

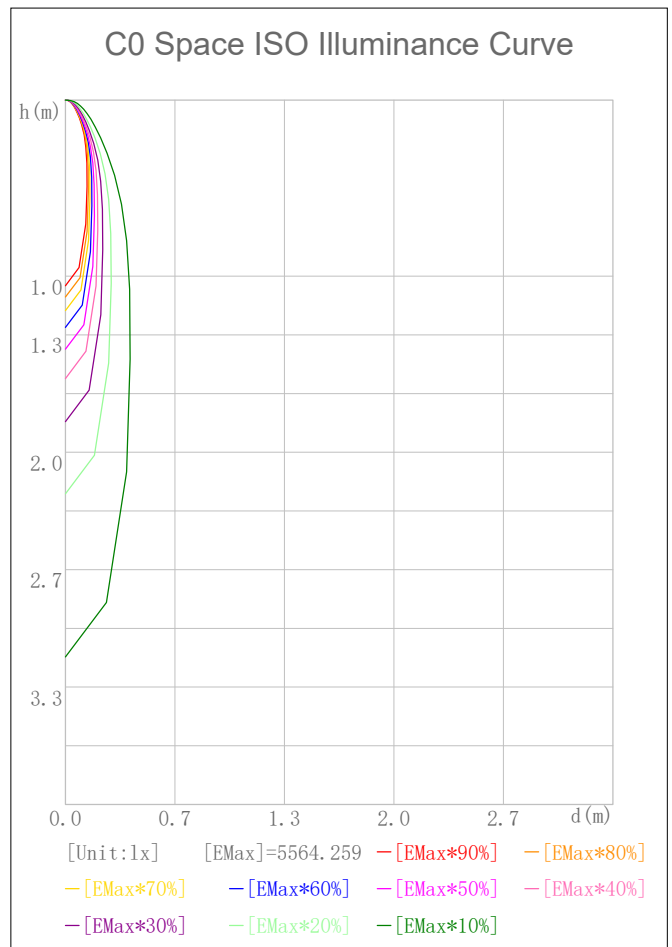
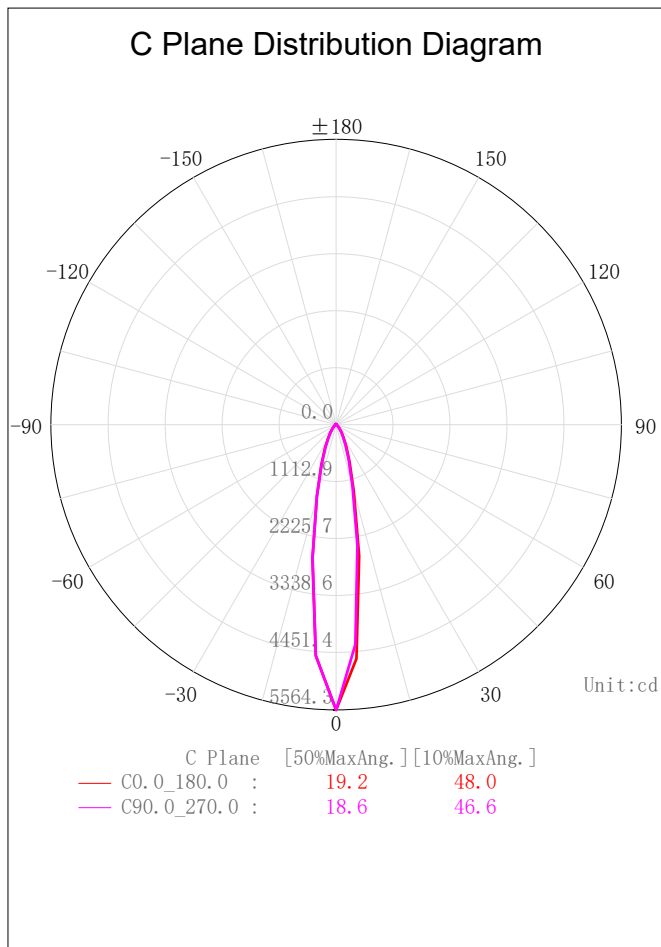
**Indoor Luminaire Photometric Data**

**Description Information**

Luminary Name: MD18-18-DW-03 1800-3000K RA90 15D		Lum. Catalog:	Test ID: 01
Lamp Name:		Lamp Catalog: LED	Test Date: 2022/09/12
Manufacture:		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. (°C): 25	Humidity(%): 50.0

**Character Parameter**

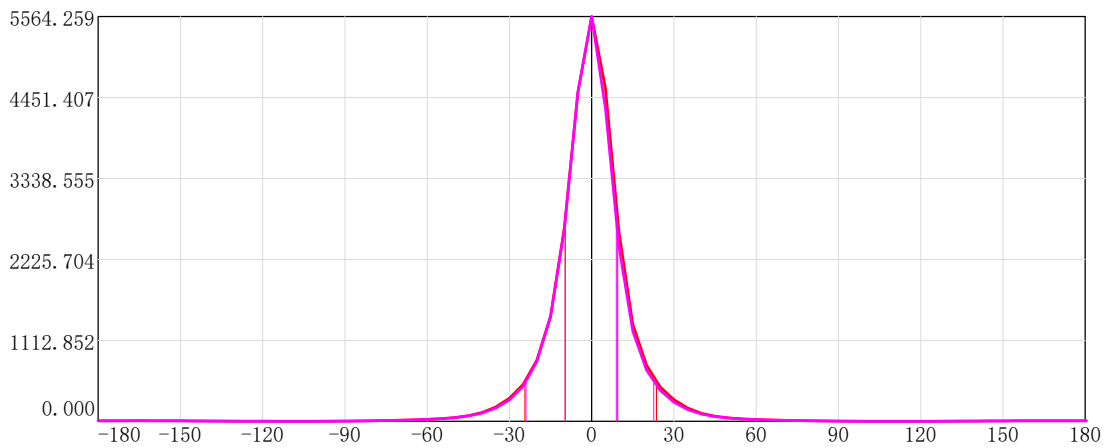
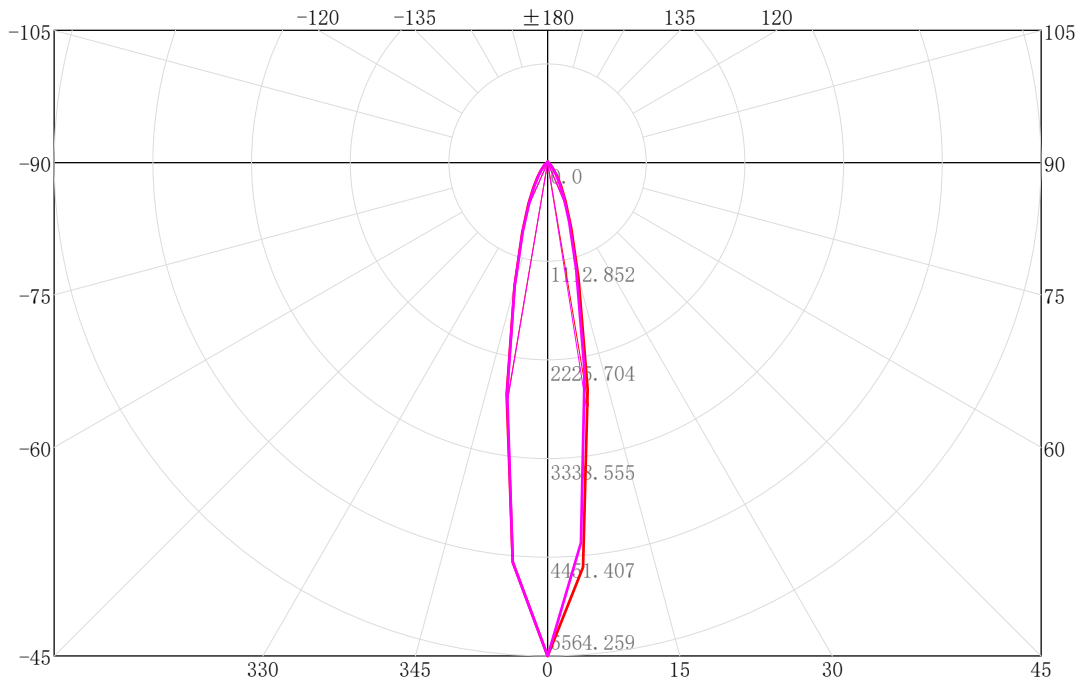
Lamp Speciality Parameter		Luminaire Speciality Parameter	
Rated Flux(lm): 1290.990	Luminary Flux(lm): 1290.993	Field Angle(10%Imax): 48.0(°)	
Rated Power(W):	Luminary Efficiency: 100.00%	Down Lumens&Percent: 1263.845lm 97.90%	
Rated Voltage(V):	Luminary EER(lm/W): 76.662	Up Lumens&Percent: 27.148lm 2.10%	
Tested Power(W): 16.840	Max. Candela(cd): 5564.259	S/MH: C0_a180=0.328 C90_270=0.318	
Lamps' Inside: 1	Max Cand@Ang. (°): C=0.0 γ=0.0	CIE Type: Semi-Direct	
Tested Electrics (V, A, pf): 239.9, 0.072, 0.967	Beam Angle(50%Imax): 19.2(°)	ErP φ use(90°): 1160.781lm	
Lamp Size (W*L*H): 0.041m*0.041m*0.000m	Left=-9.7°, Right=9.5°	IRF(%): 936.333	



**2D Plane Light Intensity Distribution Curve**

Lum. Name: MD18-18-DW-03 1800-3000K RA90 15D	Lum. Catalog:	Test ID: 01
Lamp Name:	Lamp Catalog: LED	Test Lab: Quality Department
Manufacture:	Test Machine:GON-2000	Test Date: 2022/09/12

**C Plane Distribution Diagram**

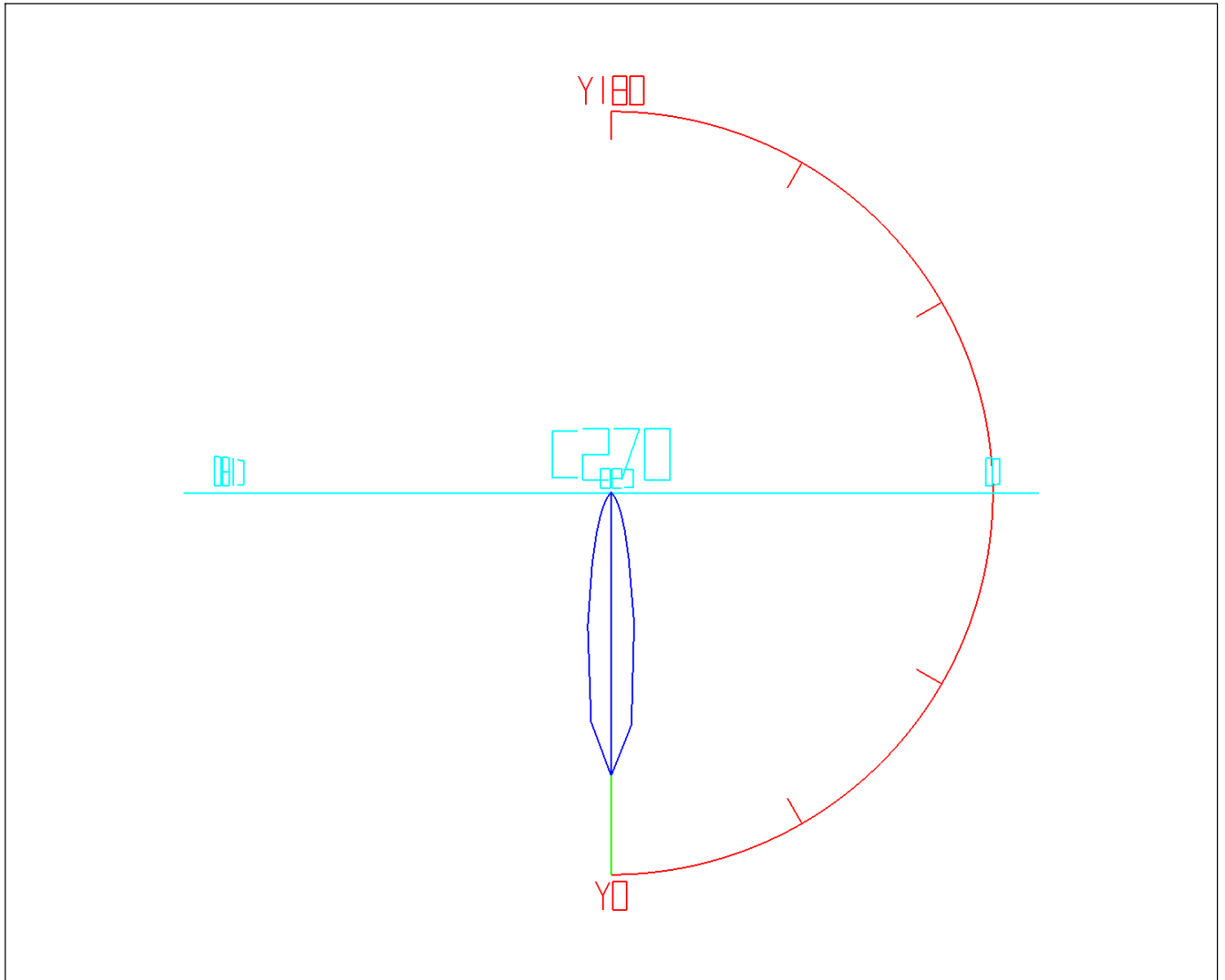


	C Plane	[50%MaxAng.]	[10%MaxAng.]	Unit:cd
—	C0.0_180.0	: 19.2	48.0	
—	C90.0_270.0	: 18.6	46.6	

**3D Light Intensity Distribution Modal**

Lum. Name: MD18-18-DW-03 1800-3000K RA90 15D	Lum. Catalog:	Test ID: 01
Lamp Name:	Lamp Catalog: LED	Test Lab: Quality Department
Manufacture:	Test Machine:GON-2000	Test Date: 2022/09/12

**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

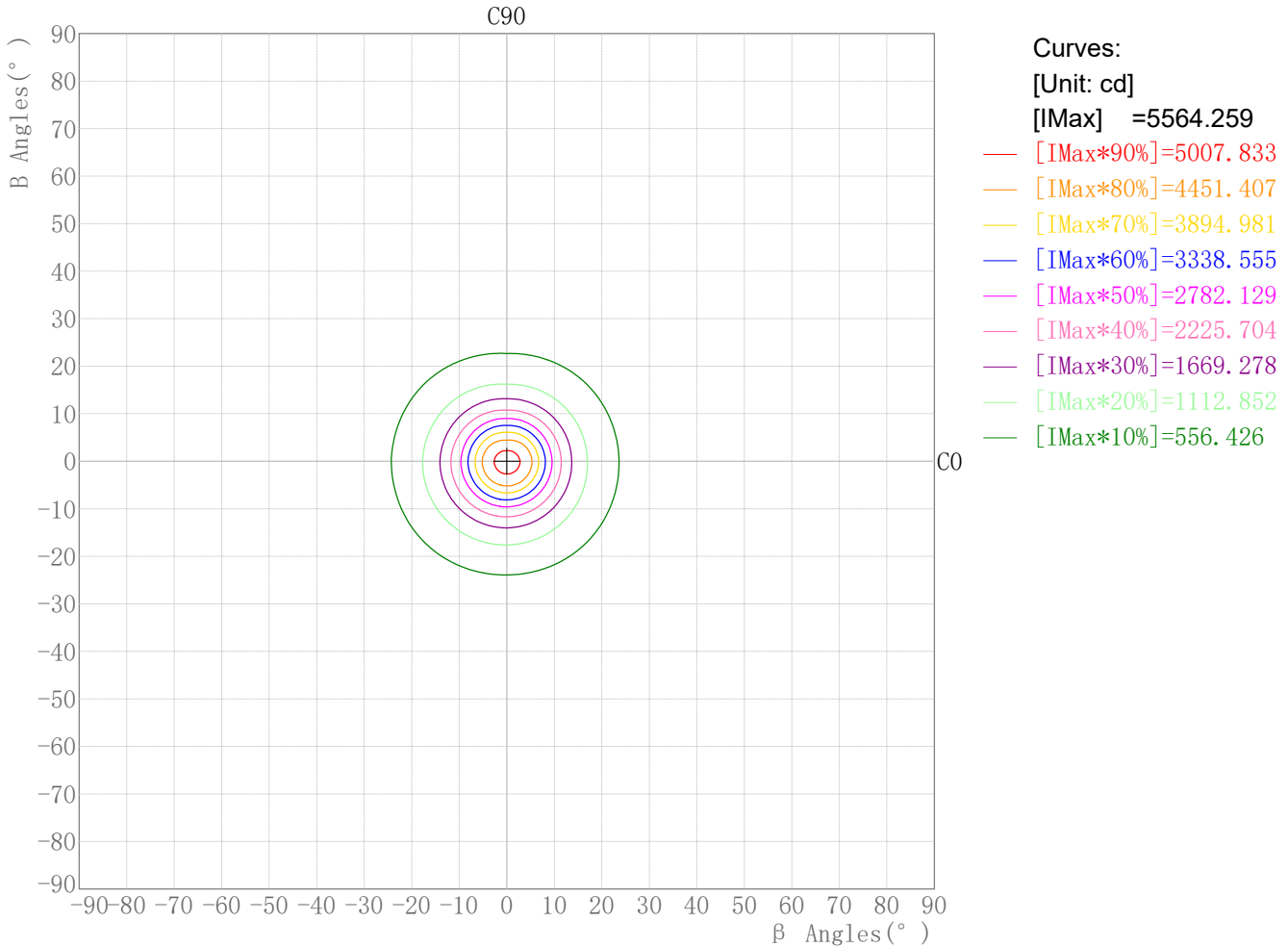
Zone (γ)	Zone Flux (lm)	Sums Flux (lm)	Zone%Lamp	Sums%Lamp
0.0-5.0	120.10	120.10	9.30	9.30
5.0-10.0	252.27	372.37	19.54	28.84
10.0-15.0	233.35	605.72	18.08	46.92
15.0-20.0	177.06	782.79	13.72	60.63
20.0-25.0	132.04	914.83	10.23	70.86
25.0-30.0	97.27	1012.10	7.53	78.40
30.0-35.0	70.19	1082.29	5.44	83.83
35.0-40.0	49.29	1131.59	3.82	87.65
40.0-45.0	34.43	1166.02	2.67	90.32
45.0-50.0	24.69	1190.71	1.91	92.23
50.0-55.0	18.41	1209.12	1.43	93.66
55.0-60.0	14.34	1223.46	1.11	94.77
60.0-65.0	11.35	1234.80	0.88	95.65
65.0-70.0	9.06	1243.87	0.70	96.35
70.0-75.0	7.29	1251.16	0.56	96.91
75.0-80.0	5.74	1256.90	0.44	97.36
80.0-85.0	4.20	1261.11	0.33	97.69
85.0-90.0	2.74	1263.85	0.21	97.90
90.0-95.0	1.97	1265.82	0.15	98.05
95.0-100.0	1.76	1267.58	0.14	98.19
100.0-105.0	1.61	1269.19	0.12	98.31
105.0-110.0	1.45	1270.63	0.11	98.42
110.0-115.0	1.33	1271.96	0.10	98.53
115.0-120.0	1.28	1273.24	0.10	98.63
120.0-125.0	1.29	1274.54	0.10	98.73
125.0-130.0	1.37	1275.91	0.11	98.83
130.0-135.0	1.55	1277.45	0.12	98.95
135.0-140.0	1.80	1279.26	0.14	99.09
140.0-145.0	2.07	1281.33	0.16	99.25
145.0-150.0	2.19	1283.51	0.17	99.42
150.0-155.0	2.08	1285.59	0.16	99.58
155.0-160.0	1.85	1287.45	0.14	99.73
160.0-165.0	1.53	1288.98	0.12	99.84
165.0-170.0	1.12	1290.10	0.09	99.93
170.0-175.0	0.67	1290.77	0.05	99.98
175.0-180.0	0.23	1290.99	0.02	100.00

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**Rectangle ISO Lighting Intensity Diagram**

Lum. Name: MD18-18-DW-03 1800-3000K RA90 15D	Lum. Catalog:	Test ID: 01
Lamp Name:	Lamp Catalog: LED	Test Lab: Quality Department
Manufacture:	Test Machine:GON-2000	Test Date: 2022/09/12

**ISO Lighting Intensity Curve**

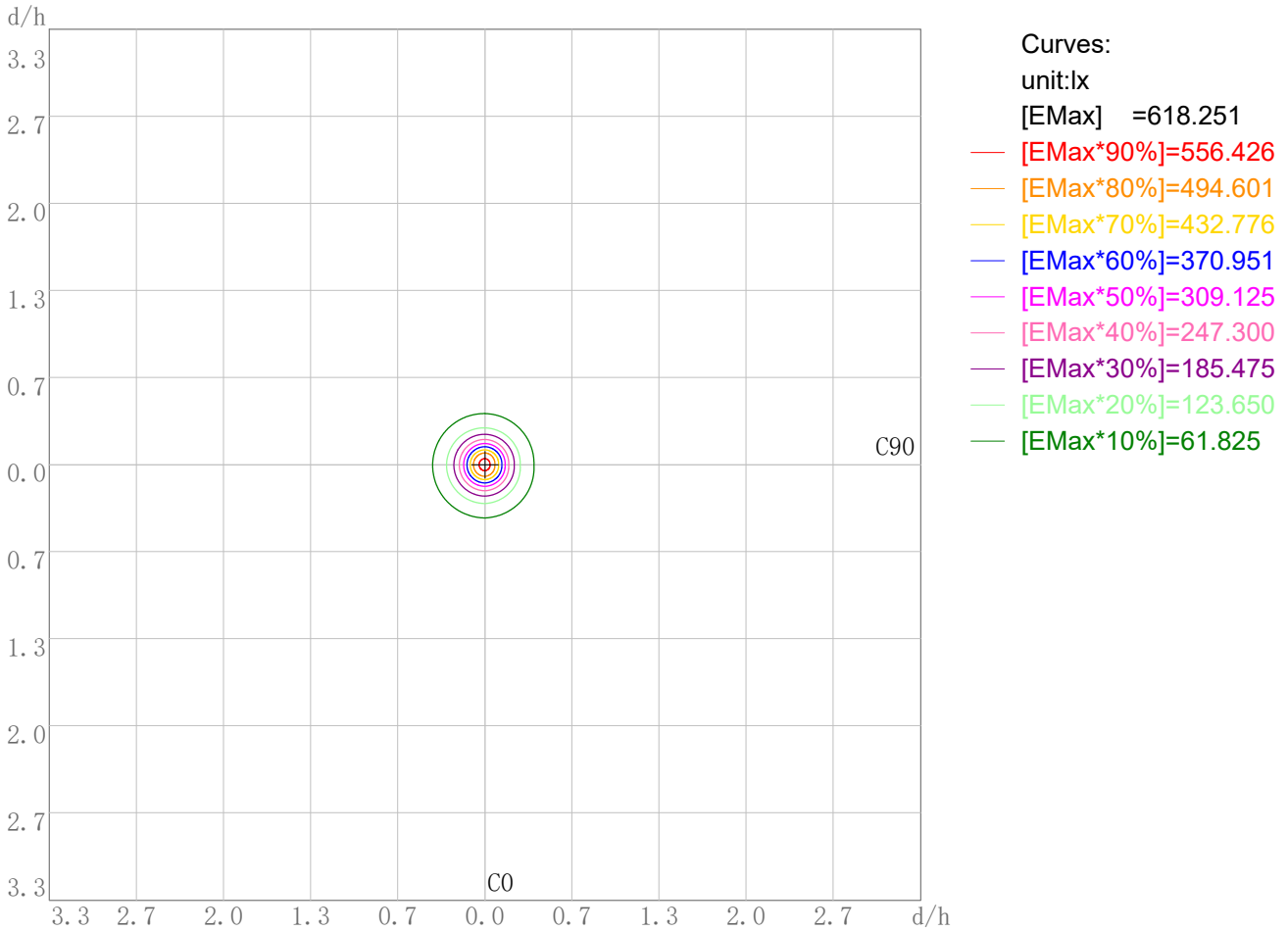


Maximum Light Intensity(cd): 5564.26  
 Maximum Cand.@Angle: H=0.0°,V=0.0°

**Plane ISO-Illuminance Diagram**

Lum. Name: MD18-18-DW-03 1800-3000K RA90 15D	Lum. Catalog:	Test ID: 01
Lamp Name:	Lamp Catalog: LED	Test Lab: Quality Department
Manufacture:	Test Machine:GON-2000	Test Date: 2022/09/12

**Plane ISO-Illuminance Curve**

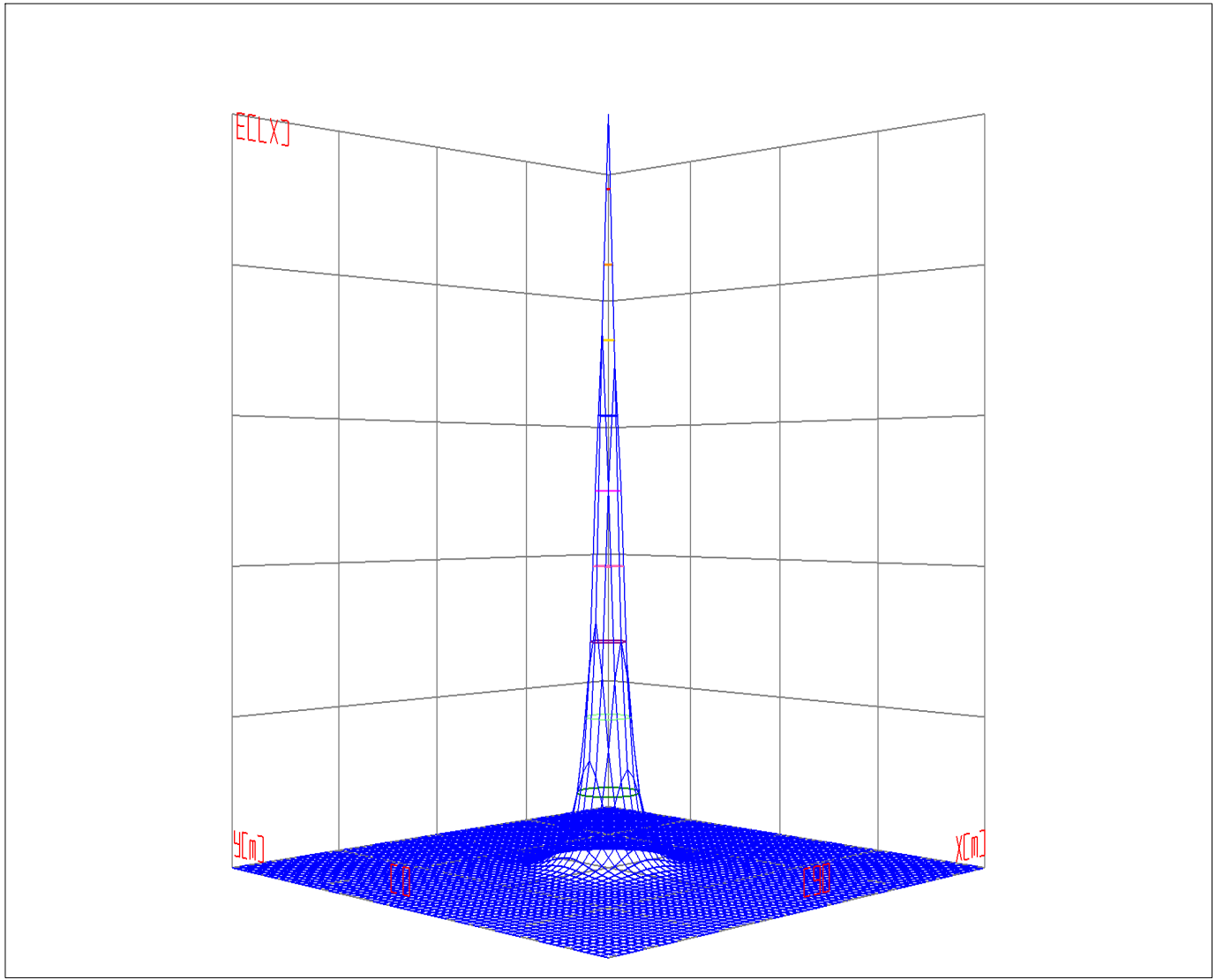


Working Plane Luminaire Mounting Height(m): 3.00  
 Working Plane Maximum Illuminance(lx): 618.25  
 Working Plane Maximum Illuminance Position(d/h):H0.0 V0.0

**3D Plane ISO Illuminance Diagram**

Lum. Name: MD18-18-DW-03 1800-3000K RA90 15D	Lum. Catalog:	Test ID: 01
Lamp Name:	Lamp Catalog: LED	Test Lab: Quality Department
Manufacture:	Test Machine:GON-2000	Test Date: 2022/09/12

**3D Plane Illuminance Modal**

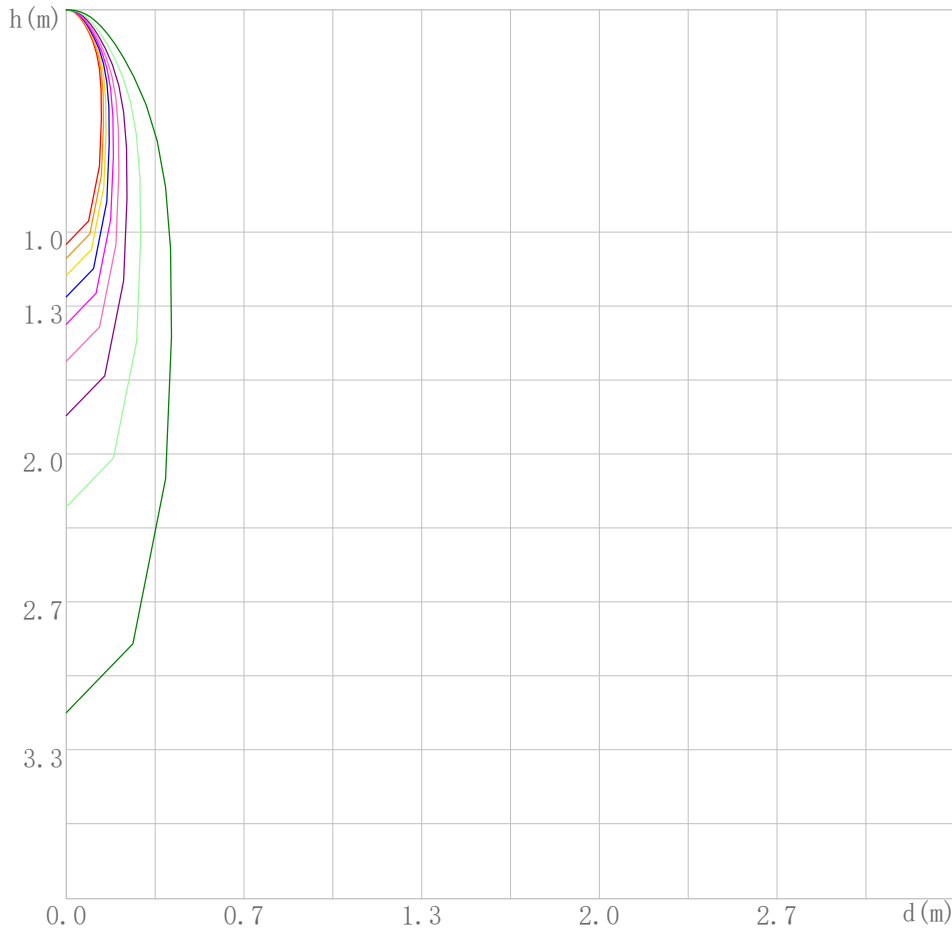


Curves: 3D Model — 90% — 80% — 70% — 60% — 50% — 40% — 30% — 20% — 10% —  
 View Angles(deg): 0    Height(m): 3.0    Distance(m): 10.0

**Space ISO Illuminance Diagram**

Lum. Name: MD18-18-DW-03 1800-3000K RA90 15D	Lum. Catalog:	Test ID: 01
Lamp Name:	Lamp Catalog: LED	Test Lab: Quality Department
Manufacture:	Test Machine:GON-2000	Test Date: 2022/09/12

**Space ISO Illuminance Curve**



- Curves:  
 [Unit: lx]  
 [EMax] =5564.259
- [EMax\*90%]=5007.833
  - [EMax\*80%]=4451.407
  - [EMax\*70%]=3894.981
  - [EMax\*60%]=3338.555
  - [EMax\*50%]=2782.129
  - [EMax\*40%]=2225.704
  - [EMax\*30%]=1669.278
  - [EMax\*20%]=1112.852
  - [EMax\*10%]=556.426

Space Plane Maximum Illuminance and @Angle:5564.26lx,0.0deg  
 Plane Maximum Lighting Intensity and @Angle:5564.259cd,0deg



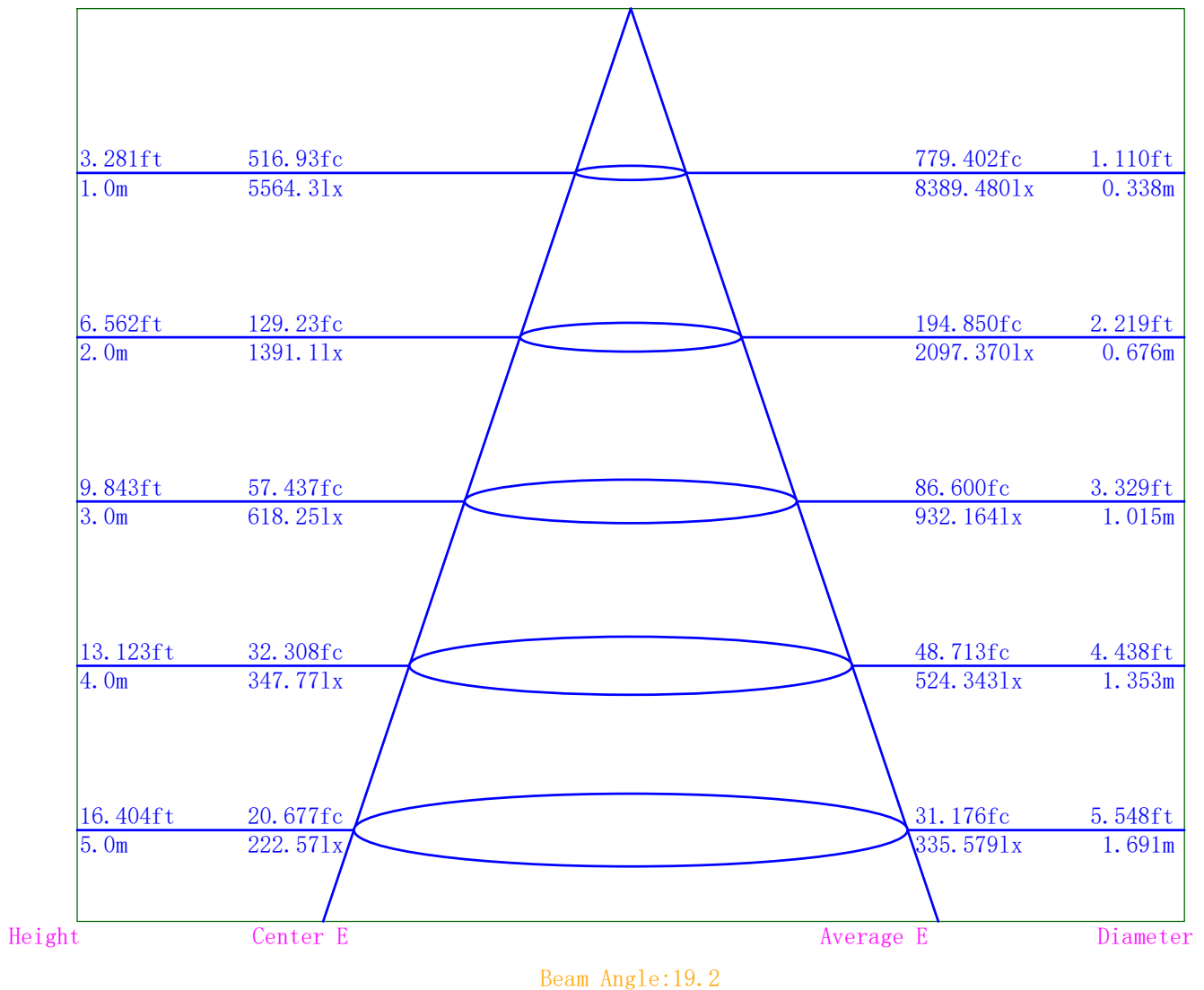
**IES Indoor Report**

**Photometric Filename:MD18-18-DW-03 1800-3000K RA90 15D.IES**

**Illuminance-Distance Diagram**

Lum. Name: MD18-18-DW-03 1800-3000K RA90 15D	Lum. Catalog:	Test ID: 01
Lamp Name:	Lamp Catalog: LED	Test Lab: Quality Department
Manufacture:	Test Machine:GON-2000	Test Date: 2022/09/12

**Illuminance-Distance Curve**



**Indoor Luminance Limiting Curves**

Lum. Name: MD18-18-DW-03 1800-3000K RA90 15D	Lum. Catalog:	Test ID: 01
Lamp Name:	Lamp Catalog: LED	Test Lab: Quality Department
Manufacture:	Test Machine:GON-2000	Test Date: 2022/09/12

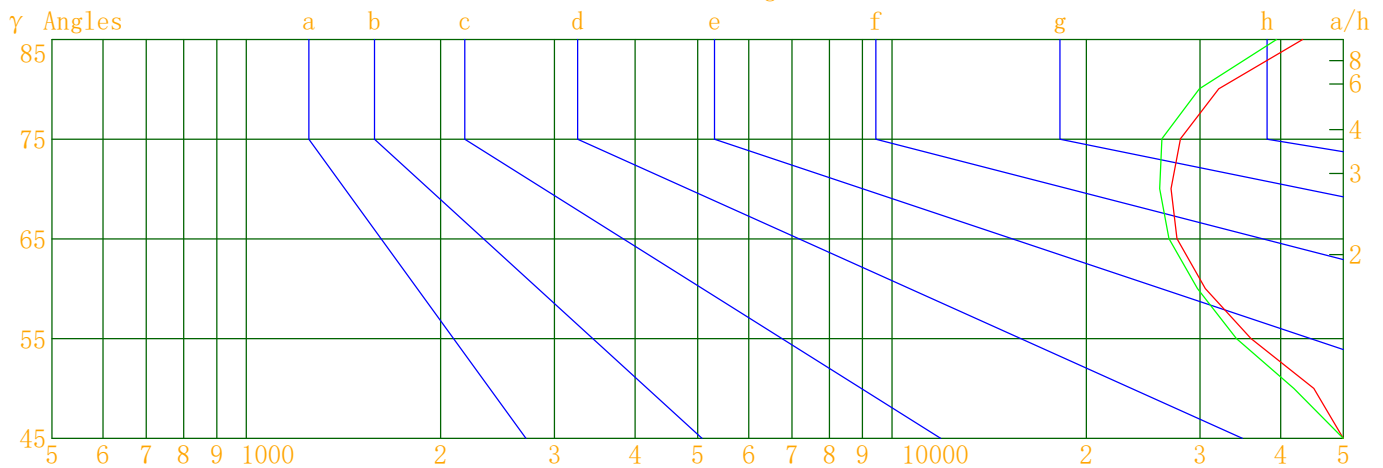
Glare Grade Table

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	60863	45015	35976	30568	27631	27045	27981	32076	43247
C90	55312	41923	34155	29719	26856	25973	26191	29928	39411

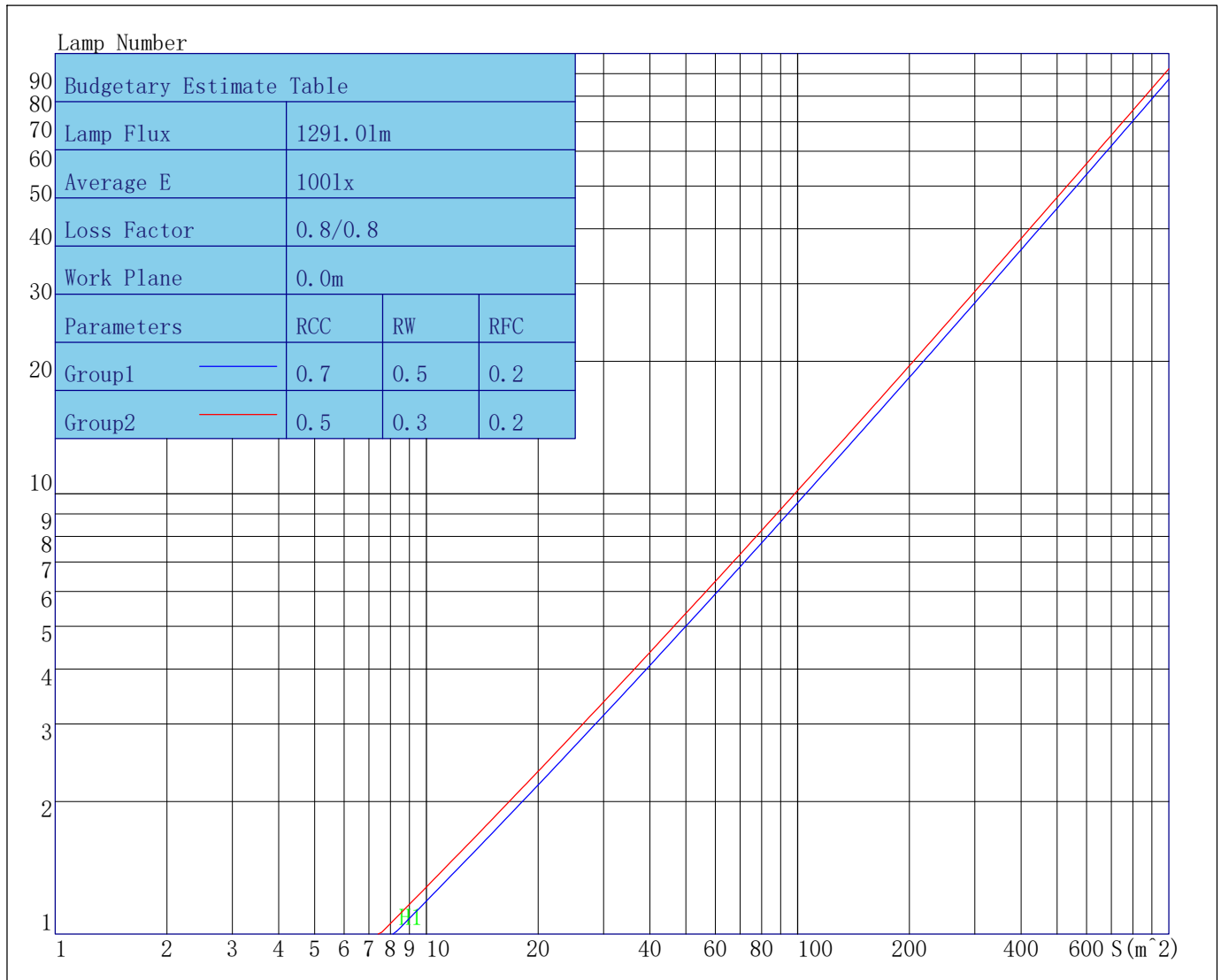
Luminance Limiting Curve



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: ———

**Indoor Budgetary Estimate Table**

Lum. Name: MD18-18-DW-03 1800-3000K RA90 15D	Lum. Catalog:	Test ID: 01
Lamp Name:	Lamp Catalog: LED	Test Lab: Quality Department
Manufacture:	Test Machine:GON-2000	Test Date: 2022/09/12



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: MD18-18-DW-03 1800-3000K RA90 15D	Lum. Catalog:	Test ID: 01
Lamp Name:	Lamp Catalog: LED	Test Lab: Quality Department
Manufacture:	Test Machine:GON-2000	Test Date: 2022/09/12

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

**IES Indoor Report**

**Photometric Filename:MD18-18-DW-03 1800-3000K RA90 15D.IES**

**Unified Glare Rating Table**

<b>Lum. Name:</b> MD18-18-DW-03 1800-3000K RA90 15D	<b>Lum. Catalog:</b>	<b>Test ID:</b> 01
<b>Lamp Name:</b>	<b>Lamp Catalog:</b> LED	<b>Test Lab:</b> Quality Department
<b>Manufacture:</b>	<b>Test Machine:</b> GON-2000	<b>Test Date:</b> 2022/09/12

**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	20.9	22.0	21.3	22.3	22.7	20.6	21.6	21.0	22.0	22.3
Y=3H	21.5	22.4	22.0	22.8	23.2	21.2	22.1	21.6	22.5	22.9
Y=4H	21.9	22.7	22.3	23.1	23.6	21.6	22.4	22.0	22.8	23.3
Y=6H	22.3	23.1	22.8	23.5	23.9	22.0	22.7	22.4	23.2	23.6
Y=8H	22.5	23.2	23.0	23.7	24.1	22.2	22.9	22.7	23.3	23.8
Y=12H	22.8	23.4	23.2	23.9	24.4	22.4	23.1	22.9	23.5	24.0
X=4H Y=2H	21.1	21.9	21.5	22.3	22.7	20.8	21.6	21.2	22.0	22.4
Y=3H	21.9	22.6	22.3	23.0	23.5	21.6	22.3	22.1	22.8	23.2
Y=4H	22.4	23.0	22.9	23.5	24.0	22.1	22.7	22.6	23.2	23.7
Y=6H	23.0	23.5	23.5	24.0	24.5	22.7	23.2	23.2	23.7	24.2
Y=8H	23.3	23.8	23.8	24.3	24.8	23.0	23.5	23.5	24.0	24.5
Y=12H	23.6	24.1	24.2	24.6	25.1	23.3	23.7	23.8	24.3	24.8
X=8H Y=4H	22.6	23.1	23.1	23.5	24.1	22.3	22.8	22.8	23.3	23.8
Y=6H	23.4	23.7	23.9	24.3	24.9	23.1	23.5	23.6	24.0	24.6
Y=8H	23.8	24.1	24.4	24.7	25.3	23.5	23.9	24.1	24.4	25.0
Y=12H	24.3	24.6	24.9	25.1	25.8	24.0	24.3	24.5	24.8	25.5
X=12H Y=4H	22.6	23.0	23.1	23.5	24.1	22.3	22.8	22.9	23.3	23.8
Y=6H	23.4	23.8	24.0	24.3	24.9	23.2	23.5	23.7	24.0	24.6
Y=8H	23.9	24.3	24.5	24.8	25.4	23.7	24.0	24.2	24.5	25.1
Variations with the objerver position at spacings										
S=1.0H	0.2/-0.2					0.3/-0.3				
S=1.5H	0.4/-0.4					0.4/-0.5				
S=2.0H	0.5/-0.5					0.5/-0.6				
Reduced UGR Table:										
Nordic Standard Table:	BKO					BKO				
Correction Value	2.4					2.4				

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

# IES Indoor Report

Photometric Filename:MD18-18-DW-03 1800-3000K RA90 15D.IES

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## Candela Tabulation

V/H	C0.0	C90.0	C180.0	C270.0
γ 0.0	5564.26	5564.26	5564.26	5564.26
γ 5.0	4580.59	4303.68	4521.10	4523.09
γ 10.0	2596.74	2397.91	2656.24	2628.58
γ 15.0	1335.67	1241.02	1443.21	1435.81
γ 20.0	772.68	704.93	840.74	819.86
γ 25.0	475.71	426.77	511.31	483.94
γ 30.0	298.78	264.79	317.88	295.30
γ 35.0	185.08	163.67	197.73	183.45
γ 40.0	112.93	101.81	122.46	114.70
γ 45.0	72.35	65.75	78.67	75.08
γ 50.0	48.64	45.30	51.87	51.18
γ 55.0	34.69	32.93	37.22	36.85
γ 60.0	25.69	24.98	27.73	27.99
γ 65.0	19.63	19.08	21.01	20.61
γ 70.0	15.55	14.93	16.62	15.75
γ 75.0	12.17	11.40	12.84	12.33
γ 80.0	9.36	8.74	9.66	9.38
γ 85.0	6.34	5.77	6.37	6.23
γ 90.0	3.96	3.62	3.93	3.79
γ 95.0	3.60	3.29	3.62	3.03
γ 100.0	3.20	3.30	3.15	2.77
γ 105.0	3.13	3.18	2.89	2.39
γ 110.0	2.46	2.74	2.90	2.42
γ 115.0	2.63	2.29	2.92	2.62
γ 120.0	2.54	2.30	3.40	2.39
γ 125.0	2.60	2.86	3.29	3.00
γ 130.0	3.39	3.30	3.64	3.14
γ 135.0	4.28	3.93	4.89	4.03
γ 140.0	5.21	5.47	5.70	5.45
γ 145.0	6.63	6.65	7.49	6.99
γ 150.0	7.65	7.69	8.21	8.10
γ 155.0	8.43	8.41	8.86	8.37
γ 160.0	9.16	9.07	9.54	8.89
γ 165.0	9.23	9.51	9.93	9.01
γ 170.0	9.34	9.44	9.54	9.35
γ 175.0	9.26	9.53	9.49	9.15
γ 180.0	9.54	9.54	9.54	9.54

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