



IESNA LM-79 TEST REPORT

Applicant's name: BlackJack Lighting LLC

Address: 1547 Barclay Blvd. Buffalo Grove, IL 60089

Brand Name.....: Blackjack Lighting

Report No......: BTR66.181.19.0007.16

Product Name.....: 20" Pill Box Pendant -(Black Exterior/ Brushed Gold Interior or Satin Nickel exterior,Matte White interior

Model Number: PBX-20P-SW-12U-30K;PBX-20P-BG-12U-30K

Tested by
(printed name and signature): David Zhang 

Title: **Test Engineer**

Approved by
(printed name and signature): Steven Huo 

Title: **Approved Signatory**

Date of issue: Aug 26, 2019

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

Address: Shenzhen, China
[Tel:+86-755-28236006](tel:+86-755-28236006), Email: admin@bestcert.cn

Accreditation: DLC/Lighting Facts/UL/ETL/ELI/CEC/EPA/DOE
NVLAP Testing Lab Code: 200770-0

Test specification

Standard: IESNA LM-79

Test procedure/method: IESNA LM-79 Test Procedure

Non-standard test method: No

Test Report Form No.: BEST_ LM-79

TRF originator.....: BEST Test Service Shenzhen Co., Ltd. Mr Tseng

Master TRF: BEST_LM-79.doc

Note:

The laboratory has not been responsible for the sampling stage (e.g. the sample has been provided by the customer), the results relate only to the items tested.

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Description:	
The date of sampling	Aug 13, 2019
The date of receipt of the test sample / requirement /item(s).....	Aug 13, 2019
Test date.....	Aug 13, 2019 to Aug 22, 2019
Description	20" Pill Box Pendant -(Black Exterior/ Brushed Gold Interior or Satin Nickel exterior,Matte White interior
The condition of the item	N/A
Sampling method.....	Provided by the customer
Sample Quantity	1 unit
SKU.....	N/A
Rating(s) (V; Hz)	AC 120V, 60Hz
Nominal Power.....	31W
Nominal Power Factor	N/A
Nominal Lumen Output.....	2070lm
Nominal CCT	3000K
Nominal CRI(Ra)	90
Number of hours operated prior to measurement.....	0H
Total operating time of the product for measurements including stabilization:	3.5H
Ambient temperature	24.7°C
Orientation (burning position) of SSL product during test	Lighting Surface Down or Base Up
Stabilization time	1.5H
Photometric method	Sphere-spectroradiometer+Goniophotometer
Calibration standard lamp used	DC 24V 100W Omni-Directional Halogen Calibrated by NIM China(Sphere) DC 120V 500W Omni-Directional Halogen Calibrated by NIM China(Goniophotometer)
Correction factors applied.....	Self absorbing applied
Photometric measurement conditions:	See test method description below

Equipments used	EVERFINE HASS-2000 Sphere System CHROMA 61602 AC Source YOKOGAWA WT 310 Power Meter FLUKE 52II EVERFINE GOR-5000 Goniophotometer CALIFORNIA INSTRUMENT 1501I AC Source YOKOGAWA WT 210 Power Meter FLUKE 233 Temperature Meter
Bandwidth of spectroradiometer	2nm
Statement of uncertainties	3.1%
Deviation	None

Note: These models are all the same except for color. Here we choose PBX-20P-SW-12U-30K to be tested and the other to share the test data.

Photometric and Electrical Measurement

Total light output (luminous flux) for the 25°C ±1°C ambient temperature conditions was measured using a ø2.0m 4π geometry integrating sphere. Temperature was measured at a position inside the sphere. Spectral radiant flux were measured using the photo detector built in the integrating sphere. Each lamp was operated at rated voltage in its designated orientation. Each lamp was in a stable state before measurements are done as below:

Step 1 Take 3 measurements of the lamp light output at 15 minute interval (total time=30mintues.), the pre-burning time is not included in the formal testing time period.

Step 2 Calculate the difference in percentage between the maximum measured value and the minimum measured value with the three consecutive measurements.

Step 3 If the value calculated in Step 2 does not exceed 0.5 percent, the lamp is considered stable.

Luminous flux, chromaticity coordinates, correlated color temperature and color rendering index for each lamp were calculated from the spectral radiant flux measurements taken at 2 nm increment over the range of 380 to 780 nm. The calibration of the sphere photometer-spectrometer system can be traced back to the NIST USA. Lamp efficacy (lumens per watt) for each lamp model was computed based on the luminous flux result revised taking the self-absorbing correction factor into consideration. Electrical measurements including voltage, current, power and power factor were measured using the digital power meter.

The total uncertainty of the light output measurements is estimated, at the 95% confidence level, not to exceed ±3.1% over the wavelength range of 380-780 nm.

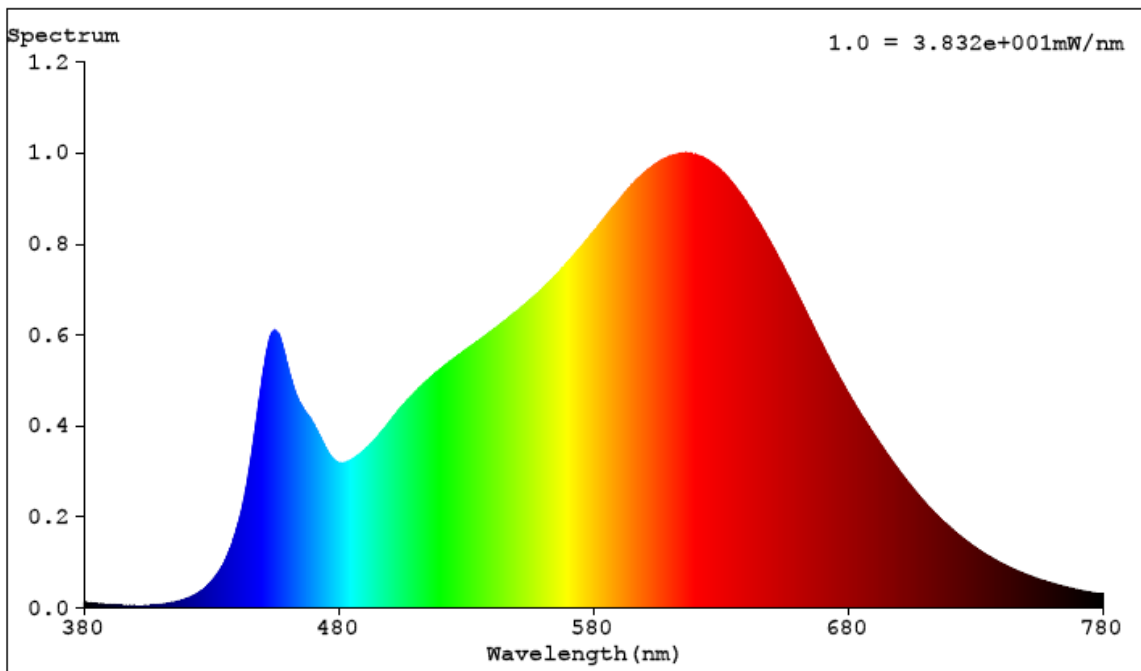
Luminous Intensity

An Everfine GOR-5000 Goniophotometer was used to measure the intensity distribution at each angle, Luminous intensity (cd) was measured within each vertical plane at a 5° vertical angle increment (maximum) from 0° to 360°, measurements were repeated in vertical planes about the lamp (polar) axis in an increments of 22.5° from 0° to 180°, and the intensity data were exported to a file in excel format.

Photometric and Electrical Test Data

Input Voltage (V)	Frequency (Hz)	Input Current (A)	ITHD	Input Power (W)	Power Factor	Lumen Output (Lumens)	Efficiency (Lumen/W)
120	60.0	0.2674	/	30.89	0.9631	2070.94	67.03
CCT (K)	CRI (Ra)	R9	x CIE1931	y CIE1931	u' CIE1976	v' CIE1976	Duv CIE1976
3141	92.4	57	0.4253	0.3962	0.2464	0.5165	-0.0015

Spectral Plots




EUT Photo



Annex

Please see the next page for the luminous intensity test data

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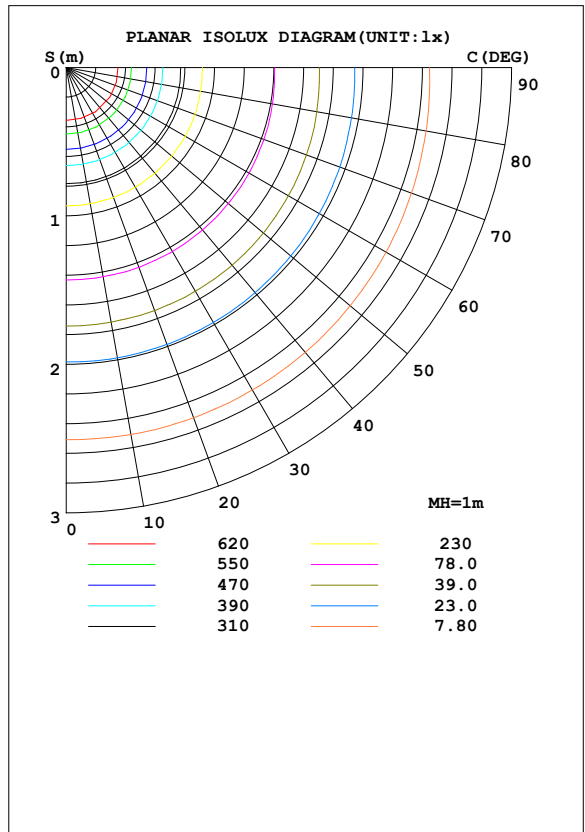
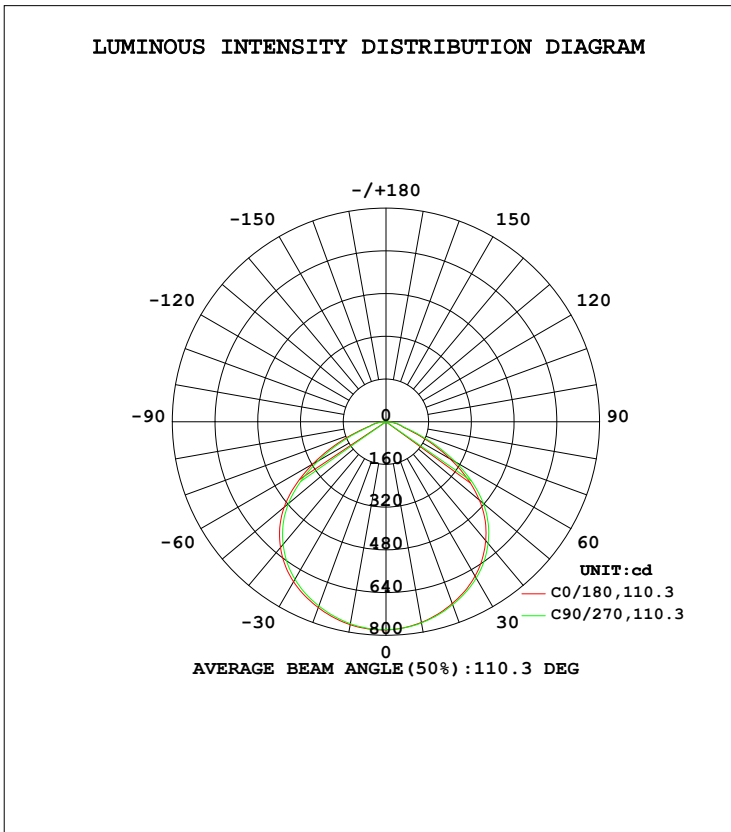


BEST

LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:119.96V I:0.2674A P:30.894W PF:0.9631 Freq:60.00Hz Lamp Flux:2070.94x1 lm		
NAME: 20" Pill Box Pendant	TYPE: PBX-20P-SW-12U-30K	WEIGHT: 3.9KG
SPEC.:	DIM.:	SERIAL No.:
MFR.: BlackJack Lighting LLC	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 67.03 lm/W			
MODEL	PBX-20P-SW-12U-30K	I _{max} (cd)	780.1	S/MH (C0/180)	1.27
NOMINAL POWER (W)	31	LOR (%)	100.0	S/MH (C90/270)	1.29
RATED VOLTAGE (V)	120	TOTAL FLUX (lm)	2070.9	η UP, DN (C0-180)	0.0, 49.8
NOMINAL FLUX (lm)	2070	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 50.2
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	120	η down (%)	100.0	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature: 25.1DEG
 Operators: Mark
 Test Date: 19 August 2019

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

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
10	771.7	771.7	768.2	763.0	763.3	762.7	765.1	769.1	0- 10	73.77	73.77	3.56,3.56
20	741.0	740.7	734.3	725.4	724.9	724.2	729.3	737.3	10- 20	212.3	286.1	13.8,13.8
30	692.2	691.6	681.7	668.3	667.5	667.4	675.9	688.5	20- 30	326.7	612.7	29.6,29.6
40	614.8	613.6	599.6	581.4	581.3	582.2	594.8	612.3	30- 40	401.6	1014	49,49
50	497.6	495.9	476.5	453.7	456.6	459.2	475.8	498.2	40- 50	418.0	1432	69.2,69.2
60	316.6	314.1	293.2	270.2	277.0	281.0	299.1	322.8	50- 60	348.9	1781	86,86
70	122.8	120.8	106.1	90.87	95.21	97.54	110.1	128.4	60- 70	197.1	1978	95.5,95.5
80	43.62	42.75	40.03	36.58	38.96	39.81	42.75	45.92	70- 80	69.51	2048	98.9,98.9
90	3.953	3.643	0.0754	0.0000	0	0	0.3419	5.007	80- 90	22.97	2071	100,100
100	0	0	0	0	0	0	0	0	90-100	0.1137	2071	100,100
110	0	0	0	0	0	0	0	0	100-110	0	2071	100,100
120	0	0	0	0	0	0	0	0	110-120	0	2071	100,100
130	0	0	0	0	0	0	0	0	120-130	0	2071	100,100
140	0.0009	0.0004	0.0009	0.0034	0	0	0	0	130-140	0.0000	2071	100,100
150	0.0138	0.0148	0.0158	0.0181	0	0	0	0	140-150	0.0028	2071	100,100
160	0.0179	0.0175	0.0188	0.0209	0.0015	0.0030	0.0042	0.0031	150-160	0.0042	2071	100,100
170	0.0156	0.0167	0.0198	0.0197	0.0024	0.0040	0.0042	0.0039	160-170	0.0041	2071	100,100
180	0.0136	0.0128	0.0157	0.0159	0.0093	0.0117	0.0117	0.0127	170-180	0.0007	2071	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 1225.8 lm

%lum = 59.2%
 %lamp = 59.2%

Conical surface Flux(120deg): 1781.3 lm

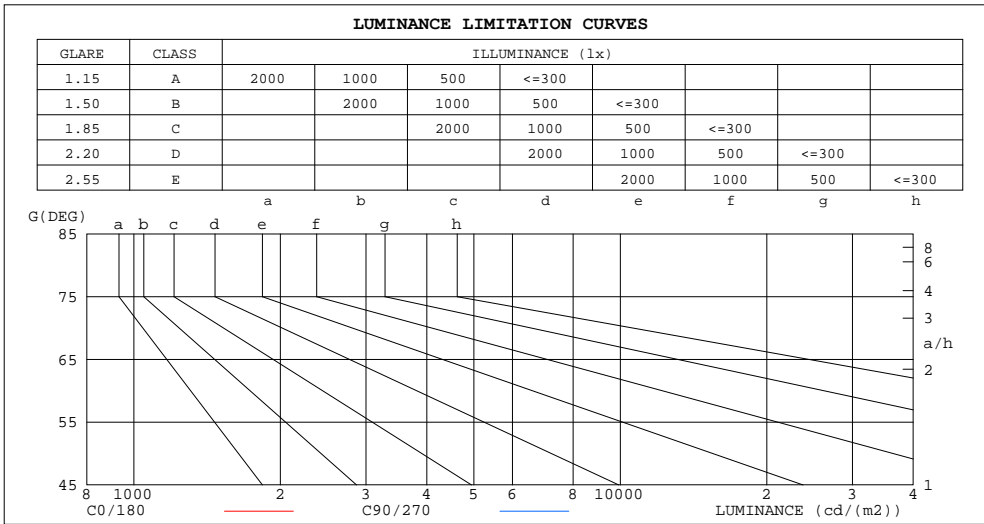
%lum = 86.0%
 %lamp = 86.0%

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.1DEG
 Operators:Mark
 Test Date:19 August 2019

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

LUMINANCE LIMITATION CURVES

Test:U:119.96V I:0.2674A P:30.894W PF:0.9631 Freq:60.00Hz Lamp Flux:2070.94x1 lm		
NAME: 20" Pill Box Pendant	TYPE: PBX-20P-SW-12U-30K	WEIGHT: 3.9KG
SPEC.:	DIM.:	SERIAL No.:
MFR.: BlackJack Lighting LLC	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	269	225
80	251	231
75	243	230
70	359	310
65	510	461
60	633	586
55	722	682
50	774	741
45	796	771

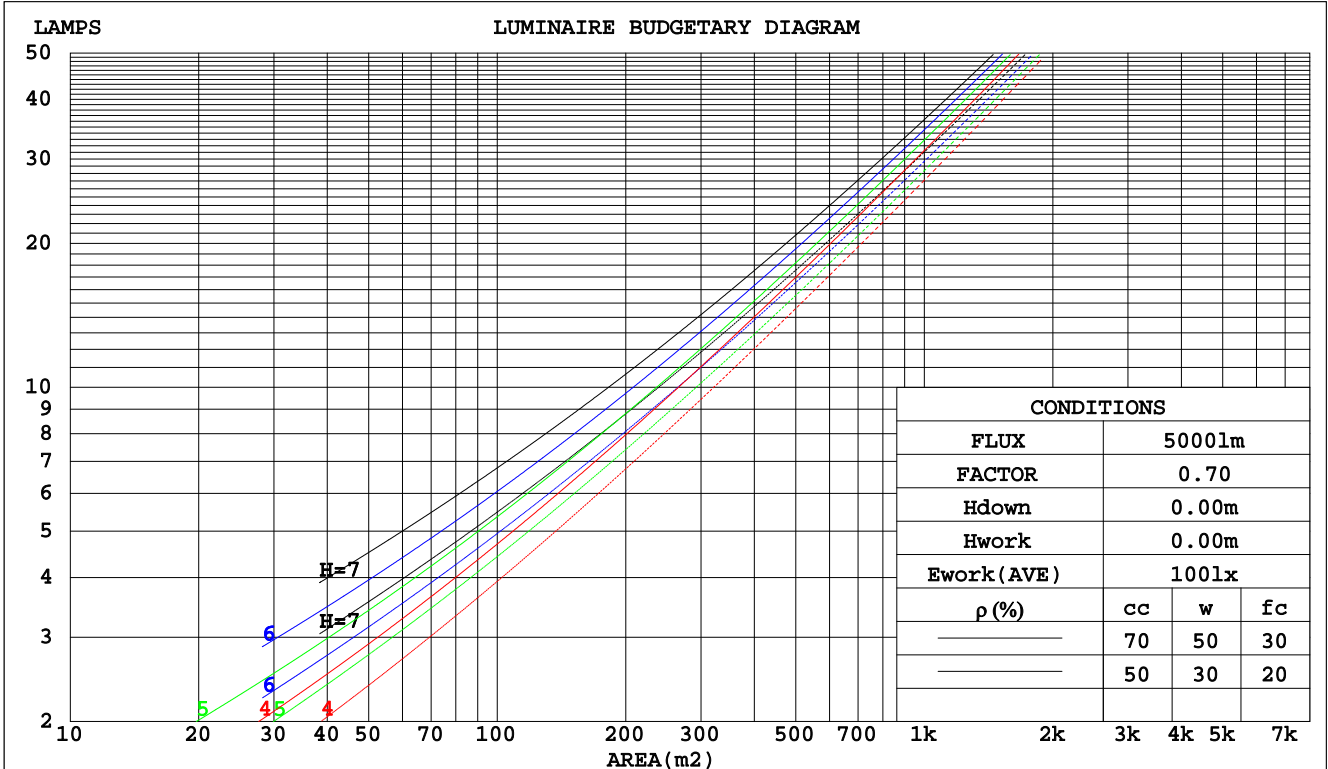
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 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:119.96V I:0.2674A P:30.894W PF:0.9631 Freq:60.00Hz Lamp Flux:2070.94x1 lm		
NAME: 20" Pill Box Pendant	TYPE:PBX-20P-SW-12U-30K	WEIGHT:3.9KG
SPEC.:	DIM.:	SERIAL No.:
MFR.: BlackJack Lighting LLC	SUR.:	Shielding Angle:

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio															
	Coefficients of Utilization(CU)															
0.0	1.19	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	1.06	1.02	.98	1.03	.90	.97	.99	.96	.94	.95	.93	.91	.92	.90	.88	.86
2.0	.93	.87	.82	.91	.85	.81	.88	.83	.79	.84	.80	.77	.82	.78	.75	.73
3.0	.82	.75	.69	.81	.74	.68	.78	.72	.67	.75	.70	.66	.73	.68	.65	.62
4.0	.73	.65	.59	.72	.64	.58	.69	.63	.57	.67	.61	.57	.65	.60	.56	.54
5.0	.66	.57	.51	.64	.56	.50	.62	.55	.50	.60	.54	.49	.59	.53	.49	.47
6.0	.59	.50	.44	.58	.50	.44	.56	.49	.44	.55	.48	.43	.53	.47	.43	.41
7.0	.54	.45	.39	.53	.45	.39	.51	.44	.39	.50	.43	.38	.49	.43	.38	.36
8.0	.49	.41	.35	.48	.40	.35	.47	.40	.35	.46	.39	.34	.45	.39	.34	.32
9.0	.45	.37	.31	.44	.37	.31	.43	.36	.31	.42	.36	.31	.41	.35	.31	.29
10.0	.41	.34	.28	.41	.33	.28	.40	.33	.28	.39	.33	.28	.38	.32	.28	.26



C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature: 25.1DEG
 Operators: Mark
 Test Date: 19 August 2019

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

WEC AND CCEC

Test:U:119.96V I:0.2674A P:30.894W PF:0.9631 Freq:60.00Hz Lamp Flux:2070.94x1 lm		
NAME: 20"Fill Box Pendant	TYPE:PBX-20P-SW-12U-30K	WEIGHT:3.9KG
SPEC.:	DIM.:	SERIAL No.:
MFR.: BlackJack Lighting LLC	SUR.:	Shielding Angle:

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.277	.158	.050	.270	.154	.049	.257	.147	.047	.245	.141	.045	.234	.136	.044	
2.0	.267	.146	.045	.260	.143	.044	.249	.138	.043	.238	.134	.042	.229	.129	.041	
3.0	.251	.134	.040	.246	.132	.040	.235	.128	.039	.226	.124	.038	.217	.120	.037	
4.0	.235	.122	.036	.230	.120	.036	.221	.117	.035	.213	.114	.034	.205	.111	.034	
5.0	.219	.112	.032	.215	.110	.032	.207	.108	.032	.200	.105	.031	.193	.103	.031	
6.0	.205	.103	.029	.201	.102	.029	.194	.100	.029	.188	.097	.029	.181	.095	.028	
7.0	.192	.095	.027	.189	.094	.027	.182	.092	.027	.176	.090	.026	.171	.089	.026	
8.0	.180	.088	.025	.177	.087	.025	.172	.086	.024	.166	.084	.024	.161	.083	.024	
9.0	.170	.082	.023	.167	.081	.023	.162	.080	.023	.157	.079	.023	.152	.077	.022	
10.0	.160	.077	.021	.158	.076	.021	.153	.075	.021	.149	.074	.021	.144	.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	.191	.191	.191	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.178	.156	.137	.152	.134	.118	.104	.092	.082	.060	.053	.047	.019	.017	.015	
2.0	.169	.132	.101	.145	.114	.087	.099	.079	.061	.057	.046	.036	.018	.015	.012	
3.0	.161	.114	.077	.138	.099	.067	.095	.068	.047	.055	.040	.028	.018	.013	.009	
4.0	.153	.101	.061	.132	.087	.053	.090	.061	.037	.052	.036	.022	.017	.012	.007	
5.0	.146	.090	.049	.126	.078	.043	.086	.055	.030	.050	.032	.018	.016	.010	.006	
6.0	.139	.082	.040	.120	.071	.035	.083	.050	.025	.048	.029	.015	.015	.010	.005	
7.0	.133	.075	.034	.114	.065	.030	.079	.045	.021	.046	.027	.013	.015	.009	.004	
8.0	.127	.069	.029	.109	.060	.026	.075	.042	.018	.044	.025	.011	.014	.008	.004	
9.0	.121	.064	.026	.104	.056	.022	.072	.039	.016	.042	.023	.010	.014	.008	.003	
10.0	.116	.060	.023	.100	.052	.020	.069	.037	.014	.040	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
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γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:59.2%
 Test Distance:2.463m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:119.96V I:0.2674A P:30.894W PF:0.9631 Freq:60.00Hz Lamp Flux:2070.94x1 lm		
NAME: 20"Fill Box Pendant	TYPE:PBX-20P-SW-12U-30K	WEIGHT:3.9KG
SPEC.:	DIM.:	SERIAL No.:
MFR.: BlackJack Lighting LLC	SUR.:	Shielding Angle:

ceiling/cavity	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
walls	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions	Viewed crosswise					Viewed endwise				
x = 2H y = 2H	11.8	13.3	12.1	13.5	13.7	11.6	13.0	11.9	13.2	13.4
3H	12.5	13.8	12.8	14.1	14.3	12.2	13.5	12.5	13.7	14.0
4H	12.6	13.9	12.9	14.1	14.4	12.3	13.5	12.6	13.8	14.0
6H	12.7	13.9	13.0	14.1	14.4	12.3	13.5	12.7	13.8	14.1
8H	12.7	13.9	13.0	14.1	14.4	12.4	13.5	12.7	13.8	14.1
12H	12.7	13.8	13.1	14.1	14.4	12.4	13.5	12.7	13.8	14.1
4H 2H	12.2	13.5	12.5	13.7	14.0	12.0	13.3	12.3	13.5	13.8
3H	12.9	14.0	13.3	14.3	14.6	12.7	13.8	13.0	14.1	14.4
4H	13.1	14.1	13.5	14.4	14.7	12.8	13.8	13.2	14.1	14.4
6H	13.3	14.1	13.7	14.5	14.9	13.0	13.8	13.4	14.2	14.5
8H	13.3	14.2	13.8	14.5	14.9	13.0	13.8	13.4	14.2	14.6
12H	13.4	14.2	13.8	14.5	14.9	13.1	13.8	13.5	14.2	14.6
8H 4H	13.1	13.9	13.5	14.3	14.7	12.8	13.7	13.2	14.0	14.4
6H	13.4	14.0	13.8	14.5	14.9	13.1	13.8	13.5	14.2	14.6
8H	13.5	14.1	14.0	14.5	15.0	13.2	13.8	13.7	14.2	14.7
12H	13.7	14.2	14.1	14.6	15.1	13.3	13.8	13.8	14.3	14.8
12H 4H	13.1	13.8	13.5	14.2	14.6	12.8	13.6	13.2	13.9	14.3
6H	13.4	14.0	13.8	14.4	14.9	13.1	13.7	13.6	14.1	14.6
8H	13.6	14.1	14.0	14.5	15.0	13.3	13.8	13.7	14.2	14.7
Variations with the observer position at spacings:										
S = 1.0H	+ 0.3 / - 0.4					+ 0.3 / - 0.4				
1.5H	+ 0.3 / - 0.6					+ 0.3 / - 0.7				
2.0H	+ 0.7 / - 0.6					+ 0.6 / - 0.6				

CIE Pub.117, 2071 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = 2.5)

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.1DEG
 Operators:Mark
 Test Date:19 August 2019

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

UTILIZATION FACTORS TABLE

Test:U:119.96V I:0.2674A P:30.894W PF:0.9631 Freq:60.00Hz Lamp Flux:2070.94x1 lm		
NAME: 20" Pill Box Pendant	TYPE:PBX-20P-SW-12U-30K	WEIGHT:3.9KG
SPEC.:	DIM.:	SERIAL No.:
MFR.: BlackJack Lighting LLC	SUR.:	Shielding Angle:

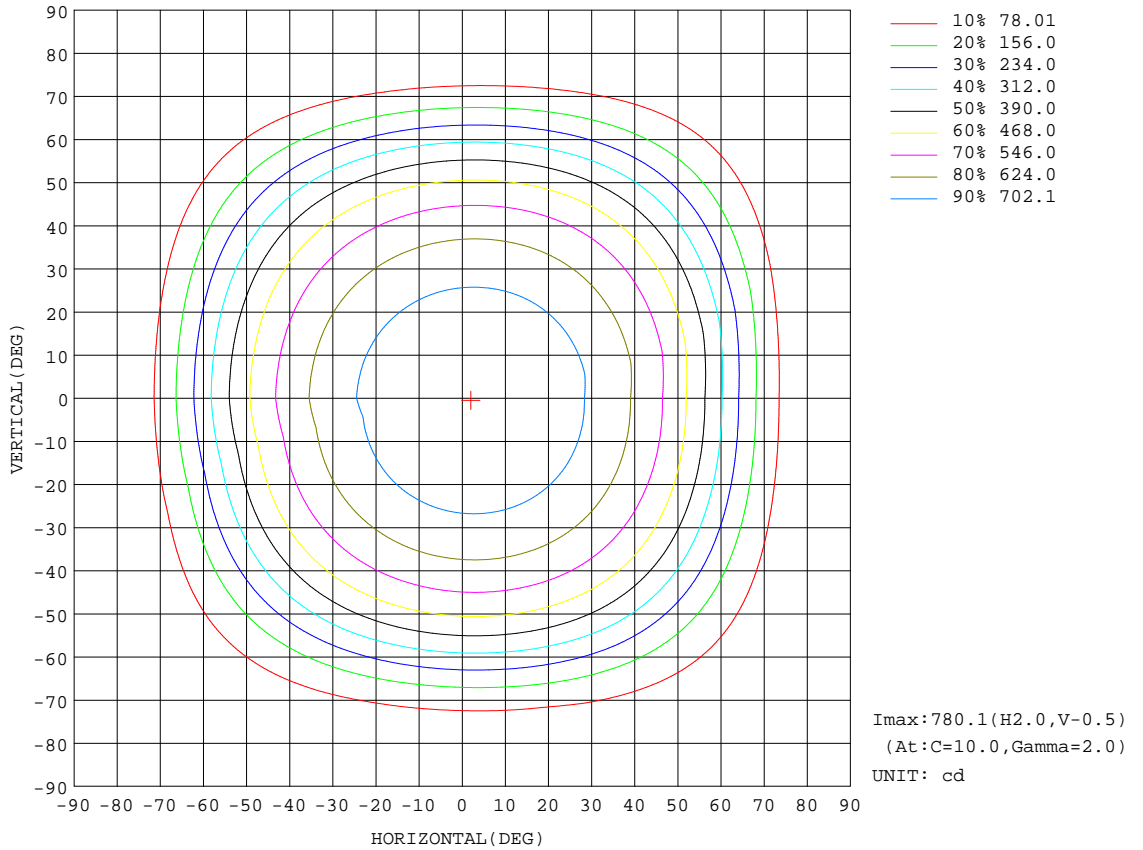
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) k(RI) x RCR = 5									
k = 0.60	59	48	41	59	48	41	58	47	41	35
0.80	70	59	52	69	58	52	67	58	51	45
1.00	79	68	62	78	68	61	76	69	61	54
1.25	86	76	70	85	76	69	82	74	69	62
1.50	91	82	75	89	81	75	86	79	74	67
2.00	98	90	84	96	89	83	92	86	82	74
2.50	101	94	89	99	93	88	95	90	86	78
3.00	104	98	93	102	96	92	98	94	90	82
4.00	108	103	98	105	101	97	101	97	94	86
5.00	110	105	102	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:25.1DEG
 Operators:Mark
 Test Date:19 August 2019

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

ISOCANDELA DIAGRAM

Test:U:119.96V I:0.2674A P:30.894W PF:0.9631 Freq:60.00Hz Lamp Flux:2070.94x1 lm		
NAME: 20" Pill Box Pendant	TYPE: PBX-20P-SW-12U-30K	WEIGHT: 3.9KG
SPEC.:	DIM.:	SERIAL No.:
MFR.: BlackJack Lighting LLC	SUR.:	Shielding Angle:

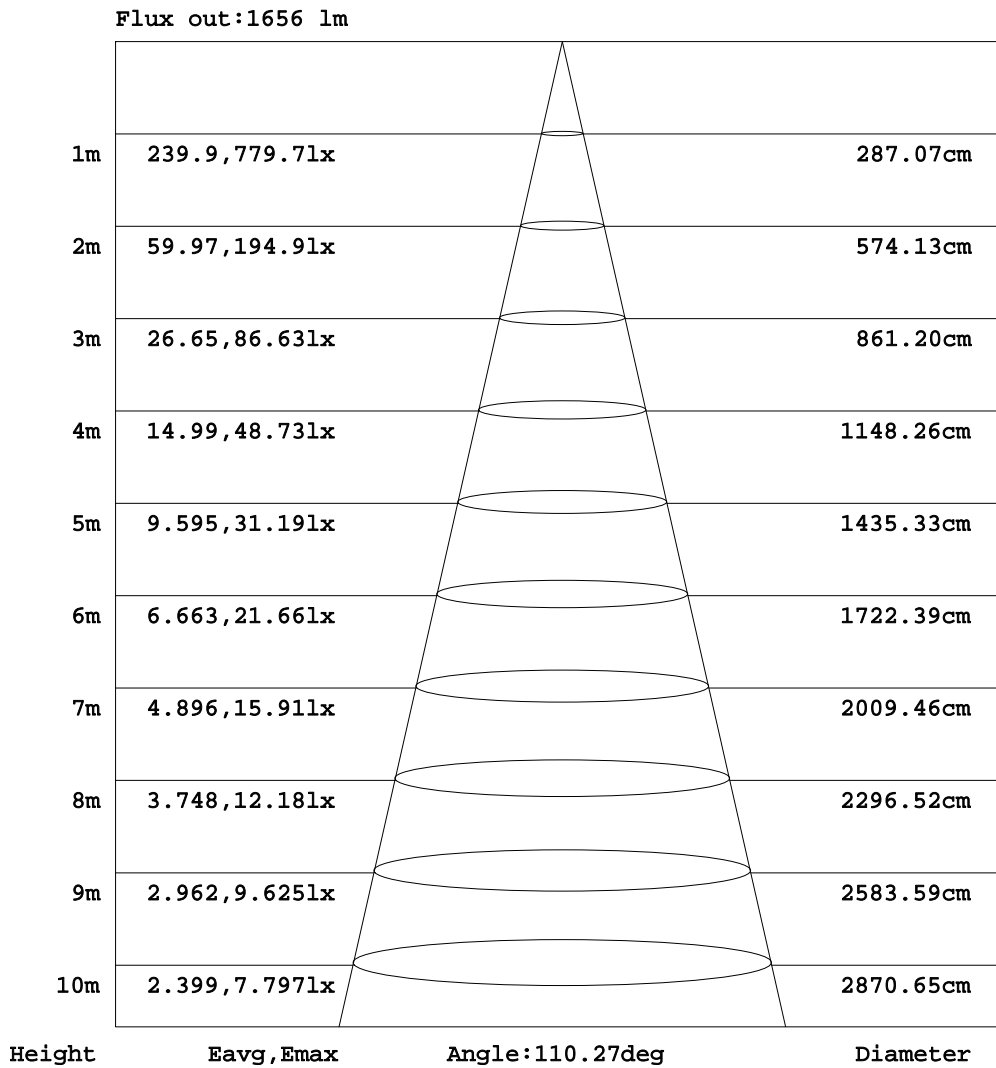


C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature: 25.1DEG
 Operators: Mark
 Test Date: 19 August 2019

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

AAI Figure

Test:U:119.96V I:0.2674A P:30.894W PF:0.9631 Freq:60.00Hz Lamp Flux:2070.94x1 lm		
NAME: 20"Fill Box Pendant	TYPE:PBX-20P-SW-12U-30K	WEIGHT:3.9KG
SPEC.:	DIM.:	SERIAL No.:
MFR.: BlackJack Lighting LLC	SUR.:	Shielding Angle:



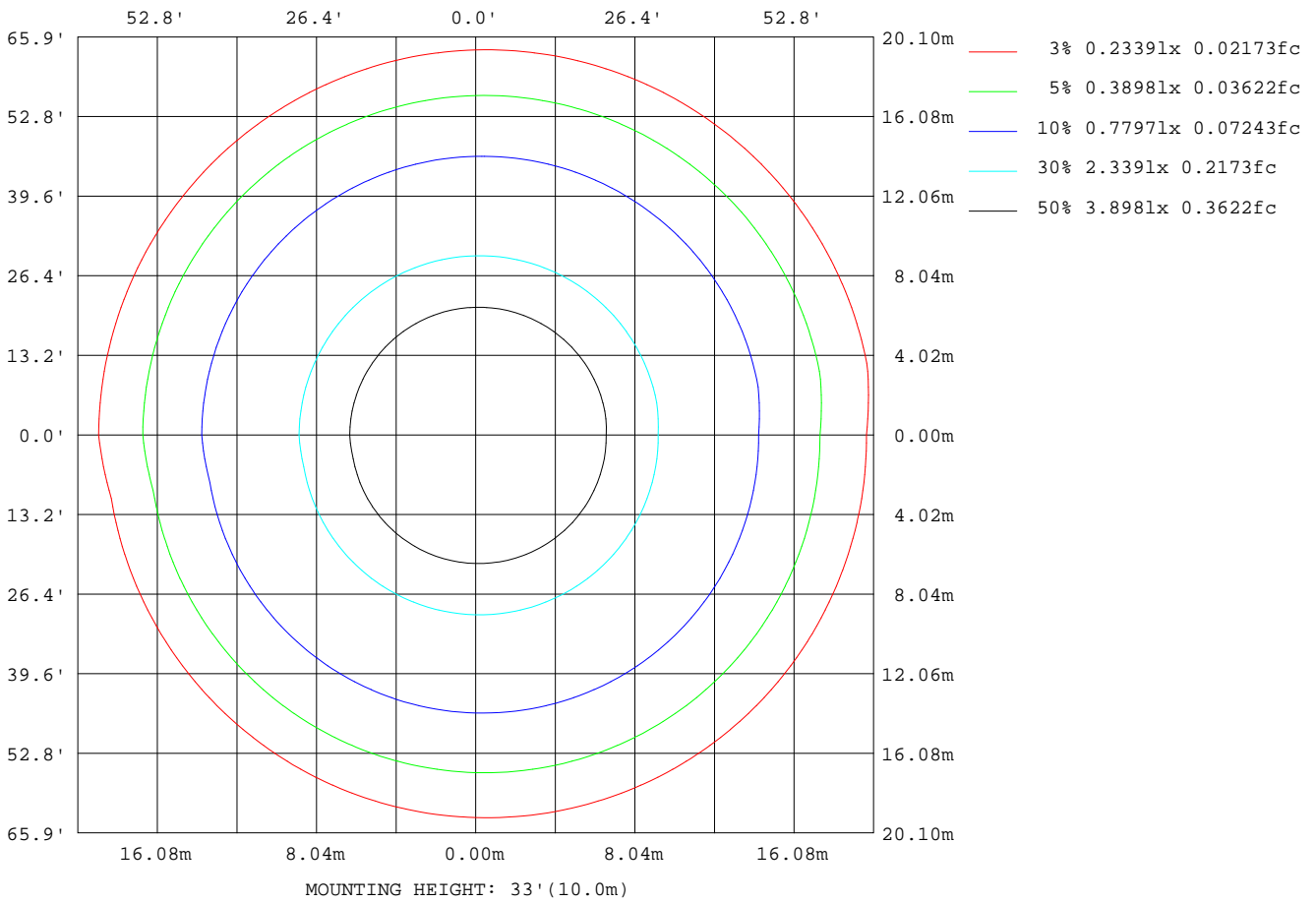
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.1DEG
 Operators:Mark
 Test Date:19 August 2019

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

ISOLUX DIAGRAM

Test:U:119.96V I:0.2674A P:30.894W PF:0.9631 Freq:60.00Hz Lamp Flux:2070.94x1 lm		
NAME: 20" Pill Box Pendant	TYPE: PBX-20P-SW-12U-30K	WEIGHT: 3.9KG
SPEC.:	DIM.:	SERIAL No.:
MFR.: BlackJack Lighting LLC	SUR.:	Shielding Angle:



C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature: 25.1DEG
 Operators: Mark
 Test Date: 19 August 2019

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

LED Avg.L Report

Test:U:119.96V I:0.2674A P:30.894W PF:0.9631 Freq:60.00Hz Lamp Flux:2070.94x1 lm		
NAME: 20" Pill Box Pendant	TYPE:PBX-20P-SW-12U-30K	WEIGHT:3.9KG
SPEC.:	DIM.:	SERIAL No.:
MFR.: BlackJack Lighting LLC	SUR.:	Shielding Angle:

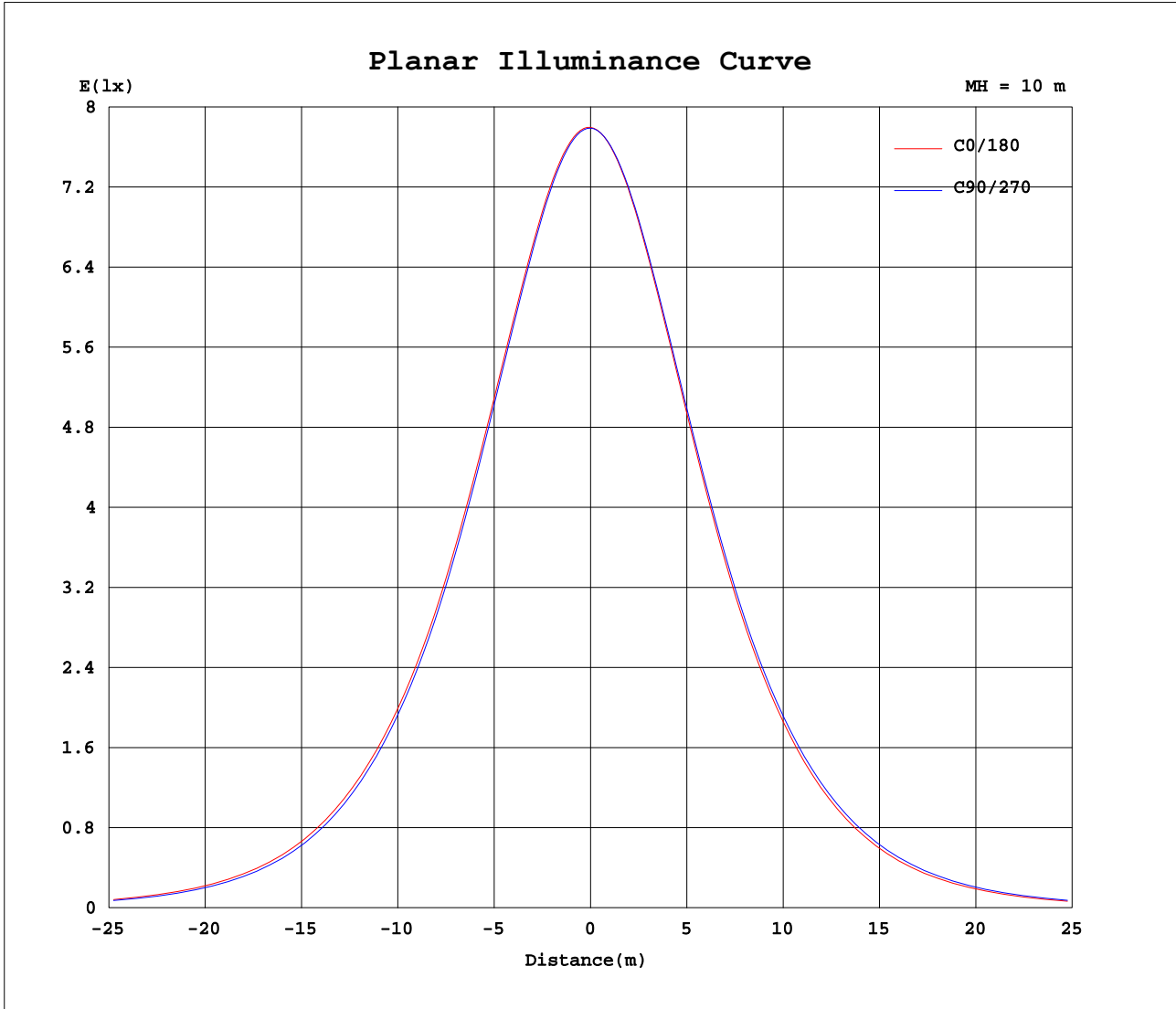
AvgL	cd/m2
L_0~180 (65) av	470
L_0~180 (75) av	235
L_0~180 (85) av	242
L_90~270 (65) av	468
L_90~270 (75) av	235
L_90~270 (85) av	241
L_45 (65) av	470
L_45 (75) av	235
L_45 (85) av	241

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.1DEG
 Operators:Mark
 Test Date:19 August 2019

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

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 25.1DEG
Operators: Mark
Test Date: 19 August 2019

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

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:119.96V I:0.2674A P:30.894W PF:0.9631 Freq:60.00Hz Lamp Flux:2070.94x1 lm		
NAME: 20" Pill Box Pendant	TYPE: PBX-20P-SW-12U-30K	WEIGHT: 3.9KG
SPEC.:	DIM.:	SERIAL No.:
MFR.: BlackJack Lighting LLC	SUR.:	Shielding Angle:

Table--1

UNIT: cd

C (DEG) \ γ (DEG)	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
0	780	780	780	780	779	779	779	779	779	779	779	779	779	778	778	778	778	778	780
5	779	779	779	779	779	778	778	778	777	777	776	775	775	774	773	773	772	772	774
10	772	772	772	772	772	771	771	770	769	768	767	766	765	764	762	761	760	760	763
15	759	759	760	759	759	758	758	756	755	754	752	751	749	747	746	744	743	742	747
20	741	742	742	742	741	740	739	738	736	734	732	730	728	726	724	723	721	720	725
25	719	720	720	720	719	719	717	715	713	711	709	706	704	701	699	697	695	693	699
30	692	693	693	693	692	691	689	687	684	682	679	676	673	670	667	664	662	660	668
35	658	659	660	659	658	657	654	652	649	645	642	638	634	631	628	625	622	620	628
40	615	616	616	616	615	613	610	607	603	600	595	591	587	583	580	576	573	571	581
45	563	565	565	564	563	561	558	554	550	545	541	536	531	527	523	519	516	513	526
50	498	499	499	499	497	495	491	487	482	477	471	466	461	456	451	447	444	441	457
55	414	415	416	415	414	411	407	402	397	391	386	380	375	370	365	361	357	354	372
60	317	317	318	317	315	313	309	304	299	293	288	283	277	272	268	264	260	258	277
65	216	217	217	216	214	212	209	204	200	195	190	185	180	176	172	168	165	162	181
70	123	123	123	123	122	120	117	114	110	106	102	98.8	95.5	92.3	89.5	87.1	84.8	84.2	95.2
75	63.0	63.1	63.0	62.6	62.4	62.0	61.6	60.8	60.2	59.5	58.8	58.0	57.3	56.7	56.1	55.6	55.2	54.8	58.8
80	43.6	43.6	43.5	43.3	42.9	42.6	42.0	41.5	40.8	40.0	39.2	38.4	37.7	36.9	36.3	35.7	35.2	34.8	39.0
85	23.5	23.6	23.6	23.3	22.9	22.4	21.9	21.1	20.4	19.6	18.8	18.1	17.3	16.6	15.9	15.3	14.9	14.6	18.6
90	3.95	3.96	3.95	3.88	3.72	3.56	3.39	0.17	0.07	0.08	0.07	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
105	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
115	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
125	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
130	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
135	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
145	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00
150	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.00
155	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.00
160	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.00
165	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01
170	0.02	0.02	0.02	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.00
175	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00
180	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.01	0.01	0.01	0.02	0.02	0.01	0.01	0.01

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature: 25.1DEG
 Operators: Mark
 Test Date: 19 August 2019

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

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:119.96V I:0.2674A P:30.894W PF:0.9631 Freq:60.00Hz Lamp Flux:2070.94x1 lm		
NAME: 20"Fill Box Pendant	TYPE:PBX-20P-SW-12U-30K	WEIGHT:3.9KG
SPEC.:	DIM.:	SERIAL No.:
MFR.: BlackJack Lighting LLC	SUR.:	Shielding Angle:

Table--2

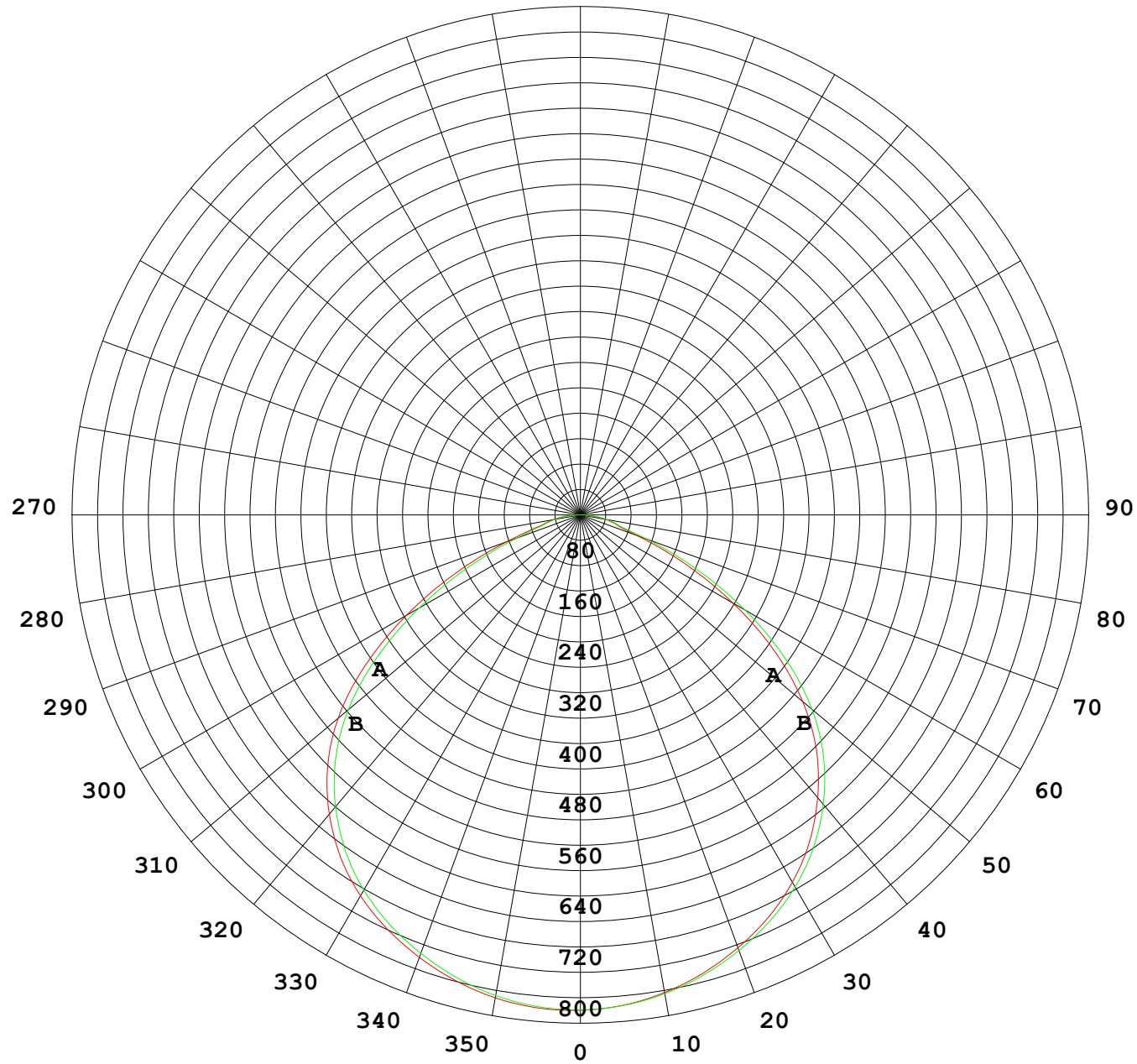
UNIT: cd

C (DEG) γ (DEG)	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350			
0	780	780	780	779	779	779	779	779	779	779	779	779	778	778	778	778	778			
5	774	774	774	774	774	774	774	775	775	775	776	776	777	777	777	778	778			
10	763	763	763	763	763	763	764	764	765	766	767	768	769	770	770	771	772			
15	746	746	746	746	746	747	747	748	750	751	752	754	755	756	758	759	760			
20	724	724	724	724	724	725	726	728	729	731	733	735	736	738	740	741	743			
25	698	698	698	698	699	700	702	703	705	708	710	712	714	717	719	720	722			
30	666	666	666	667	668	669	671	674	676	679	682	684	687	690	692	694	696			
35	627	627	627	628	629	631	634	637	640	643	646	650	653	656	659	662	663			
40	580	580	580	581	583	585	588	591	595	599	603	607	611	614	617	620	622			
45	524	524	525	526	528	531	534	538	542	546	551	555	559	563	567	570	572			
50	456	456	456	458	460	464	467	471	476	481	486	491	496	501	504	508	510			
55	371	372	373	375	377	380	384	389	394	399	405	410	415	420	424	428	431			
60	276	277	278	280	283	286	290	294	299	304	310	315	320	325	329	333	335			
65	180	181	181	183	185	189	192	196	201	206	211	216	221	225	229	232	235			
70	95.0	94.9	95.6	96.6	98.5	101	103	107	110	114	118	123	127	130	134	137	139			
75	58.6	58.7	58.8	59.1	59.5	60.0	60.6	61.3	62.1	62.7	63.4	64.1	64.7	65.7	66.8	68.0	69.0			
80	39.0	39.1	39.3	39.6	40.0	40.7	41.3	42.0	42.8	43.5	44.3	45.0	45.7	46.2	46.7	47.1	47.3			
85	18.5	18.6	18.8	19.1	19.6	20.1	20.9	21.6	22.3	23.1	23.9	24.7	25.4	26.1	26.7	27.2	27.5			
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.34	1.18	2.35	3.55	4.54	5.48	6.29	6.93	7.48			
95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
105	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
115	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
125	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
130	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
135	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
140	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
145	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
150	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
155	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
160	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
165	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01			
170	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00			
175	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
180	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01		

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.1DEG
 Operators:Mark
 Test Date:19 August 2019

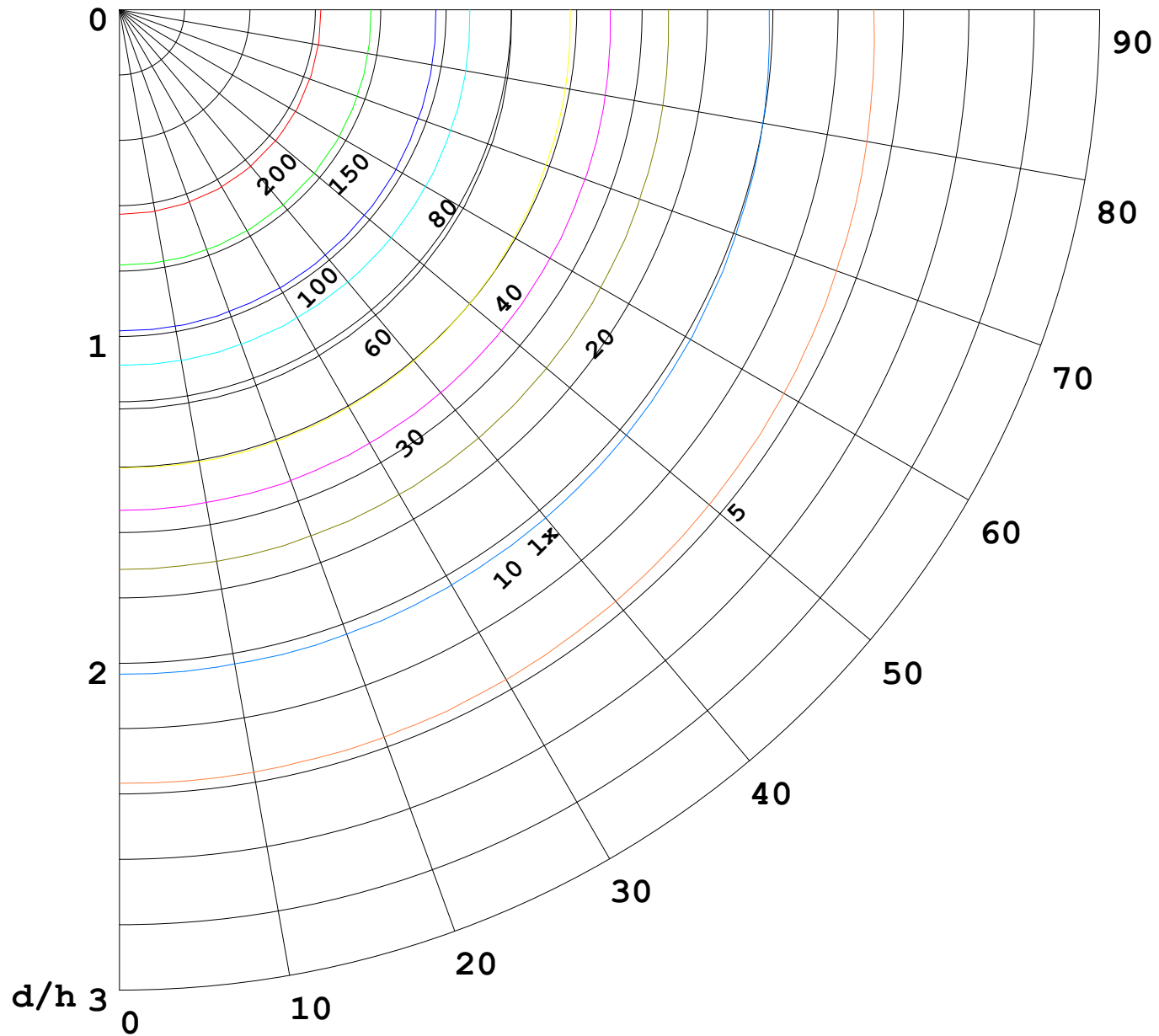
γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:59.2%
 Test Distance:2.463m [K=1.0000]
 Remarks:

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

