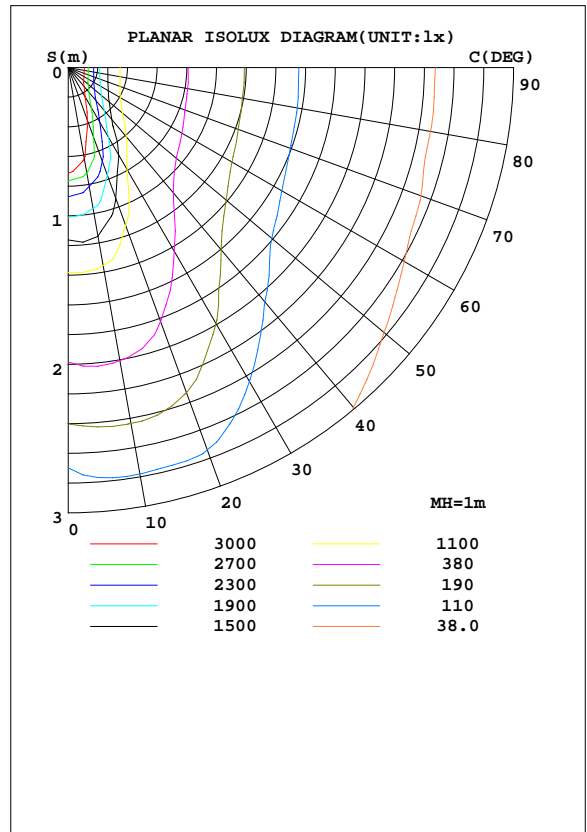
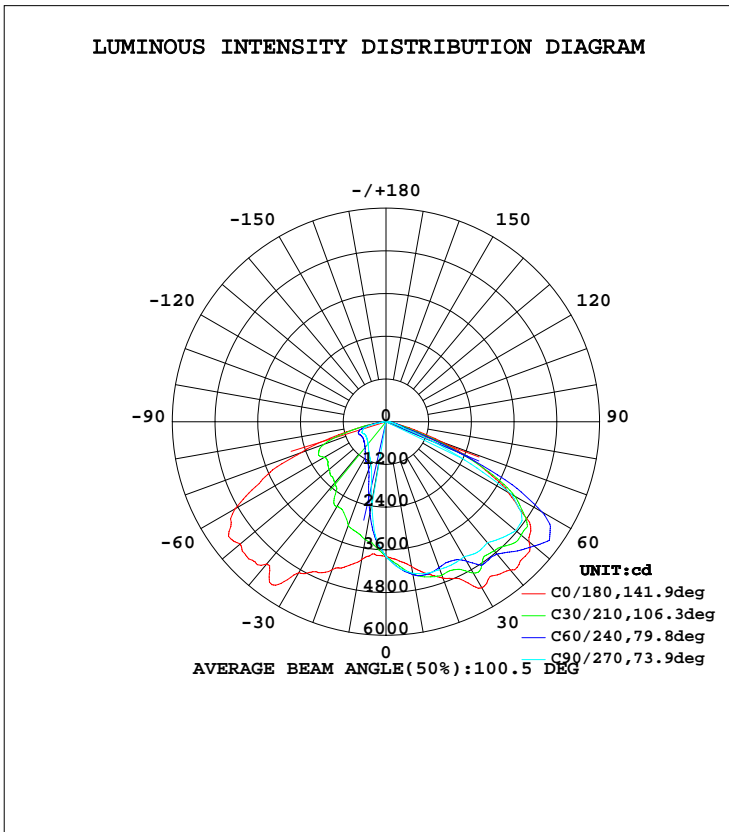


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:220.9V I:0.5694A P:122.9W PF:0.9770 Lamp Flux:14206x1 lm		
NAME: SHOEBOX	TYPE:YHL-ST9-120	WEIGHT:
SPEC.:	DIM.: 5000K	SERIAL No.:20170424
MFR.:	SUR.:70Ra	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 115.59 lm/W			
MODEL	NVSW219BT-V1 60PCS	Imax(cd)	5670	S/MH(C0/180)	2.01
NOMINAL POWER(W)	120	LOR(%)	100.0	S/MH(C90/270)	1.77
RATED VOLTAGE(V)	220	TOTAL FLUX(lm)	14206	η UP, DN(C0-180)	0.0, 33.8
NOMINAL FLUX(lm)	14206	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0, 66.2
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.00
TEST VOLTAGE(V)	220	η down(%)	100.0	CIBSE SHR MAX	1.15



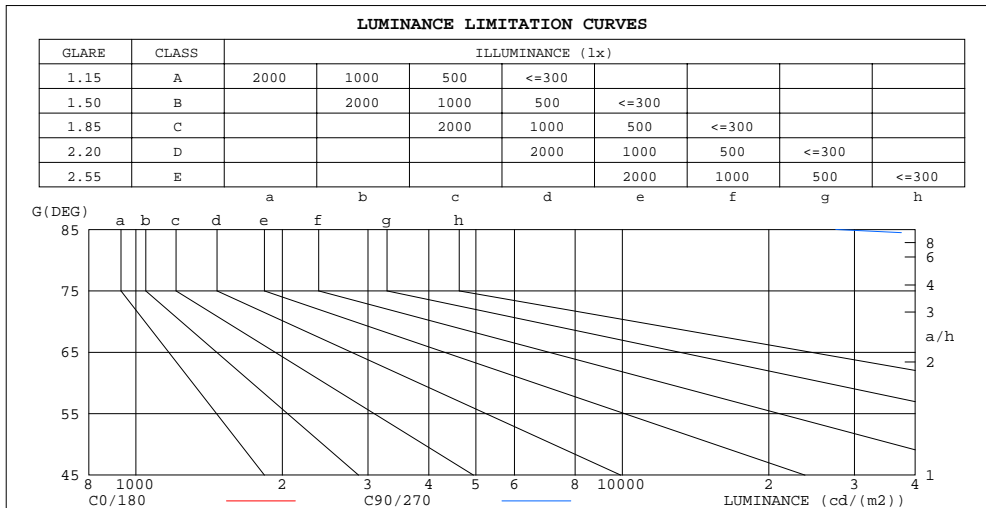
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25DEG
 Operators:CHEN YU
 Test Date:2017-04-24

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.287
 Humidity:65.0%
 Test Distance:9.410m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM
AND LUMINANCE LIMITATION CURVES

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	Φ lum, lamp
5	3729	3411	3262	3513	3908	4091	4112	4017	0- 5	90.08	90.08	0.63,0.63
10	3927	2944	2310	3133	4124	4365	4323	4191	5- 10	265.1	355.2	2.5,2.5
15	4196	2474	1576	2685	4417	4494	4407	4405	10- 15	429.4	784.6	5.52,5.52
20	4421	1927	1230	2093	4673	4446	4416	4391	15- 20	579.6	1364	9.6,9.6
25	4649	1665	1088	1818	4863	4356	4422	4300	20- 25	721.5	2086	14.7,14.7
30	4897	1536	970.8	1539	5387	4625	4380	4367	25- 30	877.6	2963	20.9,20.9
35	5589	1312	865.4	1234	5274	4851	4473	4702	30- 35	1040	4003	28.2,28.2
40	5219	1176	791.6	1084	5433	4807	4436	4780	35- 40	1163	5167	36.4,36.4
45	5448	1089	740.3	997.4	5432	5149	4610	4948	40- 45	1287	6454	45.4,45.4
50	5341	1048	706.3	976.1	5241	5365	4761	5198	45- 50	1425	7878	55.5,55.5
55	5385	1068	692.3	974.9	4923	5322	4657	5304	50- 55	1526	9404	66.2,66.2
60	4896	1073	695.3	972.0	3954	4977	4067	5261	55- 60	1534	10938	77,77
65	3828	1133	738.2	975.2	2911	3528	2116	4384	60- 65	1357	12295	86.6,86.6
70	2518	1102	701.8	935.8	1719	1543	544.0	2626	65- 70	975.1	13271	93.4,93.4
75	1273	825.3	595.0	723.5	675.1	456.9	330.4	770.7	70- 75	553.1	13824	97.3,97.3
80	383.1	337.4	193.8	387.2	200.4	255.0	188.7	268.1	75- 80	263.6	14087	99.2,99.2
85	91.65	85.68	47.88	101.2	96.00	149.7	57.81	142.7	80- 85	103.5	14191	99.9,99.9
90	6.843	0	0	0	7.023	0	0	0	85- 90	15.32	14206	100,100
95									90- 95			
100									95-100			
105									100-105			
110									105-110			
115									110-115			
120									115-120			
125									120-125			
130									125-130			
135									130-135			
140									135-140			
145									140-145			
150									145-150			
155									150-155			
160									155-160			
165									160-165			
170									165-170			
175									170-175			
180									175-180			
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	52580	27469
80	110311	55805
75	245873	114941
70	368135	102595
65	452887	87332
60	489596	69534
55	469428	60346
50	415451	54944
45	385256	52346

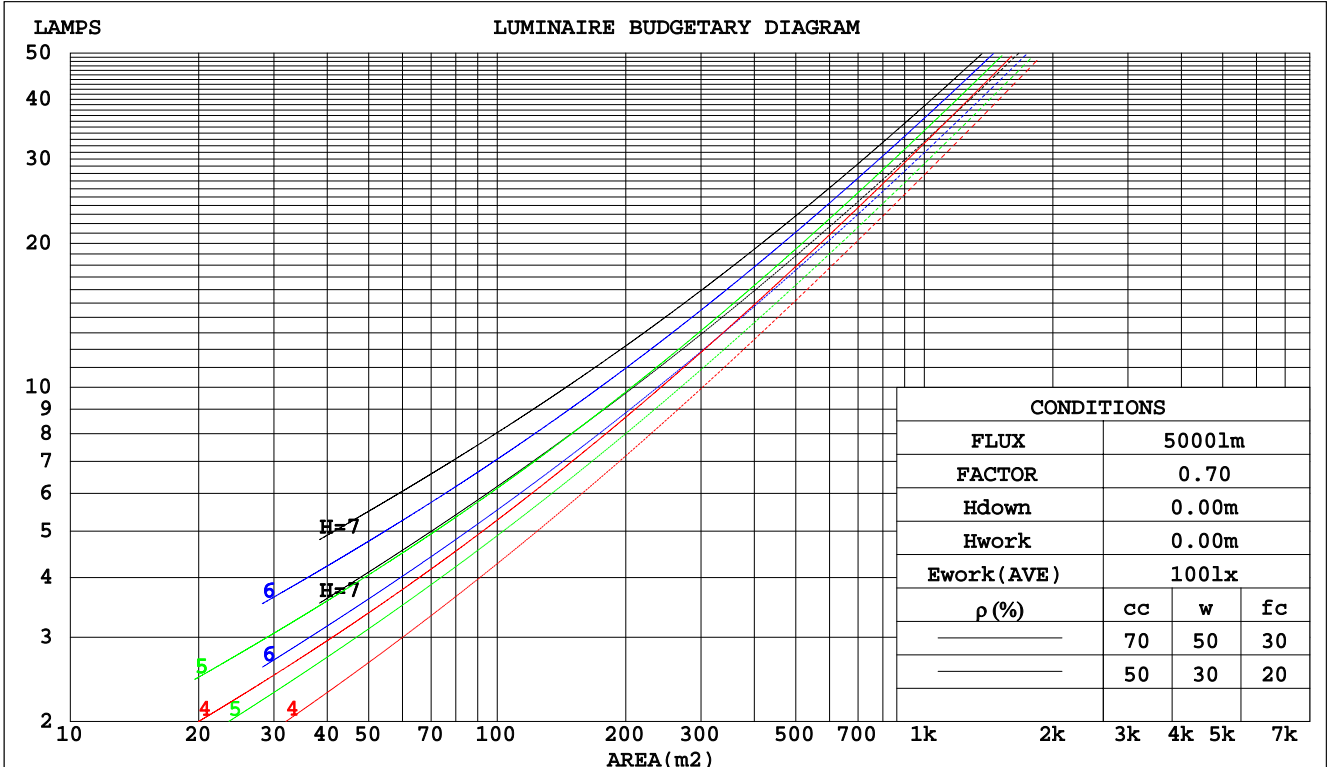
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25DEG
Operators:CHEN YU
Test Date:2017-04-24

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.287
Humidity:65.0%
Test Distance:9.410m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:220.9V I:0.5694A P:122.9W PF:0.9770 Lamp Flux:14206x1 lm		
NAME: SHOEBOX	TYPE:YHL-ST9-120	WEIGHT:
SPEC.:	DIM.: 5000K	SERIAL No.:20170424
MFR.:	SUR.:70Ra	PROTECTION ANGLE:

pcc	80%			70%			50%			30%			10%			0
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pw																0
pfc																0
RCR	RCR:Room Cavity Ratio			Coefficients of Utilization(CU)												
0.0	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	.00
1.0	1.04	.99	.96	1.01	.98	.94	.97	.94	.91	.93	.91	.88	.90	.88	.86	.83
2.0	.89	.82	.76	.88	.81	.75	.84	.78	.74	.81	.76	.72	.78	.74	.70	.68
3.0	.77	.69	.62	.76	.68	.61	.73	.66	.60	.70	.64	.59	.67	.62	.58	.56
4.0	.68	.58	.51	.66	.58	.51	.64	.56	.50	.61	.55	.49	.59	.53	.49	.47
5.0	.60	.50	.43	.59	.50	.43	.56	.48	.42	.54	.47	.42	.52	.46	.41	.39
6.0	.53	.44	.37	.52	.43	.37	.50	.42	.36	.49	.41	.36	.47	.41	.36	.34
7.0	.48	.38	.32	.47	.38	.32	.45	.37	.32	.44	.37	.31	.42	.36	.31	.29
8.0	.43	.34	.28	.42	.34	.28	.41	.33	.28	.40	.33	.28	.39	.32	.27	.25
9.0	.39	.31	.25	.39	.30	.25	.38	.30	.25	.36	.29	.25	.35	.29	.24	.22
10.0	.36	.28	.22	.36	.28	.22	.35	.27	.22	.34	.27	.22	.33	.26	.22	.20



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25DEG
 Operators:CHEN YU
 Test Date:2017-04-24

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.287
 Humidity:65.0%
 Test Distance:9.410m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:220.9V I:0.5694A P:122.9W PF:0.9770 Lamp Flux:14206x1 lm		
NAME: SHOEBOX	TYPE:YHL-ST9-120	WEIGHT:
SPEC.:	DIM.: 5000K	SERIAL No.:20170424
MFR.:	SUR.:70Ra	PROTECTION ANGLE:

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.312	.177	.056	.305	.174	.055	.292	.167	.053	.280	.161	.052	.268	.155	.050	
2.0	.302	.165	.051	.295	.163	.050	.283	.158	.049	.273	.153	.048	.263	.148	.047	
3.0	.282	.150	.045	.277	.148	.045	.266	.144	.044	.256	.140	.043	.247	.137	.042	
4.0	.262	.136	.040	.257	.134	.040	.247	.131	.039	.239	.128	.039	.230	.125	.038	
5.0	.242	.123	.036	.238	.122	.036	.229	.119	.035	.222	.117	.035	.214	.115	.034	
6.0	.224	.112	.032	.220	.111	.032	.213	.109	.032	.206	.107	.031	.199	.105	.031	
7.0	.208	.103	.029	.205	.102	.029	.198	.100	.029	.192	.098	.029	.186	.097	.028	
8.0	.194	.095	.027	.191	.094	.027	.185	.093	.026	.180	.091	.026	.174	.089	.026	
9.0	.182	.088	.025	.179	.087	.024	.173	.086	.024	.168	.084	.024	.164	.083	.024	
10.0	.170	.082	.023	.168	.081	.023	.163	.080	.022	.158	.079	.022	.154	.078	.022	

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.180	.156	.134	.154	.134	.115	.106	.092	.080	.061	.053	.046	.019	.017	.015	
2.0	.174	.132	.097	.149	.114	.084	.102	.079	.058	.059	.046	.034	.019	.015	.011	
3.0	.167	.114	.073	.143	.099	.063	.098	.069	.044	.057	.040	.026	.018	.013	.009	
4.0	.160	.101	.056	.137	.088	.049	.094	.061	.035	.055	.036	.020	.018	.012	.007	
5.0	.153	.091	.045	.131	.079	.040	.090	.055	.028	.052	.032	.017	.017	.011	.005	
6.0	.146	.083	.038	.125	.072	.033	.086	.050	.023	.050	.030	.014	.016	.010	.005	
7.0	.139	.076	.032	.120	.066	.028	.083	.046	.020	.048	.027	.012	.016	.009	.004	
8.0	.132	.070	.028	.114	.061	.024	.079	.043	.017	.046	.025	.010	.015	.008	.003	
9.0	.126	.065	.024	.109	.057	.021	.075	.040	.015	.044	.024	.009	.014	.008	.003	
10.0	.120	.061	.022	.104	.053	.019	.072	.037	.013	.042	.022	.008	.014	.007	.003	

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25DEG
 Operators:CHEN YU
 Test Date:2017-04-24

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.287
 Humidity:65.0%
 Test Distance:9.410m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:220.9V I:0.5694A P:122.9W PF:0.9770 Lamp Flux:14206x1 lm		
NAME: SHOEBOX	TYPE:YHL-ST9-120	WEIGHT:
SPEC.:	DIM.: 5000K	SERIAL No.:20170424
MFR.:	SUR.:70Ra	PROTECTION ANGLE:

ceiling/cavity	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
walls	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions	Viewed crosswise					Viewed endwise				
x = 2H y = 2H	34.9	36.5	35.2	36.7	37.0	23.7	25.3	24.0	25.6	25.8
3H	37.3	38.8	37.6	39.0	39.3	26.7	28.2	27.0	28.5	28.7
4H	37.8	39.2	38.1	39.4	39.7	28.0	29.5	28.4	29.7	30.0
6H	37.8	39.1	38.1	39.4	39.7	28.6	29.9	28.9	30.2	30.5
8H	37.8	39.0	38.1	39.3	39.6	28.7	30.0	29.0	30.2	30.5
12H	37.7	38.9	38.1	39.2	39.5	28.7	29.9	29.0	30.2	30.5
4H 2H	34.8	36.2	35.1	36.5	36.7	26.5	27.9	26.9	28.2	28.5
3H	37.5	38.7	37.8	39.0	39.3	28.9	30.2	29.3	30.5	30.8
4H	38.1	39.2	38.5	39.5	39.9	30.1	31.2	30.5	31.5	31.9
6H	38.2	39.2	38.6	39.6	39.9	30.7	31.7	31.1	32.1	32.4
8H	38.2	39.1	38.6	39.5	39.9	30.8	31.8	31.2	32.1	32.5
12H	38.2	39.0	38.6	39.4	39.8	30.9	31.7	31.3	32.1	32.5
8H 4H	38.1	39.0	38.5	39.4	39.7	31.2	32.1	31.6	32.5	32.9
6H	38.3	39.0	38.7	39.4	39.8	31.8	32.6	32.3	33.0	33.4
8H	38.3	38.9	38.7	39.3	39.8	32.0	32.7	32.5	33.1	33.5
12H	38.2	38.8	38.7	39.3	39.7	32.1	32.6	32.5	33.1	33.6
12H 4H	38.0	38.9	38.5	39.3	39.7	31.2	32.1	31.7	32.5	32.9
6H	38.2	38.9	38.7	39.3	39.8	31.9	32.6	32.4	33.0	33.5
8H	38.2	38.8	38.7	39.3	39.7	32.1	32.7	32.6	33.1	33.6
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.3					+ 0.2 / - 0.2				
1.5H	+ 0.5 / - 0.5					+ 0.1 / - 0.1				
2.0H	+ 1.4 / - 1.5					+ 0.2 / - 0.2				

CIE Pub.117 Corrected 14206 lm Total Lamp Luminous Flux. (8log(F/F0) = 9.2)

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25DEG
 Operators:CHEN YU
 Test Date:2017-04-24

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.287
 Humidity:65.0%
 Test Distance:9.410m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:220.9V I:0.5694A P:122.9W PF:0.9770 Lamp Flux:14206x1 lm		
NAME: SHOEBOX	TYPE:YHL-ST9-120	WEIGHT:
SPEC.:	DIM.: 5000K	SERIAL No.:20170424
MFR.:	SUR.:70Ra	PROTECTION ANGLE:

REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	52	40	32	51	39	32	50	39	32	25
0.80	63	50	42	62	50	42	60	49	42	34
1.00	72	60	52	71	60	52	69	61	51	44
1.25	80	69	61	79	68	61	76	67	60	52
1.50	86	75	67	84	74	67	81	72	66	58
2.00	93	84	77	91	83	77	88	81	75	67
2.50	98	90	83	96	88	82	92	85	80	72
3.00	101	94	89	99	93	87	95	90	85	77
4.00	106	100	95	103	98	94	99	95	91	82
5.00	108	103	99	106	102	98	101	98	95	85
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25DEG
 Operators:CHEN YU
 Test Date:2017-04-24

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.287
 Humidity:65.0%
 Test Distance:9.410m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

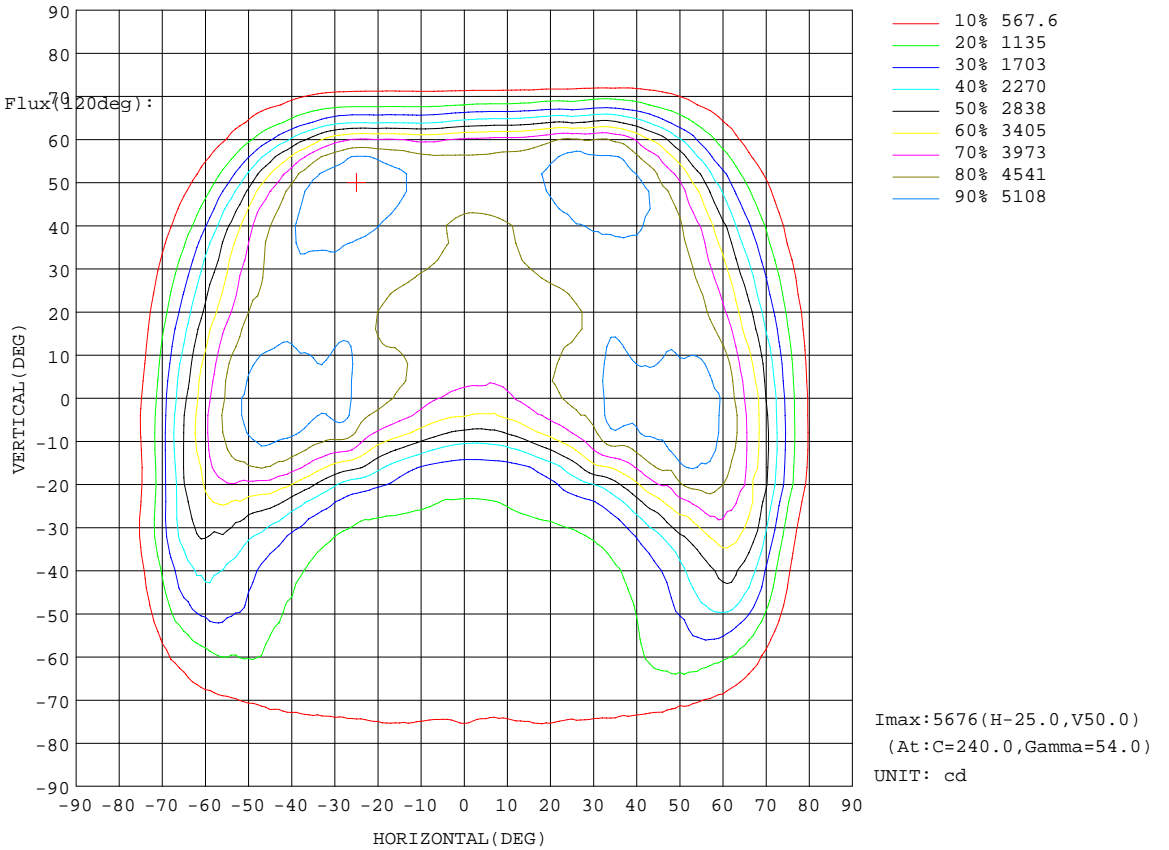
Test:U:220.9V I:0.5694A P:122.9W PF:0.9770 Lamp Flux:14206x1 lm		
NAME: SHOEBOX	TYPE:YHL-ST9-120	WEIGHT:
SPEC.:	DIM.: 5000K	SERIAL No.:20170424
MFR.:	SUR.:70Ra	PROTECTION ANGLE:

Conical surface Flux(90deg):

6453.7 lm
%lum = 45.4%
%lamp = 45.4%

Conical surface Flux(70deg):

10938 lm
%lum = 77.0%
%lamp = 77.0%



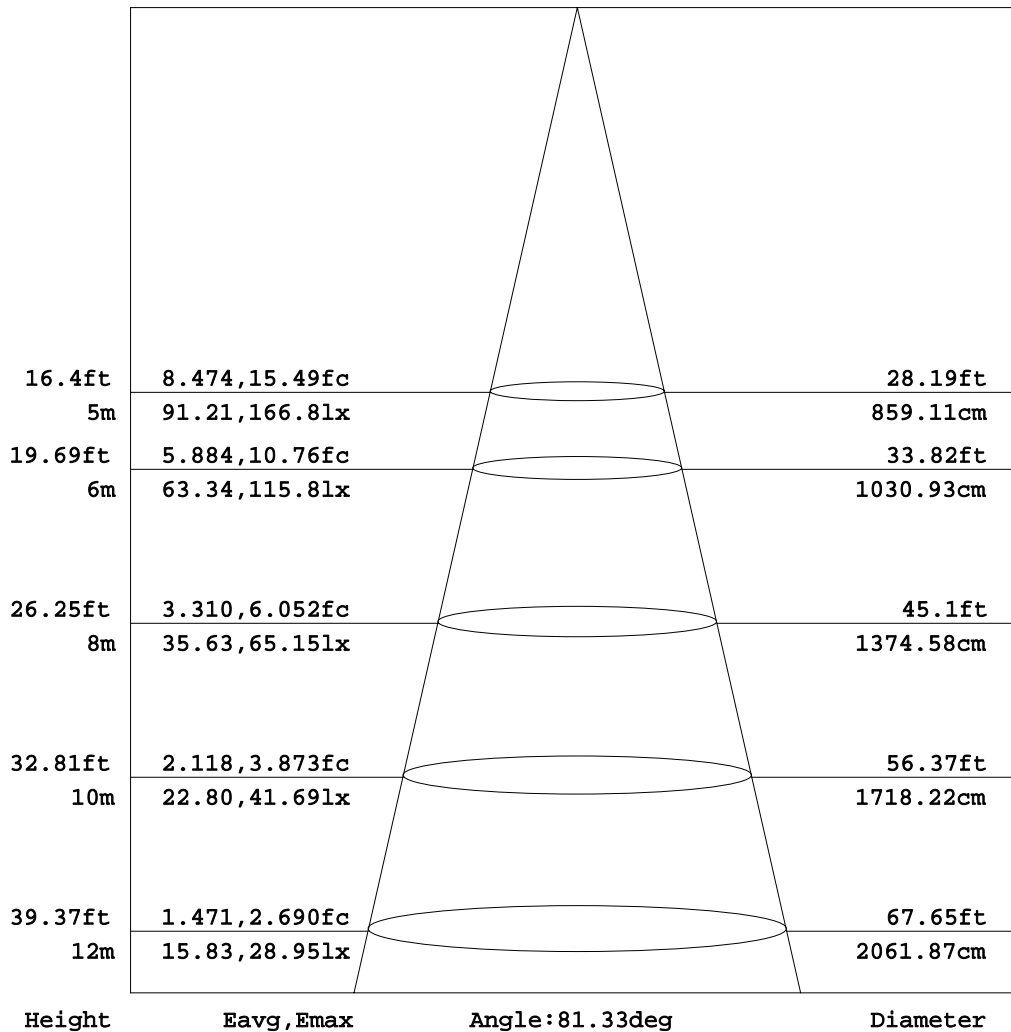
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25DEG
Operators:CHEN YU
Test Date:2017-04-24

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.287
Humidity:65.0%
Test Distance:9.410m [K=1.0000]
Remarks:

AAI Figure

Test:U:220.9V I:0.5694A P:122.9W PF:0.9770 Lamp Flux:14206x1 lm		
NAME: SHOEBOX	TYPE:YHL-ST9-120	WEIGHT:
SPEC.:	DIM.: 5000K	SERIAL No.:20170424
MFR.:	SUR.:70Ra	PROTECTION ANGLE:

Flux out:5413 lm



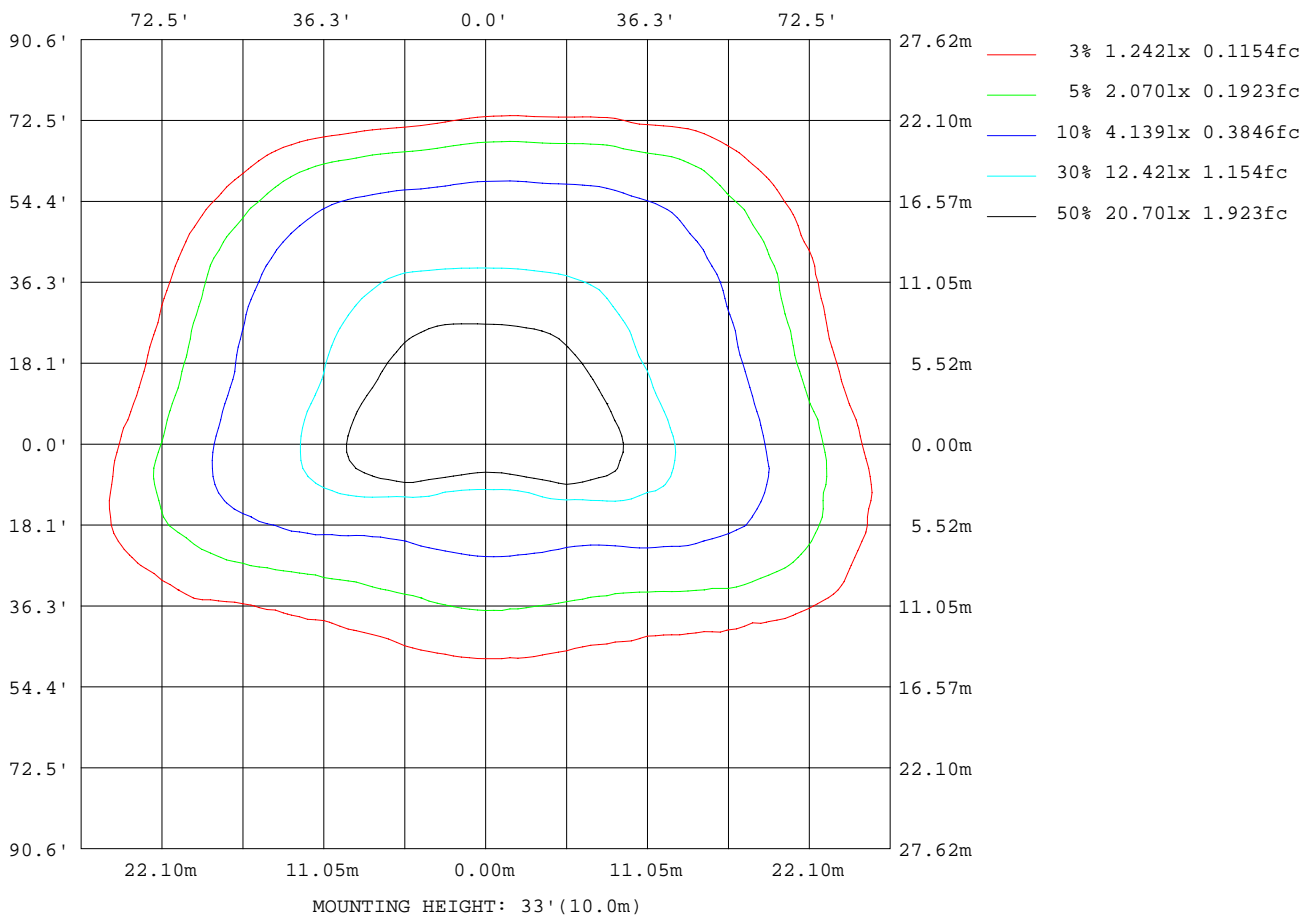
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25DEG
 Operators:CHEN YU
 Test Date:2017-04-24

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.287
 Humidity:65.0%
 Test Distance:9.410m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

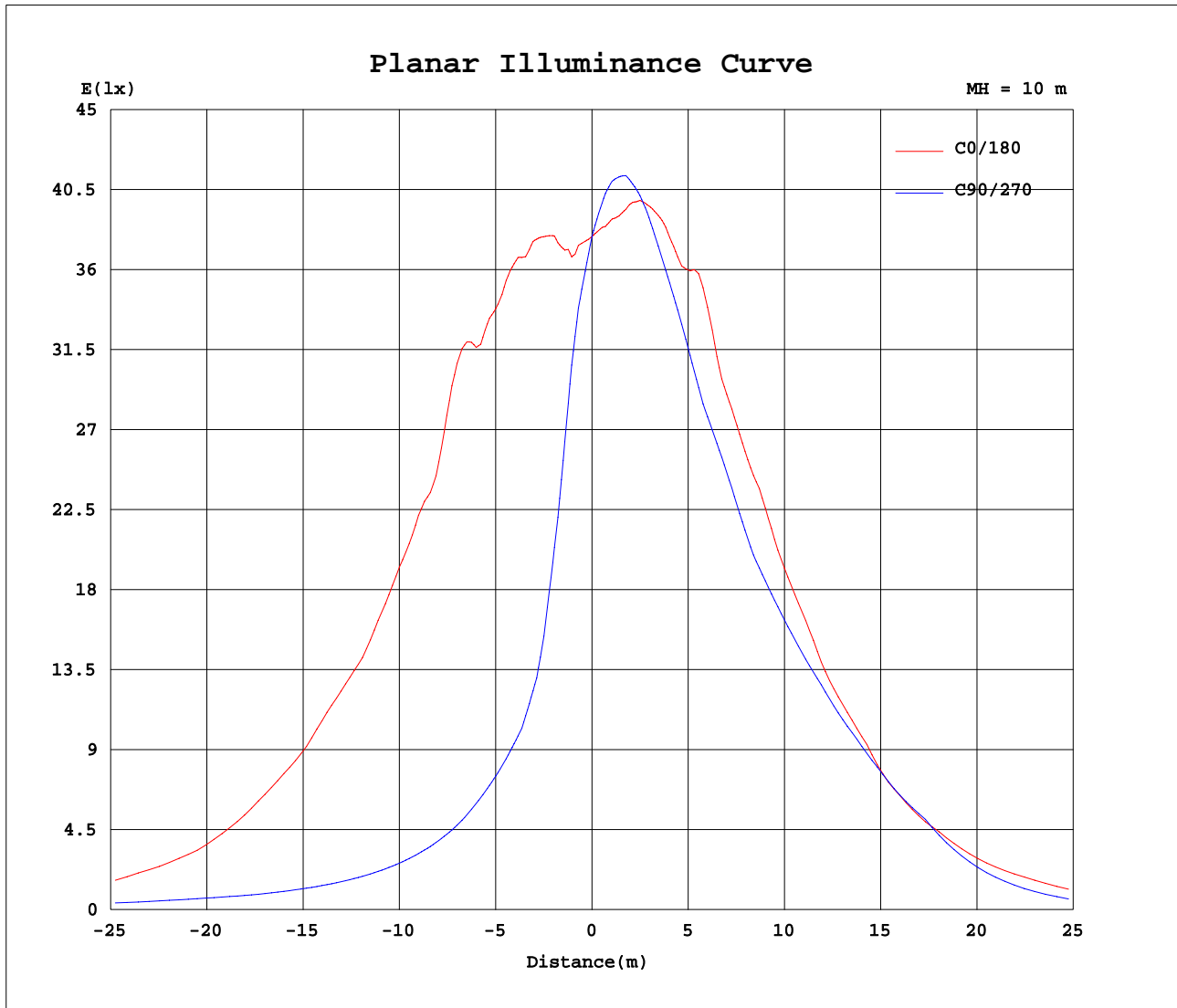
Test:U:220.9V I:0.5694A P:122.9W PF:0.9770 Lamp Flux:14206x1 lm		
NAME: SHOEBOX	TYPE:YHL-ST9-120	WEIGHT:
SPEC.:	DIM.: 5000K	SERIAL No.:20170424
MFR.:	SUR.:70Ra	PROTECTION ANGLE:



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25DEG
 Operators:CHEN YU
 Test Date:2017-04-24

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.287
 Humidity:65.0%
 Test Distance:9.410m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25DEG
 Operators: CHEN YU
 Test Date: 2017-04-24

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.287
 Humidity: 65.0%
 Test Distance: 9.410m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:220.9V I:0.5694A P:122.9W PF:0.9770 Lamp Flux:14206x1 lm		
NAME: SHOEBOX	TYPE:YHL-ST9-120	WEIGHT:
SPEC.:	DIM.: 5000K	SERIAL No.:20170424
MFR.:	SUR.:70Ra	PROTECTION ANGLE:

Table--1

UNIT: cd

C(DEG) γ (DEG)	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
0	3786	3786	3786	3786	3786	3786	3786	3786	3786	3786	3786	3786	3786	3786	3786	3786	3786	3786	3786
5	3729	3691	3654	3618	3582	3548	3513	3479	3445	3411	3380	3348	3316	3288	3266	3251	3244	3250	3262
10	3927	3843	3757	3670	3585	3491	3363	3235	3090	2944	2811	2702	2613	2515	2433	2371	2332	2311	2310
15	4196	4089	3976	3856	3675	3463	3207	2952	2710	2474	2251	2049	1893	1781	1696	1641	1604	1585	1576
20	4421	4308	4187	3996	3718	3411	3093	2679	2274	1927	1688	1536	1432	1358	1306	1274	1249	1234	1230
25	4649	4553	4415	4142	3789	3352	2815	2312	1949	1665	1433	1318	1262	1216	1165	1127	1106	1093	1088
30	4897	4830	4674	4383	3993	3408	2753	2225	1828	1536	1348	1254	1176	1108	1047	1009	989	976	971
35	5589	5419	5154	4804	4012	3241	2483	1945	1553	1312	1187	1074	1020	966	928	902	887	873	865
40	5219	5262	5055	4529	3809	2993	2245	1671	1357	1176	1054	975	921	872	842	819	808	797	792
45	5448	5392	5119	4707	3895	2974	2170	1566	1271	1089	967	907	855	816	785	765	756	748	740
50	5341	5558	5406	4635	3738	2818	2090	1549	1242	1048	953	876	818	781	744	726	712	711	706
55	5385	5462	5202	4669	3584	2764	1991	1554	1254	1068	952	849	793	749	731	717	705	694	692
60	4896	4897	4789	4333	3400	2642	2009	1601	1288	1073	944	868	801	764	741	710	707	699	695
65	3828	3964	4031	3787	3231	2585	2093	1659	1320	1133	965	891	835	790	766	735	737	736	738
70	2518	2868	2899	2835	2747	2316	1855	1498	1265	1102	980	896	820	767	757	715	710	703	702
75	1273	1370	1281	1506	1503	1317	1120	1008	908	825	764	716	644	612	628	598	570	548	595
80	383	348	351	410	452	468	441	387	334	337	336	335	336	329	338	351	261	193	194
85	91.7	68.2	73.1	71.1	68.4	71.1	65.3	71.6	73.6	85.7	92.7	94.9	89.5	82.8	79.6	79.1	62.0	48.6	47.9
90	6.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25DEG
 Operators:CHEN YU
 Test Date:2017-04-24

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.287
 Humidity:65.0%
 Test Distance:9.410m [K=1.0000]
 Remarks:

