



IESNA LM-79 TEST REPORT

Applicant's name	Blackjack Lighting
Address	1553 Barclay Blvd. Buffalo Grove, IL 60089
Brand Name	Blackjack Lighting
Report No.....	BTR66.181.17.0014.23
Product Name	Nano 36" Vanity, Satin Nickel or Polished Chrome
Model Number	NAN-36V-SN or PC

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	Nov 30, 2017	

Testing Laboratory Name	BEST Test Service Shenzhen Co., Ltd.
Address	1 st Floor, 1 st Building, Weitai Industrial Park, Yingrenshi, Shiyao, Baoan, Shenzhen, China
Accreditation	DLC/Lighting Facts/UL/ETL/ELI/CEC/EPA/DOE NVLAP Testing Lab Code: 200770-0
	Tel:+86-755-28236006 , Email: certification@bestcert.cn

Test specification	
Standard	IESNA LM-79
Test procedure	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

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description:	
Test date	Nov 28, 2017 to Nov 29, 2017
Sample Quantity	1 unit
SKU.....	N/A
Rating(s) (V; Hz)	AC 120V/60Hz
Nominal Power.....	30W
Nominal Power Factor	N/A
Nominal Lumen Output.....	1270lm
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	1.5 H
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	1.12%
Deviation from standard operating procedures,	None

Photometric and Electrical Measurement

Total light output (luminous flux) for the 25°C ±1°C ambient temperature conditions is measured using a EVERFINE 2.0 m 4 II geometry integrating sphere. Temperature is measured at a position inside the sphere. Spectral radiant flux measurements are made using Integral Sphere to the detector port of the integrating sphere. Each lamp is operated at rated voltage in its designated orientation by a CHROMA 61602 AC SOURCE. Each lamp should be stable before measurements are made as below:

Step 1 Take 3 measurements of the lamp light output at 15 minute interval (total time=30mintues.)This time period is in addition to the recommended pre-burning time.

Step 2 Calculate the percent difference between the maximum measured value and the minimum measured value for 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 are calculated from the spectral radiant flux measurements taken at 2 nm intervals over the range 380 to 780 nm by EVERFINE HASS-2000. The calibration of the sphere photometer-spectrometer system is traceable to the NIM China by a calibrated halogen incandescent lamp. Lamp efficacy (lumens per watts) for each lamp model is computed based on the revised luminous flux result. Electrical measurements including voltage, current, power and power factor are measured using the YOKOGAWA WT310 digital power Meter.

The total uncertainty of the light output measurements is estimated, at the 95% confidence level, not to exceed ±1.12% over the wavelength range 380-780 nm.

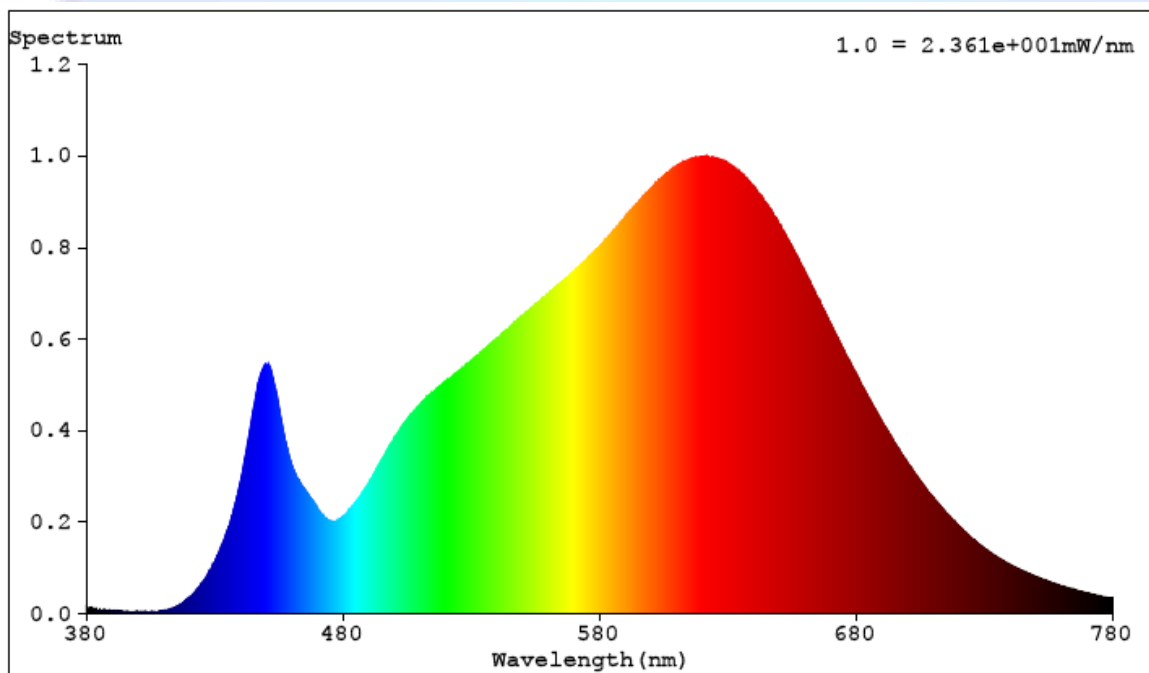
Luminous Intensity

A Everfine GOR-5000 Goniophotometer was used to measure the intensity at each angle of distribution, Luminous intensity (cd) is measured within each vertical plane at a 5° vertical angle increment (maximum) from 0° to 180° Luminous intensity (cd), measurements repeated in vertical planes about the lamp (polar) axis in maximum increments of 22.5° from 0° to 180°, and export the intensity (cd) with excel format. The test distance is 25meters from the Goniophotometer to the detector

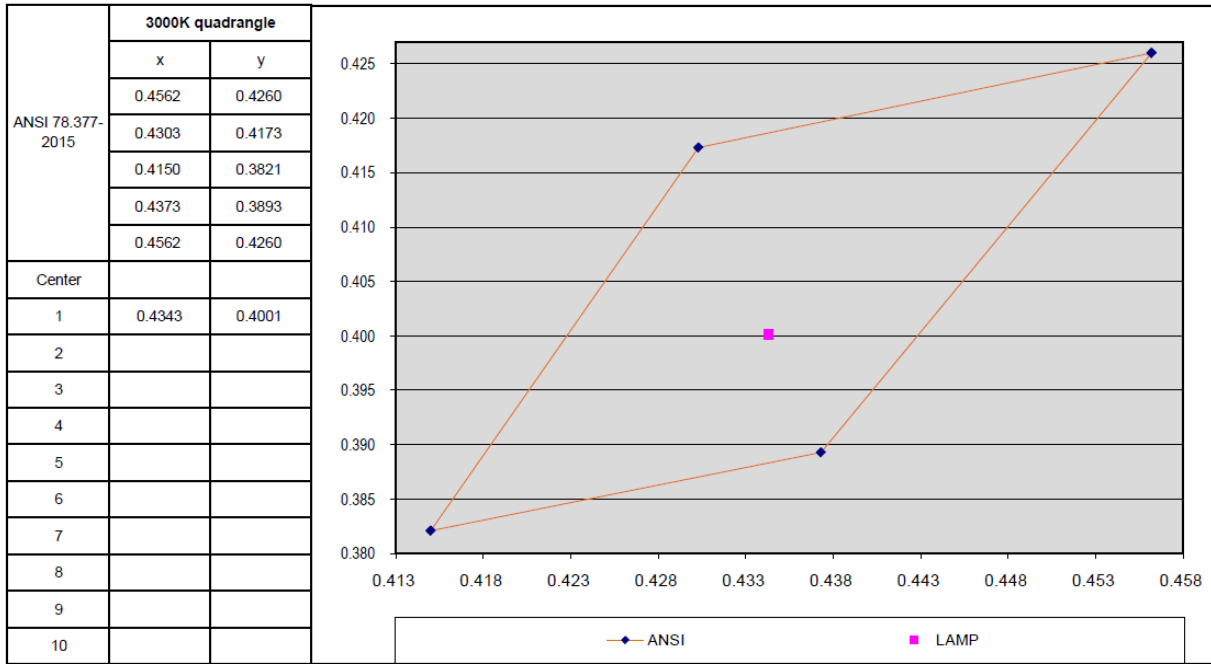
Photometric and Electrical Test Data

Input Voltage (V)	Frequency (Hz)	Input Current (A)	ITHD	Input Power (W)	Power Factor	Lumen Output (Lumens)	Efficiency Lumen/w
120.0	60.0	0.2343	/	28.00	0.9951	1279.41	45.70
CCT (K)	CRI (Ra)	R9	x CIE1931	y CIE1931	u' CIE1976	v' CIE1976	Duv CIE1976
3012	92.4	60	0.4343	0.4001	0.2506	0.5194	-0.0012

Spectrul Plots



7 Step Quadrangle



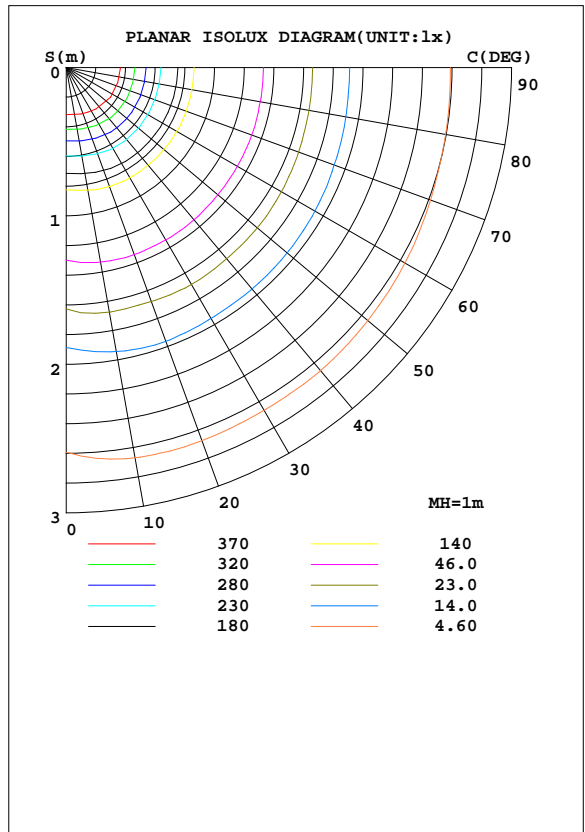
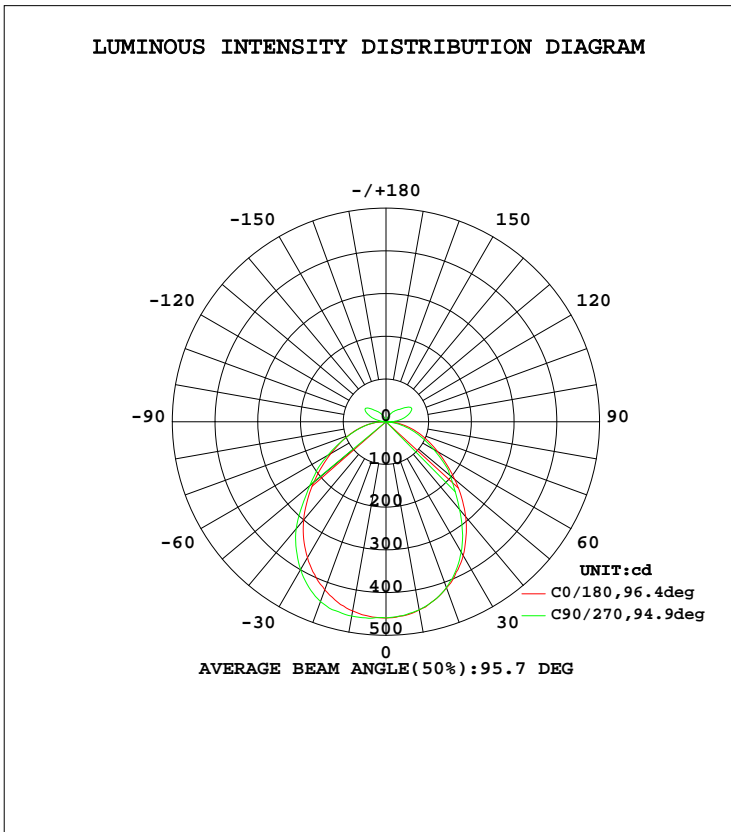
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LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:120.0V I:0.2343A P:28.00W PF:0.9951 Lamp Flux:1279.4lx1 lm		
NAME: Nano 36''Vanity,Satin Nickel Polished ChromeTYPE:NAN-36V-SN or PC	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:
MFR.: Blackjack Lighting	SUR.:0.91*0.03	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 45.70 lm/W			
MODEL	NAN-36V-SN or PC	Imax(cd)	462.4	S/MH(C0/180)	1.18
NOMINAL POWER(W)	30	LOR(%)	100.0	S/MH(C90/270)	1.15
RATED VOLTAGE(V)	120.0	TOTAL FLUX(lm)	1279.4	η UP, DN(C0-180)	4.9,47.2
NOMINAL FLUX(lm)	1279.41	CIE CLASS	SEMI-D.	η UP, DN(C180-360)	6.1,41.8
LAMPS INSIDE	1	η up(%)	11.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	120.0	η down(%)	89.0	CIBSE SHR MAX	1.35



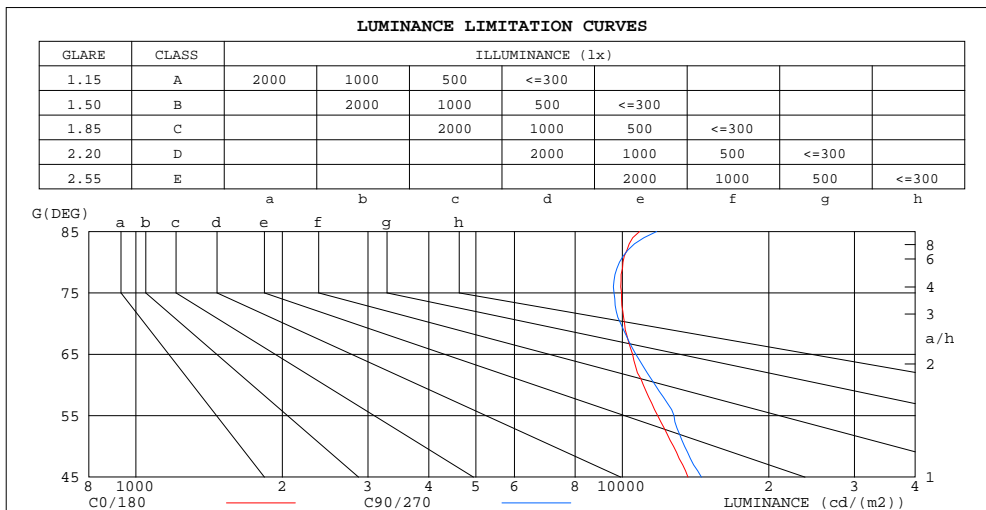
C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.6DEG
 Operators:David
 Test Date:2017-11-29

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.287
 Humidity:67.1%
 Test Distance:26.000m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM
AND LUMINANCE LIMITATION CURVES

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	$\#lum$
10	449.6	456.9	462.1	454.5	447.3	445.9	446.9	446.7	0- 10	43.43	43.43	3.39
20	418.9	439.7	448.0	435.2	414.0	413.7	413.0	415.7	10- 20	124.2	167.6	13.1
30	367.6	396.8	399.3	392.5	361.8	357.0	352.1	361.4	20- 30	184.9	352.5	27.6
40	299.8	326.5	326.9	323.1	290.6	277.6	268.0	284.9	30- 40	211.7	564.3	44.1
50	221.1	241.7	233.1	236.9	209.6	198.3	195.8	203.3	40- 50	199.8	764.0	59.7
60	149.1	166.5	157.7	161.4	139.6	138.9	128.6	145.0	50- 60	164.4	928.5	72.6
70	93.30	101.8	91.63	97.40	84.97	81.38	72.19	85.52	60- 70	117.9	1046	81.8
80	47.02	53.40	46.24	49.69	38.87	32.07	25.09	36.32	70- 80	68.83	1115	87.2
90	4.114	11.42	10.41	8.162	2.690	9.169	10.03	7.366	80- 90	23.56	1139	89
100	2.690	17.81	17.35	18.54	2.276	31.40	37.68	29.53	90-100	13.83	1153	90.1
110	2.426	35.87	40.90	35.46	2.125	46.87	59.04	44.78	100-110	29.56	1182	92.4
120	2.313	42.35	56.84	38.81	2.013	42.43	67.23	40.34	110-120	36.49	1219	95.2
130	2.332	29.42	48.35	27.29	1.806	30.92	48.11	29.32	120-130	29.01	1248	97.5
140	2.426	20.63	32.10	19.05	1.691	21.41	34.24	20.22	130-140	17.58	1265	98.9
150	2.502	12.24	20.49	11.22	1.448	11.79	21.62	11.46	140-150	9.464	1275	99.6
160	2.351	4.736	9.683	4.199	1.373	3.748	9.303	4.347	150-160	3.777	1278	99.9
170	1.862	1.006	1.289	1.111	1.958	1.253	1.074	1.122	160-170	0.8237	1279	100
180	2.182	1.073	0.8703	1.226	2.050	1.319	0.9081	1.084	170-180	0.1230	1279	100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	10855	11769
80	10029	9862
75	9959	9616
70	10104	9923
65	10501	10662
60	11041	11679
55	11828	12772
50	12741	13430
45	13645	14537

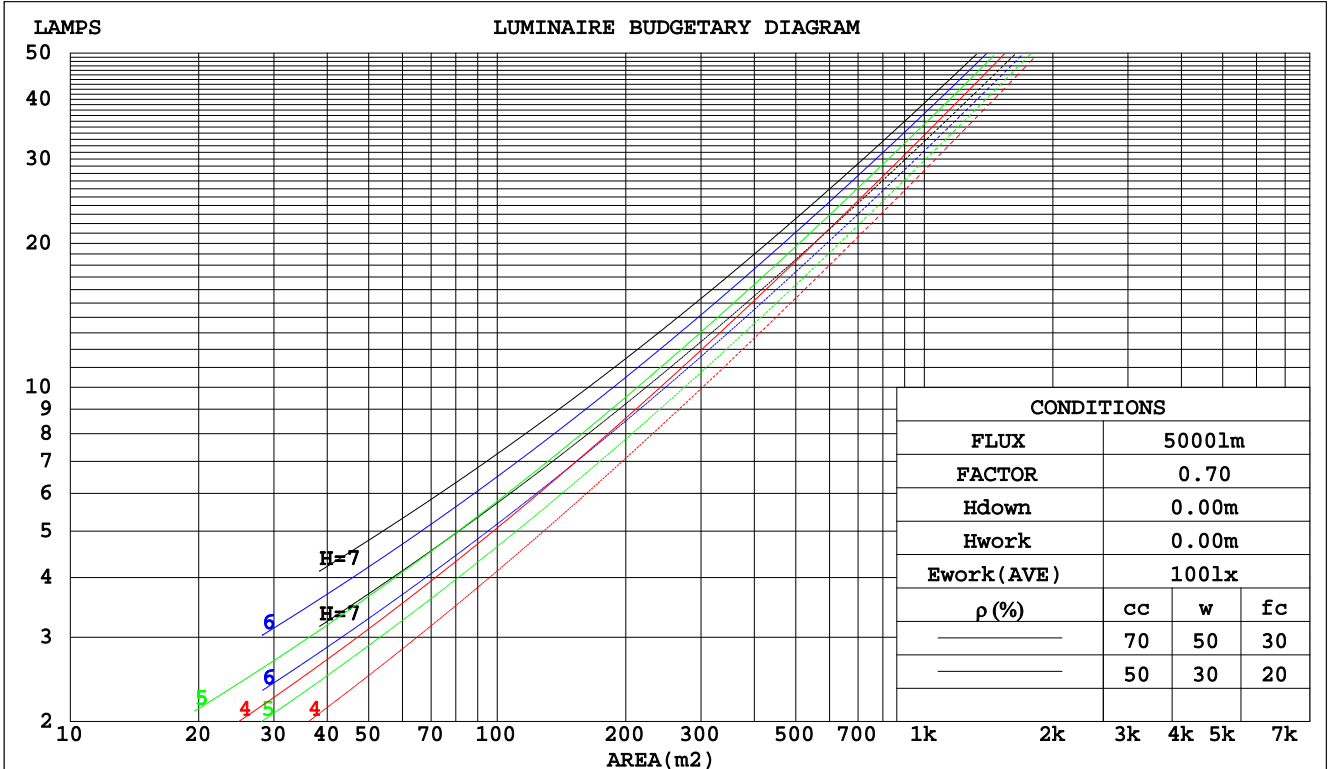
C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.6DEG
Operators:David
Test Date:2017-11-29

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.287
Humidity:67.1%
Test Distance:26.000m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:120.0V I:0.2343A P:28.00W PF:0.9951 Lamp Flux:1279.4lx1 lm		
NAME: Nano 36''Vanity,Satin Nickel Polished ChromeTYPE:NAN-36V-SN or PC		WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Blackjack Lighting	SUR.:0.91*0.03	PROTECTION 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	1.16	1.16	1.16	1.12	1.12	1.12	1.05	1.05	1.05	.98	.98	.98	.92	.92	.92	.89
1.0	1.02	.98	.94	.99	.95	.92	.93	.90	.87	.87	.84	.82	.82	.80	.78	.75
2.0	.90	.83	.78	.87	.81	.76	.81	.77	.72	.77	.73	.69	.72	.69	.66	.63
3.0	.79	.71	.65	.77	.70	.64	.72	.66	.61	.68	.63	.59	.64	.60	.57	.54
4.0	.70	.62	.56	.68	.61	.55	.65	.58	.53	.61	.55	.51	.58	.53	.49	.47
5.0	.63	.55	.48	.61	.53	.48	.58	.51	.46	.55	.49	.45	.52	.47	.43	.41
6.0	.57	.48	.42	.56	.48	.42	.53	.46	.41	.50	.44	.39	.47	.42	.38	.36
7.0	.52	.43	.38	.51	.43	.37	.48	.41	.36	.46	.40	.35	.43	.38	.34	.32
8.0	.47	.39	.34	.46	.39	.33	.44	.37	.32	.42	.36	.32	.40	.35	.31	.29
9.0	.44	.36	.30	.43	.35	.30	.41	.34	.29	.39	.33	.29	.37	.32	.28	.26
10.0	.40	.33	.28	.39	.32	.27	.38	.31	.27	.36	.30	.26	.34	.29	.25	.24



C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.6DEG
 Operators:David
 Test Date:2017-11-29

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.287
 Humidity:67.1%
 Test Distance:26.000m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:120.0V I:0.2343A P:28.00W PF:0.9951 Lamp Flux:1279.4lx1 lm		
NAME: Nano 36''Vanity,Satin Nickel Polished ChromeTYPE:NAN-36V-SN or PC		WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Blackjack Lighting	SUR.:0.91*0.03	PROTECTION ANGLE:

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.294	.167	.053	.283	.162	.051	.264	.151	.048	.246	.142	.046	.229	.133	.043	
2.0	.275	.151	.046	.266	.146	.045	.248	.138	.043	.232	.130	.041	.217	.123	.039	
3.0	.254	.135	.041	.246	.132	.040	.231	.125	.038	.216	.119	.036	.203	.112	.035	
4.0	.235	.122	.036	.228	.119	.035	.214	.114	.034	.201	.108	.033	.189	.103	.031	
5.0	.218	.111	.032	.212	.109	.032	.199	.104	.030	.187	.099	.029	.176	.094	.028	
6.0	.203	.102	.029	.197	.100	.029	.186	.095	.028	.175	.091	.027	.165	.087	.026	
7.0	.189	.094	.027	.184	.092	.026	.174	.088	.025	.164	.084	.024	.155	.080	.024	
8.0	.177	.087	.024	.172	.085	.024	.163	.081	.023	.154	.078	.022	.145	.075	.022	
9.0	.167	.081	.023	.162	.079	.022	.153	.076	.021	.145	.073	.021	.137	.070	.020	
10.0	.157	.075	.021	.153	.074	.021	.145	.071	.020	.137	.068	.019	.130	.065	.019	

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	.274	.274	.274	.234	.234	.234	.160	.160	.160	.092	.092	.092	.029	.029	.029	
1.0	.264	.241	.220	.226	.207	.189	.154	.142	.131	.089	.082	.076	.028	.026	.025	
2.0	.255	.217	.185	.218	.187	.160	.150	.129	.112	.086	.075	.065	.028	.024	.021	
3.0	.247	.200	.162	.212	.172	.140	.145	.120	.098	.084	.070	.058	.027	.023	.019	
4.0	.239	.187	.146	.205	.161	.127	.141	.112	.089	.082	.066	.053	.026	.021	.017	
5.0	.232	.176	.135	.199	.152	.118	.137	.107	.083	.080	.063	.049	.026	.020	.016	
6.0	.225	.168	.127	.193	.146	.111	.133	.102	.078	.077	.060	.047	.025	.020	.015	
7.0	.219	.161	.121	.188	.140	.106	.130	.098	.075	.075	.058	.045	.024	.019	.015	
8.0	.212	.156	.117	.183	.135	.102	.126	.095	.072	.074	.056	.043	.024	.018	.014	
9.0	.207	.151	.113	.178	.131	.099	.123	.092	.070	.072	.054	.042	.023	.018	.014	
10.0	.201	.147	.110	.173	.127	.096	.120	.090	.068	.070	.053	.041	.023	.017	.014	

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.6DEG
 Operators:David
 Test Date:2017-11-29

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.287
 Humidity:67.1%
 Test Distance:26.000m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:120.0V I:0.2343A P:28.00W PF:0.9951 Lamp Flux:1279.4lx1 lm										
NAME: Nano 36''Vanity,Satin Nickel Polished ChromeTYPE:NAN-36V-SN or PC									WEIGHT:	
SPEC.:					DIM.:			SERIAL No.:		
MFR.: Blackjack Lighting					SUR.:0.91*0.03			PROTECTION ANGLE:		
ceiling/cavity	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
walls	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions	Viewed crosswise					Viewed endwise				
x = 2H y = 2H	21.1	22.4	21.5	22.8	23.2	21.0	22.4	21.5	22.7	23.1
3H	22.5	23.7	22.9	24.1	24.5	22.2	23.4	22.7	23.8	24.3
4H	23.1	24.2	23.5	24.7	25.1	22.8	23.9	23.2	24.3	24.8
6H	23.6	24.7	24.1	25.1	25.6	23.2	24.3	23.7	24.7	25.2
8H	23.8	24.8	24.3	25.3	25.8	23.4	24.5	23.9	24.9	25.4
12H	23.9	24.9	24.4	25.4	25.9	23.6	24.6	24.1	25.1	25.6
4H 2H	21.6	22.7	22.1	23.2	23.7	21.6	22.7	22.0	23.1	23.6
3H	23.2	24.2	23.7	24.6	25.2	23.0	24.0	23.5	24.4	25.0
4H	23.9	24.8	24.5	25.3	25.9	23.6	24.5	24.2	25.0	25.6
6H	24.6	25.4	25.2	26.0	26.5	24.3	25.0	24.8	25.6	26.2
8H	24.9	25.6	25.5	26.2	26.8	24.5	25.3	25.1	25.8	26.4
12H	25.1	25.8	25.7	26.4	27.0	24.8	25.5	25.4	26.0	26.7
8H 4H	24.2	24.9	24.8	25.5	26.1	23.9	24.7	24.5	25.2	25.8
6H	25.1	25.7	25.7	26.3	26.9	24.8	25.4	25.4	25.9	26.6
8H	25.5	26.0	26.1	26.6	27.3	25.2	25.7	25.8	26.3	27.0
12H	25.8	26.3	26.5	26.9	27.6	25.5	26.0	26.2	26.6	27.3
12H 4H	24.2	24.9	24.8	25.5	26.1	24.0	24.6	24.5	25.2	25.8
6H	25.2	25.7	25.8	26.3	27.0	24.9	25.4	25.5	26.0	26.7
8H	25.6	26.1	26.3	26.7	27.4	25.3	25.8	26.0	26.4	27.1
Variations with the observer position at spacings:										
S = 1.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.2				
1.5H	+ 0.2 / - 0.5					+ 0.1 / - 0.3				
2.0H	+ 0.2 / - 0.5					+ 0.2 / - 0.3				

CIE Pub.117 Corrected 1279 lm Total Lamp Luminous Flux.(8log(F/F0) = 0.9)

C Range: 0 - 360DEG
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 Test Speed: HIGH
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γ Range: 0 - 180DEG
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 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.287
 Humidity:67.1%
 Test Distance:26.000m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:120.0V I:0.2343A P:28.00W PF:0.9951 Lamp Flux:1279.4lx1 lm		
NAME: Nano 36''Vanity,Satin Nickel Polished ChromeTYPE:NAN-36V-SN or PC	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:
MFR.: Blackjack Lighting	SUR.:0.91*0.03	PROTECTION ANGLE:

REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	57	46	39	56	45	39	54	44	38	32
0.80	67	55	48	65	55	48	63	53	47	40
1.00	75	64	57	73	63	56	70	63	55	48
1.25	81	71	64	79	70	63	76	68	62	54
1.50	86	77	70	84	75	69	80	72	67	58
2.00	93	84	78	90	83	77	85	79	74	64
2.50	97	89	83	94	87	81	88	83	78	68
3.00	100	93	87	97	91	86	91	86	82	71
4.00	104	98	93	100	95	91	94	90	87	75
5.00	106	101	97	103	98	95	96	93	90	77
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:25.6DEG
 Operators:David
 Test Date:2017-11-29

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.287
 Humidity:67.1%
 Test Distance:26.000m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:120.0V I:0.2343A P:28.00W PF:0.9951 Lamp Flux:1279.4lx1 lm		
NAME: Nano 36''Vanity,Satin Nickel Polished ChromeTYPE:NAN-36V-SN or PC		WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Blackjack Lighting	SUR.:0.91*0.03	PROTECTION ANGLE:

Conical surface Flux(90deg):

667.78 lm

%lum = 52.2%

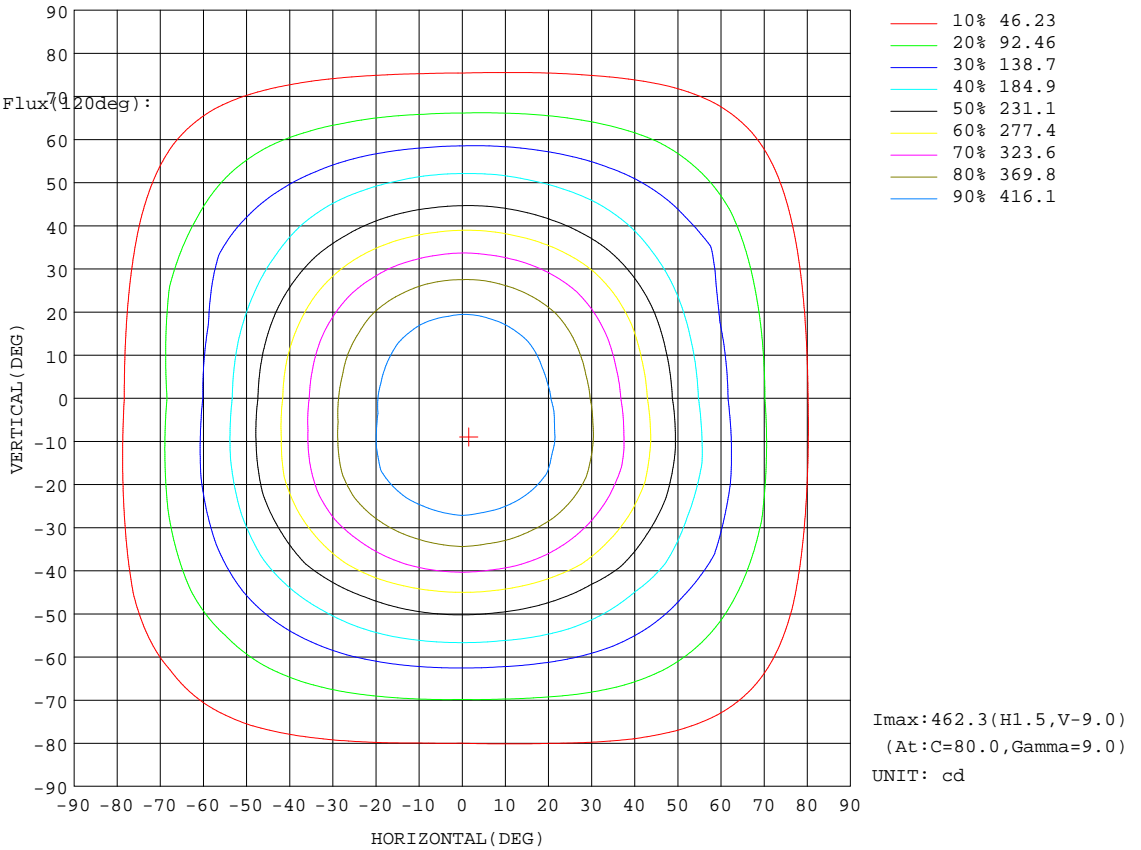
%lamp = 52.2%

Conical surface Flux(70deg):

928.46 lm

%lum = 72.6%

%lamp = 72.6%

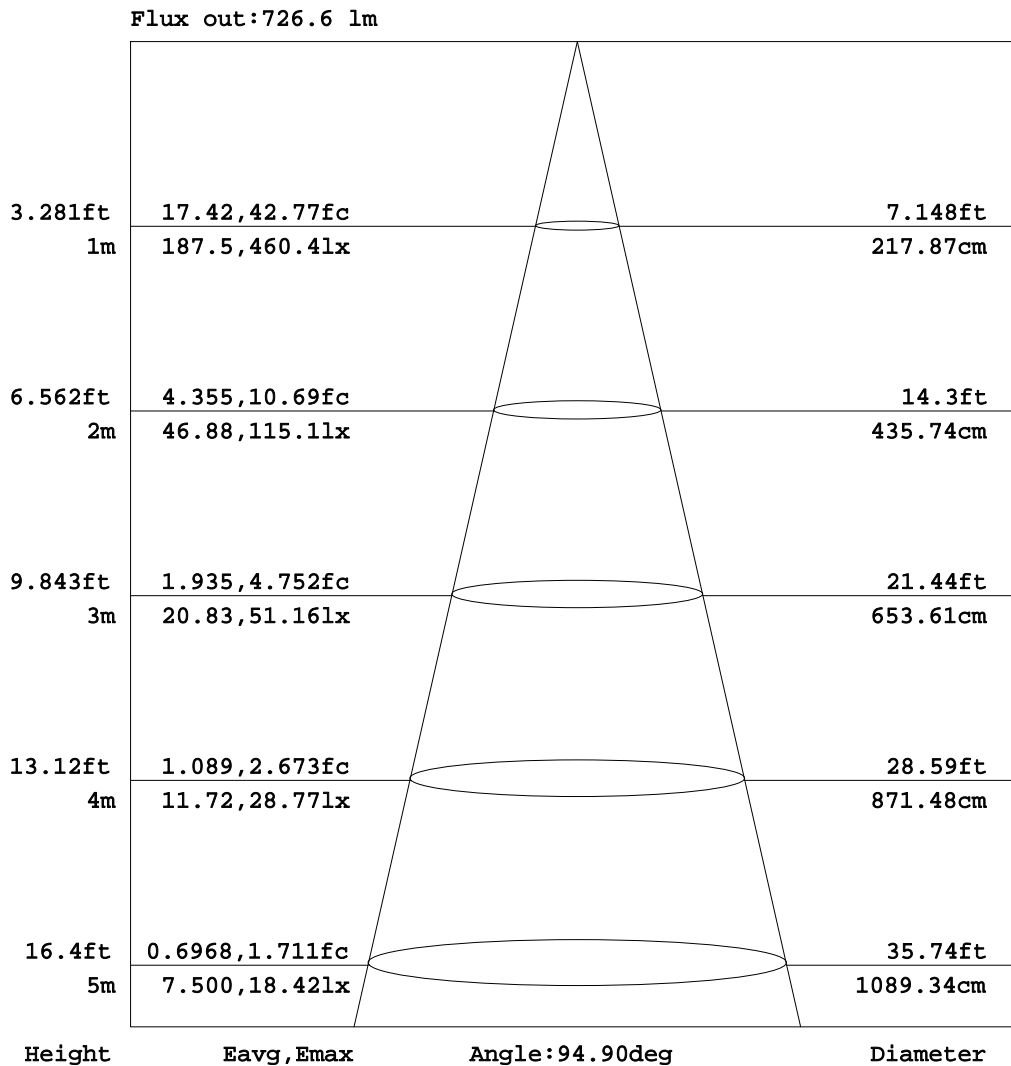


C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature: 25.6DEG
 Operators: David
 Test Date: 2017-11-29

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.0.287
 Humidity: 67.1%
 Test Distance: 26.000m [K=1.0000]
 Remarks:

AAI Figure

Test:U:120.0V I:0.2343A P:28.00W PF:0.9951 Lamp Flux:1279.4lx1 lm		
NAME: Nano 36''Vanity,Satin Nickel Polished ChromeTYPE:NAN-36V-SN or PC	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:
MFR.: Blackjack Lighting	SUR.:0.91*0.03	PROTECTION ANGLE:



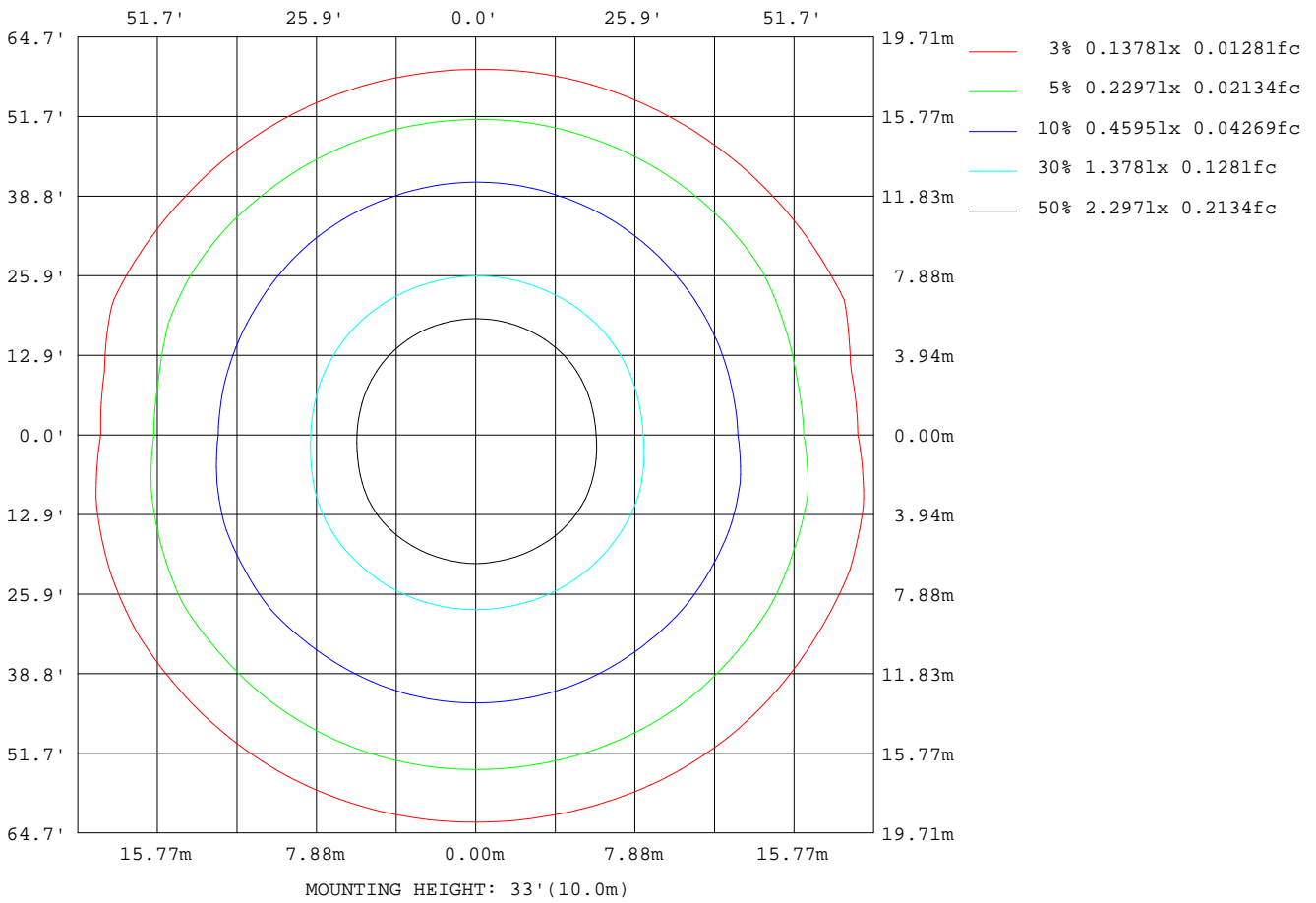
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.6DEG
 Operators:David
 Test Date:2017-11-29

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.287
 Humidity:67.1%
 Test Distance:26.000m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

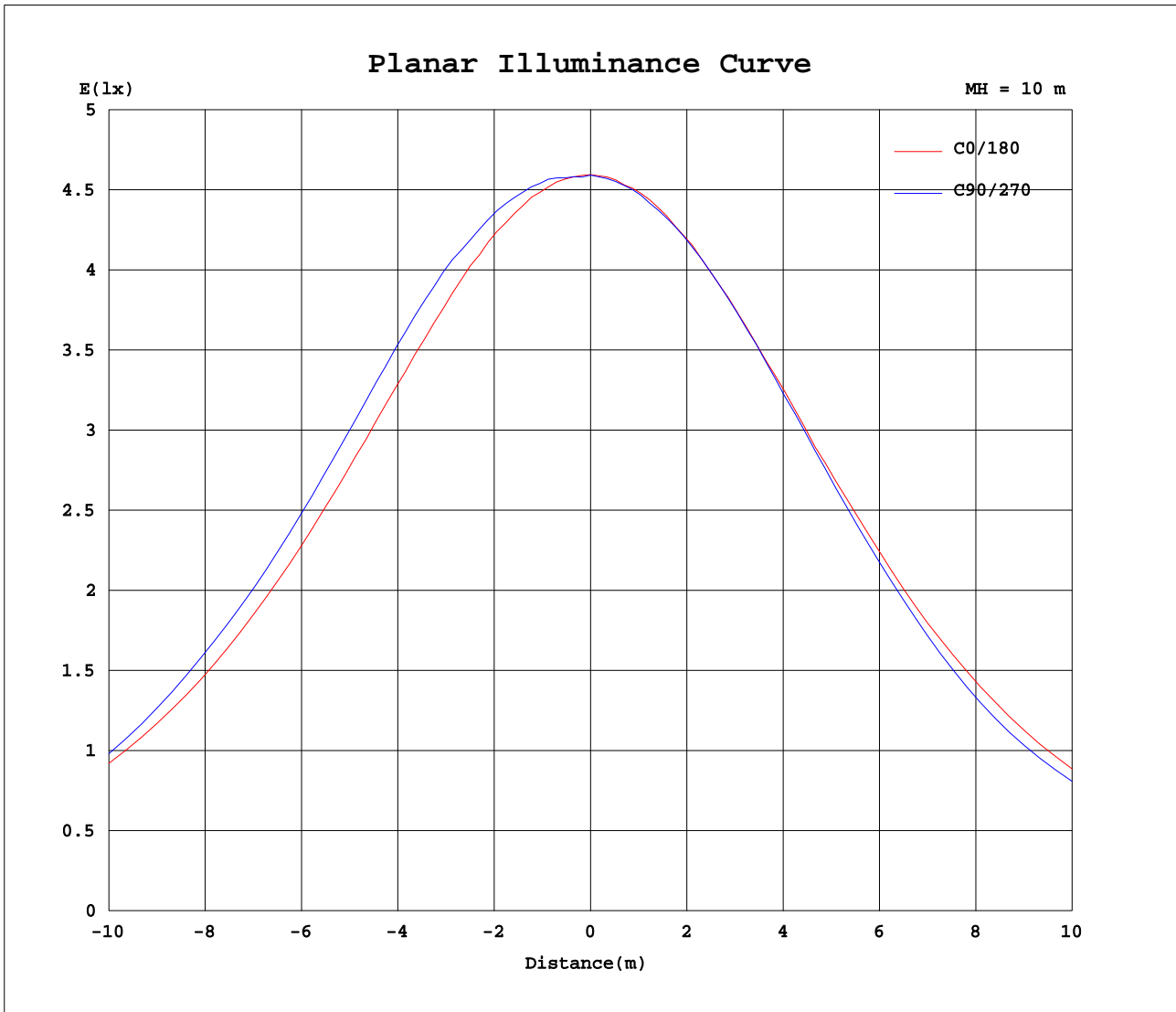
Test:U:120.0V I:0.2343A P:28.00W PF:0.9951 Lamp Flux:1279.4lx1 lm		
NAME: Nano 36''Vanity,Satin Nickel Polished ChromeTYPE:NAN-36V-SN or PC		WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Blackjack Lighting	SUR.:0.91*0.03	PROTECTION ANGLE:



C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.6DEG
 Operators:David
 Test Date:2017-11-29

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.287
 Humidity:67.1%
 Test Distance:26.000m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 25.6DEG
Operators: David
Test Date: 2017-11-29

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.0.287
Humidity: 67.1%
Test Distance: 26.000m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:120.0V I:0.2343A P:28.00W PF:0.9951 Lamp Flux:1279.4lx1 lm		
NAME: Nano 36''Vanity,Satin Nickel Polished ChromeTYPE:NAN-36V-SN or PC		WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Blackjack Lighting	SUR.:0.91*0.03	PROTECTION 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	459	460	459	459	460	460	460	460	460	459	459	459	459	459	459	459	459	459	459
5	457	457	458	457	459	461	460	461	460	462	461	461	460	459	457	456	455	456	456
10	450	450	453	454	456	458	458	461	462	462	460	460	458	456	453	452	448	447	447
15	437	439	442	445	450	453	453	454	456	458	455	454	451	449	446	441	437	433	433
20	419	422	428	433	437	442	444	445	446	448	446	444	442	438	433	427	421	415	414
25	395	400	408	413	421	422	423	426	425	427	425	424	423	420	416	408	400	393	389
30	368	375	383	392	396	398	398	399	398	399	398	397	396	394	391	384	374	365	362
35	336	345	354	361	364	365	365	365	364	366	364	363	363	361	360	354	344	333	327
40	300	310	322	325	326	327	328	328	326	327	327	326	325	323	323	318	310	298	291
45	261	274	284	286	285	287	284	280	278	278	278	279	282	283	281	278	274	260	250
50	221	234	243	243	245	238	235	234	233	233	233	233	233	236	238	235	233	222	210
55	183	198	200	203	200	199	199	198	198	198	198	197	195	195	197	195	193	185	173
60	149	164	165	169	167	166	164	161	158	158	158	160	160	161	162	165	158	151	140
65	120	132	139	133	132	131	129	125	123	122	123	124	126	127	127	127	128	123	111
70	93.3	103	103	103	103	101	98.4	95.1	92.8	91.6	92.8	94.3	96.0	97.3	97.5	96.8	101	95.1	85.0
75	69.6	80.9	75.9	77.1	77.0	75.7	73.2	70.6	68.4	67.2	68.1	69.6	71.2	72.3	72.6	71.3	70.1	70.6	61.1
80	47.0	52.6	52.5	53.6	53.9	52.9	51.1	48.8	47.4	46.2	46.7	48.0	49.0	49.7	49.7	48.4	46.6	48.9	38.9
85	25.5	28.3	30.0	31.3	31.9	31.9	30.8	29.6	28.5	27.7	27.8	28.2	28.6	28.9	28.3	26.8	24.8	22.4	17.8
90	4.11	6.60	8.52	9.98	11.2	11.7	11.6	11.2	10.7	10.4	10.3	10.1	9.56	8.75	7.57	6.00	4.67	3.87	2.69
95	3.08	6.37	7.87	7.85	7.05	6.07	4.96	4.06	3.33	3.28	4.05	5.09	6.30	7.49	8.44	8.89	7.95	5.31	2.46
100	2.69	8.65	13.7	16.5	17.6	18.0	17.9	17.7	17.1	17.4	17.8	18.4	18.8	18.8	18.3	16.5	12.8	5.65	2.28
105	2.50	8.43	18.1	23.7	26.9	28.5	29.2	29.6	29.3	29.8	30.0	30.1	29.7	28.8	26.7	22.6	15.6	5.58	2.29
110	2.43	8.26	19.4	29.3	34.3	37.4	39.2	40.0	40.4	40.9	40.6	40.3	39.4	37.2	33.7	27.3	15.0	5.13	2.13
115	2.33	7.32	17.8	30.9	39.8	44.4	47.4	48.8	49.6	50.4	49.9	49.1	47.3	43.9	38.1	25.2	13.7	4.41	2.01
120	2.31	6.22	15.4	25.5	37.7	47.0	51.6	54.3	55.8	56.8	55.7	54.2	50.8	44.6	33.0	22.0	12.0	3.60	2.01
125	2.33	5.09	13.3	22.4	30.3	40.4	48.2	52.6	55.0	56.1	54.5	51.9	45.7	36.7	27.8	19.1	10.3	2.85	1.99
130	2.33	3.99	11.1	18.9	26.4	32.5	39.0	44.3	47.3	48.4	46.9	43.0	36.8	30.5	24.0	16.3	8.51	2.36	1.81
135	2.39	3.10	8.88	15.7	22.2	27.7	32.0	35.1	37.4	38.3	37.0	34.5	30.9	26.1	20.2	13.4	6.79	2.11	1.75
140	2.43	2.51	6.83	12.6	18.1	23.1	26.9	29.7	31.2	32.1	31.3	29.2	26.0	21.6	16.5	10.7	5.03	2.13	1.69
145	2.45	2.25	4.92	9.51	14.2	18.5	21.8	24.2	25.6	26.3	25.7	23.8	20.9	17.2	12.9	8.07	3.57	2.09	1.54
150	2.50	2.21	3.25	6.79	10.5	14.0	16.8	18.8	20.1	20.5	20.1	18.5	16.1	13.0	9.43	5.58	2.49	2.11	1.45
155	2.48	2.00	2.09	4.16	6.99	9.68	12.0	13.6	14.7	15.0	14.6	13.4	11.4	8.93	6.20	3.33	1.78	1.94	1.43
160	2.35	1.91	1.67	2.08	3.76	5.71	7.39	8.67	9.47	9.68	9.39	8.45	7.01	5.22	3.17	1.81	1.68	1.85	1.37
165	2.04	1.72	1.54	1.26	1.47	2.31	3.37	4.20	4.73	4.85	4.67	4.11	3.15	2.08	1.34	1.29	1.57	1.64	1.54
170	1.86	1.61	1.48	1.16	1.03	0.99	1.02	1.15	1.28	1.29	1.25	1.08	1.01	1.04	1.18	1.38	1.57	1.62	1.96
175	2.05	1.74	1.48	1.20	1.04	0.97	0.91	0.89	0.91	0.87	0.89	0.95	0.99	1.10	1.22	1.52	1.76	1.86	2.05
180	2.18	1.81	1.76	1.52	1.12	1.02	0.91	0.89	0.91	0.87	0.89	0.95	0.99	1.12	1.33	1.67	1.83	2.11	2.05

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.6DEG
 Operators:David
 Test Date:2017-11-29

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.287
 Humidity:67.1%
 Test Distance:26.000m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:120.0V I:0.2343A P:28.00W PF:0.9951 Lamp Flux:1279.4lx1 lm		
NAME: Nano 36''Vanity,Satin Nickel Polished ChromeTYPE:NAN-36V-SN or PC		WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Blackjack Lighting	SUR.:0.91*0.03	PROTECTION ANGLE:

Table--2

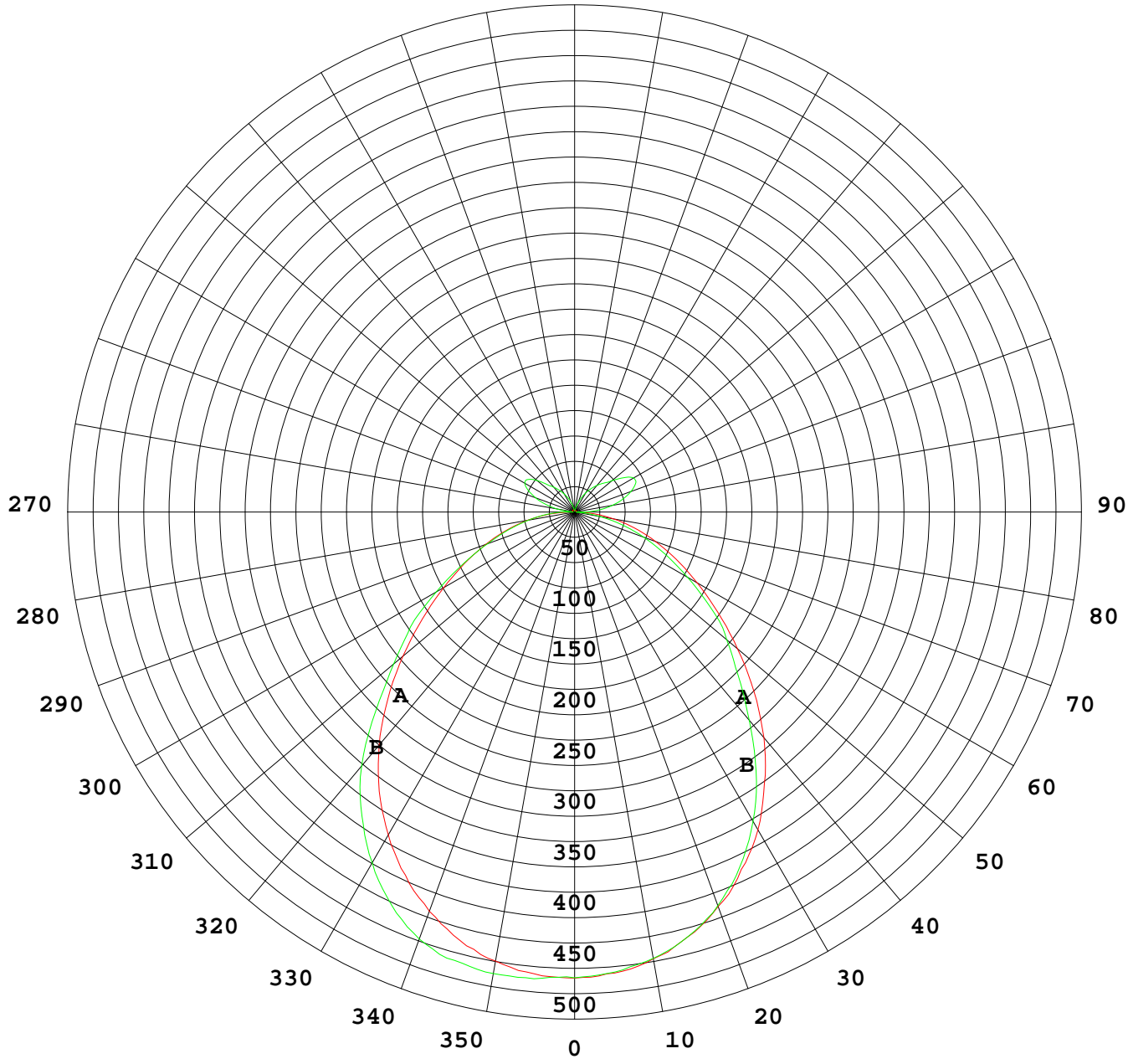
UNIT: cd

C(DEG) γ (DEG)	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350		
0	460	459	459	460	460	460	460	460	459	459	459	459	459	459	459	459	459		
5	456	456	455	455	455	455	455	455	455	454	455	455	455	455	456	456	457		
10	447	446	445	447	445	446	447	446	447	447	447	446	447	447	447	447	448		
15	432	431	431	433	433	433	434	434	433	433	434	434	434	434	434	433	435		
20	413	413	413	414	413	414	413	413	413	414	414	414	415	416	416	415	416		
25	389	388	388	388	387	387	387	385	386	387	388	389	391	392	393	392	393		
30	359	359	358	358	356	355	354	352	352	353	355	357	360	363	364	364	364		
35	326	325	323	321	318	316	313	312	312	313	315	319	323	328	330	332	332		
40	289	287	284	280	276	272	268	268	268	270	272	276	282	288	292	295	296		
45	248	246	241	237	233	231	229	228	228	230	231	234	239	245	250	255	257		
50	208	205	202	199	198	197	196	196	196	197	198	200	201	206	210	214	217		
55	171	170	174	172	170	168	166	164	164	165	168	172	173	177	176	177	179		
60	141	153	149	142	136	133	131	129	129	131	133	137	141	149	154	152	147		
65	114	118	113	110	107	103	101	98.6	98.7	100	103	106	111	115	120	131	118		
70	93.4	87.6	85.9	83.1	79.6	76.4	74.3	72.4	72.2	73.7	76.5	79.8	83.5	87.5	90.3	93.4	93.0		
75	63.7	61.9	60.4	57.6	54.8	52.1	49.8	48.3	48.1	49.6	52.2	55.1	58.7	62.3	65.0	66.9	70.1		
80	39.2	38.3	36.0	33.4	30.8	28.3	26.2	25.2	25.1	26.6	28.4	31.3	34.6	38.0	41.0	43.3	44.8		
85	17.0	14.9	12.7	10.6	8.76	7.37	6.32	5.65	5.65	6.59	8.06	9.80	12.0	14.6	17.3	20.1	22.3		
90	4.76	6.05	7.58	8.77	9.57	10.1	10.3	10.3	10.0	9.86	9.42	8.76	7.84	6.89	5.76	4.85	4.34		
95	7.74	12.5	16.6	20.0	22.1	23.7	24.8	24.8	24.6	24.5	24.0	22.5	20.7	18.1	14.5	10.5	6.20		
100	8.09	17.6	24.5	29.5	33.3	36.0	37.2	38.0	37.7	37.9	36.8	34.9	31.7	27.3	21.8	15.0	5.95		
105	8.07	20.2	30.3	37.3	42.6	45.9	48.4	49.6	49.3	49.3	48.1	45.0	40.8	35.2	27.5	16.2	5.91		
110	7.77	19.3	34.1	43.8	50.0	54.3	57.1	58.5	59.0	58.8	57.0	53.5	48.4	41.2	30.0	16.0	5.44		
115	6.87	17.6	29.5	44.4	54.1	60.0	63.8	65.3	66.3	65.9	63.4	59.1	52.7	41.6	27.0	14.7	4.61		
120	5.69	15.4	26.2	36.5	48.4	57.5	63.1	65.8	67.2	66.1	62.9	56.5	46.4	34.2	23.7	12.8	3.70		
125	4.45	13.0	22.8	31.9	39.2	47.7	54.0	57.6	59.2	57.6	53.4	46.3	38.0	29.9	20.5	10.8	2.88		
130	3.25	10.8	19.4	27.5	34.4	39.6	43.4	46.6	48.1	46.6	43.0	38.8	33.0	25.7	17.3	8.73	2.33		
135	2.30	8.53	15.6	23.1	29.0	34.0	37.4	39.4	40.3	39.6	37.2	33.3	27.9	21.5	14.2	6.66	2.03		
140	1.59	6.33	12.4	18.8	24.0	28.5	31.5	33.4	34.2	33.5	31.2	27.7	23.0	17.4	11.0	4.78	1.84		
145	1.46	4.28	9.11	14.1	19.0	22.8	25.6	27.2	28.0	27.2	25.2	22.1	18.1	13.3	8.06	3.19	1.75		
150	1.40	2.55	6.09	10.1	13.5	17.2	19.6	21.1	21.6	20.9	19.3	16.7	13.4	9.55	5.46	2.04	1.71		
155	1.32	1.34	3.34	6.24	9.06	11.8	13.8	15.0	15.4	14.9	13.6	11.6	9.03	6.20	3.32	1.55	1.62		
160	1.34	1.17	1.29	2.76	4.74	6.53	8.20	9.19	9.30	9.29	8.37	6.99	5.26	3.43	1.78	1.55	1.60		
165	1.53	1.33	1.29	1.20	1.49	2.53	3.51	4.01	4.70	4.50	3.98	3.20	2.29	1.48	1.46	1.64	1.66		
170	1.97	1.65	1.58	1.35	1.16	1.08	0.98	0.96	1.07	1.09	1.04	0.95	1.08	1.16	1.46	1.74	1.85		
175	2.21	1.82	1.71	1.42	1.16	1.04	0.95	0.96	0.91	0.87	0.89	0.95	1.08	1.16	1.46	1.74	1.83		
180	2.19	1.82	1.71	1.48	1.16	1.04	0.91	0.89	0.91	0.87	0.89	0.95	0.99	1.18	1.33	1.66	1.83		

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.6DEG
 Operators:David
 Test Date:2017-11-29

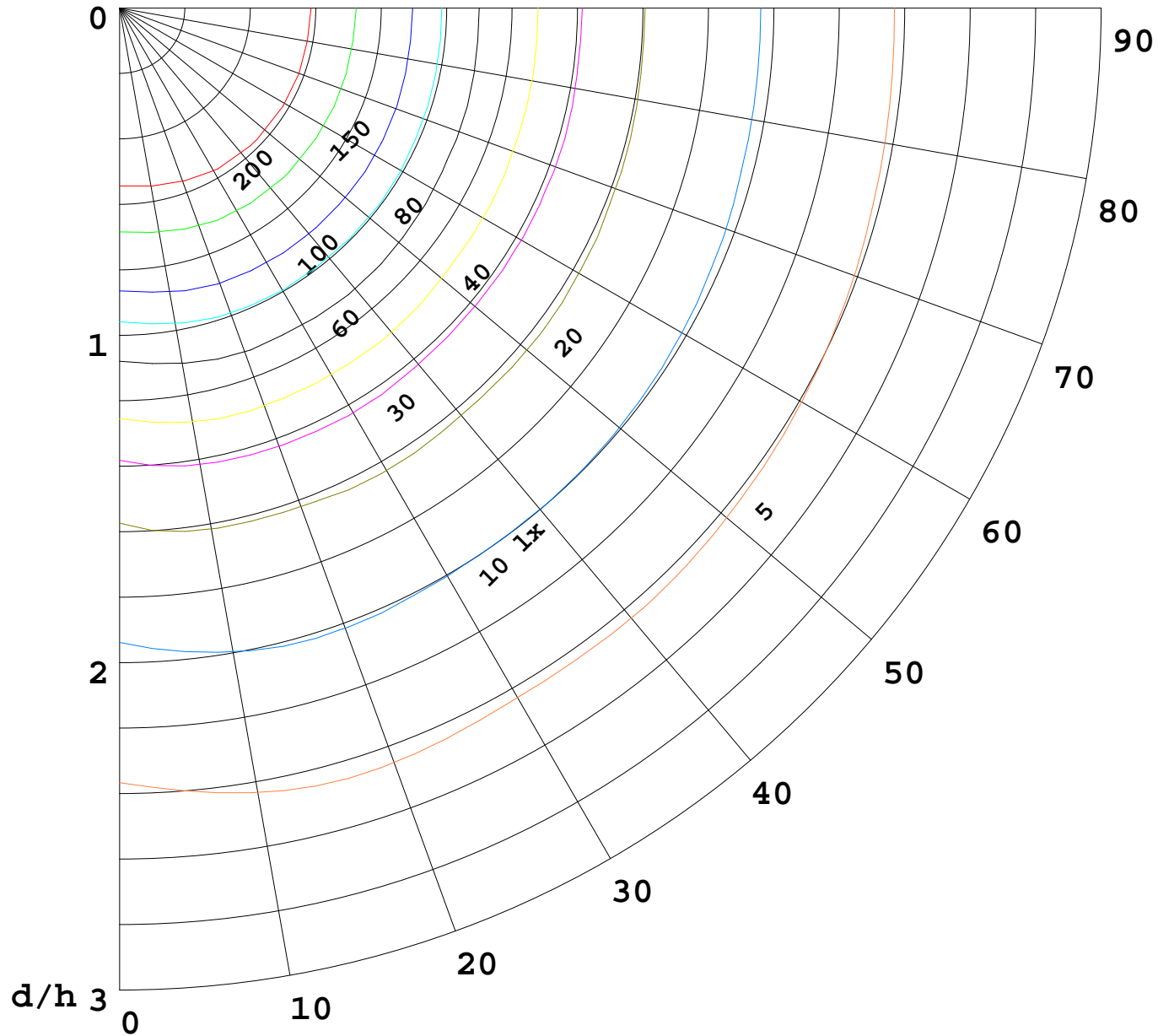
γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.287
 Humidity:67.1%
 Test Distance:26.000m [K=1.0000]
 Remarks:

I (cd)



1000 lm

$K = 1$



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

