IES Indoor Report
Photometric Filename:F15A-24V-5050-60-4000K.IES

Indoor Luminaire Photometric Data

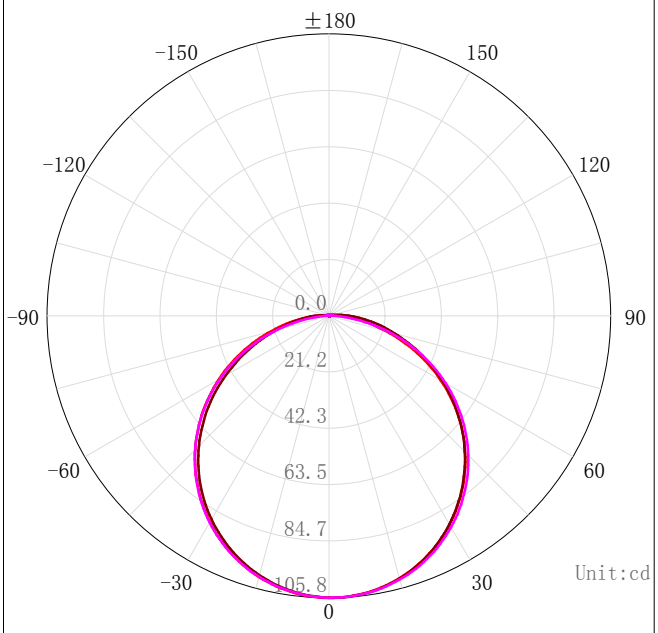
Description Information

Luminary Name: F15A-24V-5050-60-4000K		Lum. Catelog:	Test ID: 001
Lamp Name: LED		Lamp Catelog: F15A-24V-5050-60-4	Test Date: 2018/11/19
Manufacture: Olympia Lighting Co., Ltd		Shld.Ang(°):	Test Machine:GON-2000
Test Lab: LAB001		Frequency(Hz):	Lamp CCT(K): Ra:
Lum.Size(W*L*H):0.010m*1.000m*0.015m		Lum.Area(m2):0.025	Lum.W(kg): 0.300
Test System: C, γ	Test Step: C=45.0 γ=1.0	Temp.(℃): 25	Humidity(%):

Character Parameter

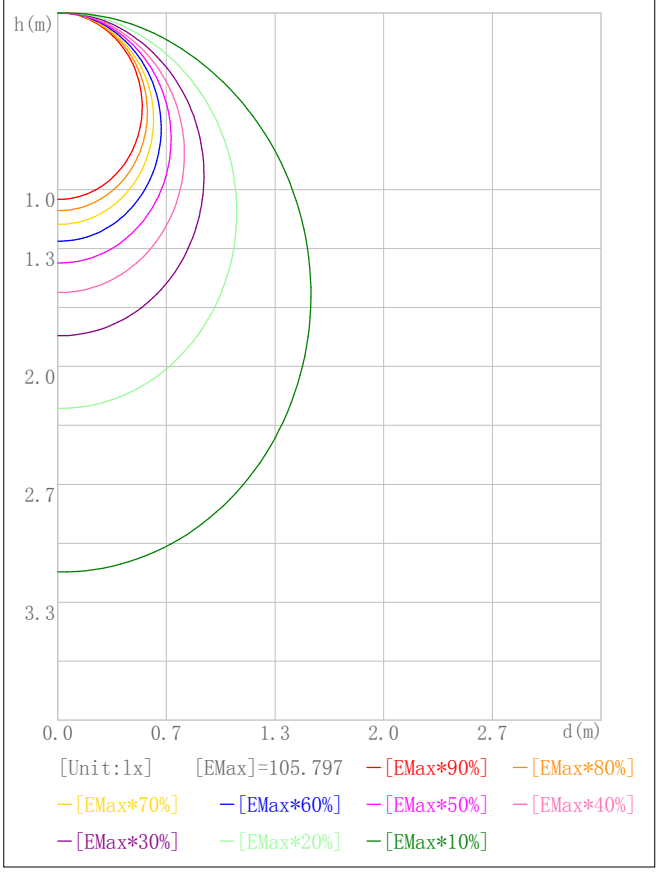
Lamp Speciality Parameter	Luminaire Speciality Parameter	
Rated Flux(lm): 316.120	Luminary Flux(lm): 316.115	Field Angle(10%Imax): 166.5(°)
Rated Power(W):	Luminary Efficiency: 100.00%	Down Lumens&Percent: 312.551lm 98.87%
Rated Voltage(V):	Luminary EER(lm/W): 28.479	Up Lumens&Percent: 3.564lm 1.13%
Tested Power(W): 11.100	Max.Candela(cd): 105.847	S/MH: C0_a180=1.254 C90_270=1.272
Lamps' Inside: 1	Max Cand@Ang.(°): C=135.0 γ=1.0	CIE Type: Semi-Direct
Tested Electrics(V,A,pf):24.0,0.462,1.000	Beam Angle(50%Imax): 114.2(°)	ErP Φuse(120°): 240.822lm
Lamp Size(W*L*H):0.010m*1.000m*0.015m	Left=-56.8° ,Right=57.4°	IRF(%): 106.724

C Plane Distribution Diagram



C Plane	[50%MaxAng.]	[10%MaxAng.]
C135.0_315.0:	114.2	166.5
C0.0_180.0 :	112.9	169.5
C90.0_270.0 :	115.2	162.0

C0 Space ISO Illuminance Curve

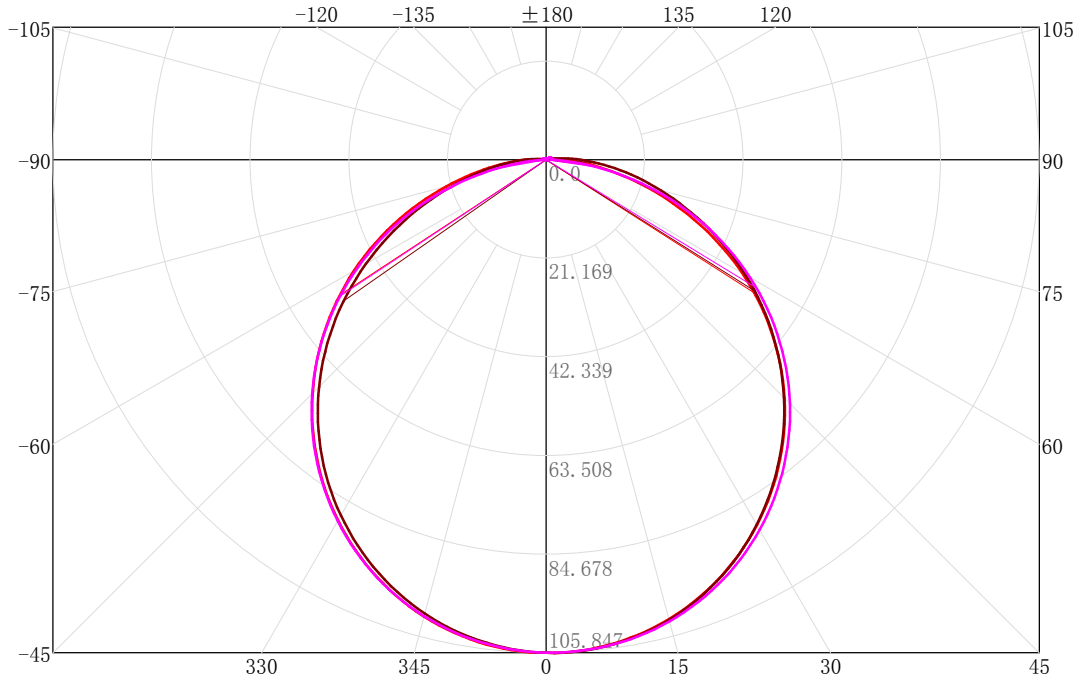


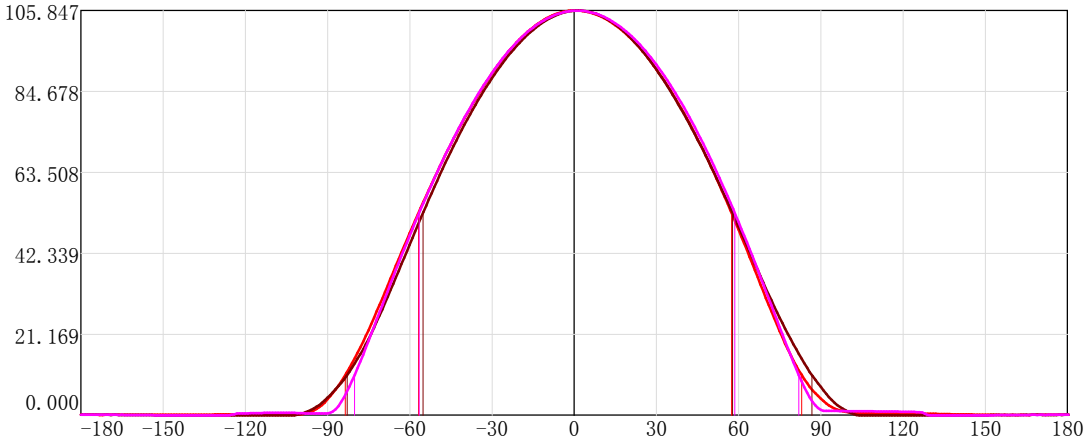
IES Indoor Report
Photometric Filename:F15A-24V-5050-60-4000K.IES

2D Plane Light Intensity Distribution Curve

Lum.Name: F15A-24V-5050-60-4000K	Lum.Catelog:	Test ID: 001
Lamp Name: LED	Lamp Catelog: F15A-24V-5050-60-4	Test Lab: LAB001
Manufacture: Olympia Lighting Co., Ltd	Test Machine:GON-2000	Test Date: 2018/11/19

C Plane Distribution Diagram





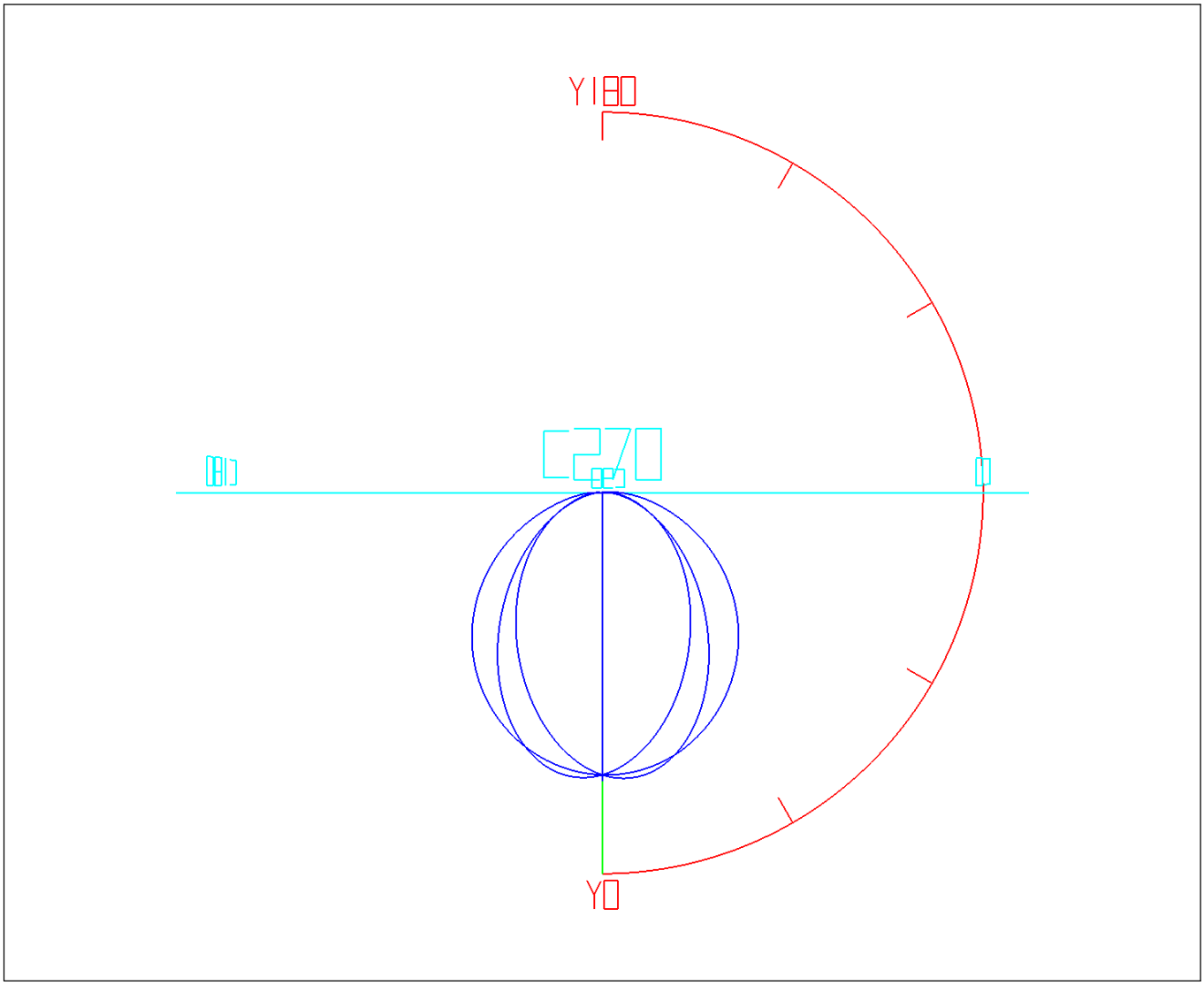
C Plane	[50%MaxAng.]	[10%MaxAng.]	Unit:cd
C135.0_315.0:	114.2	166.5	
C0.0_180.0 :	112.9	169.5	
C90.0_270.0 :	115.2	162.0	

IES Indoor Report
Photometric Filename:F15A-24V-5050-60-4000K.IES

3D Light Intensity Distribution Modal

Lum.Name: F15A-24V-5050-60-4000K	Lum.Catelog:	Test ID: 001
Lamp Name: LED	Lamp Catelog: F15A-24V-5050-60-4	Test Lab: LAB001
Manufacture: Olympia Lighting Co., Ltd	Test Machine:GON-2000	Test Date: 2018/11/19

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:F15A-24V-5050-60-4000K.IES

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	0.10	0.10	0.03	0.03	47.0-48.0	5.50	179.57	1.74	56.81
1.0-2.0	0.30	0.40	0.10	0.13	48.0-49.0	5.46	185.04	1.73	58.53
2.0-3.0	0.51	0.91	0.16	0.29	49.0-50.0	5.42	190.46	1.72	60.25
3.0-4.0	0.71	1.62	0.22	0.51	50.0-51.0	5.37	195.83	1.70	61.95
4.0-5.0	0.91	2.52	0.29	0.80	51.0-52.0	5.32	201.15	1.68	63.63
5.0-6.0	1.11	3.63	0.35	1.15	52.0-53.0	5.25	206.40	1.66	65.29
6.0-7.0	1.30	4.93	0.41	1.56	53.0-54.0	5.18	211.59	1.64	66.93
7.0-8.0	1.50	6.43	0.47	2.04	54.0-55.0	5.11	216.69	1.62	68.55
8.0-9.0	1.69	8.13	0.54	2.57	55.0-56.0	5.02	221.71	1.59	70.14
9.0-10.0	1.88	10.01	0.60	3.17	56.0-57.0	4.93	226.64	1.56	71.70
10.0-11.0	2.07	12.09	0.66	3.82	57.0-58.0	4.83	231.48	1.53	73.22
11.0-12.0	2.26	14.35	0.72	4.54	58.0-59.0	4.73	236.21	1.50	74.72
12.0-13.0	2.44	16.79	0.77	5.31	59.0-60.0	4.62	240.83	1.46	76.18
13.0-14.0	2.62	19.41	0.83	6.14	60.0-61.0	4.50	245.33	1.43	77.61
14.0-15.0	2.80	22.21	0.89	7.03	61.0-62.0	4.38	249.71	1.39	78.99
15.0-16.0	2.97	25.19	0.94	7.97	62.0-63.0	4.26	253.97	1.35	80.34
16.0-17.0	3.14	28.33	0.99	8.96	63.0-64.0	4.12	258.10	1.30	81.65
17.0-18.0	3.31	31.64	1.05	10.01	64.0-65.0	3.99	262.08	1.26	82.91
18.0-19.0	3.47	35.10	1.10	11.10	65.0-66.0	3.85	265.93	1.22	84.12
19.0-20.0	3.62	38.72	1.15	12.25	66.0-67.0	3.70	269.63	1.17	85.29
20.0-21.0	3.77	42.50	1.19	13.44	67.0-68.0	3.55	273.18	1.12	86.42
21.0-22.0	3.92	46.42	1.24	14.68	68.0-69.0	3.39	276.57	1.07	87.49
22.0-23.0	4.06	50.48	1.28	15.97	69.0-70.0	3.24	279.81	1.02	88.51
23.0-24.0	4.20	54.67	1.33	17.29	70.0-71.0	3.08	282.89	0.97	89.49
24.0-25.0	4.33	59.00	1.37	18.66	71.0-72.0	2.92	285.80	0.92	90.41
25.0-26.0	4.45	63.45	1.41	20.07	72.0-73.0	2.75	288.56	0.87	91.28
26.0-27.0	4.57	68.01	1.44	21.52	73.0-74.0	2.59	291.14	0.82	92.10
27.0-28.0	4.68	72.69	1.48	23.00	74.0-75.0	2.43	293.57	0.77	92.87
28.0-29.0	4.79	77.48	1.51	24.51	75.0-76.0	2.26	295.83	0.72	93.58
29.0-30.0	4.88	82.36	1.55	26.05	76.0-77.0	2.10	297.94	0.66	94.25
30.0-31.0	4.98	87.34	1.57	27.63	77.0-78.0	1.94	299.88	0.61	94.86
31.0-32.0	5.06	92.41	1.60	29.23	78.0-79.0	1.79	301.67	0.57	95.43
32.0-33.0	5.14	97.55	1.63	30.86	79.0-80.0	1.63	303.30	0.52	95.94
33.0-34.0	5.22	102.77	1.65	32.51	80.0-81.0	1.49	304.79	0.47	96.41
34.0-35.0	5.28	108.05	1.67	34.18	81.0-82.0	1.34	306.13	0.43	96.84
35.0-36.0	5.34	113.40	1.69	35.87	82.0-83.0	1.21	307.34	0.38	97.22
36.0-37.0	5.40	118.80	1.71	37.58	83.0-84.0	1.08	308.41	0.34	97.56
37.0-38.0	5.44	124.24	1.72	39.30	84.0-85.0	0.95	309.36	0.30	97.86
38.0-39.0	5.48	129.72	1.73	41.03	85.0-86.0	0.83	310.20	0.26	98.13
39.0-40.0	5.51	135.23	1.74	42.78	86.0-87.0	0.72	310.92	0.23	98.36
40.0-41.0	5.54	140.77	1.75	44.53	87.0-88.0	0.63	311.55	0.20	98.55
41.0-42.0	5.55	146.32	1.76	46.29	88.0-89.0	0.54	312.09	0.17	98.72
42.0-43.0	5.56	151.88	1.76	48.05	89.0-90.0	0.46	312.55	0.15	98.87
43.0-44.0	5.56	157.45	1.76	49.81	90.0-91.0	0.40	312.95	0.13	99.00
44.0-45.0	5.56	163.00	1.76	51.56	91.0-92.0	0.33	313.28	0.11	99.10
45.0-46.0	5.55	168.55	1.75	53.32	92.0-93.0	0.28	313.56	0.09	99.19
46.0-47.0	5.53	174.08	1.75	55.07	93.0-94.0	0.24	313.80	0.07	99.27

IES Indoor Report
Photometric Filename:F15A-24V-5050-60-4000K.IES

Zonal Flux Tabulation - (Cont.)

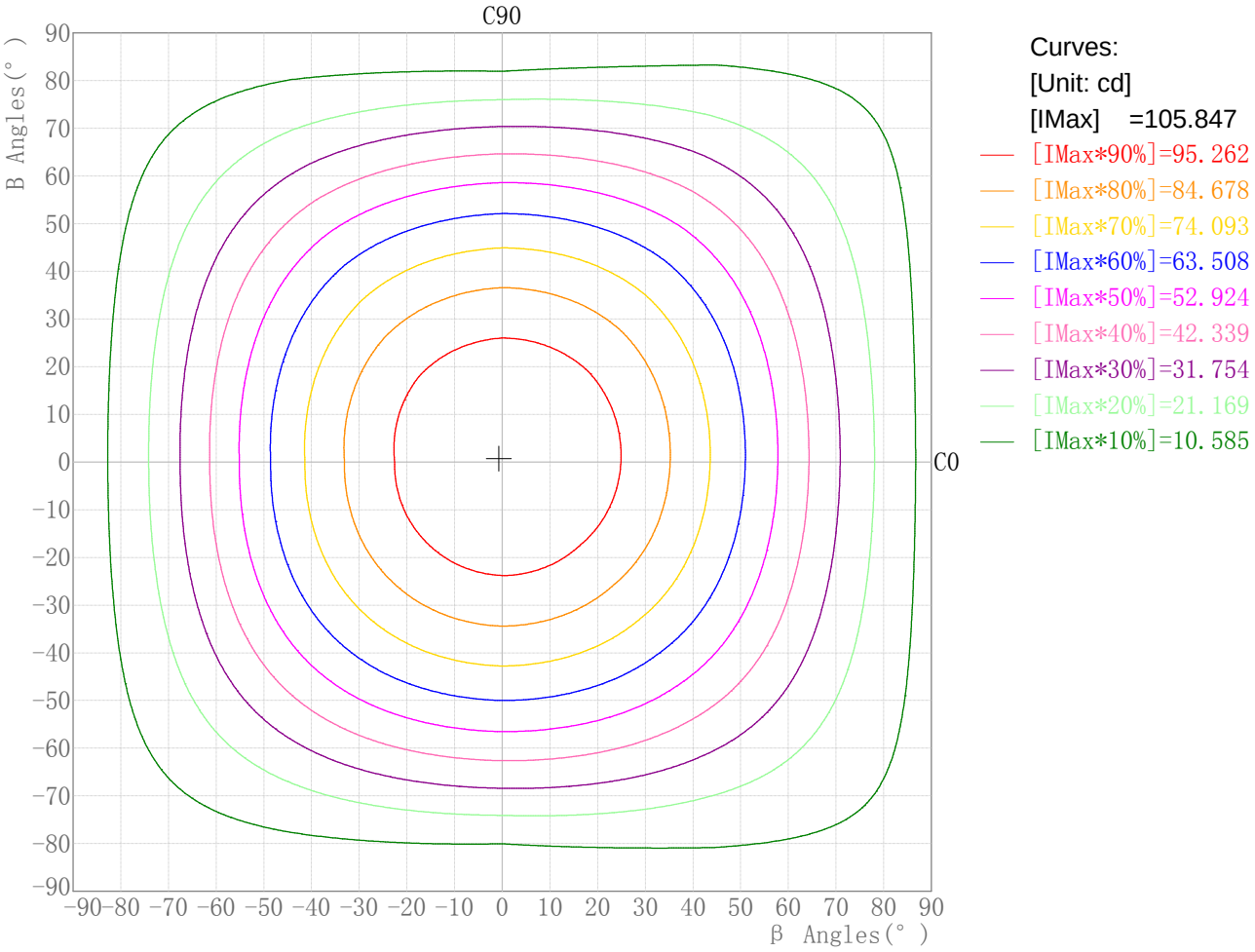
Zone(γ)	Zone Flux (lm)	Sums Flux (lm)	Zone%Lamp	Sums%Lamp
94.0-95.0	0.20	314.00	0.06	99.33
95.0-96.0	0.17	314.16	0.05	99.38
96.0-97.0	0.14	314.30	0.04	99.42
97.0-98.0	0.11	314.41	0.04	99.46
98.0-99.0	0.09	314.51	0.03	99.49
99.0-100.0	0.08	314.59	0.02	99.52
100.0-101.0	0.07	314.65	0.02	99.54
101.0-102.0	0.06	314.71	0.02	99.55
102.0-103.0	0.05	314.77	0.02	99.57
103.0-104.0	0.05	314.82	0.02	99.59
104.0-105.0	0.05	314.86	0.02	99.60
105.0-106.0	0.05	314.91	0.02	99.62
106.0-107.0	0.05	314.96	0.02	99.63
107.0-108.0	0.05	315.01	0.02	99.65
108.0-109.0	0.05	315.06	0.01	99.66
109.0-110.0	0.05	315.10	0.01	99.68
110.0-111.0	0.05	315.15	0.01	99.69
111.0-112.0	0.05	315.19	0.01	99.71
112.0-113.0	0.04	315.24	0.01	99.72
113.0-114.0	0.04	315.28	0.01	99.73
114.0-115.0	0.04	315.32	0.01	99.75
115.0-116.0	0.04	315.37	0.01	99.76
116.0-117.0	0.04	315.41	0.01	99.77
117.0-118.0	0.04	315.45	0.01	99.79
118.0-119.0	0.04	315.49	0.01	99.80
119.0-120.0	0.04	315.53	0.01	99.81
120.0-121.0	0.04	315.57	0.01	99.82
121.0-122.0	0.04	315.60	0.01	99.84
122.0-123.0	0.04	315.64	0.01	99.85
123.0-124.0	0.03	315.67	0.01	99.86
124.0-125.0	0.03	315.70	0.01	99.87
125.0-126.0	0.03	315.73	0.01	99.88
126.0-127.0	0.03	315.76	0.01	99.89
127.0-128.0	0.02	315.79	0.01	99.89
128.0-129.0	0.02	315.80	0.01	99.90
129.0-130.0	0.02	315.82	0.01	99.91
130.0-131.0	0.02	315.84	0.00	99.91
131.0-132.0	0.01	315.85	0.00	99.91
132.0-133.0	0.01	315.87	0.00	99.92
133.0-134.0	0.01	315.88	0.00	99.92
134.0-135.0	0.01	315.89	0.00	99.93
135.0-136.0	0.01	315.90	0.00	99.93
136.0-137.0	0.01	315.91	0.00	99.93
137.0-138.0	0.01	315.93	0.00	99.94
138.0-139.0	0.01	315.94	0.00	99.94
139.0-140.0	0.01	315.95	0.00	99.94
140.0-141.0	0.01	315.95	0.00	99.95
141.0-142.0	0.01	315.96	0.00	99.95
142.0-143.0	0.01	315.97	0.00	99.95
143.0-144.0	0.01	315.98	0.00	99.96
144.0-145.0	0.01	315.99	0.00	99.96
145.0-146.0	0.01	315.99	0.00	99.96
146.0-147.0	0.01	316.00	0.00	99.96
147.0-148.0	0.01	316.01	0.00	99.96
148.0-149.0	0.01	316.01	0.00	99.97
149.0-150.0	0.01	316.02	0.00	99.97
150.0-151.0	0.01	316.02	0.00	99.97
151.0-152.0	0.01	316.03	0.00	99.97
152.0-153.0	0.01	316.03	0.00	99.97
153.0-154.0	0.01	316.04	0.00	99.97
154.0-155.0	0.01	316.04	0.00	99.98
155.0-156.0	0.00	316.05	0.00	99.98
156.0-157.0	0.00	316.05	0.00	99.98
157.0-158.0	0.00	316.06	0.00	99.98
158.0-159.0	0.00	316.06	0.00	99.98
159.0-160.0	0.00	316.07	0.00	99.98
160.0-161.0	0.00	316.07	0.00	99.98
161.0-162.0	0.00	316.08	0.00	99.99
162.0-163.0	0.00	316.08	0.00	99.99
163.0-164.0	0.00	316.08	0.00	99.99
164.0-165.0	0.00	316.09	0.00	99.99
165.0-166.0	0.00	316.09	0.00	99.99
166.0-167.0	0.00	316.09	0.00	99.99
167.0-168.0	0.00	316.10	0.00	99.99
168.0-169.0	0.00	316.10	0.00	99.99
169.0-170.0	0.00	316.10	0.00	99.99
170.0-171.0	0.00	316.10	0.00	100.00
171.0-172.0	0.00	316.11	0.00	100.00
172.0-173.0	0.00	316.11	0.00	100.00
173.0-174.0	0.00	316.11	0.00	100.00
174.0-175.0	0.00	316.11	0.00	100.00
175.0-176.0	0.00	316.11	0.00	100.00
176.0-177.0	0.00	316.11	0.00	100.00
177.0-178.0	0.00	316.11	0.00	100.00
178.0-179.0	0.00	316.12	0.00	100.00
179.0-180.0	0.00	316.12	0.00	100.00

IES Indoor Report
Photometric Filename:F15A-24V-5050-60-4000K.IES

Rectangle ISO Lighting Intensity Diagram

Lum.Name: F15A-24V-5050-60-4000K	Lum.Catelog:	Test ID: 001
Lamp Name: LED	Lamp Catelog: F15A-24V-5050-60-4	Test Lab: LAB001
Manufacture: Olympia Lighting Co., Ltd	Test Machine:GON-2000	Test Date: 2018/11/19

ISO Lighting Intensity Curve



Maximum Light Intensity(cd): 105.85

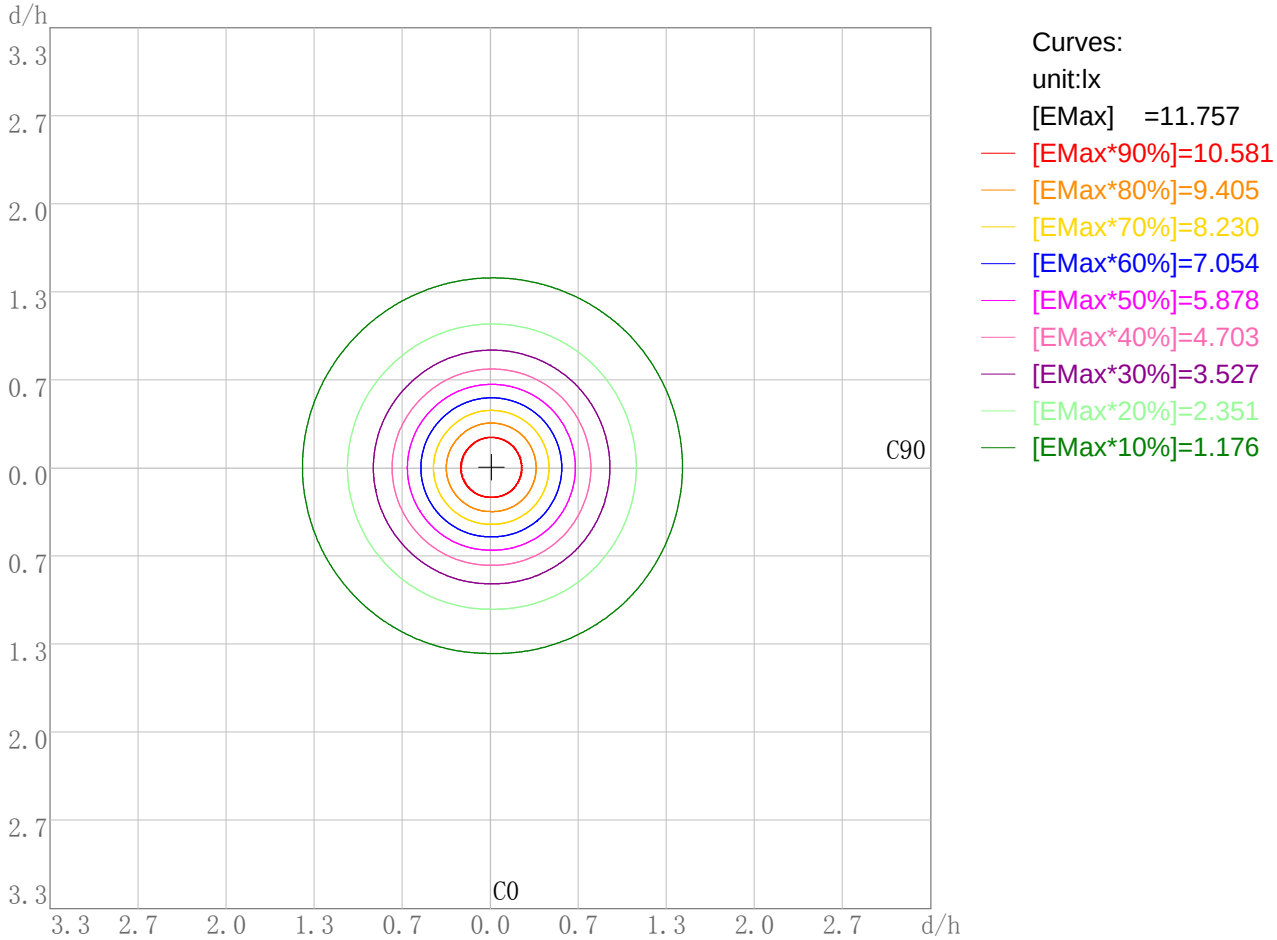
Maximum Cand.@Angle: H=-0.7°,V=0.7°

IES Indoor Report
Photometric Filename:F15A-24V-5050-60-4000K.IES

Plane ISO-Illuminance Diagram

Lum.Name: F15A-24V-5050-60-4000K	Lum.Catelog:	Test ID: 001
Lamp Name: LED	Lamp Catelog: F15A-24V-5050-60-4	Test Lab: LAB001
Manufacture: Olympia Lighting Co., Ltd	Test Machine:GON-2000	Test Date: 2018/11/19

Plane ISO-Illuminance Curve



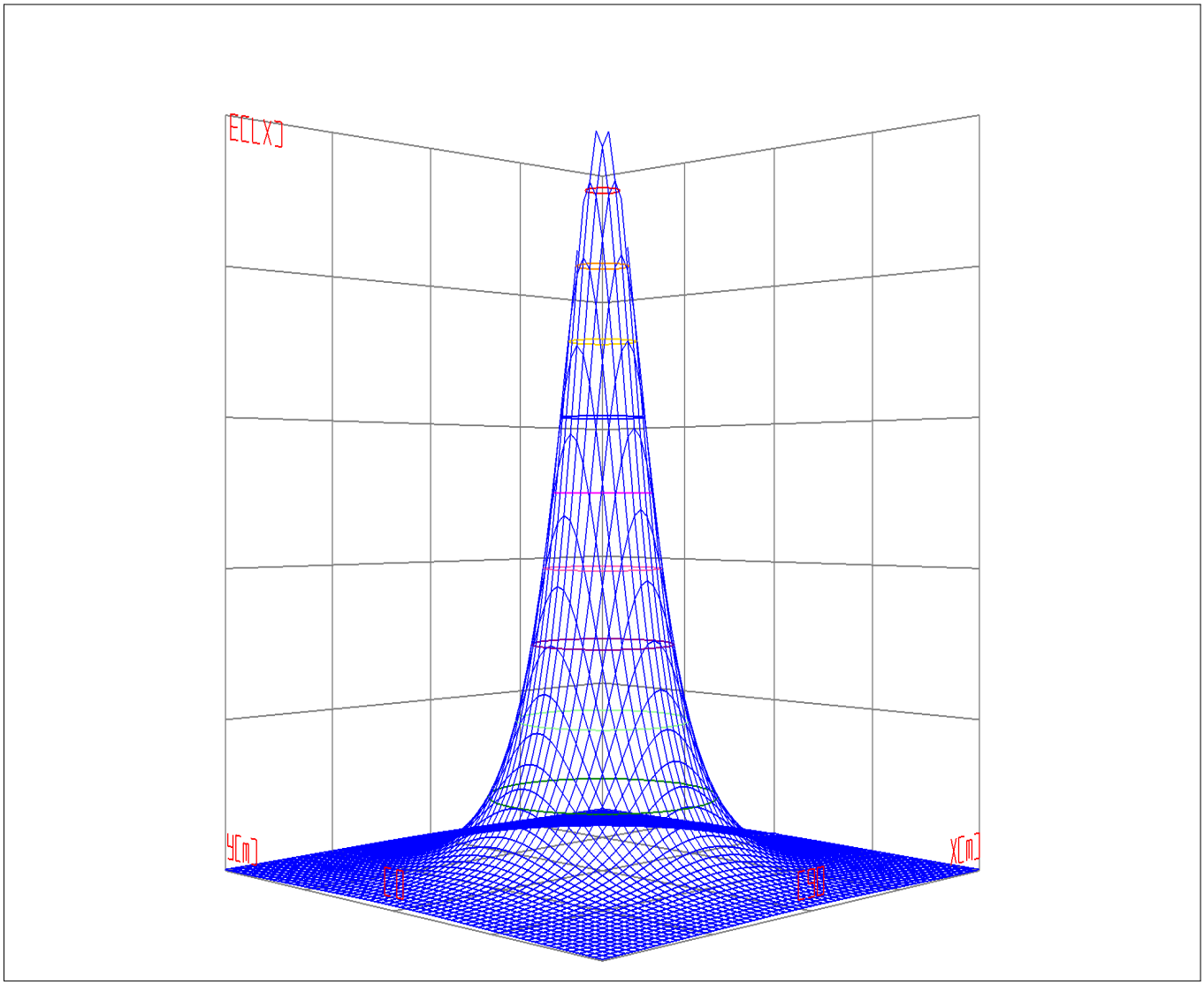
Working Plane Luminaire Mounting Height(m): 3.00
Working Plane Maximum Illuminance(lx): 11.76
Working Plane Maximum Illuminance Position(d/h):H0.0 V-0.0

IES Indoor Report
Photometric Filename:F15A-24V-5050-60-4000K.IES

3D Plane ISO Illuminance Diagram

Lum.Name: F15A-24V-5050-60-4000K	Lum.Catelog:	Test ID: 001
Lamp Name: LED	Lamp Catelog: F15A-24V-5050-60-4	Test Lab: LAB001
Manufacture: Olympia Lighting Co., Ltd	Test Machine:GON-2000	Test Date: 2018/11/19

3D Plane Illuminance Modal



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

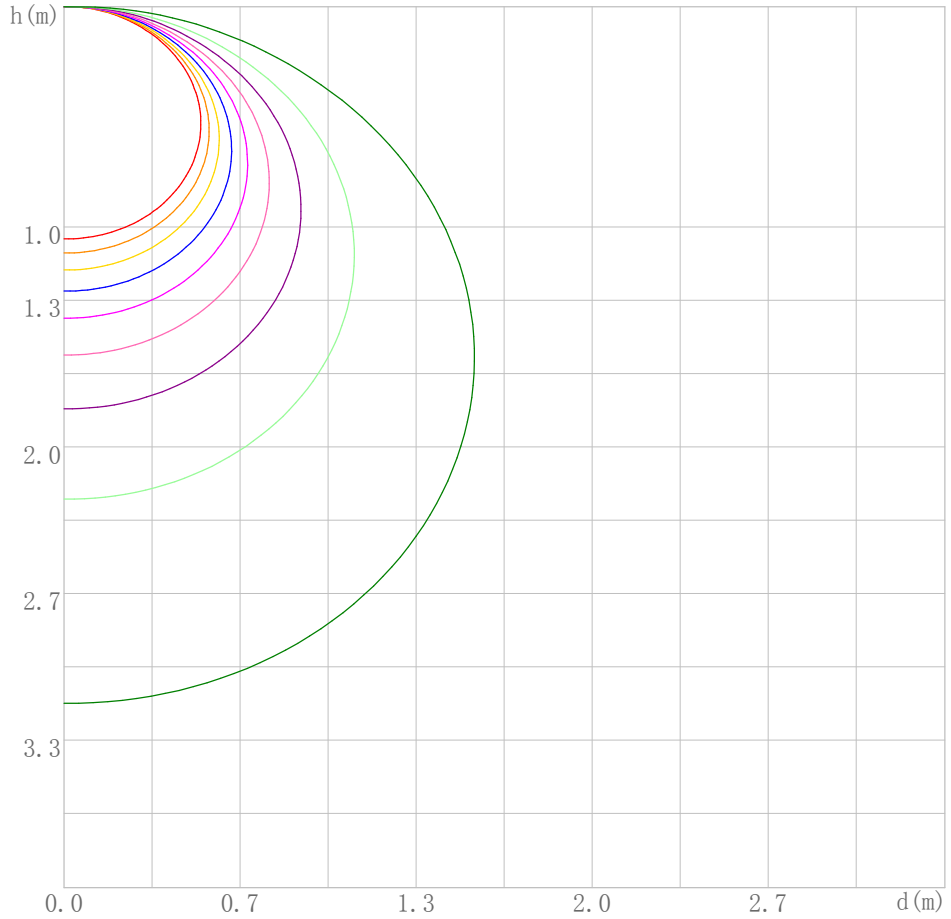
View Angles(deg): 0 Height(m): 3.0 Distance(m): 10.0

IES Indoor Report
Photometric Filename:F15A-24V-5050-60-4000K.IES

Space ISO Illuminance Diagram

Lum.Name: F15A-24V-5050-60-4000K	Lum.Catelog:	Test ID: 001
Lamp Name: LED	Lamp Catelog: F15A-24V-5050-60-4	Test Lab: LAB001
Manufacture: Olympia Lighting Co., Ltd	Test Machine:GON-2000	Test Date: 2018/11/19

Space ISO Illuminance Curve



Curves:
[Unit: lx]
[EMax] =105.797
[EMax*90%]=95.217
[EMax*80%]=84.638
[EMax*70%]=74.058
[EMax*60%]=63.478
[EMax*50%]=52.898
[EMax*40%]=42.319
[EMax*30%]=31.739
[EMax*20%]=21.159
[EMax*10%]=10.580

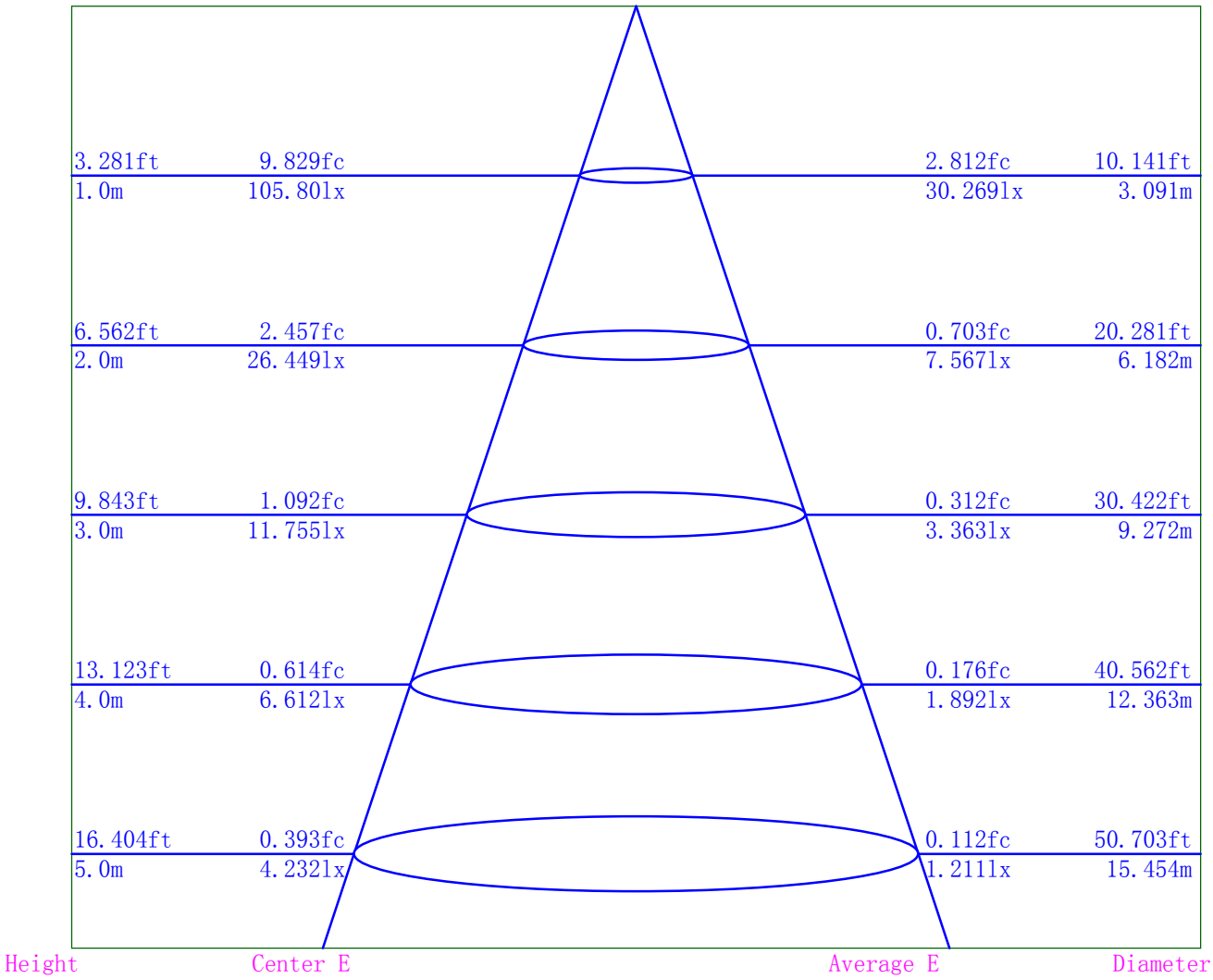
Space Plane Maximum Illuminance and @Angle:105.80lx,0.0deg
Plane Maximum Lighting Intensity and @Angle:105.840cd,0eg

IES Indoor Report
Photometric Filename:F15A-24V-5050-60-4000K.IES

Illuminance-Distance Diagram

Lum.Name: F15A-24V-5050-60-4000K	Lum.Catelog:	Test ID: 001
Lamp Name: LED	Lamp Catelog: F15A-24V-5050-60-4	Test Lab: LAB001
Manufacture: Olympia Lighting Co., Ltd	Test Machine:GON-2000	Test Date: 2018/11/19

Illuminance-Distance Curve



Beam Angle:114.2

IES Indoor Report
Photometric Filename:F15A-24V-5050-60-4000K.IES

Indoor Luminance Limiting Curves

Lum.Name:	F15A-24V-5050-60-4000K	Lum.Catelog:		Test ID:	001
Lamp Name:	LED	Lamp Catelog:	F15A-24V-5050-60-4	Test Lab:	LAB001
Manufacture:	Olympia Lighting Co., Ltd	Test Machine:	GON-2000	Test Date:	2018/11/19

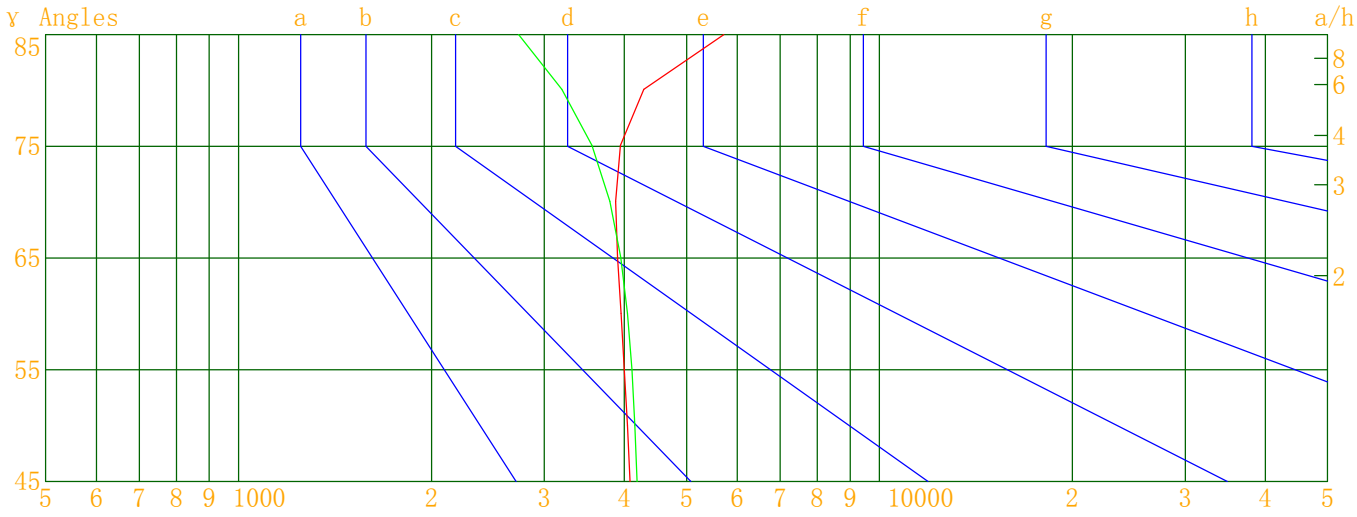
Glare Grade Table

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	4082	4043	4000	3952	3904	3876	3944	4288	5714
C90	4185	4153	4108	4043	3946	3796	3559	3195	2736

Luminance Limiting Curve



Luminous Size: Length(m)=1.000 Width(m)=0.010 Height(m)=0.015 Area(m^2)=0.025000

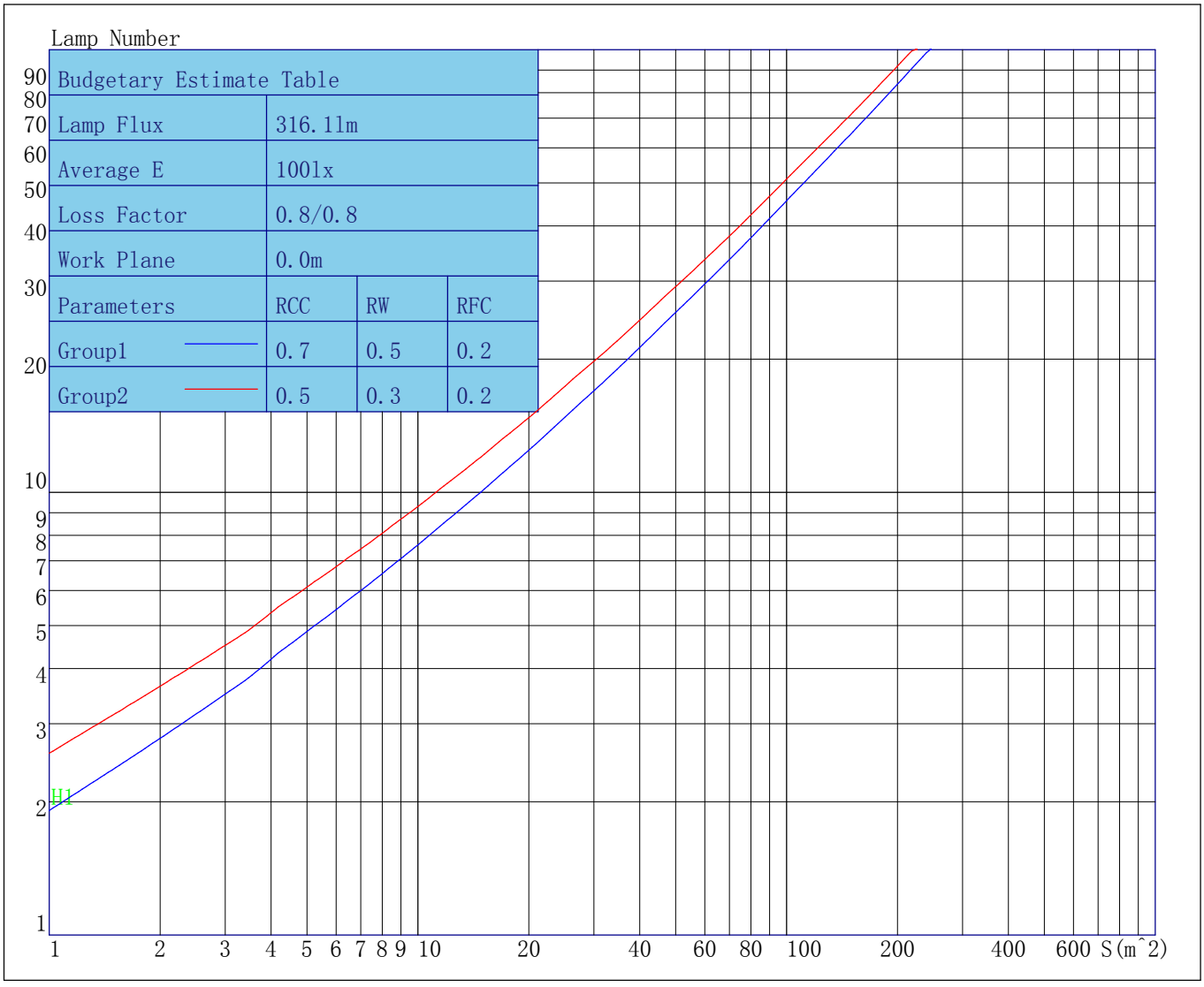
Luminous Type: Without Luminous Side

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

IES Indoor Report
Photometric Filename:F15A-24V-5050-60-4000K.IES

Indoor Budgetary Estimate Table

Lum.Name: F15A-24V-5050-60-4000K	Lum.Catelog:	Test ID: 001
Lamp Name: LED	Lamp Catelog: F15A-24V-5050-60-4	Test Lab: LAB001
Manufacture: Olympia Lighting Co., Ltd	Test Machine:GON-2000	Test Date: 2018/11/19



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:F15A-24V-5050-60-4000K.IES

Indoor Coefficient of Utilization Table

Lum.Name: F15A-24V-5050-60-4000K	Lum.Catelog:	Test ID: 001
Lamp Name: LED	Lamp Catelog: F15A-24V-5050-60-4	Test Lab: LAB001
Manufacture: Olympia Lighting Co., Ltd	Test Machine:GON-2000	Test Date: 2018/11/19

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	106	106	106	101	101	101	99
1	108	103	98	94	105	100	96	93	96	93	90	92	89	87	88	86	84	82
2	98	89	82	76	95	87	81	75	84	78	73	80	76	72	77	73	70	68
3	89	78	70	63	86	77	69	63	73	67	61	70	65	60	68	63	59	57
4	81	69	60	53	79	68	59	53	65	58	52	63	56	51	60	55	50	48
5	75	62	53	46	73	61	52	46	58	51	45	56	50	44	54	48	44	42
6	69	56	46	40	67	55	46	40	53	45	39	51	44	39	49	43	38	36
7	64	50	41	35	62	49	41	35	48	40	35	46	39	34	45	39	34	32
8	60	46	37	31	58	45	37	31	44	36	31	42	36	31	41	35	30	28
9	56	42	34	28	54	41	33	28	40	33	28	39	32	28	38	32	27	26
10	52	39	31	25	51	38	31	25	37	30	25	36	30	25	35	29	25	23

IES Indoor Report
Photometric Filename:F15A-24V-5050-60-4000K.IES

Unified Glare Rating Table

Lum.Name: F15A-24V-5050-60-4000K	Lum.Catelog:	Test ID: 001
Lamp Name: LED	Lamp Catelog: F15A-24V-5050-60-4	Test Lab: LAB001
Manufacture: Olympia Lighting Co., Ltd	Test Machine:GON-2000	Test Date: 2018/11/19

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	17.2	18.9	17.6	19.2	19.5	17.3	19.0	17.7	19.3	19.7
	Y=3H	19.0	20.5	19.4	20.8	21.2	19.1	20.5	19.5	20.9	21.3
	Y=4H	19.8	21.2	20.3	21.6	22.0	19.8	21.2	20.2	21.5	21.9
	Y=6H	20.6	21.9	21.0	22.3	22.7	20.3	21.6	20.7	22.0	22.4
	Y=8H	21.0	22.2	21.4	22.6	23.0	20.5	21.7	20.9	22.1	22.6
	Y=12H	21.3	22.5	21.8	22.9	23.4	20.6	21.8	21.0	22.2	22.6
X=4H	Y=2H	18.0	19.4	18.4	19.8	20.2	18.1	19.5	18.5	19.9	20.3
	Y=3H	20.0	21.2	20.4	21.6	22.0	20.0	21.2	20.5	21.6	22.1
	Y=4H	21.0	22.0	21.4	22.5	22.9	20.9	21.9	21.3	22.4	22.8
	Y=6H	21.9	22.8	22.3	23.3	23.7	21.5	22.5	22.0	22.9	23.4
	Y=8H	22.3	23.2	22.8	23.6	24.1	21.8	22.6	22.2	23.1	23.6
	Y=12H	22.8	23.5	23.3	24.0	24.5	21.9	22.7	22.4	23.2	23.7
X=8H	Y=4H	21.3	22.2	21.8	22.7	23.2	21.2	22.1	21.7	22.6	23.1
	Y=6H	22.4	23.1	22.9	23.6	24.3	22.1	22.8	22.6	23.3	23.9
	Y=8H	23.0	23.6	23.5	24.1	24.7	22.4	23.0	22.9	23.6	24.1
	Y=12H	23.6	24.1	24.1	24.7	25.2	22.7	23.2	23.2	23.8	24.3
X=12H	Y=4H	21.4	22.2	21.9	22.7	23.1	21.3	22.1	21.8	22.6	23.1
	Y=6H	22.5	23.2	23.0	23.6	24.2	22.2	22.8	22.7	23.3	23.9
	Y=8H	23.1	23.7	23.7	24.2	24.8	22.6	23.2	23.1	23.7	24.2

Variations with the objerver position at spacings		
S=1.0H	0.2/-0.2	0.5/-0.5
S=1.5H	0.5/-0.5	0.8/-0.9
S=2.0H	0.6/-0.7	0.9/-1.1

Reduced UGR Table:		
Nordic Standard Table:	BK0	BK0
Correction Value	3.6	3.1

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

IES Indoor Report
Photometric Filename:F15A-24V-5050-60-4000K.IES

Candela Tabulation

V/H	C0.0	C45.0	C90.0	C135.0	C180.0	C225.0	C270.0	C315.0
Y 0.0	105.80	105.80	105.80	105.80	105.80	105.80	105.80	105.80
Y 1.0	105.84	105.83	105.80	105.85	105.71	105.71	105.73	105.81
Y 2.0	105.83	105.82	105.78	105.81	105.61	105.60	105.62	105.74
Y 3.0	105.79	105.79	105.74	105.72	105.44	105.45	105.50	105.63
Y 4.0	105.71	105.70	105.65	105.61	105.25	105.27	105.34	105.48
Y 5.0	105.58	105.59	105.52	105.46	105.03	105.05	105.13	105.29
Y 6.0	105.43	105.43	105.38	105.28	104.77	104.81	104.91	105.07
Y 7.0	105.21	105.26	105.19	105.05	104.46	104.50	104.66	104.81
Y 8.0	104.98	105.04	104.98	104.79	104.13	104.18	104.37	104.50
Y 9.0	104.69	104.81	104.73	104.50	103.75	103.83	104.04	104.17
Y 10.0	104.37	104.52	104.45	104.17	103.35	103.44	103.68	103.81
Y 11.0	104.01	104.20	104.14	103.81	102.91	103.02	103.29	103.39
Y 12.0	103.61	103.83	103.77	103.41	102.43	102.56	102.86	102.96
Y 13.0	103.18	103.46	103.39	102.99	101.90	102.05	102.39	102.48
Y 14.0	102.72	103.03	102.96	102.52	101.35	101.52	101.90	101.99
Y 15.0	102.21	102.57	102.51	102.01	100.77	100.95	101.37	101.44
Y 16.0	101.67	102.07	102.02	101.48	100.15	100.36	100.79	100.86
Y 17.0	101.08	101.55	101.49	100.91	99.49	99.73	100.21	100.25
Y 18.0	100.46	100.97	100.93	100.30	98.80	99.05	99.58	99.61
Y 19.0	99.80	100.38	100.33	99.66	98.09	98.36	98.90	98.91
Y 20.0	99.11	99.73	99.72	98.98	97.34	97.63	98.22	98.21
Y 21.0	98.40	99.05	99.05	98.29	96.55	96.88	97.49	97.44
Y 22.0	97.62	98.38	98.36	97.55	95.74	96.08	96.74	96.68
Y 23.0	96.84	97.62	97.65	96.78	94.89	95.25	95.92	95.87
Y 24.0	96.03	96.86	96.88	95.97	94.02	94.40	95.10	95.02
Y 25.0	95.17	96.06	96.09	95.14	93.10	93.51	94.24	94.15
Y 26.0	94.28	95.23	95.27	94.27	92.15	92.58	93.35	93.24
Y 27.0	93.35	94.36	94.41	93.37	91.20	91.65	92.42	92.32
Y 28.0	92.40	93.46	93.54	92.43	90.19	90.67	91.47	91.34
Y 29.0	91.42	92.54	92.62	91.47	89.17	89.65	90.49	90.35
Y 30.0	90.41	91.59	91.67	90.48	88.12	88.62	89.47	89.32
Y 31.0	89.37	90.58	90.69	89.46	87.04	87.54	88.44	88.26
Y 32.0	88.30	89.57	89.67	88.43	85.93	86.46	87.38	87.18
Y 33.0	87.20	88.53	88.64	87.35	84.78	85.35	86.27	86.07
Y 34.0	86.10	87.45	87.57	86.25	83.62	84.19	85.15	84.96
Y 35.0	84.93	86.35	86.47	85.12	82.39	83.03	83.99	83.79
Y 36.0	83.76	85.22	85.33	83.98	81.18	81.82	82.81	82.61
Y 37.0	82.57	84.07	84.20	82.78	79.91	80.59	81.60	81.39
Y 38.0	81.36	82.90	83.00	81.58	78.62	79.34	80.35	80.15
Y 39.0	80.11	81.69	81.79	80.34	77.32	78.06	79.08	78.91
Y 40.0	78.83	80.44	80.55	79.07	75.98	76.75	77.81	77.63
Y 41.0	77.55	79.18	79.30	77.78	74.62	75.41	76.49	76.33
Y 42.0	76.23	77.90	77.98	76.47	73.23	74.05	75.14	75.00
Y 43.0	74.90	76.59	76.70	75.13	71.80	72.67	73.77	73.63
Y 44.0	73.55	75.26	75.35	73.75	70.37	71.26	72.38	72.26
Y 45.0	72.16	73.89	73.97	72.33	68.91	69.83	70.96	70.86
Y 46.0	70.75	72.52	72.57	70.90	67.44	68.36	69.50	69.44

IES Indoor Report
Photometric Filename:F15A-24V-5050-60-4000K.IES

Candela Tabulation - (Cont.)

V/H	C0.0	C45.0	C90.0	C135.0	C180.0	C225.0	C270.0	C315.0
Y 47.0	69.35	71.11	71.15	69.46	65.94	66.90	68.06	67.99
Y 48.0	67.90	69.70	69.71	67.98	64.39	65.41	66.55	66.55
Y 49.0	66.43	68.25	68.23	66.49	62.84	63.87	65.04	65.05
Y 50.0	64.97	66.80	66.74	64.96	61.29	62.31	63.49	63.55
Y 51.0	63.47	65.30	65.22	63.41	59.70	60.75	61.93	62.03
Y 52.0	61.98	63.80	63.67	61.84	58.10	59.15	60.36	60.50
Y 53.0	60.43	62.26	62.10	60.25	56.48	57.54	58.76	58.94
Y 54.0	58.90	60.73	60.52	58.64	54.81	55.90	57.13	57.37
Y 55.0	57.36	59.16	58.91	56.98	53.14	54.25	55.48	55.78
Y 56.0	55.78	57.58	57.27	55.31	51.46	52.57	53.81	54.17
Y 57.0	54.21	55.97	55.62	53.64	49.75	50.88	52.13	52.53
Y 58.0	52.61	54.35	53.95	51.97	48.06	49.18	50.42	50.88
Y 59.0	51.02	52.71	52.25	50.24	46.36	47.46	48.70	49.24
Y 60.0	49.40	51.07	50.54	48.52	44.64	45.74	46.97	47.58
Y 61.0	47.78	49.39	48.80	46.77	42.91	43.97	45.20	45.91
Y 62.0	46.15	47.71	47.06	45.01	41.18	42.22	43.45	44.22
Y 63.0	44.53	46.03	45.28	43.23	39.48	40.46	41.66	42.53
Y 64.0	42.89	44.31	43.50	41.46	37.77	38.68	39.87	40.83
Y 65.0	41.24	42.59	41.69	39.67	36.06	36.86	38.04	39.12
Y 66.0	39.61	40.88	39.87	37.87	34.37	35.07	36.21	37.39
Y 67.0	37.99	39.16	38.04	36.05	32.68	33.27	34.36	35.69
Y 68.0	36.36	37.42	36.19	34.25	31.01	31.48	32.51	33.96
Y 69.0	34.75	35.67	34.32	32.44	29.35	29.69	30.65	32.24
Y 70.0	33.14	33.92	32.46	30.64	27.69	27.91	28.80	30.54
Y 71.0	31.56	32.21	30.57	28.87	26.07	26.17	26.92	28.85
Y 72.0	30.03	30.46	28.68	27.13	24.48	24.45	25.05	27.17
Y 73.0	28.48	28.74	26.80	25.40	22.90	22.75	23.18	25.50
Y 74.0	26.97	27.04	24.91	23.70	21.38	21.08	21.32	23.86
Y 75.0	25.52	25.33	23.03	22.04	19.93	19.46	19.48	22.27
Y 76.0	24.06	23.69	21.15	20.38	18.55	17.84	17.65	20.73
Y 77.0	22.66	22.07	19.29	18.77	17.23	16.28	15.83	19.21
Y 78.0	21.29	20.50	17.45	17.21	15.98	14.78	14.06	17.74
Y 79.0	19.95	18.96	15.64	15.70	14.78	13.35	12.33	16.33
Y 80.0	18.61	17.46	13.87	14.30	13.60	12.03	10.66	14.95
Y 81.0	17.34	16.03	12.14	12.98	12.45	10.80	9.05	13.65
Y 82.0	16.08	14.66	10.50	11.74	11.36	9.68	7.50	12.38
Y 83.0	14.84	13.35	8.89	10.59	10.33	8.59	6.04	11.16
Y 84.0	13.63	12.08	7.39	9.46	9.37	7.56	4.72	9.96
Y 85.0	12.45	10.87	5.96	8.43	8.48	6.61	3.51	8.81
Y 86.0	11.33	9.69	4.65	7.45	7.66	5.74	2.47	7.75
Y 87.0	10.28	8.56	3.53	6.56	6.84	4.95	1.62	6.77
Y 88.0	9.29	7.54	2.61	5.78	6.05	4.26	1.00	5.86
Y 89.0	8.33	6.60	1.89	5.07	5.30	3.62	0.63	5.02
Y 90.0	7.43	5.73	1.42	4.39	4.57	2.99	0.52	4.16
Y 91.0	6.49	4.89	1.21	3.73	3.90	2.44	0.53	3.38
Y 92.0	5.57	4.06	1.17	3.11	3.24	1.93	0.52	2.67
Y 93.0	4.74	3.41	1.14	2.57	2.67	1.58	0.50	2.14

IES Indoor Report
Photometric Filename:F15A-24V-5050-60-4000K.IES

Candela Tabulation - (Cont.)

V/H	C0.0	C45.0	C90.0	C135.0	C180.0	C225.0	C270.0	C315.0
Y 94.0	3.99	2.85	1.14	2.16	2.22	1.27	0.51	1.68
Y 95.0	3.28	2.38	1.14	1.79	1.80	1.02	0.51	1.29
Y 96.0	2.71	1.99	1.14	1.50	1.41	0.80	0.52	0.96
Y 97.0	2.21	1.64	1.13	1.25	1.08	0.64	0.53	0.69
Y 98.0	1.75	1.35	1.14	1.06	0.80	0.52	0.54	0.46
Y 99.0	1.33	1.13	1.12	0.91	0.51	0.43	0.55	0.32
Y 100.0	0.95	0.96	1.13	0.81	0.31	0.37	0.58	0.22
Y 101.0	0.60	0.88	1.10	0.73	0.14	0.34	0.62	0.18
Y 102.0	0.34	0.85	1.11	0.69	0.00	0.33	0.64	0.17
Y 103.0	0.11	0.83	1.10	0.65	0.00	0.32	0.65	0.17
Y 104.0	0.00	0.82	1.09	0.63	0.00	0.32	0.68	0.15
Y 105.0	0.00	0.80	1.08	0.61	0.00	0.33	0.69	0.15
Y 106.0	0.00	0.79	1.07	0.62	0.00	0.34	0.69	0.15
Y 107.0	0.00	0.78	1.06	0.62	0.00	0.33	0.69	0.15
Y 108.0	0.00	0.77	1.06	0.62	0.00	0.34	0.70	0.15
Y 109.0	0.00	0.76	1.05	0.61	0.00	0.34	0.69	0.14
Y 110.0	0.00	0.76	1.04	0.61	0.00	0.34	0.68	0.17
Y 111.0	0.00	0.76	1.04	0.62	0.00	0.34	0.66	0.17
Y 112.0	0.00	0.74	1.02	0.60	0.00	0.34	0.64	0.18
Y 113.0	0.00	0.73	1.02	0.60	0.00	0.34	0.64	0.18
Y 114.0	0.00	0.72	1.01	0.59	0.00	0.34	0.62	0.18
Y 115.0	0.00	0.72	0.99	0.58	0.00	0.32	0.60	0.19
Y 116.0	0.00	0.71	0.98	0.57	0.00	0.33	0.58	0.19
Y 117.0	0.00	0.69	0.97	0.57	0.00	0.34	0.58	0.21
Y 118.0	0.00	0.69	0.97	0.56	0.00	0.34	0.56	0.21
Y 119.0	0.00	0.68	0.95	0.56	0.00	0.34	0.54	0.22
Y 120.0	0.00	0.67	0.95	0.55	0.00	0.34	0.54	0.23
Y 121.0	0.00	0.68	0.93	0.55	0.00	0.34	0.52	0.24
Y 122.0	0.00	0.66	0.91	0.52	0.00	0.35	0.52	0.22
Y 123.0	0.00	0.64	0.90	0.51	0.00	0.34	0.49	0.23
Y 124.0	0.00	0.64	0.88	0.51	0.00	0.33	0.24	0.22
Y 125.0	0.00	0.62	0.87	0.50	0.00	0.34	0.14	0.23
Y 126.0	0.00	0.60	0.87	0.48	0.00	0.34	0.00	0.23
Y 127.0	0.00	0.60	0.78	0.46	0.00	0.33	0.00	0.23
Y 128.0	0.00	0.57	0.40	0.45	0.00	0.33	0.00	0.23
Y 129.0	0.00	0.57	0.10	0.44	0.00	0.31	0.00	0.22
Y 130.0	0.00	0.56	0.00	0.41	0.00	0.31	0.00	0.21
Y 131.0	0.00	0.54	0.00	0.41	0.00	0.30	0.00	0.22
Y 132.0	0.00	0.53	0.00	0.38	0.00	0.30	0.00	0.19
Y 133.0	0.00	0.51	0.00	0.36	0.00	0.29	0.00	0.19
Y 134.0	0.00	0.49	0.00	0.35	0.00	0.28	0.00	0.20
Y 135.0	0.00	0.46	0.00	0.33	0.00	0.28	0.00	0.18
Y 136.0	0.00	0.46	0.00	0.32	0.00	0.27	0.00	0.18
Y 137.0	0.00	0.45	0.00	0.31	0.00	0.26	0.00	0.18
Y 138.0	0.00	0.43	0.00	0.29	0.00	0.26	0.00	0.17
Y 139.0	0.00	0.39	0.00	0.28	0.00	0.26	0.00	0.17
Y 140.0	0.00	0.38	0.00	0.27	0.00	0.25	0.00	0.16

IES Indoor Report
Photometric Filename:F15A-24V-5050-60-4000K.IES

Candela Tabulation - (Cont.)

V/H	C0.0	C45.0	C90.0	C135.0	C180.0	C225.0	C270.0	C315.0
Y 141.0	0.00	0.37	0.00	0.25	0.00	0.24	0.00	0.17
Y 142.0	0.00	0.35	0.00	0.25	0.00	0.24	0.00	0.17
Y 143.0	0.00	0.33	0.00	0.22	0.00	0.24	0.00	0.15
Y 144.0	0.00	0.30	0.00	0.23	0.00	0.23	0.00	0.14
Y 145.0	0.00	0.28	0.00	0.21	0.00	0.22	0.00	0.15
Y 146.0	0.01	0.28	0.01	0.21	0.00	0.22	0.00	0.16
Y 147.0	0.01	0.27	0.01	0.19	0.00	0.21	0.00	0.14
Y 148.0	0.01	0.25	0.01	0.19	0.00	0.23	0.00	0.15
Y 149.0	0.02	0.23	0.02	0.17	0.01	0.21	0.01	0.15
Y 150.0	0.03	0.22	0.02	0.17	0.02	0.22	0.01	0.14
Y 151.0	0.03	0.20	0.04	0.16	0.02	0.22	0.02	0.15
Y 152.0	0.05	0.18	0.03	0.15	0.03	0.22	0.03	0.16
Y 153.0	0.06	0.17	0.04	0.15	0.03	0.22	0.03	0.15
Y 154.0	0.06	0.15	0.05	0.13	0.04	0.22	0.06	0.16
Y 155.0	0.07	0.14	0.05	0.13	0.05	0.22	0.05	0.16
Y 156.0	0.08	0.13	0.06	0.12	0.05	0.20	0.06	0.16
Y 157.0	0.08	0.11	0.06	0.13	0.05	0.20	0.07	0.17
Y 158.0	0.07	0.09	0.07	0.12	0.07	0.20	0.08	0.17
Y 159.0	0.09	0.10	0.07	0.11	0.09	0.20	0.08	0.17
Y 160.0	0.09	0.08	0.09	0.13	0.08	0.20	0.09	0.17
Y 161.0	0.10	0.06	0.08	0.11	0.09	0.19	0.11	0.16
Y 162.0	0.11	0.07	0.09	0.12	0.09	0.19	0.10	0.17
Y 163.0	0.12	0.08	0.10	0.13	0.11	0.18	0.09	0.15
Y 164.0	0.12	0.08	0.10	0.13	0.12	0.17	0.12	0.16
Y 165.0	0.13	0.08	0.11	0.12	0.12	0.16	0.13	0.16
Y 166.0	0.13	0.07	0.12	0.12	0.12	0.17	0.12	0.16
Y 167.0	0.13	0.09	0.13	0.14	0.13	0.16	0.14	0.15
Y 168.0	0.13	0.09	0.13	0.13	0.13	0.16	0.14	0.17
Y 169.0	0.13	0.10	0.12	0.14	0.13	0.16	0.15	0.16
Y 170.0	0.13	0.10	0.14	0.15	0.15	0.15	0.15	0.15
Y 171.0	0.12	0.10	0.14	0.15	0.13	0.16	0.15	0.14
Y 172.0	0.12	0.10	0.12	0.16	0.15	0.15	0.15	0.11
Y 173.0	0.12	0.11	0.14	0.16	0.14	0.14	0.15	0.13
Y 174.0	0.12	0.10	0.14	0.17	0.14	0.14	0.15	0.13
Y 175.0	0.12	0.11	0.14	0.17	0.13	0.14	0.16	0.13
Y 176.0	0.12	0.10	0.14	0.17	0.14	0.14	0.17	0.15
Y 177.0	0.13	0.11	0.16	0.17	0.14	0.15	0.16	0.14
Y 178.0	0.12	0.12	0.15	0.18	0.15	0.15	0.17	0.14
Y 179.0	0.13	0.11	0.15	0.17	0.14	0.15	0.17	0.17
Y 180.0	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14