



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.	BTR66.181.19.0007.08
Product Name	Milo 24" Vanity- Satin Nickel or Polished Chrome
Model Number	MLO-24V-SN-12T-30K; MLO-24V-PC-12T-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 19, 2019	

Testing Laboratory Name	BEST Test Service Shenzhen Co., Ltd.
Address	1 st Floor, 1 st Building, Weitai Industrial Park, Yingrenshi, Shiyao, Baoan, Shenzhen, China 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:

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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Description:	
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 19, 2019
Description	Milo 24" 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.....	21.5W
Nominal Power Factor	N/A
Nominal Lumen Output.....	1288lm
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-24V-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.

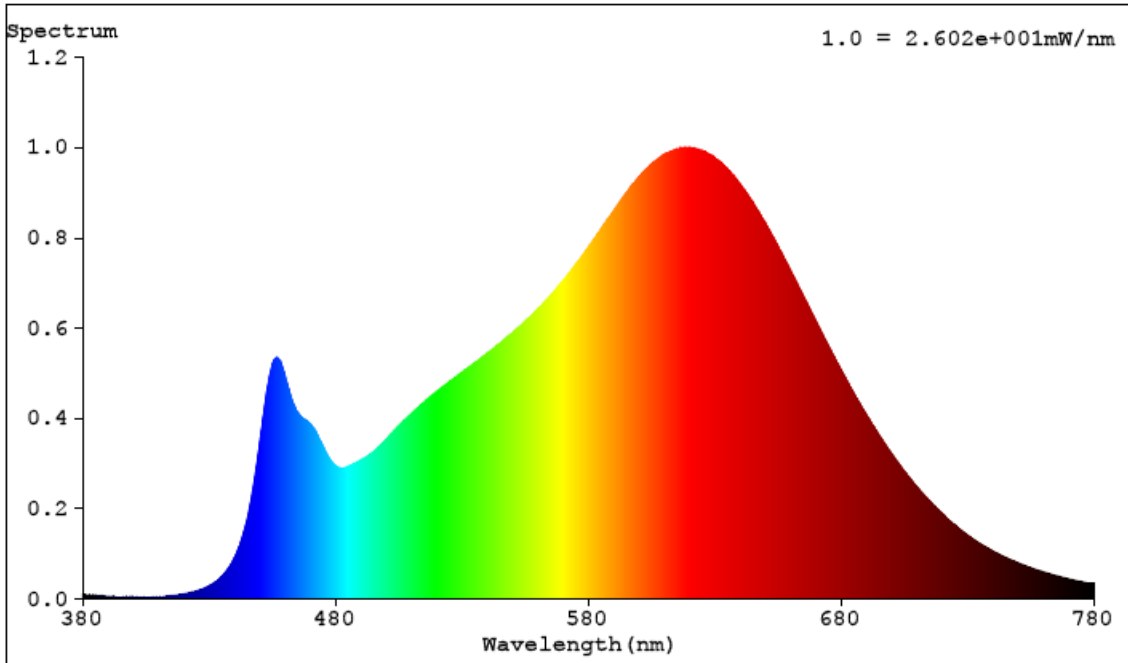
Luminous Intensity

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)
120.0	60.0	0.1729	/	20.64	0.9949	1280.72	62.06
CCT (K)	CRI (Ra)	R9	x CIE1931	y CIE1931	u' CIE1976	v' CIE1976	Duv CIE1976
2892	92.3	59	0.4418	0.4007	0.2552	0.5208	-0.0020

Spectral Plots



EUT Photo



Annex

Please see the next page for the luminous intensity test data

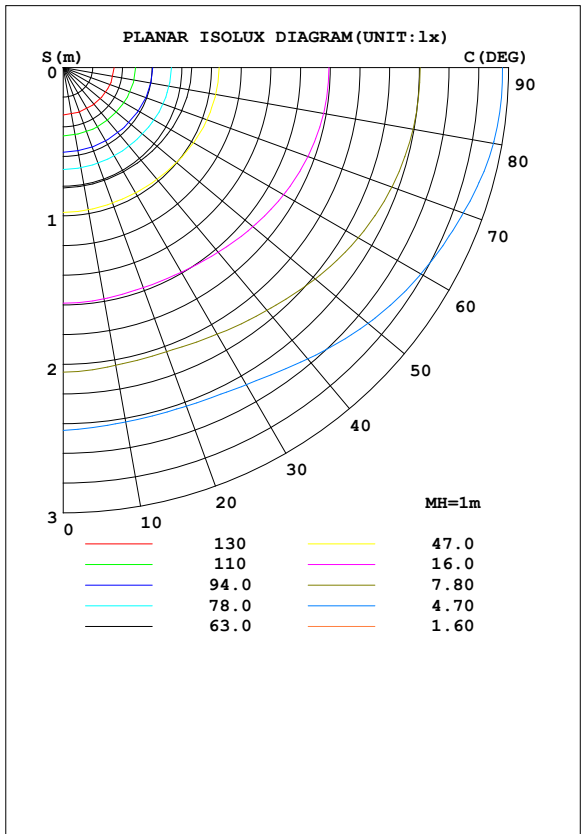
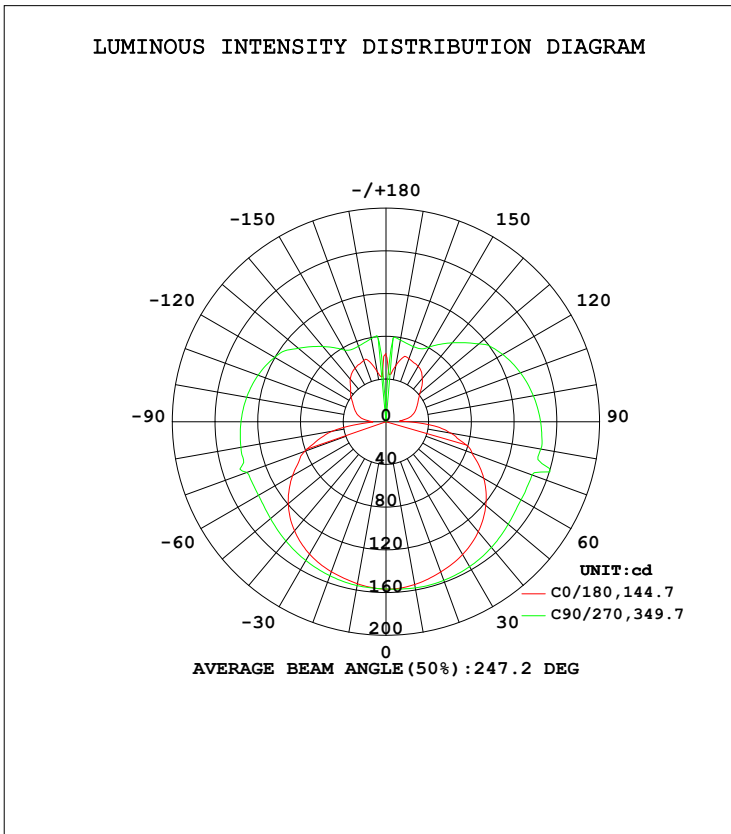
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LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:119.98V I:0.1729A P:20.637W PF:0.9949 Freq:60.00Hz Lamp Flux:1280.72x1 lm		
NAME: Milo 24"Vanity	TYPE:MLO-24V-SN-12T-30K	WEIGHT:2.3KG
SPEC.:	DIM.:	SERIAL No.:
MFR.: BlackJack Lighting LLC	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 62.06 lm/W
MODEL	MLO-24V-SN-12T-30K	I _{max} (cd)	160.5	S/MH (C0/180)	1.37	
NOMINAL POWER (W)	21.5	LOR (%)	100.0	S/MH (C90/270)	1.52	
RATED VOLTAGE (V)	120	TOTAL FLUX (lm)	1280.7	η UP, DN (C0-180)	19.7, 29.1	
NOMINAL FLUX (lm)	1288	CIE CLASS	DIFFUSE	η UP, DN (C180-360)	20.5, 30.7	
LAMPS INSIDE	1	η up (%)	40.2	CIBSE SHR NOM	1.50	
TEST VOLTAGE (V)	120	η down (%)	59.8	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: 2.463m [K=1.0000]

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lamp
10	154.0	154.5	155.8	154.7	154.8	156.6	158.0	156.3	0- 10	14.90	14.90	1.16
20	149.5	150.4	153.5	150.8	149.7	154.4	158.1	154.2	10- 20	43.67	58.57	4.57
30	143.2	144.3	150.1	144.9	143.5	149.7	156.6	150.1	20- 30	69.52	128.1	10
40	133.3	135.9	145.8	137.4	134.5	142.9	153.6	143.7	30- 40	90.73	218.8	17.1
50	119.4	124.8	141.1	127.7	122.0	133.3	149.4	134.1	40- 50	105.5	324.3	25.3
60	101.1	112.7	137.8	116.2	105.6	121.6	146.0	122.0	50- 60	112.8	437.2	34.1
70	81.05	103.1	138.8	105.7	85.67	111.3	145.5	110.7	60- 70	113.8	550.9	43
80	50.80	99.11	137.9	100.8	61.72	111.4	147.3	106.0	70- 80	111.6	662.5	51.7
90	12.75	95.52	135.8	96.31	21.80	103.6	144.8	101.4	80- 90	103.6	766.1	59.8
100	24.53	93.57	132.5	94.03	21.46	99.34	140.2	98.28	90-100	98.17	864.2	67.5
110	30.83	92.01	127.5	92.42	29.11	96.35	134.0	96.03	100-110	93.63	957.9	74.8
120	36.15	85.74	120.6	87.86	34.26	91.76	126.2	91.19	110-120	85.14	1043	81.4
130	43.41	78.32	107.1	79.54	41.52	82.46	113.5	82.10	120-130	73.19	1116	87.2
140	52.07	71.80	92.05	72.17	52.93	73.85	96.63	73.97	130-140	59.11	1175	91.8
150	57.95	71.94	77.48	71.01	60.07	70.33	80.80	71.82	140-150	45.58	1221	95.3
160	61.16	75.65	75.39	75.19	62.95	73.84	74.93	74.54	150-160	33.35	1254	97.9
170	47.65	78.11	79.21	66.47	53.59	66.68	77.76	78.30	160-170	20.85	1275	99.6
180	64.12	42.92	1.361	43.03	62.85	53.73	19.35	40.46	170-180	5.630	1281	100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 270.17 lm

%lum = 21.1%

%lamp = 21.1%

Conical surface Flux(120deg): 437.15 lm

%lum = 34.1%

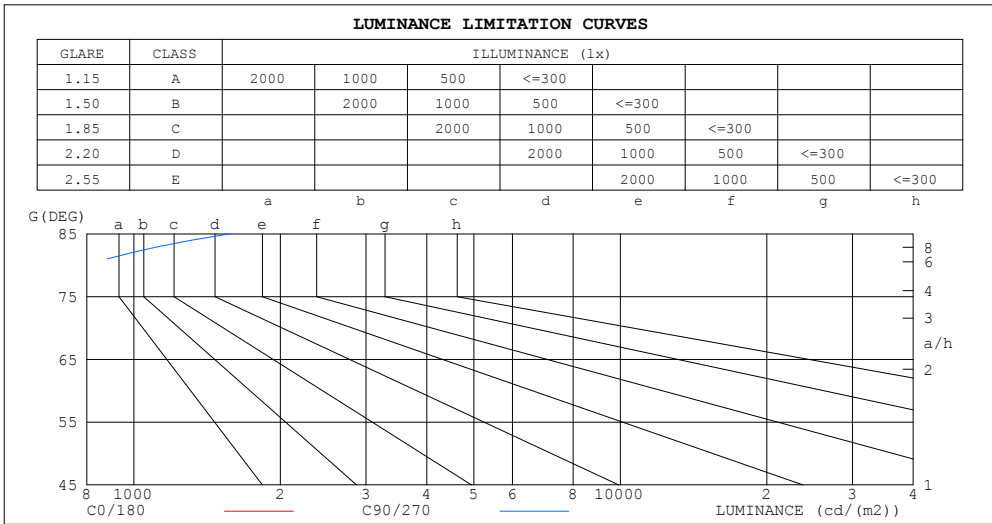
%lamp = 34.1%

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:2.463m [K=1.0000]

LUMINANCE LIMITATION CURVES

Test:U:119.98V I:0.1729A P:20.637W PF:0.9949 Freq:60.00Hz Lamp Flux:1280.72x1 lm		
NAME: Milo 24"Vanity	TYPE:MLO-24V-SN-12T-30K	WEIGHT:2.3KG
SPEC.:	DIM.:	SERIAL No.:
MFR.: BlackJack Lighting LLC	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	298	1572
80	293	794
75	255	533
70	237	406
65	214	326
60	202	276
55	193	242
50	186	220
45	180	203

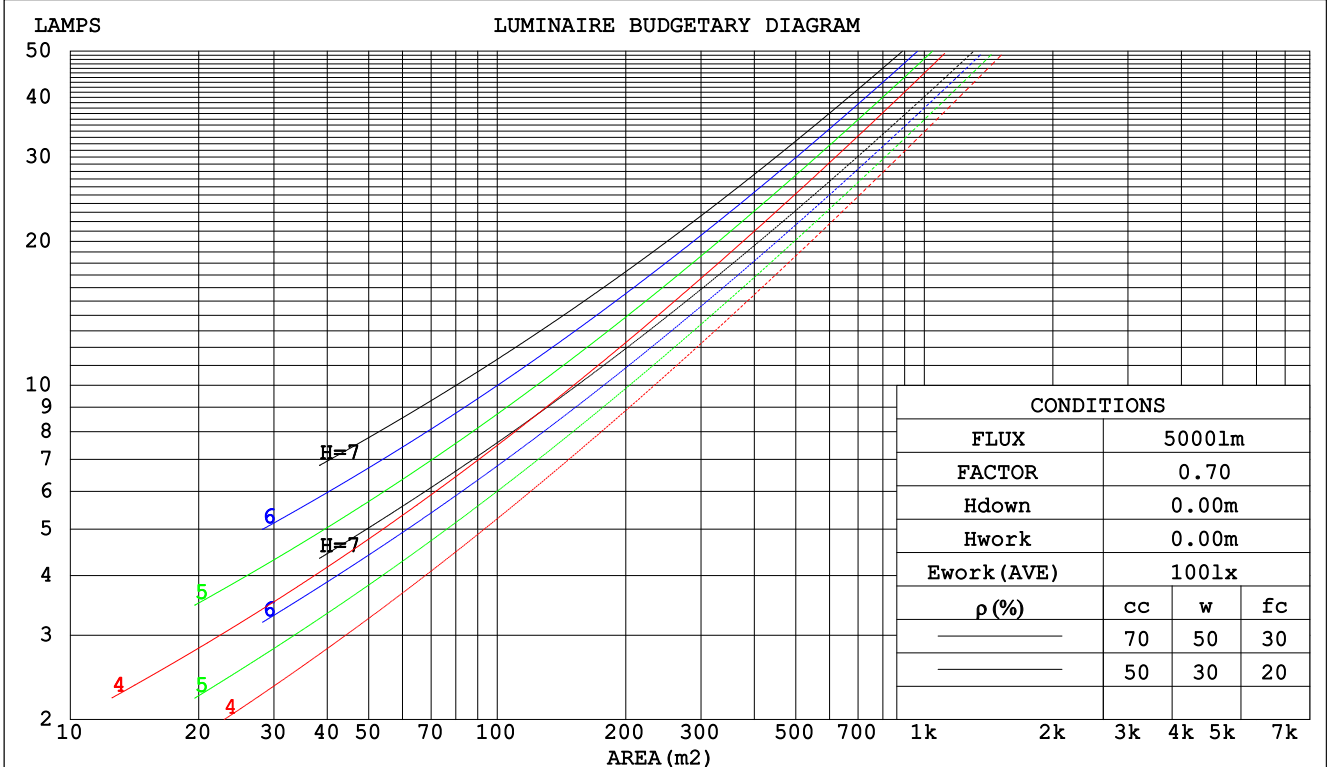
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 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:59.2%
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CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:119.98V I:0.1729A P:20.637W PF:0.9949 Freq:60.00Hz Lamp Flux:1280.72x1 lm		
NAME: Milo 24"Vanity	TYPE:MLO-24V-SN-12T-30K	WEIGHT:2.3KG
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	.89	.89	.89	.76	.76	.76	.65	.65	.65	.60
1.0	.90	.85	.80	.84	.79	.75	.72	.68	.65	.61	.59	.56	.52	.49	.47	.42
2.0	.77	.69	.62	.71	.64	.58	.61	.56	.51	.52	.48	.44	.43	.40	.37	.33
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	.33	.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	.26	.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	.18	.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:2.463m [K=1.0000]

WEC AND CCEC

Test:U:119.98V I:0.1729A P:20.637W PF:0.9949 Freq:60.00Hz Lamp Flux:1280.72x1 lm		
NAME: Milo 24"Vanity	TYPE:MLO-24V-SN-12T-30K	WEIGHT:2.3KG
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	.389	.221	.070	.370	.211	.067	.333	.191	.061	.300	.173	.056	.269	.156	.050	
2.0	.331	.181	.056	.313	.173	.053	.280	.156	.048	.250	.140	.044	.221	.125	.039	
3.0	.292	.155	.046	.276	.148	.044	.245	.133	.040	.217	.119	.037	.191	.106	.033	
4.0	.261	.136	.040	.247	.129	.038	.219	.116	.035	.193	.104	.031	.169	.092	.028	
5.0	.237	.121	.035	.223	.115	.033	.198	.103	.030	.174	.092	.027	.152	.081	.024	
6.0	.217	.109	.031	.204	.103	.030	.181	.093	.027	.159	.083	.024	.138	.073	.022	
7.0	.199	.099	.028	.188	.094	.027	.166	.084	.024	.146	.075	.022	.127	.066	.019	
8.0	.185	.090	.025	.174	.086	.024	.154	.077	.022	.135	.069	.020	.118	.060	.018	
9.0	.172	.083	.023	.162	.079	.022	.144	.071	.020	.126	.063	.018	.110	.056	.016	
10.0	.161	.077	.021	.152	.073	.020	.134	.066	.019	.118	.059	.017	.103	.052	.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	.497	.497	.497	.424	.424	.424	.290	.290	.290	.166	.166	.166	.053	.053	.053	
1.0	.495	.464	.437	.423	.398	.376	.289	.274	.260	.167	.159	.151	.053	.051	.049	
2.0	.488	.442	.404	.418	.381	.349	.287	.264	.244	.165	.153	.143	.053	.050	.047	
3.0	.481	.427	.384	.412	.368	.333	.283	.256	.233	.164	.149	.138	.053	.049	.045	
4.0	.474	.415	.370	.406	.359	.322	.279	.250	.227	.162	.146	.134	.052	.048	.044	
5.0	.466	.406	.361	.400	.351	.314	.276	.245	.222	.160	.144	.132	.051	.047	.043	
6.0	.459	.398	.355	.395	.345	.309	.272	.241	.218	.158	.142	.130	.051	.046	.043	
7.0	.452	.392	.350	.389	.340	.305	.269	.238	.216	.156	.140	.129	.050	.046	.043	
8.0	.446	.387	.346	.384	.335	.302	.266	.235	.214	.154	.139	.128	.050	.046	.042	
9.0	.440	.382	.343	.379	.332	.299	.263	.233	.213	.153	.138	.127	.050	.045	.042	
10.0	.434	.378	.341	.374	.328	.298	.260	.231	.211	.151	.137	.126	.049	.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:2.463m [K=1.0000]

UGR(Unified Glare Rating) Table

Test:U:119.98V I:0.1729A P:20.637W PF:0.9949 Freq:60.00Hz Lamp Flux:1280.72x1 lm										
NAME: Milo 24"Vanity					TYPE:MLO-24V-SN-12T-30K			WEIGHT:2.3KG		
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	4.0	5.1	4.8	5.9	6.9	5.6	6.7	6.4	7.5	8.5
3H	6.1	7.2	6.9	8.0	9.0	8.9	9.9	9.6	10.7	11.7
4H	7.1	8.1	7.9	9.0	10.0	10.7	11.7	11.5	12.5	13.6
6H	8.1	9.0	8.9	9.8	10.9	12.8	13.7	13.6	14.5	15.6
8H	8.5	9.4	9.3	10.2	11.3	13.9	14.8	14.7	15.7	16.7
12H	8.8	9.6	9.6	10.5	11.5	15.2	16.1	16.1	16.9	18.0
4H 2H	5.0	6.0	5.8	6.8	7.9	6.2	7.2	7.0	8.0	9.0
3H	7.3	8.1	8.1	9.0	10.1	9.7	10.6	10.5	11.4	12.5
4H	8.4	9.2	9.3	10.1	11.2	11.7	12.5	12.6	13.4	14.5
6H	9.4	10.1	10.3	11.0	12.2	14.0	14.7	14.9	15.6	16.7
8H	9.9	10.5	10.8	11.4	12.6	15.3	15.9	16.2	16.8	18.0
12H	10.2	10.8	11.1	11.8	12.9	16.7	17.3	17.6	18.2	19.4
8H 4H	9.5	10.2	10.4	11.1	12.2	12.1	12.8	13.0	13.7	14.8
6H	10.9	11.5	11.8	12.4	13.6	14.7	15.3	15.6	16.2	17.4
8H	11.6	12.1	12.5	13.0	14.2	16.2	16.7	17.1	17.6	18.8
12H	12.1	12.6	13.1	13.5	14.7	17.9	18.4	18.9	19.3	20.5
12H 4H	10.0	10.6	10.9	11.5	12.7	12.2	12.8	13.1	13.7	14.8
6H	11.6	12.1	12.5	13.0	14.2	14.9	15.4	15.8	16.3	17.5
8H	12.4	12.9	13.4	13.8	15.0	16.5	16.9	17.4	17.9	19.1
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.1				
1.5H	+ 0.1 / - 0.2					+ 0.3 / - 0.3				
2.0H	+ 0.2 / - 0.2					+ 0.3 / - 0.4				

CIE Pub.117, 1281 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:2.463m [K=1.0000]

UTILIZATION FACTORS TABLE

Test:U:119.98V I:0.1729A P:20.637W PF:0.9949 Freq:60.00Hz Lamp Flux:1280.72x1 lm		
NAME: Milo 24"Vanity	TYPE:MLO-24V-SN-12T-30K	WEIGHT:2.3KG
SPEC.:	DIM.:	SERIAL No.:
MFR.: BlackJack Lighting LLC	SUR.:	Shielding Angle:

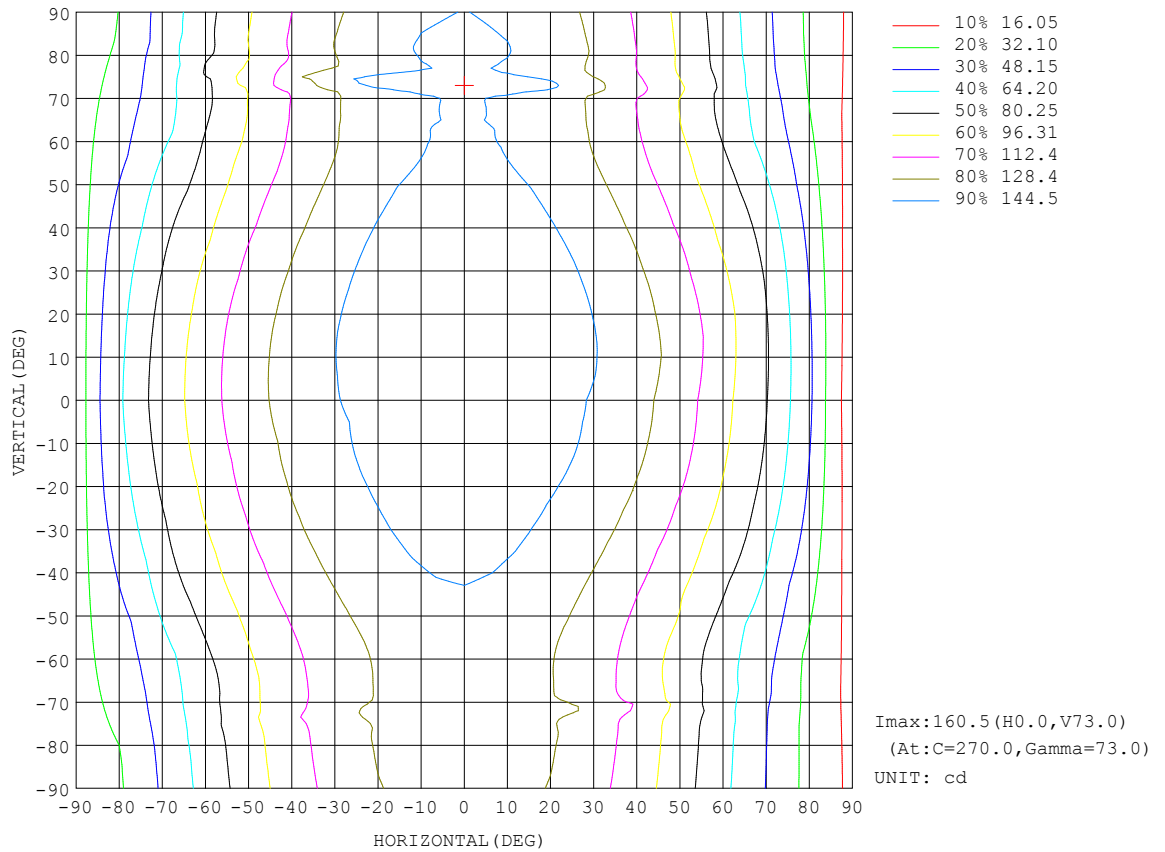
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	40	28	21	39	27	20	36	25	19	12
0.80	49	36	28	47	35	27	42	32	25	16
1.00	57	43	34	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	72	61	53	63	54	48	32
2.50	81	70	61	76	66	58	66	59	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	86	79	87	80	74	76	70	66	44
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

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]

ISOCANDELA DIAGRAM

Test:U:119.98V I:0.1729A P:20.637W PF:0.9949 Freq:60.00Hz Lamp Flux:1280.72x1 lm		
NAME: Milo 24"Vanity	TYPE:MLO-24V-SN-12T-30K	WEIGHT:2.3KG
SPEC.:	DIM.:	SERIAL No.:
MFR.: BlackJack Lighting LLC	SUR.:	Shielding Angle:

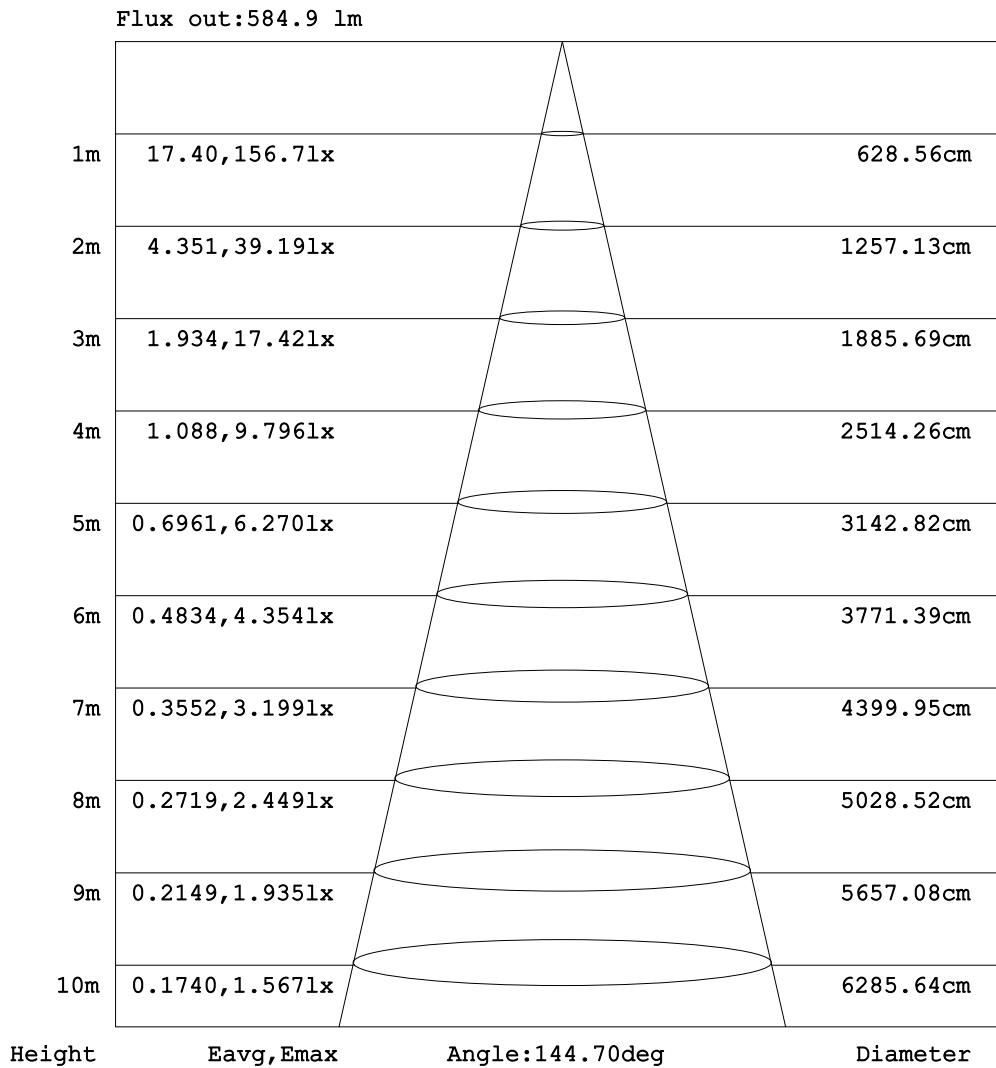


C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.1DEG
 Operators:Mark

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

AAI Figure

Test:U:119.98V I:0.1729A P:20.637W PF:0.9949 Freq:60.00Hz Lamp Flux:1280.72x1 lm		
NAME: Milo 24"Vanity	TYPE:MLO-24V-SN-12T-30K	WEIGHT:2.3KG
SPEC.:	DIM.:	SERIAL No.:
MFR.: BlackJack Lighting LLC	SUR.:	Shielding Angle:



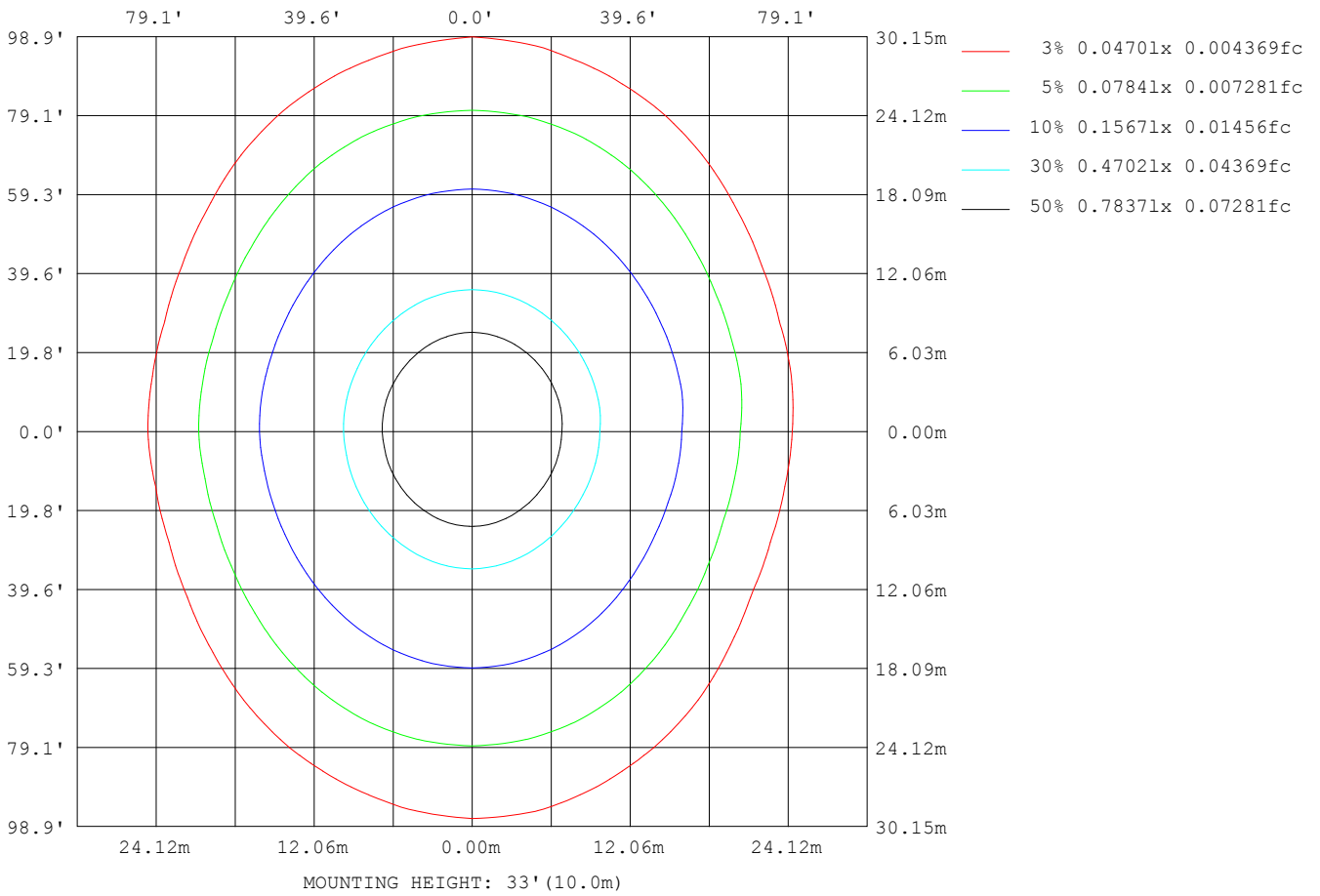
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:2.463m [K=1.0000]

ISOLUX DIAGRAM

Test:U:119.98V I:0.1729A P:20.637W PF:0.9949 Freq:60.00Hz Lamp Flux:1280.72x1 lm		
NAME: Milo 24"Vanity	TYPE:MLO-24V-SN-12T-30K	WEIGHT:2.3KG
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:2.463m [K=1.0000]

LED Avg.L Report

Test:U:119.98V I:0.1729A P:20.637W PF:0.9949 Freq:60.00Hz Lamp Flux:1280.72x1 lm		
NAME: Milo 24"Vanity	TYPE:MLO-24V-SN-12T-30K	WEIGHT:2.3KG
SPEC.:	DIM.:	SERIAL No.:
MFR.: BlackJack Lighting LLC	SUR.:	Shielding Angle:

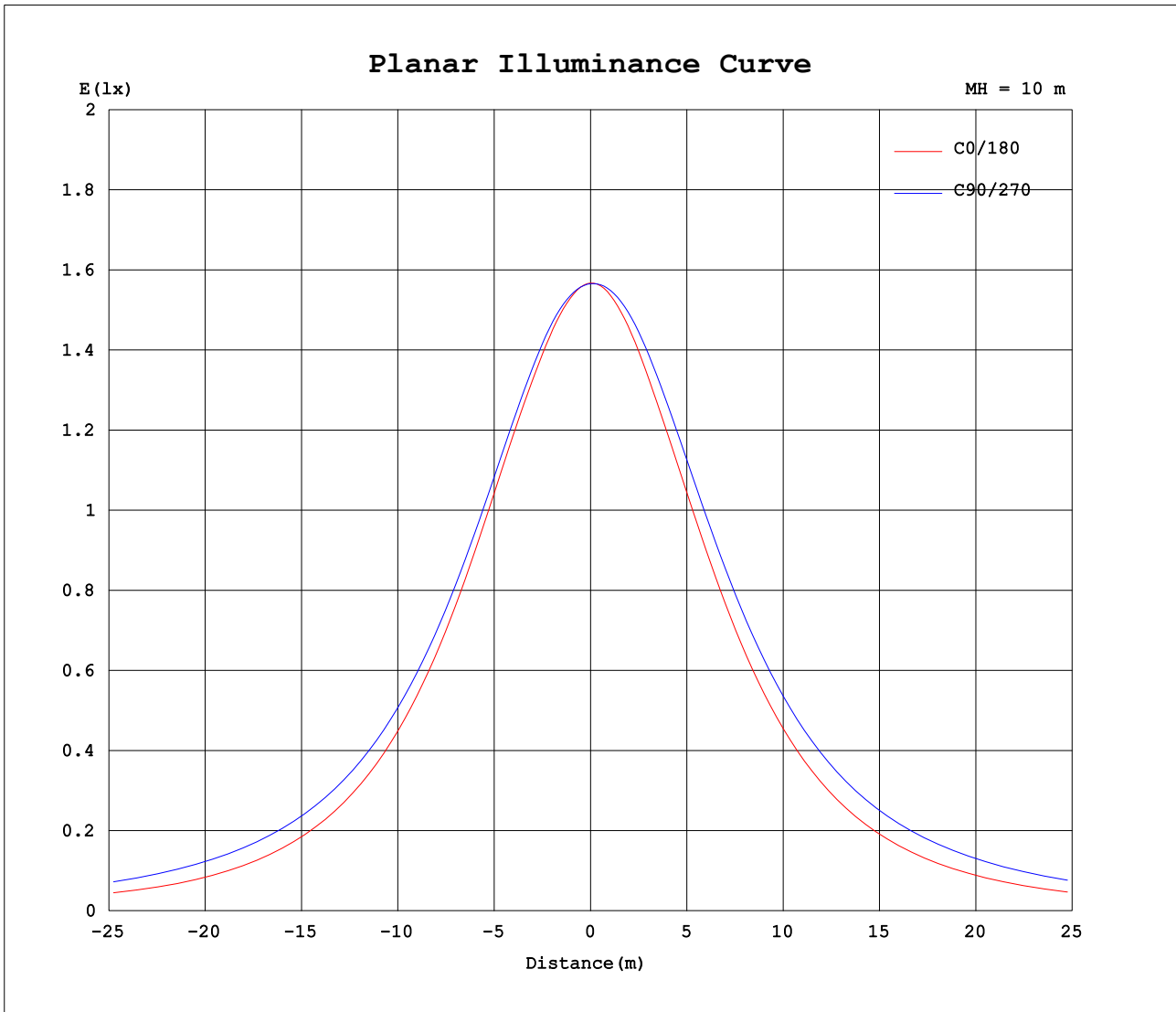
AvgL	cd/m2
L_0~180 (65) av	220
L_0~180 (75) av	272
L_0~180 (85) av	410
L_90~270 (65) av	335
L_90~270 (75) av	559
L_90~270 (85) av	1626
L_45 (65) av	266
L_45 (75) av	407
L_45 (85) av	1163

Standard: GB/T 29293-2012

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:2.463m [K=1.0000]

Planar Illuminance Curve



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:2.463m [K=1.0000]

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:119.98V I:0.1729A P:20.637W PF:0.9949 Freq:60.00Hz Lamp Flux:1280.72x1 lm		
NAME: Milo 24"Vanity	TYPE:MLO-24V-SN-12T-30K	WEIGHT:2.3KG
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	157	157	157	157	157	157	157	157	157	157	157	157	157	157	157	157	157	157	157
5	156	156	156	156	156	156	156	156	156	156	156	156	156	156	156	156	156	156	156
10	154	154	154	154	154	155	155	155	156	156	156	156	155	155	155	154	154	154	155
15	152	152	152	152	152	153	154	154	155	155	155	154	154	153	153	152	152	152	152
20	149	149	149	150	150	151	152	152	153	153	153	153	152	151	150	150	149	149	150
25	147	146	147	147	147	148	149	150	151	152	152	151	150	148	147	147	146	146	147
30	143	143	143	143	144	145	146	148	149	150	150	149	147	145	144	143	143	142	144
35	139	138	138	139	140	141	143	145	147	148	148	146	144	142	141	139	139	138	139
40	133	133	133	133	135	137	140	143	145	146	145	143	141	138	136	135	134	133	134
45	127	126	126	127	129	132	136	140	142	143	143	141	137	134	131	129	128	127	129
50	119	119	118	119	123	127	132	137	140	141	140	138	134	130	126	123	121	120	122
55	111	110	109	111	116	122	128	134	138	139	138	135	130	125	120	116	113	113	114
60	101	99.8	99.3	102	109	117	125	132	136	138	136	132	126	119	113	108	104	104	106
65	90.5	88.8	89.2	94.5	102	113	123	131	136	138	136	131	124	115	106	99.0	94.5	93.5	95.9
70	81.0	78.0	77.4	84.2	96.5	110	121	131	137	139	136	131	122	111	100.0	90.6	85.0	83.9	85.7
75	66.1	62.3	64.2	76.7	93.6	114	123	131	136	138	136	131	125	110	95.8	81.7	71.8	68.9	74.5
80	50.8	45.1	54.7	75.6	90.9	107	120	130	136	138	136	130	121	108	93.7	76.5	60.7	55.2	61.7
85	26.0	30.4	49.8	69.8	88.8	105	119	129	135	137	135	129	119	106	90.1	72.2	54.6	38.3	45.5
90	12.8	27.1	47.8	67.9	87.1	104	118	128	134	136	134	128	118	104	88.2	69.7	50.1	30.1	21.8
95	18.6	29.4	47.7	67.2	86.1	103	116	126	132	134	132	126	116	103	86.9	68.4	48.9	29.7	14.8
100	24.5	31.2	49.1	67.4	85.5	102	115	125	130	132	130	125	115	102	86.1	68.2	49.8	32.5	21.5
105	28.2	31.0	48.3	68.0	85.1	101	113	123	128	130	128	123	113	101	85.6	68.7	51.4	32.1	25.9
110	30.8	33.8	46.5	66.3	84.7	99.3	111	120	126	128	126	120	111	99.6	85.2	69.3	48.9	32.8	29.1
115	33.3	37.1	45.8	63.5	82.0	97.8	109	117	123	124	123	118	109	98.2	84.7	65.6	47.3	35.4	31.6
120	36.1	40.9	46.8	62.0	78.3	93.2	106	114	119	121	119	114	107	95.8	80.0	63.5	47.3	39.2	34.3
125	40.0	44.0	50.7	61.0	75.4	88.5	99.4	108	114	116	114	110	101	89.9	76.8	62.2	49.1	42.2	37.3
130	43.4	47.4	55.2	60.4	72.7	84.0	93.4	101	105	107	106	102	94.5	85.2	73.9	61.3	52.9	46.1	41.5
135	47.1	52.2	59.5	62.5	69.9	79.6	87.8	94.0	97.9	99.4	98.2	94.7	88.7	80.6	70.9	61.4	56.8	49.9	47.7
140	52.1	57.0	63.3	65.3	68.5	75.1	82.1	87.3	90.7	92.0	91.1	88.1	83.0	76.1	68.2	63.5	60.2	54.9	52.9
145	55.8	61.7	65.6	68.1	69.6	72.2	76.3	80.7	83.6	84.7	83.9	81.4	77.2	72.1	68.4	66.3	63.5	60.7	57.7
150	58.0	64.2	68.7	70.9	71.5	72.3	73.7	75.3	76.7	77.5	76.9	75.5	73.5	71.7	70.4	69.2	67.2	65.9	60.1
155	59.5	65.2	72.3	73.0	73.6	73.8	74.1	74.4	74.8	74.9	74.7	74.1	73.6	73.1	72.7	72.3	71.4	69.6	61.3
160	61.2	68.7	75.8	75.8	75.6	75.7	75.4	75.4	75.4	75.4	75.2	75.1	75.0	75.1	75.3	75.6	76.0	71.2	63.0
165	57.7	62.1	73.1	78.7	78.3	77.8	77.5	77.3	77.0	76.9	76.9	76.9	77.0	77.5	78.1	77.0	74.1	68.2	62.6
170	47.6	48.3	52.4	58.4	75.8	80.4	80.0	79.6	79.3	79.2	79.2	79.3	79.4	70.7	62.2	58.6	56.2	51.6	53.6
175	42.3	42.2	42.1	42.0	43.8	44.6	54.5	68.0	76.5	75.2	62.9	44.0	42.3	42.6	42.9	43.8	43.6	43.8	44.6
180	64.1	63.2	60.8	56.3	48.5	37.3	24.7	21.7	15.8	1.36	18.4	21.1	28.7	38.8	47.3	56.7	60.7	63.5	62.9

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:2.463m [K=1.0000]

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:119.98V I:0.1729A P:20.637W PF:0.9949 Freq:60.00Hz Lamp Flux:1280.72x1 lm		
NAME: Milo 24"Vanity	TYPE:MLO-24V-SN-12T-30K	WEIGHT:2.3KG
SPEC.:	DIM.:	SERIAL No.:
MFR.: BlackJack Lighting LLC	SUR.:	Shielding Angle:

Table--2

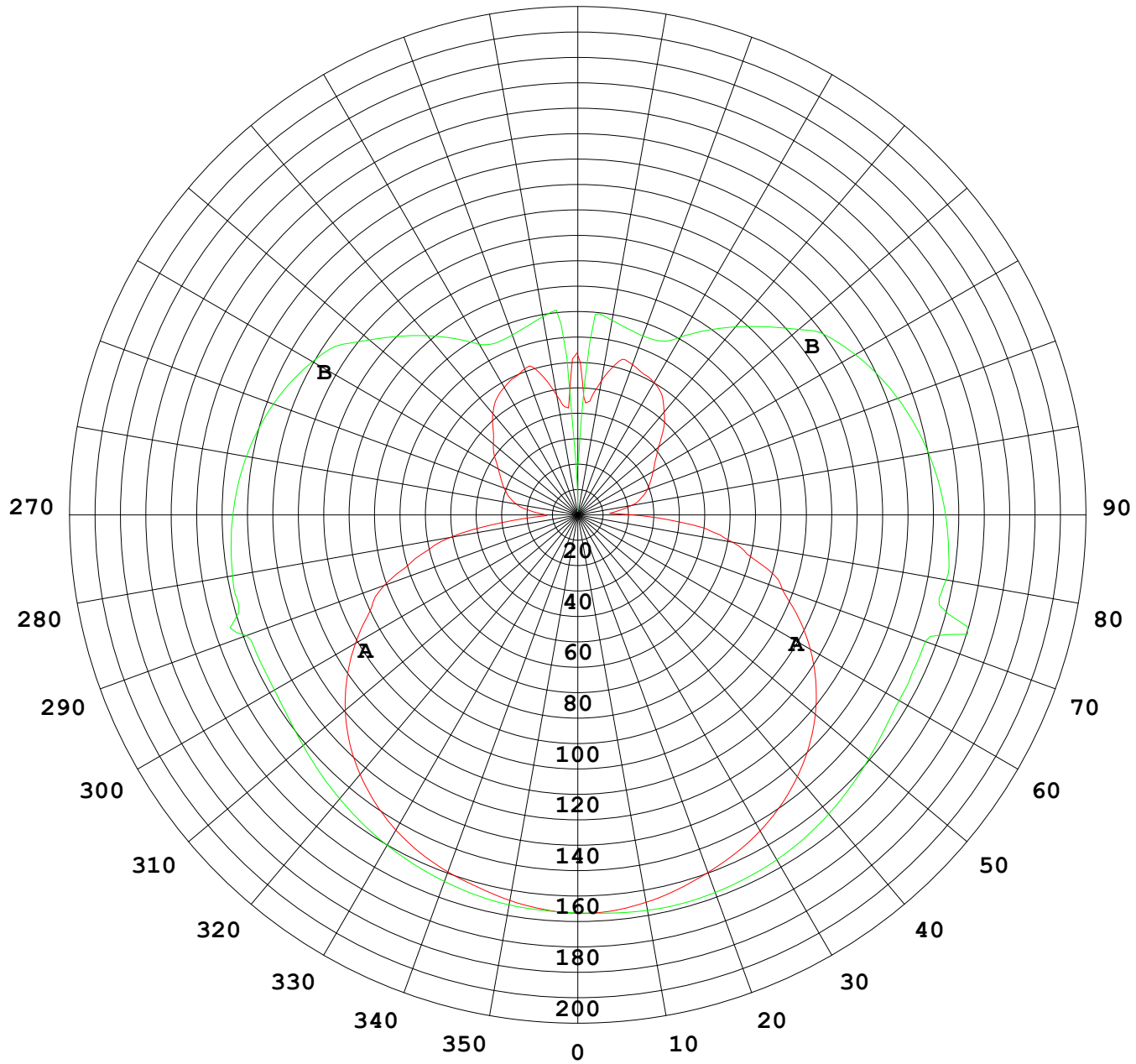
UNIT: cd

C (DEG) γ (DEG)	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350		
0	157	157	157	157	157	157	157	157	157	157	157	157	157	157	157	157	157		
5	156	157	157	157	157	157	157	157	157	157	157	157	157	157	156	156	156		
10	155	155	156	156	157	157	158	158	158	158	158	157	157	156	156	155	155		
15	153	154	154	155	156	157	158	158	158	158	158	157	156	155	154	153	153		
20	150	151	152	154	155	156	157	158	158	158	157	156	155	154	152	151	151		
25	148	149	150	151	153	155	156	157	158	157	156	154	153	152	151	149	148		
30	144	146	147	149	151	153	155	156	157	156	155	153	151	149	148	147	145		
35	140	142	143	145	148	150	153	155	155	155	153	150	148	146	144	143	141		
40	135	137	139	141	144	148	151	153	154	153	151	148	145	142	140	138	136		
45	130	131	133	137	140	144	148	151	152	151	148	144	141	138	135	132	130		
50	123	124	127	131	136	141	145	148	149	148	145	141	136	132	128	125	124		
55	115	117	120	125	131	137	142	146	147	146	142	137	131	125	121	117	115		
60	106	108	112	118	125	133	140	144	146	144	140	133	126	118	112	108	106		
65	96.3	97.8	103	111	121	131	139	144	145	143	138	130	121	111	103	97.5	95.2		
70	86.0	88.6	94.9	105	118	129	138	144	146	143	138	129	117	104	94.2	88.3	85.7		
75	72.6	75.4	85.5	100	115	135	155	153	151	149	146	137	115	100.0	84.4	73.8	69.7		
80	58.9	63.6	80.0	106	117	128	139	145	147	145	138	127	113	98.6	79.0	61.6	55.0		
85	42.1	56.8	77.1	96.8	115	128	139	145	146	144	137	127	112	94.6	74.7	54.7	36.2		
90	32.4	53.8	75.1	94.9	112	126	137	143	145	142	136	125	110	92.6	72.5	51.3	28.9		
95	30.2	51.7	72.8	92.6	110	124	134	141	143	140	134	123	109	90.8	70.9	50.0	29.6		
100	32.4	51.3	71.4	90.8	108	122	132	138	140	138	132	121	107	89.7	70.5	50.8	32.0		
105	32.8	52.3	71.1	89.5	106	119	129	135	137	135	129	119	105	88.9	70.7	51.8	31.9		
110	32.4	50.5	71.3	88.6	104	117	126	132	134	132	126	117	104	88.3	71.2	49.3	32.5		
115	34.8	48.5	68.4	87.6	102	114	123	128	130	128	123	114	102	87.5	67.2	47.8	35.1		
120	38.9	47.6	65.6	83.7	99.9	111	119	124	126	124	119	111	99.7	82.6	65.0	46.9	39.8		
125	42.7	47.8	63.7	79.6	94.1	107	115	120	121	120	115	106	93.4	79.1	63.5	49.1	44.1		
130	46.3	51.6	62.3	76.3	88.7	99.0	107	112	114	112	107	98.6	88.3	75.9	62.1	53.2	47.4		
135	50.4	55.6	60.7	73.0	83.6	92.6	99.2	103	105	103	98.9	92.2	83.3	72.7	62.2	57.6	50.9		
140	55.1	59.7	62.7	69.0	78.7	86.4	92.0	95.4	96.6	95.3	91.8	86.1	78.4	69.5	64.3	61.5	54.4		
145	59.8	63.3	65.0	68.0	73.2	79.9	84.8	87.6	88.7	87.6	84.6	79.9	73.6	69.4	67.0	64.3	59.0		
150	64.2	66.7	67.9	69.3	71.4	74.3	77.5	79.9	80.8	79.9	77.5	74.8	72.5	71.1	69.7	67.6	64.0		
155	67.5	70.3	70.8	71.1	71.9	73.2	74.4	75.2	75.6	75.4	74.7	74.0	73.2	72.8	71.9	70.9	68.8		
160	66.5	73.0	74.1	73.8	73.8	74.2	74.5	74.7	74.9	74.9	74.8	74.8	74.7	74.4	74.2	73.8	72.9		
165	63.1	74.6	75.0	76.7	76.5	76.1	75.9	75.9	75.9	76.0	76.0	76.1	76.2	76.2	76.5	76.5	75.5		
170	53.1	57.2	60.6	63.4	69.9	78.0	78.1	77.9	77.8	77.6	77.6	77.8	78.1	78.5	78.2	67.9	58.2		
175	44.6	44.4	44.1	43.6	44.0	45.4	49.8	66.5	79.2	80.0	80.1	77.4	72.2	57.7	43.4	42.2	42.7		
180	62.9	62.1	59.9	55.9	51.6	44.7	30.9	22.7	19.3	13.7	14.8	33.4	38.6	42.3	50.0	56.3	60.1		

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

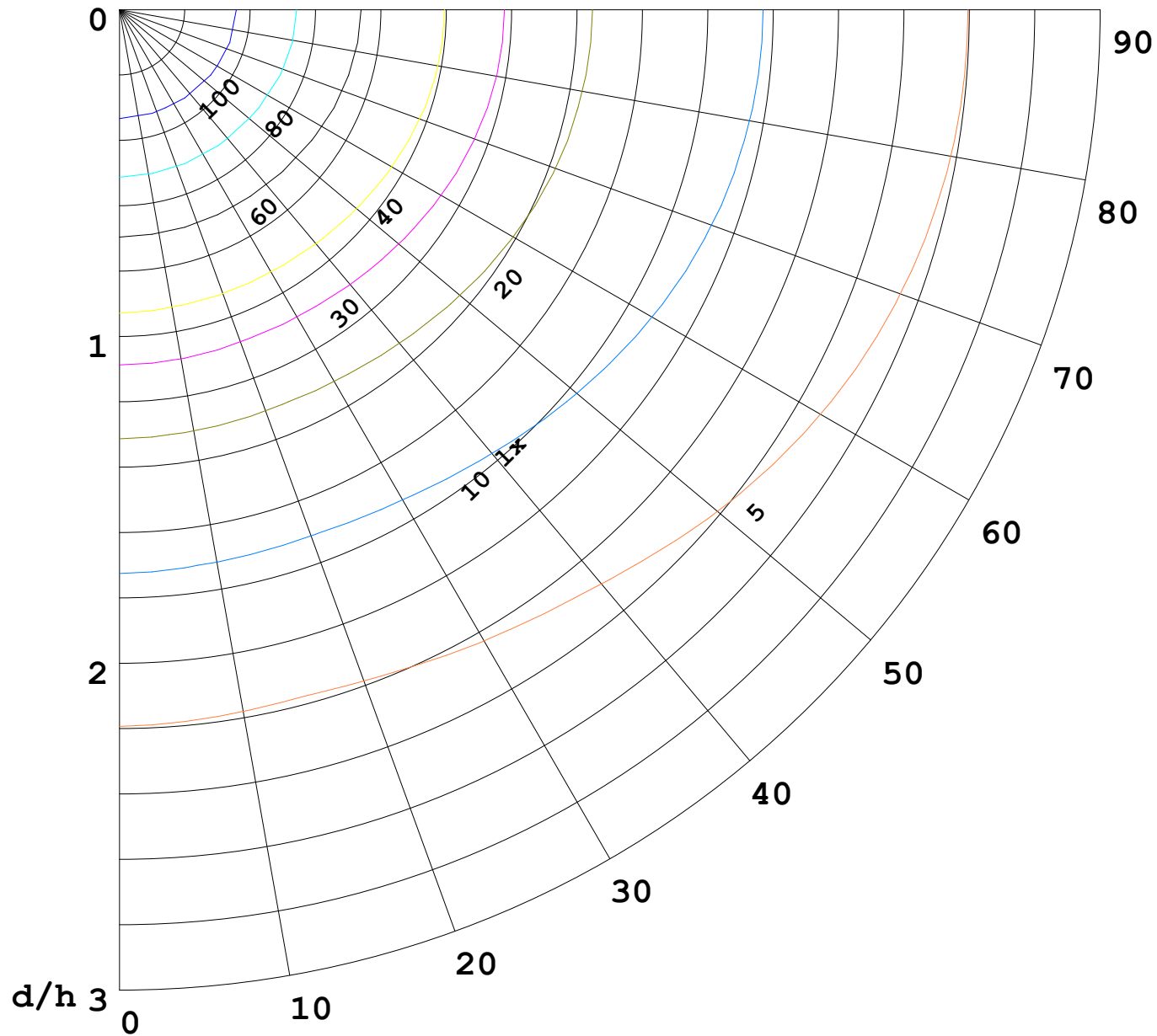
γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:59.2%
 Test Distance:2.463m [K=1.0000]

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

