IES Indoor Report
Photometric Filename:TR10-12-C5-01 4000K RA90 36D.IES

Indoor Luminaire Photometric Data

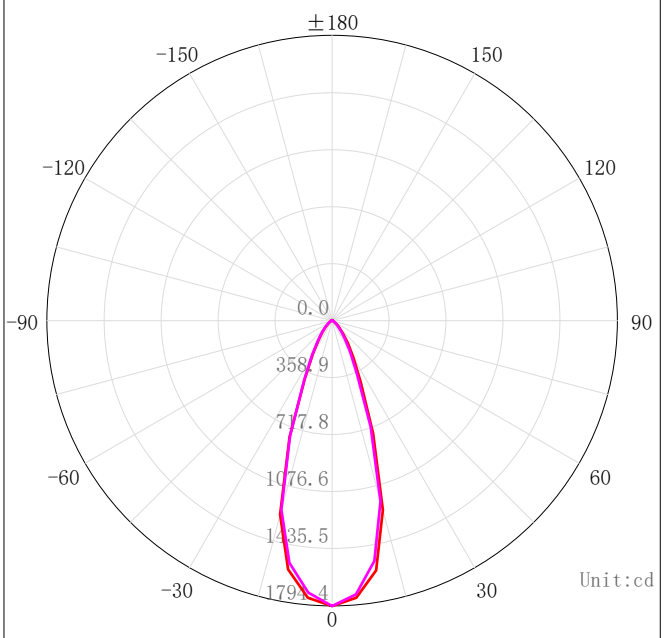
Description Information

Luminary Name: TR10-12-C5-01 4000K RA90 36D		Lum. Catelog:	Test ID: 01
Lamp Name:		Lamp Catelog: LED	Test Date: 2022/11/02
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):0.041m*0.041m*0.000m		Lum.Area(m2):0.002	Lum.W(kg): 0.000
Test System: C,γ	Test Step: C=90.0 γ=5.0	Temp.(℃): 25	Humidity(%):

Character Parameter

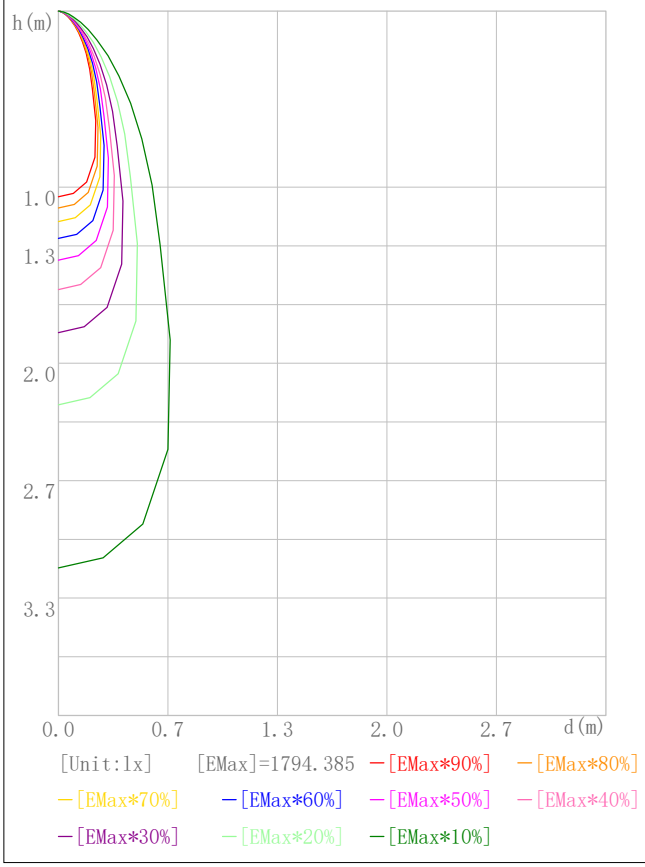
Lamp Speciality Parameter	Luminaire Speciality Parameter	
Rated Flux(lm): 882.960	Luminary Flux(lm): 882.956	Field Angle(10%Imax): 67.9(°)
Rated Power(W):	Luminary Efficiency: 100.00%	Down Lumens&Percent: 880.9051m 99.77%
Rated Voltage(V):	Luminary EER(lm/W): 73.396	Up Lumens&Percent: 2.0511m 0.23%
Tested Power(W): 12.030	Max.Candela(cd): 1794.385	S/MH: C0_a180=0.624 C90_270=0.611
Lamps' Inside: 1	Max Cand@Ang.(°): C=0.0 γ=0.0	CIE Type: Semi-Direct
Tested Electrics(V,A,pf):230.3,0.055	Beam Angle(50%Imax): 37.3(°)	ErP Φuse(90°): 818.589lm
Lamp Size(W*L*H):0.041m*0.041m*0.000m	Left=-18.8° ,Right=18.5°	IRF(%): 437.852

C Plane Distribution Diagram



C Plane	[50%MaxAng.]	[10%MaxAng.]
C0.0_180.0 :	37.3	67.9
C90.0_270.0 :	36.6	66.6

C0 Space ISO Illuminance Curve

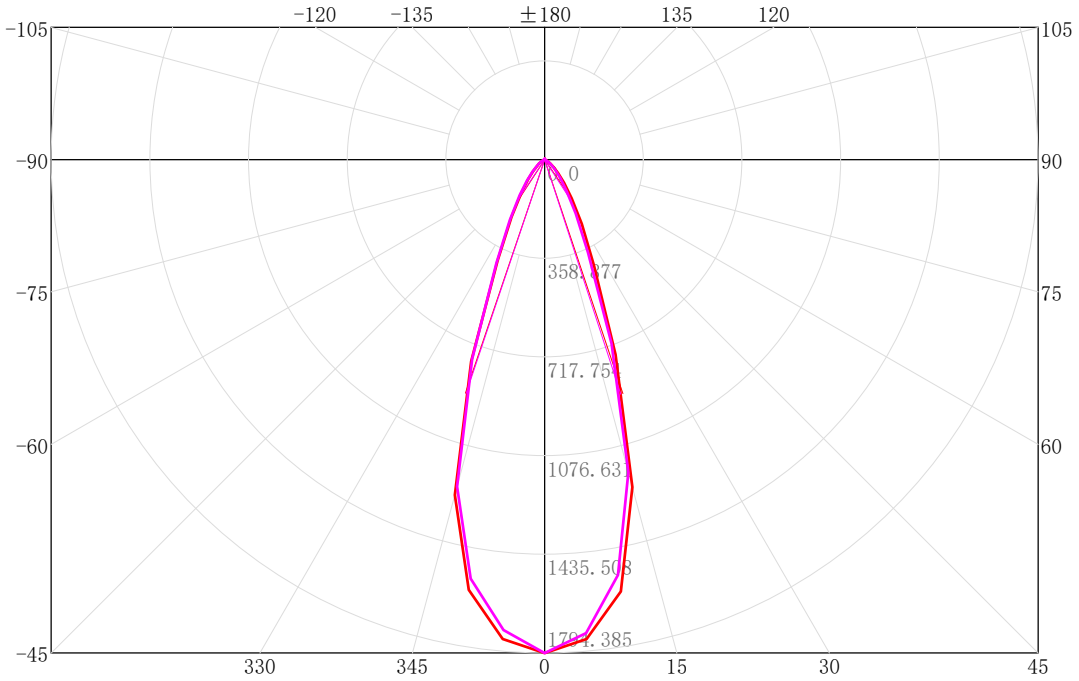


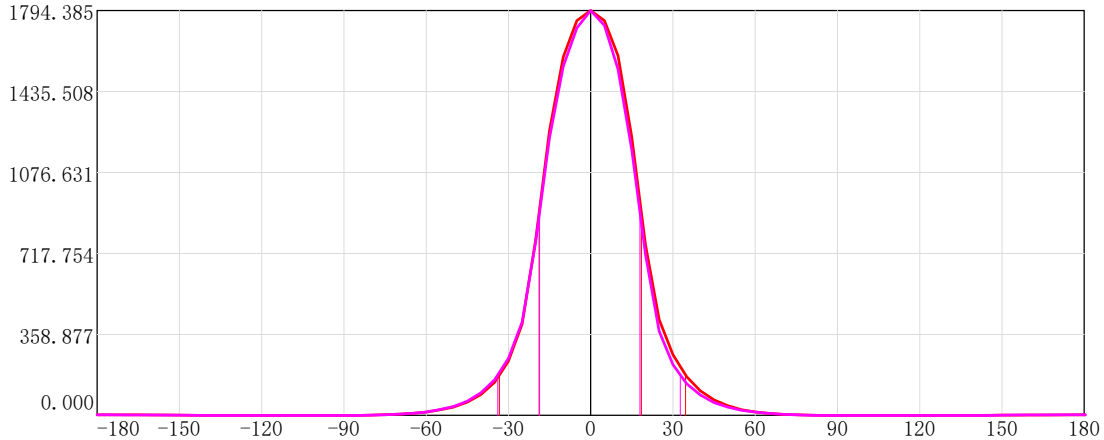
IES Indoor Report
Photometric Filename:TR10-12-C5-01 4000K RA90 36D.IES

2D Plane Light Intensity Distribution Curve

Lum.Name: TR10-12-C5-01 4000K RA90 36D	Lum.Catelog:	Test ID: 01
Lamp Name:	Lamp Catelog: LED	Test Lab: Quality Department
Manufacture: Shenzhen Norming Lighting	Test Machine:GON-2000	Test Date: 2022/11/02

C Plane Distribution Diagram





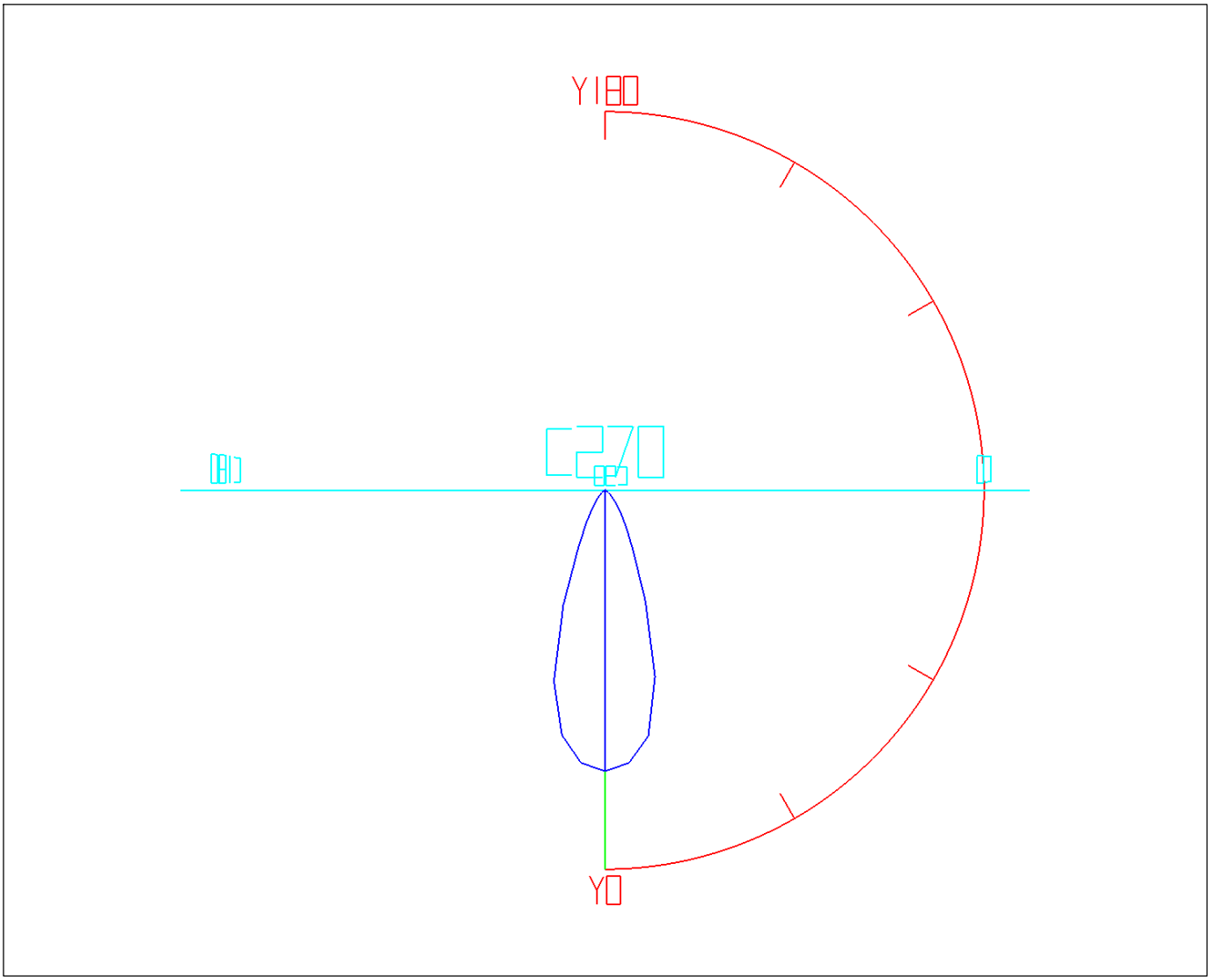
C Plane	[50%MaxAng.]	[10%MaxAng.]	Unit:cd
C0.0_180.0 :	37.3	67.9	
C90.0_270.0 :	36.6	66.6	

IES Indoor Report
Photometric Filename:TR10-12-C5-01 4000K RA90 36D.IES

3D Light Intensity Distribution Modal

Lum.Name: TR10-12-C5-01 4000K RA90 36D	Lum.Catelog:	Test ID: 01
Lamp Name:	Lamp Catelog: LED	Test Lab: Quality Department
Manufacture: Shenzhen Norming Lighting	Test Machine:GON-2000	Test Date: 2022/11/02

3D Light Intensity Distribution Modal



Curves: 3D Model Fixture Vert. HUD Hori. HUD

View Angles: Orient:0 Tilt:0 Roll:0 Spin:0

IES Indoor Report
Photometric Filename:TR10-12-C5-01 4000K RA90 36D.IES

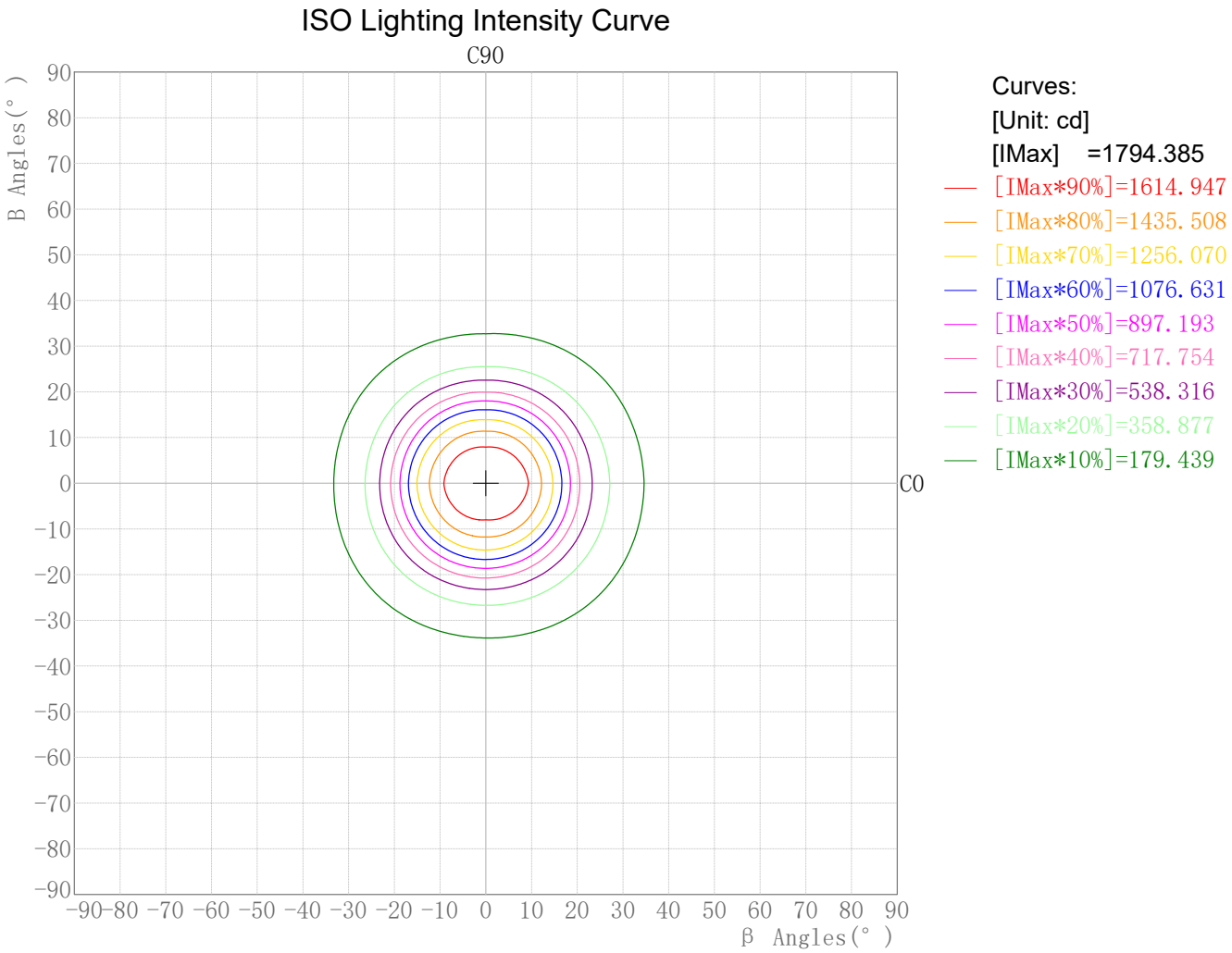
Zonal Flux Tabulation

Zone(γ)	Zone Flux (lm)	Sums Flux (lm)	Zone%Lamp	Sums%Lamp
0.0-5.0	42.21	42.21	4.78	4.78
5.0-10.0	118.13	160.34	13.38	18.16
10.0-15.0	165.61	325.95	18.76	36.92
15.0-20.0	163.21	489.15	18.48	55.40
20.0-25.0	121.55	610.70	13.77	69.17
25.0-30.0	82.46	693.16	9.34	78.50
30.0-35.0	59.11	752.27	6.69	85.20
35.0-40.0	42.14	794.41	4.77	89.97
40.0-45.0	29.70	824.11	3.36	93.34
45.0-50.0	20.46	844.57	2.32	95.65
50.0-55.0	13.89	858.46	1.57	97.23
55.0-60.0	9.20	867.66	1.04	98.27
60.0-65.0	5.95	873.61	0.67	98.94
65.0-70.0	3.70	877.31	0.42	99.36
70.0-75.0	2.16	879.48	0.24	99.61
75.0-80.0	1.11	880.59	0.13	99.73
80.0-85.0	0.31	880.90	0.04	99.77
85.0-90.0	0.00	880.90	0.00	99.77
90.0-95.0	0.00	880.90	0.00	99.77
95.0-100.0	0.00	880.90	0.00	99.77
100.0-105.0	0.00	880.90	0.00	99.77
105.0-110.0	0.00	880.90	0.00	99.77
110.0-115.0	0.00	880.90	0.00	99.77
115.0-120.0	0.00	880.90	0.00	99.77
120.0-125.0	0.00	880.90	0.00	99.77
125.0-130.0	0.00	880.90	0.00	99.77
130.0-135.0	0.00	880.90	0.00	99.77
135.0-140.0	0.00	880.90	0.00	99.77
140.0-145.0	0.07	880.98	0.01	99.78
145.0-150.0	0.24	881.22	0.03	99.80
150.0-155.0	0.39	881.61	0.04	99.85
155.0-160.0	0.42	882.03	0.05	99.89
160.0-165.0	0.38	882.41	0.04	99.94
165.0-170.0	0.29	882.70	0.03	99.97
170.0-175.0	0.19	882.89	0.02	99.99
175.0-180.0	0.07	882.96	0.01	100.00

IES Indoor Report
Photometric Filename:TR10-12-C5-01 4000K RA90 36D.IES

Rectangle ISO Lighting Intensity Diagram

Lum.Name: TR10-12-C5-01 4000K RA90 36D	Lum.Catelog:	Test ID: 01
Lamp Name:	Lamp Catelog: LED	Test Lab: Quality Department
Manufacture: Shenzhen Norming Lighting	Test Machine:GON-2000	Test Date: 2022/11/02



Maximum Light Intensity(cd): 1794.39

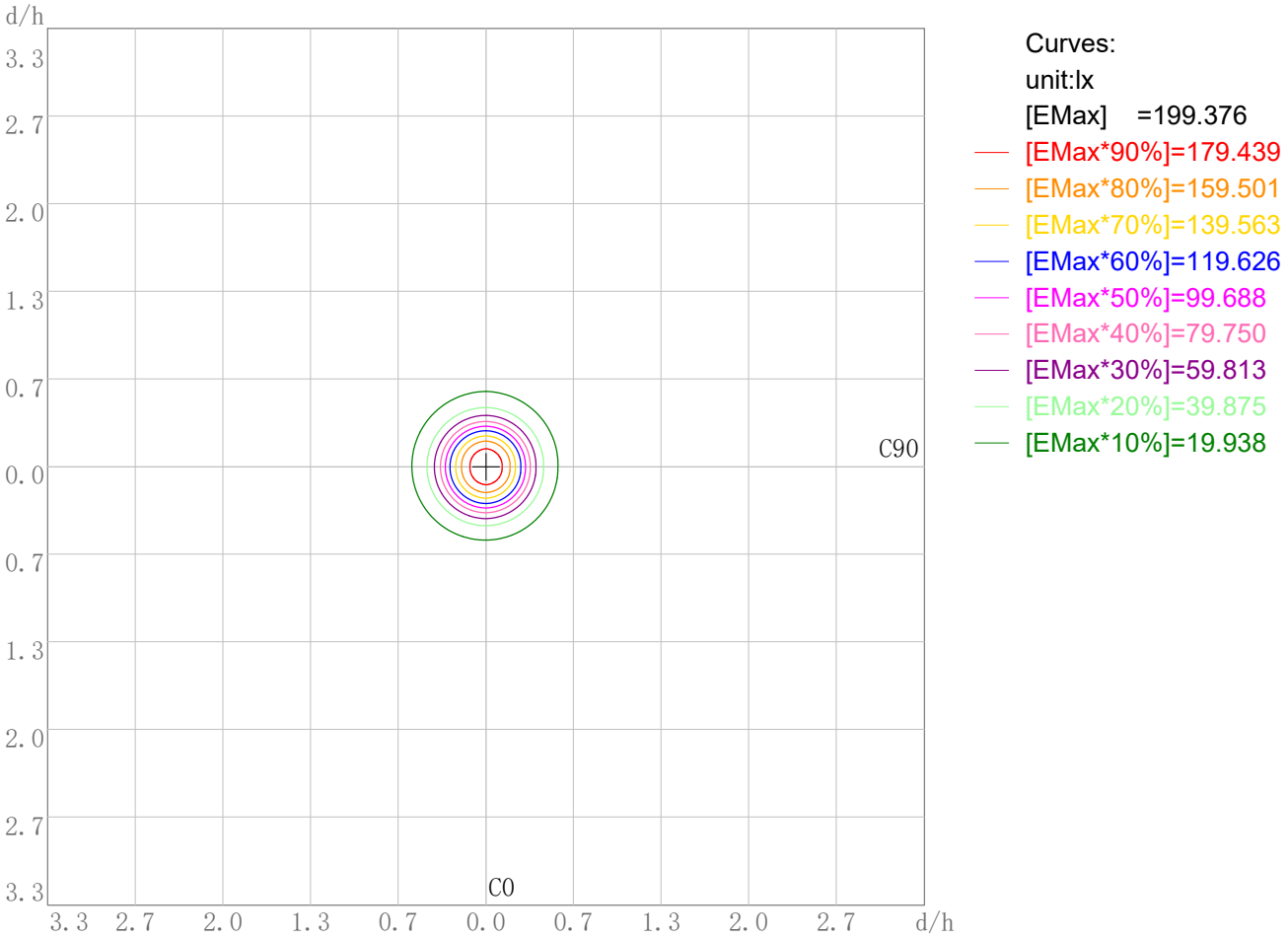
Maximum Cand.@Angle: H=0.0°,V=0.0°

IES Indoor Report
Photometric Filename:TR10-12-C5-01 4000K RA90 36D.IES

Plane ISO-Illuminance Diagram

Lum.Name: TR10-12-C5-01 4000K RA90 36D	Lum.Catelog:	Test ID: 01
Lamp Name:	Lamp Catelog: LED	Test Lab: Quality Department
Manufacture: Shenzhen Norming Lighting	Test Machine:GON-2000	Test Date: 2022/11/02

Plane ISO-Illuminance Curve



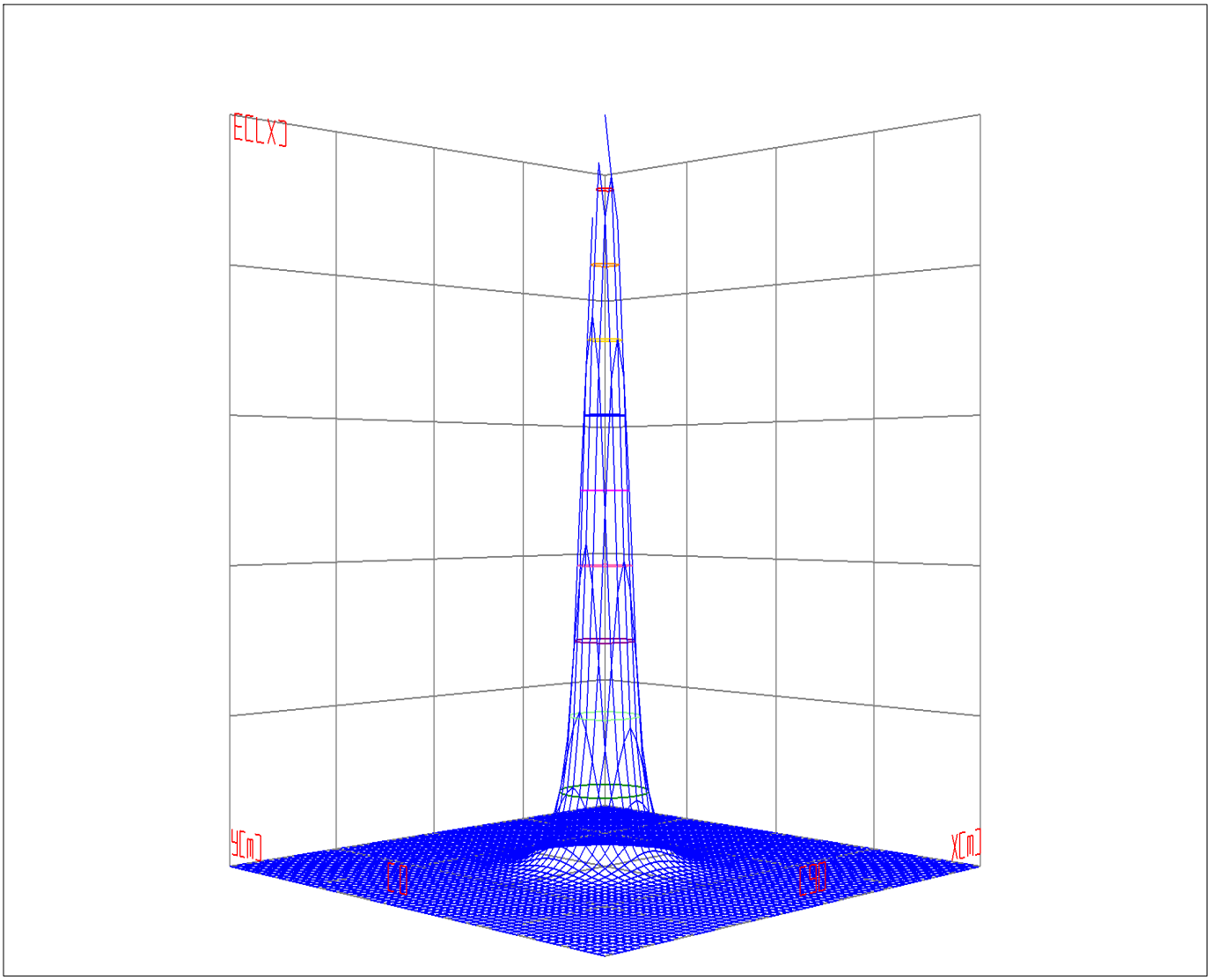
Working Plane Luminaire Mounting Height(m): 3.00
Working Plane Maximum Illuminance(lx): 199.38
Working Plane Maximum Illuminance Position(d/h):H0.0 V0.0

IES Indoor Report
Photometric Filename:TR10-12-C5-01 4000K RA90 36D.IES

3D Plane ISO Illuminance Diagram

Lum.Name: TR10-12-C5-01 4000K RA90 36D	Lum.Catelog:	Test ID: 01
Lamp Name:	Lamp Catelog: LED	Test Lab: Quality Department
Manufacture: Shenzhen Norming Lighting	Test Machine:GON-2000	Test Date: 2022/11/02

3D Plane Illuminance Modal



Curves: 3D Model 90% 80% 70% 60% 50% 40% 30% 20% 10%

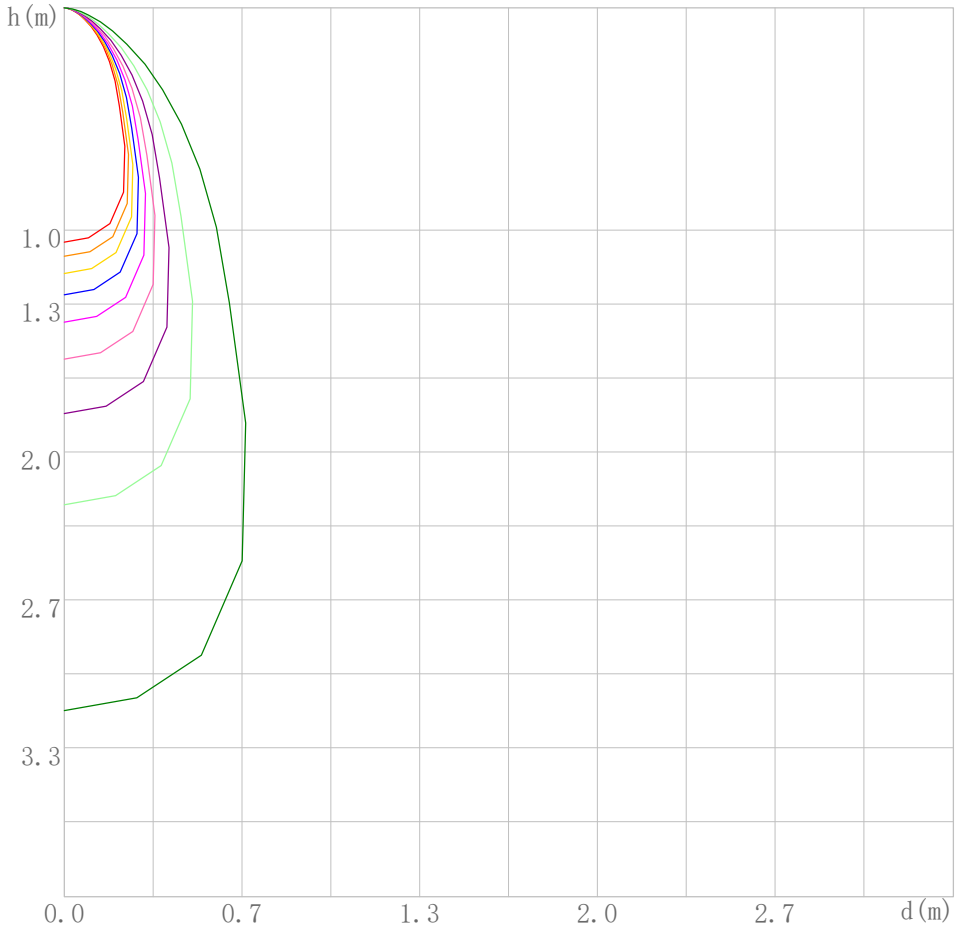
View Angles(deg): 0 Height(m): 3.0 Distance(m): 10.0

IES Indoor Report
Photometric Filename:TR10-12-C5-01 4000K RA90 36D.IES

Space ISO Illuminance Diagram

Lum.Name: TR10-12-C5-01 4000K RA90 36D	Lum.Catelog:	Test ID: 01
Lamp Name:	Lamp Catelog: LED	Test Lab: Quality Department
Manufacture: Shenzhen Norming Lighting	Test Machine:GON-2000	Test Date: 2022/11/02

Space ISO Illuminance Curve



Curves:
[Unit: lx]
[EMax] =1794.385
[EMax*90%]=1614.947
[EMax*80%]=1435.508
[EMax*70%]=1256.070
[EMax*60%]=1076.631
[EMax*50%]=897.193
[EMax*40%]=717.754
[EMax*30%]=538.316
[EMax*20%]=358.877
[EMax*10%]=179.439

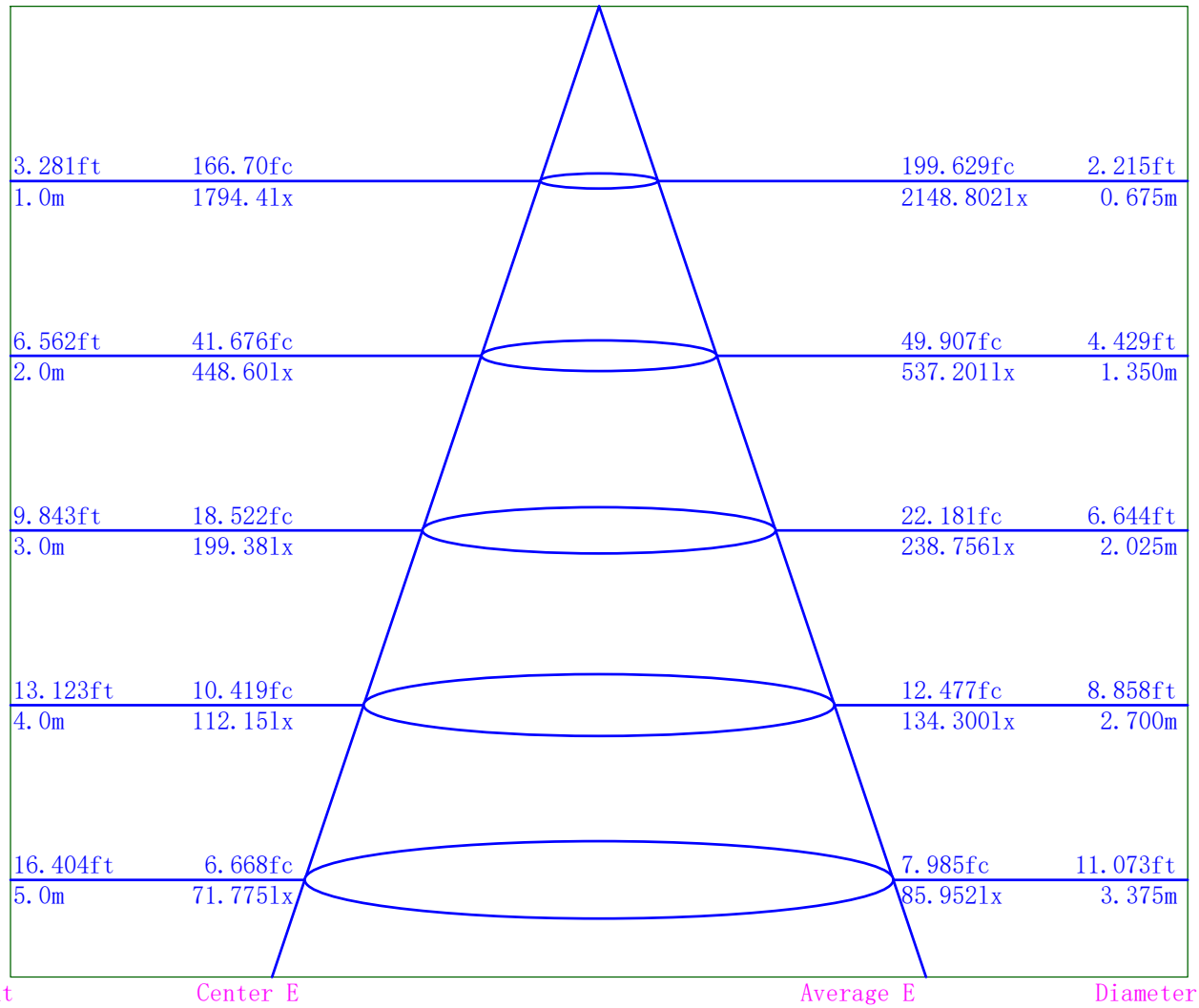
Space Plane Maximum Illuminance and @Angle:1794.39lx,0.0deg
Plane Maximum Lighting Intensity and @Angle:1794.385cd,0eg

IES Indoor Report
Photometric Filename:TR10-12-C5-01 4000K RA90 36D.IES

Illuminance-Distance Diagram

Lum.Name: TR10-12-C5-01 4000K RA90 36D	Lum.Catelog:	Test ID: 01
Lamp Name:	Lamp Catelog: LED	Test Lab: Quality Department
Manufacture: Shenzhen Norming Lighting	Test Machine:GON-2000	Test Date: 2022/11/02

Illuminance-Distance Curve



Beam Angle:37.3

IES Indoor Report
Photometric Filename:TR10-12-C5-01 4000K RA90 36D.IES

Indoor Luminance Limiting Curves

Lum.Name: TR10-12-C5-01 4000K RA90 36D	Lum.Catelog:	Test ID: 01
Lamp Name:	Lamp Catelog: LED	Test Lab: Quality Department
Manufacture: Shenzhen Norming Lighting	Test Machine:GON-2000	Test Date: 2022/11/02

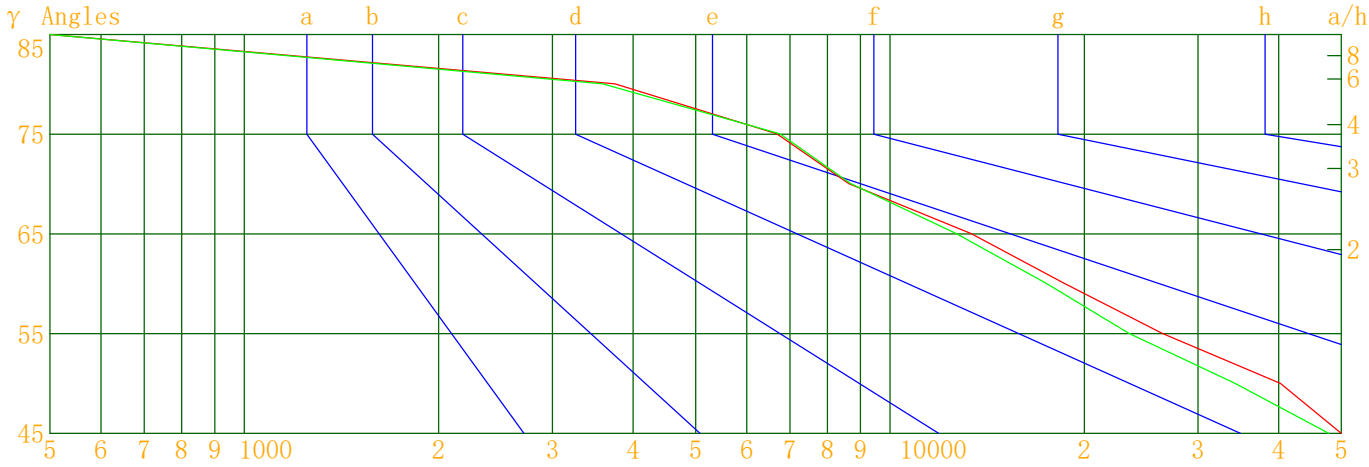
Glare Grade Table

GI	Quality	Using Illuminace							
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	58044	40241	26433	18650	13360	8639	6677	3748	0
C90	47823	34241	23474	17481	12669	8698	6748	3587	0

Luminance Limiting Curve



Luminous Size: Length(m)=0.041 Width(m)=0.041 Height(m)=0.000 Area(m^2)=0.001681

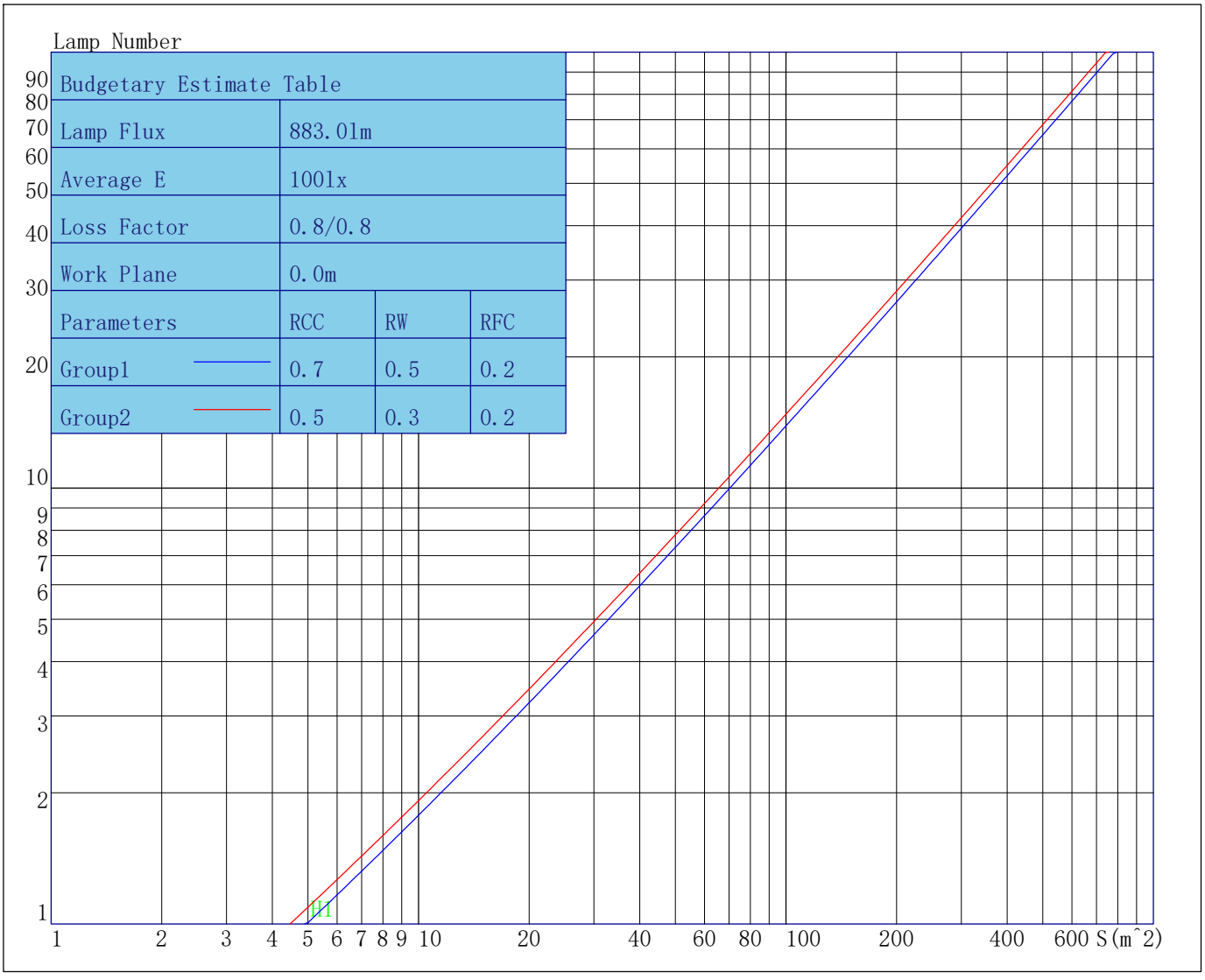
Luminous Type: Without Luminous Side

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

IES Indoor Report
Photometric Filename:TR10-12-C5-01 4000K RA90 36D.IES

Indoor Budgetary Estimate Table

Lum.Name: TR10-12-C5-01 4000K RA90 36D	Lum.Catelog:	Test ID: 01
Lamp Name:	Lamp Catelog: LED	Test Lab: Quality Department
Manufacture: Shenzhen Norming Lighting	Test Machine:GON-2000	Test Date: 2022/11/02



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

IES Indoor Report
Photometric Filename:TR10-12-C5-01 4000K RA90 36D.IES

Indoor Coefficient of Utilization Table

Lum.Name: TR10-12-C5-01 4000K RA90 36D	Lum.Catelog:	Test ID: 01
Lamp Name:	Lamp Catelog: LED	Test Lab: Quality Department
Manufacture: Shenzhen Norming Lighting	Test Machine:GON-2000	Test Date: 2022/11/02

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	0
RCR	Coefficient of Utilization(%)																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	114	111	109	107	111	109	107	105	105	103	102	101	100	99	98	97	96	94
2	109	104	100	97	106	102	99	96	99	96	94	96	94	92	93	91	90	88
3	104	98	93	89	102	96	92	89	94	90	87	91	88	86	89	87	84	83
4	99	92	87	83	97	91	86	82	89	85	81	87	83	81	85	82	80	78
5	95	87	82	78	93	86	81	77	84	80	77	83	79	76	81	78	75	74
6	91	82	77	73	89	82	77	73	80	76	72	79	75	72	78	74	71	70
7	87	78	73	69	86	78	73	69	76	72	69	75	71	68	74	71	68	66
8	83	75	69	66	82	74	69	65	73	68	65	72	68	65	71	67	65	63
9	80	71	66	62	79	71	66	62	70	65	62	69	65	62	68	64	62	60
10	77	68	63	60	76	68	63	59	67	62	59	66	62	59	66	62	59	58

IES Indoor Report
Photometric Filename:TR10-12-C5-01 4000K RA90 36D.IES

Unified Glare Rating Table

Lum.Name: TR10-12-C5-01 4000K RA90 36D	Lum.Catelog:	Test ID: 01
Lamp Name:	Lamp Catelog: LED	Test Lab: Quality Department
Manufacture: Shenzhen Norming Lighting	Test Machine:GON-2000	Test Date: 2022/11/02

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		Vewed crosswise					Vewed endwise				
X=2H	Y=2H	21.1	22.1	21.5	22.5	22.8	20.3	21.3	20.7	21.6	22.0
	Y=3H	21.1	22.0	21.5	22.4	22.7	20.3	21.2	20.7	21.6	21.9
	Y=4H	21.1	21.9	21.5	22.3	22.7	20.3	21.1	20.7	21.5	21.9
	Y=6H	21.0	21.8	21.4	22.1	22.5	20.2	21.0	20.7	21.4	21.8
	Y=8H	20.9	21.7	21.4	22.1	22.5	20.2	20.9	20.6	21.3	21.7
	Y=12H	20.9	21.6	21.3	22.0	22.4	20.1	20.8	20.6	21.2	21.6
X=4H	Y=2H	21.0	21.9	21.4	22.2	22.6	20.2	21.1	20.6	21.4	21.8
	Y=3H	21.1	21.7	21.5	22.1	22.6	20.3	21.0	20.7	21.4	21.8
	Y=4H	21.0	21.6	21.5	22.1	22.5	20.3	20.9	20.7	21.3	21.8
	Y=6H	21.0	21.5	21.4	21.9	22.4	20.2	20.8	20.7	21.2	21.7
	Y=8H	20.9	21.4	21.4	21.8	22.3	20.2	20.7	20.7	21.1	21.6
	Y=12H	20.8	21.2	21.3	21.7	22.2	20.1	20.5	20.6	21.0	21.5
X=8H	Y=4H	20.9	21.4	21.4	21.8	22.3	20.2	20.7	20.7	21.1	21.6
	Y=6H	20.8	21.2	21.3	21.7	22.2	20.1	20.5	20.6	21.0	21.5
	Y=8H	20.8	21.1	21.3	21.6	22.1	20.1	20.4	20.6	20.9	21.4
	Y=12H	20.7	21.0	21.2	21.5	22.1	20.0	20.3	20.5	20.8	21.4
X=12H	Y=4H	20.8	21.2	21.3	21.7	22.2	20.1	20.5	20.6	21.0	21.5
	Y=6H	20.8	21.1	21.3	21.6	22.1	20.1	20.4	20.6	20.9	21.4
	Y=8H	20.7	21.0	21.2	21.5	22.1	20.0	20.3	20.5	20.8	21.4
Variations with the objerver position at spacings											
S=1.0H		1.0/-1.2					1.1/-1.3				
S=1.5H		1.7/-2.1					1.7/-2.2				
S=2.0H		2.7/-3.3					2.6/-3.2				
Reduced UGR Table:											
Nordic Standard Table:		BK0					BK0				
Correction Value		0.3					0.4				

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

IES Indoor Report
Photometric Filename:TR10-12-C5-01 4000K RA90 36D.IES

Candela Tabulation

V/H	C0.0	C90.0	C180.0	C270.0
γ 0.0	1794.39	1794.39	1794.39	1794.39
γ 5.0	1749.60	1728.49	1749.65	1717.07
γ 10.0	1594.39	1533.95	1588.81	1547.03
γ 15.0	1232.96	1176.85	1262.38	1230.86
γ 20.0	754.66	711.60	780.40	771.51
γ 25.0	424.72	373.37	404.95	414.45
γ 30.0	269.51	225.86	240.72	252.71
γ 35.0	171.99	140.43	146.66	157.87
γ 40.0	109.53	90.44	92.83	100.56
γ 45.0	68.99	56.85	59.19	63.24
γ 50.0	43.48	37.00	36.73	39.46
γ 55.0	25.49	22.63	24.57	26.18
γ 60.0	15.68	14.69	14.80	15.22
γ 65.0	9.49	9.00	9.40	9.57
γ 70.0	4.97	5.00	5.39	5.68
γ 75.0	2.90	2.94	3.21	2.98
γ 80.0	1.09	1.05	1.18	1.31
γ 85.0	0.00	0.00	0.00	0.00
γ 90.0	0.00	0.00	0.00	0.00
γ 95.0	0.00	0.00	0.00	0.00
γ 100.0	0.00	0.00	0.00	0.00
γ 105.0	0.00	0.00	0.00	0.00
γ 110.0	0.00	0.00	0.00	0.00
γ 115.0	0.00	0.00	0.00	0.00
γ 120.0	0.00	0.00	0.00	0.00
γ 125.0	0.00	0.00	0.00	0.00
γ 130.0	0.00	0.00	0.00	0.00
γ 135.0	0.00	0.00	0.00	0.00
γ 140.0	0.00	0.00	0.00	0.00
γ 145.0	0.41	0.22	0.73	0.42
γ 150.0	1.12	1.22	1.34	1.16
γ 155.0	1.66	1.78	2.18	1.72
γ 160.0	2.19	2.18	2.39	2.06
γ 165.0	2.01	2.44	2.55	2.45
γ 170.0	2.31	2.91	2.57	2.42
γ 175.0	2.69	2.84	2.80	2.61
γ 180.0	2.83	2.83	2.83	2.83