



IESNA LM-79 TEST REPORT

Applicant's name: BlackJack Lighting LLC

Address: 1547 Barclay Blvd. Buffalo Grove, IL 60089

Brand Name.....: Blackjack Lighting


Report No......: BTR66.181.19.0008.08

Product Name.....: Large Bullet Pendant

Model Number: MBLW-08P-PC-12P-30K; MBLB-08P-BL-12P-30K

Tested by
(printed name and signature): David Zhang 

Title: **Test Engineer**

Approved by
(printed name and signature): Steven Huo 

Title: **Approved Signatory**

Date of issue: Aug 27, 2019

Testing Laboratory Name: BEST Test Service Shenzhen Co., Ltd.

Address: 1st Floor, 1st Building, Weitai Industrial Park, Yingrenshi, Shiyao, Baoan, Shenzhen, China

Accreditation: [Tel:+86-755-28236006](tel:+86-755-28236006), Email: admin@bestcert.cn

Accreditation: DLC/Lighting Facts/UL/ETL/ELI/CEC/EPA/DOE
NVLAP Testing Lab Code: 200770-0

Test specification

Standard: IESNA LM-79

Test procedure/method: IESNA LM-79 Test Procedure

Non-standard test method: No

Test Report Form No.: BEST_ LM-79

TRF originator.....: BEST Test Service Shenzhen Co., Ltd. Mr Tseng

Master TRF: BEST_LM-79.doc

Note:
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Description:	
The date of sampling	Aug 26, 2019
The date of receipt of the test sample / requirement /item(s).....	Aug 26, 2019
Test date.....	Aug 26, 2019 to Aug 27, 2019
Description	Large Bullet Pendant
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.....	7W
Nominal Power Factor	N/A
Nominal Lumen Output.....	206lm
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:	2.5H
Ambient temperature	24.7°C
Orientation (burning position) of SSL product during test	Lighting Surface Down or Base Up
Stabilization time	1.0H
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 MBLW-08P-PC-12P-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.

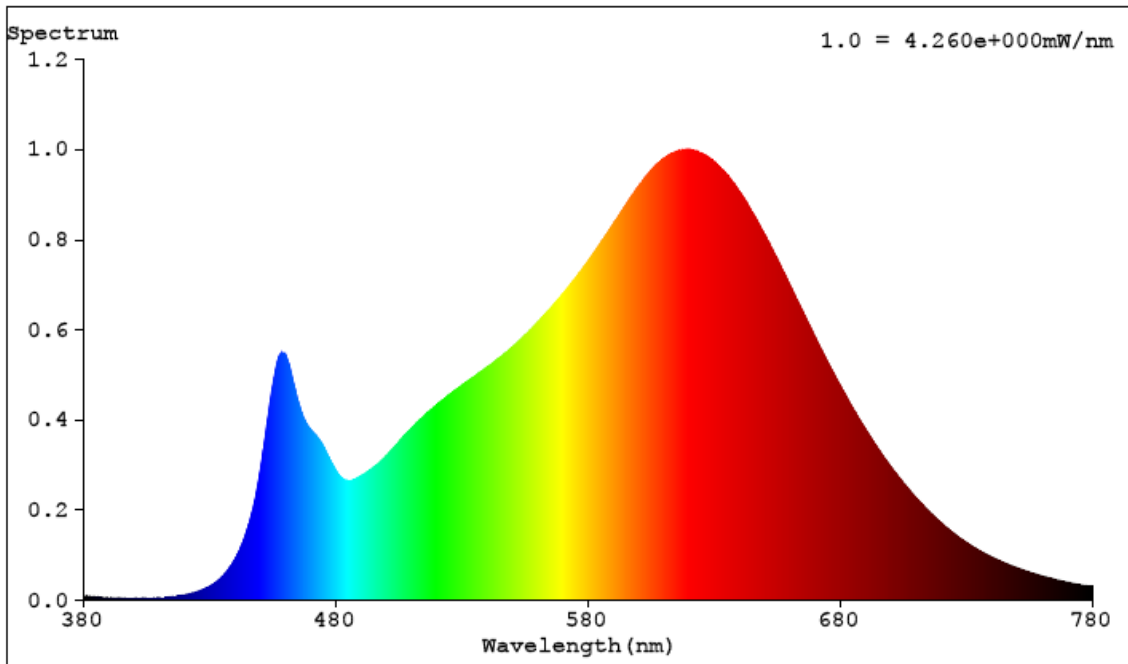
Luminous Intensity

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	0.0710	/	6.79	0.7976	206.07	30.33
CCT (K)	CRI (Ra)	R9	x CIE1931	y CIE1931	u' CIE1976	v' CIE1976	Duv CIE1976
2823	91.9	59	0.4449	0.3984	0.2583	0.5203	-0.0032

Spectral Plots



EUT Photo



Annex

Please see the next page for the luminous intensity test data

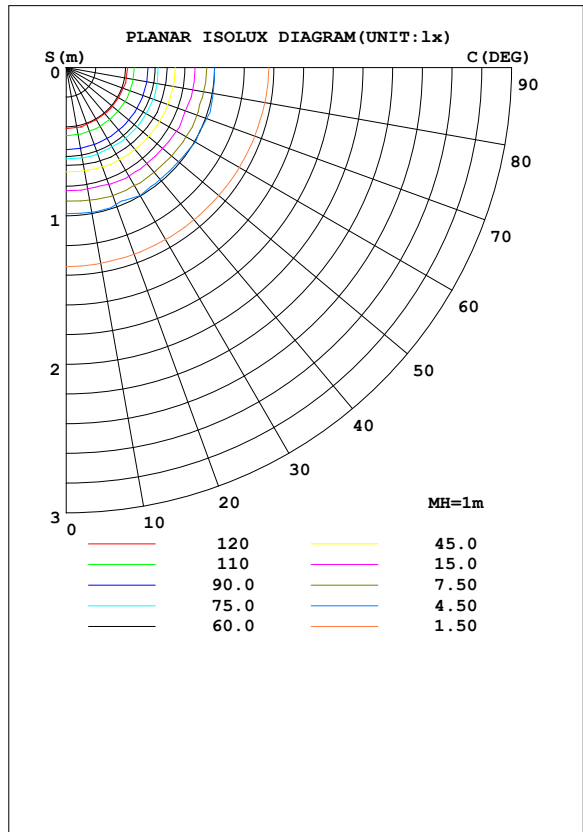
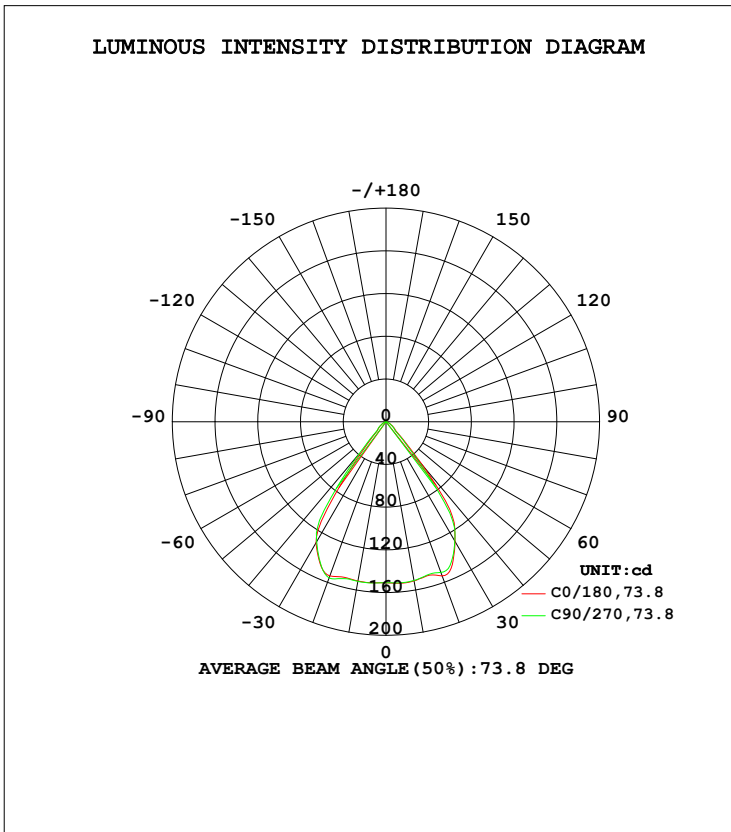
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LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:120.02V I:0.0710A P:6.7935W PF:0.7976 Freq:60.00Hz Lamp Flux:206.068x1 lm		
NAME: Large Bullet Pendant	TYPE:MBLW-08P-PC-12P-30K	WEIGHT:0.7KG
SPEC.:	DIM.:	SERIAL No.:
MFR.: BlackJack Lighting LLC	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 30.33 lm/W			
MODEL	MBLW-08P-PC-12P-30K	I _{max} (cd)	155.8	S/MH (C0/180)	1.11
NOMINAL POWER (W)	7	LOR (%)	100.0	S/MH (C90/270)	1.08
RATED VOLTAGE (V)	120	TOTAL FLUX (lm)	206.07	η UP, DN (C0-180)	0.0, 49.4
NOMINAL FLUX (lm)	206	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 50.6
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.00
TEST VOLTAGE (V)	120	η down (%)	100.0	CIBSE SHR MAX	1.05



C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature: 25.1DEG
 Operators: Mark
 Test Date: 27 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: 2.463m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lamp
10	151.5	151.8	151.8	151.2	151.3	151.0	151.0	151.1	0- 10	14.45	14.45	7.01
20	153.6	154.4	155.6	155.8	153.6	150.3	150.2	151.5	10- 20	42.87	57.32	27.8
30	131.2	130.6	129.8	127.0	129.3	125.7	129.0	132.0	20- 30	66.25	123.6	60
40	28.01	35.63	39.23	40.62	53.72	52.21	42.81	35.08	30- 40	57.74	181.3	88
50	8.744	8.693	9.240	10.18	11.06	10.39	10.08	9.654	40- 50	13.73	195.0	94.6
60	4.160	4.187	4.485	4.885	5.437	5.148	4.961	4.720	50- 60	6.299	201.3	97.7
70	1.720	1.730	1.866	2.052	2.344	2.209	2.129	2.002	60- 70	3.194	204.5	99.3
80	0.4753	0.4754	0.5270	0.5973	0.7384	0.6965	0.6601	0.6041	70- 80	1.282	205.8	99.9
90	0	0	0	0	0	0	0	0	80- 90	0.2539	206.1	100
100	0	0	0	0	0	0	0	0	90-100	0	206.1	100
110	0	0	0	0	0	0	0	0	100-110	0	206.1	100
120	0	0	0	0	0	0	0	0	110-120	0	206.1	100
130	0	0	0	0	0	0	0	0	120-130	0	206.1	100
140	0	0	0	0	0	0	0	0	130-140	0.0001	206.1	100
150	0	0	0	0	0	0	0	0	140-150	0	206.1	100
160	0	0	0	0	0	0	0	0	150-160	0	206.1	100
170	0	0	0	0	0	0	0	0	160-170	0	206.1	100
180	0	0	0	0	0	0	0	0	170-180	0	206.1	100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 190.5 lm

%lum = 92.4%
 %lamp = 92.4%

Conical surface Flux(120deg): 201.34 lm

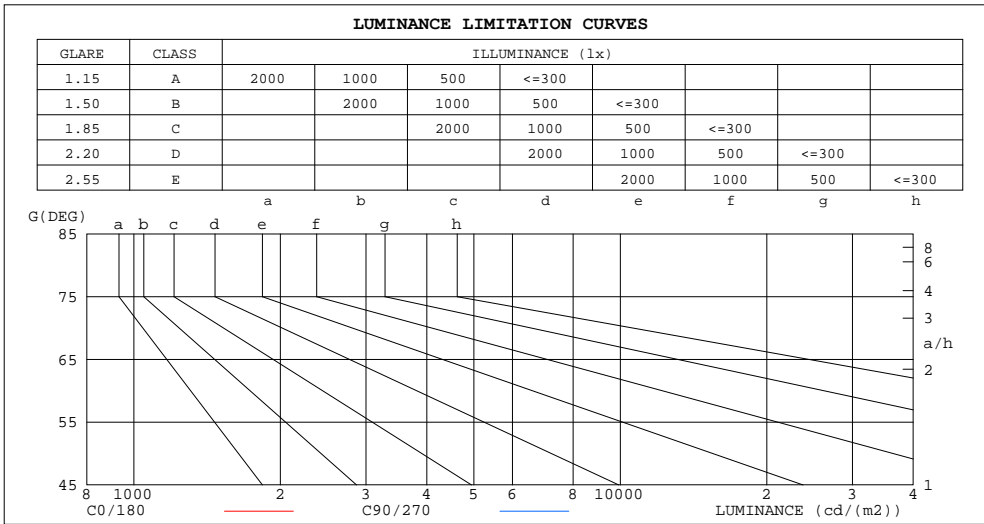
%lum = 97.7%
 %lamp = 97.7%

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.1DEG
 Operators:Mark
 Test Date:27 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:2.463m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:120.02V I:0.0710A P:6.7935W PF:0.7976 Freq:60.00Hz Lamp Flux:206.068x1 lm		
NAME: Large Bullet Pendant	TYPE:MBLW-08P-PC-12P-30K	WEIGHT:0.7KG
SPEC.:	DIM.:	SERIAL No.:
MFR.: BlackJack Lighting LLC	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	2	2
80	3	3
75	4	4
70	5	5
65	6	7
60	8	9
55	10	11
50	14	14
45	16	18

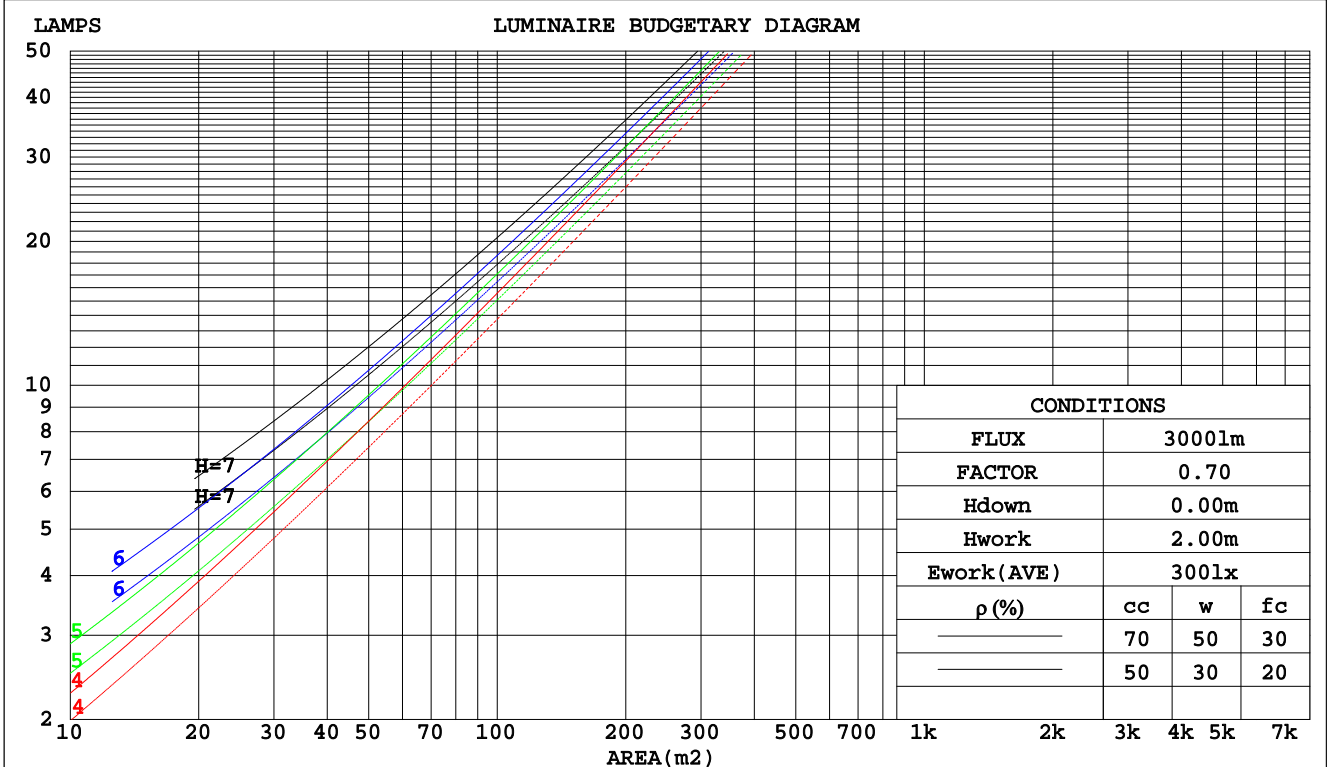
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 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:120.02V I:0.0710A P:6.7935W PF:0.7976 Freq:60.00Hz Lamp Flux:206.068x1 lm		
NAME: Large Bullet Pendant	TYPE:MBLW-08P-PC-12P-30K	WEIGHT:0.7KG
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	1.10	1.07	1.05	1.08	1.05	1.03	1.04	1.02	.00	.00	.98	.97	.96	.95	.94	.92
2.0	1.01	.97	.93	.99	.95	.92	.96	.93	.90	.93	.90	.88	.90	.88	.86	.84
3.0	.93	.88	.83	.92	.87	.83	.89	.85	.81	.87	.83	.80	.84	.81	.79	.77
4.0	.86	.80	.75	.85	.79	.75	.83	.78	.74	.81	.77	.73	.79	.75	.72	.71
5.0	.80	.74	.69	.79	.73	.68	.77	.72	.68	.75	.71	.67	.74	.70	.67	.65
6.0	.74	.68	.63	.73	.67	.63	.72	.66	.62	.70	.66	.62	.69	.65	.61	.60
7.0	.69	.63	.58	.69	.62	.58	.67	.62	.57	.66	.61	.57	.65	.60	.57	.55
8.0	.65	.58	.54	.64	.58	.53	.63	.57	.53	.62	.57	.53	.61	.56	.53	.51
9.0	.60	.54	.50	.60	.54	.50	.59	.53	.49	.58	.53	.49	.57	.52	.49	.48
10.0	.57	.50	.46	.56	.50	.46	.55	.50	.46	.55	.49	.46	.54	.49	.46	.44



C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.1DEG
 Operators:Mark
 Test Date:27 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:2.463m [K=1.0000]
 Remarks:

WEC AND CCEC

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NAME: Large Bullet Pendant	TYPE:MBLW-08P-PC-12P-30K	WEIGHT:0.7KG
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	.196	.112	.035	.190	.108	.034	.177	.102	.032	.165	.095	.031	.155	.090	.029	
2.0	.189	.104	.032	.184	.101	.031	.173	.096	.030	.163	.091	.029	.154	.087	.027	
3.0	.181	.096	.029	.176	.094	.028	.167	.090	.027	.158	.087	.027	.150	.083	.026	
4.0	.172	.089	.026	.168	.088	.026	.160	.085	.025	.152	.082	.025	.145	.079	.024	
5.0	.164	.084	.024	.160	.082	.024	.153	.080	.023	.146	.077	.023	.140	.075	.023	
6.0	.156	.078	.022	.153	.077	.022	.147	.075	.022	.141	.073	.021	.135	.071	.021	
7.0	.149	.074	.021	.146	.073	.021	.140	.071	.020	.135	.069	.020	.130	.068	.020	
8.0	.142	.070	.020	.140	.069	.019	.135	.067	.019	.130	.066	.019	.126	.064	.019	
9.0	.136	.066	.018	.134	.065	.018	.129	.064	.018	.125	.063	.018	.121	.061	.018	
10.0	.130	.062	.017	.128	.062	.017	.124	.061	.017	.120	.060	.017	.117	.059	.017	

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	.172	.157	.143	.148	.135	.123	.101	.093	.085	.058	.054	.050	.019	.017	.016	
2.0	.159	.132	.110	.136	.114	.095	.093	.079	.067	.054	.046	.039	.017	.015	.013	
3.0	.147	.114	.087	.126	.098	.075	.087	.068	.053	.050	.040	.031	.016	.013	.010	
4.0	.138	.099	.070	.118	.086	.061	.081	.060	.043	.047	.035	.025	.015	.011	.008	
5.0	.130	.088	.057	.111	.076	.050	.077	.053	.035	.044	.031	.021	.014	.010	.007	
6.0	.123	.079	.047	.106	.068	.041	.073	.048	.029	.042	.028	.017	.014	.009	.006	
7.0	.117	.072	.040	.100	.062	.035	.069	.043	.025	.040	.026	.015	.013	.008	.005	
8.0	.111	.066	.034	.096	.057	.030	.066	.040	.021	.038	.024	.013	.012	.008	.004	
9.0	.106	.060	.030	.091	.052	.026	.063	.037	.018	.037	.022	.011	.012	.007	.004	
10.0	.101	.056	.026	.087	.049	.023	.061	.034	.016	.035	.020	.010	.011	.007	.003	

C Range: 0 - 360DEG
 C Interval: 10.0DEG
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 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:59.2%
 Test Distance:2.463m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:120.02V I:0.0710A P:6.7935W PF:0.7976 Freq:60.00Hz Lamp Flux:206.068x1 lm										
NAME: Large Bullet Pendant					TYPE:MBLW-08P-PC-12P-30K			WEIGHT:0.7KG		
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	-3.2	-2.1	-2.9	-1.9	-1.8	-2.9	-1.8	-2.6	-1.6	-1.4
3H	-3.2	-2.3	-3.0	-2.0	-1.8	-2.9	-1.9	-2.6	-1.7	-1.5
4H	-3.3	-2.4	-3.0	-2.1	-1.9	-2.9	-2.0	-2.7	-1.8	-1.6
6H	-3.3	-2.5	-3.0	-2.2	-2.0	-3.0	-2.1	-2.7	-1.9	-1.6
8H	-3.4	-2.5	-3.1	-2.3	-2.0	-3.0	-2.2	-2.7	-2.0	-1.7
12H	-3.4	-2.6	-3.1	-2.4	-2.1	-3.1	-2.3	-2.8	-2.0	-1.7
4H 2H	-3.3	-2.4	-3.1	-2.2	-2.0	-3.0	-2.1	-2.8	-1.9	-1.7
3H	-3.4	-2.6	-3.0	-2.3	-2.0	-3.0	-2.2	-2.7	-2.0	-1.7
4H	-3.4	-2.7	-3.0	-2.4	-2.0	-3.1	-2.3	-2.7	-2.0	-1.7
6H	-3.4	-2.8	-3.0	-2.5	-2.1	-3.1	-2.5	-2.7	-2.1	-1.8
8H	-3.5	-2.9	-3.1	-2.5	-2.2	-3.1	-2.6	-2.7	-2.2	-1.8
12H	-3.5	-3.0	-3.1	-2.6	-2.2	-3.2	-2.6	-2.8	-2.3	-1.9
8H 4H	-3.5	-2.9	-3.1	-2.5	-2.2	-3.2	-2.6	-2.8	-2.2	-1.9
6H	-3.5	-3.0	-3.1	-2.6	-2.2	-3.2	-2.7	-2.8	-2.3	-1.9
8H	-3.5	-3.1	-3.1	-2.7	-2.3	-3.2	-2.8	-2.8	-2.4	-2.0
12H	-3.6	-3.2	-3.1	-2.8	-2.3	-3.3	-2.9	-2.8	-2.5	-2.0
12H 4H	-3.5	-3.0	-3.1	-2.6	-2.2	-3.2	-2.7	-2.8	-2.3	-1.9
6H	-3.6	-3.1	-3.1	-2.7	-2.3	-3.2	-2.8	-2.8	-2.4	-2.0
8H	-3.6	-3.2	-3.1	-2.8	-2.3	-3.3	-2.9	-2.8	-2.5	-2.0
Variations with the observer position at spacings:										
S = 1.0H	+ 2.9 / - 4.0					+ 3.4 / - 4.9				
1.5H	+ 5.0 / - 3.1					+ 5.7 / - 4.0				
2.0H	+ 1.5 / - 1.5					+ 1.8 / - 1.6				

CIE Pub.117, 206.1 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = -5.5)

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.1DEG
 Operators:Mark
 Test Date:27 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:2.463m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:120.02V I:0.0710A P:6.7935W PF:0.7976 Freq:60.00Hz Lamp Flux:206.068x1 lm		
NAME: Large Bullet Pendant	TYPE:MBLW-08P-PC-12P-30K	WEIGHT:0.7KG
SPEC.:	DIM.:	SERIAL No.:
MFR.: BlackJack Lighting LLC	SUR.:	Shielding Angle:

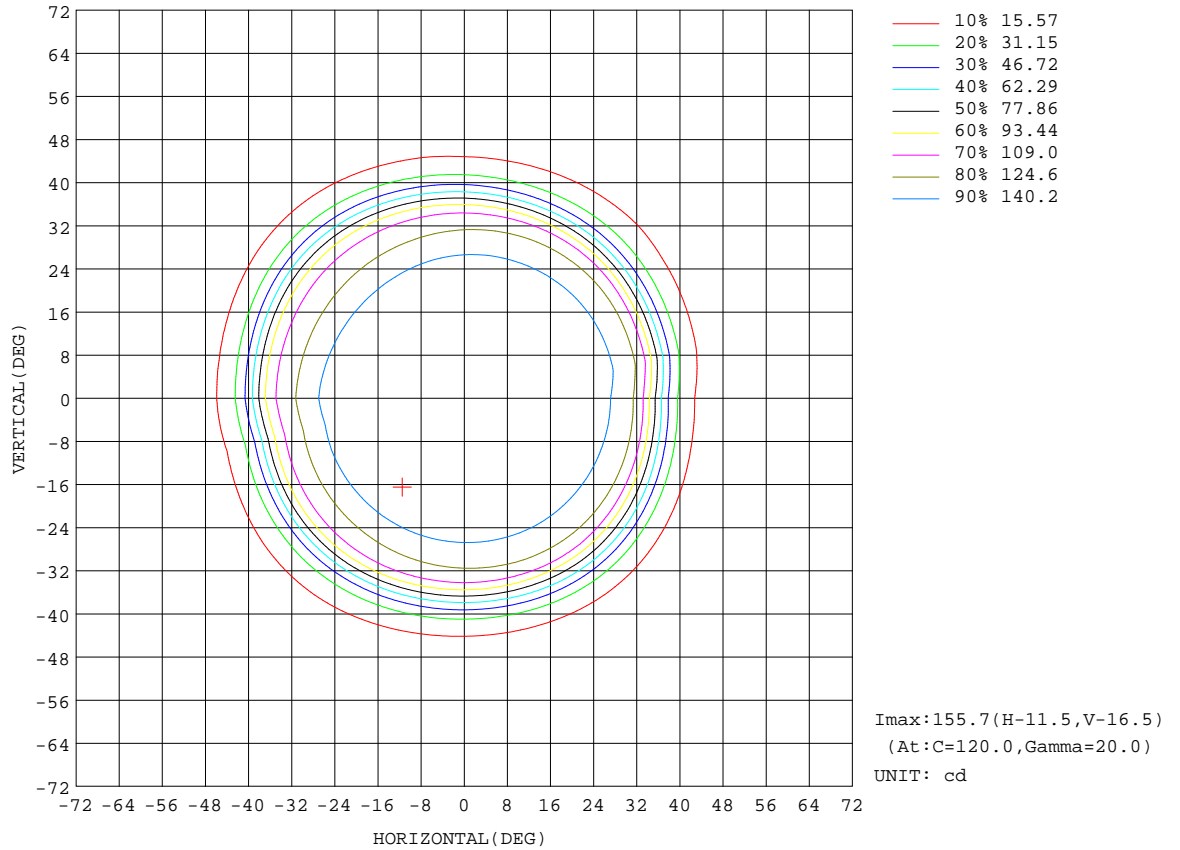
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	84	77	73	83	77	73	83	76	73	69
0.80	92	85	81	91	85	81	90	84	81	77
1.00	97	91	87	96	90	86	94	90	86	82
1.25	101	96	92	100	95	91	98	94	91	86
1.50	104	99	95	103	98	95	101	97	94	89
2.00	107	103	99	106	102	99	103	100	97	92
2.50	109	105	102	108	104	101	104	101	99	93
3.00	111	107	104	109	106	103	106	103	101	94
4.00	113	110	108	111	108	106	107	105	104	96
5.00	114	112	110	112	110	108	108	107	105	98
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:27 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:2.463m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:120.02V I:0.0710A P:6.7935W PF:0.7976 Freq:60.00Hz Lamp Flux:206.068x1 lm		
NAME: Large Bullet Pendant	TYPE:MBLW-08P-PC-12P-30K	WEIGHT:0.7KG
SPEC.:	DIM.:	SERIAL No.:
MFR.: BlackJack Lighting LLC	SUR.:	Shielding Angle:

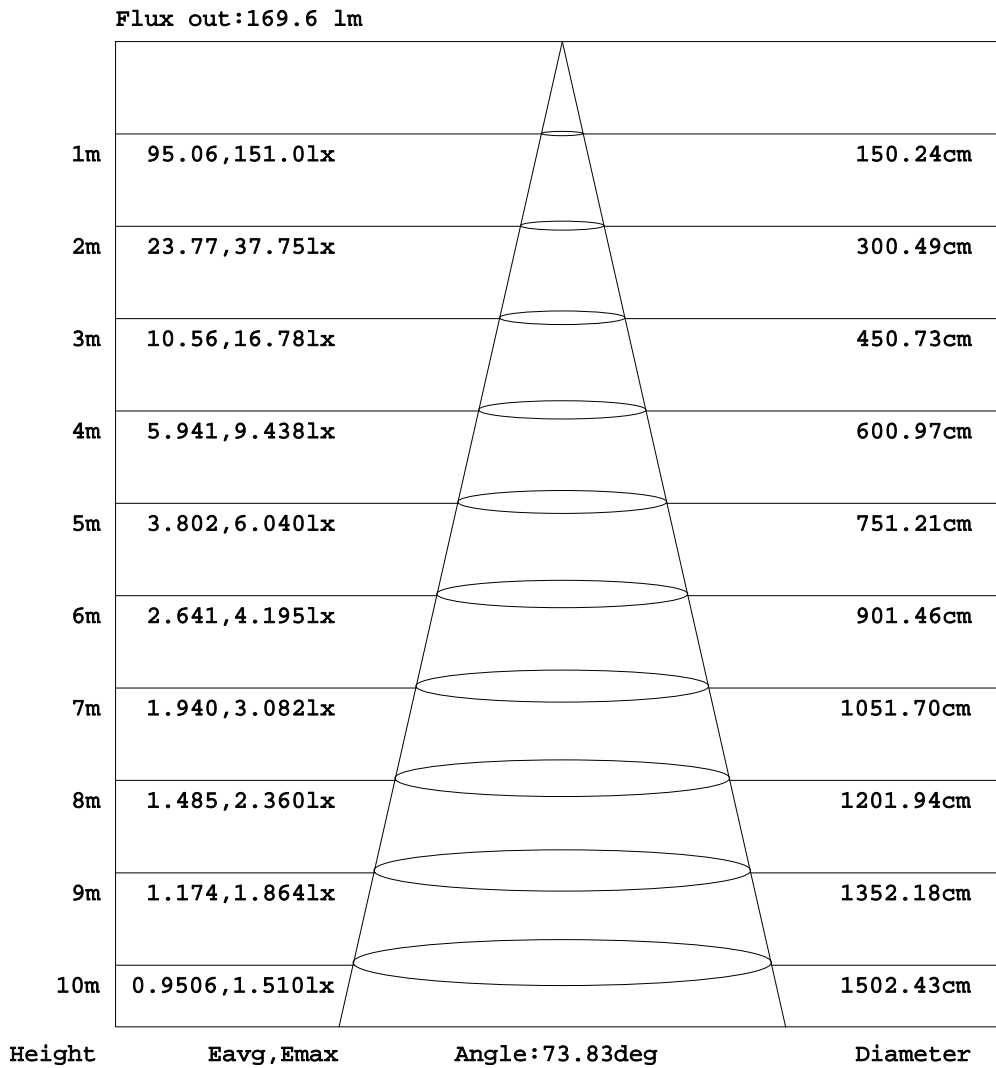


C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.1DEG
 Operators:Mark
 Test Date:27 August 2019

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:59.2%
 Test Distance:2.463m [K=1.0000]
 Remarks:

AAI Figure

Test:U:120.02V I:0.0710A P:6.7935W PF:0.7976 Freq:60.00Hz Lamp Flux:206.068x1 lm		
NAME: Large Bullet Pendant	TYPE:MBLW-08P-PC-12P-30K	WEIGHT:0.7KG
SPEC.:	DIM.:	SERIAL No.:
MFR.: BlackJack Lighting LLC	SUR.:	Shielding Angle:



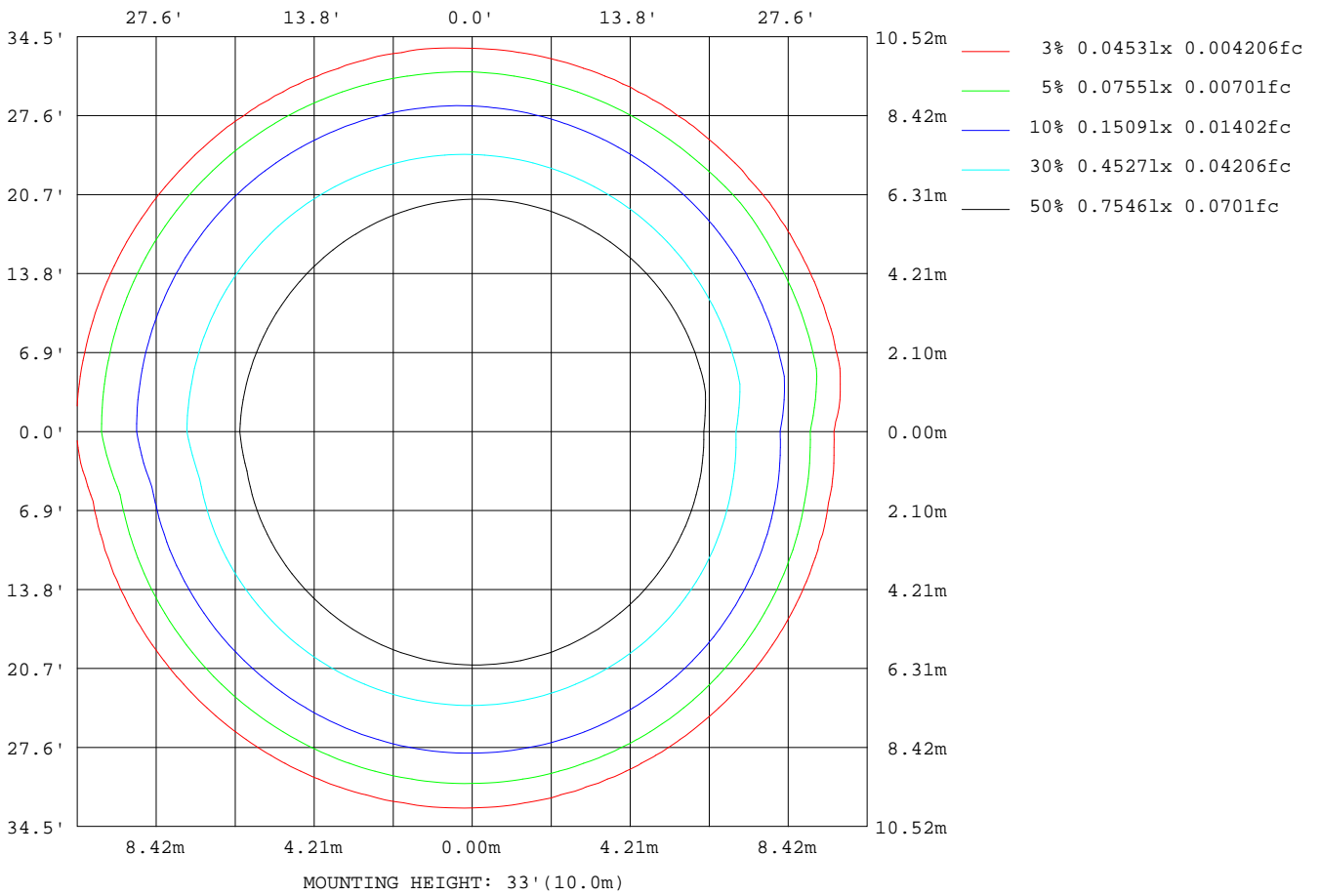
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.1DEG
 Operators:Mark
 Test Date:27 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:2.463m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

Test:U:120.02V I:0.0710A P:6.7935W PF:0.7976 Freq:60.00Hz Lamp Flux:206.068x1 lm		
NAME: Large Bullet Pendant	TYPE:MBLW-08P-PC-12P-30K	WEIGHT:0.7KG
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:27 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:2.463m [K=1.0000]
 Remarks:

LED Avg.L Report

Test:U:120.02V I:0.0710A P:6.7935W PF:0.7976 Freq:60.00Hz Lamp Flux:206.068x1 lm		
NAME: Large Bullet Pendant	TYPE:MBLW-08P-PC-12P-30K	WEIGHT:0.7KG
SPEC.:	DIM.:	SERIAL No.:
MFR.: BlackJack Lighting LLC	SUR.:	Shielding Angle:

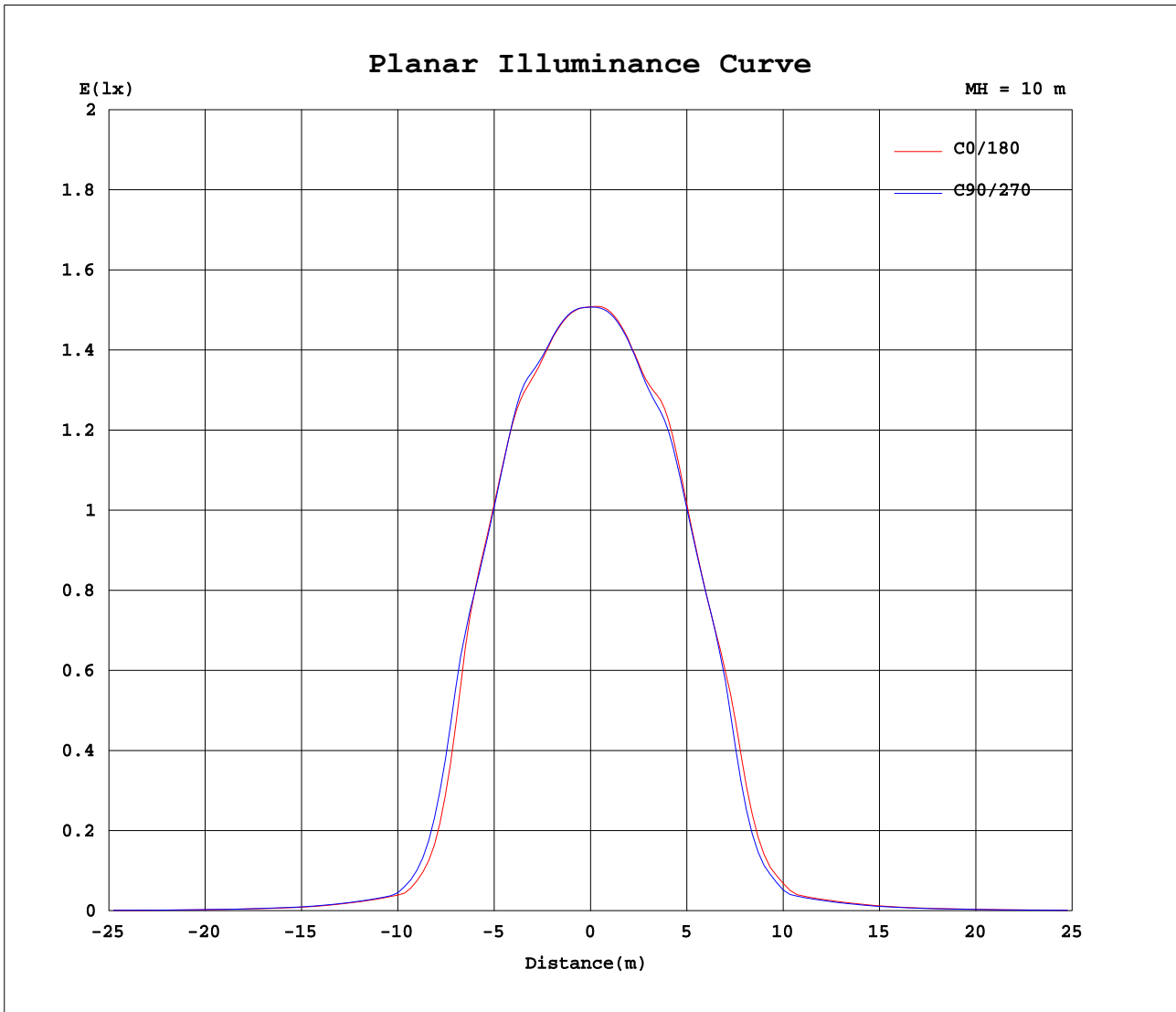
AvgL	cd/m2
L_0~180 (65) av	8
L_0~180 (75) av	5
L_0~180 (85) av	2
L_90~270 (65) av	7
L_90~270 (75) av	5
L_90~270 (85) av	2
L_45 (65) av	7
L_45 (75) av	5
L_45 (85) av	2

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.1DEG
 Operators:Mark
 Test Date:27 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:2.463m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 25.1DEG
Operators: Mark
Test Date: 27 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: 2.463m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:120.02V I:0.0710A P:6.7935W PF:0.7976 Freq:60.00Hz Lamp Flux:206.068x1 lm		
NAME: Large Bullet Pendant	TYPE:MBLW-08P-PC-12P-30K	WEIGHT:0.7KG
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	151	151	151	151	151	151	151	151	151	151	151	151	151	151	151	151	151	151	151
5	151	151	151	151	151	151	151	151	152	152	152	152	152	152	152	152	152	152	152
10	151	151	152	152	152	152	152	152	152	152	152	152	151	151	151	151	151	151	151
15	151	151	151	152	152	152	152	152	152	152	152	152	151	151	151	150	150	150	149
20	154	154	154	154	154	155	155	155	155	156	156	156	156	156	156	156	156	155	154
25	146	146	146	145	145	145	146	146	146	146	146	145	145	145	145	145	145	145	147
30	131	131	131	131	131	131	131	130	130	130	129	129	128	127	127	127	126	126	129
35	83.7	86.2	89.3	92.3	94.7	96.9	98.3	99.2	100	101	101	102	102	102	102	102	102	102	109
40	28.0	29.3	31.1	32.9	34.8	36.4	37.6	38.4	38.7	39.2	39.4	39.7	39.9	40.3	41.0	41.3	41.9	42.1	53.7
45	11.1	11.1	11.0	11.0	11.1	11.4	11.8	12.0	12.4	12.7	13.1	13.5	13.9	14.3	14.6	14.9	15.0	15.1	19.4
50	8.74	8.69	8.65	8.63	8.66	8.73	8.81	8.94	9.10	9.24	9.45	9.66	9.87	10.1	10.3	10.4	10.5	10.5	11.1
55	5.97	5.94	5.93	5.94	5.98	6.04	6.11	6.22	6.33	6.46	6.61	6.77	6.93	7.08	7.24	7.36	7.43	7.45	8.15
60	4.16	4.13	4.13	4.14	4.17	4.21	4.26	4.33	4.40	4.48	4.57	4.67	4.76	4.85	4.92	4.99	5.04	5.05	5.44
65	2.74	2.71	2.71	2.72	2.74	2.77	2.81	2.86	2.91	2.96	3.03	3.09	3.15	3.21	3.27	3.32	3.35	3.35	3.65
70	1.72	1.71	1.70	1.70	1.72	1.74	1.76	1.80	1.83	1.87	1.91	1.95	1.99	2.03	2.07	2.10	2.12	2.12	2.34
75	0.99	0.98	0.98	0.98	0.99	1.00	1.01	1.03	1.06	1.08	1.10	1.13	1.16	1.18	1.21	1.22	1.24	1.24	1.40
80	0.48	0.47	0.47	0.47	0.47	0.48	0.49	0.50	0.51	0.53	0.54	0.56	0.57	0.59	0.60	0.62	0.62	0.63	0.74
85	0.14	0.14	0.14	0.14	0.14	0.15	0.15	0.16	0.16	0.17	0.18	0.19	0.20	0.20	0.21	0.22	0.22	0.22	0.29
90	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
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	0.03	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	0.00	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	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	0.00	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
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:27 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:2.463m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:120.02V I:0.0710A P:6.7935W PF:0.7976 Freq:60.00Hz Lamp Flux:206.068x1 lm		
NAME: Large Bullet Pendant	TYPE:MBLW-08P-PC-12P-30K	WEIGHT:0.7KG
SPEC.:	DIM.:	SERIAL No.:
MFR.: BlackJack Lighting LLC	SUR.:	Shielding Angle:

Table--2

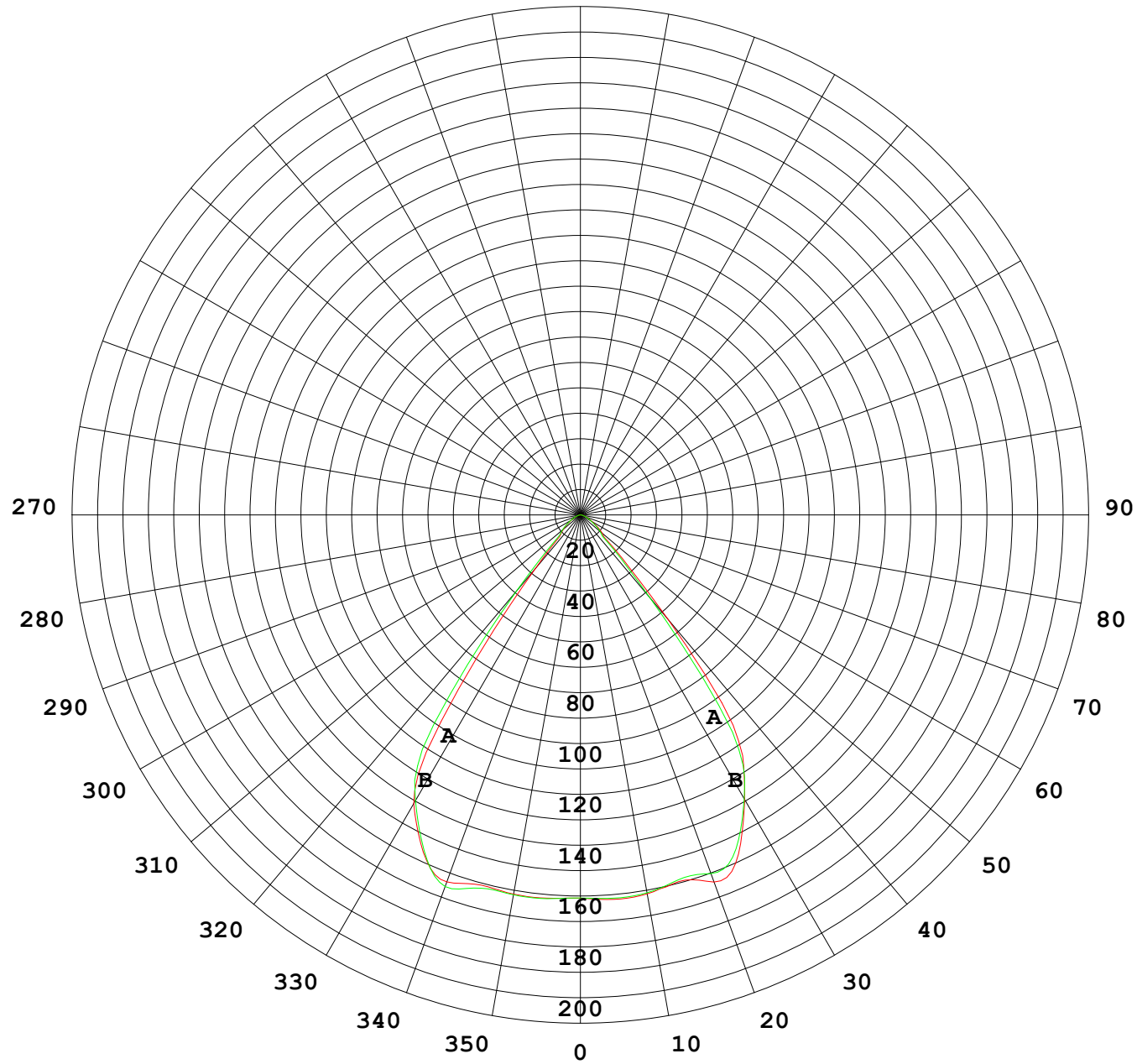
UNIT: cd

C (DEG) γ (DEG)	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350		
0	151	151	151	151	151	151	151	151	151	151	151	151	151	151	151	151	151		
5	152	152	152	152	152	152	152	151	151	151	151	151	151	151	151	151	151		
10	151	151	151	151	151	151	151	151	151	151	151	151	151	151	151	151	151		
15	149	149	149	149	149	148	148	149	149	149	149	149	150	150	150	150	150		
20	152	152	151	150	150	150	150	150	150	150	151	151	151	152	152	152	153		
25	145	143	142	142	142	142	143	144	145	146	146	146	147	147	148	148	149		
30	128	127	126	126	126	126	127	128	129	130	130	131	132	132	133	134	134		
35	108	107	107	106	106	105	105	105	104	103	102	100	99.1	98.3	97.6	97.7	98.5		
40	54.1	54.2	54.0	52.9	51.5	49.5	47.3	45.1	42.8	40.4	38.4	36.7	35.4	34.7	34.2	34.3	34.7		
45	19.3	19.2	19.0	18.5	18.0	17.4	16.7	16.1	14.7	14.1	13.5	13.0	12.7	12.4	12.2	12.1	12.0		
50	10.9	10.8	10.6	10.5	10.3	10.2	10.2	10.1	10.1	10.0	9.92	9.81	9.71	9.60	9.49	9.41	9.34		
55	8.04	7.92	7.80	7.67	7.58	7.49	7.42	7.36	7.29	7.22	7.12	7.03	6.94	6.83	6.72	6.65	6.58		
60	5.38	5.32	5.24	5.17	5.12	5.08	5.04	5.00	4.96	4.92	4.86	4.81	4.75	4.69	4.63	4.58	4.54		
65	3.63	3.58	3.53	3.49	3.44	3.42	3.39	3.37	3.33	3.30	3.26	3.22	3.17	3.14	3.09	3.06	3.03		
70	2.32	2.29	2.25	2.22	2.20	2.17	2.16	2.15	2.13	2.11	2.07	2.05	2.02	1.99	1.96	1.94	1.92		
75	1.39	1.37	1.34	1.33	1.31	1.31	1.29	1.28	1.27	1.25	1.23	1.21	1.19	1.17	1.16	1.14	1.13		
80	0.73	0.73	0.72	0.70	0.69	0.69	0.68	0.67	0.66	0.65	0.64	0.62	0.61	0.60	0.59	0.58	0.58		
85	0.29	0.29	0.28	0.27	0.27	0.26	0.25	0.25	0.24	0.23	0.23	0.22	0.21	0.21	0.20	0.20	0.20		
90	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		
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:27 August 2019

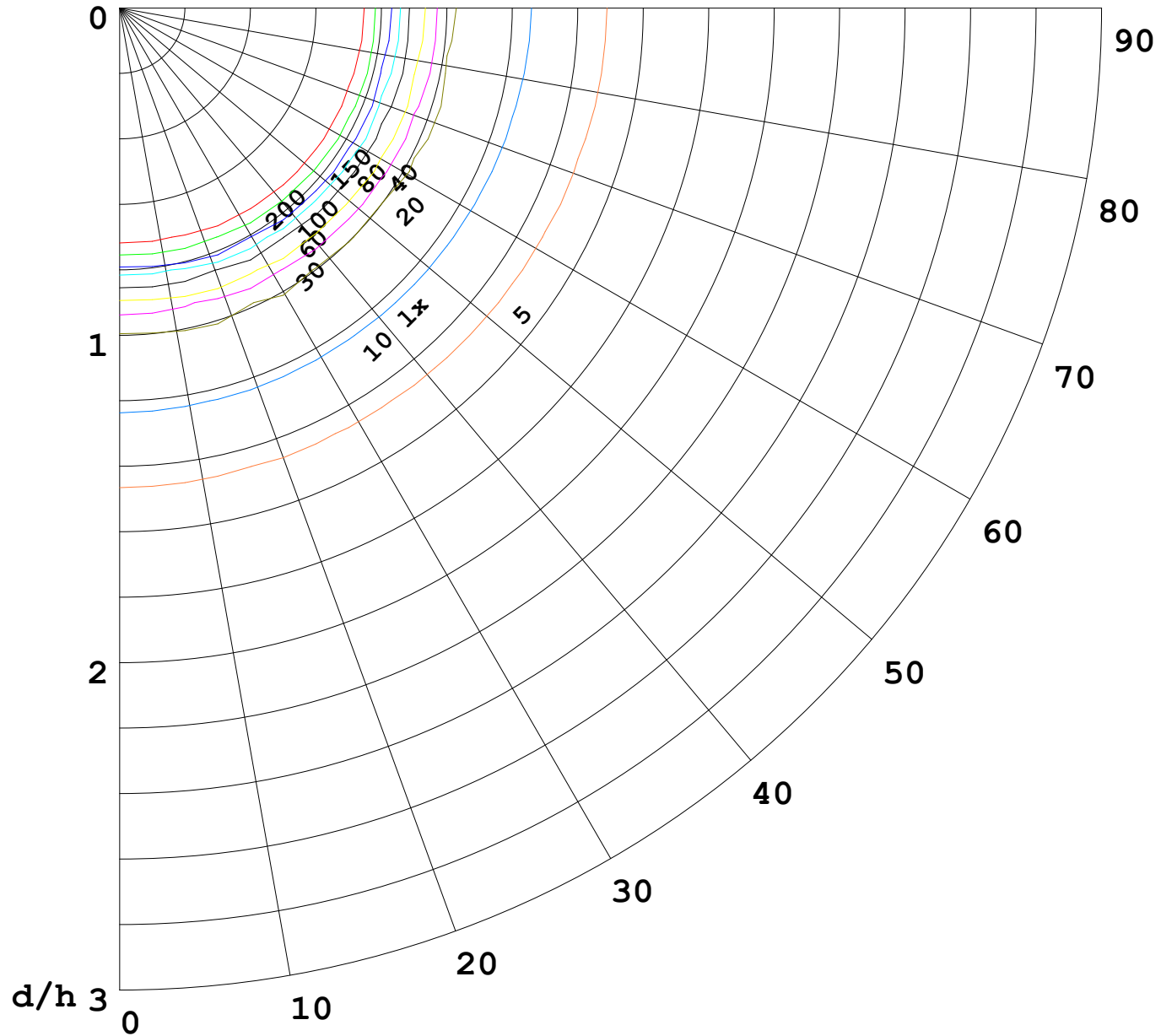
γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:59.2%
 Test Distance:2.463m [K=1.0000]
 Remarks:

I (cd)



1000 lm

$K = 1$



F = 3000 lm
K = 0.7
Hcc = 2.0 m
Hfc = 0.0 m
Eave = 300 lx

	Pcc	Pw	Pfc
—————	70	50	30
—————	50	30	20

