



### IESNA LM-79 TEST REPORT

<b>Applicant's name</b> .....	BlackJack Lighting LLC
<b>Address</b> .....	1547 Barclay Blvd. Buffalo Grove, IL 60089
<b>Brand Name</b> .....	Blackjack Lighting
<b>Report No.</b> .....	BTR66.181.19.0007.15
<b>Product Name</b> .....	10" Pill Box Pendant -Matte Black exterior,Gold interior or Matte White exterior,Gold interior or Brass exterior, Matte White interior or Satin Nickel exterior,Matte White interior
<b>Model Number</b> .....	PBX-10P-SW-12U-30K; PBX-10P-WG-12U-30K; PBX-10P-BG-12U-30K; PBX-10P-RW-12U-30K
<b>Tested by</b> (printed name and signature) .....	David Zhang 
<b>Title</b> .....	<b>Test Engineer</b> .....
<b>Approved by</b> (printed name and signature) .....	Steven Huo 
<b>Title</b> .....	<b>Approved Signatory</b> .....
<b>Date of issue</b> .....	Aug 26, 2019
<b>Testing Laboratory Name</b> .....	BEST Test Service Shenzhen Co., Ltd.
<b>Address</b> .....	1 <sup>st</sup> Floor, 1 <sup>st</sup> Building, Weitai Industrial Park, Yingrenshi, Shiyao, Baoan, Shenzhen, China <a href="tel:+86-755-28236006">Tel:+86-755-28236006</a> , Email: <a href="mailto:admin@bestcert.cn">admin@bestcert.cn</a>
<b>Accreditation</b> .....	DLC/Lighting Facts/UL/ETL/ELI/CEC/EPA/DOE NVLAP Testing Lab Code: 200770-0
<b>Test specification</b>	
<b>Standard</b> .....	IESNA LM-79
<b>Test procedure/method</b> .....	IESNA LM-79 Test Procedure
<b>Non-standard test method</b> .....	No
<b>Test Report Form No.</b>	BEST_LM-79
<b>TRF originator</b> .....	BEST Test Service Shenzhen Co., Ltd. Mr Tseng
<b>Master TRF</b> .....	BEST_LM-79.doc

Note:  
The laboratory has not been responsible for the sampling stage (e.g. the sample has been provided by the customer), the results relate only to the items tested. This report is not valid as a BEST Test Report unless signed by an approved BEST Test Service Shenzhen Co., Ltd. This report shall not be reproduced except in full without approval of BEST TEST SERVICE SHENZHEN CO., LTD can provide assurance that parts of a report are not taken out of context. The test report only allows to be revised within the retention period unless further standard or the requirement was noticed. This report is for the exclusive use of BEST's Client and is provided pursuant to the agreement between BEST and its Client. BEST's responsibility and Liability are limited to the terms and conditions of the agreement. BEST assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the BEST name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by BEST. The observations and test results in this report are relevant only to the sample tested. This report by itself does not cover that the material, product, of service is or has ever been under a BEST certification program. National Voluntary Laboratory Accreditation Program (NVLAP) has accredited this laboratory under ISO17025: 2005 for specific laboratory activities as listed in the NVLAP directory of accredited laboratories. The results shown in this report were determined by this laboratory in accordance with its terms of accreditation. This report must not be used by the client to claim product endorsement by NVLAP, NIST or any agency of the U.S. Government.

<b>Description:</b>	
The date of sampling .....	Aug 13, 2019
The date of receipt of the test sample / requirement /item(s).....	Aug 13, 2019
Test date.....	Aug 13, 2019 to Aug 22, 2019
Description .....	10" Pill Box Pendant -Matte Black exterior,Gold interior or Matte White exterior,Gold interior or Brass exterior, Matte White interior or Satin Nickel exterior,Matte White interior
The condition of the item .....	N/A
Sampling method.....	Provided by the customer
Sample Quantity .....	1 unit
SKU.....	N/A
Rating(s) (V; Hz) .....	AC 120V, 60Hz
Nominal Power.....	13.5W
Nominal Power Factor .....	N/A
Nominal Lumen Output.....	679lm
Nominal CCT .....	3000K
Nominal CRI(Ra) .....	90
Number of hours operated prior to measurement.....	0H
Total operating time of the product for measurements including stabilization:	3.5H
Ambient temperature .....	24.7°C
Orientation (burning position) of SSL product during test .....	Lighting Surface Down or Base Up
Stabilization time.....	1.5H
Photometric method .....	Sphere-spectroradiometer+Goniophotometer
Calibration standard lamp used.....	DC 24V 100W Omni-Directional Halogen Calibrated by NIM China(Sphere) DC 120V 500W Omni-Directional Halogen Calibrated by NIM China(Goniophotometer)
Correction factors applied.....	Self absorbing applied
Photometric measurement conditions:	See test method description below

Equipments used .....	EVERFINE HASS-2000 Sphere System CHROMA 61602 AC Source YOKOGAWA WT 310 Power Meter FLUKE 52II EVERFINE GOR-5000 Goniophotometer CALIFORNIA INSTRUMENT 1501I AC Source YOKOGAWA WT 210 Power Meter FLUKE 233 Temperature Meter
Bandwidth of spectroradiometer .....	2nm
Statement of uncertainties .....	3.1%
Deviation .....	None

Note: These models are all the same except for color. Here we choose PBX-10P-SW-12U-30K to be tested and the other to share the test data.

**Photometric and Electrical Measurement**

Total light output (luminous flux) for the 25°C ±1°C ambient temperature conditions was measured using a ø2.0m 4π geometry integrating sphere. Temperature was measured at a position inside the sphere. Spectral radiant flux were measured using the photo detector built in the integrating sphere. Each lamp was operated at rated voltage in its designated orientation. Each lamp was in a stable state before measurements are done as below:

- Step 1 Take 3 measurements of the lamp light output at 15 minute interval (total time=30mintues.), the pre-burning time is not included in the formal testing time period.
- Step 2 Calculate the difference in percentage between the maximum measured value and the minimum measured value with the three consecutive measurements.
- Step 3 If the value calculated in Step 2 does not exceed 0.5 percent, the lamp is considered stable.

Luminous flux, chromaticity coordinates, correlated color temperature and color rendering index for each lamp were calculated from the spectral radiant flux measurements taken at 2 nm increment over the range of 380 to 780 nm. The calibration of the sphere photometer-spectrometer system can be traced back to the NIST USA. Lamp efficacy (lumens per watt) for each lamp model was computed based on the luminous flux result revised taking the self-absorbing correction factor into consideration. Electrical measurements including voltage, current, power and power factor were measured using the digital power meter.

The total uncertainty of the light output measurements is estimated, at the 95% confidence level, not to exceed ±3.1% over the wavelength range of 380-780 nm.

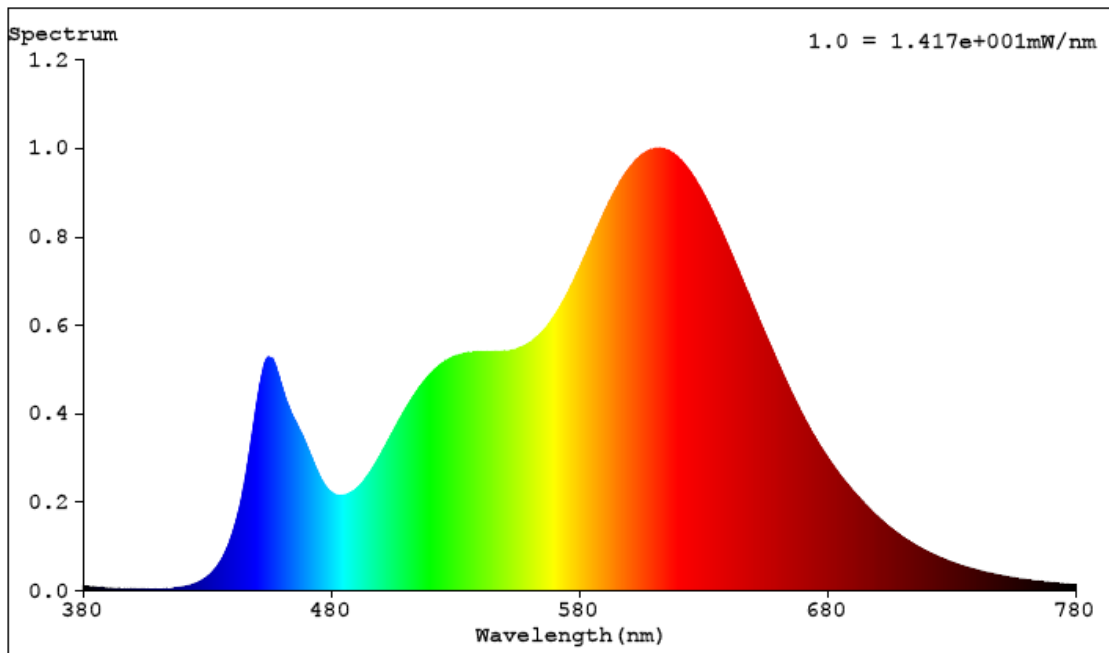
**Luminous Intensity**

An Everfine GOR-5000 Goniophotometer was used to measure the intensity distribution at each angle, Luminous intensity (cd) was measured within each vertical plane at a 5° vertical angle increment (maximum) from 0° to 360°, measurements were repeated in vertical planes about the lamp (polar) axis in an increments of 22.5° from 0° to 180°, and the intensity data were exported to a file in excel format.

**Photometric and Electrical Test Data**

Input Voltage (V)	Frequency (Hz)	Input Current (A)	ITHD	Input Power (W)	Power Factor	Lumen Output (Lumens)	Efficiency (Lumen/W)
120	60.0	0.1169	/	13.43	0.9570	679.35	50.58
CCT (K)	CRI (Ra)	R9	x CIE1931	y CIE1931	u' CIE1976	v' CIE1976	Duv CIE1976
2932	91.2	41	0.4385	0.3989	0.2538	0.5196	-0.0023

**Spectral Plots**




**EUT Photo**



**Annex**

Please see the next page for the luminous intensity test data

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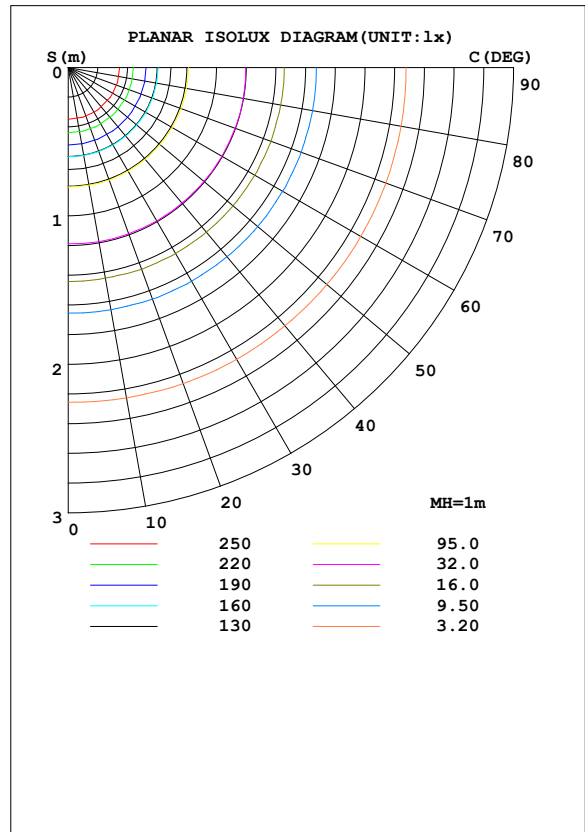
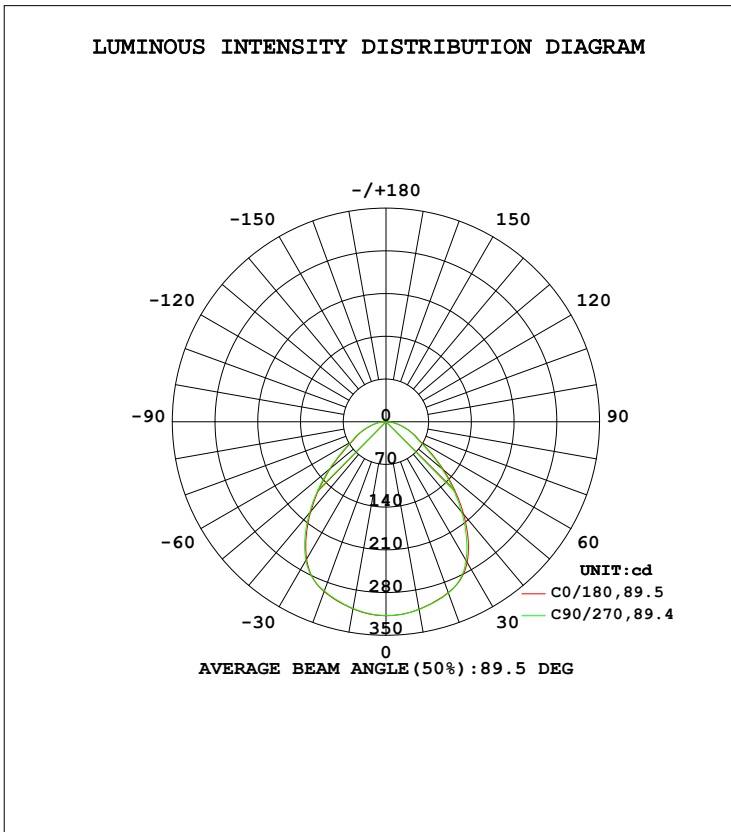


**BEST**

LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:120.00V I:0.1169A P:13.431W PF:0.9570 Freq:60.00Hz Lamp Flux:679.348x1 lm		
NAME: 10" Pill Box Pentant	TYPE: PBX-10P-SW-12U-30K	WEIGHT: 2.6KG
SPEC.:	DIM.:	SERIAL No.:
MFR.: BlackJack Lighting LLC	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 50.58 lm/W			
MODEL	PBX-10P-SW-12U-30K	I <sub>max</sub> (cd)	317.8	S/MH (C0/180)	1.23
NOMINAL POWER (W)	13.5	LOR (%)	100.0	S/MH (C90/270)	1.22
RATED VOLTAGE (V)	120	TOTAL FLUX (lm)	679.35	η UP, DN (C0-180)	0.0, 49.9
NOMINAL FLUX (lm)	679	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 50.1
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	120	η down (%)	100.0	CIBSE SHR MAX	1.30



C Range: 0 - 360DEG  
 C Interval: 10.0DEG  
 Test Speed: HIGH  
 Temperature: 25.1DEG  
 Operators: Mark  
 Test Date: 20 August 2019

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
 Humidity: 59.2%  
 Test Distance: 2.436m [K=1.0111]  
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
10	311.4	311.1	310.6	310.3	312.0	312.1	312.3	312.3	0- 10	30.02	30.02	4.42,4.42
20	296.1	295.6	295.1	295.2	298.0	298.5	298.7	298.2	10- 20	86.15	116.2	17.1,17.1
30	260.2	261.2	262.7	262.8	266.0	262.7	262.4	264.4	20- 30	130.5	246.7	36.3,36.3
40	191.8	193.5	195.2	194.3	197.9	192.9	192.7	196.6	30- 40	143.7	390.4	57.5,57.5
50	118.5	120.7	121.8	120.4	123.3	119.1	119.3	122.8	40- 50	120.8	511.2	75.3,75.3
60	63.64	65.76	66.32	64.86	65.69	63.36	63.22	64.98	50- 60	80.31	591.5	87.1,87.1
70	37.90	39.18	39.07	37.68	38.28	36.87	36.99	38.38	60- 70	50.40	641.9	94.5,94.5
80	16.51	17.29	17.11	16.20	16.85	15.97	16.01	17.07	70- 80	28.22	670.2	98.6,98.6
90	0.0254	0.1222	0.1114	0.0136	0.2321	0	0	0.3155	80- 90	9.171	679.3	100,100
100	0	0	0	0	0	0	0	0	90-100	0.0074	679.3	100,100
110	0	0	0	0	0	0	0	0	100-110	0	679.3	100,100
120	0	0	0	0	0	0	0	0	110-120	0	679.3	100,100
130	0	0	0	0	0	0	0	0	120-130	0	679.3	100,100
140	0	0	0	0	0	0	0	0	130-140	0.0000	679.3	100,100
150	0	0	0	0	0	0	0	0	140-150	0.0001	679.3	100,100
160	0	0	0.0032	0	0	0	0	0	150-160	0.0000	679.3	100,100
170	0.0063	0.0064	0.0039	0.0033	0	0	0	0	160-170	0.0003	679.3	100,100
180	0	0	0	0	0	0	0	0	170-180	0.0001	679.3	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 455.33 lm

%lum = 67.0%  
 %lamp = 67.0%

Conical surface Flux(120deg): 591.55 lm

%lum = 87.1%  
 %lamp = 87.1%

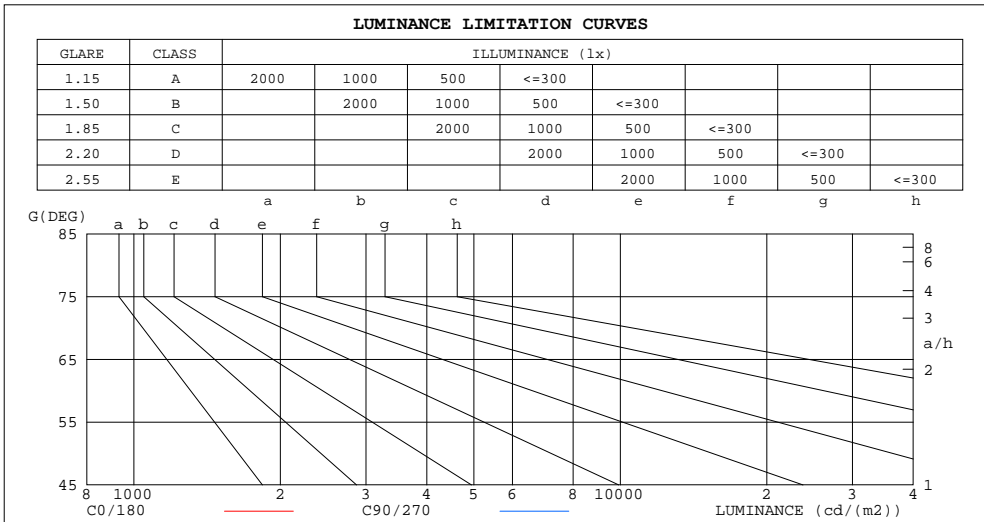
C Range: 0 - 360DEG  
 C Interval: 10.0DEG  
 Test Speed: HIGH  
 Temperature:25.1DEG  
 Operators:Mark  
 Test Date:20 August 2019

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
 Humidity:59.2%  
 Test Distance:2.436m [K=1.0111]  
 Remarks:



LUMINANCE LIMITATION CURVES

Test:U:120.00V I:0.1169A P:13.431W PF:0.9570 Freq:60.00Hz Lamp Flux:679.348x1 lm		
NAME: 10" Pill Box Pentant	TYPE: PBX-10P-SW-12U-30K	WEIGHT: 2.6KG
SPEC.:	DIM.:	SERIAL No.:
MFR.: BlackJack Lighting LLC	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	95	101
80	95	99
75	102	105
70	111	114
65	120	124
60	127	133
55	151	157
50	184	189
45	219	223

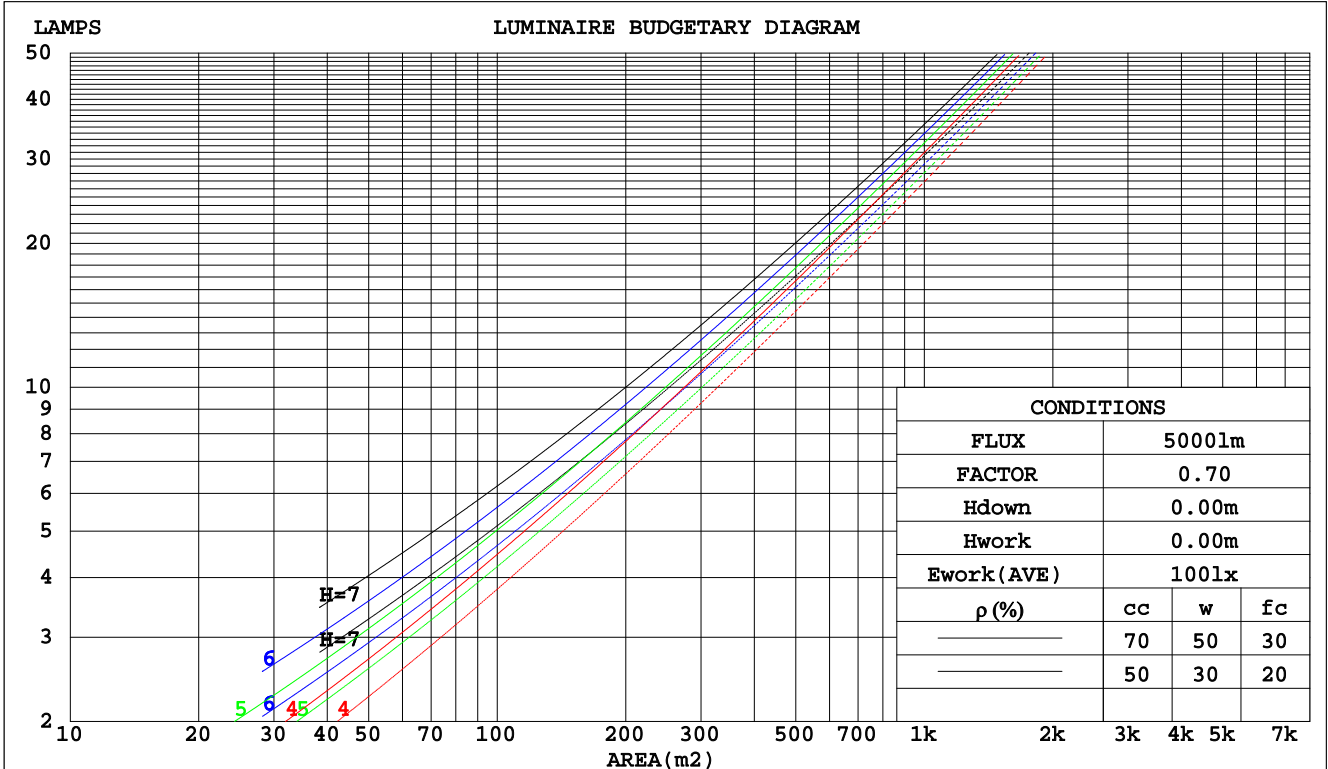
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 Humidity: 59.2%  
 Test Distance: 2.436m [K=1.0111]  
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:120.00V I:0.1169A P:13.431W PF:0.9570 Freq:60.00Hz Lamp Flux:679.348x1 lm		
NAME: 10"Fill Box Pentant	TYPE:PBX-10P-SW-12U-30K	WEIGHT:2.6KG
SPEC.:	DIM.:	SERIAL No.:
MFR.: BlackJack Lighting LLC	SUR.:	Shielding Angle:

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			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	1.06	1.02	.99	1.04	1.00	.97	.90	.97	.94	.96	.93	.91	.92	.90	.89	.87
2.0	.94	.88	.83	.92	.87	.82	.89	.84	.80	.86	.82	.79	.83	.80	.77	.75
3.0	.84	.77	.71	.83	.76	.71	.80	.74	.69	.77	.72	.68	.75	.71	.67	.65
4.0	.76	.68	.62	.75	.67	.61	.72	.66	.61	.70	.64	.60	.68	.63	.59	.57
5.0	.69	.60	.54	.67	.60	.54	.65	.59	.54	.64	.58	.53	.62	.57	.52	.50
6.0	.62	.54	.48	.61	.54	.48	.60	.53	.48	.58	.52	.47	.57	.51	.47	.45
7.0	.57	.49	.43	.56	.49	.43	.55	.48	.43	.53	.47	.43	.52	.46	.42	.40
8.0	.52	.44	.39	.52	.44	.39	.50	.44	.39	.49	.43	.38	.48	.42	.38	.37
9.0	.48	.41	.35	.48	.40	.35	.47	.40	.35	.46	.39	.35	.45	.39	.35	.33
10.0	.45	.37	.32	.44	.37	.32	.43	.37	.32	.42	.36	.32	.42	.36	.32	.30



C Range: 0 - 360DEG  
 C Interval: 10.0DEG  
 Test Speed: HIGH  
 Temperature:25.1DEG  
 Operators:Mark  
 Test Date:20 August 2019

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
 Humidity:59.2%  
 Test Distance:2.436m [K=1.0111]  
 Remarks:

WEC AND CCEC

Test:U:120.00V I:0.1169A P:13.431W PF:0.9570 Freq:60.00Hz Lamp Flux:679.348x1 lm		
NAME: 10"Fill Box Pentant	TYPE:PBX-10P-SW-12U-30K	WEIGHT:2.6KG
SPEC.:	DIM.:	SERIAL No.:
MFR.: BlackJack Lighting LLC	SUR.:	Shielding 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	.268	.153	.048	.261	.149	.047	.248	.143	.046	.236	.136	.044	.225	.131	.042	
2.0	.255	.140	.043	.249	.137	.042	.237	.132	.041	.227	.127	.040	.217	.123	.039	
3.0	.238	.127	.038	.233	.125	.038	.223	.121	.037	.214	.117	.036	.205	.114	.035	
4.0	.223	.116	.034	.218	.114	.034	.209	.111	.033	.201	.108	.033	.193	.105	.032	
5.0	.208	.106	.031	.204	.105	.030	.196	.102	.030	.189	.100	.030	.182	.097	.029	
6.0	.195	.098	.028	.191	.096	.028	.184	.094	.027	.178	.092	.027	.172	.090	.027	
7.0	.183	.090	.026	.179	.089	.025	.173	.088	.025	.167	.086	.025	.162	.084	.025	
8.0	.172	.084	.024	.169	.083	.024	.163	.082	.023	.158	.080	.023	.153	.079	.023	
9.0	.162	.078	.022	.160	.078	.022	.155	.076	.022	.150	.075	.021	.145	.074	.021	
10.0	.153	.074	.020	.151	.073	.020	.146	.072	.020	.142	.071	.020	.138	.070	.020	

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	.177	.157	.138	.152	.134	.118	.104	.092	.082	.060	.053	.048	.019	.017	.015	
2.0	.167	.132	.102	.143	.114	.089	.098	.079	.062	.057	.046	.036	.018	.015	.012	
3.0	.158	.114	.079	.136	.098	.068	.093	.068	.048	.054	.040	.028	.017	.013	.009	
4.0	.150	.100	.062	.129	.087	.054	.089	.060	.038	.051	.035	.023	.017	.012	.007	
5.0	.143	.090	.051	.123	.078	.044	.084	.054	.031	.049	.032	.018	.016	.010	.006	
6.0	.136	.081	.042	.117	.070	.036	.081	.049	.026	.047	.029	.015	.015	.009	.005	
7.0	.129	.074	.035	.111	.064	.031	.077	.045	.022	.045	.027	.013	.014	.009	.004	
8.0	.123	.068	.030	.106	.059	.027	.073	.042	.019	.043	.025	.011	.014	.008	.004	
9.0	.118	.063	.027	.101	.055	.023	.070	.039	.016	.041	.023	.010	.013	.007	.003	
10.0	.112	.059	.024	.097	.051	.021	.067	.036	.015	.039	.021	.009	.013	.007	.003	

C Range: 0 - 360DEG  
 C Interval: 10.0DEG  
 Test Speed: HIGH  
 Temperature:25.1DEG  
 Operators:Mark  
 Test Date:20 August 2019

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
 Humidity:59.2%  
 Test Distance:2.436m [K=1.0111]  
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:120.00V I:0.1169A P:13.431W PF:0.9570 Freq:60.00Hz Lamp Flux:679.348x1 lm										
NAME: 10"Fill Box Pentant					TYPE:PBX-10P-SW-12U-30K			WEIGHT:2.6KG		
SPEC.:					DIM.:			SERIAL No.:		
MFR.: BlackJack Lighting LLC					SUR.:			Shielding 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	5.7	7.1	6.0	7.3	7.5	5.8	7.2	6.1	7.4	7.6
3H	6.6	7.9	6.9	8.1	8.4	6.8	8.0	7.1	8.3	8.5
4H	7.0	8.2	7.4	8.5	8.7	7.2	8.4	7.5	8.6	8.9
6H	7.4	8.5	7.7	8.7	9.0	7.5	8.6	7.8	8.9	9.2
8H	7.5	8.6	7.8	8.8	9.1	7.6	8.7	8.0	9.0	9.3
12H	7.6	8.6	7.9	8.9	9.2	7.7	8.8	8.1	9.0	9.3
4H 2H	6.1	7.3	6.4	7.5	7.7	6.2	7.4	6.5	7.6	7.8
3H	7.2	8.3	7.6	8.5	8.8	7.3	8.4	7.7	8.7	9.0
4H	7.8	8.7	8.1	9.0	9.3	7.9	8.8	8.2	9.1	9.5
6H	8.2	9.1	8.6	9.4	9.8	8.3	9.2	8.7	9.5	9.9
8H	8.4	9.2	8.8	9.5	9.9	8.5	9.3	8.9	9.7	10.0
12H	8.5	9.2	9.0	9.6	10.0	8.7	9.4	9.1	9.8	10.2
8H 4H	8.0	8.7	8.4	9.1	9.5	8.1	8.8	8.5	9.2	9.6
6H	8.6	9.2	9.0	9.6	10.0	8.7	9.3	9.1	9.7	10.1
8H	8.8	9.4	9.3	9.8	10.3	8.9	9.5	9.4	9.9	10.4
12H	9.1	9.6	9.5	10.0	10.5	9.2	9.7	9.7	10.1	10.6
12H 4H	8.0	8.7	8.4	9.1	9.5	8.1	8.8	8.5	9.2	9.6
6H	8.6	9.2	9.1	9.6	10.1	8.7	9.3	9.2	9.7	10.2
8H	8.9	9.4	9.4	9.9	10.3	9.0	9.5	9.5	10.0	10.5
Variations with the observer position at spacings:										
S = 1.0H	+ 0.4 / - 0.4					+ 0.4 / - 0.4				
1.5H	+ 0.2 / - 0.2					+ 0.2 / - 0.2				
2.0H	+ 0.8 / - 0.7					+ 0.7 / - 0.6				

CIE Pub.117, 679.3 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = -1.3)

C Range: 0 - 360DEG  
 C Interval: 10.0DEG  
 Test Speed: HIGH  
 Temperature:25.1DEG  
 Operators:Mark  
 Test Date:20 August 2019

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
 Humidity:59.2%  
 Test Distance:2.436m [K=1.0111]  
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:120.00V I:0.1169A P:13.431W PF:0.9570 Freq:60.00Hz Lamp Flux:679.348x1 lm		
NAME: 10"Fill Box Pentant	TYPE:PBX-10P-SW-12U-30K	WEIGHT:2.6KG
SPEC.:	DIM.:	SERIAL No.:
MFR.: BlackJack Lighting LLC	SUR.:	Shielding Angle:

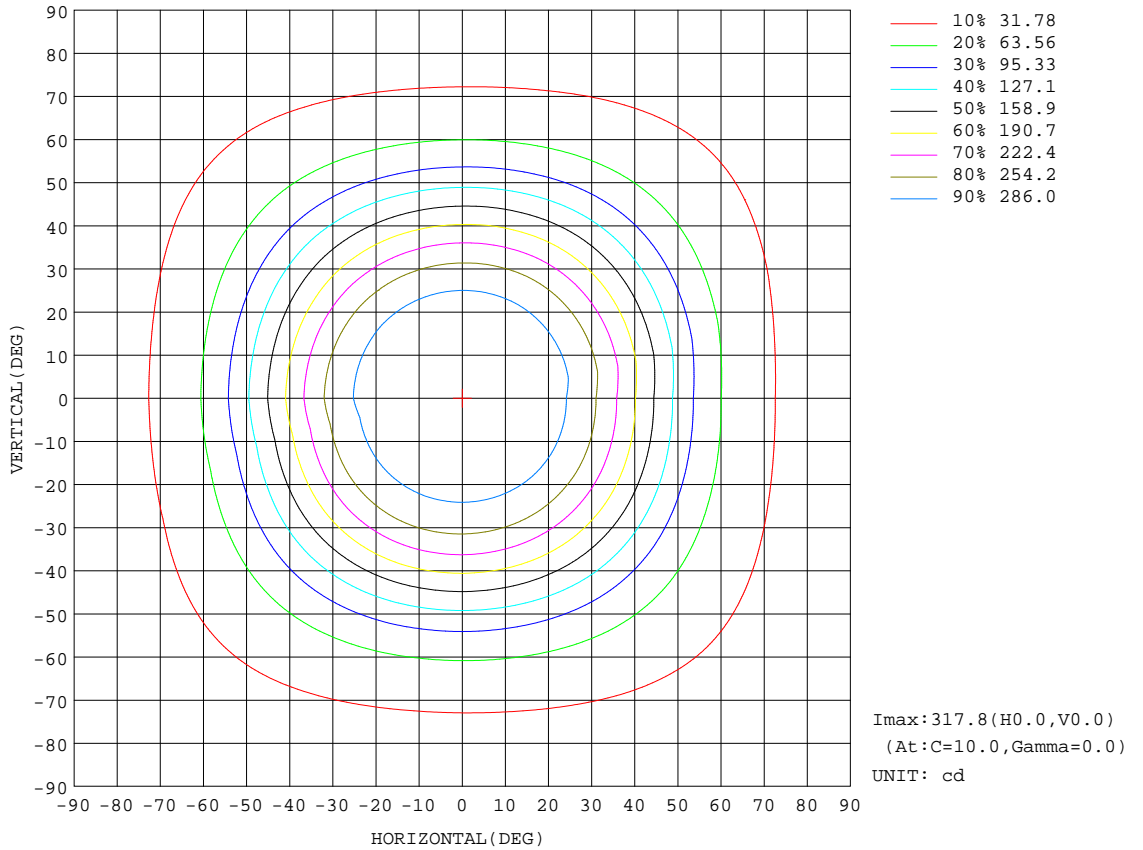
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) k(RI) x RCR = 5									
k = 0.60	65	55	49	64	55	49	63	54	48	43
0.80	75	65	58	74	64	58	72	64	58	52
1.00	83	73	67	82	73	67	79	74	66	60
1.25	89	80	74	88	79	74	85	78	73	67
1.50	93	85	79	92	84	79	89	83	78	71
2.00	99	92	87	98	91	86	94	89	84	77
2.50	102	96	91	100	95	90	97	92	88	80
3.00	105	99	95	103	98	94	99	95	91	84
4.00	108	104	100	106	102	98	102	99	96	87
5.00	110	106	103	108	104	101	104	101	98	90
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG  
 C Interval: 10.0DEG  
 Test Speed: HIGH  
 Temperature:25.1DEG  
 Operators:Mark  
 Test Date:20 August 2019

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
 Humidity:59.2%  
 Test Distance:2.436m [K=1.0111]  
 Remarks:

ISOCANDELA DIAGRAM

Test:U:120.00V I:0.1169A P:13.431W PF:0.9570 Freq:60.00Hz Lamp Flux:679.348x1 lm		
NAME: 10" Pill Box Pentant	TYPE:PBX-10P-SW-12U-30K	WEIGHT:2.6KG
SPEC.:	DIM.:	SERIAL No.:
MFR.: BlackJack Lighting LLC	SUR.:	Shielding Angle:

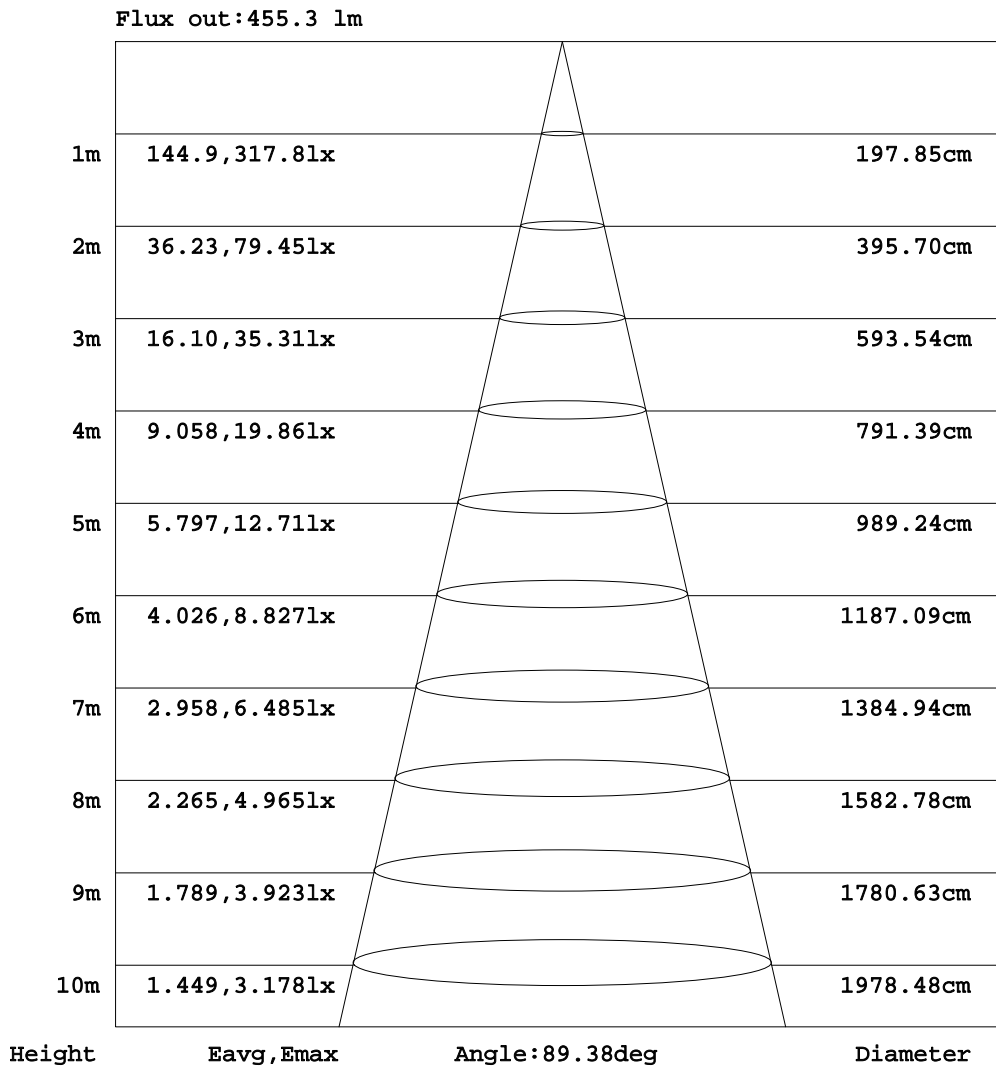


C Range: 0 - 360DEG  
 C Interval: 10.0DEG  
 Test Speed: HIGH  
 Temperature: 25.1DEG  
 Operators: Mark  
 Test Date: 20 August 2019

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
 Humidity: 59.2%  
 Test Distance: 2.436m [K=1.0111]  
 Remarks:

AAI Figure

Test:U:120.00V I:0.1169A P:13.431W PF:0.9570 Freq:60.00Hz Lamp Flux:679.348x1 lm		
NAME: 10"Fill Box Pentant	TYPE:PBX-10P-SW-12U-30K	WEIGHT:2.6KG
SPEC.:	DIM.:	SERIAL No.:
MFR.: BlackJack Lighting LLC	SUR.:	Shielding Angle:



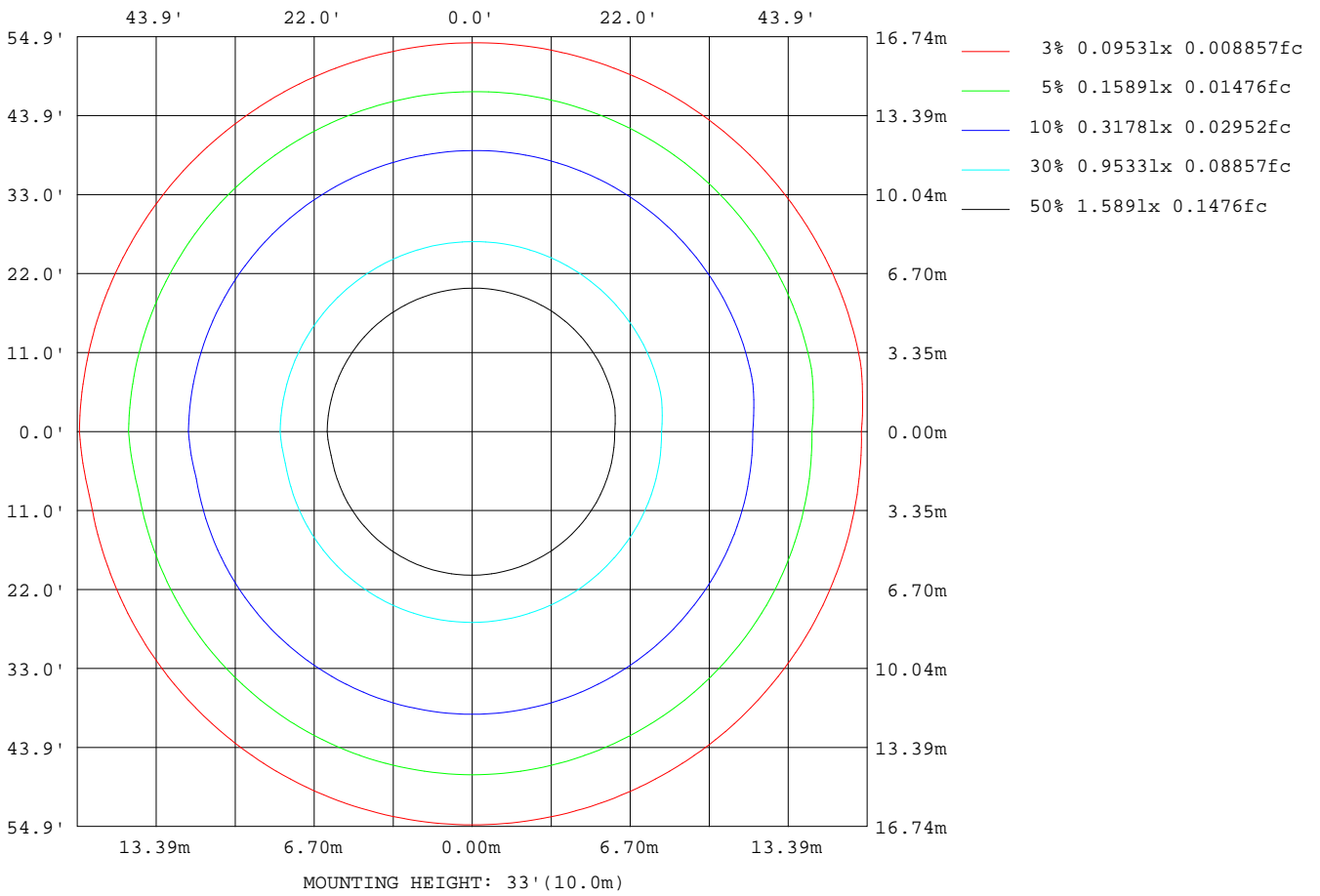
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
 C Interval: 10.0DEG  
 Test Speed: HIGH  
 Temperature:25.1DEG  
 Operators:Mark  
 Test Date:20 August 2019

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
 Humidity:59.2%  
 Test Distance:2.436m [K=1.0111]  
 Remarks:

ISOLUX DIAGRAM

Test:U:120.00V I:0.1169A P:13.431W PF:0.9570 Freq:60.00Hz Lamp Flux:679.348x1 lm		
NAME: 10" Pill Box Pentant	TYPE: PBX-10P-SW-12U-30K	WEIGHT: 2.6KG
SPEC.:	DIM.:	SERIAL No.:
MFR.: BlackJack Lighting LLC	SUR.:	Shielding Angle:



C Range: 0 - 360DEG  
 C Interval: 10.0DEG  
 Test Speed: HIGH  
 Temperature: 25.1DEG  
 Operators: Mark  
 Test Date: 20 August 2019

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
 Humidity: 59.2%  
 Test Distance: 2.436m [K=1.0111]  
 Remarks:



## LED Avg.L Report

Test:U:120.00V I:0.1169A P:13.431W PF:0.9570 Freq:60.00Hz Lamp Flux:679.348x1 lm		
NAME: 10" Pill Box Pentant	TYPE:PBX-10P-SW-12U-30K	WEIGHT:2.6KG
SPEC.:	DIM.:	SERIAL No.:
MFR.: BlackJack Lighting LLC	SUR.:	Shielding Angle:

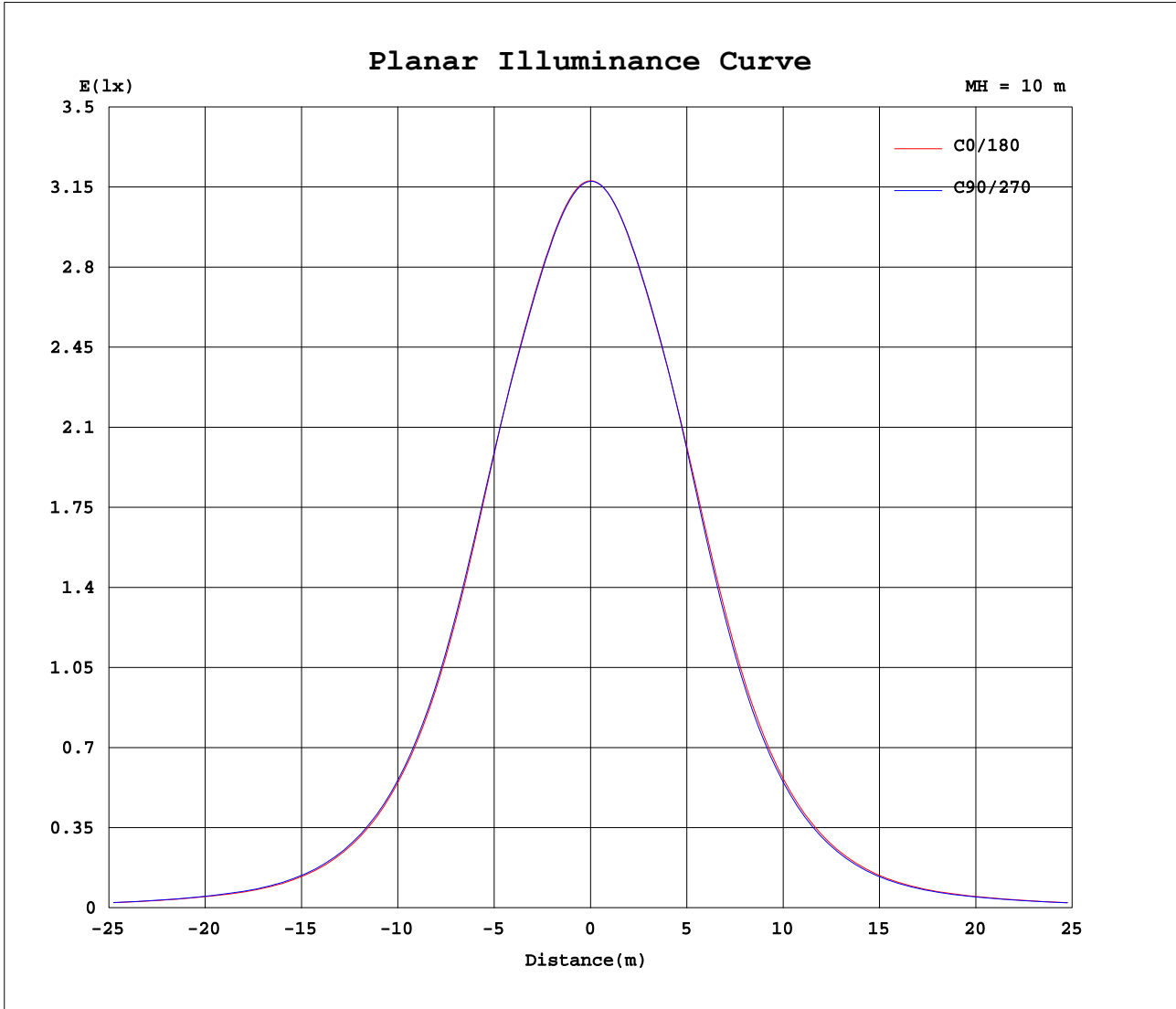
AvgL	cd/m2
L_0~180 (65) av	121
L_0~180 (75) av	102
L_0~180 (85) av	97
L_90~270 (65) av	120
L_90~270 (75) av	102
L_90~270 (85) av	96
L_45 (65) av	120
L_45 (75) av	102
L_45 (85) av	97

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
 C Interval: 10.0DEG  
 Test Speed: HIGH  
 Temperature:25.1DEG  
 Operators:Mark  
 Test Date:20 August 2019

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
 Humidity:59.2%  
 Test Distance:2.436m [K=1.0111]  
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.1DEG  
Operators:Mark  
Test Date:20 August 2019

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
Humidity:59.2%  
Test Distance:2.436m [K=1.0111]  
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:120.00V I:0.1169A P:13.431W PF:0.9570 Freq:60.00Hz Lamp Flux:679.348x1 lm		
NAME: 10"Fill Box Pentant	TYPE:PBX-10P-SW-12U-30K	WEIGHT:2.6KG
SPEC.:	DIM.:	SERIAL No.:
MFR.: BlackJack Lighting LLC	SUR.:	Shielding Angle:

Table--1

UNIT: cd

C (DEG) γ (DEG)	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
0	318	318	318	318	318	318	318	318	318	318	317	317	317	317	317	317	317	317	318
5	316	316	316	316	316	316	316	316	316	316	315	315	315	315	315	315	315	315	316
10	311	311	311	311	311	311	311	311	311	311	311	310	310	310	310	310	310	310	312
15	305	305	304	304	304	304	304	304	304	304	303	303	303	303	304	304	304	304	306
20	296	296	296	296	296	296	295	295	295	295	295	295	295	295	295	295	295	296	298
25	283	283	283	283	283	283	283	283	283	283	283	284	284	284	284	284	283	283	287
30	260	261	261	261	261	261	262	262	262	263	263	263	263	263	263	262	261	261	266
35	228	228	229	229	229	230	230	231	231	232	232	232	232	231	231	230	229	229	235
40	192	192	193	193	193	194	194	194	195	195	195	195	195	195	194	193	192	192	198
45	155	155	156	156	156	157	157	157	157	158	158	158	157	157	156	155	154	154	160
50	118	119	120	120	120	121	121	121	122	122	122	122	121	121	120	119	118	118	123
55	86.7	87.3	87.9	88.5	88.7	89.1	89.3	89.6	89.8	89.9	89.7	89.6	89.2	88.6	88.1	87.3	86.4	85.9	90.6
60	63.6	64.2	64.7	65.2	65.6	65.9	66.1	66.3	66.3	66.3	66.1	65.9	65.5	65.1	64.6	64.0	63.4	62.9	65.7
65	50.6	51.1	51.6	52.0	52.2	52.5	52.6	52.6	52.6	52.5	52.2	52.0	51.6	51.2	50.8	50.2	49.7	49.3	51.3
70	37.9	38.3	38.7	39.0	39.1	39.3	39.3	39.3	39.2	39.1	38.8	38.6	38.2	37.8	37.5	37.1	36.6	36.3	38.3
75	26.4	26.7	27.0	27.2	27.3	27.4	27.4	27.4	27.3	27.2	26.9	26.7	26.4	26.1	25.9	25.5	25.2	24.9	26.7
80	16.5	16.8	17.0	17.2	17.2	17.3	17.3	17.3	17.2	17.1	16.9	16.7	16.5	16.3	16.1	15.8	15.5	15.4	16.9
85	8.27	8.48	8.68	8.82	8.87	8.94	8.91	8.92	8.85	8.79	8.63	8.52	8.35	8.16	7.99	7.79	7.58	7.47	8.60
90	0.03	0.03	0.06	0.10	0.10	0.14	0.14	0.16	0.13	0.11	0.07	0.04	0.02	0.01	0.01	0.01	0.01	0.00	0.23
95	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	0.00
100	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	0.00
105	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	0.00
110	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	0.00
115	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	0.00
120	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	0.00
125	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	0.00
130	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	0.00
135	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	0.00
140	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	0.00
145	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	0.00
150	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	0.00
155	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	0.01	0.00	0.00
160	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	0.00
165	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	0.00
170	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.01	0.00
175	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	0.00
180	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	0.00

C Range: 0 - 360DEG  
 C Interval: 10.0DEG  
 Test Speed: HIGH  
 Temperature:25.1DEG  
 Operators:Mark  
 Test Date:20 August 2019

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
 Humidity:59.2%  
 Test Distance:2.436m [K=1.0111]  
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:120.00V I:0.1169A P:13.431W PF:0.9570 Freq:60.00Hz Lamp Flux:679.348x1 lm		
NAME: 10"Fill Box Pentant	TYPE:PBX-10P-SW-12U-30K	WEIGHT:2.6KG
SPEC.:	DIM.:	SERIAL No.:
MFR.: BlackJack Lighting LLC	SUR.:	Shielding Angle:

Table--2

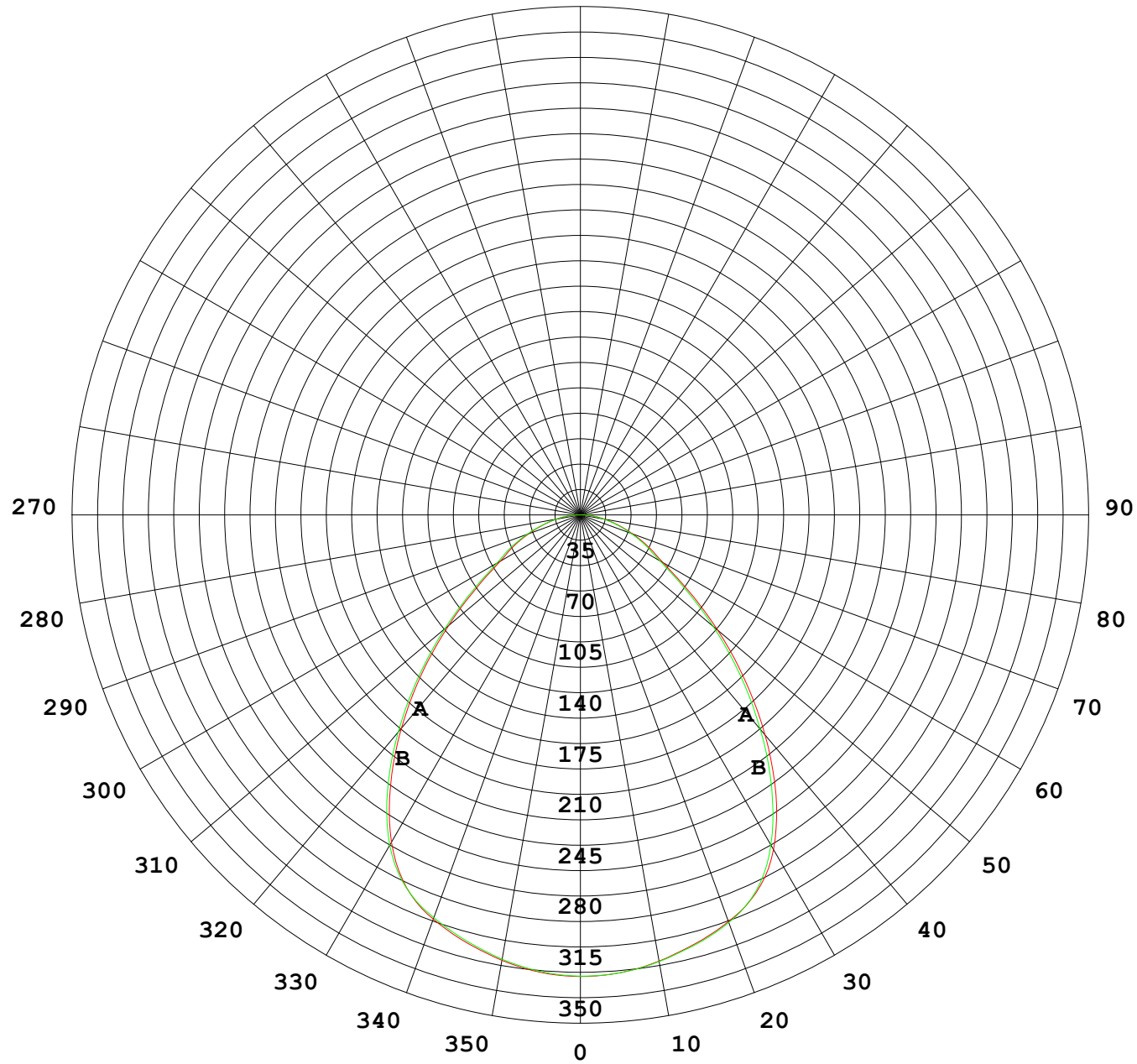
UNIT: cd

C (DEG) γ (DEG)	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350		
0	318	318	318	318	318	318	318	318	318	317	317	317	317	317	317	317	317		
5	316	316	316	316	316	316	316	316	316	316	316	316	316	316	316	316	316		
10	312	312	312	312	312	312	312	312	312	312	312	312	312	312	312	312	312		
15	306	306	306	306	306	306	306	306	306	306	306	306	306	306	306	306	306		
20	298	298	298	299	299	299	299	299	299	299	299	299	298	298	298	298	298		
25	287	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286		
30	265	264	263	263	262	262	262	262	262	263	263	264	264	265	265	265	265		
35	234	232	231	230	229	229	229	229	230	231	231	232	233	233	234	234	234		
40	197	195	194	193	192	192	192	192	193	194	195	196	196	197	198	198	198		
45	159	157	156	156	155	155	155	155	155	156	157	158	159	159	160	161	161		
50	122	121	120	119	119	119	119	119	119	120	121	122	122	123	124	125	125		
55	89.7	88.7	87.8	87.3	86.7	86.5	86.5	86.7	87.0	87.7	88.2	89.0	89.7	90.2	91.0	91.7	92.0		
60	65.0	64.5	63.9	63.6	63.2	63.1	63.0	63.1	63.2	63.5	63.9	64.4	64.8	65.2	65.7	66.3	66.6		
65	50.8	50.3	49.9	49.7	49.3	49.3	49.2	49.3	49.4	49.6	49.9	50.2	50.6	50.9	51.4	52.0	52.4		
70	37.9	37.5	37.1	37.0	36.8	36.7	36.7	36.9	37.0	37.3	37.5	37.9	38.2	38.5	39.0	39.5	39.8		
75	26.3	26.0	25.8	25.6	25.5	25.4	25.5	25.5	25.6	25.9	26.1	26.4	26.8	27.0	27.4	27.8	28.1		
80	16.6	16.3	16.1	16.0	15.9	15.9	15.9	15.9	16.0	16.2	16.3	16.7	16.9	17.2	17.5	17.8	18.0		
85	8.42	8.24	8.08	8.01	7.91	7.88	7.90	7.94	7.98	8.13	8.25	8.47	8.64	8.83	9.06	9.34	9.51		
90	0.09	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.04	0.13	0.25	0.39	0.60	0.87	1.03		
95	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		
100	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		
105	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		
110	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		
115	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		
120	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		
125	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		
130	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		
135	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		
140	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		
145	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		
150	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		
155	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		
160	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		
165	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		
170	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		
175	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		
180	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: 10.0DEG  
 Test Speed: HIGH  
 Temperature:25.1DEG  
 Operators:Mark  
 Test Date:20 August 2019

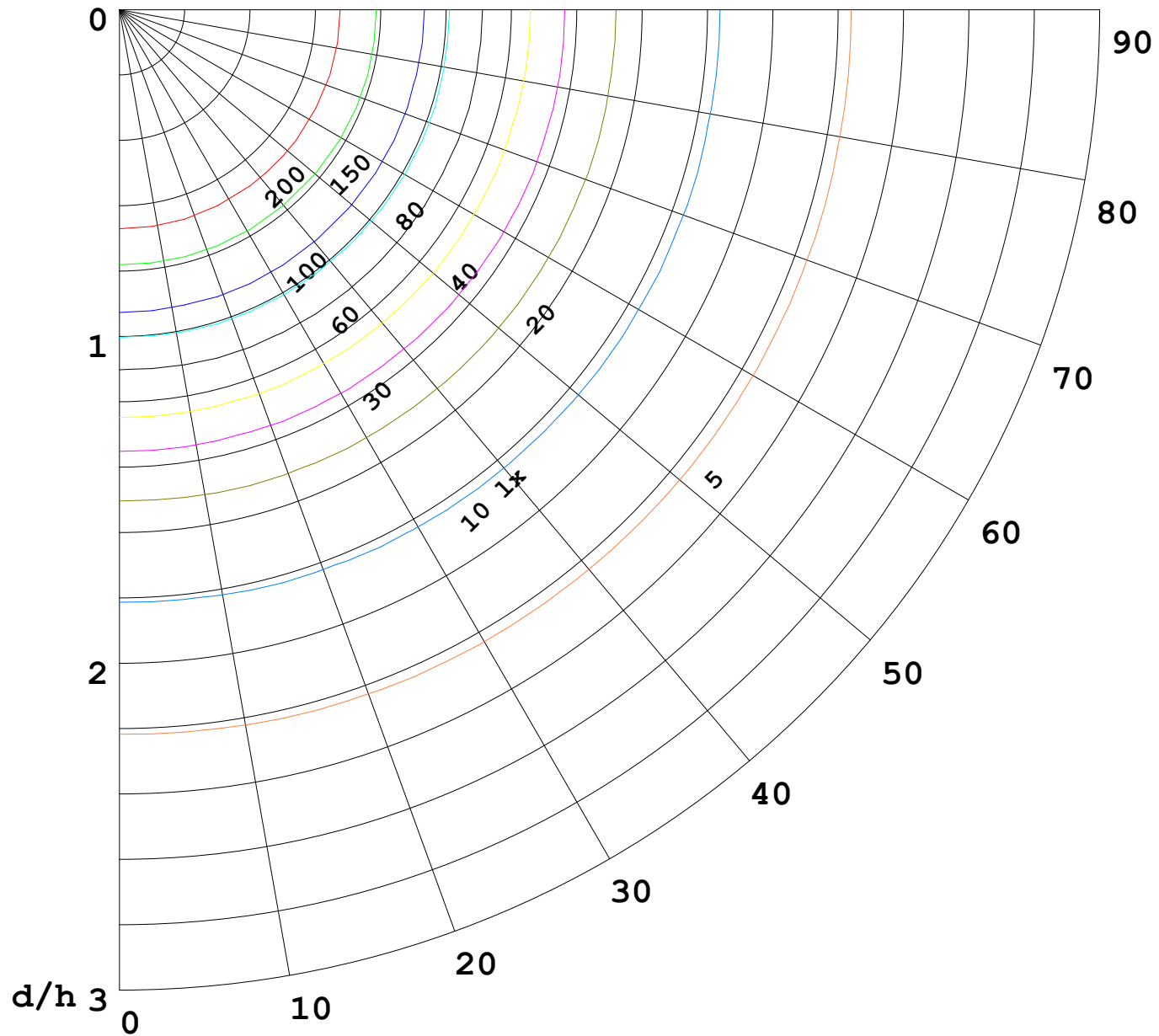
γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
 Humidity:59.2%  
 Test Distance:2.436m [K=1.0111]  
 Remarks:

I (cd)



1000 lm

$\kappa = 1$



**F** = 5000 lm  
**K** = 0.7  
**Hcc** = 0.0 m  
**Hfc** = 0.0 m  
**Eave** = 100 lx

	<b>Pcc</b>	<b>Pw</b>	<b>Pfc</b>
—————	70	50	30
—————	50	30	20

