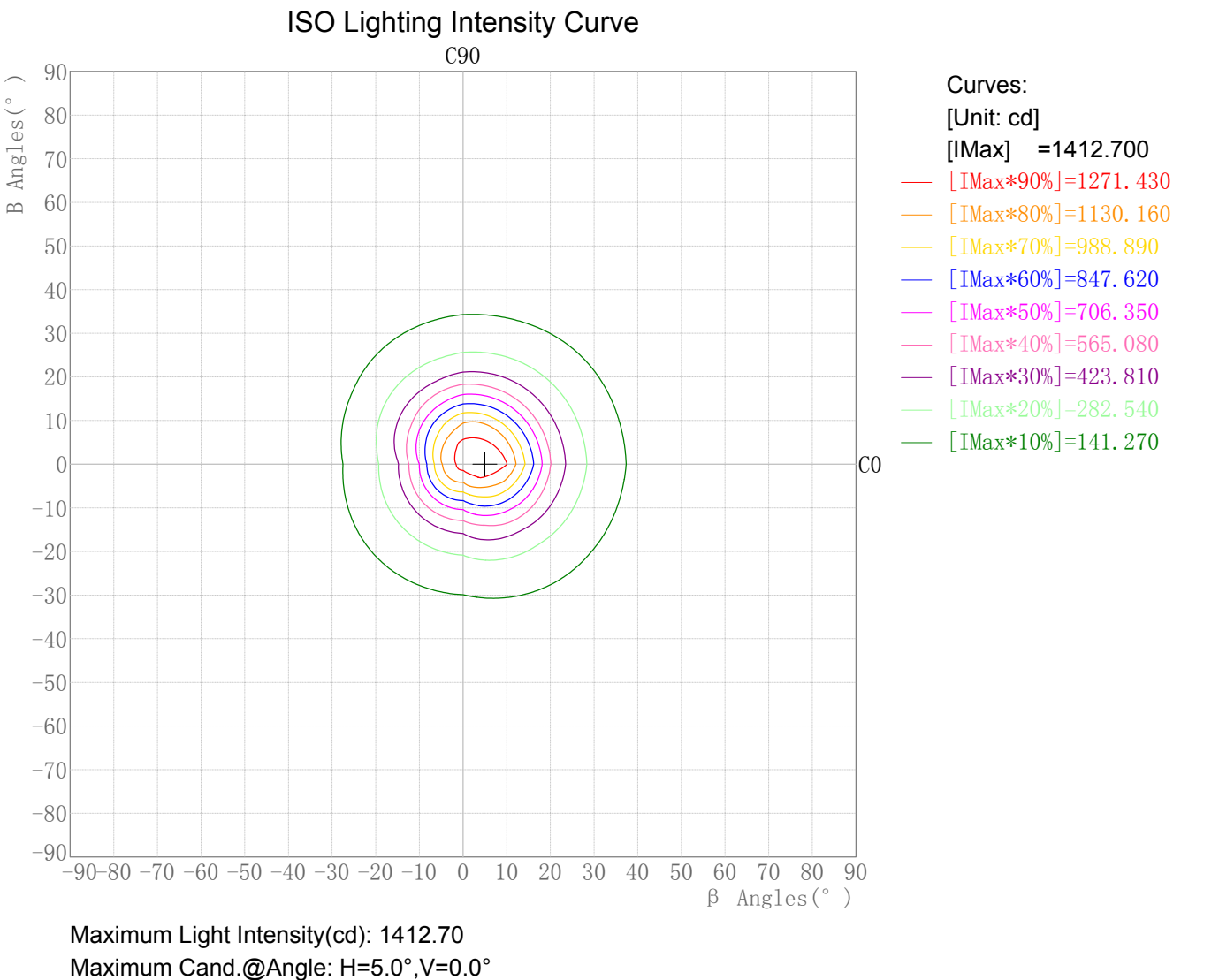


Zonal Flux Tabulation

Zone(γ)	Zone Flux (lm)	Sums Flux (lm)	Zone%Lamp	Sums%Lamp
0.0-5.0	30.77	30.77	5.56	5.56
5.0-10.0	78.11	108.88	14.11	19.66
10.0-15.0	94.61	203.49	17.09	36.75
15.0-20.0	85.52	289.01	15.44	52.19
20.0-25.0	68.78	357.79	12.42	64.61
25.0-30.0	54.56	412.35	9.85	74.47
30.0-35.0	42.59	454.95	7.69	82.16
35.0-40.0	32.08	487.03	5.79	87.95
40.0-45.0	22.07	509.10	3.99	91.94
45.0-50.0	13.01	522.11	2.35	94.29
50.0-55.0	7.34	529.45	1.33	95.61
55.0-60.0	5.00	534.45	0.90	96.52
60.0-65.0	4.03	538.48	0.73	97.24
65.0-70.0	3.18	541.66	0.57	97.82
70.0-75.0	2.19	543.85	0.40	98.21
75.0-80.0	1.33	545.18	0.24	98.45
80.0-85.0	0.87	546.06	0.16	98.61
85.0-90.0	0.65	546.71	0.12	98.73
90.0-95.0	0.43	547.14	0.08	98.81
95.0-100.0	0.30	547.44	0.05	98.86
100.0-105.0	0.26	547.70	0.05	98.91
105.0-110.0	0.23	547.93	0.04	98.95
110.0-115.0	0.22	548.16	0.04	98.99
115.0-120.0	0.25	548.41	0.05	99.04
120.0-125.0	0.26	548.67	0.05	99.08
125.0-130.0	0.30	548.96	0.05	99.14
130.0-135.0	0.44	549.40	0.08	99.21
135.0-140.0	0.54	549.94	0.10	99.31
140.0-145.0	0.61	550.55	0.11	99.42
145.0-150.0	0.69	551.23	0.12	99.55
150.0-155.0	0.68	551.91	0.12	99.67
155.0-160.0	0.61	552.52	0.11	99.78
160.0-165.0	0.52	553.04	0.09	99.87
165.0-170.0	0.39	553.42	0.07	99.94
170.0-175.0	0.24	553.66	0.04	99.98
175.0-180.0	0.08	553.75	0.01	100.00

Rectangle ISO Lighting Intensity Diagram

Lum. Name: TR09-09-DW-04 1800-3000K RA90 24D	Lum. Catalog:	Test ID: 01
Lamp Name:	Lamp Catalog: LED	Test Lab: Quality Department
Manufacture: Shenzhen Norming Lighting	Test Machine:GON-2000	Test Date: 2022/08/29

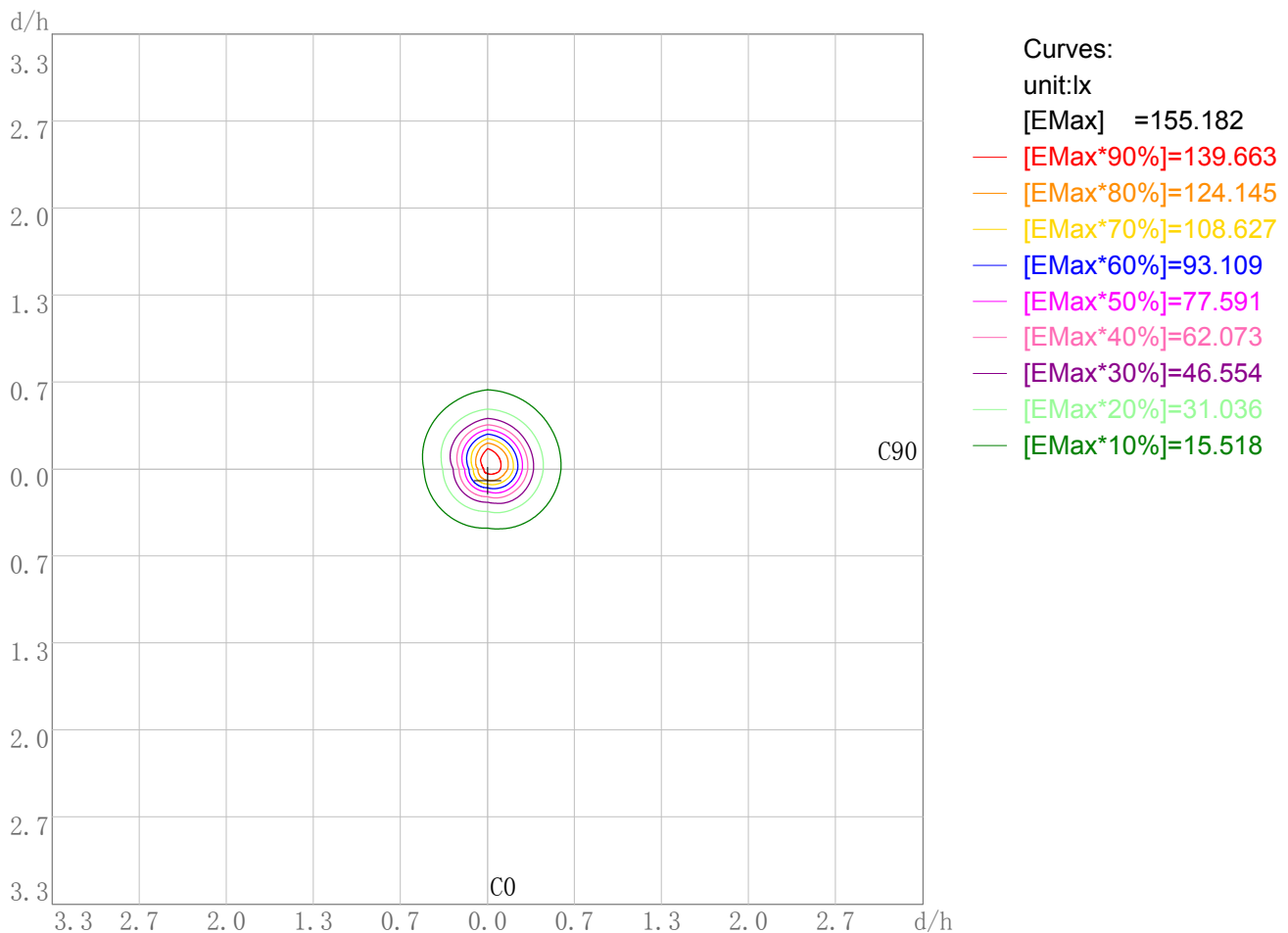


Photometric Filename:TR09-09-DW-04 1800-3000K RA90 24D.IES

Plane ISO-Illuminance Diagram

Lum. Name: TR09-09-DW-04 1800-3000K RA90 24D	Lum. Catalog:	Test ID: 01
Lamp Name:	Lamp Catalog: LED	Test Lab: Quality Department
Manufacture: Shenzhen Norming Lighting	Test Machine: GON-2000	Test Date: 2022/08/29

Plane ISO-Illuminance Curve

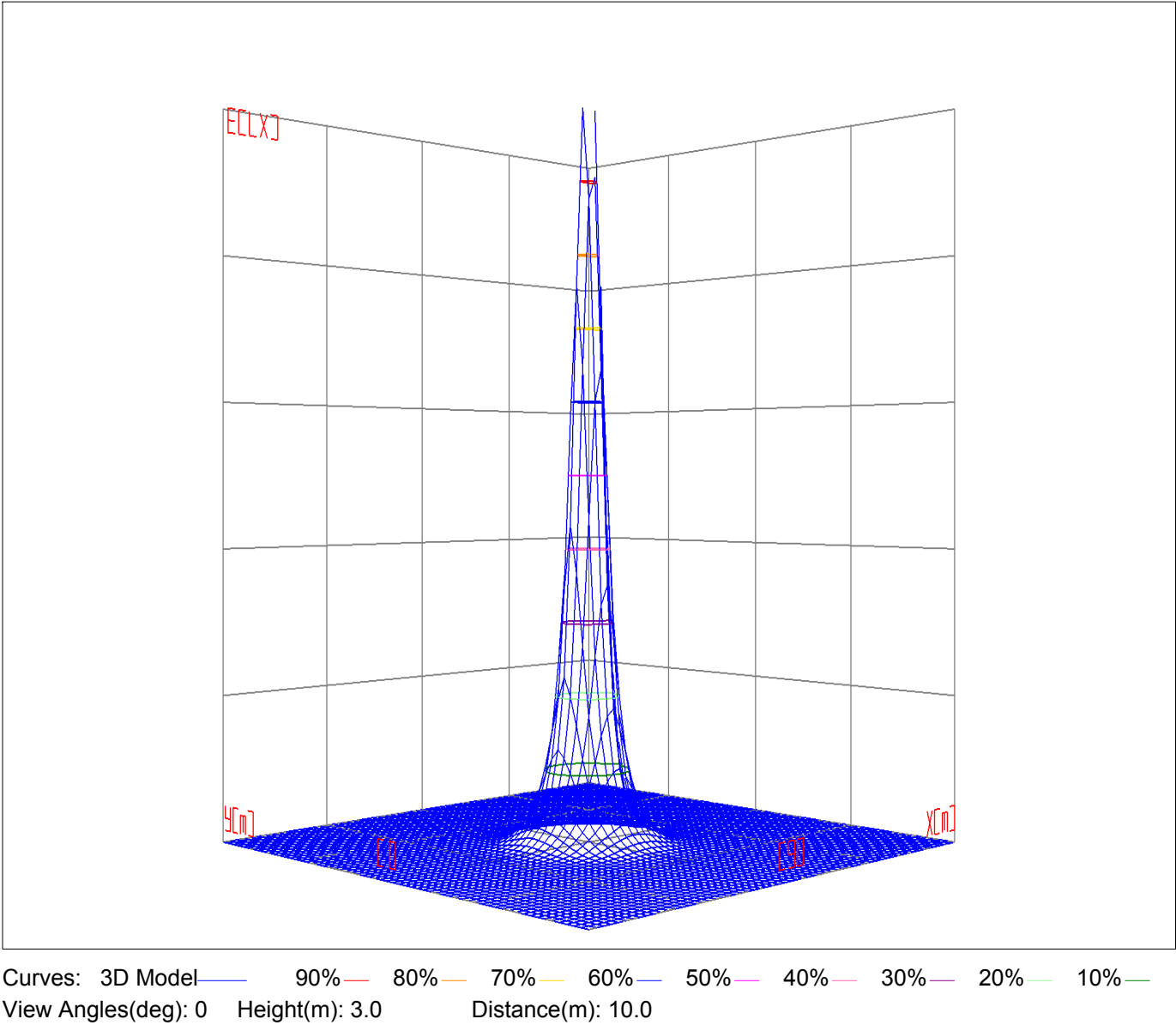


Working Plane Luminaire Mounting Height(m): 3.00
Working Plane Maximum Illuminance(lx): 155.18
Working Plane Maximum Illuminance Position(d/h):H0.0 V0.1

3D Plane ISO Illuminance Diagram

Lum. Name: TR09-09-DW-04 1800-3000K RA90 24D	Lum. Catelog:	Test ID: 01
Lamp Name:	Lamp Catelog: LED	Test Lab: Quality Department
Manufacture: Shenzhen Norming Lighting	Test Machine:GON-2000	Test Date: 2022/08/29

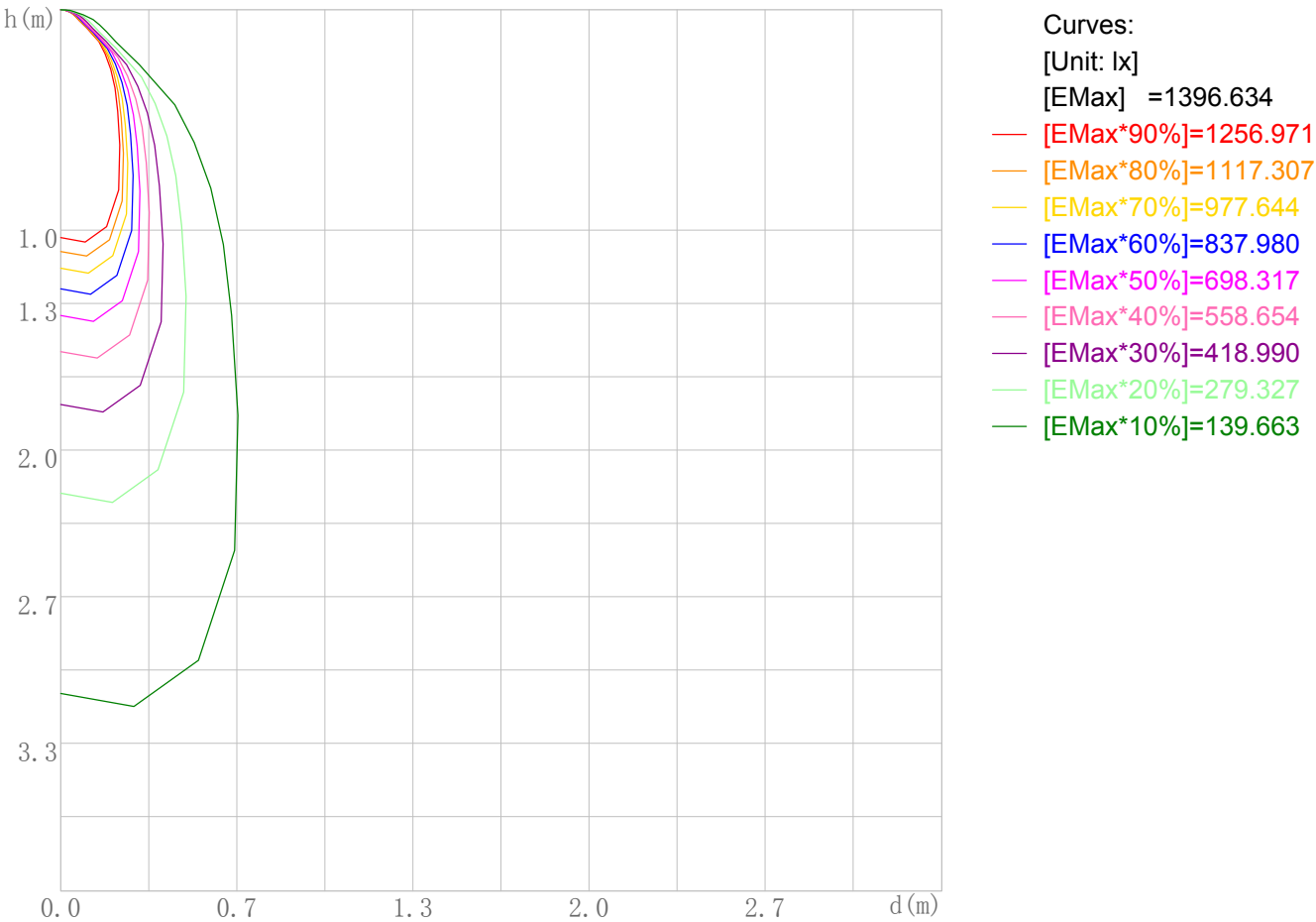
3D Plane Illuminance Modal



Space ISO Illuminance Diagram

Lum. Name: TR09-09-DW-04 1800-3000K RA90 24D	Lum. Catelog:	Test ID: 01
Lamp Name:	Lamp Catelog: LED	Test Lab: Quality Department
Manufacture: Shenzhen Norming Lighting	Test Machine:GON-2000	Test Date: 2022/08/29

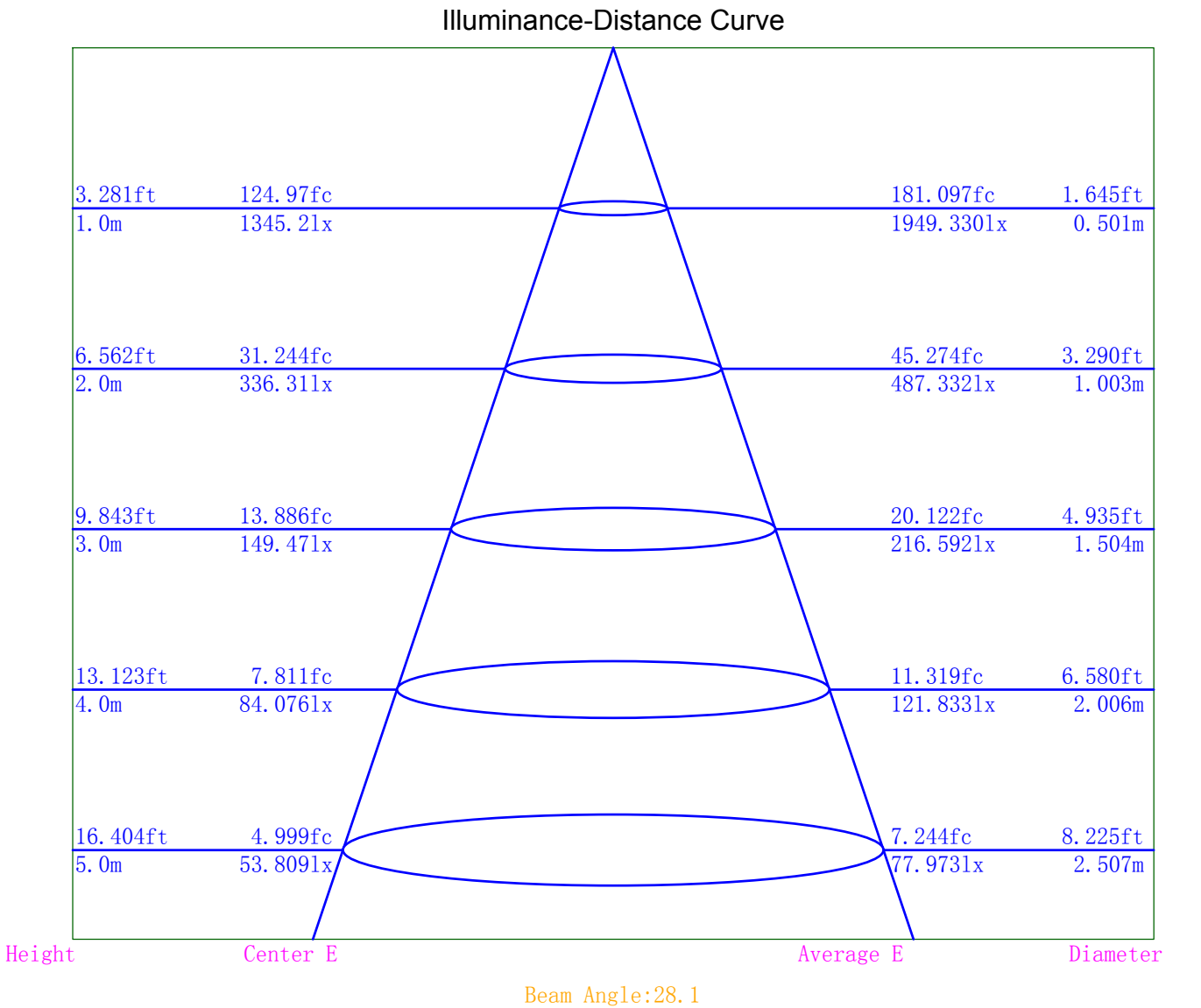
Space ISO Illuminance Curve



Space Plane Maximum Illuminance and @Angle:1396.63lx,5.0deg
Plane Maximum Lighting Intensity and @Angle:1412.700cd,0deg

Illuminance-Distance Diagram

Lum. Name:TR09-09-DW-04 1800-3000K RA90 24D	Lum. Catalog:	Test ID:01
Lamp Name:	Lamp Catalog: LED	Test Lab: Quality Department
Manufacture: Shenzhen Norming Lighting	Test Machine:GON-2000	Test Date: 2022/08/29



Indoor Luminance Limiting Curves

Lum. Name: TR09-09-DW-04 1800-3000K RA90 24D	Lum. Catalog:	Test ID: 01
Lamp Name:	Lamp Catalog: LED	Test Lab: Quality Department
Manufacture: Shenzhen Norming Lighting	Test Machine:GON-2000	Test Date: 2022/08/29

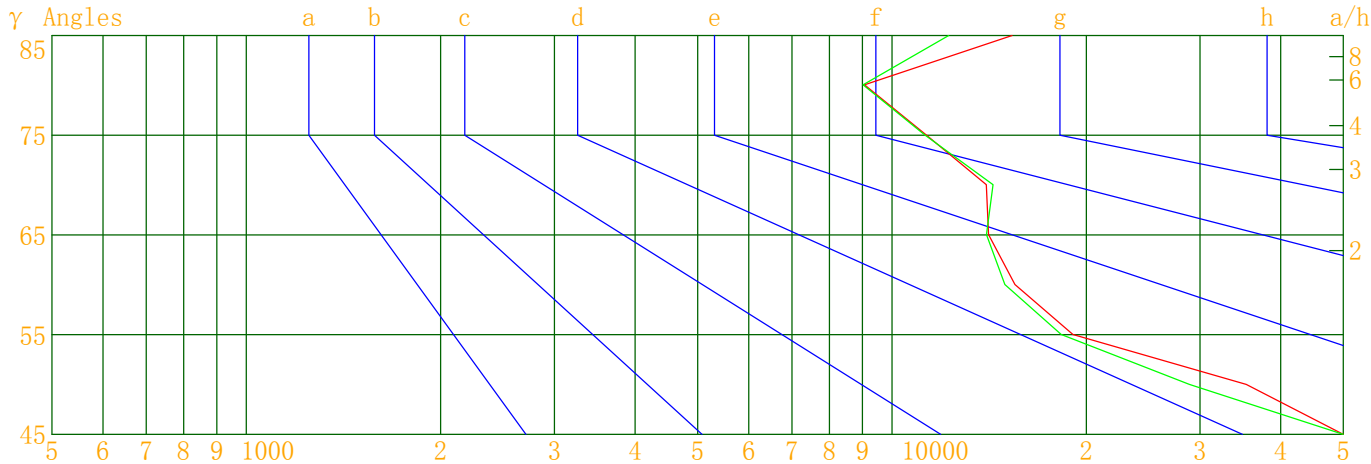
Glare Grade Table

GI	Quality	Using Illuminance							
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	72096	35382	19064	15507	14115	14001	11286	9069	15343
C90	54913	28880	18283	14954	14009	14336	11233	9021	12244

Luminance Limiting Curve



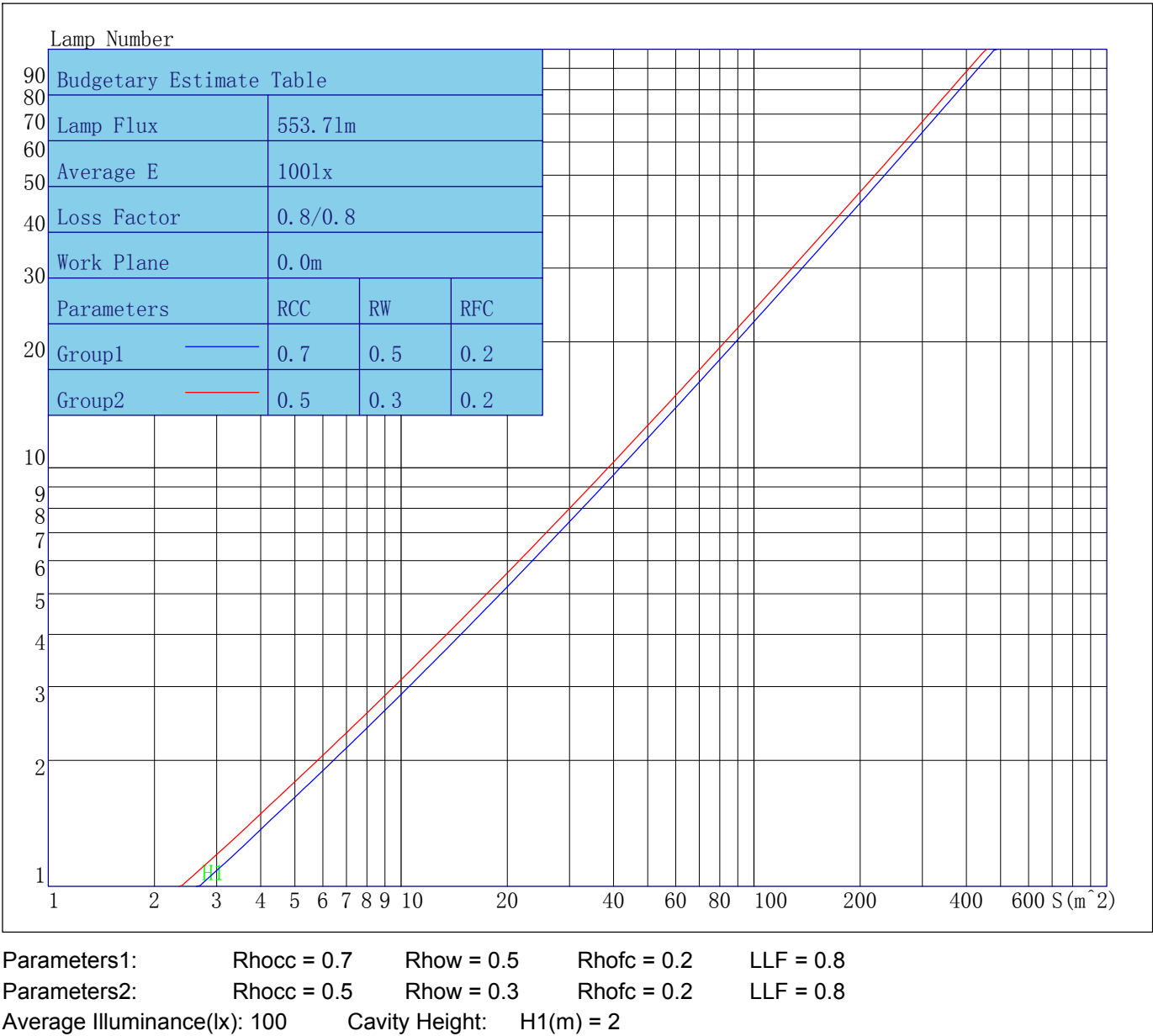
Luminous Size: Length(m)=0.038 Width(m)=0.038 Height(m)=0.000 Area(m^2)=0.001444

Luminous Type: Without Luminous Side

Luminous Curves: C0-C180 Color: C90-C270 Color:

Indoor Budgetary Estimate Table

Lum. Name: TR09-09-DW-04 1800-3000K RA90 24D	Lum. Catalog:	Test ID: 01
Lamp Name:	Lamp Catalog: LED	Test Lab: Quality Department
Manufacture: Shenzhen Norming Lighting	Test Machine:GON-2000	Test Date: 2022/08/29



Indoor Coefficient of Utilization Table

Lum. Name: TR09-09-DW-04 1800-3000K RA90 24D	Lum. Catelog:	Test ID: 01
Lamp Name:	Lamp Catelog: LED	Test Lab: Quality Department
Manufacture: Shenzhen Norming Lighting	Test Machine:GON-2000	Test Date: 2022/08/29

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	119	119	119	119	116	116	116	116	110	110	110	105	105	105	101	101	101	99
1	113	111	108	106	111	108	106	104	104	102	101	100	99	97	96	95	94	93
2	108	103	99	96	106	101	98	95	98	95	93	95	92	90	92	90	88	87
3	103	97	92	88	101	95	91	87	92	89	86	90	87	84	88	85	83	81
4	98	91	86	82	96	90	85	81	88	83	80	85	82	79	83	80	78	77
5	94	86	80	76	92	85	80	76	83	79	75	81	77	74	80	76	74	72
6	90	81	76	72	88	81	75	71	79	74	71	77	73	70	76	73	70	68
7	86	77	72	68	85	77	71	68	75	71	67	74	70	67	73	69	66	65
8	82	74	68	64	81	73	68	64	72	67	64	71	66	63	70	66	63	62
9	79	70	65	61	78	70	65	61	69	64	61	68	64	60	67	63	60	59
10	76	67	62	58	75	67	62	58	66	61	58	65	61	58	64	60	58	56

Unified Glare Rating Table

Lum. Name: TR09-09-DW-04 1800-3000K RA90 24D	Lum. Catelog:	Test ID: 01
Lamp Name:	Lamp Catalog: LED	Test Lab: Quality Department
Manufacture: Shenzhen Norming Lighting	Test Machine:GON-2000	Test Date: 2022/08/29

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	22.1	23.2	22.5	23.5	23.9	21.0	22.1	21.4	22.4	22.8
	22.2	23.2	22.6	23.5	23.9	21.2	22.2	21.7	22.5	22.9
	22.3	23.2	22.7	23.5	24.0	21.3	22.2	21.8	22.6	23.0
	22.3	23.1	22.7	23.5	23.9	21.4	22.2	21.8	22.6	23.0
	22.3	23.0	22.7	23.5	23.9	21.4	22.1	21.8	22.5	23.0
	22.3	23.0	22.7	23.4	23.9	21.4	22.1	21.8	22.5	23.0
X=4H Y=2H	22.0	22.9	22.4	23.2	23.7	20.9	21.8	21.4	22.2	22.6
	22.2	22.9	22.6	23.3	23.8	21.3	22.0	21.7	22.4	22.9
	22.3	22.9	22.7	23.4	23.8	21.4	22.1	21.9	22.5	23.0
	22.3	22.9	22.8	23.4	23.9	21.5	22.1	22.0	22.5	23.0
	22.3	22.9	22.8	23.3	23.8	21.5	22.1	22.0	22.5	23.0
	22.4	22.9	22.9	23.4	23.9	21.6	22.0	22.1	22.6	23.1
X=8H Y=4H	22.2	22.7	22.7	23.2	23.7	21.4	21.9	21.9	22.4	22.9
	22.3	22.7	22.8	23.2	23.8	21.5	21.9	22.0	22.5	23.0
	22.3	22.7	22.9	23.3	23.8	21.6	22.0	22.1	22.5	23.0
	22.5	22.8	23.0	23.3	23.9	21.7	22.0	22.2	22.6	23.2
X=12H Y=4H	22.1	22.6	22.6	23.1	23.6	21.3	21.8	21.8	22.3	22.8
	22.2	22.6	22.8	23.1	23.7	21.5	21.9	22.0	22.3	22.9
	22.3	22.7	22.9	23.2	23.8	21.6	21.9	22.1	22.4	23.0
Variations with the objerver position at spacings										
S=1.0H	0.3/-0.3					0.5/-0.5				
S=1.5H	0.9/-0.8					1.0/-0.9				
S=2.0H	1.0/-1.2					1.0/-1.4				
Reduced UGR Table:										
Nordic Standard Table:	BK0					BK0				
Correction Value	0.7					0.9				

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

IES Indoor Report

Photometric Filename:TR09-09-DW-04 1800-3000K RA90 24D.IES

Candela Tabulation

V/H	C0.0	C90.0	C180.0	C270.0
γ 0.0	1345.22	1345.22	1345.22	1345.22
γ 5.0	1412.70	1296.72	1119.49	1085.70
γ 10.0	1275.21	1108.01	707.42	729.01
γ 15.0	933.26	764.91	411.48	450.30
γ 20.0	570.63	460.24	261.69	298.36
γ 25.0	360.79	294.59	171.45	205.34
γ 30.0	244.18	196.91	110.98	140.26
γ 35.0	166.94	131.81	71.18	94.75
γ 40.0	112.55	86.33	45.28	60.36
γ 45.0	73.61	56.07	19.58	23.01
γ 50.0	32.84	26.81	12.60	13.10
γ 55.0	15.79	15.14	9.56	9.19
γ 60.0	11.20	10.80	7.52	7.34
γ 65.0	8.61	8.55	6.20	6.04
γ 70.0	6.91	7.08	3.47	3.41
γ 75.0	4.22	4.20	2.11	2.12
γ 80.0	2.27	2.26	1.37	1.33
γ 85.0	1.93	1.54	1.00	1.15
γ 90.0	0.93	1.43	0.83	0.68
γ 95.0	0.92	0.56	0.51	0.41
γ 100.0	0.73	0.64	0.36	0.36
γ 105.0	0.45	0.57	0.58	0.25
γ 110.0	0.48	0.45	0.39	0.33
γ 115.0	0.35	0.56	0.54	0.41
γ 120.0	0.45	0.69	0.57	0.52
γ 125.0	0.54	0.27	0.90	0.55
γ 130.0	0.54	0.49	1.25	0.89
γ 135.0	1.07	1.16	2.07	1.21
γ 140.0	0.92	1.14	2.34	1.72
γ 145.0	2.00	1.53	2.82	2.07
γ 150.0	2.22	2.23	3.28	2.55
γ 155.0	2.60	2.50	3.33	2.70
γ 160.0	2.94	2.82	3.34	2.95
γ 165.0	3.21	3.05	3.44	3.27
γ 170.0	3.41	3.20	3.47	3.21
γ 175.0	3.57	3.14	3.28	3.57
γ 180.0	3.44	3.44	3.44	3.44