



### IESNA LM-79 TEST REPORT

<b>Applicant's name</b> .....	BlackJack Lighting LLC
Address .....	1547 Barclay Blvd. Buffalo Grove, IL 60089
Brand Name.....	Blackjack Lighting
<b>Report No.</b> .....	BTR66.181.19.0007.07
Product Name .....	Milo 36" Vanity- Satin Nickel or Polished Chrome
Model Number .....	MLO-36V-SN-12T-30K; MLO-36V-PC-12T-30K

Tested by (printed name and signature) .....	David Zhang	
Title .....	<b>Test Engineer</b>	.....
Approved by (printed name and signature) .....	Steven Huo	
Title .....	<b>Approved Signatory</b>	.....
Date of issue .....	Aug 23, 2019	

<b>Testing Laboratory Name</b> .....	BEST Test Service Shenzhen Co., Ltd.
Address .....	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>
Accreditation .....	DLC/Lighting Facts/UL/ETL/ELI/CEC/EPA/DOE NVLAP Testing Lab Code: 200770-0

<b>Test specification</b>	
Standard .....	IESNA LM-79
Test procedure/method .....	IESNA LM-79 Test Procedure
Non-standard test method .....	No

<b>Test Report Form No.</b>	BEST_LM-79
TRF originator.....	BEST Test Service Shenzhen Co., Ltd. Mr Tseng
Master TRF .....	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.

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<b>Description:</b>	
The date of sampling .....	Aug 15, 2019
The date of receipt of the test sample / requirement /item(s).....	Aug 15, 2019
Test date.....	Aug 15, 2019 to Aug 22, 2019
Description .....	Milo 36" Vanity- Satin Nickel or Polished Chrome
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.....	21W
Nominal Power Factor .....	N/A
Nominal Lumen Output.....	1280lm
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 MLO-36V-SN-12T-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.

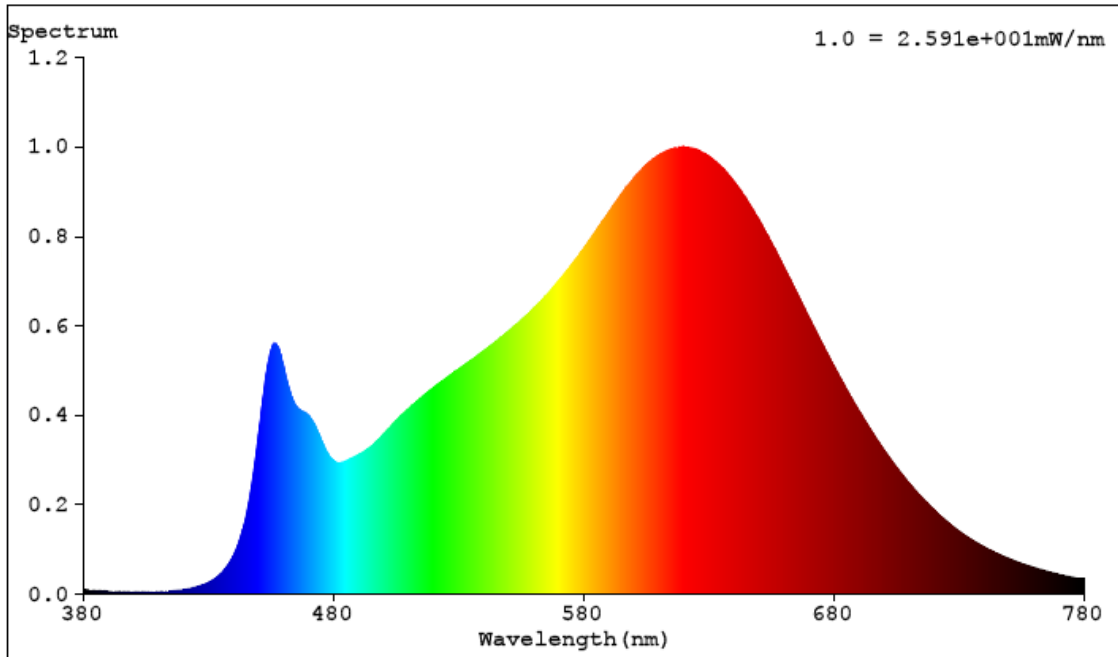
### Luminous Intensity

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.

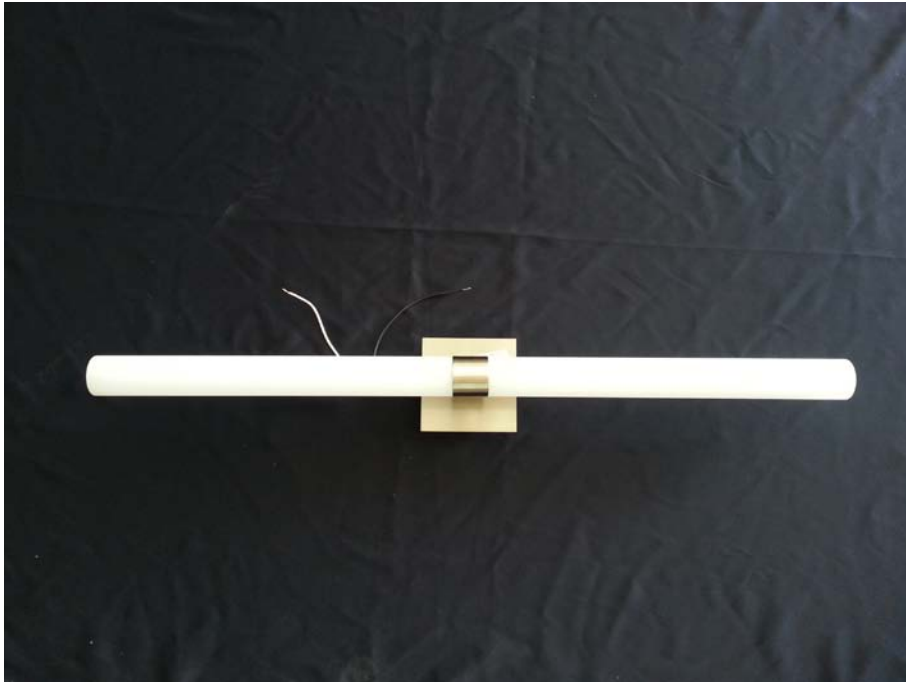
**Photometric and Electrical Test Data**

Input Voltage (V)	Frequency (Hz)	Input Current (A)	ITHD	Input Power (W)	Power Factor	Lumen Output (Lumens)	Efficiency (Lumen/W)
120	60.0	0.1698	/	20.27	0.9946	1288.88	63.59
CCT (K)	CRI (Ra)	R9	x CIE1931	y CIE1931	u' CIE1976	v' CIE1976	Duv CIE1976
2903	92.6	62	0.4405	0.3995	0.2549	0.5201	-0.0023

**Spectral Plots**



**EUT Photo**



**Annex**

Please see the next page for the luminous intensity test data

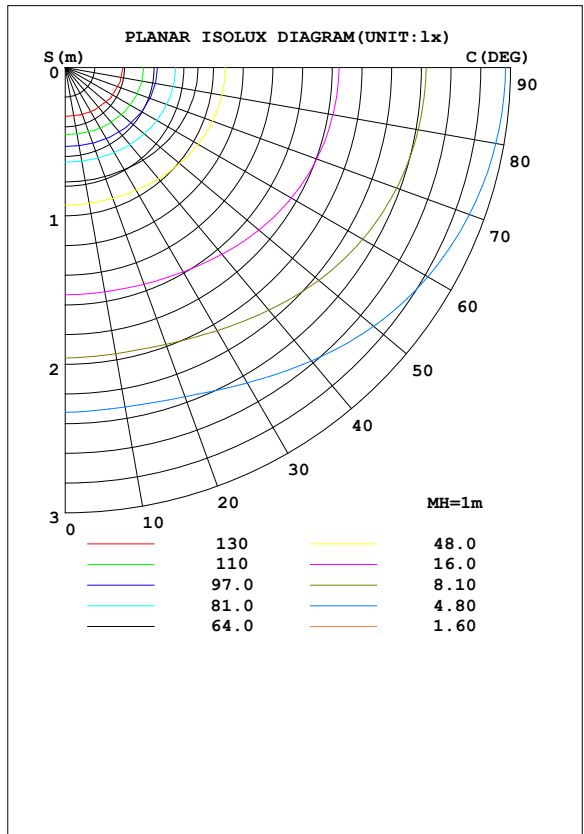
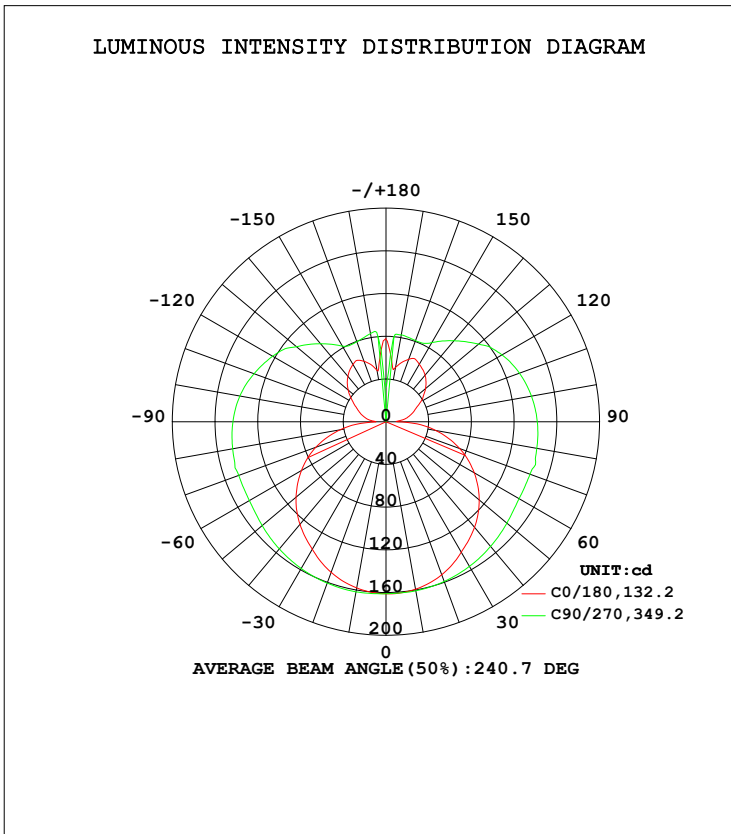
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LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:119.98V I:0.1698A P:20.268W PF:0.9946 Freq:60.00Hz Lamp Flux:1288.88x1 lm		
NAME: Milo 36" Vanity	TYPE:MLO-36V-SN-12T-30K	WEIGHT:2.5KG
SPEC.:	DIM.:	SERIAL No.:
MFR.: BlackJack Lighting LLC	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 63.59 lm/W			
MODEL	MLO-36V-SN-12T-30K	I <sub>max</sub> (cd)	161.7	S/MH (C0/180)	1.31
NOMINAL POWER (W)	21	LOR (%)	100.0	S/MH (C90/270)	1.47
RATED VOLTAGE (V)	120	TOTAL FLUX (lm)	1288.9	η UP, DN (C0-180)	20.3,29.7
NOMINAL FLUX (lm)	1280	CIE CLASS	DIFFUSE	η UP, DN (C180-360)	20.5,29.5
LAMPS INSIDE	1	η up (%)	40.8	CIBSE SHR NOM	1.50
TEST VOLTAGE (V)	120	η down (%)	59.2	CIBSE SHR MAX	1.55



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

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]

## ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lamp
10	158.0	159.9	161.7	160.3	159.2	160.1	160.7	159.5	0- 10	15.32	15.32	1.19
20	150.1	155.7	160.8	156.8	152.5	156.1	159.2	155.3	10- 20	44.76	60.08	4.66
30	137.9	148.6	158.7	150.5	141.1	149.2	156.4	148.2	20- 30	70.51	130.6	10.1
40	125.4	139.3	155.4	142.0	129.0	140.0	152.4	139.0	30- 40	90.76	221.3	17.2
50	110.0	128.6	151.3	131.8	114.0	129.2	147.8	128.4	40- 50	104.7	326.1	25.3
60	91.48	117.4	147.7	120.8	95.40	117.9	144.0	117.1	50- 60	111.7	437.7	34
70	69.88	108.1	146.8	111.4	73.44	108.6	143.5	107.3	60- 70	112.5	550.2	42.7
80	43.51	103.2	145.8	106.5	47.51	104.8	143.4	102.4	70- 80	109.3	659.5	51.2
90	9.409	99.51	143.3	103.1	11.06	101.0	141.7	99.01	80- 90	103.2	762.7	59.2
100	19.03	96.39	138.9	99.90	19.21	98.72	138.3	96.86	90-100	98.68	861.4	66.8
110	26.47	93.28	131.5	96.27	27.46	96.60	133.0	94.74	100-110	94.00	955.4	74.1
120	35.12	88.18	122.7	90.93	37.81	91.92	125.4	89.98	110-120	86.05	1041	80.8
130	46.33	80.69	109.5	83.55	48.43	84.86	113.3	82.93	120-130	74.88	1116	86.6
140	55.62	74.46	95.51	76.73	57.06	78.36	99.17	76.77	130-140	61.65	1178	91.4
150	61.93	75.16	81.91	75.66	62.44	75.88	85.65	75.40	140-150	48.20	1226	95.1
160	60.34	79.98	79.90	77.63	62.24	76.14	80.95	79.50	150-160	35.45	1262	97.9
170	48.98	79.73	83.92	54.82	51.93	57.52	82.68	83.95	160-170	21.09	1283	99.5
180	78.10	66.01	6.431	65.42	77.19	71.92	35.40	63.58	170-180	6.154	1289	100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 272.4 lm

%lum = 21.1%

%lamp = 21.1%

Conical surface Flux(120deg): 437.74 lm

%lum = 34.0%

%lamp = 34.0%

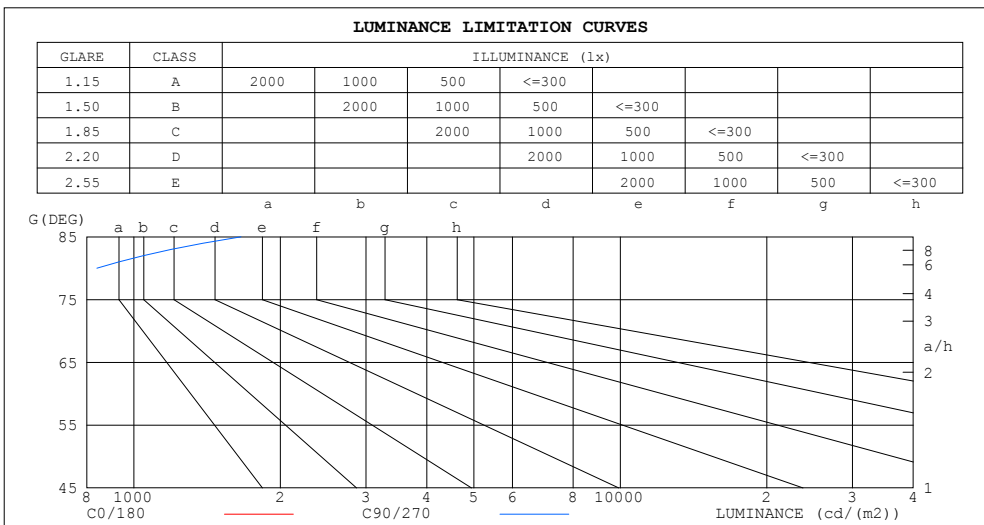
C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.1DEG  
Operators:Mark

$\gamma$  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]



LUMINANCE LIMITATION CURVES

Test:U:119.98V I:0.1698A P:20.268W PF:0.9946 Freq:60.00Hz Lamp Flux:1288.88x1 lm		
NAME: Milo 36" Vanity	TYPE:MLO-36V-SN-12T-30K	WEIGHT:2.5KG
SPEC.:	DIM.:	SERIAL No.:
MFR.: BlackJack Lighting LLC	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	324	1661
80	251	840
75	221	567
70	204	429
65	192	348
60	183	295
55	176	260
50	171	235
45	167	217

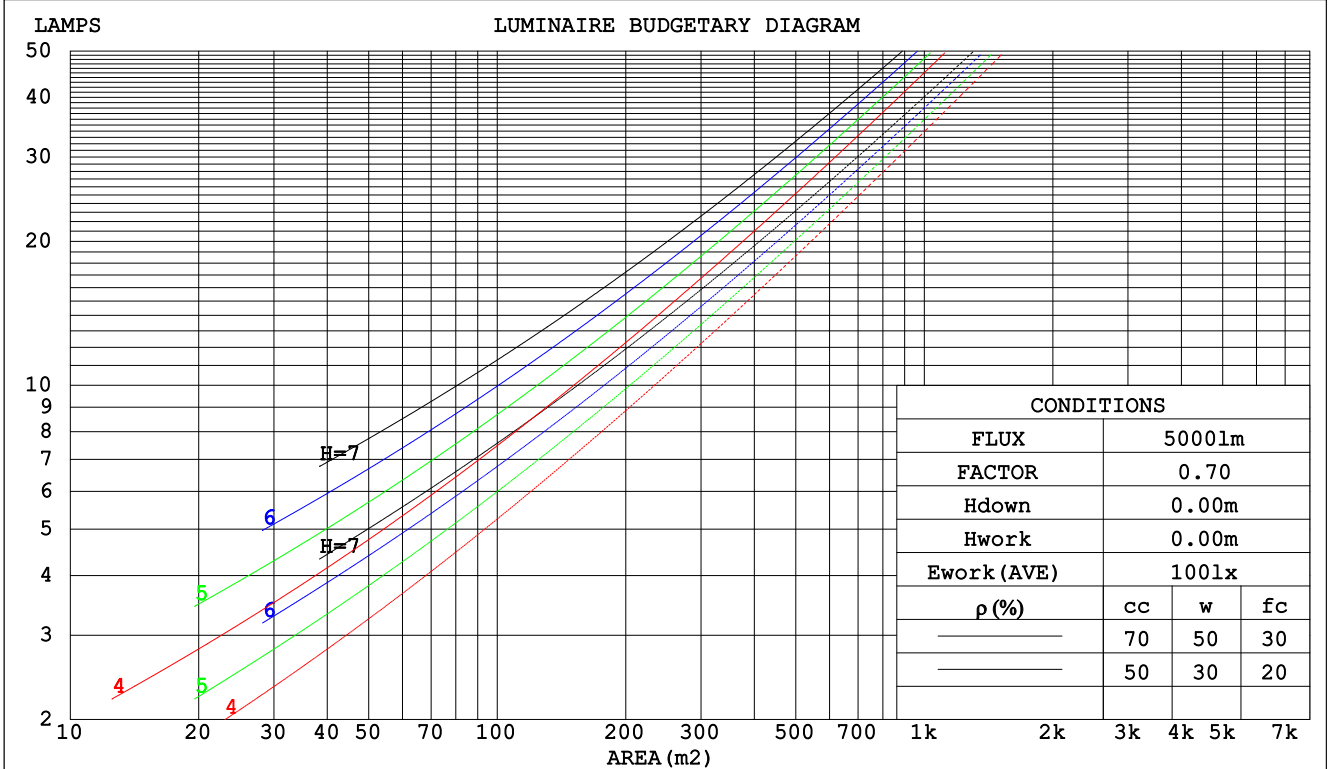
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 Humidity:59.2%  
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CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:119.98V I:0.1698A P:20.268W PF:0.9946 Freq:60.00Hz Lamp Flux:1288.88x1 lm		
NAME: Milo 36" Vanity	TYPE:MLO-36V-SN-12T-30K	WEIGHT:2.5KG
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	1.09	1.09	1.09	1.02	1.02	1.02	.88	.88	.88	.76	.76	.76	.65	.65	.65	.59
1.0	.90	.85	.80	.84	.79	.75	.72	.68	.65	.61	.58	.56	.51	.49	.47	.42
2.0	.77	.69	.62	.71	.64	.59	.61	.56	.51	.52	.47	.44	.43	.40	.37	.32
3.0	.66	.57	.50	.62	.54	.47	.53	.47	.41	.45	.40	.36	.37	.33	.30	.26
4.0	.58	.49	.42	.54	.46	.39	.46	.40	.34	.39	.34	.30	.32	.28	.25	.21
5.0	.51	.42	.35	.48	.39	.33	.41	.34	.29	.35	.29	.25	.29	.25	.21	.18
6.0	.46	.37	.30	.43	.34	.28	.37	.30	.25	.31	.26	.22	.26	.22	.18	.15
7.0	.41	.32	.26	.38	.30	.25	.33	.27	.22	.28	.23	.19	.24	.19	.16	.13
8.0	.37	.29	.23	.35	.27	.22	.30	.24	.19	.26	.20	.17	.22	.17	.14	.12
9.0	.34	.26	.20	.32	.24	.19	.28	.21	.17	.24	.19	.15	.20	.16	.13	.10
10.0	.31	.23	.18	.29	.22	.17	.25	.19	.15	.22	.17	.13	.18	.14	.11	.09



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

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]

WEC AND CCEC

Test:U:119.98V I:0.1698A P:20.268W PF:0.9946 Freq:60.00Hz Lamp Flux:1288.88x1 lm		
NAME: Milo 36" Vanity	TYPE:MLO-36V-SN-12T-30K	WEIGHT:2.5KG
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	.387	.220	.070	.367	.209	.067	.330	.190	.061	.297	.171	.055	.266	.154	.050	
2.0	.329	.180	.055	.311	.171	.053	.278	.154	.048	.247	.139	.043	.218	.123	.039	
3.0	.290	.154	.046	.274	.147	.044	.243	.132	.040	.215	.118	.036	.189	.104	.032	
4.0	.260	.135	.040	.245	.128	.038	.217	.115	.034	.191	.103	.031	.167	.091	.028	
5.0	.236	.120	.035	.222	.114	.033	.197	.102	.030	.173	.091	.027	.150	.080	.024	
6.0	.216	.108	.031	.203	.103	.030	.180	.092	.027	.157	.082	.024	.137	.072	.021	
7.0	.199	.098	.028	.187	.093	.027	.165	.084	.024	.145	.074	.022	.126	.065	.019	
8.0	.184	.090	.025	.174	.085	.024	.153	.077	.022	.134	.068	.020	.116	.060	.017	
9.0	.172	.083	.023	.162	.079	.022	.143	.071	.020	.125	.063	.018	.108	.055	.016	
10.0	.160	.077	.021	.151	.073	.020	.134	.065	.018	.117	.058	.017	.101	.051	.015	

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	.502	.502	.502	.429	.429	.429	.293	.293	.293	.168	.168	.168	.054	.054	.054	
1.0	.499	.469	.442	.427	.403	.380	.292	.277	.263	.168	.160	.153	.054	.052	.049	
2.0	.493	.447	.409	.422	.385	.354	.289	.266	.247	.167	.155	.145	.054	.050	.047	
3.0	.486	.432	.389	.416	.373	.337	.286	.259	.236	.165	.151	.139	.053	.049	.046	
4.0	.478	.420	.375	.410	.363	.326	.282	.253	.230	.163	.148	.136	.053	.048	.045	
5.0	.471	.411	.366	.404	.355	.319	.279	.248	.225	.161	.146	.133	.052	.048	.044	
6.0	.464	.403	.360	.399	.349	.313	.275	.244	.222	.160	.144	.132	.051	.047	.044	
7.0	.457	.397	.355	.393	.344	.309	.272	.241	.219	.158	.142	.130	.051	.047	.043	
8.0	.451	.392	.351	.388	.340	.306	.268	.239	.217	.156	.141	.129	.051	.046	.043	
9.0	.445	.387	.348	.383	.336	.304	.265	.236	.216	.155	.139	.129	.050	.046	.043	
10.0	.439	.383	.346	.378	.333	.302	.263	.234	.215	.153	.138	.128	.050	.045	.042	

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

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]

UGR(Unified Glare Rating) Table

Test:U:119.98V I:0.1698A P:20.268W PF:0.9946 Freq:60.00Hz Lamp Flux:1288.88x1 lm										
NAME: Milo 36" Vanity					TYPE:MLO-36V-SN-12T-30K			WEIGHT:2.5KG		
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	3.7	4.8	4.4	5.6	6.6	6.0	7.1	6.8	7.9	8.9
3H	5.6	6.7	6.4	7.5	8.5	9.2	10.2	10.0	11.1	12.1
4H	6.6	7.5	7.4	8.4	9.4	11.1	12.0	11.9	12.9	13.9
6H	7.4	8.3	8.3	9.2	10.3	13.1	14.0	13.9	14.9	15.9
8H	7.8	8.7	8.7	9.6	10.6	14.3	15.1	15.1	16.0	17.1
12H	8.2	9.1	9.1	9.9	11.0	15.6	16.4	16.4	17.3	18.4
4H 2H	4.9	5.9	5.7	6.7	7.7	6.6	7.5	7.4	8.4	9.4
3H	7.0	7.9	7.9	8.8	9.8	10.0	10.9	10.9	11.7	12.8
4H	8.1	8.9	9.0	9.8	10.9	12.1	12.8	12.9	13.7	14.8
6H	9.1	9.8	10.0	10.7	11.8	14.3	15.0	15.2	15.9	17.1
8H	9.5	10.1	10.4	11.1	12.2	15.6	16.2	16.5	17.2	18.3
12H	9.9	10.5	10.8	11.4	12.6	17.0	17.6	18.0	18.6	19.7
8H 4H	9.4	10.1	10.3	11.0	12.1	12.4	13.1	13.3	14.0	15.1
6H	10.8	11.3	11.7	12.2	13.4	15.0	15.6	15.9	16.5	17.7
8H	11.4	11.9	12.3	12.8	14.0	16.5	17.0	17.4	17.9	19.1
12H	12.0	12.4	12.9	13.4	14.6	18.2	18.7	19.2	19.6	20.8
12H 4H	9.9	10.5	10.8	11.4	12.6	12.4	13.0	13.4	14.0	15.1
6H	11.5	12.0	12.5	13.0	14.2	15.1	15.6	16.1	16.6	17.8
8H	12.4	12.8	13.3	13.7	15.0	16.8	17.2	17.7	18.2	19.4
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.1				
1.5H	+ 0.1 / - 0.2					+ 0.2 / - 0.3				
2.0H	+ 0.2 / - 0.3					+ 0.3 / - 0.4				

CIE Pub.117, 1289 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = 0.9)

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

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]

## UTILIZATION FACTORS TABLE

Test:U:119.98V I:0.1698A P:20.268W PF:0.9946 Freq:60.00Hz Lamp Flux:1288.88x1 lm		
NAME: Milo 36" Vanity	TYPE:MLO-36V-SN-12T-30K	WEIGHT:2.5KG
SPEC.:	DIM.:	SERIAL No.:
MFR.: BlackJack Lighting LLC	SUR.:	Shielding Angle:

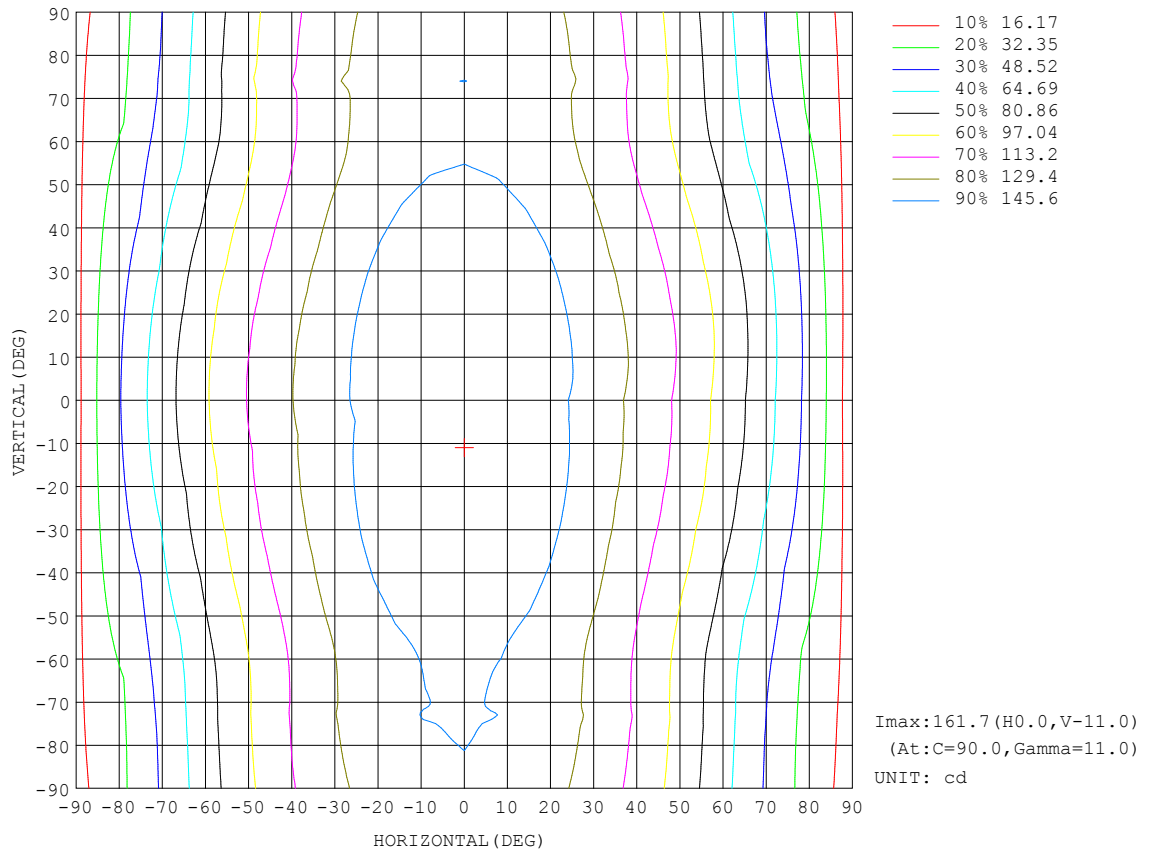
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	41	28	21	39	27	21	36	26	19	12
0.80	49	36	28	47	35	27	42	32	25	16
1.00	57	43	35	54	41	33	48	40	31	20
1.25	64	50	41	60	48	40	53	43	36	24
1.50	69	56	47	65	53	45	57	48	41	27
2.00	76	64	55	71	61	53	63	54	48	31
2.50	81	70	61	76	66	58	66	58	52	34
3.00	85	75	67	79	70	63	69	62	56	37
4.00	90	81	74	84	76	70	73	67	62	41
5.00	93	85	79	87	80	74	75	70	66	43
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

$\gamma$  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]

ISOCANDELA DIAGRAM

Test:U:119.98V I:0.1698A P:20.268W PF:0.9946 Freq:60.00Hz Lamp Flux:1288.88x1 lm		
NAME: Milo 36" Vanity	TYPE:MLO-36V-SN-12T-30K	WEIGHT:2.5KG
SPEC.:	DIM.:	SERIAL No.:
MFR.: BlackJack Lighting LLC	SUR.:	Shielding Angle:

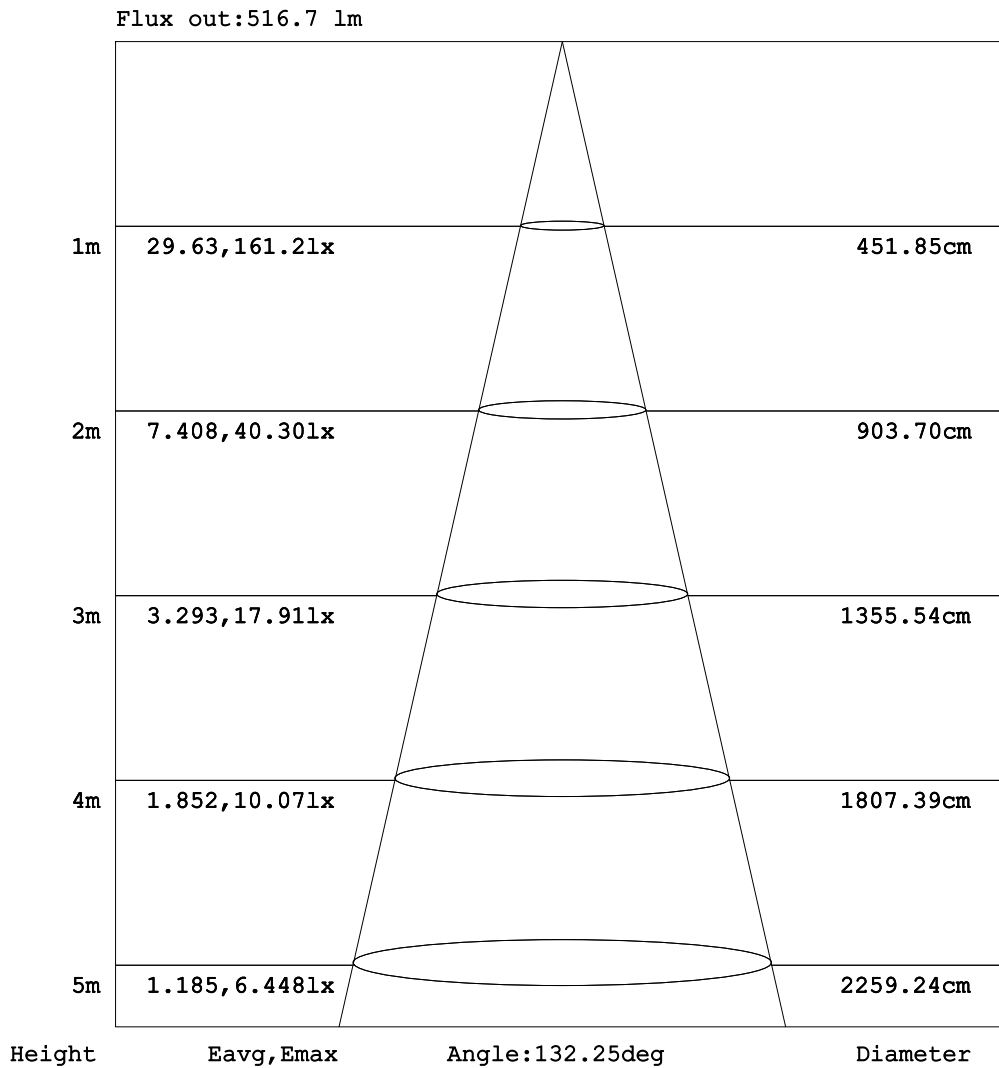


C Range: 0 - 360DEG  
 C Interval: 10.0DEG  
 Test Speed: HIGH  
 Temperature:25.1DEG  
 Operators:Mark

$\gamma$  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]

**AAI Figure**

Test:U:119.98V I:0.1698A P:20.268W PF:0.9946 Freq:60.00Hz Lamp Flux:1288.88x1 lm		
NAME: Milo 36" Vanity	TYPE:MLO-36V-SN-12T-30K	WEIGHT:2.5KG
SPEC.:	DIM.:	SERIAL No.:
MFR.: BlackJack Lighting LLC	SUR.:	Shielding Angle:



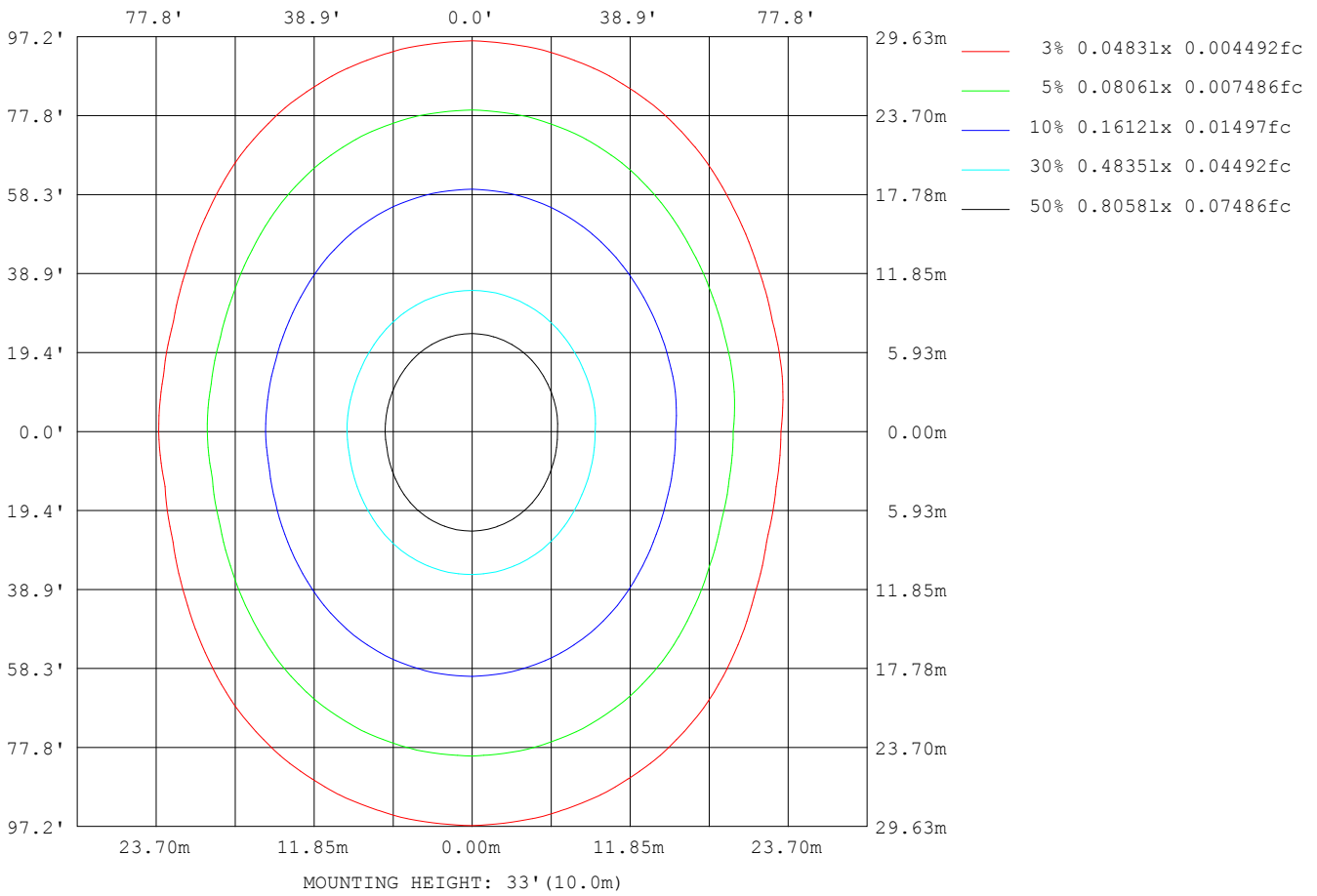
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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

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]

ISOLUX DIAGRAM

Test:U:119.98V I:0.1698A P:20.268W PF:0.9946 Freq:60.00Hz Lamp Flux:1288.88x1 lm		
NAME: Milo 36" Vanity	TYPE:MLO-36V-SN-12T-30K	WEIGHT:2.5KG
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

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]



## LED Avg.L Report

Test:U:119.98V I:0.1698A P:20.268W PF:0.9946 Freq:60.00Hz Lamp Flux:1288.88x1 lm		
NAME: Milo 36" Vanity	TYPE:MLO-36V-SN-12T-30K	WEIGHT:2.5KG
SPEC.:	DIM.:	SERIAL No.:
MFR.: BlackJack Lighting LLC	SUR.:	Shielding Angle:

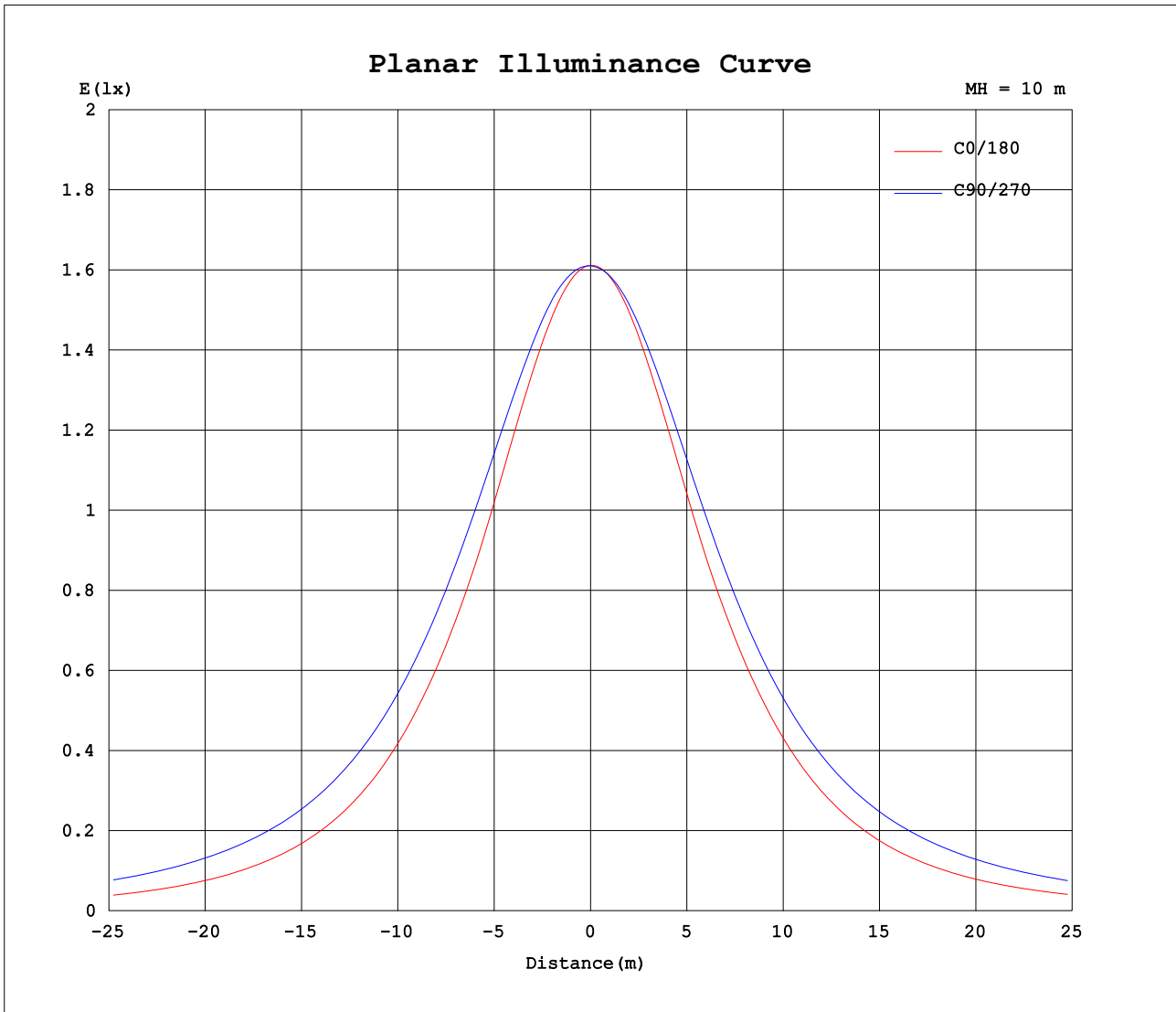
AvgL	cd/m2
L_0~180 (65) av	197
L_0~180 (75) av	228
L_0~180 (85) av	352
L_90~270 (65) av	344
L_90~270 (75) av	563
L_90~270 (85) av	1649
L_45 (65) av	267
L_45 (75) av	410
L_45 (85) av	1177

Standard: GB/T 29293-2012

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

$\gamma$  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]

Planar Illuminance Curve



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

$\gamma$  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]

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:119.98V I:0.1698A P:20.268W PF:0.9946 Freq:60.00Hz Lamp Flux:1288.88x1 lm		
NAME: Milo 36" Vanity	TYPE:MLO-36V-SN-12T-30K	WEIGHT:2.5KG
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	161	161	161	161	161	161	161	161	161	161	161	161	161	161	161	161	161	161	161
5	160	160	160	161	161	161	161	161	161	161	161	161	161	161	161	161	160	160	161
10	158	158	158	159	160	160	161	161	162	162	162	162	161	161	160	159	159	158	159
15	155	155	156	157	158	159	160	161	161	161	161	161	160	160	158	157	156	156	156
20	150	151	152	153	155	157	158	159	160	161	161	160	159	158	156	154	153	152	152
25	144	145	147	149	151	154	156	158	159	160	160	159	157	155	153	150	148	146	147
30	138	139	141	144	147	150	153	156	158	159	158	157	155	152	149	146	143	140	141
35	132	133	134	138	142	146	150	154	156	157	157	155	152	149	144	140	137	135	135
40	125	126	128	131	136	142	147	151	154	155	155	153	149	145	139	134	131	128	129
45	118	119	121	125	131	138	144	149	152	153	153	150	146	140	134	128	124	121	122
50	110	111	113	118	124	133	140	146	150	151	151	148	143	136	128	122	117	113	114
55	101	102	105	110	118	128	136	143	147	149	148	145	139	131	122	114	108	104	105
60	91.5	92.0	95.2	102	112	123	133	140	146	148	147	142	135	126	116	106	98.9	94.6	95.4
65	81.3	81.3	85.0	93.8	106	119	130	139	145	147	146	141	133	122	109	98.0	88.8	83.9	84.9
70	69.9	69.5	74.2	85.5	100	116	129	138	144	147	145	140	131	119	104	89.7	78.1	72.1	73.4
75	57.1	56.4	63.4	78.7	96.9	114	128	138	144	147	145	140	131	117	100	82.6	67.4	58.9	60.9
80	43.5	42.3	54.3	74.2	94.5	112	126	137	143	146	144	138	129	115	97.9	78.0	58.1	45.0	47.5
85	28.3	29.6	49.5	71.3	92.1	110	125	135	142	145	143	137	127	113	95.7	75.0	52.9	32.7	33.1
90	9.41	25.0	46.9	69.4	90.4	109	123	134	141	143	142	136	126	112	94.1	73.2	50.5	28.2	11.1
95	14.1	25.5	46.0	68.3	89.2	107	122	132	139	141	140	134	124	111	92.9	72.2	49.7	29.0	12.9
100	19.0	26.2	45.5	66.9	87.5	105	120	130	136	139	137	132	122	109	91.3	71.2	49.5	30.0	19.2
105	22.8	27.9	46.1	66.2	85.7	103	117	127	133	136	134	129	119	106	89.9	70.6	50.7	31.3	23.4
110	26.5	31.9	46.3	66.5	84.8	102	115	124	129	132	130	125	116	104	88.5	70.9	50.3	33.9	27.5
115	30.3	37.1	46.7	64.6	84.2	99.8	112	120	125	127	126	121	113	102	87.4	68.5	50.4	38.3	31.5
120	35.1	42.7	48.0	63.7	80.0	96.3	108	115	120	123	122	117	109	98.5	83.4	67.4	51.5	43.3	37.8
125	40.6	47.3	51.7	63.1	77.5	90.6	102	111	116	118	117	112	104	93.3	80.7	66.6	53.5	49.4	43.0
130	46.3	52.4	56.4	62.6	75.0	86.4	95.9	103	108	110	108	104	97.9	89.0	78.1	65.9	57.7	54.4	48.4
135	51.3	57.2	61.3	64.2	72.4	82.1	90.3	96.6	101	102	102	98.2	92.5	84.8	75.4	66.0	62.2	59.2	53.0
140	55.6	62.0	65.8	67.4	70.9	78.1	85.0	90.4	94.0	95.5	94.8	91.8	87.1	80.6	72.9	68.3	66.5	63.0	57.1
145	59.2	66.7	69.0	70.6	72.3	75.2	79.9	84.2	87.3	88.5	88.0	85.6	81.7	76.8	73.0	71.3	70.3	65.8	59.8
150	61.9	70.6	72.6	73.9	74.6	75.7	77.1	79.1	81.0	81.9	81.5	80.0	77.9	76.3	75.0	74.2	71.7	70.4	62.4
155	63.6	73.6	76.6	76.6	77.2	77.5	77.9	78.5	79.0	79.2	79.1	78.8	78.3	77.8	77.3	76.1	74.8	74.5	64.8
160	60.3	66.5	77.8	80.1	80.1	79.8	79.7	79.8	79.8	79.9	79.9	79.9	79.8	79.5	75.8	76.4	71.4	69.1	62.2
165	55.5	55.7	66.1	82.4	83.1	82.4	82.0	81.8	81.6	81.6	81.6	81.7	80.8	75.5	70.7	63.0	61.5	59.4	57.6
170	49.0	48.8	50.1	59.4	77.0	82.5	84.4	84.2	84.0	83.9	83.9	80.6	67.2	57.0	52.6	51.9	51.8	49.9	51.9
175	62.7	62.2	60.5	58.9	63.8	63.5	63.8	68.5	82.1	76.6	56.3	44.4	50.6	58.9	59.8	63.4	61.3	62.8	58.8
180	78.1	77.6	76.1	73.4	69.1	62.9	54.8	50.8	44.1	6.43	44.5	55.3	57.5	62.8	68.1	73.4	75.5	77.1	77.2

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

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]

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:119.98V I:0.1698A P:20.268W PF:0.9946 Freq:60.00Hz Lamp Flux:1288.88x1 lm		
NAME: Milo 36" Vanity	TYPE:MLO-36V-SN-12T-30K	WEIGHT:2.5KG
SPEC.:	DIM.:	SERIAL No.:
MFR.: BlackJack Lighting LLC	SUR.:	Shielding Angle:

Table--2

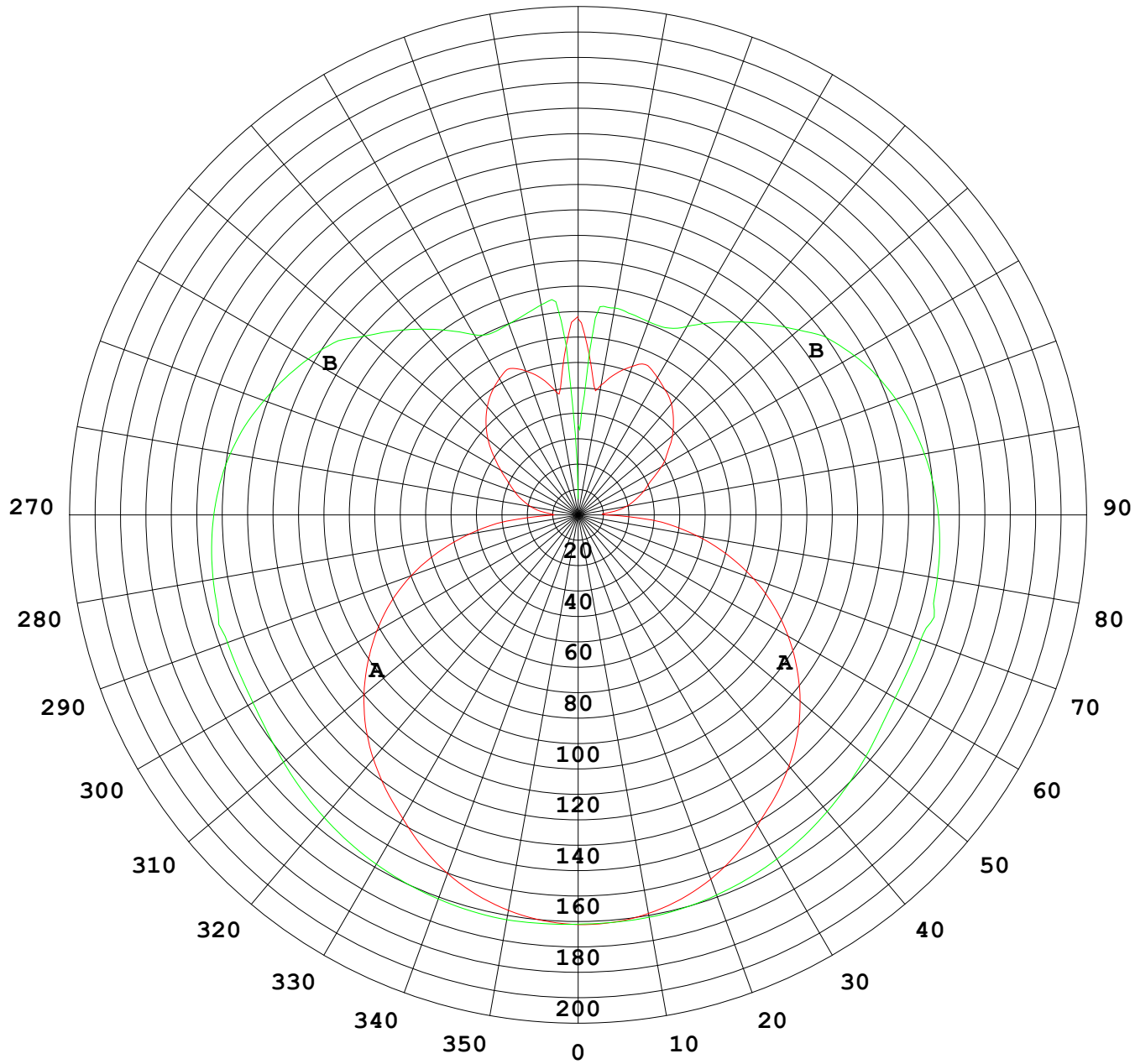
UNIT: cd

C (DEG) γ (DEG)	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350		
0	161	161	161	161	161	161	161	161	161	161	161	161	161	161	161	161	161		
5	161	161	161	161	161	161	161	161	161	161	161	161	161	160	160	160	160		
10	159	159	160	160	160	160	161	161	161	161	160	160	160	159	159	159	158		
15	157	157	157	158	159	159	160	160	160	160	160	159	158	157	157	156	155		
20	153	153	154	156	157	158	159	159	159	159	158	157	156	155	153	152	151		
25	148	149	150	152	154	156	157	158	158	157	156	155	153	151	149	147	146		
30	142	143	145	148	151	153	155	156	156	156	154	152	150	147	144	142	140		
35	136	137	140	143	147	150	152	154	155	154	152	149	146	142	138	136	134		
40	129	131	133	138	142	147	150	152	152	151	149	146	141	137	132	130	128		
45	122	124	127	132	138	143	147	149	150	149	146	142	137	131	127	123	121		
50	115	117	120	126	133	139	144	147	148	146	143	138	132	125	120	116	114		
55	106	108	113	119	128	135	141	144	145	144	140	134	127	119	113	108	105		
60	95.9	98.7	105	113	123	132	138	143	144	142	138	130	122	113	105	99.3	95.8		
65	85.2	88.6	96.2	107	119	129	137	142	143	141	136	128	117	106	96.8	89.7	85.9		
70	73.5	77.7	87.8	101	116	128	137	142	143	141	135	126	114	100	88.2	79.2	75.0		
75	60.3	66.6	80.5	97.8	114	128	139	144	145	143	137	126	112	96.4	80.6	68.1	62.5		
80	46.3	56.7	75.8	96.8	113	126	136	142	143	141	135	124	111	94.2	75.1	57.7	48.5		
85	32.8	51.6	73.2	93.7	111	125	135	141	143	140	134	123	109	91.7	71.8	51.1	34.1		
90	26.7	48.6	71.2	92.1	110	124	134	140	142	139	133	122	108	90.2	69.7	47.6	26.1		
95	26.9	48.0	70.3	91.0	109	123	133	138	140	138	131	121	107	89.1	68.8	47.0	26.1		
100	28.7	48.9	70.1	90.1	107	121	131	137	138	136	130	119	105	88.3	68.6	47.8	27.4		
105	30.2	50.2	70.5	89.5	106	119	129	134	136	134	127	118	104	87.7	68.9	48.9	28.2		
110	32.3	49.8	70.9	88.8	104	117	126	131	133	131	125	115	103	86.9	68.8	47.9	31.0		
115	36.7	50.0	68.6	87.9	103	114	123	128	130	127	122	113	100	85.6	66.4	47.9	34.9		
120	41.8	50.9	67.5	84.1	99.7	111	119	124	125	123	118	109	98.0	82.0	65.2	49.0	39.6		
125	47.4	52.0	66.7	81.4	94.8	106	115	119	121	119	113	104	92.9	79.4	64.6	51.3	44.1		
130	52.9	54.8	66.2	79.1	90.7	100	107	112	113	111	106	98.7	88.8	77.1	64.3	55.2	50.0		
135	58.5	59.4	66.0	76.7	86.6	94.9	101	105	106	104	100	93.4	84.9	74.8	64.7	59.9	55.6		
140	63.5	65.6	67.7	74.2	82.6	89.7	95.0	98.2	99.2	97.7	94.0	88.4	81.1	72.5	66.8	64.1	60.8		
145	67.8	69.2	68.1	73.7	78.6	84.4	88.8	91.6	92.4	91.2	88.0	83.3	77.3	72.5	70.0	68.1	66.2		
150	71.6	72.6	70.1	74.1	77.6	80.2	82.7	85.0	85.7	84.7	82.2	79.2	76.3	74.5	73.2	72.4	71.2		
155	75.5	76.4	76.0	73.1	77.6	79.4	80.4	81.1	81.3	80.9	79.9	78.7	77.6	76.8	76.4	76.4	75.3		
160	70.8	75.4	78.9	76.1	76.2	79.3	80.5	80.9	80.9	80.8	80.4	79.9	79.5	79.5	79.6	80.0	73.9		
165	58.0	64.8	67.4	74.4	77.4	78.6	80.0	81.5	81.8	81.8	81.8	81.8	81.9	82.2	82.6	82.1	65.3		
170	51.7	53.2	54.4	56.1	59.0	67.6	76.9	81.3	82.7	83.3	83.7	83.9	84.2	83.7	81.1	68.8	53.5		
175	58.7	57.8	58.4	58.5	56.8	54.5	48.0	53.6	77.8	83.8	84.7	79.3	72.3	64.9	60.8	56.8	54.7		
180	77.3	77.0	75.8	73.3	70.5	66.1	57.6	50.8	35.4	19.4	43.2	59.0	62.4	64.7	69.1	72.8	75.1		

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

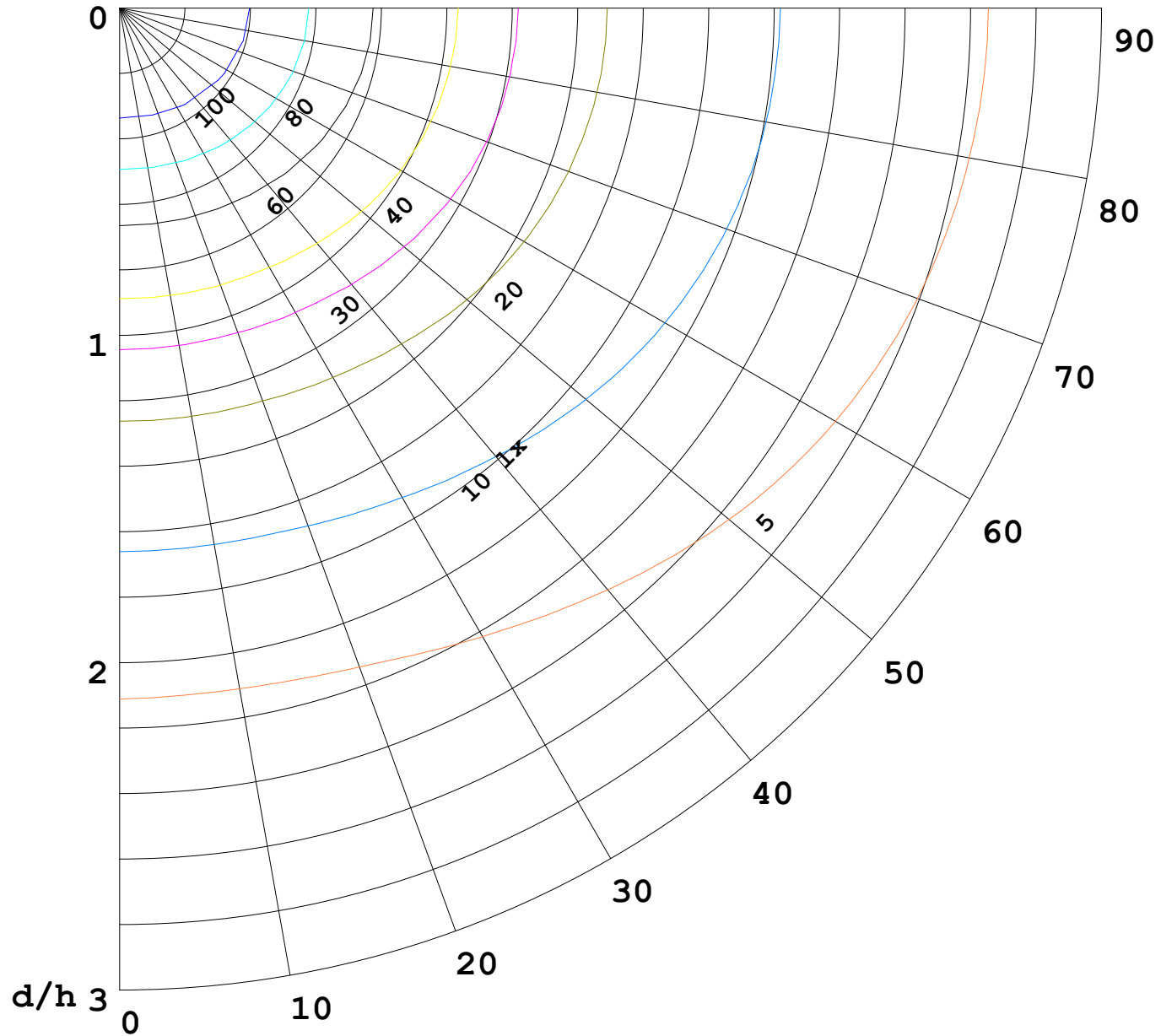
γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
 Humidity:59.2%  
 Test Distance:2.436m [K=1.0111]

I (cd)



1000 lm

$\kappa = 1$



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

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

