



IESNA LM-79 TEST REPORT

Applicant's name	Blackjack Lighting
Address	1553 Barclay Blvd. Buffalo Grove, IL 60089
Brand Name	Blackjack Lighting
Report No.	BTR66.181.17.0032.24
Product Name	Flair 48" Suspended Linear
Model Number	FLR-48L-BL or WH or 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	Jun 12, 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:
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description:	
Test date	Jun 11, 2018 to Jun 12, 2018
Sample Quantity	1 unit
SKU.....	N/A
Rating(s) (V; Hz)	120V 60HZ
Nominal Power.....	42W
Nominal Power Factor	N/A
Nominal Lumen Output.....	2000LM
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 Π 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.

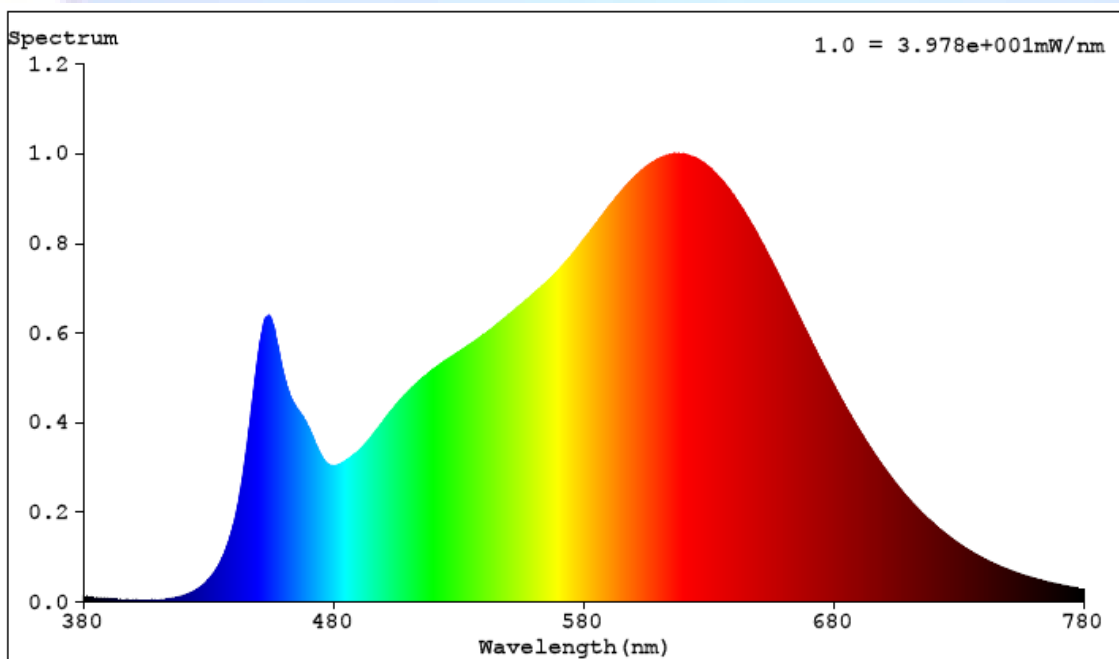
Luminous Intensity

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

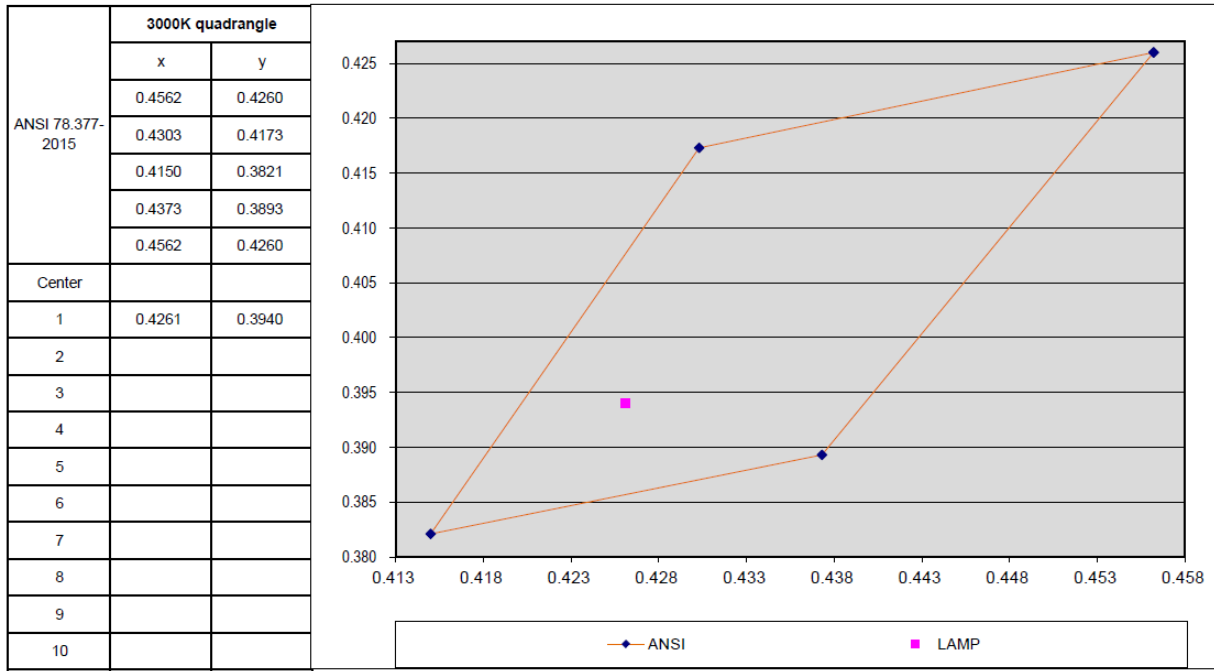
Photometric and Electrical Test Data

Input Voltage (V)	Frequency (Hz)	Input Current (A)	ITHD	Input Power (W)	Power Factor	Lumen Output (Lumens)	Efficiency Lumen/w
120.0	60.0	0.3486	/	41.63	0.9947	2080.32	49.97
CCT (K)	CRI (Ra)	R9	x CIE1931	y CIE1931	u' CIE1976	v' CIE1976	Duv CIE1976
3108	93.2	61	0.4261	0.3940	0.2478	0.5157	-0.0025

Spectrul Plots



7 Step Quadrangle



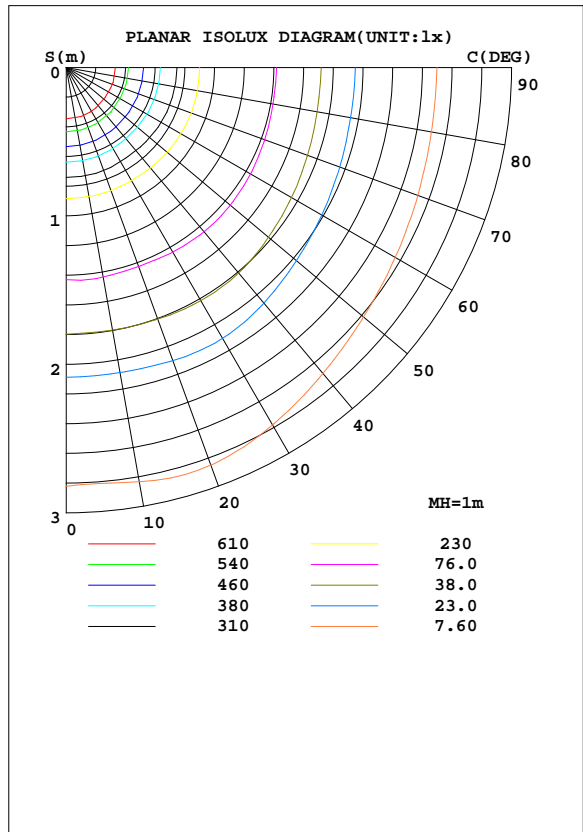
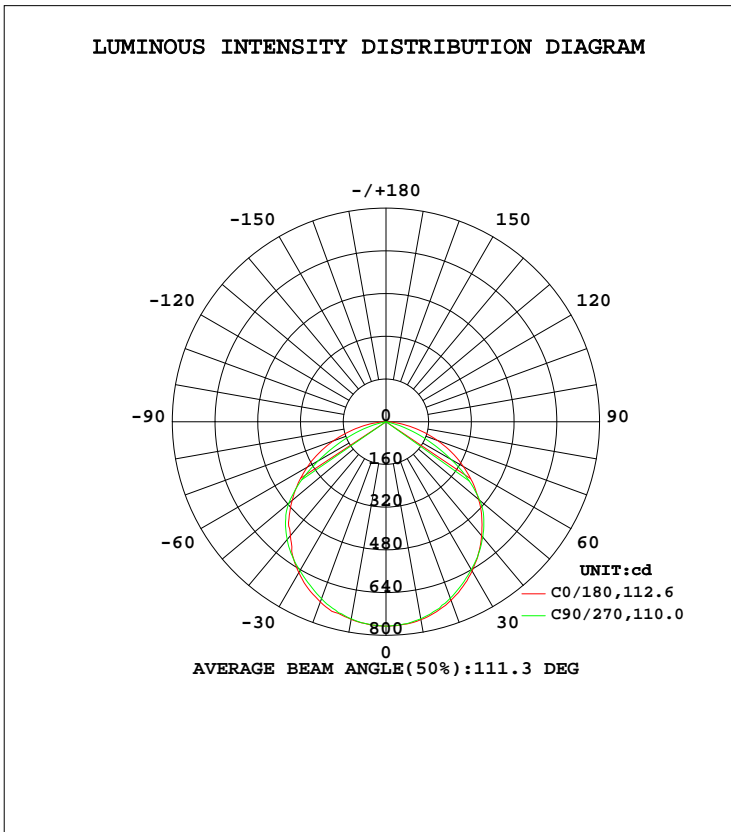
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LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:120.00V I:0.3486A P:41.633W PF:0.9947 Freq:60.00Hz Lamp Flux:2080.32x1 lm		
NAME:	TYPE:FLR-48L-BL or WH or SN WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:
MFR.: Blackjack Lighting	SUR.:1.2*0.06	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 49.97 lm/W			
MODEIFLR-48L-BL or WH or SN		Imax(cd)	766.4	S/MH(C0/180)	1.25
NOMINAL POWER(W)	42	LOR(%)	100.0	S/MH(C90/270)	1.25
RATED VOLTAGE(V)	120.0	TOTAL FLUX(lm)	2080.3	η UP, DN(C0-180)	0.1,50.3
NOMINAL FLUX(lm)	2080.32	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.1,49.5
LAMPS INSIDE	1	η up(%)	0.2	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	120.0	η down(%)	99.8	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.6DEG
 Operators:David
 Test Date:12 June 2018

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:67.1%
 Test Distance:26.000m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

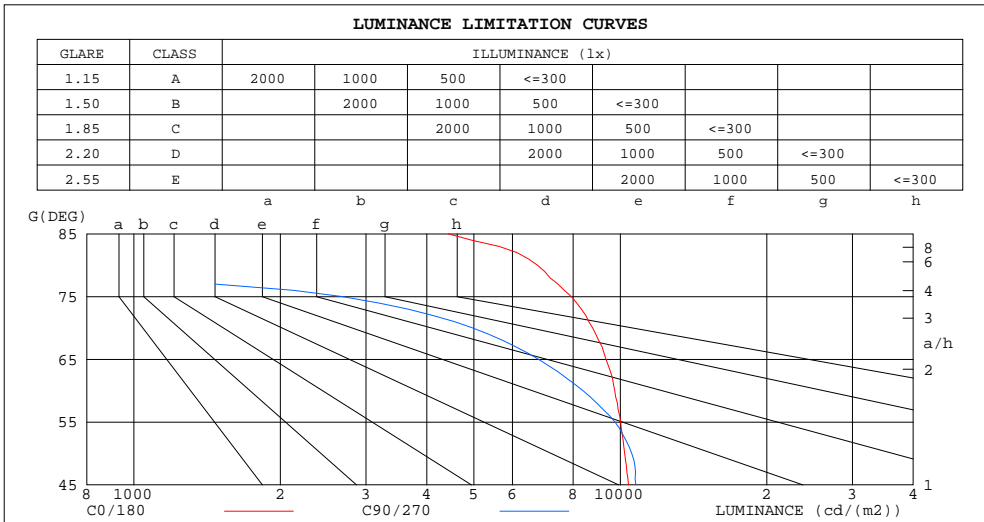
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	lum, lamp
10	751.7	750.1	749.3	751.5	752.4	751.7	749.3	749.7	0- 10	72.37	72.37	3.48,3.48
20	718.6	709.1	705.7	710.4	711.7	708.4	703.8	710.9	10- 20	207.0	279.4	13.4,13.4
30	652.7	639.9	644.7	645.3	645.5	641.3	639.9	639.9	20- 30	313.2	592.6	28.5,28.5
40	557.3	560.6	575.5	562.2	557.2	558.8	564.1	556.1	30- 40	378.5	971.1	46.7,46.7
50	459.1	469.6	475.1	471.1	453.5	464.6	459.2	460.6	40- 50	398.0	1369	65.8,65.8
60	340.7	343.0	293.4	353.2	333.9	334.0	280.7	339.1	50- 60	356.4	1726	82.9,82.9
70	209.9	161.7	119.0	177.7	205.8	154.8	105.9	166.2	60- 70	243.0	1969	94.6,94.6
80	82.01	19.60	0.3556	29.51	79.67	13.24	0	21.20	70- 80	98.35	2067	99.4,99.4
90	1.114	0.0013	0	0.0873	1.292	0	0	0	80- 90	9.600	2077	99.8,99.8
100	0.9112	0	0	0	2.089	0.0384	0	0	90-100	0.2979	2077	99.8,99.8
110	1.821	0	0	0.1251	2.089	0.2297	0	0.1637	100-110	0.4271	2077	99.9,99.9
120	2.260	0	0	0.4132	2.051	0.5156	0	0.5094	110-120	0.6094	2078	99.9,99.9
130	2.355	0.0190	0	0.6243	1.898	0.5821	0	0.6438	120-130	0.6600	2079	99.9,99.9
140	2.374	0.1337	0	0.7589	1.861	0.5821	0.0002	0.6917	130-140	0.6076	2079	99.9,99.9
150	2.203	0.2957	0	0.7590	1.784	0.6011	0.0954	0.6918	140-150	0.5150	2080	100,100
160	1.880	0.3340	0.0377	0.7590	1.291	0.6013	0.1332	0.6919	150-160	0.3569	2080	100,100
170	1.765	0.5811	0.2670	0.8068	2.299	0.9923	0.4960	0.7590	160-170	0.2360	2080	100,100
180	2.355	0.7442	0.3433	1.066	2.374	1.030	0.5722	0.7689	170-180	0.1004	2080	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.6DEG
 Operators:David
 Test Date:12 June 2018

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:67.1%
 Test Distance:26.000m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:120.00V I:0.3486A P:41.633W PF:0.9947 Freq:60.00Hz Lamp Flux:2080.32x1 lm		
NAME:	TYPE:FLR-48L-BL or WH or SN	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Blackjack Lighting	SUR.:1.2*0.06	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	4428	0
80	6752	29
75	7934	2679
70	8774	4968
65	9340	6789
60	9742	8380
55	10014	9753
50	10211	10554
45	10396	10760

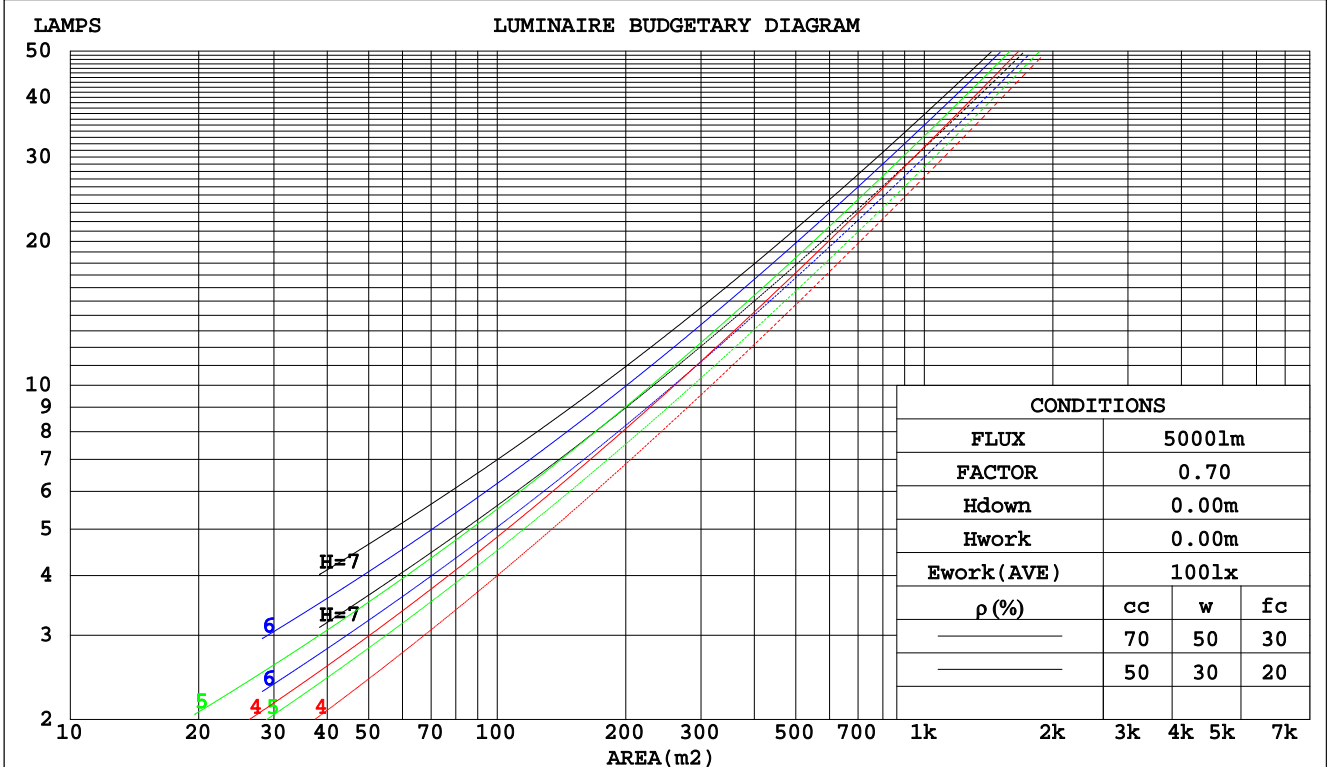
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 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:67.1%
 Test Distance:26.000m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:120.00V I:0.3486A P:41.633W PF:0.9947 Freq:60.00Hz Lamp Flux:2080.32x1 lm		
NAME:	TYPE:FLR-48L-BL or WH or SN WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:
MFR.: Blackjack Lighting	SUR.:1.2*0.06	Shielding Angle:

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio															
	Coefficients of Utilization(CU)															
0.0	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	.00
1.0	1.05	1.01	.98	1.03	.99	.96	.99	.96	.93	.95	.92	.90	.91	.89	.88	.85
2.0	.92	.86	.80	.90	.84	.79	.87	.82	.78	.84	.79	.76	.81	.77	.74	.72
3.0	.81	.73	.67	.80	.72	.66	.77	.70	.65	.74	.69	.64	.71	.67	.63	.61
4.0	.72	.63	.57	.71	.63	.57	.68	.61	.56	.66	.60	.55	.64	.59	.54	.52
5.0	.64	.56	.49	.63	.55	.49	.61	.54	.48	.59	.53	.48	.57	.52	.47	.45
6.0	.58	.49	.43	.57	.49	.43	.55	.48	.42	.53	.47	.42	.52	.46	.41	.39
7.0	.53	.44	.38	.52	.43	.38	.50	.43	.37	.49	.42	.37	.47	.41	.37	.35
8.0	.48	.39	.34	.47	.39	.34	.46	.39	.33	.45	.38	.33	.43	.37	.33	.31
9.0	.44	.36	.30	.43	.36	.30	.42	.35	.30	.41	.35	.30	.40	.34	.30	.28
10.0	.41	.33	.27	.40	.32	.27	.39	.32	.27	.38	.32	.27	.37	.31	.27	.25



C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.6DEG
 Operators:David
 Test Date:12 June 2018

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:67.1%
 Test Distance:26.000m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:120.00V I:0.3486A P:41.633W PF:0.9947 Freq:60.00Hz Lamp Flux:2080.32x1 lm		
NAME:	TYPE:FLR-48L-BL or WH or SN WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:
MFR.: Blackjack Lighting	SUR.:1.2*0.06	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	.283	.161	.051	.276	.157	.050	.263	.151	.048	.250	.144	.046	.239	.139	.045	
2.0	.274	.150	.046	.268	.148	.045	.256	.143	.044	.246	.138	.043	.236	.133	.042	
3.0	.258	.137	.041	.252	.135	.041	.242	.131	.040	.233	.127	.039	.224	.124	.038	
4.0	.240	.125	.037	.236	.123	.036	.226	.120	.036	.218	.117	.035	.210	.114	.035	
5.0	.224	.114	.033	.220	.113	.033	.212	.110	.032	.204	.108	.032	.197	.105	.032	
6.0	.209	.105	.030	.205	.104	.030	.198	.101	.029	.191	.099	.029	.185	.097	.029	
7.0	.195	.096	.027	.192	.095	.027	.185	.094	.027	.179	.092	.027	.173	.090	.026	
8.0	.183	.089	.025	.180	.088	.025	.174	.087	.025	.168	.085	.025	.163	.084	.024	
9.0	.172	.083	.023	.169	.082	.023	.164	.081	.023	.159	.080	.023	.154	.078	.023	
10.0	.162	.077	.022	.159	.077	.021	.154	.076	.021	.150	.074	.021	.146	.073	.021	

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	.192	.192	.192	.164	.164	.164	.112	.112	.112	.064	.064	.064	.021	.021	.021	
1.0	.180	.158	.138	.154	.135	.119	.105	.093	.082	.061	.054	.048	.019	.017	.015	
2.0	.171	.133	.102	.147	.115	.088	.101	.079	.061	.058	.046	.036	.019	.015	.012	
3.0	.164	.116	.077	.140	.100	.067	.096	.069	.047	.056	.040	.028	.018	.013	.009	
4.0	.156	.102	.061	.134	.088	.053	.092	.062	.037	.053	.036	.022	.017	.012	.007	
5.0	.149	.092	.050	.128	.079	.043	.088	.055	.030	.051	.033	.018	.016	.011	.006	
6.0	.142	.083	.041	.122	.072	.036	.084	.051	.025	.049	.030	.015	.016	.010	.005	
7.0	.135	.076	.035	.116	.066	.031	.080	.046	.022	.047	.027	.013	.015	.009	.004	
8.0	.129	.071	.031	.111	.061	.027	.077	.043	.019	.045	.025	.011	.014	.008	.004	
9.0	.123	.066	.027	.106	.057	.023	.074	.040	.017	.043	.024	.010	.014	.008	.003	
10.0	.118	.061	.024	.101	.053	.021	.070	.038	.015	.041	.022	.009	.013	.007	.003	

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.6DEG
 Operators:David
 Test Date:12 June 2018

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:67.1%
 Test Distance:26.000m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:120.00V I:0.3486A P:41.633W PF:0.9947 Freq:60.00Hz Lamp Flux:2080.32x1 lm										
NAME:					TYPE:FLR-48L-BL or WH or SN WEIGHT:					
SPEC.:					DIM.:			SERIAL No.:		
MFR.: Blackjack Lighting					SUR.:1.2*0.06			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	21.2	22.6	21.4	22.8	23.0	20.7	22.2	21.0	22.4	22.6
3H	22.7	24.0	23.0	24.3	24.5	21.4	22.7	21.7	23.0	23.2
4H	23.3	24.5	23.6	24.8	25.1	21.4	22.7	21.7	23.0	23.2
6H	23.6	24.8	24.0	25.1	25.4	21.3	22.5	21.7	22.8	23.1
8H	23.7	24.9	24.1	25.2	25.5	21.3	22.4	21.6	22.7	23.0
12H	23.7	24.9	24.1	25.2	25.5	21.2	22.4	21.6	22.6	23.0
4H 2H	21.7	23.0	22.0	23.2	23.5	21.3	22.6	21.6	22.8	23.1
3H	23.3	24.5	23.7	24.8	25.1	22.0	23.2	22.4	23.5	23.8
4H	24.0	25.0	24.4	25.4	25.7	22.1	23.2	22.5	23.5	23.8
6H	24.5	25.4	24.9	25.7	26.1	22.1	23.0	22.5	23.3	23.7
8H	24.6	25.4	25.0	25.8	26.2	22.0	22.9	22.4	23.2	23.6
12H	24.6	25.4	25.1	25.8	26.2	22.0	22.7	22.4	23.1	23.5
8H 4H	24.0	24.9	24.4	25.2	25.6	22.3	23.1	22.7	23.5	23.9
6H	24.5	25.2	25.0	25.6	26.0	22.2	22.9	22.7	23.3	23.7
8H	24.7	25.3	25.1	25.7	26.1	22.2	22.8	22.6	23.2	23.7
12H	24.7	25.2	25.2	25.7	26.2	22.1	22.7	22.6	23.1	23.6
12H 4H	24.0	24.7	24.4	25.1	25.5	22.3	23.0	22.7	23.4	23.8
6H	24.5	25.1	24.9	25.5	26.0	22.2	22.8	22.7	23.2	23.7
8H	24.6	25.1	25.1	25.6	26.1	22.2	22.7	22.6	23.1	23.6
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.2					+ 0.2 / - 0.3				
1.5H	+ 0.3 / - 0.5					+ 0.4 / - 0.7				
2.0H	+ 0.2 / - 0.5					+ 0.7 / - 0.7				

CIE Pub.117, 2080 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = 2.5)

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.6DEG
 Operators:David
 Test Date:12 June 2018

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:67.1%
 Test Distance:26.000m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:120.00V I:0.3486A P:41.633W PF:0.9947 Freq:60.00Hz Lamp Flux:2080.32x1 lm		
NAME:	TYPE:FLR-48L-BL or WH or SN WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:
MFR.: Blackjack Lighting	SUR.:1.2*0.06	Shielding Angle:

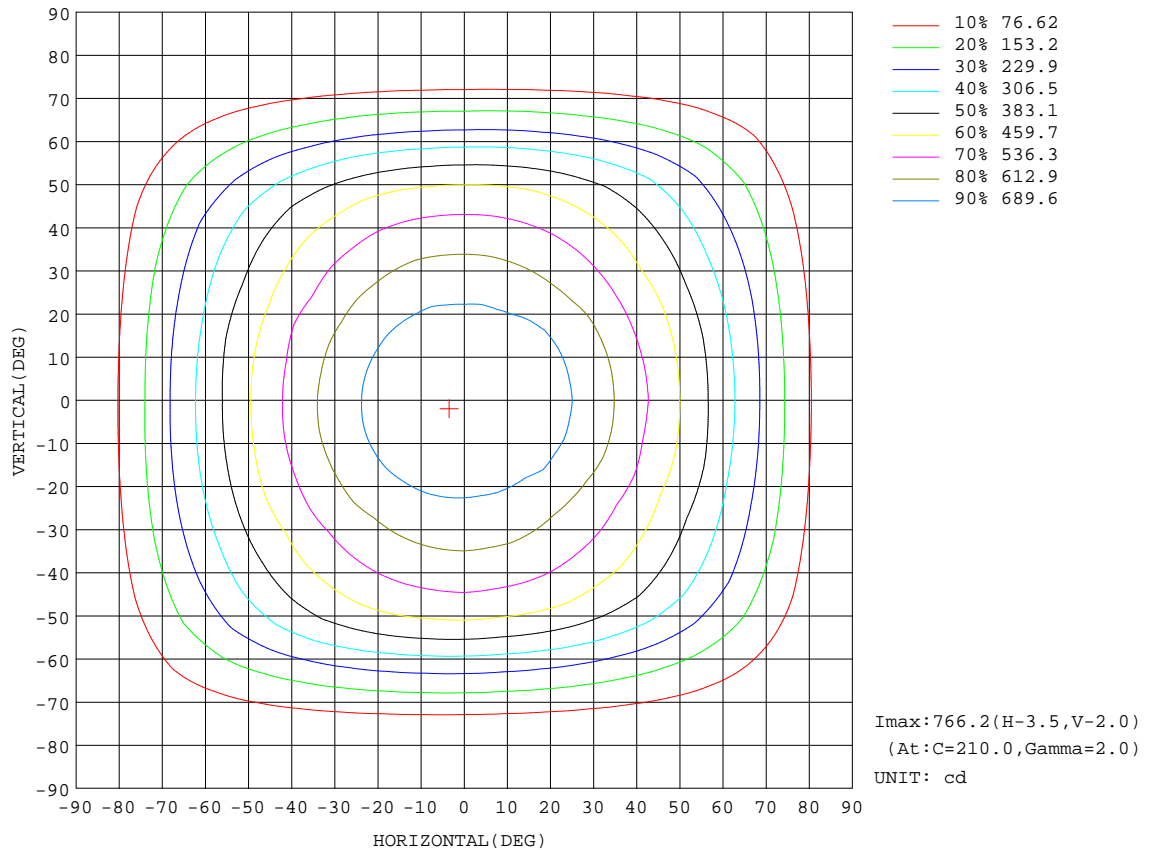
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	58	47	40	58	47	40	56	46	40	33
0.80	69	57	50	68	57	50	66	56	50	43
1.00	77	67	60	76	66	59	74	67	59	52
1.25	85	75	68	83	74	67	81	72	67	59
1.50	90	80	74	88	79	73	85	78	72	65
2.00	97	88	82	95	87	82	91	85	80	73
2.50	100	93	87	98	92	86	94	89	85	77
3.00	104	97	92	101	96	91	97	93	89	81
4.00	107	102	98	105	100	96	101	97	94	85
5.00	110	105	101	107	103	100	103	100	97	88
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:12 June 2018

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:67.1%
 Test Distance:26.000m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:120.00V I:0.3486A P:41.633W PF:0.9947 Freq:60.00Hz Lamp Flux:2080.32x1 lm		
NAME:	TYPE:FLR-48L-BL or WH or SN WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:
MFR.: Blackjack Lighting	SUR.:1.2*0.06	Shielding Angle:

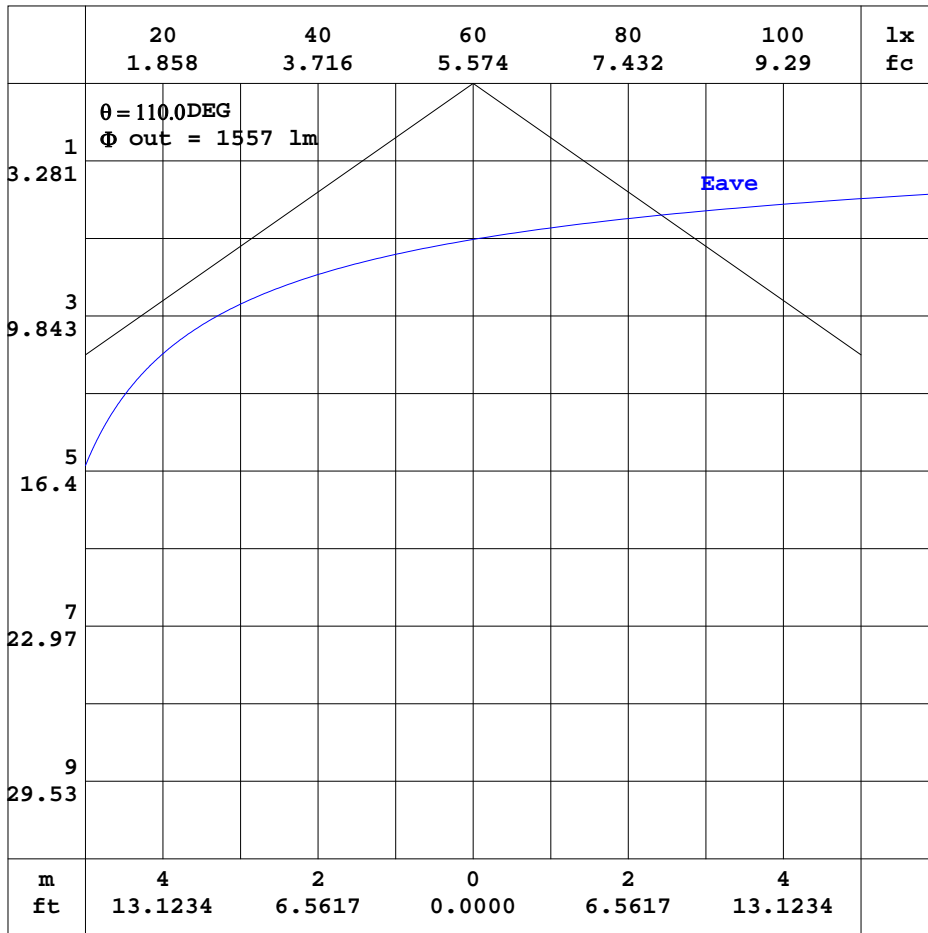


C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature: 25.6DEG
 Operators: David
 Test Date: 12 June 2018

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity: 67.1%
 Test Distance: 26.000m [K=1.0000]
 Remarks:

AAI CURVES

Test:U:120.00V I:0.3486A P:41.633W PF:0.9947 Freq:60.00Hz Lamp Flux:2080.32x1 lm		
NAME:	TYPE:FLR-48L-BL or WH or SN WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:
MFR.: Blackjack Lighting	SUR.:1.2*0.06	Shielding Angle:



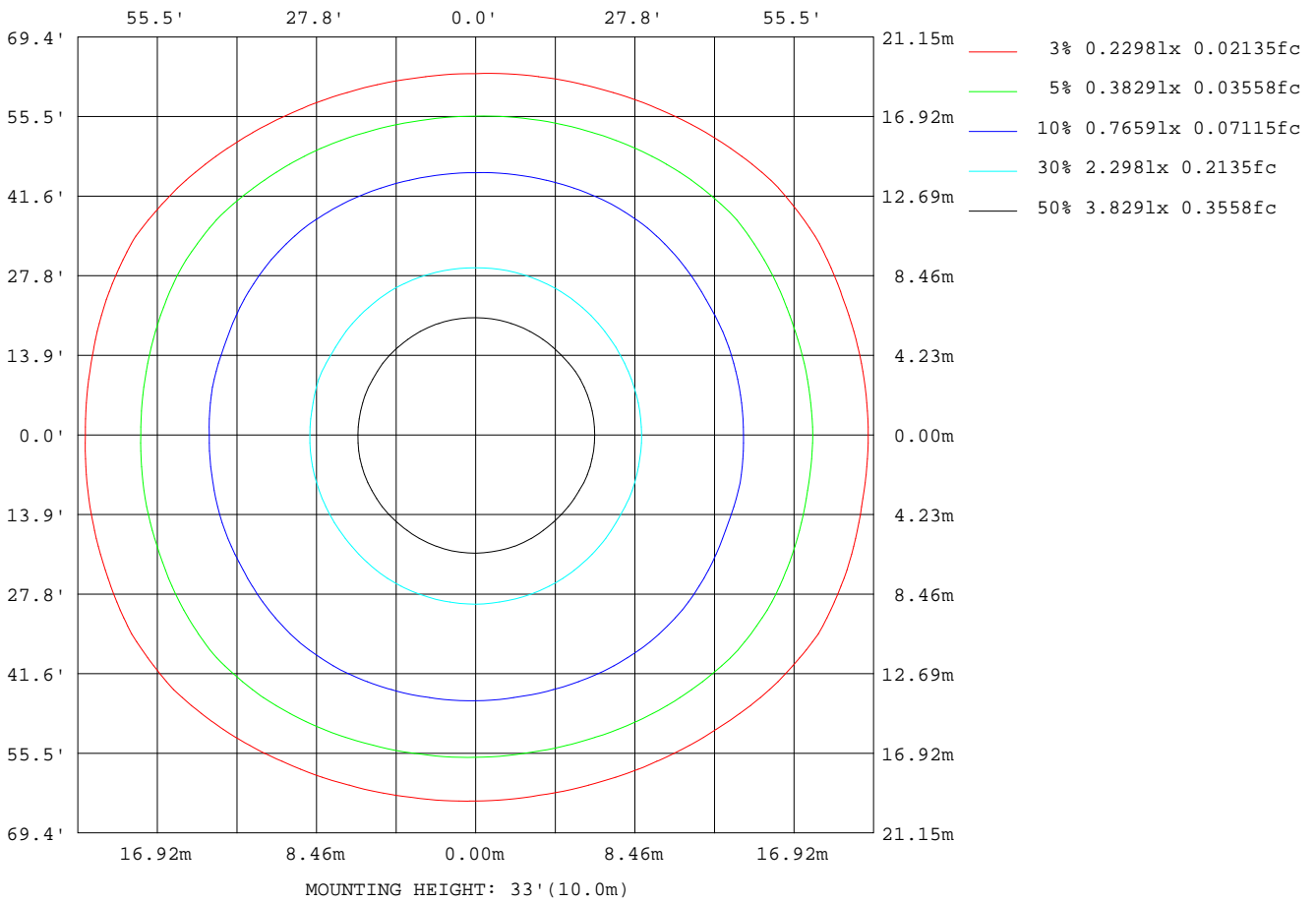
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.6DEG
 Operators:David
 Test Date:12 June 2018

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:67.1%
 Test Distance:26.000m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

Test:U:120.00V I:0.3486A P:41.633W PF:0.9947 Freq:60.00Hz Lamp Flux:2080.32x1 lm		
NAME:	TYPE:FLR-48L-BL or WH or SN WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:
MFR.: Blackjack Lighting	SUR.:1.2*0.06	Shielding Angle:



C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.6DEG
 Operators:David
 Test Date:12 June 2018

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:67.1%
 Test Distance:26.000m [K=1.0000]
 Remarks:

LED Avg.L Report

Test:U:120.00V I:0.3486A P:41.633W PF:0.9947 Freq:60.00Hz Lamp Flux:2080.32x1 lm		
NAME:	TYPE:FLR-48L-BL or WH or SN	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Blackjack Lighting	SUR.:1.2*0.06	Shielding Angle:

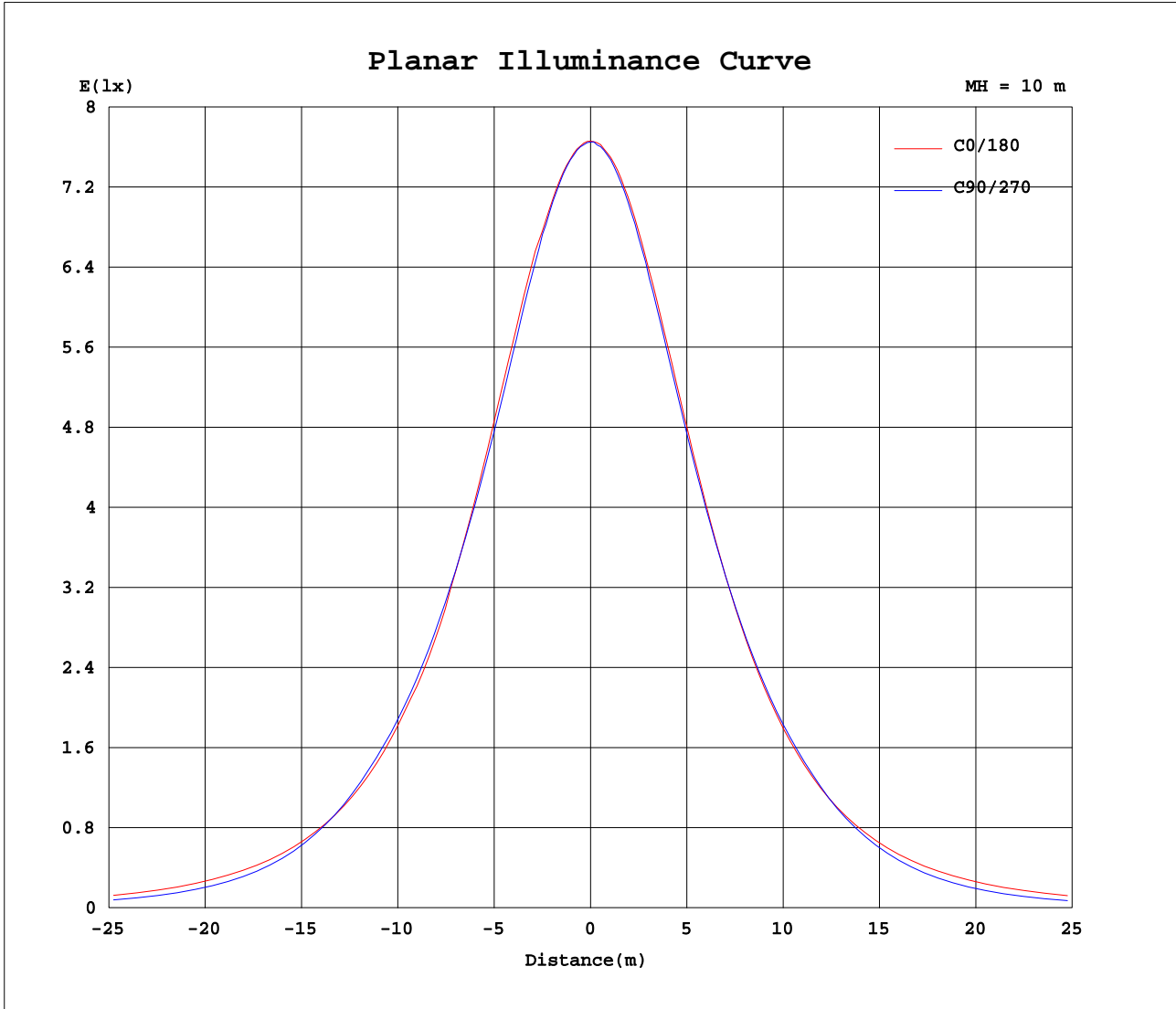
AvgL	cd/m2
L_0~180(65)av	9241
L_0~180(75)av	7828
L_0~180(85)av	4337
L_90~270(65)av	6565
L_90~270(75)av	2373
L_90~270(85)av	0
L_45(65)av	8658
L_45(75)av	4634
L_45(85)av	91

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.6DEG
Operators:David
Test Date:12 June 2018

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
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:12 June 2018

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
Humidity:67.1%
Test Distance:26.000m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:120.00V I:0.3486A P:41.633W PF:0.9947 Freq:60.00Hz Lamp Flux:2080.32x1 lm		
NAME:	TYPE:FLR-48L-BL or WH or SN WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:
MFR.: Blackjack Lighting	SUR.:1.2*0.06	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	765	765	765	765	765	765	765	765	765	765	765	765	765	765	765	765	765	765	765
5	762	762	762	763	762	762	762	761	762	761	762	761	761	761	763	764	762	764	762
10	752	752	753	752	750	750	749	750	752	749	751	751	752	750	753	753	752	753	752
15	739	737	735	734	733	731	731	731	732	731	732	733	734	732	737	737	735	738	736
20	719	718	718	717	712	706	705	705	706	706	706	707	708	709	711	712	712	714	712
25	689	688	688	686	684	675	674	674	674	675	676	676	678	679	682	683	681	683	682
30	653	652	652	649	642	638	640	642	644	645	644	644	643	646	645	645	646	647	646
35	611	611	609	601	599	601	605	610	612	613	612	610	608	603	608	604	604	607	603
40	557	556	557	556	559	562	569	572	574	576	574	573	570	565	560	557	559	560	557
45	514	514	511	509	517	519	525	527	530	533	531	530	528	521	515	514	508	510	507
50	459	460	454	462	469	470	477	475	473	475	476	479	480	473	469	459	460	456	454
55	402	407	400	409	415	414	407	397	391	392	396	405	417	420	416	407	404	399	396
60	341	342	345	351	351	335	317	301	293	293	299	312	331	349	357	350	344	339	334
65	276	277	283	286	265	240	221	208	201	201	206	217	234	258	282	289	281	276	271
70	210	213	219	201	173	151	135	125	119	119	123	132	146	165	191	217	218	214	206
75	144	148	139	113	91.3	74.5	62.3	53.6	49.1	48.6	51.5	58.8	70.0	85.0	105	129	151	149	140
80	82.0	81.6	60.5	42.6	27.5	11.7	2.30	0.59	0.37	0.36	0.48	1.21	6.32	22.3	36.8	53.4	73.4	82.8	79.7
85	27.0	19.8	6.80	1.65	0.92	0.54	0.21	0.00	0.00	0.00	0.00	0.08	0.27	0.56	1.14	2.28	16.0	27.9	25.9
90	1.11	1.00	0.69	0.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.58	1.01	1.24	1.29
95	0.85	0.61	0.31	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.69	1.01	1.62
100	0.91	0.63	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.71	1.14	2.09
105	1.25	0.65	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.38	0.97	1.75	2.09
110	1.82	0.97	0.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.71	1.15	2.10	2.09
115	2.20	1.45	0.61	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.53	0.94	1.45	2.37	2.09
120	2.26	1.76	0.88	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.58	1.19	1.79	2.38	2.05
125	2.35	1.79	1.12	0.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.31	0.77	1.28	2.06	2.38	2.03
130	2.35	1.83	1.24	0.57	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.36	0.88	1.48	2.06	2.38	1.90
135	2.37	1.81	1.47	0.57	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.36	0.88	1.61	2.14	2.40	1.86
140	2.37	1.81	1.51	0.61	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.27	0.61	0.90	1.76	2.39	2.48	1.86
145	2.35	1.81	1.44	0.63	0.27	0.13	0.00	0.00	0.00	0.00	0.00	0.25	0.27	0.60	0.92	1.80	2.42	2.61	1.86
150	2.20	1.76	1.40	0.63	0.36	0.23	0.21	0.21	0.04	0.00	0.10	0.25	0.37	0.60	0.92	1.80	2.42	2.63	1.78
155	1.94	1.53	1.32	0.67	0.42	0.25	0.25	0.29	0.23	0.00	0.31	0.25	0.50	0.60	0.92	1.63	2.06	2.31	1.48
160	1.88	1.47	1.28	0.67	0.42	0.25	0.25	0.29	0.29	0.04	0.31	0.25	0.50	0.60	0.92	1.50	1.95	2.17	1.29
165	1.77	1.47	1.28	0.82	0.59	0.30	0.25	0.29	0.27	0.19	0.31	0.25	0.50	0.61	0.92	1.36	1.74	1.85	1.69
170	1.76	1.47	1.32	0.86	0.59	0.57	0.38	0.32	0.29	0.27	0.31	0.35	0.54	0.65	0.96	1.46	1.77	1.79	2.30
175	2.14	1.75	1.47	1.13	0.82	0.57	0.55	0.55	0.46	0.27	0.53	0.55	0.60	0.82	1.14	1.55	1.81	1.96	2.37
180	2.36	1.83	1.78	1.21	0.86	0.63	0.55	0.53	0.55	0.34	0.54	0.57	0.63	0.90	1.23	1.73	1.89	2.10	2.37

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.6DEG
 Operators:David
 Test Date:12 June 2018

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:67.1%
 Test Distance:26.000m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:120.00V I:0.3486A P:41.633W PF:0.9947 Freq:60.00Hz Lamp Flux:2080.32x1 lm		
NAME:	TYPE:FLR-48L-BL or WH or SN WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:
MFR.: Blackjack Lighting	SUR.:1.2*0.06	Shielding Angle:

Table--2

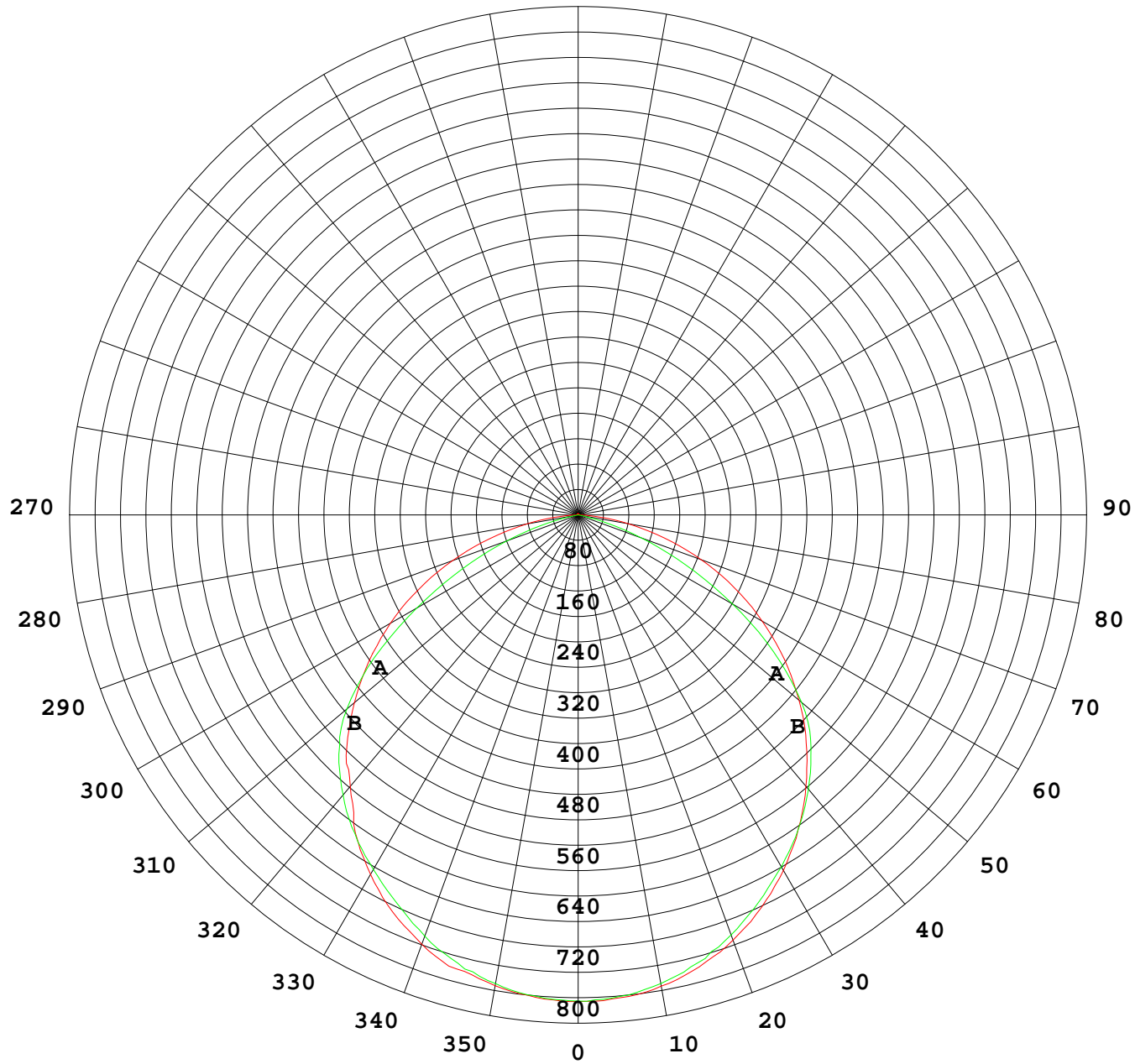
UNIT: cd

C(DEG) γ (DEG)	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350			
0	765	765	765	765	765	765	765	765	765	765	765	765	765	765	765	765	765			
5	761	762	763	762	762	762	760	762	761	761	761	761	760	761	763	761	761			
10	751	752	753	752	752	751	750	749	749	749	748	750	748	751	752	750	752			
15	734	734	735	733	732	733	732	730	730	730	728	731	731	732	733	736	742			
20	711	712	711	709	708	707	707	705	704	704	702	705	706	716	718	716	719			
25	680	680	680	679	676	676	676	675	673	673	672	675	674	686	688	687	688			
30	643	644	642	642	640	641	641	642	640	638	636	638	638	642	649	650	654			
35	601	601	601	601	602	605	606	607	604	604	602	600	597	603	605	608	610			
40	556	562	555	557	560	565	566	567	564	565	563	561	557	555	557	554	556			
45	506	510	508	514	516	519	519	520	518	518	516	516	511	509	509	511	514			
50	454	454	459	464	465	468	466	461	459	462	465	464	462	459	453	457	459			
55	401	397	405	408	407	395	384	377	375	380	389	401	407	404	399	403	402			
60	337	340	347	344	324	308	292	282	281	286	298	315	333	345	341	338	340			
65	274	279	280	258	233	213	198	190	187	194	204	221	244	268	279	275	277			
70	209	214	194	167	143	127	115	109	106	111	120	134	153	179	205	211	213			
75	144	134	107	84.7	66.7	53.4	44.2	38.8	37.4	40.9	48.2	59.8	74.6	94.9	119	143	143			
80	77.7	56.4	37.3	21.4	5.09	0.62	0.02	0.00	0.00	0.00	0.28	1.94	13.4	29.0	45.8	66.4	77.8			
85	17.6	3.73	1.11	0.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.90	1.70	11.6	23.8			
90	0.90	0.57	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.61	1.13			
95	0.92	0.61	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.61	1.18			
100	1.34	0.80	0.44	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.82	1.41			
105	1.53	1.05	0.61	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.56	1.22	1.72		
110	1.78	1.44	0.84	0.38	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.90	1.36	1.58			
115	2.04	1.49	1.13	0.54	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.56	1.13	1.55	1.53			
120	2.08	1.65	1.19	0.71	0.32	0.08	0.00	0.00	0.00	0.00	0.00	0.08	0.29	0.73	1.30	1.76	1.53			
125	1.83	1.78	1.19	0.71	0.46	0.13	0.00	0.00	0.00	0.00	0.00	0.13	0.35	0.85	1.48	1.79	1.51			
130	1.79	1.80	1.17	0.71	0.46	0.19	0.06	0.00	0.00	0.00	0.00	0.13	0.38	0.90	1.50	1.68	1.51			
135	1.79	1.80	1.17	0.71	0.46	0.27	0.10	0.00	0.00	0.04	0.06	0.17	0.40	0.90	1.50	1.47	1.51			
140	1.74	1.80	1.17	0.71	0.46	0.31	0.13	0.00	0.00	0.08	0.12	0.23	0.48	0.90	1.50	1.47	1.49			
145	1.57	1.49	1.17	0.71	0.48	0.36	0.19	0.08	0.06	0.15	0.21	0.33	0.52	0.88	1.25	1.28	1.45			
150	1.47	1.26	0.90	0.71	0.50	0.34	0.23	0.11	0.10	0.17	0.21	0.31	0.54	0.85	1.11	1.16	1.14			
155	1.18	1.13	0.88	0.71	0.50	0.34	0.23	0.17	0.10	0.19	0.21	0.31	0.54	0.85	1.09	1.01	1.07			
160	1.18	1.01	0.88	0.71	0.50	0.36	0.27	0.21	0.13	0.19	0.21	0.31	0.54	0.85	1.09	1.01	1.07			
165	1.60	1.34	1.15	0.90	0.65	0.53	0.42	0.40	0.31	0.33	0.38	0.44	0.65	0.88	1.27	1.34	1.49			
170	2.27	1.68	1.51	1.13	0.86	0.63	0.57	0.59	0.50	0.34	0.52	0.60	0.63	0.88	1.25	1.74	1.89			
175	2.39	1.82	1.74	1.20	0.89	0.63	0.57	0.55	0.59	0.34	0.56	0.58	0.63	0.88	1.25	1.72	1.89			
180	2.39	1.82	1.74	1.20	0.86	0.63	0.55	0.53	0.57	0.34	0.54	0.56	0.63	0.90	1.23	1.72	1.89			

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.6DEG
 Operators:David
 Test Date:12 June 2018

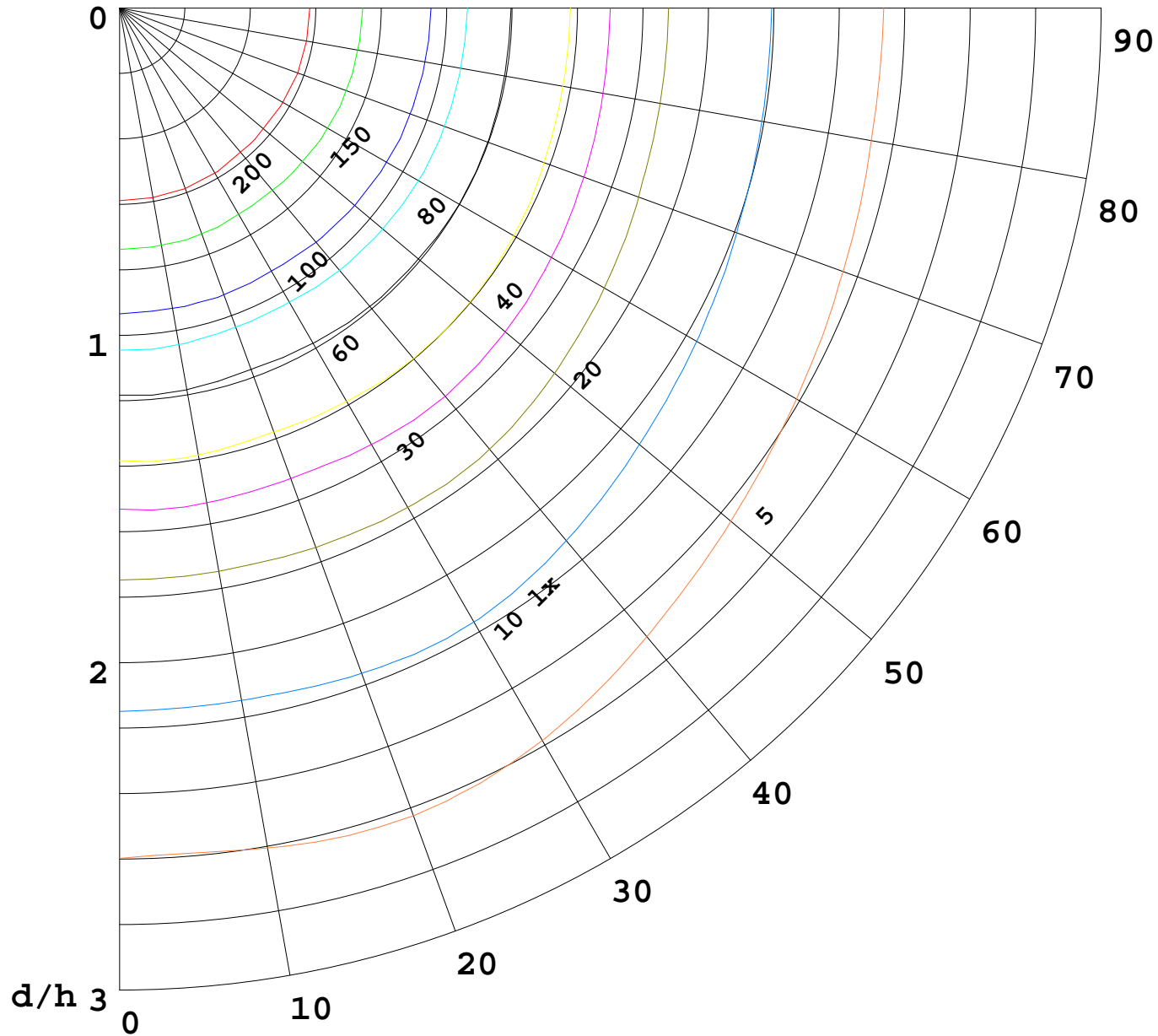
γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:67.1%
 Test Distance:26.000m [K=1.0000]
 Remarks:

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

