

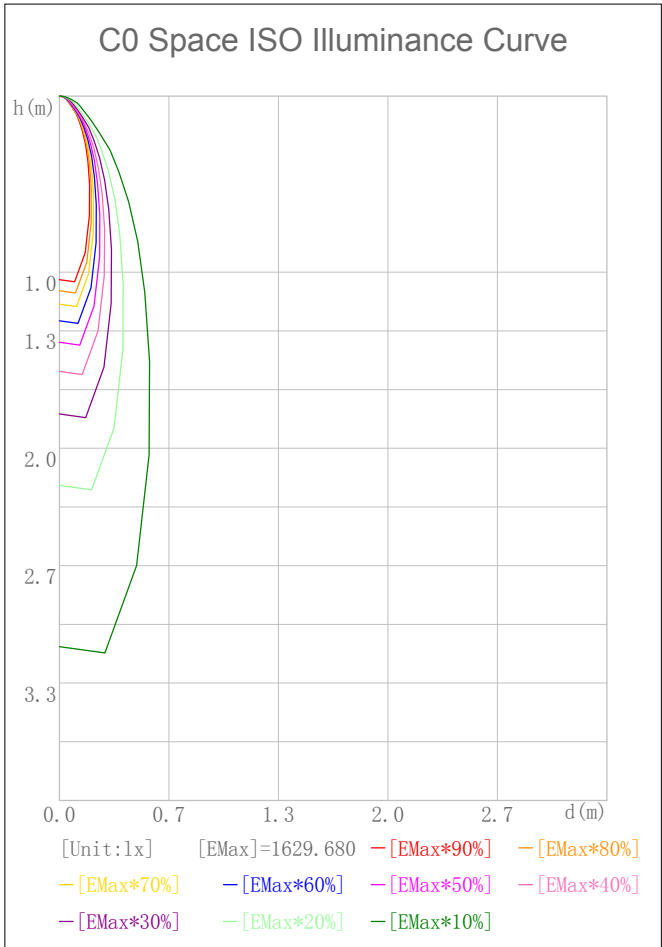
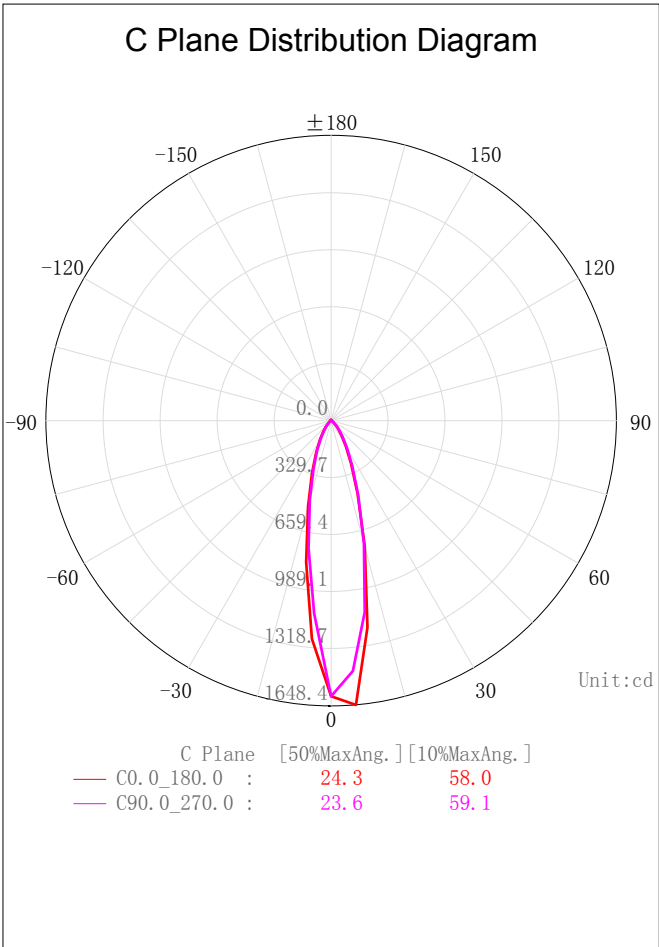
Indoor Luminaire Photometric Data

Description Information

Luminary Name:TR09-09-DW-04 1800-3000K RA90 15D		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

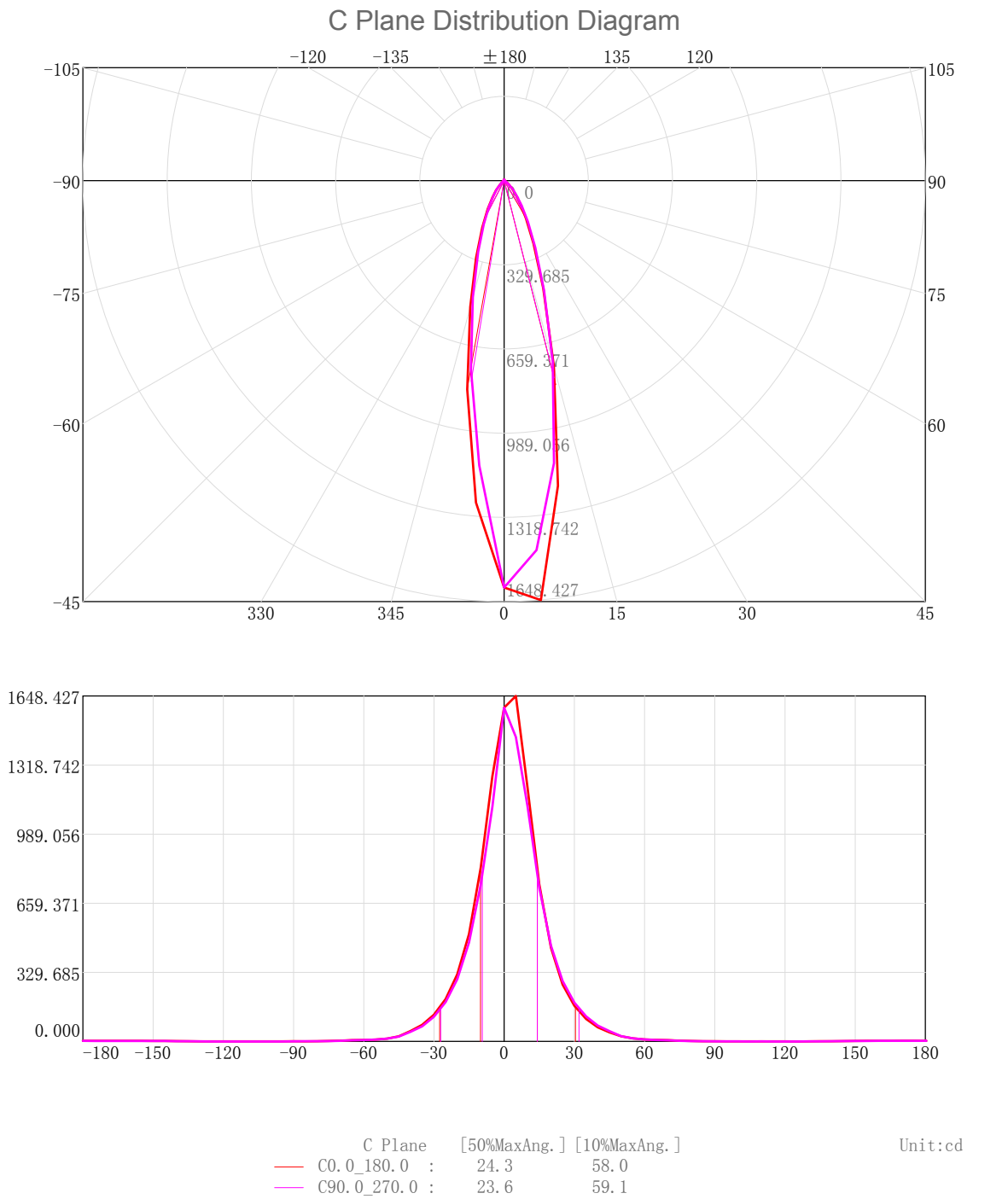
Character Parameter

Lamp Speciality Parameter		Luminaire Speciality Parameter	
Rated Flux(lm): 530.480	Luminary Flux(lm): 530.484	Field Angle(10%Imax): 58.0(°)	
Rated Power(W):	Luminary Efficiency: 100.00%	Down Lumens&Percent: 523.917lm 98.76%	
Rated Voltage(V):	Luminary EER(lm/W): 64.192	Up Lumens&Percent: 6.568lm 1.24%	
Tested Power(W): 8.264	Max. Candela(cd): 1648.427	S/MH: C0_a180=0.421 C90_270=0.395	
Lamps' Inside: 1	Max Cand@Ang. (°): C=0.0 γ=5.0	CIE Type: Semi-Direct	
Tested Electrics (V, A, pf):239.7, 0.038, 0.892	Beam Angle(50%Imax): 24.3(°)	ErP ϕ use(90°): 492.790lm	
Lamp Size (W*L*H):0.038m*0.038m*0.000m	Left=-10.1°, Right=14.2°	IRF(%): 631.689	



2D Plane Light Intensity Distribution Curve

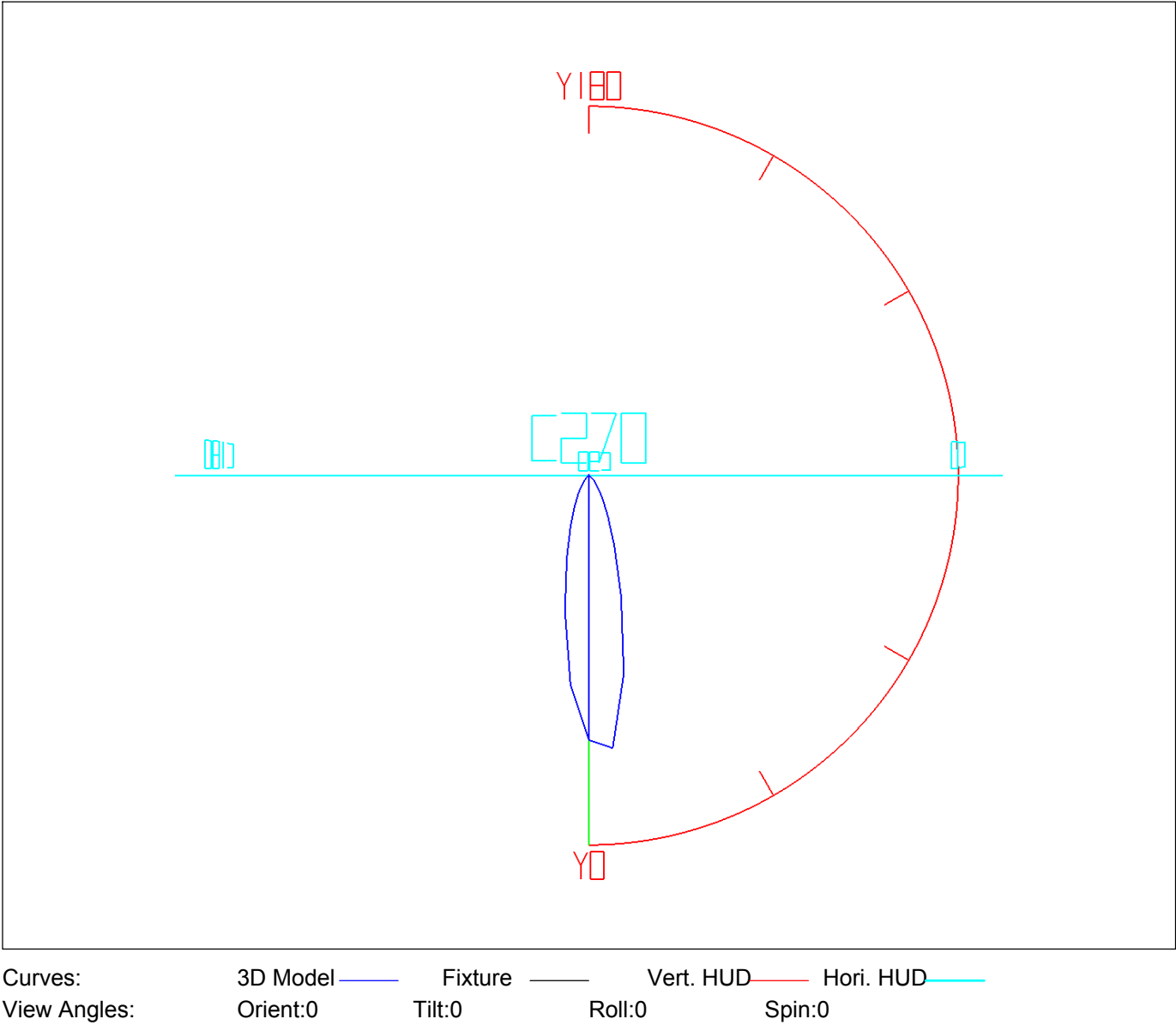
Lum. Name: TR09-09-DW-04 1800-3000K RA90 15D	Lum. Catalog:	Test ID: 01
Lamp Name:	Lamp Catalog: LED	Test Lab: Quality Department
Manufacture: Shenzhen Norming Lighting	Test Machine:GON-2000	Test Date: 2022/08/29



3D Light Intensity Distribution Modal

Lum. Name: TR09-09-DW-04 1800-3000K RA90 15D	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

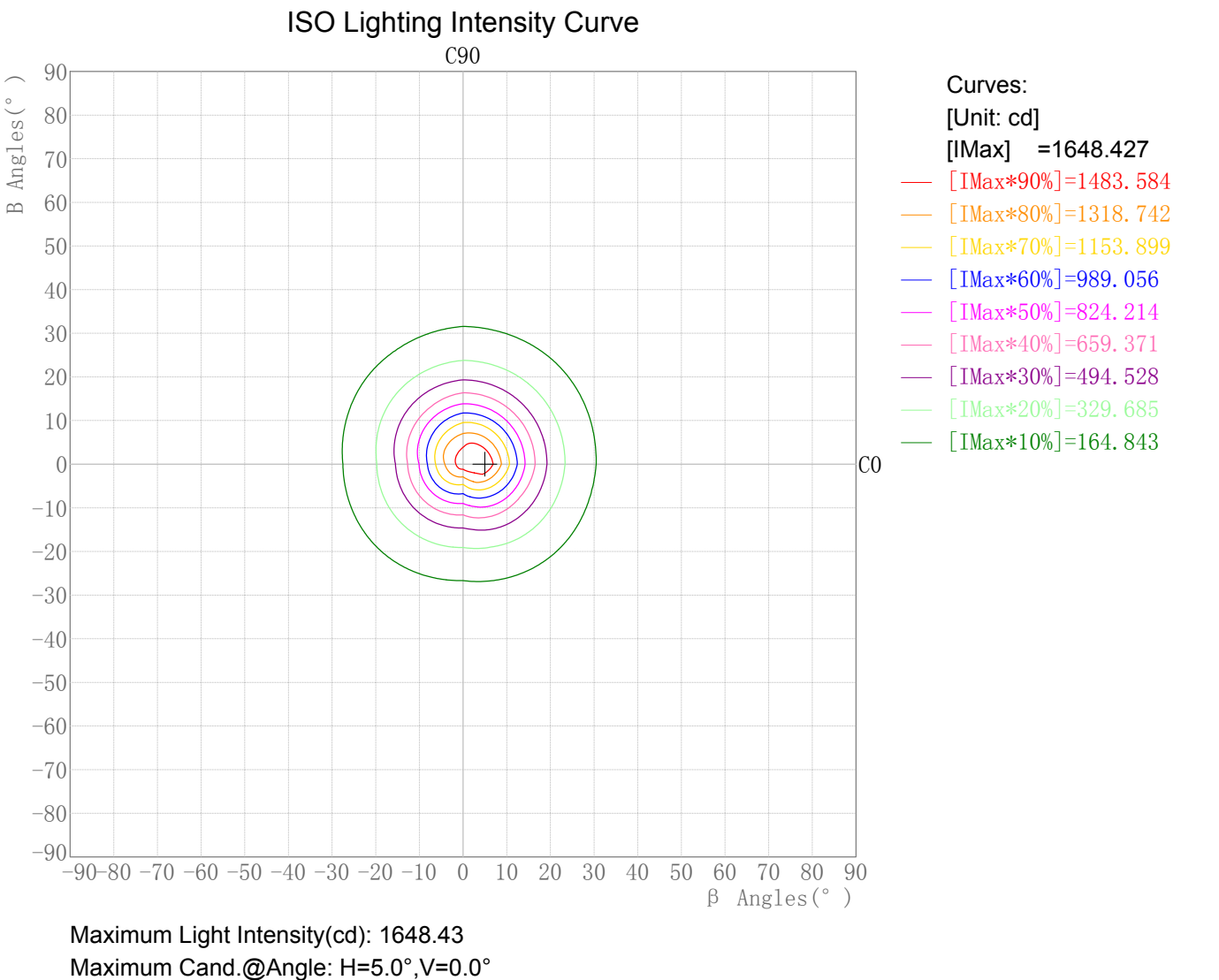


Zonal Flux Tabulation

Zone(γ)	Zone Flux (lm)	Sums Flux (lm)	Zone%Lamp	Sums%Lamp
0.0-5.0	35.43	35.43	6.68	6.68
5.0-10.0	84.06	119.49	15.85	22.53
10.0-15.0	94.70	214.20	17.85	40.38
15.0-20.0	82.27	296.47	15.51	55.89
20.0-25.0	64.85	361.32	12.22	68.11
25.0-30.0	49.17	410.49	9.27	77.38
30.0-35.0	36.15	446.64	6.81	84.20
35.0-40.0	25.85	472.49	4.87	89.07
40.0-45.0	17.66	490.15	3.33	92.40
45.0-50.0	11.03	501.18	2.08	94.48
50.0-55.0	6.78	507.96	1.28	95.75
55.0-60.0	4.71	512.67	0.89	96.64
60.0-65.0	3.71	516.38	0.70	97.34
65.0-70.0	2.92	519.30	0.55	97.89
70.0-75.0	1.98	521.28	0.37	98.27
75.0-80.0	1.25	522.53	0.24	98.50
80.0-85.0	0.82	523.35	0.15	98.66
85.0-90.0	0.57	523.92	0.11	98.76
90.0-95.0	0.37	524.29	0.07	98.83
95.0-100.0	0.29	524.58	0.05	98.89
100.0-105.0	0.27	524.84	0.05	98.94
105.0-110.0	0.20	525.05	0.04	98.98
110.0-115.0	0.17	525.22	0.03	99.01
115.0-120.0	0.17	525.39	0.03	99.04
120.0-125.0	0.18	525.57	0.03	99.07
125.0-130.0	0.25	525.82	0.05	99.12
130.0-135.0	0.37	526.19	0.07	99.19
135.0-140.0	0.48	526.67	0.09	99.28
140.0-145.0	0.60	527.27	0.11	99.39
145.0-150.0	0.70	527.97	0.13	99.53
150.0-155.0	0.69	528.66	0.13	99.66
155.0-160.0	0.62	529.28	0.12	99.77
160.0-165.0	0.52	529.80	0.10	99.87
165.0-170.0	0.38	530.17	0.07	99.94
170.0-175.0	0.23	530.41	0.04	99.99
175.0-180.0	0.08	530.48	0.01	100.00

Rectangle ISO Lighting Intensity Diagram

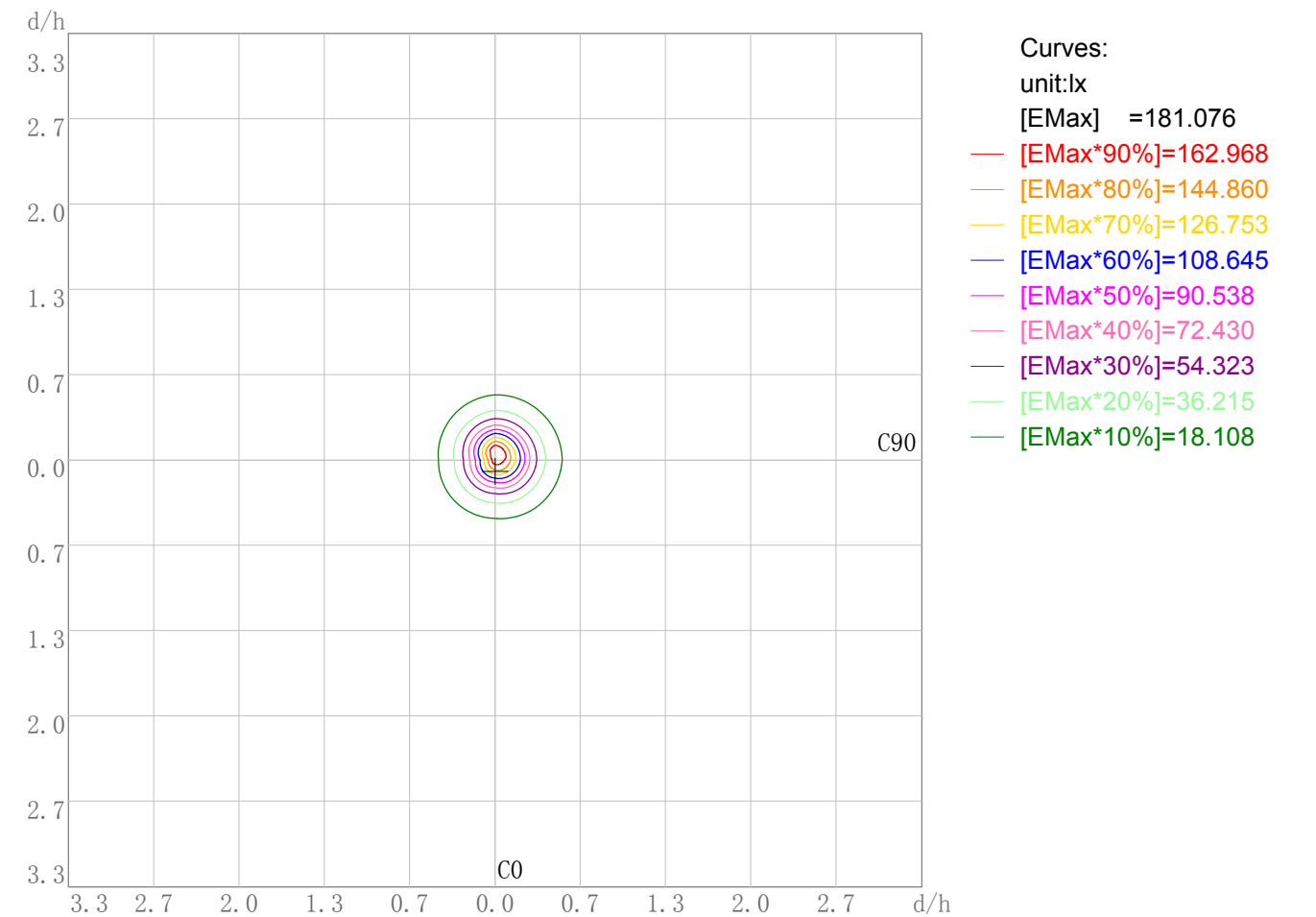
Lum. Name: TR09-09-DW-04 1800-3000K RA90 15D	Lum. Catelog:	Test ID: 01
Lamp Name:	Lamp Catelog: LED	Test Lab: Quality Department
Manufacture: Shenzhen Norming Lighting	Test Machine:GON-2000	Test Date: 2022/08/29



Plane ISO-Illuminance Diagram

Lum. Name:TR09-09-DW-04 1800-3000K RA90 15D	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

Plane ISO-Illuminance Curve



Working Plane Luminaire Mounting Height(m): 3.00

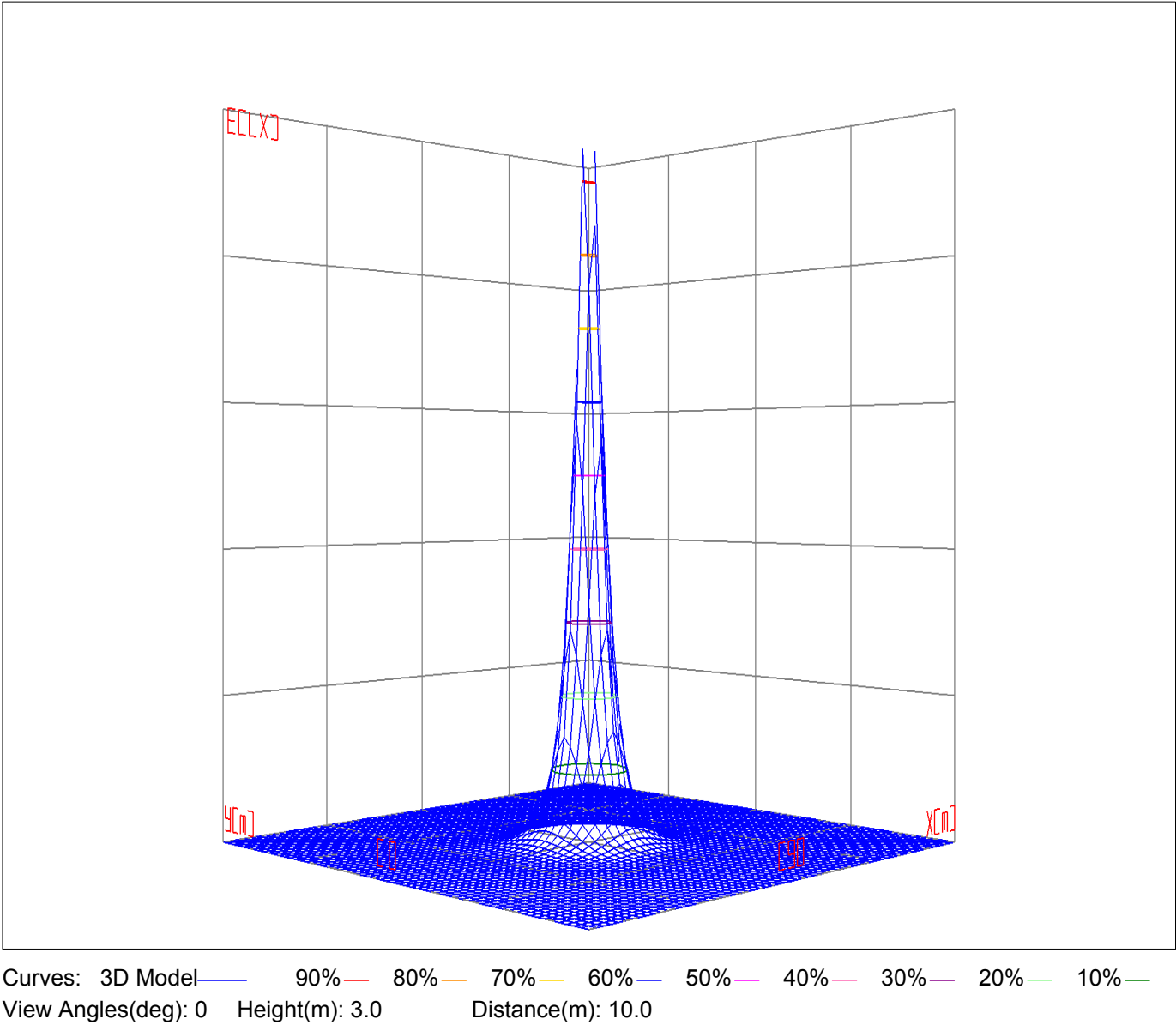
Working Plane Maximum Illuminance(lx): 181.08

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 15D	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

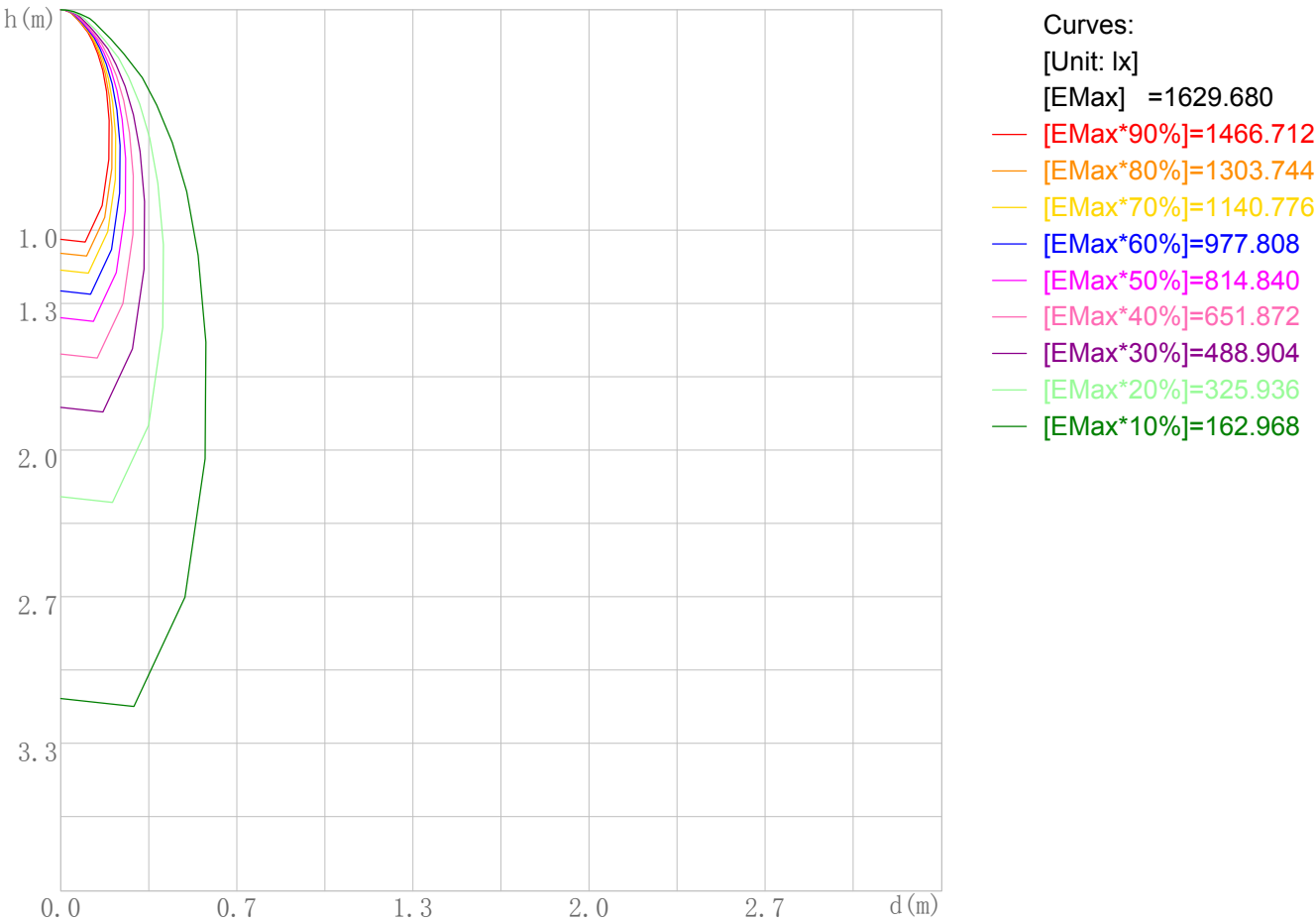
3D Plane Illuminance Modal



Space ISO Illuminance Diagram

Lum. Name: TR09-09-DW-04 1800-3000K RA90 15D	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

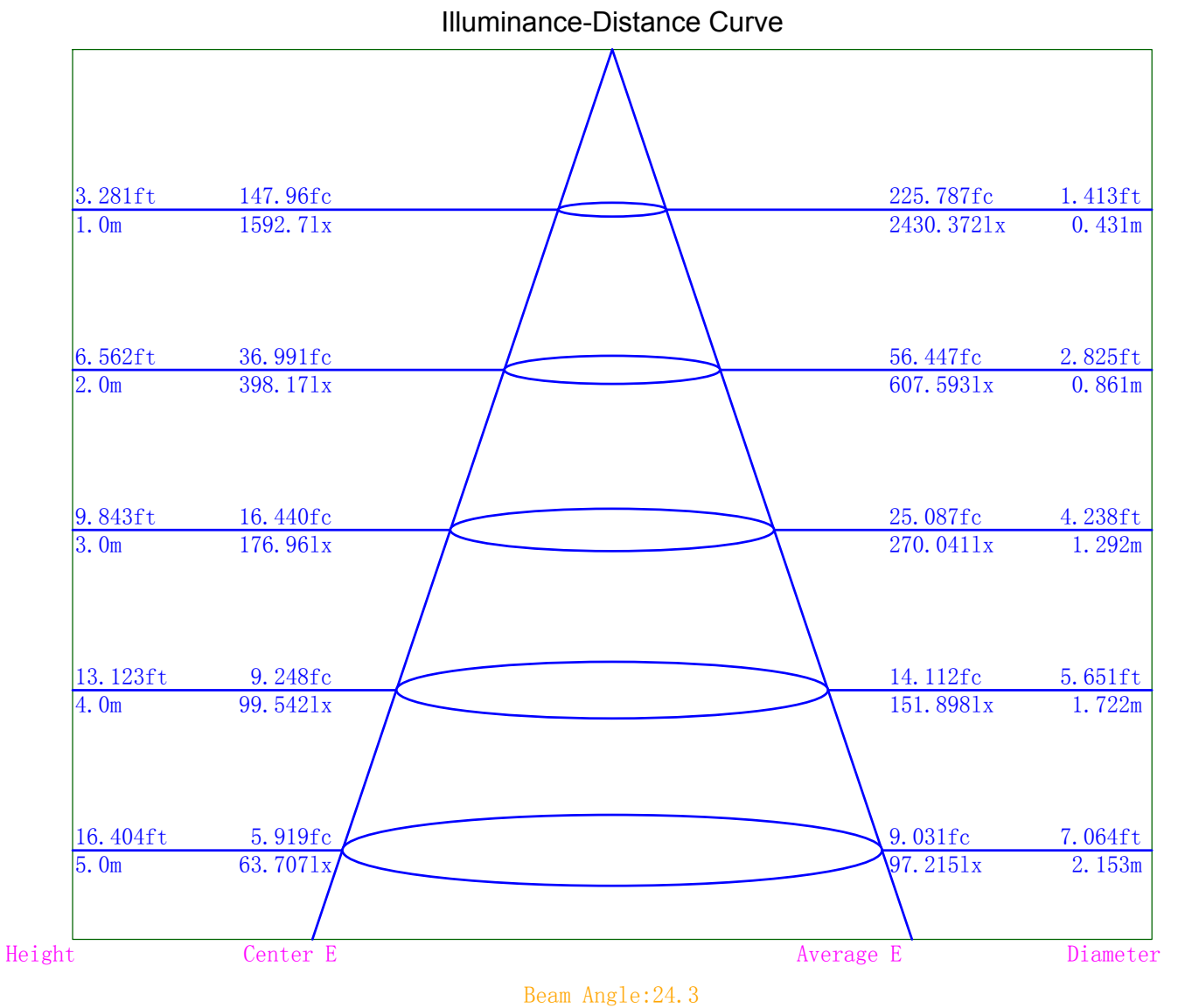
Space ISO Illuminance Curve



Space Plane Maximum Illuminance and @Angle:1629.68lx,5.0deg
Plane Maximum Lighting Intensity and @Angle:1648.427cd,0deg

Illuminance-Distance Diagram

Lum. Name: TR09-09-DW-04 1800-3000K RA90 15D	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 15D	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

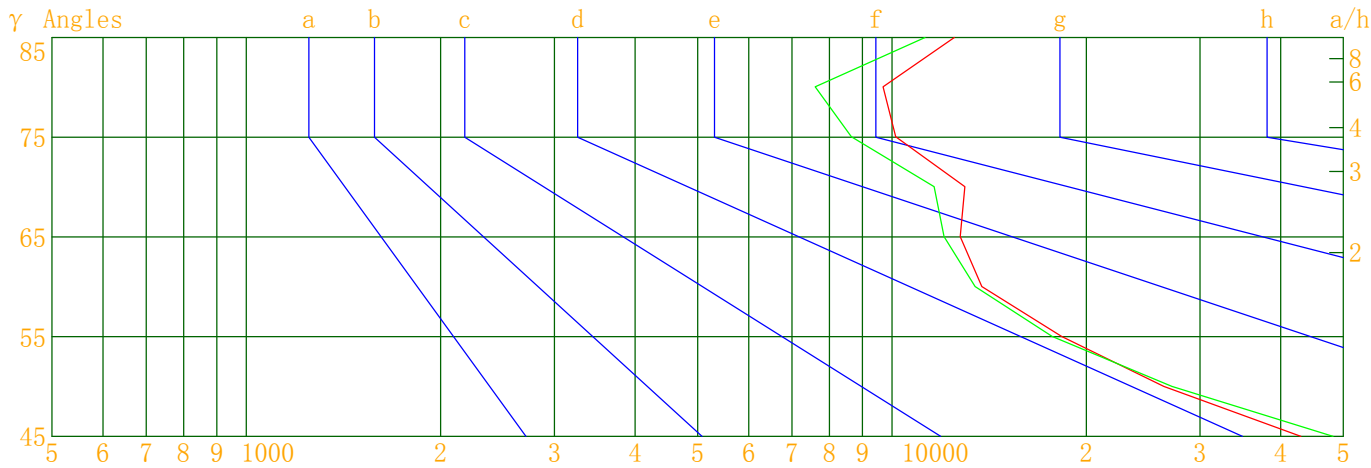
Glare Grade Table

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	42974	26360	18317	13776	12758	12967	10136	9687	12491
C90	48212	27138	17715	13450	12044	11620	8653	7605	11251

Luminance Limiting Curve



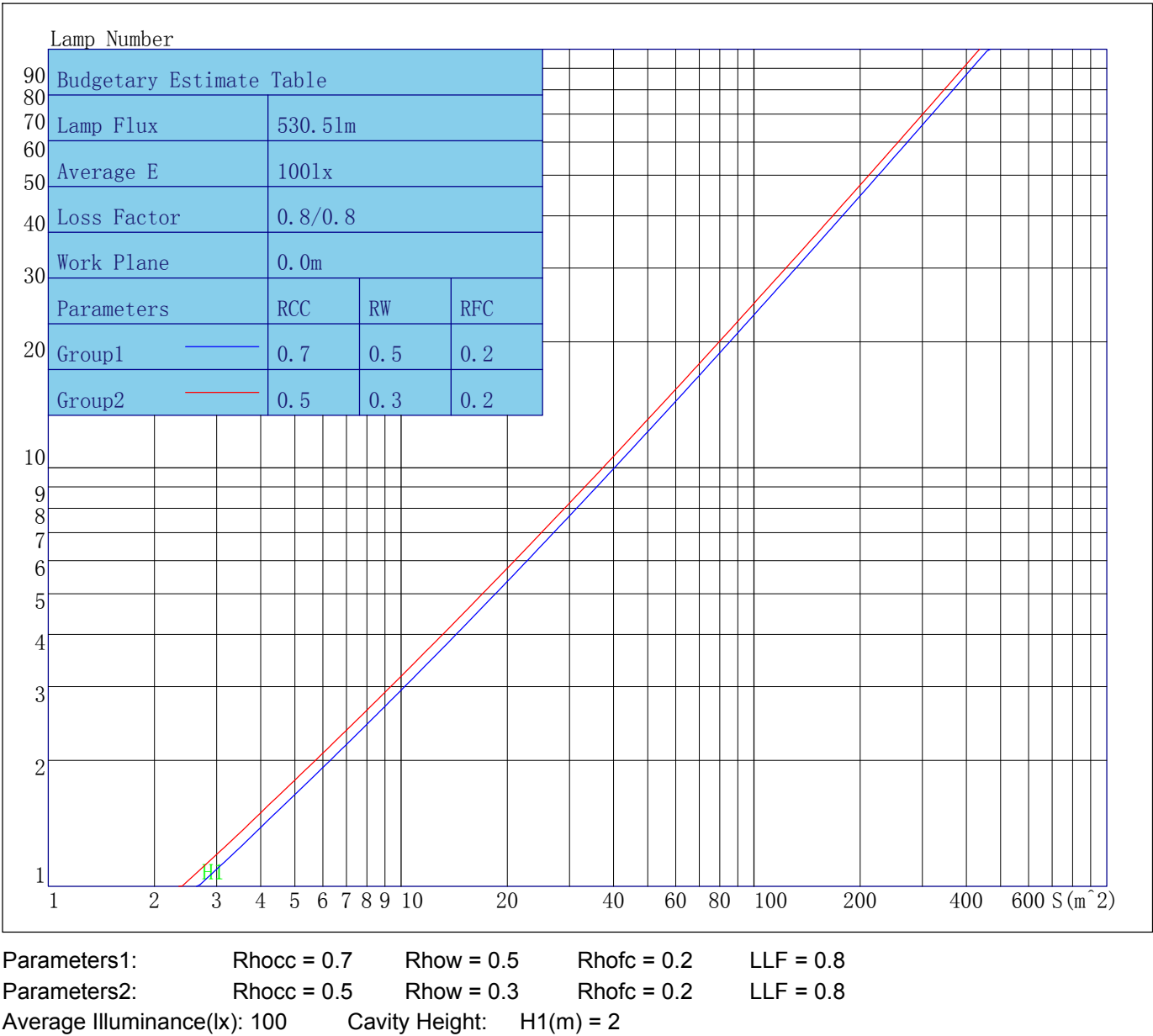
Luminous Size: Length(m)=0.038 Width(m)=0.038 Height(m)=0.000 Area(m^2)=0.001444

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 15D	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 15D	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	109	106	104	104	103	101	100	99	98	97	96	95	93
2	108	104	100	97	106	102	98	96	99	96	93	95	93	91	92	91	89	87
3	103	98	93	89	101	96	92	88	93	90	87	91	88	85	88	86	84	82
4	99	92	87	83	97	91	86	83	89	85	81	86	83	80	85	82	79	78
5	95	87	82	78	93	86	81	78	84	80	77	83	79	76	81	78	75	74
6	91	83	77	74	89	82	77	73	80	76	73	79	75	72	78	74	72	70
7	87	79	74	70	86	78	73	70	77	72	69	76	72	69	74	71	68	67
8	84	75	70	66	83	75	70	66	74	69	66	73	69	66	72	68	65	64
9	81	72	67	63	80	72	67	63	71	66	63	70	66	63	69	65	62	61
10	78	69	64	61	77	69	64	61	68	63	60	67	63	60	66	63	60	59

Unified Glare Rating Table

Lum. Name: TR09-09-DW-04 1800-3000K RA90 15D	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

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	20.0	21.0	20.4	21.4	21.7	20.4	21.4	20.8	21.7	22.1
	Y=3H	20.3	21.2	20.7	21.5	21.9	20.6	21.5	21.0	21.8	22.2
	Y=4H	20.4	21.2	20.9	21.6	22.0	20.6	21.4	21.1	21.8	22.2
	Y=6H	20.5	21.2	20.9	21.6	22.1	20.6	21.4	21.1	21.8	22.2
	Y=8H	20.5	21.2	21.0	21.6	22.1	20.7	21.3	21.1	21.8	22.2
	Y=12H	20.6	21.2	21.0	21.6	22.1	20.7	21.3	21.1	21.7	22.2
X=4H	Y=2H	20.0	20.8	20.4	21.1	21.6	20.3	21.1	20.7	21.5	21.9
	Y=3H	20.4	21.0	20.8	21.5	21.9	20.6	21.3	21.0	21.7	22.1
	Y=4H	20.5	21.1	21.0	21.6	22.1	20.7	21.3	21.2	21.7	22.2
	Y=6H	20.7	21.2	21.2	21.7	22.2	20.8	21.3	21.3	21.8	22.3
	Y=8H	20.8	21.2	21.3	21.7	22.2	20.8	21.3	21.3	21.7	22.2
	Y=12H	20.9	21.3	21.4	21.8	22.3	20.9	21.3	21.4	21.8	22.3
X=8H	Y=4H	20.5	21.0	21.0	21.4	21.9	20.6	21.1	21.1	21.6	22.1
	Y=6H	20.7	21.1	21.3	21.6	22.2	20.8	21.1	21.3	21.7	22.2
	Y=8H	20.9	21.2	21.4	21.7	22.2	20.9	21.2	21.4	21.7	22.2
	Y=12H	21.0	21.3	21.6	21.8	22.4	21.0	21.3	21.5	21.8	22.4
X=12H	Y=4H	20.5	20.9	21.0	21.4	21.9	20.6	21.0	21.1	21.5	22.0
	Y=6H	20.7	21.0	21.3	21.5	22.1	20.7	21.1	21.3	21.6	22.1
	Y=8H	20.9	21.1	21.4	21.7	22.3	20.9	21.1	21.4	21.7	22.3
Variations with the objverver position at spacings											
S=1.0H		0.3/-0.3					0.4/-0.4				
S=1.5H		0.8/-0.7					0.9/-0.8				
S=2.0H		1.0/-1.2					1.1/-1.4				
Reduced UGR Table:											
Nordic Standard Table:		BK0					BK0				
Correction Value		1.1					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 15D.IES

Candela Tabulation

V/H	C0.0	C90.0	C180.0	C270.0
γ 0.0	1592.68	1592.68	1592.68	1592.68
γ 5.0	1648.43	1452.05	1265.14	1119.20
γ 10.0	1212.80	1122.96	830.16	748.71
γ 15.0	750.97	734.91	512.84	472.63
γ 20.0	447.03	456.90	320.53	297.27
γ 25.0	271.95	288.82	202.57	188.24
γ 30.0	170.95	185.60	127.86	118.19
γ 35.0	107.75	119.83	79.44	72.39
γ 40.0	67.85	75.91	50.07	46.38
γ 45.0	43.88	49.23	24.78	23.47
γ 50.0	24.47	25.19	13.76	13.50
γ 55.0	15.17	14.67	9.12	8.89
γ 60.0	9.95	9.71	7.14	6.88
γ 65.0	7.79	7.35	6.23	5.93
γ 70.0	6.40	5.74	3.63	3.13
γ 75.0	3.79	3.23	2.32	2.09
γ 80.0	2.43	1.91	1.61	1.27
γ 85.0	1.57	1.42	0.92	0.98
γ 90.0	1.18	0.75	1.11	0.34
γ 95.0	0.81	0.63	0.46	0.17
γ 100.0	0.77	0.49	0.61	0.27
γ 105.0	0.76	0.32	0.64	0.10
γ 110.0	0.40	0.53	0.37	0.00
γ 115.0	0.49	0.09	0.60	0.28
γ 120.0	0.54	0.16	0.60	0.00
γ 125.0	0.29	0.30	0.95	0.24
γ 130.0	0.70	0.57	0.85	0.75
γ 135.0	1.14	0.85	1.41	1.12
γ 140.0	1.22	1.25	1.84	1.52
γ 145.0	1.98	1.82	2.40	2.33
γ 150.0	2.58	2.35	2.89	2.56
γ 155.0	2.96	2.52	3.39	2.63
γ 160.0	3.33	3.07	3.07	2.72
γ 165.0	3.39	3.25	3.35	2.84
γ 170.0	3.59	3.38	3.13	2.66
γ 175.0	3.73	3.23	3.27	2.84
γ 180.0	3.33	3.33	3.33	3.33