



IESNA LM-79 TEST REPORT

Applicant's name	Blackjack Lighting
Address	1553 Barclay Blvd. Buffalo Grove, IL 60089
Brand Name	Blackjack Lighting
Report No.....	BTR66.181.17.0020.16
Product Name	14" Decorative tubular glass sconce
Model Number	LIN-14S-SN

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	Jan 26, 2018	

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

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

description:	
Test date	Jan 22, 2018
Sample Quantity	1 unit
SKU.....	N/A
Rating(s) (V; Hz)	AC 120V/60Hz
Nominal Power.....	11W
Nominal Power Factor	N/A
Nominal Lumen Output.....	910lm
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.

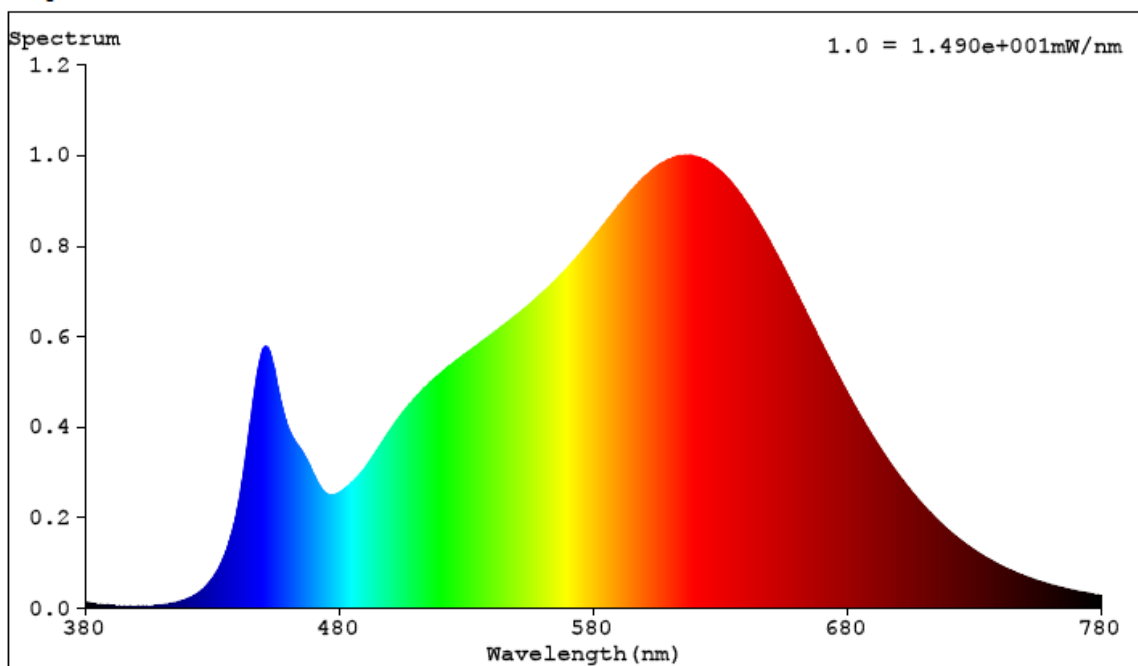
Luminous Intensity

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

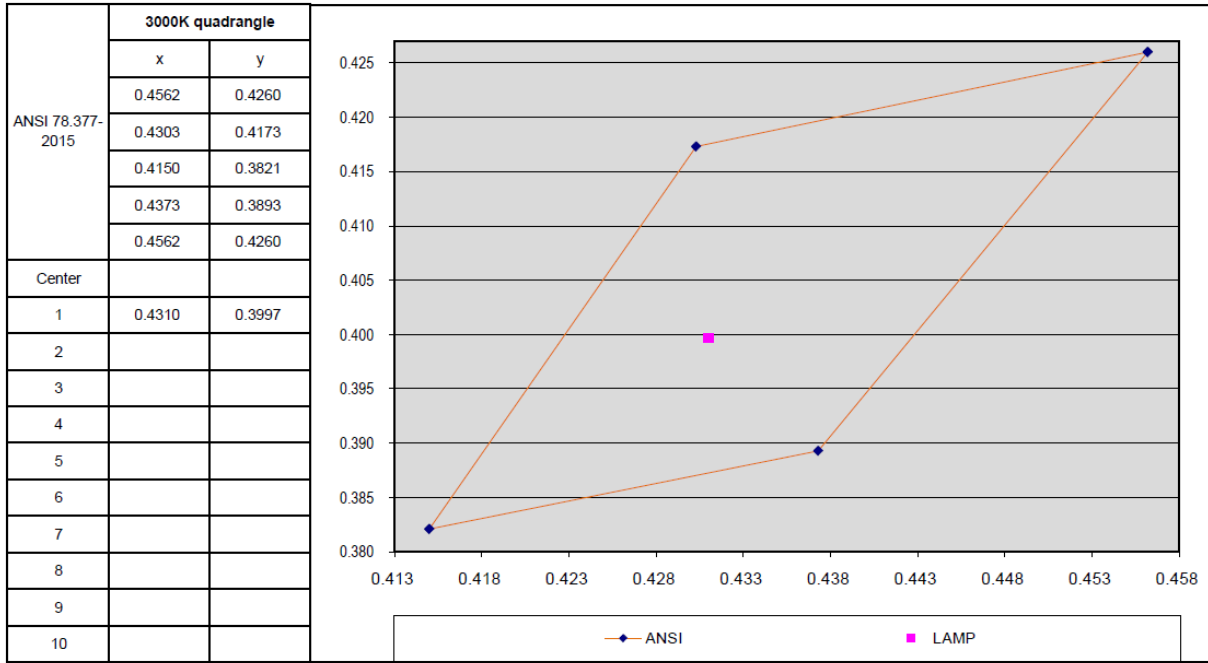
Photometric and Electrical Test Data

Input Voltage (V)	Frequency (Hz)	Input Current (A)	ITHD	Input Power (W)	Power Factor	Lumen Output (Lumens)	Efficiency Lumen/w
120.0	60.0	0.0915	/	10.69	0.9739	915.80	85.67
CCT (K)	CRI (Ra)	R9	x CIE1931	y CIE1931	u' CIE1976	v' CIE1976	Duv CIE1976
3066	92.2	55	0.4310	0.3997	0.2486	0.5188	-0.0009

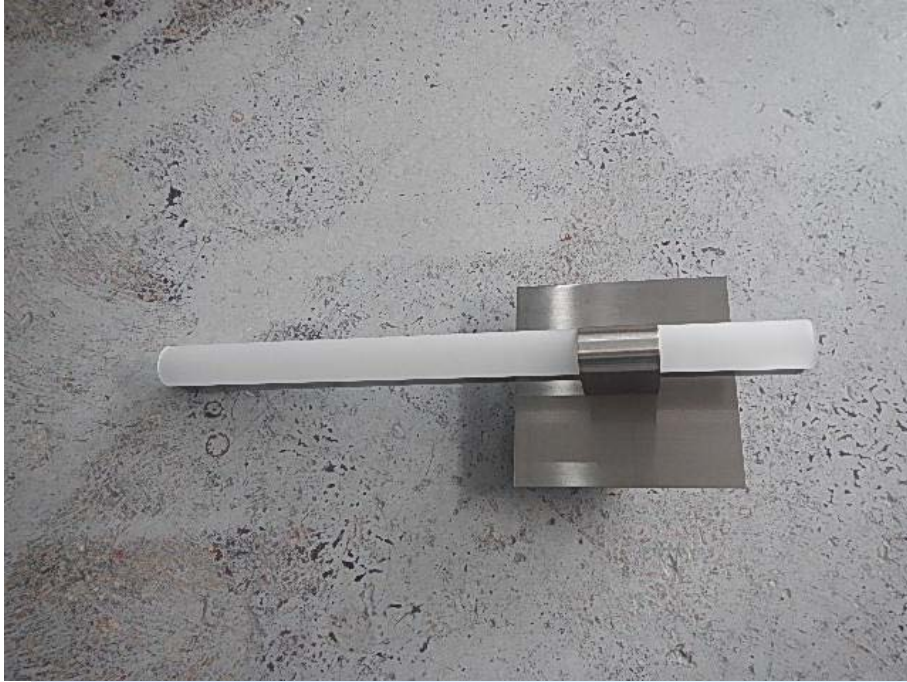
Spectrul Plots



7 Step Quadrangle



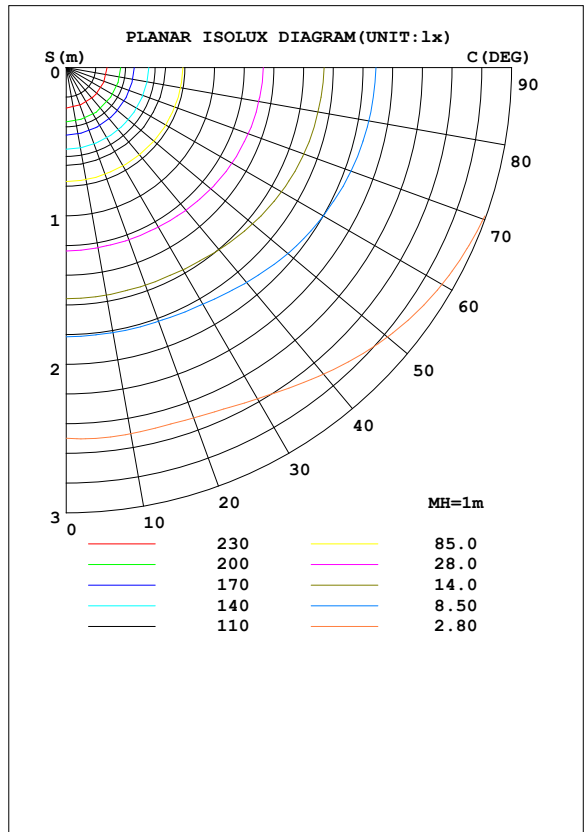
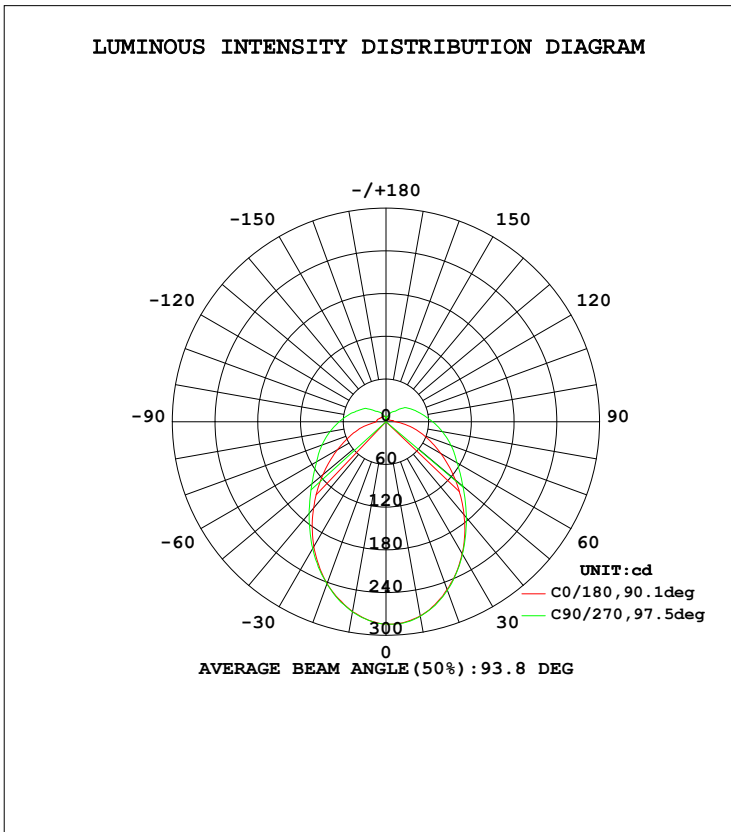
EUT Photo



LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:120.0V I:0.0915A P:10.69W PF:0.9739 Lamp Flux:915.795x1 lm		
NAME:	TYPE:LIN-14S-SN	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Blackjack Lighting	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 85.67 lm/W			
MODEL	LIN-14S-SN	I _{max} (cd)	285.6	S/MH (C0/180)	1.14
NOMINAL POWER (W)	11	LOR (%)	100.0	S/MH (C90/270)	1.14
RATED VOLTAGE (V)	120	TOTAL FLUX (lm)	915.79	η UP, DN (C0-180)	8.5, 40.9
NOMINAL FLUX (lm)	915.795	CIE CLASS	SEMI-D.	η UP, DN (C180-360)	8.5, 42.1
LAMPS INSIDE	1	η up (%)	17.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	120	η down (%)	83.0	CIBSE SHR MAX	1.30



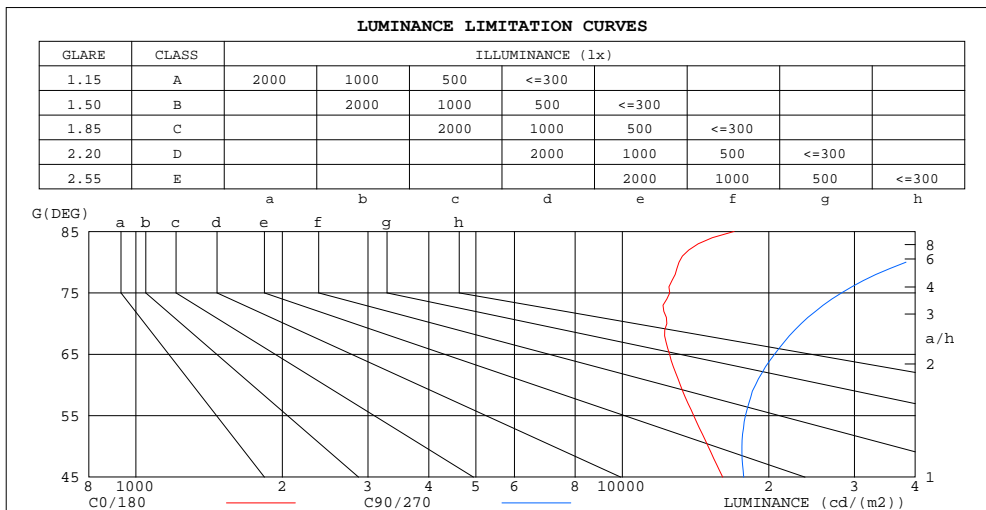
C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: David
 Test Date: 2018-01-25

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.0.287
 Humidity: 65.0%
 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	270.9	270.1	271.2	274.3	277.0	279.3	277.6	274.5	0- 10	26.67	26.67	2.91
20	242.0	239.8	242.6	247.6	250.8	254.2	252.0	246.6	10- 20	73.80	100.5	11
30	203.0	201.5	205.8	210.3	213.9	217.9	214.8	208.5	20- 30	105.4	205.8	22.5
40	158.1	160.3	168.0	170.8	170.5	176.1	175.7	168.2	30- 40	118.2	324.1	35.4
50	115.8	122.5	135.8	135.2	127.4	136.0	141.3	132.6	40- 50	115.1	439.2	48
60	78.92	92.01	112.7	107.9	88.61	102.4	115.2	105.7	50- 60	102.9	542.1	59.2
70	50.69	70.99	95.68	88.94	57.23	77.21	97.31	85.63	60- 70	87.81	629.9	68.8
80	27.24	56.01	79.80	73.13	31.39	59.76	80.47	70.03	70- 80	72.60	702.5	76.7
90	13.95	44.91	65.78	59.22	13.59	46.78	65.59	56.87	80- 90	57.41	760.0	83
100	13.04	36.38	54.08	47.85	10.26	37.57	53.67	46.66	90-100	45.50	805.5	88
110	11.50	29.86	44.04	38.57	6.503	31.16	44.82	39.05	100-110	36.20	841.7	91.9
120	10.04	22.59	36.63	30.10	5.055	21.80	37.72	32.43	110-120	27.42	869.1	94.9
130	9.083	17.91	26.53	18.63	5.056	15.42	29.56	23.58	120-130	19.36	888.5	97
140	8.722	13.64	19.08	15.07	5.256	13.01	19.45	18.08	130-140	12.44	900.9	98.4
150	8.543	10.47	14.73	11.39	5.344	8.952	15.44	13.31	140-150	7.930	908.8	99.2
160	8.155	8.310	9.408	7.841	5.350	6.756	9.480	8.710	150-160	4.409	913.2	99.7
170	7.405	7.492	6.920	6.560	3.418	4.807	5.275	6.942	160-170	2.043	915.3	99.9
180	7.196	6.358	0.7884	4.392	6.464	6.146	2.655	3.794	170-180	0.5176	915.8	100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	16976	69237
80	13073	38297
75	12515	28217
70	12350	23311
65	12506	20552
60	13154	18784
55	14019	17914
50	15013	17610
45	16086	17767

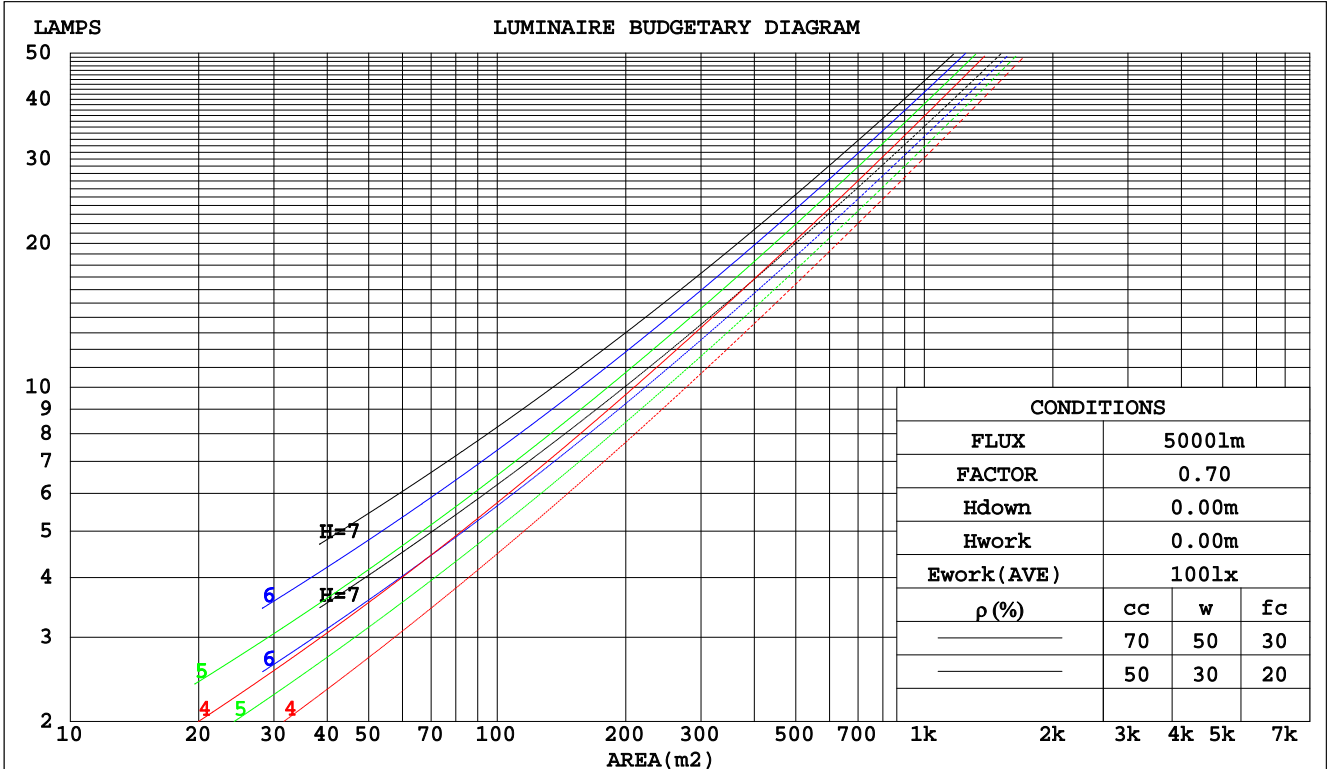
C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:David
 Test Date:2018-01-25

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.287
 Humidity:65.0%
 Test Distance:26.000m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:120.0V I:0.0915A P:10.69W PF:0.9739 Lamp Flux:915.795x1 lm		
NAME:	TYPE:LIN-14S-SN	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Blackjack Lighting	SUR.:	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	1.15	1.15	1.15	1.10	1.10	1.10	1.02	1.02	1.02	.94	.94	.94	.86	.86	.86	.83
1.0	.97	.92	.88	.93	.89	.85	.86	.82	.79	.79	.76	.74	.73	.71	.69	.65
2.0	.84	.77	.71	.81	.74	.69	.75	.69	.64	.69	.64	.60	.63	.60	.57	.54
3.0	.74	.65	.59	.71	.63	.57	.66	.59	.54	.61	.55	.51	.56	.52	.48	.45
4.0	.65	.57	.50	.63	.55	.48	.58	.51	.46	.54	.48	.44	.50	.45	.41	.38
5.0	.59	.50	.43	.56	.48	.42	.52	.45	.40	.49	.43	.38	.45	.40	.36	.33
6.0	.53	.44	.37	.51	.43	.37	.47	.40	.35	.44	.38	.33	.41	.36	.32	.29
7.0	.48	.39	.33	.46	.38	.32	.43	.36	.31	.40	.34	.30	.38	.32	.28	.26
8.0	.44	.35	.30	.42	.34	.29	.40	.33	.28	.37	.31	.27	.35	.29	.25	.23
9.0	.40	.32	.27	.39	.31	.26	.37	.30	.25	.34	.28	.24	.32	.27	.23	.21
10.0	.37	.29	.24	.36	.29	.24	.34	.27	.23	.32	.26	.22	.30	.25	.21	.19



C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: David
 Test Date: 2018-01-25

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.0.287
 Humidity: 65.0%
 Test Distance: 26.000m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:120.0V I:0.0915A P:10.69W PF:0.9739 Lamp Flux:915.795x1 lm		
NAME:	TYPE:LIN-14S-SN	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Blackjack Lighting	SUR.:	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	.356	.202	.064	.343	.196	.062	.320	.184	.059	.299	.172	.055	.279	.162	.052	
2.0	.311	.170	.052	.300	.165	.051	.279	.155	.048	.260	.146	.046	.242	.137	.043	
3.0	.278	.148	.044	.268	.144	.043	.250	.135	.041	.232	.127	.039	.216	.120	.037	
4.0	.252	.131	.039	.243	.127	.038	.226	.120	.036	.210	.113	.034	.196	.106	.032	
5.0	.230	.117	.034	.222	.114	.033	.207	.108	.032	.192	.102	.030	.179	.096	.029	
6.0	.212	.106	.030	.205	.103	.030	.191	.098	.028	.177	.092	.027	.165	.087	.026	
7.0	.196	.097	.028	.190	.094	.027	.177	.089	.026	.165	.084	.025	.153	.080	.023	
8.0	.183	.089	.025	.176	.087	.025	.165	.082	.023	.154	.078	.022	.143	.074	.021	
9.0	.171	.083	.023	.165	.080	.023	.154	.076	.022	.144	.072	.021	.134	.068	.020	
10.0	.160	.077	.021	.155	.075	.021	.145	.071	.020	.135	.067	.019	.126	.064	.018	

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	.320	.320	.320	.274	.274	.274	.187	.187	.187	.107	.107	.107	.034	.034	.034	
1.0	.314	.286	.261	.269	.246	.225	.184	.169	.156	.106	.098	.091	.034	.032	.029	
2.0	.306	.263	.227	.262	.227	.196	.180	.157	.137	.104	.091	.080	.033	.030	.026	
3.0	.298	.247	.205	.256	.213	.178	.176	.148	.125	.101	.086	.074	.033	.028	.024	
4.0	.290	.234	.191	.249	.202	.166	.171	.141	.117	.099	.083	.069	.032	.027	.023	
5.0	.283	.224	.181	.243	.194	.157	.167	.135	.111	.097	.079	.066	.031	.026	.022	
6.0	.275	.216	.173	.237	.187	.151	.163	.131	.107	.095	.077	.063	.031	.025	.021	
7.0	.269	.209	.168	.231	.181	.146	.160	.127	.104	.093	.075	.062	.030	.025	.020	
8.0	.262	.204	.163	.226	.177	.143	.156	.124	.101	.091	.073	.060	.029	.024	.020	
9.0	.256	.199	.160	.221	.173	.140	.153	.121	.099	.089	.072	.059	.029	.024	.020	
10.0	.250	.195	.158	.216	.169	.137	.150	.119	.098	.087	.070	.058	.028	.023	.019	

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:David
 Test Date:2018-01-25

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.287
 Humidity:65.0%
 Test Distance:26.000m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:120.0V I:0.0915A P:10.69W PF:0.9739 Lamp Flux:915.795x1 lm											
NAME:		TYPE:LIN-14S-SN				WEIGHT:					
SPEC.:		DIM.:				SERIAL No.:					
MFR.: Blackjack Lighting		SUR.:				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		20.0	21.4	20.5	21.8	22.4	21.5	22.8	22.0	23.3	23.8
	3H	21.4	22.6	21.9	23.1	23.7	24.0	25.2	24.5	25.7	26.3
	4H	22.0	23.2	22.6	23.7	24.3	25.3	26.5	25.9	27.0	27.6
	6H	22.7	23.7	23.2	24.3	24.9	26.9	28.0	27.5	28.5	29.1
	8H	22.9	24.0	23.5	24.5	25.2	27.7	28.8	28.3	29.4	30.0
	12H	23.2	24.2	23.8	24.8	25.4	28.7	29.7	29.3	30.3	31.0
	4H 2H	20.8	22.0	21.4	22.5	23.1	22.0	23.1	22.5	23.7	24.3
	3H	22.4	23.4	23.0	24.0	24.6	24.7	25.7	25.3	26.3	26.9
	4H	23.2	24.1	23.8	24.7	25.4	26.3	27.2	26.9	27.8	28.5
	6H	23.9	24.7	24.5	25.4	26.1	28.1	28.9	28.7	29.5	30.2
	8H	24.3	25.0	24.9	25.7	26.4	29.1	29.8	29.7	30.5	31.2
	12H	24.6	25.3	25.2	25.9	26.7	30.2	30.9	30.9	31.6	32.3
	8H 4H	24.0	24.8	24.7	25.5	26.2	26.6	27.4	27.2	28.0	28.7
	6H	25.0	25.7	25.7	26.4	27.1	28.7	29.3	29.4	30.0	30.8
	8H	25.5	26.1	26.2	26.8	27.6	29.9	30.5	30.6	31.2	32.0
	12H	25.9	26.4	26.6	27.1	28.0	31.3	31.8	32.0	32.5	33.4
	12H 4H	24.3	25.1	25.0	25.7	26.5	26.6	27.3	27.3	28.0	28.7
	6H	25.6	26.1	26.3	26.8	27.6	28.8	29.4	29.5	30.1	30.9
	8H	26.2	26.7	26.9	27.4	28.2	30.1	30.6	30.8	31.3	32.2
Variations with the observer position at spacings:											
S = 1.0H		+ 0.1 / - 0.2					+ 0.1 / - 0.1				
1.5H		+ 0.2 / - 0.2					+ 0.2 / - 0.3				
2.0H		+ 0.1 / - 0.2					+ 0.2 / - 0.3				

CIE Pub.117 Corrected 915.8 lm Total Lamp Luminous Flux. (8log(F/F0) = -0.3)

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:David
Test Date:2018-01-25

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.287
Humidity:65.0%
Test Distance:26.000m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:120.0V I:0.0915A P:10.69W PF:0.9739 Lamp Flux:915.795x1 lm		
NAME:	TYPE:LIN-14S-SN	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Blackjack Lighting	SUR.:	PROTECTION ANGLE:

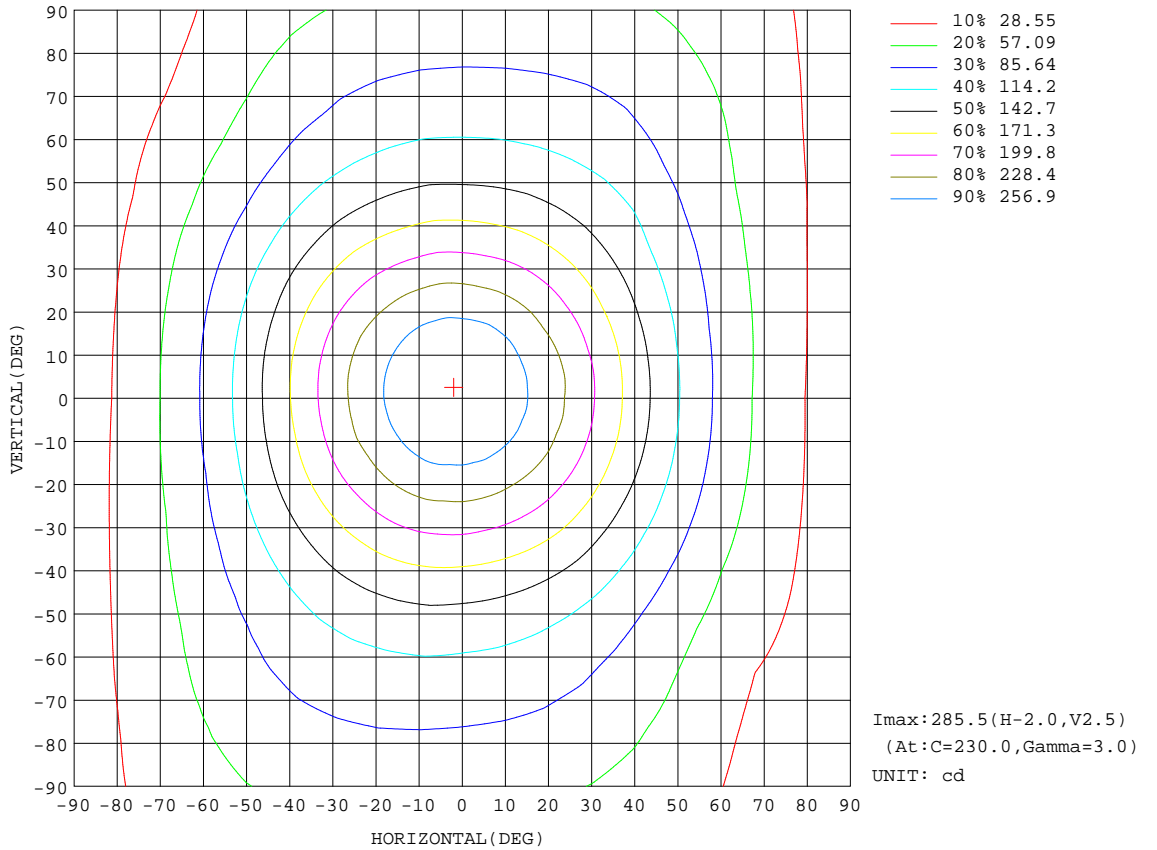
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	52	40	33	51	40	33	49	39	32	26
0.80	61	49	41	59	48	41	57	47	40	32
1.00	68	56	48	67	55	48	63	56	47	38
1.25	75	63	55	73	62	55	69	60	53	44
1.50	80	69	61	77	67	60	73	64	58	48
2.00	87	77	69	84	74	67	78	71	65	54
2.50	91	81	74	88	79	72	82	75	69	57
3.00	94	86	79	91	83	77	84	78	73	60
4.00	99	91	85	95	88	83	88	83	78	64
5.00	101	95	90	98	92	87	90	86	82	67
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:25.3DEG
 Operators:David
 Test Date:2018-01-25

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.287
 Humidity:65.0%
 Test Distance:26.000m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:120.0V I:0.0915A P:10.69W PF:0.9739 Lamp Flux:915.795x1 lm		
NAME:	TYPE:LIN-14S-SN	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Blackjack Lighting	SUR.:	PROTECTION ANGLE:

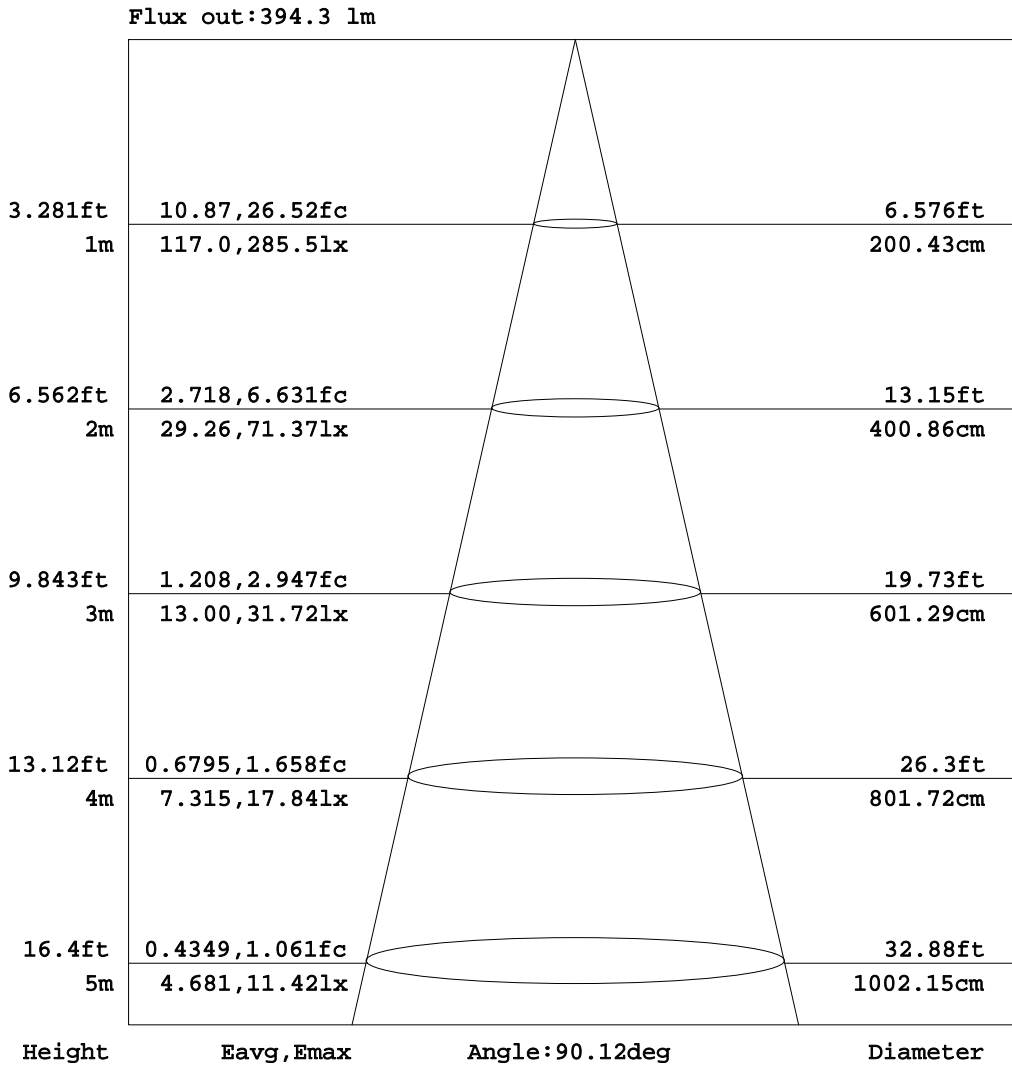


C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: David
 Test Date: 2018-01-25

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.0.287
 Humidity: 65.0%
 Test Distance: 26.000m [K=1.0000]
 Remarks:

AAI Figure

Test:U:120.0V I:0.0915A P:10.69W PF:0.9739 Lamp Flux:915.795x1 lm		
NAME:	TYPE:LIN-14S-SN	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Blackjack Lighting	SUR.:	PROTECTION ANGLE:



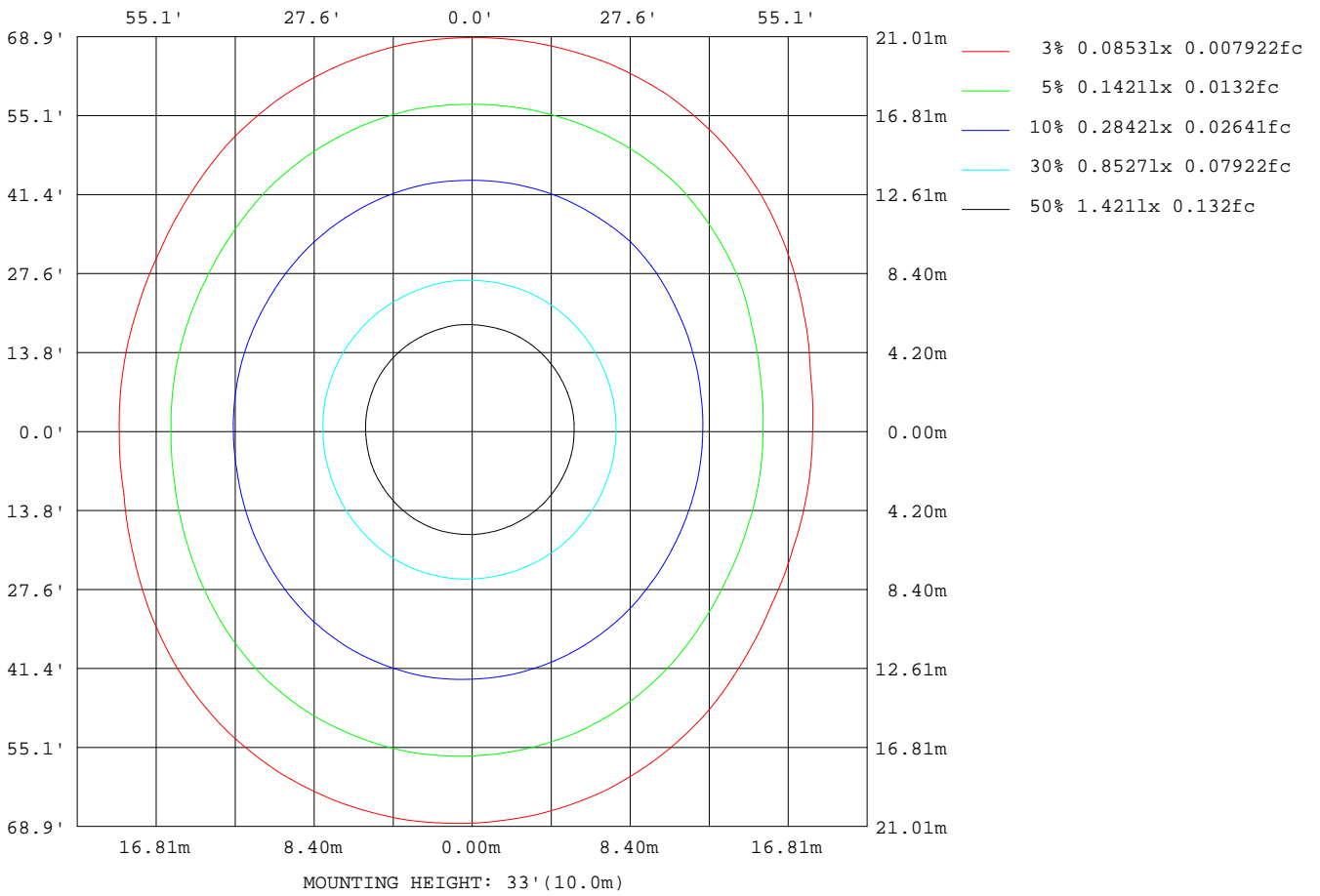
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:David
 Test Date:2018-01-25

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.287
 Humidity:65.0%
 Test Distance:26.000m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

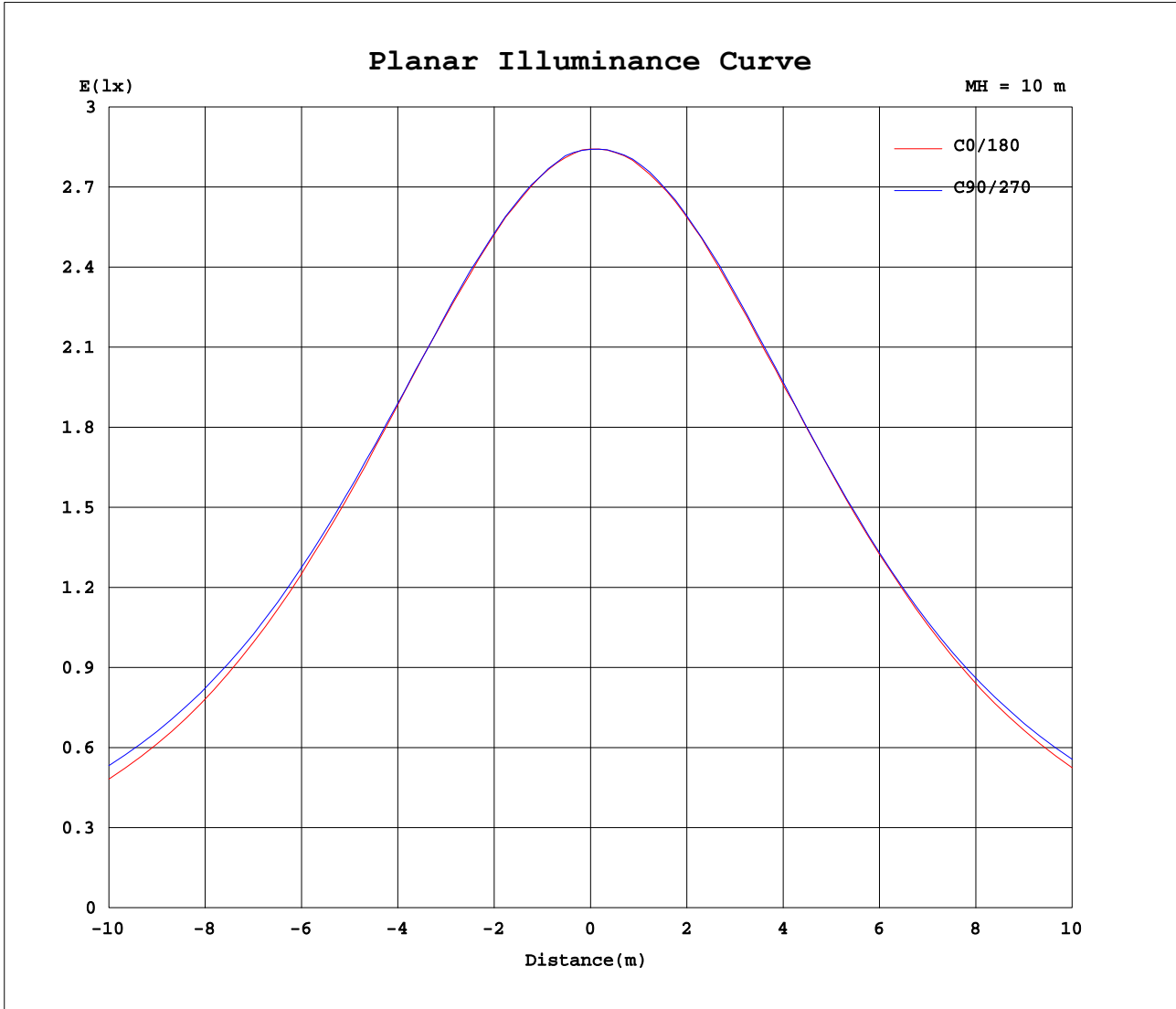
Test:U:120.0V I:0.0915A P:10.69W PF:0.9739 Lamp Flux:915.795x1 lm		
NAME:	TYPE:LIN-14S-SN	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Blackjack Lighting	SUR.:	PROTECTION ANGLE:



C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:David
 Test Date:2018-01-25

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.287
 Humidity:65.0%
 Test Distance:26.000m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: David
Test Date: 2018-01-25

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.0.287
Humidity: 65.0%
Test Distance: 26.000m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:120.0V I:0.0915A P:10.69W PF:0.9739 Lamp Flux:915.795x1 lm		
NAME:	TYPE:LIN-14S-SN	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Blackjack Lighting	SUR.:	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	284	285	284	285	285	285	284	284	284	284	285	285	285	285	284	284	285	284	284
5	280	280	279	280	280	280	280	280	280	280	280	281	281	282	282	282	283	283	283
10	271	271	269	270	270	270	271	270	271	271	272	273	274	274	275	276	276	276	277
15	257	257	256	256	256	256	257	257	257	258	259	261	262	262	263	264	265	265	266
20	242	242	241	241	240	240	239	241	241	243	243	245	246	247	248	248	249	249	251
25	223	223	222	222	222	221	221	222	223	225	225	228	229	229	230	230	231	233	234
30	203	202	202	201	201	202	202	203	204	206	207	209	210	210	210	212	212	213	214
35	181	180	180	180	180	181	182	183	185	186	188	190	191	190	190	191	191	192	193
40	158	158	157	158	159	161	163	164	166	168	170	171	172	171	171	170	170	169	170
45	136	136	136	137	139	142	145	147	149	151	153	154	154	153	151	149	149	149	148
50	116	115	116	117	121	124	128	131	134	136	138	139	138	137	134	131	128	127	127
55	96.5	96.3	97.1	99.1	103	109	114	118	121	123	126	126	125	122	118	114	110	108	107
60	78.9	79.0	79.7	82.7	88.4	95.6	102	107	110	113	115	114	113	111	105	99.5	93.4	89.5	88.6
65	63.4	63.6	64.3	68.3	76.1	84.9	92.0	98.0	102	104	106	106	104	100	94.4	86.7	79.6	73.5	72.1
70	50.7	50.8	51.3	56.5	65.9	76.1	84.3	89.7	93.8	95.7	97.2	97.4	95.8	92.3	85.6	76.4	67.7	59.2	57.2
75	38.9	39.6	40.0	46.6	57.9	68.7	76.6	82.2	85.6	87.6	89.0	89.3	87.5	84.2	77.7	68.7	57.6	48.5	44.0
80	27.2	29.1	29.2	39.2	50.8	61.2	69.2	74.6	78.0	79.8	81.0	81.3	79.7	76.1	70.2	61.5	50.0	38.5	31.4
85	17.8	15.7	21.6	33.4	45.0	55.1	62.5	67.5	70.8	72.4	73.4	73.6	72.2	68.9	63.0	54.3	43.4	31.4	20.6
90	13.9	7.45	17.7	29.1	40.2	49.6	56.5	61.3	64.3	65.8	66.4	66.6	65.2	62.0	56.4	48.4	38.2	26.2	13.6
95	13.2	8.60	16.0	26.0	36.0	44.5	50.9	55.4	58.3	59.7	60.3	60.2	58.8	55.7	50.5	43.0	33.6	22.7	11.3
100	13.0	8.92	15.2	23.8	32.5	40.3	46.1	50.2	52.7	54.1	54.5	54.5	53.1	50.3	45.4	38.6	29.8	19.7	10.3
105	12.5	9.19	14.0	21.7	29.7	36.6	41.9	45.3	47.6	49.1	49.6	49.4	48.2	45.3	40.3	34.2	26.3	15.7	7.73
110	11.5	9.28	12.7	18.9	26.3	33.4	38.1	41.2	43.1	44.0	44.6	44.8	43.8	41.0	36.1	30.6	21.6	10.1	6.50
115	10.6	9.32	11.6	16.9	22.5	29.3	34.5	37.6	39.1	39.9	40.6	40.7	39.8	37.0	32.9	25.5	14.7	7.99	5.61
120	10.0	9.34	10.9	15.3	20.0	25.1	29.8	34.0	35.7	36.6	37.1	37.1	35.6	33.2	27.0	19.4	9.98	8.21	5.05
125	9.53	9.34	10.2	13.9	18.2	21.9	25.4	28.4	30.6	32.1	32.6	32.0	29.8	26.5	21.7	13.9	10.5	7.89	5.06
130	9.08	9.28	9.74	12.4	16.3	19.5	21.6	23.7	25.6	26.5	26.8	26.2	24.3	20.8	16.4	13.5	10.6	7.18	5.06
135	8.83	9.19	9.18	11.3	14.2	17.2	19.2	20.5	21.0	21.2	21.4	20.9	19.5	17.6	15.6	12.8	10.6	6.98	5.17
140	8.72	9.07	8.84	10.3	12.4	14.9	16.8	18.0	18.8	19.1	18.9	18.8	17.9	16.4	13.8	12.3	8.86	6.69	5.26
145	8.62	8.98	8.73	9.55	11.0	12.9	14.6	15.8	16.5	16.8	16.7	16.6	15.8	14.4	12.9	10.2	7.85	6.46	5.32
150	8.54	8.87	8.69	8.92	9.89	11.1	12.2	13.5	14.3	14.7	14.7	14.5	13.8	12.5	10.3	8.41	7.14	6.34	5.34
155	8.34	8.60	8.48	8.32	8.96	9.62	10.3	11.0	11.5	11.9	11.9	11.7	10.8	9.60	8.46	7.50	6.82	6.06	5.36
160	8.15	8.22	8.30	8.12	8.07	8.55	8.83	9.11	9.34	9.41	9.40	9.14	8.71	8.10	7.58	6.96	6.33	6.06	5.35
165	7.72	7.76	7.81	7.96	7.80	7.65	7.84	7.96	7.99	7.93	7.97	7.89	7.70	7.35	7.00	6.55	5.86	6.10	5.12
170	7.41	7.51	7.45	7.40	7.62	7.37	7.41	7.22	7.09	6.92	7.03	6.97	6.95	6.90	6.22	4.74	4.11	3.72	3.42
175	7.33	7.39	7.29	7.13	7.34	7.44	7.07	7.29	7.18	7.07	7.20	5.93	3.19	2.22	2.07	2.10	2.13	2.21	2.40
180	7.20	7.18	7.04	7.00	6.54	6.17	5.30	4.00	2.76	0.79	1.52	1.81	2.16	3.78	5.01	5.51	6.16	6.26	6.46

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:David
 Test Date:2018-01-25

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.287
 Humidity:65.0%
 Test Distance:26.000m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:120.0V I:0.0915A P:10.69W PF:0.9739 Lamp Flux:915.795x1 lm		
NAME:	TYPE:LIN-14S-SN	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Blackjack Lighting	SUR.:	PROTECTION ANGLE:

Table--2

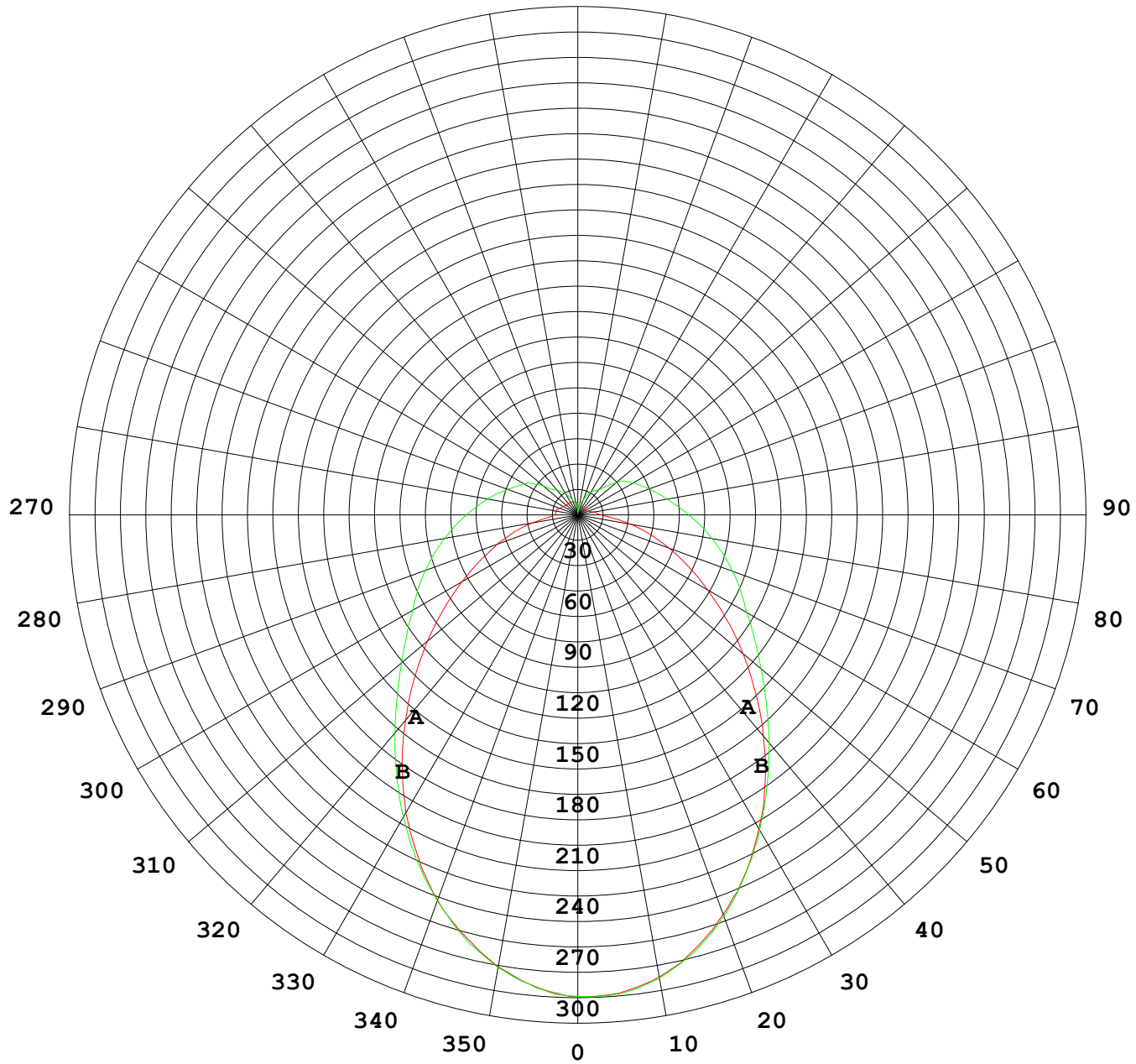
UNIT: cd

C (DEG) γ (DEG)	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350		
0	285	284	285	285	285	284	284	284	284	285	285	285	285	284	284	285	284		
5	284	284	284	285	285	284	284	284	284	284	284	283	282	282	282	281	281		
10	278	278	278	279	280	279	279	279	278	278	277	276	275	274	273	272	272		
15	267	267	268	269	269	269	268	268	267	266	266	264	263	261	260	259	258		
20	253	253	254	254	254	254	254	254	252	251	250	249	248	245	245	243	244		
25	236	236	237	237	237	237	236	236	234	233	232	231	229	227	226	226	225		
30	216	216	218	218	218	217	216	217	215	213	213	211	209	208	206	205	204		
35	194	196	197	197	197	197	196	197	195	194	193	192	189	187	185	184	181		
40	172	174	175	176	177	176	177	177	176	175	174	172	169	167	164	162	160		
45	150	152	153	155	156	157	158	159	157	157	156	154	151	148	144	140	138		
50	129	130	132	135	137	139	141	142	141	141	140	138	135	130	125	120	117		
55	108	110	112	116	120	123	126	128	127	127	126	124	122	117	109	103	97.9		
60	89.8	91.7	94.3	99.4	105	110	113	116	115	115	114	112	109	102	95.5	87.5	81.3		
65	73.1	74.9	78.5	85.2	92.8	98.7	102	105	106	106	105	103	97.5	90.6	82.3	73.7	65.7		
70	57.9	59.6	65.1	73.2	81.2	88.8	93.9	96.4	97.3	97.1	96.1	94.0	89.3	82.0	72.2	62.0	53.7		
75	43.5	46.8	53.1	62.4	72.8	80.5	85.1	87.8	88.7	88.5	87.7	85.5	81.6	74.4	64.7	53.2	42.5		
80	30.2	36.1	42.9	54.4	65.1	72.5	77.1	79.7	80.5	80.4	79.4	77.2	73.3	66.8	57.7	47.0	34.2		
85	17.9	24.4	35.9	47.6	57.6	64.8	69.4	71.9	72.8	72.8	72.1	69.7	65.8	59.7	51.4	40.7	28.7		
90	6.99	18.0	30.4	42.0	51.5	58.1	62.3	64.8	65.6	65.6	65.1	63.2	59.7	54.0	46.1	36.2	25.0		
95	5.85	15.3	26.7	37.3	45.9	52.0	55.9	58.2	59.1	59.4	59.0	57.3	53.9	48.7	41.5	32.5	22.4		
100	6.50	14.3	24.1	33.6	41.5	47.1	50.7	52.8	53.7	54.0	53.7	52.0	49.0	44.3	37.7	29.7	21.0		
105	6.25	10.1	22.2	30.5	37.6	42.8	46.2	48.2	48.9	49.2	48.9	47.5	44.8	40.4	34.5	27.4	19.5		
110	5.96	8.21	17.2	28.0	34.3	39.0	42.2	44.1	44.8	45.1	44.8	43.6	41.1	37.0	31.6	24.5	17.6		
115	5.53	7.67	11.3	23.1	31.5	35.7	38.7	40.4	41.1	41.4	41.1	40.0	37.7	33.9	28.6	21.4	15.9		
120	5.18	6.38	10.6	17.1	26.5	32.8	35.4	37.1	37.7	37.8	37.7	36.7	34.5	30.4	24.7	19.2	14.5		
125	5.22	6.21	10.7	14.3	20.8	27.1	31.8	33.8	34.6	34.7	34.5	33.5	30.0	26.1	21.4	17.7	13.4		
130	5.31	6.11	10.1	13.8	17.1	21.6	25.6	28.3	29.6	29.8	29.3	27.8	25.3	21.9	19.5	16.2	11.9		
135	5.39	6.13	8.74	13.2	15.9	18.1	20.2	22.9	24.1	24.6	24.2	22.7	20.9	19.6	17.4	14.3	10.7		
140	5.42	6.04	7.55	11.5	14.6	16.5	17.9	19.0	19.4	19.8	19.9	19.6	18.8	17.4	15.2	12.0	9.64		
145	5.40	6.06	6.81	9.06	12.7	14.9	16.1	17.0	17.5	17.9	17.9	17.5	16.6	15.2	12.6	10.4	8.85		
150	5.40	6.13	6.48	7.57	10.3	12.6	14.1	15.0	15.4	15.7	15.8	15.2	14.2	12.4	10.4	9.19	8.32		
155	5.06	6.20	6.28	6.85	7.11	9.71	11.2	12.3	12.9	13.1	13.0	12.3	11.3	10.00	9.05	8.34	7.91		
160	4.57	5.79	6.61	6.74	6.77	6.07	8.43	9.05	9.48	9.70	9.64	9.36	8.95	8.47	8.00	7.60	7.71		
165	4.68	5.20	6.58	6.76	6.75	6.73	5.73	7.37	7.50	7.71	7.73	7.73	7.62	7.42	7.11	7.31	7.45		
170	3.27	2.93	3.87	4.51	5.10	5.92	6.64	6.42	5.28	6.73	6.74	6.93	6.89	7.00	7.04	7.18	7.22		
175	2.92	2.41	2.34	2.30	2.21	2.09	2.02	2.50	4.44	3.04	6.49	6.74	6.78	6.72	6.80	7.38	7.07		
180	6.53	6.56	6.48	6.32	5.97	5.50	4.94	3.91	2.65	1.82	1.31	2.07	3.25	4.33	5.14	5.65	6.05		

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:David
 Test Date:2018-01-25

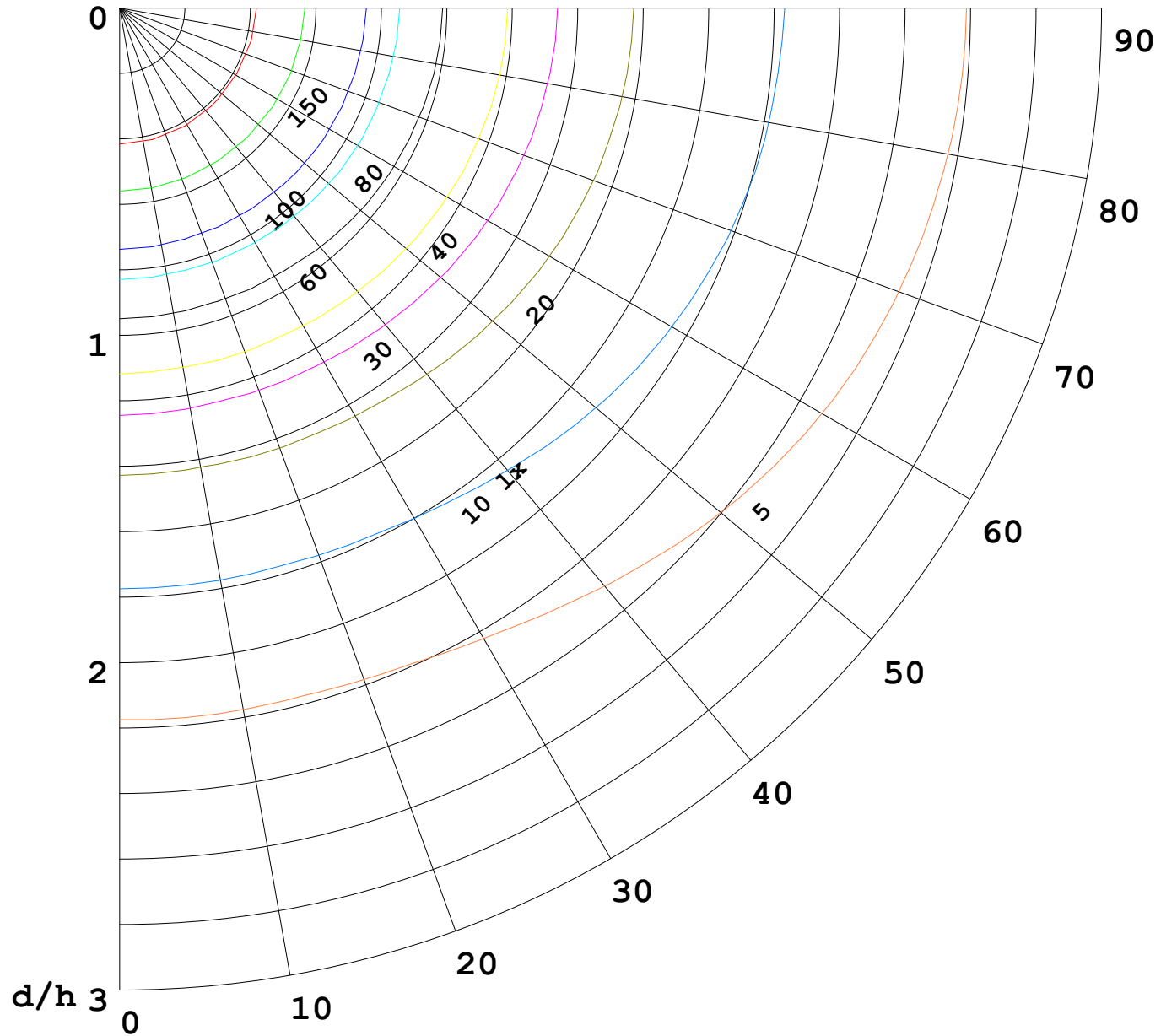
γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.287
 Humidity:65.0%
 Test Distance:26.000m [K=1.0000]
 Remarks:

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

