

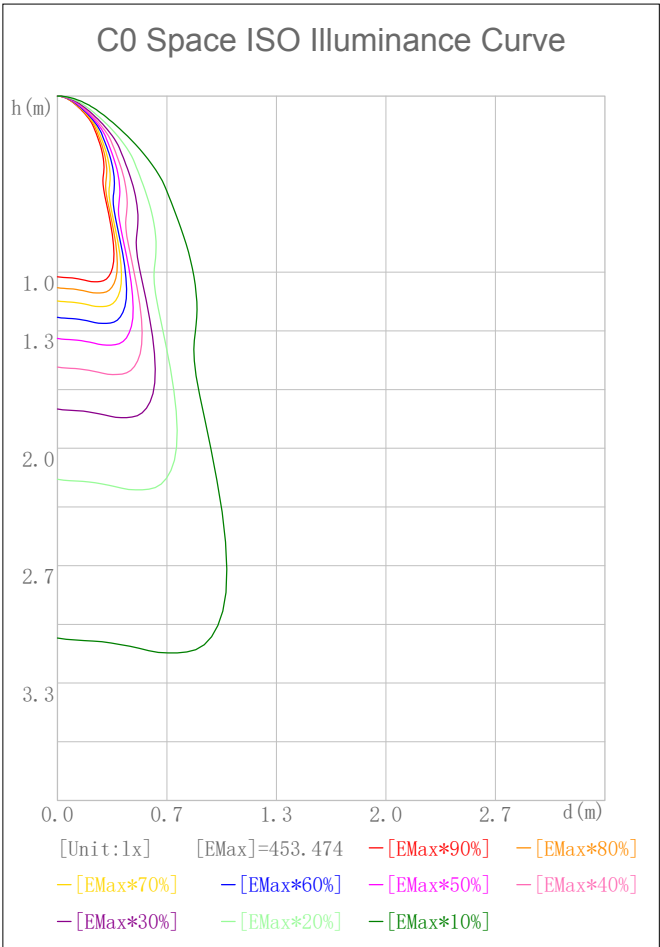
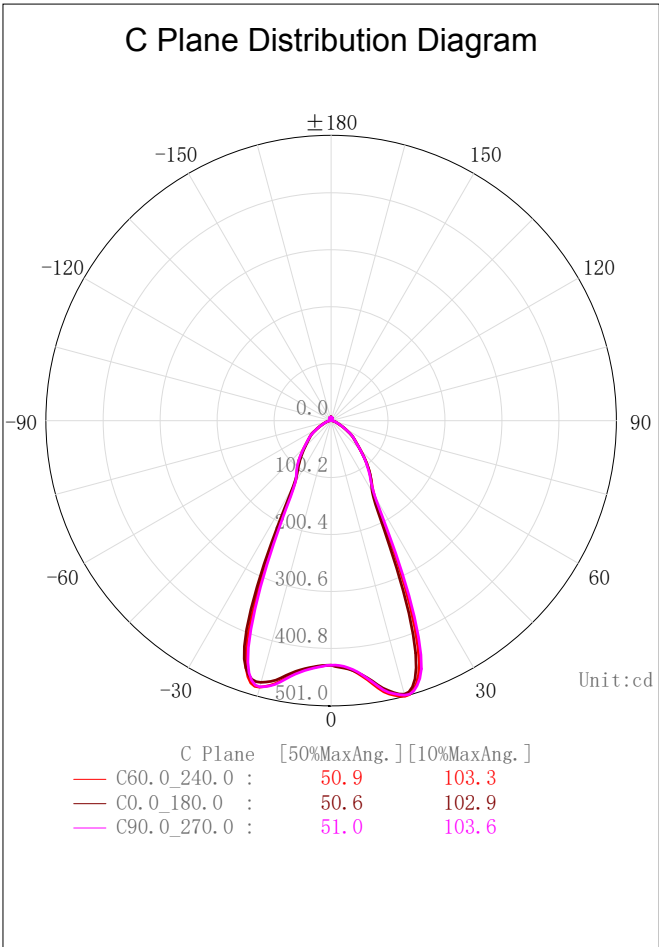
Indoor Luminaire Photometric Data

Description Information

Luminary Name:		Lum. Catalog:	Test ID:
Lamp Name:		Lamp Catalog:	Test Date: 2017/07/31
Manufacture:		Shld. Ang(°):	Test Machine:GON-2000
Test Lab:		Frequency (Hz):	Lamp CCT (K): Ra:
Lum. Size (W*L*H):0.050m*-0.050m*0.000m		Lum. Area (m2):0.002	Lum. W (kg): 0.000
Test System: C, γ	Test Step: C=30.0 γ=1.0	Temp. (°C): 25	Humidity(%): 50.0

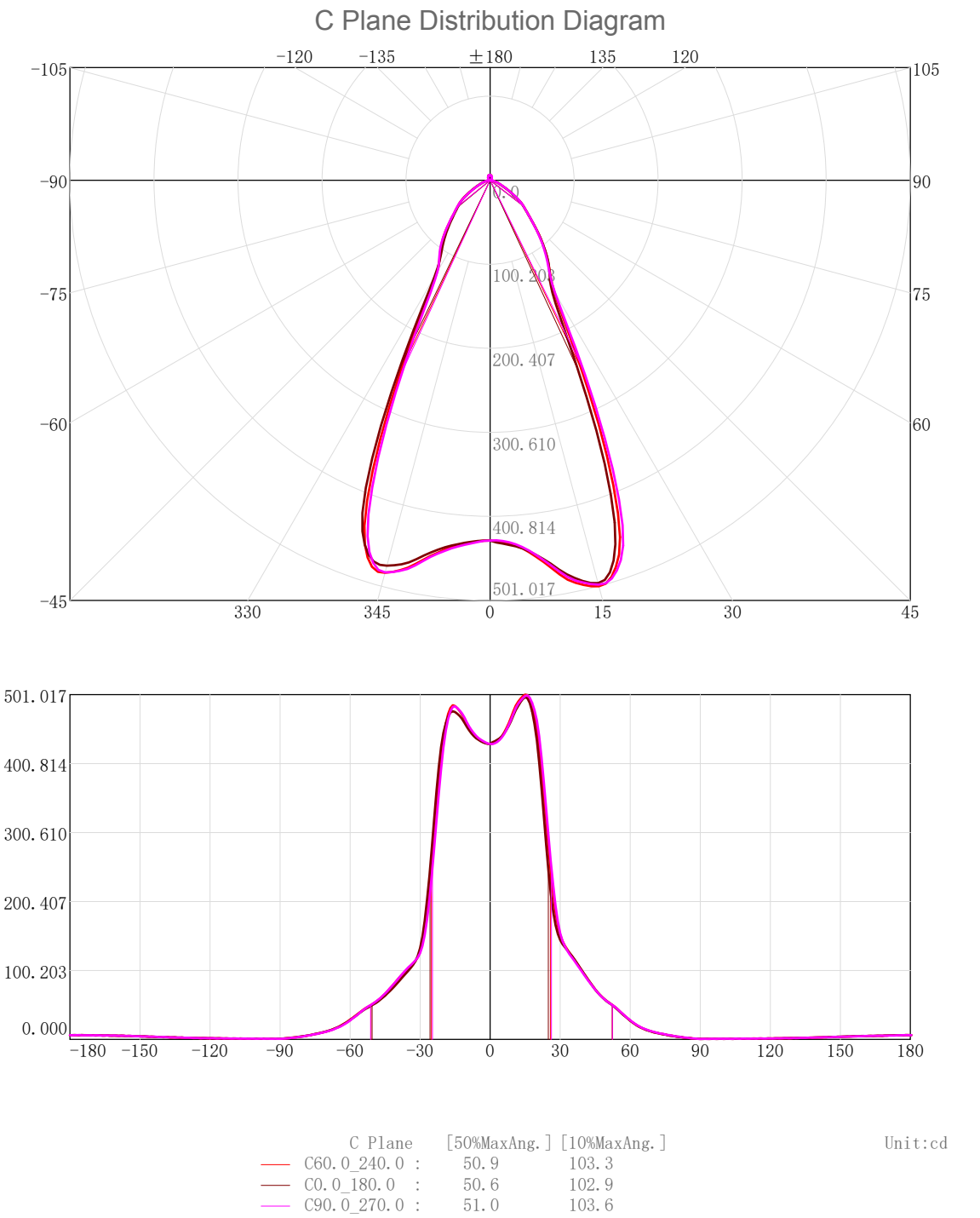
Character Parameter

Lamp Speciality Parameter		Luminaire Speciality Parameter	
Rated Flux(lm): 489.910	Luminary Flux(lm): 504.341	Field Angle(10%Imax): 103.3(°)	
Rated Power(W):	Luminary Efficiency: 102.95%	Down Lumens&Percent: 489.970lm 97.15%	
Rated Voltage(V):	Luminary EER(lm/W): 44.086	Up Lumens&Percent: 14.371lm 2.85%	
Tested Power(W): 11.440	Max. Candela(cd): 501.017	S/MH: C0_a180=0.908 C90_270=0.913	
Lamps' Inside: 1	Max Cand@Ang. (°): C=60.0 γ=15.0	CIE Type: Semi-Direct	
Tested Electrics (V, A, pf):220.7, 0.056, 0.921	Beam Angle(50%Imax): 50.9(°)	ErP Φ use(90°): 399.835lm	
Lamp Size (W*L*H):0.050m*-0.050m*0.000m	Left=-25.2°, Right=25.8°	IRF(%): 222.008	



2D Plane Light Intensity Distribution Curve

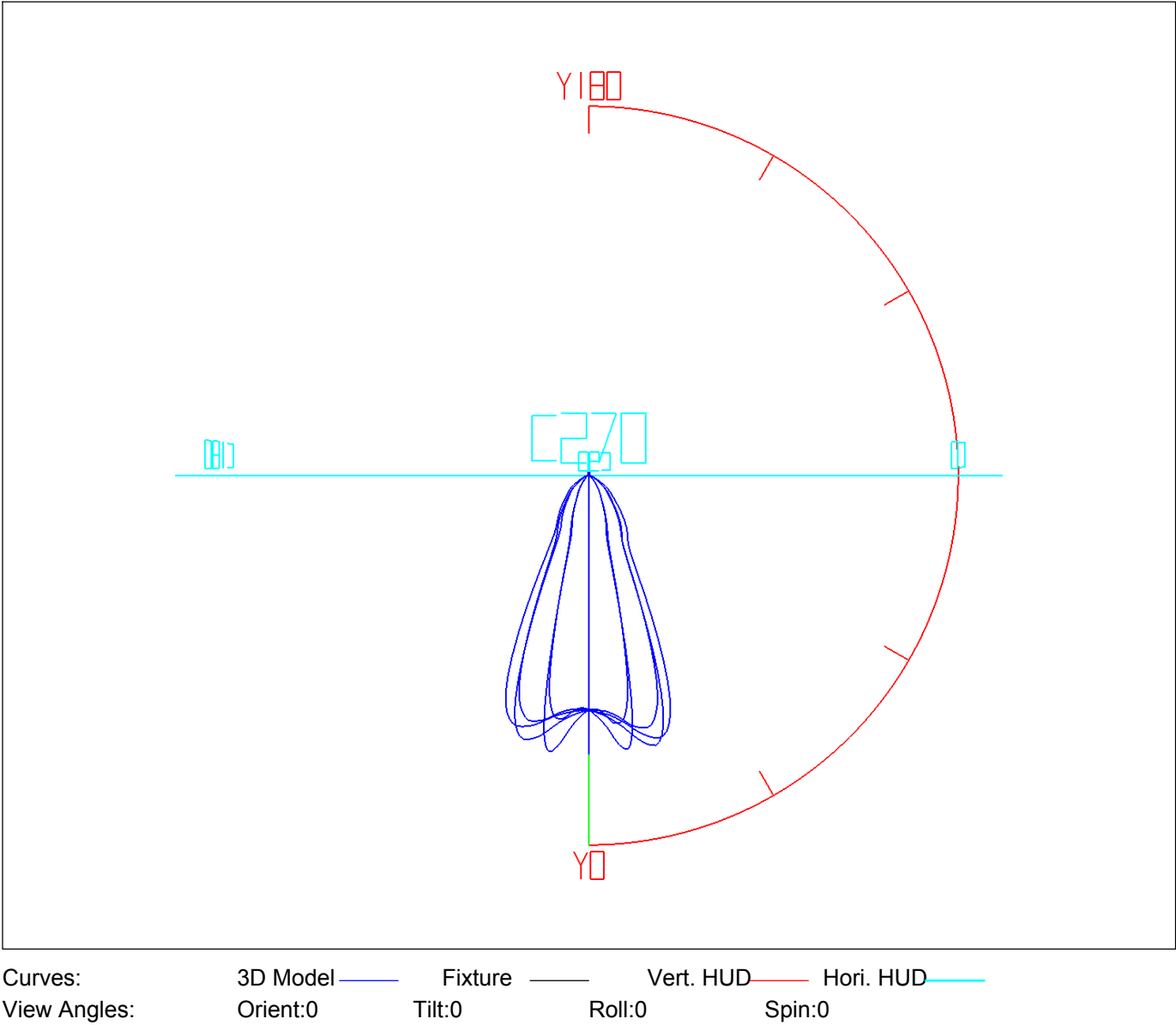
Lum. Name:	Lum. Catalog:	Test ID:
Lamp Name:	Lamp Catalog:	Test Lab:
Manufacture:	Test Machine:GON-2000	Test Date: 2017/07/31



3D Light Intensity Distribution Modal

Lum. Name:	Lum. Catelog:	Test ID:
Lamp Name:	Lamp Catelog:	Test Lab:
Manufacture:	Test Machine:GON-2000	Test Date: 2017/07/31

3D Light Intensity Distribution Modal



Zonal Flux Tabulation

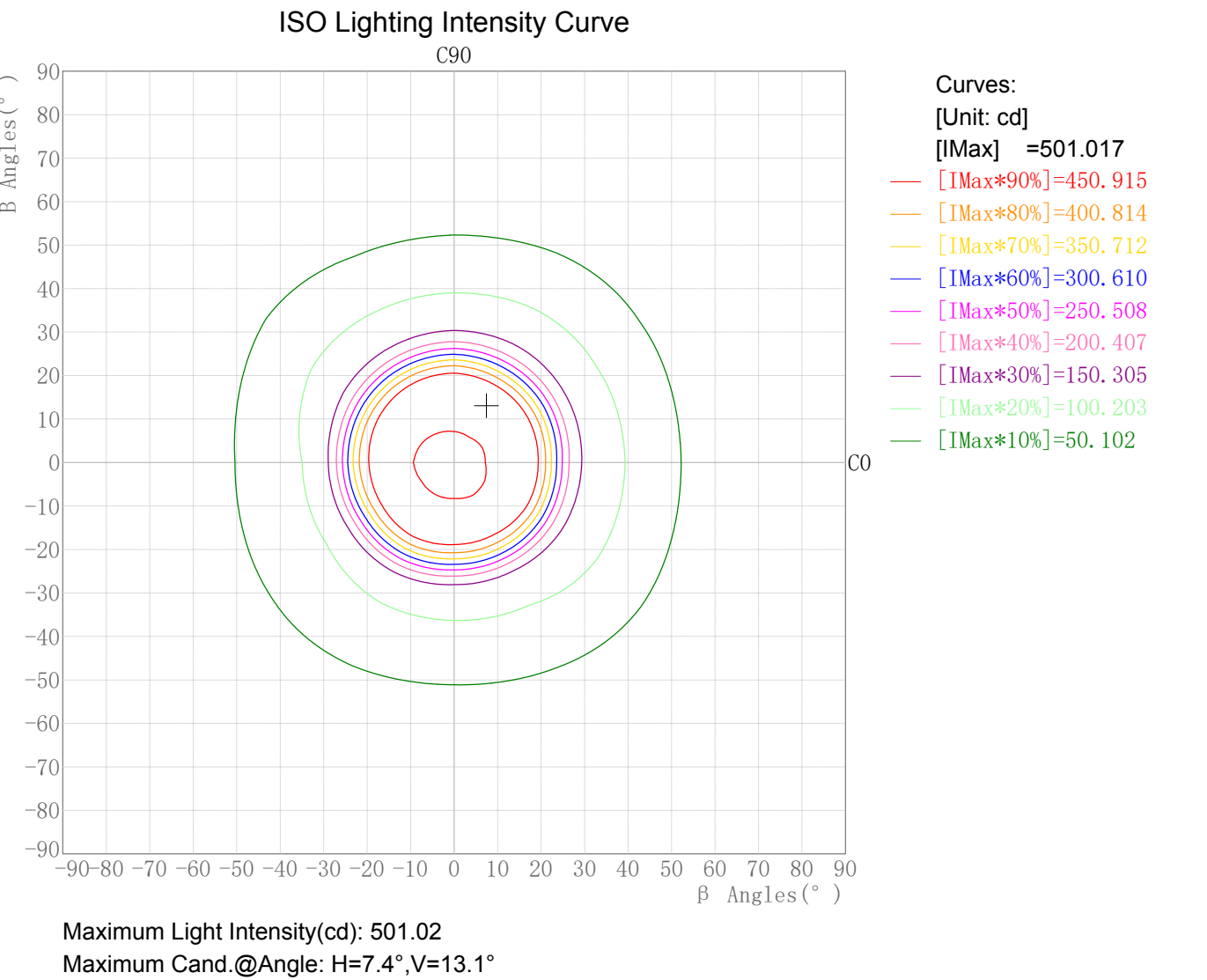
Zone(γ)	Zone Flux (lm)	Sums Flux (lm)	Zone%Lamp	Sums%Lamp	Zone(γ)	Zone Flux (lm)	Sums Flux (lm)	Zone%Lamp	Sums%Lamp
0.0-1.0	0.41	0.41	0.08	0.08	47.0-48.0	4.92	415.21	1.00	84.75
1.0-2.0	1.24	1.65	0.25	0.34	48.0-49.0	4.75	419.96	0.97	85.72
2.0-3.0	2.07	3.71	0.42	0.76	49.0-50.0	4.60	424.56	0.94	86.66
3.0-4.0	2.91	6.62	0.59	1.35	50.0-51.0	4.46	429.02	0.91	87.57
4.0-5.0	3.75	10.37	0.77	2.12	51.0-52.0	4.32	433.34	0.88	88.45
5.0-6.0	4.62	14.99	0.94	3.06	52.0-53.0	4.19	437.53	0.86	89.31
6.0-7.0	5.51	20.50	1.12	4.18	53.0-54.0	4.05	441.58	0.83	90.13
7.0-8.0	6.42	26.92	1.31	5.50	54.0-55.0	3.87	445.44	0.79	90.92
8.0-9.0	7.36	34.29	1.50	7.00	55.0-56.0	3.65	449.10	0.75	91.67
9.0-10.0	8.34	42.63	1.70	8.70	56.0-57.0	3.43	452.53	0.70	92.37
10.0-11.0	9.35	51.98	1.91	10.61	57.0-58.0	3.21	455.74	0.65	93.03
11.0-12.0	10.38	62.36	2.12	12.73	58.0-59.0	2.98	458.72	0.61	93.63
12.0-13.0	11.39	73.75	2.33	15.05	59.0-60.0	2.76	461.48	0.56	94.20
13.0-14.0	12.40	86.14	2.53	17.58	60.0-61.0	2.54	464.02	0.52	94.71
14.0-15.0	13.39	99.53	2.73	20.32	61.0-62.0	2.33	466.35	0.48	95.19
15.0-16.0	14.33	113.86	2.93	23.24	62.0-63.0	2.14	468.49	0.44	95.63
16.0-17.0	15.17	129.03	3.10	26.34	63.0-64.0	1.97	470.46	0.40	96.03
17.0-18.0	15.84	144.87	3.23	29.57	64.0-65.0	1.80	472.26	0.37	96.40
18.0-19.0	16.32	161.19	3.33	32.90	65.0-66.0	1.66	473.92	0.34	96.74
19.0-20.0	16.57	177.77	3.38	36.29	66.0-67.0	1.53	475.45	0.31	97.05
20.0-21.0	16.50	194.27	3.37	39.65	67.0-68.0	1.41	476.86	0.29	97.34
21.0-22.0	16.05	210.32	3.28	42.93	68.0-69.0	1.30	478.16	0.27	97.60
22.0-23.0	15.25	225.57	3.11	46.04	69.0-70.0	1.21	479.37	0.25	97.85
23.0-24.0	14.19	239.76	2.90	48.94	70.0-71.0	1.12	480.48	0.23	98.08
24.0-25.0	12.94	252.70	2.64	51.58	71.0-72.0	1.04	481.52	0.21	98.29
25.0-26.0	11.64	264.34	2.38	53.96	72.0-73.0	0.97	482.49	0.20	98.48
26.0-27.0	10.39	274.73	2.12	56.08	73.0-74.0	0.89	483.38	0.18	98.67
27.0-28.0	9.30	284.03	1.90	57.98	74.0-75.0	0.82	484.20	0.17	98.83
28.0-29.0	8.46	292.49	1.73	59.70	75.0-76.0	0.76	484.96	0.15	98.99
29.0-30.0	7.87	300.36	1.61	61.31	76.0-77.0	0.69	485.64	0.14	99.13
30.0-31.0	7.52	307.87	1.53	62.84	77.0-78.0	0.62	486.27	0.13	99.26
31.0-32.0	7.33	315.21	1.50	64.34	78.0-79.0	0.57	486.83	0.12	99.37
32.0-33.0	7.23	322.44	1.48	65.82	79.0-80.0	0.50	487.34	0.10	99.48
33.0-34.0	7.15	329.59	1.46	67.28	80.0-81.0	0.45	487.79	0.09	99.57
34.0-35.0	7.08	336.67	1.45	68.72	81.0-82.0	0.41	488.20	0.08	99.65
35.0-36.0	7.00	343.67	1.43	70.15	82.0-83.0	0.35	488.55	0.07	99.72
36.0-37.0	6.90	350.57	1.41	71.56	83.0-84.0	0.30	488.85	0.06	99.78
37.0-38.0	6.77	357.35	1.38	72.94	84.0-85.0	0.27	489.12	0.06	99.84
38.0-39.0	6.63	363.98	1.35	74.29	85.0-86.0	0.23	489.36	0.05	99.89
39.0-40.0	6.47	370.44	1.32	75.61	86.0-87.0	0.19	489.55	0.04	99.93
40.0-41.0	6.29	376.74	1.28	76.90	87.0-88.0	0.17	489.71	0.03	99.96
41.0-42.0	6.10	382.84	1.25	78.14	88.0-89.0	0.14	489.86	0.03	99.99
42.0-43.0	5.90	388.73	1.20	79.35	89.0-90.0	0.11	489.97	0.02	100.01
43.0-44.0	5.69	394.43	1.16	80.51	90.0-91.0	0.11	490.08	0.02	100.03
44.0-45.0	5.49	399.92	1.12	81.63	91.0-92.0	0.11	490.19	0.02	100.06
45.0-46.0	5.29	405.20	1.08	82.71	92.0-93.0	0.11	490.30	0.02	100.08
46.0-47.0	5.10	410.30	1.04	83.75	93.0-94.0	0.11	490.41	0.02	100.10

Zonal Flux Tabulation - (Cont.)

Zone(γ)	Zone Flux (lm)	Sums Flux (lm)	Zone%Lamp	Sums%Lamp	Zone(γ)	Zone Flux (lm)	Sums Flux (lm)	Zone%Lamp	Sums%Lamp
94.0-95.0	0.12	490.53	0.02	100.13	141.0-142.0	0.23	498.11	0.05	101.67
95.0-96.0	0.12	490.64	0.02	100.15	142.0-143.0	0.23	498.35	0.05	101.72
96.0-97.0	0.11	490.76	0.02	100.17	143.0-144.0	0.23	498.58	0.05	101.77
97.0-98.0	0.12	490.87	0.02	100.20	144.0-145.0	0.23	498.81	0.05	101.82
98.0-99.0	0.12	490.99	0.02	100.22	145.0-146.0	0.23	499.05	0.05	101.86
99.0-100.0	0.12	491.11	0.02	100.25	146.0-147.0	0.23	499.28	0.05	101.91
100.0-101.0	0.12	491.23	0.02	100.27	147.0-148.0	0.24	499.52	0.05	101.96
101.0-102.0	0.12	491.36	0.03	100.30	148.0-149.0	0.24	499.75	0.05	102.01
102.0-103.0	0.13	491.48	0.03	100.32	149.0-150.0	0.24	499.99	0.05	102.06
103.0-104.0	0.13	491.61	0.03	100.35	150.0-151.0	0.24	500.22	0.05	102.11
104.0-105.0	0.12	491.73	0.03	100.37	151.0-152.0	0.23	500.46	0.05	102.15
105.0-106.0	0.13	491.86	0.03	100.40	152.0-153.0	0.23	500.69	0.05	102.20
106.0-107.0	0.13	491.99	0.03	100.43	153.0-154.0	0.23	500.92	0.05	102.25
107.0-108.0	0.13	492.12	0.03	100.45	154.0-155.0	0.23	501.14	0.05	102.29
108.0-109.0	0.13	492.25	0.03	100.48	155.0-156.0	0.22	501.36	0.05	102.34
109.0-110.0	0.14	492.39	0.03	100.51	156.0-157.0	0.22	501.58	0.04	102.38
110.0-111.0	0.13	492.53	0.03	100.53	157.0-158.0	0.21	501.79	0.04	102.43
111.0-112.0	0.14	492.66	0.03	100.56	158.0-159.0	0.21	502.00	0.04	102.47
112.0-113.0	0.14	492.81	0.03	100.59	159.0-160.0	0.20	502.20	0.04	102.51
113.0-114.0	0.14	492.95	0.03	100.62	160.0-161.0	0.19	502.39	0.04	102.55
114.0-115.0	0.14	493.09	0.03	100.65	161.0-162.0	0.19	502.58	0.04	102.59
115.0-116.0	0.15	493.24	0.03	100.68	162.0-163.0	0.18	502.76	0.04	102.62
116.0-117.0	0.15	493.39	0.03	100.71	163.0-164.0	0.17	502.93	0.03	102.66
117.0-118.0	0.15	493.53	0.03	100.74	164.0-165.0	0.16	503.09	0.03	102.69
118.0-119.0	0.15	493.69	0.03	100.77	165.0-166.0	0.15	503.25	0.03	102.72
119.0-120.0	0.16	493.84	0.03	100.80	166.0-167.0	0.14	503.39	0.03	102.75
120.0-121.0	0.16	494.00	0.03	100.83	167.0-168.0	0.13	503.52	0.03	102.78
121.0-122.0	0.16	494.16	0.03	100.87	168.0-169.0	0.12	503.65	0.03	102.80
122.0-123.0	0.17	494.32	0.03	100.90	169.0-170.0	0.12	503.76	0.02	102.83
123.0-124.0	0.17	494.49	0.03	100.93	170.0-171.0	0.11	503.87	0.02	102.85
124.0-125.0	0.17	494.66	0.03	100.97	171.0-172.0	0.10	503.97	0.02	102.87
125.0-126.0	0.18	494.83	0.04	101.00	172.0-173.0	0.09	504.05	0.02	102.89
126.0-127.0	0.18	495.01	0.04	101.04	173.0-174.0	0.08	504.13	0.02	102.90
127.0-128.0	0.18	495.19	0.04	101.08	174.0-175.0	0.06	504.19	0.01	102.92
128.0-129.0	0.19	495.38	0.04	101.12	175.0-176.0	0.05	504.25	0.01	102.93
129.0-130.0	0.19	495.57	0.04	101.16	176.0-177.0	0.04	504.29	0.01	102.93
130.0-131.0	0.19	495.76	0.04	101.19	177.0-178.0	0.03	504.32	0.01	102.94
131.0-132.0	0.20	495.96	0.04	101.23	178.0-179.0	0.02	504.34	0.00	102.94
132.0-133.0	0.20	496.16	0.04	101.28	179.0-180.0	0.01	504.34	0.00	102.95
133.0-134.0	0.20	496.36	0.04	101.32					
134.0-135.0	0.21	496.57	0.04	101.36					
135.0-136.0	0.21	496.78	0.04	101.40					
136.0-137.0	0.21	497.00	0.04	101.45					
137.0-138.0	0.22	497.21	0.04	101.49					
138.0-139.0	0.22	497.43	0.05	101.54					
139.0-140.0	0.22	497.66	0.05	101.58					
140.0-141.0	0.23	497.88	0.05	101.63					

Rectangle ISO Lighting Intensity Diagram

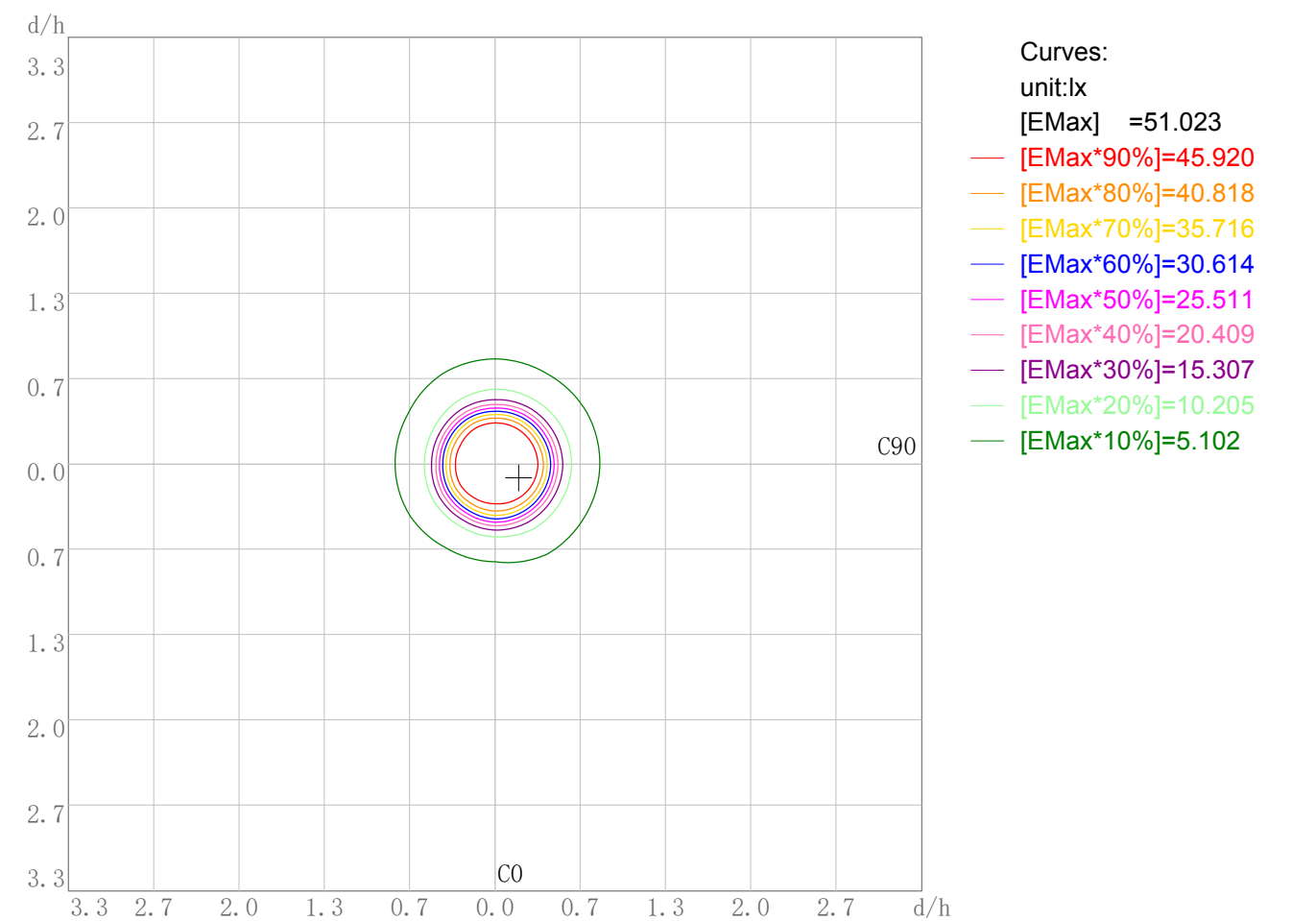
Lum. Name:	Lum. Catalog:	Test ID:
Lamp Name:	Lamp Catalog:	Test Lab:
Manufacture:	Test Machine:GON-2000	Test Date: 2017/07/31



Plane ISO-Illuminance Diagram

Lum. Name:	Lum. Catalog:	Test ID:
Lamp Name:	Lamp Catalog:	Test Lab:
Manufacture:	Test Machine:GON-2000	Test Date: 2017/07/31

Plane ISO-Illuminance Curve

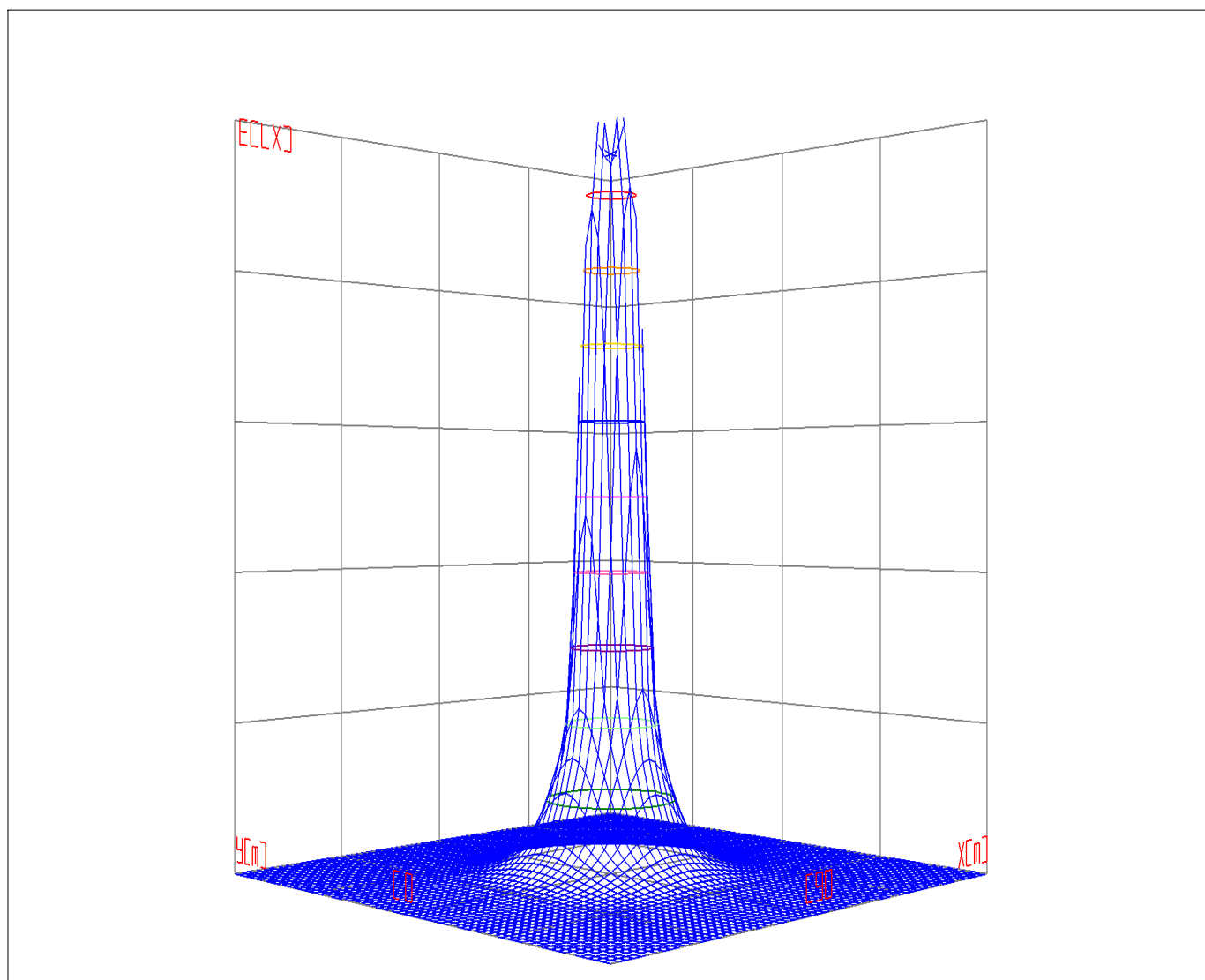


Working Plane Luminaire Mounting Height(m): 3.00
Working Plane Maximum Illuminance(lx): 51.02
Working Plane Maximum Illuminance Position(d/h):H0.2 V0.1

3D Plane ISO Illuminance Diagram

Lum. Name:	Lum. Catalog:	Test ID:
Lamp Name:	Lamp Catalog:	Test Lab:
Manufacture:	Test Machine:GON-2000	Test Date: 2017/07/31

3D Plane Illuminance Modal

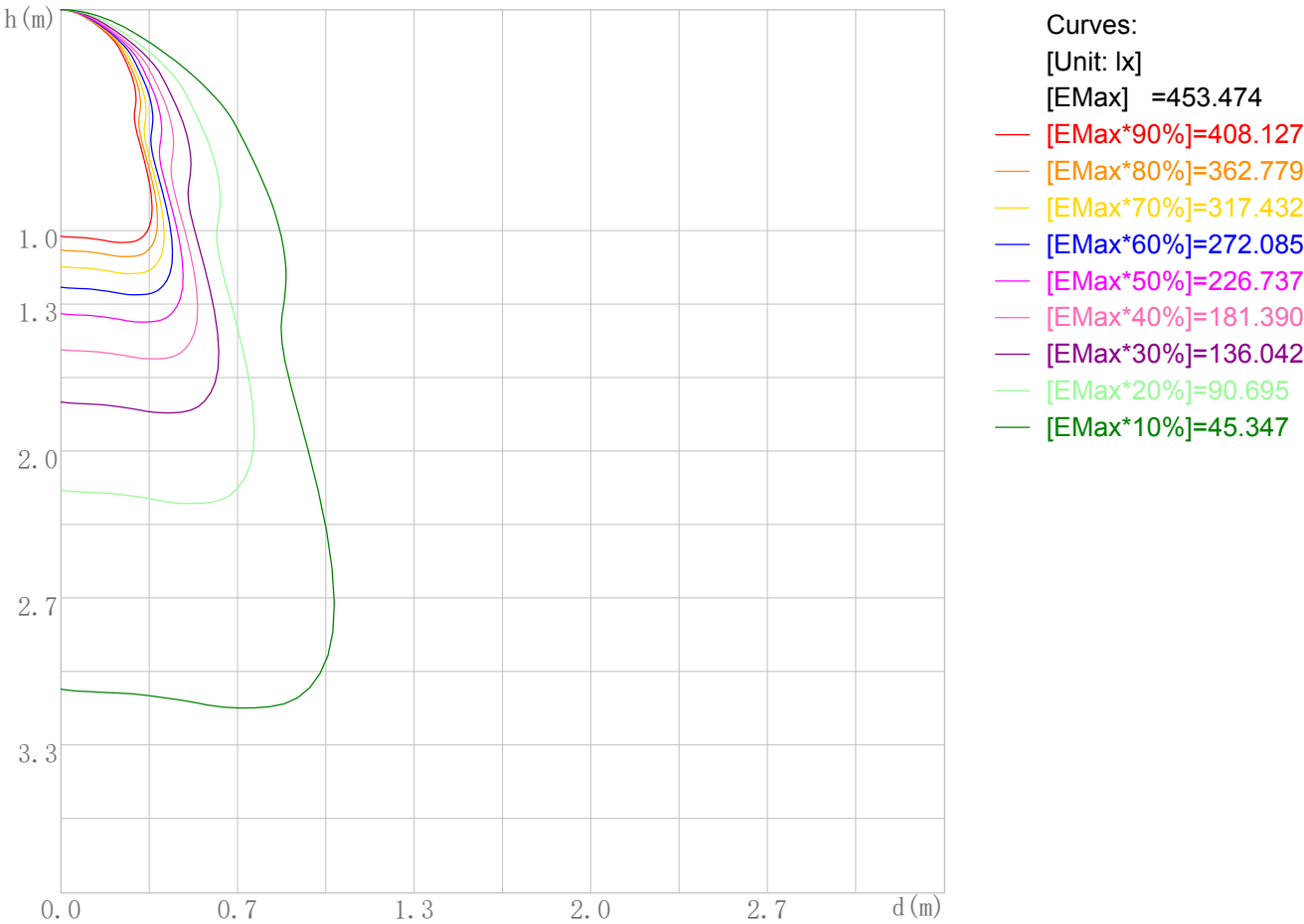


Curves: 3D Model — 90% — 80% — 70% — 60% — 50% — 40% — 30% — 20% — 10% —
 View Angles(deg): 0 Height(m): 3.0 Distance(m): 10.0

Space ISO Illuminance Diagram

Lum. Name:	Lum. Catelog:	Test ID:
Lamp Name:	Lamp Catelog:	Test Lab:
Manufacture:	Test Machine:GON-2000	Test Date: 2017/07/31

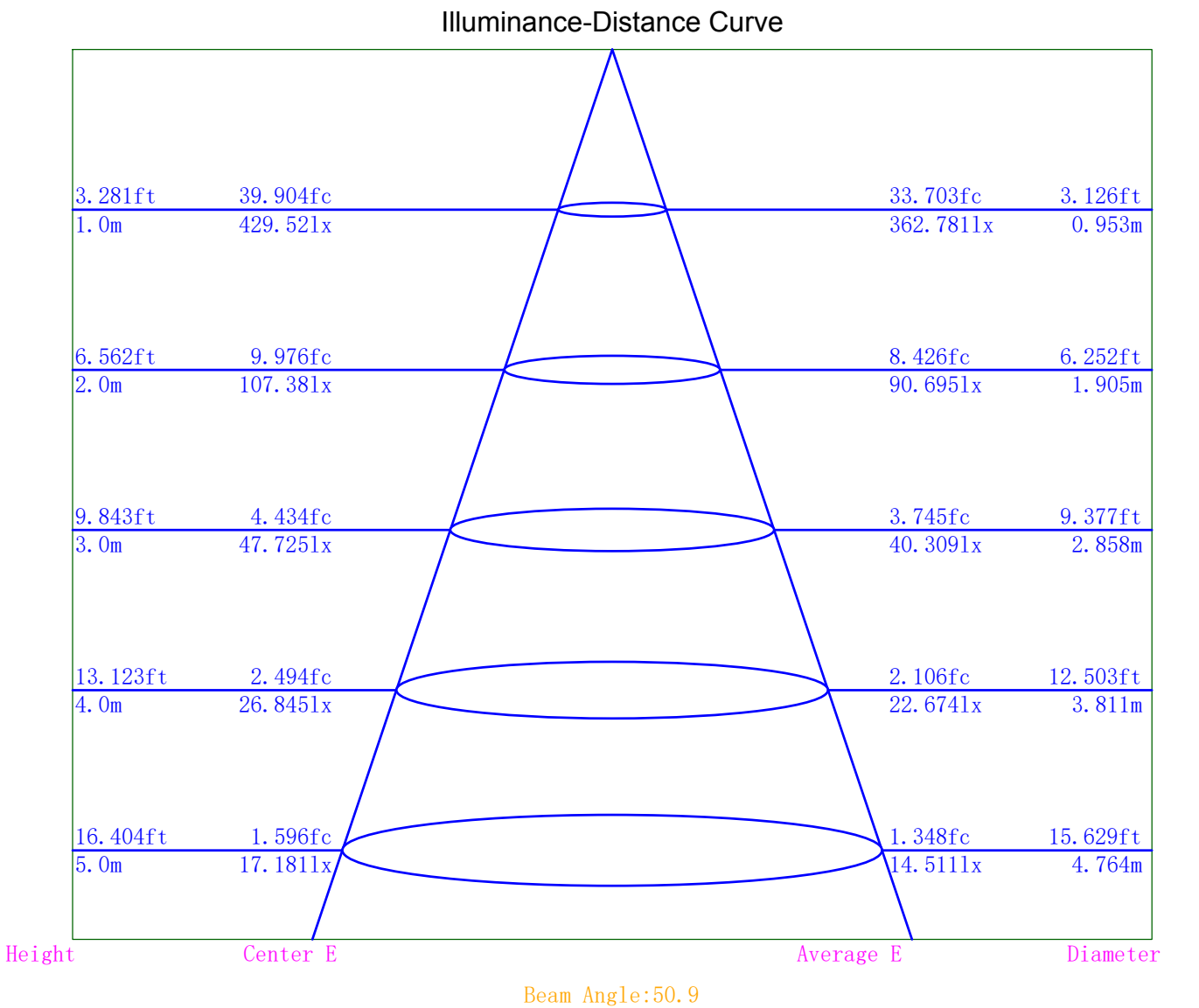
Space ISO Illuminance Curve



Space Plane Maximum Illuminance and @Angle:453.47lx,12.0deg
Plane Maximum Lighting Intensity and @Angle:497.222cd,0deg

Illuminance-Distance Diagram

Lum. Name:	Lum. Catalog:	Test ID:
Lamp Name:	Lamp Catalog:	Test Lab:
Manufacture:	Test Machine:GON-2000	Test Date: 2017/07/31



Indoor Luminance Limiting Curves

Lum. Name:	Lum. Catelog:	Test ID:
Lamp Name:	Lamp Catelog:	Test Lab:
Manufacture:	Test Machine:GON-2000	Test Date: 2017/07/31

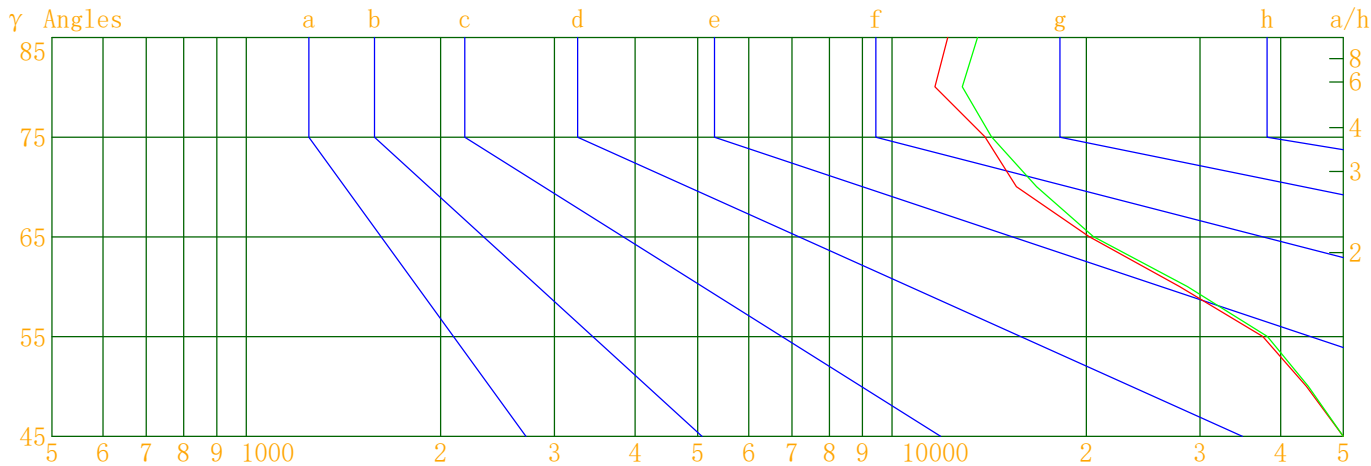
Glare Grade Table

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	52274	43852	37516	27879	20191	15582	13926	11658	12201
C90	52170	44155	38148	28676	20508	16749	14258	12852	13563

Luminance Limiting Curve



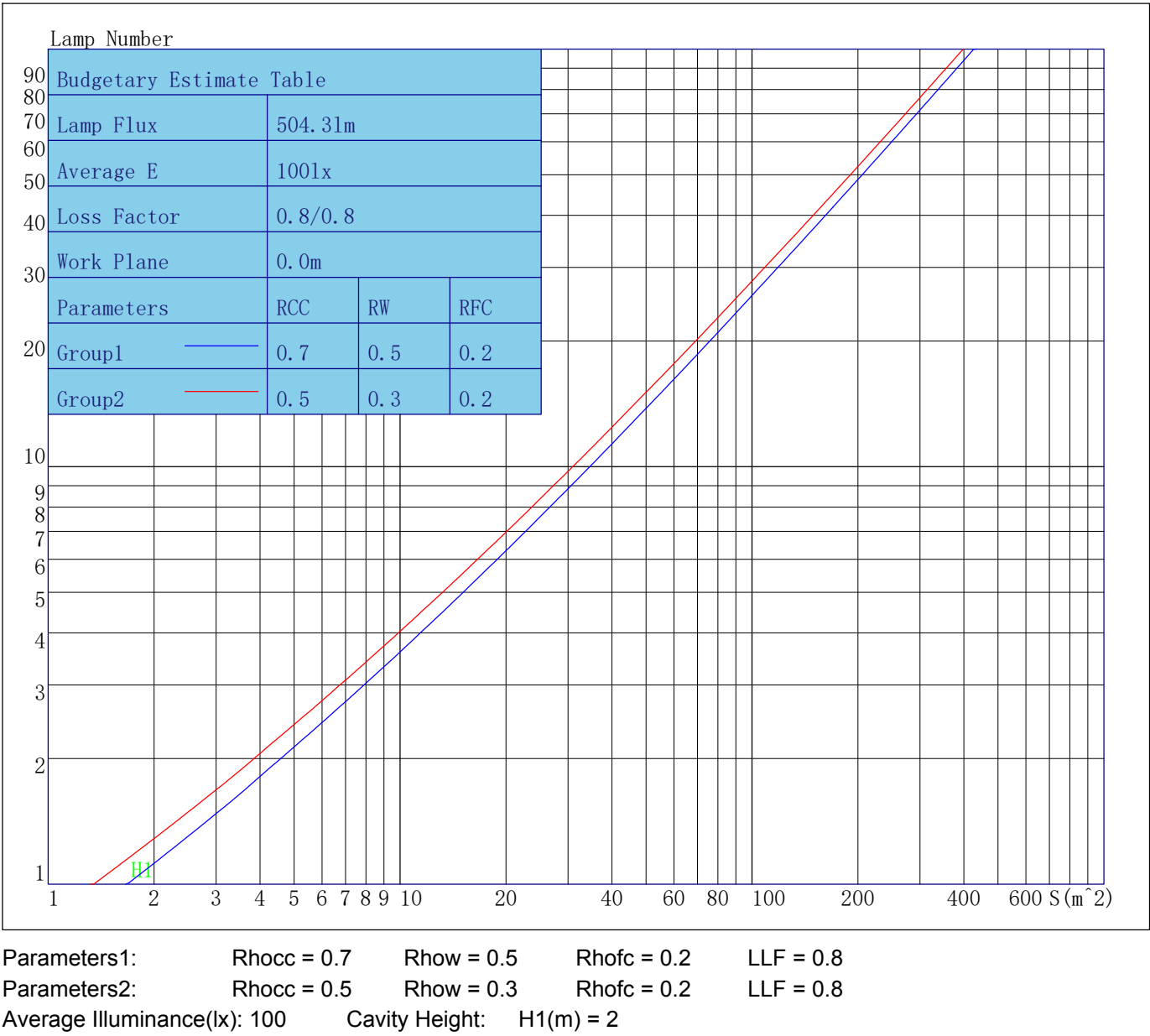
Luminous Size:Length(m)=-0.050Width(m)=-0.050Height(m)=0.000Area(m^2)=0.001963

Luminous Type:Without Luminous Side

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

Indoor Budgetary Estimate Table

Table with 3 columns: Lum. Name, Lum. Catalog, Test ID; Lamp Name, Lamp Catalog, Test Lab; Manufacture, Test Machine, Test Date.



Indoor Coefficient of Utilization Table

Table with 3 columns: Lum. Name, Lum. Catalog, Test ID; Lamp Name, Lamp Catalog, Test Lab; Manufacture, Test Machine, Test Date.

Table with 2 main sections: 'Coefficients of Utilization - Zonal Cavity Method' and 'Coefficient of Utilization (%)'. The first section includes RhoCC, RhoW, and RCR. The second section is a grid of utilization coefficients for different room dimensions.

Unified Glare Rating Table

Lum. Name:	Lum. Catelog:	Test ID:
Lamp Name:	Lamp Catalog:	Test Lab:
Manufacture:	Test Machine:GON-2000	Test Date: 2017/07/31

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 Y=3H Y=4H Y=6H Y=8H Y=12H	22.8	24.0	23.2	24.4	24.7	22.8	24.0	23.2	24.4	24.8
	23.1	24.2	23.6	24.6	25.0	23.2	24.2	23.6	24.6	25.1
	23.3	24.3	23.7	24.7	25.1	23.3	24.3	23.8	24.7	25.2
	23.3	24.3	23.8	24.7	25.2	23.4	24.3	23.9	24.8	25.2
	23.3	24.2	23.8	24.7	25.2	23.4	24.3	23.9	24.8	25.2
	23.4	24.2	23.8	24.6	25.1	23.4	24.3	23.9	24.7	25.2
X=4H Y=2H Y=3H Y=4H Y=6H Y=8H Y=12H	23.0	24.0	23.4	24.4	24.8	23.0	24.0	23.4	24.4	24.9
	23.4	24.3	23.9	24.7	25.2	23.5	24.3	23.9	24.8	25.2
	23.6	24.4	24.1	24.9	25.4	23.7	24.4	24.2	24.9	25.4
	23.8	24.4	24.3	24.9	25.5	23.9	24.5	24.4	25.0	25.5
	23.8	24.4	24.3	24.9	25.5	23.9	24.5	24.4	25.0	25.6
	23.9	24.4	24.4	24.9	25.5	24.0	24.5	24.5	25.0	25.6
X=8H Y=4H Y=6H Y=8H Y=12H	23.6	24.3	24.2	24.8	25.3	23.7	24.3	24.2	24.8	25.3
	23.9	24.4	24.4	24.9	25.5	23.9	24.4	24.5	25.0	25.6
	23.9	24.4	24.5	25.0	25.5	24.0	24.5	24.6	25.1	25.6
	24.0	24.5	24.6	25.0	25.6	24.1	24.6	24.7	25.1	25.7
X=12H Y=4H Y=6H Y=8H	23.6	24.2	24.2	24.7	25.2	23.7	24.2	24.2	24.7	25.3
	23.9	24.3	24.4	24.8	25.4	23.9	24.4	24.5	24.9	25.5
	24.0	24.4	24.5	24.9	25.6	24.0	24.5	24.6	25.0	25.6
Variations with the objerver position at spacings										
S=1.0H	0.4/-0.4					0.5/-0.5				
S=1.5H	0.9/-1.0					0.9/-0.9				
S=2.0H	1.5/-1.6					1.5/-1.4				
Reduced UGR Table:										
Nordic Standard Table:	BK0					BK0				
Correction Value	1.1					1.2				

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

IES Indoor Report

Photometric Filename:UL-12W-COB-1200-BH 60D.IES

Candela Tabulation

V/H	C0. 0	C30. 0	C60. 0	C90. 0	C120. 0	C150. 0	C180. 0	C210. 0	C240. 0	C270. 0	C300. 0	C330. 0
γ 0. 0	429. 52	429. 52	429. 52	429. 52	429. 52	429. 52	429. 52	429. 52	429. 52	429. 52	429. 52	429. 52
γ 1. 0	431. 82	430. 73	430. 06	429. 22	428. 86	428. 57	429. 60	429. 72	429. 76	429. 94	429. 67	429. 92
γ 2. 0	433. 33	432. 11	431. 78	430. 30	429. 94	429. 63	430. 26	430. 60	430. 77	431. 64	431. 15	431. 37
γ 3. 0	435. 25	433. 98	433. 72	432. 11	431. 99	431. 35	431. 58	432. 27	432. 48	433. 54	433. 15	433. 21
γ 4. 0	437. 40	436. 15	436. 53	435. 00	434. 34	433. 26	433. 23	434. 19	434. 47	435. 61	435. 12	435. 10
γ 5. 0	440. 40	439. 19	440. 34	438. 82	437. 47	435. 54	435. 38	436. 34	436. 76	438. 09	437. 31	437. 54
γ 6. 0	444. 70	443. 71	445. 98	443. 73	441. 54	438. 51	437. 73	439. 22	439. 67	441. 18	440. 15	440. 94
γ 7. 0	449. 92	449. 05	452. 45	450. 08	446. 68	442. 58	440. 83	443. 16	443. 62	445. 12	443. 82	445. 54
γ 8. 0	455. 82	455. 13	459. 67	456. 97	452. 32	447. 15	444. 64	447. 47	448. 27	449. 47	447. 66	449. 97
γ 9. 0	462. 84	462. 68	468. 16	464. 75	459. 45	452. 80	449. 05	452. 71	453. 32	454. 69	452. 57	455. 52
γ 10. 0	470. 88	471. 18	477. 01	473. 26	467. 07	459. 41	454. 19	458. 59	459. 33	460. 86	458. 92	462. 24
γ 11. 0	478. 41	479. 39	484. 99	481. 50	474. 62	466. 37	460. 04	464. 49	465. 90	467. 68	465. 32	469. 37
γ 12. 0	484. 55	485. 79	490. 67	487. 82	480. 89	472. 50	465. 71	470. 23	472. 19	473. 61	471. 31	475. 89
γ 13. 0	490. 12	490. 81	495. 05	492. 06	485. 76	477. 03	469. 86	474. 34	477. 05	477. 91	475. 73	481. 53
γ 14. 0	494. 74	494. 87	498. 71	496. 06	489. 93	480. 93	473. 03	477. 54	481. 24	481. 37	478. 93	486. 18
γ 15. 0	497. 22	497. 83	501. 02	499. 08	493. 54	484. 60	475. 64	479. 64	484. 44	483. 92	481. 19	489. 66
γ 16. 0	495. 68	497. 39	500. 25	499. 77	494. 87	486. 18	476. 86	479. 90	485. 50	483. 18	481. 03	490. 69
γ 17. 0	488. 67	491. 45	494. 58	496. 39	491. 79	483. 58	475. 11	475. 81	481. 70	476. 88	475. 73	485. 89
γ 18. 0	476. 58	480. 92	484. 96	489. 11	485. 11	477. 35	469. 11	467. 36	472. 81	465. 77	464. 85	475. 49
γ 19. 0	458. 89	466. 38	472. 00	478. 81	475. 36	467. 82	459. 41	454. 90	458. 92	448. 74	448. 90	459. 88
γ 20. 0	434. 25	445. 71	452. 75	463. 51	460. 34	453. 42	445. 40	436. 10	438. 15	424. 07	426. 07	437. 24
γ 21. 0	402. 00	417. 88	425. 33	440. 62	437. 55	432. 15	424. 68	409. 20	409. 57	392. 35	395. 48	407. 10
γ 22. 0	364. 68	383. 42	392. 32	409. 90	406. 84	402. 64	395. 49	374. 81	374. 30	356. 24	358. 89	370. 59
γ 23. 0	324. 33	345. 28	356. 19	374. 24	370. 06	366. 49	359. 93	335. 71	335. 12	317. 08	319. 24	329. 75
γ 24. 0	283. 02	306. 09	318. 01	335. 80	330. 20	326. 52	319. 60	295. 37	294. 80	276. 89	278. 70	287. 34
γ 25. 0	244. 67	267. 29	279. 30	296. 37	289. 60	285. 03	278. 08	255. 86	256. 05	238. 58	239. 72	248. 14
γ 26. 0	211. 82	231. 37	242. 82	258. 70	250. 66	246. 10	238. 26	217. 61	220. 04	203. 71	204. 81	213. 27
γ 27. 0	185. 40	200. 55	210. 40	223. 96	215. 39	211. 90	202. 94	184. 40	187. 38	174. 07	175. 29	184. 70
γ 28. 0	166. 20	176. 60	184. 40	194. 34	186. 89	183. 83	172. 69	158. 21	160. 31	151. 43	152. 79	163. 78
γ 29. 0	153. 23	158. 82	165. 18	171. 17	165. 54	162. 42	149. 23	138. 30	140. 72	135. 66	137. 23	149. 08
γ 30. 0	144. 57	146. 76	152. 01	154. 44	150. 11	147. 54	132. 62	124. 35	127. 46	125. 35	126. 96	139. 26
γ 31. 0	138. 61	139. 05	142. 95	143. 26	139. 47	137. 54	121. 60	115. 61	119. 39	119. 22	120. 71	133. 23
γ 32. 0	134. 17	133. 24	136. 41	135. 77	132. 39	130. 68	113. 96	109. 76	114. 28	115. 12	116. 47	128. 92
γ 33. 0	129. 95	128. 15	131. 07	129. 42	126. 64	125. 32	108. 52	105. 14	110. 25	111. 52	112. 71	124. 95
γ 34. 0	125. 64	123. 59	126. 19	124. 01	121. 45	120. 81	104. 15	101. 43	106. 55	108. 15	109. 31	121. 27
γ 35. 0	121. 42	118. 84	121. 37	119. 21	116. 79	116. 39	99. 97	98. 02	103. 36	104. 96	106. 04	117. 65
γ 36. 0	116. 86	113. 96	116. 49	114. 58	112. 46	111. 98	96. 19	94. 61	100. 05	101. 46	102. 53	113. 45
γ 37. 0	111. 81	109. 08	111. 73	109. 68	107. 73	107. 72	92. 43	91. 21	96. 62	97. 66	98. 76	109. 18
γ 38. 0	106. 81	104. 18	106. 67	104. 90	102. 78	103. 06	88. 65	87. 84	92. 99	93. 90	95. 19	104. 70
γ 39. 0	101. 74	99. 07	101. 56	100. 24	98. 15	98. 50	84. 75	84. 27	89. 54	89. 91	91. 36	99. 94
γ 40. 0	96. 64	94. 35	96. 72	95. 33	93. 45	94. 09	81. 09	80. 80	85. 65	85. 77	87. 29	95. 21
γ 41. 0	91. 59	89. 51	91. 85	90. 41	88. 70	89. 51	77. 33	77. 35	81. 63	81. 85	83. 48	90. 67
γ 42. 0	86. 80	84. 54	86. 86	85. 79	83. 95	84. 95	73. 58	73. 66	77. 65	77. 95	79. 61	85. 79
γ 43. 0	81. 79	79. 89	81. 93	81. 14	79. 43	80. 51	70. 19	70. 17	73. 92	73. 98	75. 63	81. 13
γ 44. 0	77. 02	75. 55	77. 49	76. 59	74. 75	76. 41	66. 89	66. 96	70. 06	70. 17	72. 07	76. 74
γ 45. 0	72. 58	71. 11	72. 89	72. 43	70. 31	72. 22	63. 54	63. 65	66. 41	66. 80	68. 49	72. 34
γ 46. 0	68. 55	67. 09	68. 72	68. 58	66. 39	68. 49	60. 71	60. 69	63. 22	63. 48	64. 82	68. 31

IES Indoor Report
Photometric Filename:UL-12W-COB-1200-BH 60D.IES

Candela Tabulation - (Cont.)

V/H	C0. 0	C30. 0	C60. 0	C90. 0	C120. 0	C150. 0	C180. 0	C210. 0	C240. 0	C270. 0	C300. 0	C330. 0
γ 47. 0	64. 67	63. 51	65. 13	64. 81	62. 80	64. 92	57. 98	58. 04	60. 10	60. 24	61. 67	64. 76
γ 48. 0	61. 33	60. 02	61. 82	61. 38	59. 14	61. 42	55. 22	55. 50	57. 15	57. 57	58. 81	61. 31
γ 49. 0	58. 32	56. 94	58. 53	58. 40	56. 30	58. 55	52. 92	53. 03	54. 62	55. 06	55. 87	58. 11
γ 50. 0	55. 35	54. 28	55. 79	55. 73	53. 65	55. 98	50. 93	51. 03	52. 39	52. 52	53. 40	55. 52
γ 51. 0	52. 85	51. 70	53. 42	53. 11	51. 14	53. 31	48. 82	48. 99	50. 16	50. 31	51. 16	53. 02
γ 52. 0	50. 62	49. 16	50. 88	50. 84	48. 79	50. 94	46. 86	46. 89	48. 10	48. 47	48. 81	50. 57
γ 53. 0	48. 08	47. 01	48. 43	48. 57	46. 77	48. 74	45. 15	45. 12	46. 33	46. 17	46. 57	48. 39
γ 54. 0	45. 19	44. 38	45. 98	46. 03	44. 40	46. 07	43. 09	43. 16	44. 20	43. 74	44. 35	45. 90
γ 55. 0	42. 25	41. 36	42. 82	42. 96	41. 43	43. 30	40. 86	40. 64	41. 64	41. 14	41. 51	42. 65
γ 56. 0	39. 04	38. 58	39. 44	39. 90	38. 56	40. 21	38. 41	38. 10	39. 07	38. 39	38. 58	39. 75
γ 57. 0	35. 85	35. 76	36. 40	36. 76	35. 72	37. 02	35. 71	35. 58	36. 54	35. 39	35. 93	36. 81
γ 58. 0	33. 02	32. 81	33. 33	33. 56	32. 76	33. 86	33. 01	32. 76	33. 71	32. 76	33. 04	33. 66
γ 59. 0	30. 20	30. 26	30. 26	30. 76	29. 90	31. 14	30. 62	30. 33	31. 11	30. 27	30. 18	30. 90
γ 60. 0	27. 37	27. 73	27. 39	28. 15	27. 45	28. 33	28. 18	27. 97	28. 90	27. 53	27. 76	28. 24
γ 61. 0	24. 78	24. 95	24. 87	25. 28	24. 87	25. 68	25. 68	25. 45	26. 43	25. 09	25. 40	25. 45
γ 62. 0	22. 61	22. 61	22. 41	22. 87	22. 37	23. 41	23. 70	23. 17	24. 07	23. 06	23. 00	23. 15
γ 63. 0	20. 22	20. 64	20. 11	20. 87	20. 40	21. 29	21. 75	21. 39	22. 08	21. 03	21. 14	21. 20
γ 64. 0	18. 31	18. 57	18. 43	18. 99	18. 72	19. 21	19. 80	19. 43	20. 22	19. 04	19. 34	19. 06
γ 65. 0	16. 75	16. 79	16. 72	17. 02	16. 87	17. 64	18. 23	17. 67	18. 27	17. 69	17. 50	17. 33
γ 66. 0	15. 17	15. 43	15. 05	15. 63	15. 29	16. 16	16. 90	16. 48	16. 68	16. 16	15. 95	15. 90
γ 67. 0	13. 69	13. 98	13. 85	14. 42	14. 21	14. 60	15. 27	15. 02	15. 48	14. 64	14. 80	14. 30
γ 68. 0	12. 62	12. 67	12. 77	13. 06	12. 94	13. 42	14. 08	13. 61	13. 91	13. 54	13. 38	12. 96
γ 69. 0	11. 60	11. 89	11. 60	11. 99	11. 77	12. 50	13. 07	12. 81	12. 73	12. 65	12. 22	12. 09
γ 70. 0	10. 46	10. 85	10. 68	11. 25	10. 96	11. 35	11. 86	11. 77	11. 86	11. 43	11. 50	11. 03
γ 71. 0	9. 71	9. 90	10. 05	10. 36	10. 26	10. 48	11. 00	10. 63	10. 93	10. 60	10. 48	10. 02
γ 72. 0	9. 17	9. 31	9. 31	9. 37	9. 23	9. 85	10. 31	9. 98	9. 88	9. 97	9. 53	9. 53
γ 73. 0	8. 24	8. 56	8. 37	8. 79	8. 48	8. 93	9. 35	9. 29	9. 27	9. 11	8. 96	8. 67
γ 74. 0	7. 47	7. 71	7. 85	8. 23	8. 04	8. 22	8. 56	8. 31	8. 67	8. 22	8. 24	7. 74
γ 75. 0	7. 08	7. 20	7. 30	7. 25	7. 28	7. 74	8. 09	7. 72	7. 76	7. 78	7. 39	7. 27
γ 76. 0	6. 29	6. 61	6. 42	6. 66	6. 40	6. 91	7. 23	7. 13	7. 07	7. 06	6. 83	6. 60
γ 77. 0	5. 51	5. 79	5. 82	6. 24	6. 03	6. 15	6. 43	6. 30	6. 60	6. 14	6. 28	5. 78
γ 78. 0	5. 19	5. 26	5. 48	5. 58	5. 47	5. 70	6. 03	5. 67	5. 70	5. 67	5. 41	5. 42
γ 79. 0	4. 66	4. 86	4. 76	4. 88	4. 73	5. 07	5. 41	5. 31	5. 11	5. 28	4. 93	4. 88
γ 80. 0	3. 97	4. 21	4. 14	4. 38	4. 19	4. 37	4. 66	4. 60	4. 84	4. 40	4. 58	4. 13
γ 81. 0	3. 59	3. 73	3. 80	4. 12	4. 03	4. 04	4. 36	3. 96	4. 18	3. 99	3. 93	3. 84
γ 82. 0	3. 28	3. 49	3. 40	3. 35	3. 46	3. 62	3. 92	3. 74	3. 54	3. 72	3. 39	3. 44
γ 83. 0	2. 67	2. 85	2. 77	2. 93	2. 76	2. 90	3. 17	3. 19	3. 37	3. 06	3. 20	2. 74
γ 84. 0	2. 20	2. 46	2. 41	2. 79	2. 54	2. 65	2. 98	2. 55	2. 99	2. 58	2. 64	2. 56
γ 85. 0	2. 09	2. 32	2. 34	2. 32	2. 33	2. 46	2. 69	2. 51	2. 36	2. 49	2. 15	2. 28
γ 86. 0	1. 73	1. 79	1. 89	1. 81	1. 85	1. 85	2. 04	2. 16	2. 10	2. 06	2. 04	1. 75
γ 87. 0	1. 26	1. 38	1. 45	1. 66	1. 39	1. 62	1. 86	1. 62	1. 96	1. 52	1. 76	1. 55
γ 88. 0	1. 20	1. 43	1. 38	1. 47	1. 43	1. 54	1. 71	1. 38	1. 46	1. 48	1. 23	1. 49
γ 89. 0	1. 07	1. 13	1. 18	1. 03	1. 13	1. 06	1. 19	1. 31	1. 12	1. 26	1. 18	1. 05
γ 90. 0	0. 81	0. 83	0. 94	0. 85	0. 86	0. 86	1. 04	0. 83	1. 24	0. 92	1. 10	0. 94
γ 91. 0	0. 86	1. 10	0. 97	1. 08	0. 93	1. 08	1. 26	0. 92	0. 96	1. 04	0. 88	1. 18
γ 92. 0	1. 08	1. 12	1. 16	1. 00	1. 04	0. 93	1. 02	1. 15	0. 96	1. 22	1. 02	0. 91
γ 93. 0	0. 94	0. 92	1. 05	0. 81	0. 95	0. 85	0. 96	0. 91	1. 17	1. 03	1. 19	0. 94

IES Indoor Report
Photometric Filename:UL-12W-COB-1200-BH 60D.IES

Candela Tabulation - (Cont.)

V/H	C0. 0	C30. 0	C60. 0	C90. 0	C120. 0	C150. 0	C180. 0	C210. 0	C240. 0	C270. 0	C300. 0	C330. 0
γ 94. 0	0.87	1.20	0.91	1.07	0.80	1.09	1.19	0.88	1.13	0.98	1.01	1.18
γ 95. 0	1.07	1.20	1.20	1.11	1.05	0.93	1.09	1.13	0.99	1.24	1.01	1.02
γ 96. 0	1.03	0.89	1.20	0.97	1.02	0.83	1.02	1.00	1.23	1.19	1.19	0.96
γ 97. 0	0.87	1.10	0.89	0.90	0.92	1.07	1.31	0.81	1.24	1.03	1.08	1.25
γ 98. 0	1.08	1.23	1.04	1.20	0.96	1.03	1.23	1.14	0.97	1.33	0.96	1.10
γ 99. 0	1.15	0.95	1.26	1.15	1.17	0.87	1.05	1.06	1.15	1.27	1.24	0.99
γ 100. 0	0.89	1.13	1.13	0.91	0.97	1.12	1.32	0.91	1.32	1.05	1.22	1.18
γ 101. 0	0.98	1.27	1.05	1.10	0.89	1.11	1.39	1.14	1.10	1.18	1.04	1.17
γ 102. 0	1.24	1.04	1.36	1.28	1.12	0.94	1.13	1.21	1.16	1.37	1.30	1.07
γ 103. 0	1.01	1.13	1.32	0.99	1.21	1.14	1.26	1.01	1.38	1.15	1.37	1.23
γ 104. 0	0.89	1.35	1.03	1.08	1.04	1.21	1.37	1.16	1.23	1.19	1.13	1.27
γ 105. 0	1.17	1.08	1.22	1.35	0.94	0.95	1.21	1.34	1.16	1.38	1.29	1.05
γ 106. 0	1.20	1.11	1.37	1.25	1.27	1.16	1.31	1.14	1.45	1.38	1.36	1.29
γ 107. 0	0.97	1.45	1.19	1.05	1.15	1.27	1.49	1.18	1.29	1.20	1.23	1.36
γ 108. 0	1.16	1.27	1.12	1.31	0.99	1.10	1.26	1.44	1.18	1.45	1.28	1.13
γ 109. 0	1.34	1.12	1.37	1.35	1.25	1.13	1.34	1.28	1.47	1.50	1.49	1.29
γ 110. 0	1.10	1.42	1.33	1.17	1.25	1.31	1.58	1.16	1.48	1.34	1.36	1.48
γ 111. 0	1.14	1.31	1.17	1.20	1.17	1.20	1.39	1.50	1.26	1.42	1.29	1.23
γ 112. 0	1.44	1.15	1.41	1.45	1.13	1.17	1.41	1.39	1.47	1.60	1.58	1.42
γ 113. 0	1.28	1.44	1.52	1.36	1.35	1.40	1.67	1.25	1.62	1.49	1.51	1.53
γ 114. 0	1.16	1.48	1.29	1.16	1.36	1.33	1.58	1.55	1.37	1.47	1.37	1.33
γ 115. 0	1.43	1.22	1.31	1.52	1.19	1.20	1.45	1.52	1.57	1.73	1.57	1.41
γ 116. 0	1.46	1.48	1.54	1.65	1.35	1.48	1.80	1.42	1.80	1.66	1.66	1.66
γ 117. 0	1.24	1.61	1.44	1.38	1.53	1.45	1.74	1.57	1.56	1.48	1.51	1.49
γ 118. 0	1.42	1.37	1.26	1.45	1.31	1.27	1.60	1.77	1.68	1.80	1.60	1.54
γ 119. 0	1.53	1.43	1.57	1.65	1.35	1.48	1.84	1.55	1.79	1.93	1.88	1.85
γ 120. 0	1.37	1.68	1.68	1.53	1.59	1.56	1.97	1.63	1.64	1.74	1.70	1.66
γ 121. 0	1.47	1.49	1.51	1.44	1.65	1.45	1.77	1.93	1.72	1.82	1.68	1.70
γ 122. 0	1.73	1.55	1.58	1.64	1.42	1.55	1.89	1.80	2.00	2.06	1.99	1.95
γ 123. 0	1.66	1.83	1.82	1.80	1.59	1.75	2.10	1.79	1.92	1.96	1.95	1.91
γ 124. 0	1.55	1.78	1.76	1.68	1.79	1.57	1.91	2.10	1.87	1.88	1.85	1.81
γ 125. 0	1.80	1.67	1.62	1.77	1.70	1.67	2.05	2.07	2.14	2.14	2.14	2.12
γ 126. 0	1.88	2.03	1.86	2.03	1.62	1.92	2.36	1.93	2.09	2.28	2.22	2.16
γ 127. 0	1.74	1.94	2.01	1.92	1.95	1.88	2.18	2.32	2.07	2.14	2.12	2.04
γ 128. 0	1.89	1.84	1.85	1.83	2.02	1.80	2.24	2.35	2.43	2.29	2.31	2.32
γ 129. 0	2.16	2.14	1.86	2.06	1.84	2.13	2.60	2.32	2.50	2.61	2.56	2.42
γ 130. 0	2.02	2.11	2.20	2.18	1.92	2.09	2.50	2.46	2.30	2.50	2.44	2.25
γ 131. 0	2.04	2.05	2.18	2.08	2.25	1.99	2.49	2.71	2.58	2.54	2.50	2.63
γ 132. 0	2.36	2.30	2.07	2.13	2.20	2.23	2.88	2.60	2.75	2.78	2.84	2.63
γ 133. 0	2.33	2.32	2.33	2.47	2.14	2.33	2.80	2.65	2.65	2.95	2.83	2.56
γ 134. 0	2.18	2.22	2.48	2.35	2.41	2.20	2.72	2.95	2.77	2.86	2.75	2.80
γ 135. 0	2.49	2.52	2.35	2.33	2.57	2.39	3.07	2.99	3.09	2.94	3.11	3.04
γ 136. 0	2.67	2.64	2.38	2.52	2.37	2.66	3.12	2.97	2.98	3.21	3.16	2.86
γ 137. 0	2.50	2.52	2.67	2.70	2.46	2.57	2.96	3.22	3.04	3.24	3.09	3.05
γ 138. 0	2.70	2.77	2.77	2.55	2.80	2.61	3.32	3.33	3.43	3.19	3.27	3.33
γ 139. 0	2.97	2.91	2.71	2.69	2.83	2.95	3.49	3.23	3.36	3.50	3.53	3.22
γ 140. 0	2.99	2.81	2.89	3.06	2.70	2.87	3.37	3.46	3.44	3.67	3.47	3.39

IES Indoor Report
Photometric Filename:UL-12W-COB-1200-BH 60D.IES

Candela Tabulation - (Cont.)

V/H	C0.0	C30.0	C60.0	C90.0	C120.0	C150.0	C180.0	C210.0	C240.0	C270.0	C300.0	C330.0
γ 141.0	2.88	2.99	3.09	3.04	3.02	2.95	3.61	3.76	3.75	3.57	3.44	3.67
γ 142.0	3.19	3.30	3.07	2.91	3.23	3.24	3.82	3.61	3.75	3.66	3.81	3.53
γ 143.0	3.29	3.19	3.09	3.27	3.07	3.32	3.69	3.70	3.67	4.01	3.90	3.70
γ 144.0	3.20	3.22	3.37	3.32	3.13	3.16	3.88	4.01	4.03	4.07	3.80	4.05
γ 145.0	3.50	3.67	3.47	3.17	3.52	3.38	4.23	4.07	4.16	3.98	4.03	3.94
γ 146.0	3.73	3.52	3.35	3.40	3.58	3.66	4.00	3.95	4.03	4.22	4.28	3.93
γ 147.0	3.59	3.60	3.57	3.77	3.45	3.53	4.19	4.25	4.32	4.51	4.20	4.29
γ 148.0	3.78	3.98	3.82	3.71	3.68	3.71	4.46	4.51	4.63	4.40	4.30	4.29
γ 149.0	4.10	3.82	3.81	3.63	3.96	4.01	4.42	4.43	4.48	4.43	4.58	4.30
γ 150.0	4.07	3.94	3.77	4.01	3.90	4.00	4.46	4.55	4.62	4.78	4.60	4.71
γ 151.0	4.07	4.24	4.14	4.10	3.95	3.99	4.82	4.88	4.90	4.80	4.53	4.67
γ 152.0	4.40	4.25	4.23	4.01	4.23	4.37	4.77	4.81	4.87	4.75	4.89	4.65
γ 153.0	4.50	4.20	4.17	4.22	4.31	4.41	4.71	4.76	4.94	4.97	5.03	4.98
γ 154.0	4.43	4.56	4.30	4.53	4.19	4.30	5.07	5.08	5.21	5.25	4.89	5.03
γ 155.0	4.56	4.61	4.63	4.42	4.39	4.49	5.14	5.29	5.31	5.07	5.03	4.91
γ 156.0	4.91	4.47	4.60	4.51	4.69	4.78	5.00	5.06	5.16	5.11	5.38	5.25
γ 157.0	4.73	4.69	4.49	4.84	4.58	4.63	5.35	5.36	5.52	5.47	5.26	5.33
γ 158.0	4.76	4.92	4.85	4.84	4.62	4.75	5.49	5.56	5.57	5.49	5.24	5.25
γ 159.0	5.09	4.72	4.99	4.74	4.90	5.01	5.30	5.33	5.36	5.41	5.59	5.44
γ 160.0	5.09	4.96	4.92	4.96	4.95	4.97	5.49	5.41	5.64	5.57	5.66	5.56
γ 161.0	5.00	5.16	5.01	5.21	4.85	4.87	5.64	5.72	5.76	5.85	5.46	5.44
γ 162.0	5.23	4.97	5.32	5.07	5.03	5.20	5.49	5.67	5.61	5.75	5.59	5.57
γ 163.0	5.37	5.15	5.29	5.17	5.25	5.23	5.58	5.57	5.79	5.68	5.81	5.75
γ 164.0	5.24	5.34	5.19	5.35	5.15	5.10	5.86	5.80	5.98	5.92	5.68	5.56
γ 165.0	5.32	5.25	5.39	5.40	5.16	5.20	5.70	5.88	5.84	5.96	5.63	5.58
γ 166.0	5.55	5.26	5.49	5.26	5.37	5.40	5.65	5.64	5.78	5.72	5.93	5.85
γ 167.0	5.51	5.57	5.41	5.45	5.39	5.33	5.90	5.80	6.12	5.85	5.91	5.70
γ 168.0	5.39	5.46	5.39	5.62	5.23	5.30	5.93	5.96	5.91	6.13	5.76	5.70
γ 169.0	5.69	5.44	5.66	5.49	5.49	5.57	5.74	5.86	5.89	6.05	5.95	6.03
γ 170.0	5.80	5.75	5.72	5.57	5.76	5.58	6.01	5.77	6.12	5.92	6.12	5.92
γ 171.0	5.88	5.73	5.89	5.66	5.68	5.77	5.86	5.97	6.02	6.07	6.06	6.09
γ 172.0	5.98	5.98	5.94	5.70	5.84	5.90	6.12	5.96	6.19	6.08	6.19	6.04
γ 173.0	6.10	6.00	6.03	5.77	5.96	5.96	6.21	6.04	6.32	6.12	6.29	6.13
γ 174.0	5.99	6.02	6.02	5.97	5.95	5.82	6.39	6.02	6.32	6.15	6.36	6.01
γ 175.0	6.19	6.13	6.22	6.07	6.08	5.98	6.46	6.08	6.36	6.09	6.39	6.14
γ 176.0	6.17	6.16	6.03	6.08	5.89	6.19	6.22	6.36	6.32	6.44	6.22	6.37
γ 177.0	6.16	6.02	6.17	6.38	6.22	6.06	6.40	6.25	6.23	6.29	6.20	6.28
γ 178.0	6.47	6.15	6.32	6.27	6.28	6.12	6.57	6.19	6.22	6.32	6.45	6.17
γ 179.0	6.32	6.37	6.44	6.40	6.34	6.24	6.32	6.29	6.42	6.19	6.22	6.26
γ 180.0	6.36	6.36	6.36	6.36	6.36	6.36	6.36	6.36	6.36	6.36	6.36	6.36