

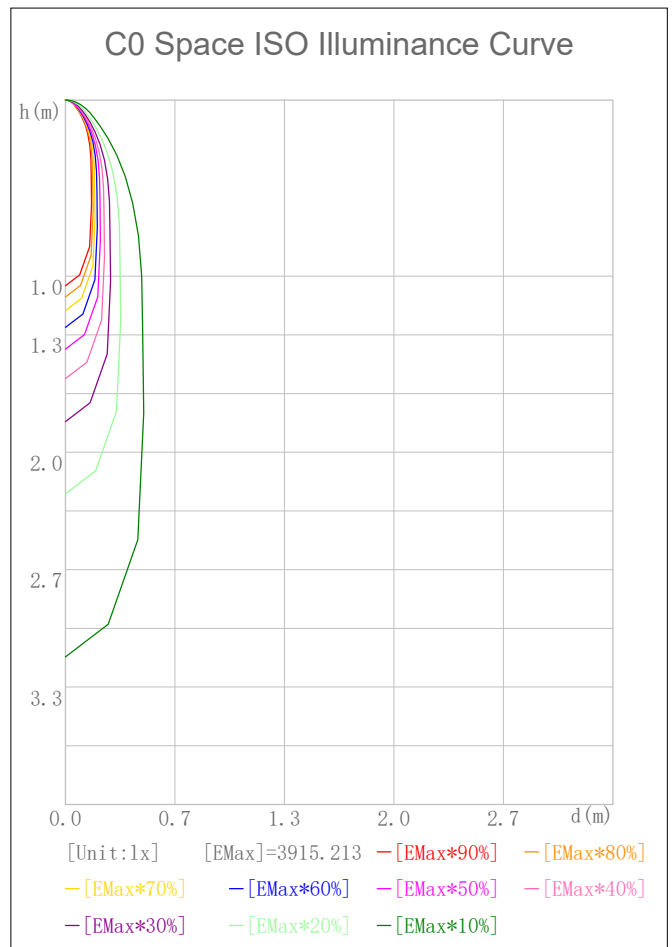
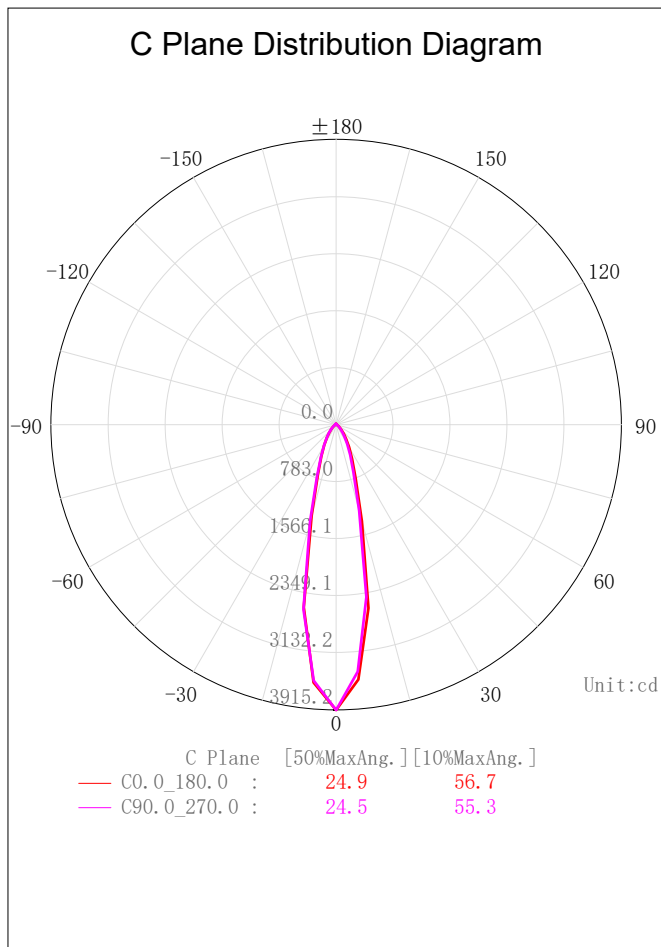
Indoor Luminaire Photometric Data

Description Information

Luminary Name: MD18-18-DW-03 1800-3000K RA90 24D		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

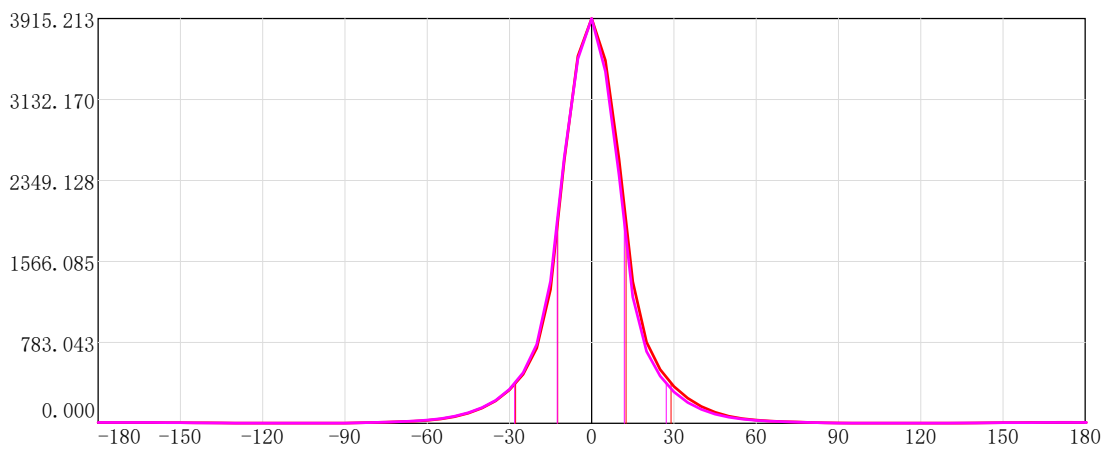
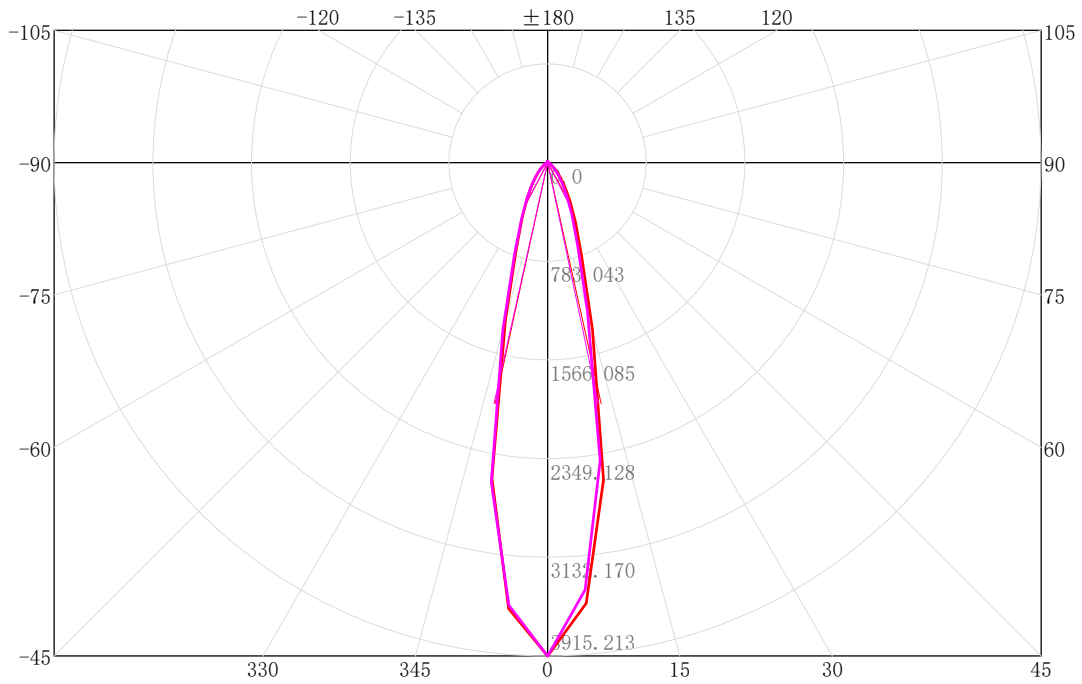
Lamp Speciality Parameter		Luminaire Speciality Parameter	
Rated Flux(lm): 1268.400	Luminary Flux(lm): 1268.400	Field Angle(10%Imax): 56.7(°)	
Rated Power(W):	Luminary Efficiency: 100.00%	Down Lumens&Percent: 1241.571lm 97.88%	
Rated Voltage(V):	Luminary EER(lm/W): 77.673	Up Lumens&Percent: 26.828lm 2.12%	
Tested Power(W): 16.330	Max. Candela(cd): 3915.213	S/MH: C0_a180=0.423 C90_270=0.415	
Lamps' Inside: 1	Max Cand@Ang. (°): C=0.0 γ=0.0	CIE Type: Semi-Direct	
Tested Electrics (V, A, pf): 239.9, 0.070, 0.968	Beam Angle(50%Imax): 24.9(°)	ErP φ use(90°): 1111.365lm	
Lamp Size (W*L*H): 0.041m*0.041m*0.000m	Left=-12.3°, Right=12.5°	IRF(%): 679.066	



2D Plane Light Intensity Distribution Curve

Lum. Name: MD18-18-DW-03 1800-3000K RA90 24D	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

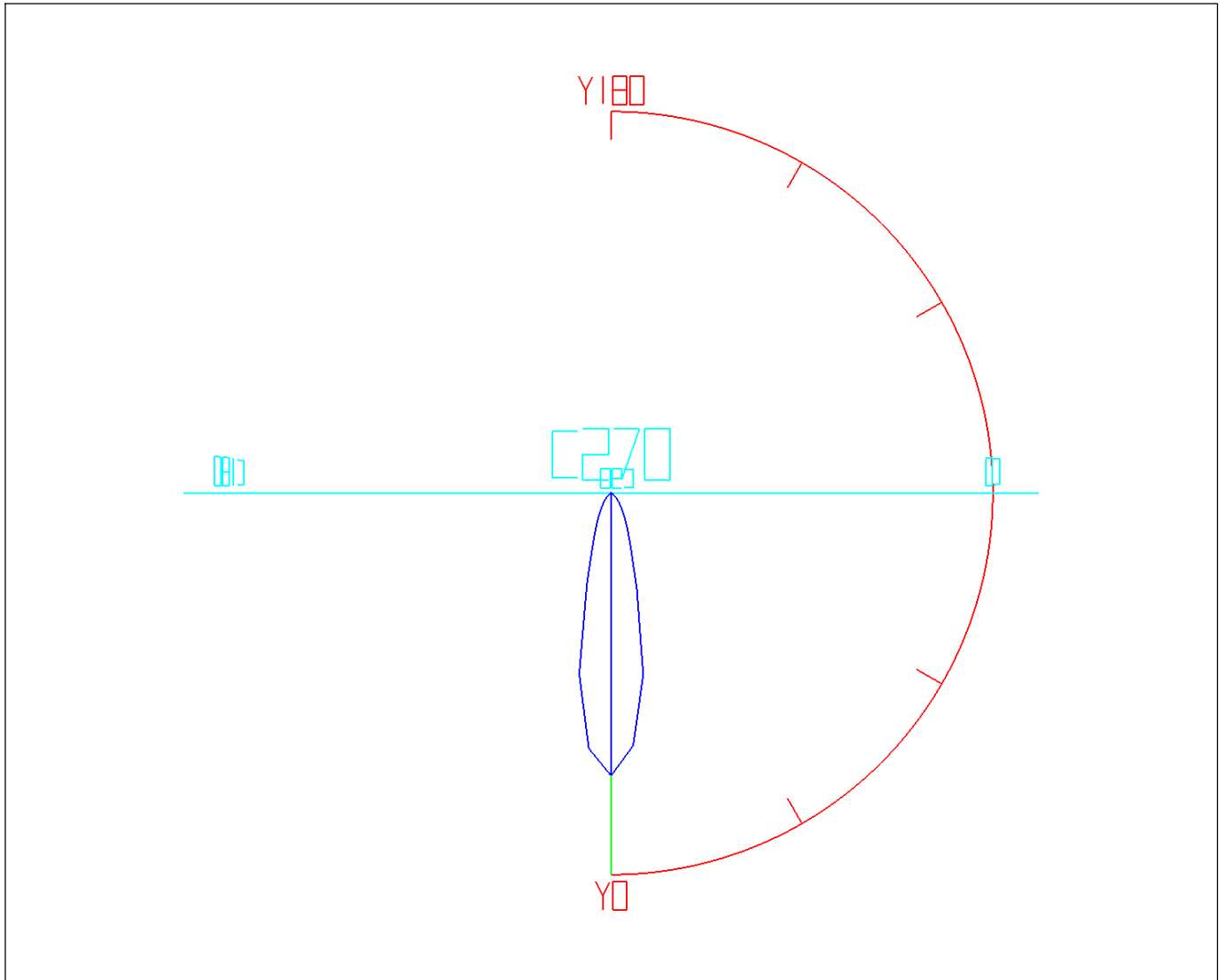


C Plane	[50%MaxAng.]	[10%MaxAng.]	Unit:cd
C0.0_180.0	: 24.9	56.7	
C90.0_270.0	: 24.5	55.3	

3D Light Intensity Distribution Modal

Lum. Name: MD18-18-DW-03 1800-3000K RA90 24D	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

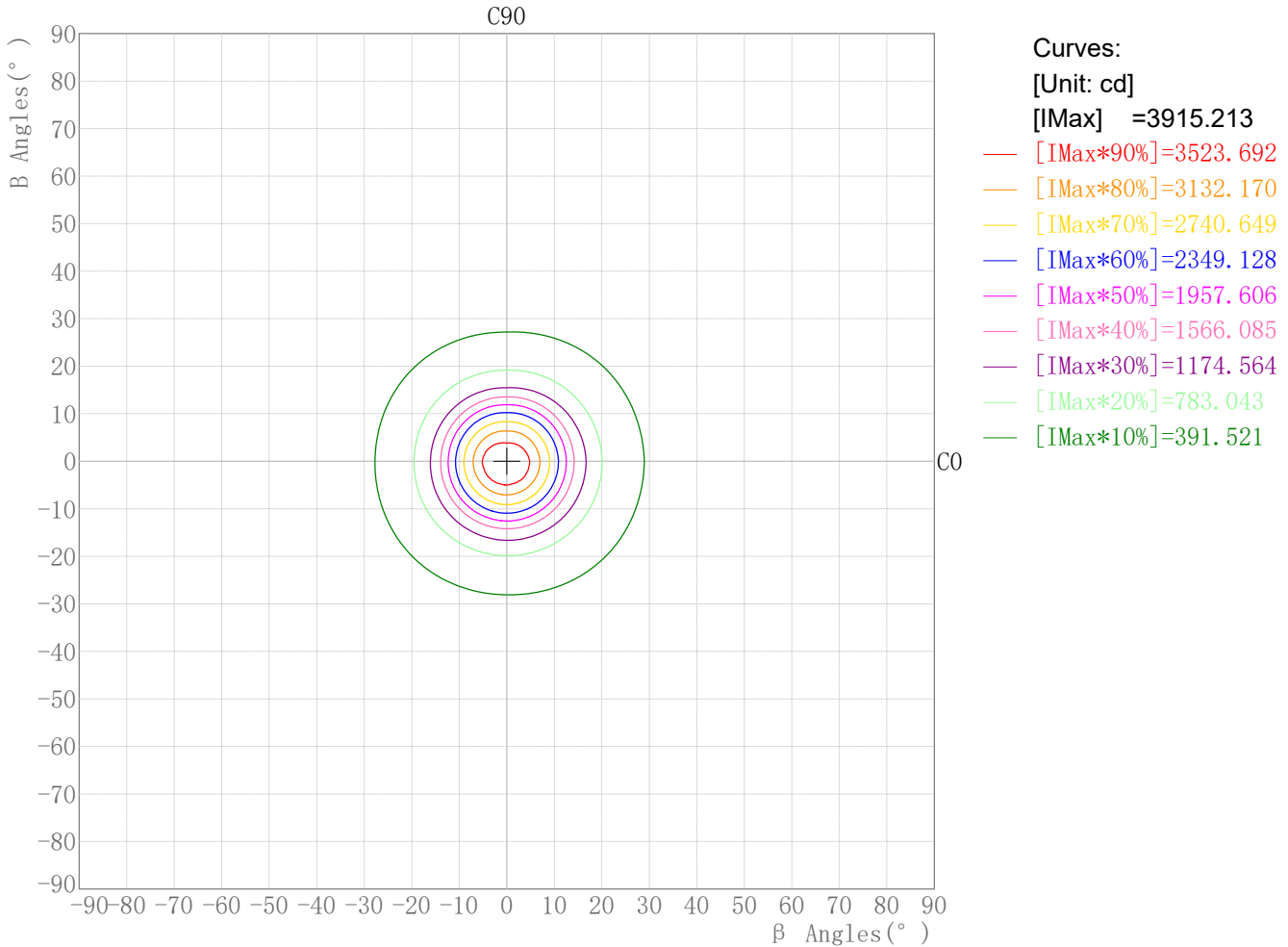
Zonal Flux Tabulation

Zone (γ)	Zone Flux (lm)	Sums Flux (lm)	Zone%Lamp	Sums%Lamp
0.0-5.0	88.62	88.62	6.99	6.99
5.0-10.0	215.22	303.84	16.97	23.95
10.0-15.0	227.51	531.35	17.94	41.89
15.0-20.0	169.80	701.15	13.39	55.28
20.0-25.0	129.04	830.19	10.17	65.45
25.0-30.0	103.18	933.37	8.13	73.59
30.0-35.0	81.15	1014.53	6.40	79.98
35.0-40.0	62.22	1076.75	4.91	84.89
40.0-45.0	46.49	1123.24	3.67	88.56
45.0-50.0	33.63	1156.86	2.65	91.21
50.0-55.0	23.95	1180.81	1.89	93.09
55.0-60.0	17.35	1198.16	1.37	94.46
60.0-65.0	13.04	1211.20	1.03	95.49
65.0-70.0	10.08	1221.27	0.79	96.28
70.0-75.0	7.77	1229.04	0.61	96.90
75.0-80.0	5.84	1234.89	0.46	97.36
80.0-85.0	4.06	1238.95	0.32	97.68
85.0-90.0	2.63	1241.57	0.21	97.88
90.0-95.0	2.01	1243.58	0.16	98.04
95.0-100.0	1.79	1245.37	0.14	98.18
100.0-105.0	1.63	1247.00	0.13	98.31
105.0-110.0	1.49	1248.48	0.12	98.43
110.0-115.0	1.38	1249.86	0.11	98.54
115.0-120.0	1.34	1251.20	0.11	98.64
120.0-125.0	1.32	1252.52	0.10	98.75
125.0-130.0	1.37	1253.89	0.11	98.86
130.0-135.0	1.52	1255.42	0.12	98.98
135.0-140.0	1.75	1257.17	0.14	99.11
140.0-145.0	1.96	1259.13	0.15	99.27
145.0-150.0	2.05	1261.18	0.16	99.43
150.0-155.0	1.97	1263.15	0.16	99.59
155.0-160.0	1.79	1264.95	0.14	99.73
160.0-165.0	1.48	1266.43	0.12	99.84
165.0-170.0	1.09	1267.52	0.09	99.93
170.0-175.0	0.66	1268.17	0.05	99.98
175.0-180.0	0.23	1268.40	0.02	100.00

Rectangle ISO Lighting Intensity Diagram

Lum. Name: MD18-18-DW-03 1800-3000K RA90 24D	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

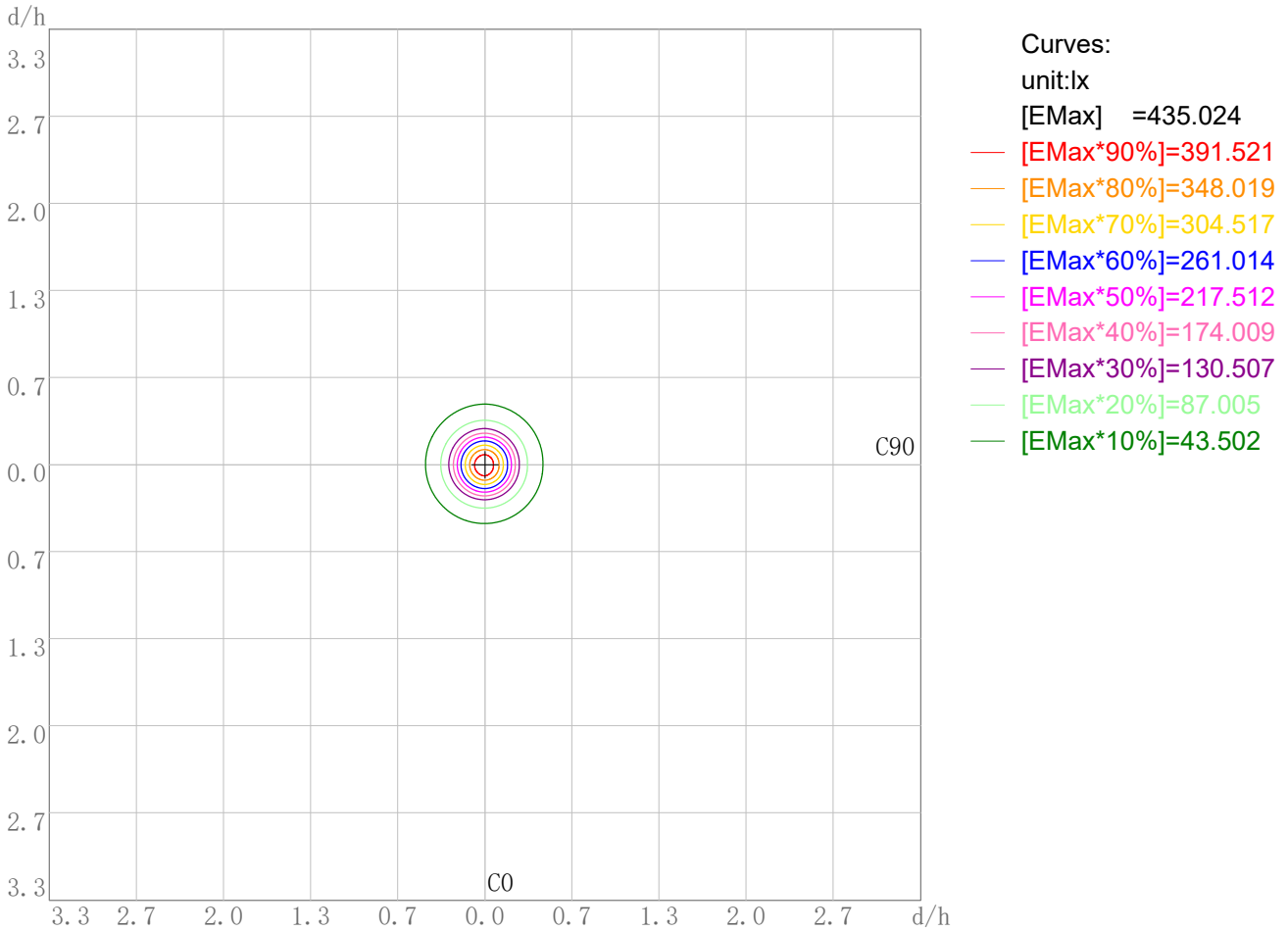


Maximum Light Intensity(cd): 3915.21
 Maximum Cand.@Angle: H=0.0°,V=0.0°

Plane ISO-Illuminance Diagram

Lum. Name: MD18-18-DW-03 1800-3000K RA90 24D	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

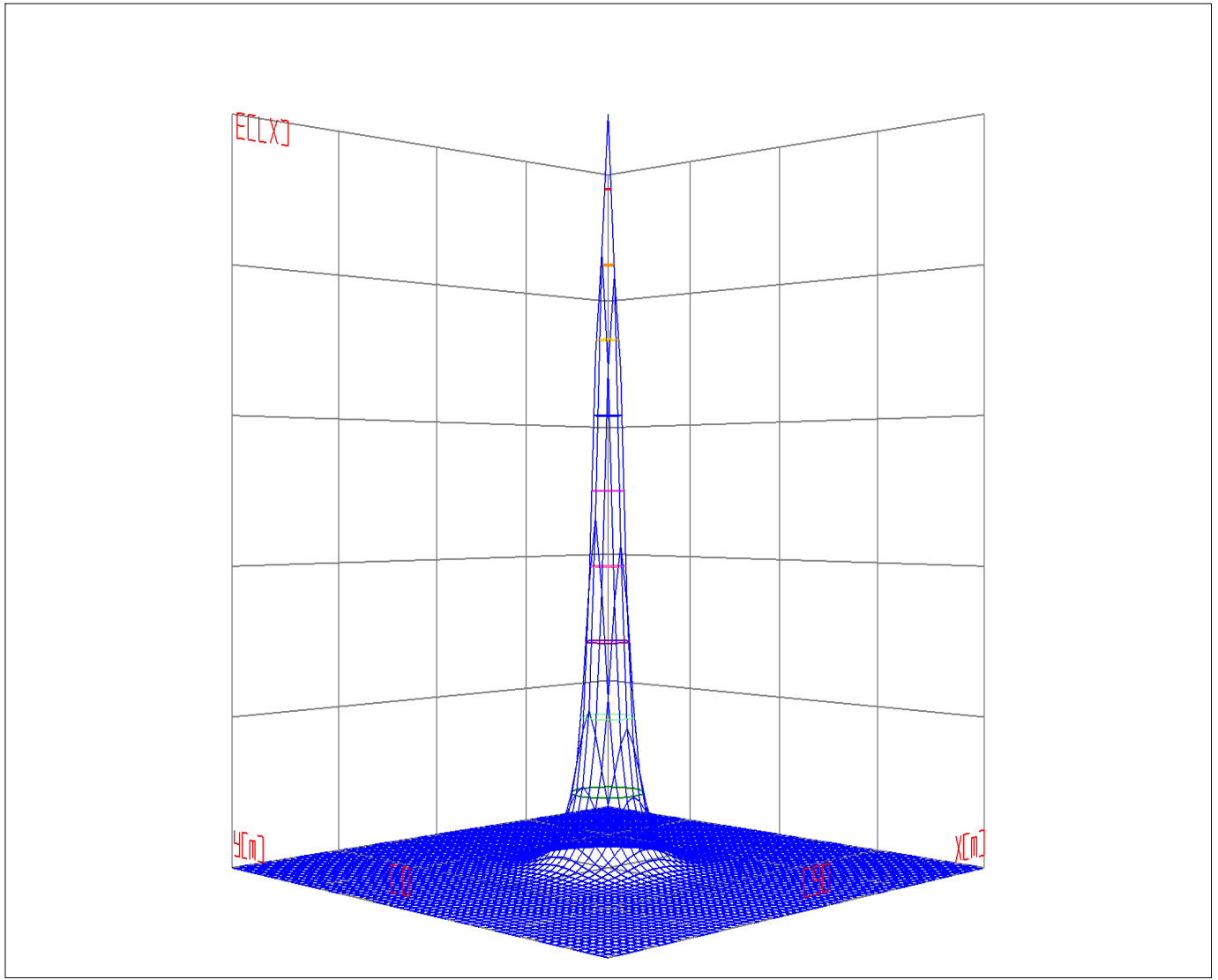


Working Plane Luminaire Mounting Height(m): 3.00
 Working Plane Maximum Illuminance(lx): 435.02
 Working Plane Maximum Illuminance Position(d/h):H0.0 V0.0

3D Plane ISO Illuminance Diagram

Lum. Name: MD18-18-DW-03 1800-3000K RA90 24D	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

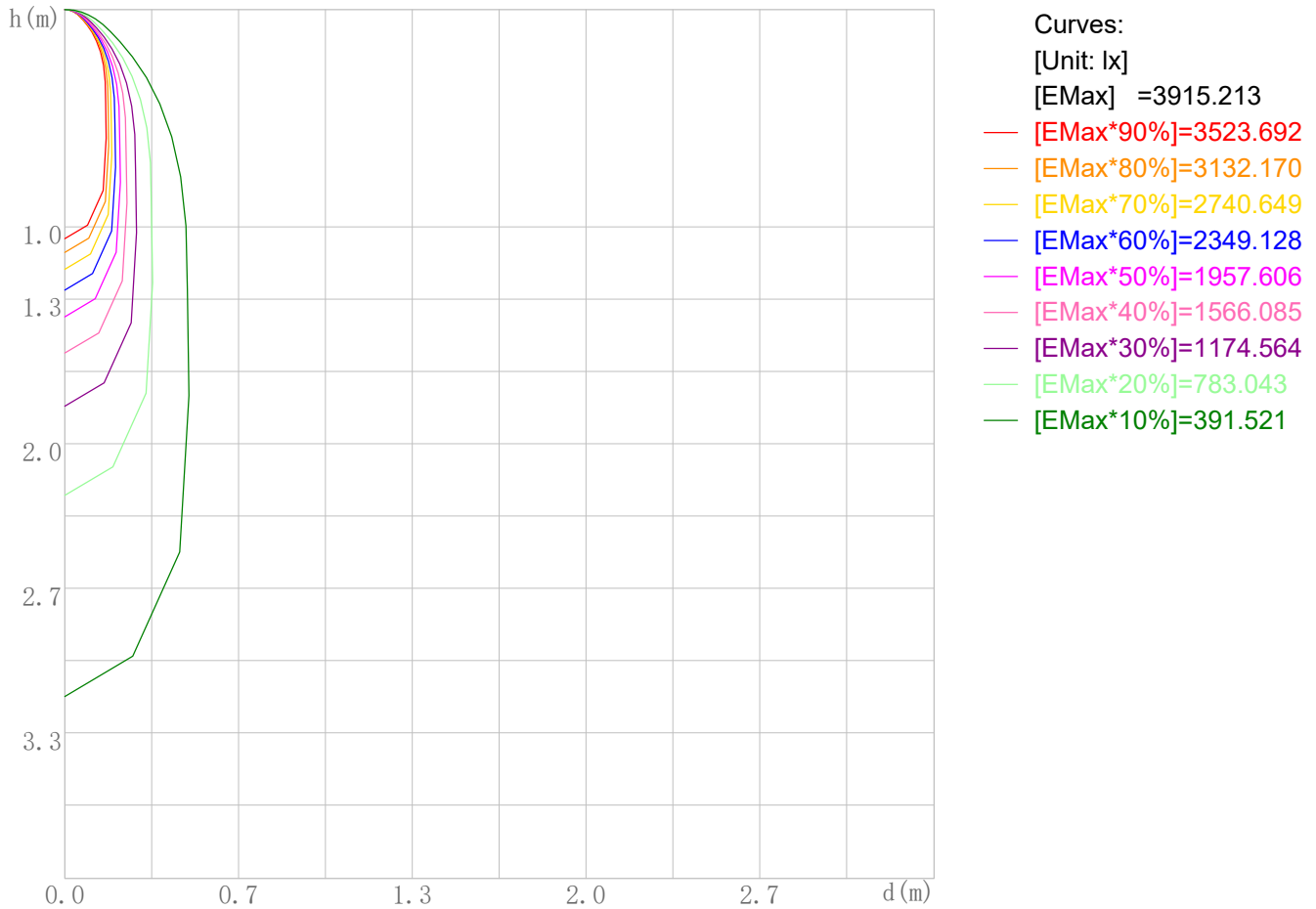


Curves: 3D Model — 90% — 80% — 70% — 60% — 50% — 40% — 30% — 20% — 10% —
 View Angles(deg): 0 Height(m): 3.0 Distance(m): 10.0

Space ISO Illuminance Diagram

Lum. Name: MD18-18-DW-03 1800-3000K RA90 24D	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



Space Plane Maximum Illuminance and @Angle:3915.21lx,0.0deg
 Plane Maximum Lighting Intensity and @Angle:3915.213cd,0deg

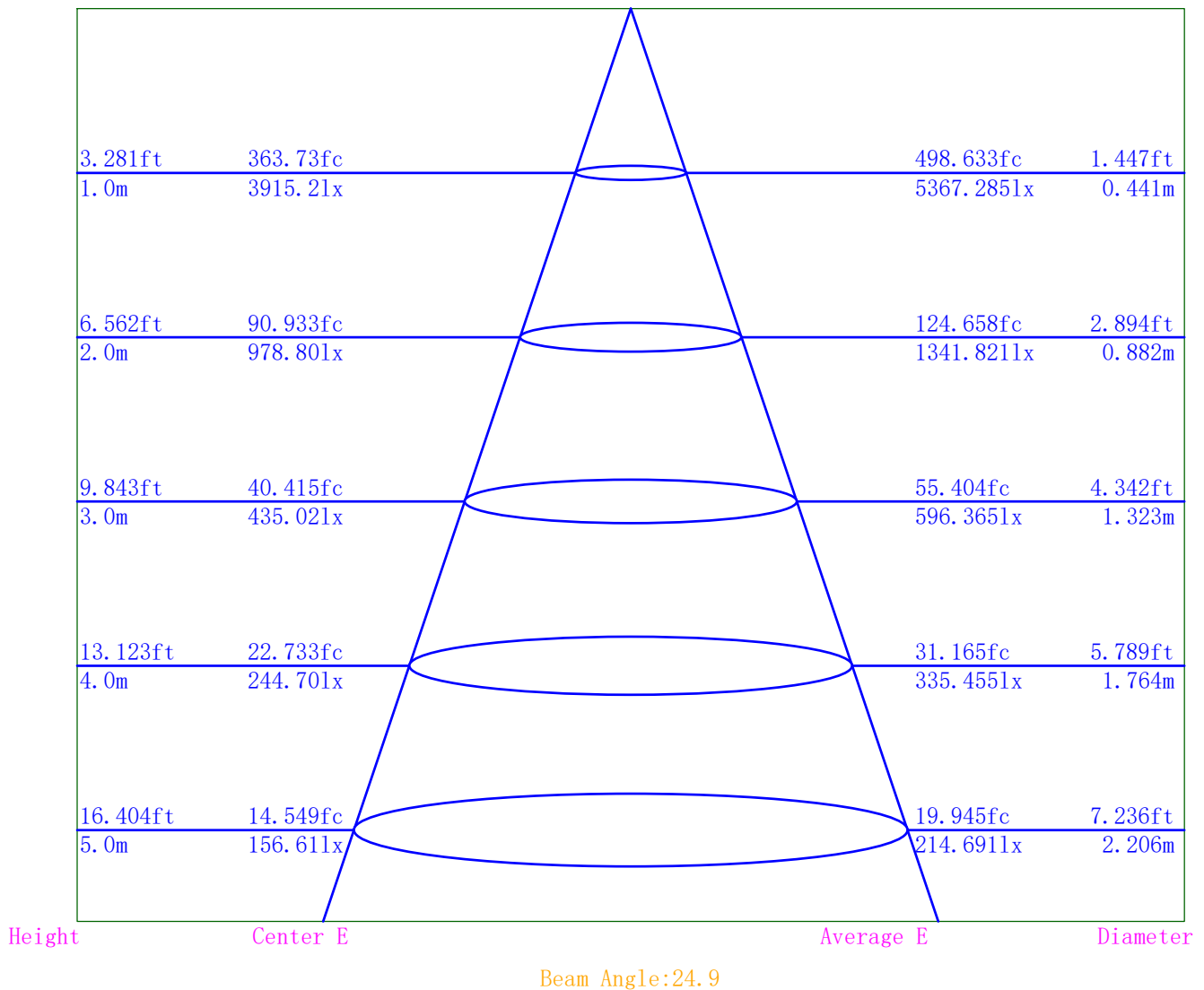
IES Indoor Report

Photometric Filename:MD18-18-DW-03 1800-3000K RA90 24D.IES

Illuminance-Distance Diagram

Lum. Name: MD18-18-DW-03 1800-3000K RA90 24D	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 24D	Lum. Catalog: LED	Test ID: 01
Lamp Name:	Lamp Catalog: LED	Test Lab: Quality Department
Manufacture:	Test Machine:GON-2000	Test Date: 2022/09/12

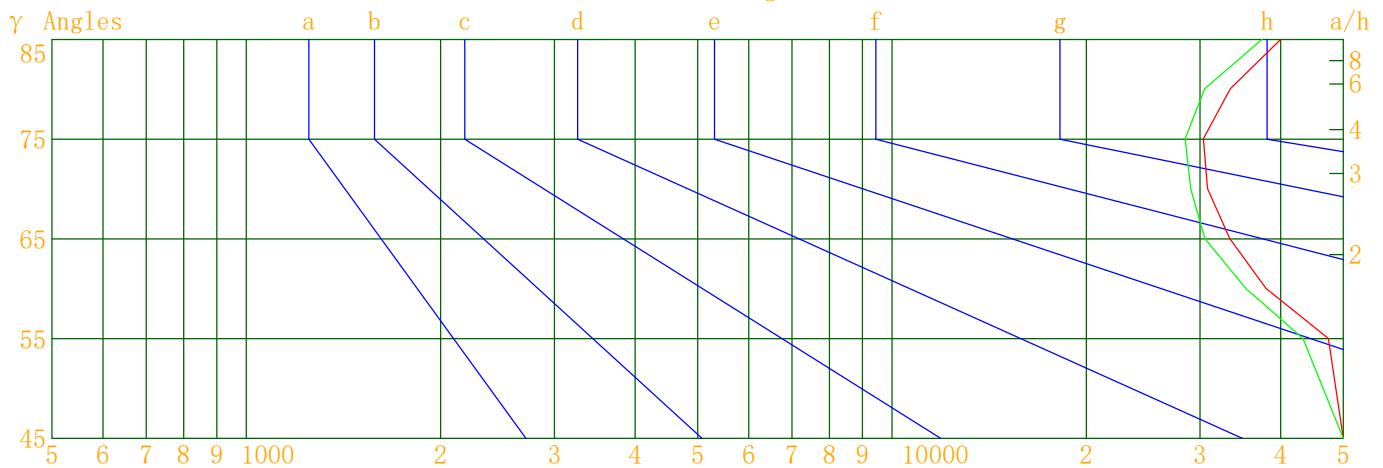
Glare Grade Table

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	91302	64625	47409	37981	33356	30805	30353	33412	39984
C90	75742	55630	43299	35347	30509	29022	28450	30496	37390

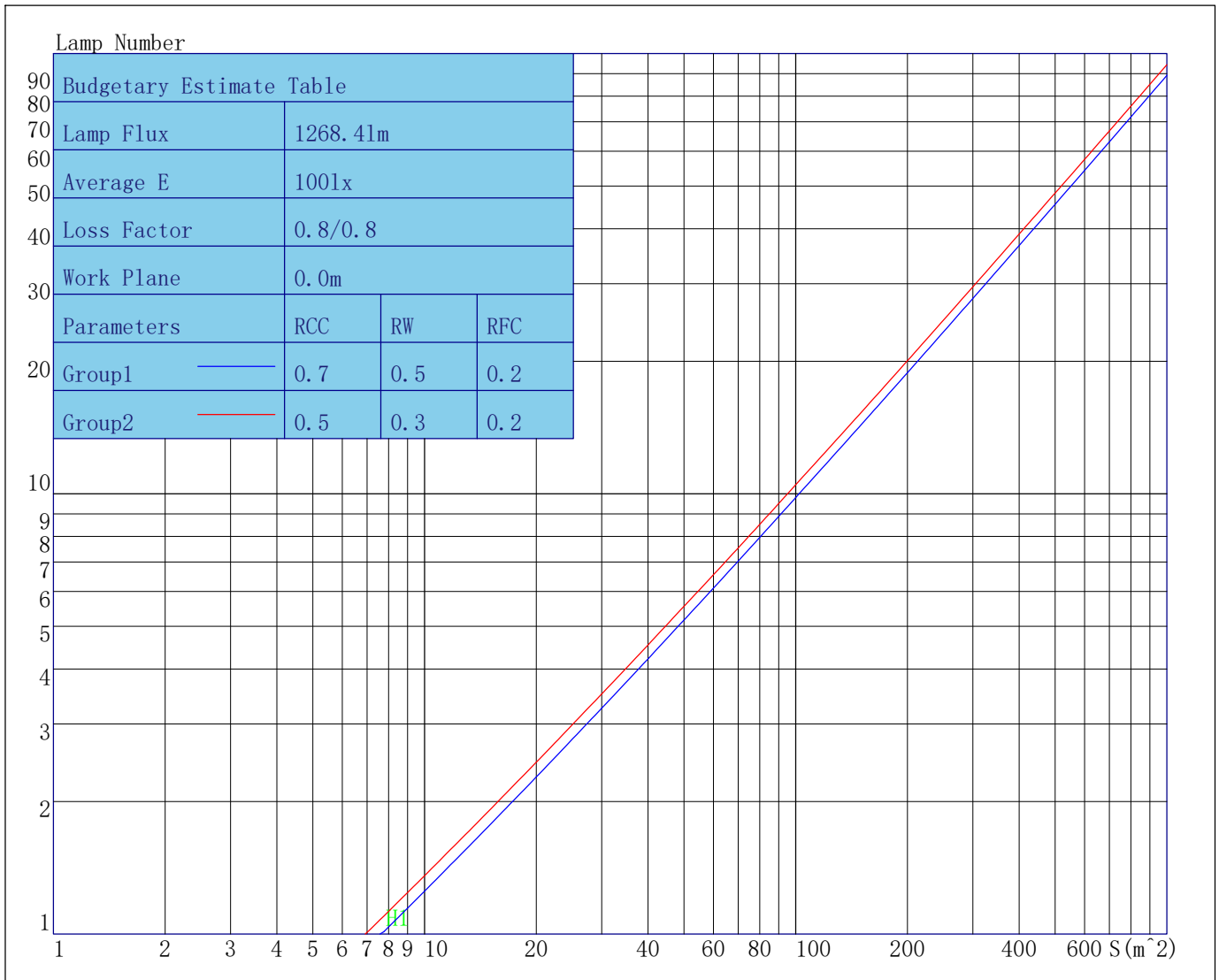
Luminance Limiting Curve



Luminous Size: Length(m)=0.041 Width(m)=0.041 Height(m)=0.000 Area(m²)=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 24D	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 24D	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	110	108	105	110	108	106	103	103	102	100	99	98	97	95	94	93	91
2	108	103	99	95	105	101	97	94	97	94	92	94	92	90	91	89	87	86
3	103	96	92	88	100	95	90	87	92	88	85	89	86	84	87	84	82	80
4	98	91	85	81	96	89	85	81	87	83	80	85	81	79	83	80	77	76
5	94	86	80	76	92	85	80	76	83	78	75	81	77	74	79	76	73	72
6	90	81	76	72	88	81	75	72	79	74	71	77	73	70	76	72	70	68
7	86	78	72	68	85	77	72	68	75	71	68	74	70	67	73	69	67	65
8	83	74	69	65	82	74	68	65	72	68	64	71	67	64	70	66	64	62
9	80	71	66	62	79	70	65	62	69	65	62	68	64	61	68	64	61	60
10	77	68	63	60	76	68	63	59	67	62	59	66	62	59	65	61	59	58

IES Indoor Report

Photometric Filename:MD18-18-DW-03 1800-3000K RA90 24D.IES

Unified Glare Rating Table

Lum. Name: MD18-18-DW-03 1800-3000K RA90 24D	Lum. Catalog:	Test ID: 01
Lamp Name:	Lamp Catalog: LED	Test Lab: Quality Department
Manufacture:	Test Machine:GON-2000	Test Date: 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	Viewed crosswise					Viewed endwise				
X=2H Y=2H	22.9	24.0	23.3	24.3	24.7	22.2	23.3	22.6	23.6	24.0
Y=3H	23.3	24.3	23.8	24.7	25.1	22.7	23.6	23.1	24.0	24.4
Y=4H	23.6	24.5	24.0	24.9	25.3	22.9	23.8	23.4	24.2	24.7
Y=6H	23.8	24.6	24.3	25.1	25.5	23.2	24.0	23.7	24.4	24.9
Y=8H	24.0	24.7	24.4	25.2	25.6	23.3	24.1	23.8	24.5	25.0
Y=12H	24.1	24.8	24.6	25.2	25.7	23.5	24.2	24.0	24.6	25.1
X=4H Y=2H	23.0	23.9	23.4	24.3	24.7	22.3	23.2	22.8	23.6	24.0
Y=3H	23.6	24.3	24.0	24.8	25.2	23.0	23.7	23.4	24.2	24.6
Y=4H	23.9	24.6	24.4	25.0	25.5	23.4	24.0	23.8	24.5	25.0
Y=6H	24.4	24.9	24.9	25.4	25.9	23.8	24.4	24.3	24.8	25.4
Y=8H	24.6	25.1	25.1	25.6	26.1	24.0	24.5	24.5	25.0	25.5
Y=12H	24.8	25.2	25.3	25.7	26.3	24.2	24.7	24.7	25.2	25.7
X=8H Y=4H	24.0	24.5	24.5	25.0	25.6	23.5	24.0	24.0	24.5	25.0
Y=6H	24.6	25.0	25.1	25.5	26.1	24.1	24.5	24.6	25.0	25.6
Y=8H	24.9	25.3	25.4	25.8	26.4	24.4	24.7	24.9	25.3	25.8
Y=12H	25.2	25.5	25.8	26.1	26.7	24.7	25.0	25.3	25.6	26.2
X=12H Y=4H	24.0	24.5	24.5	25.0	25.5	23.5	23.9	24.0	24.5	25.0
Y=6H	24.6	25.0	25.2	25.5	26.1	24.1	24.5	24.7	25.0	25.6
Y=8H	25.0	25.3	25.5	25.8	26.5	24.5	24.8	25.0	25.3	26.0
Variations with the observer position at spacings										
S=1.0H	0.3/-0.3					0.3/-0.3				
S=1.5H	0.5/-0.5					0.5/-0.6				
S=2.0H	0.7/-0.7					0.7/-0.7				
Reduced UGR Table:										
Nordic Standard Table:	BKO					BKO				
Correction Value	1.8					1.9				

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 24D.IES

Candela Tabulation

V/H	C0.0	C90.0	C180.0	C270.0
γ 0.0	3915.21	3915.21	3915.21	3915.21
γ 5.0	3509.35	3402.63	3552.14	3525.71
γ 10.0	2555.94	2401.78	2544.33	2573.59
γ 15.0	1371.78	1223.24	1295.23	1375.71
γ 20.0	786.08	695.88	729.08	764.32
γ 25.0	521.48	458.09	475.17	491.13
γ 30.0	357.10	305.16	322.97	330.30
γ 35.0	244.00	202.88	218.58	223.45
γ 40.0	164.34	135.43	149.10	153.93
γ 45.0	108.53	90.03	99.07	103.88
γ 50.0	69.83	60.11	64.80	69.39
γ 55.0	45.71	41.75	43.01	45.92
γ 60.0	31.92	29.71	29.95	32.23
γ 65.0	23.70	21.67	22.18	23.21
γ 70.0	17.71	16.69	16.72	17.30
γ 75.0	13.21	12.38	12.09	12.82
γ 80.0	9.75	8.90	8.94	9.26
γ 85.0	5.86	5.48	5.77	5.81
γ 90.0	4.19	3.78	3.84	3.65
γ 95.0	3.47	3.63	3.51	3.25
γ 100.0	3.54	2.80	3.11	3.06
γ 105.0	2.91	2.90	3.07	2.92
γ 110.0	2.91	2.81	2.78	2.43
γ 115.0	2.80	2.66	2.79	2.63
γ 120.0	2.54	2.99	2.98	2.64
γ 125.0	2.76	2.92	3.19	2.89
γ 130.0	3.42	3.06	3.61	3.27
γ 135.0	3.86	4.18	4.69	4.09
γ 140.0	4.95	4.98	5.80	5.30
γ 145.0	5.96	6.58	6.63	6.83
γ 150.0	7.26	7.39	7.54	7.48
γ 155.0	7.97	7.95	8.31	8.48
γ 160.0	9.59	8.47	8.78	8.84
γ 165.0	10.00	8.77	8.83	8.70
γ 170.0	10.10	8.92	9.05	8.88
γ 175.0	10.13	8.75	8.98	8.83
γ 180.0	9.67	9.67	9.67	9.67
