IESNA LM-79 TEST REPORT

Applicant's name .....:	Blackjack Lighting
Address .....:	1553 Barclay Blvd. Buffalo Grove, IL 60089
Brand Name.....:	Blackjack Lighting
Report No......:	BTR66.181.17.0031.15
Product Name.....:	Steelos 38" Linear Pendant,18-light
Model Number .....:	STL-38P-BL 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 .....: Jun 07, 2018

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

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.....:	May 29, 2018 to Jun 07, 2018
Sample Quantity .....:	1 unit
SKU.....:	N/A
Rating(s) (V; Hz) .....:	120V 60HZ
Nominal Power.....:	30.5W
Nominal Power Factor .....:	N/A
Nominal Lumen Output.....:	2000lm
Nominal CCT .....:	2700K
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℃
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℃ ±1℃ 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.

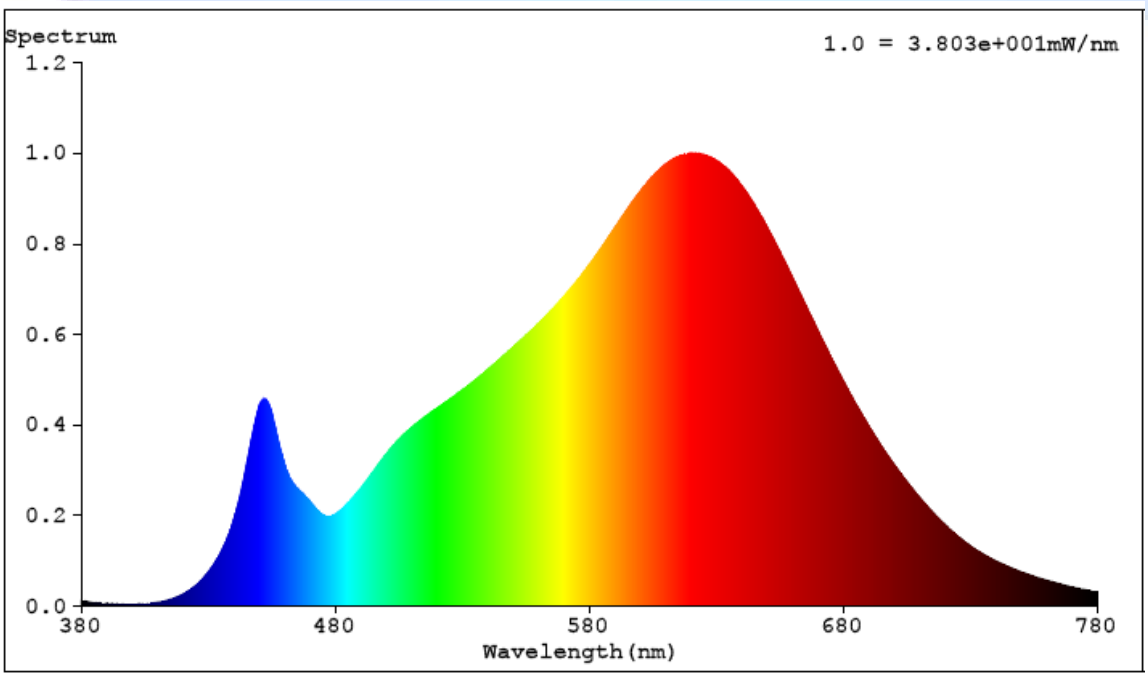
Luminious Intensity

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

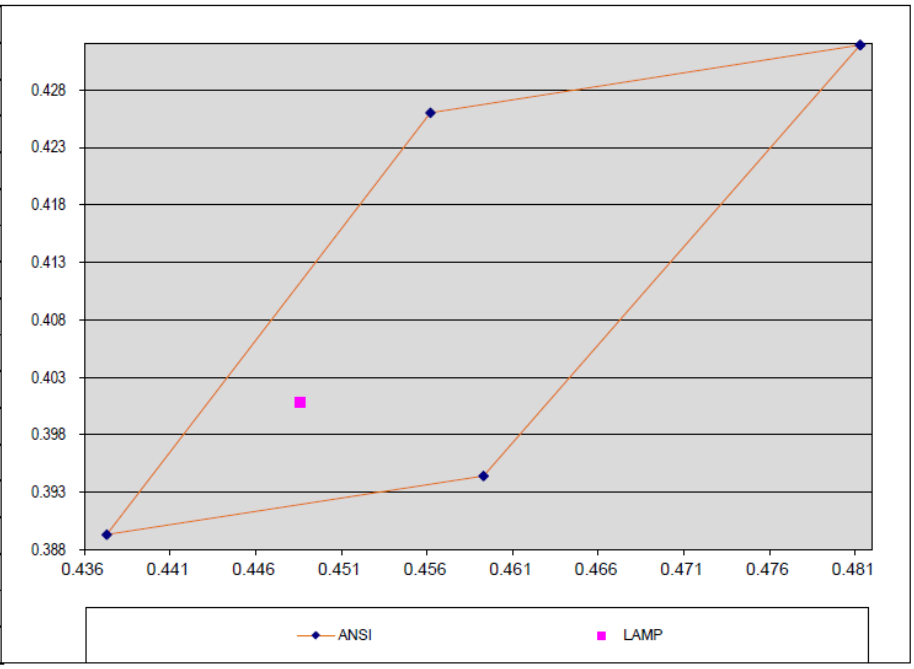
Input Voltage (V)	Frequency (Hz)	Input Current (A)	ITHD	Input Power (W)	Power Factor	Lumen Output (Lumens)	Efficiency Lumen/w
120.0	60.0	0.2546	/	30.52	0.9982	2013.07	65.97
CCT (K)	CRI (Ra)	R9	x CIE1931	y CIE1931	u' CIE1976	v' CIE1976	Duv CIE1976
2785	92.7	58	0.4486	0.4008	0.2596	0.5218	-0.0027

Spectrul Plots

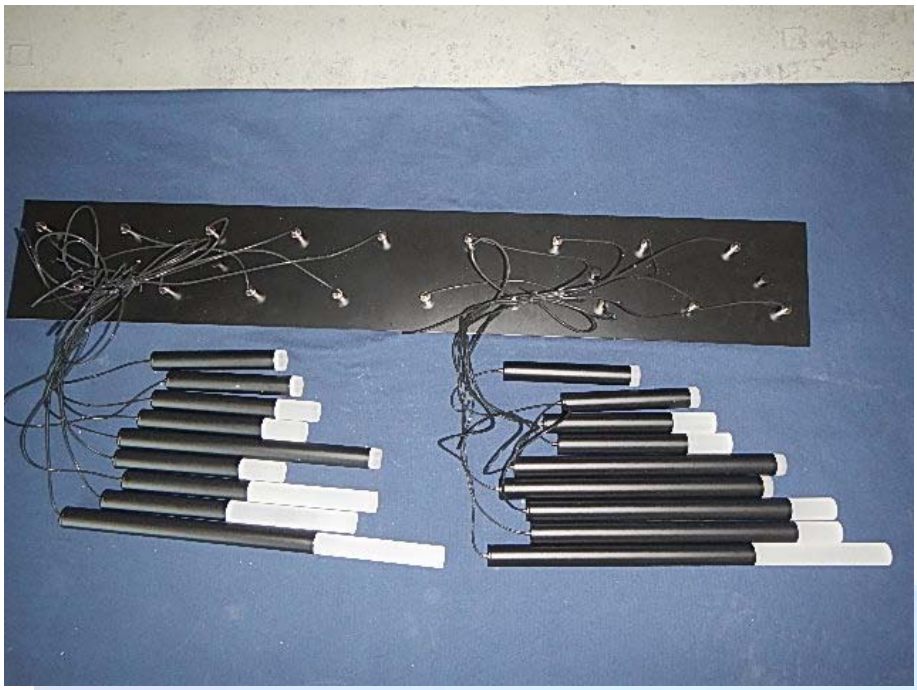


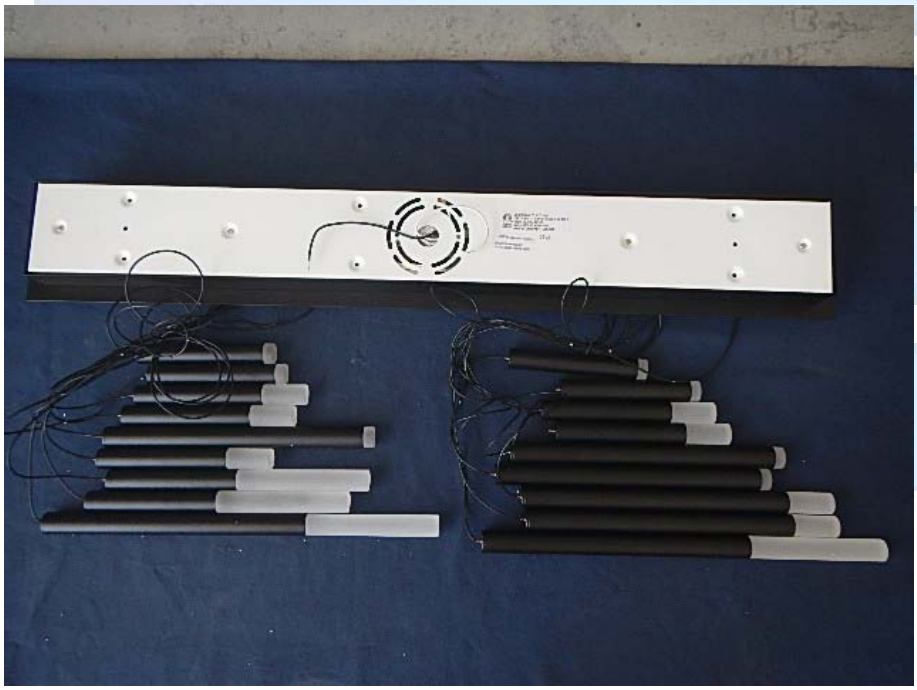
7 Step Quadrangle

	2700K quadrangle	
	x	y
ANSI 78.377-2015	0.4813	0.4319
	0.4562	0.4260
	0.4373	0.3893
	0.4593	0.3944
	0.4813	0.4319
Center		
1	0.4486	0.4008
2		
3		
4		
5		
6		
7		
8		
9		
10		



EUT Photo



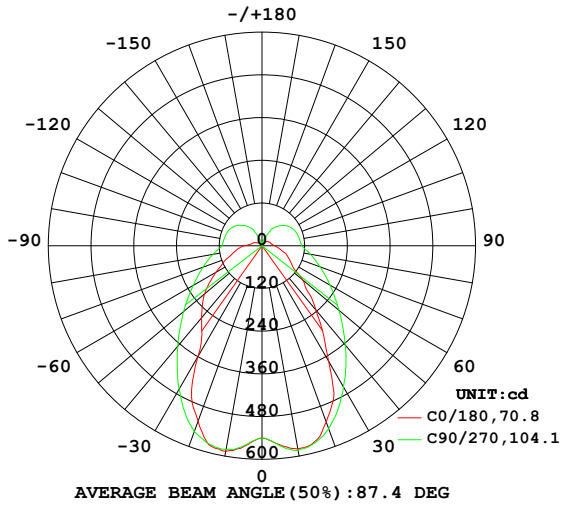


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:120.00V I:0.2546A P:30.516W PF:0.9982 Freq:60.00Hz Lamp Flux:2013.07x1 lm		
NAME:	TYPE:STL-38P-BL or PC	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Blackjack lighting	SUR.:0	Shielding Angle:

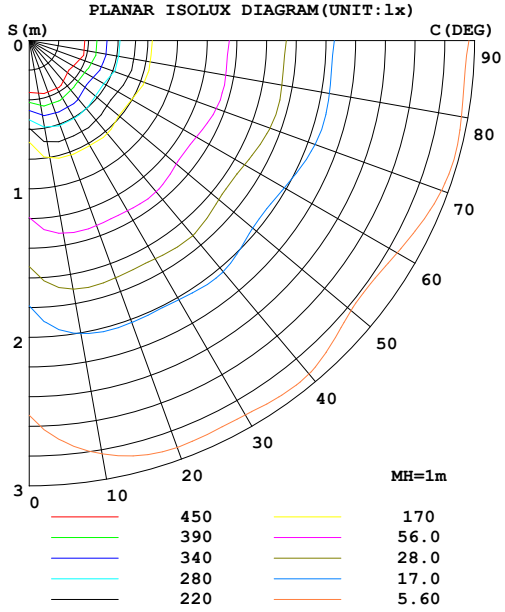
DATA OF LAMP		PHOTOMETRIC DATA Eff: 65.97 lm/W			
MODEL	STL-38P-BL or PC	Imax(cd)	586.5	S/MH(C0/180)	1.08
NOMINAL POWER(W)	30.5	LOR(%)	100.0	S/MH(C90/270)	1.24
RATED VOLTAGE(V)	120.0	TOTAL FLUX(lm)	2013.1	η UP,DN(C0-180)	11.0,39.6
NOMINAL FLUX(lm)	2013.07	CIE CLASS	SEMI-D.	η UP,DN(C180-360)	10.8,38.6
LAMPS INSIDE	1	η up(%)	21.7	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	120.0	η down(%)	78.3	CIBSE SHR MAX	1.25

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



AVERAGE BEAM ANGLE(50%):87.4 DEG

PLANAR ISOLUX DIAGRAM(UNIT:lx)



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.6DEG
Operators:David
Test Date:02 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	586.0	576.2	580.6	578.2	579.2	580.4	583.3	579.3	0- 10	54.31	54.31	2.7,2.7
20	524.5	529.8	555.1	544.8	527.1	539.1	546.9	535.9	10- 20	160.1	214.5	10.7,10.7
30	359.6	443.4	465.6	429.5	374.0	418.8	458.1	428.9	20- 30	227.4	441.8	21.9,21.9
40	264.3	347.5	367.7	346.3	235.7	322.3	363.9	341.8	30- 40	243.3	685.2	34,34
50	210.7	268.3	287.0	272.7	150.1	251.4	282.8	269.0	40- 50	233.8	918.9	45.6,45.6
60	150.0	208.1	223.6	214.2	93.93	193.9	220.6	209.4	50- 60	209.1	1128	56,56
70	105.2	161.6	176.3	169.5	73.61	148.0	173.9	164.6	60- 70	178.9	1307	64.9,64.9
80	73.78	128.3	139.6	134.5	50.41	118.7	138.1	131.1	70- 80	148.6	1455	72.3,72.3
90	49.44	102.6	112.5	107.3	35.35	96.44	111.8	105.4	80- 90	119.8	1575	78.3,78.3
100	30.98	94.03	108.5	101.7	27.76	88.86	107.1	98.98	90-100	102.3	1678	83.3,83.3
110	25.09	87.72	105.6	97.16	25.08	83.18	104.2	94.68	100-110	93.79	1771	88,88
120	16.87	80.26	100.1	90.00	21.98	76.69	98.24	88.95	110-120	82.96	1854	92.1,92.1
130	12.45	71.19	89.17	80.02	19.07	67.49	88.07	78.59	120-130	67.49	1922	95.5,95.5
140	9.338	54.19	73.65	63.00	12.84	52.11	72.95	61.06	130-140	48.23	1970	97.9,97.9
150	6.888	34.56	54.75	39.86	6.368	33.72	53.75	37.34	140-150	28.25	1998	99.3,99.3
160	2.469	16.77	24.05	19.43	2.298	17.43	23.79	19.56	150-160	11.68	2010	99.8,99.8
170	1.172	3.428	6.945	3.942	1.357	3.607	7.383	5.736	160-170	2.890	2013	100,100
180	0.6592	0.6296	0.3974	0.9095	0.5657	0.7703	0.4143	0.7013	170-180	0.1823	2013	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:02 June 2018

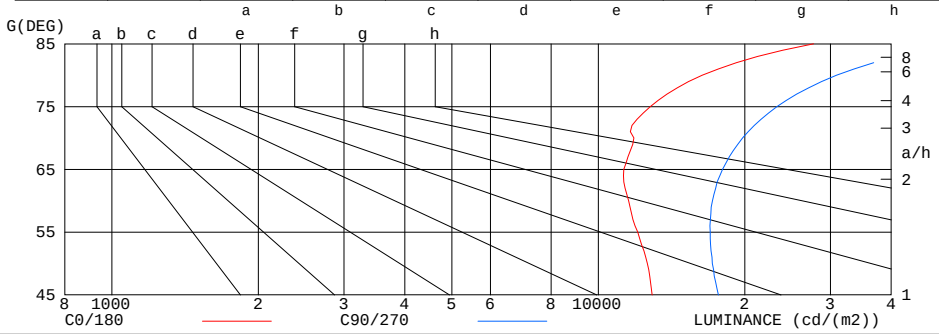
γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
Humidity:67.1%
Test Distance:26.000m [K=1.0000]
Remarks:

LUMINANCE LIMITATION CURVES

Test:U:120.00V I:0.2546A P:30.516W PF:0.9982 Freq:60.00Hz Lamp Flux:2013.07x1 lm		
NAME:	TYPE:STL-38P-BL or PC	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Blackjack lighting	SUR.:0	Shielding Angle:

LUMINANCE LIMITATION CURVES

GLARE	CLASS	ILLUMINANCE (lx)							
1.15	A	2000	1000	500	<=300				
1.50	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.20	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	27680	54827
80	16351	30882
75	12791	23297
70	11836	19791
65	11285	18009
60	11543	17171
55	12047	16981
50	12614	17149
45	12901	17660

C Range: 0 - 360DEG
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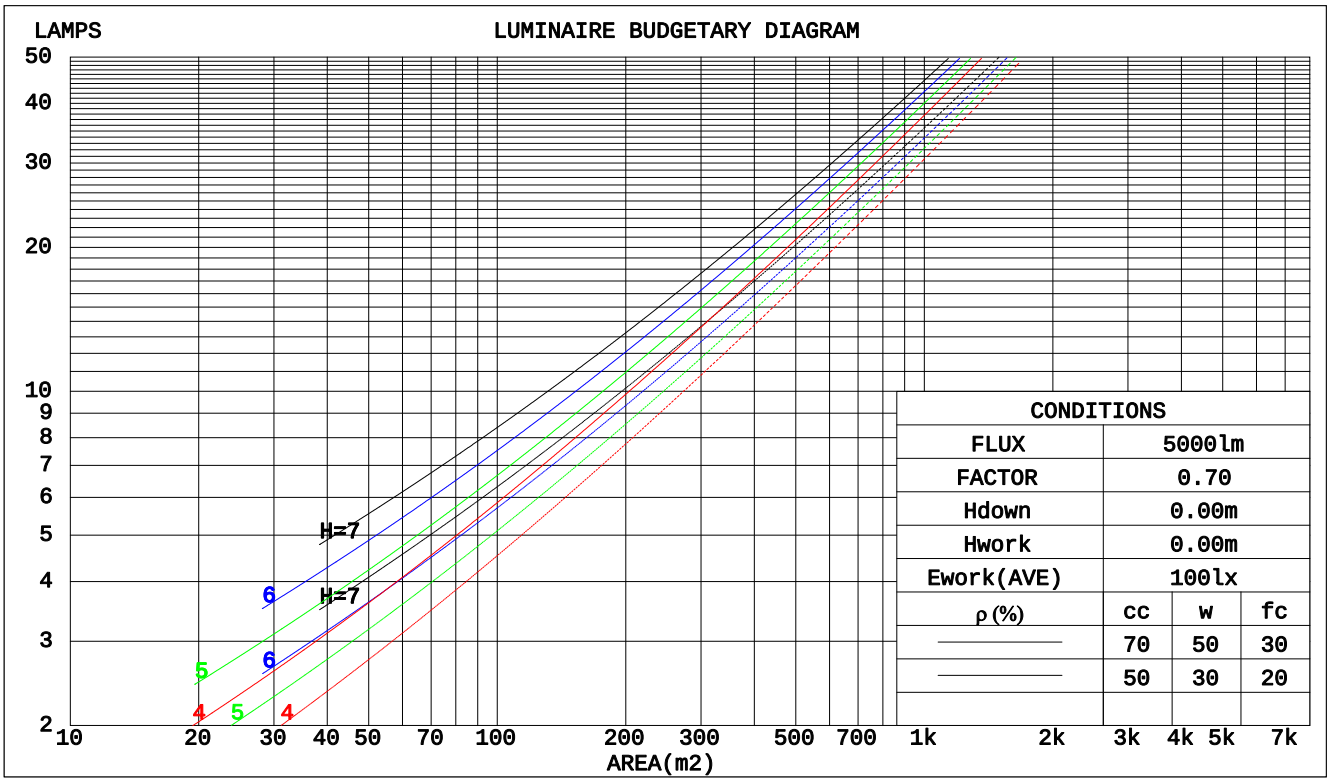
Temperature:25.6DEG
Operators:David
Test Date:02 June 2018

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:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:120.00V I:0.2546A P:30.516W PF:0.9982 Freq:60.00Hz Lamp Flux:2013.07x1 lm		
NAME:	TYPE:STL-38P-BL or PC	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Blackjack lighting	SUR.:0	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			Coefficients of Utilization(CU)												
0.0	1.14	1.14	1.14	1.09	1.09	1.09	.99	.99	.99	.90	.90	.90	.82	.82	.82	.78
1.0	.97	.92	.87	.92	.88	.84	.84	.80	.77	.76	.74	.71	.69	.67	.65	.62
2.0	.84	.77	.71	.80	.73	.68	.73	.68	.63	.66	.62	.58	.60	.57	.54	.51
3.0	.73	.65	.59	.70	.63	.57	.64	.58	.53	.59	.53	.49	.53	.49	.46	.43
4.0	.65	.56	.50	.62	.54	.48	.57	.50	.45	.52	.47	.42	.48	.43	.39	.37
5.0	.58	.49	.43	.56	.48	.42	.51	.44	.39	.47	.41	.37	.43	.38	.34	.32
6.0	.53	.44	.37	.50	.42	.36	.46	.40	.34	.43	.37	.32	.39	.34	.30	.28
7.0	.48	.39	.33	.46	.38	.32	.42	.36	.31	.39	.33	.29	.36	.31	.27	.25
8.0	.44	.35	.30	.42	.34	.29	.39	.32	.27	.36	.30	.26	.33	.28	.25	.22
9.0	.40	.32	.27	.39	.31	.26	.36	.29	.25	.33	.28	.23	.31	.26	.22	.20
10.0	.37	.29	.24	.36	.28	.24	.33	.27	.22	.31	.25	.21	.29	.24	.20	.18



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.6DEG
Operators:David
Test Date:02 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:0.2546A P:30.516W PF:0.9982 Freq:60.00Hz Lamp Flux:2013.07x1 lm		
NAME:	TYPE:STL-38P-BL or PC	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Blackjack lighting	SUR.:0	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 Coeffcients(WEC)									
0.0																
1.0	.349	.198	.063	.335	.191	.061	.309	.177	.057	.286	.165	.053	.264	.153	.049	
2.0	.305	.167	.051	.293	.161	.050	.270	.150	.047	.248	.139	.044	.229	.129	.041	
3.0	.274	.146	.044	.263	.141	.042	.242	.131	.040	.222	.122	.037	.204	.113	.035	
4.0	.248	.129	.038	.238	.125	.037	.219	.116	.035	.201	.108	.033	.185	.100	.031	
5.0	.227	.116	.034	.218	.112	.033	.200	.104	.031	.184	.097	.029	.169	.090	.027	
6.0	.209	.105	.030	.201	.101	.029	.185	.095	.028	.170	.088	.026	.156	.082	.024	
7.0	.194	.096	.027	.186	.093	.026	.171	.087	.025	.158	.081	.024	.145	.075	.022	
8.0	.180	.088	.025	.173	.085	.024	.160	.080	.023	.147	.075	.022	.135	.069	.020	
9.0	.169	.082	.023	.162	.079	.022	.150	.074	.021	.138	.069	.020	.127	.065	.019	
10.0	.158	.076	.021	.152	.074	.021	.141	.069	.019	.130	.065	.018	.120	.060	.017	

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	.356	.356	.356	.304	.304	.304	.208	.208	.208	.119	.119	.119	.038	.038	.038	
1.0	.350	.323	.298	.300	.277	.257	.205	.191	.178	.118	.110	.103	.038	.036	.033	
2.0	.342	.300	.265	.293	.258	.229	.201	.179	.159	.116	.104	.093	.037	.034	.030	
3.0	.334	.283	.243	.287	.244	.211	.197	.170	.148	.114	.099	.087	.037	.032	.029	
4.0	.326	.271	.228	.280	.234	.198	.193	.163	.140	.111	.096	.083	.036	.031	.027	
5.0	.319	.261	.218	.274	.226	.190	.189	.158	.134	.109	.093	.079	.035	.030	.026	
6.0	.312	.253	.211	.268	.219	.184	.185	.153	.130	.107	.090	.077	.035	.029	.025	
7.0	.305	.246	.205	.262	.213	.179	.181	.150	.127	.105	.088	.075	.034	.029	.025	
8.0	.298	.241	.201	.257	.209	.175	.178	.147	.124	.103	.086	.074	.033	.028	.025	
9.0	.292	.236	.198	.252	.205	.173	.175	.144	.123	.102	.085	.073	.033	.028	.024	
10.0	.287	.232	.195	.247	.201	.170	.172	.142	.121	.100	.084	.072	.032	.028	.024	

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.6DEG
Operators:David
Test Date:02 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:0.2546A P:30.516W PF:0.9982 Freq:60.00Hz Lamp Flux:2013.07x1 lm		
NAME:	TYPE:STL-38P-BL or PC	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Blackjack lighting	SUR.:0	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	20.7	22.0	21.3	22.5	23.1	21.1	22.3	21.6	22.9	23.5
	3H	22.5	23.6	23.1	24.2	24.9	23.2	24.3	23.8	24.9	25.6
	4H	23.4	24.5	24.0	25.0	25.7	24.4	25.5	25.0	26.1	26.8
	6H	24.2	25.3	24.9	25.9	26.6	25.7	26.7	26.3	27.4	28.1
	8H	24.7	25.7	25.3	26.3	27.0	26.5	27.5	27.1	28.1	28.8
	12H	25.2	26.2	25.9	26.8	27.5	27.3	28.3	28.0	28.9	29.7
4H	2H	21.4	22.5	22.0	23.1	23.7	21.6	22.7	22.2	23.3	24.0
	3H	23.5	24.5	24.2	25.1	25.9	23.9	24.9	24.6	25.5	26.3
	4H	24.7	25.6	25.4	26.2	27.0	25.3	26.2	26.0	26.9	27.6
	6H	25.9	26.7	26.6	27.4	28.2	26.9	27.7	27.6	28.4	29.2
	8H	26.5	27.3	27.3	28.0	28.8	27.8	28.5	28.5	29.2	30.0
	12H	27.2	27.9	27.9	28.6	29.4	28.8	29.5	29.5	30.2	31.0
8H	4H	25.3	26.0	26.0	26.7	27.5	25.8	26.5	26.5	27.2	28.0
	6H	26.9	27.5	27.6	28.2	29.1	27.6	28.2	28.3	28.9	29.8
	8H	27.8	28.3	28.6	29.1	30.0	28.7	29.2	29.4	30.0	30.9
	12H	28.8	29.3	29.6	30.0	30.9	30.0	30.4	30.7	31.2	32.1
12H	4H	25.4	26.1	26.1	26.8	27.6	25.9	26.6	26.6	27.3	28.1
	6H	27.2	27.7	27.9	28.5	29.3	27.8	28.4	28.6	29.1	30.0
	8H	28.2	28.7	29.0	29.5	30.4	29.0	29.5	29.8	30.2	31.1
Variations with the observer position at spacings:											
S = 1.0H		+ 0.2 / - 0.2					+ 0.1 / - 0.1				
1.5H		+ 0.3 / - 0.5					+ 0.2 / - 0.3				
2.0H		+ 0.3 / - 0.7					+ 0.2 / - 0.3				

CIE Pub.117, 2013 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = 2.4)

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.6DEG
Operators:David
Test Date:02 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:0.2546A P:30.516W PF:0.9982 Freq:60.00Hz Lamp Flux:2013.07x1 lm		
NAME:	TYPE:STL-38P-BL or PC	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Blackjack lighting	SUR.:0	Shielding Angle:

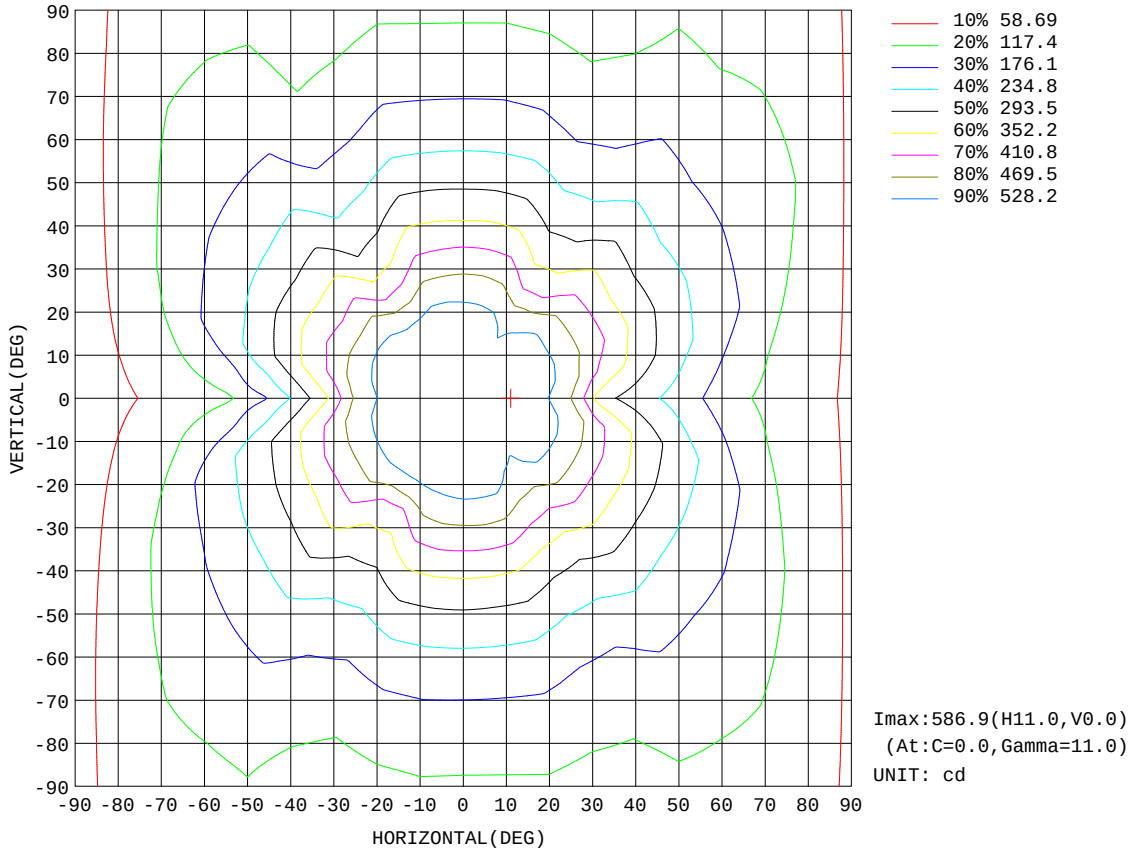
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) k(RI) x RCR = 5									
k = 0.60	51	39	32	50	39	32	48	38	32	25
0.80	60	48	40	58	47	40	55	45	39	31
1.00	67	55	47	65	54	47	61	54	45	37
1.25	74	62	54	71	61	53	67	58	51	42
1.50	79	68	60	76	66	58	71	62	56	45
2.00	86	75	68	82	73	66	76	69	63	51
2.50	90	80	73	86	78	71	79	73	67	54
3.00	93	85	78	89	82	76	82	76	71	57
4.00	98	90	84	93	87	81	86	81	76	61
5.00	100	94	89	96	90	86	88	83	80	64
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:02 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:0.2546A P:30.516W PF:0.9982 Freq:60.00Hz Lamp Flux:2013.07x1 lm		
NAME:	TYPE:STL-38P-BL or PC	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Blackjack lighting	SUR.:0	Shielding Angle:



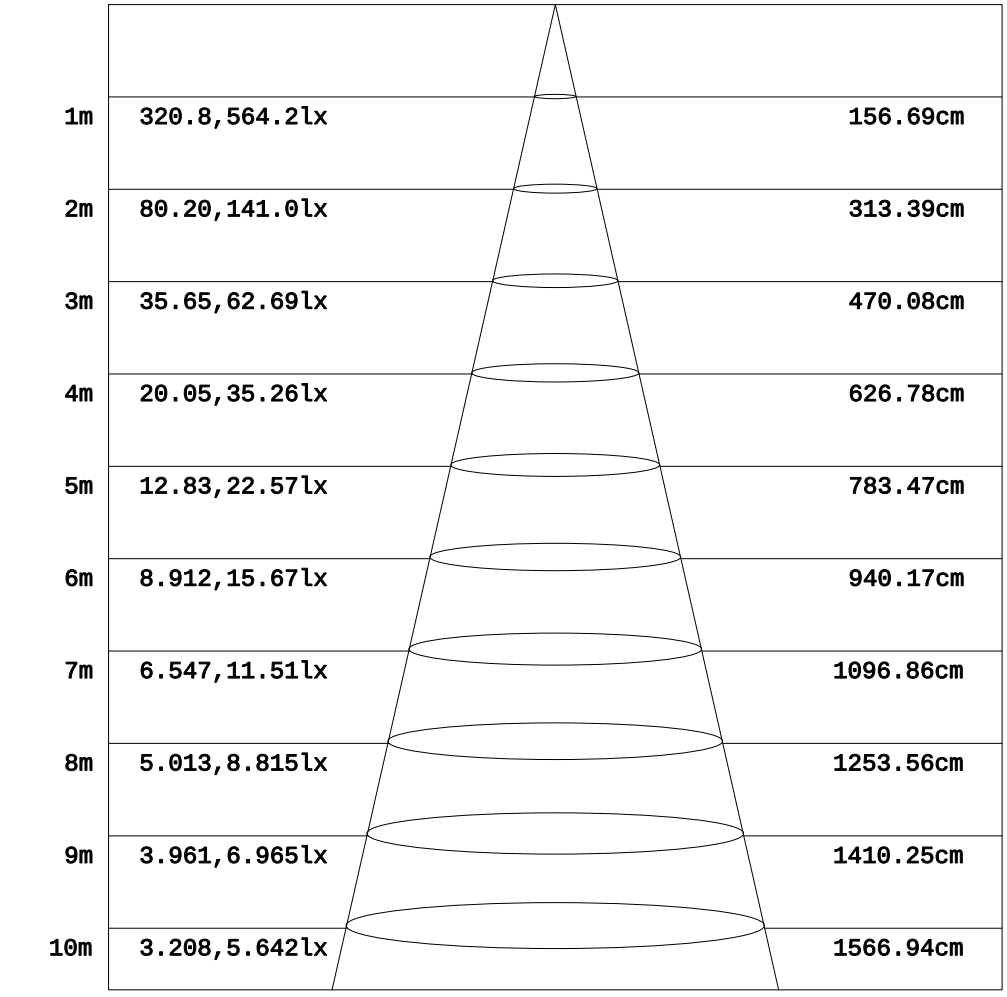
C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.6DEG
Operators:David
Test Date:02 June 2018

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 Figure

Test:U:120.00V I:0.2546A P:30.516W PF:0.9982 Freq:60.00Hz Lamp Flux:2013.07x1 lm		
NAME:	TYPE:STL-38P-BL or PC	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Blackjack lighting	SUR.:0	Shielding Angle:

Flux out:660.9 lm



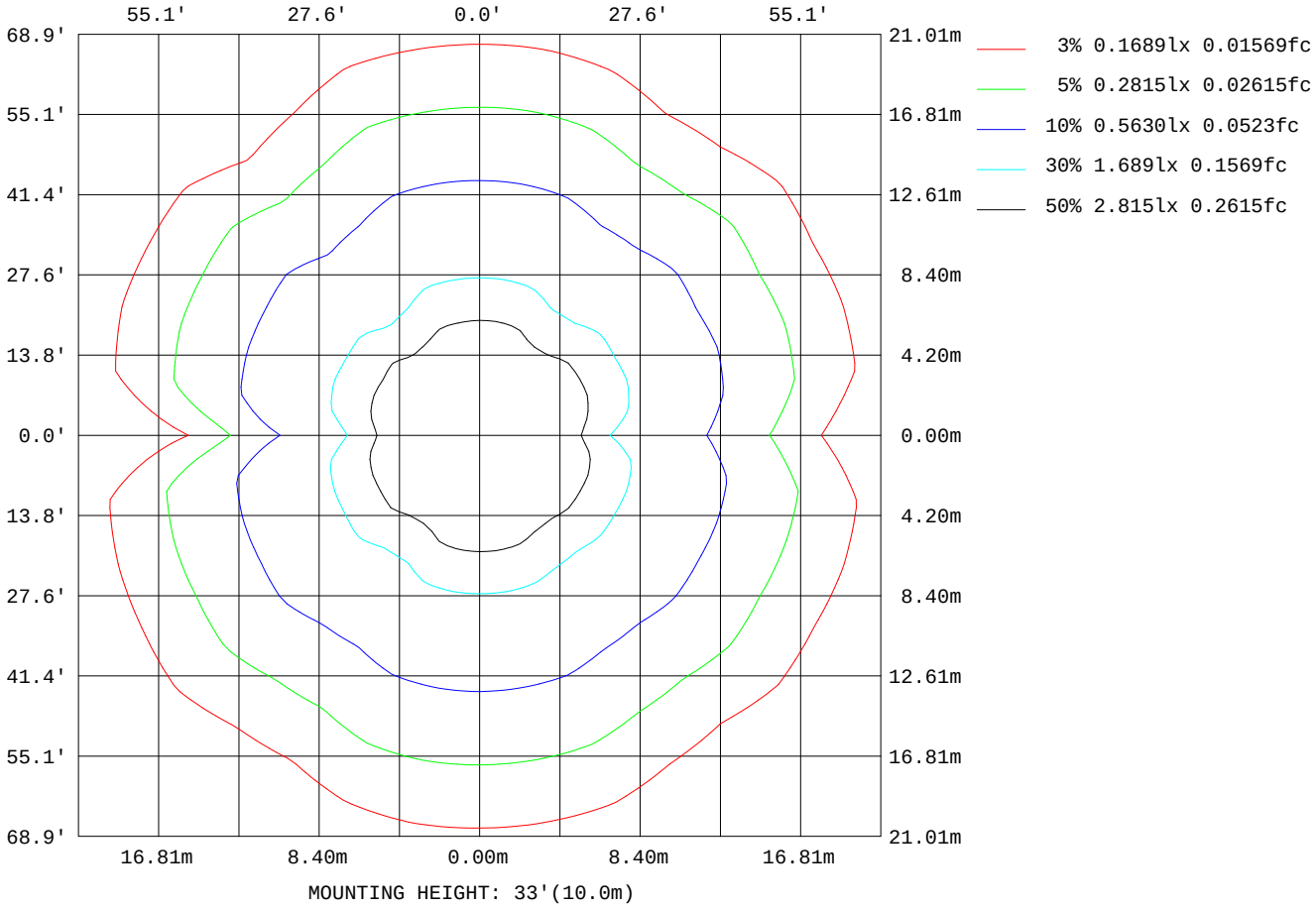
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.6DEG
Operators:David
Test Date:02 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:0.2546A P:30.516W PF:0.9982 Freq:60.00Hz Lamp Flux:2013.07x1 lm		
NAME:	TYPE:STL-38P-BL or PC	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Blackjack lighting	SUR.:0	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.6DEG
Operators:David
Test Date:02 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:0.2546A P:30.516W PF:0.9982 Freq:60.00Hz Lamp Flux:2013.07x1 lm		
NAME:	TYPE:STL-38P-BL or PC	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Blackjack lighting	SUR.:0	Shielding Angle:

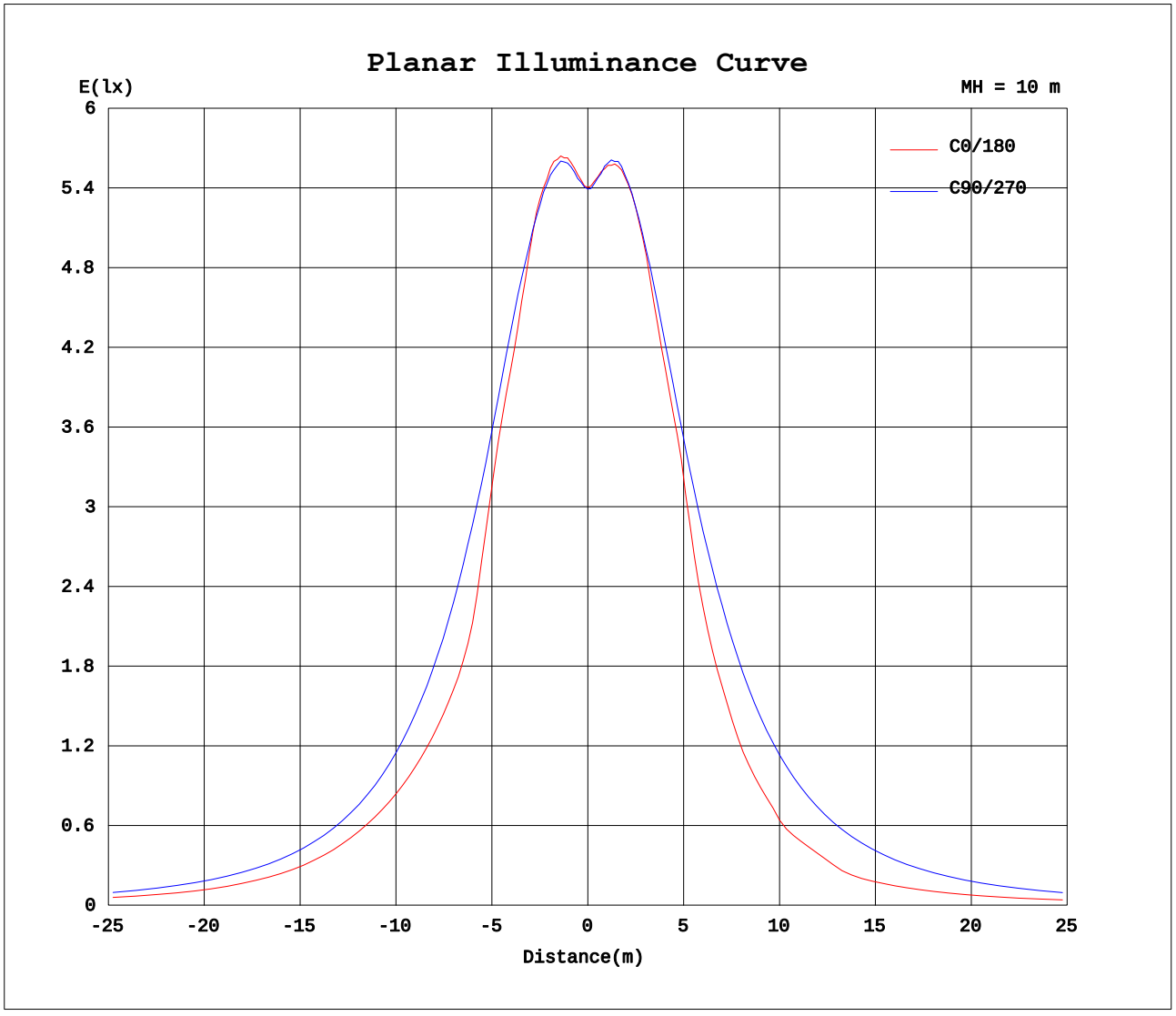
AvgL	cd/m2
L_0~180(65)av	9414
L_0~180(75)av	10810
L_0~180(85)av	23199
L_90~270(65)av	17922
L_90~270(75)av	23161
L_90~270(85)av	54574
L_45(65)av	16473
L_45(75)av	21396
L_45(85)av	50364

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.6DEG
Operators:David
Test Date:02 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:02 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:0.2546A P:30.516W PF:0.9982 Freq:60.00Hz Lamp Flux:2013.07x1 lm		
NAME:	TYPE:STL-38P-BL or PC	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Blackjack lighting	SUR.:0	Shielding Angle:

Table--1 UNIT: cd

γ (DEG) \ C(DEG)	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
0	540	540	540	540	540	540	540	540	540	540	540	540	540	540	540	540	540	540	540
5	565	563	562	562	560	562	564	564	562	563	560	562	563	561	562	560	560	562	560
10	586	581	575	578	576	577	579	581	578	581	576	577	578	577	580	576	577	578	579
15	579	578	571	576	570	542	554	577	576	576	570	571	570	570	573	573	570	574	570
20	525	549	550	553	545	515	525	556	553	555	548	548	544	543	547	545	544	546	527
25	469	506	510	513	507	478	487	515	514	514	508	504	487	489	506	503	505	500	476
30	360	448	461	459	458	429	437	465	466	466	462	455	396	404	455	452	452	443	374
35	295	395	407	406	407	381	390	415	415	415	414	408	353	360	410	405	407	388	300
40	264	351	360	359	361	334	342	366	367	368	366	363	316	324	369	355	351	338	236
45	237	310	318	317	318	292	299	324	323	325	324	322	282	287	327	315	307	297	181
50	211	273	277	277	280	257	263	285	285	287	286	283	251	256	289	277	271	261	150
55	180	241	242	241	246	227	232	252	251	254	252	249	223	228	255	245	240	230	107
60	150	212	212	211	217	199	203	222	222	224	223	220	196	202	226	216	211	201	93.9
65	124	182	188	187	192	171	179	197	197	198	198	193	172	180	201	193	184	171	83.0
70	105	153	168	167	171	152	159	175	175	176	176	171	152	160	179	172	162	137	73.6
75	86.0	129	148	149	152	136	142	157	156	157	158	151	134	142	160	151	143	119	59.5
80	73.8	112	128	131	136	121	126	139	139	140	140	134	118	126	143	133	126	105	50.4
85	62.7	96.3	112	116	121	108	112	124	123	124	124	118	103	111	127	117	111	92.7	42.5
90	49.4	81.9	99.8	106	109	95.8	101	113	112	112	113	106	91.7	99.8	115	103	98.2	80.2	35.3
95	36.9	73.1	92.8	102	106	89.7	96.8	110	110	110	110	103	87.9	95.9	112	98.1	93.7	74.4	31.1
100	31.0	69.7	89.5	100	103	84.9	93.7	108	108	109	108	101	85.2	93.4	110	95.3	91.4	71.5	27.8
105	27.6	65.5	87.5	98.3	100	81.1	90.9	107	107	107	107	99.8	82.9	91.1	108	92.9	89.5	69.6	26.2
110	25.1	62.1	85.5	96.4	98.2	77.3	88.0	106	105	106	106	98.0	80.5	88.2	106	90.6	87.3	67.9	25.1
115	22.2	61.4	83.7	93.7	95.3	72.2	84.2	103	103	103	103	95.7	77.3	85.3	103	88.1	84.5	64.5	24.0
120	16.9	56.8	78.6	90.2	91.2	69.3	80.7	99.7	99.3	100	99.6	92.3	74.4	81.6	98.4	83.5	80.4	61.5	22.0
125	14.1	52.8	68.7	83.9	87.3	65.5	76.5	94.7	94.5	95.4	94.9	87.8	70.4	77.3	94.2	77.9	71.6	59.0	20.6
130	12.5	48.5	63.4	77.1	81.8	60.6	71.0	88.5	88.8	89.2	89.0	82.2	65.6	72.5	87.5	74.2	65.7	52.2	19.1
135	10.6	40.0	56.2	63.2	74.6	54.9	64.7	80.3	79.4	79.7	81.6	75.3	60.3	66.4	80.0	63.1	58.7	40.2	16.0
140	9.34	27.7	44.1	51.8	60.6	47.8	57.7	70.7	73.2	73.6	73.4	66.8	53.5	58.6	67.4	52.5	48.9	31.2	12.8
145	8.30	20.1	36.1	44.8	46.8	39.1	49.1	63.9	63.9	64.8	64.7	59.5	46.5	48.2	51.2	46.2	41.0	23.2	8.06
150	6.89	11.2	26.4	32.9	38.2	30.9	37.8	51.3	53.5	54.8	54.4	49.0	36.9	37.1	42.6	36.2	30.4	14.7	6.37
155	5.69	5.90	17.1	22.7	25.4	24.5	25.9	32.1	33.8	35.2	34.5	33.5	28.4	29.3	30.4	27.6	20.6	8.60	4.74
160	2.47	2.35	7.50	14.2	17.0	16.5	19.6	24.1	24.2	24.1	23.8	24.7	20.9	20.3	18.6	15.7	9.57	4.47	2.30
165	1.79	1.77	2.78	6.46	10.1	11.7	12.0	12.7	12.9	13.0	12.7	12.5	13.0	12.5	10.8	7.08	3.91	2.66	1.73
170	1.17	1.34	1.41	1.89	3.08	3.78	5.25	6.47	6.91	6.94	6.72	5.37	5.03	4.01	3.88	2.90	2.19	2.04	1.36
175	0.62	0.75	0.90	0.89	0.66	0.62	0.51	0.68	0.88	1.00	0.94	0.77	0.72	0.83	0.97	1.16	1.30	1.08	0.55
180	0.66	0.75	0.90	0.89	0.66	0.60	0.51	0.41	0.41	0.40	0.41	0.43	0.63	0.85	0.97	1.19	1.30	0.96	0.57

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.6DEG
Operators:David
Test Date:02 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

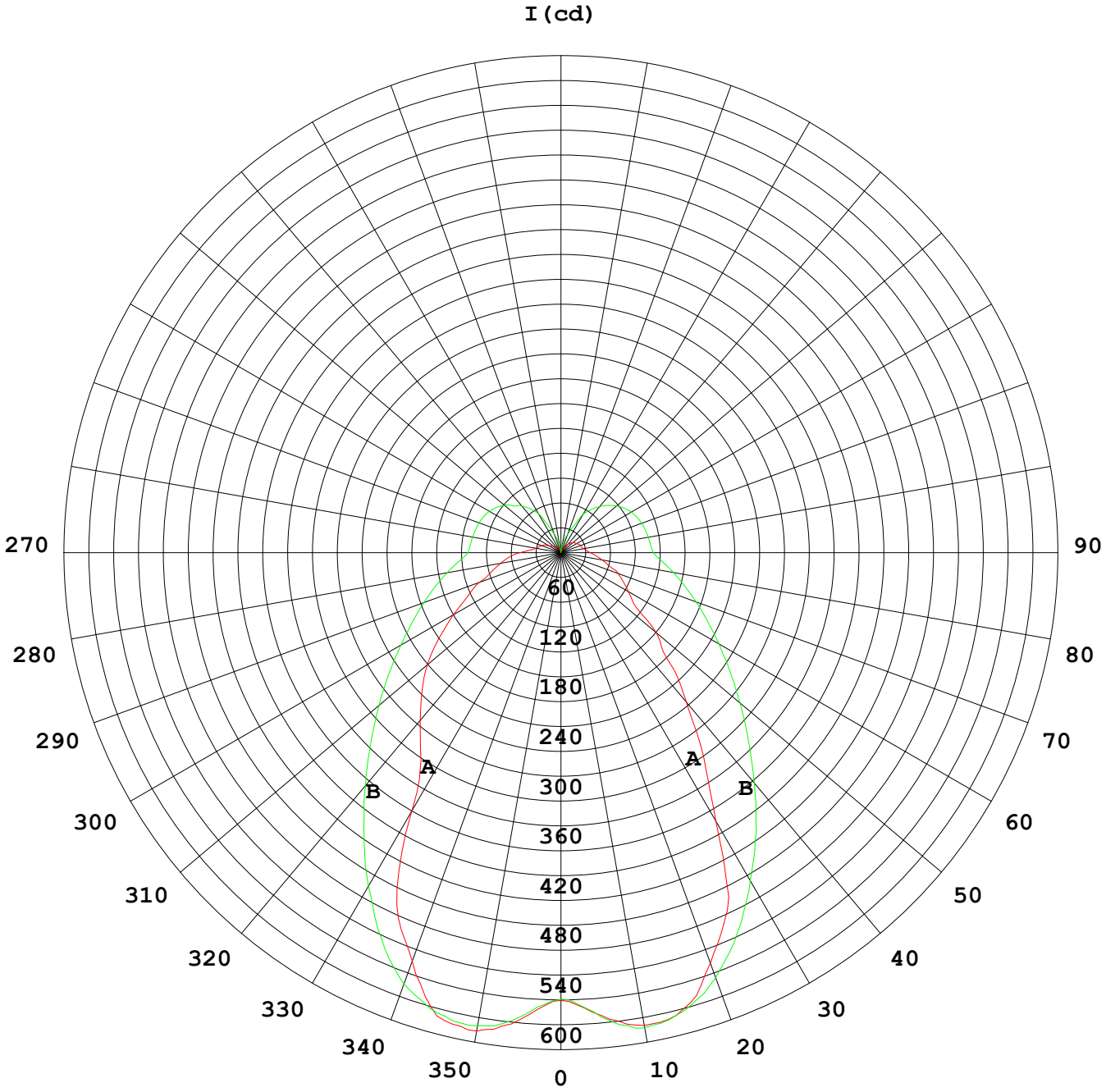
Test:U:120.00V I:0.2546A P:30.516W PF:0.9982 Freq:60.00Hz Lamp Flux:2013.07x1 lm		
NAME:	TYPE:STL-38P-BL or PC	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Blackjack lighting	SUR.:0	Shielding Angle:

Table--2 UNIT: cd

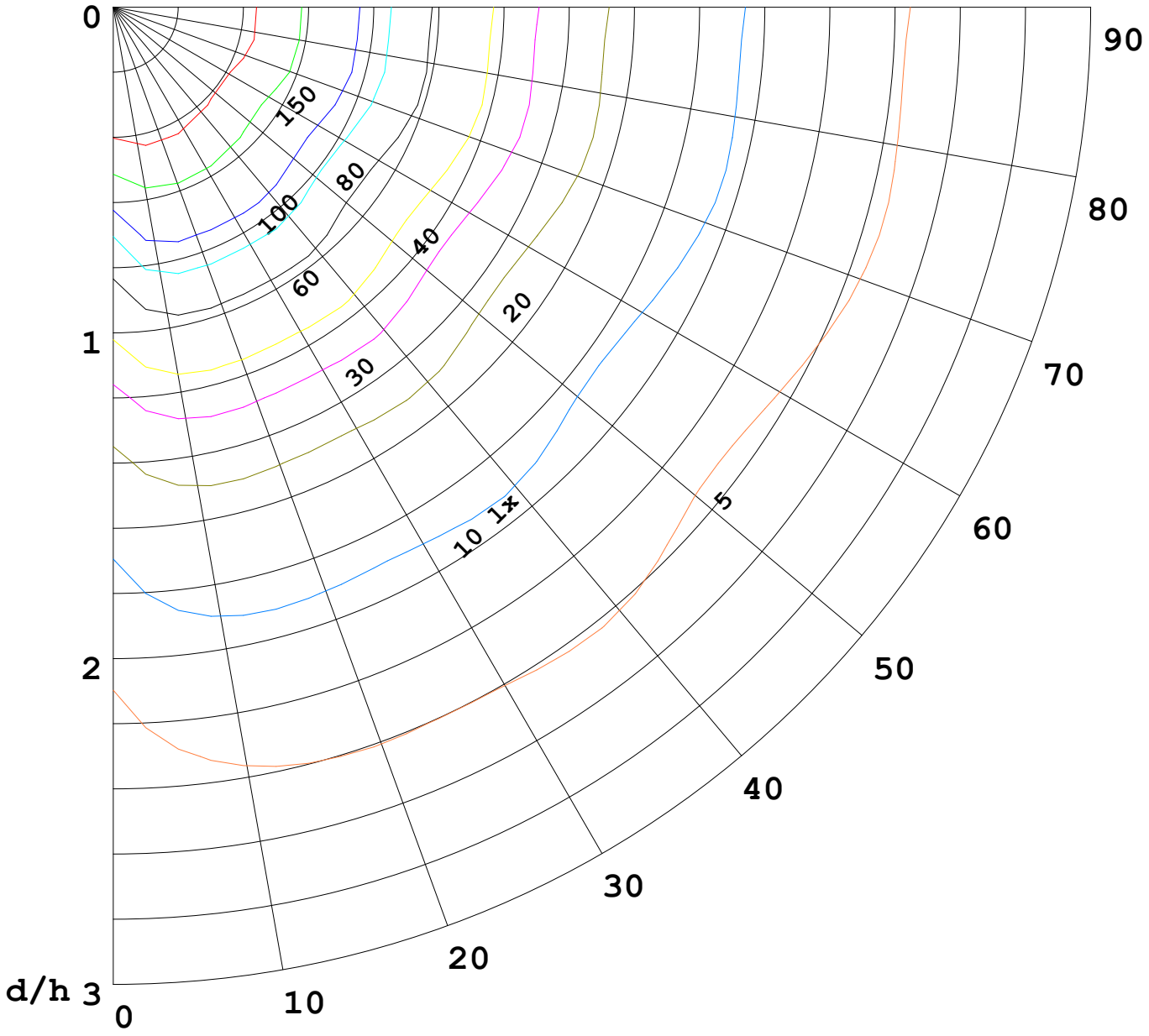
γ (DEG) \ C(DEG)	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350		
0	540	540	540	540	540	540	540	540	540	540	540	540	540	540	540	540	540		
5	564	562	565	562	564	566	566	564	564	564	562	563	563	566	564	564	566		
10	580	577	581	581	580	581	585	582	583	581	577	579	578	581	578	580	583		
15	572	569	575	570	573	573	577	574	574	569	560	536	554	573	572	573	576		
20	542	545	550	545	534	540	550	547	547	542	535	508	523	548	547	547	545		
25	497	504	507	502	469	474	505	505	506	502	497	462	473	505	505	505	498		
30	437	446	440	448	389	408	455	454	458	457	449	396	403	455	457	457	431		
35	381	400	390	400	337	354	408	408	412	409	405	351	359	408	410	412	378		
40	334	353	348	352	293	314	364	362	364	363	358	312	318	365	355	361	338		
45	290	311	306	311	260	278	322	321	321	321	317	278	285	323	312	319	298		
50	253	261	266	273	230	247	284	283	283	282	279	247	252	286	274	278	264		
55	216	229	232	241	204	217	250	249	249	248	247	220	224	251	239	245	232		
60	188	202	206	211	177	192	220	219	221	219	216	192	197	222	210	213	205		
65	163	179	183	185	147	166	196	195	196	195	190	166	173	197	186	187	182		
70	137	159	163	165	131	149	174	173	174	173	168	147	154	175	165	165	157		
75	112	142	146	148	118	132	155	154	155	154	149	131	138	156	145	145	139		
80	95.8	124	130	132	106	118	138	137	138	138	132	116	123	139	126	128	123		
85	78.1	107	115	117	94.4	105	123	122	123	122	117	103	109	123	112	113	106		
90	66.2	95.0	104	107	86.2	95.2	112	111	112	112	106	91.5	98.2	113	99.4	101	90.5		
95	63.3	90.8	101	102	81.0	91.6	109	109	109	109	103	86.7	93.2	109	95.6	96.0	81.4		
100	62.3	87.2	98.2	100	77.5	88.8	107	107	107	107	101	83.4	90.0	108	93.3	93.6	75.8		
105	60.8	85.8	96.5	97.6	74.0	86.6	106	105	106	106	99.7	80.7	87.2	107	91.5	91.2	71.9		
110	57.0	83.7	94.7	95.4	71.0	84.1	104	104	104	104	97.5	78.1	84.7	105	89.5	89.8	67.7		
115	55.2	82.2	92.2	92.6	66.7	80.9	101	101	101	102	95.1	75.5	81.8	102	87.4	84.5	62.9		
120	52.5	76.3	88.1	89.4	64.0	77.5	97.8	98.0	98.2	98.4	92.5	72.0	78.7	99.2	84.2	80.5	60.8		
125	47.5	63.5	82.5	84.7	60.0	73.5	93.1	93.2	93.8	93.5	87.8	68.5	74.2	93.7	80.2	72.0	56.8		
130	43.6	56.5	76.3	79.0	56.0	68.8	87.2	87.3	88.1	87.6	82.7	63.9	69.2	88.0	75.0	65.3	51.5		
135	36.0	51.1	61.1	72.2	50.7	62.8	79.8	80.0	80.9	80.5	75.7	58.0	63.4	80.3	63.2	56.7	39.1		
140	28.1	41.9	50.1	59.0	45.2	56.5	71.7	72.2	72.9	72.5	68.1	51.8	56.1	66.0	53.8	46.2	27.2		
145	19.9	35.6	42.6	44.5	38.2	49.1	62.9	63.0	63.7	63.6	59.6	43.5	44.9	49.4	44.1	38.5	19.9		
150	12.1	26.8	32.9	36.1	31.3	36.9	50.0	52.8	53.8	53.5	48.7	33.9	34.3	40.3	34.3	27.8	11.2		
155	6.47	17.6	22.4	25.4	24.5	26.9	31.5	33.0	34.1	33.7	31.9	26.6	27.8	30.6	25.3	19.9	6.52		
160	2.80	7.21	13.9	17.1	17.7	19.6	23.0	23.5	23.8	23.7	23.4	20.2	19.4	19.7	18.1	11.8	1.94		
165	1.66	2.14	6.16	8.54	10.2	12.2	12.6	13.2	13.6	13.5	13.2	12.7	13.0	12.1	10.9	5.98	1.77		
170	1.22	1.48	1.75	3.01	4.20	5.06	5.83	7.08	7.38	7.39	7.37	7.02	6.40	5.08	2.97	2.01	1.43		
175	0.43	0.69	0.89	0.88	0.68	0.62	0.68	0.84	0.90	0.97	0.94	0.81	0.66	0.84	0.96	1.19	1.24		
180	0.58	0.71	0.89	0.88	0.66	0.60	0.47	0.39	0.41	0.40	0.40	0.42	0.59	0.82	0.96	1.19	1.24		

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.6DEG
Operators:David
Test Date:02 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)
90
80
70
60
50
40
30
20
10
0
350
340
330
320
310
300
290
280
270
60
120
180
240
300
360
420
480
540
600
A
B
A
B

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